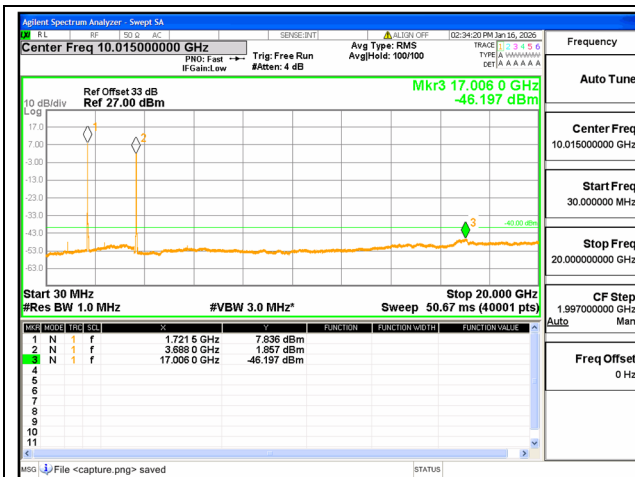
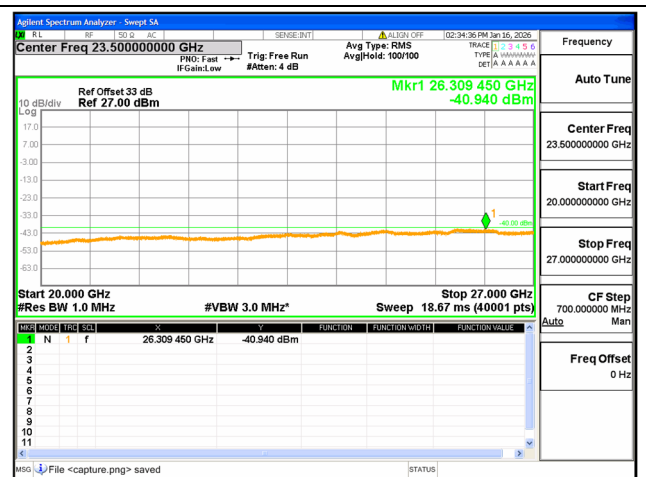
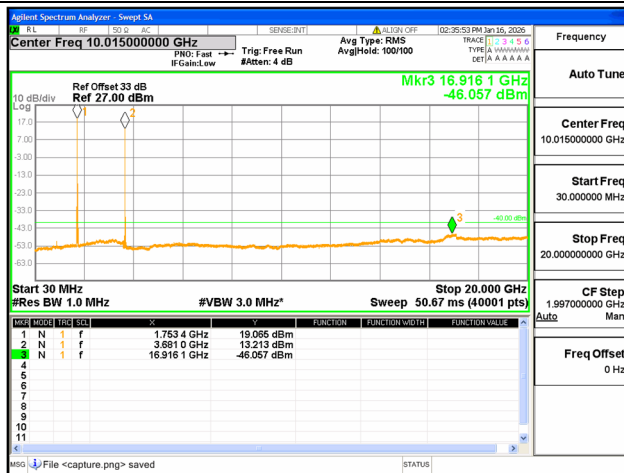




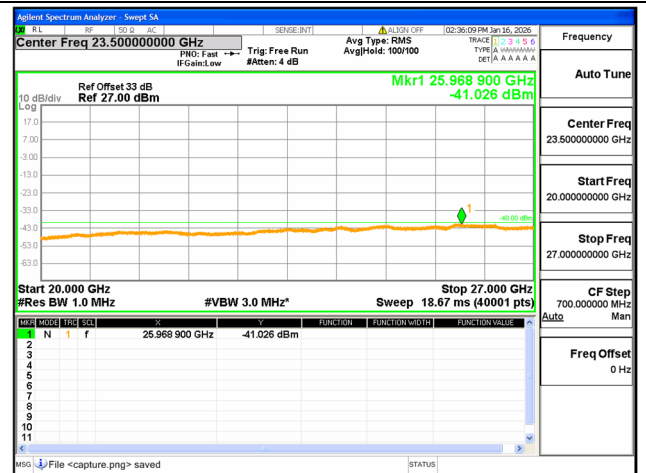
48A-66A-30M-20G / 20+20MHz / QPSK /
High+Low CH / 100@0-100@0



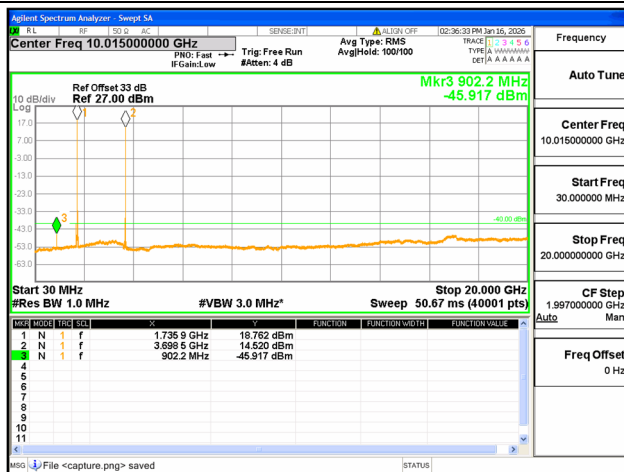
48A-66A-20G-37G / 20+20MHz / QPSK /
High+Low CH / 100@0-100@0



