



FCC RADIO TEST REPORT

FCC ID : 2AQ68T99W651
Equipment : 5G WWAN Module
Brand Name : Foxconn
Model Name : T99W651
Applicant : Hon Lin Technology Co., Ltd
11F, No.32, Jihu Rd., Neihu Dist., Taipei City 114, Taiwan R.O.C.
Manufacturer : Hon Lin Technology Co., Ltd
11F, No.32, Jihu Rd., Neihu Dist., Taipei City 114, Taiwan R.O.C.
Standard : FCC 47 CFR Part 2, 22(H), 24(E), 27, Part 90(R)

The product was received on Mar. 10, 2025 and testing was performed from Mar. 14, 2025 to Apr. 08, 2025. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issue Date
FG522653A	01	Initial issue of report	Apr. 11, 2025
FG522653A	02	Revise Appendix A and section 3.2 This report is an updated version, replacing the report issued on Apr. 11, 2025	Apr. 15, 2025



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046 RSS-195 5.5 RSS-140 4.3	Conducted Output Power	Pass	-
	§22.913 (a)(5)	Effective Radiated Power (Band 5)	Pass	
	§27.50 (c)(10)	Effective Radiated Power (Band 12)		
	RSS-133 5.5 SRSP-510	Equivalent Isotropic Radiated Power (Band 2)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (Band 66)		
	§27.50 (a)(2)	Equivalent Isotropic Radiated Power (Band 30)		
	§90.542 (a)(7)	Effective Radiated Power (Band 14)		
3.3	§24.232 (d) §27.50 (d)(5)	Peak-to-Average Ratio	Pass	-
3.4	§2.1049 RSS-195 3.1 RSS-140 2.3	Occupied Bandwidth	Pass	-
3.5	§2.1051 §22.917 (a) §24.238 (a) §27.53 (g) §27.53 (h)	Conducted Band Edge Measurement (Band 2) (Band 5) (Band 12) (Band 66)	Pass	-
	§2.1051 §27.53 (a)(3)	Conducted Band Edge Measurement (Band 30)		
	§2.1051 §90.543 (e)(2)	Conducted Band Edge Measuremen (Band 14)		
3.6	§2.1051 §90.210 (n)	Emission Mask (Band 14)	Pass	-



Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.7	§2.1051 §22.917 (a) §24.238 (a) §27.53 (g) §27.53 (h)	Conducted Spurious Emission (Band 2) (Band 5) (Band 12) (Band 66)	Pass	-
	§2.1051 §27.53 (a)(3)	Conducted Spurious Emission (Band 30)		
	§2.1051 §90.543 (e)(3)	Conducted Spurious Emission (Band 14)		
3.8	§2.1055 §22.355 §24.235 §27.54 §90.539 (e)	Frequency Stability Temperature & Voltage	Pass	-
4.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (g) §27.53 (h)	Radiated Spurious Emission (Band 2) (Band 5) (Band 12) (Band 66)	Pass	-
	§2.1053 §27.53 (a)(3)	Radiated Spurious Emission (Band 30)		
	§2.1053 §90.543 (e)(3) §90.543 (f)	Radiated Spurious Emission (Band 14)		

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Keven Cheng**Report Producer: Clio Lo**



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
General Specs LTE/5G NR.	
Antenna Type PCB Antenna	

Support band and evaluated information	
Supported band	B2, B5, B12, B14, B30, B66
Evaluated and Tested band	B2, B5, B12, B14, B30, B66

Remark: For LTE B30, only available for fixed customer premises equipment(CPE) stations was declared by manufacturer.

FDD/TDD band Power Class				
	SISO PC3			
B2	V			
B5	V			
B12	V			
B14	V			
B30	V			
B66	V			

RF Exposure							
Max Antenna Gain information(dBi)							
Band	Ant0	Ant1				Main Ant. #	ENDC Ant. #
B2	8.5	8.5				1	0
B5		6.6				1	
B12		6.1				1	
B14		6.4				1	
B30	8.5					0	
B66	5.5	5.5				1	0

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.2 Modification of EUT

No modifications made to the EUT during the testing.



1.3 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. TH03-HY
Test Engineer	Diego Huang
Temperature (°C)	22.2~23.4
Relative Humidity (%)	50.1~55.6

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. 03CH15-HY (TAF Code: 3786)
Test Engineer	Sam Pan, Quentin Liu and Bigshow Wang
Temperature (°C)	18~23
Relative Humidity (%)	50~65
Remark	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory.

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786

1.4 Applicable Standards

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

- ♦ ANSI C63.26-2015
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27, Part 90(R)
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape) or two antenna degrees (Ant. degrees 0 and Ant. degrees 90), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and only the worst case emissions were reported in this report.

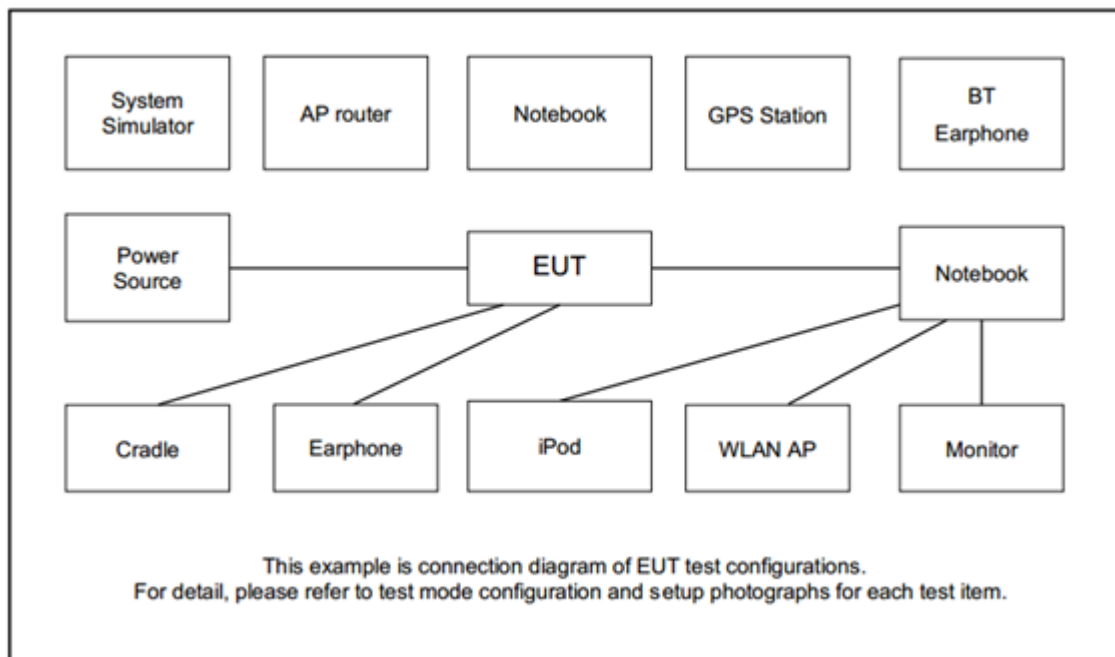
Modulation Type	Modulation
A	QPSK
B	16QAM
C	64QAM
D	256QAM

Test Item	Modulation Type	Bandwidth	RB Size	Channel
Conducted Power	A, B, C, D	All	1, Half, Full	L, M, H
ERP / EIRP	A, B, C, D	All	1, Half, Full	L, M, H
PAR	A, B, C, D	Max	Full	M
Bandwidth	A, B, C, D	All	Full	M
CBE	A, B, C, D	All	1RB Full	L, H
CSE	A	All	1RB	L, M, H
Frequency Stability	A	10 MHz or less	Full	M
RSE	A	Max	1RB	L, M, H

Remark:

1. Evaluated all the transmitter signal and reporting worst-case configuration among all modulation types.
2. 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.
3. One representative bandwidth is selected to perform PAR and frequency stability.
4. For LTE B2/66 support Antenna 1 (Main Ant.) and Antenna 0(ENDC Ant.);Radiated Spurious Emission is full test. Conducted test items are verified and the worst case is Antenna 1. Therefore, the report only performed Antenna 1 test results.
5. For LTE B30, only available for fixed customer premises equipment(CPE) stations was declared and EIPR<2W/5MHz by manufacturer.

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	5G Wireless Test Platform	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8m
3.	Fixture	Foxconn	95.3446T00	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Example :

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.2 + 10 = 14.2 \text{ (dB)}
 \end{aligned}$$



2.5 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3



LTE Band 14 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23330	-
	Frequency	-	793	-
5	Channel	23305	23330	23355
	Frequency	790.5	793	795.5

LTE Band 30 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	27710	-
	Frequency	-	2310	-
5	Channel	27685	27710	27735
	Frequency	2307.5	2310	2312.5

LTE Band 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3

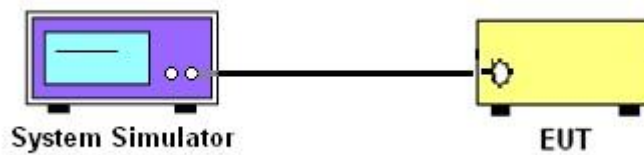
3 Conducted Test Items

3.1 Measuring Instruments

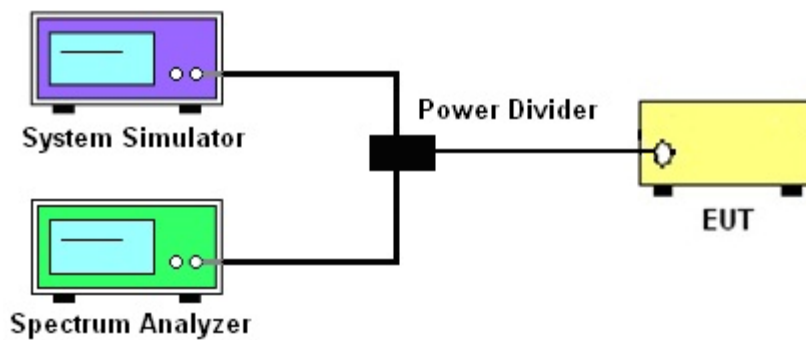
See list of measuring instruments of this test report.

3.1.1 Test Setup

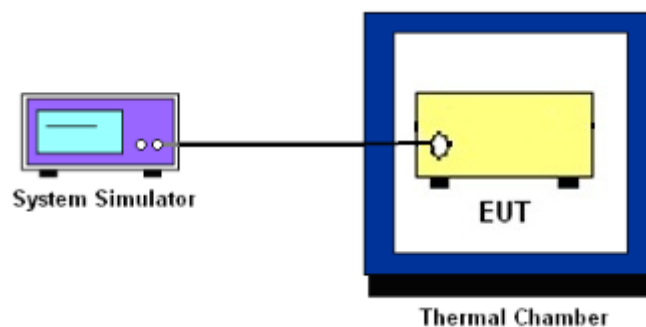
3.1.2 Conducted Output Power



3.1.3 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge, Emission Mask and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.



3.2 Conducted Output Power and ERP/EIRP

3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP 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.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, Band 14

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 66

The EIRP of fixed customer premises equipment stations must not exceed 2W/5MHz for LTE Band 30

According to KDB 412172 D01 Power Approach,

$EIRP = PT + GT - LC$, $ERP = EIRP - 2.15$, where

PT = transmitter output power in dBm

GT = gain of the transmitting antenna in dBi

LC = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

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



3.3 Peak-to-Average Ratio

3.3.1 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.

Note: The smallest unit forming an OFDMA signal is the subcarrier, and each subcarrier carries an equal amount of energy. Different bandwidths vary only in the number of subcarriers they contain. Therefore, for evaluation purposes, the PAPR (Peak-to-Average Power Ratio) is tested and report presents the test results conducted at the specifically bandwidth.

3.3.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

1. The EUT was connected to spectrum and system simulator via a power divider.
2. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
3. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
4. Record the deviation as Peak to Average Ratio.



3.4 Occupied Bandwidth

3.4.1 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.

3.4.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. 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.
4. Set the detection mode to peak, and the trace mode to max hold.
5. 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)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. 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.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.



3.5 Conducted Band Edge

3.5.1 Description of Conducted Band Edge Measurement

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (g)

For operations in the 600MHz band and 698-746 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, 1755-1780 MHz, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

**27.53 (a)(3)**

For fixed customer premises equipment (CPE) stations operating in the 2305-2320 MHz band and the 2345-2360 MHz band transmitting with with 2 watts per 5 megahertz average EIRP or less::

(i) By a factor of not less than: $43 + 10 \log (P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log (P)$ dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than $61 + 10 \log (P)$ dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than $67 + 10 \log (P)$ dB on all frequencies between 2328 and 2337 MHz.

(ii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2300 and 2305 MHz, $55 + 10 \log (P)$ dB on all frequencies between 2296 and 2300 MHz, $61 + 10 \log (P)$ dB on all frequencies between 2292 and 2296 MHz, $67 + 10 \log (P)$ dB on all frequencies between 2288 and 2292 MHz, and $70 + 10 \log (P)$ dB below 2288 MHz.

(iii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.

90.543(e)

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

3.5.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
5. Set spectrum analyzer with RMS detector.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. Checked that all the results comply with the emission limit line.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)



3.6 Emission Mask

3.6.1 Description of Emissions Mask Measurement

For LTE Band 14

Transmitters designed must meet the emission mask comply with the emission mask provisions of FCC Part 90.210(n).

3.6.2 Test Procedures

For LTE Band 14

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The power of the modulated signal was measured on a spectrum analyzer using an RMS and 10 second sweep time in order to maximize the level.
3. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



3.7 Conducted Spurious Emission

3.7.1 Description of Conducted Spurious Emission Measurement

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

For LTE Band 30

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $70 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.7.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
3. The conducted spurious emission for the whole frequency range was taken.
4. Make the measurement with the spectrum analyzer's RBW = 100 kHz if the authorized frequency band/block is at or below 1 GHz and 1 MHz if the authorized frequency band/block is above 1 GHz, VBW = 3 * RBW.
5. Set spectrum analyzer with RMS detector.
6. Taking the record of maximum spurious emission.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

For LTE Band 30

The limit line is derived from $70 + 10\log(P)$ dB below the transmitter power P(Watts)



3.8 Frequency Stability

3.8.1 Description of Frequency Stability Measurement

22.355

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 $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

24.235 & 27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

The frequency variation is sufficient to ensure that the occupied bandwidth of all operation channels stay within the operating frequency block or frequency block group.

3.8.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. 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.
3. 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.

3.8.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at $20\pm 5^{\circ}\text{C}$ and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

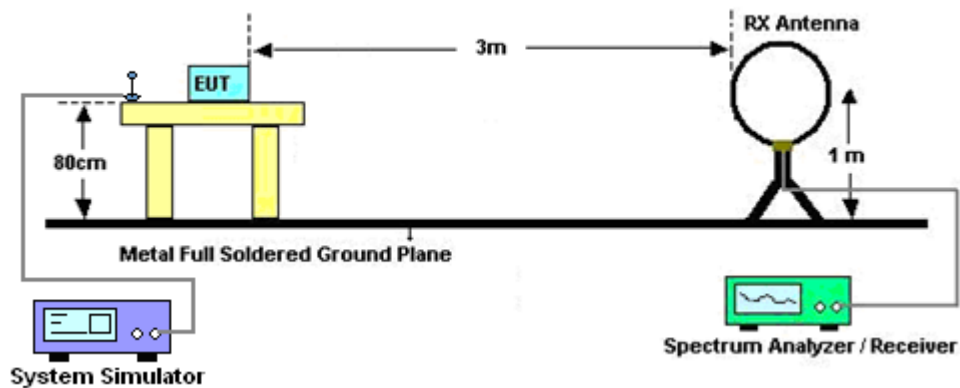
4 Radiated Test Items

4.1 Measuring Instruments

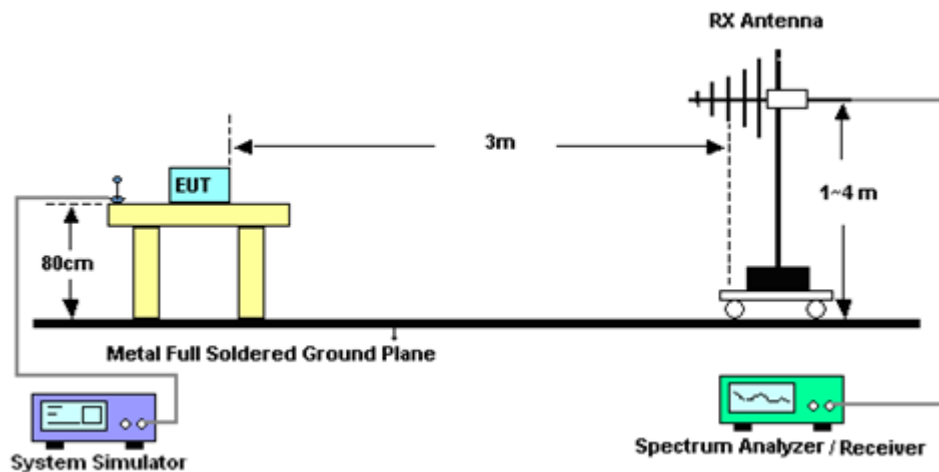
See list of measuring instruments of this test report.

4.1.1 Test Setup

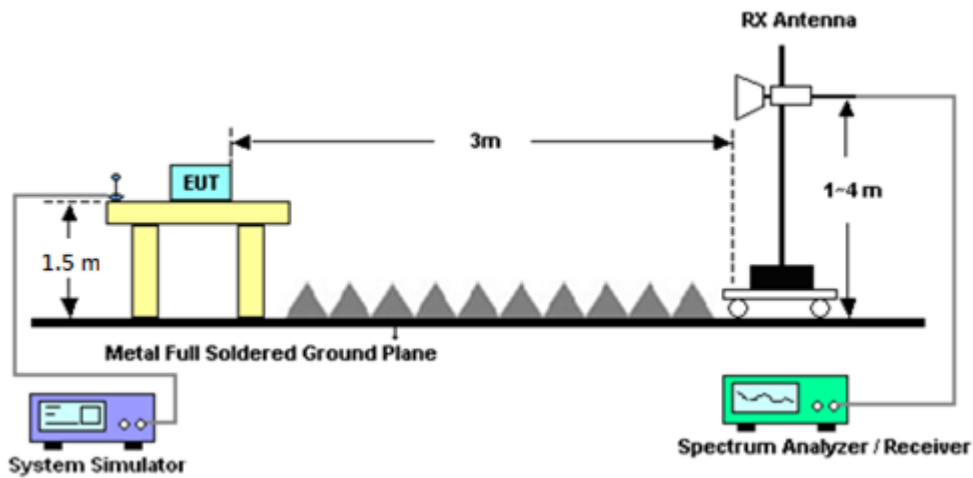
For radiated test below 30MHz



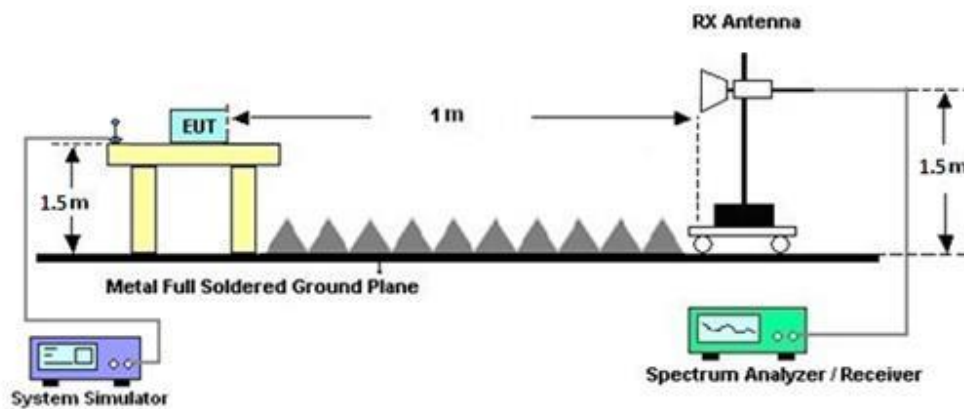
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



4.2 Radiated Spurious Emission Measurement

4.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI C63.26-2015. 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.

