FCC/ISED RADIO TEST REPORT

FCC ID	:	**PKRISGM1000**
IC	:	**3229A-M1000**
Equipment	:	**M1000**
Brand Name	:	**inseego**
Model Name	:	**M1000**
Marketing Name	:	**5G MiFi M1000**
HVIN	:	**M1000**
PMN	:	**5G MiFi M1000**
Applicant	:	**Inseego Corp.** **9605 Scranton Road, Suite 300, San Diego, CA 92121**
Manufacturer	:	**Inseego Corp.** **9605 Scranton Road, Suite 300, San Diego, CA 92121**
Standard	:	**47 CFR Part 2, 27H** **ISED RSS-139 Issue 3**

The product was received on May 03, 2019 and testing was started from Jun. 12, 2019 and completed on Jul. 02, 2019. 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 given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Jones Tsai

Approved by: Jones Tsai

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FG950301-01C	01	Initial issue of report	Jul. 03, 2019

Summary of Test Result

Report Clause	Ref Std. Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	RSS-Gen 6.12 RSS-139 6.5	Conducted Output Power	Reporting only	-
	§27.50 (d)(4)	RSS-139 6.5 SRSP-513 5.1.2	Equivalent Isotropic Radiated Power (Band 66)	Pass	
3.3	§27.50 (d)(5)	RSS-139 6.5	Peak-to-Average Ratio	Reporting only	-
3.4	§2.1049	RSS-Gen 6.7 RSS-139 3.1	Occupied Bandwidth	Reporting only	-
3.5	§2.1051 §27.53 (h)	§2.1051RSS-139 6.6	Conducted Band Edge Measurement (Band 66)	Pass	-
3.6	§2.1051 §27.53 (h)	§2.1051RSS-139 6.6	Conducted Spurious Emission (Band 66)	Pass	-
3.7	§2.1055 §27.54	RSS-Gen 6.11 RSS-139 6.4	Frequency Stability Temperature & Voltage	Pass	-
4.2	§2.1053 §27.53 (h)	§2.1051RSS-139 6.6	Radiated Spurious Emission (Band 66)	Pass	Under limit 26.11 dB at 5261.000 MHz

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: William Chen

Report Producer: Yung Hsu

1 General Description

1.1 Product Feature of Equipment Under Test

The EUT supports UMTS/LTE/NR/WiFi. The details please find the Operating Description.

1.2 Modification of EUT

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

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, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	TH05-HY	
Test Engineer	Chester Chen	
Temperature	23~25℃	
Relative Humidity	51~56%	

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

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory	
Test Site Location	No.58, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	**ISED Registration No.**
	03CH12-HY	4086B
Test Engineer	Jack Cheng, Lance Chiang, Chuan Chu	
Temperature	22~26°C	
Relative Humidity	54~60%	

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

FCC Designation No.: TW1190 and TW0007

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
- ANSI / TIA-603-E
- 47 CFR Part 2, 27H
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ISED RSS-139 Issue 3

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

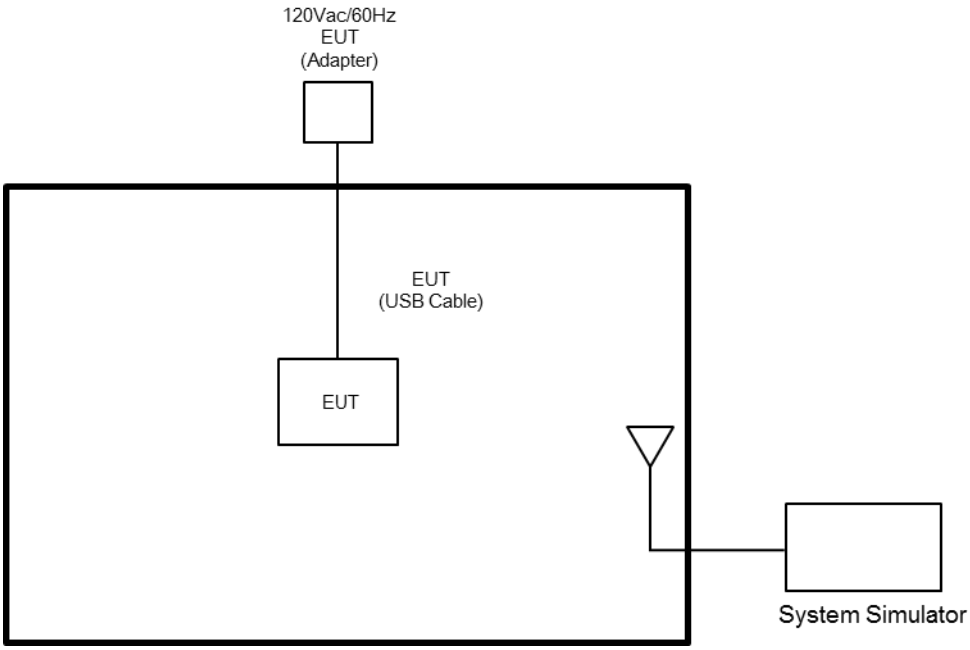
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For LTE Band 66 Uplink 2CA, all the modulation and bandwidth combination are evaluated to determine the worst case 10MHz +10MHz and 20MHz + 20MHz for reporting.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

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.

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m

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 :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

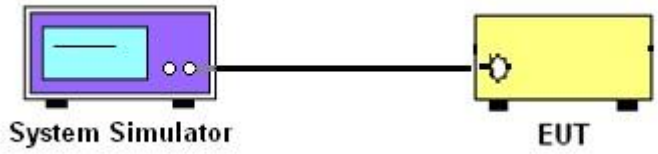
3 Conducted Test Items

3.1 Measuring Instruments

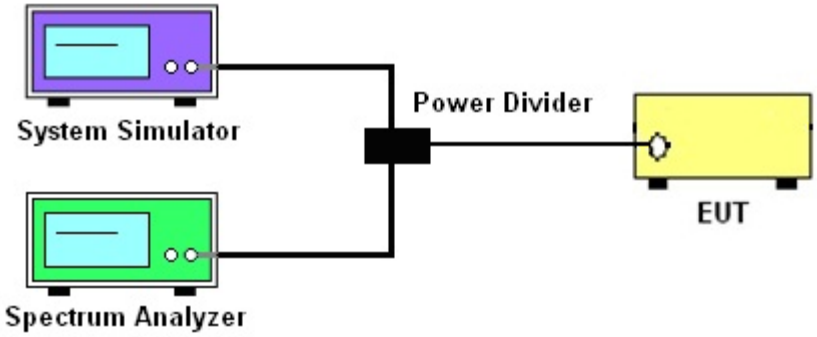
See list of measuring instruments of this test report.

3.1.1 Test Setup

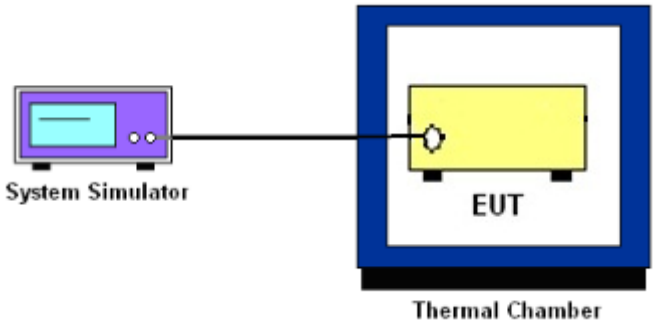
3.1.2 Conducted Output Power



3.1.3 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge 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 EIRP

3.2.1 Description of the Conducted Output Power Measurement and 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 EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 66.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = 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.

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

27.53 (h) / RSS-139

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(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.

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 >= 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 + 10log(P)dB below the transmitter power P(Watts)

3.6 Conducted Spurious Emission

3.6.1 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.

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

3.6.2 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 middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

3.7 Frequency Stability

3.7.1 Description of Frequency Stability Measurement

27.54 / RSS-139

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

3.7.2 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.

3.7.3 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±5° 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.

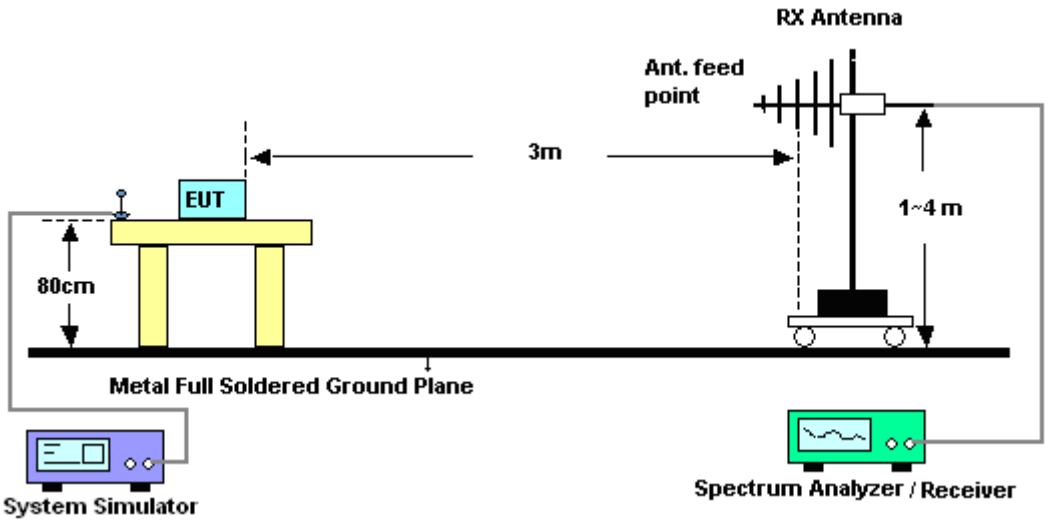
4 Radiated Test Items

4.1 Measuring Instruments

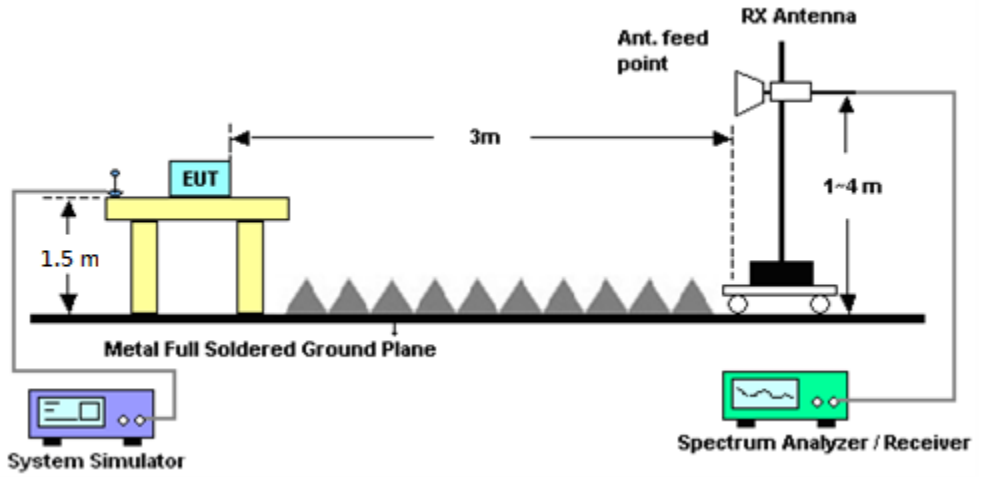
See list of measuring instruments of this test report.

4.1.1 Test Setup

For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

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 / TIA-603-E. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

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

4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

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. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jan. 07, 2019	Jun. 13, 2019~ Jun. 14, 2019	Jan. 06, 2020	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D&00802 N1D01N-06	47020&06	30MHz to 1GHz	Oct. 13, 2018	Jun. 13, 2019~ Jun. 14, 2019	Oct. 12, 2019	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1212	1GHz ~ 18GHz	Oct. 19, 2018	Jun. 13, 2019~ Jun. 14, 2019	Oct. 18, 2019	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1326	1GHz ~ 18GHz	Oct. 30, 2018	Jun. 13, 2019~ Jun. 14, 2019	Oct. 29, 2019	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz ~ 40GHz	Dec. 05, 2018	Jun. 13, 2019~ Jun. 14, 2019	Dec. 04, 2019	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 25, 2019	Jun. 13, 2019~ Jun. 14, 2019	Mar. 24, 2020	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5Ghz	May 28, 2018	Jun. 13, 2019~ Jun. 14, 2019	May 26, 2020	Radiation (03CH12-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800055007	1GHz~18GHz	Apr. 01, 2019	Jun. 13, 2019~ Jun. 14, 2019	Mar. 31, 2020	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 06, 2018	Jun. 13, 2019~ Jun. 14, 2019	Dec. 05, 2019	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 26, 2018	Jun. 13, 2019~ Jun. 14, 2019	Dec. 25, 2019	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Dec. 19, 2018	Jun. 13, 2019~ Jun. 14, 2019	Dec. 18, 2019	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP161243	N/A	May 11, 2019	Jun. 13, 2019~ Jun. 14, 2019	May 10, 2020	Radiation (03CH12-HY)
Signal Generator	Rohde & Schwarz	SMB100A	175727	100kHz~40GHz	Dec. 23, 2018	Jun. 13, 2019~ Jun. 14, 2019	Dec. 23, 2019	Radiation (03CH12-HY)
Base Station	Anritsu	MT8821C	6201432816	LTE-3CC DLCA,2CC ULCA	May 05, 2019	Jun. 13, 2019~ Jun. 14, 2019	May 04, 2020	Radiation (03CH12-HY)
Filter	Wainwright	WLK4-1000-1530-6000-40SS	SN11	1 GHz Lowpass	Sep. 16, 2018	Jun. 13, 2019~ Jun. 14, 2019	Sep. 15, 2019	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-1080-1200-1500-60SS	SN2	1.2G High Pass	Sep. 16, 2018	Jun. 13, 2019~ Jun. 14, 2019	Sep. 15, 2019	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN2	3GHz High Pass	Mar. 20, 2019	Jun. 13, 2019~ Jun. 14, 2019	Mar. 19, 2020	Radiation (03CH12-HY)
Notch Filter	EWT	EWT-14-0041	D1	DCS 1800	Nov. 01, 2018	Jun. 13, 2019~ Jun. 14, 2019	Oct. 31, 2019	Radiation (03CH12-HY)
Notch Filter	Wainwright	WRCT698/798-10/40 8SSK	SN1	AWS Band	Nov. 01, 2018	Jun. 13, 2019~ Jun. 14, 2019	Oct. 31, 2019	Radiation (03CH12-HY)
Notch Filter	Wainwright	WRCG824/849-40/8SS	SN35	CDMA 850	Nov. 07, 2018	Jun. 13, 2019~ Jun. 14, 2019	Nov. 06, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30M-18G	Mar. 13, 2019	Jun. 13, 2019~ Jun. 14, 2019	Mar. 12, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Oct. 16, 2018	Jun. 13, 2019~ Jun. 14, 2019	Oct. 15, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Oct. 16, 2018	Jun. 13, 2019~ Jun. 14, 2019	Oct. 15, 2019	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 13, 2019~ Jun. 14, 2019	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jun. 13, 2019~ Jun. 14, 2019	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 13, 2019~ Jun. 14, 2019	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Jun. 13, 2019~ Jun. 14, 2019	N/A	Radiation (03CH12-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Base Station	Anritsu	MT8821C	6201664755	/LTE-3CC DLCA,2CC ULCA	Mar. 03, 2019	Jun. 12, 2019~ Jul. 02, 2019	Mar. 02, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 13, 2018	Jun. 12, 2019~ Jul. 02, 2019	Nov. 12, 2019	Conducted (TH05-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#A	1-18GHz	Jan. 14, 2019	Jun. 12, 2019~ Jul. 02, 2019	Jan. 13, 2020	Conducted (TH05-HY)