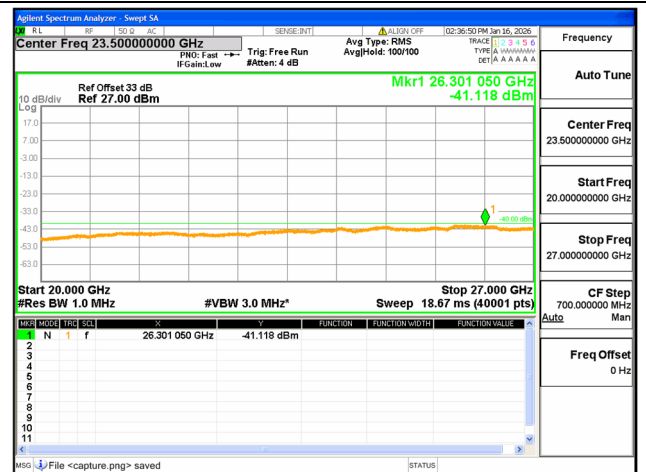
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High+Mid CH / 1@0-1@99



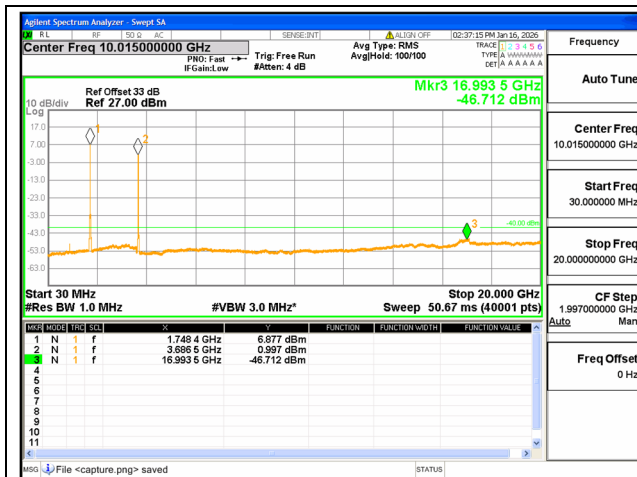
48A-66A-20G-37G / 20+20MHz / QPSK /
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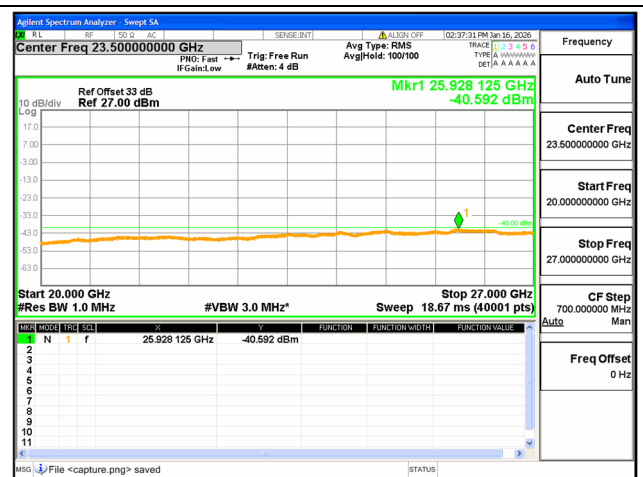
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High+Mid CH / 1@99-1@0



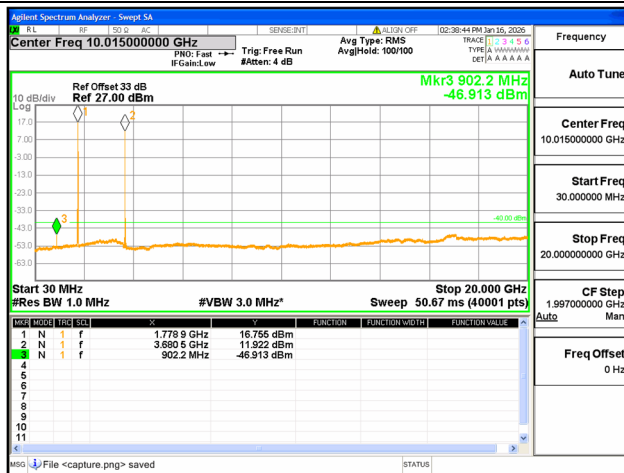
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High+Mid CH / 1@99-1@0



