



TEST REPORT

KCTL Inc. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-31-285-0894 FAX: 82-505-299-8311 www.kctl.co.kr	Report No.: KR20-SPF0026-B Page (1) of (638)			
1. Client ◦ Name : Samsung Electronics Co., Ltd. ◦ Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea ◦ Date of Receipt : 2020-04-24 2. Use of Report : Certification 3. Name of Product and Model : Tablet PC ◦ Model Number : SM-T976B ◦ Manufacturer and Country of Origin: Samsung Electronics Co., Ltd./ Vietnam 4. FCC ID : A3LSMT976B 5. Date of Test : 2020-05-08 ~ 2020-06-22 6. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing (Address: Address of testing location) 7. Test Standards : IEEE 1528-2013, ANSI/IEEE C95.1, KDB Publication 8. Test Results : Refer to the test result in the test report				
Affirmation	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> Tested by Name : Hosik Sim (Signature) </td> <td style="width: 50%; padding: 5px;"> Technical Manager Name : Jongwon Ma (Signature) </td> </tr> </table>		Tested by Name : Hosik Sim (Signature)	Technical Manager Name : Jongwon Ma (Signature)
Tested by Name : Hosik Sim (Signature)	Technical Manager Name : Jongwon Ma (Signature)			
2020-07-15				
KCTL Inc.				
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REPORT REVISION HISTORY

Date	Revision	Page No
2020-06-24	Originally issued	-
2020-07-01	-Updated Section Added channels 12 and 13 in Wi-Fi 2.4 GHz Summary of SAR Test Results Appendix E. Power Reduction Verification	- - 6 605~619
2020-07-15	-Updated Section Section 16. Test Equipment Information Appendix D.3 LTE DL CA with 4X4 MIMO	- 404 605~607

Note: The Report No. KR20-SPF0026-A is superseded by the report No. KR20-SPF0026-B

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General remarks for test reports

1. Identification when information is provided by the customer: Information marked "#" is provided by the customer.
- Disclaimer: This information is provided by the customer and can affect the validity of results.

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1. General information

Client : Samsung Electronics Co., Ltd.
 Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677,
 Rep. of Korea
 Manufacturer : Samsung Electronics Co., Ltd.
 Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677,
 Rep. of Korea
 Factory : Samsung Electronics Vietnam Thai Nguyen Co., Ltd
 Address : Yen binh Industrial Zone Pho Ten Dist., Thai Nguyen Province, Vietnam
 Contact Person : Hyunkyu Lee / hkyu24.lee@samsung.com
 Laboratory : KCTL Inc.
 Address : 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
 Accreditations : FCC Site Designation No: KR0040, FCC Site Registration No: 687132
 VCCI Registration No. : R-3327, G-198, C-3706, T-1849
 Industry Canada Registration No. : 8035A
 KOLAS No.: KT231

1.1 Report Overview

This report details the results of testing carried out on the samples listed in section 2, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this test report is used in any configuration other than that detailed in the test report, the manufacturer must ensure the new configuration complies with all relevant standards and certification requirements. Any mention of KCTL Inc. Wireless lab or testing done by KCTL Inc. Wireless lab made in connection with the distribution or use of the tested product must be approved in writing by KCTL Inc. Wireless lab.

2. Device information

2.1 Basic description

Product Name		Tablet		
Product Model Number		SM-T976B		
Product Manufacturer		Samsung Electronics Co., Ltd.		
Product Serial Number	Radiation	R32N4006KAR		
		R32N4006K8K		
		R32N4006K9D		
		R32N500LL4B		
		R32N500MC6D		
		R32N4006KDX		
		R32N400EXHN		
		R32N500LKVH		
	Conduction	GSM / WCDMA / LTE	R32N4006K5P	
		R32N500LEGX		
	WLAN / Bluetooth	R32N4006KBV		
Device Overview		Band & Mode	Operating Modes	Tx Frequency (MHz)
		GSM/GPRS/EDGE 850	Voice/Data	824.2 ~ 848.8
		GSM/GPRS/EDGE 1900	Voice/Data	1 850.2 ~ 1 909.8
		WCDMA Band II	Voice/Data	1 852.4 ~ 1 907.6
		WCDMA Band IV	Voice/Data	1 712.4 ~ 1 752.6
		WCDMA Band V	Voice/Data	826.4 ~ 846.6
		LTE Band 2	Voice/Data	1 850.7 ~ 1 909.3
		LTE Band 4	Voice/Data	1 710.7 ~ 1 754.3
		LTE Band 5	Voice/Data	824.7 ~ 848.3
		LTE Band 12	Voice/Data	699.7 ~ 715.3
		LTE Band 13	Voice/Data	779.5 ~ 784.5
		LTE Band 25	Voice/Data	1 850.7 ~ 1 914.3
		LTE Band 26	Voice/Data	814.7 ~ 848.3
		LTE Band 41	Voice/Data	2 498.5 ~ 2 687.5
		LTE Band 66	Voice/Data	1 710.7 ~ 1 779.3
		2.4 GHz WLAN	Voice/Data	2 412.0 ~ 2 472.0
		U-NII-1	Voice/Data	5 180.0 ~ 5 240.0
		U-NII-2A	Voice/Data	5 260.0 ~ 5 320.0
		U-NII-2C	Voice/Data	5 500.0 ~ 5 720.0
		U-NII-3	Voice/Data	5 745.0 ~ 5 825.0
		Bluetooth	Data	2 402.0 ~ 2 480.0
TDWR Information		5.60 GHz~ 5.65 GHz band (TDWR) is supported by the device.		

2.2 Summary of SAR Test Results

Band	Equipment Class	Highest Reported
		1g SAR (W/kg) Body
GSM/GPRS/EDGE 850	PCB	0.89
GSM/GPRS/EDGE 1900	PCB	0.94
WCDMA Band II	PCB	0.86
WCDMA Band IV	PCB	0.67
WCDMA Band V	PCB	0.71
LTE Band 2	PCB	0.94
LTE Band 4	PCB	N/A
LTE Band 5	PCB	0.95
LTE Band 12	PCB	0.74
LTE Band 13	PCB	0.85
LTE Band 25	PCB	0.92
LTE Band 26	PCB	0.74
LTE Band 41	PCB	0.86
LTE Band 66	PCB	0.87
2.4GHz WLAN	DTS	0.68
U-NII-1	NII	N/A
U-NII-2A	NII	0.82
U-NII-2C	NII	1.16
U-NII-3	NII	1.00
Bluetooth	DSS	0.63
Simultaneous SAR per KDB 690783 D01v01r03		1.59

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2.3 Power Reduction for SAR

This device utilizes a power reduction mechanism for some wireless modes and bands for SAR compliance under some conditions when the device is being used in close proximity to the user's hand. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device when being used in Tablet use conditions. Detailed descriptions of the power reduction mechanism are included in the operational description.

2.4 #Maximum Tune-up power

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

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KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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2.4.1 Maximum 2G/3G/4G Output Power

Band	Mode	Output Power (dBm)		
		Target	Max. Allowed	SAR Test
GSM 850	GSM Voice	32.50	33.50	No
	GPRS 1 TX	32.50	33.50	No
	GPRS 2 TX	31.50	32.50	Yes
	GPRS 3 TX	29.50	30.50	No
	GPRS 4 TX	27.50	28.50	No
	EGPRS 1 TX	27.00	28.00	No
	EGPRS 2 TX	25.00	26.00	No
	EGPRS 3 TX	23.00	24.00	No
	EGPRS 4 TX	22.00	23.00	No
GSM 1900	GSM Voice	29.50	30.50	No
	GPRS 1 TX	29.50	30.50	No
	GPRS 2 TX	28.00	29.00	No
	GPRS 3 TX	26.50	27.50	Yes
	GPRS 4 TX	24.50	25.50	No
	EGPRS 1 TX	26.00	27.00	No
	EGPRS 2 TX	24.00	25.00	No
	EGPRS 3 TX	22.00	23.00	No
	EGPRS 4 TX	21.00	22.00	No
WCDMA Band II	RMC	22.50	23.50	Yes
	HSDPA	21.50	22.50	No
	HSUPA	21.50	22.50	No
	DC-HSDPA	21.50	22.50	No
WCDMA Band IV	RMC	22.50	23.50	Yes
	HSDPA	21.50	22.50	No
	HSUPA	21.50	22.50	No
	DC-HSDPA	21.50	22.50	No
WCDMA Band V	RMC	23.50	24.50	Yes
	HSDPA	22.50	23.50	No
	HSUPA	22.50	23.50	No
	DC-HSDPA	22.50	23.50	No

Band	Mode	Output Power (dBm)		
		Target	Max. Allowed	SAR Test
LTE Band 2		23.00	24.00	Yes
LTE Band 4		23.00	24.00	*No
LTE Band 5		24.00	25.00	Yes
LTE Band 12		24.00	25.00	Yes
LTE Band 13		24.00	25.00	Yes
LTE Band 25		23.00	24.00	Yes
LTE Band 26		24.00	25.00	Yes
LTE Band 41		24.00	25.00	Yes
LTE Band 66		23.00	24.00	Yes

Notes:

LTE Band 4 Measured Results

SAR for LTE Band 4 (Frequency range: 1 710.0 MHz – 1 755.0 MHz) is covered by LTE Band 66 (Frequency range: 1 710.0 MHz – 1 780.0 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth

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2.4.2 Reduced 2G/3G/4G Output Power–Grip Sensor

Band	Mode	Output Power (dBm)		
		Target	Max. Allowed	SAR Test
GSM 850	GSM Voice	22.50	23.50	No
	GPRS 1 TX	22.50	23.50	No
	GPRS 2 TX	21.50	22.50	Yes
	GPRS 3 TX	19.50	20.50	No
	GPRS 4 TX	17.50	18.50	No
	EGPRS 1 TX	17.00	18.00	No
	EGPRS 2 TX	15.00	16.00	No
	EGPRS 3 TX	13.00	14.00	No
	EGPRS 4 TX	12.00	13.00	No
GSM 1900	GSM Voice	21.00	22.00	No
	GPRS 1 TX	21.00	22.00	No
	GPRS 2 TX	19.00	20.00	Yes
	GPRS 3 TX	17.00	18.00	No
	GPRS 4 TX	15.00	16.00	No
	EGPRS 1 TX	18.00	19.00	No
	EGPRS 2 TX	16.00	17.00	No
	EGPRS 3 TX	14.00	15.00	No
	EGPRS 4 TX	13.00	14.00	No
WCDMA Band II	RMC	12.50	13.50	Yes
	HSDPA	11.50	12.50	No
	HSUPA	11.50	12.50	No
	DC-HSDPA	11.50	12.50	No
WCDMA Band IV	RMC	12.50	13.50	Yes
	HSDPA	11.50	12.50	No
	HSUPA	11.50	12.50	No
	DC-HSDPA	11.50	12.50	No
WCDMA Band V	RMC	13.50	14.50	Yes
	HSDPA	12.50	13.50	No
	HSUPA	12.50	13.50	No
	DC-HSDPA	12.50	13.50	No

Band	Mode	Output Power (dBm)		
		Target	Max. Allowed	SAR Test
LTE Band 2		13.00	14.00	Yes
LTE Band 4		13.00	14.00	*No
LTE Band 5		15.00	16.00	Yes
LTE Band 12		14.00	15.00	Yes
LTE Band 13		14.00	15.00	Yes
LTE Band 25		13.00	14.00	Yes
LTE Band 26		14.00	15.00	Yes
LTE Band 41		14.00	15.00	Yes
LTE Band 66		13.00	14.00	Yes

Notes:

LTE Band 4 Measured Results

SAR for LTE Band 4 (Frequency range: 1 710.0 MHz – 1 755.0 MHz) is covered by LTE Band 66 (Frequency range: 1 710.0 MHz – 1 780.0 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth

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2.4.3 Maximum WLAN and Bluetooth Output Power

2.4.3.1 Maximum WLAN Output Power

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
WLAN 2.4 GHz	Ant.2	802.11b	1 ~ 11	19.00	20.00	Yes
			12	4.00	5.00	
			13	-4.00	-3.00	
		802.11g	1 ~ 11	18.00	19.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		802.11n(HT20)	1 ~ 11	17.00	18.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		802.11ac(VHT20)	1 ~ 11	17.00	18.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		SU 20 MHz	1 ~ 11	14.00	15.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		RU 26T_20 MHz	1 ~ 11	14.00	15.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		RU 52T_20 MHz	1 ~ 11	14.00	15.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		RU 106T_20 MHz	1 ~ 11	14.00	15.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
WLAN 2.4 GHz	MIMO	802.11b	1 ~ 11	22.00	23.00	Yes
			12	4.00	5.00	
			13	-2.00	-1.00	
		802.11g	1 ~ 11	21.00	22.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		802.11n(HT20)	1 ~ 11	20.00	21.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		802.11ac(VHT20)	1 ~ 11	20.00	21.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		SU 20 MHz	1 ~ 11	17.00	18.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		RU 26T_20 MHz	1 ~ 11	17.00	18.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		RU 52T_20 MHz	1 ~ 11	17.00	18.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		RU 106T_20 MHz	1 ~ 11	17.00	18.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	

Note: WLAN 2.4 GHz Ant.1 mode cannot be operated standalone.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII-1	Ant.1, Ant.2	802.11a	All Channel	17.00	18.00	No
		802.11n(HT20)	All Channel	16.00	17.00	No
		802.11n(HT40)	All Channel	13.00	14.00	No
		802.11ac(VHT20)	All Channel	16.00	17.00	No
		802.11ac(VHT40)	All Channel	14.00	15.00	No
		802.11ac(VHT80)	All Channel	13.00	14.00	No
		SU 20 MHz	All Channel	13.00	14.00	No
		RU 26T_20 MHz	All Channel	10.00	11.00	No
		RU 52T_20 MHz	All Channel	10.00	11.00	No
		RU 106T_20 MHz	All Channel	10.00	11.00	No
		SU 40 MHz	All Channel	11.00	12.00	No
		RU 26T_40 MHz	All Channel	10.00	11.00	No
		RU 52T_40 MHz	All Channel	10.00	11.00	No
		RU 106T_40 MHz	All Channel	10.00	11.00	No
		RU 242T_40 MHz	All Channel	10.00	11.00	No
		SU 80 MHz	All Channel	10.00	11.00	No
		RU 26T_80 MHz	All Channel	10.00	11.00	No
		RU 52T_80 MHz	All Channel	10.00	11.00	No
		RU 106T_80 MHz	All Channel	10.00	11.00	No
		RU 242T_80 MHz	All Channel	10.00	11.00	No
		RU 484T_80 MHz	All Channel	10.00	11.00	No

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII-2A	Ant.1, Ant.2	802.11a	All Channel	17.00	18.00	Yes
		802.11n(HT20)	All Channel	16.00	17.00	No
		802.11n(HT40)	All Channel	13.00	14.00	No
		802.11ac(VHT20)	All Channel	16.00	17.00	No
		802.11ac(VHT40)	All Channel	14.00	15.00	No
		802.11ac(VHT80)	All Channel	13.00	14.00	No
		SU 20 MHz	All Channel	13.00	14.00	No
		RU 26T_20 MHz	All Channel	10.00	11.00	No
		RU 52T_20 MHz	All Channel	10.00	11.00	No
		RU 106T_20 MHz	All Channel	10.00	11.00	No
		SU 40 MHz	All Channel	11.00	12.00	No
		RU 26T_40 MHz	All Channel	10.00	11.00	No
		RU 52T_40 MHz	All Channel	10.00	11.00	No
		RU 106T_40 MHz	All Channel	10.00	11.00	No
		RU 242T_40 MHz	All Channel	10.00	11.00	No
		SU 80 MHz	All Channel	10.00	11.00	No
		RU 26T_80 MHz	All Channel	10.00	11.00	No
		RU 52T_80 MHz	All Channel	10.00	11.00	No
		RU 106T_80 MHz	All Channel	10.00	11.00	No
		RU 242T_80 MHz	All Channel	10.00	11.00	No
		RU 484T_80 MHz	All Channel	10.00	11.00	No

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII-1, U-NII-2A	MIMO	802.11a	All Channel	20.00	21.00	No
		802.11n(HT20)	All Channel	19.00	20.00	No
		802.11n(HT40)	All Channel	16.00	17.00	No
		802.11ac(VHT20)	All Channel	19.00	20.00	No
		802.11ac(VHT40)	All Channel	17.00	18.00	No
		802.11ac(VHT80)	All Channel	16.00	17.00	No
		SU 20 MHz	All Channel	16.00	17.00	No
		RU 26T_20 MHz	All Channel	13.00	14.00	No
		RU 52T_20 MHz	All Channel	13.00	14.00	No
		RU 106T_20 MHz	All Channel	13.00	14.00	No
		SU 40 MHz	All Channel	14.00	15.00	No
		RU 26T_40 MHz	All Channel	13.00	14.00	No
		RU 52T_40 MHz	All Channel	13.00	14.00	No
		RU 106T_40 MHz	All Channel	13.00	14.00	No
		RU 242T_40 MHz	All Channel	13.00	14.00	No
		SU 80 MHz	All Channel	13.00	14.00	No
		RU 26T_80 MHz	All Channel	13.00	14.00	No
		RU 52T_80 MHz	All Channel	13.00	14.00	No
		RU 106T_80 MHz	All Channel	13.00	14.00	No
		RU 242T_80 MHz	All Channel	13.00	14.00	No
		RU 484T_80 MHz	All Channel	13.00	14.00	No

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Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII-2C	Ant.1, Ant.2	802.11a	All Channel	15.50	16.50	No
		802.11n(HT20)	All Channel	16.00	17.00	No
		802.11n(HT40)	All Channel	16.00	17.00	Yes
		802.11ac(VHT20)	All Channel	16.00	17.00	No
		802.11ac(VHT40)	All Channel	14.00	15.00	No
		802.11ac(VHT80)	All Channel	13.00	14.00	No
		SU 20 MHz	All Channel	13.00	14.00	No
		RU 26T_20 MHz	All Channel	10.00	11.00	No
		RU 52T_20 MHz	All Channel	10.00	11.00	No
		RU 106T_20 MHz	All Channel	10.00	11.00	No
		SU 40 MHz	All Channel	11.00	12.00	No
		RU 26T_40 MHz	All Channel	10.00	11.00	No
		RU 52T_40 MHz	All Channel	10.00	11.00	No
		RU 106T_40 MHz	All Channel	10.00	11.00	No
		RU 242T_40 MHz	All Channel	10.00	11.00	No
		SU 80 MHz	All Channel	10.00	11.00	No
		RU 26T_80 MHz	All Channel	10.00	11.00	No
		RU 52T_80 MHz	All Channel	10.00	11.00	No
		RU 106T_80 MHz	All Channel	10.00	11.00	No
		RU 242T_80 MHz	All Channel	10.00	11.00	No
		RU 484T_80 MHz	All Channel	10.00	11.00	No

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII-3	Ant.1, Ant.2	802.11a	All Channel	15.50	16.50	No
		802.11n(HT20)	All Channel	16.00	17.00	No
		802.11n(HT40)	All Channel	16.00	17.00	Yes
		802.11ac(VHT20)	All Channel	16.00	17.00	No
		802.11ac(VHT40)	All Channel	14.00	15.00	No
		802.11ac(VHT80)	All Channel	13.00	14.00	No
		SU 20 MHz	All Channel	13.00	14.00	No
		RU 26T_20 MHz	All Channel	10.00	11.00	No
		RU 52T_20 MHz	All Channel	10.00	11.00	No
		RU 106T_20 MHz	All Channel	10.00	11.00	No
		SU 40 MHz	All Channel	11.00	12.00	No
		RU 26T_40 MHz	All Channel	10.00	11.00	No
		RU 52T_40 MHz	All Channel	10.00	11.00	No
		RU 106T_40 MHz	All Channel	10.00	11.00	No
		RU 242T_40 MHz	All Channel	10.00	11.00	No
		SU 80 MHz	All Channel	10.00	11.00	No
		RU 26T_80 MHz	All Channel	10.00	11.00	No
		RU 52T_80 MHz	All Channel	10.00	11.00	No
		RU 106T_80 MHz	All Channel	10.00	11.00	No
		RU 242T_80 MHz	All Channel	10.00	11.00	No
		RU 484T_80 MHz	All Channel	10.00	11.00	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII-2C, U-NII-3	MIMO	802.11a	All Channel	18.50	19.50	No
		802.11n(HT20)	All Channel	19.00	20.00	No
		802.11n(HT40)	All Channel	19.00	20.00	No
		802.11ac(VHT20)	All Channel	19.00	20.00	No
		802.11ac(VHT40)	All Channel	17.00	18.00	No
		802.11ac(VHT80)	All Channel	16.00	17.00	No
		SU 20 MHz	All Channel	13.00	14.00	No
		RU 26T_20 MHz	All Channel	13.00	14.00	No
		RU 52T_20 MHz	All Channel	13.00	14.00	No
		RU 106T_20 MHz	All Channel	13.00	14.00	No
		SU 40 MHz	All Channel	14.00	15.00	No
		RU 26T_40 MHz	All Channel	13.00	14.00	No
		RU 52T_40 MHz	All Channel	13.00	14.00	No
		RU 106T_40 MHz	All Channel	13.00	14.00	No
		RU 242T_40 MHz	All Channel	13.00	14.00	No
		SU 80 MHz	All Channel	13.00	14.00	No
		RU 26T_80 MHz	All Channel	13.00	14.00	No
		RU 52T_80 MHz	All Channel	13.00	14.00	No
		RU 106T_80 MHz	All Channel	13.00	14.00	No
		RU 242T_80 MHz	All Channel	13.00	14.00	No
		RU 484T_80 MHz	All Channel	13.00	14.00	No

2.4.3.2 Maximum Bluetooth Output Power

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
Bluetooth	Ant.1	BDR(GFSK)	All Channel	12.00	13.00	Yes
		EDR ($\pi/4$ DQPSK)	All Channel	11.00	12.00	No
		EDR(8DPSK)	All Channel	11.00	12.00	No
		LE(GFSK)	All Channel	3.00	4.00	No
	Ant.2	BDR(GFSK)	All Channel	11.00	12.00	Yes
		EDR ($\pi/4$ DQPSK)	All Channel	10.00	11.00	No
		EDR(8DPSK)	All Channel	10.00	11.00	No

2.4.4 Reduced WLAN Output Power-Grip Sensor and RSDB

2.4.4.1 Reduced WLAN Output Power

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
WLAN 2.4 GHz	Ant.2	802.11b	1 ~ 11	12.00	13.00	Yes
			12	4.00	5.00	
			13	-4.00	-3.00	
		802.11g	1 ~ 11	12.00	13.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		802.11n(HT20)	1 ~ 11	12.00	13.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		802.11ac(HT20)	1 ~ 11	12.00	13.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		SU 20 MHz	1 ~ 11	12.00	13.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		RU 26T_20 MHz	1 ~ 11	12.00	13.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		RU 52T_20 MHz	1 ~ 11	12.00	13.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	
		RU 106T_20 MHz	1 ~ 11	12.00	13.00	No
			12	4.00	5.00	
			13	-4.00	-3.00	

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
WLAN 2.4 GHz	MIMO	802.11b	1 ~ 11	15.00	16.00	Yes
			12	4.00	5.00	
			13	-2.00	-1.00	
		802.11g	1 ~ 11	15.00	16.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		802.11n(HT20)	1 ~ 11	15.00	16.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		802.11ac(HT20)	1 ~ 11	15.00	16.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		SU 20 MHz	1 ~ 11	15.00	16.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		RU 26T_20 MHz	1 ~ 11	15.00	16.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		RU 52T_20 MHz	1 ~ 11	15.00	16.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	
		RU 106T_20 MHz	1 ~ 11	15.00	16.00	No
			12	4.00	5.00	
			13	-2.00	-1.00	

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
NII	Ant.1, Ant.2	802.11a	All Channel	8.00	9.00	No
		802.11n(HT20)	All Channel	8.00	9.00	No
		802.11n(HT40)	All Channel	8.00	9.00	No
		802.11ac(VHT20)	All Channel	8.00	9.00	No
		802.11ac(VHT40)	All Channel	8.00	9.00	No
		802.11ac(VHT80)	All Channel	8.00	9.00	Yes
		SU 20 MHz	All Channel	8.00	9.00	No
		RU 26T_20 MHz	All Channel	8.00	9.00	No
		RU 52T_20 MHz	All Channel	8.00	9.00	No
		RU 106T_20 MHz	All Channel	8.00	9.00	No
		SU 40 MHz	All Channel	8.00	9.00	No
		RU 26T_40 MHz	All Channel	8.00	9.00	No
		RU 52T_40 MHz	All Channel	8.00	9.00	No
		RU 106T_40 MHz	All Channel	8.00	9.00	No
		RU 242T_40 MHz	All Channel	8.00	9.00	No
		SU 80 MHz	All Channel	8.00	9.00	No
		RU 26T_80 MHz	All Channel	8.00	9.00	No
		RU 52T_80 MHz	All Channel	8.00	9.00	No
		RU 106T_80 MHz	All Channel	8.00	9.00	No
		RU 242T_80 MHz	All Channel	8.00	9.00	No
		RU 484T_80 MHz	All Channel	8.00	9.00	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
NII	MIMO	802.11a	All Channel	11.00	12.00	No
		802.11n(HT20)	All Channel	11.00	12.00	No
		802.11n(HT40)	All Channel	11.00	12.00	No
		802.11ac(VHT20)	All Channel	11.00	12.00	No
		802.11ac(VHT40)	All Channel	11.00	12.00	No
		802.11ac(VHT80)	All Channel	11.00	12.00	No
		SU 20 MHz	All Channel	11.00	12.00	No
		RU 26T_20 MHz	All Channel	11.00	12.00	No
		RU 52T_20 MHz	All Channel	11.00	12.00	No
		RU 106T_20 MHz	All Channel	11.00	12.00	No
		SU 40 MHz	All Channel	11.00	12.00	No
		RU 26T_40 MHz	All Channel	11.00	12.00	No
		RU 52T_40 MHz	All Channel	11.00	12.00	No
		RU 106T_40 MHz	All Channel	11.00	12.00	No
		RU 242T_40 MHz	All Channel	11.00	12.00	No
		SU 80 MHz	All Channel	11.00	12.00	No
		RU 26T_80 MHz	All Channel	11.00	12.00	No
		RU 52T_80 MHz	All Channel	11.00	12.00	No
		RU 106T_80 MHz	All Channel	11.00	12.00	No
		RU 242T_80 MHz	All Channel	11.00	12.00	No
		RU 484T_80 MHz	All Channel	11.00	12.00	No

2.4.4.2 Reduced Bluetooth Output Power

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
Bluetooth	Ant.1	BDR(GFSK)	All Channel	10.50	11.50	Yes
		EDR ($\pi/4$ DQPSK)	All Channel	10.50	11.50	No
		EDR(8DPSK)	All Channel	10.50	11.50	No
	Ant.2	BDR(GFSK)	All Channel	9.00	10.00	Yes
		EDR ($\pi/4$ DQPSK)	All Channel	9.00	10.00	No
		EDR(8DPSK)	All Channel	9.00	10.00	No

2.5 SAR Test Configurations

2.5.1 #DUT Antenna Locations

The overall dimensions of this device are > 20 cm. A diagram showing the location of the device antennas can be found in Appendix F.

2.5.2 SAR Test Exclusion Considerations_(Max)

Band / Ant.	Freq. [MHz]	Output Power		Separation distances [mm]					SAR Exemption				
		dBm	mW	Rear	Left	Right	Top	Bot.	Rear	Left	Right	Top	Bot.
GSM850	848.8	33.50	2239	5	68	46	5	285	412.56 Measure	Measure	44.84 Measure	412.56 Measure	Measure
GSM1900	1 909.8	30.50	1122	5	68	46	5	285	310.11 Measure	Measure	33.71 Measure	310.11 Measure	2459mW EXEMPT
WCDMA 2	1 907.6	23.50	224	5	68	46	5	285	61.88 Measure	289mW EXEMPT	6.73 Measure	61.88 Measure	2459mW EXEMPT
WCDMA 4	1 752.6	23.50	224	5	68	46	5	285	59.31 Measure	293mW EXEMPT	6.45 Measure	59.31 Measure	2463mW EXEMPT
WCDMA 5	846.6	24.50	282	5	68	46	5	285	51.89 Measure	Measure	5.64 Measure	51.89 Measure	1489mW EXEMPT
LTE 2	1 909.3	24.00	251	5	68	46	5	285	69.37 Measure	289mW EXEMPT	7.54 Measure	69.37 Measure	2459mW EXEMPT
LTE 4	1 754.3	24.00	251	5	68	46	5	285	66.49 Measure	293mW EXEMPT	7.23 Measure	66.49 Measure	2463mW EXEMPT
LTE 5	848.3	25.00	316	5	68	46	5	285	58.21 Measure	Measure	6.33 Measure	58.21 Measure	1492mW EXEMPT
LTE 12	715.3	25.00	316	5	68	46	5	285	53.45 Measure	Measure	5.81 Measure	53.45 Measure	1298mW EXEMPT
LTE 13	784.5	25.00	316	5	68	46	5	285	55.98 Measure	Measure	6.08 Measure	55.98 Measure	1398mW EXEMPT
LTE 25	1 914.3	24.00	251	5	68	46	5	285	69.46 Measure	288mW EXEMPT	7.55 Measure	69.46 Measure	2458mW EXEMPT
LTE 26	848.3	25.00	316	5	68	46	5	285	58.21 Measure	Measure	6.33 Measure	58.21 Measure	1492mW EXEMPT
LTE 41	2 687.5	25.00	316	5	68	46	5	285	103.61 Measure	Measure	11.26 Measure	103.61 Measure	2441mW EXEMPT
LTE 66	1 779.3	24.00	251	5	68	46	5	285	66.96 Measure	292mW EXEMPT	7.28 Measure	66.96 Measure	2462mW EXEMPT
2.4 GHz Ant.1	2 480.0	20.00	100	5	136	5	5	271	31.50 Measure	955mW EXEMPT	31.50 Measure	31.50 Measure	2305mW EXEMPT
5.3 GHz Ant.1	5 320.0	18.00	63	5	136	5	5	271	29.06 Measure	925mW EXEMPT	29.06 Measure	29.06 Measure	2275mW EXEMPT
5.6 GHz Ant.1	5 720.0	17.00	50	5	136	5	5	271	23.92 Measure	923mW EXEMPT	23.92 Measure	23.92 Measure	2273mW EXEMPT
5.8 GHz Ant.1	5 825.0	17.00	50	5	136	5	5	271	24.14 Measure	922mW EXEMPT	24.14 Measure	24.14 Measure	2272mW EXEMPT
2.4 GHz Ant.2	2 480.0	20.00	100	5	5	135	5	271	31.50 Measure	31.50 Measure	945mW EXEMPT	31.50 Measure	2305mW EXEMPT
5.3 GHz Ant.2	5 320.0	18.00	63	5	5	135	5	271	29.06 Measure	29.06 Measure	915mW EXEMPT	29.06 Measure	2275mW EXEMPT
5.6 GHz Ant.2	5 720.0	17.00	50	5	5	135	5	271	23.92 Measure	23.92 Measure	913mW EXEMPT	23.92 Measure	2273mW EXEMPT
5.8 GHz Ant.2	5 825.0	17.00	50	5	5	135	5	271	24.14 Measure	24.14 Measure	912mW EXEMPT	24.14 Measure	2272mW EXEMPT
B.T	2 480.0	13.00	20	5	136	5	5	271	6.30 Measure	955mW EXEMPT	6.30 Measure	6.30 Measure	2305mW EXEMPT
B.T	2 480.0	12.00	16	5	5	135	5	271	5.04 Measure	5.04 Measure	945mW EXEMPT	5.04 Measure	2305mW EXEMPT

Note 1: For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.

Note 2: Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.

Note 3: If the antenna separation distance is > 50mm then the value listed is the output power threshold, above which SAR measurement is required. For separation <= 50mm the value is the KDB 447498 calculated value and must be less than 3.0 for SAR exemption.

Note 4: Formulas round separation distance to nearest mm and power to nearest mW before calculating thresholds or exemption values.

2.5.3 SAR Test Exclusion Considerations_(Reduced)

Band / Ant.	Freq. [MHz]	Output Power		Separation distances [mm]					SAR Exemption				
		dBm	mW	Rear	Left	Right	Top	Bot.	Rear	Left	Right	Top	Bot.
GSM850	848.8	23.50	224	5	68	5	5	285	41.27 Measure	265mW EXEMPT	41.27 Measure	41.27 Measure	1493mW EXEMPT
GSM1900	1 909.8	22.00	158	5	68	5	5	285	43.67 Measure	289mW EXEMPT	43.67 Measure	43.67 Measure	2459mW EXEMPT
WCDMA 2	1 907.6	13.50	22	5	68	5	5	285	6.08 Measure	289mW EXEMPT	6.08 Measure	6.08 Measure	2459mW EXEMPT
WCDMA 4	1 752.6	13.50	22	5	68	5	5	285	5.82 Measure	293mW EXEMPT	5.82 Measure	5.82 Measure	2463mW EXEMPT
WCDMA 5	846.6	14.50	28	5	68	5	5	285	5.15 Measure	265mW EXEMPT	5.15 Measure	5.15 Measure	1489mW EXEMPT
LTE 2	1 909.3	14.00	25	5	68	5	5	285	6.91 Measure	289mW EXEMPT	6.91 Measure	6.91 Measure	2459mW EXEMPT
LTE 4	1 754.3	14.00	25	5	68	5	5	285	6.62 Measure	293mW EXEMPT	6.62 Measure	6.62 Measure	2463mW EXEMPT
LTE 5	848.3	16.00	40	5	68	5	5	285	7.37 Measure	265mW EXEMPT	7.37 Measure	7.37 Measure	1492mW EXEMPT
LTE 12	715.3	15.00	32	5	68	5	5	285	5.41 Measure	263mW EXEMPT	5.41 Measure	5.41 Measure	1298mW EXEMPT
LTE 13	784.5	15.00	32	5	68	5	5	285	5.67 Measure	263mW EXEMPT	5.67 Measure	5.67 Measure	1398mW EXEMPT
LTE 25	1 914.3	14.00	25	5	68	5	5	285	6.92 Measure	288mW EXEMPT	6.92 Measure	6.92 Measure	2458mW EXEMPT
LTE 26	848.3	15.00	32	5	68	5	5	285	5.89 Measure	265mW EXEMPT	5.89 Measure	5.89 Measure	1492mW EXEMPT
LTE 41	2 687.5	15.00	32	5	68	5	5	285	10.49 Measure	271mW EXEMPT	10.49 Measure	10.49 Measure	2441mW EXEMPT
LTE 66	1 779.3	14.00	25	5	68	5	5	285	6.67 Measure	292mW EXEMPT	6.67 Measure	6.67 Measure	2462mW EXEMPT
2.4 GHz Ant.1	2 480.0	13.00	20	5	136	5	5	271	6.30 Measure	955mW EXEMPT	6.30 Measure	6.30 Measure	2305mW EXEMPT
5.3 GHz Ant.1	5 320.0	9.00	8	5	136	5	5	271	3.69 Measure	925mW EXEMPT	3.69 Measure	3.69 Measure	2275mW EXEMPT
5.6 GHz Ant.1	5 720.0	9.00	8	5	136	5	5	271	3.83 Measure	923mW EXEMPT	3.83 Measure	3.83 Measure	2273mW EXEMPT
5.8 GHz Ant.1	5 825.0	9.00	8	5	136	5	5	271	3.86 Measure	922mW EXEMPT	3.86 Measure	3.86 Measure	2272mW EXEMPT
2.4 GHz Ant.2	2 480.0	13.00	20	5	5	135	5	271	6.30 Measure	6.30 Measure	945mW EXEMPT	6.30 Measure	2305mW EXEMPT
5.3 GHz Ant.2	5 320.0	9.00	8	5	5	135	5	271	3.69 Measure	3.69 Measure	915mW EXEMPT	3.69 Measure	2275mW EXEMPT
5.6 GHz Ant.2	5 720.0	9.00	8	5	5	135	5	271	3.83 Measure	3.83 Measure	913mW EXEMPT	3.83 Measure	2273mW EXEMPT
5.8 GHz Ant.2	5 825.0	9.00	8	5	5	135	5	271	3.86 Measure	3.86 Measure	912mW EXEMPT	3.86 Measure	2272mW EXEMPT
B.T	2 480.0	11.50	14	5	136	5	5	271	4.41 Measure	955mW EXEMPT	4.41 Measure	4.41 Measure	2305mW EXEMPT
B.T	2 480.0	10.00	10	5	5	135	5	271	3.15 Measure	3.15 Measure	945mW EXEMPT	3.15 Measure	2305mW EXEMPT

Note 1: For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.

