



FCC RADIO TEST REPORT

FCC ID : A4RG025E
Equipment : Phone
Model Name : G025E
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC 47 CFR Part 2, 22(H), 24(E), 27

The product was received on Apr. 30, 2020 and testing was started from May 13, 2020 and completed on Sep. 05, 2020. 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 test results in this variant 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.

Louis Wu

Approved by: Louis Wu

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
FG022521-06A	01	Initial issue of report	Sep. 14, 2020



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§22.913 (a)(2)	Effective Radiated Power (Band 5) (Band 26)	Pass	
	§27.50 (b)(10) §27.50 (c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 17) (Band 71)		
	§24.232 (c) §27.50 (h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 7) (Band 38) (Band 41)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)		
-	§24.232 (d) §27.50 (d)(5)	Peak-to-Average Ratio	Not Required	-
3.3	§2.1049	Occupied Bandwidth	Reporting only	-
3.4	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2)(4) §27.53 (g) §27.53 (h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	Pass	-
	§2.1051 §27.53 (m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)		
3.5	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (g) §27.53 (h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	Pass	-
	§2.1051 §27.53 (m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)		
-	§2.1055 §22.355 §24.235 §27.54	Frequency Stability Temperature & Voltage	Not Required	-



Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
4.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (f) §27.53 (g) §27.53 (h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	Pass	Under limit 6.00 dB at 5184.000 MHz for Primary Antenna Under limit 22.40 dB at 5338.000 MHz for ASDIV Antenna
	§2.1051 §27.53 (m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)		

Remark:

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by adding LTE band 41C_HPUE. All the test cases were performed on original report which can be referred to Sporton Report Number FG022521-02B

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: Wii Chang**Report Producer: Lucy Wu**



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Phone
Model Name	G025E
FCC ID	A4RG025E
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/5G NR/ NFC/GNSS WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

Remark: The above EUT's information was declared by manufacturer.

EUT Information List	
S/N	Performed Test Item
04211FQCB00048	Conducted Measurement ERP/EIRP
06221JECB00154	
07081JECB02096	Radiated Spurious Emission



1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7MHz ~ 1914.3 MHz LTE Band 26: 824.7MHz ~ 848.3 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz
Rx Frequency	LTE Band 2: 1930.7 MHz ~ 1989.3 MHz LTE Band 4: 2110.7 MHz ~ 2154.3 MHz LTE Band 5: 869.7 MHz ~ 893.3 MHz LTE Band 7: 2622.5MHz ~ 2687.5 MHz LTE Band 12: 729.7 MHz ~ 745.3 MHz LTE Band 13: 748.5 MHz ~ 753.5 MHz LTE Band 17: 736.5 MHz ~ 743.5 MHz LTE Band 25: 1930.7MHz ~ 1994.3 MHz LTE Band 26: 869.7MHz ~ 893.3MHz LTE Band 38: 2572.5MHz ~ 2617.5MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 2110.7 MHz ~ 2179.3 MHz LTE Band 71: 619.5 MHz ~ 649.5 MHz
Bandwidth	LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13: 5MHz / 10MHz LTE Band 17: 5MHz / 10MHz LTE Band 25: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 38: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71: 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	<Primary Antenna> <Ant. 2> LTE Band 41_CA : 26.18 dBm for HPUE <ASDIV Antenna> <Ant. 0> LTE Band 41_CA : 25.56 dBm for HPUE



Standards-related Product Specification	
Antenna Type	<Primary Antenna> <Ant. 0>: PIFA Antenna type <Ant. 2>: Monopole Antenna type <ASDIV Antenna> <Ant. 0>: PIFA Antenna type <Ant. 1>: PIFA Antenna type
Type of Modulation	QPSK / 16QAM / 64QAM

<Primary Antenna>

Radio Tech	Band Number	Antenna name	Gain
LTE	B2	ANT2	2.2
LTE	B4	ANT2	1.2
LTE	B5	ANT0	-2.8
LTE	B7	ANT2	-1.5
LTE	B12	ANT0	-3.9
LTE	B13	ANT0	-3.9
LTE	B17	ANT0	-3.9
LTE	B25	ANT2	2.2
LTE	B26	ANT0	-2.8
LTE	B38	ANT2	-0.9
LTE	B41	ANT2	-0.9
LTE	B41HPUE	ANT2	
LTE	B66	ANT2	1.2
LTE	B71	ANT0	-5.1

<ASDIV Antenna>

Radio Tech	Band Number	Antenna name	Gain
LTE	B2	ANT0	0.4
LTE	B4	ANT0	0.8
LTE	B5	ANT1	-3.5
LTE	B7	ANT0	-0.5
LTE	B12	ANT1	-6.1
LTE	B13	ANT1	-5.4
LTE	B17	ANT1	-6.1
LTE	B25	ANT0	0.4
LTE	B26	ANT1	-3.5
LTE	B38	ANT0	-1.0
LTE	B41	ANT0	-0.9
LTE	B41HPUE	ANT0	
LTE	B66	ANT0	0.8
LTE	B71	ANT1	-7.3

1.3 Modification of EUT

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



1.4 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	Luffy Lin
Temperature	22~24°C
Relative Humidity	51~55%

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. 03CH13-HY
Test Engineer	Daniel Lee and Wilson Wu
Temperature	21.5~23.5°C
Relative Humidity	49.5~55.5%

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

FCC Designation No.: TW1190 and TW0007

1.5 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
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27
- ♦ 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 test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

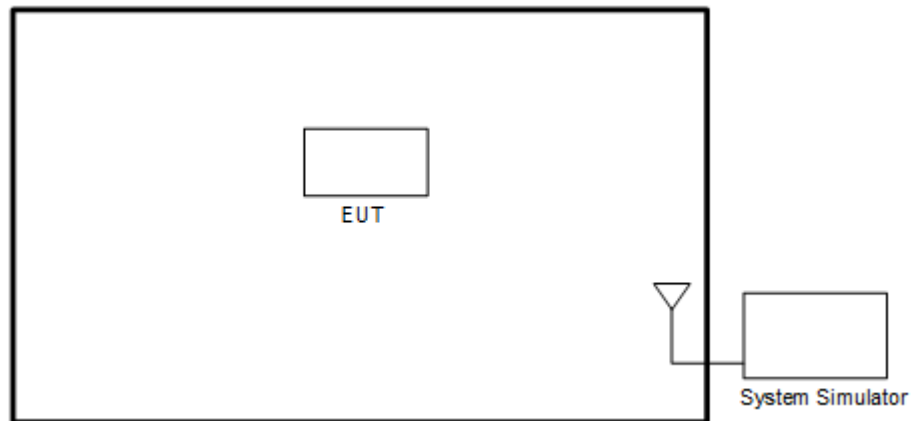
Antenna port conducted and radiated test items listed below are performed according to KDB 971168

D01 Power Meas. License Digital Systems v03r01 with maximum output power.

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

Test Items	Band	Bandwidth (MHz)										Modulation			RB #			Test Channel		
		20+20	20+15	15+20	20+10	10+20	20+5	5+20	15+15	15+10	10+15	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	41_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
26dB and 99% Bandwidth	41_CA	v	v	v	v	v	v	v	v	v	v	v	v	v			v		v	
Conducted Band Edge	41_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	41_CA	v	v	v	v	v	v	v	v	v	v	v			v		v	v	v	v
E.I.R.P.	41_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	41_CA	Worst Case																v	v	v
Remark	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.																			

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

2.4 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).

$$= 4.2 + 10 = 14.2 \text{ (dB)}$$



2.5 Frequency List of Low/Middle/High Channels

LTE Band 41 Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	39750	40521	41292
		Frequency	2506.0	2583.1	2660.2
	SCC	Channel	39948	40719	41490
		Frequency	2525.8	2602.9	2680.0
20 + 15	PCC	Channel	39750	40546	41341
		Frequency	2506.0	2585.6	2665.1
	SCC	Channel	39921	40717	41512
		Frequency	2523.1	2602.7	2682.2
15 + 20	PCC	Channel	39728	40523	41319
		Frequency	2503.8	2593.3	2662.9
	SCC	Channel	39899	40694	41490
		Frequency	2520.9	2600.4	2680.0
20 + 10	PCC	Channel	39750	40571	41391
		Frequency	2506.0	2588.1	2670.1
	SCC	Channel	39894	40715	41535
		Frequency	2520.4	2602.5	2684.5
10 + 20	PCC	Channel	39705	40526	41346
		Frequency	2501.5	2583.6	2665.6
	SCC	Channel	39849	40670	41490
		Frequency	2515.9	2598.0	2680.0

LTE Band 41 Channel and Frequency List					
20 + 5	PCC	Channel	39750	40595	41440
		Frequency	2506.0	2590.5	2675.0
	SCC	Channel	39867	40712	41557
		Frequency	2517.7	2602.2	2686.7
5 + 20	PCC	Channel	39683	40528	41373
		Frequency	2499.3	2583.8	2668.3
	SCC	Channel	39800	40645	41490
		Frequency	2511.0	2595.5	2680.0
15 + 15	PCC	Channel	39725	40545	41365
		Frequency	2503.5	2585.5	2667.5
	SCC	Channel	39875	40695	41515
		Frequency	2518.5	2600.5	2682.5
10 + 15	PCC	Channel	39703	40549	41395
		Frequency	2501.3	2585.9	2670.5
	SCC	Channel	39823	40669	41515
		Frequency	2513.3	2597.9	2682.5
15 + 10	PCC	Channel	39725	40571	41417
		Frequency	2503.5	2588.1	2672.7
	SCC	Channel	39845	40691	41537
		Frequency	2515.5	2600.1	2684.7

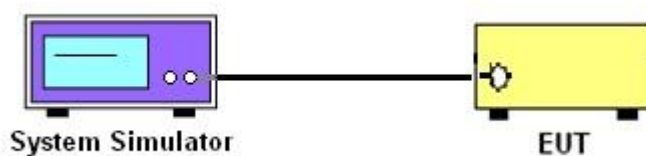
3 Conducted Test Items

3.1 Measuring Instruments

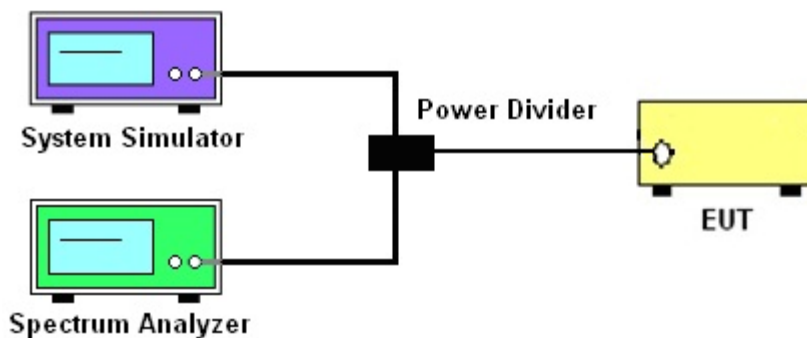
See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission



3.1.4 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 2 Watts for LTE Band 41

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 Occupied Bandwidth

3.3.1 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.

3.3.2 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.



3.4 Conducted Band Edge

3.4.1 Description of Conducted Band Edge Measurement

27.53(m)(4)

For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

3.4.2 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)

For LTE Band 41

The other 40 dB, and 55 dB have additionally applied same calculation above.



3.5 Conducted Spurious Emission

3.5.1 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 41

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 $55 + 10 \log (P)$ dB.

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

3.5.2 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 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 $43 + 10\log(P)$ dB below the transmitter power P(Watts)

For LTE Band 41

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)

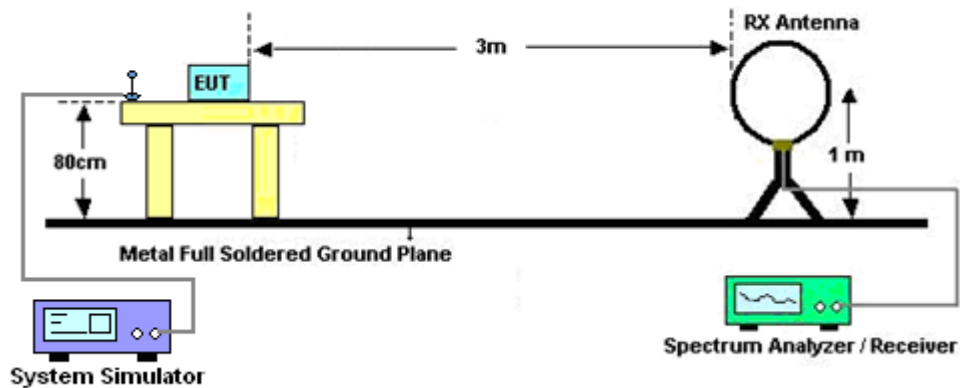
4 Radiated Test Items

4.1 Measuring Instruments

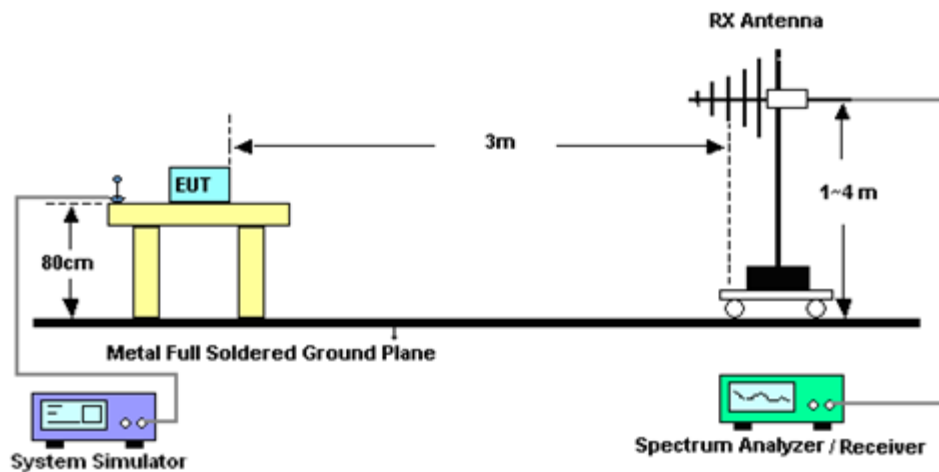
See list of measuring instruments of this test report.

4.1.1 Test Setup

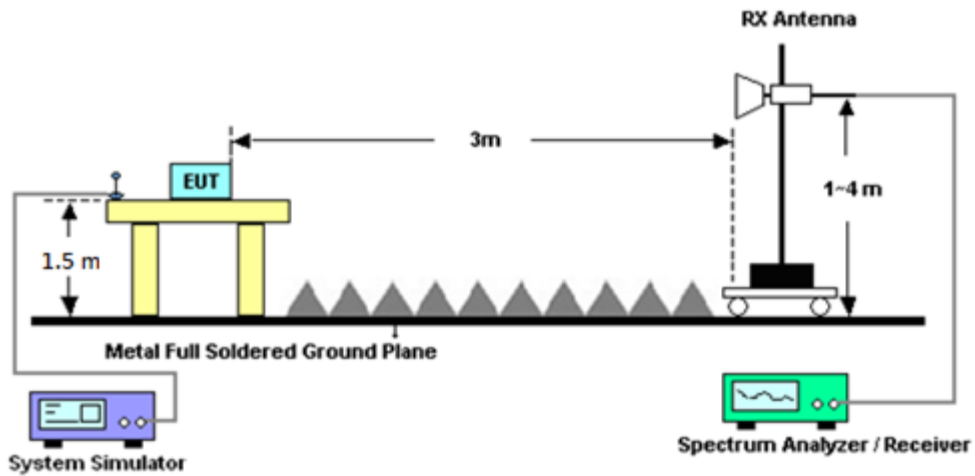
For radiated emissions below 30MHz



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.

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 a comparison data 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 / 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.