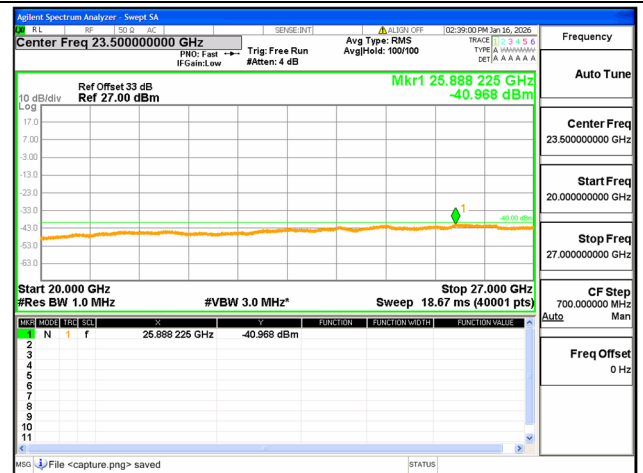
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High+Mid CH / 100@0-100@0



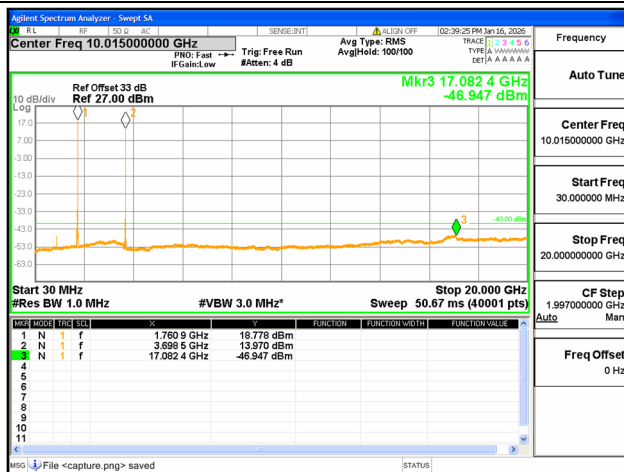
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High+Mid CH / 100@0-100@0



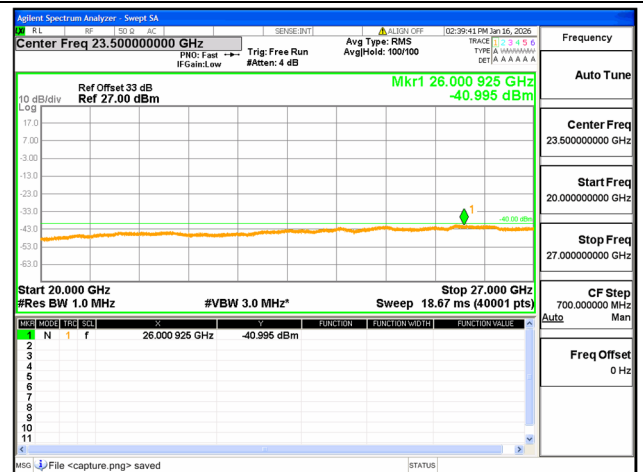
48A-66A-30M-20G / 20+20MHz / QPSK /
High+High CH / 1@0-1@99



48A-66A-20G-37G / 20+20MHz / QPSK /
High+High CH / 1@0-1@99



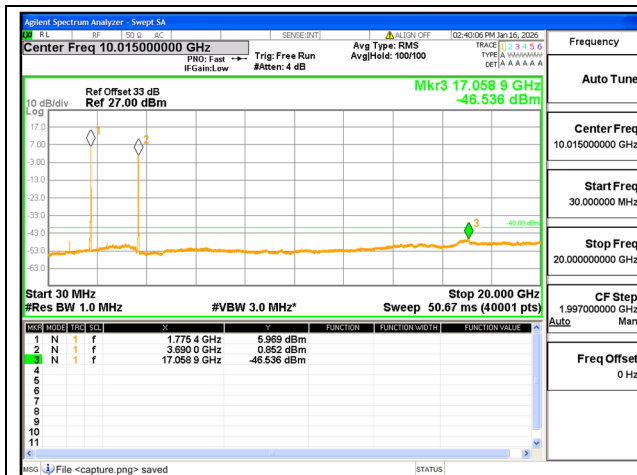
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High+High CH / 1@99-1@0



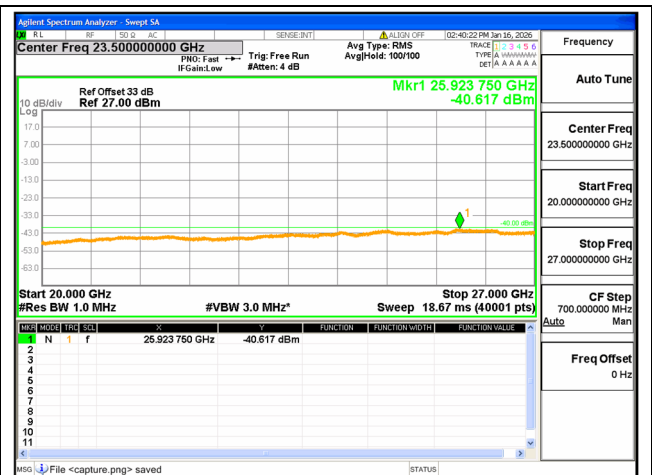
48A-66A-20G-37G / 20+20MHz / QPSK /
High+High CH / 1@99-1@0



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48A-66A-30M-20G / 20+20MHz / QPSK /
High+High CH / 100@0-100@0



48A-66A-20G-37G / 20+20MHz / QPSK /
High+High CH / 100@0-100@0

2.3. Radiated Spurious Emissions

2.3.1. Requirement

According to FCC section 2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. This calculated to be -13dBm.

