

FCC RF Test Report

APPLICANT : Fibocom Wireless Inc.
EQUIPMENT : 5G Module
BRAND NAME : Fibocom
MODEL NAME : FM350-GL
FCC ID : ZMOFM350GL
STANDARD : 47 CFR Part 2, 27(M)
CLASSIFICATION : PCS Licensed Transmitter (PCB)
TEST DATE(S) : Sep. 08, 2021 ~ Sep. 27, 2021

We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.



Reviewed by: Derreck Chen / Supervisor



Approved by: Eric Shih / Manager



Sporton International (ShenZhen) Inc.

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People's Republic of China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG051802-04A	Rev. 01	Initial issue of report	Oct. 09, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 41)	EIRP < 2Watt	PASS	-
3.5	N/A	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	-	Report Only	-
3.7	§27.53(m)(4)	Conducted Band Edge Measurement (Band 41)	§27.53(m)(4)	PASS	-
3.8	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 41)	< 55+10log ₁₀ (P[Watts])	PASS	-
3.9	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	Not Applicable	-
4.4	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 41)	< 55+10log ₁₀ (P[Watts])	PASS	Under limit 28.16 dB at 10372.00 MHz

Not Applicable means after assessing, test items are not necessary to carry out.

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.



1 General Description

1.1 Applicant

Fibocom Wireless Inc.

1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.2 Manufacturer

Fibocom Wireless Inc.

1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	5G Module
Brand Name	Fibocom
Model Name	FM350-GL
FCC ID	ZMOFM350GL
IMEI Code	Conducted/Radiation: 354174400007998
HW Version	V1.0.6
SW Version	81600.0000.00.19.16.97
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report for FM350-GL. The change note could be referred to the "FM350-GL _Class II Permissive Change letter" which is exhibit separately. Based on the similarity between current and previous project, add the **LTE CA_41C HPUE** mode based on original test report (Sporton Report Number FG051802C).

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 41 : 2496 MHz ~ 2690 MHz
Rx Frequency	LTE Band 41 : 2496 MHz ~ 2690 MHz
Bandwidth	LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 41C : 26.32 dBm
Antenna Gain	LTE Band 41 : 4.00 dBi
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM



1.5 Modification of EUT

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

1.6 Maximum Conducted Power and Emission Designator

LTE Band 41 CA	QPSK		16QAM/64QAM	
BW (MHz)	Conducted Power(W)	Emission Designator (99%OBW)	Conducted Power(W)	Emission Designator (99%OBW)
5MHz+20MHz	0.4207	23M4G7D	0.3236	23M3W7D
10MHz+20MHz	0.4236	28M1G7D	0.3119	28M1W7D
10MHz+15MHz	0.4276	23M6G7D	0.3097	23M6W7D
15MHz+15MHz	0.4266	28M5G7D	0.3162	28M7W7D
15MHz+20MHz	0.4217	33M0G7D	0.3281	33M1W7D
15MHz+10MHz	0.4246	23M5G7D	0.3062	23M7W7D
20MHz+5MHz	0.4111	23M4G7D	0.3214	23M3W7D
20MHz+10MHz	0.4217	28M2G7D	0.3048	28M2W7D
20MHz+15MHz	0.4276	32M9G7D	0.3251	32M9W7D
20MHz+20MHz	0.4285	38M0G7D	0.3055	37M9W7D

1.7 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH03-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24

1.9 Applicable Standards

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

- ♦ 47 CFR Part 2, 27(M)
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

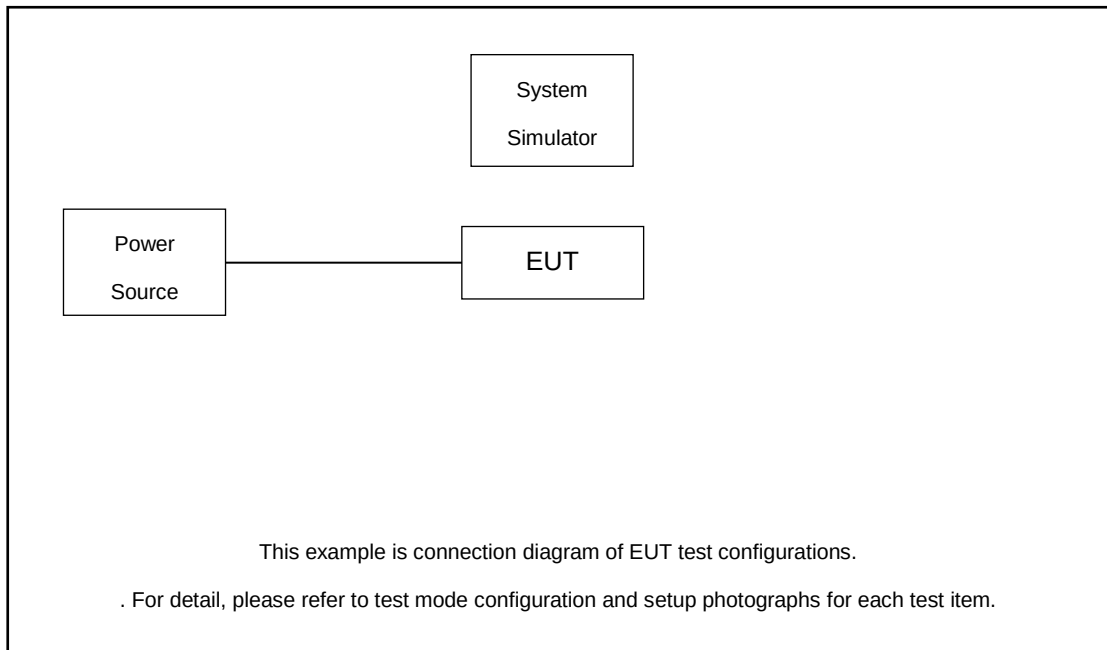
2.1 Test Mode

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.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission, the X Plane was the worst case and record in the 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	256QAM	1	Half	Full	L	M	H
Max. Output Power	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v	v	v
26dB and 99% Bandwidth	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v				v	v	v	v
Conducted Band Edge	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v		v		v	v		v
Conducted Spurious Emission	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v		v			v	v	v
E.I.R.P.	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v		v			v	v	v
Radiated Spurious Emission	41C_CA	Worst Case																		v	
Note	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. 4. For modulation of 256QAM, the manufacturer declared the maximum power of 256QAM is lower than other modulation (QPSK/16QAM/64QAM), therefore, according to engineering evaluation, we choose higher power (QPSK/16QAM/64QAM) to perform all tests and show in the report.																				

