TEST REPORT

Report No.: SHATBL2604022W01

Applicant	:	Shanghai AllyNav Technology Co.,Ltd.
Product Name	:	GNSS RECEIVER
Brand Name	:	N/A
Model Name	:	R100
FCC ID	:	**2AT4H-R100**
Test Standard	:	47 CFR Part 2 47 CFR Part 22H 47 CFR Part 24E 47 CFR Part 27C
Date of Test	:	2026.05.22~2026.08.19

Report Prepared by : Emily

(Emily)

Report Approved by : Guozheng Li

(Guozheng Li)

Authorized Signatory : Terry Yang

(Terry Yang)

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REVISION HISTORY

Rev.	Issue Date	Revisions	Revised by
00	2026.08.19	Initial Release	Guozheng Li

DECLARATION OF REPORT

1. The device has been tested by ATBL, and the test results show that the equipment under test (EUT) is in compliance with the requirements of 47 CFR Part 2, 22H, 24E, 27C. And it is applicable only to the tested sample identified in the report.

2. This report shall not be reproduced except in full, without the written approval of ATBL, this document only be altered or revised by ATBL, personal only, and shall be noted in the revision of the document.

3. The general information of EUT in this report is provided by the customer or manufacture, ATBL is only responsible for the test data but not for the information provided by the customer or manufacture.

4. The results in this report is only apply to the sample as tested under conditions. The customer or manufacturer is responsible for ensuring that the additional production units of this model have the same electrical and mechanical components.

SUMMARY OF TEST RESULT

Test Item	Clause in FCC rules	Limits	Verdict
LTE Band 5			
RF Power Output and Effective Radiated Power	2.1046 22.913(a)(5)	≤ 7 W (38.45 dBm)	PASS
Occupied Bandwidth	2.1049	No specific requirements	PASS
Band Edge Compliance	2.1051 22.917(a)	≤ -13 dBm	PASS
Peak-to-Average Power Ratio	22.913(d) KDB 971168 D01(5.7)	≤ 13 dB	PASS
Frequency Stability	2.1055 22.355(d)(1)	≤ 2.5 ppm	PASS
Spurious Emissions at AntennaTerminals	2.1051 22.917(a)	≤ -13 dBm	PASS
Radiated Spurious Emission	2.1053 22.917 (a)	≤ -13 dBm	PASS

LTE Band 2/25			
RF Power Output and Effective Isotropic Radiated Power	2.1046 24.232(c)	≤ 2 W (33 dBm)	PASS
Occupied Bandwidth	2.1049	No specific requirements	PASS
Band Edge Compliance	2.1051 24.238(a)	≤ -13 dBm	PASS
Peak-to-Average Power Ratio	24.232 (d) KDB 971168 D01(5.7)	≤ 13 dB	PASS
Frequency Stability	2.1055 24.235	The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.	PASS
Spurious Emissions at AntennaTerminals	2.1051 24.238(a)	≤ -13 dBm	PASS
Radiated Spurious Emission	2.1053 24.238(a)	≤ -13 dBm	PASS

LTE Band 13			
RF Power Output and Effective Radiated Power	2.1046 27.50(b)(10)	≤ 3 W (34.77 dBm)	PASS
Occupied Bandwidth	2.1049	No specific requirements	PASS
Band Edge Compliance	2.1051 27.53(c)(2)	The power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB.	PASS
Peak-to-Average Power Ratio	KDB971168 D01(5.7)	≤ 13 dB	PASS
Frequency Stability	2.1055 27.54	Shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.	PASS
Spurious Emissions at Antenna Terminals	2.1051 27.53(c) 27.53(f)	Limit out of the band 1559-1610 MHz: ≤ -13 dBm Limit in the band 1559-1610 MHz: ≤ -40 dBm	PASS
Radiated Spurious Emission	2.1053 27.53(c) 27.53(f)	Limit out of the band 1559-1610 MHz: ≤ -13 dBm Limit in the band 1559-1610 MHz: ≤ -40 dBm	PASS

LTE Band 7/38/41			
RF Power Output and Effective Isotropic Radiated Power	2.1046 27.50(h)(2)	≤ 2 W (33 dBm)	PASS
Occupied Bandwidth	2.1049	No specific requirements	PASS
Band Edge Compliance	2.1051 27.53(m)(4)	The attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.	PASS
Peak-to-Average Power Ratio	27.50(d)(5) KDB971168 D01(5.7)	≤ 13 dB	PASS
Frequency Stability	2.1055 27.54	Shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.	PASS
Spurious Emissions at Antenna Terminals	2.1051 27.53(m)	≤ -25 dBm	PASS
Radiated Spurious Emission	2.1053 27.53(m)	≤ -25 dBm	PASS

1. GENERAL DESCRIPTION

1.1. Applicant

Name : Shanghai AllyNav Technology Co.,Ltd.

Address : Room 201, Buliding 1,No 215, Gaoguang RD, Qingpu District,Shanghai, China

1.2. Manufacturer

Name : Shanghai AllyNav Technology Co.,Ltd.

Address : Room 201, Buliding 1,No 215, Gaoguang RD, Qingpu District,Shanghai, China

1.3. Factory

Name : Shanghai AllyNav Technology Co.,Ltd.