Note 2: Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.

Note 3: If the antenna separation distance is > 50mm then the value listed is the output power threshold, above which SAR measurement is required. For separation <= 50mm the value is the KDB 447498 calculated value and must be less than 3.0 for SAR exemption.

Note 4: Formulas round separation distance to nearest mm and power to nearest mW before calculating thresholds or exemption values.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**SAR Test Exclusion (Max)**

Mode	Device Edge for SAR Testing (Front View)							
	Front	Rear	Left Edge	Right Edge	Top	Bottom	Left Corner	Right Corner
GPRS 850	No	Yes	Yes	Yes	Yes	No	No	Yes
GPRS 1900	No	Yes	Yes	Yes	Yes	No	No	Yes
WCDMA Band II	No	Yes	Yes	Yes	Yes	No	No	Yes
WCDMA Band IV	No	Yes	Yes	Yes	Yes	No	No	Yes
WCDMA Band V	No	Yes	Yes	Yes	Yes	No	No	Yes
LTE Band 2	No	Yes	Yes	Yes	Yes	No	No	Yes
LTE Band 5	No	Yes	Yes	Yes	Yes	No	No	Yes
LTE Band 12	No	Yes	Yes	Yes	Yes	No	No	Yes
LTE Band 13	No	Yes	Yes	Yes	Yes	No	No	Yes
LTE Band 25	No	Yes	Yes	Yes	Yes	No	No	Yes
LTE Band 26	No	Yes	Yes	Yes	Yes	No	No	Yes
LTE Band 41	No	Yes	Yes	Yes	Yes	No	No	Yes
LTE Band 66	No	Yes	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN (Ant.2)	No	Yes	Yes	Yes	Yes	No	Yes	No
2.4 GHz WLAN (MIMO)	No	Yes	Yes	Yes	Yes	No	Yes	Yes
U-NII-2A (Ant.1)	No	Yes	Yes	Yes	Yes	No	Yes	Yes
U-NII-2A (Ant.2)	No	Yes	Yes	Yes	Yes	No	Yes	Yes
U-NII-2C (Ant.1)	No	Yes	Yes	Yes	Yes	No	Yes	Yes
U-NII-2C (Ant.2)	No	Yes	Yes	Yes	Yes	No	Yes	Yes
U-NII-3 (Ant.1)	No	Yes	Yes	Yes	Yes	No	Yes	Yes
U-NII-3 (Ant.2)	No	Yes	Yes	Yes	Yes	No	Yes	Yes
Bluetooth (Ant.1)	No	Yes	Yes	Yes	Yes	No	No	Yes
Bluetooth (Ant.2)	No	Yes	Yes	Yes	Yes	No	Yes	No

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**SAR Test Exclusion (Reduced)**

Mode	Device Edge for SAR Testing (Front View)							
	Front	Rear	Left Edge	Right Edge	Top	Bottom	Left Corner	Right Corner
GPRS 850	No	Yes	No	Yes	Yes	No	No	Yes
GPRS 1900	No	Yes	No	Yes	Yes	No	No	Yes
WCDMA Band II	No	Yes	No	Yes	Yes	No	No	Yes
WCDMA Band IV	No	Yes	No	Yes	Yes	No	No	Yes
WCDMA Band V	No	Yes	No	Yes	Yes	No	No	Yes
LTE Band 2	No	Yes	No	Yes	Yes	No	No	Yes
LTE Band 5	No	Yes	No	Yes	Yes	No	No	Yes
LTE Band 12	No	Yes	No	Yes	Yes	No	No	Yes
LTE Band 13	No	Yes	No	Yes	Yes	No	No	Yes
LTE Band 25	No	Yes	No	Yes	Yes	No	No	Yes
LTE Band 26	No	Yes	No	Yes	Yes	No	No	Yes
LTE Band 41	No	Yes	No	Yes	Yes	No	No	Yes
LTE Band 66	No	Yes	No	Yes	Yes	No	No	Yes
2.4 GHz WLAN (Ant.2)	No	Yes	Yes	No	Yes	No	Yes	No
2.4 GHz WLAN (MIMO)	No	Yes	Yes	Yes	Yes	No	Yes	Yes
U-NII-2A (Ant.1)	No	Yes	No	Yes	Yes	No	No	Yes
U-NII-2A (Ant.2)	No	Yes	Yes	No	Yes	No	Yes	No
U-NII-2C (Ant.1)	No	Yes	No	Yes	Yes	No	No	Yes
U-NII-2C (Ant.2)	No	Yes	Yes	No	Yes	No	Yes	No
U-NII-3 (Ant.1)	No	Yes	No	Yes	Yes	No	No	Yes
U-NII-3 (Ant.2)	No	Yes	Yes	No	Yes	No	Yes	No
Bluetooth (Ant.1)	No	Yes	No	Yes	Yes	No	No	Yes
Bluetooth (Ant.2)	No	Yes	Yes	No	Yes	No	Yes	No

2.6 SAR Test Methods and Procedures

The tests documented in this report were performed in accordance with IEEE 1528-2013 and the following published KDB procedures:

- IEEE 1528-2013
- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 616217 D04 SAR for laptop and tablets v01r02 (Proximity Sensor)
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D05A LTE Rel. 10 KDB Inquiry Sheet v01r02
- October 2014 TCB Workshop Notes (Other LTE Considerations)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (Tissue Simulation Liquids)
- April 2019 TCB Workshop Notes (Dynamic Antenna Tuning)
- November 2019 TCB Workshop Notes (SPLSR Hotspot Combination)



3. #LTE Information

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 2 (1 850.7 MHz ~ 1 909.3 MHz) LTE Band 4 (1 710.7 MHz ~ 1 754.3 MHz) LTE Band 5 (824.7 MHz ~ 848.3 MHz) LTE Band 12 (699.7 MHz ~ 715.3 MHz) LTE Band 13 (779.5 MHz ~ 784.5 MHz) LTE Band 25 (1 850.7 MHz ~ 1 914.3 MHz) LTE Band 26 (814.7 MHz ~ 848.3 MHz) LTE Band 41 (2 498.5 MHz ~ 2 687.5 MHz) LTE Band 66 (1 710.7 MHz ~ 1 779.3 MHz)				
Channel Bandwidths	LTE Band 2: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 4: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 5: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz LTE Band 13: 5 MHz, 10 MHz LTE Band 25: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 26: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 66: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 2: 1.4 MHz	1 850.7 (18 607)		1 880.0 (18 900)		1 909.3 (19 193)
LTE Band 2: 3 MHz	1 851.5 (18 615)		1 880.0 (18 900)		1 908.5 (19 185)
LTE Band 2: 5 MHz	1 852.5 (18 625)		1 880.0 (18 900)		1 907.5 (19 175)
LTE Band 2: 10 MHz	1 855.0 (18 650)		1 880.0 (18 900)		1 905.0 (19 150)
LTE Band 2: 15 MHz	1 857.5 (18 675)		1 880.0 (18 900)		1 902.5 (19 125)
LTE Band 2: 20 MHz	1 860.0 (18 700)		1 880.0 (18 900)		1 900.0 (19 100)
LTE Band 4: 1.4 MHz	1 710.7 (19 957)		1 732.5 (20 175)		1 754.3 (20 393)
LTE Band 4: 3 MHz	1 711.5 (19 965)		1 732.5 (20 175)		1 753.5 (20 385)
LTE Band 4: 5 MHz	1 712.5 (19 975)		1 732.5 (20 175)		1 752.5 (20 375)
LTE Band 4: 10 MHz	1 715.0 (20 000)		1 732.5 (20 175)		1 750.0 (20 350)
LTE Band 4: 15 MHz	1 717.5 (20 025)		1 732.5 (20 175)		1 747.5 (20 325)
LTE Band 4: 20 MHz	1 720.0 (20 050)		1 732.5 (20 175)		1 745.0 (20 300)
LTE Band 5: 1.4 MHz	824.7 (20 407)		836.5 (20 525)		848.3 (20 643)
LTE Band 5: 3 MHz	825.5 (20 415)		836.5 (20 525)		847.5 (20 635)
LTE Band 5: 5 MHz	826.5 (20 425)		836.5 (20 525)		846.5 (20 625)
LTE Band 5: 10 MHz	829.0 (20 450)		836.5 (20 525)		844.0 (20 600)
LTE Band 12: 1.4 MHz	699.7 (23 017)		707.5 (23 095)		715.3 (23 173)
LTE Band 12: 3 MHz	700.5 (23 025)		707.5 (23 095)		714.5 (23 655)
LTE Band 12: 5 MHz	701.5 (23 035)		707.5 (23 095)		713.5 (23 155)
LTE Band 12: 10 MHz	704.0 (23 060)		707.5 (23 095)		711.0 (23 130)

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 13: 5 MHz	779.5 (23 205)		782.0 (23 230)		784.5 (23 255)
LTE Band 13: 10 MHz	-		782.0 (23 230)		-
LTE Band 25: 1.4 MHz	1 850.7(26 047)		1 882.5(26 365)		1 914.3(26 683)
LTE Band 25: 3 MHz	1 851.5(26 055)		1 882.5(26 365)		1 913.5(26 675)
LTE Band 25: 5 MHz	1 852.5(26 065)		1 882.5(26 365)		1 912.5(26 665)
LTE Band 25: 10 MHz	1 855.0(26 090)		1 882.5(26 365)		1 910.0(26 640)
LTE Band 25: 15 MHz	1 857.5(26 115)		1 882.5(26 365)		1 907.5(26 615)
LTE Band 25: 20 MHz	1 860.0(26 140)		1 882.5(26 365)		1 905.0(26 590)
LTE Band 26: 1.4 MHz	814.7 (26 697)		831.5 (26 865)		848.3 (27 033)
LTE Band 26: 3 MHz	815.5 (26 705)		831.5 (26 865)		847.5 (27 025)
LTE Band 26: 5 MHz	816.5 (26 715)		831.5 (26 865)		846.5 (27 015)
LTE Band 26: 10 MHz	819.0 (26 740)		831.5 (26 865)		844.0 (26 990)
LTE Band 26: 15 MHz	821.5 (26 765)		831.5 (26 865)		841.5 (26 965)
LTE Band 41: 5 MHz	2 506.0 (39 750)	2 549.5 (40 185)	2 593.0 (40 620)	2 636.5 (41 055)	2 680.0 (41 490)
LTE Band 41: 10 MHz	2 506.0 (39 750)	2 549.5 (40 185)	2 593.0 (40 620)	2 636.5 (41 055)	2 680.0 (41 490)
LTE Band 41: 15 MHz	2 506.0 (39 750)	2 549.5 (40 185)	2 593.0 (40 620)	2 636.5 (41 055)	2 680.0 (41 490)
LTE Band 41: 20 MHz	2 506.0 (39 750)	2 549.5 (40 185)	2 593.0 (40 620)	2 636.5 (41 055)	2 680.0 (41 490)
LTE Band 66: 1.4 MHz	1 710.7 (131 979)		1 745.0 (132 322)		1 779.3 (132 665)
LTE Band 66: 3 MHz	1 711.5 (131 987)		1 745.0 (132 322)		1 778.5 (132 657)
LTE Band 66: 5 MHz	1 712.5 (131 997)		1 745.0 (132 322)		1 777.5 (132 647)
LTE Band 66: 10 MHz	1 715.0 (132 022)		1 745.0 (132 322)		1 775.0 (132 622)
LTE Band 66: 15 MHz	1 717.5 (132 047)		1 745.0 (132 322)		1 772.5 (132 597)
LTE Band 66: 20 MHz	1 720.0 (132 072)		1 745.0 (132 322)		1 770.0 (132 572)
UE Category	UL: 16, DL: 20				
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3 ~ 6.2.5?(manufacturer attestation to be provided)	YES				
A-MPR(Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	This device only supports LTE DL CA aggregation.				
LTE Additional Information	This device does not support full CA features on 3GPP Release 10. It supports carrier aggregation as shown in Appendix E. Uplink communications are done on the PCC. The following LTE Release 10 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

4. Specific Absorption Rate

4.1 Introduction

The SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational / controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

4.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by

$$SAR = C \left(\frac{\delta T}{\delta t} \right)$$

Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength. However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

5. SAR Measurement Procedures

5.1 SAR Scan Procedures

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 1.4 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scan & Zoom Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot and Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly. Area Scan & Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2)$ mm 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom} , Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5 · $\Delta z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.

* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

Step 3: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

6. SAR Measurement Configurations

6.6 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 7). Per FCC KDB Publication 648474 D04v01r03, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

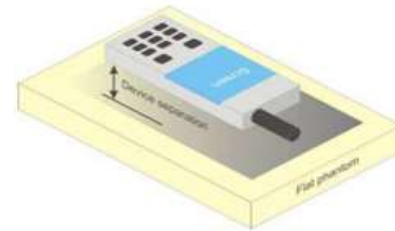


Figure 7
Sample Body-Worn Diagram

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

6.9 Proximity Sensor Considerations

This device uses a power reduction mechanism to reduce output powers in certain use conditions when the device is used close to the user's body.

When the device's antenna is within a certain distance of the user, the sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions.

7. RF Exposure Limits

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Partial Peak SAR ¹⁾ (Partial)	1.60 mW/g	8.00 mW/g
Partial Average SAR ²⁾ (Whole Body)	0.08 mW/g	0.40 mW/g
Partial Peak SAR ³⁾ (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

- 1) The spatial Peak value of the SAR averaged over any 1g gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
- 2) The spatial Average value of the SAR averaged over the whole body.
- 3) The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

8. FCC SAR General Measurement Procedures

8.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, When SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as reported SAR. Test highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

8.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

8.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 "3G SAR Measurement Procedures."

The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a "point SAR" at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

8.4 SAR Measurement Conditions for UMTS

8.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in sec. 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all "1s" or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

8.4.2 Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

8.4.3 Body SAR measurements

SAR for body exposure configurations is measured using the 12.2kbps RMC with the TPC bits all "1s". the 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using and applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported SAR configuration in 12.2kbps RMC.

8.4.4 SAR Measurements with Rel. 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using and FRC with H-SET 1 in Sub-test and a 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to release 6 HSPA test procedures. 8.4.5 SAR Measurement with Rel.6 HSUPA The 3G SAR test Reduction Procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, Using H-Set 1 and QPSK for FRC and a 12.2kbps RMC configured in Test Loop Mode 1 and Power Control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

8.4.5 SAR Measurements with Rel. 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

8.4.6 SAR Measurements with Rel. 8 DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable

8.5 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluation SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

8.5.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

8.5.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36. 101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

8.5.3 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator

8.5.4 Required RB Size and RB offsets for SAR testing

According to FCC KDB 941225 D05v02r05

1. Per sec 4.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
 - a. The required channel and offset combination with the highest maximum output power is required for SAR.
 - b. When the reported SAR is ≤ 0.8 W/Kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
 - c. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel
2. Per Sec 4.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Sec 4.2.1.
3. Per Sec. 4.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
4. Per Sec. 4.2.4 and 4.3, SAR test for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sec. 4.2.1 through 4.2.3 is less than or equal to 1/2 dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is < 1.45 W/Kg.

8.5.5 LTE(TDD) Considerations

According to KDB 941225 D05v02r05, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

SAR was tested with the highest transmission duty factor (63.33 %) using Uplink-downlink configuration 0 and Special sub-frame configuration 6.

LTE TDD Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special sub frame configurations.

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration n	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$(1+X) \cdot 2192 \cdot T_s$	$(1+X) \cdot 2560 \cdot T_s$	$7680 \cdot T_s$	$(1+X) \cdot 2192 \cdot T_s$	$(1+X) \cdot 2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$	$(2+X) \cdot 2192 \cdot T_s$	$(2+X) \cdot 2560 \cdot T_s$	$7680 \cdot T_s$	$(2+X) \cdot 2192 \cdot T_s$	$(2+X) \cdot 2560 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$	$13152 \cdot T_s$	$12800 \cdot T_s$	-	-	-
9	$13168 \cdot T_s$			-	-	-
10	$13168 \cdot T_s$			-	-	-

Table 4.2-2: Uplink-downlink configurations

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Calculated Duty Cycle – Extended cyclic prefix in uplink x (Ts) x # of S + # of U

Example for calculated Duty Cycle for Uplink-Downlink Configuration 0:

Calculated Duty Cycle = $(5120 \times [1/(15000 \times 2048)] \times 2 + 0.006)/0.01 = 63.33 \%$

Ts = 1/(15000 x 2048) seconds

8.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations are not suitable for measuring the SAR of 802.11 a/b/g transmitters. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable.

8.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 – 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

8.6.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg. When different maximum output powers is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. When band gap channels are disabled, each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency point requirements.

8.6.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.

8.6.5 2.4 GHz SAR Test Requirement

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following.

- 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel; i.e., all channels require testing.

2.4 GHz 802.11g/n OFDM are additionally evaluated for SAR if highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.

8.6.6 OFDM Transmission Mode and SAR Test Channel Selection

For the 2.4 GHz and 5 GHz band, when the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel band width, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

8.6.7 Initial Test Configuration Procedure

For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 dB of each other, mid channel of the transmission mode with highest average RF output power is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

KCTL Inc. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-31-285-0894 FAX: 82-505-299-8311 www.kctl.co.kr	Report No.: KR20-SPF0026-B Page (41) of (638)	
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8.6.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

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9. RF Average Conducted Output Power**9.1 GSM Average Conducted Output Power (Maximum Average Power)**

Maximum Burst-Average Output Power (dB m)										
Band	Channel	GSM	GPRS (GMSK)				EGPRS (8-PSK)			
		Voice	1Tx	2Tx	3Tx	4Tx	1Tx	2Tx	3Tx	4Tx
GSM 850	128	32.95	32.94	32.11	30.02	28.06	27.11	25.64	23.65	22.59
	190	33.40	33.40	32.26	30.23	28.30	27.47	25.94	23.93	22.91
	251	33.24	33.23	31.90	29.82	27.95	27.26	25.74	23.72	22.60
GSM 1900	512	29.47	29.43	28.47	26.98	24.92	26.17	24.58	22.52	20.67
	661	29.82	29.82	28.96	27.45	25.46	26.58	24.94	22.74	21.19
	810	29.66	29.64	28.55	26.99	25.03	26.26	24.61	22.50	20.65

Maximum Frame-Average Output Power (dB m)										
Band	Channel	GSM	GPRS (GMSK)				EGPRS (8-PSK)			
		Voice	1Tx	2Tx	3Tx	4Tx	1Tx	2Tx	3Tx	4Tx
GSM 850	128	23.92	23.91	26.09	25.76	25.05	18.08	19.62	19.39	19.58
	190	24.37	24.37	26.24	25.97	25.29	18.44	19.92	19.67	19.90
	251	24.21	24.20	25.88	25.56	24.94	18.23	19.72	19.46	19.59
GSM 1900	512	20.44	20.40	22.45	22.72	21.91	17.14	18.56	18.26	17.66
	661	20.79	20.79	22.94	23.19	22.45	17.55	18.92	18.48	18.18
	810	20.63	20.61	22.53	22.73	22.02	17.23	18.59	18.24	17.64
GSM 850	Frame	24.47	24.47	26.48	26.24	25.49	18.97	19.98	19.74	19.99
GSM 1900	Avg, Target	21.47	21.47	22.98	23.24	22.49	17.97	18.98	18.74	18.99

9.2 GSM Average Conducted Output Power (Reduced Average Power)

Maximum Burst-Average Output Power (dB m)										
Band	Channel	GSM	GPRS (GMSK)				EGPRS (8-PSK)			
		Voice	1Tx	2Tx	3Tx	4Tx	1Tx	2Tx	3Tx	4Tx
GSM 850	128	22.83	22.84	21.70	19.67	17.72	17.55	15.67	13.72	12.62
	190	22.81	22.82	21.73	19.70	17.69	17.67	15.67	13.73	12.64
	251	22.81	22.82	21.70	19.74	17.77	17.64	15.70	13.77	12.77
GSM 1900	512	21.61	21.66	19.47	17.42	15.19	18.20	16.96	14.32	13.31
	661	21.76	21.79	19.78	17.90	15.87	18.67	16.68	14.61	13.67
	810	21.34	21.38	19.45	17.30	15.22	18.32	16.12	14.26	13.09

Maximum Frame-Average Output Power (dB m)										
Band	Channel	GSM	GPRS (GMSK)				EGPRS (8-PSK)			
		Voice	1Tx	2Tx	3Tx	4Tx	1Tx	2Tx	3Tx	4Tx
GSM 850	128	13.80	13.81	15.68	15.41	14.71	8.52	9.65	9.46	9.61
	190	13.78	13.79	15.71	15.44	14.68	8.64	9.65	9.47	9.63
	251	13.78	13.79	15.68	15.48	14.76	8.61	9.68	9.51	9.76
GSM 1900	512	12.58	12.63	13.45	13.16	12.18	9.17	10.94	10.06	10.30
	661	12.73	12.76	13.76	13.64	12.86	9.64	10.66	10.35	10.66
	810	12.31	12.35	13.43	13.04	12.21	9.29	10.10	10.00	10.08
GSM 850	Frame	14.47	14.47	16.48	16.24	15.49	9.47	10.48	10.24	10.49
GSM 1900	Avg, Target	12.97	12.97	13.98	13.74	12.99	9.97	10.98	10.74	10.99

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**9.3 WCDMA Average Conducted Output Power (Maximum Average Power)**

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		9 262	9 400	9 538	
WCDMA Band II	RMC	22.85	23.09	22.96	-
	HSDPA-Subtest 1	21.71	21.98	21.72	0
	HSDPA-Subtest 2	21.07	21.15	21.04	0
	HSDPA-Subtest 3	20.19	20.70	20.37	0.5
	HSDPA-Subtest 4	20.35	20.65	20.33	0.5
	HSUPA-Subtest 1	21.75	22.06	21.78	0
	HSUPA-Subtest 2	19.79	20.10	19.77	2
	HSUPA-Subtest 3	20.80	21.09	20.82	1
	HSUPA-Subtest 4	19.79	20.10	19.84	2
	HSUPA-Subtest 5	21.83	22.09	21.77	0
	DC-HSDPA-Subtest 1	20.83	22.07	21.77	0
	DC-HSDPA-Subtest 2	21.79	22.08	21.79	0
	DC-HSDPA-Subtest 3	21.30	21.56	21.32	0.5
	DC-HSDPA-Subtest 4	21.33	21.59	21.29	0.5

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		1 312	1 412	1 513	
WCDMA Band IV	RMC	22.86	22.71	23.08	-
	HSDPA-Subtest 1	21.56	21.36	21.82	0
	HSDPA-Subtest 2	20.88	20.69	21.14	0
	HSDPA-Subtest 3	20.21	20.02	20.44	0.5
	HSDPA-Subtest 4	20.20	20.00	20.41	0.5
	HSUPA-Subtest 1	21.67	21.46	21.83	0
	HSUPA-Subtest 2	19.67	19.45	19.84	2
	HSUPA-Subtest 3	19.58	19.59	19.67	1
	HSUPA-Subtest 4	19.49	19.22	19.68	2
	HSUPA-Subtest 5	21.66	21.44	21.88	0
	DC-HSDPA-Subtest 1	20.63	21.48	21.90	0
	DC-HSDPA-Subtest 2	21.64	21.44	21.88	0
	DC-HSDPA-Subtest 3	21.12	20.99	21.40	0.5
	DC-HSDPA-Subtest 4	21.11	20.93	21.38	0.5

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		4 132	4 183	4 233	
WCDMA Band V	RMC	23.35	23.49	23.49	-
	HSDPA-Subtest 1	22.26	22.43	22.46	0
	HSDPA-Subtest 2	21.63	21.78	21.64	0
	HSDPA-Subtest 3	21.07	21.10	21.18	0.5
	HSDPA-Subtest 4	21.01	21.06	21.05	0.5
	HSUPA-Subtest 1	22.38	22.51	22.49	0
	HSUPA-Subtest 2	20.40	20.49	20.51	2
	HSUPA-Subtest 3	21.34	21.56	21.47	1
	HSUPA-Subtest 4	20.34	20.53	20.44	2
	HSUPA-Subtest 5	22.36	22.58	22.54	0
	DC-HSDPA-Subtest 1	22.41	22.53	22.54	0
	DC-HSDPA-Subtest 2	22.36	22.50	22.53	0
	DC-HSDPA-Subtest 3	21.83	22.02	22.04	0.5
	DC-HSDPA-Subtest 4	21.85	22.02	22.07	0.5

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KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**9.4 WCDMA Average Conducted Output Power (Reduced Average Power)**

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		9 262	9 400	9 538	
WCDMA Band II	RMC	13.03	13.14	12.99	-
	HSDPA-Subtest 1	11.73	12.00	11.69	0
	HSDPA-Subtest 2	10.88	11.31	10.82	0
	HSDPA-Subtest 3	10.31	10.63	10.30	0.5
	HSDPA-Subtest 4	10.32	10.63	10.34	0.5
	HSUPA-Subtest 1	11.78	12.13	11.81	0
	HSUPA-Subtest 2	9.71	9.87	9.75	2
	HSUPA-Subtest 3	10.81	11.13	10.78	1
	HSUPA-Subtest 4	9.84	9.11	9.79	2
	HSUPA-Subtest 5	11.83	12.09	11.81	0
	DC-HSDPA-Subtest 1	11.79	12.10	11.78	0
	DC-HSDPA-Subtest 2	11.76	12.08	11.78	0
	DC-HSDPA-Subtest 3	11.30	11.61	11.30	0.5
	DC-HSDPA-Subtest 4	11.32	11.59	11.27	0.5

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		1 312	1 412	1 513	
WCDMA Band IV	RMC	12.83	12.70	13.03	-
	HSDPA-Subtest 1	11.59	11.39	11.84	0
	HSDPA-Subtest 2	10.93	10.69	10.76	0
	HSDPA-Subtest 3	10.25	10.16	10.48	0.5
	HSDPA-Subtest 4	10.17	10.09	10.45	0.5
	HSUPA-Subtest 1	11.51	11.46	11.88	0
	HSUPA-Subtest 2	9.68	9.45	9.92	2
	HSUPA-Subtest 3	10.61	10.25	10.85	1
	HSUPA-Subtest 4	9.47	9.24	9.65	2
	HSUPA-Subtest 5	11.64	11.44	11.84	0
	DC-HSDPA-Subtest 1	11.61	11.43	11.87	0
	DC-HSDPA-Subtest 2	11.67	11.44	11.88	0
	DC-HSDPA-Subtest 3	11.14	10.90	11.37	0.5
	DC-HSDPA-Subtest 4	11.09	10.93	11.40	0.5

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		4 132	4 183	4 233	
WCDMA Band V	RMC	13.90	13.87	14.00	-
	HSDPA-Subtest 1	12.89	13.01	13.01	0
	HSDPA-Subtest 2	12.34	12.67	12.41	0
	HSDPA-Subtest 3	11.76	11.55	11.74	0.5
	HSDPA-Subtest 4	11.70	11.60	11.59	0.5
	HSUPA-Subtest 1	12.99	13.03	13.10	0
	HSUPA-Subtest 2	11.13	11.23	11.31	2
	HSUPA-Subtest 3	11.96	12.16	12.19	1
	HSUPA-Subtest 4	10.90	11.23	11.30	2
	HSUPA-Subtest 5	12.92	13.23	13.20	0
	DC-HSDPA-Subtest 1	12.91	13.29	13.15	0
	DC-HSDPA-Subtest 2	12.91	13.10	13.20	0
	DC-HSDPA-Subtest 3	12.41	12.55	12.65	0.5
	DC-HSDPA-Subtest 4	12.40	12.56	12.62	0.5

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9.5 LTE Average Conducted Output Power (Maximum Average Power)

9.5.1 LTE Band 2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 700	18 900	19 100	
				1 860.0 MHz	1 880.0 MHz	1 900.0 MHz	
20 MHz	QPSK	1	0	22.93	23.18	22.99	0
		1	49	23.00	23.15	22.99	0
		1	99	23.06	23.06	22.92	0
		50	0	21.87	22.07	22.00	1
		50	24	22.07	22.16	22.09	1
		50	50	22.11	22.17	22.02	1
		100	0	22.02	22.06	22.05	1
	16QAM	1	0	22.30	22.42	22.76	1
		1	49	22.36	22.36	22.63	1
		1	99	22.44	22.36	22.55	1
		50	0	20.92	21.12	20.95	2
		50	24	21.07	21.17	21.15	2
		50	50	21.15	21.11	21.07	2
		100	0	21.04	21.11	21.07	2
	64QAM	1	0	20.60	21.14	21.31	2
		1	49	20.74	21.18	21.02	2
		1	99	21.18	21.30	20.67	2
		50	0	19.79	20.02	19.88	3
		50	24	19.87	20.16	20.09	3
		50	50	19.79	20.07	19.98	3
		100	0	19.68	20.05	20.02	3
	256QAM	1	0	18.04	18.15	18.10	5
		1	49	18.23	18.33	18.36	5
		1	99	18.21	18.33	18.26	5
		50	0	17.94	18.04	18.00	5
		50	24	18.15	18.33	18.26	5
		50	50	18.23	18.39	18.31	5
		100	0	18.17	18.31	18.24	5

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 675	18 900	19 125	
				1 857.5 MHz	1 880.0 MHz	1 902.5 MHz	
15 MHz	QPSK	1	0	22.82	23.15	23.08	0
		1	36	22.96	23.12	23.00	0
		1	74	22.89	23.15	23.05	0
		36	0	21.90	22.06	22.03	1
		36	18	22.10	22.23	22.07	1
		36	37	22.08	22.14	22.09	1
		75	0	22.03	22.06	22.05	1
	16QAM	1	0	22.41	22.32	22.42	1
		1	36	22.53	22.38	22.49	1
		1	74	22.60	22.35	22.41	1
		36	0	20.92	21.13	21.01	2
		36	18	21.11	21.25	21.09	2
		36	37	21.10	21.14	21.05	2
		75	0	21.07	21.14	21.03	2
	64QAM	1	0	20.30	21.18	21.25	2
		1	36	20.72	21.07	21.09	2
		1	74	20.88	21.08	20.47	2
		36	0	19.66	20.04	20.00	3
		36	18	19.91	20.29	20.12	3
		36	37	19.84	20.25	20.20	3
		75	0	19.72	20.17	20.11	3
	256QAM	1	0	18.06	18.26	18.16	5
		1	36	18.17	18.39	18.32	5
		1	74	18.22	18.39	18.36	5
		36	0	18.01	18.21	18.16	5
		36	18	18.17	18.38	18.27	5
		36	37	18.10	18.23	18.25	5
		75	0	18.13	18.25	18.23	5

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 650	18 900	19 150	
				1 855.0 MHz	1 880.0 MHz	1 905.0 MHz	
10 MHz	QPSK	1	0	22.82	22.97	23.05	0
		1	25	23.05	23.37	23.06	0
		1	49	22.75	22.96	23.02	0
		25	0	22.05	22.23	22.08	1
		25	12	22.10	22.32	22.16	1
		25	25	21.99	22.13	22.05	1
		50	0	22.02	22.11	22.06	1
	16QAM	1	0	22.24	22.12	22.17	1
		1	25	22.56	22.44	22.05	1
		1	49	22.33	22.12	22.08	1
		25	0	21.07	21.27	21.09	2
		25	12	21.16	21.35	21.23	2
		25	25	21.01	21.19	21.06	2
		50	0	21.04	21.16	21.09	2
	64QAM	1	0	20.23	21.18	21.24	2
		1	25	20.73	21.34	20.94	2
		1	49	20.93	21.20	20.85	2
		25	0	19.73	20.26	20.06	3
		25	12	19.92	20.33	20.20	3
		25	25	19.83	20.01	19.82	3
		50	0	19.57	20.07	20.00	3
	256QAM	1	0	18.03	18.20	18.16	5
		1	25	18.16	18.32	18.24	5
		1	49	18.05	18.27	18.18	5
		25	0	18.12	18.41	18.22	5
		25	12	18.08	18.38	18.17	5
		25	25	18.15	18.40	18.27	5
		50	0	18.15	18.40	18.30	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 625	18 900	19 175	
				1 852.5 MHz	1 880.0 MHz	1 907.5 MHz	
5 MHz	QPSK	1	0	23.09	23.15	23.11	0
		1	12	23.13	23.23	23.09	0
		1	24	23.02	23.08	23.03	0
		12	0	22.13	22.31	22.12	1
		12	7	22.13	22.32	22.10	1
		12	13	22.04	22.23	22.01	1
		25	0	22.12	22.29	22.09	1
	16QAM	1	0	21.94	22.53	21.96	1
		1	12	22.02	22.65	22.07	1
		1	24	21.89	22.49	21.89	1
		12	0	21.07	21.33	21.10	2
		12	7	21.14	21.38	21.13	2
		12	13	21.05	21.24	21.05	2
		25	0	21.09	21.27	21.14	2
	64QAM	1	0	20.39	21.53	21.07	2
		1	12	20.63	21.40	20.83	2
		1	24	20.86	21.21	20.68	2
		12	0	19.76	20.36	20.11	3
		12	7	19.95	20.46	20.14	3
		12	13	19.94	20.23	19.85	3
		25	0	19.64	20.20	19.79	3
	256QAM	1	0	18.26	18.48	18.40	5
		1	12	18.32	18.51	18.41	5
		1	24	18.14	18.30	18.26	5
		12	0	18.19	18.37	18.33	5
		12	7	18.19	18.49	18.33	5
		12	13	18.06	18.21	18.15	5
		25	0	18.13	18.40	18.27	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 615	18 900	19 185	
				1 851.5 MHz	1 880.0 MHz	1 908.5 MHz	
3 MHz	QPSK	1	0	23.08	23.24	23.06	0
		1	8	23.12	23.24	23.11	0
		1	14	22.96	23.10	22.95	0
		8	0	22.12	22.33	22.09	1
		8	4	22.13	22.29	22.14	1
		8	7	22.06	22.25	22.05	1
		15	0	22.12	22.27	22.12	1
	16QAM	1	0	22.28	22.29	22.70	1
		1	8	22.29	22.34	22.69	1
		1	14	22.19	22.26	22.54	1
		8	0	21.13	21.38	21.29	2
		8	4	21.15	21.38	21.35	2
		8	7	21.09	21.35	21.25	2
		15	0	21.17	21.28	21.09	2
	64QAM	1	0	20.48	21.38	20.90	2
		1	8	20.94	21.58	20.90	2
		1	14	20.84	21.21	20.72	2
		8	0	19.58	20.28	19.77	3
		8	4	19.80	20.36	19.82	3
		8	7	19.69	20.25	19.65	3
		15	0	19.70	20.28	19.78	3
	256QAM	1	0	18.26	18.38	18.40	5
		1	8	18.25	18.43	18.37	5
		1	14	18.17	18.28	18.24	5
		8	0	18.26	18.40	18.36	5
		8	4	18.25	18.46	18.37	5
		8	7	18.15	18.39	18.27	5
		15	0	18.18	18.48	18.28	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 607	18 900	19 193	
				1 850.7 MHz	1 880.0 MHz	1 909.3 MHz	
1.4 MHz	QPSK	1	0	22.95	23.20	22.97	0
		1	3	23.01	23.25	23.03	0
		1	5	22.92	23.16	22.90	0
		3	0	22.91	23.14	22.99	0
		3	1	22.99	23.20	23.03	0
		3	3	22.89	23.10	22.99	0
		6	0	22.02	22.18	22.03	1
	16QAM	1	0	22.10	22.23	22.14	1
		1	3	22.10	22.30	22.25	1
		1	5	22.03	22.20	22.09	1
		3	0	22.15	22.42	22.01	1
		3	1	22.19	22.49	22.05	1
		3	3	22.10	22.44	21.99	1
		6	0	20.96	21.25	21.05	2
	64QAM	1	0	20.55	21.38	20.63	2
		1	3	20.81	21.57	20.76	2
		1	5	20.69	21.35	20.55	2
		3	0	20.56	21.30	20.63	2
		3	1	20.52	21.40	20.78	2
		3	3	20.58	21.21	20.58	2
		6	0	19.54	20.24	19.65	3
	256QAM	1	0	18.17	18.34	18.22	5
		1	3	18.25	18.45	18.33	5
		1	5	18.18	18.34	18.30	5
		3	0	18.22	18.51	18.34	5
		3	1	18.24	18.52	18.30	5
		3	3	18.18	18.33	18.24	5
		6	0	18.08	18.29	18.23	5