For LTE Band 30

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 $70 + 10 \log (P)$ dB.

For LTE Band 14

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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

4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI C63.26-2015 section 5.5.4 Radiated measurement using the field strength method.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. To convert spectrum reading E(dBuV/m) to EIRP(dBm)
$$\text{EIRP(dBm)} = \text{Level (dBuV/m)} + 20\log(d) - 104.77,$$
where d is the distance at which field strength limit is specified in the rules
7.
$$\text{Field Strength Level (dBm)} = \text{Spectrum Reading (dBm)} + \text{Antenna Factor} + \text{Cable Loss} + \text{Read Level} - \text{Preamp Factor}.$$
8.
$$\text{ERP (dBm)} = \text{EIRP (dBm)} - 2.15$$
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Aug. 29, 2024	Mar. 28, 2025~ Apr. 04, 2025	Aug. 28, 2025	Radiation (03CH15-HY)
Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	41912 & 05	30MHz~1GHz	Mar. 01, 2025	Mar. 28, 2025~ Apr. 04, 2025	Feb. 28, 2026	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02294	1GHz~18GHz	Jun. 20, 2024	Mar. 28, 2025~ Apr. 04, 2025	Jun. 19, 2025	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	1230	18GHz~40GHz	Oct. 25, 2024	Mar. 28, 2025~ Apr. 04, 2025	Oct. 24, 2025	Radiation (03CH15-HY)
Amplifier	EMEC	EM1G18G	060837	1GHz~18GHz	Feb. 13, 2025	Mar. 28, 2025~ Apr. 04, 2025	Feb. 12, 2026	Radiation (03CH15-HY)
Preamplifier	EM Electronics	EM01G18G	060802	1GHz~18GHz	Feb. 14, 2025	Mar. 28, 2025~ Apr. 04, 2025	Feb. 13, 2026	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	May 27, 2024	Mar. 28, 2025~ Apr. 04, 2025	May 26, 2025	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010B	MY60241058	10Hz~44Gz	Jul. 11, 2024	Mar. 28, 2025~ Apr. 04, 2025	Jul. 10, 2025	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Mar. 28, 2025~ Apr. 04, 2025	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Mar. 28, 2025~ Apr. 04, 2025	N/A	Radiation (03CH15-HY)
Software	Audix	E3_V9_23062 1	RK-002394	N/A	N/A	Mar. 28, 2025~ Apr. 04, 2025	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY582185/4, 519228/2,80 3950/2	N/A	Jun. 11, 2024	Mar. 28, 2025~ Apr. 04, 2025	Jun. 10, 2025	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804011/2,804 012/2	18-40G	Dec. 31, 2024	Mar. 28, 2025~ Apr. 04, 2025	Dec. 30, 2025	Radiation (03CH15-HY)
Filter	Wainwright	WHKX8-5872. 5-6750-18000- 40ST	SN6	6.75GHz High Pass Filter	Jun. 05, 2024	Mar. 28, 2025~ Apr. 04, 2025	Jun. 04, 2025	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 0ST	SN4	3GHz High Pass Filter	Jun. 05, 2024	Mar. 28, 2025~ Apr. 04, 2025	Jun. 04, 2025	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-900- 1000-15000-6 0SS	SN12	1GHz High Pass Filter	Sep. 10, 2024	Mar. 28, 2025~ Apr. 04, 2025	Sep. 09, 2025	Radiation (03CH15-HY)
Hygrometer	TECPEL	DTM-302	SN4	N/A	Aug. 29, 2024	Mar. 28, 2025~ Apr. 04, 2025	Aug. 28, 2025	Radiation (03CH15-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Radio Communication Analyzer	Anritsu	MT8821C	6262025353	LTE FDD/TDD LTE-2CC DLCA/ULCA	Oct. 01, 2024	Mar. 14, 2025~ Apr. 08, 2025	Sep. 30, 2025	Conducted (TH03-HY)
Thermal Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 06, 2024	Mar. 14, 2025~ Apr. 08, 2025	Sep. 05, 2025	Conducted (TH03-HY)
DC Power Supply	GW Instek	GPP-2323	GES906037	0V~64V : 0A~6A	Nov. 27, 2024	Mar. 14, 2025~ Apr. 08, 2025	Nov. 26, 2025	Conducted (TH03-HY)
Coupler+10dB + RfCable	Warison + WoKen + E-Instument	20dB 25W SMA Directional Coupler+ 10dB 18GHz_5W+S FL405_1.5M	#A+#1+#1+# 7	1-18GHz	Jan. 03, 2025	Mar. 14, 2025~ Apr. 08, 2025	Jan. 02, 2026	Conducted (TH03-HY)
Power divider	Anritsu	K241C	2143398	9KHz~40GHz	Jun. 13, 2024	Mar. 14, 2025~ Apr. 08, 2025	Jun. 12, 2025	Conducted (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101905	10Hz~40GHz	Jul. 11, 2024	Mar. 14, 2025~ Apr. 08, 2025	Jul. 10, 2025	Conducted (TH03-HY)
Software	Sporton	LTE Conducted Test Tools	N/A	Conducted Test Item	N/A	Mar. 14, 2025~ Apr. 08, 2025	N/A	Conducted (TH03-HY)
Hygrometer	TECPEL	DTM-303B	TP210073	-10 ~ 50℃ / 20 ~ 95%RH	Jun. 05, 2024	Mar. 14, 2025~ Apr. 08, 2025	Jun. 04, 2025	Conducted (TH03-HY)



6 Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.3 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 6 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.4 dB
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Uncertainty of Radiated Emission Measurement (6 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.4 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & ERP/EIRP)

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 8.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.02	24.34	24.17	32.84	1.9231
20	1	49		24.17	24.30	24.14		
20	1	99		24.15	24.22	24.14		
20	50	0		23.05	23.30	23.22		
20	50	24		23.21	23.31	23.19		
20	50	50		23.19	23.24	23.07		
20	100	0		23.17	23.31	23.18		
20	1	0	16-QAM	23.42	23.48	23.44	31.98	1.5776
20	1	49		23.46	23.45	23.42		
20	1	99		23.44	23.45	23.47		
20	50	0		22.06	22.33	22.23		
20	50	24		22.26	22.32	22.22		
20	50	50		22.25	22.24	22.13		
20	100	0		22.20	22.28	22.21		
20	1	0	64-QAM	22.36	22.46	22.38	30.97	1.2503
20	1	49		22.39	22.47	22.41		
20	1	99		22.45	22.47	22.37		
20	50	0		21.07	21.30	21.22		
20	50	24		21.25	21.31	21.23		
20	50	50		21.18	21.24	21.08		
20	100	0		21.20	21.27	21.18		
20	1	0	256-QAM	19.10	19.06	19.10	27.60	0.5754
20	1	49		19.07	19.06	19.08		
20	1	99		19.09	19.09	19.09		
20	50	0		19.05	19.05	19.08		
20	50	24		19.10	19.01	19.01		
20	50	50		19.03	19.06	19.05		
20	100	0		19.07	19.06	19.02		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 8.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.97	24.22	24.02	32.79	1.9011
15	1	37		24.05	24.29	24.02		
15	1	74		24.05	24.19	24.04		
15	36	0		22.95	23.26	23.13		
15	36	20		23.09	23.26	23.13		
15	36	39		23.12	23.26	23.02		
15	75	0		23.10	23.27	23.16		
15	1	0	16-QAM	23.30	23.47	23.36	31.98	1.5776
15	1	37		23.30	23.47	23.35		
15	1	74		23.32	23.45	23.48		
15	36	0		22.00	22.27	22.13		
15	36	20		22.13	22.27	22.18		
15	36	39		22.15	22.25	22.08		
15	75	0		22.08	22.26	22.14		
15	1	0	64-QAM	22.20	22.44	22.33	30.94	1.2417
15	1	37		22.32	22.42	22.27		
15	1	74		22.22	22.41	22.32		
15	36	0		21.03	21.30	21.14		
15	36	20		21.11	21.29	21.15		
15	36	39		21.11	21.27	21.06		
15	75	0		21.09	21.25	21.14		
15	1	0	256-QAM	19.01	19.08	19.00	27.59	0.5741
15	1	37		19.03	19.05	19.04		
15	1	74		19.09	19.03	19.01		
15	36	0		19.08	19.04	19.02		
15	36	20		19.02	19.09	19.02		
15	36	39		19.07	19.00	19.05		
15	75	0		19.09	19.09	19.09		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 8.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.91	24.22	24.07	32.83	1.9187
10	1	25		24.00	24.33	24.05		
10	1	49		23.98	24.21	23.94		
10	25	0		22.96	23.28	23.12		
10	25	12		23.04	23.31	23.11		
10	25	25		23.08	23.28	23.05		
10	50	0		23.03	23.26	23.09		
10	1	0	16-QAM	23.22	23.45	23.30	31.98	1.5776
10	1	25		23.40	23.48	23.42		
10	1	49		23.36	23.44	23.26		
10	25	0		21.95	22.31	22.14		
10	25	12		22.05	22.28	22.14		
10	25	25		22.09	22.29	22.04		
10	50	0		22.04	22.29	22.15		
10	1	0	64-QAM	22.01	22.48	22.24	30.98	1.2531
10	1	25		22.29	22.42	22.33		
10	1	49		22.16	22.39	22.35		
10	25	0		20.98	21.30	21.14		
10	25	12		21.09	21.28	21.15		
10	25	25		21.10	21.29	21.07		
10	50	0		21.04	21.27	21.12		
10	1	0	256-QAM	19.10	19.00	19.05	27.60	0.5754
10	1	25		19.07	19.04	19.03		
10	1	49		19.09	19.00	19.03		
10	25	0		19.08	19.02	19.05		
10	25	12		19.01	19.04	19.07		
10	25	25		19.03	19.02	19.00		
10	50	0		19.00	19.06	19.07		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 8.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.89	24.25	24.05	32.75	1.8836
5	1	12		23.89	24.23	23.99		
5	1	24		23.91	24.17	24.05		
5	12	0		22.96	23.25	23.10		
5	12	7		22.94	23.22	23.10		
5	12	13		22.94	23.21	23.08		
5	25	0		22.94	23.22	23.06		
5	1	0	16-QAM	23.31	23.49	23.34	31.99	1.5812
5	1	12		23.22	23.45	23.49		
5	1	24		23.24	23.47	23.41		
5	12	0		21.99	22.25	22.11		
5	12	7		22.03	22.25	22.12		
5	12	13		21.99	22.29	22.12		
5	25	0		21.99	22.24	22.10		
5	1	0	64-QAM	22.11	22.48	22.35	30.98	1.2531
5	1	12		22.20	22.44	22.26		
5	1	24		22.15	22.43	22.15		
5	12	0		20.94	21.30	21.12		
5	12	7		21.03	21.23	21.13		
5	12	13		21.01	21.24	21.07		
5	25	0		20.97	21.23	21.10		
5	1	0	256-QAM	19.05	19.01	19.00	27.60	0.5754
5	1	12		19.07	19.08	19.10		
5	1	24		19.04	19.08	19.08		
5	12	0		19.09	19.10	19.01		
5	12	7		19.09	19.06	19.00		
5	12	13		19.03	19.08	19.02		
5	25	0		19.07	19.02	19.03		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 8.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.78	24.14	23.95	32.75	1.8836
3	1	8		23.91	24.25	24.06		
3	1	14		23.78	24.14	23.93		
3	8	0		22.90	23.18	23.04		
3	8	4		22.95	23.21	23.05		
3	8	7		22.88	23.15	22.97		
3	15	0		22.90	23.17	23.02		
3	1	0	16-QAM	23.22	23.47	23.18	31.98	1.5776
3	1	8		23.27	23.45	23.48		
3	1	14		23.23	23.48	23.22		
3	8	0		21.97	22.26	22.12		
3	8	4		21.97	22.32	22.19		
3	8	7		21.99	22.28	22.15		
3	15	0		21.92	22.26	22.07		
3	1	0	64-QAM	22.00	22.46	22.22	30.96	1.2474
3	1	8		22.13	22.42	22.30		
3	1	14		22.04	22.45	22.16		
3	8	0		21.01	21.27	21.05		
3	8	4		20.98	21.31	21.12		
3	8	7		20.95	21.23	21.09		
3	15	0		20.95	21.26	21.09		
3	1	0	256-QAM	19.02	19.05	19.01	27.59	0.5741
3	1	8		19.05	19.03	19.09		
3	1	14		19.01	19.04	19.09		
3	8	0		19.06	19.05	19.03		
3	8	4		19.06	19.09	19.07		
3	8	7		19.03	19.00	19.05		
3	15	0		19.07	19.00	19.02		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 8.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.81	24.13	23.96	32.72	1.8707
1.4	1	3		23.90	24.13	23.91		
1.4	1	5		23.78	24.18	23.96		
1.4	3	0		23.84	24.18	23.94		
1.4	3	1		23.86	24.22	23.99		
1.4	3	3		23.77	24.20	23.96		
1.4	6	0		22.78	23.19	22.97		
1.4	1	0	16-QAM	23.21	23.45	23.34	31.97	1.5740
1.4	1	3		23.23	23.47	23.38		
1.4	1	5		23.25	23.41	23.29		
1.4	3	0		22.92	23.41	23.17		
1.4	3	1		22.98	23.45	23.21		
1.4	3	3		22.95	23.40	23.26		
1.4	6	0		21.96	22.29	22.06		
1.4	1	0	64-QAM	22.17	22.48	22.38	30.98	1.2531
1.4	1	3		22.12	22.43	22.15		
1.4	1	5		22.09	22.41	22.27		
1.4	3	0		22.02	22.39	22.14		
1.4	3	1		22.03	22.43	22.14		
1.4	3	3		21.98	22.41	22.06		
1.4	6	0		20.89	21.29	21.11		
1.4	1	0	256-QAM	19.00	19.05	19.02	27.60	0.5754
1.4	1	3		19.09	19.07	19.07		
1.4	1	5		19.00	19.06	19.00		
1.4	3	0		19.09	19.01	19.10		
1.4	3	1		19.00	19.09	19.01		
1.4	3	3		19.10	19.00	19.07		
1.4	6	0		19.06	19.05	19.08		
Limit	EIRP < 2W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 6.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.85	23.85	23.90	28.74	0.7482
10	1	25		24.03	24.29	24.26		
10	1	49		24.07	24.24	24.00		
10	25	0		22.95	23.19	23.17		
10	25	12		23.10	23.27	23.17		
10	25	25		23.15	23.32	23.17		
10	50	0		23.11	23.21	23.12		
10	1	0	16-QAM	23.15	23.27	23.47	27.93	0.6209
10	1	25		23.43	23.48	23.36		
10	1	49		23.46	23.42	23.25		
10	25	0		21.98	22.23	22.21		
10	25	12		22.14	22.28	22.18		
10	25	25		22.15	22.33	22.20		
10	50	0		22.10	22.23	22.15		
10	1	0	64-QAM	22.09	22.42	22.15	26.91	0.4909
10	1	25		22.36	22.45	22.30		
10	1	49		22.35	22.46	22.12		
10	25	0		21.02	21.22	21.24		
10	25	12		21.13	21.26	21.20		
10	25	25		21.12	21.32	21.20		
10	50	0		21.14	21.26	21.15		
10	1	0	256-QAM	19.03	19.09	19.10	23.55	0.2265
10	1	25		19.05	19.10	19.09		
10	1	49		19.06	19.01	19.03		
10	25	0		19.07	19.04	19.09		
10	25	12		19.07	19.10	19.09		
10	25	25		19.04	19.10	19.05		
10	50	0		19.02	19.02	19.09		
Limit	ERP < 7W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 6.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.85	24.17	24.12	28.71	0.7430
5	1	12		23.88	24.26	24.12		
5	1	24		23.91	24.26	23.99		
5	12	0		22.89	23.21	23.13		
5	12	7		23.01	23.24	23.15		
5	12	13		22.99	23.26	23.11		
5	25	0		22.96	23.19	23.14		
5	1	0	16-QAM	23.32	23.46	23.44	27.94	0.6223
5	1	12		23.42	23.47	23.49		
5	1	24		23.43	23.48	23.47		
5	12	0		21.91	22.26	22.20		
5	12	7		22.09	22.30	22.21		
5	12	13		22.02	22.34	22.18		
5	25	0		22.01	22.25	22.16		
5	1	0	64-QAM	22.02	22.43	22.45	26.92	0.4920
5	1	12		22.20	22.47	22.42		
5	1	24		22.23	22.39	22.30		
5	12	0		20.92	21.33	21.16		
5	12	7		21.01	21.29	21.22		
5	12	13		21.01	21.35	21.14		
5	25	0		21.00	21.24	21.15		
5	1	0	256-QAM	19.01	19.06	19.05	23.55	0.2265
5	1	12		19.03	19.06	19.00		
5	1	24		19.01	19.10	19.01		
5	12	0		19.06	19.02	19.00		
5	12	7		19.05	19.05	19.08		
5	12	13		19.03	19.01	19.03		
5	25	0		19.08	19.03	19.10		
Limit	ERP < 7W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 6.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.78	24.13	24.04	28.63	0.7295
3	1	8		23.85	24.18	24.00		
3	1	14		23.81	24.17	23.86		
3	8	0		22.81	23.20	23.01		
3	8	4		22.92	23.20	23.05		
3	8	7		22.92	23.25	22.99		
3	15	0		22.91	23.20	23.03		
3	1	0	16-QAM	23.15	23.48	23.47	27.93	0.6209
3	1	8		23.23	23.45	23.47		
3	1	14		23.37	23.42	23.40		
3	8	0		21.98	22.29	22.10		
3	8	4		22.02	22.31	22.20		
3	8	7		22.03	22.34	22.10		
3	15	0		21.93	22.23	22.06		
3	1	0	64-QAM	22.10	22.41	22.23	26.95	0.4955
3	1	8		22.08	22.50	22.39		
3	1	14		22.24	22.47	22.21		
3	8	0		20.88	21.28	21.07		
3	8	4		20.98	21.28	21.26		
3	8	7		21.00	21.32	21.07		
3	15	0		20.95	21.22	21.11		
3	1	0	256-QAM	19.00	19.08	19.05	23.55	0.2265
3	1	8		19.02	19.04	19.08		
3	1	14		19.06	19.02	19.03		
3	8	0		19.03	19.02	19.00		
3	8	4		19.00	19.00	19.07		
3	8	7		19.04	19.03	19.06		
3	15	0		19.01	19.10	19.00		
Limit	ERP < 7W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 6.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.79	24.15	23.90	28.62	0.7278
1.4	1	3		23.84	24.17	23.96		
1.4	1	5		23.84	24.14	23.86		
1.4	3	0		23.81	24.14	23.93		
1.4	3	1		23.83	24.15	23.92		
1.4	3	3		23.82	24.14	23.87		
1.4	6	0		22.83	23.08	22.97		
1.4	1	0	16-QAM	23.26	23.47	23.30	27.94	0.6223
1.4	1	3		23.16	23.41	23.36		
1.4	1	5		23.27	23.47	23.19		
1.4	3	0		23.05	23.42	23.11		
1.4	3	1		23.02	23.49	23.22		
1.4	3	3		22.95	23.43	23.19		
1.4	6	0		21.90	22.24	22.04		
1.4	1	0	64-QAM	22.03	22.48	22.30	26.94	0.4943
1.4	1	3		22.07	22.42	22.26		
1.4	1	5		22.10	22.48	22.35		
1.4	3	0		21.96	22.41	22.25		
1.4	3	1		21.97	22.49	22.13		
1.4	3	3		22.04	22.42	22.17		
1.4	6	0		20.93	21.24	21.07		
1.4	1	0	256-QAM	18.99	19.04	19.11	23.56	0.2270
1.4	1	3		18.96	19.11	19.00		
1.4	1	5		18.97	18.95	18.99		
1.4	3	0		18.98	19.01	19.01		
1.4	3	1		19.08	19.11	19.04		
1.4	3	3		19.01	19.01	19.00		
1.4	6	0		18.99	19.02	19.06		
Limit	ERP < 7W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = 6.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	24.16	24.42	24.28	28.37	0.6871
10	1	25		24.38	24.40	24.17		
10	1	49		24.37	24.23	24.07		
10	25	0		23.32	23.34	23.36		
10	25	12		23.44	23.42	23.37		
10	25	25		23.50	23.33	23.24		
10	50	0		23.44	23.36	23.32		
10	1	0	16-QAM	23.40	23.47	23.47	27.42	0.5521
10	1	25		23.42	23.45	23.43		
10	1	49		23.40	23.41	23.46		
10	25	0		22.32	22.38	22.40		
10	25	12		22.48	22.44	22.38		
10	25	25		22.49	22.40	22.29		
10	50	0		22.46	22.44	22.36		
10	1	0	64-QAM	22.48	22.48	22.40	26.45	0.4416
10	1	25		22.50	22.42	22.40		
10	1	49		22.42	22.36	22.40		
10	25	0		21.32	21.37	21.40		
10	25	12		21.48	21.41	21.36		
10	25	25		21.42	21.39	21.23		
10	50	0		21.42	21.37	21.35		
10	1	0	256-QAM	19.10	19.17	19.18	23.15	0.2065
10	1	25		19.13	19.18	19.19		
10	1	49		19.13	19.11	19.12		
10	25	0		19.14	19.19	19.12		
10	25	12		19.16	19.20	19.11		
10	25	25		19.14	19.11	19.19		
10	50	0		19.13	19.20	19.18		
Limit	ERP < 3W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = 6.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	24.31	24.32	24.17	28.35	0.6839
5	1	12		24.32	24.40	24.13		
5	1	24		24.28	24.20	24.12		
5	12	0		23.30	23.34	23.27		
5	12	7		23.39	23.37	23.22		
5	12	13		23.37	23.33	23.09		
5	25	0		23.35	23.36	23.25		
5	1	0	16-QAM	23.42	23.47	23.48	27.43	0.5534
5	1	12		23.40	23.45	23.46		
5	1	24		23.38	23.40	23.43		
5	12	0		22.31	22.42	22.31		
5	12	7		22.48	22.44	22.30		
5	12	13		22.38	22.41	22.17		
5	25	0		22.37	22.34	22.24		
5	1	0	64-QAM	22.39	22.42	22.46	26.41	0.4375
5	1	12		22.42	22.43	22.46		
5	1	24		22.43	22.40	22.32		
5	12	0		21.26	21.37	21.24		
5	12	7		21.42	21.40	21.27		
5	12	13		21.39	21.38	21.14		
5	25	0		21.36	21.34	21.21		
5	1	0	256-QAM	19.16	19.12	19.10	23.15	0.2065
5	1	12		19.11	19.14	19.18		
5	1	24		19.20	19.14	19.13		
5	12	0		19.20	19.14	19.10		
5	12	7		19.11	19.15	19.14		
5	12	13		19.20	19.13	19.11		
5	25	0		19.19	19.11	19.15		
Limit	ERP < 3W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = 6.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	24.23	24.29	24.11	28.33	0.6808
3	1	8		24.38	24.36	24.09		
3	1	14		24.25	24.26	23.99		
3	8	0		23.32	23.32	23.15		
3	8	4		23.38	23.32	23.14		
3	8	7		23.33	23.30	23.13		
3	15	0		23.33	23.32	23.16		
3	1	0	16-QAM	23.42	23.46	23.50	27.45	0.5559
3	1	8		23.48	23.43	23.44		
3	1	14		23.40	23.42	23.45		
3	8	0		22.45	22.43	22.31		
3	8	4		22.45	22.44	22.25		
3	8	7		22.48	22.40	22.22		
3	15	0		22.38	22.39	22.21		
3	1	0	64-QAM	22.43	22.49	22.37	26.44	0.4406
3	1	8		22.39	22.39	22.43		
3	1	14		22.40	22.40	22.18		
3	8	0		21.38	21.38	21.20		
3	8	4		21.42	21.42	21.27		
3	8	7		21.43	21.36	21.18		
3	15	0		21.37	21.37	21.20		
3	1	0	256-QAM	19.10	19.13	19.19	23.15	0.2065
3	1	8		19.12	19.19	19.19		
3	1	14		19.19	19.11	19.17		
3	8	0		19.14	19.11	19.19		
3	8	4		19.15	19.11	19.19		
3	8	7		19.11	19.11	19.18		
3	15	0		19.10	19.17	19.20		
Limit	ERP < 3W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = 6.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	24.14	24.21	23.88	28.28	0.6730
1.4	1	3		24.23	24.22	24.01		
1.4	1	5		24.13	24.28	23.97		
1.4	3	0		24.18	24.23	24.01		
1.4	3	1		24.22	24.33	24.00		
1.4	3	3		24.16	24.31	24.01		
1.4	6	0		23.25	23.24	23.02		
1.4	1	0	16-QAM	23.47	23.48	23.44	27.43	0.5534
1.4	1	3		23.40	23.40	23.47		
1.4	1	5		23.44	23.47	23.35		
1.4	3	0		23.42	23.46	23.18		
1.4	3	1		23.48	23.42	23.22		
1.4	3	3		23.42	23.44	23.23		
1.4	6	0		22.34	22.39	22.17		
1.4	1	0	64-QAM	22.41	22.41	22.25	26.42	0.4385
1.4	1	3		22.41	22.43	22.29		
1.4	1	5		22.47	22.47	22.19		
1.4	3	0		22.46	22.47	22.30		
1.4	3	1		22.45	22.43	22.24		
1.4	3	3		22.45	22.45	22.28		
1.4	6	0		21.31	21.35	21.16		
1.4	1	0	256-QAM	19.19	19.19	19.12	23.15	0.2065
1.4	1	3		19.18	19.10	19.10		
1.4	1	5		19.16	19.20	19.13		
1.4	3	0		19.13	19.13	19.20		
1.4	3	1		19.20	19.12	19.17		
1.4	3	3		19.11	19.12	19.14		
1.4	6	0		19.11	19.10	19.16		
Limit	ERP < 3W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG522653A