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.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	Test Jig	N/A	N/A	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 5.0 dB and 10dB attenuator.

Example :

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 5.0 + 10 = 15.0 \text{ (dB)}
 \end{aligned}$$

2.5 Frequency List of Low/Middle/High Channels

LTE Band 41C_CA 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 41C_CA 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

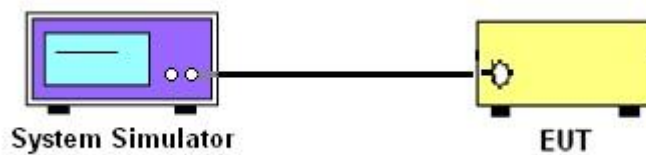
3 Conducted Test Items

3.1 Measuring Instruments

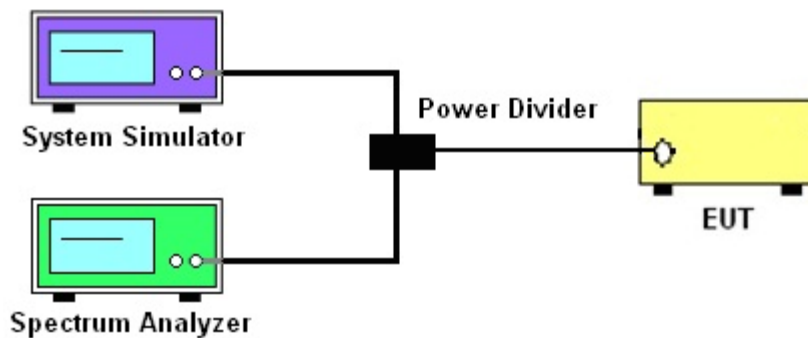
See list of measuring instruments of this test report.

3.2 Test Setup

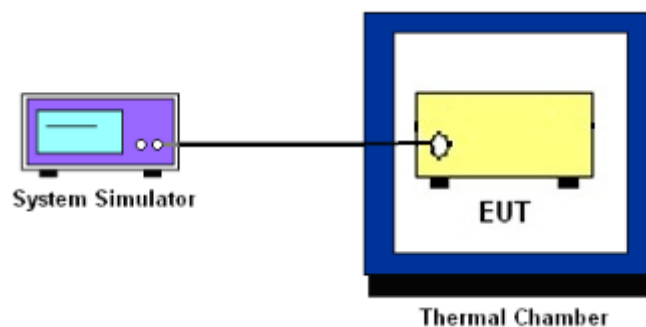
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.



3.4 Conducted Output Power and EIRP

3.4.1 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

3.4.2 Test Procedures

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

3.5 Peak-to-Average Ratio

3.5.1 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.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 Occupied Bandwidth

3.6.1 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.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.
(this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 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.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.

Example:

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

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)} = -13\text{dBm}.$$

9. For LTE Band 41, the other 40 dB, and 55 dB have additionally applied same calculation above.

3.8 Conducted Spurious Emission

3.8.1 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 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.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. 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.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm.
11. For Band 41
The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [55 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[55 + 10\log(P)]$ (dB)
 $= -25$ dBm.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