For LTE Band 41

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 $55 + 10 \log (P)$ 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 $43 + 10\log(P)$ dB below the transmitter power P(Watts)

For LTE Band 41

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)

$EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$

$ERP \text{ (dBm)} = EIRP - 2.15$



5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Amplifier	Sonoma-Instrument	310 N	187282	9KHz~1GHz	Dec. 17, 2019	Sep. 03, 2020~ Sep. 05, 2020	Dec. 16, 2020	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	40103&07	30MHz to 1GHz	Apr. 29, 2020	Sep. 03, 2020~ Sep. 05, 2020	Apr. 28, 2021	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	41912 & 07	30MHz to 1GHz	Apr. 29, 2020	Sep. 03, 2020~ Sep. 05, 2020	Apr. 28, 2021	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1212	1GHz ~ 18GHz	May 20, 2020	Sep. 03, 2020~ Sep. 05, 2020	May 19, 2021	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1522	1GHz ~ 18GHz	Sep. 19, 2019	Sep. 03, 2020~ Sep. 05, 2020	Sep. 18, 2020	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	May 19, 2020	Sep. 03, 2020~ Sep. 05, 2020	May 18, 2021	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY53270147	1GHz~26.5GHz	Oct. 28, 2019	Sep. 03, 2020~ Sep. 05, 2020	Oct. 27, 2020	Radiation (03CH13-HY)
Signal Generator	Anritsu	MG3694C	163401	0.1Hz~40GHz	Feb. 15, 2020	Sep. 03, 2020~ Sep. 05, 2020	Feb. 14, 2021	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY55370526	10Hz~44GHz	Mar. 20, 2020	Sep. 03, 2020~ Sep. 05, 2020	Mar. 19, 2021	Radiation (03CH13-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Sep. 03, 2020~ Sep. 05, 2020	N/A	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Sep. 03, 2020~ Sep. 05, 2020	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Sep. 03, 2020~ Sep. 05, 2020	N/A	Radiation (03CH13-HY)
Software	Audix	E3 6.2009-8-24	RK-000992	N/A	N/A	Sep. 03, 2020~ Sep. 05, 2020	N/A	Radiation (03CH13-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 13, 2019	Sep. 03, 2020~ Sep. 05, 2020	Dec. 12, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0030/126E	30M-18G	Feb. 12, 2020	Sep. 03, 2020~ Sep. 05, 2020	Feb. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	804793/4	30M-18G	Feb. 12, 2020	Sep. 03, 2020~ Sep. 05, 2020	Feb. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Feb. 25, 2020	Sep. 03, 2020~ Sep. 05, 2020	Feb. 24, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30M~40GHz	Mar. 12, 2020	Sep. 03, 2020~ Sep. 05, 2020	Mar. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/4	30M-18G	Feb. 12, 2020	Sep. 03, 2020~ Sep. 05, 2020	Feb. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 12, 2020	Sep. 03, 2020~ Sep. 05, 2020	Mar. 11, 2021	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917058 4	18GHz- 40GHz	Dec. 10, 2019	Sep. 03, 2020~ Sep. 05, 2020	Dec. 09, 2020	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917098 0	18GHz~40GHz	Jan. 10, 2020	Sep. 03, 2020~ Sep. 05, 2020	Jan. 09, 2021	Radiation (03CH13-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 OSS	SN2	3GHz High Pass Filter	Jul. 13, 2020	Sep. 03, 2020~ Sep. 05, 2020	Jul. 12, 2021	Radiation (03CH13-HY)
Hygrometer	TECEP	DTM-303A	TP190075	N/A	Apr. 23, 2020	Sep. 03, 2020~ Sep. 05, 2020	Apr. 22, 2021	Radiation (03CH13-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LTE Base Station	Anritsu	MT8821C	6262002534 1	-	Oct. 24, 2019	May 13, 2020~ Aug. 24, 2020	Oct. 23, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 15, 2019	May 13, 2020~ Aug. 24, 2020	Nov. 14, 2020	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃~90℃	Sep. 02, 2019	May 13, 2020~ Aug. 24, 2020	Sep. 01, 2020	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 09, 2019	May 13, 2020~ Aug. 24, 2020	Oct. 08, 2020	Conducted (TH05-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#A	1-18GHz	Jan. 13, 2020	May 13, 2020~ Aug. 24, 2020	Jan. 12, 2021	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% ($U = 2Uc(y)$)	3.10
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.12
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.77
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

<Primary Antenna>

LTE Band 41(HPUE)_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
20+20	100	0	100	0	QPSK	23.89	23.97	24.16
20+20	1	0	1	99		17.21	17.45	17.55
20+20	1	99	1	0		25.79	25.94	26.18
20+20	100	0	100	0	16-QAM	22.90	23.02	23.23
20+20	1	0	1	99		17.88	17.95	18.12
20+20	1	99	1	0		25.69	25.88	25.96
20+20	100	0	100	0	64-QAM	22.93	23.26	23.25
20+20	1	0	1	99		17.65	18.05	17.84
20+20	1	99	1	0		23.94	24.37	23.75
20+15	100	0	75	0	QPSK	23.72	23.99	24.27
20+15	1	0	1	74		17.12	17.47	17.50
20+15	1	99	1	0		25.52	25.78	25.58
20+15	100	0	75	0	16-QAM	22.77	23.03	23.16
20+15	1	0	1	74		17.73	18.07	18.05
20+15	1	99	1	0		25.09	25.40	25.62
20+15	100	0	75	0	64-QAM	22.79	23.11	23.16
20+15	1	0	1	74		17.49	17.86	17.74
20+15	1	99	1	0		23.84	24.14	23.95
15+20	75	0	100	0	QPSK	23.71	23.99	24.13
15+20	1	0	1	99		17.07	17.48	17.56
15+20	1	74	1	0		25.41	25.76	25.80
15+20	75	0	100	0	16-QAM	22.74	22.99	23.25
15+20	1	0	1	99		17.60	17.94	18.08
15+20	1	74	1	0		24.98	25.30	25.80
15+20	75	0	100	0	64-QAM	22.75	23.05	23.15
15+20	1	0	1	99		17.45	17.79	17.74
15+20	1	74	1	0		23.72	24.13	23.37



LTE Band 41(HPUE)_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	23.65	23.96	24.14
20+10	1	0	1	49		17.07	17.48	17.61
20+10	1	99	1	0		25.56	25.82	25.89
20+10	100	0	50	0	16-QAM	22.73	22.99	23.30
20+10	1	0	1	49		17.65	17.98	18.11
20+10	1	99	1	0		25.74	25.36	25.87
20+10	100	0	50	0	64-QAM	22.82	23.06	23.24
20+10	1	0	1	49		17.53	17.80	17.87
20+10	1	99	1	0		23.78	24.16	23.37
10+20	50	0	100	0	QPSK	23.70	24.02	24.14
10+20	1	0	1	99		17.16	17.54	17.60
10+20	1	49	1	0		25.53	25.83	25.81
10+20	50	0	100	0	16-QAM	22.78	23.11	23.22
10+20	1	0	1	99		17.78	18.06	18.14
10+20	1	49	1	0		25.07	25.35	25.55
10+20	50	0	100	0	64-QAM	22.79	23.15	23.06
10+20	1	0	1	99		17.55	17.85	17.82
10+20	1	49	1	0		23.82	24.19	23.46
20+5	100	0	25	0	QPSK	23.49	23.85	24.18
20+5	1	0	1	24		16.93	17.33	17.41
20+5	1	99	1	0		25.36	25.67	25.66
20+5	100	0	25	0	16-QAM	22.53	22.86	23.03
20+5	1	0	1	24		17.48	17.88	17.95
20+5	1	99	1	0		25.84	25.88	25.92
20+5	100	0	25	0	64-QAM	22.56	22.89	22.97
20+5	1	0	1	24		17.36	17.61	17.63
20+5	1	99	1	0		23.53	23.91	23.18
5+20	25	0	100	0	QPSK	23.46	23.76	23.88
5+20	1	0	1	99		16.90	17.22	17.33
5+20	1	24	1	0		25.56	25.63	25.68
5+20	25	0	100	0	16-QAM	22.44	22.80	22.97
5+20	1	0	1	99		17.44	17.72	17.85
5+20	1	24	1	0		24.88	25.45	25.42
5+20	25	0	100	0	64-QAM	22.54	22.85	22.98
5+20	1	0	1	99		17.33	17.59	17.63
5+20	1	24	1	0		23.63	24.24	23.26



LTE Band 41(HPUE)_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
15+10	75	0	50	0	QPSK	23.75	24.09	24.19
15+10	1	0	1	49		17.17	17.52	17.62
15+10	1	74	1	0		25.54	25.90	26.09
15+10	75	0	50	0	16-QAM	22.79	23.12	23.28
15+10	1	0	1	49		17.71	18.09	18.17
15+10	1	74	1	0		25.33	25.44	25.91
15+10	75	0	50	0	64-QAM	22.83	23.16	23.28
15+10	1	0	1	49		17.87	17.90	17.89
15+10	1	74	1	0		23.86	24.27	23.31
10+15	50	0	75	0	QPSK	23.39	23.70	23.88
10+15	1	0	1	74		16.82	17.25	17.36
10+15	1	49	1	0		25.12	25.53	25.67
10+15	50	0	75	0	16-QAM	22.46	22.79	22.97
10+15	1	0	1	74		17.40	17.83	17.92
10+15	1	49	1	0		24.74	25.10	25.46
10+15	50	0	75	0	64-QAM	22.45	22.81	22.98
10+15	1	0	1	74		17.54	17.54	18.17
10+15	1	49	1	0		23.46	23.89	23.20
15+15	75	0	75	0	QPSK	23.71	23.99	24.13
15+15	1	0	1	74		17.19	17.46	17.55
15+15	1	74	1	0		25.51	25.71	25.71
15+15	75	0	75	0	16-QAM	22.71	23.04	23.16
15+15	1	0	1	74		17.66	18.01	18.15
15+15	1	74	1	0		25.06	25.40	25.59
15+15	75	0	75	0	64-QAM	22.78	23.01	23.11
15+15	1	0	1	74		17.69	17.90	17.82
15+15	1	74	1	0		23.84	24.13	23.18



<ASDIV Antenna>

LTE Band 41(HPUE)_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
20+20	100	0	100	0	QPSK	23.62	23.68	23.75
20+20	1	0	1	99		17.01	17.09	17.01
20+20	1	99	1	0		25.38	25.41	25.56
20+20	100	0	100	0	16-QAM	22.78	22.68	22.81
20+20	1	0	1	99		17.58	17.65	17.58
20+20	1	99	1	0		24.95	24.96	25.35
20+20	100	0	100	0	64-QAM	22.73	22.67	22.75
20+20	1	0	1	99		17.47	17.53	17.26
20+20	1	99	1	0		23.74	23.71	24.51
20+15	100	0	75	0	QPSK	23.54	23.47	23.65
20+15	1	0	1	74		16.97	17.01	17.02
20+15	1	99	1	0		25.38	25.43	25.52
20+15	100	0	75	0	16-QAM	22.58	22.52	22.71
20+15	1	0	1	74		17.54	17.61	17.58
20+15	1	99	1	0		24.96	25.01	25.33
20+15	100	0	75	0	64-QAM	22.63	22.58	22.75
20+15	1	0	1	74		17.45	17.54	17.31
20+15	1	99	1	0		23.71	23.78	23.33
15+20	75	0	100	0	QPSK	23.63	23.57	23.71
15+20	1	0	1	99		17.02	17.06	17.13
15+20	1	74	1	0		25.34	25.36	25.51
15+20	75	0	100	0	16-QAM	22.68	22.68	22.83
15+20	1	0	1	99		17.58	17.64	17.61
15+20	1	74	1	0		24.94	24.95	25.26
15+20	75	0	100	0	64-QAM	22.64	22.71	22.77
15+20	1	0	1	99		17.39	17.38	17.32
15+20	1	74	1	0		23.62	23.67	23.16



LTE Band 41(HPUE)_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	23.55	23.58	23.66
20+10	1	0	1	49		16.99	17.06	17.03
20+10	1	99	1	0		25.38	25.42	25.46
20+10	100	0	50	0	16-QAM	22.59	22.56	22.75
20+10	1	0	1	49		17.53	17.61	17.43
20+10	1	99	1	0		25.29	24.98	25.33
20+10	100	0	50	0	64-QAM	22.63	22.64	22.78
20+10	1	0	1	49		17.46	17.32	17.35
20+10	1	99	1	0		23.74	23.83	24.45
10+20	50	0	100	0	QPSK	23.63	23.48	23.34
10+20	1	0	1	99		16.68	16.85	16.77
10+20	1	49	1	0		25.11	25.18	25.21
10+20	50	0	100	0	16-QAM	22.67	22.53	22.47
10+20	1	0	1	99		17.28	17.22	17.38
10+20	1	49	1	0		24.64	25.21	25.07
10+20	50	0	100	0	64-QAM	22.66	22.52	22.44
10+20	1	0	1	99		17.16	17.12	17.07
10+20	1	49	1	0		23.41	23.61	23.76
20+5	100	0	25	0	QPSK	23.36	23.20	23.24
20+5	1	0	1	24		16.79	16.74	16.54
20+5	1	99	1	0		25.23	25.11	25.27
20+5	100	0	25	0	16-QAM	22.41	22.26	22.38
20+5	1	0	1	24		17.37	17.30	17.15
20+5	1	99	1	0		25.03	25.33	25.34
20+5	100	0	25	0	64-QAM	22.41	22.31	22.30
20+5	1	0	1	24		17.24	17.09	16.89
20+5	1	99	1	0		23.46	23.22	23.97
5+20	25	0	100	0	QPSK	23.37	23.45	23.45
5+20	1	0	1	99		16.77	16.82	16.87
5+20	1	24	1	0		25.21	25.25	25.18
5+20	25	0	100	0	16-QAM	22.38	22.47	22.47
5+20	1	0	1	99		17.27	17.36	17.39
5+20	1	24	1	0		24.73	24.41	24.93
5+20	25	0	100	0	64-QAM	22.44	22.54	22.53
5+20	1	0	1	99		17.15	17.23	17.12
5+20	1	24	1	0		23.49	23.70	23.22



LTE Band 41(HPUE)_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
15+10	75	0	50	0	QPSK	23.32	23.41	23.46
15+10	1	0	1	49		16.76	16.83	16.89
15+10	1	74	1	0		25.09	25.19	25.33
15+10	75	0	50	0	16-QAM	22.31	22.41	22.50
15+10	1	0	1	49		17.32	17.36	17.46
15+10	1	74	1	0		24.67	24.76	25.22
15+10	75	0	50	0	64-QAM	22.31	22.54	22.54
15+10	1	0	1	49		17.16	17.12	17.19
15+10	1	74	1	0		23.41	23.48	23.77
10+15	50	0	75	0	QPSK	23.33	23.42	23.51
10+15	1	0	1	74		16.76	16.88	16.92
10+15	1	49	1	0		25.05	25.22	25.38
10+15	50	0	75	0	16-QAM	22.41	22.48	22.58
10+15	1	0	1	74		17.32	17.51	17.54
10+15	1	49	1	0		24.71	24.77	25.16
10+15	50	0	75	0	64-QAM	22.42	22.48	22.59
10+15	1	0	1	74		17.35	17.16	17.21
10+15	1	49	1	0		23.22	23.58	23.78
15+15	75	0	75	0	QPSK	23.28	23.43	23.47
15+15	1	0	1	74		16.86	16.74	16.87
15+15	1	74	1	0		25.11	25.12	25.27
15+15	75	0	75	0	16-QAM	22.32	22.38	22.51
15+15	1	0	1	74		17.24	17.36	17.45
15+15	1	74	1	0		24.64	24.68	25.05
15+15	75	0	75	0	64-QAM	22.32	22.41	22.55
15+15	1	0	1	74		17.05	17.25	17.12
15+15	1	74	1	0		23.39	23.51	24.44



LTE Band 41C_HPUE

26dB Bandwidth

Mode	LTE Band 41C (HPUE) : 26dB BW(MHz)				
QPSK					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Middle CH	24.73	25.13	29.91	25.43	30.57
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Middle CH	34.69	24.98	29.97	34.83	39.72