Additional requirement for LTE Band 2:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. This calculated to be -13dBm.

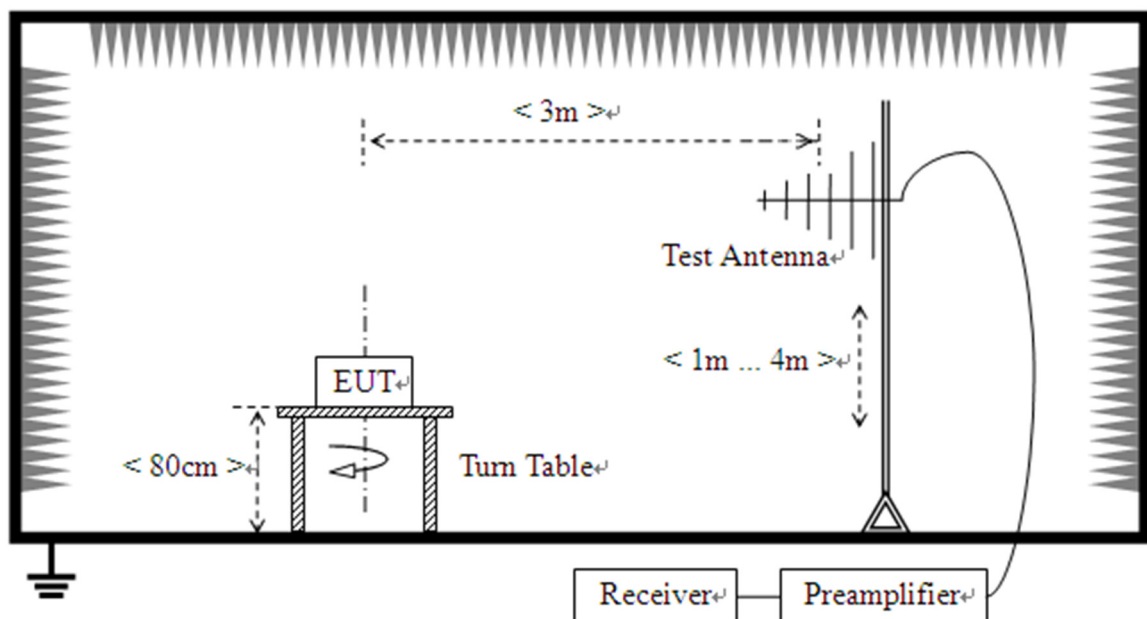
Additional requirement for LTE Band 66:

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB. This calculated to be -13dBm.

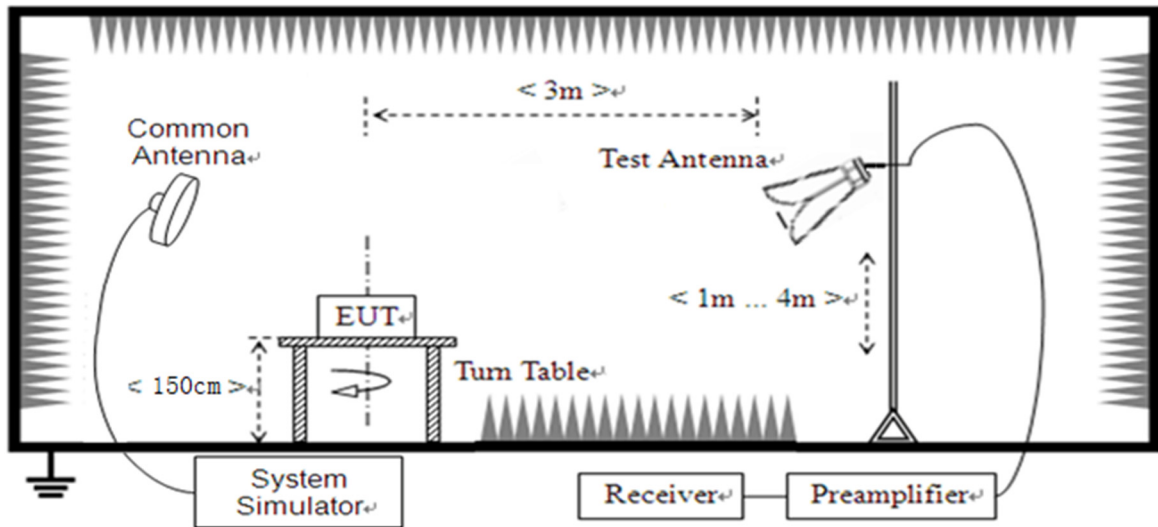
Additional requirement for LTE Band 48:

According to FCC section 96.41(e), the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

2.3.2. Test Description



(For the test frequency from 30MHz to 1GHz)



(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading. A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.