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

3.9.2 Test Procedures for Temperature Variation

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

3.9.3 Test Procedures for Voltage Variation

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

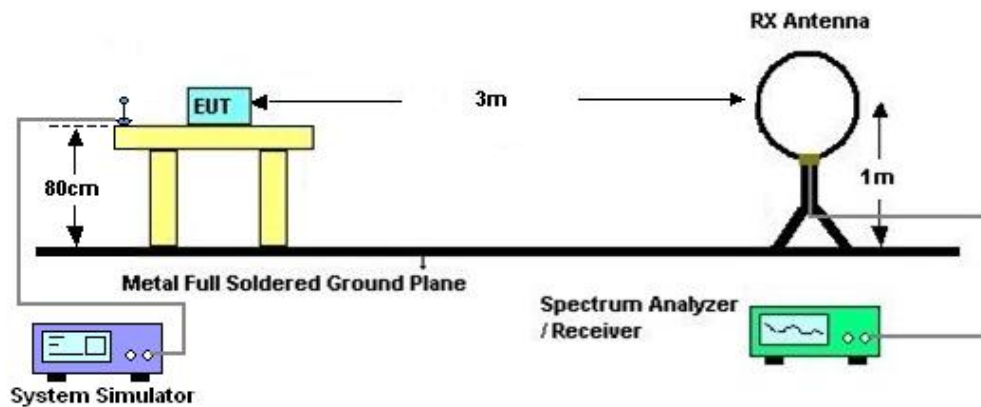
4 Radiated Test Items

4.1 Measuring Instruments

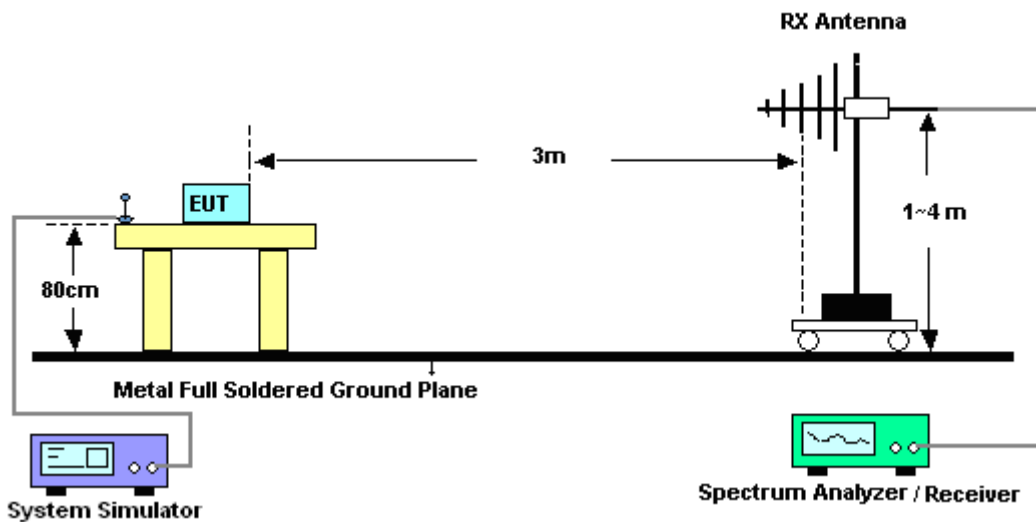
See list of measuring instruments of this test report.

4.2 Test Setup

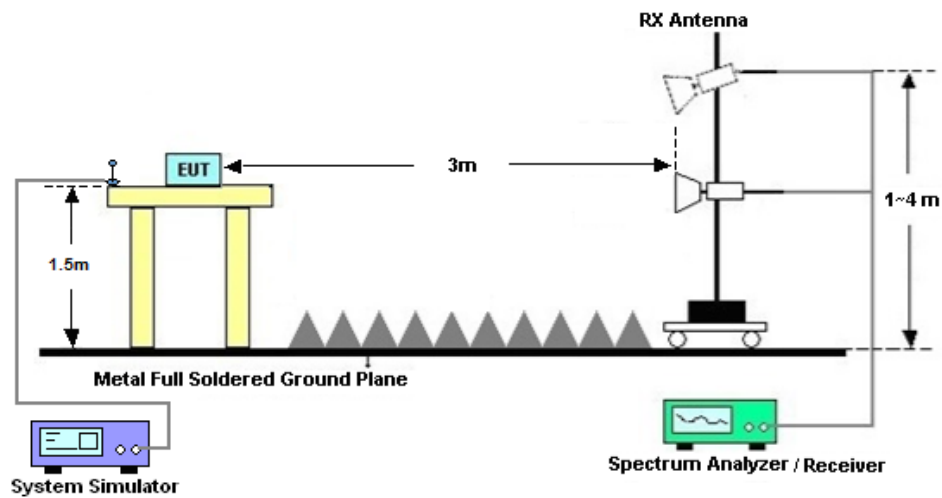
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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.

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For 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.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11. $ERP \text{ (dBm)} = EIRP - 2.15$
12. 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)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$

13. For Band 41:

The limit line is derived from $55 + 10\log(P)$ 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
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 08, 2021	Sep. 08, 2021~ Sep. 17, 2021	Apr. 07, 2022	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.0 077	0.4GHz~26.5G Hz	Dec. 26, 2020	Sep. 08, 2021~ Sep. 17, 2021	Dec. 25, 2021	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangrou p	LP-150U	H201408180 3	-40~+150°C	Jul. 14, 2021	Sep. 08, 2021~ Sep. 17, 2021	Jul. 13, 2022	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY5445008 3	20Hz~8.4GHz	Apr. 07, 2021	Sep. 27, 2021	Apr. 06, 2022	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY5515024 6	10Hz~44GHz;	Apr. 07, 2021	Sep. 27, 2021	Apr. 06, 2022	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Sep. 27, 2021	Jun. 21, 2022	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	Jun. 22, 2020	Sep. 27, 2021	Jun. 21, 2022	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBE CK	BBHA9120 D	9120D-1355	1GHz~18GHz	Apr. 25, 2021	Sep. 27, 2021	Apr. 24, 2022	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz~40GHz	Apr. 11, 2021	Sep. 27, 2021	Apr. 10, 2022	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 16, 2020	Sep. 27, 2021	Oct. 15, 2021	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY3950130 2	500MHz~26.5G Hz	Dec. 30, 2020	Sep. 27, 2021	Dec. 29, 2021	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jun. 22, 2020	Sep. 27, 2021	Jun. 21, 2022	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	6160100019 85	N/A	NCR	Sep. 27, 2021	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Sep. 27, 2021	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Sep. 27, 2021	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required

6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.0dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.6dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.8dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

CA_41C(HPUE)									
Combination 20MHz+20MHz (100RB+100RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset			
39750	39948	QPSK	100	0	100	0	200	≤2	24.34
			1	0	1	99	2	≤8.5	17.31
			1	99	1	0	2	≤0	26.24
		16QAM	100	0	100	0	200	≤3	23.40
			1	0	1	99	2	≤8.5	17.30
			1	99	1	0	2	≤1	24.79
		64QAM	100	0	100	0	200	≤3	23.39
			1	0	1	99	2	≤8.5	17.16
			1	99	1	0	2	≤3	23.16
40521	40719	QPSK	100	0	100	0	200	≤2	24.33
			1	0	1	99	2	≤8.5	17.32
			1	99	1	0	2	≤0	26.24
		16QAM	100	0	100	0	200	≤3	23.38
			1	0	1	99	2	≤8.5	17.35
			1	99	1	0	2	≤1	24.82
		64QAM	100	0	100	0	200	≤3	23.39
			1	0	1	99	2	≤8.5	17.18
			1	99	1	0	2	≤3	23.14
41292	41490	QPSK	100	0	100	0	200	≤2	24.40
			1	0	1	99	2	≤8.5	17.32
			1	99	1	0	2	≤0	26.32
		16QAM	100	0	100	0	200	≤3	23.44
			1	0	1	99	2	≤8.5	17.40
			1	99	1	0	2	≤1	24.85
		64QAM	100	0	100	0	200	≤3	23.45
			1	0	1	99	2	≤8.5	17.25
			1	99	1	0	2	≤3	23.20