6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.36**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.70**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.98**

LTE Band 66

Conducted Output Power

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
20+20	100	0	100	0	QPSK	19.42	18.88	19.45
20+20	1	0	1	99		13.13	13.36	13.44
20+20	1	99	1	0		21.64	21.49	21.99
20+20	100	0	100	0	16-QAM	18.69	18.06	18.24
20+20	1	0	1	99		13.08	13.21	13.62
20+20	1	99	1	0		20.61	20.93	20.84
20+20	100	0	100	0	64-QAM	18.67	18.21	18.09
20+20	1	0	1	99		13.01	13.29	13.34
20+20	1	99	1	0		18.58	18.89	18.88

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
20+15	100	0	75	0	QPSK	19.89	20.59	20.11
20+15	1	0	1	74		13.19	13.53	13.58
20+15	1	99	1	0		21.98	22.15	22.36
20+15	100	0	75	0	16-QAM	18.86	19.56	20.08
20+15	1	0	1	74		13.45	13.95	14.09
20+15	1	99	1	0		20.81	21.23	21.53
20+15	100	0	75	0	64-QAM	18.64	19.54	20.06
20+15	1	0	1	74		13.35	13.71	13.98
20+15	1	99	1	0		18.92	19.36	19.34

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
15+20	75	0	100	0	QPSK	19.67	20.68	20.10
15+20	1	0	1	99		13.46	13.58	13.61
15+20	1	74	1	0		22.07	22.19	22.18
15+20	75	0	100	0	16-QAM	19.64	19.21	20.08
15+20	1	0	1	99		13.85	13.98	14.16
15+20	1	74	1	0		21.19	21.32	21.32
15+20	75	0	100	0	64-QAM	19.77	18.97	19.91
15+20	1	0	1	99		13.68	13.95	13.94
15+20	1	74	1	0		18.65	19.33	19.36

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
20+10	100	0	50	0	QPSK	20.08	19.87	20.19
20+10	1	0	1	49		12.71	13.76	13.74
20+10	1	99	1	0		22.06	22.28	22.67
20+10	100	0	50	0	16-QAM	19.18	19.12	19.75
20+10	1	0	1	49		13.28	14.13	14.12
20+10	1	99	1	0		21.21	21.42	21.68
20+10	100	0	50	0	64-QAM	19.21	18.85	19.79
20+10	1	0	1	49		13.21	13.79	13.84
20+10	1	99	1	0		19.08	19.34	19.55

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
10+20	50	0	100	0	QPSK	20.65	20.27	20.37
10+20	1	0	1	99		12.54	13.26	13.61
10+20	1	49	1	0		21.99	22.06	22.13
10+20	50	0	100	0	16-QAM	19.85	20.42	19.68
10+20	1	0	1	99		13.01	13.33	14.16
10+20	1	49	1	0		21.21	21.22	21.36
10+20	50	0	100	0	64-QAM	19.79	19.49	19.73
10+20	1	0	1	99		12.67	13.19	13.95
10+20	1	49	1	0		18.97	19.16	19.43

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
20+5	100	0	25	0	QPSK	20.01	20.14	20.01
20+5	1	0	1	24		12.92	13.45	13.23
20+5	1	99	1	0		21.73	22.91	21.56
20+5	100	0	25	0	16-QAM	18.74	19.15	19.04
20+5	1	0	1	24		13.26	13.96	13.46
20+5	1	99	1	0		21.22	22.31	20.86
20+5	100	0	25	0	64-QAM	18.95	19.13	19.27
20+5	1	0	1	24		13.13	13.93	13.33
20+5	1	99	1	0		19.56	20.71	19.39

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
5+20	25	0	100	0	QPSK	20.17	20.05	20.26
5+20	1	0	1	99		12.78	13.52	14.66
5+20	1	24	1	0		22.00	22.05	22.47
5+20	25	0	100	0	16-QAM	19.99	19.66	19.77
5+20	1	0	1	99		13.02	13.31	14.33
5+20	1	24	1	0		21.03	21.19	21.63
5+20	25	0	100	0	64-QAM	20.20	19.53	19.85
5+20	1	0	1	99		12.89	13.86	14.49
5+20	1	24	1	0		19.05	19.14	19.59

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
15+10	75	0	50	0	QPSK	21.06	20.26	20.02
15+10	1	0	1	49		12.87	13.76	13.76
15+10	1	74	1	0		22.12	22.16	22.38
15+10	75	0	50	0	16-QAM	19.22	19.37	20.61
15+10	1	0	1	49		13.42	13.43	14.02
15+10	1	74	1	0		21.18	21.42	21.44
15+10	75	0	50	0	64-QAM	18.88	18.89	19.01
15+10	1	0	1	49		13.19	13.86	14.04
15+10	1	74	1	0		19.12	19.47	19.56

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
10+15	50	0	75	0	QPSK	20.89	20.82	21.26
10+15	1	0	1	74		21.92	22.37	22.54
10+15	1	49	1	0		12.70	14.01	14.78
10+15	50	0	75	0	16-QAM	20.22	19.55	20.21
10+15	1	0	1	74		21.02	21.51	21.68
10+15	1	49	1	0		13.24	14.14	14.89
10+15	50	0	75	0	64-QAM	20.13	19.67	20.28
10+15	1	0	1	74		19.06	19.54	19.71
10+15	1	49	1	0		13.18	13.85	14.67

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
15+15	75	0	75	0	QPSK	19.36	19.54	19.58
15+15	1	0	1	74		12.82	13.56	13.54
15+15	1	74	1	0		22.08	22.14	22.18
15+15	75	0	75	0	16-QAM	19.28	18.06	18.55
15+15	1	0	1	74		13.49	13.86	13.99
15+15	1	74	1	0		21.15	21.46	21.64
15+15	75	0	75	0	64-QAM	18.23	18.01	18.53
15+15	1	0	1	74		12.95	13.85	14.05
15+15	1	74	1	0		19.04	19.51	19.38

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
10+10	50	0	50	0	QPSK	19.54	19.73	19.82
10+10	1	0	1	49		10.97	11.27	11.08
10+10	1	49	1	0		21.76	21.74	22.02
10+10	50	0	50	0	16-QAM	18.54	18.62	18.77
10+10	1	0	1	49		11.08	11.32	11.58
10+10	1	49	1	0		20.58	21.07	21.04
10+10	50	0	50	0	64-QAM	18.38	18.82	18.84
10+10	1	0	1	49		11.01	11.23	11.56
10+10	1	49	1	0		18.59	18.72	18.72

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
15+5	75	0	25	0	QPSK	19.40	19.69	20.14
15+5	1	0	1	24		11.03	10.74	11.36
15+5	1	74	1	0		21.45	22.67	21.97
15+5	75	0	25	0	16-QAM	18.40	18.61	19.25
15+5	1	0	1	24		11.29	11.31	11.29
15+5	1	74	1	0		20.45	22.32	21.46
15+5	75	0	25	0	64-QAM	18.20	18.71	19.19
15+5	1	0	1	24		11.16	11.22	11.35
15+5	1	74	1	0		18.65	20.42	20.19

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
5+15	25	0	75	0	QPSK	19.35	19.74	19.96
5+15	1	0	1	74		10.82	11.65	11.65
5+15	1	24	1	0		21.42	21.76	22.28
5+15	25	0	75	0	16-QAM	18.36	18.69	19.06
5+15	1	0	1	74		11.42	11.63	11.55
5+15	1	24	1	0		20.56	21.11	21.29
5+15	25	0	75	0	64-QAM	18.35	18.77	19.1
5+15	1	0	1	74		11.21	11.71	11.62
5+15	1	24	1	0		18.42	18.94	19.25

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
10+5	50	0	25	0	QPSK	21.62	22.01	22.16
10+5	1	0	1	24		13.88	14.16	13.81
10+5	1	49	1	0		23.56	23.89	24.14
10+5	50	0	25	0	16-QAM	20.61	21.06	21.07
10+5	1	0	1	24		13.92	14.21	13.95
10+5	1	49	1	0		22.85	23.03	22.85
10+5	50	0	25	0	64-QAM	20.58	20.97	21.06
10+5	1	0	1	24		13.74	14.12	13.77
10+5	1	49	1	0		20.65	21.19	21.23

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
5+10	25	0	50	0	QPSK	21.65	22.01	22.11
5+10	1	0	1	49		13.88	14.56	14.36
5+10	1	24	1	0		23.74	23.98	24.06
5+10	25	0	50	0	16-QAM	20.69	20.91	21.12
5+10	1	0	1	49		13.92	14.33	14.33
5+10	1	24	1	0		22.86	23.17	23.36
5+10	25	0	50	0	64-QAM	20.72	20.97	20.93
5+10	1	0	1	49		13.81	14.28	14.25
5+10	1	24	1	0		20.67	20.83	21.72

LTE Band 66_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod			
	RB Size	RB Offset	RB Size	RB Offset		Lowest	Middle	Highest
5+5	25	0	25	0	QPSK	21.41	21.94	22.12
5+5	1	0	1	24		13.51	13.62	13.99
5+5	1	24	1	0		23.46	23.81	23.90
5+5	25	0	25	0	16-QAM	20.33	20.75	20.81
5+5	1	0	1	24		13.53	13.75	14.26
5+5	1	24	1	0		22.65	22.86	23.07
5+5	25	0	25	0	64-QAM	20.49	21.03	21.01
5+5	1	0	1	24		13.68	13.63	14.16
5+5	1	24	1	0		20.10	20.91	20.99

LTE Band 66

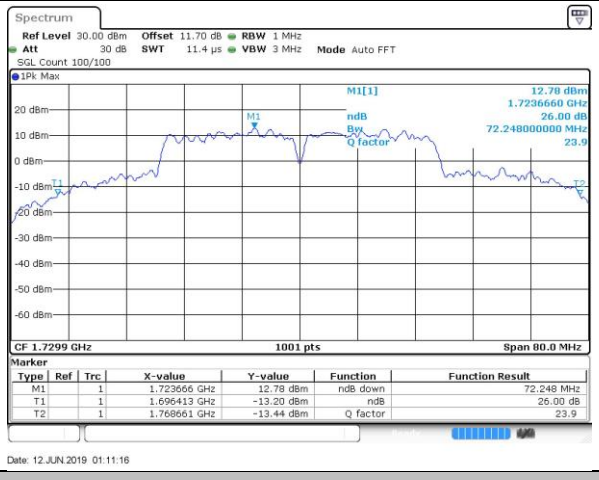
26dB Bandwidth

Mode	LTE Band 66C : 26dB BW(MHz)		
BW	20MHz+20MHz		
	QPSK	16QAM	64QAM
Lowest CH	72.24	71.76	67.13
Middle CH	69.29	67.69	69.61
Highest CH	66.97	68.09	69.21