Address : Room 201, Buliding 1,No 215, Gaoguang RD, Qingpu District,Shanghai, China

1.4. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature	Normal Temperature(TN):	20°C
	High Temperature(TH):	50°C
	Low Temperature(TL):	-30°C
Voltage	Normal Voltage(VN):	13.5 V DC
	High Voltage(VH):	36 V DC
	Low Voltage(VL):	9 V DC
Other	Relative Humidity	52 %
	Air Pressure	101 kPa
NTNV	Normal temperature & Normal Voltage	
LTLV	Low temperature & Low Voltage	
LTHV	Low temperature & High Voltage	
HTLV	High temperature & Low Voltage	
HTHV	High temperature & High Voltage	

1.5. General Information of EUT

General Information				
Equipment Name	GNSS RECEIVER			
Brand Name	N/A			
Model Name	R100			
Series Model	R101			
Model Difference	Only housing color differs; all internal hardware, software and performance parameters are the same.			
Sample No.	202603010001002			
Power Input	DC 9V-36V from AC Adapter			
Adapter	Input:100-240V~2.0A 50/60Hz Output:13.5V⎓ 5.0A			
Battery	N/A			
Hardware Version	N/A			
Software Version	N/A			
Operating Temperature Range	-20℃ ~ +70℃			
Operating Frequency Range(s)	Mode	Tx (MHz)	Rx (MHz)	Gain (dBi)
	LTE Band 2	1850 ~ 1910	1930 ~ 1990	0.7
	LTE Band 5	824 ~ 849	869 ~ 894	2.2

	LTE Band 7	2500 ~ 2570	2620 ~ 2690	4.6
	LTE Band 13	777 ~ 787	746 ~ 756	-1.7
	LTE Band 25	1850 ~ 1915	1930 ~ 1995	0.7
	LTE Band 38	2570 ~ 2620	2570 ~ 2620	4.2
	LTE Band 41	2496 ~ 2690	2496 ~ 2690	4.6
Supported Channel Bandwidth	LTE Band 2	☑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 7	☑5 MHz ☑10 MHz ☑15 MHz ☑20 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 38	☑5 MHz ☑10 MHz ☑15 MHz ☑20 MHz		
	LTE Band 41	☑5 MHz ☑10 MHz ☑15 MHz ☑20 MHz		
Test Modulation	QPSK, 16QAM			
Antenna Type	PCB Antenna			
Maximum E.I.R.P./ E.R.P.	LTE Band 2	24.41dBm		
	LTE Band 5	24.22dBm		
	LTE Band 7	24.42dBm		
	LTE Band 13	24.06dBm		
	LTE Band 25	25.03dBm		
	LTE Band 38	25.78dBm		
	LTE Band 41	25.21dBm		
Remark:	The above information of EUT was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.			

1.6. Emission Designator

Band	Bandwidth (MHz)	Low Freq. (MHz)	High Freq. (MHz)	Type (Antenna or ERP or EIRP)	Max power (dBm)	Max Power (mW)	Emission Designator (99% OBW)
LTE Band 2	20	1860	1900	EIRP	23.47	222.33	17M9W7D
	20	1860	1900	EIRP	24.30	269.15	18M1G7D
	1.4	1850.7	1909.3	EIRP	24.41	276.06	1M09G7D
LTE Band 5	10	829	844	ERP	23.89	244.91	9M00W7D
	10	829	844	ERP	24.22	264.24	9M00G7D
LTE Band 7	20	2510	2560	EIRP	22.78	189.67	17M9W7D
	20	2510	2560	EIRP	24.42	276.69	18M0G7D
LTE Band 13	10	782	782	ERP	24.06	254.68	8M97W7D
	10	782	782	ERP	24.18	261.82	8M97G7D
	5	779.5	784.5	ERP	24.31	269.77	4M52G7D
LTE Band 25	20	1851.5	1913.5	EIRP	23.79	239.33	17M9W7D
	20	1851.5	1913.5	EIRP	24.57	286.42	17M9G7D
	3	1860	1905	EIRP	25.03	318.42	2M74G7D
LTE Band 38	20	2572.5	2617.5	EIRP	23.84	242.10	39M7W7D
	20	2572.5	2617.5	EIRP	24.75	298.54	39M5G7D
	5	2580	2610	EIRP	25.78	375.84	9M88G7D
LTE Band 41	20	2498.5	2687.5	EIRP	24.25	266.07	17M9W7D
	20	2498.5	2687.5	EIRP	24.96	313.33	18M1G7D
	5	2506	2680	EIRP	25.21	331.89	4M49G7D

Note:

1.The maximum ERP/EIRP is calculated from max output power and max antenna gain, only the maximum ERP/EIRP is shown in the report.

2.The necessary bandwidth of which is the worst value from the measured occupied bandwidths for each type of channel bandwidth configuration.

1.7. Modification of EUT

No modifications are made to the EUT during all test items.