Mode	LTE Band 41C (HPUE) : 26dB BW(MHz)				
16QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Middle CH	24.83	25.28	29.91	25.28	30.69
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Middle CH	34.76	24.98	29.91	34.90	39.80

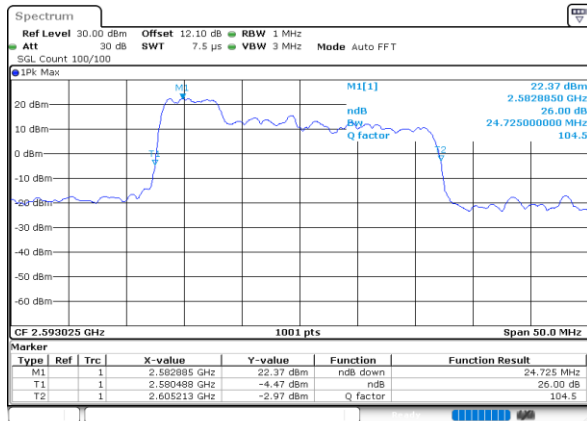
Mode	LTE Band 41C (HPUE) : 26dB BW(MHz)				
64QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Middle CH	24.78	25.08	29.91	25.08	30.21
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Middle CH	34.83	24.88	30.21	34.97	39.72



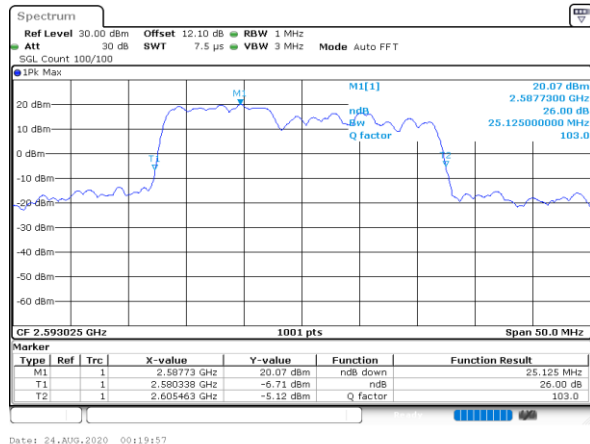
LTE Band 41C (HPUE)

QPSK

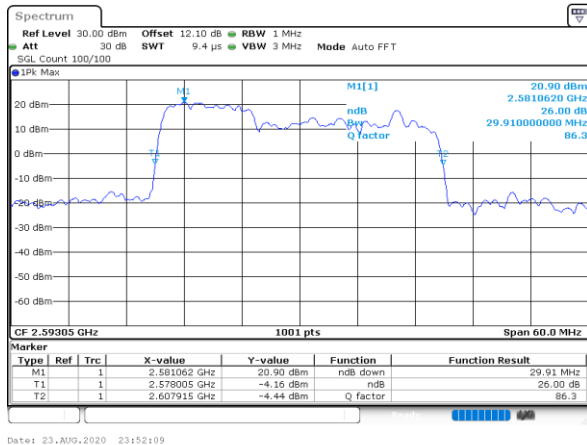
Middle Channel / 5MHz+20MHz



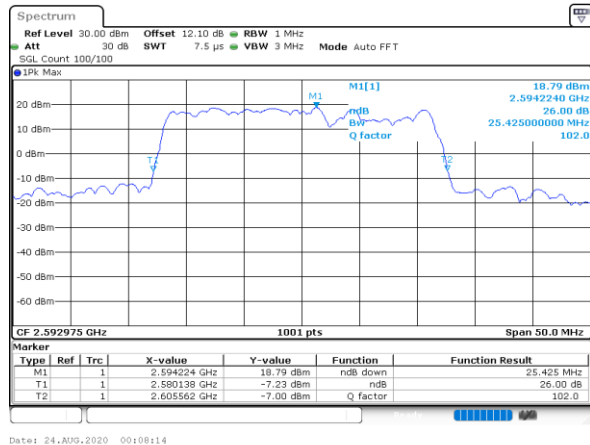
Middle Channel / 10MHz+15MHz



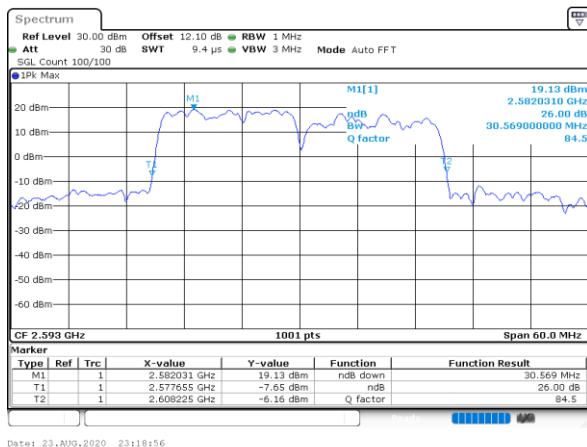
Middle Channel / 10MHz+20MHz



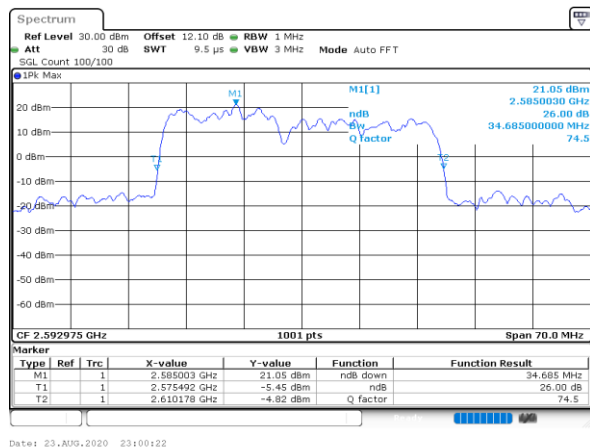
Middle Channel / 15MHz+10MHz



Middle Channel / 15MHz+15MHz



Middle Channel / 15MHz+20MHz

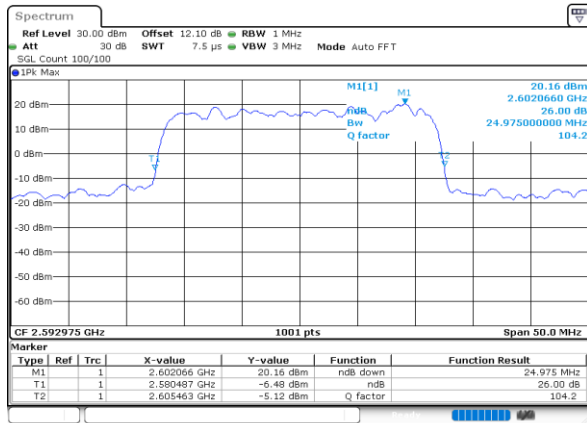




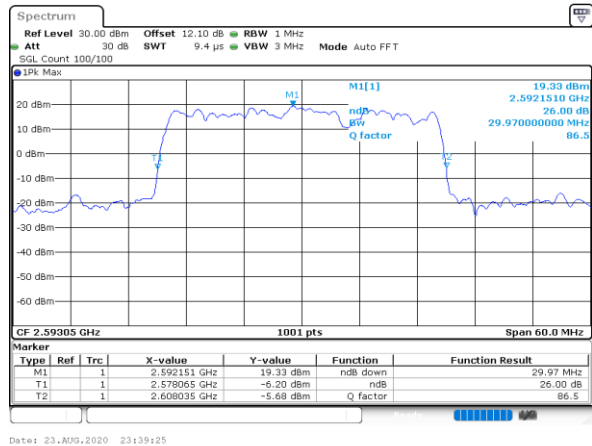
LTE Band 41C (HPUE)

QPSK

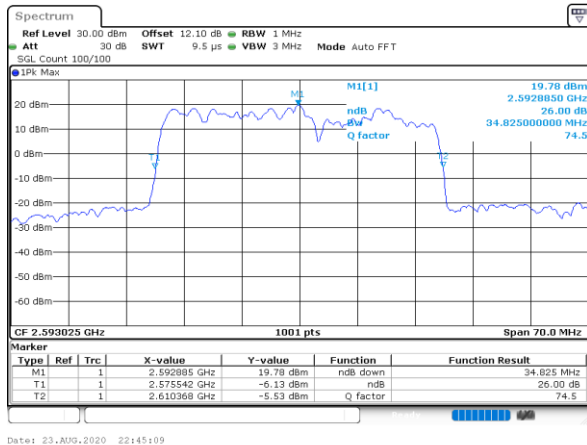
Middle Channel / 20MHz+5MHz



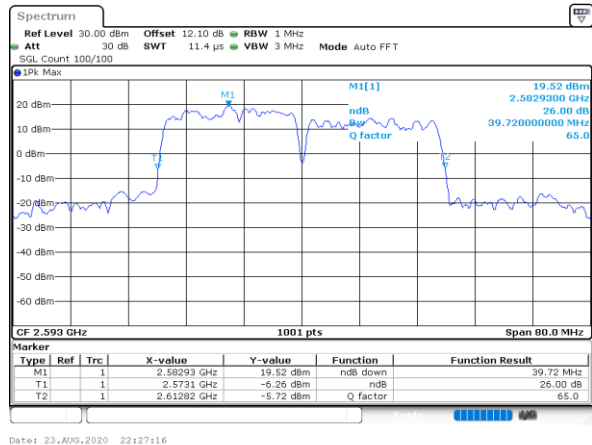
Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz



Middle Channel / 20MHz+20MHz

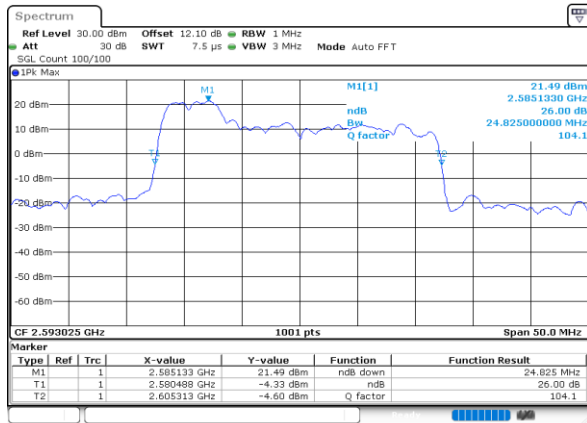




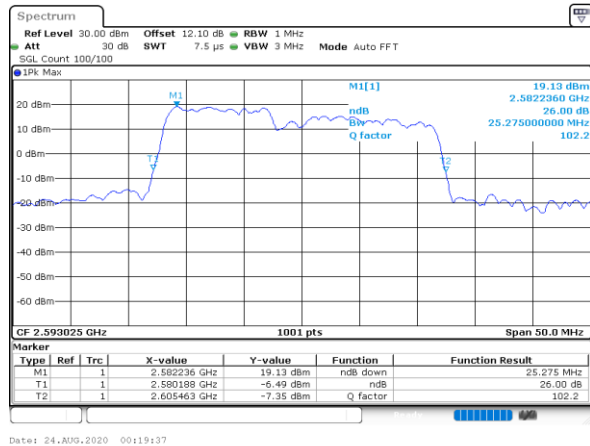
LTE Band 41C (HPUE)

16QAM

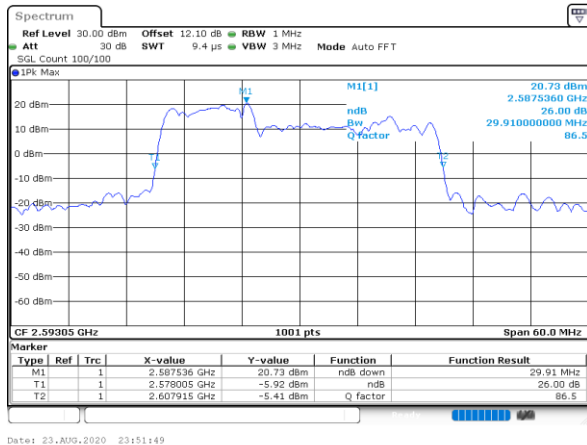
Middle Channel / 5MHz+20MHz



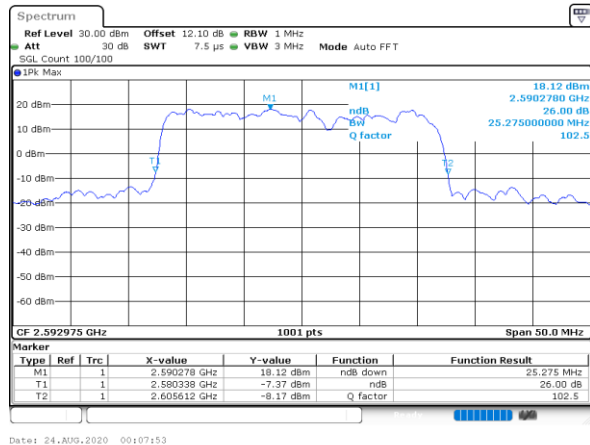
Middle Channel / 10MHz+15MHz



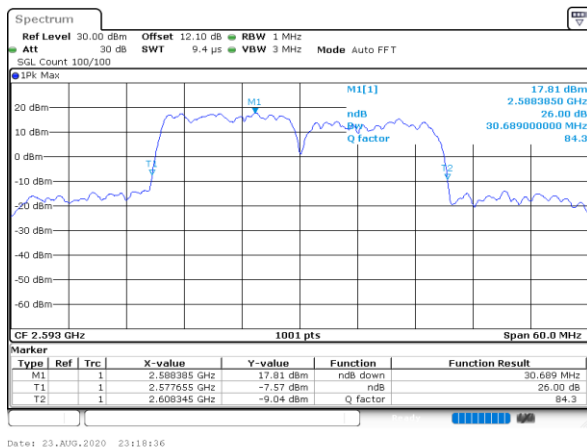
Middle Channel / 10MHz+20MHz



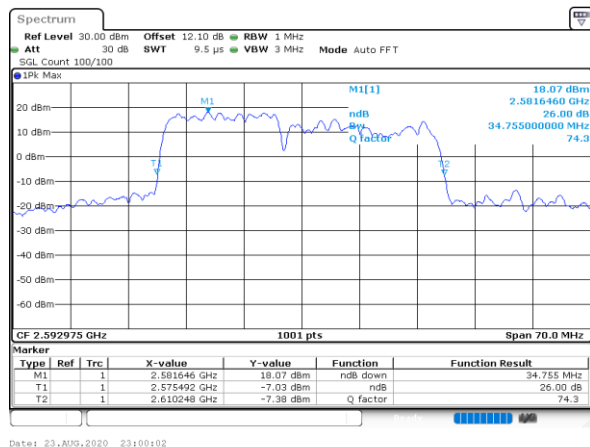
Middle Channel / 15MHz+10MHz



Middle Channel / 15MHz+15MHz



Middle Channel / 15MHz+20MHz

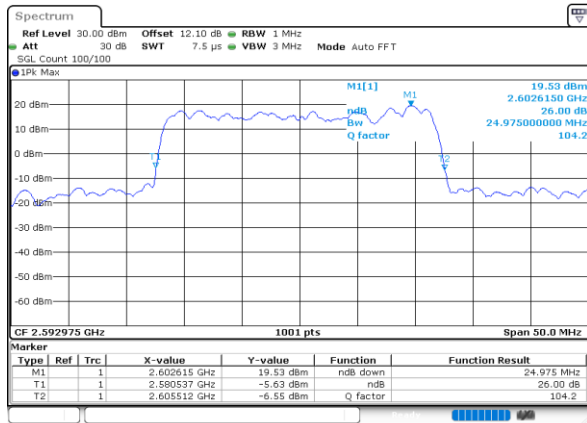




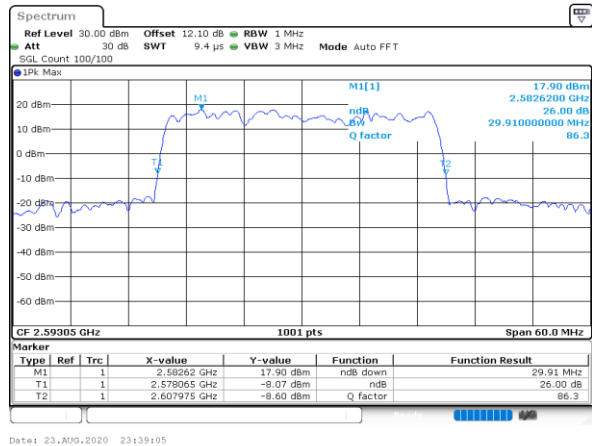
LTE Band 41C (HPUE)