CA_41C(HPUE)									
Combination 20MHz+15MHz (100RB+75RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset			
39750	39921	QPSK	100	0	75	0	175	≤2	24.63
			1	0	1	74	2	≤8.5	17.68
			1	99	1	0	2	≤0	26.31
		16QAM	100	0	75	0	175	≤3	23.69
			1	0	1	74	2	≤8.5	17.68
			1	99	1	0	2	≤1	25.12
		64QAM	100	0	75	0	175	≤3	23.67
			1	0	1	74	2	≤8.5	17.67
			1	99	1	0	2	≤3	23.56
40546	40717	QPSK	100	0	75	0	175	≤2	24.65
			1	0	1	74	2	≤8.5	17.58
			1	99	1	0	2	≤0	26.08
		16QAM	100	0	75	0	175	≤3	23.61
			1	0	1	74	2	≤8.5	17.59
			1	99	1	0	2	≤1	24.88
		64QAM	100	0	75	0	175	≤3	23.57
			1	0	1	74	2	≤8.5	17.64
			1	99	1	0	2	≤3	23.46
41341	41512	QPSK	100	0	75	0	175	≤2	24.54
			1	0	1	74	2	≤8.5	17.75
			1	99	1	0	2	≤0	26.13
		16QAM	100	0	75	0	175	≤3	23.63
			1	0	1	74	2	≤8.5	17.77
			1	99	1	0	2	≤1	25.06
		64QAM	100	0	75	0	175	≤3	23.60
			1	0	1	74	2	≤8.5	17.77
			1	99	1	0	2	≤3	23.49
Combination 15MHz+20MHz (75RB+100RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset			
39728	39899	QPSK	75	0	100	0	175	≤2	24.59
			1	0	1	99	2	≤8.5	17.67
			1	74	1	0	2	≤0	26.25
		16QAM	75	0	100	0	175	≤3	23.66
			1	0	1	99	2	≤8.5	17.72
			1	74	1	0	2	≤1	25.13
		64QAM	75	0	100	0	175	≤3	23.67
			1	0	1	99	2	≤8.5	17.68
			1	74	1	0	2	≤3	23.55
40523	40694	QPSK	75	0	100	0	175	≤2	24.61
			1	0	1	99	2	≤8.5	17.61



		16QAM	1	74	1	0	2	≤0	26.24
			75	0	100	0	175	≤3	23.64
			1	0	1	99	2	≤8.5	17.65
			1	74	1	0	2	≤1	25.14
		64QAM	75	0	100	0	175	≤3	23.65
			1	0	1	99	2	≤8.5	17.61
			1	74	1	0	2	≤3	23.56
41319	41490	QPSK	75	0	100	0	175	≤2	24.63
			1	0	1	99	2	≤8.5	17.74
			1	74	1	0	2	≤0	26.14
		16QAM	75	0	100	0	175	≤3	23.67
			1	0	1	99	2	≤8.5	17.83
			1	74	1	0	2	≤1	25.16
		64QAM	75	0	100	0	175	≤3	23.66
			1	0	1	99	2	≤8.5	17.76
1	74		1	0	2	≤3	23.58		
Combination 20MHz+10MHz (100RB+50RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset			
39750	39894	QPSK	100	0	50	0	150	≤2	24.60
			1	0	1	49	2	≤8.5	17.62
			1	99	1	0	2	≤0	26.25
		16QAM	100	0	50	0	150	≤3	23.67
			1	0	1	49	2	≤8.5	17.53
			1	99	1	0	2	≤1	24.84
		64QAM	100	0	50	0	150	≤3	23.65
			1	0	1	49	2	≤8.5	18.09
1	99		1	0	2	≤3	23.44		
40571	40715	QPSK	100	0	50	0	150	≤2	24.58
			1	0	1	49	2	≤8.5	17.63
			1	99	1	0	2	≤0	24.23
		16QAM	100	0	50	0	150	≤3	23.58
			1	0	1	49	2	≤8.5	17.57
			1	99	1	0	2	≤1	24.69
		64QAM	100	0	50	0	150	≤3	23.60
			1	0	1	49	2	≤8.5	17.68
1	99		1	0	2	≤3	23.34		
41391	41535	QPSK	100	0	50	0	150	≤2	24.57
			1	0	1	49	2	≤8.5	17.76
			1	99	1	0	2	≤0	26.06
		16QAM	100	0	50	0	150	≤3	23.64
			1	0	1	49	2	≤8.5	17.69
			1	99	1	0	2	≤1	24.77
		64QAM	100	0	50	0	150	≤3	23.60
			1	0	1	49	2	≤8.5	17.79
1	99		1	0	2	≤3	23.37		