1.8. Laboratory Information

Company Name	:	Shanghai ATBL Technology Co., Ltd.
Address	:	Building 8,No.160 Basheng Road, Waigaoqiao Free Trade Zone, Pudong New Area, Shanghai
Telephone	:	+86(0)21-51298625
FCC-Registration Number	:	485917
Designation Number	:	CN1306
A2LA Number	:	6184.01
CNAS Number	:	CNAS L14531
ISED Designation Number	:	27371
CAB identifier	:	CN0116

1.9. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

Test standards:

FCC CFR 47 Part 2

FCC CFR 47 Part 22H

FCC CFR 47 Part 24E

FCC CFR 47 Part 27C

Reference standard:

ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01

2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST

2.1. Test Mode

Test modes are chosen to be reported as the worst case configuration below for LTE Band:

Test Items	Modes	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
RF Power Output and Effective Isotropic Radiated Power	LTE 2	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	LTE 5	√	√	√	√	-	-	√	√	√	√	√	√	√	√
	LTE 7	-	-	√	√	√	√	√	√	√	√	√	√	√	√
	LTE 13	-	-	√	√	-	-	√	√	√	√	√	√	√	√
	LTE 25	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	LTE 38	-	-	√	√	√	√	√	√	√	√	√	√	√	√
	LTE 41	-	-	√	√	√	√	√	√	√	√	√	√	√	√
Occupied Bandwidth	LTE 2	√	√	√	√	√	√	√	√	-	-	√	√	√	√
	LTE 5	√	√	√	√	-	-	√	√	-	-	√	√	√	√
	LTE 7	-	-	√	√	√	√	√	√	-	-	√	√	√	√
	LTE 13	-	-	√	√	-	-	√	√	-	-	√	√	√	√
	LTE 25	√	√	√	√	√	√	√	√	-	-	√	√	√	√
	LTE 38	-	-	√	√	√	√	√	√	-	-	√	√	√	√
	LTE 41	-	-	√	√	√	√	√	√	-	-	√	√	√	√
Band Edge Compliance	LTE 2	√	√	√	√	√	√	√	√	√	-	√	√	√	√
	LTE 5	√	√	√	√	-	-	√	√	√	-	√	√	√	√
	LTE 7	-	-	√	√	√	√	√	√	√	-	√	√	√	√
	LTE 13	-	-	√	√	-	-	√	√	√	-	√	√	√	√
	LTE 25	√	√	√	√	√	√	√	√	√	-	√	√	√	√
	LTE 38	-	-	√	√	√	√	√	√	√	-	√	√	√	√
	LTE 41	-	-	√	√	√	√	√	√	√	-	√	√	√	√
Peak-to-Averae Power Ratio	LTE 2	√	√	√	√	√	√	√	√	-	-	√	√	√	√
	LTE 5	√	√	√	√	-	-	√	√	-	-	√	√	√	√
	LTE 7	-	-	√	√	√	√	√	√	-	-	√	√	√	√
	LTE 13	-	-	√	√	-	-	√	√	-	-	√	√	√	√
	LTE 25	√	√	√	√	√	√	√	√	-	-	√	√	√	√
	LTE 38	-	-	√	√	√	√	√	√	-	-	√	√	√	√
	LTE 41	-	-	√	√	√	√	√	√	-	-	√	√	√	√
Frequency Stability	LTE 2	√	√	√	√	√	√	√	-	-	-	√	√	-	√
	LTE 5	√	√	√	√	-	-	√	-	-	-	√	-	√	-
	LTE 7	-	-	√	√	√	√	√	-	-	-	√	√	-	√
	LTE 13	-	-	√	√	-	-	√	-	-	-	√	√	-	√
	LTE 25	√	√	√	√	√	√	√	-	-	-	√	√	-	√
	LTE 38	-	-	√	√	√	√	√	-	-	-	√	√	-	-
	LTE 41	-	-	√	√	√	√	√	-	-	-	√	√	-	√
Spurious Emissions at Antenna Terminals	LTE 2	√	√	√	√	√	√	√	-		-	-	√	√	√
	LTE 5	√	√	√	√	-	-	√	-		-	-	√	√	√
	LTE 7	-	-	√	√	√	√	√	-		-	-	√	√	√
	LTE 13	-	-	√	√	-	-	√	-		-	-	√	√	√
	LTE 25	√	√	√	√	√	√	√	-		-	-	√	√	√
	LTE 38	-	-	√	√	√	√	√	-		-	-	√	√	√
	LTE 41	-	-	√	√	√	√	√	-		-	-	√	√	√
Radiated Spurious Emission	LTE 2	√	-	√	-	-	√	√	-		-	-	√	-	√
	LTE 5	√	-	√	√	-	-	√	-		-	-	√	-	√
	LTE 7	-	-	√	-	-	√	√	-		-	-	√	-	√
	LTE 13	-	-	√	√	-	-	√	-		-	-	√	-	√
	LTE 25	√	-	√	√	-	√	√	-		-	-	√	-	√
	LTE 38	-	-	√	-	-	√	√	-		-	-	√	-	√
	LTE 41	-	-	√	-	-	√	√	-		-	-	√	-	√
Note	1. The mark "√" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing.														

	3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. The UE category is 1， so bandwidth greater than 5M does not support 16QAM.