16QAM

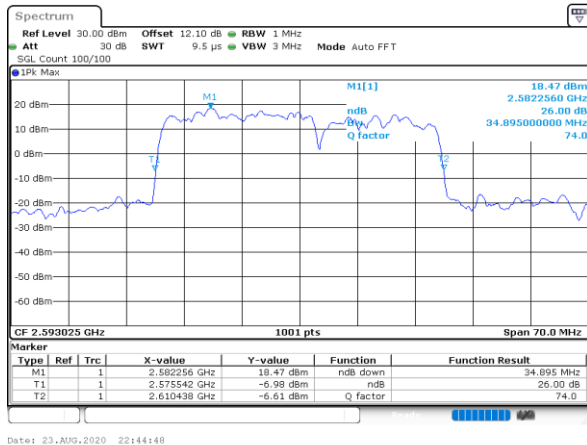
Middle Channel / 20MHz+5MHz



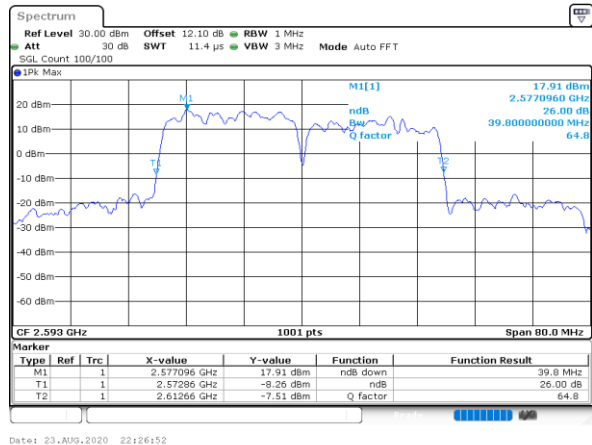
Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz



Middle Channel / 20MHz+20MHz

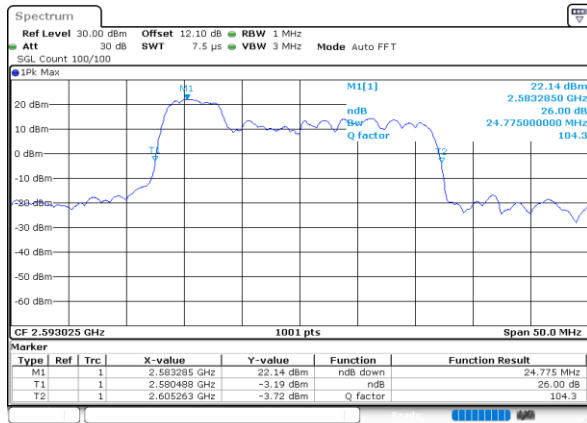




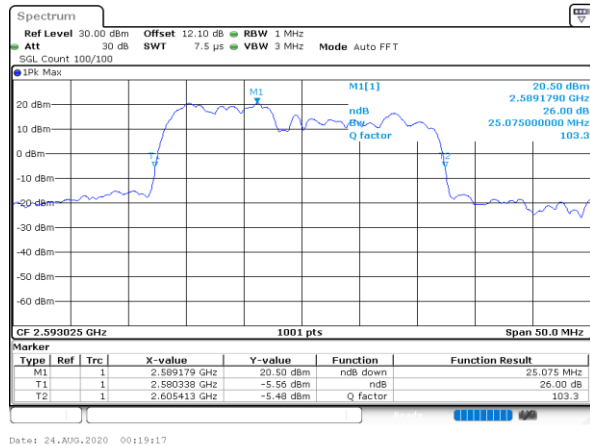
LTE Band 41C (HPUE)

64QAM

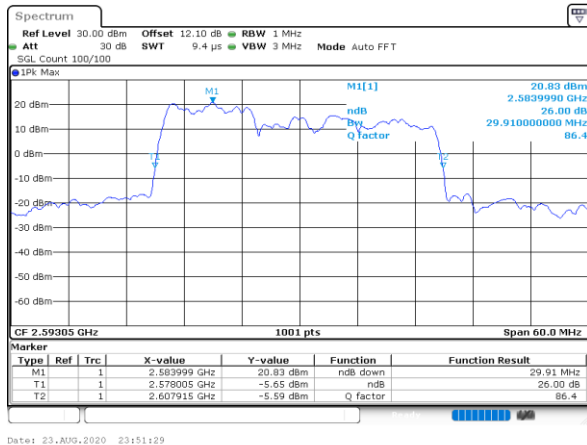
Middle Channel / 5MHz+20MHz



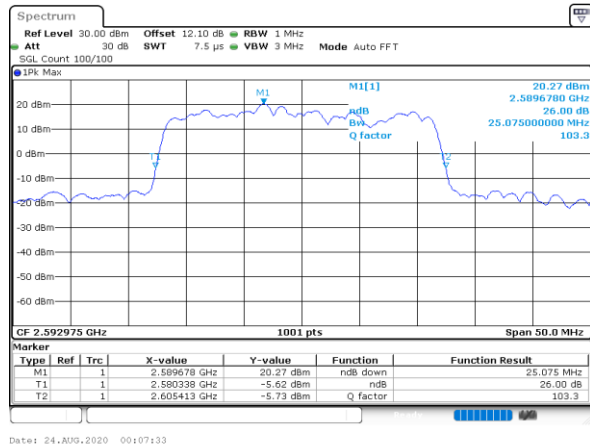
Middle Channel / 10MHz+15MHz



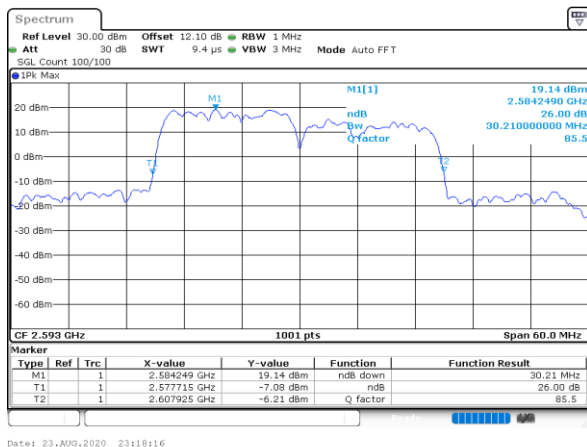
Middle Channel / 10MHz+20MHz



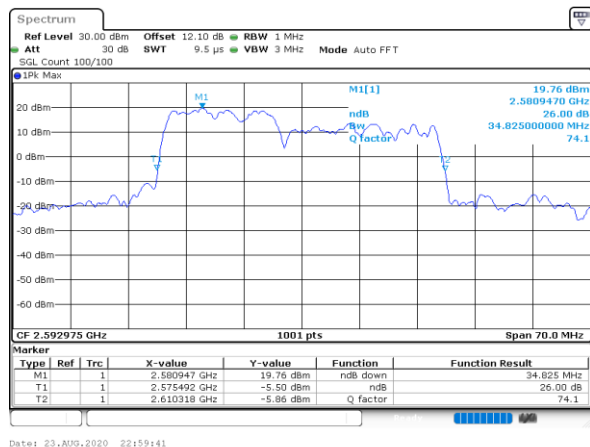
Middle Channel / 15MHz+10MHz



Middle Channel / 15MHz+15MHz



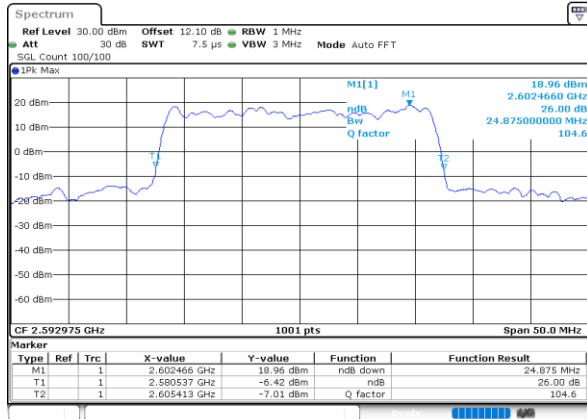
Middle Channel / 15MHz+20MHz



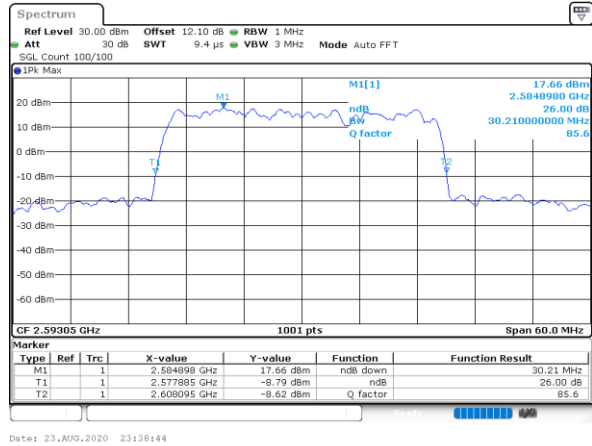


LTE Band 41C (HPUE)

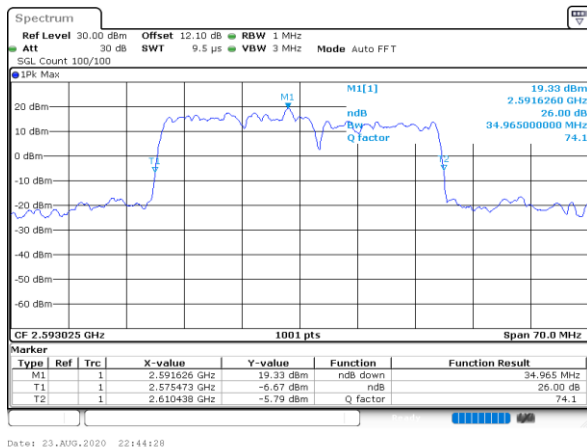
Middle Channel / 20MHz+5MHz



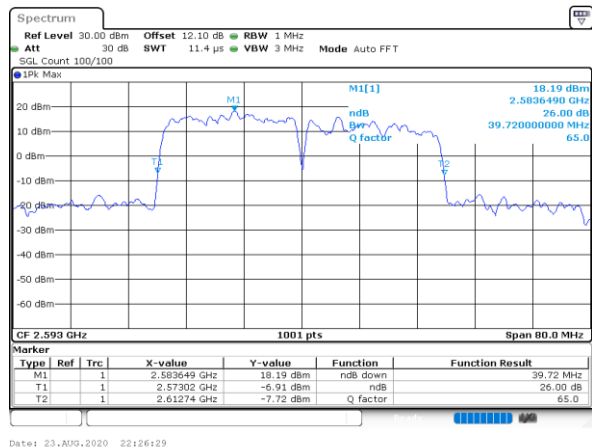
Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz



Middle Channel / 20MHz+20MHz



**Occupied Bandwidth**

Mode	LTE Band 41C (HPUE) : 99%OBW(MHz)				
QPSK					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Middle CH	23.13	23.43	27.87	23.58	28.35
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Middle CH	32.73	23.33	28.05	32.94	37.56

Mode	LTE Band 41C (HPUE) : 99%OBW(MHz)				
16QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Middle CH	23.13	23.33	27.87	23.28	28.65
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Middle CH	32.94	23.13	27.81	32.73	37.40

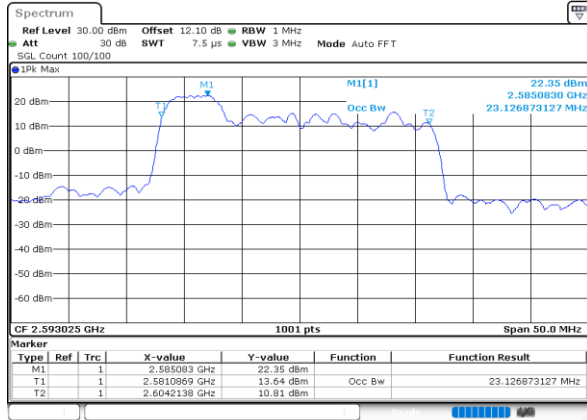
Mode	LTE Band 41C (HPUE) : 99%OBW(MHz)				
64QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Middle CH	23.13	23.33	27.75	23.48	28.29
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Middle CH	32.59	23.28	27.99	32.87	37.72



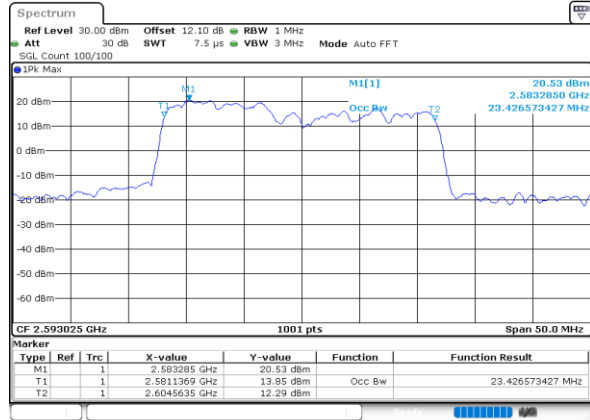
LTE Band 41C (HPUE)