In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360° to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.

Note: When doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.3.3. Test Procedure

KDB 971168 D01v03 Section 5.8 and ANSI/TIA-603-E-2016.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements.

For measurements above 1GHz (exclude 1559-1610 MHz) the resolution bandwidth is set to 1MHz, the video bandwidths set to 3MHz for peak measurements.



2.3.4. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.

The substitution corrections are obtained as described below:

$$A_{\text{SUBST}} = P_{\text{SUBST_TX}} - P_{\text{SUBST_RX}} - L_{\text{SUBST_CABLES}} + G_{\text{SUBST_TX_ANT}}$$

$$A_{\text{TOT}} = L_{\text{CABLES}} + A_{\text{SUBST}}$$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

$P_{\text{SUBST_TX}}$ is signal generator level,

$P_{\text{SUBST_RX}}$ is receiver level,

$L_{\text{SUBST_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST_TX_ANT}}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

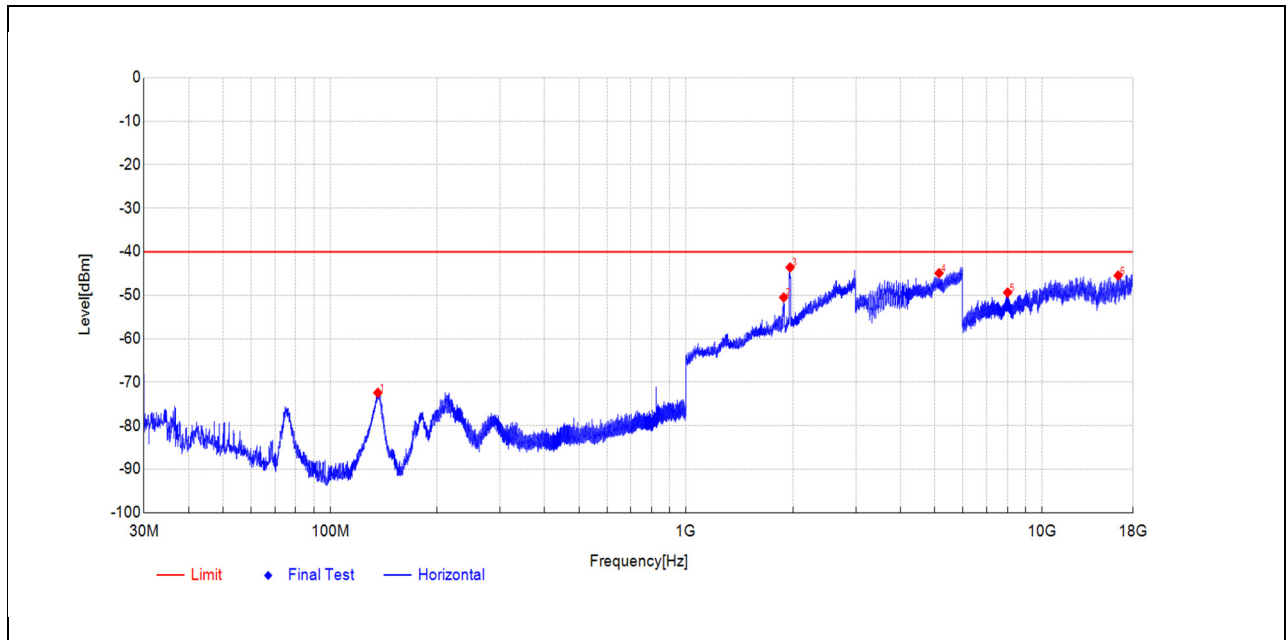
During the test, the data of A_{TOT} was added in the test spectrum analyze, so spectrum analyze reading is the final values which contain the data of A_{TOT} .

Note1: The power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note3: All bandwidth and modulation were considered and evaluated respectively by performing full test for each band; only the worst cases (Max Bandwidth and QPSK mode) were recorded in this test report.