2.2. Test Frequencies

Test Mode	Bandwidth	TX/RX	RF Channel		
			Low(L)	Middle(M)	High(H)
LTE Band 2	1.4MHz	TX	Channel 18607	Channel18900	Channel 19193
			1850.7 MHz	1880 MHz	1909.3 MHz
		RX	Channel 607	Channel 900	Channel 1193
			1930.7 MHz	1960 MHz	1989.3 MHz
	3MHz	TX	Channel 18615	Channel 18900	Channel 19185
			1851.5 MHz	1880 MHz	1908.5 MHz
		RX	Channel615	Channel 900	Channel 1185
			1931.5 MHz	1960 MHz	1988.5 MHz
	5MHz	TX	Channel 18625	Channel 18900	Channel 19175
			1852.5 MHz	1880 MHz	1907.5 MHz
		RX	Channel 625	Channel 900	Channel1175
			1932.5 MHz	1960 MHz	1987.5 MHz
	10MHz	TX	Channel 18650	Channel 18900	Channel 19150
			1855 MHz	1880 MHz	1905 MHz
		RX	Channel 650	Channel 900	Channel 1150
			1935 MHz	1960 MHz	1985 MHz
	15MHz	TX	Channel 18675	Channel 18900	Channel 19125
			1857.5 MHz	1880 MHz	1902.5 MHz
		RX	Channel 675	Channel 900	Channel 1125
			1937.5 MHz	1960 MHz	1982.5 MHz
	20MHz	TX	Channel 18700	Channel 18900	Channel 19100
			1860 MHz	1880 MHz	1900 MHz
		RX	Channel 700	Channel 900	Channel 1100
			1940 MHz	1960 MHz	1980 MHz

Test Mode	Bandwidth	TX/RX	RF Channel		
			Low (L)	Middle(M)	High(H)
LTE Band 5	1.4MHz	TX	Channel 20407	Channel 20525	Channel 20643
			824.7 MHz	836.5 MHz	848.3 MHz
		RX	Channel 2407	Channel 2525	Channel 2643
			869.7 MHz	881.5 MHz	893.3 MHz
	3MHz	TX	Channel 20415	Channel 20525	Channel 20635
			825.5 MHz	836.5 MHz	847.5 MHz
		RX	Channel 2415	Channel 2525	Channel 2635
			870.5 MHz	881.5 MHz	892.5 MHz
	5MHz	TX	Channel 20425	Channel 20525	Channel 20625
			826.5 MHz	836.5 MHz	846.5 MHz
		RX	Channel 2425	Channel 2525	Channel 2625
			871.5 MHz	881.5 MHz	891.5 MHz
	10MHz	TX	Channel 20450	Channel 20525	Channel 20600
			829 MHz	836.5 MHz	844 MHz
		RX	Channel 2450	Channel 2525	Channel 2600
			874 MHz	881.5 MHz	889 MHz

Test Mode	Bandwidth	TX/RX	RF Channel		
			Low(L)	Middle(M)	High(H)
LTE Band 7	5MHz	TX	Channel 20775	Channel 21100	Channel 21425
			2502.5 MHz	2535 MHz	2567.5 MHz
		RX	Channel 2775	Channel 3100	Channel 5825
			2622.5 MHz	2655 MHz	2687.5 MHz
	10MHz	TX	Channel 20800	Channel 21100	Channel 21400
			2505 MHz	2535 MHz	2565 MHz
		RX	Channel 2800	Channel 3100	Channel 3400
			2625 MHz	2655 MHz	2685 MHz
	15MHz	TX	Channel 20825	Channel 21100	Channel 21375
			2507.5 MHz	2535 MHz	2562.5 MHz
		RX	Channel 2825	Channel 3100	Channel 3375
			2627.5 MHz	2655 MHz	2682.5 MHz
	20MHz	TX	Channel 20850	Channel 21100	Channel 21350
			2510 MHz	2535 MHz	2560 MHz
		RX	Channel 2850	Channel 3100	Channel 3350
			2630 MHz	2655 MHz	2680 MHz

Test Mode	Bandwidth	TX/RX	RF Channel		
			Low(L)	Middle(M)	High(H)
LTE Band 13	5MHz	TX	Channel 23025	Channel 23230	Channel 23255
			779.5 MHz	782 MHz	784.5 MHz
		RX	Channel 5205	Channel 5230	Channel 5255
			748.5 MHz	751 MHz	753.5 MHz
	10MHz	TX	-	Channel 23230	--
			-	782 MHz	-
		RX	-	Channel 5230	-
			-	751 MHz	-