QPSK

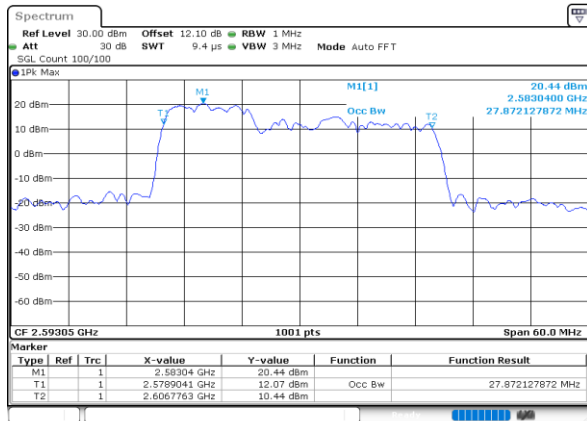
Middle Channel / 5MHz+20MHz



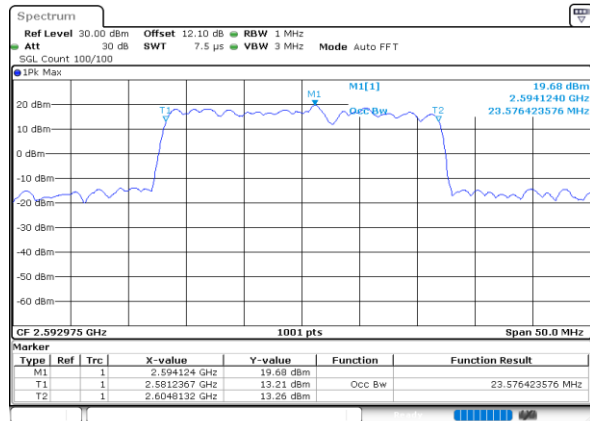
Middle Channel / 10MHz+15MHz



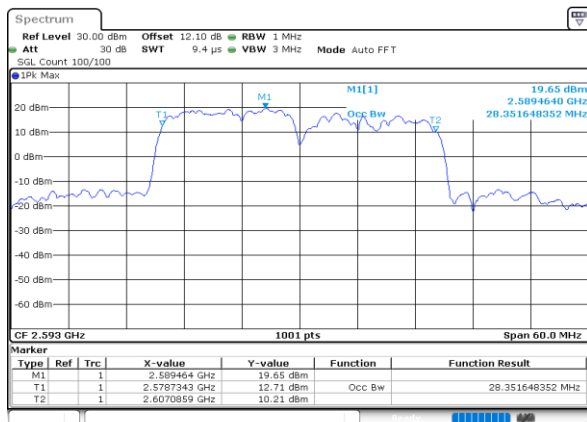
Middle Channel / 10MHz+20MHz



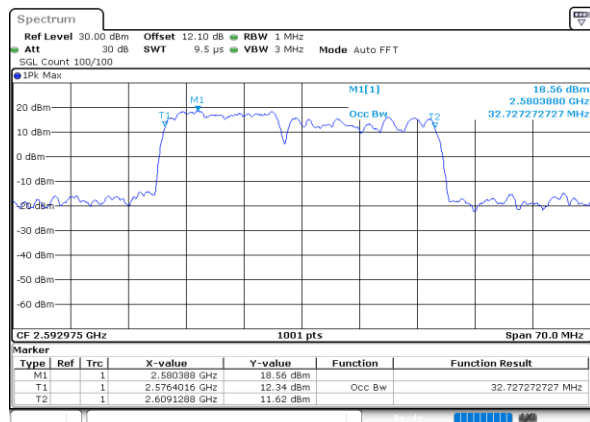
Middle Channel / 15MHz+10MHz



Middle Channel / 15MHz+15MHz



Middle Channel / 15MHz+20MHz

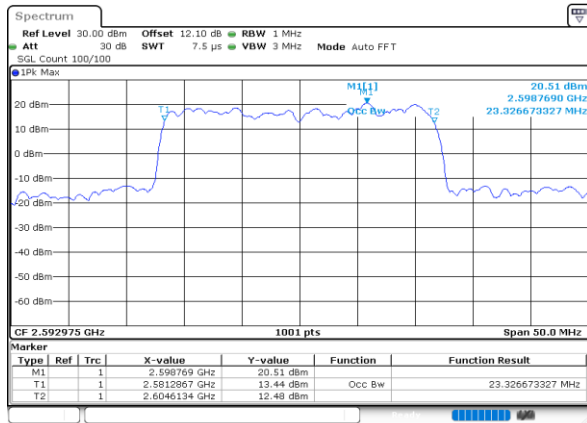




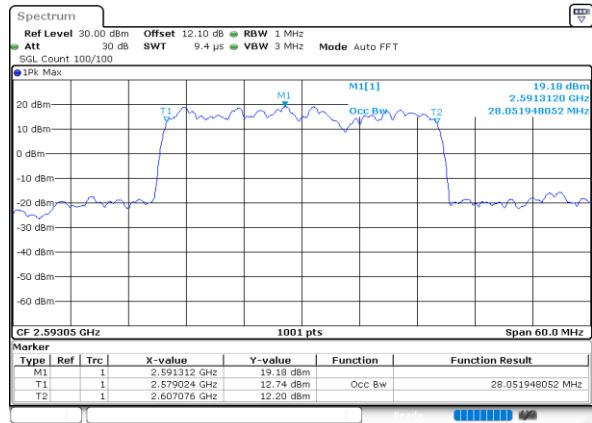
LTE Band 41C (HPUE)

QPSK

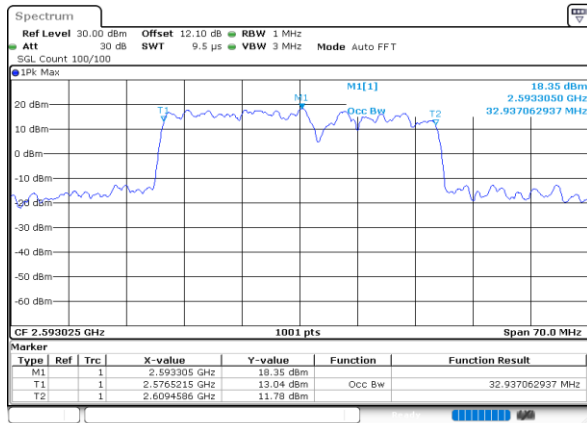
Middle Channel / 20MHz+5MHz



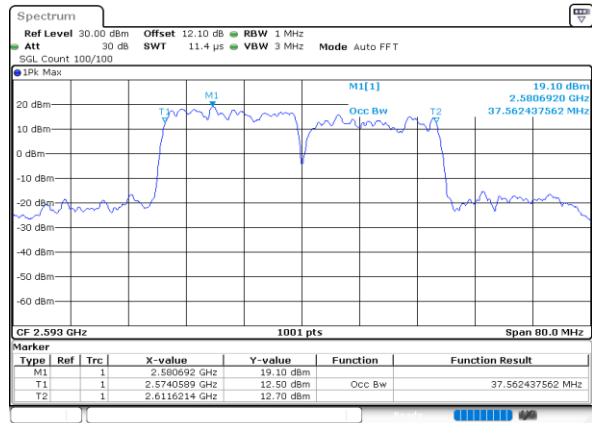
Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz



Middle Channel / 20MHz+20MHz

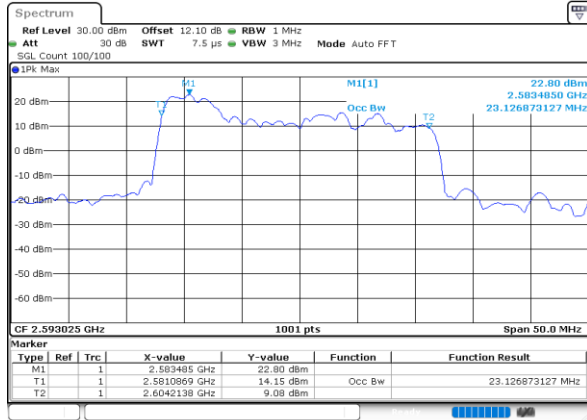




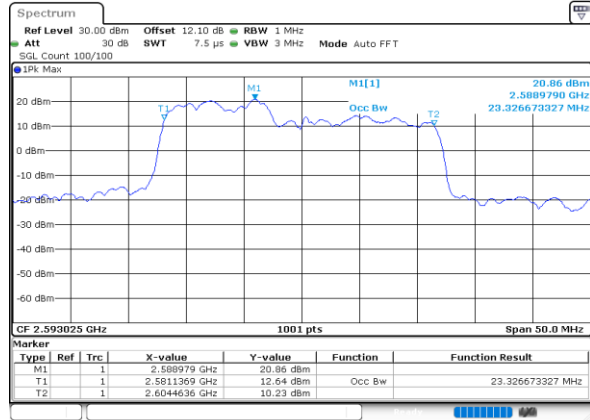
LTE Band 41C (HPUE)

16QAM

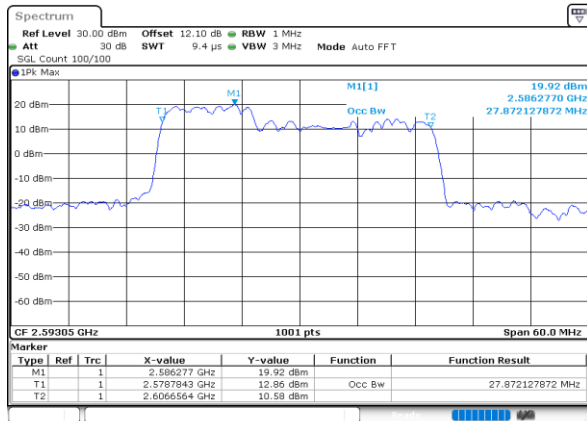
Middle Channel / 5MHz+20MHz



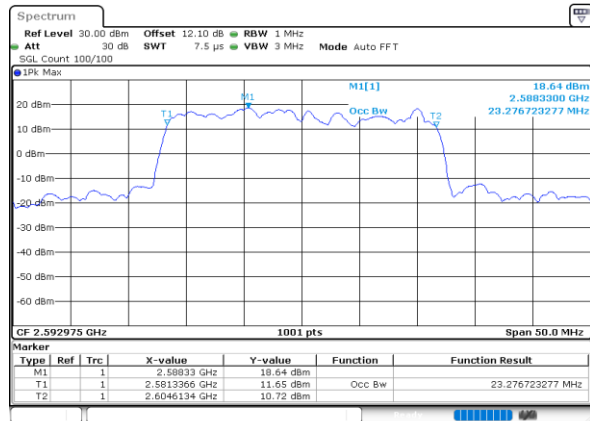
Middle Channel / 10MHz+15MHz



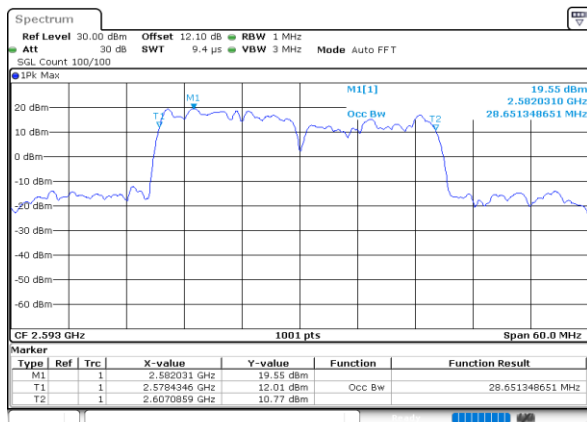
Middle Channel / 10MHz+20MHz



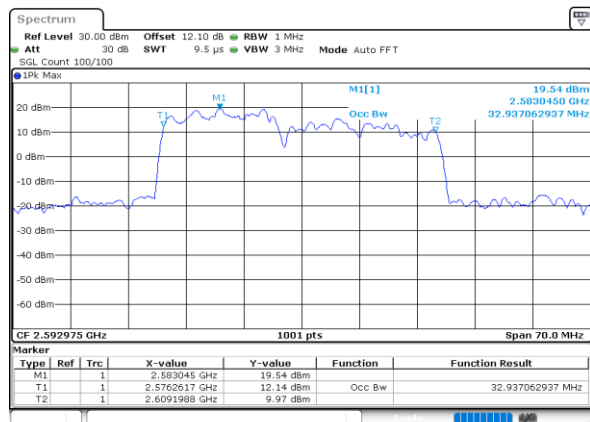
Middle Channel / 15MHz+10MHz



Middle Channel / 15MHz+15MHz



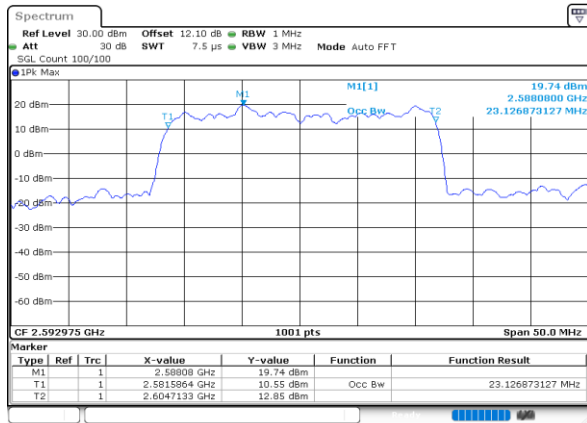
Middle Channel / 15MHz+20MHz



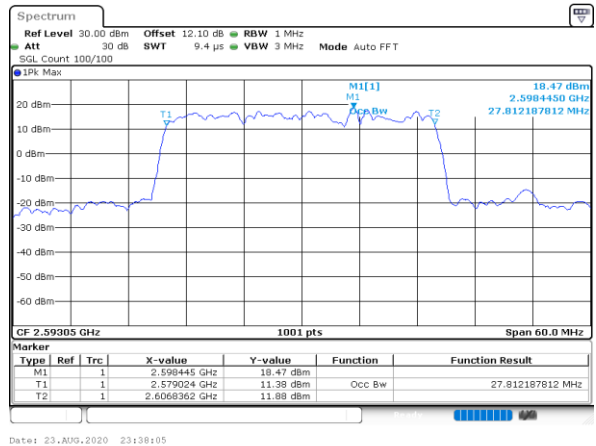
LTE Band 41C (HPUE)

16QAM

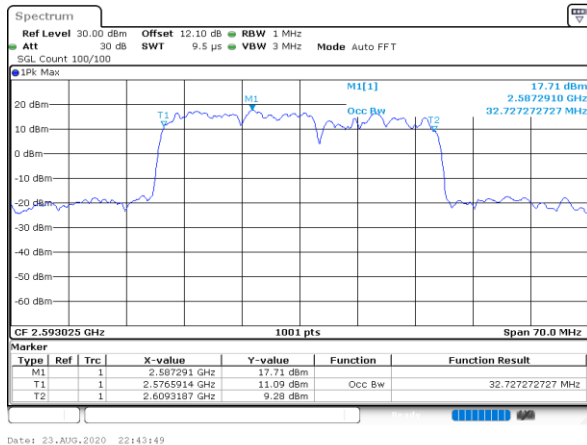
Middle Channel / 20MHz+5MHz



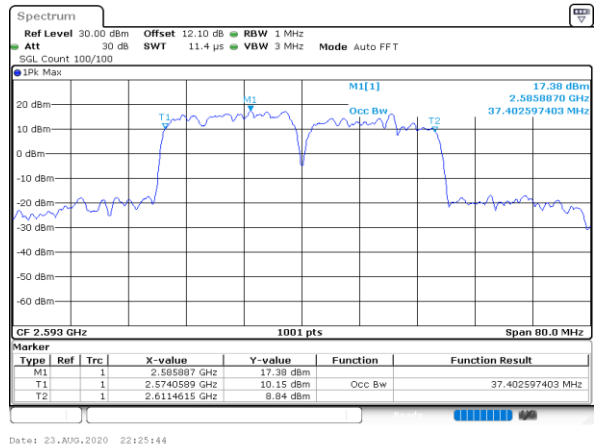
Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz



Middle Channel / 20MHz+20MHz

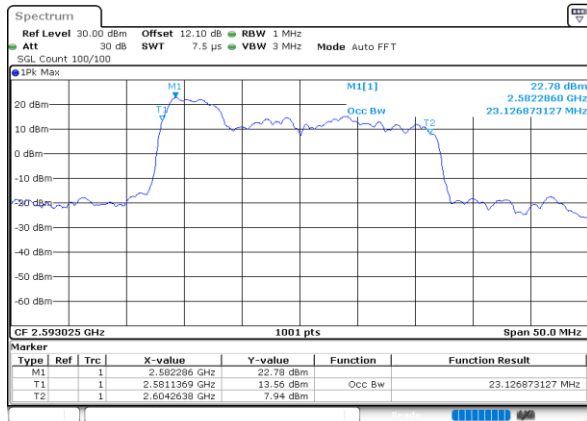




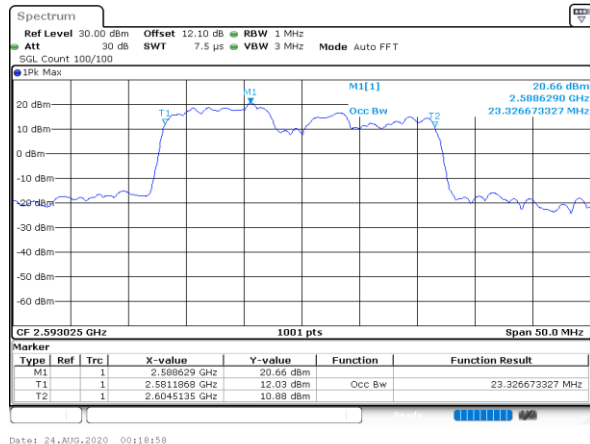
LTE Band 41C (HPUE)