Combination 10MHz+20MHz (50RB+100RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset			
39705	39849	QPSK	50	0	100	0	150	≤2	24.59
			1	0	1	99	2	≤8.5	17.64
			1	49	1	0	2	≤0	26.21
		16QAM	50	0	100	0	150	≤3	23.64
			1	0	1	99	2	≤8.5	17.53
			1	49	1	0	2	≤1	24.88
		64QAM	50	0	100	0	150	≤3	23.62
			1	0	1	99	2	≤8.5	17.68
			1	49	1	0	2	≤3	23.46
40526	40670	QPSK	50	0	100	0	150	≤2	24.67
			1	0	1	99	2	≤8.5	17.66
			1	49	1	0	2	≤0	26.23
		16QAM	50	0	100	0	150	≤3	23.65
			1	0	1	99	2	≤8.5	17.51
			1	49	1	0	2	≤1	24.94
		64QAM	50	0	100	0	150	≤3	23.67
			1	0	1	99	2	≤8.5	17.67
			1	49	1	0	2	≤3	23.48
41346	41490	QPSK	50	0	100	0	150	≤2	24.64
			1	0	1	99	2	≤8.5	17.73
			1	49	1	0	2	≤0	26.27
		16QAM	50	0	100	0	150	≤3	23.68
			1	0	1	99	2	≤8.5	17.65
			1	49	1	0	2	≤1	24.87
		64QAM	50	0	100	0	150	≤3	23.67
			1	0	1	99	2	≤8.5	17.76
			1	49	1	0	2	≤3	23.46
Combination 20MHz+5MHz (100RB+25RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset			
39750	39867	QPSK	100	0	25	0	125	≤2	24.62
			1	0	1	24	2	≤8.5	17.78
			1	99	1	0	2	≤0	26.14
		16QAM	100	0	25	0	125	≤3	23.68
			1	0	1	24	2	≤8.5	17.78
			1	99	1	0	2	≤1	25.07
		64QAM	100	0	25	0	125	≤3	23.69
			1	0	1	24	2	≤8.5	17.80
			1	99	1	0	2	≤3	23.42
40595	40712	QPSK	100	0	25	0	125	≤2	24.62
			1	0	1	24	2	≤8.5	17.89
			1	99	1	0	2	≤0	22.33
		16QAM	100	0	25	0	125	≤3	23.67



			1	0	1	24	2	≤8.5	17.86
			1	99	1	0	2	≤1	22.37
			64QAM	100	0	25	0	125	≤3
		1	0	1	24	2	≤8.5	17.84	
		1	99	1	0	2	≤3	22.34	
41440	41557	QPSK	100	0	25	0	125	≤2	24.53
			1	0	1	24	2	≤8.5	17.82
			1	99	1	0	2	≤0	25.89
		16QAM	100	0	25	0	125	≤3	23.63
			1	0	1	24	2	≤8.5	17.86
			1	99	1	0	2	≤1	25.03
		64QAM	100	0	25	0	125	≤3	23.62
			1	0	1	24	2	≤8.5	17.51
			1	99	1	0	2	≤3	23.37
			Combination 5MHz+20MHz (25RB+100RB)						
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
RB Size	RB offset	RB Size	RB offset						
39683	39800	QPSK	25	0	100	0	125	≤2	24.36
			1	0	1	99	2	≤8.5	17.76
			1	24	1	0	2	≤0	26.07
		16QAM	25	0	100	0	125	≤3	23.63
			1	0	1	99	2	≤8.5	17.74
			1	24	1	0	2	≤1	25.07
		64QAM	25	0	100	0	125	≤3	23.66
			1	0	1	99	2	≤8.5	17.81
			1	24	1	0	2	≤3	23.38
			40528	40645	QPSK	25	0	100	0
1	0	1				99	2	≤8.5	17.82
1	24	1				0	2	≤0	26.24
16QAM	25	0			100	0	125	≤3	23.78
	1	0			1	99	2	≤8.5	17.81
	1	24			1	0	2	≤1	25.10
64QAM	25	0			100	0	125	≤3	23.30
	1	0			1	99	2	≤8.5	17.84
	1	24			1	0	2	≤3	23.47
	41373	41490			QPSK	25	0	100	0
1			0	1		99	2	≤8.5	17.81
1			24	1		0	2	≤0	26.14
16QAM			25	0	100	0	125	≤3	23.75
			1	0	1	99	2	≤8.5	17.81
			1	24	1	0	2	≤1	25.08
64QAM			25	0	100	0	125	≤3	23.75
			1	0	1	99	2	≤8.5	17.86
			1	24	1	0	2	≤3	23.42
			Combination 15MHz+10MHz (75RB+50RB)						
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured



Channel	Channel		RB Size	RB offset	RB Size	RB offset			
39725	39845	QPSK	75	0	50	0	125	≤2	24.42
			1	0	1	49	2	≤8.5	17.61
			1	74	1	0	2	≤0	26.28
		16QAM	75	0	50	0	125	≤3	23.45
			1	0	1	49	2	≤8.5	17.63
			1	74	1	0	2	≤1	24.81
		64QAM	75	0	50	0	125	≤3	23.48
			1	0	1	49	2	≤8.5	17.48
			1	74	1	0	2	≤3	23.19
40571	40691	QPSK	75	0	50	0	125	≤2	24.46
			1	0	1	49	2	≤8.5	17.75
			1	74	1	0	2	≤0	26.03
		16QAM	75	0	50	0	125	≤3	23.48
			1	0	1	49	2	≤8.5	17.75
			1	74	1	0	2	≤1	24.85
		64QAM	75	0	50	0	125	≤3	23.49
			1	0	1	49	2	≤8.5	17.58
			1	74	1	0	2	≤3	23.20
41417	41537	QPSK	75	0	50	0	125	≤2	24.43
			1	0	1	49	2	≤8.5	17.73
			1	74	1	0	2	≤0	26.20
		16QAM	75	0	50	0	125	≤3	23.43
			1	0	1	49	2	≤8.5	17.75
			1	74	1	0	2	≤1	24.86
		64QAM	75	0	50	0	125	≤3	23.46
			1	0	1	49	2	≤8.5	17.57
			1	74	1	0	2	≤3	23.18
Combination 10MHz+15MHz (50RB+75RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset			
39703	39823	QPSK	50	0	75	0	125	≤2	24.39
			1	0	1	74	2	≤8.5	17.62
			1	49	1	0	2	≤0	26.31
		16QAM	50	0	75	0	125	≤3	23.45
			1	0	1	74	2	≤8.5	17.62
			1	49	1	0	2	≤1	24.85
		64QAM	50	0	75	0	125	≤3	23.48
			1	0	1	74	2	≤8.5	17.50
			1	49	1	0	2	≤3	23.22
40549	40669	QPSK	50	0	75	0	125	≤2	24.50
			1	0	1	74	2	≤8.5	17.72
			1	49	1	0	2	≤0	26.22
		16QAM	50	0	75	0	125	≤3	23.54
			1	0	1	74	2	≤8.5	17.72
			1	49	1	0	2	≤1	24.91