Test Mode	Bandwidth	TX/RX	RF Channel		
			Low(L)	Middle(M)	High(H)
LTE Band 25	1.4MHz	TX	Channel 26047	Channel 26365	Channel 26683
			1850.7 MHz	1882.5 MHz	1914.3 MHz
		RX	Channel 8047	Channel 8365	Channel 8683
			1930.7 MHz	1962.5 MHz	1994.3 MHz
	3MHz	TX	Channel 26055	Channel 26365	Channel 26675
			1851.5 MHz	1882.5 MHz	1913.5 MHz
		RX	Channel 8055	Channel 8365	Channel 8675
			1931.5 MHz	1962.5 MHz	1993.5 MHz
	5MHz	TX	Channel 26065	Channel 26365	Channel 26665
			1852.5 MHz	1882.5 MHz	1912.5 MHz
		RX	Channel 8065	Channel 8365	Channel 8665
			1932.5 MHz	1962.5 MHz	1992.5 MHz
	10MHz	TX	Channel 26090	Channel 26365	Channel 26640
			1855 MHz	1882.5 MHz	1910 MHz
		RX	Channel 8090	Channel 8365	Channel 8640
			1935 MHz	1962.5 MHz	1990 MHz
	15MHz	TX	Channel 26115	Channel 26365	Channel 26615
			1857.5 MHz	1882.5 MHz	1907.5 MHz
		RX	Channel 8115	Channel 8365	Channel 8615
			1937.5 MHz	1962.5 MHz	1987.5 MHz
	20MHz	TX	Channel 26140	Channel 26365	Channel 26590
			1860 MHz	1882.5 MHz	1905 MHz
		RX	Channel 8140	Channel 8365	Channel 8590
			1940 MHz	1962.5 MHz	1985 MHz

Test Mode	Bandwidth	TX/RX	RF Channel		
			Low(L)	Middle(M)	High(H)
LTE Band 38	5MHz	TX/RX	Channel 37775	Channel38000	Channel 38225
			2572.5 MHz	2595 MHz	2617.5 MHz
	10MHz	TX/RX	Channel 37800	Channel38000	Channel 38200
			2575 MHz	2595 MHz	2615 MHz
	15MHz	TX/RX	Channel 37825	Channel38000	Channel 38175
			2577.5 MHz	2595 MHz	2612.5 MHz
	20MHz	TX/RX	Channel 37850	Channel38000	Channel 38150
			2580 MHz	2595 MHz	2610 MHz

Test Mode	Bandwidth	TX/RX	RF Channel		
			Low (L)	Middle(M)	High(H)
LTE Band 41	5MHz	TX/RX	Channel 39675	Channel 40620	Channel 41565
			2498.5 MHz	2593 MHz	2687.5 MHz
	10MHz	TX/RX	Channel 39700	Channel 40620	Channel 41540
			2501 MHz	2593 MHz	2685 MHz
	15MHz	TX/RX	Channel 39725	Channel 40620	Channel 41515
			2503.5 MHz	2593 MHz	2682.5 MHz
	20MHz	TX/RX	Channel 39750	Channel 40620	Channel 41490
			2506 MHz	2593 MHz	2680 MHz

2.3. Equipment List

2.3.1. For Conducted Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	equipment number	Calibrated until	Calibrated due until	Cal. Interval
Power sensor	DARE	RPR3006W	16I00054SN016	SHATBL-W008	2025.07.28	2026.07.27	1 year
					2026.08.08	2027.08.07	1 year
Adjustable Attenuator	Agilent	8494B	MY42144015	SHATBL-W009	2025.07.28	2026.07.27	1 year
					2026.08.08	2027.08.07	1 year
Adjustable Attenuator	Agilent	8496B	MY42143776	SHATBL-W010	2025.07.28	2026.07.27	1 year
					2026.08.08	2027.08.07	1 year
Environmental Test Chamber	KSON	THS-B6C-150	9159K	SHATBL-W019	2026.03.31	2027.03.30	1 year
Signal analyzer	Keysight	N9020A	MY50510136	SHATBL-W003	2025.07.18	2026.07.17	1 year
					2026.08.08	2027.08.07	1 year
Vector signal generator	Agilent	N5182A	MY48180764	SHATBL-W043	2025.07.18	2026.07.17	1 year
					2026.08.08	2027.08.07	1 year
Analog signal generator	Keysight	N5182B	MY57300196	SHATBL-W005	2025.07.18	2026.07.17	1 year
					2026.08.08	2027.08.07	1 year
Wideband radio communication tester	R&S	CMW500	101331	SHATBL-W007	2025.07.28	2026.07.27	1 year
					2026.08.08	2027.08.07	1 year
Switch Box	Cesheng	smu 1003	WCS20221215	SHATBL-W046	2026.03.31	2027.03.30	1 year
Thermometer	DeLi	N/A	N/A	SHATBL-W011	2025.08.01	2026.07.31	1 year
					2026.08.08	2027.08.07	1 year
Test Software	Cesheng	WCS-WCN	N/A	SHATBL-W021	N/A	N/A	N/A