64QAM

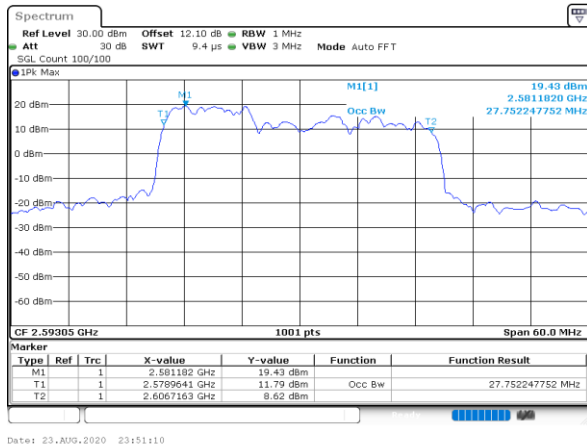
Middle Channel / 5MHz+20MHz



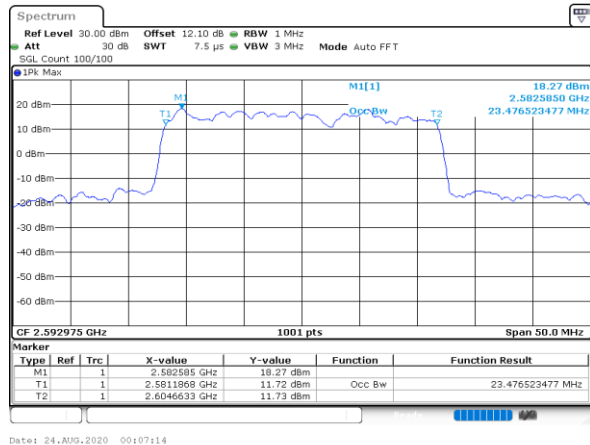
Middle Channel / 10MHz+15MHz



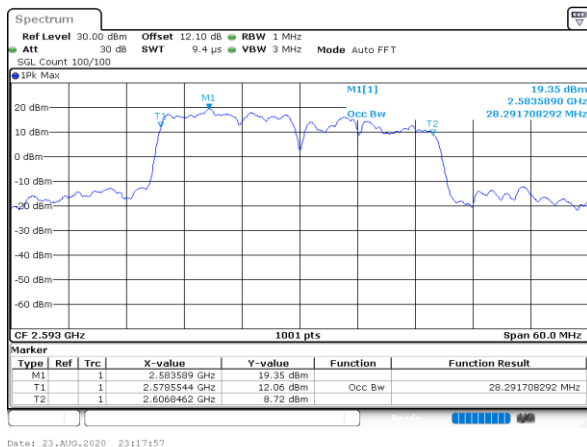
Middle Channel / 10MHz+20MHz



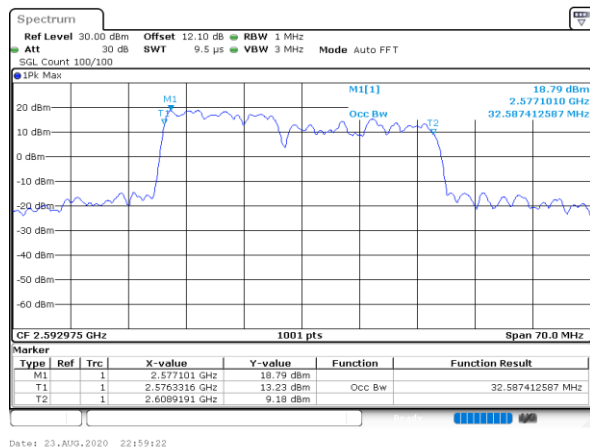
Middle Channel / 15MHz+10MHz



Middle Channel / 15MHz+15MHz



Middle Channel / 15MHz+20MHz

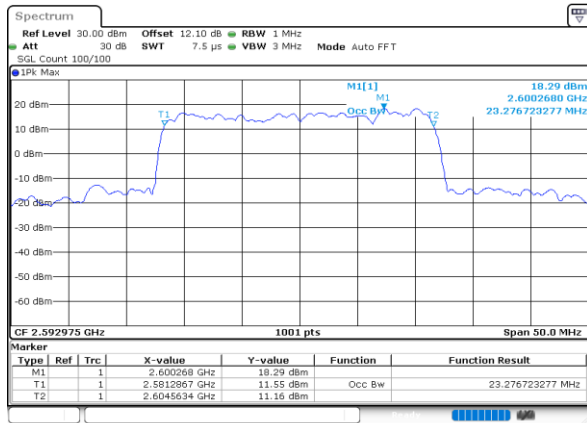




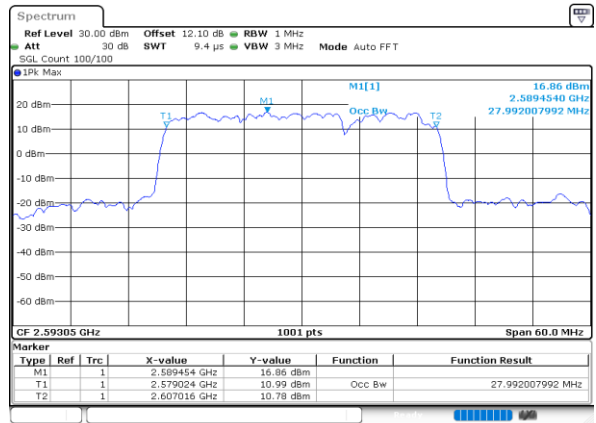
LTE Band 41C (HPUE)

64QAM

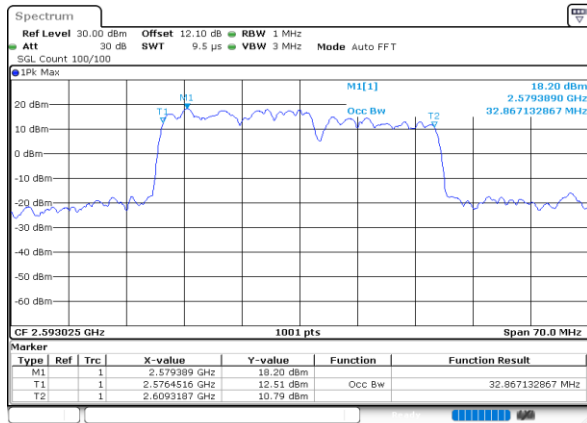
Middle Channel / 20MHz+5MHz



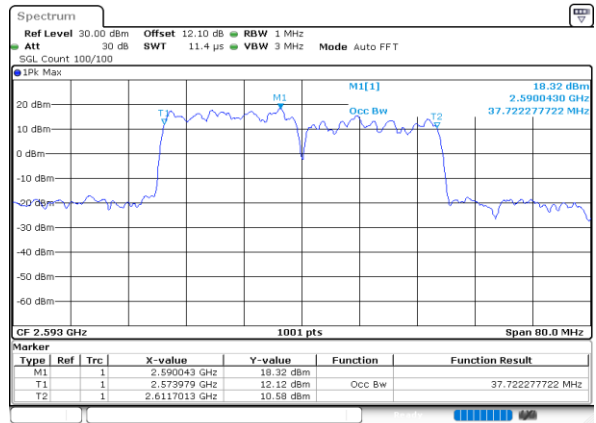
Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz



Middle Channel / 20MHz+20MHz



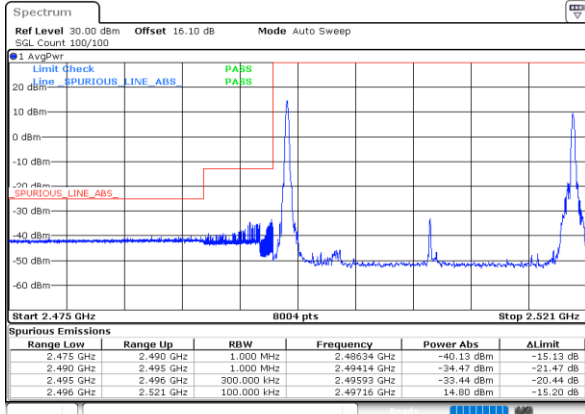


Conducted Band Edge

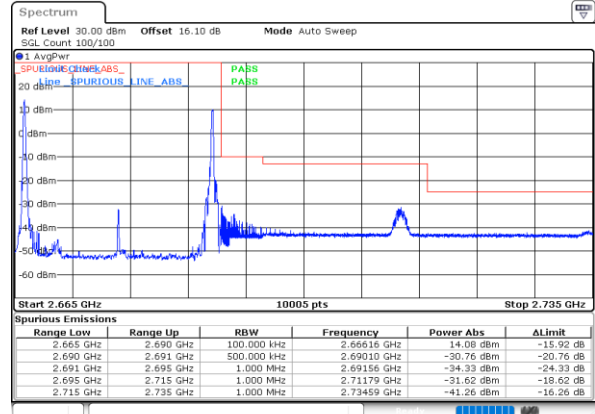
LTE Band 41C (HPUE) / 5MHz+20MHz

QPSK

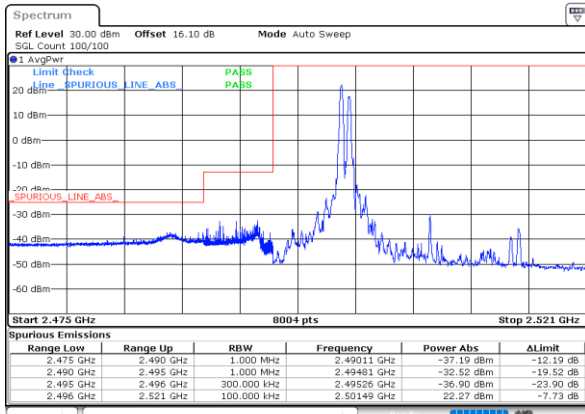
Lowest Band Edge / 1RB0 and 1RB99



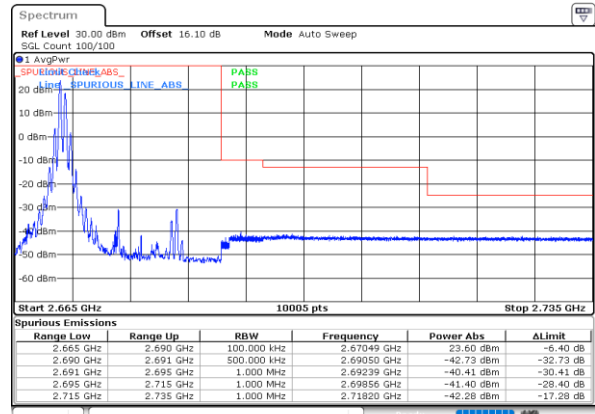
Highest Band Edge / 1RB0 and 1RB99



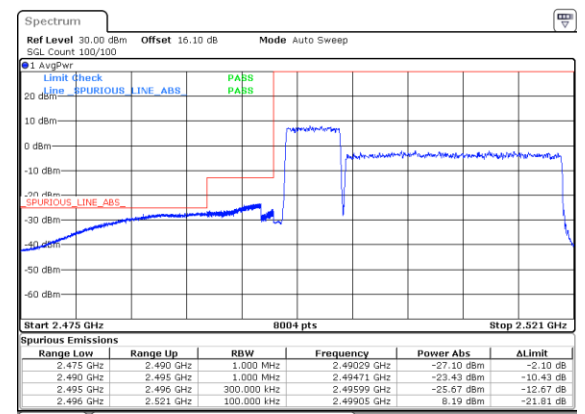
Lowest Band Edge / 1RB24 and 1RB0



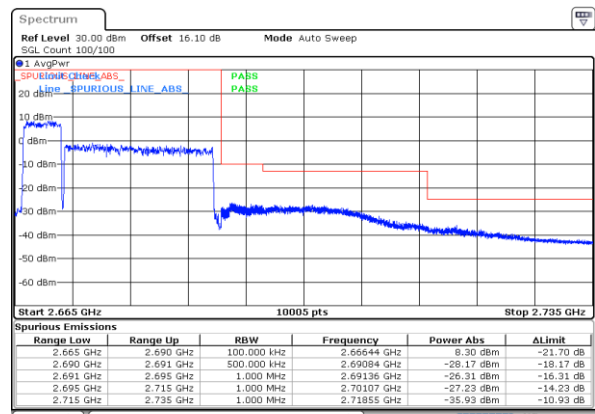
Highest Band Edge / 1RB24 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

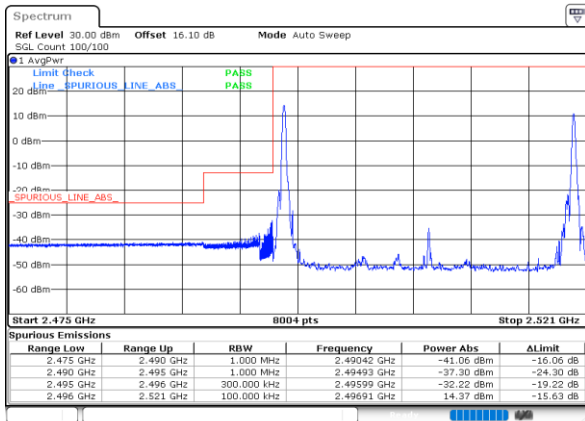




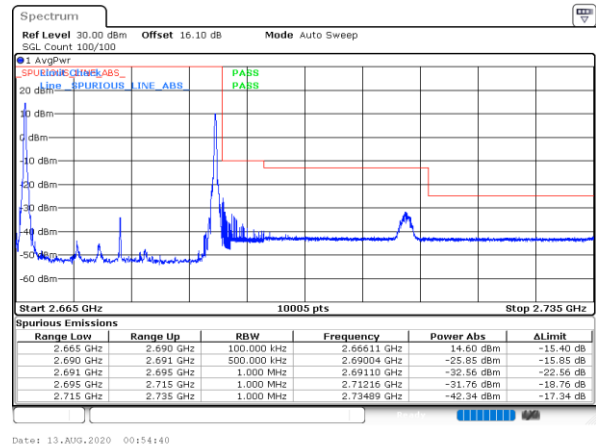
LTE Band 41C (HPUE) / 10MHz+15MHz

QPSK

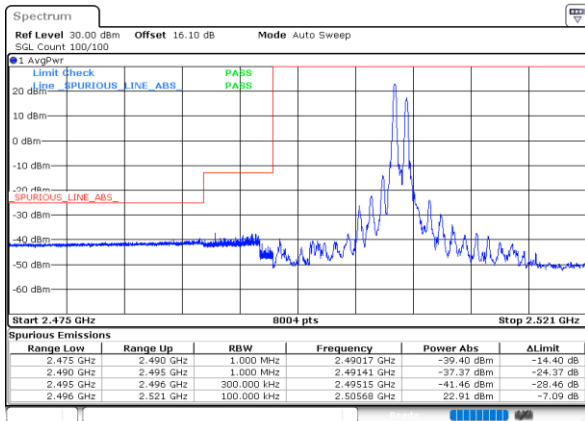
Lowest Band Edge / 1RB0 and 1RB74



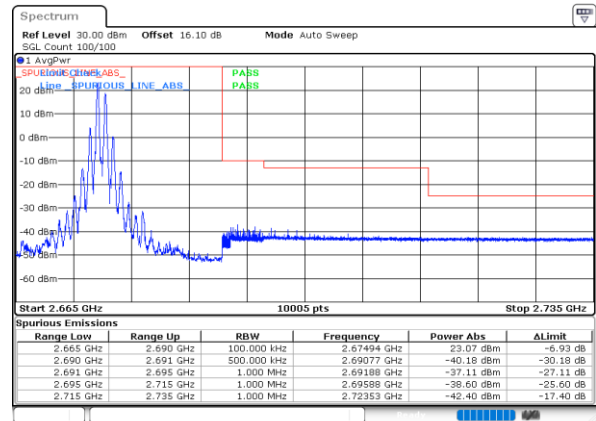
Highest Band Edge / 1RB0 and 1RB74



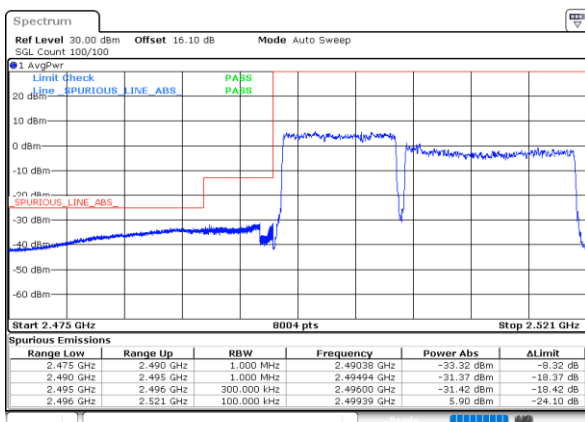
Lowest Band Edge / 1RB49 and 1RB0



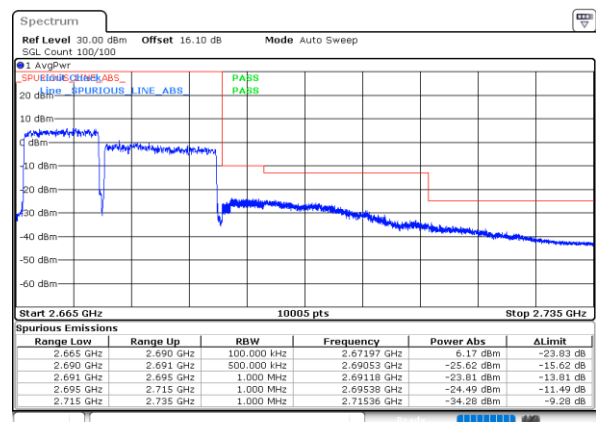
Highest Band Edge / 1RB49 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