9.5.2 LTE Band 5

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				20 525	
				836.5 MHz	
10 MHz	QPSK	1	0	23.71	0
		1	25	23.72	0
		1	49	23.91	0
		25	0	22.89	1
		25	12	22.95	1
		25	25	22.81	1
		50	0	22.80	1
	16QAM	1	0	23.11	1
		1	25	23.20	1
		1	49	23.10	1
		25	0	21.84	2
		25	12	21.94	2
		25	25	21.82	2
		50	0	21.82	2
	64QAM	1	0	22.05	2
		1	25	22.08	2
		1	49	21.76	2
		25	0	20.91	3
		25	12	20.98	3
		25	25	20.80	3
		50	0	20.67	3
	256QAM	1	0	18.91	5
		1	25	19.07	5
		1	49	18.80	5
		25	0	18.98	5
		25	12	19.10	5
		25	25	18.81	5
		50	0	18.91	5

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 425	20 525	20 625	
				826.5 MHz	836.5 MHz	846.5 MHz	
5 MHz	QPSK	1	0	23.45	23.69	23.69	0
		1	12	23.57	23.83	23.81	0
		1	24	23.55	23.78	23.79	0
		12	0	22.56	22.86	22.86	1
		12	7	22.67	22.96	22.96	1
		12	13	22.62	22.94	22.91	1
		25	0	22.61	22.94	22.94	1
	16QAM	1	0	22.67	23.04	23.01	1
		1	12	22.76	23.11	23.13	1
		1	24	22.89	23.11	23.18	1
		12	0	21.62	21.89	21.89	2
		12	7	21.69	21.96	22.01	2
		12	13	21.72	21.96	21.92	2
		25	0	21.62	21.97	21.96	2
	64QAM	1	0	21.59	21.90	21.94	2
		1	12	21.78	21.83	21.94	2
		1	24	21.73	21.87	21.60	2
		12	0	20.64	20.80	20.87	3
		12	7	20.68	20.87	20.75	3
		12	13	20.73	20.82	20.71	3
		25	0	20.64	20.75	20.73	3
	256QAM	1	0	18.88	19.07	18.99	5
		1	12	18.95	19.10	19.04	5
		1	24	18.88	19.11	19.02	5
		12	0	18.74	18.96	18.90	5
		12	7	18.90	19.09	19.00	5
		12	13	18.95	19.12	19.04	5
		25	0	18.88	19.04	18.95	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 415	20 525	20 635	
				825.5 MHz	836.5 MHz	847.5 MHz	
3 MHz	QPSK	1	0	23.38	23.70	23.79	0
		1	8	23.56	23.86	23.87	0
		1	14	23.51	23.78	23.76	0
		8	0	22.51	22.87	22.89	1
		8	4	22.62	22.88	22.92	1
		8	7	22.61	22.94	22.97	1
		15	0	22.66	22.91	22.85	1
	16QAM	1	0	22.79	23.04	23.15	1
		1	8	22.93	23.23	23.22	1
		1	14	22.90	23.17	23.08	1
		8	0	21.66	21.95	21.93	2
		8	4	21.68	22.01	22.06	2
		8	7	21.74	21.96	22.04	2
		15	0	21.62	21.97	21.90	2
	64QAM	1	0	21.69	21.83	21.89	2
		1	8	21.78	21.83	21.81	2
		1	14	21.72	21.85	21.74	2
		8	0	20.61	20.84	20.80	3
		8	4	20.69	20.85	20.80	3
		8	7	20.59	20.66	20.94	3
		15	0	20.73	20.81	20.80	3
	256QAM	1	0	18.82	19.05	18.97	5
		1	8	19.01	19.26	19.19	5
		1	14	18.77	19.01	18.96	5
		8	0	18.86	19.06	18.98	5
		8	4	18.90	19.15	19.10	5
		8	7	18.90	19.07	18.98	5
		15	0	19.00	19.15	19.05	5

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Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 407	20 525	20 643	
				824.7 MHz	836.5 MHz	848.3 MHz	
1.4 MHz	QPSK	1	0	23.32	23.66	23.75	0
		1	3	23.55	23.80	23.74	0
		1	5	23.44	23.75	23.70	0
		3	0	23.36	23.72	23.72	0
		3	1	23.45	23.81	23.76	0
		3	3	23.45	23.78	23.69	0
		6	0	22.46	22.89	22.88	1
	16QAM	1	0	22.82	23.05	23.01	1
		1	3	22.93	23.15	23.16	1
		1	5	22.71	23.05	23.07	1
		3	0	22.48	22.86	22.84	1
		3	1	22.53	22.94	22.80	1
		3	3	22.50	22.89	22.84	1
		6	0	21.63	21.92	21.95	2
	64QAM	1	0	21.64	21.93	21.81	2
		1	3	21.74	22.01	21.84	2
		1	5	21.62	21.99	21.80	2
		3	0	21.62	21.90	21.71	2
		3	1	21.71	22.03	21.72	2
		3	3	21.62	21.88	21.87	2
		6	0	20.55	20.90	20.62	3
	256QAM	1	0	18.89	19.08	19.01	5
		1	3	19.01	19.16	19.11	5
		1	5	18.87	19.07	18.97	5
		3	0	18.96	19.11	19.06	5
		3	1	18.98	19.18	19.10	5
		3	3	18.86	19.11	19.05	5
		6	0	18.80	18.99	18.90	5

9.5.3 LTE Band 12

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				23 095	
				707.5 MHz	
10 MHz	QPSK	1	0	23.85	0
		1	25	23.89	0
		1	49	23.98	0
		25	0	22.92	1
		25	12	22.95	1
		25	25	23.02	1
		50	0	22.88	1
	16QAM	1	0	23.26	1
		1	25	23.31	1
		1	49	23.26	1
		25	0	21.99	2
		25	12	21.99	2
		25	25	22.03	2
		50	0	21.95	2
	64QAM	1	0	22.13	2
		1	25	22.12	2
		1	49	22.26	2
		25	0	20.92	3
		25	12	21.10	3
		25	25	20.97	3
		50	0	20.96	3
	256QAM	1	0	19.05	5
		1	25	19.42	5
		1	49	19.07	5
		25	0	19.15	5
		25	12	19.24	5
		25	25	19.33	5
		50	0	19.24	5

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 035	23 095	23 155	
				701.5 MHz	707.5 MHz	713.5 MHz	
5 MHz	QPSK	1	0	23.67	23.84	23.87	0
		1	12	23.72	23.99	24.01	0
		1	24	23.75	23.89	23.90	0
		12	0	22.85	23.02	22.97	1
		12	7	22.96	23.04	23.10	1
		12	13	22.93	23.03	23.06	1
		25	0	22.87	23.00	22.96	1
	16QAM	1	0	23.08	23.13	23.28	1
		1	12	23.13	23.21	23.35	1
		1	24	23.02	23.29	23.29	1
		12	0	21.88	21.97	22.04	2
		12	7	21.94	22.12	22.13	2
		12	13	21.92	22.01	22.10	2
		25	0	21.87	22.03	21.99	2
	64QAM	1	0	21.89	22.18	22.16	2
		1	12	22.00	22.18	22.12	2
		1	24	22.06	22.19	22.21	2
		12	0	20.92	21.03	21.07	3
		12	7	20.95	21.17	21.17	3
		12	13	20.96	21.10	21.09	3
		25	0	20.93	21.05	21.04	3
	256QAM	1	0	19.44	19.34	19.41	5
		1	12	19.59	19.47	19.59	5
		1	24	19.42	19.37	19.48	5
		12	0	19.43	19.32	19.41	5
		12	7	19.50	19.42	19.53	5
		12	13	19.35	19.32	19.36	5
		25	0	19.35	19.32	19.35	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 025	23 095	23 655	
				700.5 MHz	707.5 MHz	714.5 MHz	
3 MHz	QPSK	1	0	23.64	23.84	23.82	0
		1	8	23.75	24.00	23.94	0
		1	14	23.74	23.95	23.85	0
		8	0	22.78	23.01	23.01	1
		8	4	22.88	23.03	23.08	1
		8	7	22.89	23.08	23.03	1
		15	0	22.84	23.01	23.02	1
	16QAM	1	0	23.09	23.16	23.19	1
		1	8	23.15	23.22	23.36	1
		1	14	23.02	23.30	23.34	1
		8	0	21.90	22.02	22.01	2
		8	4	21.95	22.10	22.16	2
		8	7	21.92	22.07	22.13	2
		15	0	21.93	22.07	22.06	2
	64QAM	1	0	21.94	22.14	22.16	2
		1	8	22.07	22.27	22.20	2
		1	14	22.13	22.15	22.21	2
		8	0	20.91	21.07	21.09	3
		8	4	20.94	21.15	21.13	3
		8	7	20.96	21.05	21.09	3
		15	0	20.94	21.06	21.09	3
	256QAM	1	0	19.50	19.44	19.53	5
		1	8	19.58	19.51	19.60	5
		1	14	19.57	19.46	19.55	5
		8	0	19.36	19.33	19.44	5
		8	4	19.48	19.39	19.46	5
		8	7	19.50	19.40	19.52	5
		15	0	19.46	19.40	19.47	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 017	23 095	23 173	
				699.7 MHz	707.5 MHz	715.3 MHz	
1.4 MHz	QPSK	1	0	23.50	23.79	23.78	0
		1	3	23.65	23.90	23.91	0
		1	5	23.63	23.86	23.92	0
		3	0	23.55	23.79	23.85	0
		3	1	23.67	23.77	23.90	0
		3	3	23.62	23.82	23.86	0
		6	0	22.72	22.96	22.94	1
	16QAM	1	0	22.94	23.10	23.19	1
		1	3	22.99	23.33	23.29	1
		1	5	22.96	23.24	23.25	1
		3	0	22.71	22.99	22.91	1
		3	1	22.82	22.98	23.03	1
		3	3	22.79	22.86	22.92	1
		6	0	21.90	22.08	22.17	2
	64QAM	1	0	21.80	22.01	22.11	2
		1	3	21.98	22.27	22.22	2
		1	5	21.92	22.12	22.18	2
		3	0	21.78	22.02	21.98	2
		3	1	21.84	22.03	22.13	2
		3	3	21.82	22.09	22.06	2
		6	0	20.77	21.02	20.99	3
	256QAM	1	0	19.26	19.23	19.31	5
		1	3	19.44	19.33	19.44	5
		1	5	19.34	19.31	19.35	5
		3	0	19.40	19.36	19.48	5
		3	1	19.44	19.36	19.40	5
		3	3	19.46	19.35	19.42	5
		6	0	19.35	19.26	19.32	5

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65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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**9.5.4 LTE Band 13**

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				23 230	
				782.0 MHz	
10 MHz	QPSK	1	0	23.47	0
		1	25	23.61	0
		1	49	23.41	0
		25	0	22.67	1
		25	12	22.66	1
		25	25	22.64	1
		50	0	22.50	1
	16QAM	1	0	22.75	1
		1	25	22.82	1
		1	49	22.84	1
		25	0	21.68	2
		25	12	21.70	2
		25	25	21.72	2
		50	0	21.61	2
	64QAM	1	0	21.77	2
		1	25	21.81	2
		1	49	21.75	2
		25	0	20.74	3
		25	12	20.79	3
		25	25	20.73	3
		50	0	20.75	3
	256QAM	1	0	18.76	5
		1	25	18.79	5
		1	49	18.85	5
		25	0	18.78	5
		25	12	18.95	5
		25	25	18.83	5
		50	0	18.78	5

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				23 230	
				782.0 MHz	
5 MHz	QPSK	1	0	23.56	0
		1	12	23.74	0
		1	24	23.62	0
		12	0	22.66	1
		12	7	22.71	1
		12	13	22.72	1
		25	0	22.66	1
	16QAM	1	0	22.81	1
		1	12	22.89	1
		1	24	22.98	1
		12	0	21.74	2
		12	7	21.70	2
		12	13	21.82	2
		25	0	21.70	2
	64QAM	1	0	21.79	2
		1	12	21.74	2
		1	24	21.77	2
		12	0	20.74	3
		12	7	20.76	3
		12	13	20.89	3
		25	0	20.74	3
	256QAM	1	0	18.83	5
		1	12	19.03	5
		1	24	18.99	5
		12	0	18.89	5
		12	7	19.04	5
		12	13	18.97	5
		25	0	18.87	5

5 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

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Suwon-si, Gyeonggi-do, 16677, Korea
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**9.5.5 LTE Band 25**

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 140	26 365	26 590	
				1 860.0 MHz	1 882.5 MHz	1 905.0 MHz	
20 MHz	QPSK	1	0	22.61	23.36	23.17	0
		1	49	22.90	23.35	23.12	0
		1	99	23.21	23.27	22.31	0
		50	0	21.85	22.32	22.20	1
		50	24	21.99	22.38	22.22	1
		50	50	21.99	22.30	21.79	1
		100	0	21.93	22.22	22.09	1
	16QAM	1	0	21.91	22.48	22.89	1
		1	49	22.24	22.54	22.79	1
		1	99	22.57	22.51	21.77	1
		50	0	20.95	21.27	21.23	2
		50	24	21.03	21.42	21.19	2
		50	50	21.05	21.28	20.90	2
		100	0	21.00	21.22	21.18	2
	64QAM	1	0	20.92	21.01	21.05	2
		1	49	20.77	20.96	20.79	2
		1	99	20.88	21.00	20.78	2
		50	0	19.65	19.90	19.70	3
		50	24	19.57	19.86	19.83	3
		50	50	19.55	19.85	19.73	3
		100	0	19.42	19.75	19.65	3
	256QAM	1	0	18.25	18.34	18.20	5
		1	49	18.40	18.46	18.47	5
		1	99	18.42	18.52	18.49	5
		50	0	18.05	18.25	18.24	5
		50	24	18.32	18.51	18.45	5
		50	50	18.33	18.55	18.41	5
		100	0	18.39	18.41	18.45	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 115	26 365	26 615	
				1 857.5 MHz	1 882.5 MHz	1 907.5 MHz	
15 MHz	QPSK	1	0	22.46	23.36	23.15	0
		1	36	22.87	23.35	23.05	0
		1	74	23.03	23.33	22.23	0
		36	0	21.81	22.32	22.09	1
		36	18	21.94	22.36	22.12	1
		36	37	21.93	22.32	21.65	1
		75	0	21.77	22.29	21.87	1
	16QAM	1	0	21.74	22.53	22.56	1
		1	36	22.22	22.52	22.31	1
		1	74	22.41	22.44	21.52	1
		36	0	21.01	21.29	21.16	2
		36	18	21.06	21.40	21.16	2
		36	37	21.05	21.36	20.73	2
		75	0	20.95	21.33	21.04	2
	64QAM	1	0	20.82	20.93	20.94	2
		1	36	20.75	21.02	20.98	2
		1	74	20.76	20.87	20.67	2
		36	0	19.94	20.05	20.01	3
		36	18	19.76	19.97	19.87	3
		36	37	19.80	19.98	19.90	3
		75	0	19.39	19.70	19.68	3
	256QAM	1	0	18.30	18.42	18.31	5
		1	36	18.28	18.63	18.56	5
		1	74	18.37	18.54	18.58	5
		36	0	18.24	18.31	18.26	5
		36	18	18.37	18.55	18.38	5
		36	37	18.20	18.38	18.45	5
		75	0	18.30	18.40	18.46	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 090	26 365	26 640	
				1 855.0 MHz	1 882.5 MHz	1 910.0 MHz	
10 MHz	QPSK	1	0	22.33	23.10	23.09	0
		1	25	22.87	23.31	22.67	0
		1	49	22.86	23.02	22.15	0
		25	0	21.84	22.33	21.99	1
		25	12	21.93	22.43	21.74	1
		25	25	21.96	22.37	21.40	1
		50	0	21.78	22.33	21.63	1
	16QAM	1	0	21.71	22.31	22.08	1
		1	25	22.29	22.47	21.68	1
		1	49	22.27	22.20	21.17	1
		25	0	20.94	21.34	21.14	2
		25	12	21.10	21.45	20.91	2
		25	25	21.11	21.41	20.54	2
		50	0	20.93	21.33	20.79	2
	64QAM	1	0	20.84	20.98	21.13	2
		1	25	20.68	21.23	20.90	2
		1	49	20.53	20.77	20.47	2
		25	0	19.56	20.01	19.78	3
		25	12	19.73	20.15	20.02	3
		25	25	19.59	19.88	19.75	3
		50	0	19.56	19.94	19.83	3
	256QAM	1	0	18.22	18.41	18.26	5
		1	25	18.31	18.55	18.47	5
		1	49	18.20	18.49	18.31	5
		25	0	18.35	18.64	18.41	5
		25	12	18.26	18.57	18.39	5
		25	25	18.40	18.63	18.43	5
		50	0	18.30	18.63	18.46	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 065	26 365	26 665	
				1 852.5 MHz	1 882.5 MHz	1 912.5 MHz	
5 MHz	QPSK	1	0	22.65	23.19	22.68	0
		1	12	22.88	23.26	22.39	0
		1	24	23.01	23.27	22.12	0
		12	0	21.77	22.38	21.52	1
		12	7	21.91	22.43	21.43	1
		12	13	21.93	22.42	21.27	1
		25	0	21.73	22.38	21.26	1
	16QAM	1	0	21.39	22.66	21.61	1
		1	12	21.66	22.65	21.32	1
		1	24	21.80	22.70	21.07	1
		12	0	20.83	21.41	20.62	2
		12	7	20.98	21.43	20.53	2
		12	13	21.00	21.43	20.35	2
		25	0	20.87	21.39	20.48	2
	64QAM	1	0	20.88	21.29	20.95	2
		1	12	20.62	21.29	20.69	2
		1	24	20.75	21.21	20.88	2
		12	0	19.66	20.03	19.79	3
		12	7	19.53	19.98	19.68	3
		12	13	19.77	20.01	19.70	3
		25	0	19.59	20.04	19.66	3
	256QAM	1	0	18.46	18.65	18.58	5
		1	12	18.53	18.64	18.64	5
		1	24	18.25	18.53	18.37	5
		12	0	18.42	18.62	18.56	5
		12	7	18.34	18.62	18.54	5
		12	13	18.22	18.37	18.31	5
		25	0	18.30	18.58	18.46	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 055	26 365	26 675	
				1 851.5 MHz	1 882.5 MHz	1 913.5 MHz	
3 MHz	QPSK	1	0	22.57	23.23	22.32	0
		1	8	22.82	23.38	22.21	0
		1	14	22.86	23.34	22.09	0
		8	0	21.73	22.40	21.33	1
		8	4	21.84	22.43	21.29	1
		8	7	21.86	22.38	21.19	1
		15	0	21.71	22.37	21.29	1
	16QAM	1	0	22.02	22.47	21.44	1
		1	8	22.27	22.55	21.32	1
		1	14	22.27	22.52	21.12	1
		8	0	20.97	21.32	20.51	2
		8	4	21.06	21.43	20.44	2
		8	7	21.05	21.38	20.35	2
		15	0	20.79	21.40	20.37	2
	64QAM	1	0	20.68	21.07	20.76	2
		1	8	20.68	21.21	20.77	2
		1	14	20.75	21.11	20.88	2
		8	0	19.80	20.08	19.82	3
		8	4	19.65	20.10	19.73	3
		8	7	19.61	20.07	19.73	3
		15	0	19.54	19.97	19.60	3
	256QAM	1	0	18.40	18.60	18.60	5
		1	8	18.40	18.56	18.60	5
		1	14	18.34	18.53	18.37	5
		8	0	18.45	18.56	18.52	5
		8	4	18.37	18.56	18.62	5
		8	7	18.29	18.63	18.37	5
		15	0	18.36	18.63	18.53	5

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65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 047	26 365	26 683	
				1 850.7 MHz	1 882.5 MHz	1 914.3 MHz	
1.4 MHz	QPSK	1	0	22.49	23.13	22.20	0
		1	3	22.63	23.20	22.16	0
		1	5	22.60	23.15	22.04	0
		3	0	22.51	23.20	22.04	0
		3	1	22.54	23.24	22.08	0
		3	3	22.54	23.21	22.07	0
		6	0	21.57	22.30	21.08	1
	16QAM	1	0	21.55	22.29	21.13	1
		1	3	21.69	22.33	21.11	1
		1	5	21.67	22.33	21.01	1
		3	0	21.54	22.31	21.33	1
		3	1	21.64	22.37	21.39	1
		3	3	21.62	22.34	21.31	1
		6	0	20.73	21.24	20.25	2
	64QAM	1	0	20.81	21.17	20.88	2
		1	3	20.76	21.26	20.84	2
		1	5	20.56	21.01	20.65	2
		3	0	20.70	21.02	20.72	2
		3	1	20.78	21.15	20.76	2
		3	3	20.67	20.99	20.72	2
		6	0	19.37	19.84	19.51	3
	256QAM	1	0	18.38	18.44	18.35	5
		1	3	18.43	18.61	18.57	5
		1	5	18.43	18.45	18.43	5
		3	0	18.41	18.69	18.51	5
		3	1	18.42	18.66	18.54	5
		3	3	18.43	18.53	18.44	5
		6	0	18.27	18.45	18.40	5

9.5.6 LTE Band 26

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				26 865	
				831.5 MHz	
15 MHz	QPSK	1	0	23.37	0
		1	36	23.48	0
		1	74	23.42	0
		36	0	22.45	1
		36	18	22.55	1
		36	37	22.59	1
		75	0	22.51	1
	16QAM	1	0	22.79	1
		1	36	22.82	1
		1	74	22.74	1
		36	0	21.39	2
		36	18	21.62	2
		36	37	21.58	2
		75	0	21.52	2
	64QAM	1	0	21.64	2
		1	36	21.35	2
		1	74	21.06	2
		36	0	20.56	3
		36	18	20.46	3
		36	37	20.48	3
		75	0	20.21	3
	256QAM	1	0	18.70	5
		1	36	19.01	5
		1	74	18.82	5
		36	0	18.79	5
		36	18	18.95	5
		36	37	18.94	5
		75	0	18.91	5

15 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 740	26 865	26 990	
				819.0 MHz	831.5 MHz	844.0 MHz	
10 MHz	QPSK	1	0	23.40	23.55	23.67	0
		1	25	23.41	23.63	23.75	0
		1	49	23.59	23.65	23.71	0
		25	0	22.40	22.60	22.75	1
		25	12	22.47	22.66	22.85	1
		25	25	22.45	22.59	22.82	1
		50	0	22.54	22.53	22.71	1
	16QAM	1	0	22.69	22.77	23.08	1
		1	25	22.73	22.96	23.17	1
		1	49	22.96	22.70	23.10	1
		25	0	21.37	21.55	21.73	2
		25	12	21.49	21.72	21.84	2
		25	25	21.49	21.71	21.85	2
		50	0	21.49	21.56	21.80	2
	64QAM	1	0	21.56	21.94	21.54	2
		1	25	21.37	21.82	21.71	2
		1	49	21.13	21.49	21.25	2
		25	0	20.46	20.55	20.61	3
		25	12	20.38	20.42	20.66	3
		25	25	20.21	20.36	20.43	3
		50	0	20.08	20.24	20.43	3
	256QAM	1	0	18.53	18.70	18.46	5
		1	25	18.94	19.04	18.80	5
		1	49	18.81	18.97	18.73	5
		25	0	18.83	18.93	18.71	5
		25	12	18.81	18.97	18.69	5
		25	25	18.92	19.05	18.76	5
		50	0	18.74	18.88	18.69	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 715	26 865	27 015	
				816.5 MHz	831.5 MHz	846.5 MHz	
5 MHz	QPSK	1	0	23.30	23.55	23.77	0
		1	12	23.46	23.64	23.81	0
		1	24	23.25	23.62	23.73	0
		12	0	22.41	22.66	22.78	1
		12	7	22.48	22.69	22.87	1
		12	13	22.32	22.75	22.87	1
		25	0	22.41	22.67	22.77	1
	16QAM	1	0	22.52	22.79	23.10	1
		1	12	22.68	22.84	23.13	1
		1	24	22.44	22.83	22.94	1
		12	0	21.43	21.67	21.87	2
		12	7	21.61	21.66	21.90	2
		12	13	21.50	21.71	21.86	2
		25	0	21.49	21.64	21.76	2
	64QAM	1	0	21.32	21.67	21.75	2
		1	12	21.16	21.28	21.47	2
		1	24	21.01	21.08	21.17	2
		12	0	20.15	20.59	20.43	3
		12	7	20.13	20.30	20.26	3
		12	13	20.09	20.28	20.23	3
		25	0	20.04	20.18	20.31	3
	256QAM	1	0	18.84	18.97	18.79	5
		1	12	18.93	19.05	18.93	5
		1	24	19.05	19.15	18.96	5
		12	0	18.81	18.94	18.67	5
		12	7	18.88	19.08	18.86	5
		12	13	18.89	19.09	18.79	5
		25	0	18.77	18.97	18.78	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 705	26 865	27 025	
				815.5 MHz	831.5 MHz	847.5 MHz	
3 MHz	QPSK	1	0	23.26	23.59	23.77	0
		1	8	23.48	23.65	23.77	0
		1	14	23.35	23.63	23.72	0
		8	0	22.45	22.63	22.87	1
		8	4	22.55	22.78	22.84	1
		8	7	22.46	22.74	22.79	1
		15	0	22.45	22.64	22.89	1
	16QAM	1	0	22.59	22.88	23.05	1
		1	8	22.68	22.97	23.09	1
		1	14	22.70	23.01	23.07	1
		8	0	21.47	21.69	21.93	2
		8	4	21.61	21.79	21.89	2
		8	7	21.53	21.74	21.90	2
		15	0	21.54	21.71	21.85	2
	64QAM	1	0	21.04	21.44	21.47	2
		1	8	21.17	21.51	21.35	2
		1	14	21.04	21.28	21.25	2
		8	0	20.21	20.46	20.36	3
		8	4	20.13	20.41	20.32	3
		8	7	20.01	20.26	20.46	3
		15	0	20.14	20.20	20.31	3
	256QAM	1	0	18.88	19.04	18.76	5
		1	8	19.16	19.28	19.03	5
		1	14	19.02	19.15	19.02	5
		8	0	18.96	19.08	18.78	5
		8	4	18.98	19.13	19.01	5
		8	7	18.90	19.10	19.00	5
		15	0	18.93	19.06	18.89	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 697	26 865	27 033	
				814.7 MHz	831.5 MHz	848.3 MHz	
1.4 MHz	QPSK	1	0	23.20	23.48	23.67	0
		1	3	23.39	23.56	23.71	0
		1	5	23.33	23.55	23.67	0
		3	0	23.28	23.51	23.66	0
		3	1	23.34	23.55	23.68	0
		3	3	23.31	23.53	23.60	0
		6	0	22.37	22.61	22.71	1
	16QAM	1	0	22.51	22.84	22.95	1
		1	3	22.68	22.98	23.19	1
		1	5	22.68	22.87	22.92	1
		3	0	22.42	22.60	22.77	1
		3	1	22.53	22.66	22.76	1
		3	3	22.39	22.60	22.77	1
		6	0	21.45	21.76	21.84	2
	64QAM	1	0	21.34	21.49	21.35	2
		1	3	21.35	21.45	21.41	2
		1	5	21.33	21.42	21.31	2
		3	0	21.29	21.36	21.22	2
		3	1	21.35	21.35	21.31	2
		3	3	21.20	21.29	21.38	2
		6	0	20.24	20.25	20.14	3
	256QAM	1	0	18.86	18.98	18.71	5
		1	3	18.93	19.10	19.00	5
		1	5	18.84	19.00	18.90	5
		3	0	18.90	19.04	18.89	5
		3	1	18.93	19.11	18.94	5
		3	3	18.93	19.11	18.99	5
		6	0	18.80	18.98	18.83	5

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**9.5.7 LTE Band 41**

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
20 MHz	QPSK	1	0	23.95	23.80	23.56	23.31	23.20	0
		1	49	23.88	23.82	23.78	23.60	23.53	0
		1	99	23.92	23.77	23.33	23.16	23.39	0
		50	0	23.02	22.80	22.77	22.64	22.50	1
		50	24	23.00	22.92	22.89	22.75	22.70	1
		50	50	22.98	22.90	22.75	22.65	22.63	1
		100	0	22.91	22.84	22.79	22.64	22.66	1
	16QAM	1	0	23.22	23.13	22.92	22.70	22.50	1
		1	49	23.21	23.06	23.08	22.94	22.85	1
		1	99	23.22	23.12	22.74	22.45	22.64	1
		50	0	22.06	21.90	21.85	21.68	21.60	2
		50	24	22.08	21.98	21.98	21.83	21.73	2
		50	50	22.04	21.91	21.83	21.62	21.74	2
		100	0	21.99	21.86	21.89	21.72	21.66	2
	64QAM	1	0	21.99	21.91	21.46	21.42	21.24	2
		1	49	21.95	21.76	21.88	21.73	21.62	2
		1	99	21.99	21.91	21.50	21.18	21.41	2
		50	0	21.06	20.88	20.84	20.69	20.59	3
		50	24	21.09	21.01	20.97	20.83	20.77	3
		50	50	21.04	20.92	20.83	20.65	20.71	3
		100	0	20.97	20.86	20.87	20.72	20.68	3
	256QAM	1	0	19.09	19.05	18.85	18.80	18.66	5
		1	49	19.51	19.34	19.24	19.19	19.06	5
		1	99	19.19	19.12	18.95	18.83	18.81	5
		50	0	19.65	19.47	19.35	19.29	19.17	5
		50	24	19.77	19.64	19.51	19.41	19.36	5
		50	50	19.55	19.45	19.34	19.23	19.21	5
		100	0	19.58	19.53	19.42	19.34	19.26	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
15 MHz	QPSK	1	0	23.93	23.55	23.63	23.53	23.31	0
		1	36	23.86	23.72	23.73	23.62	23.56	0
		1	74	23.85	23.48	23.55	23.39	23.46	0
		36	0	23.02	22.76	22.81	22.66	22.55	1
		36	18	22.98	22.88	22.87	22.75	22.70	1
		36	37	22.98	22.84	22.82	22.65	22.67	1
		75	0	22.94	22.86	22.84	22.68	22.65	1
	16QAM	1	0	23.24	22.92	22.93	22.82	22.67	1
		1	36	23.21	23.07	23.11	22.90	22.87	1
		1	74	23.22	22.90	22.92	22.64	22.80	1
		36	0	22.04	21.77	21.76	21.62	21.56	2
		36	18	22.00	21.89	21.91	21.77	21.69	2
		36	37	22.04	21.83	21.84	21.70	21.67	2
		75	0	21.99	21.87	21.87	21.74	21.68	2
	64QAM	1	0	22.00	21.63	21.66	21.59	21.42	2
		1	36	21.96	21.80	21.84	21.70	21.59	2
		1	74	21.99	21.66	21.69	21.45	21.56	2
		36	0	21.05	20.82	20.83	20.69	20.61	3
		36	18	21.07	20.97	20.92	20.80	20.74	3
		36	37	21.02	20.87	20.88	20.69	20.70	3
		75	0	21.02	20.91	20.89	20.73	20.74	3
	256QAM	1	0	19.30	19.24	19.14	19.07	18.95	5
		1	36	19.52	19.54	19.34	19.23	19.20	5
		1	74	19.23	19.15	19.04	18.90	18.90	5
		36	0	19.55	19.41	19.31	19.16	19.18	5
		36	18	19.71	19.62	19.47	19.38	19.35	5
		36	37	19.58	19.61	19.46	19.32	19.36	5
		75	0	19.67	19.50	19.39	19.30	19.20	5

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				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
10 MHz	QPSK	1	0	23.97	23.60	23.63	23.37	23.30	0
		1	25	23.91	23.81	23.77	23.58	23.53	0
		1	49	23.96	23.54	23.44	23.32	23.24	0
		25	0	23.08	22.89	22.84	22.65	22.60	1
		25	12	23.05	23.04	22.99	22.81	22.76	1
		25	25	23.02	22.91	22.86	22.68	22.64	1
		50	0	22.95	22.97	22.91	22.74	22.64	1
	16QAM	1	0	23.28	22.94	22.97	22.74	22.76	1
		1	25	23.23	23.20	23.12	22.92	22.93	1
		1	49	23.25	22.97	22.85	22.73	22.64	1
		25	0	22.06	21.93	21.88	21.69	21.64	2
		25	12	22.11	22.08	22.05	21.83	21.80	2
		25	25	22.04	21.98	21.86	21.74	21.67	2
		50	0	22.05	22.00	21.98	21.75	21.76	2
	64QAM	1	0	22.11	21.73	21.66	21.55	21.51	2
		1	25	22.05	22.03	21.95	21.81	21.68	2
		1	49	22.08	21.76	21.65	21.53	21.36	2
		25	0	21.14	21.02	20.98	20.75	20.75	3
		25	12	21.14	21.13	21.09	20.89	20.87	3
		25	25	21.11	21.05	21.00	20.78	20.71	3
		50	0	21.04	21.02	20.97	20.74	20.71	3
	256QAM	1	0	19.30	19.30	19.11	19.06	18.92	5
		1	25	19.42	19.44	19.25	19.19	19.06	5
		1	49	19.25	19.22	19.09	18.97	18.94	5
		25	0	19.54	19.46	19.27	19.19	19.14	5
		25	12	19.54	19.50	19.36	19.25	19.26	5
		25	25	19.44	19.49	19.33	19.27	19.15	5
		50	0	19.40	19.44	19.25	19.17	19.13	5

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				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
5 MHz	QPSK	1	0	23.91	23.74	23.75	23.52	23.57	0
		1	12	23.90	23.86	23.75	23.60	23.53	0
		1	24	23.95	23.84	23.76	23.60	23.52	0
		12	0	23.05	22.97	22.98	22.65	22.72	1
		12	7	23.04	23.02	22.94	22.75	22.73	1
		12	13	23.01	22.98	22.92	22.74	22.70	1
		25	0	23.04	23.03	22.91	22.79	22.73	1
	16QAM	1	0	23.25	23.12	23.09	22.83	22.91	1
		1	12	23.25	23.18	23.12	22.90	22.88	1
		1	24	23.28	23.12	23.05	22.91	22.88	1
		12	0	22.10	21.98	22.05	21.73	21.76	2
		12	7	22.12	22.08	22.04	21.82	21.81	2
		12	13	22.05	22.05	21.99	21.79	21.75	2
		25	0	22.02	22.09	22.01	21.82	21.77	2
	64QAM	1	0	22.04	21.90	21.89	21.67	21.71	2
		1	12	21.99	21.94	21.92	21.75	21.70	2
		1	24	22.08	21.97	21.91	21.73	21.70	2
		12	0	21.17	21.06	21.07	20.83	20.82	3
		12	7	21.12	21.13	21.09	20.91	20.85	3
		12	13	21.13	21.13	21.04	20.85	20.77	3
		25	0	21.07	21.09	21.01	20.84	20.82	3
	256QAM	1	0	19.29	19.17	19.01	18.89	18.84	5
		1	12	19.54	19.58	19.41	19.31	19.31	5
		1	24	19.34	19.32	19.21	19.07	19.08	5
		12	0	19.33	19.32	19.15	19.05	19.02	5
		12	7	19.33	19.23	19.11	18.99	18.96	5
		12	13	19.38	19.40	19.23	19.11	19.10	5
		25	0	19.50	19.41	19.21	19.10	19.05	5