		64QAM	50	0	75	0	125	≤3	23.55
			1	0	1	74	2	≤8.5	17.57
			1	49	1	0	2	≤3	23.26
41395	41515	QPSK	50	0	75	0	125	≤2	24.45
			1	0	1	74	2	≤8.5	17.70
			1	49	1	0	2	≤0	26.16
		16QAM	50	0	75	0	125	≤3	23.53
			1	0	1	74	2	≤8.5	17.71
			1	49	1	0	2	≤1	24.83
		64QAM	50	0	75	0	125	≤3	23.53
			1	0	1	74	2	≤8.5	17.57
			1	49	1	0	2	≤3	23.17
Combination 15MHz+15MHz (75RB+75RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset			
39725	39875	QPSK	75	0	75	0	150	≤2	24.44
			1	0	1	74	2	≤8.5	17.65
			1	74	1	0	2	≤0	26.30
		16QAM	75	0	75	0	150	≤3	23.47
			1	0	1	74	2	≤8.5	17.63
			1	74	1	0	2	≤1	24.95
		64QAM	75	0	75	0	150	≤3	23.49
			1	0	1	74	2	≤8.5	17.52
			1	74	1	0	2	≤3	23.32
40545	40695	QPSK	75	0	75	0	150	≤2	24.49
			1	0	1	74	2	≤8.5	17.68
			1	74	1	0	2	≤0	26.30
		16QAM	75	0	75	0	150	≤3	23.50
			1	0	1	74	2	≤8.5	17.67
			1	74	1	0	2	≤1	25.00
		64QAM	75	0	75	0	150	≤3	23.52
			1	0	1	74	2	≤8.5	17.52
			19	74	1	0	2	≤3	22.90
41365	41515	QPSK	75	0	75	0	150	≤2	24.44
			1	0	1	74	2	≤8.5	17.74
			1	74	1	0	2	≤0	26.30
		16QAM	75	0	75	0	150	≤3	23.46
			1	0	1	74	2	≤8.5	17.77
			1	74	1	0	2	≤1	24.89
		64QAM	75	0	75	0	150	≤3	23.50
			1	0	1	74	2	≤8.5	17.58
			1	74	1	0	2	≤3	23.30

CA EIRP

LTE Band 41 CA (GT - LC = 4.00 dB) QPSK									
Bandwidth	15M + 15M			5M + 20M			20M + 5M		
Channel PCC	39725	40545	41365	39683	40528	41373	39750	40595	41440
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39875	40695	41515	39800	40645	41490	39867	40712	41557
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	26.30	26.30	26.30	26.07	26.24	26.14	26.14	24.62	25.89
Conducted Power (Watts)	0.4266	0.4266	0.4266	0.4046	0.4207	0.4111	0.4111	0.2897	0.3882
EIRP(dBm)	30.30	30.30	30.30	30.07	30.24	30.14	30.14	28.62	29.89
EIRP(Watts)	1.0715	1.0715	1.0715	1.0162	1.0568	1.0328	1.0328	0.7278	0.9750

LTE Band 41 CA (GT - LC = 4.00 dB) QPSK									
Bandwidth	10M + 20M			20M + 10M			15M + 20M		
Channel PCC	39705	40526	41346	39750	40571	41391	39728	40523	41319
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39849	40670	41490	39894	40715	41535	39899	40694	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	26.21	26.23	26.27	26.25	24.58	26.06	26.25	26.24	26.14
Conducted Power (Watts)	0.4178	0.4198	0.4236	0.4217	0.2871	0.4036	0.4217	0.4207	0.4111
EIRP(dBm)	30.21	30.23	30.27	30.25	28.58	30.06	30.25	30.24	30.14
EIRP(Watts)	1.0495	1.0544	1.0641	1.0593	0.7211	1.0139	1.0593	1.0568	1.0328



LTE Band 41 CA (GT - LC = 4.00 dB) QPSK						
Bandwidth	20M+15M			20M+20M		
Channel PCC	39750	40546	41341	39750	40521	41292
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39921	40717	41512	39948	40719	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	26.31	26.08	26.13	26.24	26.24	26.32
Conducted Power (Watts)	0.4276	0.4055	0.4102	0.4207	0.4207	0.4285
EIRP(dBm)	30.31	30.08	30.13	30.24	30.24	30.32
EIRP(Watts)	1.0740	1.0186	1.0304	1.0568	1.0568	1.0765

LTE Band 41 CA (GT - LC = 4.00 dB) QPSK						
Bandwidth	15M+10M			10M+15M		
Channel PCC	39725	40571	41417	39703	40549	41395
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39845	40691	41537	39823	40669	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	26.28	26.03	26.20	26.31	26.22	26.16
Conducted Power (Watts)	0.4246	0.4009	0.4169	0.4276	0.4188	0.4130
EIRP(dBm)	30.28	30.03	30.20	30.31	30.22	30.16
EIRP(Watts)	1.0666	1.0069	1.0471	1.0740	1.0520	1.0375