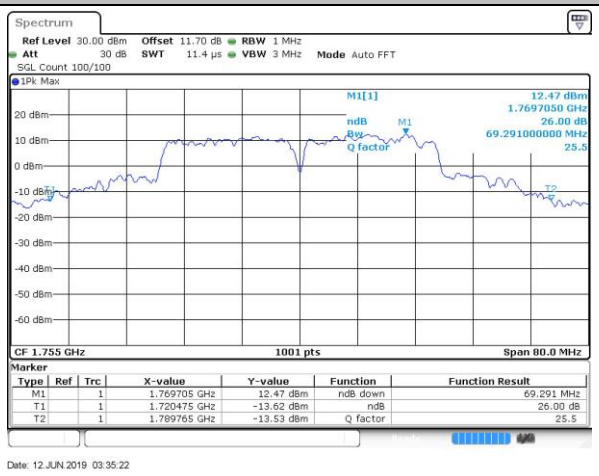
LTE Band 66C

QPSK

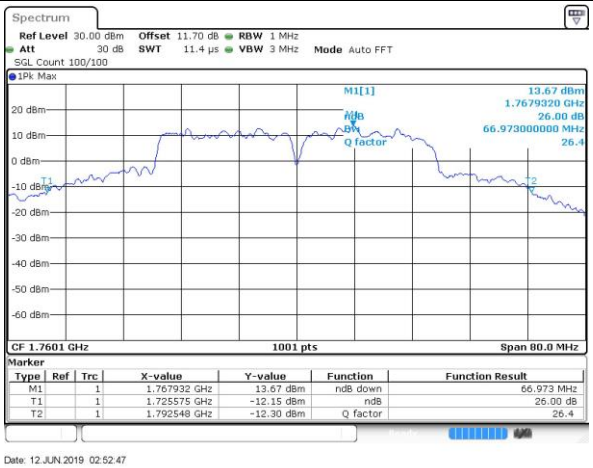
Lowest Channel / 20MHz+20MHz



Middle Channel / 20MHz+20MHz

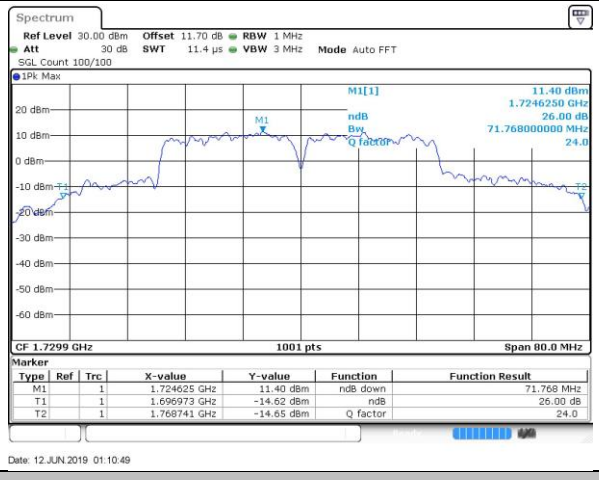


Highest Channel / 20MHz+20MHz

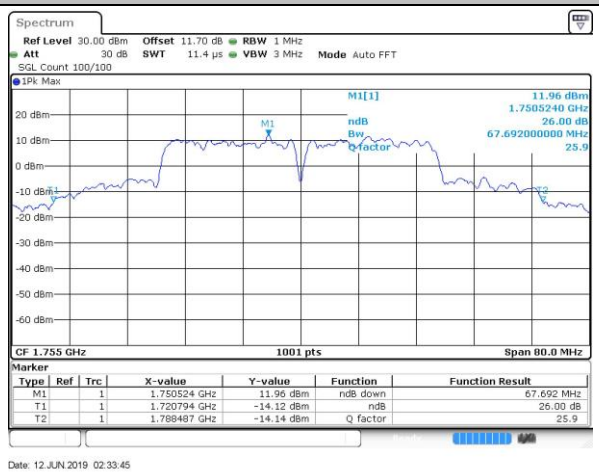


16QAM

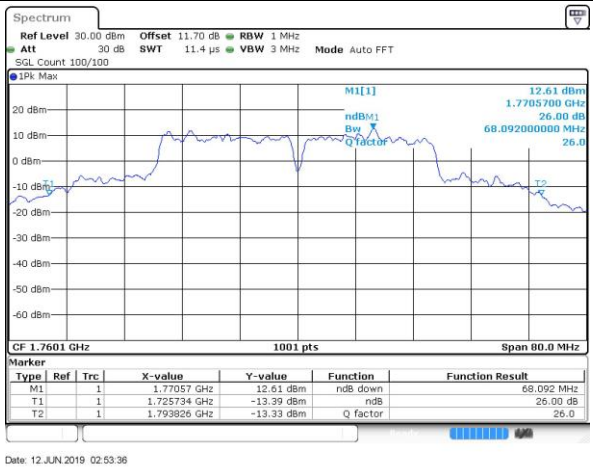
Lowest Channel / 20MHz+20MHz

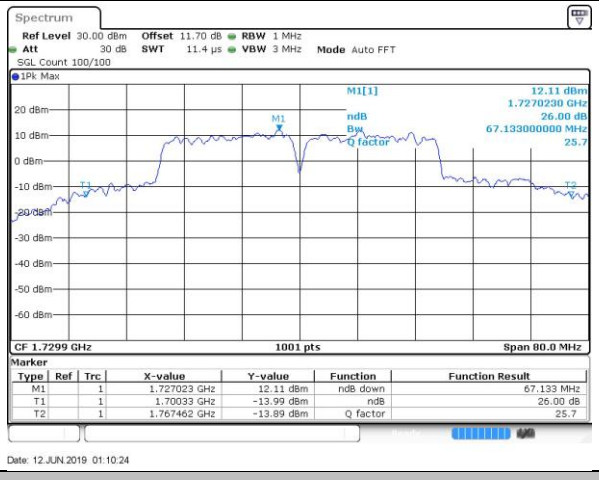
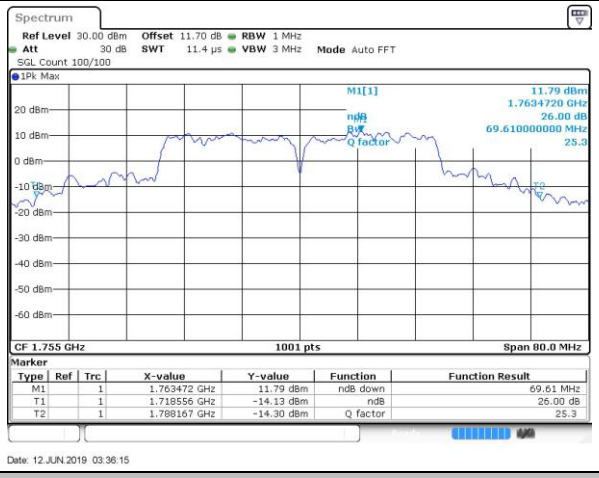
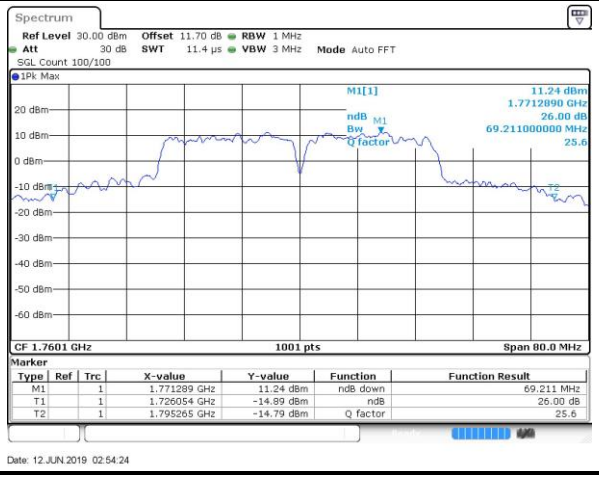


Middle Channel / 20MHz+20MHz



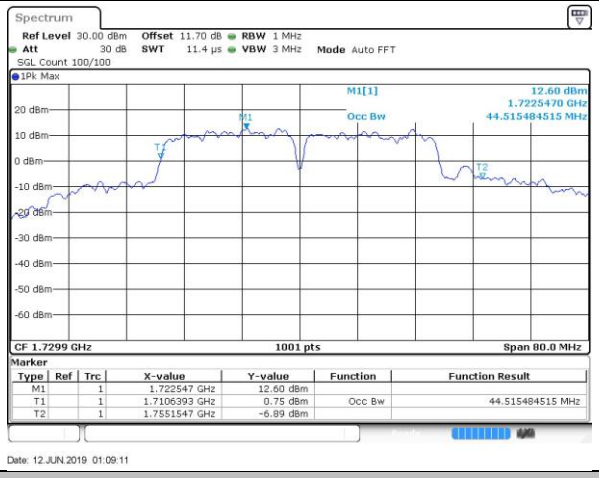
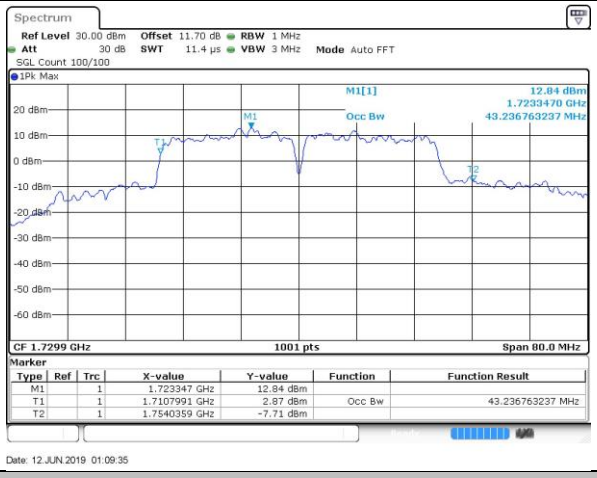
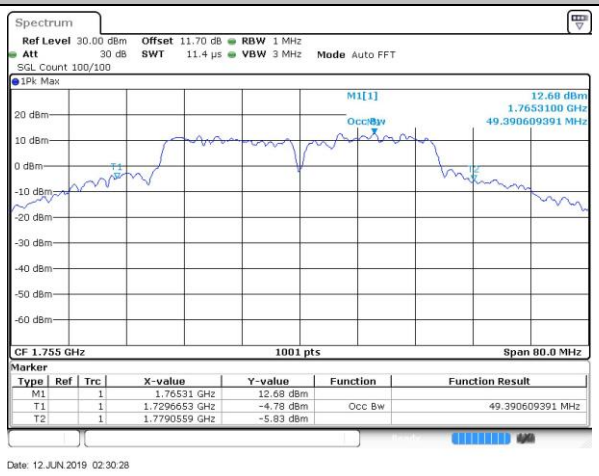
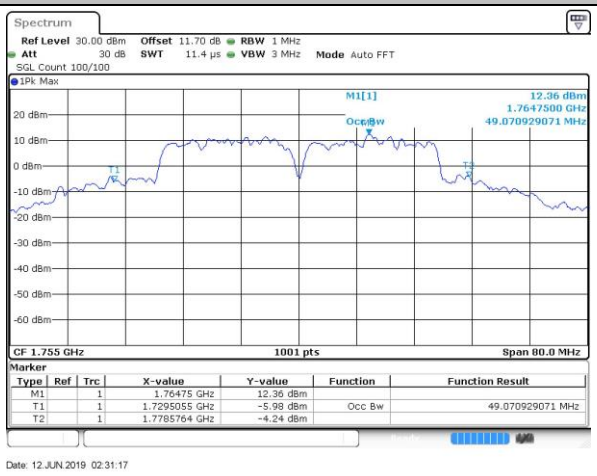
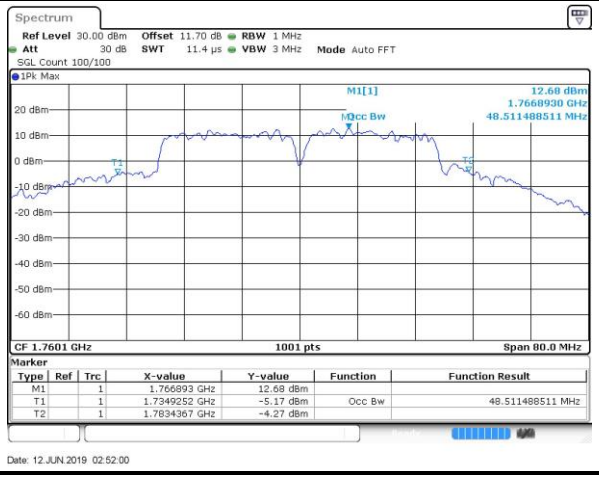
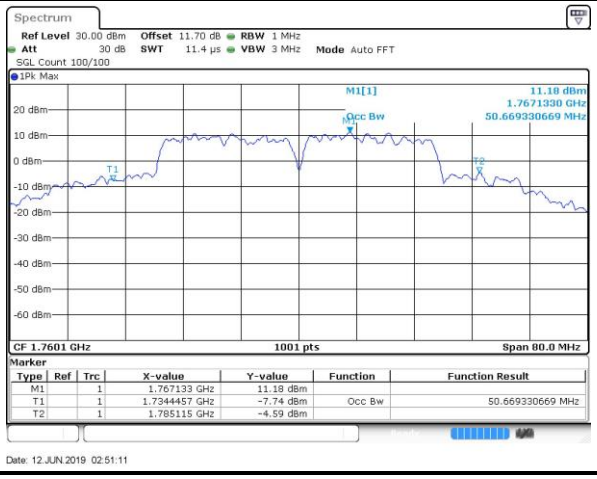
Highest Channel / 20MHz+20MHz

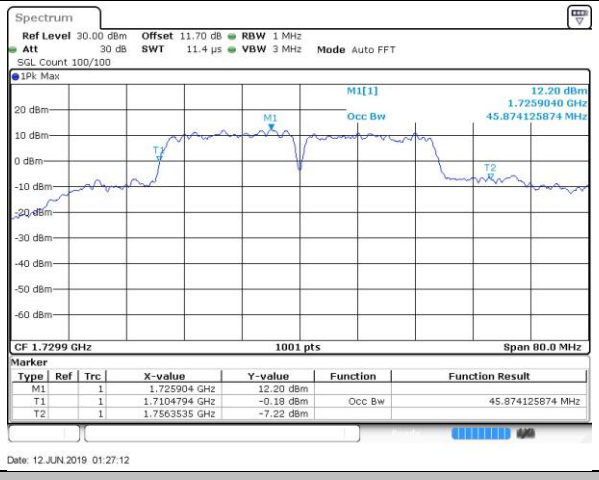
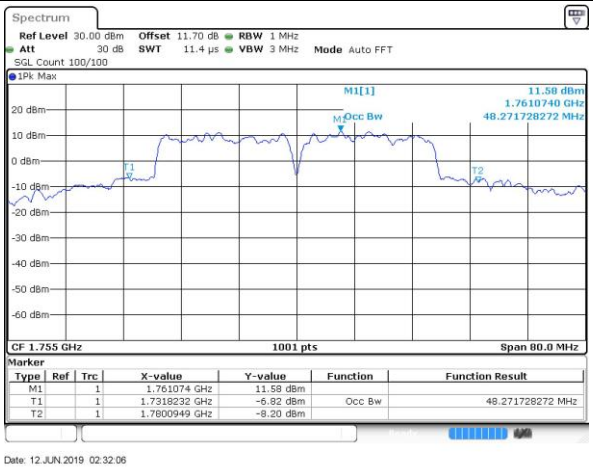
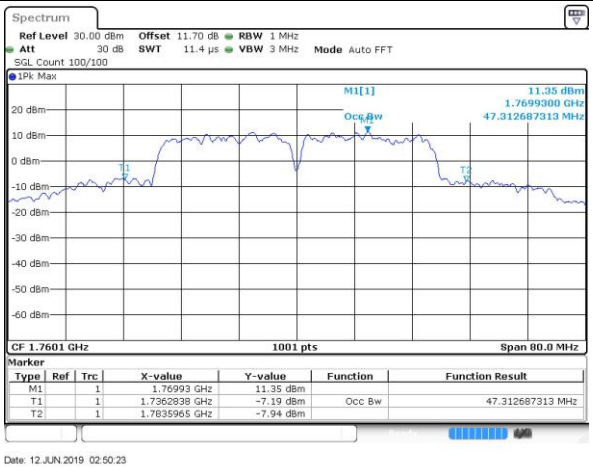


LTE Band 66C	
64QAM	
Lowest Channel / 20MHz+20MHz	
	
Middle Channel / 20MHz+20MHz	
	
Highest Channel / 20MHz+20MHz	
	

Occupied Bandwidth

Mode	LTE Band 66C : 99%OBW(MHz)		
BW	20MHz+20MHz		
	QPSK	16QAM	64QAM
Lowest CH	44.51	43.23	45.87
Middle CH	49.39	49.07	48.27
Highest CH	48.51	50.66	47.31

LTE Band 66C	
QPSK	**16QAM**
Lowest Channel / 20MHz+20MHz	**Lowest Channel / 20MHz+20MHz**
	