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**9.5.8 LTE Band 66**

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 072	132 322	132 572	
				1 720.0 MHz	1 745.0 MHz	1 770.0 MHz	
20 MHz	QPSK	1	0	22.70	22.81	23.07	0
		1	49	23.01	23.01	23.09	0
		1	99	22.73	22.76	22.96	0
		50	0	22.00	22.05	22.05	1
		50	24	22.12	22.09	22.20	1
		50	50	21.99	22.02	22.09	1
		100	0	22.02	22.09	22.12	1
	16QAM	1	0	22.13	22.06	22.68	1
		1	49	22.33	22.34	22.73	1
		1	99	22.15	22.05	22.62	1
		50	0	20.94	21.07	21.05	2
		50	24	21.07	21.11	21.13	2
		50	50	20.97	21.04	21.06	2
		100	0	21.00	21.06	21.13	2
	64QAM	1	0	20.68	21.27	20.98	2
		1	49	20.87	21.33	21.04	2
		1	99	20.39	20.67	20.90	2
		50	0	19.93	20.00	19.88	3
		50	24	19.88	20.28	19.68	3
		50	50	19.48	20.07	19.83	3
		100	0	19.44	19.81	19.26	3
	256QAM	1	0	17.75	18.02	17.85	5
		1	49	18.03	18.28	18.08	5
		1	99	17.76	18.02	17.89	5
		50	0	18.00	18.20	18.09	5
		50	24	17.89	18.22	18.07	5
		50	50	17.82	18.11	17.96	5
		100	0	17.88	18.21	18.05	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 047	132 322	132 597	
				1 717.5 MHz	1 745.0 MHz	1 772.5 MHz	
15 MHz	QPSK	1	0	22.90	22.97	23.11	0
		1	36	22.99	23.03	23.08	0
		1	74	22.83	22.89	22.97	0
		36	0	21.98	22.07	22.11	1
		36	18	22.09	22.07	22.09	1
		36	37	22.06	22.08	22.12	1
		75	0	22.03	22.09	22.05	1
	16QAM	1	0	22.58	22.09	22.50	1
		1	36	22.60	22.24	22.56	1
		1	74	22.47	22.08	22.46	1
		36	0	21.05	21.06	21.15	2
		36	18	21.14	21.09	21.10	2
		36	37	21.05	21.08	21.12	2
		75	0	21.06	21.10	21.10	2
	64QAM	1	0	20.75	20.73	20.66	2
		1	36	20.70	21.14	21.05	2
		1	74	20.56	21.03	20.76	2
		36	0	19.81	19.96	19.45	3
		36	18	19.76	20.07	19.77	3
		36	37	19.61	20.12	19.77	3
		75	0	19.73	20.05	19.60	3
	256QAM	1	0	17.88	18.17	18.01	5
		1	36	18.09	18.32	18.17	5
		1	74	17.83	18.12	17.94	5
		36	0	17.89	18.14	17.97	5
		36	18	18.02	18.24	18.07	5
		36	37	17.90	18.23	18.08	5
		75	0	17.93	18.20	18.09	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 022	132 322	132 622	
				1 715.0 MHz	1 745.0 MHz	1 775.0 MHz	
10 MHz	QPSK	1	0	22.75	22.87	22.81	0
		1	25	23.00	23.16	23.04	0
		1	49	22.79	22.83	22.82	0
		25	0	22.04	22.07	22.07	1
		25	12	22.14	22.08	22.19	1
		25	25	22.04	22.05	22.06	1
		50	0	22.05	22.09	22.14	1
	16QAM	1	0	22.30	21.99	21.86	1
		1	25	22.56	22.28	22.16	1
		1	49	22.33	21.99	21.92	1
		25	0	21.01	21.07	21.15	2
		25	12	21.15	21.15	21.27	2
		25	25	21.07	21.14	21.14	2
		50	0	21.06	21.13	21.15	2
	64QAM	1	0	20.63	20.76	20.72	2
		1	25	21.00	21.35	21.40	2
		1	49	20.60	21.02	20.51	2
		25	0	19.78	20.13	19.86	3
		25	12	19.84	20.19	19.87	3
		25	25	19.74	20.02	19.71	3
		50	0	19.90	20.19	19.89	3
	256QAM	1	0	17.86	18.17	18.03	5
		1	25	18.19	18.41	18.23	5
		1	49	17.89	18.23	18.03	5
		25	0	17.97	18.22	18.07	5
		25	12	17.96	18.23	18.08	5
		25	25	17.86	18.19	18.06	5
		50	0	17.86	18.09	17.94	5

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 997	132 322	132 647	
				1 712.5 MHz	1 745.0 MHz	1 777.5 MHz	
5 MHz	QPSK	1	0	23.05	23.01	23.10	0
		1	12	23.10	23.06	23.15	0
		1	24	23.07	22.98	23.12	0
		12	0	22.15	22.16	22.15	1
		12	7	22.14	22.21	22.18	1
		12	13	22.02	22.13	22.09	1
		25	0	22.08	22.19	22.12	1
	16QAM	1	0	21.95	22.34	22.19	1
		1	12	22.09	22.51	22.35	1
		1	24	21.94	22.34	22.15	1
		12	0	21.13	21.13	21.11	2
		12	7	21.16	21.18	21.14	2
		12	13	21.08	21.13	21.07	2
		25	0	21.15	21.13	21.18	2
	64QAM	1	0	20.67	21.19	21.31	2
		1	12	20.82	21.22	20.89	2
		1	24	20.84	21.16	20.57	2
		12	0	19.72	20.13	19.94	3
		12	7	19.91	20.31	19.99	3
		12	13	19.80	20.10	19.72	3
		25	0	19.77	20.17	19.73	3
	256QAM	1	0	18.14	18.43	18.23	5
		1	12	18.08	18.39	18.25	5
		1	24	18.12	18.34	18.24	5
		12	0	18.07	18.29	18.11	5
		12	7	18.05	18.33	18.21	5
		12	13	18.01	18.28	18.15	5
		25	0	18.00	18.29	18.14	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 987	132 322	132 657	
				1 711.5 MHz	1 745.0 MHz	1 778.5 MHz	
3 MHz	QPSK	1	0	22.98	23.05	23.07	0
		1	8	23.03	23.18	23.08	0
		1	14	22.98	23.03	23.04	0
		8	0	22.11	22.08	22.19	1
		8	4	22.14	22.14	22.10	1
		8	7	22.08	22.11	22.11	1
		15	0	22.14	22.18	22.14	1
	16QAM	1	0	22.62	22.27	22.23	1
		1	8	22.69	22.30	22.22	1
		1	14	22.55	22.22	22.12	1
		8	0	21.32	21.11	21.26	2
		8	4	21.34	21.19	21.21	2
		8	7	21.25	21.08	21.19	2
		15	0	21.15	21.19	21.17	2
	64QAM	1	0	20.59	21.06	20.65	2
		1	8	20.83	21.34	20.81	2
		1	14	20.95	21.18	20.63	2
		8	0	19.59	20.05	19.70	3
		8	4	19.78	20.22	19.78	3
		8	7	19.92	20.36	19.81	3
		15	0	19.75	20.22	19.64	3
	256QAM	1	0	18.12	18.37	18.18	5
		1	8	18.27	18.55	18.42	5
		1	14	18.10	18.31	18.20	5
		8	0	17.95	18.29	18.19	5
		8	4	18.02	18.30	18.19	5
		8	7	18.01	18.27	18.16	5
		15	0	17.92	18.23	18.13	5

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 979	132 322	132 665	
				1 710.7 MHz	1 745.0 MHz	1 779.3 MHz	
1.4 MHz	QPSK	1	0	23.00	23.00	23.01	0
		1	3	23.06	23.09	23.04	0
		1	5	22.96	22.93	22.97	0
		3	0	22.92	23.02	23.00	0
		3	1	22.95	23.06	23.08	0
		3	3	22.94	23.02	23.01	0
		6	0	22.07	22.08	22.09	1
	16QAM	1	0	21.99	22.19	22.11	1
		1	3	22.05	22.25	22.17	1
		1	5	22.03	22.15	22.11	1
		3	0	22.20	22.09	22.18	1
		3	1	22.27	22.08	22.16	1
		3	3	22.18	22.05	22.15	1
		6	0	21.10	21.12	21.09	2
	64QAM	1	0	20.80	21.33	20.79	2
		1	3	20.80	21.27	20.62	2
		1	5	20.71	21.01	20.49	2
		3	0	20.66	21.12	20.54	2
		3	1	20.71	21.25	20.52	2
		3	3	20.87	21.38	20.63	2
		6	0	19.47	19.94	19.33	3
	256QAM	1	0	17.99	18.24	18.09	5
		1	3	18.09	18.41	18.21	5
		1	5	18.03	18.24	18.09	5
		3	0	18.18	18.39	18.21	5
		3	1	18.21	18.43	18.28	5
		3	3	18.04	18.36	18.18	5
		6	0	17.82	18.12	17.96	5

9.6 LTE Average Conducted Output Power (Reduced Average Power)

9.6.1 LTE Band 2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 700	18 900	19 100	
				1 860.0 MHz	1 880.0 MHz	1 900.0 MHz	
20 MHz	QPSK	1	0	13.18	13.38	13.37	0
		1	49	13.21	13.33	13.23	0
		1	99	13.31	13.31	13.20	0
		50	0	13.13	13.35	13.28	0
		50	24	13.31	13.33	13.36	0
		50	50	13.32	13.38	13.27	0
		100	0	13.25	13.32	13.24	0
	16QAM	1	0	13.11	13.26	13.53	0
		1	49	13.22	13.23	13.45	0
		1	99	13.34	13.21	13.39	0
		50	0	12.75	12.94	12.87	0
		50	24	12.97	13.05	12.96	0
		50	50	12.89	12.94	12.85	0
		100	0	12.83	12.94	12.84	0
	64QAM	1	0	13.23	13.34	13.19	0
		1	49	13.14	13.29	13.22	0
		1	99	13.53	13.27	13.16	0
		50	0	12.79	12.92	12.92	0
		50	24	13.35	13.33	13.32	0
		50	50	13.17	13.23	13.08	0
		100	0	13.17	13.18	13.15	0
	256QAM	1	0	13.07	13.17	13.03	0
		1	49	13.30	13.36	13.28	0
		1	99	13.06	13.14	13.04	0
		50	0	12.99	13.12	13.06	0
		50	24	13.19	13.25	13.12	0
		50	50	13.19	13.26	13.18	0
		100	0	13.10	13.24	13.18	0

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Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 675	18 900	19 125	
				1 857.5 MHz	1 880.0 MHz	1 902.5 MHz	
15 MHz	QPSK	1	0	12.79	13.20	13.15	0
		1	36	12.91	13.21	13.07	0
		1	74	12.86	13.14	13.04	0
		36	0	12.96	13.15	13.07	0
		36	18	13.13	13.28	13.14	0
		36	37	13.06	13.22	13.09	0
		75	0	13.02	13.13	13.06	0
	16QAM	1	0	13.38	13.35	13.55	0
		1	36	13.59	13.40	13.49	0
		1	74	13.55	13.36	13.46	0
		36	0	12.94	13.15	13.08	0
		36	18	13.10	13.30	13.14	0
		36	37	13.10	13.19	13.12	0
		75	0	13.04	13.16	13.14	0
	64QAM	1	0	12.64	13.10	13.18	0
		1	36	13.20	13.27	13.19	0
		1	74	13.26	13.33	13.21	0
		36	0	12.99	13.16	13.17	0
		36	18	13.02	13.19	13.05	0
		36	37	13.13	13.19	13.01	0
		75	0	13.14	13.12	13.17	0
	256QAM	1	0	12.94	13.05	12.92	0
		1	36	13.09	13.15	13.09	0
		1	74	12.97	13.11	13.03	0
		36	0	13.01	13.16	13.05	0
		36	18	12.97	13.11	13.04	0
		36	37	13.05	13.10	13.04	0
		75	0	13.00	13.15	13.05	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 650	18 900	19 150	
				1 855.0 MHz	1 880.0 MHz	1 905.0 MHz	
10 MHz	QPSK	1	0	12.77	13.00	13.07	0
		1	25	13.00	13.33	12.94	0
		1	49	12.77	12.87	13.01	0
		25	0	13.05	13.27	13.07	0
		25	12	13.15	13.30	13.18	0
		25	25	13.00	13.12	13.01	0
		50	0	13.03	13.14	13.05	0
	16QAM	1	0	13.34	13.18	13.19	0
		1	25	13.59	13.44	13.06	0
		1	49	13.30	13.10	13.15	0
		25	0	13.04	13.33	13.15	0
		25	12	13.16	13.39	13.19	0
		25	25	13.05	13.20	13.14	0
		50	0	13.03	13.16	13.07	0
	64QAM	1	0	12.84	13.10	13.35	0
		1	25	13.41	13.49	13.30	0
		1	49	12.88	12.83	13.32	0
		25	0	12.79	13.09	12.94	0
		25	12	13.04	13.15	12.95	0
		25	25	12.86	13.03	12.83	0
		50	0	12.94	12.99	12.96	0
	256QAM	1	0	12.86	12.94	12.89	0
		1	25	13.03	13.12	13.05	0
		1	49	12.86	12.98	12.93	0
		25	0	12.88	12.99	12.94	0
		25	12	12.92	13.01	12.89	0
		25	25	13.00	13.08	12.94	0
		50	0	12.96	13.05	12.96	0

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 625	18 900	19 175	
				1 852.5 MHz	1 880.0 MHz	1 907.5 MHz	
5 MHz	QPSK	1	0	13.09	13.13	13.02	0
		1	12	13.13	13.19	13.09	0
		1	24	13.05	13.09	12.98	0
		12	0	13.10	13.30	13.11	0
		12	7	13.12	13.34	13.13	0
		12	13	13.11	13.32	13.08	0
		25	0	13.14	13.28	13.11	0
	16QAM	1	0	12.98	13.53	13.08	0
		1	12	13.09	13.64	13.16	0
		1	24	12.98	13.53	13.05	0
		12	0	13.06	13.39	13.08	0
		12	7	13.15	13.43	13.13	0
		12	13	13.05	13.33	13.07	0
		25	0	13.08	13.28	13.16	0
	64QAM	1	0	13.49	13.38	13.51	0
		1	12	13.43	13.55	13.53	0
		1	24	13.19	13.18	13.00	0
		12	0	13.33	13.59	13.37	0
		12	7	13.11	13.24	13.11	0
		12	13	12.98	13.11	12.98	0
		25	0	12.96	13.13	13.06	0
	256QAM	1	0	12.88	12.95	12.81	0
		1	12	13.05	13.13	13.01	0
		1	24	13.04	13.11	13.04	0
		12	0	12.91	13.05	12.96	0
		12	7	13.04	13.15	13.01	0
		12	13	12.97	13.05	12.96	0
		25	0	13.03	13.09	12.96	0

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 615	18 900	19 185	
				1 851.5 MHz	1 880.0 MHz	1 908.5 MHz	
3 MHz	QPSK	1	0	13.01	13.21	12.98	0
		1	8	13.10	13.32	13.10	0
		1	14	12.99	13.24	12.94	0
		8	0	13.14	13.36	13.14	0
		8	4	13.15	13.33	13.17	0
		8	7	13.06	13.33	13.09	0
		15	0	13.16	13.27	13.10	0
	16QAM	1	0	13.62	13.39	13.14	0
		1	8	13.70	13.50	13.20	0
		1	14	13.60	13.40	13.06	0
		8	0	13.27	13.36	13.19	0
		8	4	13.33	13.39	13.25	0
		8	7	13.29	13.38	13.19	0
		15	0	13.09	13.36	13.15	0
	64QAM	1	0	13.03	13.30	13.28	0
		1	8	13.14	13.30	13.12	0
		1	14	13.49	13.57	13.36	0
		8	0	13.05	13.22	12.99	0
		8	4	13.18	13.29	13.19	0
		8	7	13.32	13.40	13.25	0
		15	0	13.23	13.42	13.28	0
	256QAM	1	0	12.92	13.01	12.91	0
		1	8	13.11	13.21	13.15	0
		1	14	13.09	13.15	13.06	0
		8	0	12.83	12.95	12.80	0
		8	4	12.95	13.05	12.92	0
		8	7	12.95	13.02	12.87	0
		15	0	13.02	13.07	12.95	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 607	18 900	19 193	
				1 850.7 MHz	1 880.0 MHz	1 909.3 MHz	
1.4 MHz	QPSK	1	0	12.88	13.22	12.96	0
		1	3	12.97	13.26	13.09	0
		1	5	12.93	13.24	13.01	0
		3	0	12.93	13.12	13.00	0
		3	1	12.95	13.19	13.04	0
		3	3	12.92	13.18	13.02	0
		6	0	13.00	13.22	13.06	0
	16QAM	1	0	13.00	13.31	13.19	0
		1	3	13.04	13.33	13.25	0
		1	5	13.07	13.27	13.18	0
		3	0	13.10	13.38	13.04	0
		3	1	13.17	13.49	13.10	0
		3	3	13.09	13.44	13.07	0
		6	0	12.97	13.32	13.15	0
	64QAM	1	0	13.10	13.12	13.06	0
		1	3	13.38	13.38	13.26	0
		1	5	13.10	13.49	13.36	0
		3	0	13.31	13.40	13.28	0
		3	1	13.45	13.55	13.44	0
		3	3	13.26	13.40	13.25	0
		6	0	13.00	13.17	12.98	0
	256QAM	1	0	12.98	13.03	12.91	0
		1	3	13.10	13.16	13.04	0
		1	5	12.92	13.01	12.89	0
		3	0	12.92	13.02	12.94	0
		3	1	12.97	13.06	12.95	0
		3	3	13.02	13.08	12.93	0
		6	0	12.99	13.05	12.97	0

9.6.2 LTE Band 5

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				20 525	
				836.5 MHz	
10 MHz	QPSK	1	0	15.07	0
		1	25	15.05	0
		1	49	15.09	0
		25	0	15.06	0
		25	12	15.09	0
		25	25	15.12	0
		50	0	15.06	0
	16QAM	1	0	15.40	0
		1	25	15.54	0
		1	49	15.48	0
		25	0	15.16	0
		25	12	15.34	0
		25	25	15.28	0
		50	0	15.11	0
	64QAM	1	0	15.23	0
		1	25	15.41	0
		1	49	15.24	0
		25	0	15.21	0
		25	12	15.24	0
		25	25	15.13	0
		50	0	15.12	0
	256QAM	1	0	15.66	0
		1	25	15.78	0
		1	49	15.39	0
		25	0	15.72	0
		25	12	15.82	0
		25	25	15.60	0
		50	0	15.71	0

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 425	20 525	20 625	
				826.5 MHz	836.5 MHz	846.5 MHz	
5 MHz	QPSK	1	0	14.67	14.98	15.03	0
		1	12	14.83	15.08	15.11	0
		1	24	14.93	15.10	15.05	0
		12	0	14.95	15.11	15.16	0
		12	7	14.95	15.24	15.22	0
		12	13	14.94	15.20	15.28	0
		25	0	14.94	15.17	15.27	0
	16QAM	1	0	15.04	15.26	15.30	0
		1	12	15.29	15.49	15.49	0
		1	24	15.16	15.36	15.42	0
		12	0	14.77	15.15	15.14	0
		12	7	15.10	15.35	15.29	0
		12	13	15.06	15.27	15.33	0
		25	0	14.88	15.26	15.25	0
	64QAM	1	0	15.05	15.19	15.13	0
		1	12	14.93	15.31	15.43	0
		1	24	15.28	15.38	15.40	0
		12	0	14.91	15.14	15.20	0
		12	7	15.04	15.25	15.31	0
		12	13	14.98	15.20	15.23	0
		25	0	14.99	15.30	15.32	0
	256QAM	1	0	15.31	15.43	15.48	0
		1	12	15.40	15.55	15.61	0
		1	24	15.29	15.39	15.44	0
		12	0	15.42	15.57	15.67	0
		12	7	15.49	15.63	15.70	0
		12	13	15.34	15.49	15.57	0
		25	0	15.40	15.50	15.57	0

KCTL Inc.

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Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 415	20 525	20 635	
				825.5 MHz	836.5 MHz	847.5 MHz	
3 MHz	QPSK	1	0	14.77	15.09	15.13	0
		1	8	14.88	15.14	15.19	0
		1	14	14.82	15.19	15.19	0
		8	0	14.94	15.21	15.21	0
		8	4	14.99	15.27	15.28	0
		8	7	14.89	15.23	15.30	0
		15	0	15.02	15.23	15.21	0
	16QAM	1	0	15.05	15.45	15.33	0
		1	8	15.42	15.58	15.54	0
		1	14	15.15	15.41	15.48	0
		8	0	14.94	15.20	15.25	0
		8	4	15.00	15.26	15.34	0
		8	7	14.99	15.31	15.30	0
		15	0	14.89	15.23	15.11	0
	64QAM	1	0	15.09	15.36	15.30	0
		1	8	15.24	15.38	15.46	0
		1	14	15.34	15.37	15.35	0
		8	0	14.88	15.17	15.17	0
		8	4	14.95	15.28	15.29	0
		8	7	14.90	15.27	15.20	0
		15	0	14.97	15.27	15.26	0
	256QAM	1	0	15.46	15.62	15.68	0
		1	8	15.64	15.78	15.87	0
		1	14	15.33	15.47	15.54	0
		8	0	15.53	15.66	15.76	0
		8	4	15.67	15.78	15.83	0
		8	7	15.40	15.58	15.67	0
		15	0	15.54	15.67	15.77	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 407	20 525	20 643	
				824.7 MHz	836.5 MHz	848.3 MHz	
1.4 MHz	QPSK	1	0	14.73	15.08	15.01	0
		1	3	14.79	15.18	15.14	0
		1	5	14.67	15.02	15.02	0
		3	0	14.68	15.07	15.03	0
		3	1	14.79	15.12	15.14	0
		3	3	14.73	15.08	15.06	0
		6	0	14.86	15.09	15.09	0
	16QAM	1	0	15.01	15.43	15.41	0
		1	3	15.14	15.56	15.45	0
		1	5	14.94	15.45	15.37	0
		3	0	14.82	15.14	15.16	0
		3	1	14.86	15.21	15.23	0
		3	3	14.95	15.18	15.22	0
		6	0	14.94	15.30	15.29	0
	64QAM	1	0	15.06	15.34	15.28	0
		1	3	15.02	15.35	15.41	0
		1	5	14.88	15.24	15.37	0
		3	0	14.85	15.30	15.25	0
		3	1	15.06	15.30	15.38	0
		3	3	14.84	15.27	15.24	0
		6	0	14.92	15.20	15.25	0
	256QAM	1	0	15.53	15.63	15.68	0
		1	3	15.60	15.80	15.85	0
		1	5	15.27	15.45	15.52	0
		3	0	15.52	15.65	15.75	0
		3	1	15.58	15.72	15.80	0
		3	3	15.58	15.73	15.83	0
		6	0	15.51	15.65	15.74	0

9.6.3 LTE Band 12

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				23 095	
				707.5 MHz	
10 MHz	QPSK	1	0	14.25	0
		1	25	14.48	0
		1	49	14.46	0
		25	0	14.24	0
		25	12	14.44	0
		25	25	14.42	0
		50	0	14.37	0
	16QAM	1	0	14.50	0
		1	25	14.39	0
		1	49	14.56	0
		25	0	14.28	0
		25	12	14.26	0
		25	25	14.22	0
		50	0	14.07	0
	64QAM	1	0	14.59	0
		1	25	14.47	0
		1	49	14.27	0
		25	0	14.21	0
		25	12	14.23	0
		25	25	14.36	0
		50	0	14.19	0
	256QAM	1	0	14.73	0
		1	25	14.94	0
		1	49	14.45	0
		25	0	14.74	0
		25	12	14.90	0
		25	25	14.63	0
		50	0	14.70	0

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 035	23 095	23 155	
				701.5 MHz	707.5 MHz	713.5 MHz	
5 MHz	QPSK	1	0	13.96	14.11	14.18	0
		1	12	13.88	14.04	14.12	0
		1	24	14.11	14.18	14.22	0
		12	0	14.09	14.32	14.30	0
		12	7	14.09	14.24	14.29	0
		12	13	14.19	14.34	14.39	0
		25	0	14.12	14.32	14.29	0
	16QAM	1	0	14.24	14.35	14.50	0
		1	12	14.38	14.48	14.43	0
		1	24	14.28	14.51	14.58	0
		12	0	14.09	14.22	14.28	0
		12	7	14.27	14.46	14.46	0
		12	13	14.04	14.18	14.16	0
		25	0	14.08	14.19	14.29	0
	64QAM	1	0	14.21	14.55	14.43	0
		1	12	14.24	14.52	14.35	0
		1	24	14.61	14.56	14.47	0
		12	0	14.06	14.23	14.25	0
		12	7	14.19	14.42	14.43	0
		12	13	14.12	14.31	14.36	0
		25	0	14.10	14.27	14.23	0
	256QAM	1	0	14.69	14.78	14.66	0
		1	12	14.71	14.84	14.75	0
		1	24	14.51	14.59	14.47	0
		12	0	14.53	14.58	14.46	0
		12	7	14.60	14.70	14.65	0
		12	13	14.55	14.65	14.56	0
		25	0	14.46	14.56	14.45	0

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 025	23 095	23 655	
				700.5 MHz	707.5 MHz	714.5 MHz	
3 MHz	QPSK	1	0	14.03	14.16	14.17	0
		1	8	14.12	14.33	14.35	0
		1	14	14.08	14.23	14.24	0
		8	0	13.94	14.21	14.20	0
		8	4	14.07	14.25	14.25	0
		8	7	13.99	14.18	14.17	0
		15	0	14.10	14.23	14.20	0
	16QAM	1	0	14.22	14.45	14.39	0
		1	8	14.22	14.47	14.47	0
		1	14	14.26	14.39	14.35	0
		8	0	14.05	14.21	14.25	0
		8	4	14.27	14.48	14.47	0
		8	7	14.25	14.38	14.36	0
		15	0	14.21	14.33	14.32	0
	64QAM	1	0	14.24	14.49	14.48	0
		1	8	14.25	14.48	14.44	0
		1	14	14.35	14.56	14.44	0
		8	0	14.14	14.31	14.23	0
		8	4	14.30	14.51	14.42	0
		8	7	14.17	14.40	14.40	0
		15	0	14.09	14.20	14.30	0
	256QAM	1	0	14.72	14.77	14.62	0
		1	8	14.79	14.88	14.79	0
		1	14	14.51	14.65	14.60	0
		8	0	14.51	14.61	14.50	0
		8	4	14.68	14.81	14.71	0
		8	7	14.66	14.72	14.66	0
		15	0	14.57	14.72	14.63	0

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 017	23 095	23 173	
				699.7 MHz	707.5 MHz	715.3 MHz	
1.4 MHz	QPSK	1	0	13.67	13.99	13.97	0
		1	3	13.85	14.11	14.13	0
		1	5	13.83	14.06	14.06	0
		3	0	13.77	14.03	13.99	0
		3	1	14.03	14.23	14.27	0
		3	3	13.90	14.13	14.09	0
		6	0	14.02	14.27	14.30	0
	16QAM	1	0	14.14	14.35	14.42	0
		1	3	14.15	14.44	14.42	0
		1	5	14.24	14.37	14.40	0
		3	0	14.05	14.23	14.22	0
		3	1	13.92	14.10	14.24	0
		3	3	14.09	14.25	14.38	0
		6	0	14.07	14.30	14.40	0
	64QAM	1	0	13.97	14.25	14.25	0
		1	3	14.25	14.35	14.50	0
		1	5	14.15	14.36	14.29	0
		3	0	14.10	14.35	14.42	0
		3	1	14.13	14.24	14.36	0
		3	3	14.06	14.34	14.36	0
		6	0	13.88	14.14	14.07	0
	256QAM	1	0	14.47	14.62	14.53	0
		1	3	14.72	14.79	14.66	0
		1	5	14.45	14.58	14.47	0
		3	0	14.60	14.67	14.55	0
		3	1	14.58	14.68	14.57	0
		3	3	14.60	14.65	14.51	0
		6	0	14.57	14.67	14.62	0

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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**9.6.4 LTE Band 13**

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				23 230	
				782.0 MHz	
10 MHz	QPSK	1	0	13.86	0
		1	25	13.83	0
		1	49	13.71	0
		25	0	13.92	0
		25	12	13.95	0
		25	25	13.85	0
		50	0	13.83	0
	16QAM	1	0	13.91	0
		1	25	13.82	0
		1	49	13.74	0
		25	0	13.84	0
		25	12	13.71	0
		25	25	13.76	0
		50	0	13.51	0
	64QAM	1	0	13.94	0
		1	25	13.81	0
		1	49	13.65	0
		25	0	13.84	0
		25	12	13.82	0
		25	25	13.62	0
		50	0	13.81	0
	256QAM	1	0	14.34	0
		1	25	14.34	0
		1	49	14.28	0
		25	0	14.43	0
		25	12	14.37	0
		25	25	14.44	0
		50	0	14.33	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				23 230	
				782.0 MHz	
5 MHz	QPSK	1	0	13.74	0
		1	12	13.46	0
		1	24	13.68	0
		12	0	13.50	0
		12	7	13.62	0
		12	13	13.76	0
		25	0	13.56	0
	16QAM	1	0	13.93	0
		1	12	13.87	0
		1	24	14.16	0
		12	0	13.72	0
		12	7	13.84	0
		12	13	13.82	0
		25	0	13.85	0
	64QAM	1	0	13.75	0
		1	12	14.09	0
		1	24	13.93	0
		12	0	13.61	0
		12	7	13.74	0
		12	13	13.62	0
		25	0	13.57	0
	256QAM	1	0	14.22	0
		1	12	14.12	0
		1	24	14.06	0
		12	0	14.25	0
		12	7	14.17	0
		12	13	14.00	0
		25	0	14.00	0

5 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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**9.6.5 LTE Band 25**

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 140	26 365	26 590	
				1 860.0 MHz	1 882.5 MHz	1 905.0 MHz	
20 MHz	QPSK	1	0	13.09	13.37	13.36	0
		1	49	13.24	13.35	13.16	0
		1	99	13.36	13.23	13.17	0
		50	0	13.21	13.39	13.34	0
		50	24	13.33	13.40	13.38	0
		50	50	13.32	13.38	13.29	0
		100	0	13.22	13.28	13.27	0
	16QAM	1	0	13.20	13.36	13.58	0
		1	49	13.31	13.32	13.54	0
		1	99	13.38	13.32	13.46	0
		50	0	12.92	13.14	13.07	0
		50	24	13.00	13.18	13.02	0
		50	50	13.03	13.11	13.01	0
		100	0	12.89	12.97	13.02	0
	64QAM	1	0	13.16	13.47	13.30	0
		1	49	13.31	13.45	13.27	0
		1	99	13.34	13.33	13.24	0
		50	0	13.07	13.23	13.12	0
		50	24	13.25	13.29	13.22	0
		50	50	13.19	13.21	13.10	0
		100	0	13.06	13.18	13.16	0
	256QAM	1	0	12.98	13.27	13.13	0
		1	49	13.40	13.45	13.33	0
		1	99	13.03	13.20	12.97	0
		50	0	13.07	13.17	13.07	0
		50	24	13.26	13.34	13.14	0
		50	50	13.24	13.34	13.27	0
		100	0	13.05	13.14	13.13	0

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 115	26 365	26 615	
				1 857.5 MHz	1 882.5 MHz	1 907.5 MHz	
15 MHz	QPSK	1	0	12.85	13.29	13.12	0
		1	36	12.94	13.23	13.08	0
		1	74	12.88	13.16	13.04	0
		36	0	12.96	13.24	13.15	0
		36	18	13.06	13.28	13.15	0
		36	37	13.09	13.23	13.09	0
		75	0	13.06	13.18	13.10	0
	16QAM	1	0	13.44	13.44	13.54	0
		1	36	13.60	13.34	13.48	0
		1	74	13.53	13.37	13.45	0
		36	0	13.00	13.28	13.12	0
		36	18	13.12	13.34	13.11	0
		36	37	13.10	13.27	13.09	0
		75	0	13.07	13.23	13.13	0
	64QAM	1	0	12.88	13.47	13.38	0
		1	36	13.25	13.49	13.31	0
		1	74	13.25	13.38	13.31	0
		36	0	13.00	13.22	13.03	0
		36	18	13.16	13.35	13.21	0
		36	37	13.08	13.18	13.23	0
		75	0	13.02	13.29	13.02	0
	256QAM	1	0	13.03	13.15	12.98	0
		1	36	13.13	13.19	13.17	0
		1	74	12.95	13.03	13.06	0
		36	0	12.96	13.08	13.03	0
		36	18	12.93	13.17	13.00	0
		36	37	13.05	13.02	13.06	0
		75	0	13.05	13.06	13.01	0

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65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 090	26 365	26 640	
				1 855.0 MHz	1 882.5 MHz	1 910.0 MHz	
10 MHz	QPSK	1	0	12.79	13.04	13.05	0
		1	25	13.01	13.22	12.94	0
		1	49	12.79	12.96	12.98	0
		25	0	13.08	13.33	13.09	0
		25	12	13.14	13.36	13.15	0
		25	25	13.02	13.23	13.04	0
		50	0	13.02	13.25	13.02	0
	16QAM	1	0	13.41	13.16	13.16	0
		1	25	13.57	13.41	13.13	0
		1	49	13.32	13.15	13.09	0
		25	0	13.08	13.31	13.11	0
		25	12	13.16	13.39	13.18	0
		25	25	13.06	13.33	13.14	0
		50	0	13.08	13.28	13.12	0
	64QAM	1	0	13.14	12.92	13.29	0
		1	25	13.12	13.32	13.10	0
		1	49	13.11	13.19	13.28	0
		25	0	12.92	13.09	13.02	0
		25	12	13.08	13.35	13.15	0
		25	25	13.03	13.30	13.12	0
		50	0	13.02	13.25	13.08	0
	256QAM	1	0	12.85	12.93	12.85	0
		1	25	13.02	13.09	12.98	0
		1	49	12.86	13.02	12.99	0
		25	0	12.96	13.06	12.84	0
		25	12	12.97	12.99	12.89	0
		25	25	13.08	13.06	12.87	0
		50	0	12.90	13.13	13.00	0

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 065	26 365	26 665	
				1 852.5 MHz	1 882.5 MHz	1 912.5 MHz	
5 MHz	QPSK	1	0	13.08	13.18	13.14	0
		1	12	13.07	13.21	13.08	0
		1	24	13.09	13.15	13.09	0
		12	0	13.07	13.25	13.07	0
		12	7	13.14	13.33	13.18	0
		12	13	13.08	13.33	13.11	0
		25	0	13.14	13.33	13.08	0
	16QAM	1	0	12.94	13.57	13.23	0
		1	12	13.03	13.63	13.14	0
		1	24	13.02	13.57	13.20	0
		12	0	13.07	13.30	13.07	0
		12	7	13.17	13.38	13.16	0
		12	13	13.11	13.39	13.14	0
		25	0	13.09	13.33	13.17	0
	64QAM	1	0	13.17	13.45	13.21	0
		1	12	13.20	13.33	13.14	0
		1	24	13.23	13.44	13.19	0
		12	0	13.09	13.26	12.99	0
		12	7	13.08	13.24	13.02	0
		12	13	13.15	13.27	13.02	0
		25	0	13.14	13.23	13.08	0
	256QAM	1	0	12.83	12.87	12.81	0
		1	12	13.00	13.22	12.97	0
		1	24	13.03	13.05	13.07	0
		12	0	12.89	13.05	13.00	0
		12	7	13.01	13.19	13.08	0
		12	13	12.94	13.06	12.86	0
		25	0	13.10	13.09	13.06	0