LTE Band 41 CA (GT - LC = 4.00 dB) 16QAM									
Bandwidth	15M + 15M			5M + 20M			20M + 5M		
Channel PCC	39725	40545	41365	39683	40528	41373	39750	40595	41440
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39875	40695	41515	39800	40645	41490	39867	40712	41557
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	24.95	25.00	24.89	25.07	25.10	25.08	25.07	23.67	25.03
Conducted Power (Watts)	0.3126	0.3162	0.3083	0.3214	0.3236	0.3221	0.3214	0.2328	0.3184
EIRP(dBm)	28.95	29.00	28.89	29.07	29.10	29.08	29.07	27.67	29.03
EIRP(Watts)	0.7852	0.7943	0.7745	0.8072	0.8128	0.8091	0.8072	0.5848	0.7998

LTE Band 41 CA (GT - LC = 4.00 dB) 16QAM									
Bandwidth	10M + 20M			20M + 10M			15M + 20M		
Channel PCC	39705	40526	41346	39750	40571	41391	39728	40523	41319
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39849	40670	41490	39894	40715	41535	39899	40694	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	24.88	24.94	24.87	24.84	24.69	24.77	25.13	25.14	25.16
Conducted Power (Watts)	0.3076	0.3119	0.3069	0.3048	0.2944	0.2999	0.3258	0.3266	0.3281
EIRP(dBm)	28.88	28.94	28.87	28.84	28.69	28.77	29.13	29.14	29.16
EIRP(Watts)	0.7727	0.7834	0.7709	0.7656	0.7396	0.7534	0.8185	0.8204	0.8241



LTE Band 41 CA (GT - LC = 4.00 dB) 16QAM						
Bandwidth	20M+15M			20M+20M		
Channel PCC	39750	40546	41341	39750	40521	41292
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39921	40717	41512	39948	40719	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	25.12	24.88	25.06	24.79	24.82	24.85
Conducted Power (Watts)	0.3251	0.3076	0.3206	0.3013	0.3034	0.3055
EIRP(dBm)	29.12	28.88	29.06	28.79	28.82	28.85
EIRP(Watts)	0.8166	0.7727	0.8054	0.7568	0.7621	0.7674

LTE Band 41 CA (GT - LC = 4.00 dB) 16QAM						
Bandwidth	15M+10M			10M+15M		
Channel PCC	39725	40571	41417	39703	40549	41395
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39845	40691	41537	39823	40669	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	24.81	24.85	24.86	24.85	24.91	24.83
Conducted Power (Watts)	0.3027	0.3055	0.3062	0.3055	0.3097	0.3041
EIRP(dBm)	28.81	28.85	28.86	28.85	28.91	28.83
EIRP(Watts)	0.7603	0.7674	0.7691	0.7674	0.7780	0.7638

LTE Band 41 CA (GT - LC = 4.00 dB) 64QAM									
Bandwidth	15M + 15M			5M + 20M			20M + 5M		
Channel PCC	39725	40545	41365	39683	40528	41373	39750	40595	41440
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39875	40695	41515	39800	40645	41490	39867	40712	41557
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.49	23.52	23.50	23.66	23.47	23.75	23.69	23.65	23.62
Conducted Power (Watts)	0.2234	0.2249	0.2239	0.2323	0.2223	0.2371	0.2339	0.2317	0.2301
EIRP(dBm)	27.49	27.52	27.50	27.66	27.47	27.75	27.69	27.65	27.62
EIRP(Watts)	0.5610	0.5649	0.5623	0.5834	0.5585	0.5957	0.5875	0.5821	0.5781

LTE Band 41 CA (GT - LC = 4.00 dB) 64QAM									
Bandwidth	10M + 20M			20M + 10M			15M + 20M		
Channel PCC	39705	40526	41346	39750	40571	41391	39728	40523	41319
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39849	40670	41490	39894	40715	41535	39899	40694	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.62	24.94	23.67	23.65	23.60	23.60	23.67	23.65	23.66
Conducted Power (Watts)	0.2301	0.3119	0.2328	0.2317	0.2291	0.2291	0.2328	0.2317	0.2323
EIRP(dBm)	27.62	28.94	27.67	27.65	27.60	27.60	27.67	27.65	27.66
EIRP(Watts)	0.5781	0.7834	0.5848	0.5821	0.5754	0.5754	0.5848	0.5821	0.5834



LTE Band 41 CA (GT - LC = 4.00 dB) 64QAM						
Bandwidth	20M+15M			20M+20M		
Channel PCC	39750	40546	41341	39750	40521	41292
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39921	40717	41512	39948	40719	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.67	23.57	23.60	23.39	23.39	23.45
Conducted Power (Watts)	0.2328	0.2275	0.2291	0.2183	0.2183	0.2213
EIRP(dBm)	27.67	27.57	27.60	27.39	27.39	27.45
EIRP(Watts)	0.5848	0.5715	0.5754	0.5483	0.5483	0.5559

LTE Band 41 CA (GT - LC = 4.00 dB) 64QAM						
Bandwidth	15M+10M			10M+15M		
Channel PCC	39725	40571	41417	39703	40549	41395
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39845	40691	41537	39823	40669	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.48	23.49	23.46	23.48	23.55	23.53
Conducted Power (Watts)	0.2228	0.2234	0.2218	0.2228	0.2265	0.2254
EIRP(dBm)	27.48	27.49	27.46	27.48	27.55	27.53
EIRP(Watts)	0.5598	0.5610	0.5572	0.5598	0.5689	0.5662



LTE Band 41C

26dB Bandwidth

Mode	LTE Band 41C : 26dB BW(MHz)				
QPSK					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	24.83	25.28	30.15	24.98	30.51
Middle CH	24.93	25.28	30.03	25.08	30.51
Highest CH	24.93	25.23	29.91	25.23	30.51
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	34.90	24.98	29.91	35.04	39.88
Middle CH	35.18	24.88	29.97	34.90	39.96
Highest CH	34.97	25.03	30.03	34.97	39.80