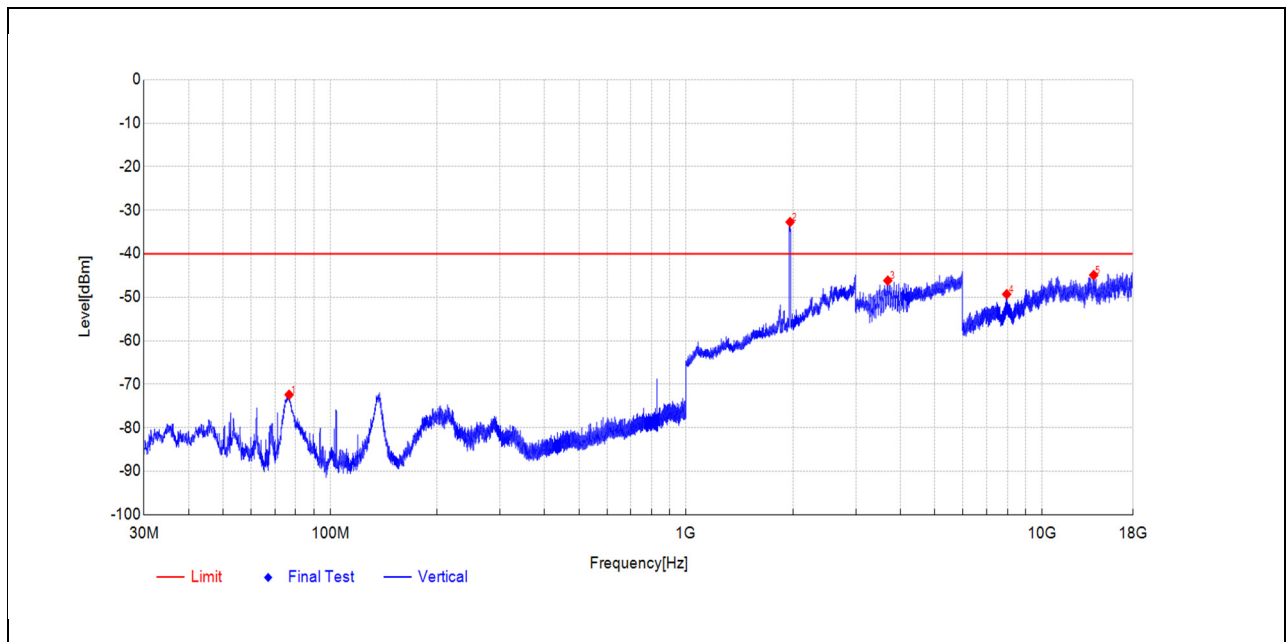
Note 4: N/A means the frequency is the basic frequency or the base station frequency; they are no need to verdict.



Data List

No.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
1	136.1718	-46.44	-72.41	-26.0	-40.0	32.4	Horizontal	PK	355	PASS
2	1880.5761	-55.77	-50.50	5.3	-	-	Horizontal	PK	5	NA
3	1960.192	-48.10	-43.60	4.5	-	-	Horizontal	PK	131	NA
4	5138.877	-70.03	-44.92	25.1	-40.0	4.9	Horizontal	PK	99	PASS
5	8009.8404	-62.76	-49.39	13.4	-40.0	9.4	Horizontal	PK	28	PASS
6	16375.615	-70.86	-45.46	25.4	-40.0	5.5	Horizontal	PK	256	PASS