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 055	26 365	26 675	
				1 851.5 MHz	1 882.5 MHz	1 913.5 MHz	
3 MHz	QPSK	1	0	12.98	13.19	12.95	0
		1	8	13.07	13.35	13.04	0
		1	14	13.04	13.29	13.03	0
		8	0	13.11	13.32	13.06	0
		8	4	13.16	13.33	13.14	0
		8	7	13.12	13.34	13.16	0
		15	0	13.13	13.25	13.10	0
	16QAM	1	0	13.59	13.36	13.09	0
		1	8	13.73	13.49	13.17	0
		1	14	13.60	13.43	13.16	0
		8	0	13.30	13.32	13.18	0
		8	4	13.37	13.33	13.24	0
		8	7	13.31	13.33	13.21	0
		15	0	13.12	13.32	13.16	0
	64QAM	1	0	13.07	13.42	13.16	0
		1	8	13.24	13.47	13.23	0
		1	14	13.22	13.42	13.13	0
		8	0	13.05	13.30	13.07	0
		8	4	13.07	13.34	13.19	0
		8	7	13.10	13.25	13.01	0
		15	0	13.02	13.18	13.05	0
	256QAM	1	0	13.00	12.95	12.81	0
		1	8	13.11	13.25	13.15	0
		1	14	13.02	13.09	13.10	0
		8	0	12.88	12.91	12.84	0
		8	4	12.93	13.09	12.98	0
		8	7	13.00	12.92	12.78	0
		15	0	12.92	12.98	12.98	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 047	26 365	26 683	
				1 850.7 MHz	1 882.5 MHz	1 914.3 MHz	
1.4 MHz	QPSK	1	0	13.05	13.16	12.96	0
		1	3	13.12	13.28	13.01	0
		1	5	13.05	13.23	13.00	0
		3	0	13.01	13.19	12.96	0
		3	1	13.09	13.24	13.01	0
		3	3	12.99	13.13	12.95	0
		6	0	13.09	13.24	13.06	0
	16QAM	1	0	13.13	13.32	13.08	0
		1	3	13.16	13.45	13.13	0
		1	5	13.16	13.37	13.07	0
		3	0	13.25	13.22	13.17	0
		3	1	13.32	13.29	13.20	0
		3	3	13.33	13.27	13.12	0
		6	0	13.12	13.30	13.02	0
	64QAM	1	0	13.09	13.18	13.01	0
		1	3	13.09	13.42	13.14	0
		1	5	13.08	13.25	12.98	0
		3	0	13.03	13.15	12.95	0
		3	1	13.08	13.21	13.03	0
		3	3	13.06	13.26	13.06	0
		6	0	12.91	13.13	12.94	0
	256QAM	1	0	13.06	13.00	12.82	0
		1	3	13.10	13.18	13.12	0
		1	5	12.83	13.06	12.89	0
		3	0	12.94	13.11	13.04	0
		3	1	12.94	12.98	12.91	0
		3	3	13.09	13.15	12.88	0
		6	0	12.97	13.02	13.02	0

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**9.6.6 LTE Band 26**

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				26 865	
				831.5 MHz	
15 MHz	QPSK	1	0	14.01	0
		1	36	13.94	0
		1	74	13.95	0
		36	0	13.94	0
		36	18	14.11	0
		36	37	13.91	0
		75	0	14.00	0
	16QAM	1	0	14.31	0
		1	36	14.15	0
		1	74	14.40	0
		36	0	14.08	0
		36	18	14.08	0
		36	37	14.20	0
		75	0	13.91	0
	64QAM	1	0	13.98	0
		1	36	14.00	0
		1	74	14.23	0
		36	0	13.85	0
		36	18	14.04	0
		36	37	14.01	0
		75	0	13.98	0
	256QAM	1	0	14.46	0
		1	36	14.84	0
		1	74	14.42	0
		36	0	14.61	0
		36	18	14.63	0
		36	37	14.57	0
		75	0	14.47	0

15 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 740	26 865	26 990	
				819.0 MHz	831.5 MHz	844.0 MHz	
10 MHz	QPSK	1	0	13.70	13.83	14.15	0
		1	25	13.68	13.96	14.04	0
		1	49	13.86	13.98	14.02	0
		25	0	13.89	14.02	14.26	0
		25	12	13.96	14.07	14.17	0
		25	25	14.04	14.26	14.41	0
		50	0	13.98	14.18	14.22	0
	16QAM	1	0	14.23	14.38	14.45	0
		1	25	14.24	14.40	14.54	0
		1	49	14.15	14.41	14.47	0
		25	0	13.70	13.78	14.00	0
		25	12	14.16	14.24	14.46	0
		25	25	13.76	14.06	14.25	0
		50	0	13.79	13.94	13.98	0
	64QAM	1	0	14.18	14.47	14.56	0
		1	25	14.27	14.58	14.66	0
		1	49	14.10	14.40	14.29	0
		25	0	13.69	13.85	14.06	0
		25	12	13.92	14.05	14.09	0
		25	25	13.75	13.93	14.17	0
		50	0	13.90	14.00	14.08	0
	256QAM	1	0	14.39	14.48	14.59	0
		1	25	14.68	14.74	14.87	0
		1	49	14.19	14.27	14.51	0
		25	0	14.34	14.40	14.55	0
		25	12	14.33	14.43	14.60	0
		25	25	14.31	14.36	14.46	0
		50	0	14.53	14.59	14.82	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 715	26 865	27 015	
				816.5 MHz	831.5 MHz	846.5 MHz	
5 MHz	QPSK	1	0	13.62	13.83	14.03	0
		1	12	13.93	13.87	14.16	0
		1	24	13.78	14.05	14.13	0
		12	0	13.88	13.90	14.26	0
		12	7	13.87	13.96	14.23	0
		12	13	13.93	14.17	14.26	0
		25	0	13.97	14.14	14.31	0
	16QAM	1	0	14.14	14.42	14.64	0
		1	12	14.14	14.32	14.46	0
		1	24	13.95	14.30	14.27	0
		12	0	13.68	14.05	14.16	0
		12	7	14.10	14.24	14.40	0
		12	13	13.77	13.99	14.05	0
		25	0	14.09	14.19	14.39	0
	64QAM	1	0	14.01	14.33	14.42	0
		1	12	14.03	14.16	14.38	0
		1	24	14.07	14.25	14.42	0
		12	0	13.99	14.26	14.37	0
		12	7	13.92	14.03	14.20	0
		12	13	14.07	14.26	14.29	0
		25	0	13.94	14.09	14.25	0
	256QAM	1	0	14.53	14.58	14.82	0
		1	12	14.33	14.41	14.58	0
		1	24	14.39	14.44	14.57	0
		12	0	14.30	14.36	14.56	0
		12	7	14.45	14.53	14.73	0
		12	13	14.38	14.48	14.73	0
		25	0	14.34	14.40	14.65	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 705	26 865	27 025	
				815.5 MHz	831.5 MHz	847.5 MHz	
3 MHz	QPSK	1	0	13.60	13.87	14.12	0
		1	8	13.83	13.96	14.17	0
		1	14	13.91	14.07	14.18	0
		8	0	13.80	14.00	14.19	0
		8	4	13.93	14.17	14.32	0
		8	7	13.80	13.94	14.11	0
		15	0	13.82	13.96	14.12	0
	16QAM	1	0	14.20	14.45	14.54	0
		1	8	14.26	14.38	14.42	0
		1	14	14.11	14.50	14.60	0
		8	0	13.97	14.26	14.39	0
		8	4	13.89	14.10	14.27	0
		8	7	13.80	14.03	14.15	0
		15	0	13.79	13.99	14.18	0
	64QAM	1	0	13.96	14.20	14.41	0
		1	8	13.98	14.24	14.33	0
		1	14	13.94	14.17	14.28	0
		8	0	13.86	14.08	14.25	0
		8	4	14.03	14.24	14.32	0
		8	7	14.11	14.27	14.41	0
		15	0	13.98	14.10	14.31	0
	256QAM	1	0	14.47	14.57	14.81	0
		1	8	14.41	14.50	14.62	0
		1	14	14.58	14.64	14.87	0
		8	0	14.32	14.39	14.64	0
		8	4	14.51	14.57	14.68	0
		8	7	14.54	14.60	14.73	0
		15	0	14.39	14.47	14.71	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 697	26 865	27 033	
				814.7 MHz	831.5 MHz	848.3 MHz	
1.4 MHz	QPSK	1	0	13.73	13.97	14.13	0
		1	3	13.94	14.16	14.23	0
		1	5	13.66	13.86	13.97	0
		3	0	13.78	13.91	14.04	0
		3	1	13.81	13.96	14.09	0
		3	3	13.76	13.99	14.08	0
		6	0	13.97	14.20	14.31	0
	16QAM	1	0	13.98	14.07	14.32	0
		1	3	14.03	14.42	14.46	0
		1	5	14.09	14.16	14.52	0
		3	0	13.94	14.17	14.17	0
		3	1	13.88	13.96	14.13	0
		3	3	13.72	13.97	14.07	0
		6	0	13.83	14.05	14.23	0
	64QAM	1	0	14.09	14.25	14.46	0
		1	3	13.84	14.16	14.24	0
		1	5	13.71	13.98	14.11	0
		3	0	13.94	14.03	14.25	0
		3	1	13.99	14.17	14.39	0
		3	3	13.84	13.96	14.10	0
		6	0	13.90	14.15	14.25	0
	256QAM	1	0	14.21	14.29	14.43	0
		1	3	14.49	14.57	14.69	0
		1	5	14.28	14.38	14.57	0
		3	0	14.33	14.38	14.49	0
		3	1	14.50	14.60	14.76	0
		3	3	14.42	14.50	14.70	0
		6	0	14.49	14.59	14.70	0

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**9.6.7 LTE Band 41**

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
20 MHz	QPSK	1	0	13.96	13.89	13.73	13.36	13.36	0
		1	49	13.92	13.86	13.85	13.58	13.52	0
		1	99	13.91	13.88	13.34	13.32	13.10	0
		50	0	14.07	13.99	13.92	13.59	13.55	0
		50	24	14.03	13.98	13.93	13.72	13.68	0
		50	50	14.06	13.96	13.76	13.68	13.49	0
		100	0	13.94	13.92	13.85	13.63	13.57	0
	16QAM	1	0	14.09	14.00	13.91	13.51	13.51	0
		1	49	14.07	13.99	13.95	13.71	13.61	0
		1	99	14.05	14.02	13.49	13.44	13.23	0
		50	0	14.11	13.97	13.93	13.59	13.54	0
		50	24	14.05	14.03	13.99	13.76	13.68	0
		50	50	14.03	14.01	13.78	13.71	13.52	0
		100	0	13.97	13.94	13.86	13.70	13.61	0
	64QAM	1	0	13.80	13.57	13.31	13.24	13.03	0
		1	49	13.75	13.49	13.61	13.45	13.39	0
		1	99	13.79	13.60	13.23	13.03	13.24	0
		50	0	14.15	13.97	13.94	13.76	13.65	0
		50	24	14.15	14.07	14.09	13.86	13.87	0
		50	50	14.14	14.01	13.95	13.72	13.79	0
		100	0	14.05	13.95	13.96	13.77	13.73	0
	256QAM	1	0	13.90	13.71	13.64	13.50	13.46	0
		1	49	14.20	14.09	13.96	13.87	13.77	0
		1	99	13.85	13.84	13.67	13.62	13.49	0
		50	0	14.34	14.22	14.04	13.90	13.88	0
		50	24	14.52	14.38	14.22	14.11	14.11	0
		50	50	14.28	14.21	14.13	14.07	14.00	0
		100	0	14.31	14.22	14.07	13.98	13.97	0

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				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
15 MHz	QPSK	1	0	13.94	13.71	13.85	13.45	13.36	0
		1	36	13.92	13.84	13.88	13.58	13.52	0
		1	74	13.95	13.79	13.50	13.47	13.24	0
		36	0	14.11	13.87	13.92	13.55	13.58	0
		36	18	14.06	14.00	13.96	13.71	13.65	0
		36	37	14.05	14.01	13.85	13.70	13.53	0
		75	0	14.01	13.99	13.93	13.66	13.57	0
	16QAM	1	0	14.10	13.89	14.03	13.62	13.55	0
		1	36	14.07	13.99	13.97	13.71	13.68	0
		1	74	14.10	13.92	13.65	13.61	13.41	0
		36	0	14.03	13.81	13.85	13.52	13.54	0
		36	18	14.04	13.97	13.91	13.70	13.63	0
		36	37	14.03	13.94	13.81	13.69	13.51	0
		75	0	13.97	13.95	13.92	13.71	13.61	0
	64QAM	1	0	13.77	13.40	13.43	13.34	13.17	0
		1	36	13.72	13.49	13.61	13.47	13.33	0
		1	74	13.76	13.36	13.49	13.19	13.29	0
		36	0	14.17	13.92	13.89	13.74	13.63	0
		36	18	14.14	14.01	14.02	13.84	13.79	0
		36	37	14.10	13.93	13.95	13.75	13.80	0
		75	0	14.09	14.02	14.00	13.85	13.79	0
	256QAM	1	0	13.95	13.86	13.75	13.61	13.57	0
		1	36	14.29	14.18	14.01	13.93	13.91	0
		1	74	13.91	13.97	13.77	13.71	13.59	0
		36	0	14.45	14.30	14.15	14.01	13.98	0
		36	18	14.50	14.45	14.31	14.25	14.19	0
		36	37	14.47	14.37	14.25	14.19	14.00	0
		75	0	14.33	14.26	14.16	14.01	13.97	0

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Suwon-si, Gyeonggi-do, 16677, Korea
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				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
10 MHz	QPSK	1	0	14.06	13.75	13.69	13.44	13.44	0
		1	25	14.04	13.97	13.93	13.70	13.64	0
		1	49	13.99	13.59	13.55	13.35	13.28	0
		25	0	14.09	13.86	13.84	13.58	13.51	0
		25	12	14.10	14.01	13.97	13.73	13.64	0
		25	25	14.06	13.87	13.82	13.61	13.53	0
		50	0	14.04	13.91	13.88	13.66	13.59	0
	16QAM	1	0	14.18	13.88	13.88	13.61	13.57	0
		1	25	14.16	14.08	14.05	13.79	13.76	0
		1	49	14.17	13.79	13.68	13.50	13.40	0
		25	0	14.06	13.88	13.80	13.63	13.59	0
		25	12	14.13	14.02	13.99	13.77	13.73	0
		25	25	14.11	13.89	13.81	13.66	13.51	0
		50	0	14.02	14.00	13.93	13.66	13.58	0
	64QAM	1	0	13.76	13.33	13.51	13.17	13.23	0
		1	25	13.78	13.65	13.77	13.49	13.50	0
		1	49	13.75	13.34	13.41	13.18	13.20	0
		25	0	14.26	14.02	13.97	13.75	13.76	0
		25	12	14.26	14.19	14.17	14.00	13.93	0
		25	25	14.26	14.10	14.00	13.79	13.77	0
		50	0	14.15	14.06	14.05	13.83	13.78	0
	256QAM	1	0	13.83	13.67	13.55	13.46	13.28	0
		1	25	14.03	13.88	13.81	13.71	13.66	0
		1	49	13.73	13.73	13.54	13.43	13.38	0
		25	0	14.06	14.04	13.95	13.80	13.74	0
		25	12	14.25	14.11	14.06	13.92	13.88	0
		25	25	14.24	14.18	14.05	13.93	13.75	0
		50	0	14.13	14.10	13.95	13.85	13.83	0

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Suwon-si, Gyeonggi-do, 16677, Korea
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				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
5 MHz	QPSK	1	0	14.14	13.84	13.81	13.59	13.51	0
		1	12	14.16	13.95	13.88	13.69	13.59	0
		1	24	14.11	13.88	13.78	13.55	13.43	0
		12	0	14.16	13.99	13.99	13.73	13.64	0
		12	7	14.19	14.05	14.00	13.83	13.62	0
		12	13	14.16	14.03	13.98	13.71	13.62	0
		25	0	14.16	14.02	13.96	13.76	13.70	0
	16QAM	1	0	14.21	14.01	13.99	13.79	13.68	0
		1	12	14.34	14.27	14.23	13.93	13.83	0
		1	24	14.21	14.02	13.96	13.75	13.69	0
		12	0	14.11	14.04	13.99	13.72	13.63	0
		12	7	14.13	14.05	14.00	13.76	13.69	0
		12	13	14.11	13.99	13.96	13.72	13.63	0
		25	0	14.12	14.01	14.02	13.80	13.69	0
	64QAM	1	0	13.96	13.74	13.75	13.48	13.50	0
		1	12	13.97	13.90	13.84	13.57	13.48	0
		1	24	13.94	13.81	13.74	13.49	13.45	0
		12	0	14.14	14.04	13.99	13.86	13.92	0
		12	7	14.14	14.11	14.02	13.96	13.93	0
		12	13	14.12	14.00	13.94	13.96	13.86	0
		25	0	14.03	13.96	13.96	13.96	13.88	0
	256QAM	1	0	13.88	13.85	13.77	13.68	13.49	0
		1	12	14.26	14.23	14.05	13.91	13.92	0
		1	24	14.11	14.10	13.95	13.90	13.69	0
		12	0	14.31	14.21	14.15	14.03	14.01	0
		12	7	14.56	14.39	14.26	14.14	14.03	0
		12	13	14.44	14.40	14.29	14.22	14.16	0
		25	0	14.43	14.31	14.23	14.16	14.07	0

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**9.6.8 LTE Band 66**

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 072	132 322	132 572	
				1 720.0 MHz	1 745.0 MHz	1 770.0 MHz	
20 MHz	QPSK	1	0	12.90	13.00	13.20	0
		1	49	13.20	13.18	13.26	0
		1	99	12.86	12.87	13.09	0
		50	0	13.13	13.20	13.17	0
		50	24	13.24	13.23	13.30	0
		50	50	13.11	13.15	13.16	0
		100	0	13.19	13.19	13.20	0
	16QAM	1	0	12.99	12.99	13.53	0
		1	49	13.25	13.16	13.49	0
		1	99	12.93	12.87	13.49	0
		50	0	12.85	12.85	12.87	0
		50	24	12.95	12.95	12.95	0
		50	50	12.85	12.82	12.82	0
		100	0	12.89	12.93	12.92	0
	64QAM	1	0	12.74	12.83	13.28	0
		1	49	13.12	13.12	13.26	0
		1	99	12.83	12.89	13.25	0
		50	0	13.07	13.15	13.23	0
		50	24	13.16	13.14	13.34	0
		50	50	12.99	13.08	13.08	0
		100	0	13.01	12.93	13.10	0
	256QAM	1	0	12.85	12.94	13.03	0
		1	49	12.85	12.91	12.99	0
		1	99	12.95	13.02	13.12	0
		50	0	12.82	12.89	13.02	0
		50	24	12.86	12.95	13.01	0
		50	50	13.02	13.08	13.23	0
		100	0	12.91	12.99	13.10	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 047	132 322	132 597	
				1 717.5 MHz	1 745.0 MHz	1 772.5 MHz	
15 MHz	QPSK	1	0	12.94	12.99	13.14	0
		1	36	12.97	13.09	13.06	0
		1	74	12.79	12.83	13.04	0
		36	0	13.01	13.06	13.07	0
		36	18	13.15	13.05	13.15	0
		36	37	13.01	13.05	13.05	0
		75	0	13.07	13.03	13.05	0
	16QAM	1	0	13.55	13.18	13.51	0
		1	36	13.55	13.20	13.48	0
		1	74	13.41	13.03	13.43	0
		36	0	13.05	13.07	13.08	0
		36	18	13.15	13.10	13.16	0
		36	37	13.03	13.05	13.06	0
		75	0	13.10	13.09	13.13	0
	64QAM	1	0	12.93	13.05	13.31	0
		1	36	13.27	13.34	13.19	0
		1	74	13.15	13.21	13.50	0
		36	0	12.94	12.99	13.09	0
		36	18	13.10	12.96	13.13	0
		36	37	12.98	12.95	13.06	0
		75	0	13.05	13.11	13.11	0
	256QAM	1	0	12.79	12.84	12.97	0
		1	36	12.80	12.85	12.98	0
		1	74	12.86	12.94	13.04	0
		36	0	12.73	12.78	12.90	0
		36	18	12.71	12.81	12.89	0
		36	37	12.88	12.94	13.03	0
		75	0	12.83	12.90	13.01	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 022	132 322	132 622	
				1 715.0 MHz	1 745.0 MHz	1 775.0 MHz	
10 MHz	QPSK	1	0	12.86	12.89	12.83	0
		1	25	12.95	13.06	13.04	0
		1	49	12.74	12.78	12.79	0
		25	0	13.00	13.06	13.09	0
		25	12	13.14	13.04	13.17	0
		25	25	13.05	13.05	13.09	0
		50	0	13.07	13.08	13.08	0
	16QAM	1	0	13.42	13.02	12.97	0
		1	25	13.57	13.26	13.13	0
		1	49	13.36	12.97	12.87	0
		25	0	13.03	13.14	13.09	0
		25	12	13.17	13.21	13.25	0
		25	25	13.09	13.12	13.12	0
		50	0	13.08	13.11	13.17	0
	64QAM	1	0	12.99	13.04	12.89	0
		1	25	13.16	13.14	13.38	0
		1	49	13.03	13.02	12.97	0
		25	0	12.94	12.97	13.00	0
		25	12	13.11	12.99	13.20	0
		25	25	13.04	13.09	13.17	0
		50	0	12.93	12.98	13.08	0
	256QAM	1	0	12.72	12.82	12.90	0
		1	25	12.69	12.79	12.91	0
		1	49	12.87	12.94	13.00	0
		25	0	12.75	12.85	12.91	0
		25	12	12.82	12.89	12.94	0
		25	25	12.86	12.94	13.05	0
		50	0	12.87	12.95	13.02	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 997	132 322	132 647	
				1 712.5 MHz	1 745.0 MHz	1 777.5 MHz	
5 MHz	QPSK	1	0	13.03	12.99	13.00	0
		1	12	13.06	13.12	13.14	0
		1	24	13.07	13.06	13.02	0
		12	0	12.96	13.06	13.10	0
		12	7	13.11	13.17	13.19	0
		12	13	13.09	13.15	13.17	0
		25	0	13.13	13.15	13.12	0
	16QAM	1	0	12.89	13.35	13.15	0
		1	12	13.00	13.45	13.21	0
		1	24	12.94	13.41	13.17	0
		12	0	13.04	13.06	13.04	0
		12	7	13.11	13.23	13.17	0
		12	13	13.09	13.15	13.16	0
		25	0	13.13	13.09	13.20	0
	64QAM	1	0	13.37	13.33	13.23	0
		1	12	13.18	13.13	13.43	0
		1	24	13.17	13.29	13.22	0
		12	0	13.19	13.15	13.16	0
		12	7	13.11	13.18	13.19	0
		12	13	13.14	13.14	13.18	0
		25	0	13.05	13.09	13.16	0
	256QAM	1	0	12.82	12.88	12.96	0
		1	12	12.79	12.85	12.96	0
		1	24	12.91	13.01	13.07	0
		12	0	12.87	12.95	13.09	0
		12	7	12.85	12.91	13.05	0
		12	13	12.76	12.85	12.92	0
		25	0	12.79	12.84	12.92	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 987	132 322	132 657	
				1 711.5 MHz	1 745.0 MHz	1 778.5 MHz	
3 MHz	QPSK	1	0	12.89	13.00	13.00	0
		1	8	13.05	13.14	13.11	0
		1	14	13.00	13.10	13.04	0
		8	0	13.09	13.03	13.05	0
		8	4	13.11	13.12	13.11	0
		8	7	13.07	13.13	13.18	0
		15	0	13.14	13.18	13.07	0
	16QAM	1	0	13.50	13.13	13.13	0
		1	8	13.64	13.32	13.24	0
		1	14	13.61	13.23	13.19	0
		8	0	13.25	13.03	13.20	0
		8	4	13.33	13.17	13.22	0
		8	7	13.25	13.13	13.28	0
		15	0	13.12	13.21	13.14	0
	64QAM	1	0	13.01	13.21	13.21	0
		1	8	13.25	13.34	13.33	0
		1	14	13.27	13.33	13.38	0
		8	0	13.18	13.16	13.22	0
		8	4	13.25	13.24	13.23	0
		8	7	13.21	13.23	13.25	0
		15	0	13.10	13.19	13.13	0
	256QAM	1	0	12.89	12.99	13.14	0
		1	8	12.97	13.05	13.10	0
		1	14	13.02	13.11	13.24	0
		8	0	12.95	13.01	13.15	0
		8	4	12.98	13.05	13.16	0
		8	7	13.05	13.15	13.22	0
		15	0	13.05	13.14	13.24	0

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Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 979	132 322	132 665	
				1 710.7 MHz	1 745.0 MHz	1 779.3 MHz	
1.4 MHz	QPSK	1	0	12.96	12.97	12.97	0
		1	3	13.06	13.01	13.11	0
		1	5	12.97	12.96	13.06	0
		3	0	13.00	12.93	12.91	0
		3	1	13.04	12.97	12.98	0
		3	3	13.00	12.97	13.03	0
		6	0	13.04	13.03	13.01	0
	16QAM	1	0	13.14	13.09	12.99	0
		1	3	13.24	13.15	13.11	0
		1	5	13.16	13.10	13.11	0
		3	0	13.00	13.16	13.16	0
		3	1	13.07	13.21	13.24	0
		3	3	13.04	13.17	13.25	0
		6	0	13.08	13.03	13.04	0
	64QAM	1	0	13.10	13.13	13.22	0
		1	3	13.22	13.18	13.09	0
		1	5	13.21	13.10	13.16	0
		3	0	13.16	13.23	13.30	0
		3	1	13.24	13.27	13.24	0
		3	3	13.14	13.24	13.18	0
		6	0	13.12	13.13	13.14	0
	256QAM	1	0	12.84	12.91	13.01	0
		1	3	12.86	12.91	13.00	0
		1	5	12.87	12.95	13.10	0
		3	0	12.77	12.85	13.00	0
		3	1	12.95	13.05	13.15	0
		3	3	12.94	13.01	13.09	0
		6	0	12.94	13.01	13.13	0

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9.7 WLAN Average Conducted Output Power(Maximum Average Power)

9.7.1 WLAN Average Conducted Output Power_Ant.1

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
WLAN 5 GHz (20 MHz)	5 180.0	36	16.68	16.63	16.60
	5 200.0	40	17.48	16.44	16.47
	5 220.0	44	17.42	16.08	16.07
	5 240.0	48	17.33	16.40	16.21
	5 260.0	52	17.71	16.60	16.61
	5 280.0	56	17.75	16.70	16.72
	5 300.0	60	17.44	16.33	16.31
	5 320.0	64	17.33	16.21	16.21
	5 500.0	100	15.29	16.91	16.86
	5 580.0	116	15.15	16.62	16.58
	5 600.0	120	15.11	16.54	16.52
	5 620.0	124	15.03	16.44	16.45
	5 700.0	140	15.06	15.93	15.86
	5 720.0	144	15.01	15.90	15.81
	5 745.0	149	15.73	16.13	15.99
	5 785.0	157	15.43	16.27	16.22
	5 825.0	165	15.28	16.12	16.16

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
WLAN 5 GHz (40 MHz)	5 190.0	38	13.50	14.48
	5 230.0	46	13.16	14.36
	5 270.0	54	13.03	14.08
	5 310.0	62	12.49	13.55
	5 510.0	102	16.58	14.48
	5 590.0	118	16.40	13.93
	5 630.0	126	16.08	13.58
	5 670.0	134	16.88	14.39
	5 710.0	142	16.51	14.33
	5 755.0	151	16.63	14.14
	5 795.0	159	15.92	13.38

Band	Freq. [MHz]	Channel	Mode
			802.11ac
WLAN 5 GHz (80 MHz)	5 210.0	42	13.19
	5 290.0	58	13.43
	5 530.0	106	13.28
	5 610.0	122	13.54
	5 690.0	138	13.50
	5 775.0	155	13.52

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Suwon-si, Gyeonggi-do, 16677, Korea
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**9.7.2 WLAN Average Conducted Output Power_Ant.2**

Band	Freq. [MHz]	Channel	Mode			
			802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	2 412.0	1	19.73	18.96	17.65	17.58
	2 437.0	6	19.65	18.86	17.51	17.55
	2 462.0	11	19.95	18.63	17.79	17.80
	2 467.0	12	4.78	4.49	4.36	4.30
	2 472.0	13	-3.18	-3.48	-3.55	-3.46
Band	Freq. [MHz]	Channel	Mode			
			802.11a	802.11n	802.11ac	
WLAN 5 GHz (20 MHz)	5 180.0	36	16.94	15.60	15.44	
	5 200.0	40	16.85	15.56	15.40	
	5 220.0	44	16.47	15.17	15.16	
	5 240.0	48	16.83	15.48	15.37	
	5 260.0	52	17.17	15.83	15.69	
	5 280.0	56	17.14	15.81	15.65	
	5 300.0	60	17.03	15.73	15.75	
	5 320.0	64	17.03	15.87	15.70	
	5 500.0	100	15.28	16.03	15.89	
	5 580.0	116	14.99	15.80	15.62	
	5 600.0	120	14.91	15.77	15.43	
	5 620.0	124	14.96	15.70	15.67	
	5 700.0	140	15.62	15.58	15.43	
	5 720.0	144	15.55	15.52	15.35	
	5 745.0	149	15.57	16.25	16.13	
	5 785.0	157	15.37	16.23	15.85	
	5 825.0	165	15.44	15.39	16.15	
Band	Freq. [MHz]	Channel	Mode			
			802.11n	802.11ac		
WLAN 5 GHz (40 MHz)	5 190.0	38	13.02	14.12		
	5 230.0	46	12.86	13.84		
	5 270.0	54	13.44	14.43		
	5 310.0	62	13.28	14.34		
	5 510.0	102	15.91	14.47		
	5 590.0	118	16.23	13.13		
	5 630.0	126	16.25	13.98		
	5 670.0	134	16.36	14.28		
	5 710.0	142	16.22	14.19		
	5 755.0	151	16.04	13.82		
	5 795.0	159	15.58	13.40		
Band	Freq. [MHz]	Channel	Mode			
			802.11ac			
WLAN 5 GHz (80 MHz)	5 210.0	42	12.77			
	5 290.0	58	13.18			
	5 530.0	106	13.08			
	5 610.0	122	13.39			
	5 690.0	138	13.31			
	5 775.0	155	13.30			

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**9.7.3 WLAN Average Conducted Output Power_MIMO**

Band	Ant.	Freq. [MHz]	Channel	Mode			
				802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	Ant.1	2 412.0	1	19.65	18.06	16.58	16.50
		2 437.0	6	19.78	18.21	16.91	16.90
		2 462.0	11	19.56	17.86	16.62	16.62
		2 467.0	12	1.30	0.49	0.40	0.37
		2 472.0	13	-1.04	-1.17	-1.31	-1.20
	Ant.2	2 412.0	1	19.77	18.16	16.94	16.86
		2 437.0	6	19.92	18.47	17.27	17.22
		2 462.0	11	19.87	18.38	17.08	17.11
		2 467.0	12	1.33	0.33	0.29	0.25
		2 472.0	13	-1.04	-1.17	-1.31	-1.20

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
WLAN 5 GHz (20 MHz)	5 180.0	36	19.09	18.74	18.73
	5 200.0	40	19.86	18.61	18.62
	5 220.0	44	19.80	18.51	18.50
	5 240.0	48	19.74	18.46	18.44
	5 260.0	52	20.03	18.89	18.88
	5 280.0	56	20.08	18.87	18.93
	5 300.0	60	20.10	18.96	18.92
	5 320.0	64	19.83	18.87	18.72
	5 500.0	100	18.37	19.59	19.64
	5 580.0	116	18.77	19.33	19.35
	5 600.0	120	18.68	19.19	19.27
	5 620.0	124	18.78	19.41	19.49
	5 700.0	140	17.71	18.88	18.85
	5 720.0	144	17.67	18.82	18.81
	5 745.0	149	18.91	19.19	19.24
	5 785.0	157	18.51	18.57	18.88
	5 825.0	165	18.95	18.29	18.12

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
WLAN 5 GHz (40 MHz)	5 190.0	38	16.49	17.44
	5 230.0	46	16.32	17.69
	5 270.0	54	15.97	17.90
	5 310.0	62	16.63	16.50
	5 510.0	102	18.79	17.37
	5 590.0	118	18.99	16.76
	5 630.0	126	19.00	17.69
	5 670.0	134	19.24	17.95
	5 710.0	142	19.19	17.89
	5 755.0	151	19.76	17.91
	5 795.0	159	19.42	17.33

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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Band	Freq. [MHz]	Channel	Mode
			802.11ac
WLAN 5 GHz (80 MHz)	5 210.0	42	16.33
	5 290.0	58	15.54
	5 530.0	106	15.98
	5 610.0	122	16.25
	5 690.0	138	16.20
	5 775.0	155	16.15

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.