Middle Channel / 20MHz+20MHz	**Middle Channel / 20MHz+20MHz**
	
Highest Channel / 20MHz+20MHz	**Highest Channel / 20MHz+20MHz**
	

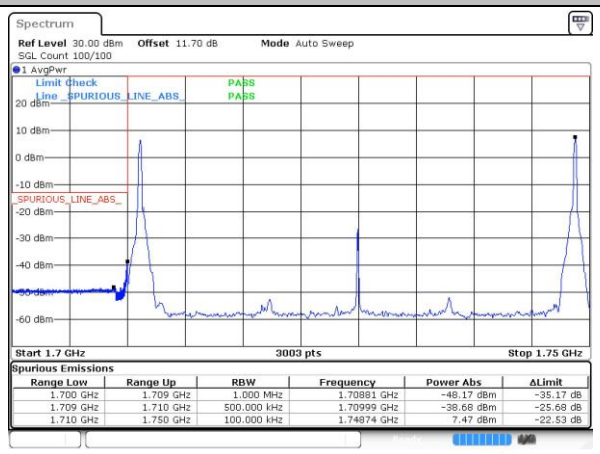
LTE Band 66C	
64QAM	
Lowest Channel / 20MHz+20MHz	
	
Middle Channel / 20MHz+20MHz	
	
Highest Channel / 20MHz+20MHz	
	

Conducted Band Edge

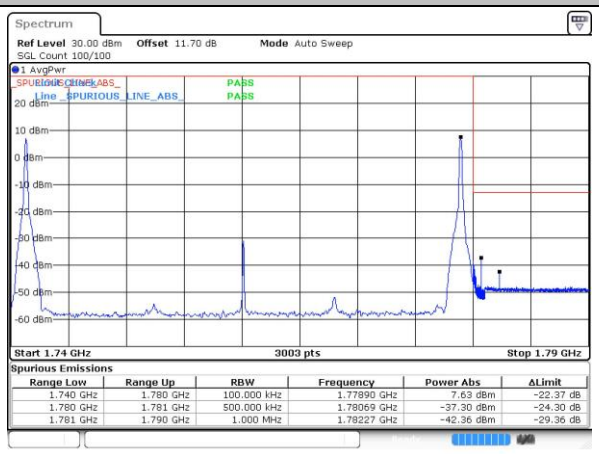
LTE Band 66C / 20MHz+20MHz

QPSK

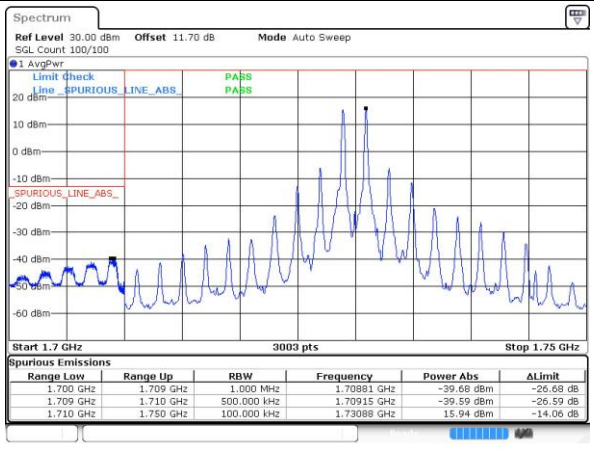
Lowest Band Edge / 1RB0 and 1RB99



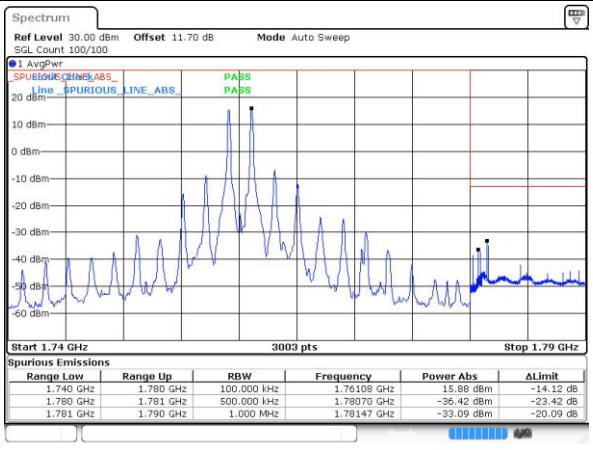
Highest Band Edge / 1RB0 and 1RB99



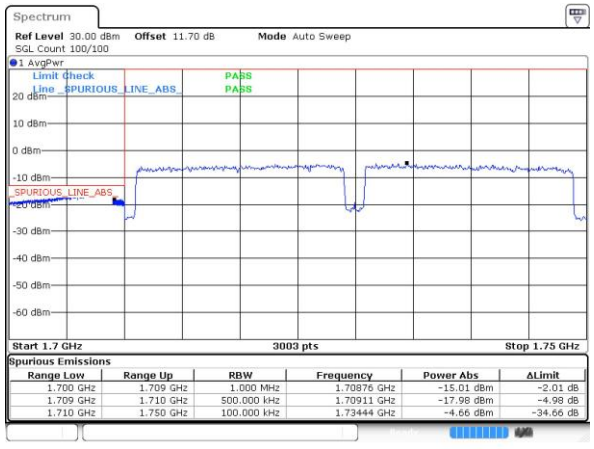
Lowest Band Edge / 1RB99 and 1RB0



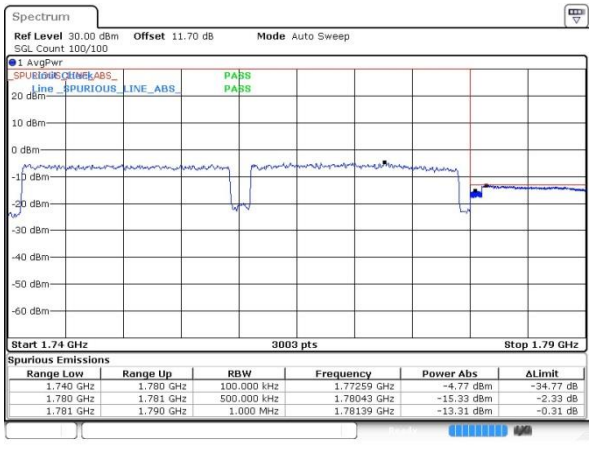
Highest Band Edge / 1RB99 and 1RB0



Lowest Band Edge / Full RB



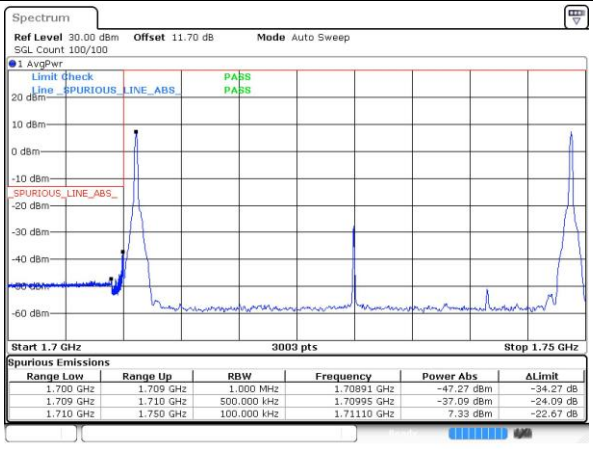
Highest Band Edge / Full RB



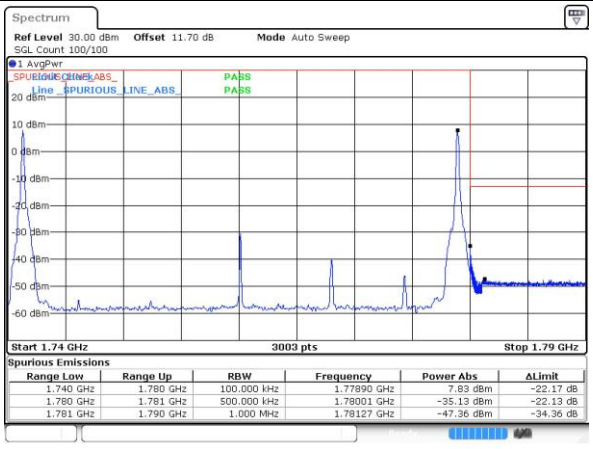
LTE Band 66C / 20MHz+20MHz

16QAM

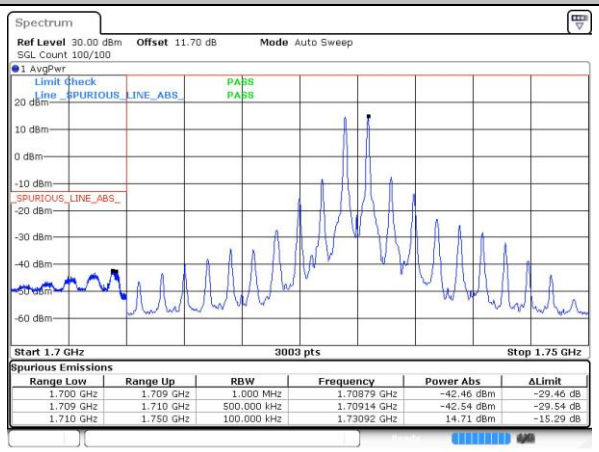
Lowest Band Edge / 1RB0 and 1RB99



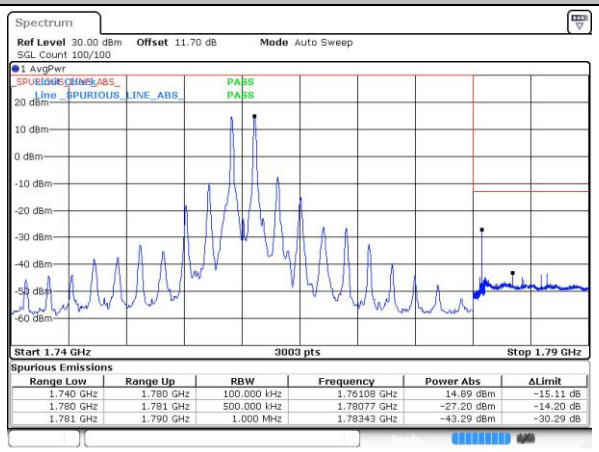
Highest Band Edge / 1RB0 and 1RB99



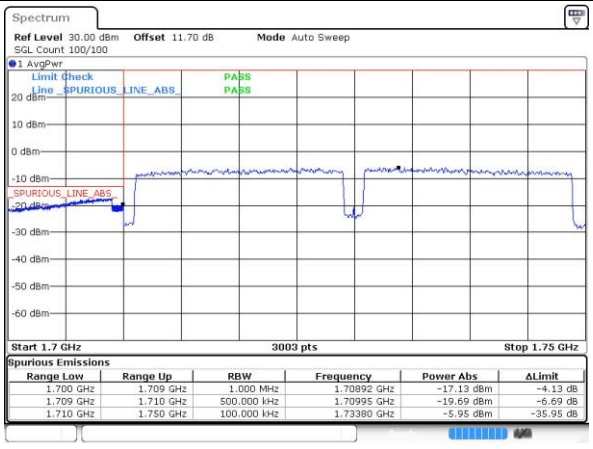
Lowest Band Edge / 1RB99 and 1RB0



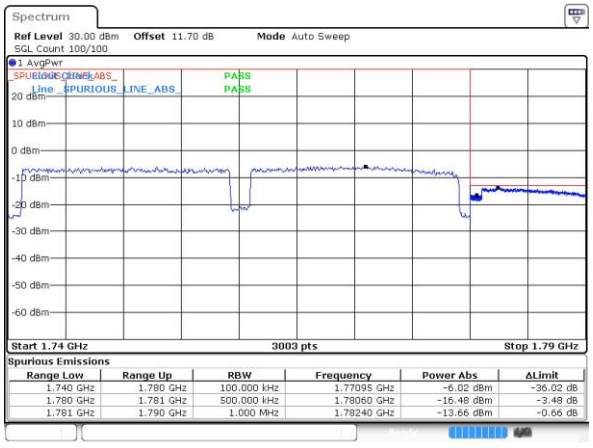
Highest Band Edge / 1RB99 and 1RB0



Lowest Band Edge / Full RB



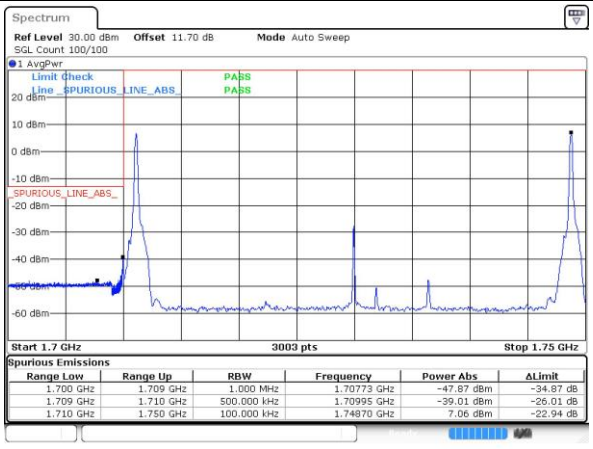
Highest Band Edge / Full RB



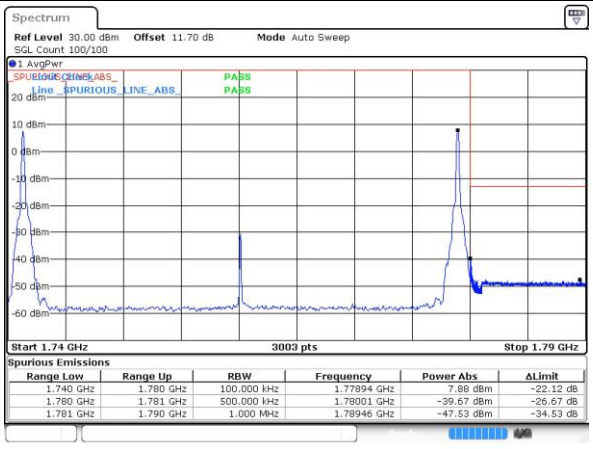
LTE Band 66C / 20MHz+20MHz

64QAM

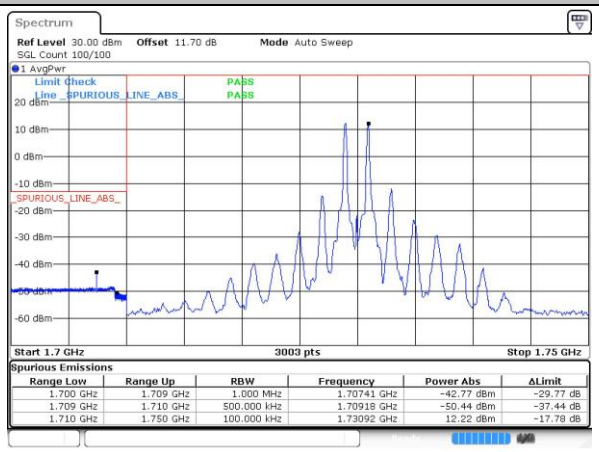
Lowest Band Edge / 1RB0 and 1RB99



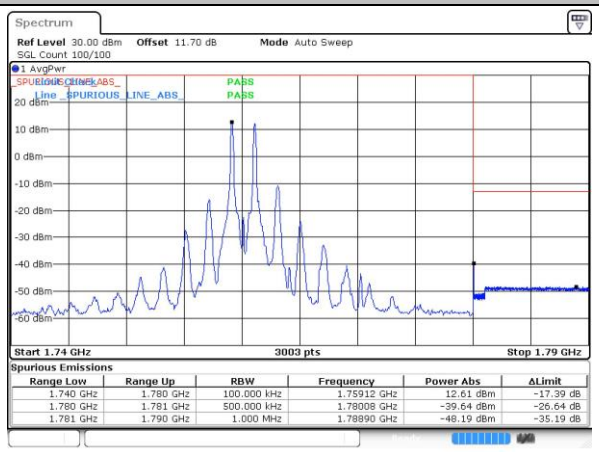
Highest Band Edge / 1RB0 and 1RB99



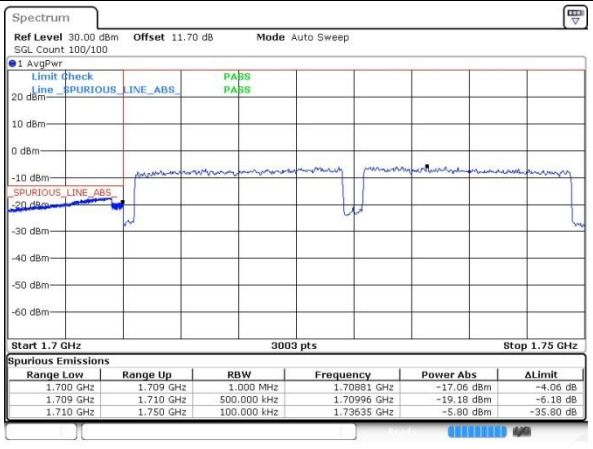
Lowest Band Edge / 1RB99 and 1RB0



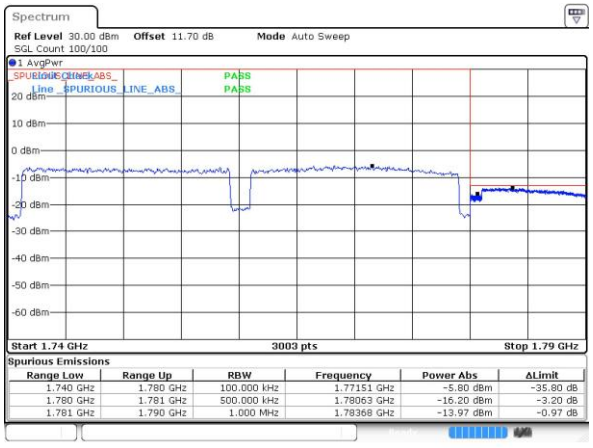
Highest Band Edge / 1RB99 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

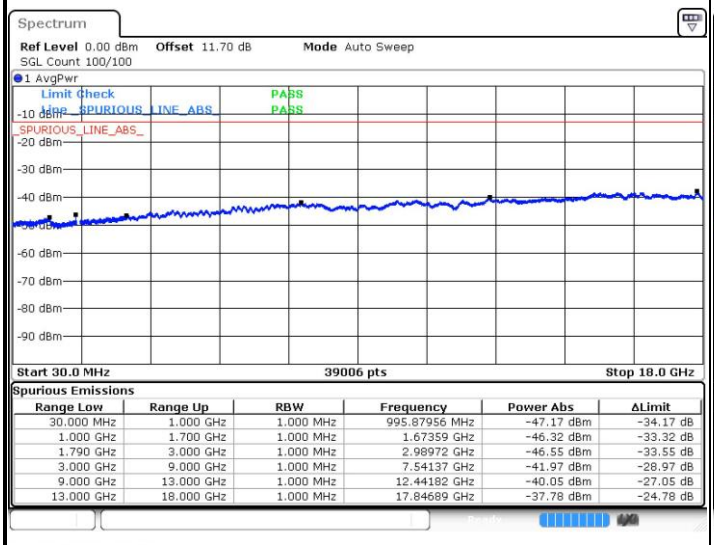


Conducted Spurious Emission

LTE Band 66C / 20MHz+20MHz

QPSK

Lowest Channel / 1RB0 and 1RB99



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	995.87956 MHz	-47.17 dBm	-34.17 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.67359 GHz	-46.32 dBm	-33.32 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.98972 GHz	-46.55 dBm	-33.55 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54137 GHz	-41.97 dBm	-28.97 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44182 GHz	-40.05 dBm	-27.05 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84689 GHz	-37.78 dBm	-24.78 dB

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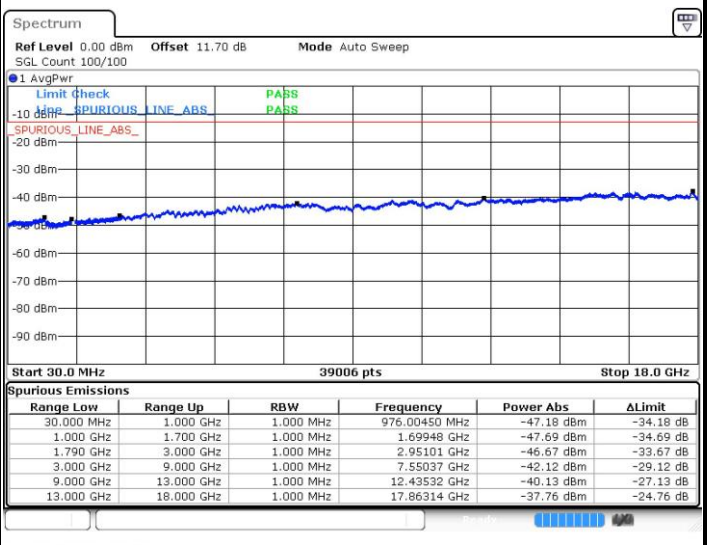
Lowest Channel / 1RB99 and 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	976.00450 MHz	-47.18 dBm	-34.18 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69948 GHz	-47.69 dBm	-34.69 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.95101 GHz	-46.67 dBm	-33.67 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55037 GHz	-42.12 dBm	-29.12 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43532 GHz	-40.13 dBm	-27.13 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.86314 GHz	-37.76 dBm	-24.76 dB