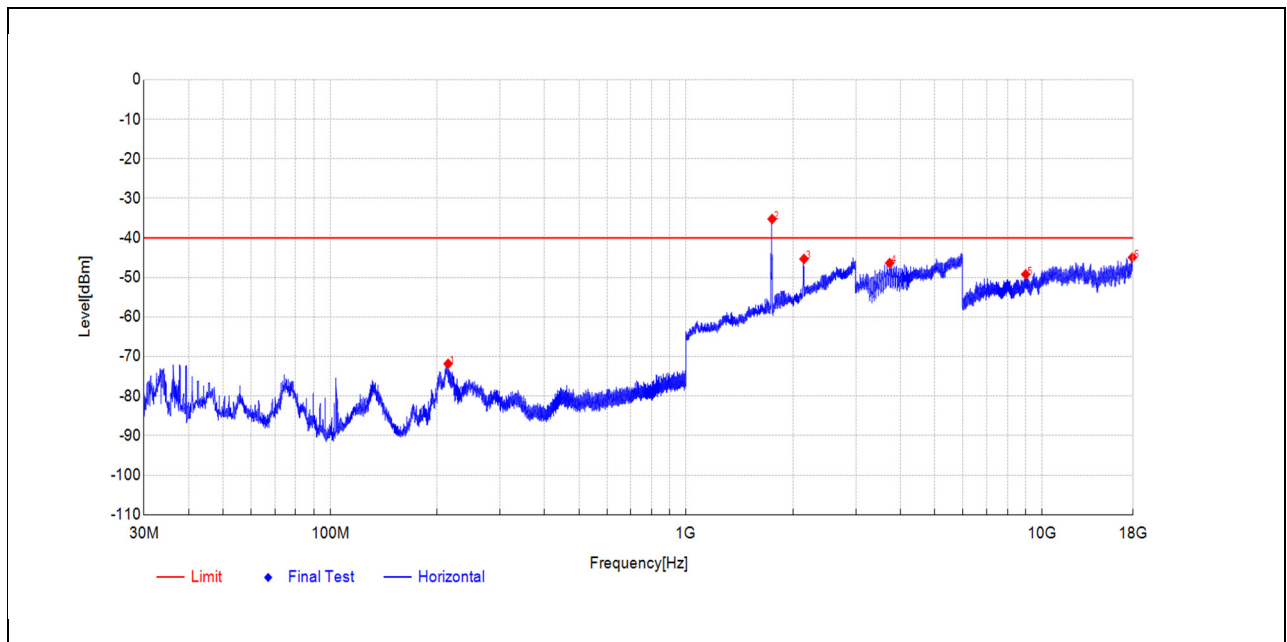
H_LTE CA_2A-48A_MID_20M+20M 30M-18G



Data List

No.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
1	76.7078	-49.98	-72.41	-22.4	-40.0	32.4	Vertical	PK	355	PASS
2	1960.5921	-36.93	-32.71	4.2	-	-	Vertical	PK	5	NA
3	3688.8127	-67.80	-46.17	21.6	-40.0	6.2	Vertical	PK	292	PASS
4	7960.8784	-62.04	-49.31	12.7	-40.0	9.3	Vertical	PK	28	PASS
5	13975.519	-68.90	-44.90	24.0	-40.0	4.9	Vertical	PK	48	PASS

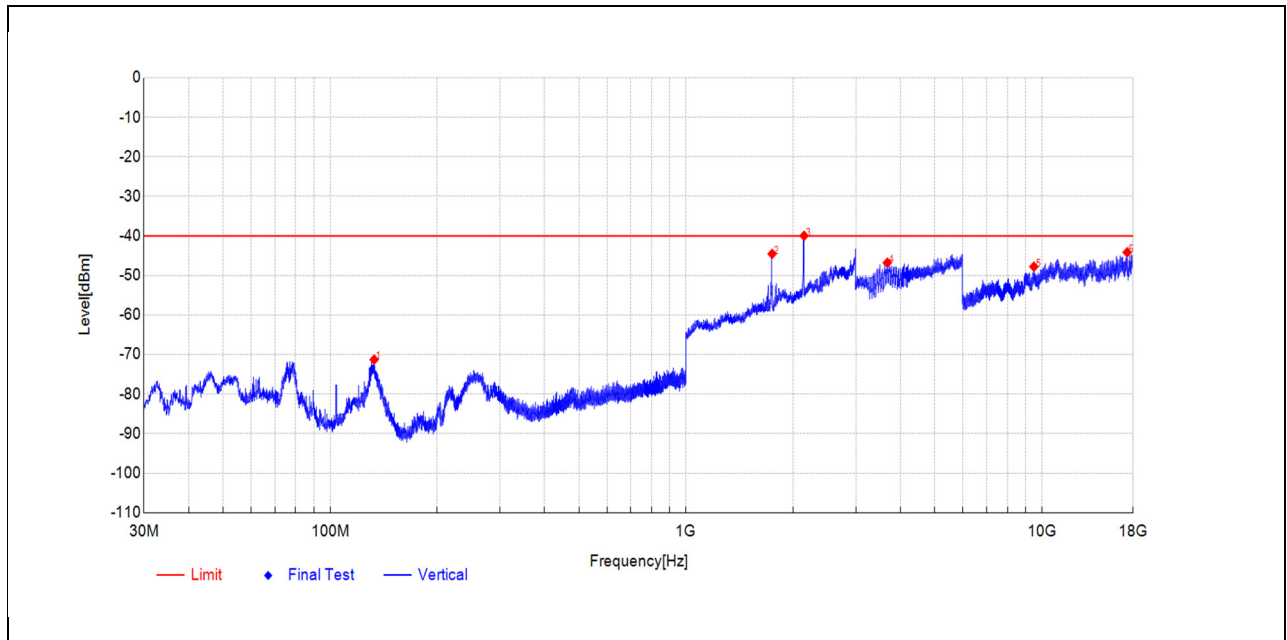
V_LTE CA_2A-48A_MID_20M+20M 30M-18G



Data List

No.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
1	214.5517	-55.51	-71.82	-16.3	-40.0	31.8	Horizontal	PK	22	PASS
2	1745.3491	-38.17	-35.21	3.0	-	-	Horizontal	PK	90	NA
3	2145.029	-51.33	-45.31	6.0	-	-	Horizontal	PK	154	NA
4	3734.6764	-67.85	-46.35	21.5	-40.0	6.4	Horizontal	PK	124	PASS
5	9001.08	-64.66	-49.23	15.4	-40.0	9.2	Horizontal	PK	90	PASS
6	17959.6784	-69.00	-44.92	24.1	-40.0	4.9	Horizontal	PK	69	PASS