Power Measurement Setup

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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9.8 WLAN Average Conducted Output Power (Reduced Average Power)

9.8.1 WLAN Average Conducted Output Power_Ant.1

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
WLAN 5 GHz (20 MHz)	5 180.0	36	8.61	8.44	8.32
	5 200.0	40	8.43	8.23	8.14
	5 220.0	44	8.27	8.20	8.14
	5 240.0	48	8.31	7.83	7.85
	5 260.0	52	7.59	8.44	8.22
	5 280.0	56	8.24	8.72	8.76
	5 300.0	60	7.98	8.59	8.36
	5 320.0	64	7.63	8.18	8.26
	5 500.0	100	8.02	7.90	7.69
	5 580.0	116	7.81	7.42	7.50
	5 600.0	120	7.70	7.25	7.37
	5 620.0	124	7.94	7.87	7.75
	5 700.0	140	7.60	7.29	7.15
	5 720.0	144	7.45	6.99	6.93
	5 745.0	149	8.60	8.06	8.07
	5 785.0	157	7.63	7.47	7.24
	5 825.0	165	7.62	7.05	7.18

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
WLAN 5 GHz (40 MHz)	5 190.0	38	8.36	8.44
	5 230.0	46	8.04	7.72
	5 270.0	54	8.48	8.65
	5 310.0	62	7.52	7.54
	5 510.0	102	7.20	7.24
	5 590.0	118	7.84	7.85
	5 630.0	126	8.35	8.41
	5 670.0	134	8.54	8.48
	5 710.0	142	8.54	8.53
	5 755.0	151	8.85	8.54
	5 795.0	159	8.11	8.08

Band	Freq. [MHz]	Channel	Mode
			802.11ac
WLAN 5 GHz (80 MHz)	5 210.0	42	8.05
	5 290.0	58	8.30
	5 530.0	106	8.17
	5 610.0	122	8.33
	5 690.0	138	8.25
	5 775.0	155	8.14

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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**9.8.2 WLAN Average Conducted Output Power_Ant.2**

Band	Freq. [MHz]	Channel	Mode			
			802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	2 412.0	1	12.25	12.34	12.58	12.56
	2 437.0	6	11.81	12.65	12.88	12.83
	2 462.0	11	12.24	12.76	12.45	12.49
	2 467.0	12	4.78	4.49	4.36	4.30
	2 472.0	13	-3.18	-3.48	-3.55	-3.46
Band	Freq. [MHz]	Channel	Mode			
			802.11a	802.11n	802.11ac	
WLAN 5 GHz (20 MHz)	5 180.0	36	7.86	7.51	7.56	
	5 200.0	40	7.67	7.60	7.33	
	5 220.0	44	8.05	7.85	7.68	
	5 240.0	48	7.57	7.30	7.32	
	5 260.0	52	8.00	7.87	7.68	
	5 280.0	56	8.13	7.70	7.69	
	5 300.0	60	8.59	8.16	8.04	
	5 320.0	64	7.90	7.64	7.61	
	5 500.0	100	8.36	7.85	7.90	
	5 580.0	116	8.38	8.08	8.09	
	5 600.0	120	8.29	8.01	8.02	
	5 620.0	124	8.75	8.62	8.41	
	5 700.0	140	14.97	8.18	8.09	
	5 720.0	144	14.96	8.06	8.05	
	5 745.0	149	8.23	8.08	7.85	
	5 785.0	157	8.16	7.68	7.71	
	5 825.0	165	7.44	7.90	7.86	
Band	Freq. [MHz]	Channel	Mode			
			802.11n	802.11ac		
WLAN 5 GHz (40 MHz)	5 190.0	38	8.06	8.09		
	5 230.0	46	7.24	7.28		
	5 270.0	54	7.97	8.01		
	5 310.0	62	8.04	8.06		
	5 510.0	102	7.94	8.21		
	5 590.0	118	8.28	8.44		
	5 630.0	126	7.69	7.82		
	5 670.0	134	7.78	8.06		
	5 710.0	142	7.80	7.78		
	5 755.0	151	8.51	8.53		
	5 795.0	159	8.00	8.15		
Band	Freq. [MHz]	Channel	Mode			
			802.11ac			
WLAN 5 GHz (80 MHz)	5 210.0	42	8.60			
	5 290.0	58	8.15			
	5 530.0	106	7.45			
	5 610.0	122	8.50			
	5 690.0	138	8.41			
	5 775.0	155	8.24			

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KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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www.kctl.co.kr

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**9.8.3 WLAN Average Conducted Output Power_MIMO**

Band	Ant.	Freq. [MHz]	Channel	Mode			
				802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	Ant.1	2 412.0	1	12.11	12.06	12.30	12.26
		2 437.0	6	12.23	12.31	12.53	12.48
		2 462.0	11	12.24	12.07	12.19	12.20
		2 467.0	12	1.30	0.49	0.40	0.37
		2 472.0	13	-1.04	-1.17	-1.31	-1.20
	Ant.2	2 412.0	1	12.54	12.39	12.59	12.58
		2 437.0	6	12.52	12.60	12.79	12.78
		2 462.0	11	12.82	12.72	12.83	12.85
		2 467.0	12	1.33	0.33	0.29	0.25
		2 472.0	13	-1.04	-1.17	-1.31	-1.20
Band	Freq. [MHz]	Channel	Mode				
			802.11a	802.11n	802.11ac		
WLAN 5 GHz (20 MHz)	5 180.0	36	10.82	10.53	10.49		
	5 200.0	40	10.78	10.49	10.45		
	5 220.0	44	10.14	10.87	3.01		
	5 240.0	48	10.29	11.02	11.02		
	5 260.0	52	10.62	10.38	10.38		
	5 280.0	56	10.85	10.59	10.58		
	5 300.0	60	10.66	10.34	3.01		
	5 320.0	64	10.64	10.37	10.37		
	5 500.0	100	11.82	11.44	11.51		
	5 580.0	116	11.53	11.17	11.25		
	5 600.0	120	11.44	11.09	11.22		
	5 620.0	124	11.42	11.11	11.20		
	5 700.0	140	11.18	10.84	10.92		
	5 720.0	144	11.11	10.78	10.84		
	5 745.0	149	11.69	11.31	11.39		
	5 785.0	157	11.25	11.02	10.92		
	5 825.0	165	10.74	10.48	10.47		
Band	Freq. [MHz]	Channel	Mode				
			802.11n	802.11ac			
WLAN 5 GHz (40 MHz)	5 190.0	38	10.64	10.66			
	5 230.0	46	10.09	10.12			
	5 270.0	54	10.51	10.53			
	5 310.0	62	10.29	10.35			
	5 510.0	102	10.95	11.00			
	5 590.0	118	10.17	10.22			
	5 630.0	126	10.72	10.82			
	5 670.0	134	10.97	11.26			
	5 710.0	142	10.92	11.20			
	5 755.0	151	11.39	11.38			
	5 795.0	159	10.96	10.92			
Band	Freq. [MHz]	Channel	Mode				
			802.11ac				
WLAN 5 GHz (80 MHz)	5 210.0	42	10.54				
	5 290.0	58	10.87				
	5 530.0	106	10.52				
	5 610.0	122	11.11				
	5 690.0	138	11.03				
	5 775.0	155	10.86				

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9.9 Bluetooth Average Conducted Output Power(Maximum Average Power)

9.9.1 Bluetooth Average Conducted Output Power_Ant.1

Mode	Freq. [MHz]	Channel	Conducted Powers
			(dBm)
BDR_DH5 (1 Mbps)	2 402.0	0	12.46
	2 441.0	39	11.87
	2 480.0	78	11.70
EDR_2-DH5 (2 Mbps)	2 402.0	0	11.49
	2 441.0	39	10.89
	2 480.0	78	10.78
EDR_3-DH5 (3 Mbps)	2 402.0	0	11.53
	2 441.0	39	10.93
	2 480.0	78	10.80
LE (1 Mbps)	2 402.0	0	3.17
	2 440.0	19	3.61
	2 480.0	39	3.50
LE (2 Mbps)	2 402.0	0	3.25
	2 440.0	19	3.71
	2 480.0	39	3.63

9.9.2 Bluetooth Average Conducted Output Power_Ant.2

Mode	Freq. [MHz]	Channel	Conducted Powers
			(dBm)
BDR_DH5 (1 Mbps)	2 402.0	0	10.13
	2 441.0	39	11.65
	2 480.0	78	11.54
EDR_2-DH5 (2 Mbps)	2 402.0	0	9.19
	2 441.0	39	10.69
	2 480.0	78	10.60
EDR_3-DH5 (3 Mbps)	2 402.0	0	9.20
	2 441.0	39	10.69
	2 480.0	78	10.62

9.10 Bluetooth Average Conducted Output Power(Reduced Average Power)

9.10.1 Bluetooth Average Conducted Output Power_Ant.1

Mode	Freq. [MHz]	Channel	Conducted Powers
			(dBm)
BDR_DH5 (1 Mbps)	2 402.0	0	10.81
	2 441.0	39	10.02
	2 480.0	78	9.70
EDR_2-DH5 (2 Mbps)	2 402.0	0	11.31
	2 441.0	39	10.51
	2 480.0	78	9.92
EDR_3-DH5 (3 Mbps)	2 402.0	0	11.33
	2 441.0	39	10.47
	2 480.0	78	9.90

9.10.2 Bluetooth Average Conducted Output Power_Ant.2

Mode	Freq. [MHz]	Channel	Conducted Powers
			(dBm)
BDR_DH5 (1 Mbps)	2 402.0	0	8.08
	2 441.0	39	9.38
	2 480.0	78	9.36
EDR_2-DH5 (2 Mbps)	2 402.0	0	8.37
	2 441.0	39	9.68
	2 480.0	78	9.84
EDR_3-DH5 (3 Mbps)	2 402.0	0	8.34
	2 441.0	39	9.70
	2 480.0	78	9.90

9.11 Wireless Band Duty Cycle

Wireless Bands	Frequency Bands	Mode	Duty Cycle (%)
GSM	850 1900	Voice, GPRS(GMSK), EGPRS(8PSK)	Voice: 12.5
			(E)GPRS 1Tx : 12.5
			(E)GPRS 2Tx : 25.0
			(E)GPRS 3Tx : 37.5
			(E)GPRS 4Tx : 50.0
WCDMA	Band II	RMC, HSDPA, HSUPA, DC-HSDPA	100
	Band IV		
	Band V		
LTE	FDD Band 2	QPSK, 16QAM, 256QAM	100
	FDD Band 5		
	FDD Band 12		
	FDD Band 13		
	FDD Band 25		
	FDD Band 26		
	FDD Band 66		
	TDD Band 41		63.33
WLAN	2.4 GHz	802.11b	99.00
		802.11a	99.00
	5 GHz	802.11n(HT40)	99.70
		802.11ac(VHT80)	99.70

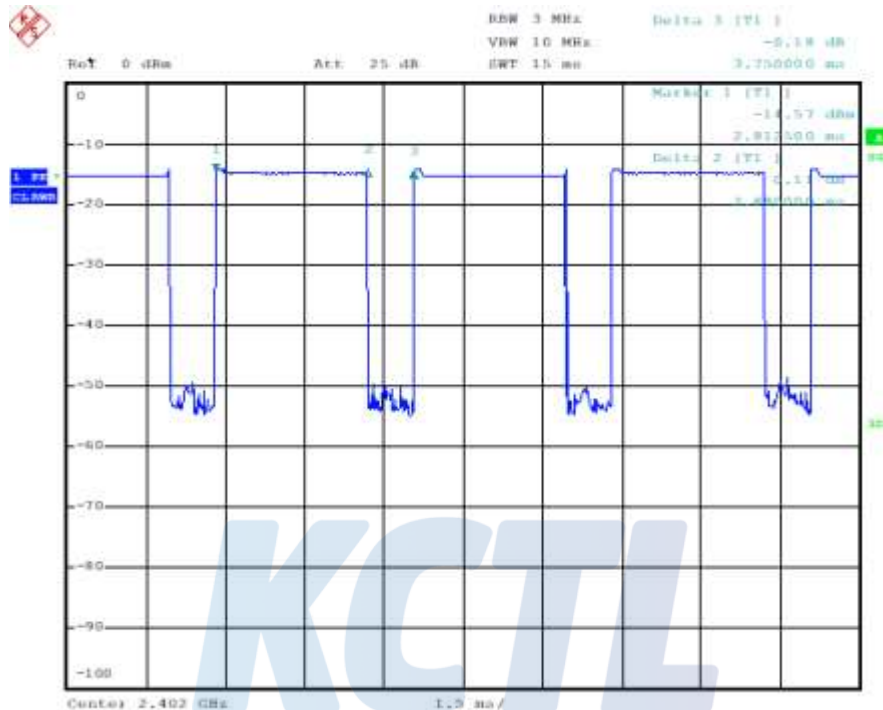
KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

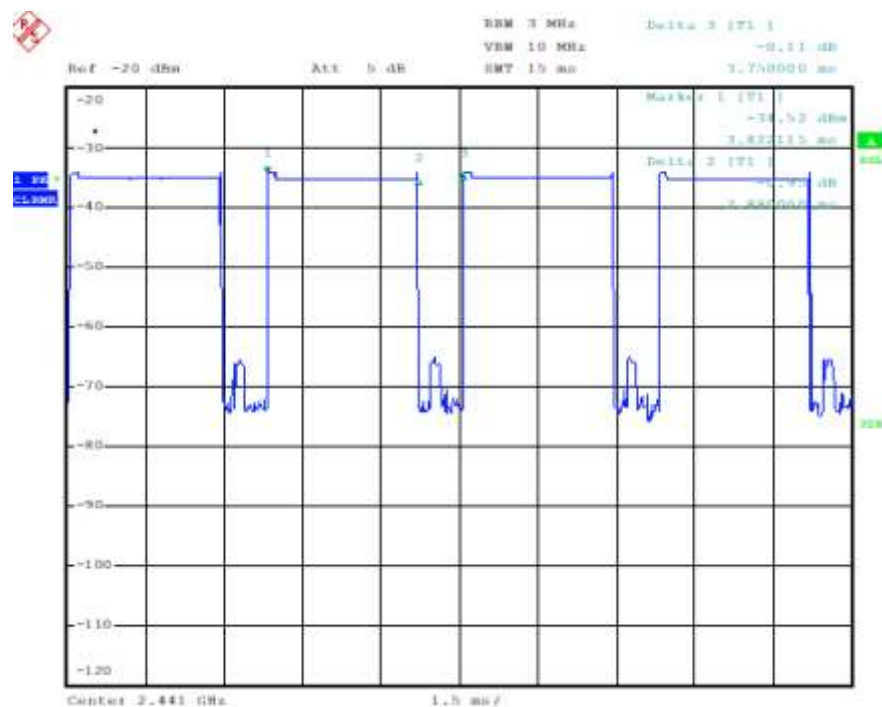
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Wireless Bands	Frequency Bands		Mode		Duty Cycle (%)	
	Mode	Packet	On Time (ms)	On-Off Time (ms)	Duty Cycle (%)	Duty Cycle Compensate Factor
Bluetooth	BDR(GFSK)	DH5	2.88	3.75	76.80	1.302



<Ant.1>



<Ant.2>

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10. System Verification

10.1 Tissue Verification

The dielectric properties for this Tissue Simulant Liquids were measured by using the SPEAG Model DAK3.5 Dielectric Probe in conjunction with Agilent E5071B Network Analyzer (300 kHz – 8 500 MHz). The Conductivity (σ) and Permittivity (ρ) are listed in Table 1. For the SAR measurement given in this report. The temperature variation of the Tissue Simulant Liquids was $(22 \pm 2) ^\circ\text{C}$.

Freq. (MHz)	Limit/Measured		Permittivity (ρ)	Conductivity (σ)	Temp. ($^\circ\text{C}$)
750.0	Recommended Limit		$41.90 \pm 5 \%$ (39.81 ~ 44.00)	$0.89 \pm 5 \%$ (0.85 ~ 0.93)	22 ± 2
	Measured	2020-06-21	43.13	0.87	20.85
750.0	Recommended Limit		$41.90 \pm 5 \%$ (39.81 ~ 44.00)	$0.89 \pm 5 \%$ (0.85 ~ 0.93)	22 ± 2
	Measured	2020-06-22	42.52	0.90	20.48
850.0	Recommended Limit		$41.50 \pm 5 \%$ (39.43 ~ 43.58)	$0.92 \pm 5 \%$ (0.87 ~ 0.97)	22 ± 2
	Measured	2020-06-17	40.50	0.91	20.43
850.0	Recommended Limit		$41.50 \pm 5 \%$ (39.43 ~ 43.58)	$0.92 \pm 5 \%$ (0.87 ~ 0.97)	22 ± 2
	Measured	2020-06-18	40.51	0.90	20.72
850.0	Recommended Limit		$41.50 \pm 5 \%$ (39.43 ~ 43.58)	$0.92 \pm 5 \%$ (0.87 ~ 0.97)	22 ± 2
	Measured	2020-06-19	40.71	0.91	21.06
850.0	Recommended Limit		$41.50 \pm 5 \%$ (39.43 ~ 43.58)	$0.92 \pm 5 \%$ (0.87 ~ 0.97)	22 ± 2
	Measured	2020-06-20	41.45	0.92	20.94
1 750.0	Recommended Limit		$40.07 \pm 5 \%$ (38.07 ~ 42.07)	$1.37 \pm 5 \%$ (1.30 ~ 1.44)	22 ± 2
	Measured	2020-06-08	39.14	1.35	20.88
1 750.0	Recommended Limit		$40.07 \pm 5 \%$ (38.07 ~ 42.07)	$1.37 \pm 5 \%$ (1.30 ~ 1.44)	22 ± 2
	Measured	2020-06-10	39.32	1.39	20.71
1 900.0	Recommended Limit		$40.00 \pm 5 \%$ (38.00 ~ 42.00)	$1.40 \pm 5 \%$ (1.33 ~ 1.47)	22 ± 2
	Measured	2020-05-22	39.65	1.43	20.68
1 900.0	Recommended Limit		$40.00 \pm 5 \%$ (38.00 ~ 42.00)	$1.40 \pm 5 \%$ (1.33 ~ 1.47)	22 ± 2
	Measured	2020-06-06	39.26	1.42	20.62
1 900.0	Recommended Limit		$40.00 \pm 5 \%$ (38.00 ~ 42.00)	$1.40 \pm 5 \%$ (1.33 ~ 1.47)	22 ± 2
	Measured	2020-06-07	39.42	1.40	20.87
1 900.0	Recommended Limit		$40.00 \pm 5 \%$ (38.00 ~ 42.00)	$1.40 \pm 5 \%$ (1.33 ~ 1.47)	22 ± 2
	Measured	2020-06-09	39.28	1.43	20.47
1 900.0	Recommended Limit		$40.00 \pm 5 \%$ (38.00 ~ 42.00)	$1.40 \pm 5 \%$ (1.33 ~ 1.47)	22 ± 2
	Measured	2020-06-11	40.17	1.40	20.43
1 900.0	Recommended Limit		$40.00 \pm 5 \%$ (38.00 ~ 42.00)	$1.40 \pm 5 \%$ (1.33 ~ 1.47)	22 ± 2
	Measured	2020-06-12	39.47	1.41	20.58

Freq. (MHz)	Limit/Measured		Permittivity (ρ)	Conductivity (σ)	Temp. (°C)
2 450.0	Recommended Limit		39.20 ± 5 % (37.24 ~ 41.16)	1.80 ± 5 % (1.71 ~ 1.89)	22 ± 2
	Measured	2020-05-25	39.99	1.76	21.15
2 450.0	Recommended Limit		39.20 ± 5 % (37.24 ~ 41.16)	1.80 ± 5 % (1.71 ~ 1.89)	22 ± 2
	Measured	2020-05-26	39.96	1.78	20.93
2 450.0	Recommended Limit		39.20 ± 5 % (37.24 ~ 41.16)	1.80 ± 5 % (1.71 ~ 1.89)	22 ± 2
	Measured	2020-06-17	38.64	1.79	20.91
2 450.0	Recommended Limit		39.20 ± 5 % (37.24 ~ 41.16)	1.80 ± 5 % (1.71 ~ 1.89)	22 ± 2
	Measured	2020-06-21	38.83	1.78	20.82
2 450.0	Recommended Limit		39.20 ± 5 % (37.24 ~ 41.16)	1.80 ± 5 % (1.71 ~ 1.89)	22 ± 2
	Measured	2020-06-22	39.03	1.78	21.05
2 600.0	Recommended Limit		39.00 ± 5 % (37.05 ~ 40.95)	1.96 ± 5 % (1.86 ~ 2.06)	22 ± 2
	Measured	2020-05-08	38.58	1.96	20.89
2 600.0	Recommended Limit		39.00 ± 5 % (37.05 ~ 40.95)	1.96 ± 5 % (1.86 ~ 2.06)	22 ± 2
	Measured	2020-06-13	40.03	1.94	20.67
5 300.0	Recommended Limit		35.90 ± 5 % (34.11 ~ 37.70)	4.76 ± 5 % (4.52 ~ 5.00)	22 ± 2
	Measured	2020-05-28	35.17	4.78	20.05
5 300.0	Recommended Limit		35.90 ± 5 % (34.11 ~ 37.70)	4.76 ± 5 % (4.52 ~ 5.00)	22 ± 2
	Measured	2020-06-19	36.08	4.67	21.10
5 600.0	Recommended Limit		35.50 ± 5 % (33.73 ~ 37.28)	5.07 ± 5 % (4.82 ~ 5.32)	22 ± 2
	Measured	2020-06-06	34.76	5.13	20.72
5 600.0	Recommended Limit		35.50 ± 5 % (33.73 ~ 37.28)	5.07 ± 5 % (4.82 ~ 5.32)	22 ± 2
	Measured	2020-06-18	35.14	4.98	20.78
5 800.0	Recommended Limit		35.30 ± 5 % (33.54 ~ 37.07)	5.27 ± 5 % (5.01 ~ 5.53)	22 ± 2
	Measured	2020-06-08	34.59	5.36	20.22
5 800.0	Recommended Limit		35.30 ± 5 % (33.54 ~ 37.07)	5.27 ± 5 % (5.01 ~ 5.53)	22 ± 2
	Measured	2020-06-20	35.73	5.14	20.98

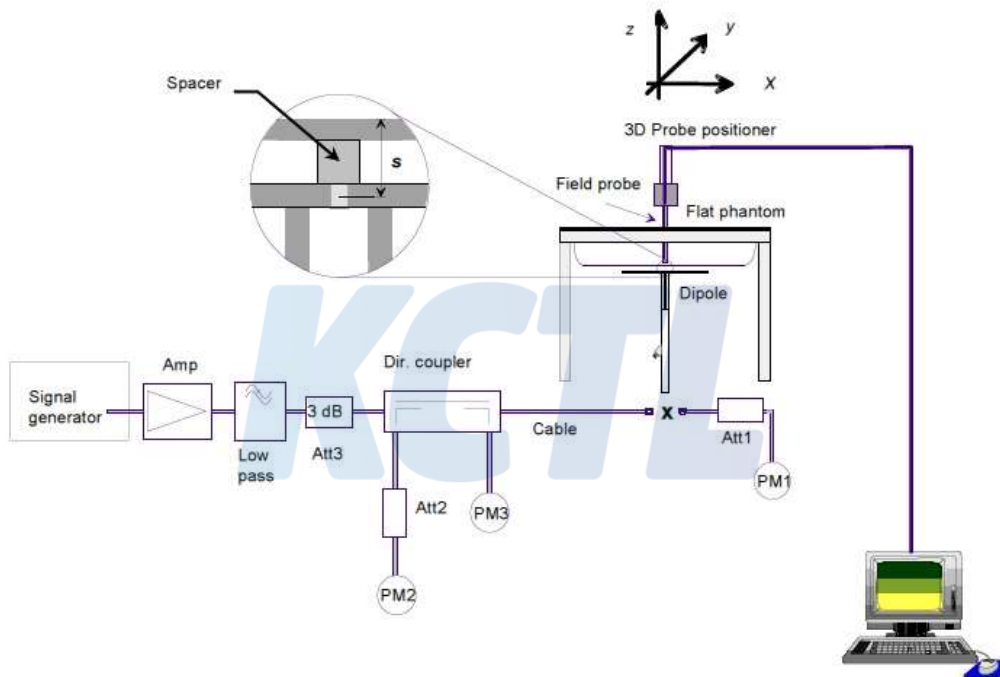
<Table 1. Measurement result of Head Tissue electric parameters>

10.2 Test System Verification

The microwave circuit arrangement for system verification is sketched below picture.

The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within $\pm 10\%$ from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the Table 2.

During the tests, the ambient temperature of the laboratory was in the range $(22 \pm 2) ^\circ\text{C}$, the relative humidity was in the range $(50 \pm 20)\%$ and the liquid depth Above the ear/grid reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



Verification Kit	Probe S/N	Frequency (MHz)	Tissue Type	Limit/Measured (Normalized to 1 W)	
D750V3 SN: 1183	EX3DV4 SN: 3865	750.0	HSL	Recommended Limit 1g (Normalized)	8.19 ± 10 % (7.37 ~ 9.01)
				Measured 2020-06-21	7.68
D750V3 SN: 1183	EX3DV4 SN: 3865	750.0	HSL	Recommended Limit 1g (Normalized)	8.19 ± 10 % (7.37 ~ 9.01)
				Measured 2020-06-22	8.32
D850V2 SN: 1006	EX3DV4 SN: 3865	850.0	HSL	Recommended Limit 1g (Normalized)	9.95 ± 10 % (8.96 ~ 10.95)
				Measured 2020-06-17	10.16
D850V2 SN: 1006	EX3DV4 SN: 3865	850.0	HSL	Recommended Limit 1g (Normalized)	9.95 ± 10 % (8.96 ~ 10.95)
				Measured 2020-06-18	10.08
D850V2 SN: 1006	EX3DV4 SN: 3865	850.0	HSL	Recommended Limit 1g (Normalized)	9.95 ± 10 % (8.96 ~ 10.95)
				Measured 2020-06-19	10.16
D850V2 SN: 1006	EX3DV4 SN: 3865	850.0	HSL	Recommended Limit 1g (Normalized)	9.95 ± 10 % (8.96 ~ 10.95)
				Measured 2020-06-20	9.76
D1750V2 SN: 1072	EX3DV4 SN: 3865	1 750.0	HSL	Recommended Limit 1g (Normalized)	36.50 ± 10 % (32.85 ~ 40.15)
				Measured 2020-06-08	35.00
D1750V2 SN: 1072	EX3DV4 SN: 3865	1 750.0	HSL	Recommended Limit 1g (Normalized)	36.50 ± 10 % (32.85 ~ 40.15)
				Measured 2020-06-10	36.96
D1900V2 SN: 5d160	EX3DV4 SN: 3865	1 900.0	HSL	Recommended Limit 1g (Normalized)	39.40 ± 10 % (35.46 ~ 43.34)
				Measured 2020-05-22	38.88
D1900V2 SN: 5d160	EX3DV4 SN: 3865	1 900.0	HSL	Recommended Limit 1g (Normalized)	39.40 ± 10 % (35.46 ~ 43.34)
				Measured 2020-06-06	38.40
D1900V2 SN: 5d160	EX3DV4 SN: 3865	1 900.0	HSL	Recommended Limit 1g (Normalized)	39.40 ± 10 % (35.46 ~ 43.34)
				Measured 2020-06-07	40.80
D1900V2 SN: 5d160	EX3DV4 SN: 3865	1 900.0	HSL	Recommended Limit 1g (Normalized)	39.40 ± 10 % (35.46 ~ 43.34)
				Measured 2020-06-09	41.60
D1900V2 SN: 5d160	EX3DV4 SN: 3865	1 900.0	HSL	Recommended Limit 1g (Normalized)	39.40 ± 10 % (35.46 ~ 43.34)
				Measured 2020-06-11	39.52
D1900V2 SN: 5d160	EX3DV4 SN: 3865	1 900.0	HSL	Recommended Limit 1g (Normalized)	39.40 ± 10 % (35.46 ~ 43.34)
				Measured 2020-06-12	41.20

Verification Kit	Probe S/N	Frequency (MHz)	Tissue Type	Limit/Measured (Normalized to 1 W)	
D2450V2 SN: 895	EX3DV4 SN: 3928	2 450.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-05-25
D2450V2 SN: 895	EX3DV4 SN: 3928	2 450.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-05-26
D2450V2 SN: 895	EX3DV4 SN: 3928	2 450.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-06-17
D2450V2 SN: 895	EX3DV4 SN: 3928	2 450.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-06-21
D2450V2 SN: 895	EX3DV4 SN: 3928	2 450.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-06-22
D2600V2 SN: 1050	EX3DV4 SN: 3865	2 600.0	HSL	Recommended Limit 1g (Normalized)	
				Measured	2020-05-08
D2600V2 SN: 1050	EX3DV4 SN: 3865	2 600.0	HSL	Recommended Limit 1g (Normalized)	
				Measured	2020-06-13
D5GHzV2 SN: 1293	EX3DV4 SN: 3928	5 300.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-05-28
D5GHzV2 SN: 1293	EX3DV4 SN: 3928	5 300.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-06-19
D5GHzV2 SN: 1293	EX3DV4 SN: 3928	5 600.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-06-06
D5GHzV2 SN: 1293	EX3DV4 SN: 3928	5 600.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-06-18
D5GHzV2 SN: 1293	EX3DV4 SN: 3928	5 800.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-06-08
D5GHzV2 SN: 1293	EX3DV4 SN: 3928	5 800.0	HSL	Recommended Limit 10g (Normalized)	
				Measured	2020-06-20

<Table 2. System Verification Result>

11. SAR Test Results

11.1 Standalone Body SAR Test Results

GSM 850									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
GPRS 2Tx	Grip Sensor off								
	Rear	19	836.6	32.26	32.50	1.057	0.581	0.614	
	Left	0	836.6	32.26	32.50	1.057	0.226	0.239	
	Left	4 ^{Note 8}	836.6	32.26	32.50	1.057	0.101	0.107	
	Right	7	836.6	32.26	32.50	1.057	0.171	0.181	
	Right Corner	11	836.6	32.26	32.50	1.057	0.090	0.095	
	Top	23	836.6	32.26	32.50	1.057	0.480	0.507	
GPRS 2Tx	Grip Sensor on								
	Rear	0	836.6	21.73	22.50	1.194	0.738	0.881	
	Rear	0	824.2	21.70	22.50	1.202	0.679	0.816	
	Rear	0	848.8	21.70	22.50	1.202	0.743	0.893	1
	Right	0	836.6	21.73	22.50	1.194	0.050	0.059	
	Right Corner	0	836.6	21.73	22.50	1.194	0.111	0.133	
	Top	0	836.6	21.73	22.50	1.194	0.732	0.874	
	Top	0	824.2	21.70	22.50	1.202	0.673	0.809	
	Top	0	848.8	21.70	22.50	1.202	0.710	0.854	
	Keyboard Cover								
	Rear	0	848.8	21.70	22.50	1.202	0.249	0.299	

GSM 1900									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
GPRS 3Tx	Grip Sensor off								
	Rear	19	1 880.0	27.45	27.50	1.012	0.224	0.227	
	Left	0	1 880.0	27.45	27.50	1.012	0.151	0.153	
	Left	4 ^{Note 8}	1 880.0	27.45	27.50	1.012	0.094	0.095	
	Right	7	1 880.0	27.45	27.50	1.012	0.149	0.151	
	Right Corner	11	1 880.0	27.45	27.50	1.012	0.123	0.124	
	Top	23	1 880.0	27.45	27.50	1.012	0.239	0.242	
GPRS 2Tx	Grip Sensor on								
	Rear	0	1 880.0	19.78	20.00	1.052	0.853	0.897	
	Rear	0	1 850.2	19.47	20.00	1.130	0.733	0.828	
	Rear	0	1 909.8	19.45	20.00	1.135	0.757	0.859	
	Right	0	1 880.0	19.78	20.00	1.052	0.042	0.044	
	Right Corner	0	1 880.0	19.78	20.00	1.052	0.100	0.105	
	Top	0	1 880.0	19.78	20.00	1.052	0.689	0.725	
	Keyboard Cover								
	Rear	0	1 880.0	19.78	20.00	1.052	0.199	0.209	
	Repeated SAR Test								
	Rear	0	1 880.0	19.78	20.00	1.052	0.893	0.939	2

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**WCDMA Band II**

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Grip Sensor off								
	Rear	19	1 880.0	23.09	23.50	1.099	0.352	0.387	
	Left	0	1 880.0	23.09	23.50	1.099	0.240	0.264	
	Left	4 Note 8	1 880.0	23.09	23.50	1.099	0.128	0.141	
	Right	7	1 880.0	23.09	23.50	1.099	0.169	0.186	
	Right Corner	11	1 880.0	23.09	23.50	1.099	0.184	0.202	
	Top	23	1 880.0	23.09	23.50	1.099	0.345	0.379	
	Grip Sensor on								
	Rear	0	1 880.0	13.14	13.50	1.086	0.754	0.819	
	Rear	0	1 852.4	13.03	13.50	1.114	0.683	0.761	
	Rear	0	1 907.6	12.99	13.50	1.125	0.717	0.806	
	Right	0	1 880.0	13.14	13.50	1.086	0.040	0.043	
	Right Corner	0	1 880.0	13.14	13.50	1.086	0.102	0.111	
	Top	0	1 880.0	13.14	13.50	1.086	0.794	0.863	3
	Top	0	1 852.4	13.03	13.50	1.114	0.714	0.796	
	Top	0	1 907.6	12.99	13.50	1.125	0.753	0.847	
	Keyboard Cover								
	Top	0	1 880.0	13.14	13.50	1.086	0.672	0.730	

WCDMA Band IV

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Grip Sensor off								
	Rear	19	1 732.4	22.71	23.50	1.199	0.221	0.265	
	Left	0	1 732.4	22.71	23.50	1.199	0.136	0.163	
	Left	4 Note 8	1 732.4	22.71	23.50	1.199	0.063	0.075	
	Right	7	1 732.4	22.71	23.50	1.199	0.145	0.174	
	Right Corner	11	1 732.4	22.71	23.50	1.199	0.103	0.124	
	Top	23	1 732.4	22.71	23.50	1.199	0.241	0.289	
	Grip Sensor on								
	Rear	0	1 732.4	12.70	13.50	1.202	0.537	0.646	
	Right	0	1 732.4	12.70	13.50	1.202	0.034	0.041	
	Right Corner	0	1 732.4	12.70	13.50	1.202	0.045	0.054	
	Top	0	1 732.4	12.70	13.50	1.202	0.559	0.672	4
	Keyboard Cover								
	Top	0	1 732.4	12.70	13.50	1.202	0.531	0.638	

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65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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**WCDMA Band V**

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Grip Sensor off								
	Rear	19	836.6	23.49	24.50	1.262	0.421	0.531	
	Left	0	836.6	23.49	24.50	1.262	0.182	0.230	
	Left	4 Note 8	836.6	23.49	24.50	1.262	0.068	0.085	
	Right	7	836.6	23.49	24.50	1.262	0.117	0.148	
	Right Corner	11	836.6	23.49	24.50	1.262	0.069	0.087	
	Top	23	836.6	23.49	24.50	1.262	0.410	0.517	
	Grip Sensor on								
	Rear	0	836.6	13.87	14.50	1.156	0.595	0.688	
	Right	0	836.6	13.87	14.50	1.156	0.032	0.037	
	Right Corner	0	836.6	13.87	14.50	1.156	0.057	0.066	
	Top	0	836.6	13.87	14.50	1.156	0.610	0.705	5
	Keyboard Cover								
	Top	0	836.6	13.87	14.50	1.156	0.460	0.532	

LTE Band 2

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 20M 1RB 0Offset	Rear	19	1 880.0	23.18	24.00	1.208	0.378	0.457	
QPSK 20M 50RB 50Offset	Rear	19	1 880.0	22.17	23.00	1.211	0.310	0.375	
QPSK 20M 1RB 0Offset	Left	0	1 880.0	23.18	24.00	1.208	0.227	0.274	
QPSK 20M 1RB 0Offset	Left	4 Note 8	1 880.0	23.18	24.00	1.208	0.118	0.143	
QPSK 20M 50RB 50Offset	Left	0	1 880.0	22.17	23.00	1.211	0.188	0.228	
QPSK 20M 1RB 0Offset	Right	7	1 880.0	23.18	24.00	1.208	0.190	0.229	
QPSK 20M 50RB 50Offset	Right	7	1 880.0	22.17	23.00	1.211	0.157	0.190	
QPSK 20M 1RB 0Offset	Right Corner	11	1 880.0	23.18	24.00	1.208	0.179	0.216	
QPSK 20M 50RB 50Offset	Right Corner	11	1 880.0	22.17	23.00	1.211	0.147	0.178	
QPSK 20M 1RB 0Offset	Top	23	1 880.0	23.18	24.00	1.208	0.373	0.451	
QPSK 20M 50RB 50Offset	Top	23	1 880.0	22.17	23.00	1.211	0.298	0.361	

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LTE Band 2									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor on									
QPSK 20M 1RB 0Offset	Rear	0	1 880.0	13.38	14.00	1.153	0.805	0.929	
QPSK 20M 1RB 99Offset	Rear	0	1 860.0	13.31	14.00	1.172	0.767	0.899	
QPSK 20M 1RB 0Offset	Rear	0	1 900.0	13.37	14.00	1.156	0.797	0.921	
QPSK 20M 50RB 50Offset	Rear	0	1 880.0	13.38	14.00	1.153	0.795	0.917	
QPSK 20M 50RB 50Offset	Rear	0	1 860.0	13.32	14.00	1.169	0.773	0.904	
QPSK 20M 50RB 24Offset	Rear	0	1 900.0	13.36	14.00	1.159	0.801	0.928	
QPSK 20M 100RB 0Offset	Rear	0	1 880.0	13.32	14.00	1.169	0.792	0.926	
QPSK 20M 1RB 0Offset	Right	0	1 880.0	13.38	14.00	1.153	0.054	0.062	
QPSK 20M 50RB 50Offset	Right	0	1 880.0	13.38	14.00	1.153	0.053	0.061	
QPSK 20M 1RB 0Offset	Right Corner	0	1 880.0	13.38	14.00	1.153	0.091	0.105	
QPSK 20M 50RB 50Offset	Right Corner	0	1 880.0	13.38	14.00	1.153	0.098	0.113	
QPSK 20M 1RB 0Offset	Top	0	1 880.0	13.38	14.00	1.153	0.798	0.920	
QPSK 20M 1RB 99Offset	Top	0	1 860.0	13.31	14.00	1.172	0.767	0.899	
QPSK 20M 1RB 0Offset	Top	0	1 900.0	13.37	14.00	1.156	0.801	0.926	
QPSK 20M 50RB 50Offset	Top	0	1 880.0	13.38	14.00	1.153	0.795	0.917	
QPSK 20M 50RB 50Offset	Top	0	1 860.0	13.32	14.00	1.169	0.775	0.906	
QPSK 20M 50RB 24Offset	Top	0	1 900.0	13.36	14.00	1.159	0.808	0.936	
QPSK 20M 100RB 0Offset	Top	0	1 880.0	13.32	14.00	1.169	0.795	0.930	
Keyboard Cover									
QPSK 20M 50RB 24Offset	Top	0	1 900.0	13.36	14.00	1.159	0.767	0.889	
Repeated SAR Test									
QPSK 20M 50RB 24Offset	Top	0	1 900.0	13.36	14.00	1.159	0.811	0.940	6