LTE Band 30 Maximum Average Power [dBm] (GT - LC = 8.5 dB)											
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)			
10	1	0	QPSK	-	23.99	-	32.74	1.8793			
10	1	25			24.24						
10	1	49			24.11						
10	25	0			23.05						
10	25	12			23.17						
10	25	25			23.21						
10	50	0			23.15						
10	1	0	16-QAM		23.23		-	31.95	1.5668		
10	1	25			23.45						
10	1	49			23.42						
10	25	0			22.13						
10	25	12			22.18						
10	25	25			22.31						
10	50	0			22.19						
10	1	0	64-QAM		22.13			-	30.92	1.2359	
10	1	25			22.35						
10	1	49			22.42						
10	25	0			21.06						
10	25	12			21.25						
10	25	25			21.28						
10	50	0			21.14						
10	1	0	256-QAM		18.84				-	27.40	0.5495
10	1	25			18.83						
10	1	49			18.81						
10	25	0			18.90						
10	25	12			18.80						
10	25	25			18.87						
10	50	0			18.87						
Limit	EIRP < 2W/5MHz			Result						Pass	



LTE Band 30 Maximum Average Power [dBm] (GT - LC = 8.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.99	24.06	24.18	32.73	1.8750
5	1	12		24.13	24.23	24.20		
5	1	24		24.07	24.15	24.14		
5	12	0		23.04	23.18	23.23		
5	12	7		23.12	23.20	23.25		
5	12	13		23.11	23.22	23.20		
5	25	0		23.11	23.15	23.21		
5	1	0	16-QAM	23.40	23.49	23.41	31.99	1.5812
5	1	12		23.42	23.41	23.45		
5	1	24		23.49	23.43	23.43		
5	12	0		22.06	22.22	22.31		
5	12	7		22.18	22.25	22.32		
5	12	13		22.17	22.25	22.24		
5	25	0		22.14	22.16	22.24		
5	1	0	64-QAM	22.31	22.43	22.45	30.97	1.2503
5	1	12		22.39	22.42	22.42		
5	1	24		22.41	22.31	22.47		
5	12	0		21.06	21.16	21.27		
5	12	7		21.20	21.25	21.32		
5	12	13		21.14	21.26	21.23		
5	25	0		21.10	21.12	21.25		
5	1	0	256-QAM	18.95	18.81	18.87	27.50	0.5623
5	1	12		18.81	18.83	18.96		
5	1	24		18.94	18.87	18.93		
5	12	0		18.80	18.91	18.87		
5	12	7		18.80	18.86	18.95		
5	12	13		18.83	18.99	18.86		
5	25	0		18.93	19.00	18.87		
Limit	EIRP < 2W/5MHz			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG522653A

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.91	24.12	24.08	29.62	0.9162
20	1	49		24.03	24.05	24.07		
20	1	99		23.95	23.95	23.82		
20	50	0		22.99	23.04	23.06		
20	50	24		23.09	23.12	23.06		
20	50	50		23.06	23.06	22.98		
20	100	0		23.06	23.11	23.04		
20	1	0	16-QAM	23.33	23.31	23.49	28.99	0.7925
20	1	49		23.41	23.44	23.39		
20	1	99		23.28	23.22	23.08		
20	50	0		21.97	22.04	22.07		
20	50	24		22.07	22.11	22.09		
20	50	50		22.06	22.11	21.98		
20	100	0		22.06	22.14	22.02		
20	1	0	64-QAM	22.19	22.26	22.19	27.90	0.6166
20	1	49		22.39	22.34	22.40		
20	1	99		22.26	22.09	22.23		
20	50	0		20.98	21.07	21.10		
20	50	24		21.08	21.11	21.08		
20	50	50		21.06	21.06	20.99		
20	100	0		21.08	21.10	21.05		
20	1	0	256-QAM	18.95	18.87	18.94	24.45	0.2786
20	1	49		18.87	18.86	18.94		
20	1	99		18.93	18.91	18.94		
20	50	0		18.91	18.89	18.92		
20	50	24		18.91	18.85	18.88		
20	50	50		18.89	18.85	18.89		
20	100	0		18.87	18.92	18.92		
Limit	EIRP < 1W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.96	24.03	24.09	29.59	0.9099
15	1	37		23.99	24.08	23.98		
15	1	74		23.99	23.99	23.87		
15	36	0		22.94	23.02	23.12		
15	36	20		23.03	23.11	23.10		
15	36	39		23.00	23.07	22.93		
15	75	0		23.05	23.08	23.01		
15	1	0	16-QAM	23.25	23.38	23.39	28.94	0.7834
15	1	37		23.36	23.41	23.44		
15	1	74		23.26	23.25	23.20		
15	36	0		21.99	22.05	22.16		
15	36	20		22.01	22.14	22.15		
15	36	39		22.05	22.09	21.98		
15	75	0		22.04	22.09	21.98		
15	1	0	64-QAM	22.19	22.30	22.24	27.90	0.6166
15	1	37		22.27	22.20	22.40		
15	1	74		22.17	22.15	22.14		
15	36	0		20.96	21.03	21.11		
15	36	20		21.04	21.12	21.13		
15	36	39		21.05	21.08	20.95		
15	75	0		21.04	21.14	21.03		
15	1	0	256-QAM	18.92	18.92	18.85	24.45	0.2786
15	1	37		18.95	18.91	18.91		
15	1	74		18.90	18.86	18.91		
15	36	0		18.92	18.88	18.86		
15	36	20		18.92	18.95	18.93		
15	36	39		18.86	18.90	18.89		
15	75	0		18.93	18.92	18.95		
Limit	EIRP < 1W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.88	24.01	24.08	29.61	0.9141
10	1	25		23.99	24.11	24.01		
10	1	49		23.95	24.03	23.91		
10	25	0		22.98	23.04	23.10		
10	25	12		23.06	23.13	23.07		
10	25	25		23.03	23.10	22.96		
10	50	0		23.02	23.12	23.08		
10	1	0	16-QAM	23.11	23.48	23.40	28.98	0.7907
10	1	25		23.21	23.41	23.31		
10	1	49		23.14	23.38	23.23		
10	25	0		22.04	22.06	22.09		
10	25	12		22.04	22.14	22.11		
10	25	25		22.03	22.12	21.93		
10	50	0		22.01	22.14	22.14		
10	1	0	64-QAM	22.07	22.27	22.34	27.93	0.6209
10	1	25		22.20	22.29	22.43		
10	1	49		22.09	22.28	22.15		
10	25	0		21.00	21.07	21.06		
10	25	12		21.04	21.15	21.12		
10	25	25		21.06	21.13	21.04		
10	50	0		21.05	21.14	21.08		
10	1	0	256-QAM	18.87	18.88	18.86	24.45	0.2786
10	1	25		18.95	18.87	18.88		
10	1	49		18.92	18.89	18.94		
10	25	0		18.87	18.85	18.86		
10	25	12		18.86	18.94	18.91		
10	25	25		18.91	18.95	18.92		
10	50	0		18.94	18.89	18.93		
Limit	EIRP < 1W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.91	23.97	23.99	29.60	0.9120
5	1	12		24.02	24.10	24.02		
5	1	24		23.97	24.00	23.86		
5	12	0		23.02	23.09	23.06		
5	12	7		23.08	23.11	23.04		
5	12	13		23.04	23.08	22.89		
5	25	0		23.03	23.10	22.98		
5	1	0	16-QAM	23.28	23.31	23.38	28.93	0.7816
5	1	12		23.31	23.43	23.42		
5	1	24		23.14	23.31	23.17		
5	12	0		22.05	22.13	22.03		
5	12	7		22.10	22.20	22.04		
5	12	13		22.06	22.16	21.97		
5	25	0		22.00	22.14	21.98		
5	1	0	64-QAM	22.10	22.13	22.21	27.74	0.5943
5	1	12		22.12	22.24	22.19		
5	1	24		22.14	22.20	22.08		
5	12	0		21.05	21.14	21.02		
5	12	7		21.07	21.21	21.08		
5	12	13		21.03	21.12	20.96		
5	25	0		21.04	21.12	21.00		
5	1	0	256-QAM	18.95	18.87	18.91	24.45	0.2786
5	1	12		18.88	18.90	18.85		
5	1	24		18.87	18.89	18.86		
5	12	0		18.90	18.93	18.94		
5	12	7		18.87	18.92	18.90		
5	12	13		18.88	18.87	18.88		
5	25	0		18.90	18.87	18.95		
Limit	EIRP < 1W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.87	23.92	23.88	29.56	0.9036
3	1	8		23.95	24.06	23.98		
3	1	14		23.89	23.95	23.79		
3	8	0		23.00	23.07	23.00		
3	8	4		23.08	23.13	23.02		
3	8	7		23.03	23.11	22.95		
3	15	0		23.02	23.09	22.96		
3	1	0	16-QAM	23.26	23.19	23.15	28.92	0.7798
3	1	8		23.30	23.42	23.29		
3	1	14		23.29	23.25	23.13		
3	8	0		22.10	22.12	22.12		
3	8	4		22.12	22.21	22.08		
3	8	7		22.09	22.07	22.10		
3	15	0		22.04	22.15	22.02		
3	1	0	64-QAM	22.23	22.20	22.10	27.86	0.6109
3	1	8		22.36	22.27	22.24		
3	1	14		22.08	22.05	22.08		
3	8	0		21.02	21.15	21.02		
3	8	4		21.14	21.18	21.06		
3	8	7		21.07	21.08	21.03		
3	15	0		21.06	21.10	21.07		
3	1	0	256-QAM	18.90	18.90	18.86	24.45	0.2786
3	1	8		18.93	18.93	18.89		
3	1	14		18.93	18.95	18.95		
3	8	0		18.95	18.85	18.87		
3	8	4		18.93	18.91	18.86		
3	8	7		18.95	18.88	18.93		
3	15	0		18.88	18.93	18.90		
Limit	EIRP < 1W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.88	23.99	23.85	29.50	0.8913
1.4	1	3		23.77	23.98	23.94		
1.4	1	5		23.83	23.86	23.83		
1.4	3	0		23.87	24.00	23.84		
1.4	3	1		23.90	23.99	23.80		
1.4	3	3		23.89	23.95	23.82		
1.4	6	0		22.91	23.00	22.86		
1.4	1	0	16-QAM	23.24	23.35	23.30	28.95	0.7852
1.4	1	3		23.45	23.39	23.35		
1.4	1	5		23.32	23.33	23.25		
1.4	3	0		23.10	23.10	23.05		
1.4	3	1		23.05	23.08	23.02		
1.4	3	3		23.11	23.09	23.02		
1.4	6	0		22.07	22.12	22.03		
1.4	1	0	64-QAM	22.15	22.16	22.07	27.71	0.5902
1.4	1	3		22.09	22.14	22.18		
1.4	1	5		22.02	22.21	22.03		
1.4	3	0		22.00	22.17	22.00		
1.4	3	1		22.02	22.20	22.08		
1.4	3	3		22.12	22.12	22.13		
1.4	6	0		21.02	21.14	21.03		
1.4	1	0	256-QAM	18.90	18.89	18.90	24.44	0.2780
1.4	1	3		18.94	18.92	18.93		
1.4	1	5		18.94	18.92	18.87		
1.4	3	0		18.94	18.93	18.90		
1.4	3	1		18.92	18.92	18.91		
1.4	3	3		18.85	18.91	18.86		
1.4	6	0		18.86	18.91	18.89		
Limit	EIRP < 1W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG522653A

LTE Band 14 Maximum Average Power [dBm] (GT - LC = 6.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	24.02	-	28.27	0.6714
10	1	25			23.87			
10	1	49			23.57			
10	25	0			22.98			
10	25	12			22.89			
10	25	25			22.75			
10	50	0			22.84			
10	1	0	16-QAM		23.32		27.57	0.5715
10	1	25			23.15			
10	1	49			22.81			
10	25	0			21.99			
10	25	12			21.94			
10	25	25			21.74			
10	50	0			21.85			
10	1	0	64-QAM		22.22		26.47	0.4436
10	1	25			22.07			
10	1	49			21.88			
10	25	0			20.97			
10	25	12			20.88			
10	25	25			20.73			
10	50	0			20.85			
10	1	0	256-QAM		18.93		23.25	0.2113
10	1	25			18.94			
10	1	49			18.96			
10	25	0			19.00			
10	25	12			18.98			
10	25	25			18.96			
10	50	0			18.92			
Limit	ERP < 3W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG522653A

LTE Band 14 Maximum Average Power [dBm] (GT - LC = 6.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.99	23.91	23.72	28.24	0.6668
5	1	12		23.99	23.87	23.69		
5	1	24		23.80	23.65	23.57		
5	12	0		23.05	22.86	22.75		
5	12	7		22.96	22.84	22.73		
5	12	13		22.89	22.68	22.55		
5	25	0		22.92	22.82	22.69		
5	1	0	16-QAM	23.39	23.23	23.08	27.64	0.5808
5	1	12		23.29	23.16	23.05		
5	1	24		23.09	23.01	22.95		
5	12	0		22.10	21.89	21.79		
5	12	7		22.05	21.88	21.75		
5	12	13		21.96	21.72	21.60		
5	25	0		21.98	21.83	21.67		
5	1	0	64-QAM	22.12	22.17	21.97	26.42	0.4385
5	1	12		22.16	22.00	21.91		
5	1	24		21.95	21.94	21.70		
5	12	0		21.08	20.90	20.78		
5	12	7		20.97	20.89	20.75		
5	12	13		20.89	20.70	20.57		
5	25	0		20.96	20.81	20.69		
5	1	0	256-QAM	19.00	18.94	18.92	23.25	0.2113
5	1	12		18.97	18.96	18.99		
5	1	24		18.90	18.90	18.99		
5	12	0		18.95	18.93	18.90		
5	12	7		18.91	18.91	18.97		
5	12	13		18.96	18.91	18.95		
5	25	0		18.91	18.90	18.91		
Limit	ERP < 3W			Result			Pass	