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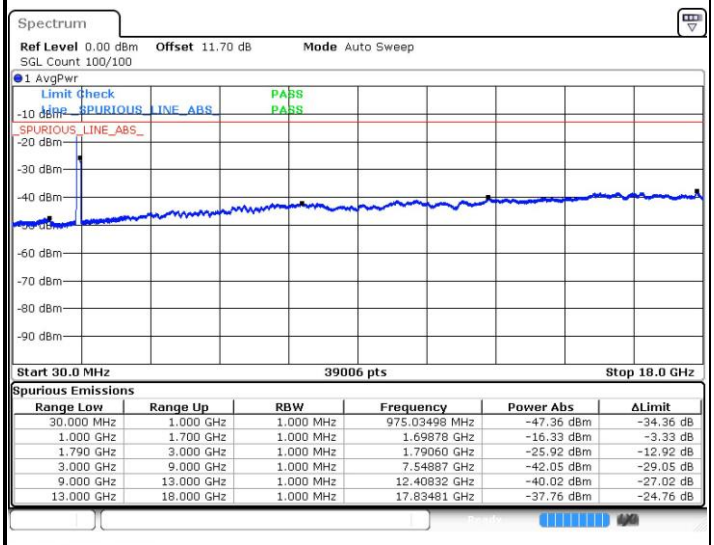
Lowest Channel / FullRB

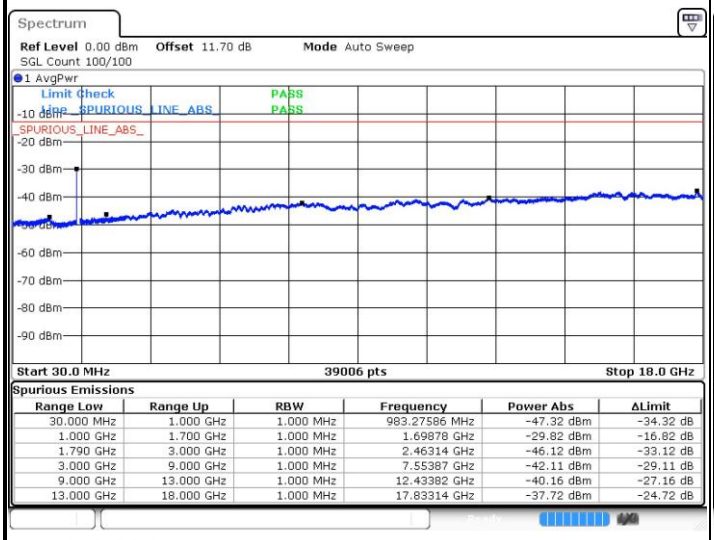
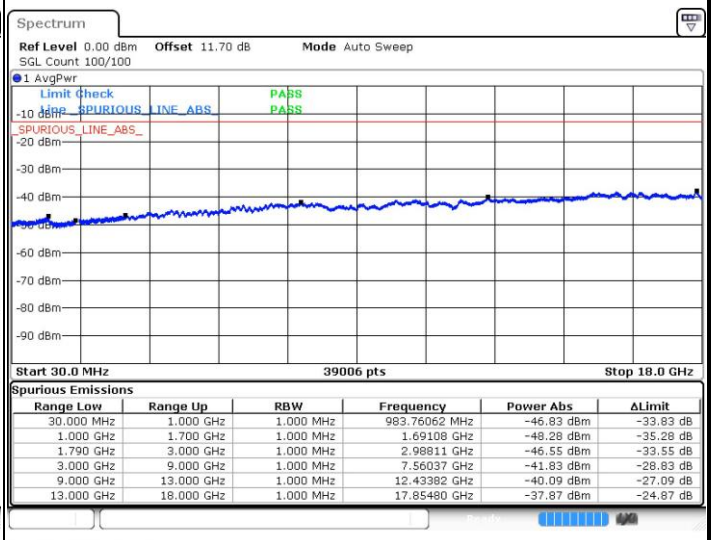
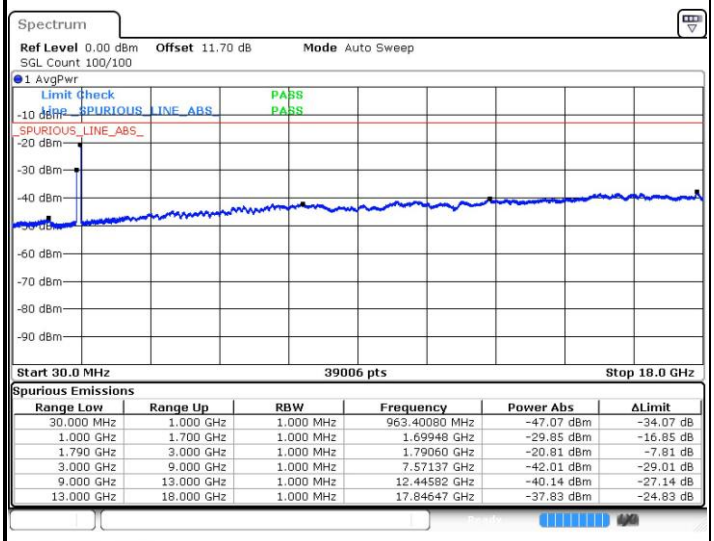


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	975.03498 MHz	-47.36 dBm	-34.36 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69878 GHz	-16.33 dBm	-3.33 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79060 GHz	-25.92 dBm	-12.92 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54887 GHz	-42.05 dBm	-29.05 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.40832 GHz	-40.02 dBm	-27.02 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83481 GHz	-37.76 dBm	-24.76 dB

Date: 12.JUN.2019 01:26:21

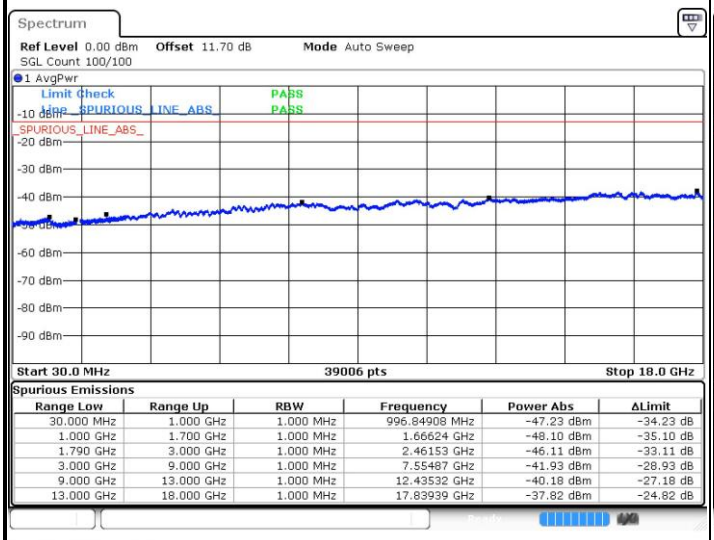
N/A

LTE Band 66C / 20MHz+20MHz	
QPSK	
MiddleChannel / 1RB0 and 1RB99	Middle Channel / 1RB99 and 1RB0
 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 30.000 MHz | 1.000 GHz | 1.000 MHz | 983.27586 MHz | -47.32 dBm | -34.32 dB 1.000 GHz | 1.700 GHz | 1.000 MHz | 1.69878 GHz | -29.82 dBm | -16.82 dB 1.790 GHz | 3.000 GHz | 1.000 MHz | 2.46314 GHz | -46.12 dBm | -33.12 dB 3.000 GHz | 9.000 GHz | 1.000 MHz | 7.55387 GHz | -42.11 dBm | -29.11 dB 9.000 GHz | 13.000 GHz | 1.000 MHz | 12.43382 GHz | -40.16 dBm | -27.16 dB 13.000 GHz | 18.000 GHz | 1.000 MHz | 17.83314 GHz | -37.72 dBm | -24.72 dB Date: 12.JUN.2019 02:42:28	 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 30.000 MHz | 1.000 GHz | 1.000 MHz | 983.76062 MHz | -46.83 dBm | -33.83 dB 1.000 GHz | 1.700 GHz | 1.000 MHz | 1.69108 GHz | -48.28 dBm | -35.28 dB 1.790 GHz | 3.000 GHz | 1.000 MHz | 2.98811 GHz | -46.55 dBm | -33.55 dB 3.000 GHz | 9.000 GHz | 1.000 MHz | 7.56037 GHz | -41.83 dBm | -28.83 dB 9.000 GHz | 13.000 GHz | 1.000 MHz | 12.43382 GHz | -40.09 dBm | -27.09 dB 13.000 GHz | 18.000 GHz | 1.000 MHz | 17.85480 GHz | -37.87 dBm | -24.87 dB Date: 12.JUN.2019 02:43:45
Middle Channel / FullRB	N/A
 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 30.000 MHz | 1.000 GHz | 1.000 MHz | 963.40080 MHz | -47.07 dBm | -34.07 dB 1.000 GHz | 1.700 GHz | 1.000 MHz | 1.69948 GHz | -29.85 dBm | -16.85 dB 1.790 GHz | 3.000 GHz | 1.000 MHz | 1.79060 GHz | -20.81 dBm | -7.81 dB 3.000 GHz | 9.000 GHz | 1.000 MHz | 7.57137 GHz | -42.01 dBm | -29.01 dB 9.000 GHz | 13.000 GHz | 1.000 MHz | 12.44582 GHz | -40.14 dBm | -27.14 dB 13.000 GHz | 18.000 GHz | 1.000 MHz | 17.84647 GHz | -37.83 dBm | -24.83 dB Date: 12.JUN.2019 02:35:50	