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LTE Band 5									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 10M 1RB 49Offset	Rear	19	836.5	23.91	25.00	1.285	0.409	0.526	
QPSK 10M 25RB 12Offset	Rear	19	836.5	22.95	24.00	1.274	0.316	0.402	
QPSK 10M 1RB 49Offset	Left	0	836.5	23.91	25.00	1.285	0.174	0.224	
QPSK 10M 1RB 49Offset	Left	4 Note 8	836.5	23.91	25.00	1.285	0.086	0.110	
QPSK 10M 25RB 12Offset	Left	0	836.5	22.95	24.00	1.274	0.136	0.173	
QPSK 10M 1RB 49Offset	Right	7	836.5	23.91	25.00	1.285	0.143	0.184	
QPSK 10M 25RB 12Offset	Right	7	836.5	22.95	24.00	1.274	0.119	0.152	
QPSK 10M 1RB 49Offset	Right Corner	11	836.5	23.91	25.00	1.285	0.066	0.085	
QPSK 10M 25RB 12Offset	Right Corner	11	836.5	22.95	24.00	1.274	0.056	0.071	
QPSK 10M 1RB 49Offset	Top	23	836.5	23.91	25.00	1.285	0.373	0.479	
QPSK 10M 25RB 12Offset	Top	23	836.5	22.95	24.00	1.274	0.321	0.409	
Grip Sensor on									
QPSK 10M 1RB 49Offset	Rear	0	836.5	15.09	16.00	1.233	0.712	0.878	
QPSK 10M 25RB 25Offset	Rear	0	836.5	15.12	16.00	1.225	0.740	0.906	
QPSK 10M 50RB 0Offset	Rear	0	836.5	15.06	16.00	1.242	0.701	0.870	
QPSK 10M 1RB 49Offset	Right	0	836.5	15.09	16.00	1.233	0.035	0.043	
QPSK 10M 25RB 25Offset	Right	0	836.5	15.12	16.00	1.225	0.037	0.046	
QPSK 10M 1RB 49Offset	Right Corner	0	836.5	15.09	16.00	1.233	0.077	0.094	
QPSK 10M 25RB 25Offset	Right Corner	0	836.5	15.12	16.00	1.225	0.074	0.090	
QPSK 10M 1RB 49Offset	Top	0	836.5	15.09	16.00	1.233	0.751	0.926	
QPSK 10M 25RB 25Offset	Top	0	836.5	15.12	16.00	1.225	0.767	0.939	
QPSK 10M 50RB 0Offset	Top	0	836.5	15.06	16.00	1.242	0.761	0.945	7
Keyboard Cover									
QPSK 10M 50RB 0Offset	Top	0	836.5	15.06	16.00	1.242	0.597	0.741	

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LTE Band 12									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 10M 1RB 49Offset	Rear	19	707.5	23.98	25.00	1.265	0.258	0.326	
QPSK 10M 25RB 25Offset	Rear	19	707.5	23.02	24.00	1.253	0.203	0.254	
QPSK 10M 1RB 49Offset	Left	0	707.5	23.98	25.00	1.265	0.072	0.091	
QPSK 10M 1RB 49Offset	Left	4 Note 8	707.5	23.98	25.00	1.265	0.038	0.048	
QPSK 10M 25RB 25Offset	Left	0	707.5	23.02	24.00	1.253	0.045	0.056	
QPSK 10M 1RB 49Offset	Right	7	707.5	23.98	25.00	1.265	0.042	0.054	
QPSK 10M 25RB 25Offset	Right	7	707.5	23.02	24.00	1.253	0.052	0.065	
QPSK 10M 1RB 49Offset	Right Corner	11	707.5	23.98	25.00	1.265	0.021	0.026	
QPSK 10M 25RB 25Offset	Right Corner	11	707.5	23.02	24.00	1.253	0.020	0.026	
QPSK 10M 1RB 49Offset	Top	23	707.5	23.98	25.00	1.265	0.062	0.078	
QPSK 10M 25RB 25Offset	Top	23	707.5	23.02	24.00	1.253	0.060	0.075	
Grip Sensor on									
QPSK 10M 1RB 25Offset	Rear	0	707.5	14.48	15.00	1.127	0.633	0.714	
QPSK 10M 25RB 12Offset	Rear	0	707.5	14.44	15.00	1.138	0.652	0.742	8
QPSK 10M 1RB 25Offset	Right	0	707.5	14.48	15.00	1.127	0.017	0.019	
QPSK 10M 25RB 12Offset	Right	0	707.5	14.44	15.00	1.138	0.018	0.020	
QPSK 10M 1RB 25Offset	Right Corner	0	707.5	14.48	15.00	1.127	0.031	0.035	
QPSK 10M 25RB 12Offset	Right Corner	0	707.5	14.44	15.00	1.138	0.031	0.035	
QPSK 10M 1RB 25Offset	Top	0	707.5	14.48	15.00	1.127	0.556	0.627	
QPSK 10M 25RB 12Offset	Top	0	707.5	14.44	15.00	1.138	0.554	0.630	
Keyboard Cover									
QPSK 10M 25RB 12Offset	Rear	0	707.5	14.44	15.00	1.138	0.093	0.105	

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LTE Band 13									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 10M 1RB 25Offset	Rear	19	782.0	23.61	25.00	1.377	0.386	0.532	
QPSK 10M 25RB 0Offset	Rear	19	782.0	22.67	24.00	1.358	0.317	0.431	
QPSK 10M 1RB 25Offset	Left	0	782.0	23.61	25.00	1.377	0.112	0.154	
QPSK 10M 1RB 25Offset	Left	4 Note 8	782.0	23.61	25.00	1.377	0.041	0.056	
QPSK 10M 25RB 0Offset	Left	0	782.0	22.67	24.00	1.358	0.086	0.116	
QPSK 10M 1RB 25Offset	Right	7	782.0	23.61	25.00	1.377	0.069	0.095	
QPSK 10M 25RB 0Offset	Right	7	782.0	22.67	24.00	1.358	0.055	0.074	
QPSK 10M 1RB 25Offset	Right Corner	11	782.0	23.61	25.00	1.377	0.039	0.053	
QPSK 10M 25RB 0Offset	Right Corner	11	782.0	22.67	24.00	1.358	0.034	0.046	
QPSK 10M 1RB 25Offset	Top	23	782.0	23.61	25.00	1.377	0.284	0.391	
QPSK 10M 25RB 0Offset	Top	23	782.0	22.67	24.00	1.358	0.240	0.326	
Grip Sensor on									
QPSK 10M 1RB 0Offset	Rear	0	782.0	13.86	15.00	1.300	0.601	0.781	
QPSK 10M 25RB 12Offset	Rear	0	782.0	13.95	15.00	1.274	0.626	0.797	
QPSK 10M 1RB 0Offset	Right	0	782.0	13.86	15.00	1.300	0.019	0.024	
QPSK 10M 25RB 12Offset	Right	0	782.0	13.95	15.00	1.274	0.020	0.025	
QPSK 10M 1RB 0Offset	Right Corner	0	782.0	13.86	15.00	1.300	0.038	0.049	
QPSK 10M 25RB 12Offset	Right Corner	0	782.0	13.95	15.00	1.274	0.035	0.045	
QPSK 10M 1RB 0Offset	Top	0	782.0	13.86	15.00	1.300	0.638	0.830	
QPSK 10M 25RB 12Offset	Top	0	782.0	13.95	15.00	1.274	0.663	0.844	
QPSK 10M 50RB 0Offset	Top	0	782.0	13.83	15.00	1.309	0.646	0.846	9
Keyboard Cover									
QPSK 10M 50RB 0Offset	Top	0	782.0	13.83	15.00	1.309	0.478	0.626	

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LTE Band 25									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 20M 1RB 0Offset	Rear	19	1 882.5	23.36	24.00	1.159	0.362	0.419	
QPSK 20M 50RB 24Offset	Rear	19	1 882.5	22.38	23.00	1.153	0.294	0.339	
QPSK 20M 1RB 0Offset	Left	0	1 882.5	23.36	24.00	1.159	0.305	0.353	
QPSK 20M 1RB 0Offset	Left	4 Note 8	1 882.5	23.36	24.00	1.159	0.145	0.168	
QPSK 20M 50RB 24Offset	Left	0	1 882.5	22.38	23.00	1.153	0.232	0.268	
QPSK 20M 1RB 0Offset	Right	7	1 882.5	23.36	24.00	1.159	0.193	0.224	
QPSK 20M 50RB 24Offset	Right	7	1 882.5	22.38	23.00	1.153	0.161	0.186	
QPSK 20M 1RB 0Offset	Right Corner	11	1 882.5	23.36	24.00	1.159	0.185	0.214	
QPSK 20M 50RB 24Offset	Right Corner	11	1 882.5	22.38	23.00	1.153	0.143	0.165	
QPSK 20M 1RB 0Offset	Top	23	1 882.5	23.36	24.00	1.159	0.370	0.429	
QPSK 20M 50RB 24Offset	Top	23	1 882.5	22.38	23.00	1.153	0.297	0.343	

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LTE Band 25									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor on									
QPSK 20M 1RB 0Offset	Rear	0	1 882.5	13.37	14.00	1.156	0.770	0.890	
QPSK 20M 1RB 99Offset	Rear	0	1 860.0	13.36	14.00	1.159	0.741	0.859	
QPSK 20M 1RB 0Offset	Rear	0	1 905.0	13.36	14.00	1.159	0.765	0.886	
QPSK 20M 50RB 24Offset	Rear	0	1 882.5	13.40	14.00	1.148	0.785	0.901	
QPSK 20M 50RB 24Offset	Rear	0	1 860.0	13.33	14.00	1.167	0.763	0.890	
QPSK 20M 50RB 24Offset	Rear	0	1 905.0	13.38	14.00	1.153	0.774	0.893	
QPSK 20M 100RB 0Offset	Rear	0	1 882.5	13.28	14.00	1.180	0.747	0.882	
QPSK 20M 1RB 0Offset	Right	0	1 882.5	13.37	14.00	1.156	0.055	0.064	
QPSK 20M 50RB 24Offset	Right	0	1 882.5	13.40	14.00	1.148	0.056	0.064	
QPSK 20M 1RB 0Offset	Right Corner	0	1 882.5	13.37	14.00	1.156	0.095	0.109	
QPSK 20M 50RB 24Offset	Right Corner	0	1 882.5	13.40	14.00	1.148	0.103	0.118	
QPSK 20M 1RB 0Offset	Top	0	1 882.5	13.37	14.00	1.156	0.782	0.904	
QPSK 20M 1RB 99Offset	Top	0	1 860.0	13.36	14.00	1.159	0.750	0.869	
QPSK 20M 1RB 0Offset	Top	0	1 905.0	13.36	14.00	1.159	0.775	0.898	
QPSK 20M 50RB 24Offset	Top	0	1 882.5	13.40	14.00	1.148	0.799	0.917	10
QPSK 20M 50RB 24Offset	Top	0	1 860.0	13.33	14.00	1.167	0.767	0.895	
QPSK 20M 50RB 24Offset	Top	0	1 905.0	13.38	14.00	1.153	0.791	0.912	
QPSK 20M 100RB 0Offset	Top	0	1 882.5	13.28	14.00	1.180	0.773	0.912	
Keyboard Cover									
QPSK 20M 50RB 24Offset	Top	0	1 882.5	13.40	14.00	1.148	0.784	0.900	

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LTE Band 26									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 15M 1RB 36Offset	Rear	19	831.5	23.48	25.00	1.419	0.495	0.702	
QPSK 15M 36RB 37Offset	Rear	19	831.5	22.59	24.00	1.384	0.406	0.562	
QPSK 15M 1RB 36Offset	Left	0	831.5	23.48	25.00	1.419	0.146	0.207	
QPSK 15M 1RB 36Offset	Left	4 Note 8	831.5	23.48	25.00	1.419	0.077	0.109	
QPSK 15M 36RB 37Offset	Left	0	831.5	22.59	24.00	1.384	0.133	0.184	
QPSK 15M 1RB 36Offset	Right	7	831.5	23.48	25.00	1.419	0.132	0.187	
QPSK 15M 36RB 37Offset	Right	7	831.5	22.59	24.00	1.384	0.109	0.151	
QPSK 15M 1RB 36Offset	Right Corner	11	831.5	23.48	25.00	1.419	0.071	0.100	
QPSK 15M 36RB 37Offset	Right Corner	11	831.5	22.59	24.00	1.384	0.057	0.078	
QPSK 15M 1RB 36Offset	Top	23	831.5	23.48	25.00	1.419	0.380	0.539	
QPSK 15M 36RB 37Offset	Top	23	831.5	22.59	24.00	1.384	0.304	0.421	
Grip Sensor on									
QPSK 15M 1RB 0Offset	Rear	0	831.5	14.01	15.00	1.256	0.587	0.737	11
QPSK 15M 36RB 18Offset	Rear	0	831.5	14.11	15.00	1.227	0.564	0.692	
QPSK 15M 1RB 0Offset	Right	0	831.5	14.01	15.00	1.256	0.025	0.031	
QPSK 15M 36RB 18Offset	Right	0	831.5	14.11	15.00	1.227	0.027	0.033	
QPSK 15M 1RB 0Offset	Right Corner	0	831.5	14.01	15.00	1.256	0.069	0.086	
QPSK 15M 36RB 18Offset	Right Corner	0	831.5	14.11	15.00	1.227	0.060	0.074	
QPSK 15M 1RB 0Offset	Top	0	831.5	14.01	15.00	1.256	0.578	0.726	
QPSK 15M 36RB 18Offset	Top	0	831.5	14.11	15.00	1.227	0.575	0.706	
Keyboard Cover									
QPSK 15M 1RB 0Offset	Rear	0	831.5	14.01	15.00	1.256	0.185	0.232	

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LTE Band 41									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 20M 1RB 0Offset	Rear	19	2 506.0	23.95	25.00	1.274	0.146	0.186	
QPSK 20M 50RB 0Offset	Rear	19	2 506.0	23.02	24.00	1.253	0.131	0.164	
QPSK 20M 1RB 0Offset	Left	0	2 506.0	23.95	25.00	1.274	0.085	0.108	
QPSK 20M 1RB 0Offset	Left	4 Note 8	2 506.0	23.95	25.00	1.274	0.019	0.024	
QPSK 20M 50RB 0Offset	Left	0	2 506.0	23.02	24.00	1.253	0.069	0.087	
QPSK 20M 1RB 0Offset	Right	7	2 506.0	23.95	25.00	1.274	0.084	0.107	
QPSK 20M 50RB 0Offset	Right	7	2 506.0	23.02	24.00	1.253	0.066	0.083	
QPSK 20M 1RB 0Offset	Right Corner	11	2 506.0	23.95	25.00	1.274	0.137	0.174	
QPSK 20M 50RB 0Offset	Right Corner	11	2 506.0	23.02	24.00	1.253	0.108	0.135	
QPSK 20M 1RB 0Offset	Top	23	2 506.0	23.95	25.00	1.274	0.192	0.245	
QPSK 20M 50RB 0Offset	Top	23	2 506.0	23.02	24.00	1.253	0.158	0.198	

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LTE Band 41									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor on									
QPSK 20M 1RB 0Offset	Rear	0	2 506.0	13.96	15.00	1.271	0.573	0.728	
QPSK 20M 1RB 0Offset	Rear	0	2 549.5	13.89	15.00	1.291	0.617	0.797	
QPSK 20M 1RB 49Offset	Rear	0	2 593.0	13.85	15.00	1.303	0.634	0.826	
QPSK 20M 1RB 49Offset	Rear	0	2 636.5	13.58	15.00	1.387	0.623	0.864	12
QPSK 20M 1RB 49Offset	Rear	0	2 680.0	13.52	15.00	1.406	0.569	0.800	
QPSK 20M 50RB 0Offset	Rear	0	2 506.0	14.07	15.00	1.239	0.553	0.685	
QPSK 20M 50RB 0Offset	Rear	0	2 549.5	13.99	15.00	1.262	0.625	0.789	
QPSK 20M 50RB 24Offset	Rear	0	2 593.0	13.93	15.00	1.279	0.649	0.830	
QPSK 20M 50RB 24Offset	Rear	0	2 636.5	13.72	15.00	1.343	0.632	0.849	
QPSK 20M 50RB 24Offset	Rear	0	2 680.0	13.68	15.00	1.355	0.576	0.781	
QPSK 20M 100RB 0Offset	Rear	0	2 506.0	13.94	15.00	1.276	0.546	0.697	
QPSK 20M 1RB 0Offset	Right	0	2 506.0	13.96	15.00	1.271	0.027	0.034	
QPSK 20M 50RB 0Offset	Right	0	2 506.0	14.07	15.00	1.239	0.024	0.030	
QPSK 20M 1RB 0Offset	Right Corner	0	2 506.0	13.96	15.00	1.271	0.109	0.138	
QPSK 20M 50RB 0Offset	Right Corner	0	2 506.0	14.07	15.00	1.239	0.011	0.014	
QPSK 20M 1RB 0Offset	Top	0	2 506.0	13.96	15.00	1.271	0.419	0.532	
QPSK 20M 50RB 0Offset	Top	0	2 506.0	14.07	15.00	1.239	0.425	0.526	
Keyboard Cover									
QPSK 20M 1RB 49Offset	Rear	0	2 636.5	13.58	15.00	1.387	0.078	0.107	
Repeated SAR Test									
QPSK 20M 50RB 24Offset	Rear	0	2 593.0	13.93	15.00	1.279	0.620	0.793	

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LTE Band 66									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 20M 1RB 49Offset	Rear	19	1 770.0	23.09	24.00	1.233	0.309	0.381	
QPSK 20M 50RB 24Offset	Rear	19	1 770.0	22.20	23.00	1.202	0.264	0.317	
QPSK 20M 1RB 49Offset	Left	0	1 770.0	23.09	24.00	1.233	0.192	0.237	
QPSK 20M 1RB 49Offset	Left	4 Note 8	1 770.0	23.09	24.00	1.233	0.105	0.129	
QPSK 20M 50RB 24Offset	Left	0	1 770.0	22.20	23.00	1.202	0.152	0.183	
QPSK 20M 1RB 49Offset	Right	7	1 770.0	23.09	24.00	1.233	0.187	0.231	
QPSK 20M 50RB 24Offset	Right	7	1 770.0	22.20	23.00	1.202	0.159	0.191	
QPSK 20M 1RB 49Offset	Right Corner	11	1 770.0	23.09	24.00	1.233	0.142	0.175	
QPSK 20M 50RB 24Offset	Right Corner	11	1 770.0	22.20	23.00	1.202	0.116	0.139	
QPSK 20M 1RB 49Offset	Top	23	1 770.0	23.09	24.00	1.233	0.293	0.361	
QPSK 20M 50RB 24Offset	Top	23	1 770.0	22.20	23.00	1.202	0.240	0.289	

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LTE Band 66									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor on									
QPSK 20M 1RB 49Offset	Rear	0	1 770.0	13.26	14.00	1.186	0.703	0.834	
QPSK 20M 1RB 49Offset	Rear	0	1 720.0	13.20	14.00	1.202	0.646	0.777	
QPSK 20M 1RB 49Offset	Rear	0	1 745.0	13.18	14.00	1.208	0.641	0.774	
QPSK 20M 50RB 24Offset	Rear	0	1 770.0	13.30	14.00	1.175	0.724	0.851	
QPSK 20M 50RB 24Offset	Rear	0	1 720.0	13.24	14.00	1.191	0.668	0.796	
QPSK 20M 50RB 24Offset	Rear	0	1 745.0	13.23	14.00	1.194	0.652	0.778	
QPSK 20M 100RB 0Offset	Rear	0	1 770.0	13.20	14.00	1.202	0.659	0.792	
QPSK 20M 1RB 49Offset	Right	0	1 770.0	13.26	14.00	1.186	0.051	0.061	
QPSK 20M 50RB 24Offset	Right	0	1 770.0	13.30	14.00	1.175	0.053	0.062	
QPSK 20M 1RB 49Offset	Right Corner	0	1 770.0	13.26	14.00	1.186	0.059	0.069	
QPSK 20M 50RB 24Offset	Right Corner	0	1 770.0	13.30	14.00	1.175	0.059	0.070	
QPSK 20M 1RB 49Offset	Top	0	1 770.0	13.26	14.00	1.186	0.718	0.851	
QPSK 20M 1RB 49Offset	Top	0	1 720.0	13.20	14.00	1.202	0.652	0.784	
QPSK 20M 1RB 49Offset	Top	0	1 745.0	13.18	14.00	1.208	0.691	0.835	
QPSK 20M 50RB 24Offset	Top	0	1 770.0	13.30	14.00	1.175	0.726	0.853	
QPSK 20M 50RB 24Offset	Top	0	1 720.0	13.24	14.00	1.191	0.680	0.810	
QPSK 20M 50RB 24Offset	Top	0	1 745.0	13.23	14.00	1.194	0.711	0.849	
QPSK 20M 100RB 0Offset	Top	0	1 770.0	13.20	14.00	1.202	0.724	0.870	13
Keyboard Cover									
QPSK 20M 100RB 0Offset	Top	0	1 770.0	13.20	14.00	1.202	0.671	0.807	

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Suwon-si, Gyeonggi-do, 16677, Korea
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**WLAN 2.4 GHz Ant.2**

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
802.11b	Grip Sensor off									
	Rear	10	2 462.0	19.95	20.00	1.012	1.010	0.632	0.646	
	Left	4	2 462.0	19.95	20.00	1.012	1.010	0.140	0.143	
	Left Corner	9	2 462.0	19.95	20.00	1.012	1.010	0.060	0.061	
	Right	0	2 462.0	19.95	20.00	1.012	1.010	0.011	0.012	
	Top	14	2 462.0	19.95	20.00	1.012	1.010	0.084	0.086	
	Grip Sensor on									
	Rear	0	2 412.0	12.25	13.00	1.189	1.010	0.564	0.677	14
	Left	0	2 412.0	12.25	13.00	1.189	1.010	0.060	0.071	
	Left Corner	0	2 412.0	12.25	13.00	1.189	1.010	0.054	0.065	
	Top	0	2 412.0	12.25	13.00	1.189	1.010	0.113	0.136	
	keyboard cover									
	Rear	0	2 412.0	12.25	13.00	1.189	1.010	0.327	0.393	

WLAN 2.4 GHz MIMO

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
802.11b	Grip Sensor off									
	Rear	18	2 437.0	19.78/19.92	20.00	1.052	1.010	0.191	0.203	
	Left	4	2 437.0	19.78/19.92	20.00	1.052	1.010	0.648	0.689	
	Left Corner	9	2 437.0	19.78/19.92	20.00	1.052	1.010	0.139	0.148	
	Right	7	2 437.0	19.78/19.92	20.00	1.052	1.010	0.554	0.589	
	Right Corner	11	2 437.0	19.78/19.92	20.00	1.052	1.010	0.145	0.154	
	Top	19	2 437.0	19.78/19.92	20.00	1.052	1.010	0.182	0.193	
	Grip Sensor on									
	Rear	0	2 462.0	12.24/12.82	13.00	1.191	1.010	0.621	0.747	15
	Left	0	2 462.0	12.24/12.82	13.00	1.191	1.010	0.053	0.063	
	Left Corner	0	2 462.0	12.24/12.82	13.00	1.191	1.010	0.065	0.078	
	Right	0	2 462.0	12.24/12.82	13.00	1.191	1.010	0.380	0.457	
	Right Corner	0	2 462.0	12.24/12.82	13.00	1.191	1.010	0.203	0.244	
	Top	0	2 462.0	12.24/12.82	13.00	1.191	1.010	0.239	0.288	
	keyboard cover									
	Rear	0	2 462.0	12.24/12.82	13.00	1.191	1.010	0.392	0.472	

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65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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**U-NII-2A Ant.1**

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
802.11a	Grip Sensor off									
	Rear	18	5 280.0	17.75	18.00	1.059	1.012	0.113	0.121	
	Left	0	5 280.0	17.75	18.00	1.059	1.012	0.034	0.037	
	Left Corner	0 Note 8	5 280.0	17.75	18.00	1.059	1.012	0.012	0.013	
	Right	7	5 280.0	17.75	18.00	1.059	1.012	0.766	0.821	16
	Right	7	5 260.0	17.71	18.00	1.069	1.012	0.756	0.818	
	Right Corner	11	5 280.0	17.75	18.00	1.059	1.012	0.259	0.278	
	Top	19	5 280.0	17.75	18.00	1.059	1.012	0.040	0.043	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 290.0	8.30	9.00	1.175	1.003	0.238	0.280	
	Right	0	5 290.0	8.30	9.00	1.175	1.003	0.405	0.477	
	Right Corner	0	5 290.0	8.30	9.00	1.175	1.003	0.170	0.200	
	Top	0	5 290.0	8.30	9.00	1.175	1.003	0.133	0.157	
802.11a	keyboard cover									
	Right	7	5 280.0	17.75	18.00	1.059	1.012	0.603	0.646	

U-NII-2A Ant.2

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
802.11a	Grip Sensor off									
	Rear	10	5 260.0	17.17	18.00	1.211	1.012	0.154	0.189	
	Left	4	5 260.0	17.17	18.00	1.211	1.012	0.453	0.555	17
	Left Corner	9	5 260.0	17.17	18.00	1.211	1.012	0.113	0.138	
	Right	0	5 260.0	17.17	18.00	1.211	1.012	0.030	0.036	
	Right Corner	0 Note 8	5 260.0	17.17	18.00	1.211	1.012	0.051	0.062	
	Top	14	5 260.0	17.17	18.00	1.211	1.012	0.045	0.056	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 290.0	8.15	9.00	1.216	1.003	0.348	0.425	
	Left	0	5 290.0	8.15	9.00	1.216	1.003	0.346	0.422	
	Left Corner	0	5 290.0	8.15	9.00	1.216	1.003	0.070	0.085	
	Top	0	5 290.0	8.15	9.00	1.216	1.003	0.143	0.174	
802.11a	keyboard cover									
	Left	4	5 260.0	17.17	18.00	1.211	1.012	0.401	0.491	

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**U-NII-2C Ant.1**

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
802.11n (HT40)	Grip Sensor off									
	Rear	18	5 670.0	16.88	17.00	1.028	1.003	0.079	0.081	
	Left	0	5 670.0	16.88	17.00	1.028	1.003	0.045	0.047	
	Left Corner	0 Note 8	5 670.0	16.88	17.00	1.028	1.003	0.012	0.012	
	Right	7	5 670.0	16.88	17.00	1.028	1.003	0.908	0.936	
	Right	7	5 510.0	16.58	17.00	1.102	1.003	0.726	0.802	
	Right Corner	11	5 670.0	16.88	17.00	1.028	1.003	0.331	0.341	
	Top	19	5 670.0	16.88	17.00	1.028	1.003	0.072	0.074	
	Repeated SAR test									
	Right	7	5 670.0	16.88	17.00	1.028	1.003	0.937	0.966	18
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 610.0	8.33	9.00	1.167	1.003	0.412	0.482	
	Right	0	5 610.0	8.33	9.00	1.167	1.003	0.468	0.548	
	Right Corner	0	5 610.0	8.33	9.00	1.167	1.003	0.326	0.382	
	Top	0	5 610.0	8.33	9.00	1.167	1.003	0.254	0.297	
802.11n (HT40)	Keyboard Cover									
	Right	7	5 670.0	16.88	17.00	1.028	1.003	0.704	0.726	

U-NII-2C Ant.2

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
802.11n (HT40)	Grip Sensor off									
	Rear	10	5 670.0	16.36	17.00	1.159	1.003	0.199	0.231	
	Left	4	5 670.0	16.36	17.00	1.159	1.003	0.999	1.161	19
	Left	4	5 630.0	16.25	17.00	1.189	1.003	0.716	0.854	
	Left Corner	9	5 670.0	16.36	17.00	1.159	1.003	0.234	0.272	
	Right	0	5 670.0	16.36	17.00	1.159	1.003	0.050	0.058	
	Right Corner	0 Note 8	5 670.0	16.36	17.00	1.159	1.003	0.062	0.072	
	Top	14	5 670.0	16.36	17.00	1.159	1.003	0.085	0.099	
	Repeated SAR test									
	Left	4	5 670.0	16.36	17.00	1.159	1.003	0.853	0.991	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 610.0	8.50	9.00	1.122	1.003	0.617	0.694	
	Left	0	5 610.0	8.50	9.00	1.122	1.003	0.488	0.549	
	Left Corner	0	5 610.0	8.50	9.00	1.122	1.003	0.310	0.349	
	Top	0	5 610.0	8.50	9.00	1.122	1.003	0.121	0.136	
802.11n (HT40)	Keyboard Cover									
	Left	4	5 670.0	16.36	17.00	1.159	1.003	0.799	0.929	

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**U-NII-3 Ant.1**

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
802.11n (HT40)	Grip Sensor off									
	Rear	18	5 755.0	16.63	17.00	1.089	1.003	0.045	0.049	
	Left	0	5 755.0	16.63	17.00	1.089	1.003	0.020	0.022	
	Left Corner	0 Note 8	5 755.0	16.63	17.00	1.089	1.003	0.012	0.013	
	Right	7	5 755.0	16.63	17.00	1.089	1.003	0.848	0.926	
	Right	7	5 795.0	15.92	17.00	1.282	1.003	0.778	1.001	20
	Right Corner	11	5 755.0	16.63	17.00	1.089	1.003	0.257	0.281	
	Top	19	5 755.0	16.63	17.00	1.089	1.003	0.029	0.032	
	Repeated SAR test									
	Right	7	5 755.0	16.63	17.00	1.089	1.003	0.810	0.885	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 775.0	8.14	9.00	1.219	1.003	0.367	0.449	
	Right	0	5 775.0	8.14	9.00	1.219	1.003	0.499	0.610	
	Right Corner	0	5 775.0	8.14	9.00	1.219	1.003	0.373	0.456	
	Top	0	5 775.0	8.14	9.00	1.219	1.003	0.160	0.196	
802.11n (HT40)	Keyboard Cover									
	Right	7	5 795.0	15.92	17.00	1.282	1.003	0.575	0.740	

U-NII-3 Ant.2

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
802.11n (HT40)	Grip Sensor off									
	Rear	10	5 755.0	16.04	17.00	1.247	1.003	0.113	0.141	
	Left	4	5 755.0	16.04	17.00	1.247	1.003	0.710	0.888	21
	Left	4	5 795.0	15.58	17.00	1.387	1.003	0.545	0.758	
	Left Corner	9	5 755.0	16.04	17.00	1.247	1.003	0.136	0.170	
	Right	0	5 755.0	16.04	17.00	1.247	1.003	0.046	0.058	
	Right Corner	0 Note 8	5 755.0	16.04	17.00	1.247	1.003	0.059	0.074	
	Top	14	5 755.0	16.04	17.00	1.247	1.003	0.062	0.077	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 775.0	8.24	9.00	1.191	1.003	0.649	0.775	
	Left	0	5 775.0	8.24	9.00	1.191	1.003	0.394	0.471	
	Left Corner	0	5 775.0	8.24	9.00	1.191	1.003	0.275	0.329	
	Top	0	5 775.0	8.24	9.00	1.191	1.003	0.171	0.204	
802.11n (HT40)	Keyboard Cover									
	Left	4	5 755.0	16.04	17.00	1.247	1.003	0.485	0.607	

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**Bluetooth Ant.1**

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
BDR_DH5	Rear	18	2 402.0	12.46	13.00	1.132	1.302	0.047	0.069	
	Left	0 ^{Note 8}	2 402.0	12.46	13.00	1.132	1.302	0.000	0.000	
	Right	7	2 402.0	12.46	13.00	1.132	1.302	0.117	0.173	
	Right Corner	11	2 402.0	12.46	13.00	1.132	1.302	0.031	0.045	
	Top	19	2 402.0	12.46	13.00	1.132	1.302	0.053	0.078	
	Grip Sensor on									
	Rear	0	2 402.0	10.81	11.50	1.172	1.302	0.372	0.568	
	Right	0	2 402.0	10.81	11.50	1.172	1.302	0.384	0.586	22
	Right Corner	0	2 402.0	10.81	11.50	1.172	1.302	0.203	0.310	
	Top	0	2 402.0	10.81	11.50	1.172	1.302	0.172	0.263	
	Keyboard Cover									
	Right	0	2 402.0	10.81	11.50	1.172	1.302	0.377	0.575	

Bluetooth Ant.2

Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
BDR_DH5	Rear	10	2 441.0	11.65	12.00	1.084	1.302	0.063	0.089	
	Left	4	2 441.0	11.65	12.00	1.084	1.302	0.106	0.150	
	Left Corner	9	2 441.0	11.65	12.00	1.084	1.302	0.022	0.031	
	Right	0 ^{Note 8}	2 441.0	11.65	12.00	1.084	1.302	0.000	0.000	
	Top	14	2 441.0	11.65	12.00	1.084	1.302	0.016	0.022	
	Grip Sensor on									
	Rear	0	2 441.0	9.38	10.00	1.153	1.302	0.418	0.628	23
	Left	0	2 441.0	9.38	10.00	1.153	1.302	0.319	0.479	
	Left Corner	0	2 441.0	9.38	10.00	1.153	1.302	0.085	0.128	
	Top	0	2 441.0	9.38	10.00	1.153	1.302	0.070	0.105	
	Keyboard Cover									
	Rear	0	2 441.0	9.38	10.00	1.153	1.302	0.087	0.131	

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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**General Notes:**

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. All modes of operation were investigated, and worst-case results are reported.
3. Battery is fully charged for all readings and the standard batteries are the only options.
4. Liquid tissue depth was at least 15 cm.
5. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
6. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
7. This device utilizes power reduction for some wireless modes, as outlined in Section 2.3. The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous transmission scenarios.
8. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.

GSM Notes:

1. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for hotspot SAR. When the maximum frame-averaged powers are equivalent across two or more slots (within 0.25 dB), the configuration with the most number of time slots was tested.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s). Since the maximum output power variation across the required test channels is not $> \frac{1}{2}$ dB, the middle channel was used for testing.

WCDMA Notes:

1. UMTS mode in was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s).

LTE Notes:

1. Justification Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
2. When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
3. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the reAnt.1ing required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
4. Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
5. Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.
6. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator.
7. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
8. TDD LTE was tested using UL-DL configuration 0 with 6 UL sub frames and 2S sub-frames using extended cyclic prefix only and special sub frame configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Sec. 4, the duty factor using extended cyclic prefix is 0.633(cf=1.58).
9. For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply.

KCTL Inc. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-31-285-0894 FAX: 82-505-299-8311 www.kctl.co.kr	Report No.: KR20-SPF0026-B Page (156) of (638)	
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WLAN & Bluetooth Notes:

1. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4GHz WIFI operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR.
2. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance.
3. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n then ac) is selected.
4. When the specified maximum output power is the same for both UNII Band1 and UNII Band 2A, begins SAR measurement in UNII band 2A; and if the highest reported SAR for UNII band 2A is $\leq 1.2\text{W/kg}$, SAR is not required for UNII band1 $> 1.2\text{W/kg}$, both bands should be tested independently for SAR.
5. When the maximum reported 1g averaged SAR is $\leq 0.8\text{ W/kg}$, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was $\leq 1.20\text{ W/kg}$ for 1g evaluations or all test channels were measured.

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12. Simultaneous Transmission

The following procedures adopted from FCC KDB Publication 447498 D01v06 are applicable to devices with built in unlicensed transmitters such as 802.11 and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g or 10g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is within SAR limits. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

12.1 Estimated SAR

When standalone SAR is not required to be measured, per FCC KDB 447498 D01v06 4.3.2 b), the following equation must be used to estimate the standalone 1g SAR for simultaneous transmission assessment involving that transmitter.

- 1) For Test separation distances ≤ 50 mm

$$\text{Estimated SAR} = \frac{\sqrt{f(\text{GHz})}}{7.5} \times \frac{(\text{Max Power of channel, mW})}{\text{Min. Separation Distance, mm}}$$

- 2) When the minimum test separation distance is > 50 mm, the estimated SAR Value is 0.4 W/kg

- 3) For distances < 5 mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.