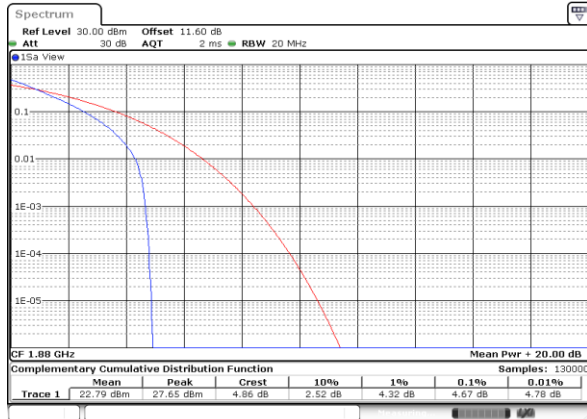
LTE Band 2

Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.67	5.86	6.49	6.55	PASS

LTE Band 2 / 20MHz / QPSK

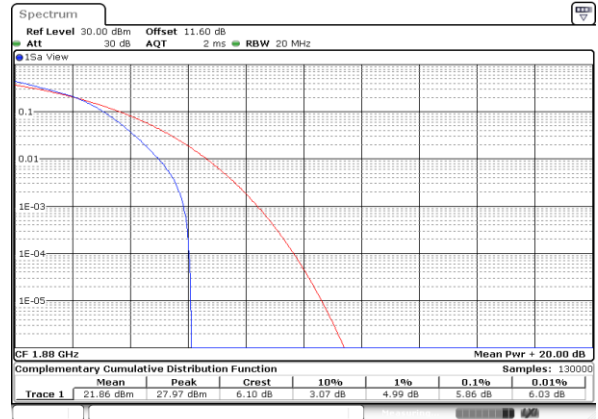
Middle Channel / Full RB



Date: 17.MAR.2025 07:29:34

LTE Band 2 / 20MHz / 16QAM

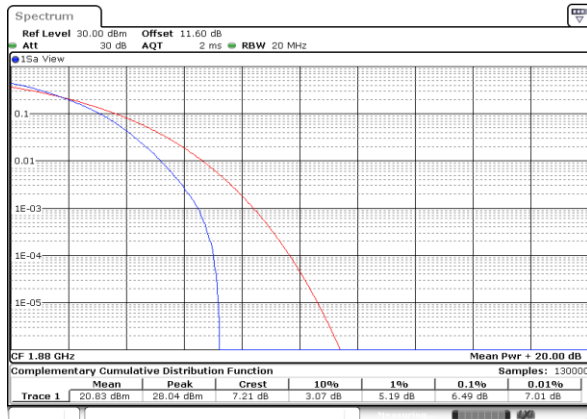
Middle Channel / Full RB



Date: 17.MAR.2025 07:29:58

LTE Band 2 / 20MHz / 64QAM

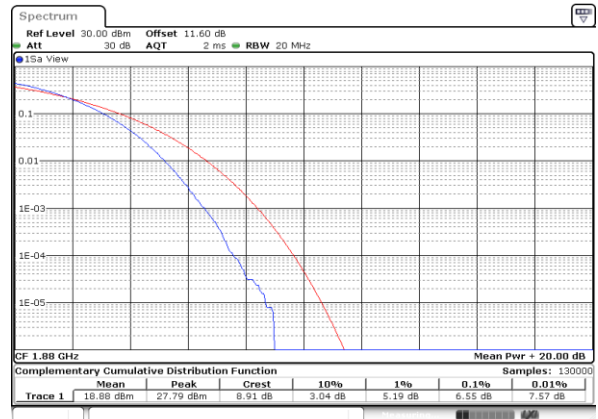
Middle Channel / Full RB



Date: 17.MAR.2025 07:30:21

LTE Band 2 / 20MHz / 256QAM

Middle Channel / Full RB



Date: 17.MAR.2025 07:30:45

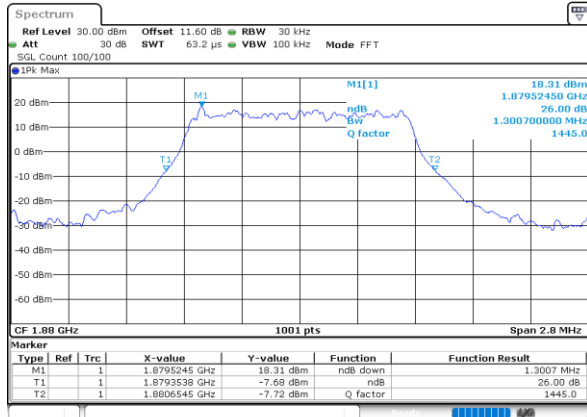
**26dB Bandwidth**

Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.30	1.31	3.06	3.10	4.94	4.95	9.75	9.89	14.50	14.35	19.18	18.94
Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	1.32	1.30	3.10	3.08	4.87	5.00	10.00	9.97	14.47	14.29	19.10	19.14

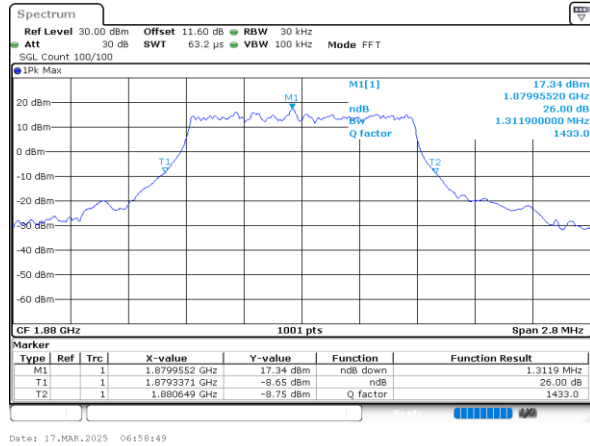


LTE Band 2

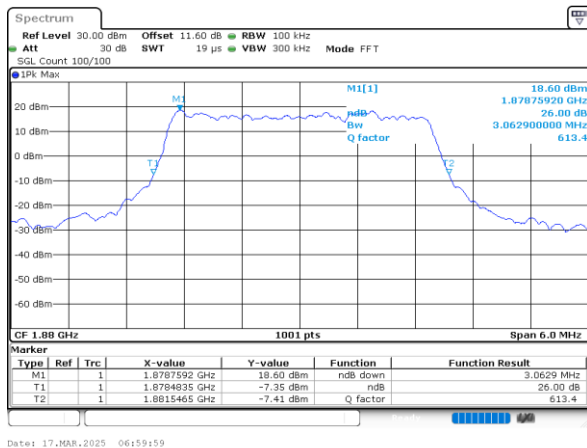
Middle Channel / 1.4MHz / QPSK



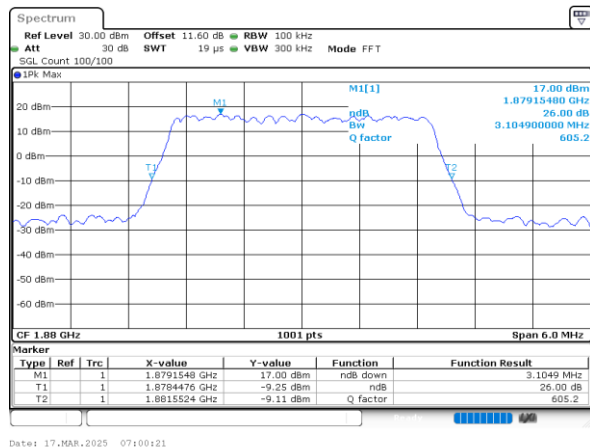
Middle Channel / 1.4MHz / 16QAM



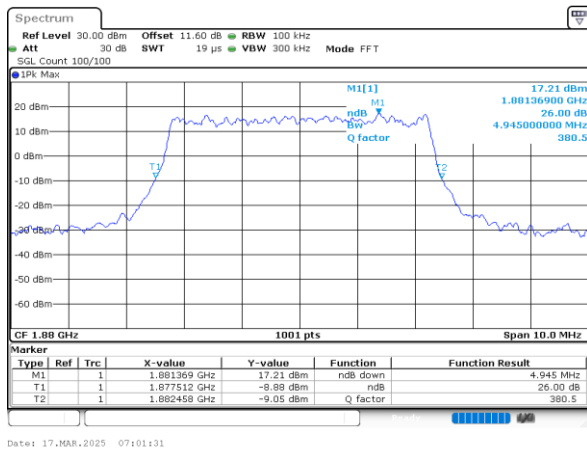
Middle Channel / 3MHz / QPSK



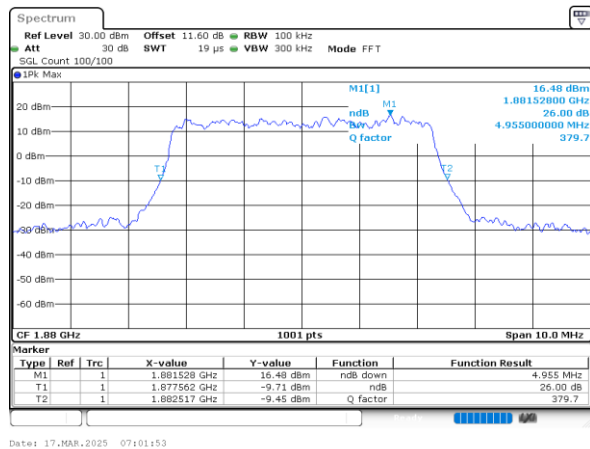
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



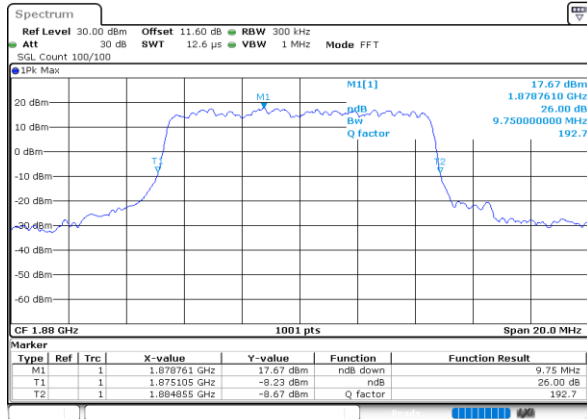
Middle Channel / 5MHz / 16QAM



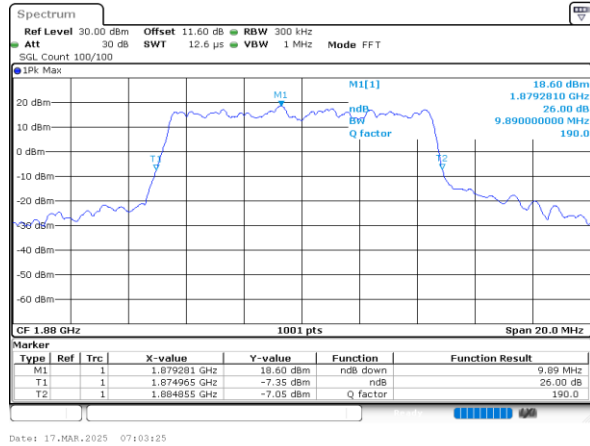


LTE Band 2

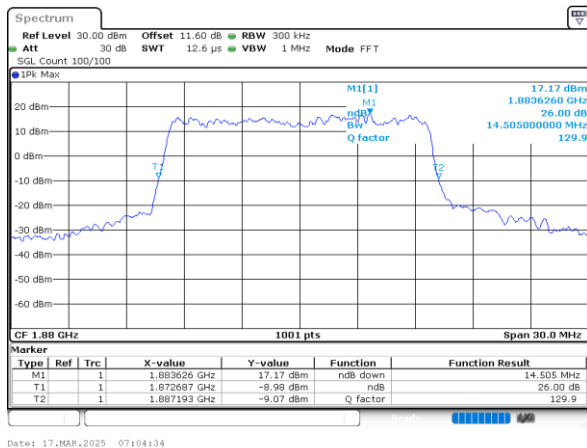
Middle Channel / 10MHz / QPSK



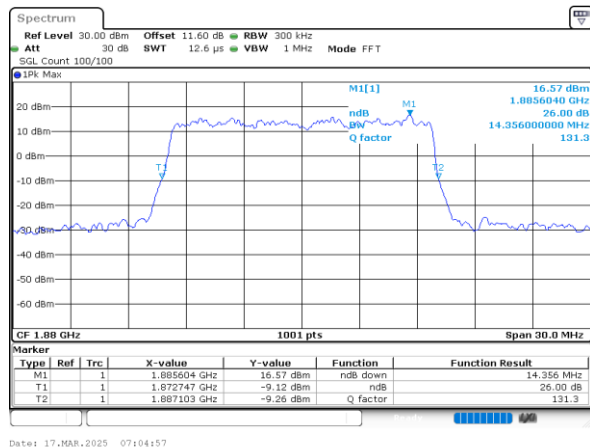
Middle Channel / 10MHz / 16QAM



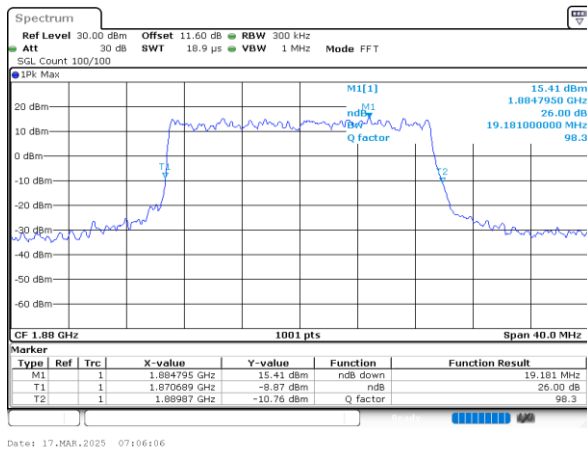
Middle Channel / 15MHz / QPSK



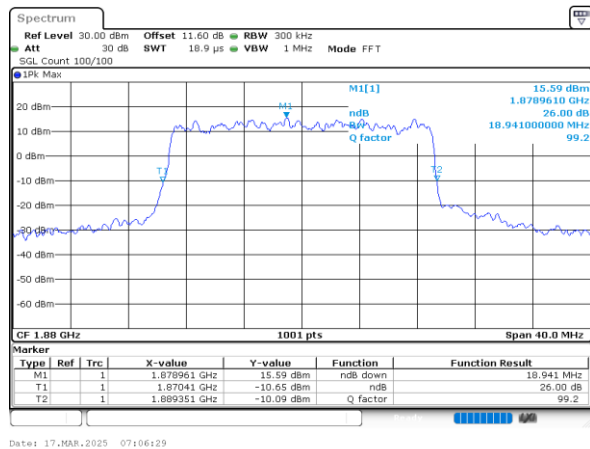
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