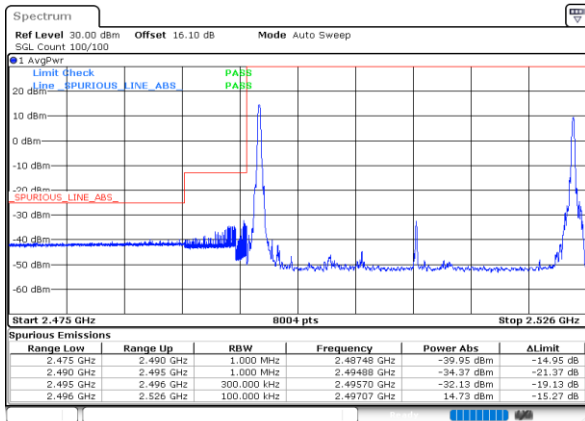




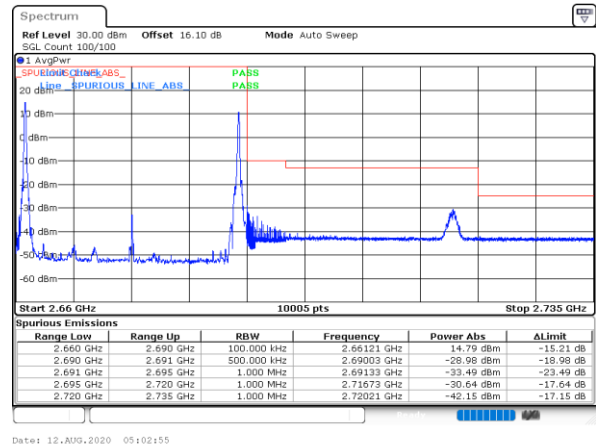
LTE Band 41C (HPUE) / 10MHz+20MHz

QPSK

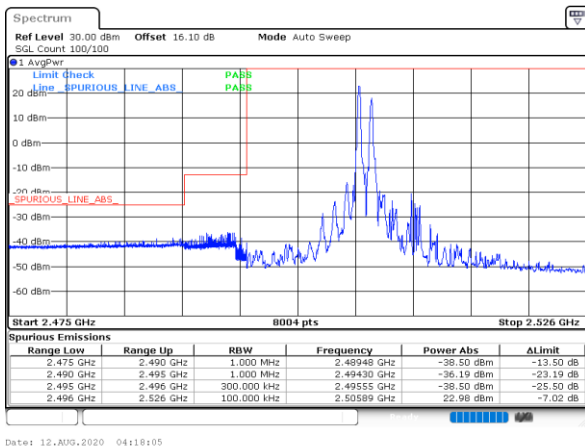
Lowest Band Edge / 1RB0 and 1RB99



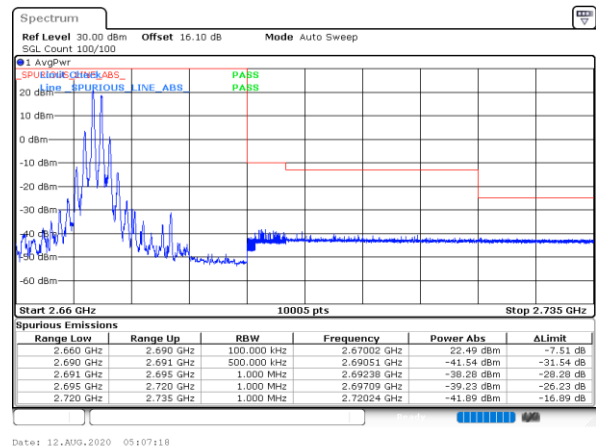
Highest Band Edge / 1RB0 and 1RB99



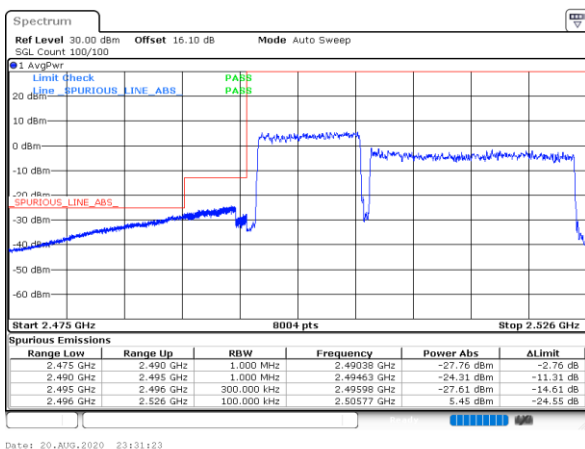
Lowest Band Edge / 1RB49 and 1RB0



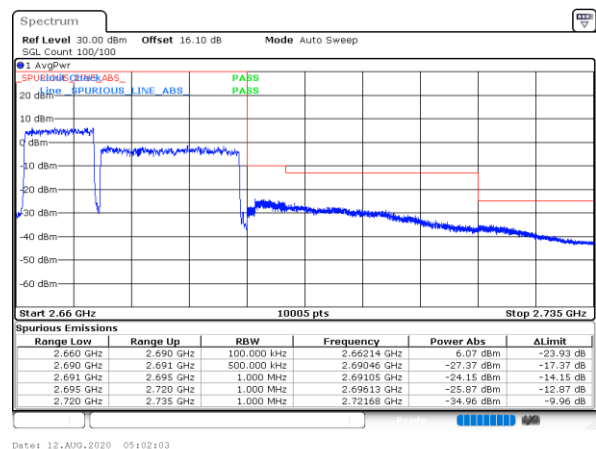
Highest Band Edge / 1RB49 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

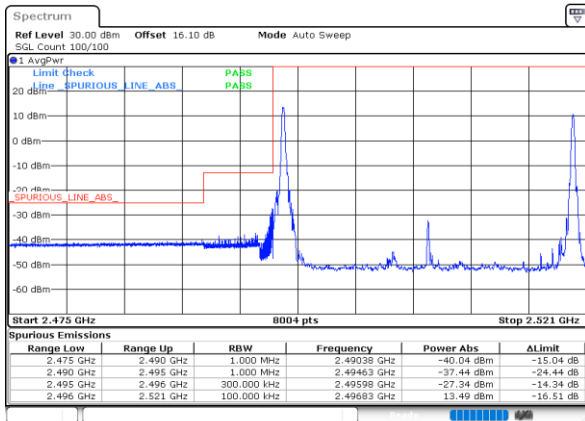




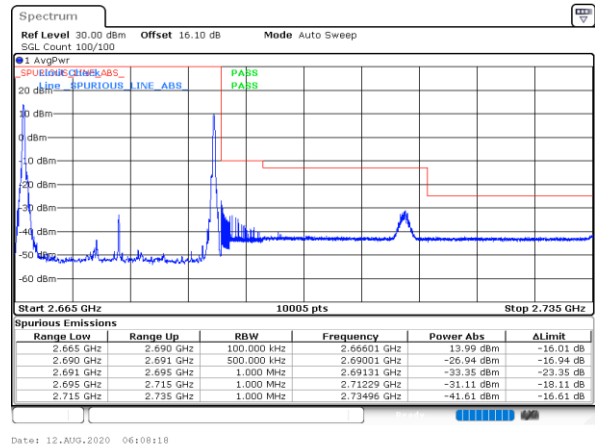
LTE Band 41C (HPUE) / 15MHz+10MHz

QPSK

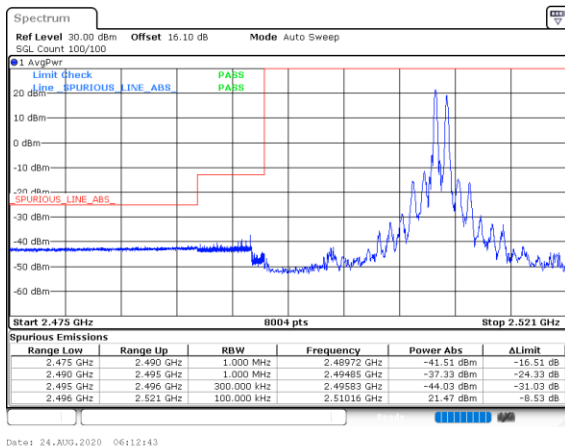
Lowest Band Edge / 1RB0 and 1RB49



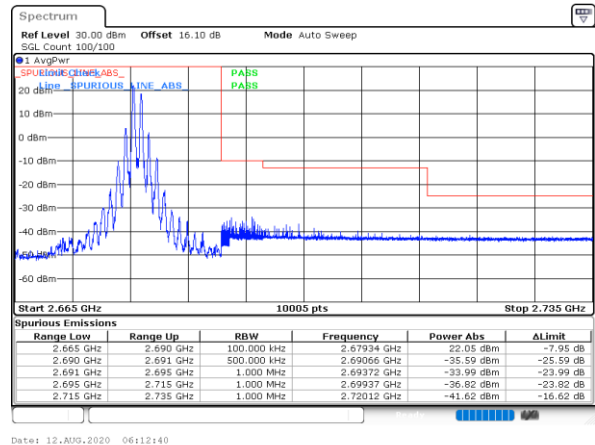
Highest Band Edge / 1RB0 and 1RB49



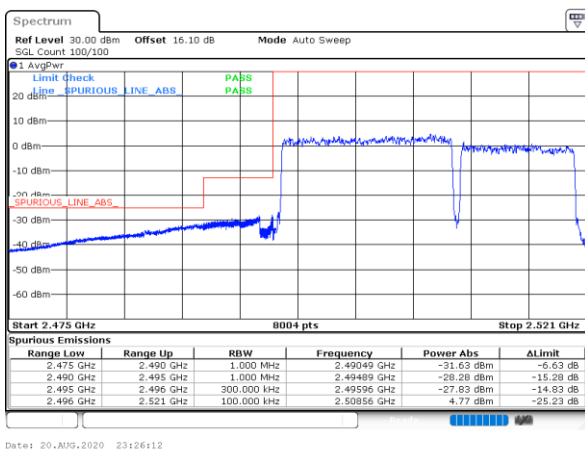
Lowest Band Edge / 1RB74 and 1RB0



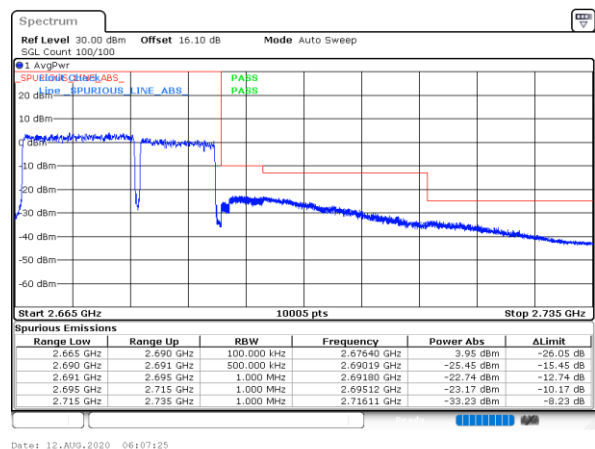
Highest Band Edge / 1RB74 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

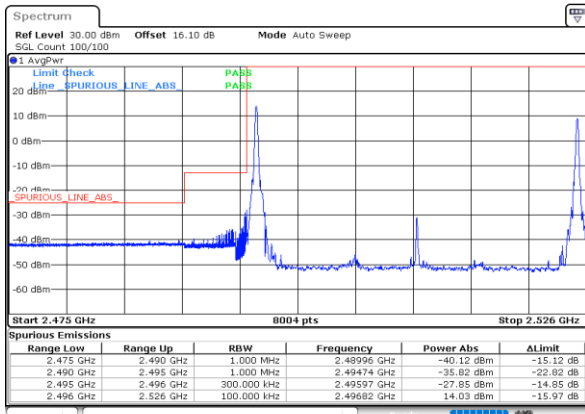




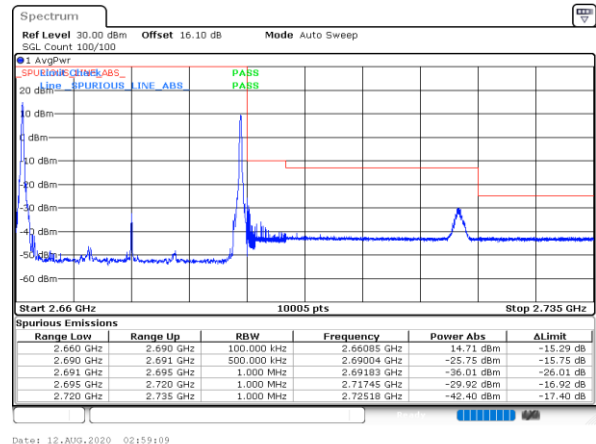
LTE Band 41C (HPUE) / 15MHz+15MHz

QPSK

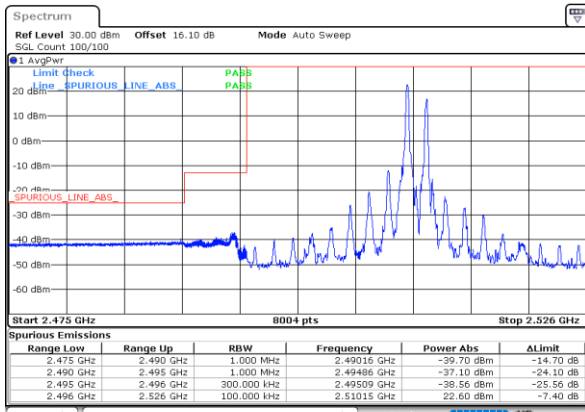
Lowest Band Edge / 1RB0 and 1RB74



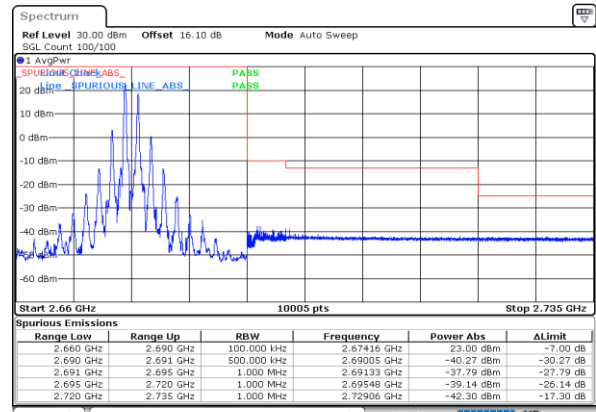
Highest Band Edge / 1RB0 and 1RB74



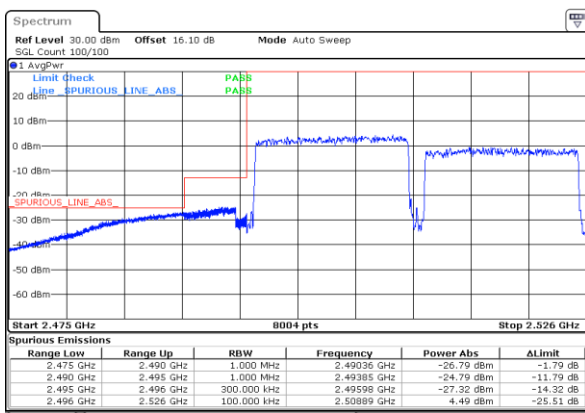
Lowest Band Edge / 1RB74 and 1RB0



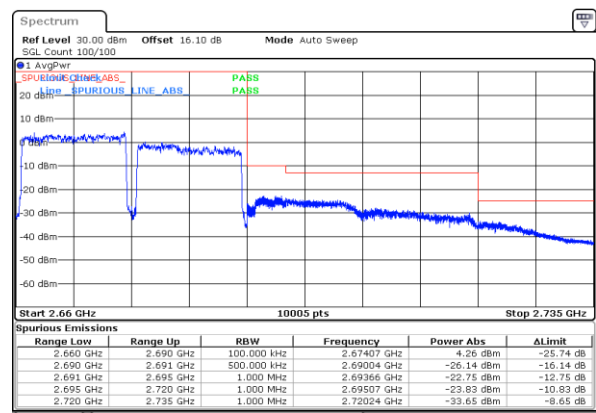
Highest Band Edge / 1RB74 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