- 4) Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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Band / Ant.	Freq. [MHz]	Output Power		Separation distances [mm]					Estimated SAR Value [W/kg]						
		dBm	mW	Rear	Left	Right	Top	Bot.	Rear	Left	Right	Top	Bot.	Left Corner	Right Corner
GSM850	848.8	33.50	2239	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
GSM1900	1 909.8	30.50	1122	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
WCDMA 2	1 907.6	23.50	224	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
WCDMA 4	1 752.6	23.50	224	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
WCDMA 5	846.6	24.50	282	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 2	1 909.3	24.00	251	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 4	1 754.3	24.00	251	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 5	848.3	25.00	316	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 12	715.3	25.00	316	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 13	784.5	25.00	316	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 25	1914.3	24.00	251	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 26	848.3	25.00	316	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 41	2 687.5	25.00	316	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
LTE 66	1 779.3	24.00	251	5	68	46	5	285	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
U-NII-2A Ant.1	5 320.0	18.00	63	5	136	5	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	Measure	Measure
U-NII-2C Ant.1	5 720.0	17.00	50	5	136	5	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	Measure	Measure
U-NII-3 Ant.1	5 825.0	17.00	50	5	136	5	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	Measure	Measure
2.4 GHz Ant.2	2 480.0	20.00	100	5	5	135	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	Measure	0.400
U-NII-2A Ant.2	5 320.0	18.00	63	5	5	135	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	Measure	Measure
U-NII-2C Ant.2	5 720.0	17.00	50	5	5	135	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	Measure	Measure
U-NII-3 Ant.2	5 825.0	17.00	50	5	5	135	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	Measure	Measure
Bluetooth Ant.1	2 480.0	13.00	20	5	136	5	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	0.400	Measure
Bluetooth Ant.2	2 480.0	12.00	16	5	5	135	5	271	Measure	Measure	Measure	Measure	>20cm EXEMPT	Measure	0.400

12.2 #Simultaneous Transmission Configurations

According to FCC KDB 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 4.3.2 procedures.

No.	Scenario	RF Exposure Condition
		Body
1	Licensed Band + WLAN 2.4 GHz Ant.2	Yes
2	Licensed Band + Bluetooth Ant.1	Yes
3	Licensed Band + Bluetooth Ant.2	Yes
4	Licensed Band + WLAN 2.4 GHz MIMO	Yes
5	Licensed Band + WLAN 5 GHz MIMO	Yes
6	Licensed Band + WLAN 2.4 GHz Ant.2 + Bluetooth Ant.1	Yes
7	Licensed Band + WLAN 5 GHz MIMO + Bluetooth Ant.1	Yes
8	Licensed Band + WLAN 5 GHz MIMO + Bluetooth Ant.2	Yes
9	Licensed Band+ WLAN 2.4 GHz Ant.2 + WLAN 5 GHz MIMO + Bluetooth Ant.1	Yes
10	Licensed Band+ WLAN 2.4 GHz MIMO + WLAN 5 GHz MIMO	Yes

12.2.1 Simultaneous Transmission Analysis_Sensor On

Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		[④]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
GSM/GPRS 850 Band								
Body	Rear	0.893	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.239	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.059	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.133	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.874	0.136	0.288	0.297	0.204	0.263	0.105
GSM/GPRS 1900 Band								
Body	Rear	0.939	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.153	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.044	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.105	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.725	0.136	0.288	0.297	0.204	0.263	0.105
WCDMA Band II								
Body	Rear	0.819	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.264	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.043	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.111	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.863	0.136	0.288	0.297	0.204	0.263	0.105
WCDMA Band IV								
Body	Rear	0.646	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.163	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.041	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.054	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.672	0.136	0.288	0.297	0.204	0.263	0.105
WCDMA Band V								
Body	Rear	0.688	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.230	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.037	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.066	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.705	0.136	0.288	0.297	0.204	0.263	0.105

Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		[④]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
LTE Band 2								
Body	Rear	0.929	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.274	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.062	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.113	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.940	0.136	0.288	0.297	0.204	0.263	0.105
LTE Band 5								
Body	Rear	0.906	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.224	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.046	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.094	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.945	0.136	0.288	0.297	0.204	0.263	0.105
LTE Band 12								
Body	Rear	0.742	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.091	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.020	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.035	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.630	0.136	0.288	0.297	0.204	0.263	0.105
LTE Band 13								
Body	Rear	0.797	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.154	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.025	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.049	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.846	0.136	0.288	0.297	0.204	0.263	0.105
LTE Band 25								
Body	Rear	0.901	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.353	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.064	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.118	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.917	0.136	0.288	0.297	0.204	0.263	0.105

Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		[④]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
LTE Band 26								
Body	Rear	0.737	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.207	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.033	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.086	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.726	0.136	0.288	0.297	0.204	0.263	0.105
LTE Band 41								
Body	Rear	0.864	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.108	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.034	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.138	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.532	0.136	0.288	0.297	0.204	0.263	0.105
LTE Band 66								
Body	Rear	0.851	0.677	0.747	0.482	0.775	0.568	0.628
	Left	0.237	0.071	0.063	0.047	0.549	0.000	0.479
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.128
	Right	0.062	0.012	0.457	0.610	0.058	0.586	0.000
	Right Corner	0.070	0.400	0.244	0.456	0.074	0.310	0.400
	Top	0.870	0.136	0.288	0.297	0.204	0.263	0.105

Note: See Section 12.3 for the results of simultaneous transmission analysis(Sensor On)

12.2.2 Simultaneous Transmission Analysis_Sensor off (Non RSDB)

Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		[④]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
GSM/GPRS 850 Band								
Body	Rear	0.614	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.107	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.181	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.095	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.507	0.086	0.193	0.074	0.099	0.078	0.022
GSM/GPRS 1900 Band								
Body	Rear	0.227	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.095	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.151	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.124	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.242	0.086	0.193	0.074	0.099	0.078	0.022
WCDMA Band II								
Body	Rear	0.387	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.141	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.186	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.202	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.379	0.086	0.193	0.074	0.099	0.078	0.022
WCDMA Band IV								
Body	Rear	0.265	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.075	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.174	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.124	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.289	0.086	0.193	0.074	0.099	0.078	0.022
WCDMA Band V								
Body	Rear	0.531	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.086	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.148	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.087	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.517	0.086	0.193	0.074	0.099	0.078	0.022

Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		[④]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
LTE Band 2								
Body	Rear	0.457	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.143	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.229	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.216	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.451	0.086	0.193	0.074	0.099	0.078	0.022
LTE Band 5								
Body	Rear	0.526	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.110	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.184	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.085	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.479	0.086	0.193	0.074	0.099	0.078	0.022
LTE Band 12								
Body	Rear	0.326	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.048	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.065	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.026	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.078	0.086	0.193	0.074	0.099	0.078	0.022
LTE Band 13								
Body	Rear	0.532	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.056	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.095	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.053	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.391	0.086	0.193	0.074	0.099	0.078	0.022
LTE Band 25								
Body	Rear	0.419	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.168	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.224	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.214	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.429	0.086	0.193	0.074	0.099	0.078	0.022

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Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		④	②	③	④	⑤	⑥	⑦
LTE Band 26								
Body	Rear	0.702	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.109	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.187	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.100	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.539	0.086	0.193	0.074	0.099	0.078	0.022
LTE Band 41								
Body	Rear	0.186	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.024	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.107	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.174	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.245	0.086	0.193	0.074	0.099	0.078	0.022
LTE Band 66								
Body	Rear	0.381	0.646	0.203	0.121	0.231	0.069	0.089
	Left 4mm	0.129	0.143	0.689	0.047	1.161	0.000	0.150
	Left Corner	0.400	0.061	0.148	0.013	0.272	0.400	0.031
	Right	0.231	0.012	0.589	1.001	0.058	0.173	0.000
	Right Corner	0.175	0.400	0.154	0.341	0.074	0.045	0.400
	Top	0.361	0.086	0.193	0.074	0.099	0.078	0.022

Note: See Section 12.4 for the results of simultaneous transmission analysis(Sensor Off_Non RSDB)

12.2.3 Simultaneous Transmission Analysis_Sensor off (RSDB)

Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		[④]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
GSM/GPRS 850 Band								
Body	Rear	0.614	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.107	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.181	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.095	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.507	0.136	0.288	0.297	0.204	0.078	0.022
GSM/GPRS 1900 Band								
Body	Rear	0.227	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.095	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.151	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.124	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.242	0.136	0.288	0.297	0.204	0.078	0.022
WCDMA Band II								
Body	Rear	0.387	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.141	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.186	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.202	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.379	0.136	0.288	0.297	0.204	0.078	0.022
WCDMA Band IV								
Body	Rear	0.265	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.075	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.174	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.124	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.289	0.136	0.288	0.297	0.204	0.078	0.022
WCDMA Band V								
Body	Rear	0.531	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.085	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.148	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.087	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.517	0.136	0.288	0.297	0.204	0.078	0.022

Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		[④]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
LTE Band 2								
Body	Rear	0.457	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.143	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.229	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.216	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.451	0.136	0.288	0.297	0.204	0.078	0.022
LTE Band 5								
Body	Rear	0.526	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.110	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.184	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.085	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.479	0.136	0.288	0.297	0.204	0.078	0.022
LTE Band 12								
Body	Rear	0.326	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.048	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.065	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.026	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.078	0.136	0.288	0.297	0.204	0.078	0.022
LTE Band 13								
Body	Rear	0.532	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.056	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.095	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.053	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.391	0.136	0.288	0.297	0.204	0.078	0.022
LTE Band 25								
Body	Rear	0.419	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.168	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.224	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.214	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.429	0.136	0.288	0.297	0.204	0.078	0.022

Exposure Condition /Position		licensed	WLAN				Bluetooth	
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1	Ant.2
		[④]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
LTE Band 26								
Body	Rear	0.702	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.109	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.187	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.100	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.539	0.136	0.288	0.297	0.204	0.078	0.022
LTE Band 41								
Body	Rear	0.186	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.024	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.107	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.174	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.245	0.136	0.288	0.297	0.204	0.078	0.022
LTE Band 66								
Body	Rear	0.381	0.677	0.747	0.482	0.775	0.069	0.089
	Left	0.129	0.071	0.063	0.047	0.549	0.000	0.150
	Left Corner	0.400	0.065	0.078	0.013	0.349	0.400	0.031
	Right	0.231	0.012	0.457	0.610	0.058	0.173	0.000
	Right Corner	0.175	0.400	0.244	0.456	0.074	0.045	0.400
	Top	0.361	0.136	0.288	0.297	0.204	0.078	0.022

Note: See Section 12.4 for the results of simultaneous transmission analysis(Sensor Off_RSDB)

Simultaneous transmission SAR test exclusion considerations

- Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Per KDB Publication 447498 D01v06.
- When the sum of SAR1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR1g 1.6 W/kg), the SPLSR procedures is not required. When the sum of SAR1g is greater than the SAR limit (SAR1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

12.3.1 GSM 850 SPLSR and Volume Scan Analysis_Sensor On

GSM850 Simultaneous										
Scenario	Scenario No.1	Scenario No.2	Scenario No.3	Scenario No.4	Scenario No.5	Scenario No.6	Scenario No.7	Scenario No.8	Scenario No.9	Scenario No.10
SUM	①②	①⑥	①⑦	①③	①④⑤	①②⑥	①④⑤⑥	①④⑤⑦	①②④⑤⑥	①③④⑤
Rear	1.570	1.461	1.521	1.640	2.150	2.138	2.718	2.778	3.395	2.897
Left	0.310	0.239	0.718	0.302	0.835	0.310	0.835	1.314	0.906	0.898
Left Corner	0.465	0.800	0.528	0.478	0.762	0.865	1.162	0.890	1.227	0.840
Right	0.071	0.645	0.059	0.516	0.727	0.657	1.313	0.727	1.325	1.184
Right Corner	0.533	0.443	0.533	0.377	0.663	0.843	0.973	1.063	1.373	0.907
Top	1.010	1.137	0.979	1.162	1.375	1.273	1.638	1.480	1.774	1.663

Note: Yellow highlight cells require SPLSR or Volume Scan analysis.

GSM850 SPLSR – Rear Position														
Scenario	Scenario No.4		Scenario No.5		Scenario No.6		Scenario No.7		Scenario No.8		Scenario No.9		Scenario No.10	
Rear	1.640		2.150		2.138		2.718		2.778		3.395		2.897	
Distance [mm]	①-③	65.99	①-④	96.08	①-②	65.19	①-④⑥	95.72	①-⑤⑦	74.42	①-②⑤	41.98	①-③④	94.71
	N/A		①-⑤	73.73	①-⑥	105.6	①-⑤	73.73	①-④	96.08	①-④⑥	95.72	①-③⑤	74.42
			④-⑤	168.9	②-⑥	169.5	④⑥-⑤	167.5	④-⑤⑦	169.5	②⑤-④⑥	136.5	③④-③⑤	168.2
SPLSR ≤ 0.04 Limit	①-③	0.03	①-④	0.02	①-②	0.03	①-④⑥	0.02	①-⑤⑦	0.03	①-②⑤	0.06	①-③④	0.03
	N/A		①-⑤	0.03	①-⑥	0.02	①-⑤	0.03	①-④	0.02	①-④⑥	0.02	①-③⑤	0.04
			④-⑤	0.01	②-⑥	0.01	④⑥-⑤	0.01	④-⑤⑦	0.01	②⑤-④⑥	0.02	③④-③⑤	0.02
Volume scan	Not Required		Not Required		Not Required		Not Required		Not Required		Required		Not Required	

GSM850 SPLSR – Top Position						
Scenario	Scenario No.7		Scenario No.9		Scenario No.10	
Top	1.638		1.774		1.663	
Distance [mm]	①-④⑥	102.5	①-②⑤	33.65	①-③④	102.5
	①-⑤	21.48	①-④⑥	102.5	①-③⑤	21.73
	④⑥-⑤	123.6	②⑤-④⑥	136.0	③④-③⑤	124.0
SPLSR ≤ 0.04 Limit	①-④⑥	0.02	①-②⑤	0.04	①-③④	0.02
	①-⑤	0.05	①-④⑥	0.02	①-③⑤	0.06
	④⑥-⑤	0.00	②⑤-④⑥	0.00	③④-③⑤	0.01
Volume scan	Required		Not Required		Required	

Note: Scenario No. 7 ~ 10 were analyzed according to the SPLSR hotspot combination procedure of the TCB Workshop Nov 2019.(Reference Section 12.5).

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

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KCTL**GSM850 SPLSR – Rear Position**

Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
Scenario No.4	GSM850 (①)	0.893	-0.011	-0.141	-0.184	66.0	0.03
	Wi-Fi 2.4 GHz MIMO (③)	0.677	-0.075	-0.140	-0.178		

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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KCTL**GSM850 SPLSR – Rear Position**

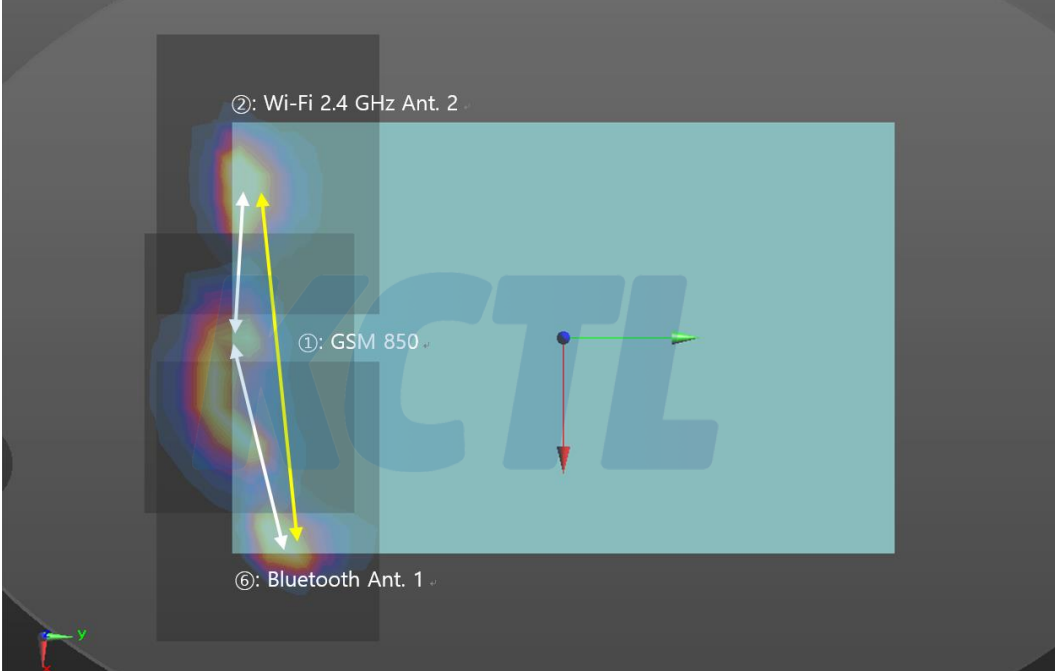
Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
Scenario No.5	GSM850 (①)	0.893	-0.011	-0.141	-0.184	96.1	0.02
	Wi-Fi 5 GHz Ant.1 (④)	0.482	0.085	-0.138	-0.179		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	73.7	0.03
	Wi-Fi 5 GHz Ant.2 (⑤)	0.775	-0.083	-0.131	-0.179		
	Wi-Fi 5 GHz Ant.1 (④)	0.482	0.085	-0.138	-0.179	168.9	0.01
	Wi-Fi 5 GHz Ant.2 (⑤)	0.775	-0.083	-0.131	-0.179		

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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KCTL**GSM850 SPLSR – Rear Position**

Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
Scenario No.6	GSM850 (①)	0.893	-0.011	-0.141	-0.184	65.2	0.03
	Wi-Fi 2.4 GHz Ant.2 (②)	0.677	-0.075	-0.140	-0.178		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	105.6	0.02
	Bluetooth Ant.1 (⑥)	0.568	0.093	-0.122	-0.178		
	Wi-Fi 2.4 GHz Ant.2 (②)	0.677	-0.075	-0.140	-0.178	169.5	0.01
	Bluetooth Ant.1 (⑥)	0.568	0.093	-0.122	-0.178		
							

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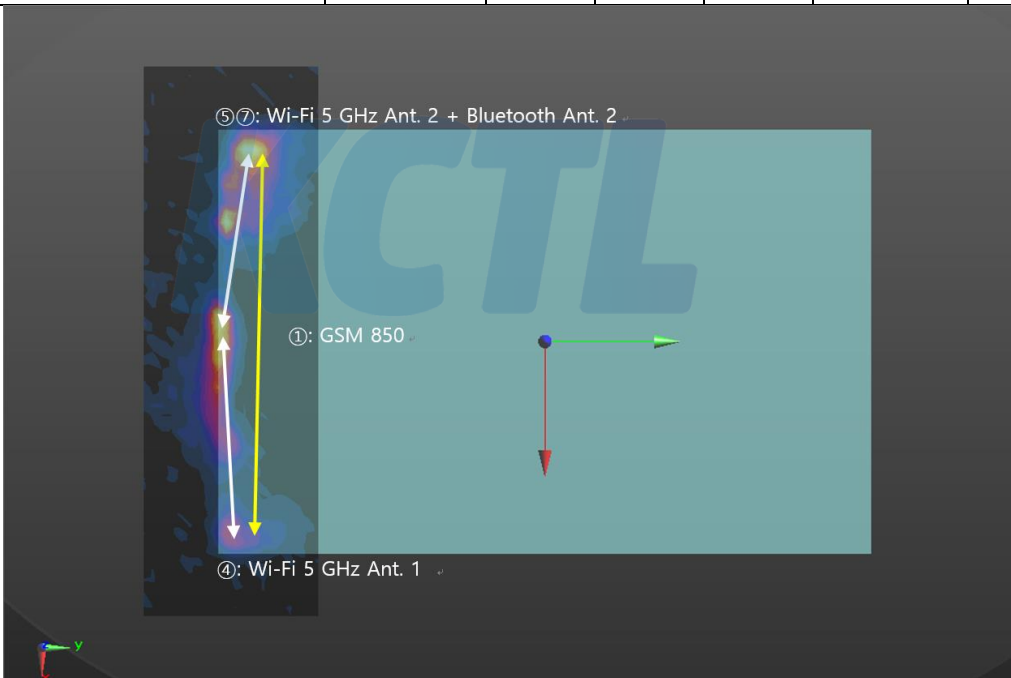
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KCTL**GSM850 SPLSR – Rear Position**

Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	95.7	0.02
	Wi-Fi 5 GHz Ant.1 (④) + Bluetooth Ant.1 (⑥)	0.886	0.084	-0.127	-0.178		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	73.7	0.03
	Wi-Fi 5 GHz Ant.2 (⑤)	0.775	-0.083	-0.131	-0.179		
	Wi-Fi 5 GHz Ant.1 (④) + Bluetooth Ant.1 (⑥)	0.886	0.084	-0.127	-0.178	167.5	0.01
	Wi-Fi 5 GHz Ant.2 (⑤)	0.775	-0.083	-0.131	-0.179		
Scenario No.7							

GSM850 SPLSR – Rear Position

Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
Scenario No.8	GSM850 (①)	0.893	-0.011	-0.141	-0.184	74.4	0.03
	Wi-Fi 5 GHz Ant.2 (⑤) + Bluetooth Ant.2 (⑦)	1.000	-0.084	-0.131	-0.178		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	96.1	0.02
	Wi-Fi 5 GHz Ant.1 (④)	0.482	0.085	-0.138	-0.179		
	Wi-Fi 5 GHz Ant.1 (④)	0.482	0.085	-0.138	-0.179	169.5	0.01
	Wi-Fi 5 GHz Ant.2 (⑤) + Bluetooth Ant.2 (⑦)	1.000	-0.084	-0.131	-0.178		
							

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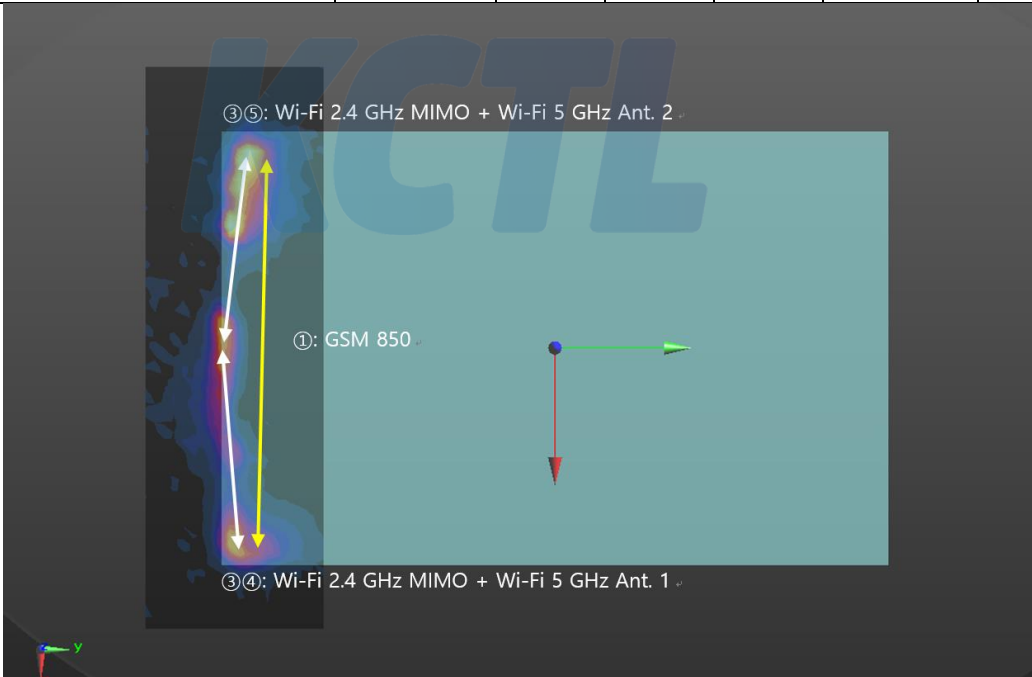
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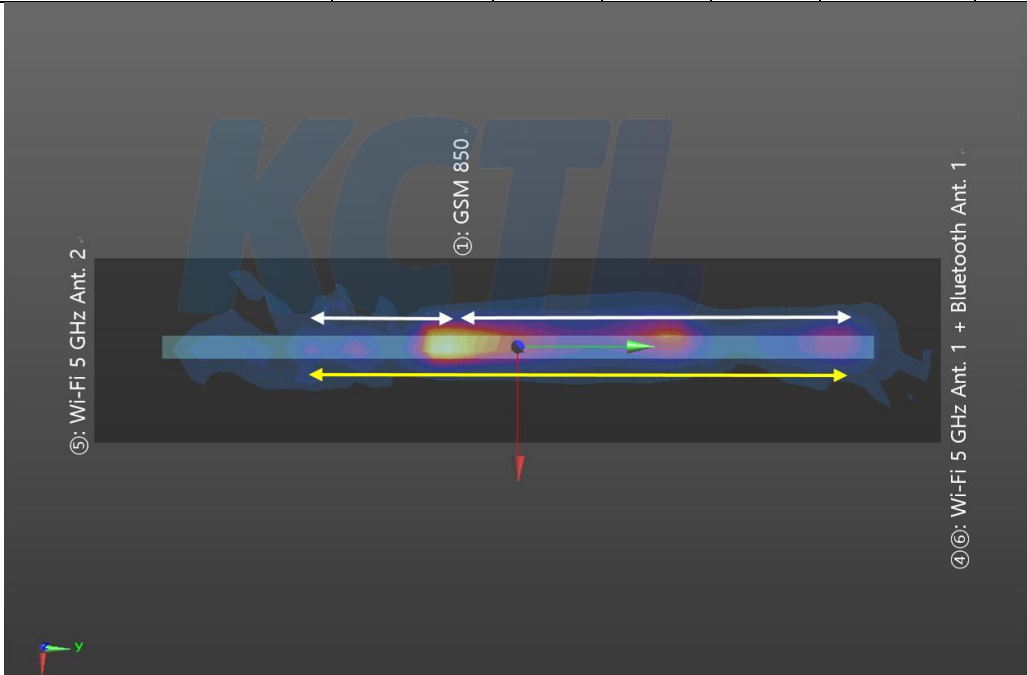
KCTL**GSM850 SPLSR – Rear Position**

Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	42.0	0.06
	Wi-Fi 2.4 GHz Ant.2 (②) + Wi-Fi 5 GHz Ant.2 (⑤)	1.010	-0.052	-0.139	-0.178		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	95.72	0.02
	Wi-Fi 5 GHz Ant.1 (④) + Bluetooth Ant.1 (⑥)	0.886	0.084	-0.127	-0.178		
	Wi-Fi 2.4 GHz Ant.2 (②) + Wi-Fi 5 GHz Ant.2 (⑤)	1.010	-0.052	-0.139	-0.178	136.5	0.02
	Wi-Fi 5 GHz Ant.1 (④) + Bluetooth Ant.1 (⑥)	0.886	0.084	-0.127	-0.178		
Scenario No.9							

GSM850 SPLSR – Rear Position

Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	94.7	0.03
	Wi-Fi 2.4 GHz MIMO (③) + Wi-Fi 5 GHz Ant.1 (④)	0.926	0.084	-0.139	-0.178		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	74.4	0.04
	Wi-Fi 2.4 GHz MIMO (③) + Wi-Fi 5 GHz Ant.2 (⑤)	1.240	-0.084	-0.131	-0.178		
	Wi-Fi 2.4 GHz MIMO (③) + Wi-Fi 5 GHz Ant.1 (④)	0.926	0.084	-0.139	-0.178	168.2	0.02
	Wi-Fi 2.4 GHz MIMO (③) + Wi-Fi 5 GHz Ant.2 (⑤)	1.240	-0.084	-0.131	-0.178		
Scenario No.10							

GSM850 SPLSR – Top Position

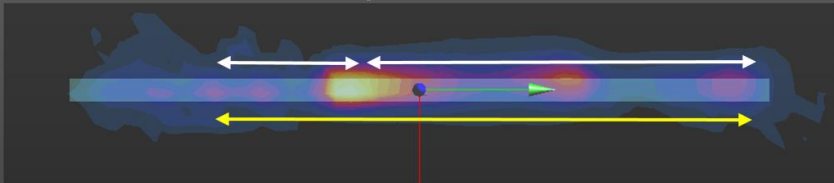
Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
Scenario No.7	GSM850 (①)	0.874	0.000	-0.021	-0.184	102.5	0.02
	Wi-Fi 5 GHz Ant.1 (④) + Bluetooth Ant.1 (⑥)	0.486	0.001	0.082	-0.181		
	GSM850 (①)	0.874	0.000	-0.021	-0.184	21.5	0.05
	Wi-Fi 5 GHz Ant.2 (⑤)	0.204	0.000	-0.042	-0.180		
	Wi-Fi 5 GHz Ant.1 (④) + Bluetooth Ant.1 (⑥)	0.486	0.001	0.082	-0.181	123.6	0.00
	Wi-Fi 5 GHz Ant.2 (⑤)	0.204	0.000	-0.042	-0.180		
							

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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KCTL**GSM850 SPLSR – Top Position**

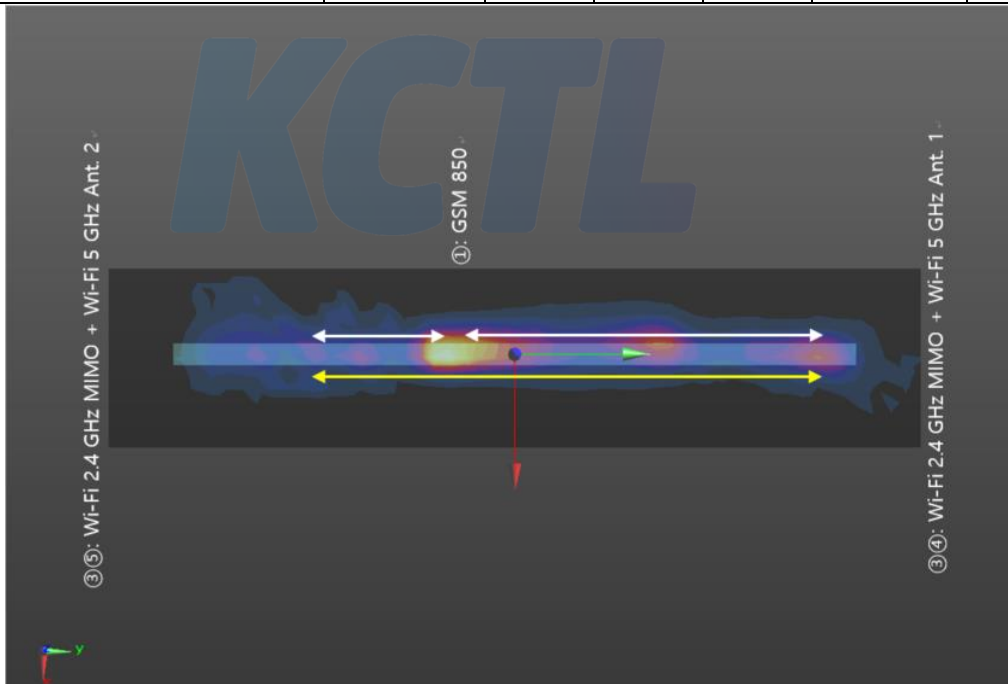
Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	42.00	0.06
	Wi-Fi 2.4 GHz Ant.2 (②) + Wi-Fi 5 GHz Ant.2 (⑤)	1.010	-0.052	-0.139	-0.178		
	GSM850 (①)	0.893	-0.011	-0.141	-0.184	95.7	0.02
	Wi-Fi 5 GHz Ant.1 (④) + Bluetooth Ant.1 (⑥)	0.886	0.084	-0.127	-0.178		
	Wi-Fi 2.4 GHz Ant.2 (②) + Wi-Fi 5 GHz Ant.2 (⑤)	1.010	-0.052	-0.139	-0.178	136.5	0.02
	Wi-Fi 5 GHz Ant.1 (④) + Bluetooth Ant.1 (⑥)	0.886	0.084	-0.127	-0.178		
Scenario No.9	②⑤: Wi-Fi 2.4 GHz Ant. 2 + Wi-Fi 5 GHz Ant. 2  ④⑥: Wi-Fi 5 GHz Ant. 1 + Bluetooth Ant. 1						

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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KCTL**GSM850 SPLSR – Top Position**

Scenario	Mode (Numbering)	SAR W/kg	Coordinates			Distance (mm)	SPLSR
			X	Y	Z		
	GSM850 (①)	0.874	0.000	-0.021	-0.184	102.5	0.02
	Wi-Fi 2.4 GHz MIMO (③) + Wi-Fi 5 GHz Ant.1 (④)	0.546	0.001	0.082	-0.181		
	GSM850 (①)	0.874	0.000	-0.021	-0.184	21.7	0.06
	Wi-Fi 2.4 GHz MIMO (③) + Wi-Fi 5 GHz Ant.2 (⑤)	0.279	0.001	-0.042	-0.181		
	Wi-Fi 2.4 GHz MIMO (③) + Wi-Fi 5 GHz Ant.1 (④)	0.546	0.001	0.082	-0.181	124.0	0.01
	Wi-Fi 2.4 GHz MIMO (③) + Wi-Fi 5 GHz Ant.2 (⑤)	0.279	0.001	-0.042	-0.181		
Scenario No.10							

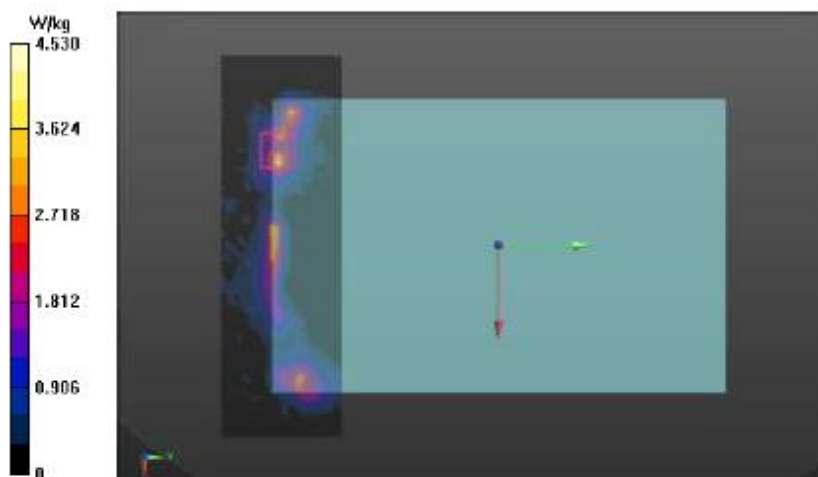
GSM850 Volume Scan – Rear Position

Scenario No.9

Licensed Band + WLAN 2.4 GHz Ant.2 + WLAN 5 GHz MIMO + Bluetooth Ant 1
= 1.2 W/kg**Multi-Band Average SAR****Multi-Band Configurations:**DASY Configuration for Configuration/GSM850_GPRS 2Tx_CH251_Rear_0 mm
Grip Sensor On_VS/Volume Scan:DASY Configuration for Configuration/802.11 ac_VHT80_WLAN2_CH155_Rear_0
mm Sensor On/Volume Scan:DASY Configuration for Configuration/802.11 b_WLAN2_CH1_Rear_0 mm Sensor
On VS/Volume Scan:DASY Configuration for Configuration/802.11 ac_VHT80_WLAN1_CH122_Rear_0
mm Sensor On/Volume Scan:DASY Configuration for Configuration/Bluetooth_GFSK_DH5_Ant.1_CH0_Rear_0
mm Sensor On/Volume Scan:**Multi Band Result:**

SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.589 W/kg

Maximum value of SAR (interpolated) = 4.53 W/kg



GSM850 Volume Scan – Top Position

Scenario No.7

Licensed Band + WLAN 5 GHz MIMO + Bluetooth Ant 1
= 0.908 W/kg**Multi-Band Average SAR****Multi-Band Configurations:**DASY Configuration for Configuration 3/GSM850_GPRS 2Tx_CH190_Top_0 mm
Grip Sensor On_VS/Volume Scan:DASY Configuration for Configuration 5/802.11 ac_VHT80_WLAN1_CH122_Top_0
mm Sensor On_VS/Volume Scan:DASY Configuration for Configuration 5/Bluetooth_GFSK_DH5_Ant.1_CH0_Top_0
mm Sensor On/Volume Scan:DASY Configuration for Configuration 5/802.11 ac_VHT80_WLAN2_CH155_Top_0
mm Sensor On_VS 2/Volume Scan:**Multi Band Result:**

SAR(1 g) = 0.908 W/kg; SAR(10 g) = 0.352 W/kg

Maximum value of SAR (interpolated) = 4.32 W/kg