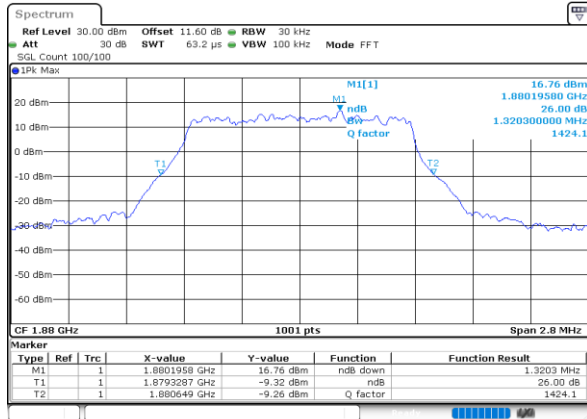
Middle Channel / 20MHz / 16QAM



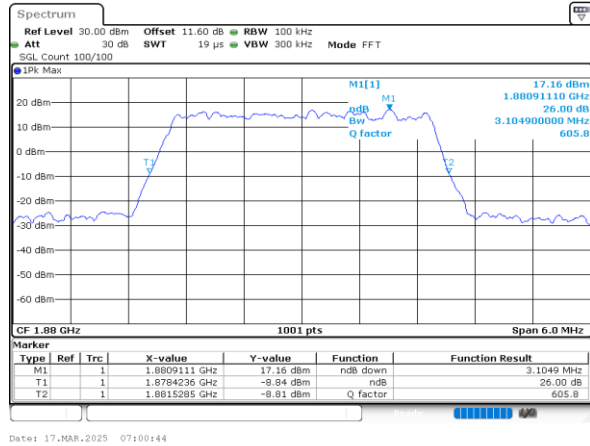


LTE Band 2

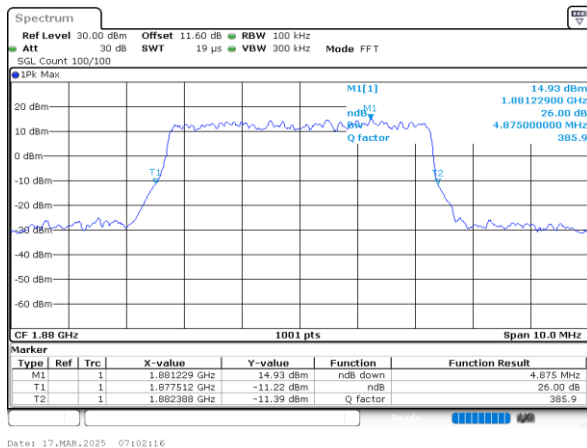
Middle Channel / 1.4MHz / 64QAM



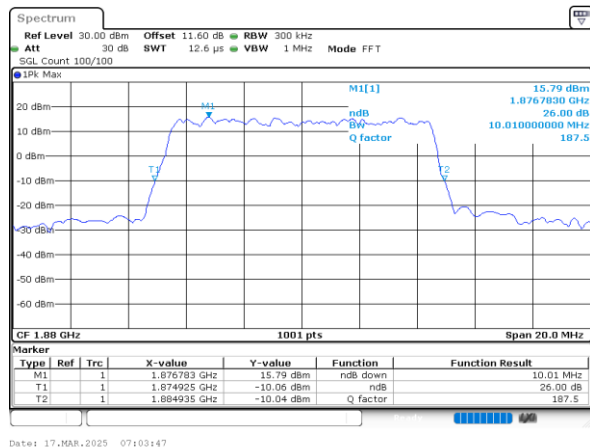
Middle Channel / 3MHz / 64QAM



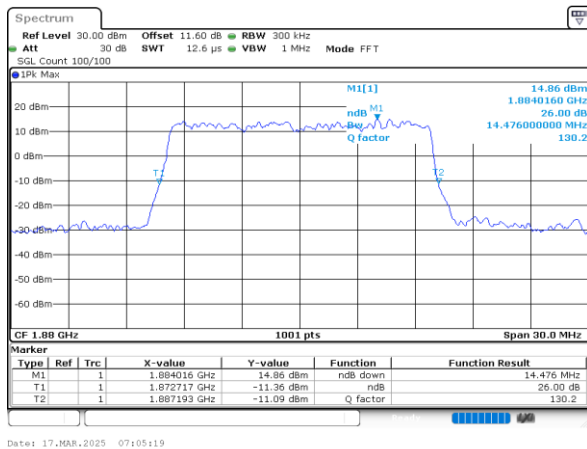
Middle Channel / 5MHz / 64QAM



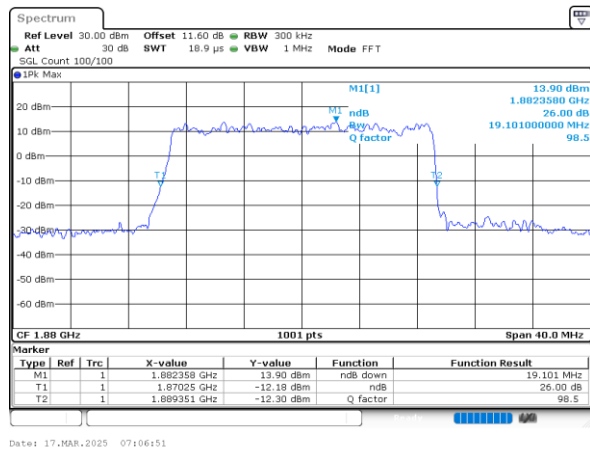
Middle Channel / 10MHz / 64QAM



Middle Channel / 15MHz / 64QAM



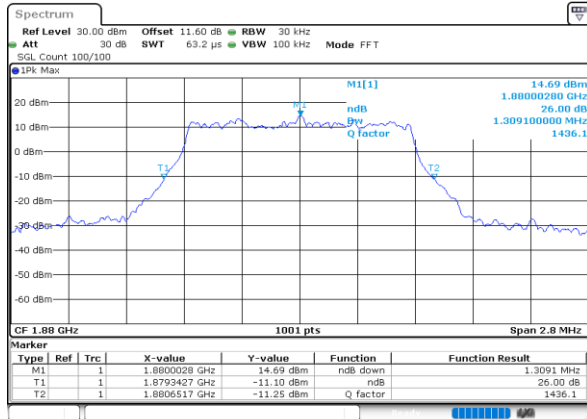
Middle Channel / 20MHz / 64QAM



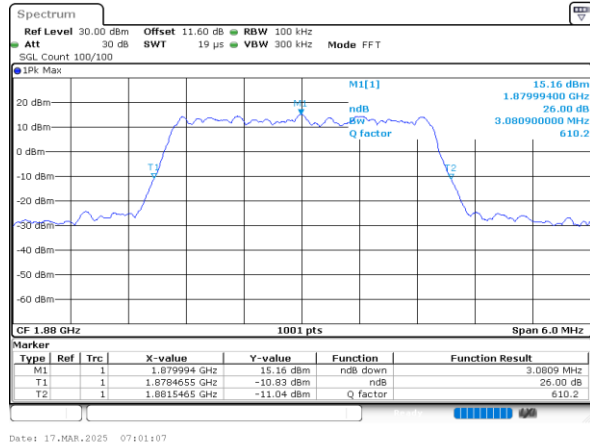


LTE Band 2

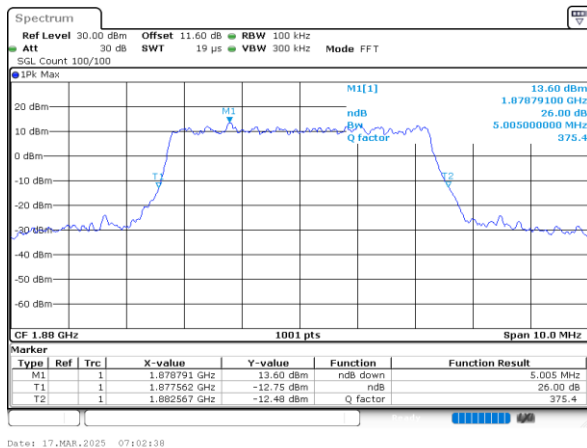
Middle Channel / 1.4MHz / 256QAM



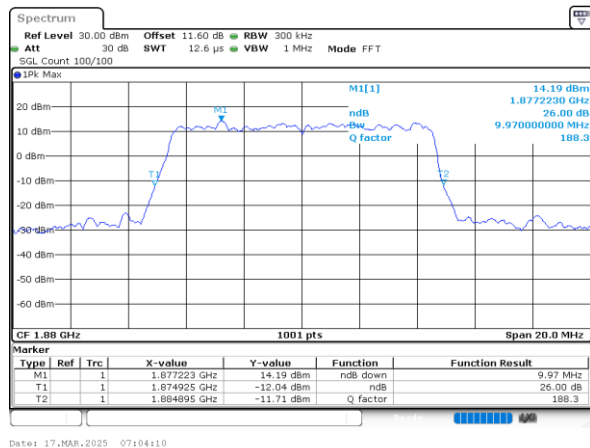
Middle Channel / 3MHz / 256QAM



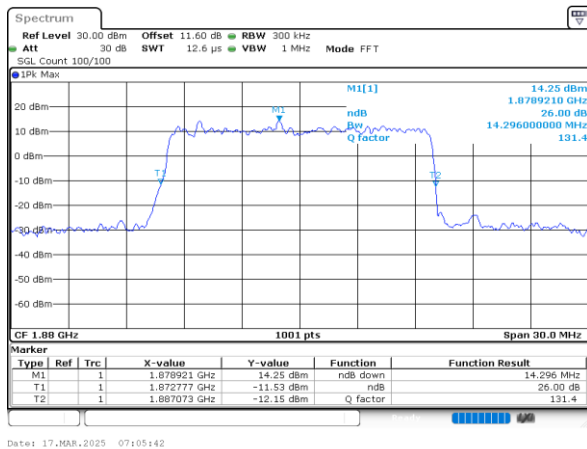
Middle Channel / 5MHz / 256QAM



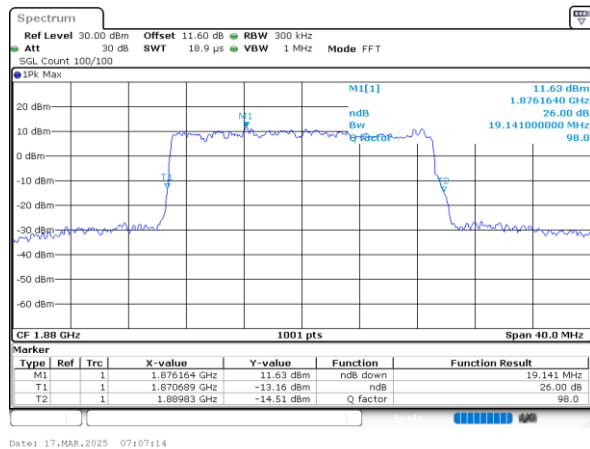
Middle Channel / 10MHz / 256QAM



Middle Channel / 15MHz / 256QAM



Middle Channel / 20MHz / 256QAM



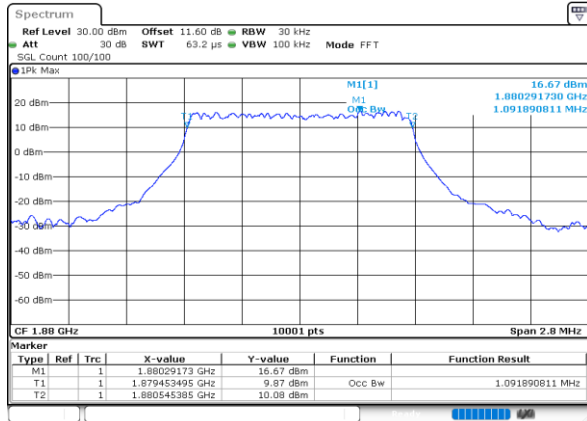
**Occupied Bandwidth**

Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.09	1.10	2.71	2.74	4.50	4.50	9.07	9.01	13.39	13.47	17.89	17.83
Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	1.09	1.09	2.72	2.76	4.50	4.48	9.01	9.04	13.41	13.46	17.90	17.89

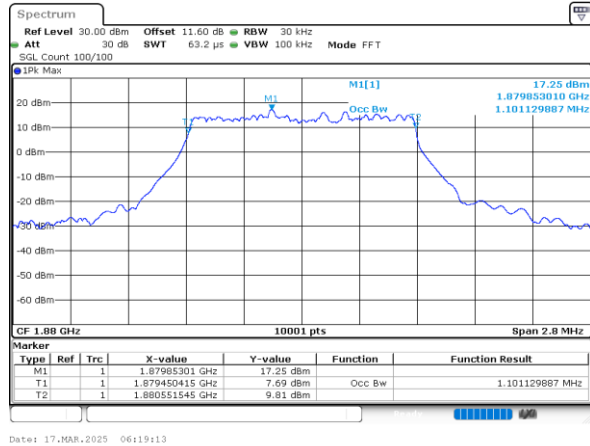


LTE Band 2

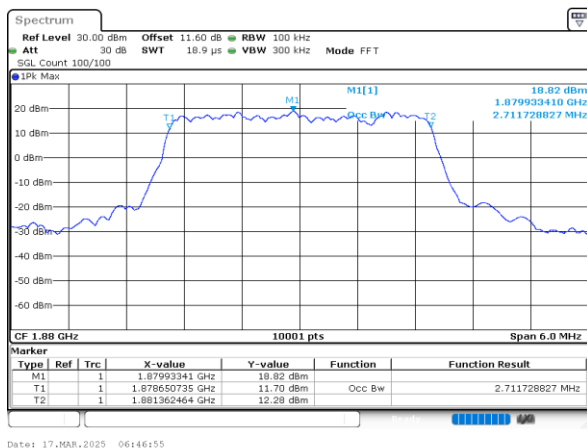
Middle Channel / 1.4MHz / QPSK



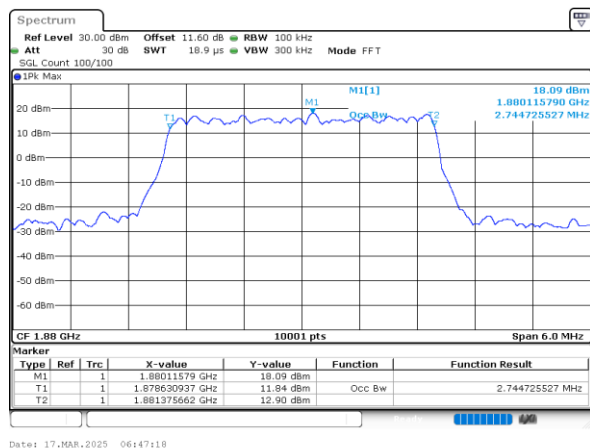
Middle Channel / 1.4MHz / 16QAM



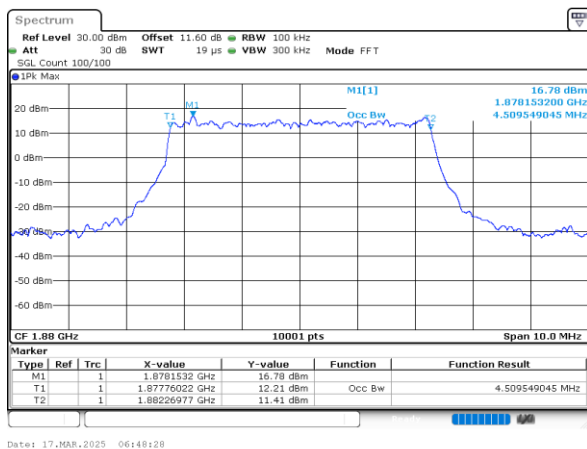
Middle Channel / 3MHz / QPSK



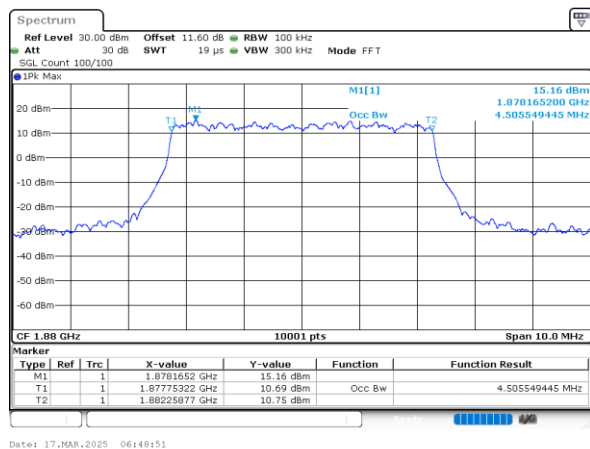
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



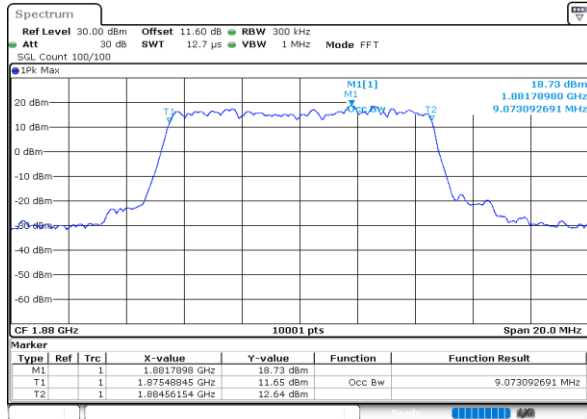
Middle Channel / 5MHz / 16QAM



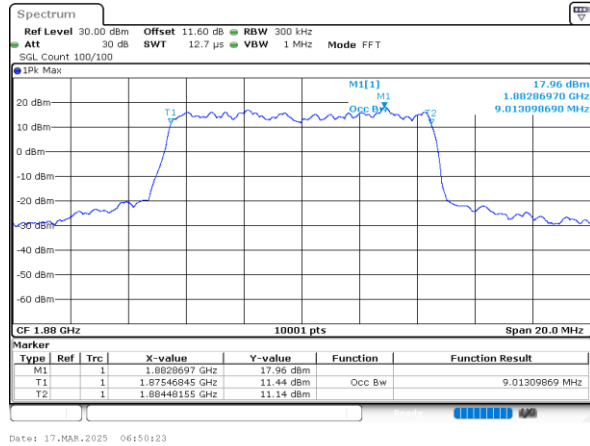


LTE Band 2

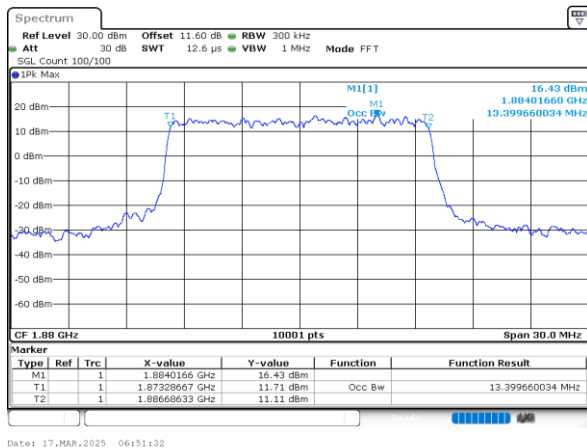
Middle Channel / 10MHz / QPSK



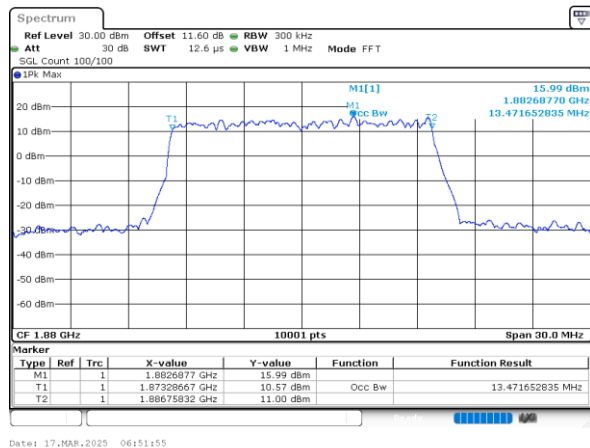
Middle Channel / 10MHz / 16QAM



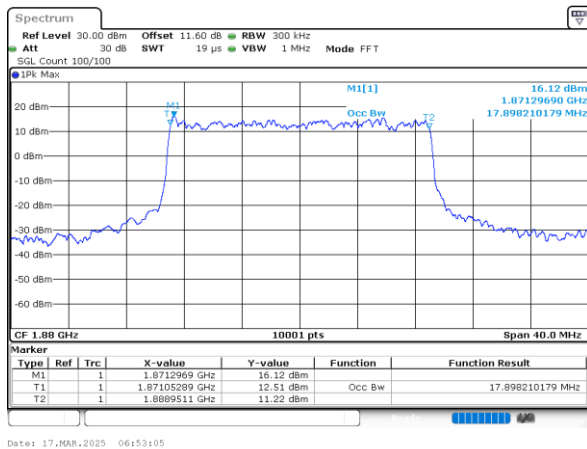
Middle Channel / 15MHz / QPSK



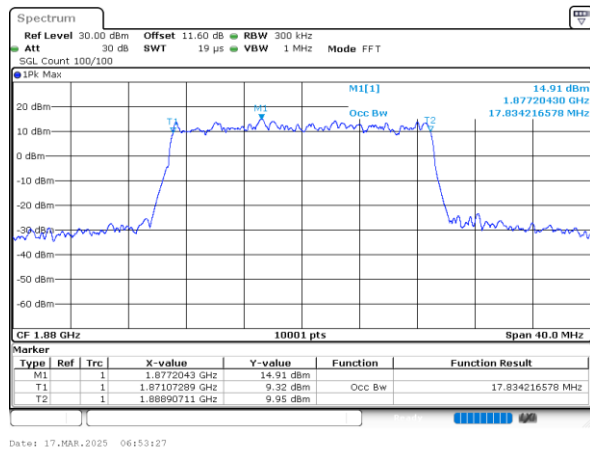
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