LTE Band 66C / 20MHz+20MHz

QPSK

Highest Channel / 1RB0 and 1RB99

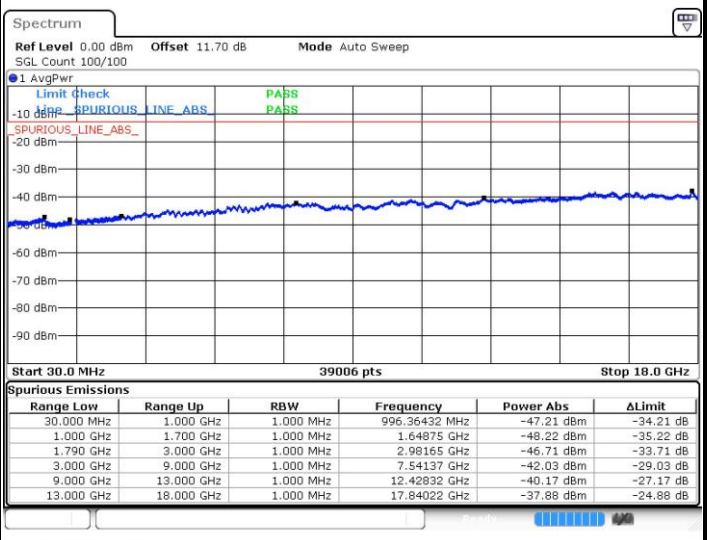


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.84908 MHz	-47.23 dBm	-34.23 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.66624 GHz	-48.10 dBm	-35.10 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.46153 GHz	-46.11 dBm	-33.11 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55487 GHz	-41.93 dBm	-28.93 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43532 GHz	-40.18 dBm	-27.18 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83939 GHz	-37.82 dBm	-24.82 dB

Date: 12.JUN.2019 03:13:03

Highest Channel / 1RB99 and 1RB0

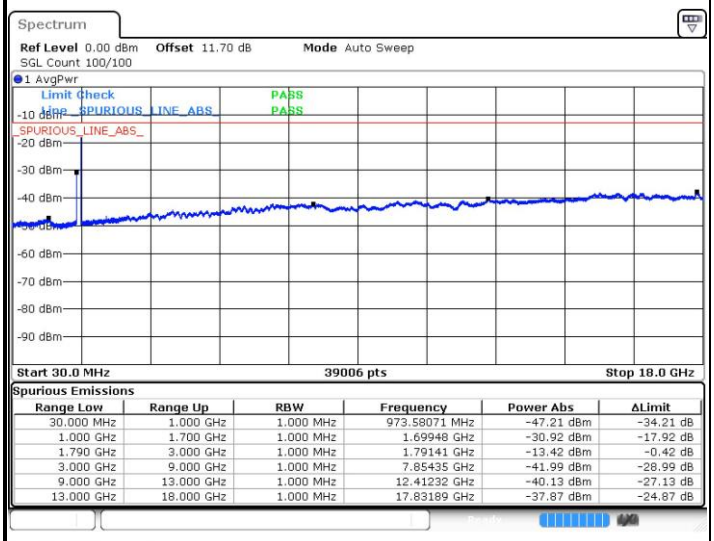


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.36432 MHz	-47.21 dBm	-34.21 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.64875 GHz	-48.22 dBm	-35.22 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.98165 GHz	-46.71 dBm	-33.71 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54137 GHz	-42.03 dBm	-29.03 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42832 GHz	-40.17 dBm	-27.17 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84022 GHz	-37.88 dBm	-24.88 dB

Date: 12.JUN.2019 03:06:32

Highest Channel / FullRB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	973.58071 MHz	-47.21 dBm	-34.21 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69948 GHz	-30.92 dBm	-17.92 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79141 GHz	-13.42 dBm	-0.42 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85435 GHz	-41.99 dBm	-28.99 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41232 GHz	-40.13 dBm	-27.13 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83189 GHz	-37.87 dBm	-24.87 dB

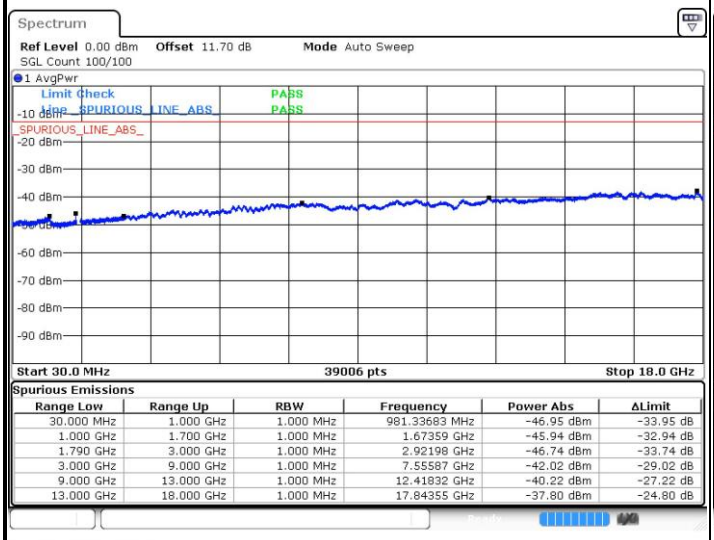
Date: 12.JUN.2019 03:14:22

N/A

LTE Band 66C / 20MHz+20MHz

16QAM

Lowest Channel / 1RB0 and 1RB99

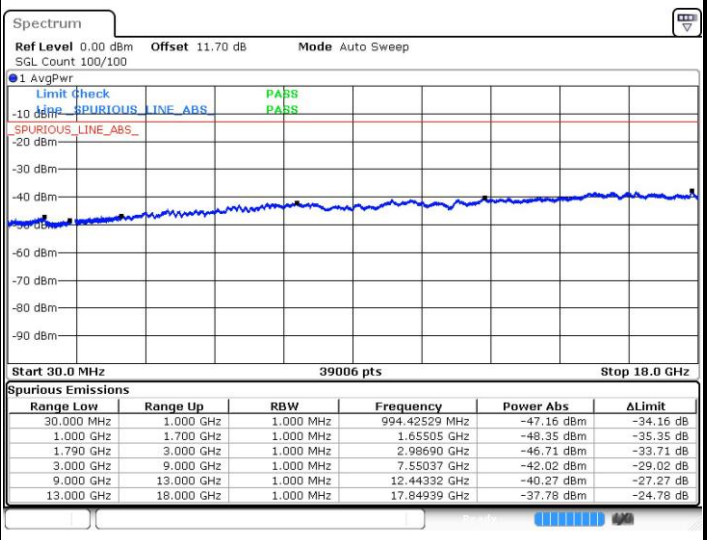


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	981.33683 MHz	-46.95 dBm	-33.95 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.67359 GHz	-45.94 dBm	-32.94 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.92198 GHz	-46.74 dBm	-33.74 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55587 GHz	-42.02 dBm	-29.02 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41832 GHz	-40.22 dBm	-27.22 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84355 GHz	-37.80 dBm	-24.80 dB

Date: 12.JUN.2019 01:22:45

Lowest Channel / 1RB99 and 1RB0

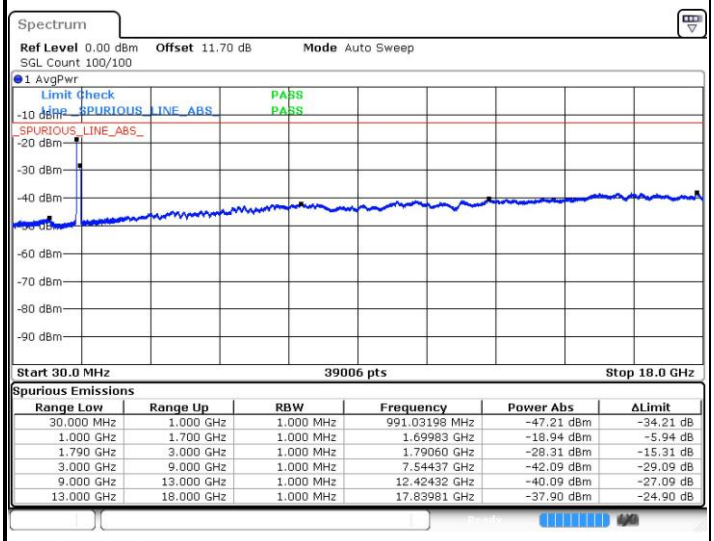


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	994.42529 MHz	-47.16 dBm	-34.16 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.65505 GHz	-48.35 dBm	-35.35 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.98690 GHz	-46.71 dBm	-33.71 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55037 GHz	-42.02 dBm	-29.02 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44332 GHz	-40.27 dBm	-27.27 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84939 GHz	-37.78 dBm	-24.78 dB

Date: 12.JUN.2019 01:20:05

Lowest Channel / FullRB

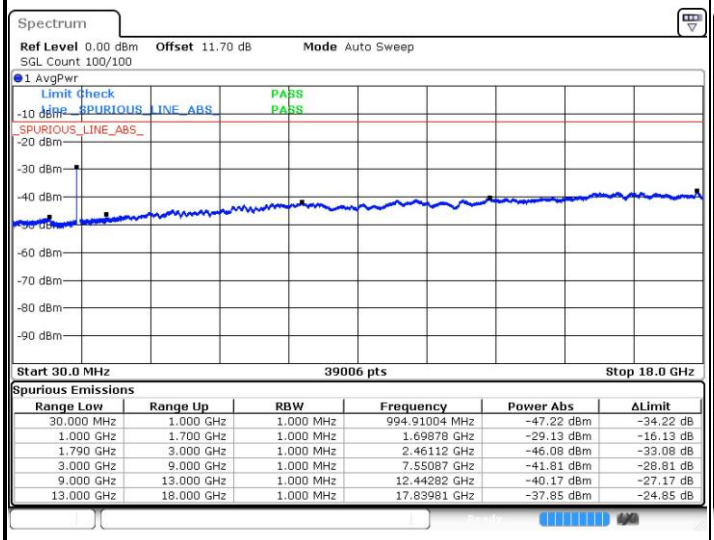
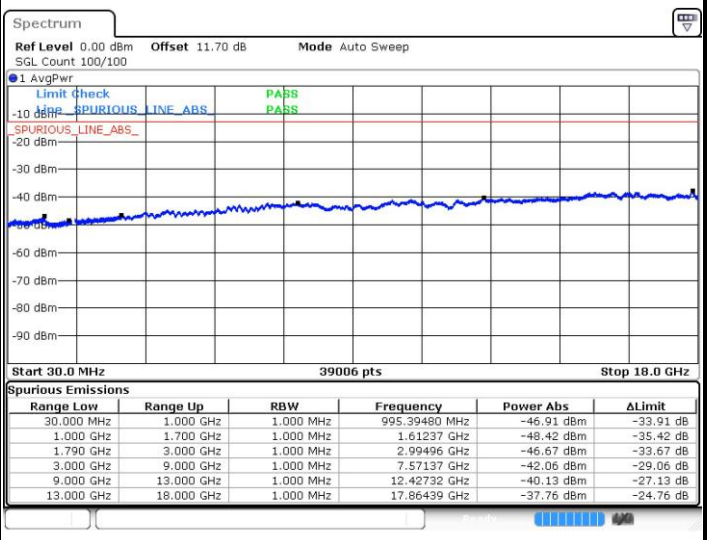
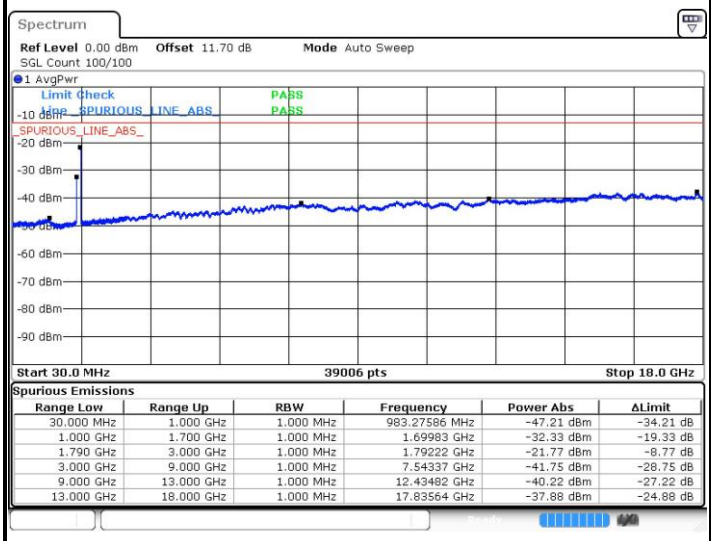


Spurious Emissions

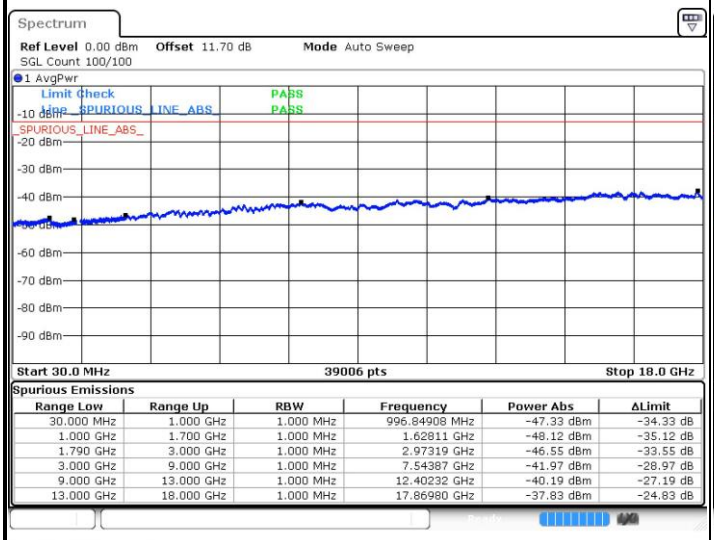
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.03198 MHz	-47.21 dBm	-34.21 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-18.94 dBm	-5.94 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79060 GHz	-28.31 dBm	-15.31 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54437 GHz	-42.09 dBm	-29.09 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42432 GHz	-40.09 dBm	-27.09 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83981 GHz	-37.90 dBm	-24.90 dB