2.3.2. For Radiated Spurious Emission

Kind of Equipment	Manufacturer	Type No.	Serial No.	equipment number	Calibrated until	Calibrated due until	Cal. Interval
Signal analyzer	Agilent	N9020A	MY50200811	SHATBL-E017	2026.03.31	2027.03.30	1 year
Amplifier	JPT	JPA0118-55-303A	1910001800055000	SHATBL-E006	2026.03.31	2027.03.30	1 year
Amplifier	JPT	JPA-10M1G32	21010100035001	SHATBL-E005	2026.03.31	2027.03.30	1 year
Antenna/Turn table Controller	Brilliant	N/A	N/A	SHATBL-E007	N/A	N/A	N/A
Loop Antenna(9kHz-30MHz)	Daze	ZN30900C	20077	SHATBL-E042	2026.05.20	2027.05.19	1 year
Bilog Antenna	SCHWARZBECK	VULB 9168	01174	SHATBL-E008	2026.05.20	2027.05.19	1 year
Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120D	02334	SHATBL-E009	2026.05.20	2027.05.19	1 year
Horn Antenna	COM-POWER	AH-1840	10100008	SHATBL-E043	2025.07.27	2026.07.26	1 year
					2026.08.08	2027.08.07	1 year
Thermometer	DeLi	N/A	N/A	SHATBL-E015	2025.08.01	2026.07.31	1 year
					2026.08.08	2027.08.07	1 year
Test Software	FALA	EMC-RI(Ver.4 A2)	N/A	N/A	N/A	N/A	N/A
Wideband radio communication tester	R&S	CMW500	101331	SHATBL-W044	2025.07.28	2026.07.27	1 year
					2026.08.08	2027.08.07	1 year
Spectrum analyzer	R&S	FSV40-N	101761	SHATBL-W036	2025.07.28	2026.07.27	1 year
					2026.08.08	2027.08.07	1 year

2.4. Measurement Uncertainty

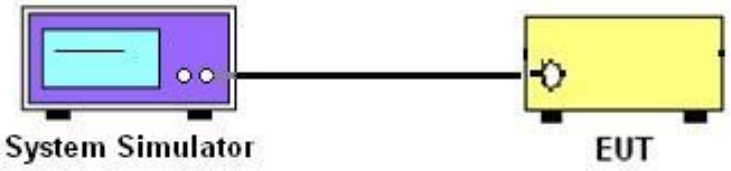
The reported uncertainty of measurement y±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Output Power	1.27dB
2	Power spectral density	1.28dB
3	Conducted spurious emissions	1.73dB
4	Conducted Frequency Stability	10.14Hz
5	RF Cable Loss	1.22dB
6	Radiated Spurious Emission 9KHz-30MHz	2.35dB
7	Radiated Spurious Emission 30MHz-1GHz	2.59dB
8	Radiated Spurious Emission 1GHz-18GHz	2.62dB
9	Radiated Spurious Emission 18GHz - 40GHz	2.80dB

3. TEST RESULT

3.1. RF Power Output and Effective Isotropic Radiated Power

3.1.1. Test Setup



3.1.2. Methods of Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

ERP can then be calculated as follows:

EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)

EIRP (dBm) = ERP (dBm) + 2.15 (dB.)

3.1.3. Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

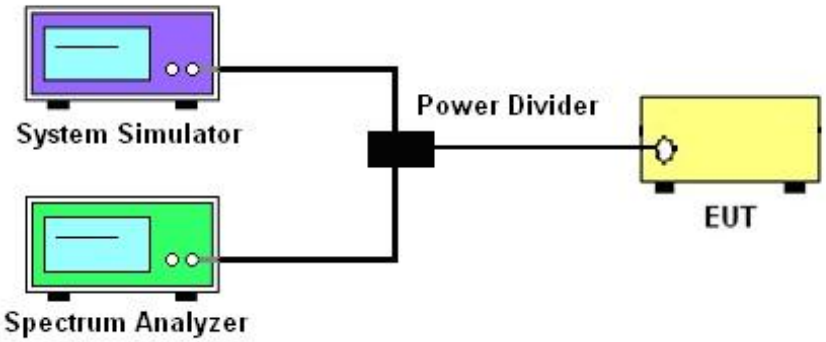
3.1.4. Test Result

Temperature	24.1℃~26.2℃	Humidity	45.2%~50.3%
Atmospheric Pressure	101 kPa~103 kPa	Test Data	2026.06.01~2026.06.16

Please refer to the Appendix.

3.2. Occupied Bandwidth

3.2.1. Test Setup



3.2.2. Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.2.3. Test Procedures

1. The testing follows ANSI C63.26 Section 5.4.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.(this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.

9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

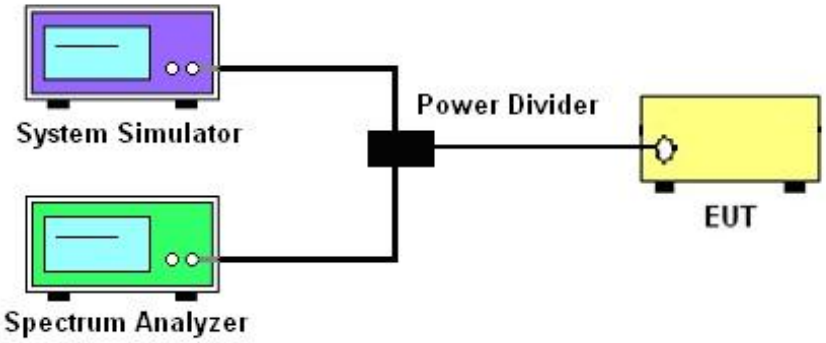
3.2.4. Test Result

Temperature	25.1℃	Humidity	48.8%
Atmospheric Pressure	103 kPa	Test Data	2026.08.19

Please refer to the Appendix.

3.3. Band Edge Compliance

3.3.1. Test Setup



3.3.2. Method of Measurement

The testing follows KDB 971168 D01 v03r01 Section 6.0

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at two frequencies (low channel and high channel).in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed. The EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to rms.