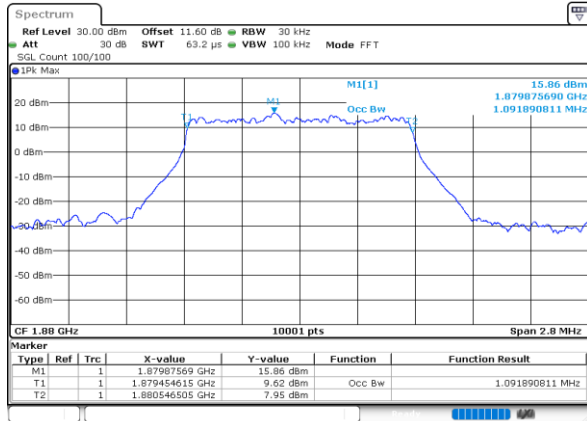
Middle Channel / 20MHz / 16QAM



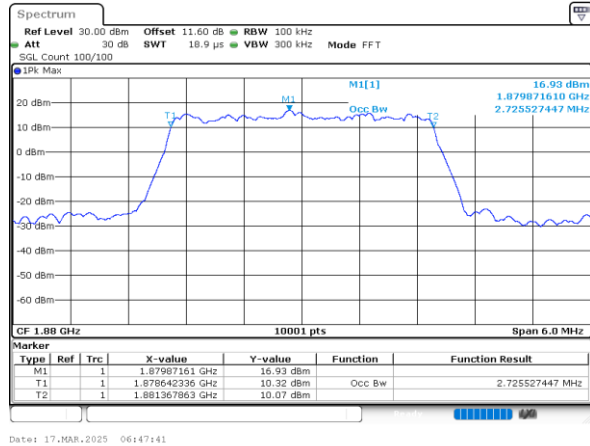


LTE Band 2

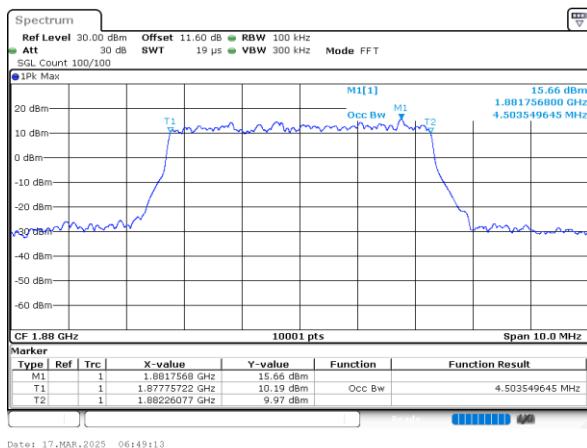
Middle Channel / 1.4MHz / 64QAM



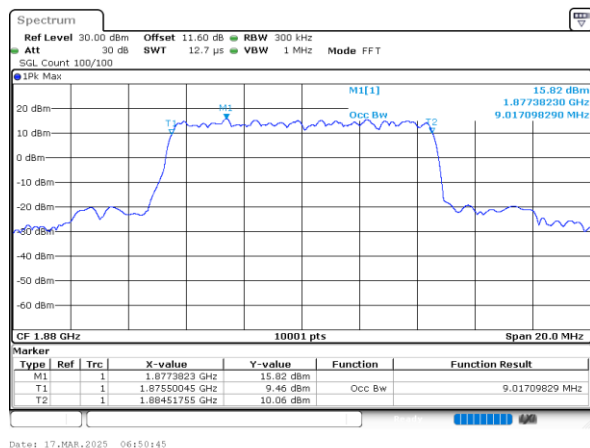
Middle Channel / 3MHz / 64QAM



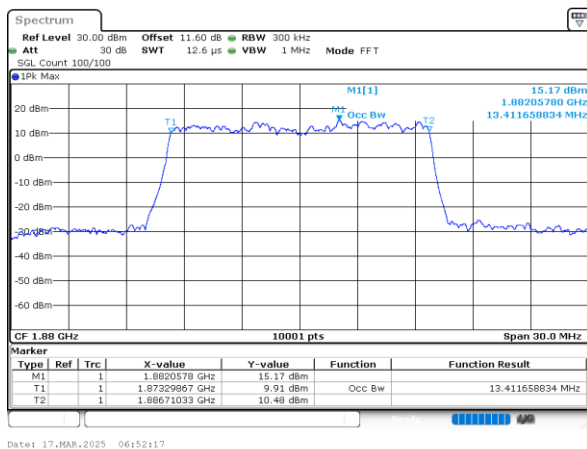
Middle Channel / 5MHz / 64QAM



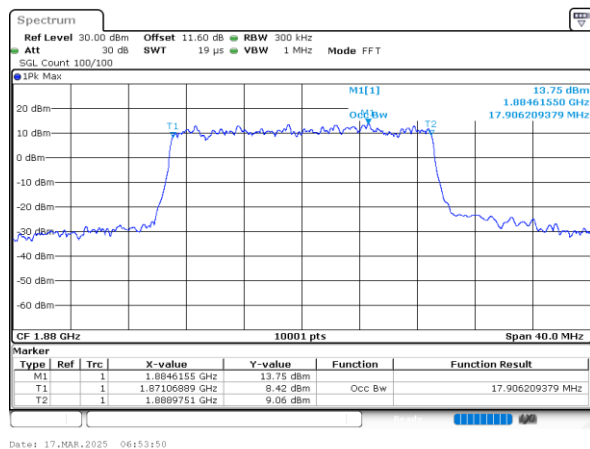
Middle Channel / 10MHz / 64QAM



Middle Channel / 15MHz / 64QAM



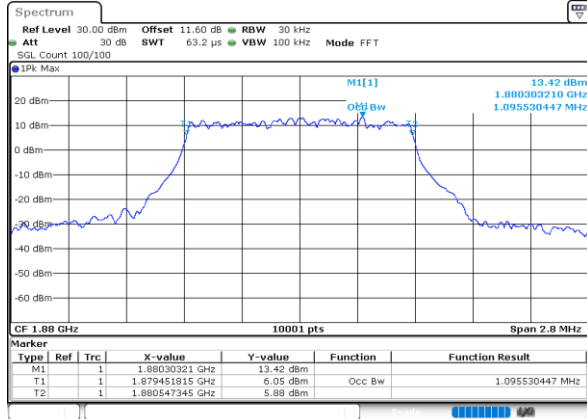
Middle Channel / 20MHz / 64QAM



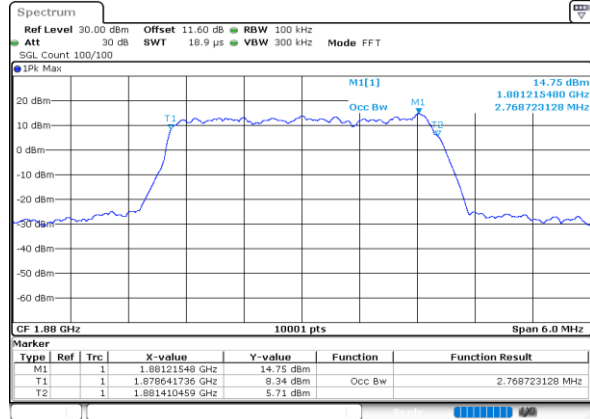


LTE Band 2

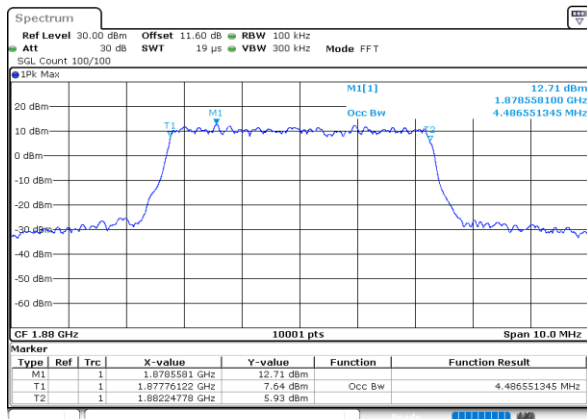
Middle Channel / 1.4MHz / 256QAM



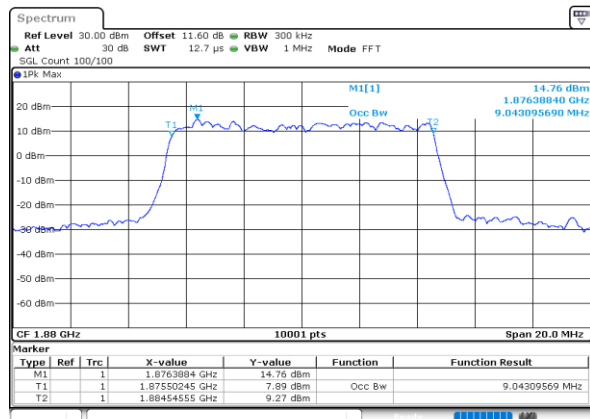
Middle Channel / 3MHz / 256QAM



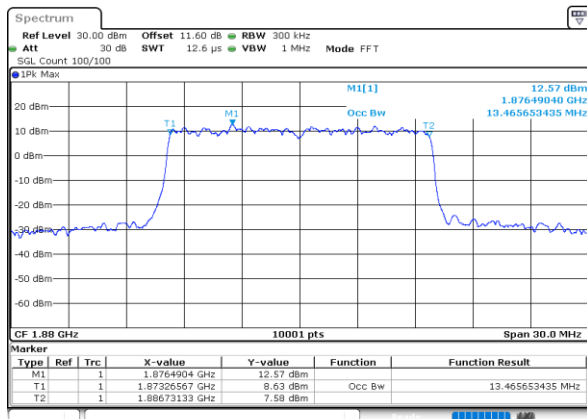
Middle Channel / 5MHz / 256QAM



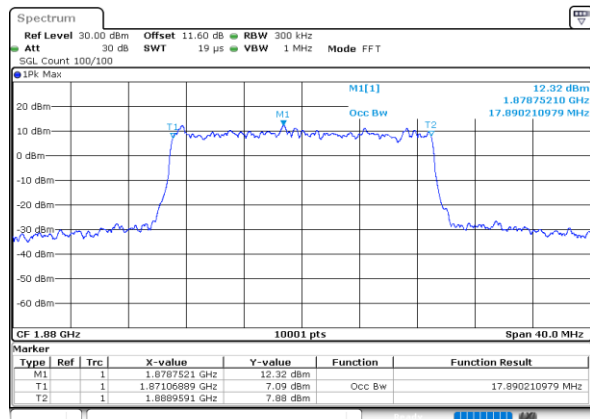
Middle Channel / 10MHz / 256QAM



Middle Channel / 15MHz / 256QAM



Middle Channel / 20MHz / 256QAM

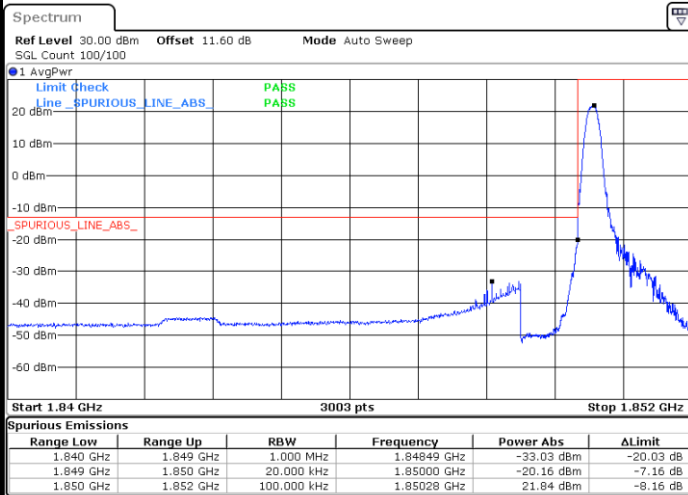




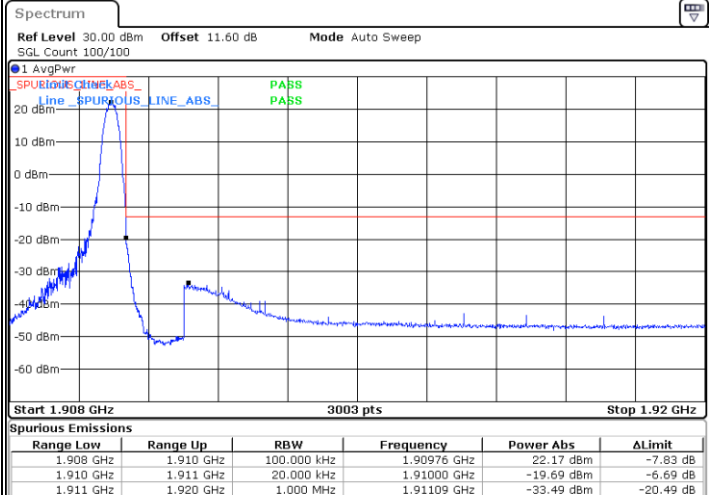
Conducted Band Edge

LTE Band 2 / 1.4MHz / QPSK

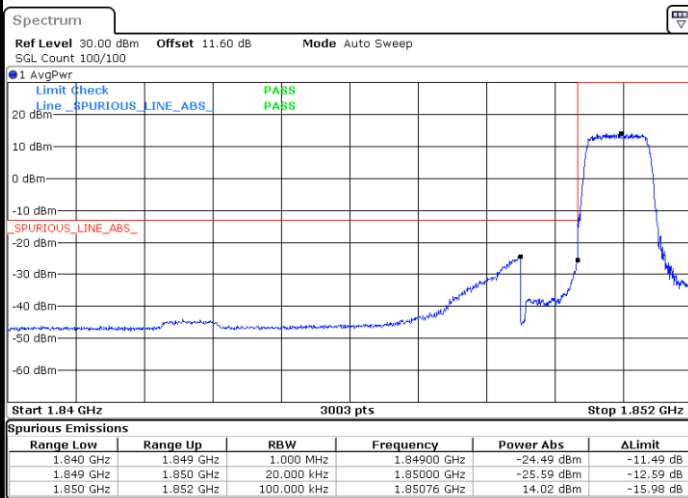
Lowest Band Edge / 1RB



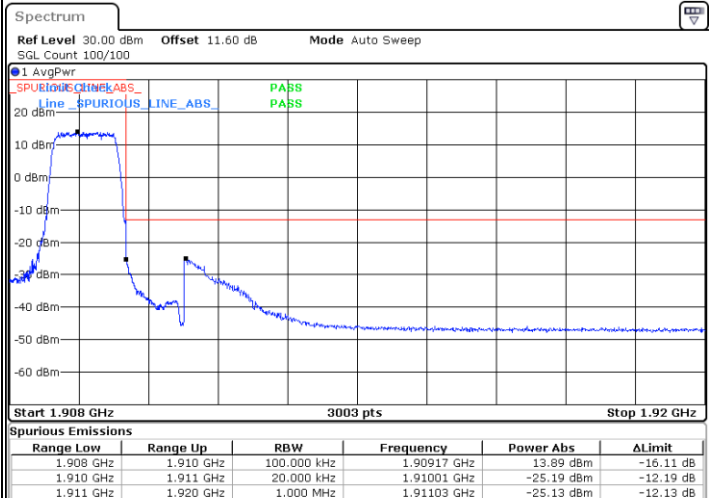
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



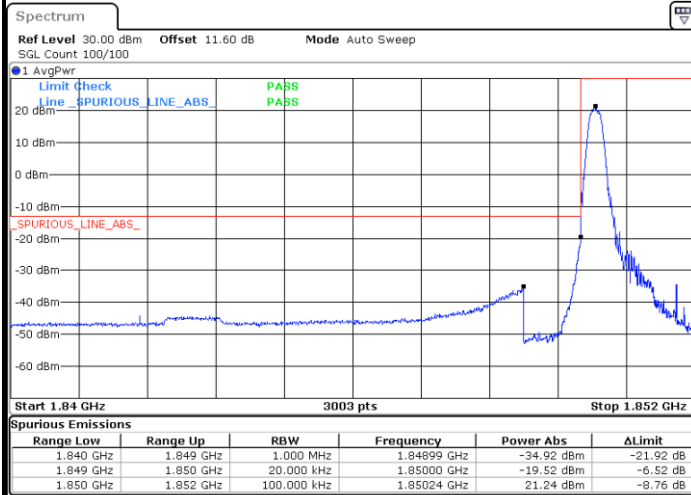
Highest Band Edge / Full RB



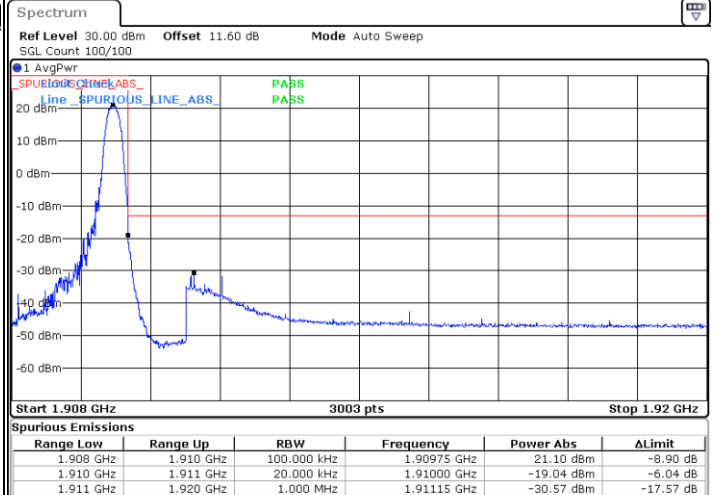


LTE Band 2 / 1.4MHz / 16QAM

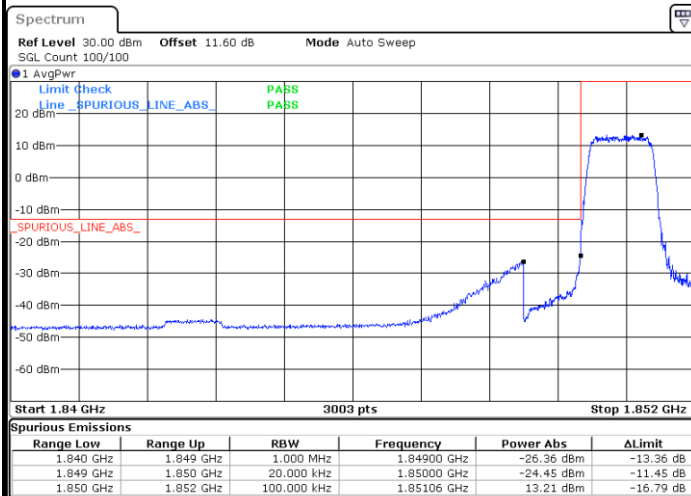
Lowest Band Edge / 1 RB



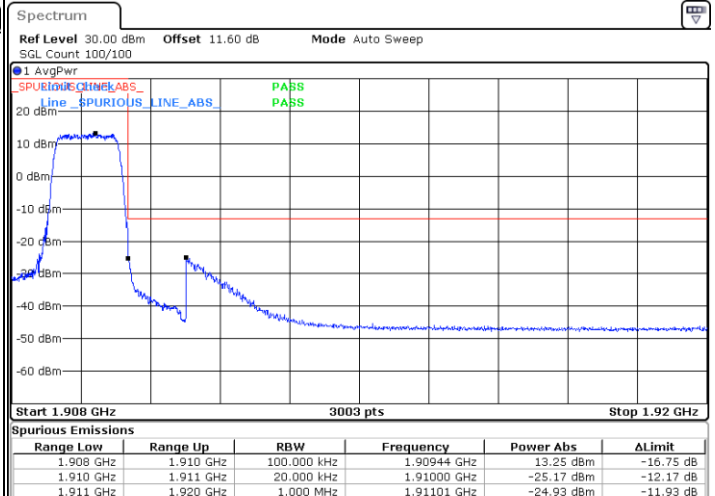
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



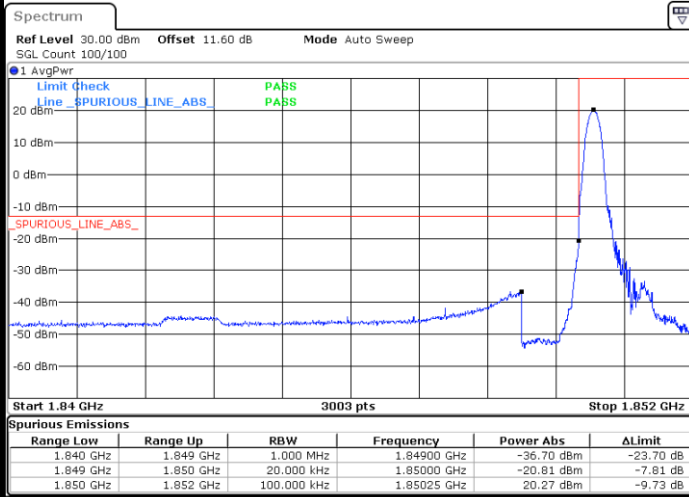
Highest Band Edge / Full RB



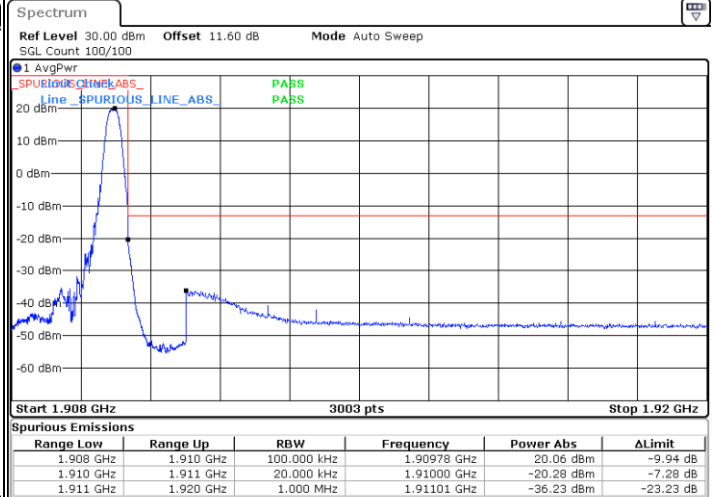


LTE Band 2 / 1.4MHz / 64QAM

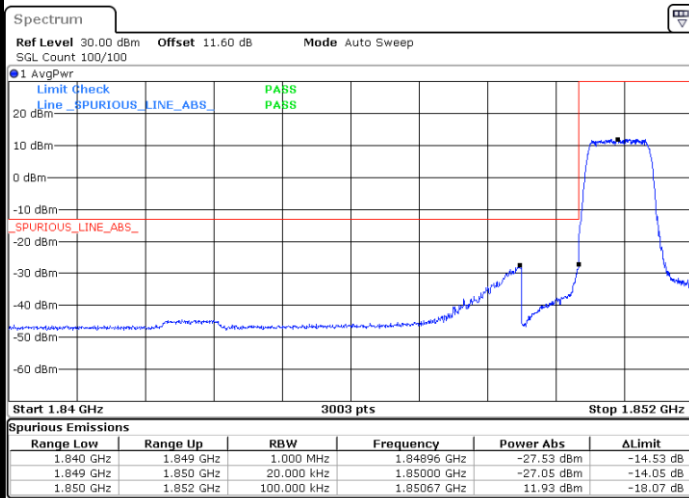
Lowest Band Edge / 1 RB



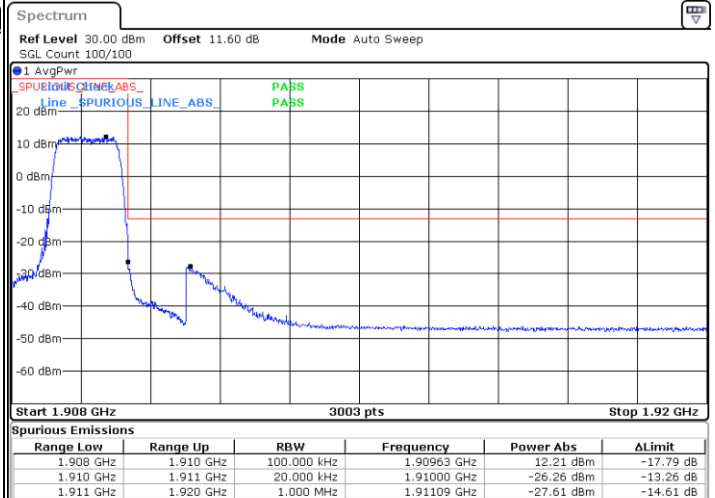
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