Date: 12.JUN.2019 01:25:27

N/A

LTE Band 66C / 20MHz+20MHz	
16QAM	
MiddleChannel / 1RB0 and 1RB99	Middle Channel / 1RB99 and 1RB0
 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 30.000 MHz | 1.000 GHz | 1.000 MHz | 994.91004 MHz | -47.22 dBm | -34.22 dB 1.000 GHz | 1.700 GHz | 1.000 MHz | 1.69878 GHz | -29.13 dBm | -16.13 dB 1.790 GHz | 3.000 GHz | 1.000 MHz | 2.46112 GHz | -46.08 dBm | -33.08 dB 3.000 GHz | 9.000 GHz | 1.000 MHz | 7.55087 GHz | -41.81 dBm | -28.81 dB 9.000 GHz | 13.000 GHz | 1.000 MHz | 12.44282 GHz | -40.17 dBm | -27.17 dB 13.000 GHz | 18.000 GHz | 1.000 MHz | 17.83981 GHz | -37.85 dBm | -24.85 dB Date: 12.JUN.2019 02:41:08	 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 30.000 MHz | 1.000 GHz | 1.000 MHz | 995.39480 MHz | -46.91 dBm | -33.91 dB 1.000 GHz | 1.700 GHz | 1.000 MHz | 1.61237 GHz | -48.42 dBm | -35.42 dB 1.790 GHz | 3.000 GHz | 1.000 MHz | 2.99496 GHz | -46.67 dBm | -33.67 dB 3.000 GHz | 9.000 GHz | 1.000 MHz | 7.57137 GHz | -42.06 dBm | -29.06 dB 9.000 GHz | 13.000 GHz | 1.000 MHz | 12.42732 GHz | -40.13 dBm | -27.13 dB 13.000 GHz | 18.000 GHz | 1.000 MHz | 17.86439 GHz | -37.76 dBm | -24.76 dB Date: 12.JUN.2019 02:45:03
Middle Channel / FullRB	N/A
 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 30.000 MHz | 1.000 GHz | 1.000 MHz | 983.27586 MHz | -47.21 dBm | -34.21 dB 1.000 GHz | 1.700 GHz | 1.000 MHz | 1.69983 GHz | -32.33 dBm | -19.33 dB 1.790 GHz | 3.000 GHz | 1.000 MHz | 1.79222 GHz | -21.77 dBm | -8.77 dB 3.000 GHz | 9.000 GHz | 1.000 MHz | 7.54337 GHz | -41.75 dBm | -28.75 dB 9.000 GHz | 13.000 GHz | 1.000 MHz | 12.43482 GHz | -40.22 dBm | -27.22 dB 13.000 GHz | 18.000 GHz | 1.000 MHz | 17.83564 GHz | -37.88 dBm | -24.88 dB Date: 12.JUN.2019 02:37:10	

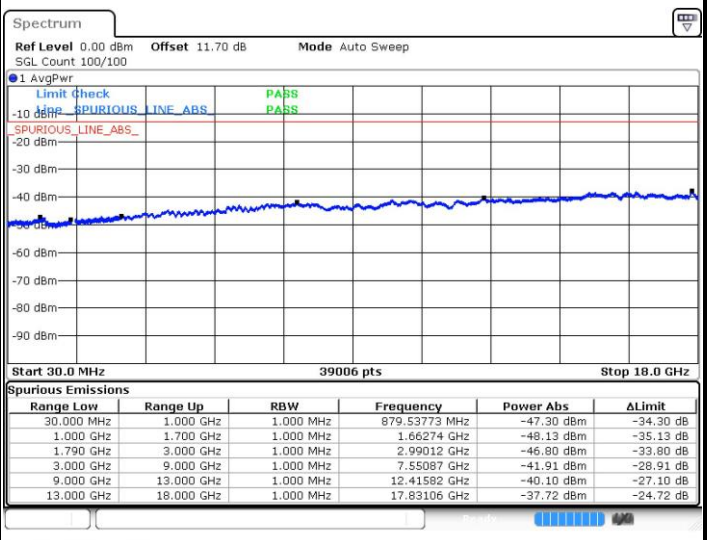
LTE Band 66C / 20MHz+20MHz	
16QAM	
Highest Channel / 1RB0 and 1RB99	Highest Channel / 1RB99 and 1RB0
Highest Channel / FullRB	N/A



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.84908 MHz	-47.33 dBm	-34.33 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.62811 GHz	-48.12 dBm	-35.12 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.97319 GHz	-46.55 dBm	-33.55 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54387 GHz	-41.97 dBm	-28.97 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.40232 GHz	-40.19 dBm	-27.19 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.86980 GHz	-37.83 dBm	-24.83 dB

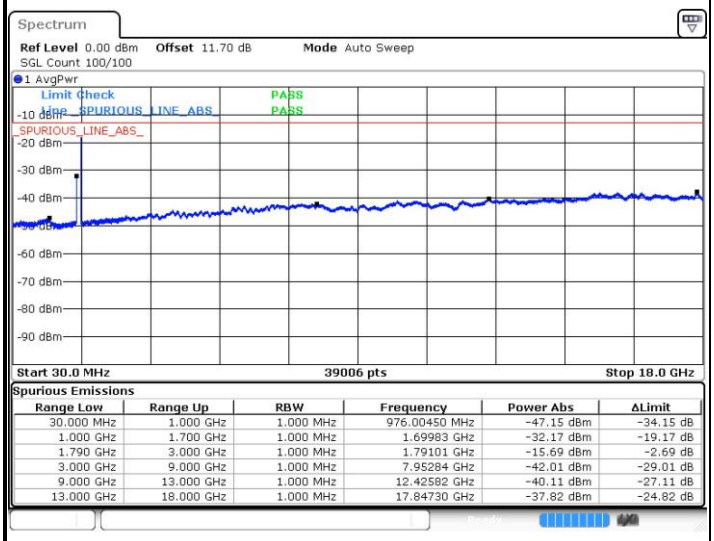
Date: 12.JUN.2019 03:11:45



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	879.53773 MHz	-47.30 dBm	-34.30 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.66274 GHz	-48.13 dBm	-35.13 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.99012 GHz	-46.80 dBm	-33.80 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55087 GHz	-41.91 dBm	-28.91 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41582 GHz	-40.10 dBm	-27.10 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83106 GHz	-37.72 dBm	-24.72 dB

Date: 12.JUN.2019 03:07:51



Spurious Emissions

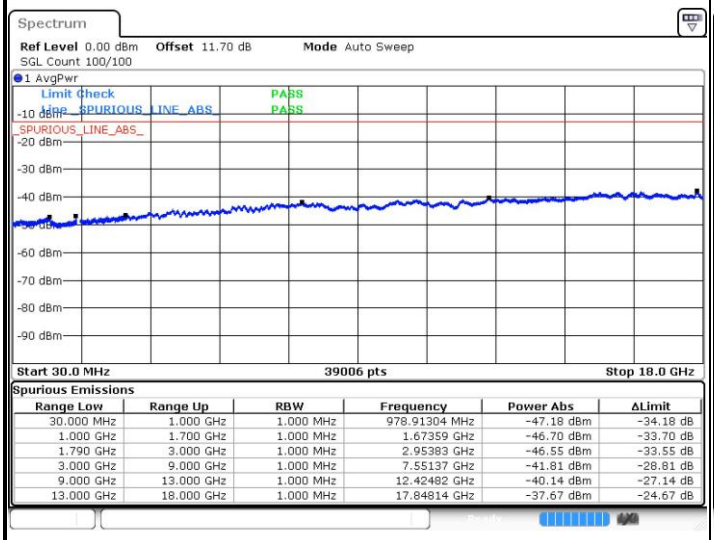
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	976.00450 MHz	-47.15 dBm	-34.15 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-32.17 dBm	-19.17 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79101 GHz	-15.69 dBm	-2.69 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.95284 GHz	-42.01 dBm	-29.01 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42582 GHz	-40.11 dBm	-27.11 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84730 GHz	-37.82 dBm	-24.82 dB

Date: 12.JUN.2019 03:15:40

LTE Band 66C / 20MHz+20MHz

64QAM

Lowest Channel / 1RB0 and 1RB99

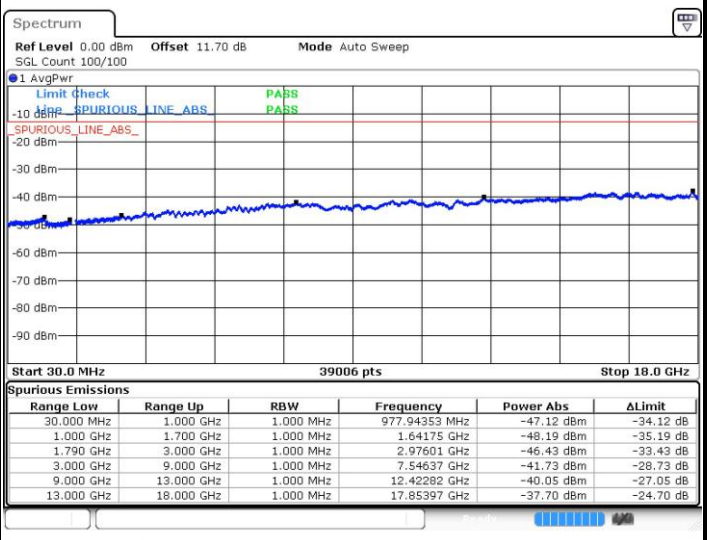


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	978.91304 MHz	-47.18 dBm	-34.18 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.67359 GHz	-46.70 dBm	-33.70 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.95383 GHz	-46.55 dBm	-33.55 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55137 GHz	-41.81 dBm	-28.81 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42482 GHz	-40.14 dBm	-27.14 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84814 GHz	-37.67 dBm	-24.67 dB

Date: 12.JUN.2019 01:23:39

Lowest Channel / 1RB99 and 1RB0



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	977.94353 MHz	-47.12 dBm	-34.12 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.64175 GHz	-48.19 dBm	-35.19 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.97601 GHz	-46.43 dBm	-33.43 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54637 GHz	-41.73 dBm	-28.73 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42282 GHz	-40.05 dBm	-27.05 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85397 GHz	-37.70 dBm	-24.70 dB

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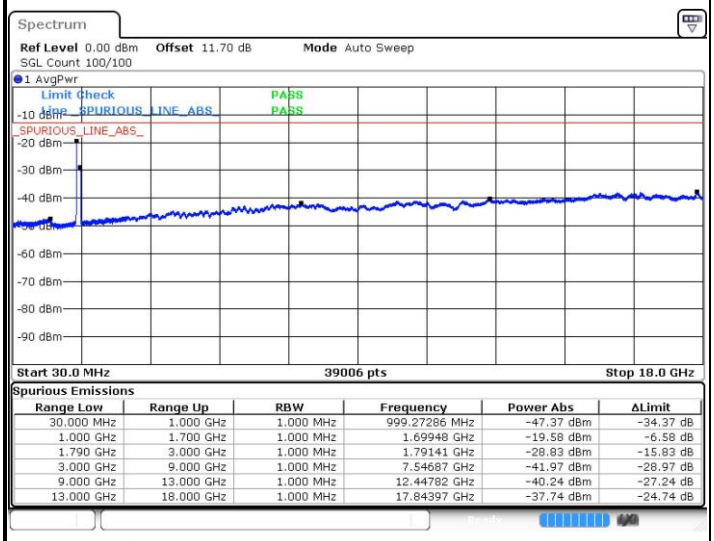
Lowest Channel / FullRB



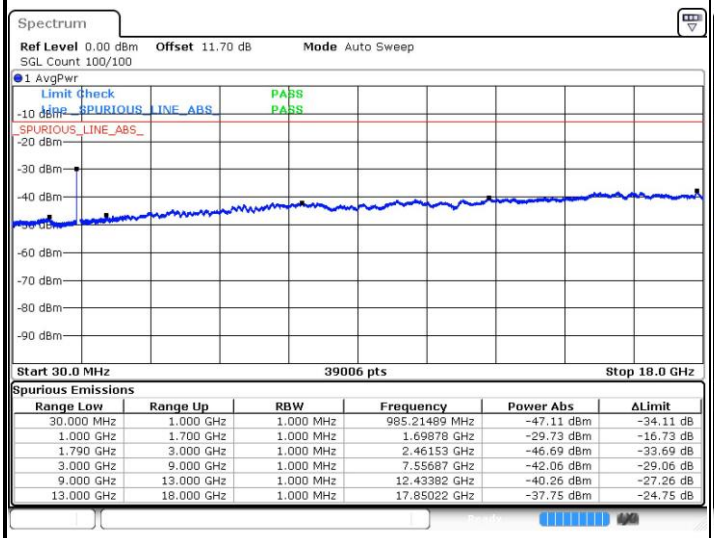
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	999.27286 MHz	-47.37 dBm	-34.37 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69948 GHz	-19.58 dBm	-6.58 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79141 GHz	-28.83 dBm	-15.83 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54687 GHz	-41.97 dBm	-28.97 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44782 GHz	-40.24 dBm	-27.24 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84397 GHz	-37.74 dBm	-24.74 dB

Date: 12.JUN.2019 01:24:32

N/A

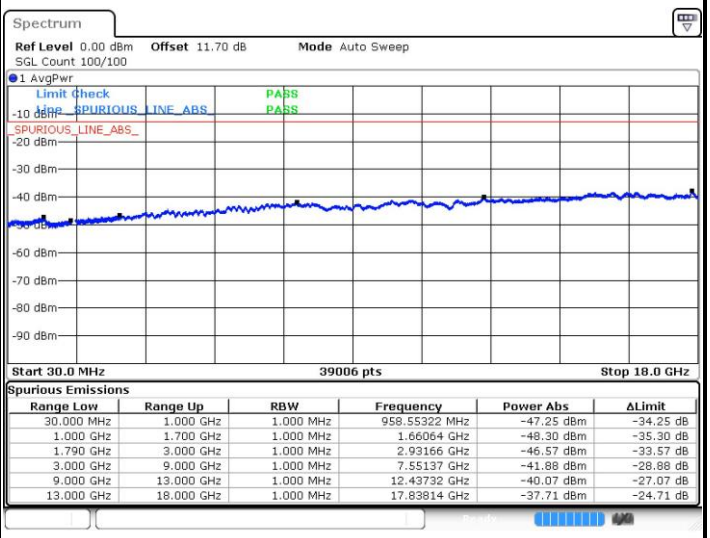
LTE Band 66C / 20MHz+20MHz	
64QAM	
MiddleChannel / 1RB0 and 1RB99	Middle Channel / 1RB99 and 1RB0
Middle Channel / FullRB	N/A