H_LTE CA_48A-66A_MID_20M+20M_30M-18G



Data List

No.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
1	132.9706	-51.70	-71.26	-19.6	-40.0	31.3	Vertical	PK	91	PASS
2	1745.3491	-47.98	-44.53	3.5	-	-	Vertical	PK	5	NA
3	2145.8292	-45.76	-39.96	5.8	-	-	Vertical	PK	154	NA
4	3677.6682	-68.36	-46.78	21.6	-40.0	6.8	Vertical	PK	0	PASS
5	9493.5797	-64.77	-47.77	17.0	-40.0	7.8	Vertical	PK	260	PASS
6	17350.054	-68.85	-44.14	24.7	-40.0	4.1	Vertical	PK	196	PASS

V_LTE CA_48A-66A_MID_20M+20M_30M-18G

Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test Items	Uncertainty
Output Power	± 2.22 dB
Bandwidth	$\pm 5\%$
Conducted Spurious Emission	± 2.77 dB
Band Edge	± 2.77 dB
Equivalent Isotropic Radiated Power	± 2.22 dB
Radiated Spurious Emissions	± 6 dB

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.



4. Test Equipments Utilized

4.1 Conducted Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Power Splitter	NW521	1506A	Weinschel	N/A	N/A
Directional Coupler (10-67GHz)	N/A	110067016	KRYTAR	N/A	N/A
Attenuator 1 (DC-6GHz)	(N/A.)	20dB	Resnet	N/A	N/A
Attenuator 2 (DC-40GHz)	N/A	10dB	RFTOP	N/A	N/A
EXA Signal Analyzer	MY51511149	N9020A	Agilent	2025.05.15	2026.05.14
System Simulator	6272669620	MT8821C	Anritsu	2025.09.02	2026.09.01
RF cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
RF cable (DC-40GHz)	N/A	NYK360	Qualwave	N/A	N/A
Computer	T430i	Think Pad	Lenovo	N/A	N/A

4.2 List of Software Used

Description	Manufacturer	Software Version
MOR-2023E Test System	MORLAB	V7.99
JS36-RSE	Tonscend	5.0.0

**4.3 Radiated Test Equipments**

Equipment Name	Type	Serial No.	Manufacturer	Cal. Date	Due Date
Bi-Log Antenna	VULB 9163	9163-274	SCHWARZBECK	2025/6/28	2026/6/27
Horn Antenna	BBHA 9120D	9120D-963	SCHWARZBECK	2025/5/16	2026/5/15
Horn Antenna	BBHA9170	BBHA9170#773	SCHWARZBECK	2025/6/20	2026/6/19
Receiver	N9038A	MY56400093	KEYSIGHT	2025/12/26	2026/12/25
Signal Analyzer	N9020A	MY56060145	Agilent	2025/5/13	2026/5/12
6db Attenuator	BW-N6W5+	E191001	Mini-circuits	2025/9/3	2026/9/2
Preamplifier (2GHz-18GHz)	S020180L3203	61171/61172	LUCIX CORP.	2025/5/13	2026/5/12
Preamplifier (10MHz-6GHz)	S10M100L3802	46732	LUCIX CORP.	2025/5/13	2026/5/12
Preamplifier (18GHz-40GHz)	DCLNA0118-40C-S	DS77209	Decentest	2025/5/13	2026/5/12
System Simulator	CMW500	152038	R&S	2025/9/3	2026/9/2
System Simulator	MT8000A	6262148249	anritsu	2025/5/16	2026/5/15
System Simulator	MT8821C	6261830572	anritsu	2025/12/24	2026/12/23
RF Coaxial Cable	NA	24111402-001 +24111402-001	TIMES Microwave	2025/9/3	2026/9/2
RF Coaxial Cable	NA	24111402-001	TIMES Microwave	2025/9/3	2026/9/2



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RF Coaxial Cable	NA	24111402-002 +24111402-00 2	TIMES Microwave	2025/9/3	2026/9/2
RF Coaxial Cable	NA	24111402-001 +24111402-00 2	TIMES Microwave	2025/9/3	2026/9/2
RF Coaxial Cable	NA	24111402-002 +24111402-00 1	TIMES Microwave	2025/9/3	2026/9/2
RF Coaxial Cable	NA	24111402-001 +24111402-00 1	TIMES Microwave	2025/9/3	2026/9/2
RF Coaxial Cable	NA	723692-0001	TIMES Microwave	2025/9/3	2026/9/2
RF Coaxial Cable	NA	692839-0007+ 24111402-001	TIMES Microwave	2025/9/3	2026/9/2



Notes

1. The report shall have report stamp or our company stamp.
2. The report shall be invalid without all the signatures of the editor and approver.
3. The report shall not be changed.
4. Any objections must be raised to Morlab within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.
5. Conformity declaration:
 - ☒ Morlab issues a statement of conformity based on the corresponding standards (default)
 - ☐ Morlab issues a statement of conformity based on the applicant requirement
6. Use of uncertainty of measurement for decisions on conformity (decision rule):

No decision rule is specified by the testing standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule).

_____ END OF REPORT _____