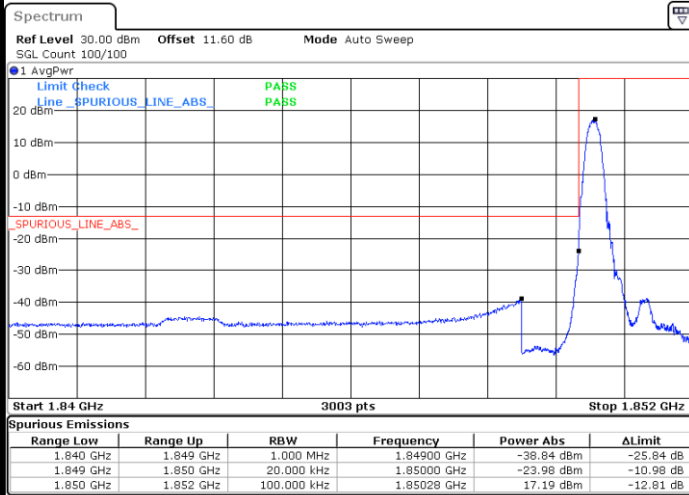
Highest Band Edge / Full RB



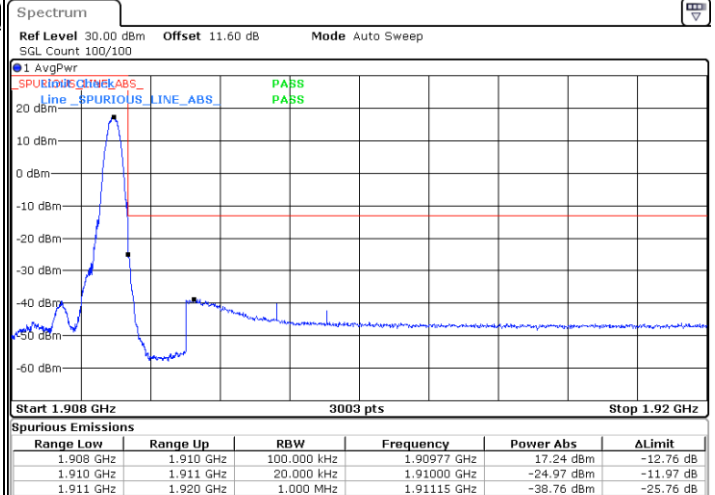


LTE Band 2 / 1.4MHz / 256QAM

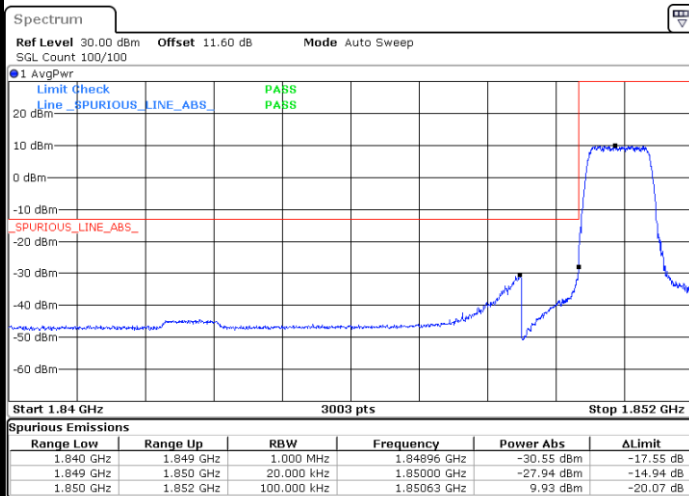
Lowest Band Edge / 1 RB



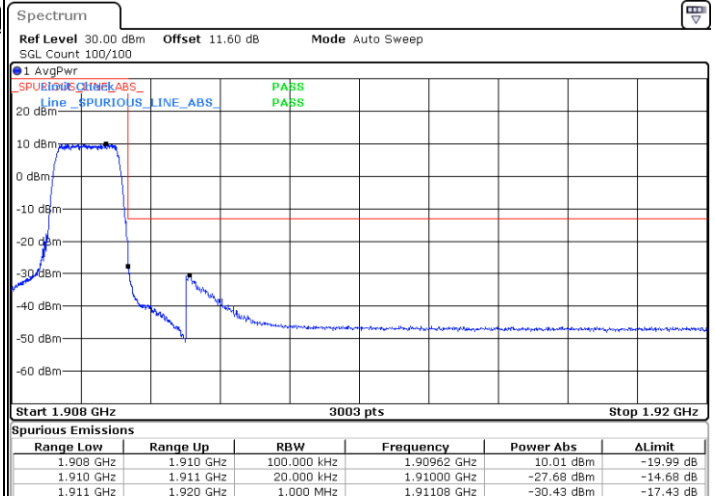
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