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.21489 MHz	-47.11 dBm	-34.11 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69878 GHz	-29.73 dBm	-16.73 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.46153 GHz	-46.69 dBm	-33.69 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55687 GHz	-42.06 dBm	-29.06 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43382 GHz	-40.26 dBm	-27.26 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85022 GHz	-37.75 dBm	-24.75 dB

Date: 12.JUN.2019 02:39:48



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	958.55322 MHz	-47.25 dBm	-34.25 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.66064 GHz	-48.30 dBm	-35.30 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.93166 GHz	-46.57 dBm	-33.57 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55137 GHz	-41.88 dBm	-28.88 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43732 GHz	-40.07 dBm	-27.07 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83814 GHz	-37.71 dBm	-24.71 dB

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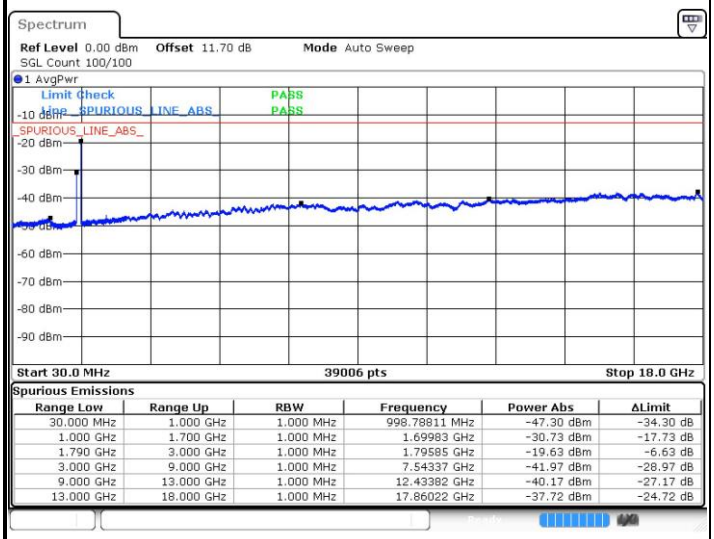

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	998.78811 MHz	-47.30 dBm	-34.30 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-30.73 dBm	-17.73 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79585 GHz	-19.63 dBm	-6.63 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54337 GHz	-41.97 dBm	-28.97 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43382 GHz	-40.17 dBm	-27.17 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.86022 GHz	-37.72 dBm	-24.72 dB

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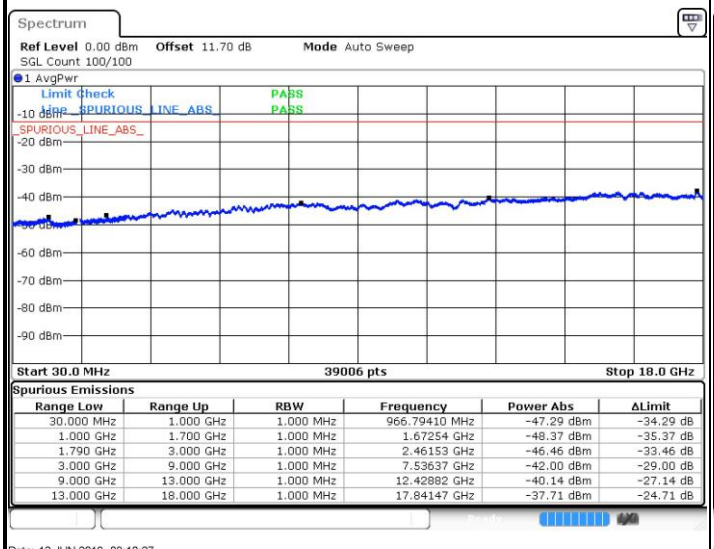
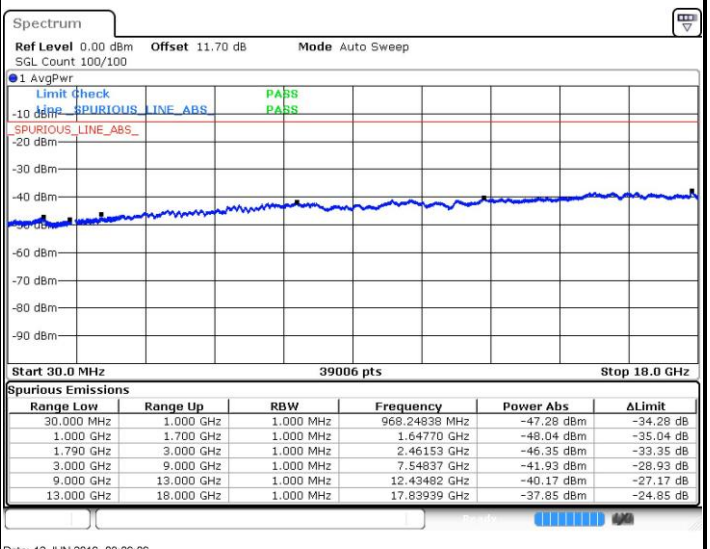
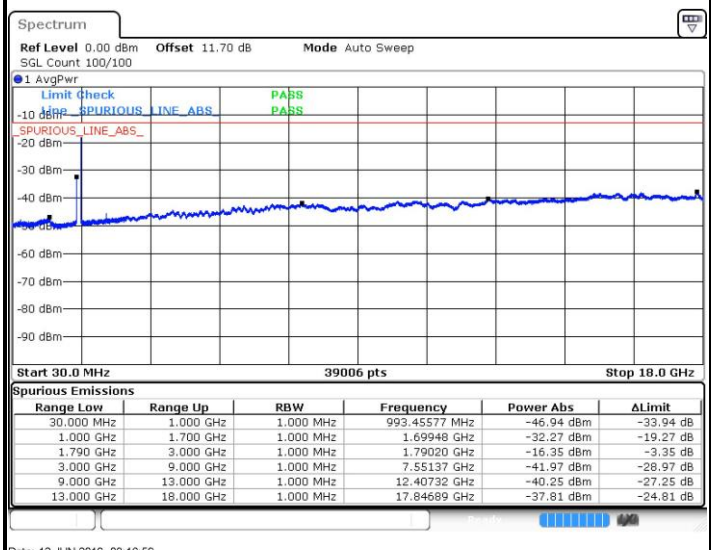
LTE Band 66C / 20MHz+20MHz	
64QAM	
Highest Channel / 1RB0 and 1RB99	Highest Channel / 1RB99 and 1RB0
	
Highest Channel / FullRB	N/A
	

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	966.79410 MHz	-47.29 dBm	-34.29 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.67254 GHz	-48.37 dBm	-35.37 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.46153 GHz	-46.46 dBm	-33.46 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.53637 GHz	-42.00 dBm	-29.00 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42882 GHz	-40.14 dBm	-27.14 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84147 GHz	-37.71 dBm	-24.71 dB

Date: 12.JUN.2019 03:10:27

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	968.24838 MHz	-47.28 dBm	-34.28 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.64770 GHz	-48.04 dBm	-35.04 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.46153 GHz	-46.35 dBm	-33.35 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54837 GHz	-41.93 dBm	-28.93 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43482 GHz	-40.17 dBm	-27.17 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83939 GHz	-37.85 dBm	-24.85 dB

Date: 12.JUN.2019 03:09:09

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	993.45577 MHz	-46.94 dBm	-33.94 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69948 GHz	-32.27 dBm	-19.27 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79020 GHz	-16.35 dBm	-3.35 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55137 GHz	-41.97 dBm	-28.97 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.40732 GHz	-40.25 dBm	-27.25 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84689 GHz	-37.81 dBm	-24.81 dB

Date: 12.JUN.2019 03:16:59

Radiated Spurious Emission

LTE ULCA_B66_20M 1RB99 QPSK + 20M 1RB0 QPSK

LTE ULCA_B66_20M 1RB99 QPSK+20M 1RB0 QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Low	3455	-53.52	-13	-40.52	-70.01	-63.95	1.83	12.27	H
	5191	-41.37	-13	-28.37	-63.1	-51.23	2.28	12.14	H
	6913	-46.08	-13	-33.08	-71.88	-54.68	2.39	10.99	H
	3455	-55.86	-13	-42.86	-72.74	-66.29	1.83	12.27	V
	5191	-47.42	-13	-34.42	-68.99	-57.28	2.28	12.14	V
	6913	-48.25	-13	-35.25	-73.6	-56.85	2.39	10.99	V
Middle	3511	-52.74	-13	-39.74	-69.82	-63.26	1.88	12.39	H
	5261	-39.11	-13	-26.11	-61.07	-49.01	2.25	12.15	H
	7015	-45.37	-13	-32.37	-71.66	-53.83	2.41	10.87	H
	3511	-54.97	-13	-41.97	-72.36	-65.49	1.88	12.39	V
	5261	-46.13	-13	-33.13	-67.85	-56.03	2.25	12.15	V
	7015	-47.35	-13	-34.35	-73.16	-55.81	2.41	10.87	V
High	3518	-53.07	-13	-40.07	-70.14	-63.58	1.88	12.39	H
	5275	-40.94	-13	-27.94	-62.9	-50.85	2.25	12.16	H
	7039	-45.91	-13	-32.91	-72.26	-54.34	2.40	10.83	H
	3483	-55.43	-13	-42.43	-72.81	-65.92	1.86	12.35	V
	5226	-47.73	-13	-34.73	-69.45	-57.61	2.27	12.15	V
	6964	-47.97	-13	-34.97	-73.85	-56.50	2.41	10.94	V

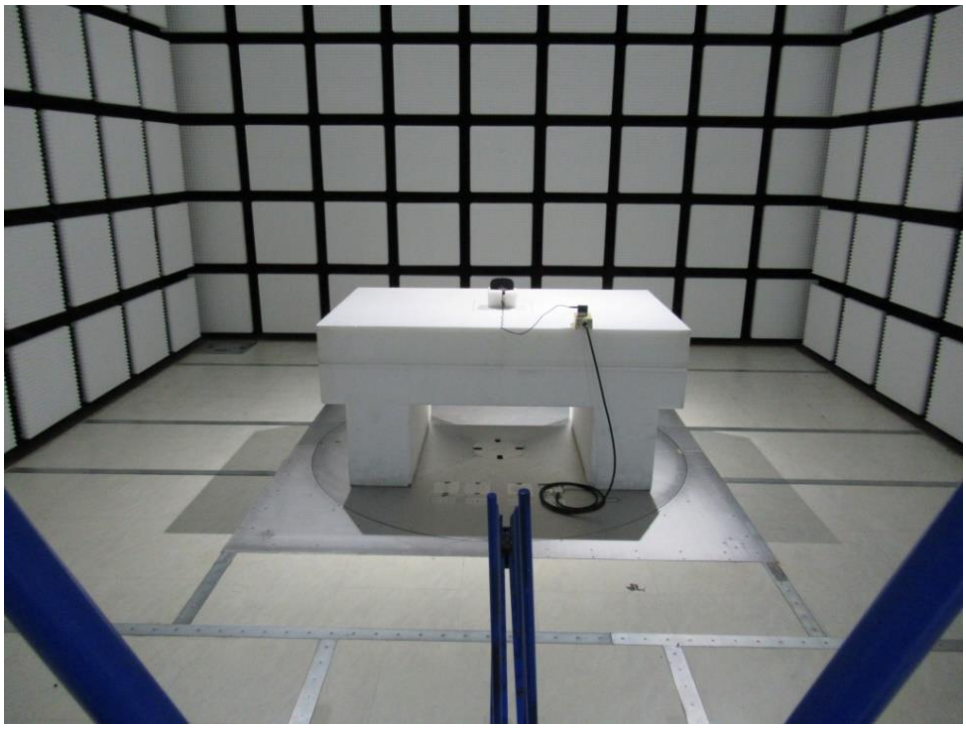
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Appendix B. Setup Photographs

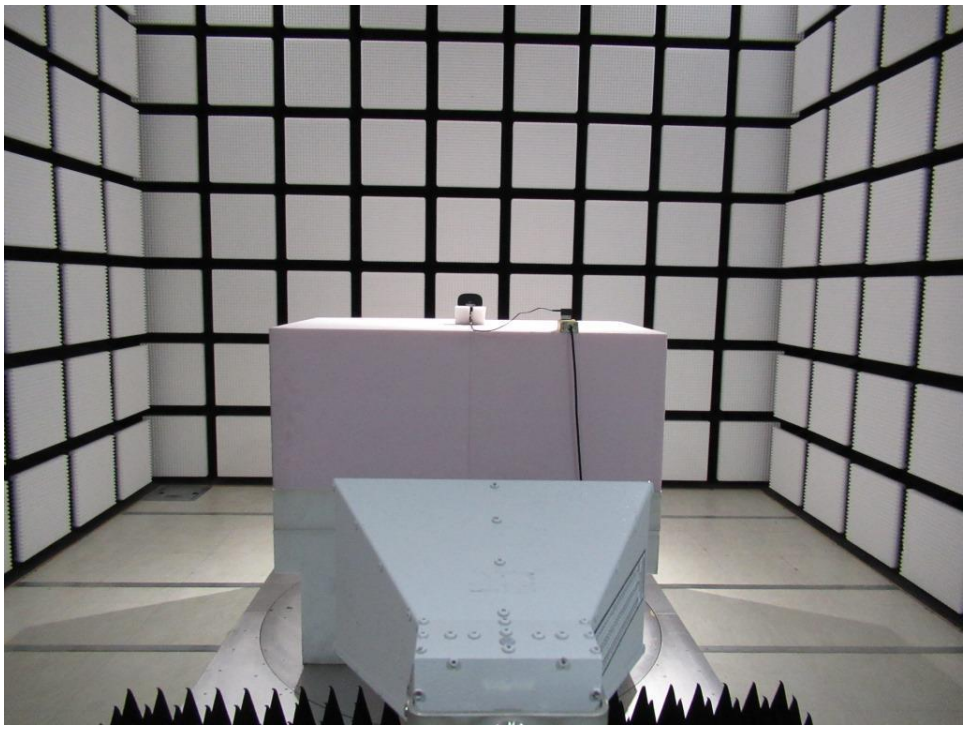
<Radiated Emission>

Y Plane

LF



HF



———THE END———