3.3.3. Test Procedures

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW≥1% of the emission bandwidth
4. VBW≥3xRBW
5. Detector=RMS
6. Number of sweep points≥2xSpan/RBW
7. Trace mode= trace average for continuous emissions, max hold for pulse emissions
8. Sweep time =auto couple
9. The trace was allowed to stabilize

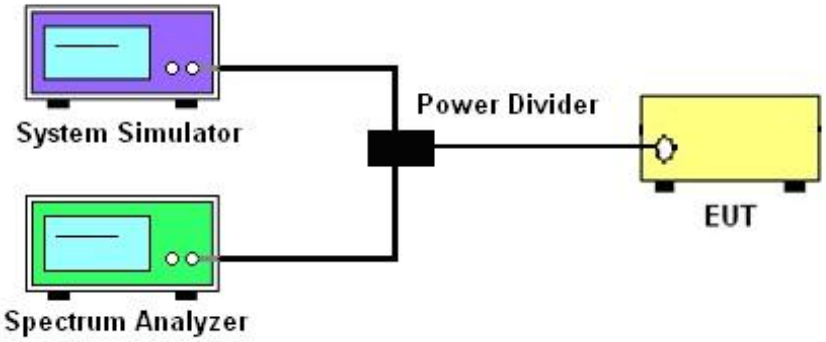
3.3.4. Test Result

Temperature	24.1℃~26.2℃	Humidity	45.2%~50.3%
Atmospheric Pressure	101 kPa~103 kPa	Test Data	2026.06.01~2026.06.16

Please refer to the Appendix.

3.4. Peak-to-Average Power Ratio (PAPR)

3.4.1. Test Setup



3.4.2. Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.4.3. Test Procedures

10. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).

11. The EUT was connected to spectrum and system simulator via a power divider.

12. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.

13. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

14. Record the deviation as Peak to Average Ratio.

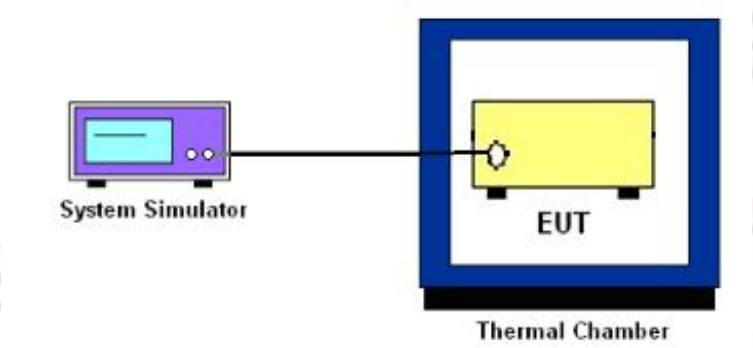
3.4.4. Test Result

Temperature	24.1℃~26.2℃	Humidity	45.2%~50.3%
Atmospheric Pressure	101 kPa~103 kPa	Test Data	2026.06.01~2026.06.16

Please refer to the Appendix.

3.5. Frequency Stability

3.5.1. Test Setup



3.5.2. Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.5.3. Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.5.4. Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

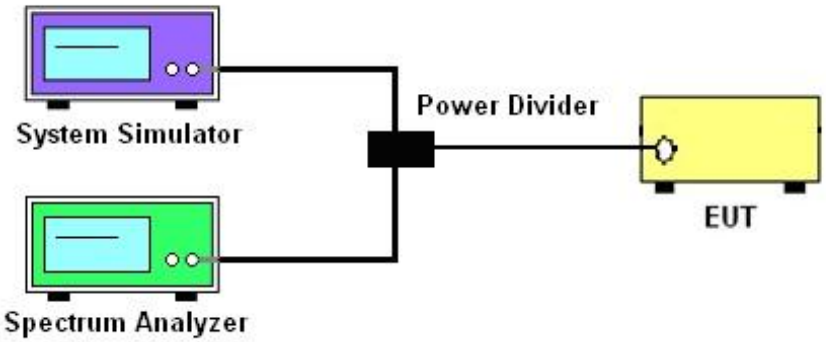
3.5.5. Test Result

Temperature	24.1℃~26.2℃	Humidity	45.2%~50.3%
Atmospheric Pressure	101 kPa~103 kPa	Test Data	2026.06.01~2026.06.16

Please refer to the Appendix.

3.6. Spurious Emissions at Antenna Terminals

3.6.1. Test Setup



3.6.2. Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz)

RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

RBW is set to 100 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

For Band 2/7/38/41/66, the RBW is set to 100KHz below 1G, and the factor is 10dB for 1MHz.

Sweep is set to AUTO.