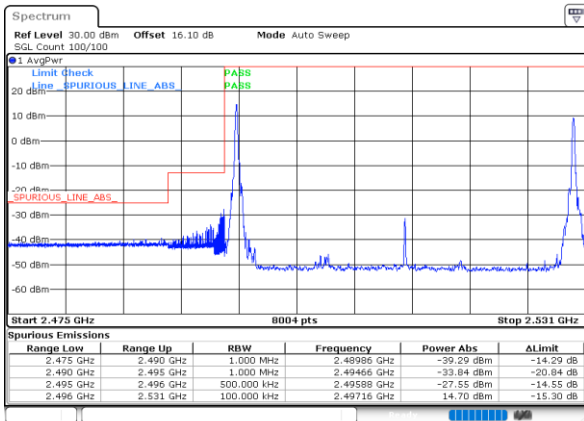




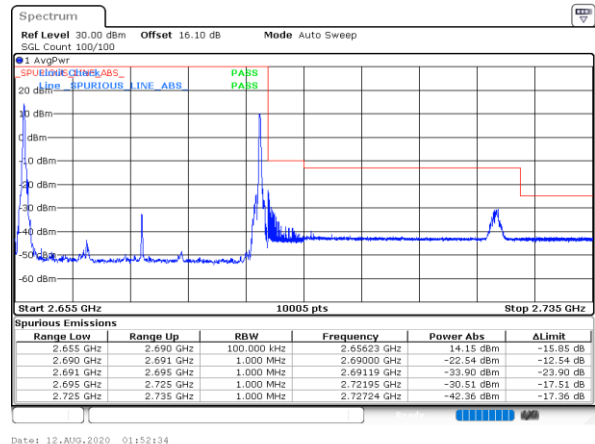
LTE Band 41C (HPUE) / 15MHz+20MHz

QPSK

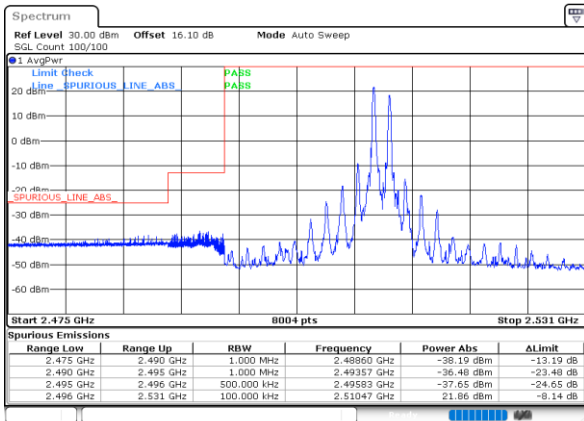
Lowest Band Edge / 1RB0 and 1RB99



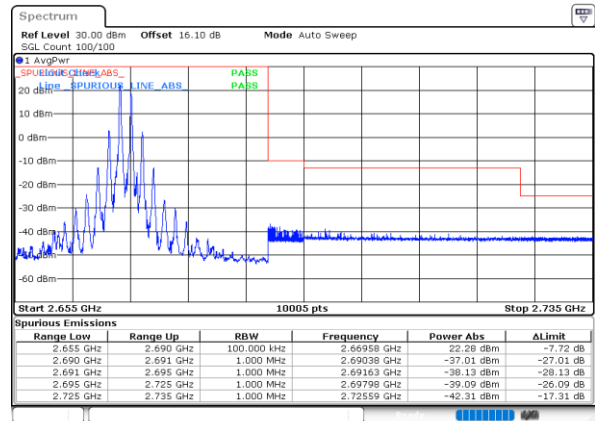
Highest Band Edge / 1RB0 and 1RB99



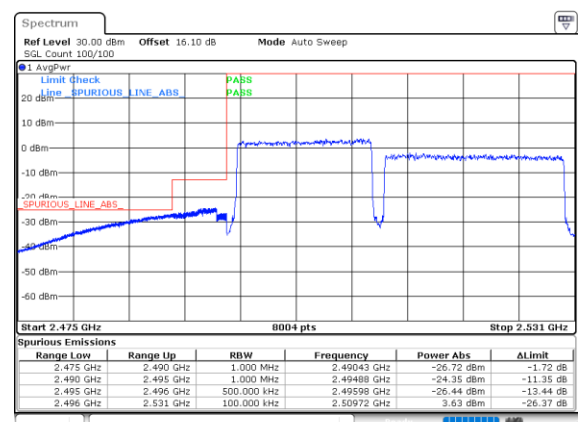
Lowest Band Edge / 1RB74 and 1RB0



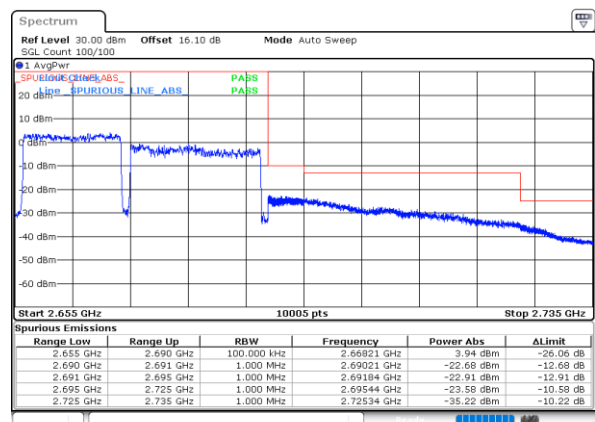
Highest Band Edge / 1RB74 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

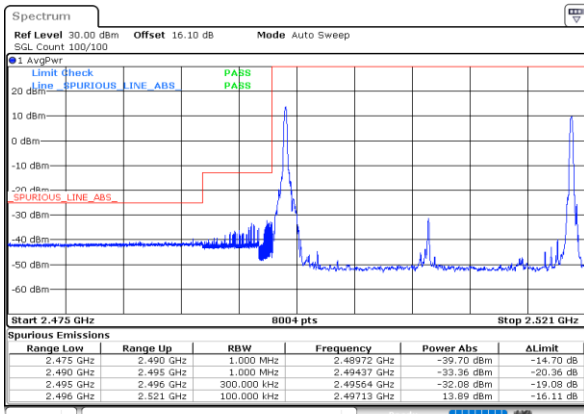




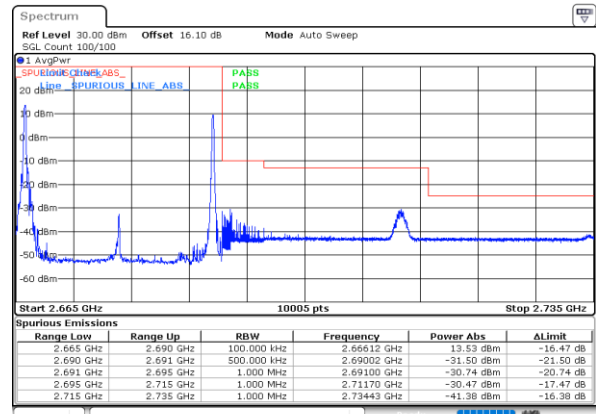
LTE Band 41C (HPUE) / 20MHz+5MHz

QPSK

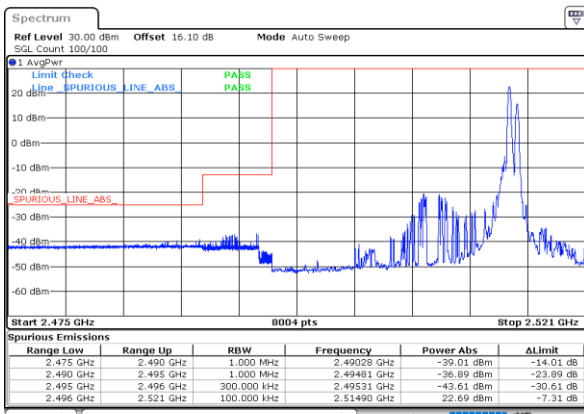
Lowest Band Edge / 1RB0 and 1RB24



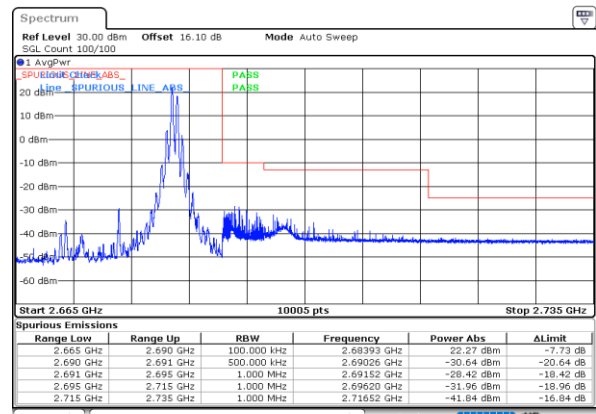
Highest Band Edge / 1RB0 and 1RB24



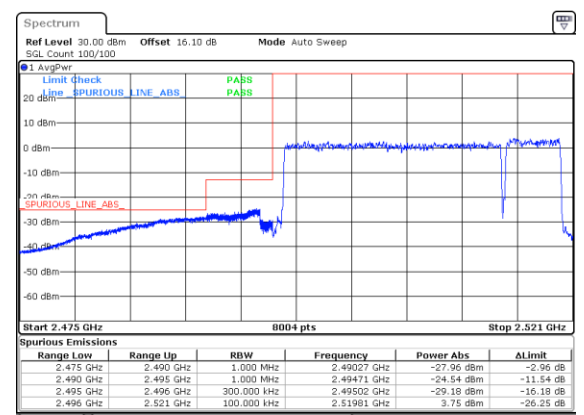
Lowest Band Edge / 1RB99 and 1RB0



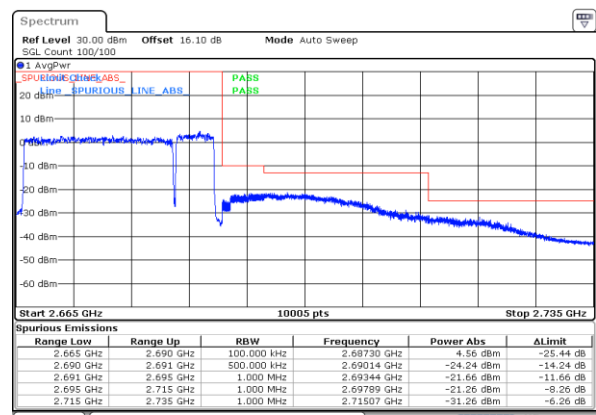
Highest Band Edge / 1RB99 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

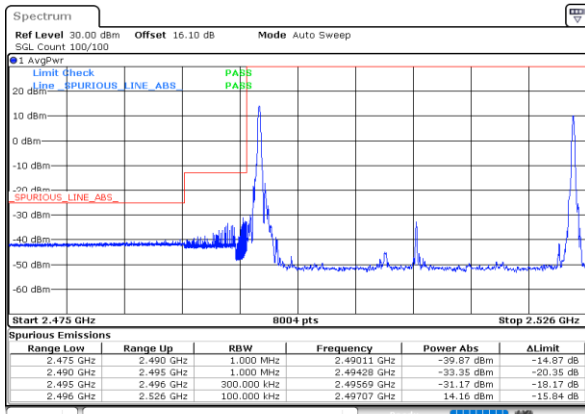




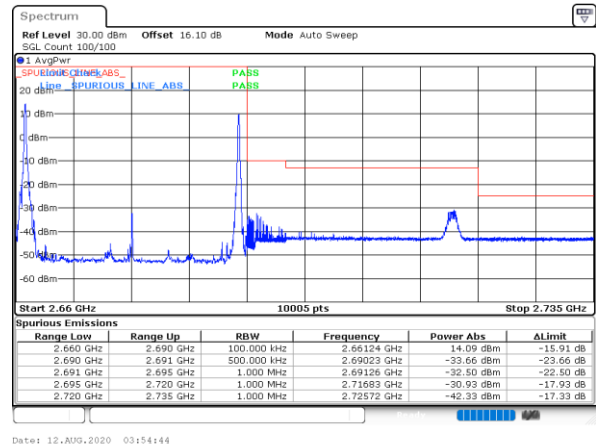
LTE Band 41C (HPUE) / 20MHz+10MHz

QPSK

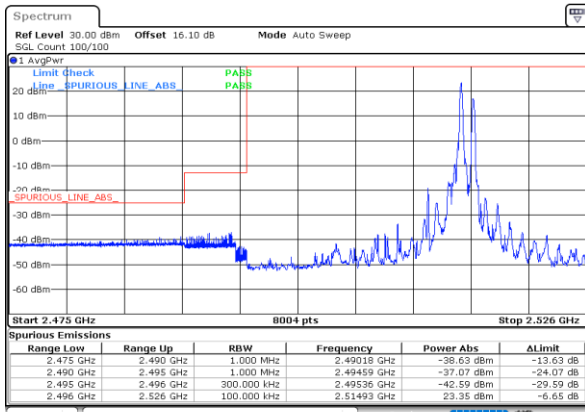
Lowest Band Edge / 1RB0 and 1RB49



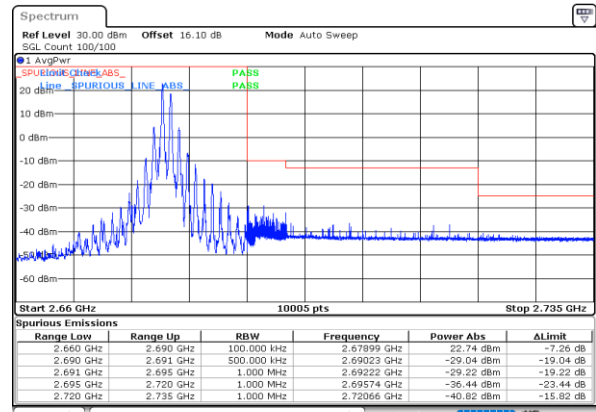
Highest Band Edge / 1RB0 and 1RB49



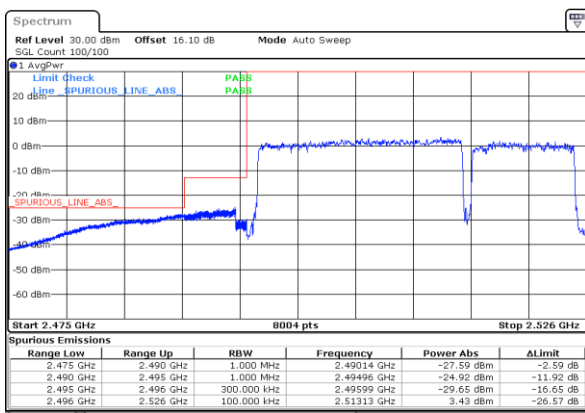
Lowest Band Edge / 1RB99 and 1RB0



Highest Band Edge / 1RB99 and 1RB0



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