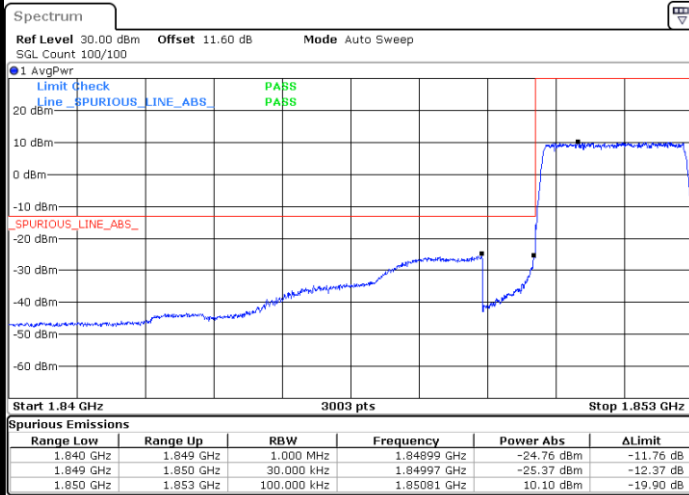
Highest Band Edge / Full RB



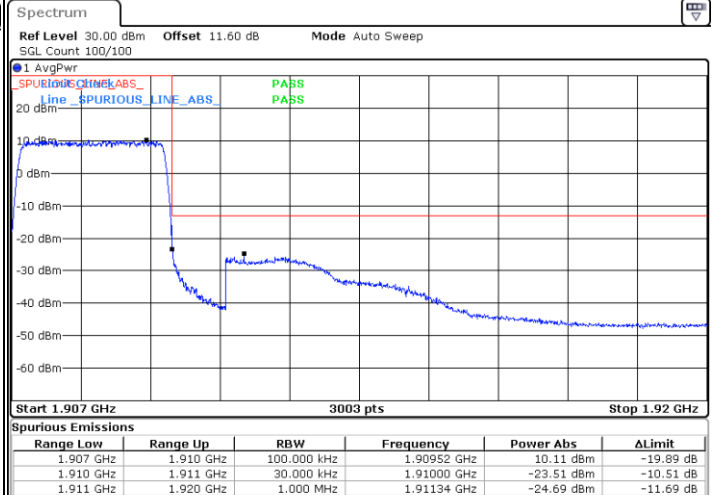


LTE Band 2 / 3MHz / QPSK

Lowest Band Edge / Full RB

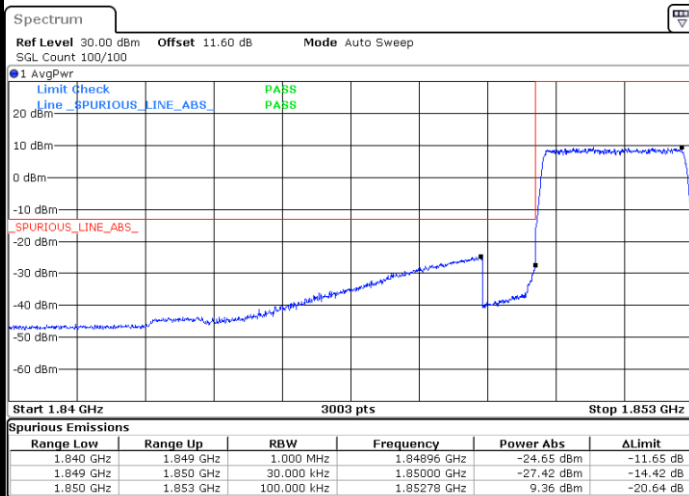


Highest Band Edge / Full RB

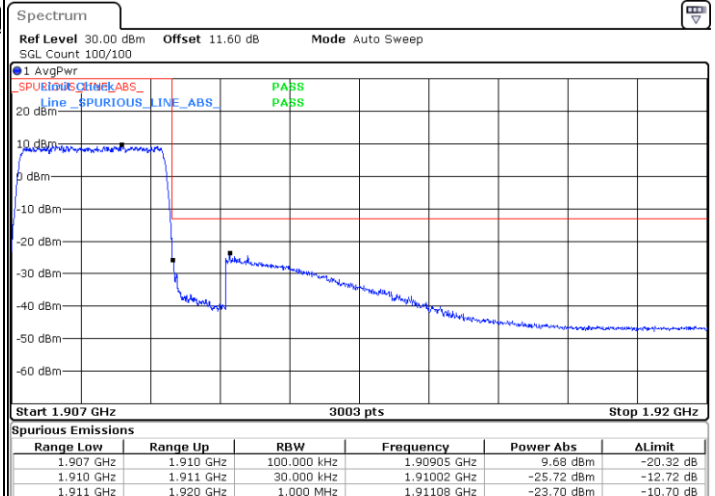


LTE Band 2 / 3MHz / 16QAM

Lowest Band Edge / Full RB



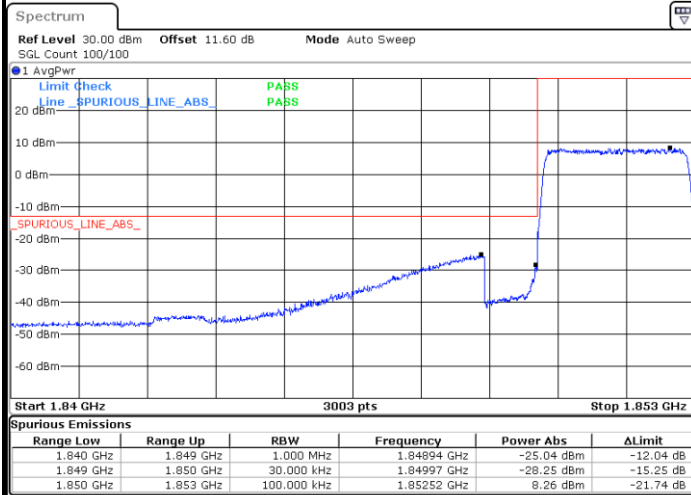
Highest Band Edge / Full RB



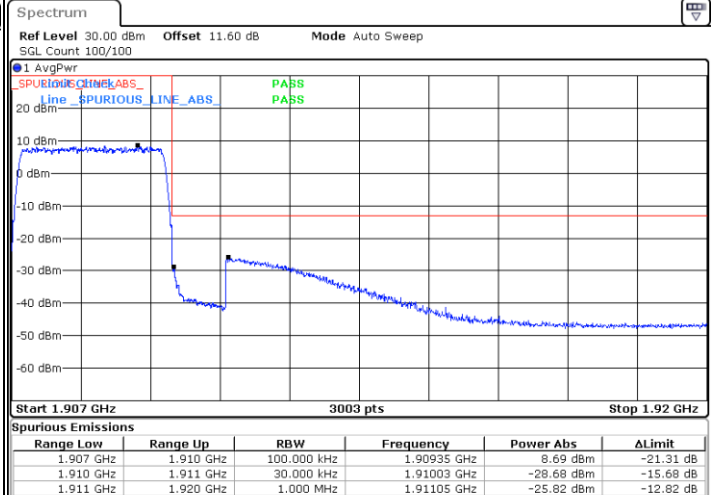


LTE Band 2 / 3MHz / 64QAM

Lowest Band Edge / Full RB

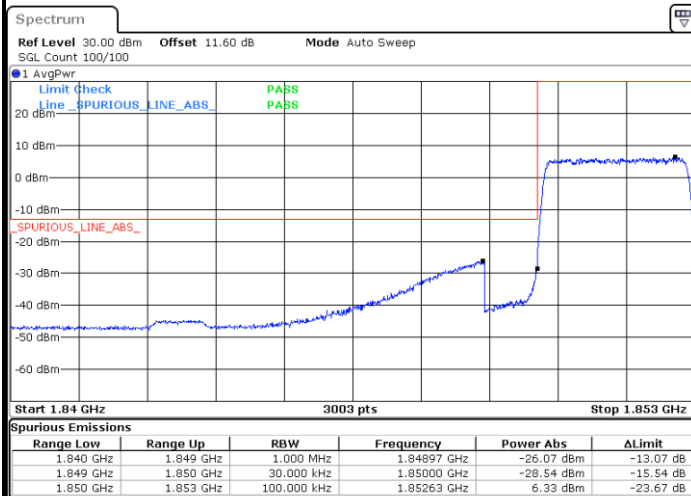


Highest Band Edge / Full RB

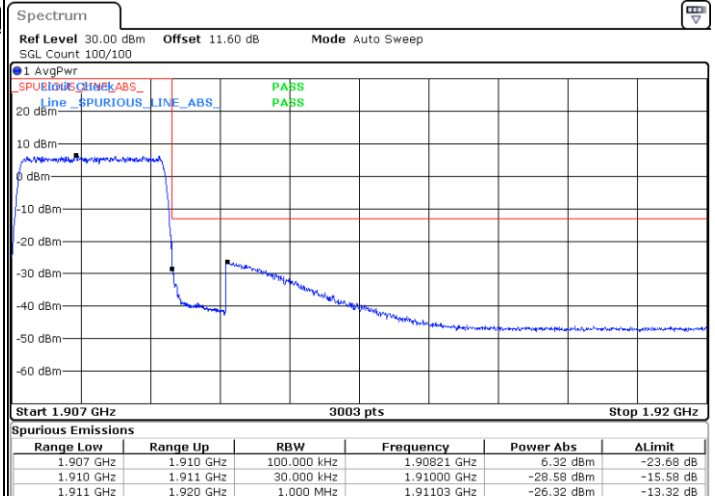


LTE Band 2 / 3MHz / 256QAM

Lowest Band Edge / Full RB



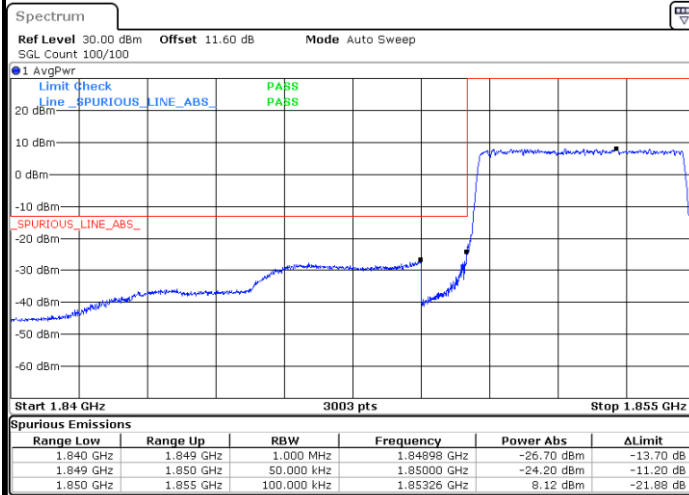
Highest Band Edge / Full RB



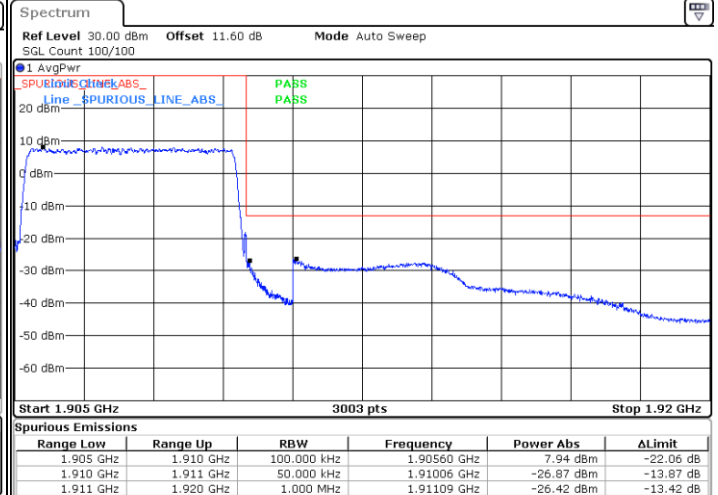


LTE Band 2 / 5MHz / QPSK

Lowest Band Edge / Full RB

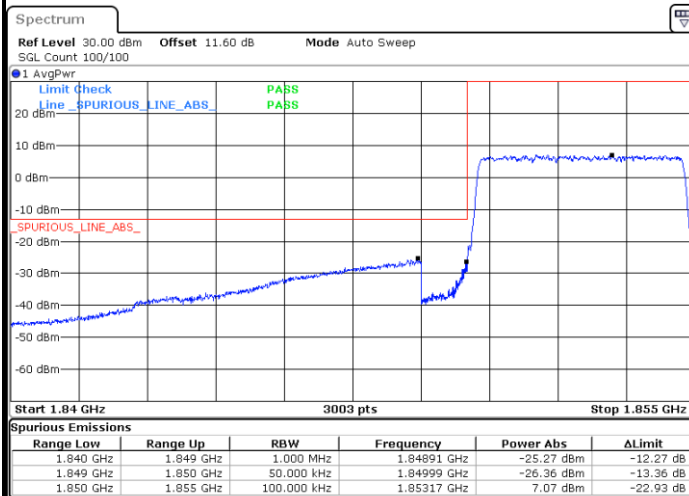


Highest Band Edge / Full RB

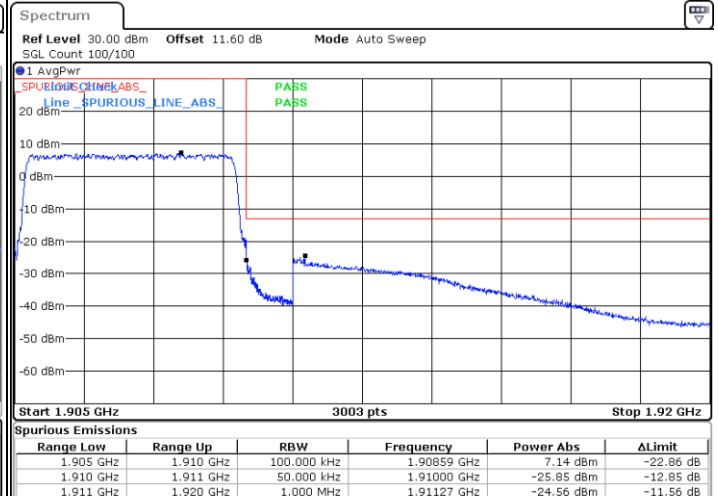


LTE Band 2 / 5MHz / 16QAM

Lowest Band Edge / Full RB



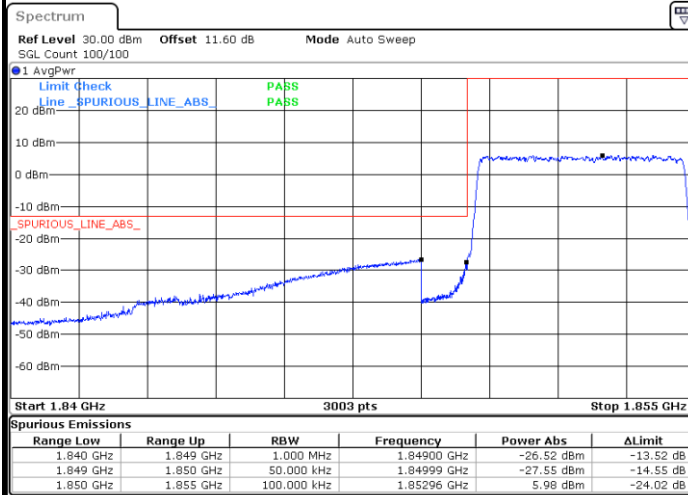
Highest Band Edge / Full RB



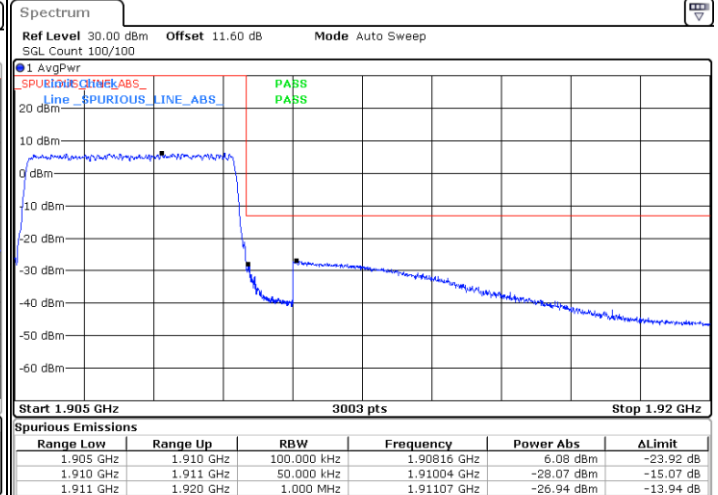


LTE Band 2 / 5MHz / 64QAM

Lowest Band Edge / Full RB

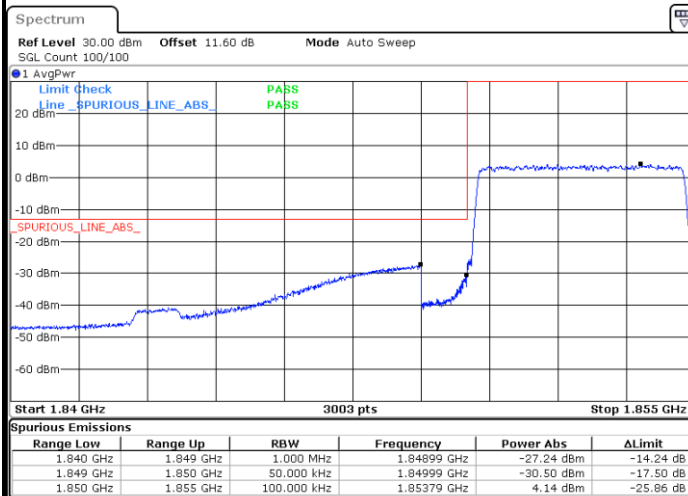


Highest Band Edge / Full RB

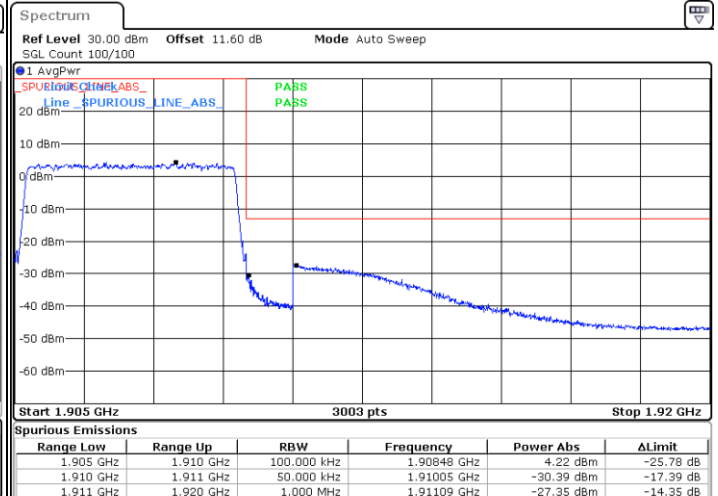


LTE Band 2 / 5MHz / 256QAM

Lowest Band Edge / Full RB



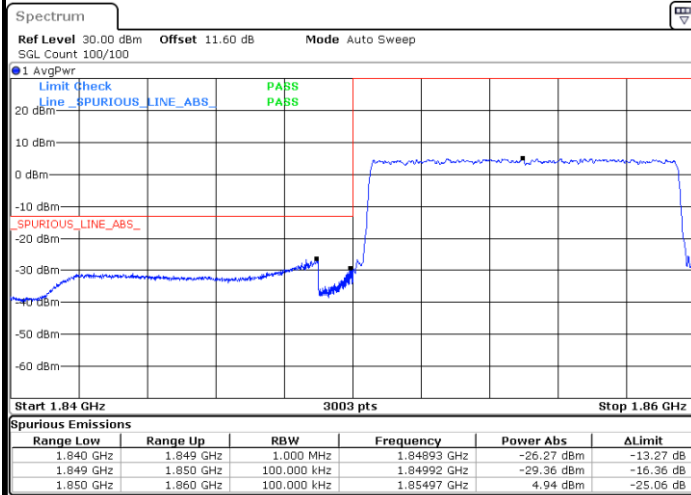
Highest Band Edge / Full RB



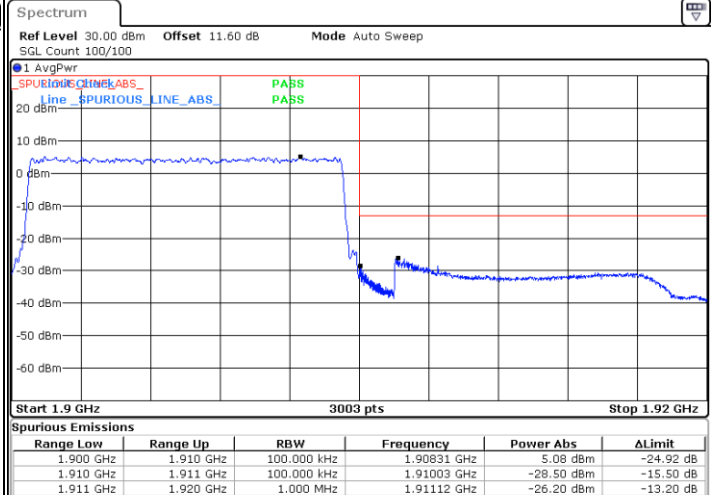


LTE Band 2 / 10MHz / QPSK

Lowest Band Edge / Full RB

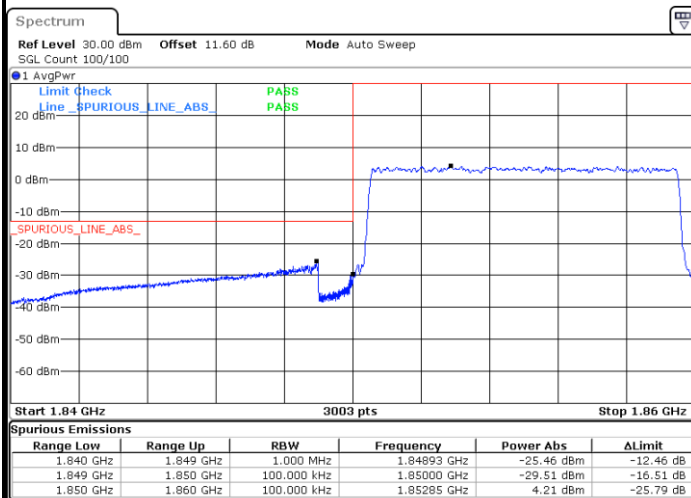


Highest Band Edge / Full RB

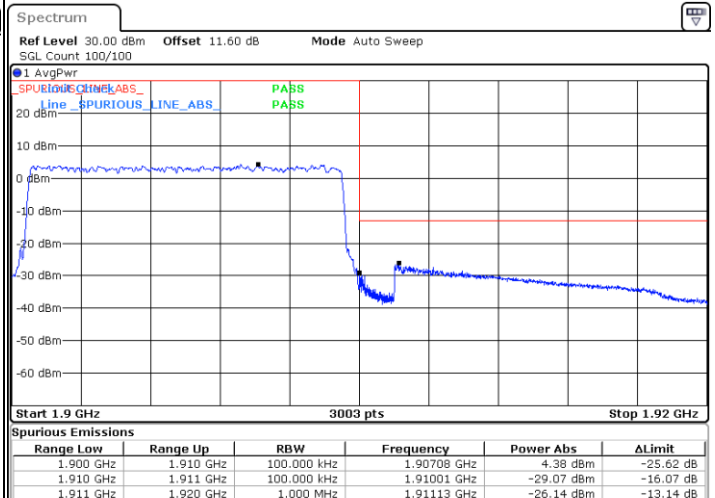


LTE Band 2 / 10MHz / 16QAM

Lowest Band Edge / Full RB



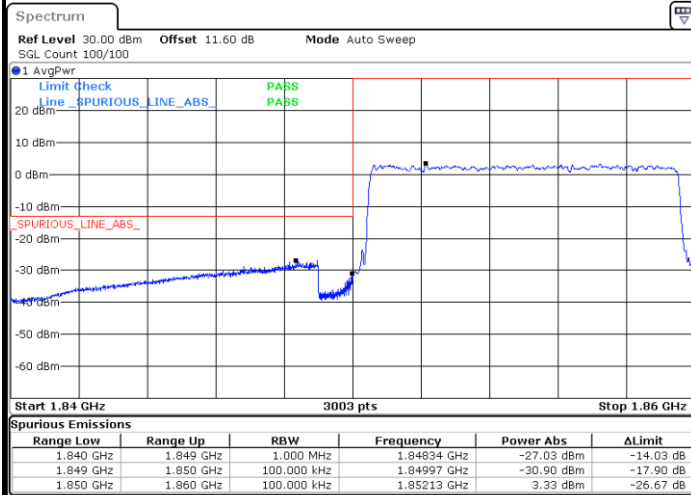
Highest Band Edge / Full RB



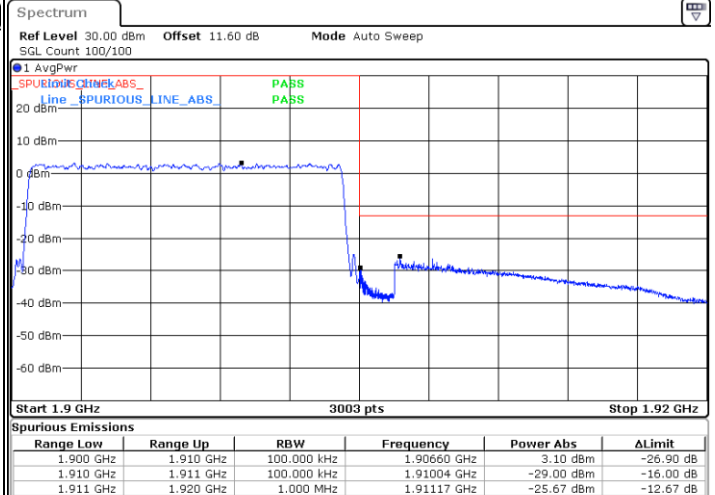


LTE Band 2 / 10MHz / 64QAM

Lowest Band Edge / Full RB

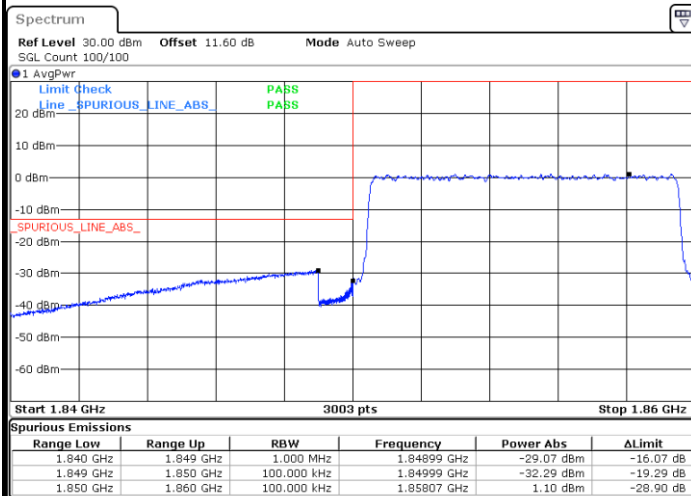


Highest Band Edge / Full RB



LTE Band 2 / 10MHz / 256QAM

Lowest Band Edge / Full RB



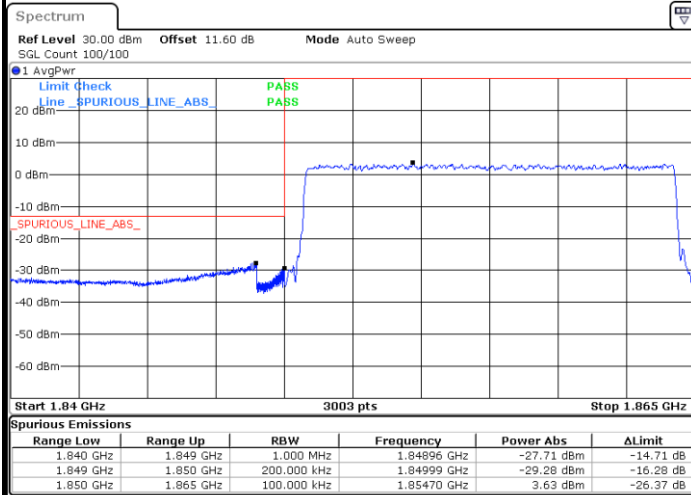
Highest Band Edge / Full RB



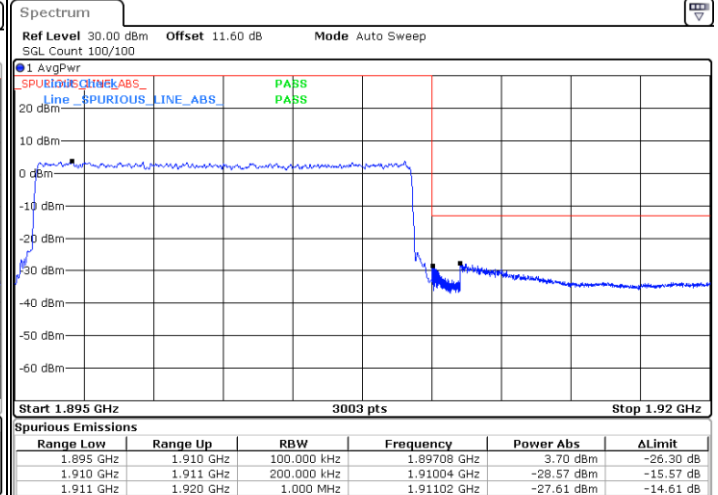


LTE Band 2 / 15MHz / QPSK

Lowest Band Edge / Full RB

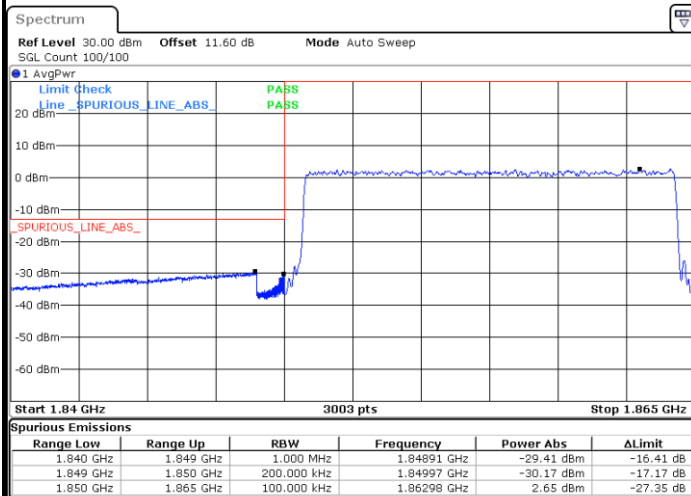


Highest Band Edge / Full RB

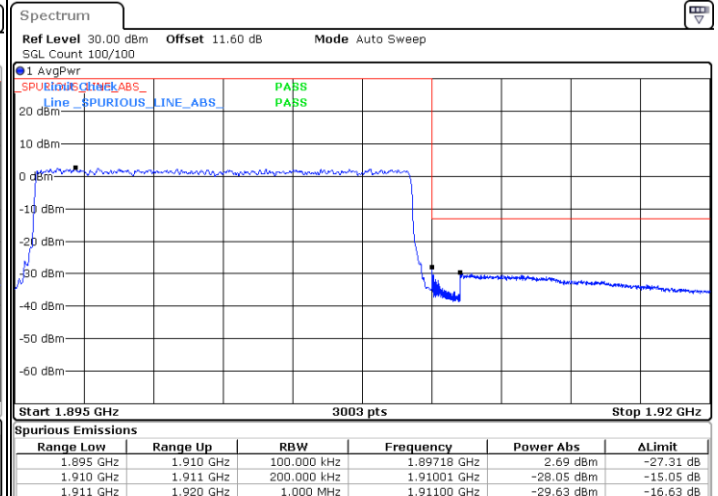


LTE Band 2 / 15MHz / 16QAM

Lowest Band Edge / Full RB



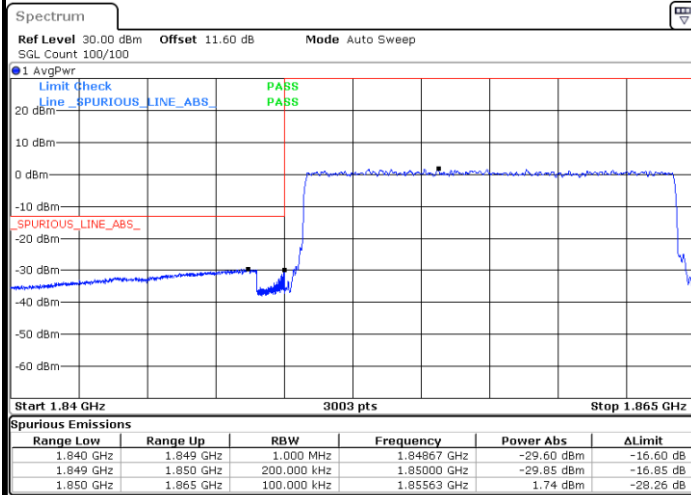
Highest Band Edge / Full RB



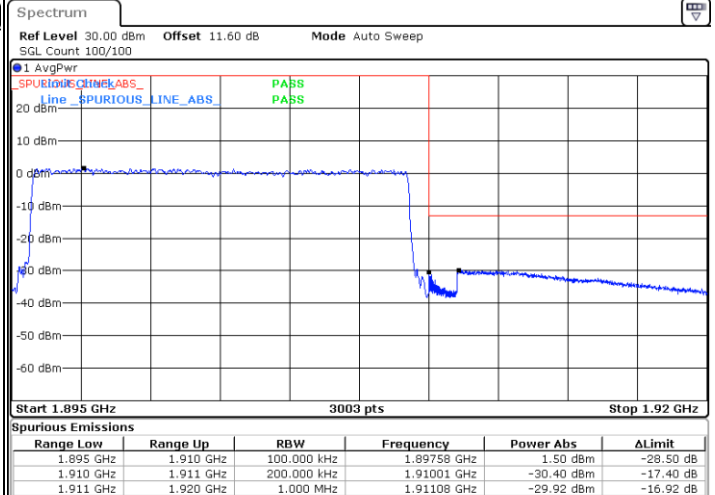


LTE Band 2 / 15MHz / 64QAM

Lowest Band Edge / Full RB

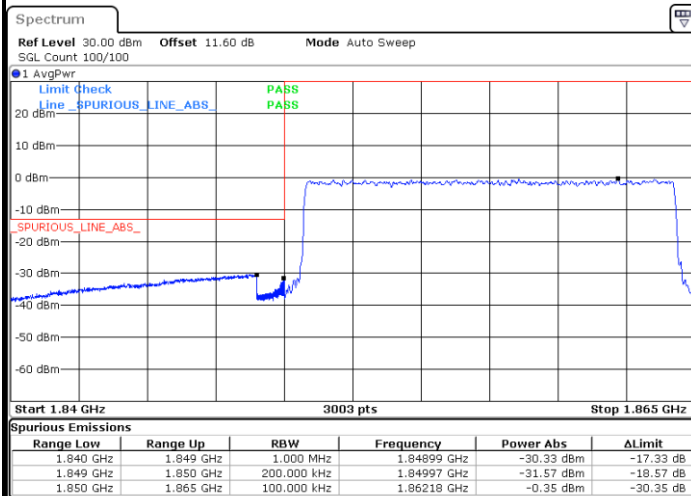


Highest Band Edge / Full RB



LTE Band 2 / 15MHz / 256QAM

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