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

3.6.3. Test Result

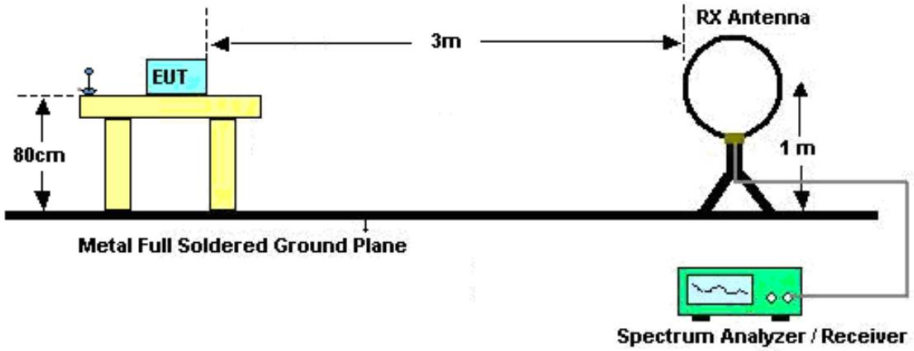
Temperature	24.1℃~26.2℃	Humidity	45.2%~50.3%
Atmospheric Pressure	101 kPa~103 kPa	Test Data	2026.06.01~2026.06.16

Please refer to the Appendix.

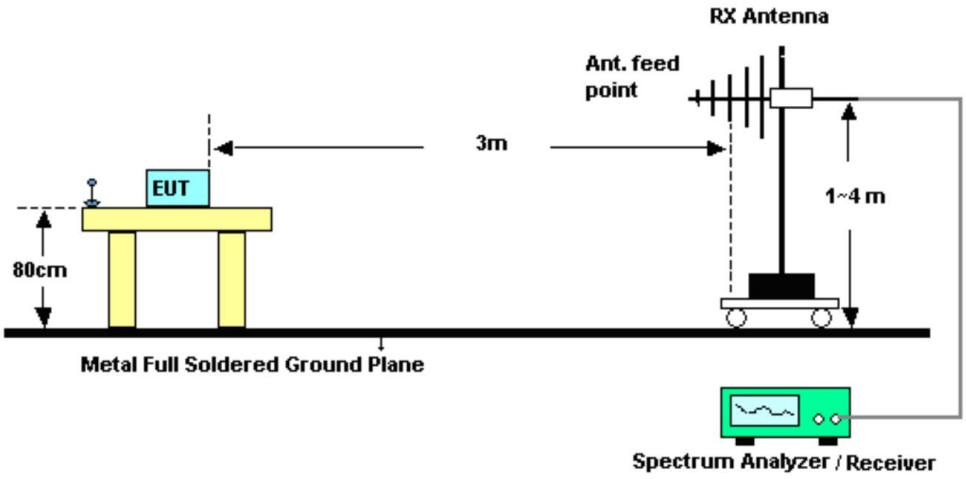
3.7. Radiated Spurious Emission

3.7.1. Test Setup

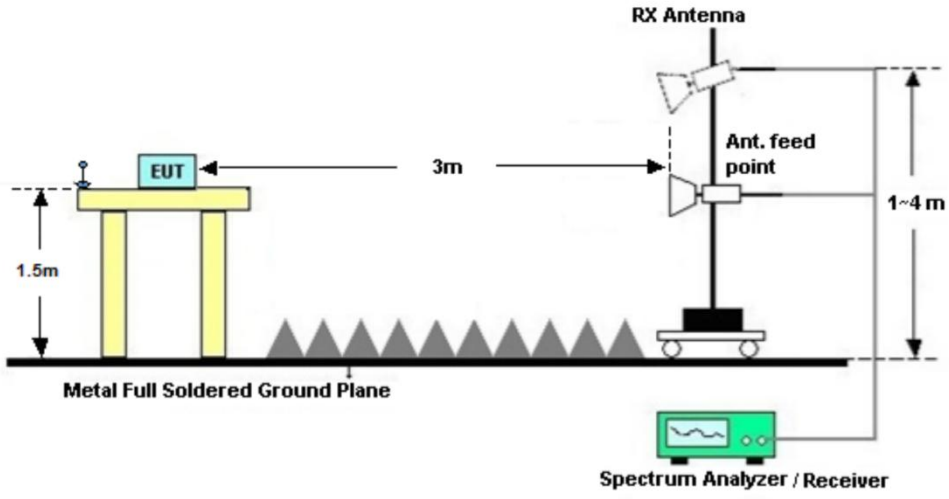
3.7.1.1. For radiated test below 30MHz



3.7.1.2. For radiated test from 30MHz to 1GHz



3.7.1.3. For radiated test above 1GHz



3.7.2. Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.7.3. Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15

3.7.4. Test Result of Radiated Spurious Emission

Temperature	24.1℃~26.2℃	Humidity	45.2%~50.3%
Atmospheric Pressure	101 kPa~103 kPa	Test Data	2026.06.01~2026.06.16

For 9 kHz ~ 30 MHz

Note:The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

For 30 MHz ~ 1 GHz

Note:

1. All modes have been tested, only worst case mode was recorded in the test report.
2. Please refer to the Appendix.

For 1 GHz ~ 18 GHz

Note:

1. All modes have been tested, only worst case mode was recorded in the test report.
2. We used the filter to test and the main frequency was filtered out.
3. Please refer to the Appendix.

For above 18 GHz

Note:In frequency ranges above 18GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report. No any other emissions level which are attenuated less than 20dB below the limit. No recording in the test report.

4. Test Setup Photos of the EUT

Please refer to Annex for Setup photos.

5. External and Internal Photos of the EUT

Please refer to Annex for EUT photos.

※※※※※END OF THE REPORT※※※※※