Mode	LTE Band 41C : 26dB BW(MHz)				
16QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	24.78	25.18	29.91	25.08	30.45
Middle CH	24.88	25.28	29.85	25.13	30.45
Highest CH	24.83	25.23	29.97	25.08	30.45
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	34.97	24.83	30.09	34.90	39.88
Middle CH	35.04	24.88	29.91	34.83	39.80
Highest CH	34.76	24.93	29.97	35.04	39.96

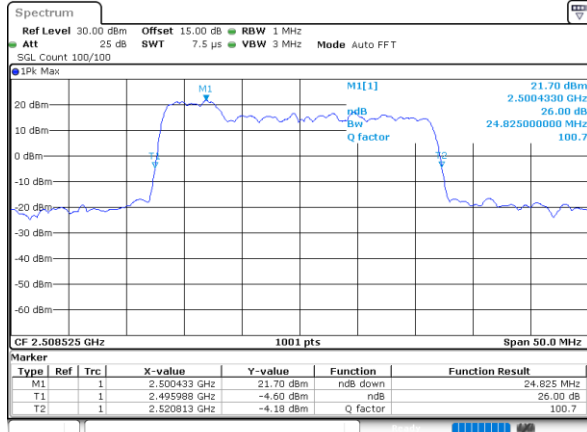
Mode	LTE Band 41C : 26dB BW(MHz)				
64QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	24.78	25.28	30.09	24.98	30.51
Middle CH	24.88	25.18	30.09	25.18	30.45
Highest CH	24.78	25.23	29.91	25.08	30.45
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	34.97	24.93	30.03	34.90	39.88
Middle CH	34.90	24.93	29.97	34.83	39.96
Highest CH	34.97	24.78	29.97	35.04	39.88



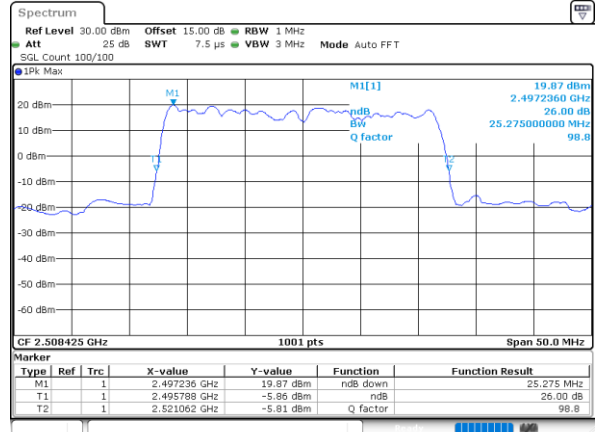
LTE Band 41C

QPSK

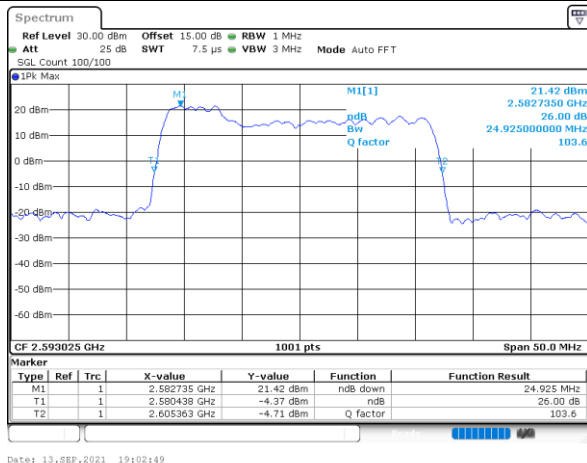
Lowest Channel / 5MHz+20MHz



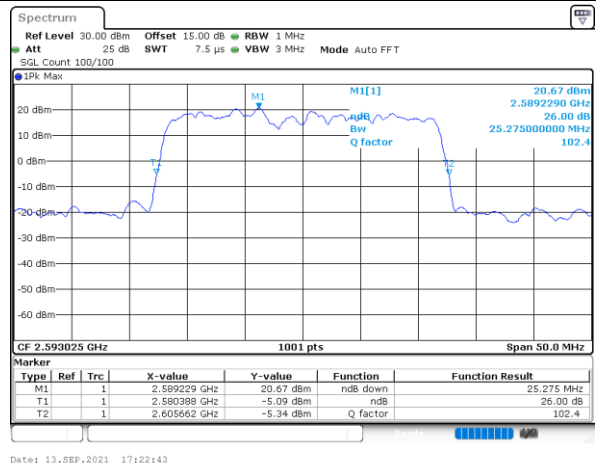
Lowest Channel / 10MHz+15MHz



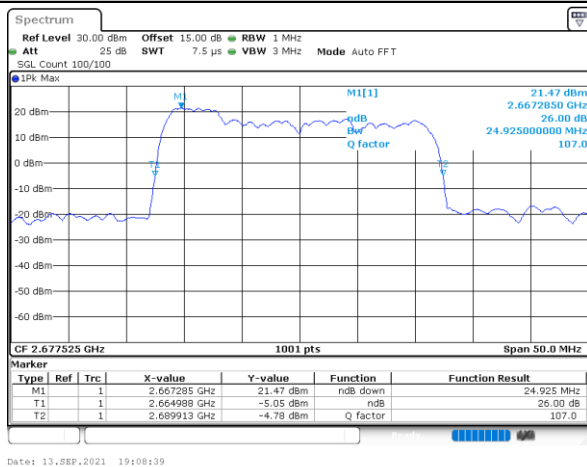
Middle Channel / 5MHz+20MHz



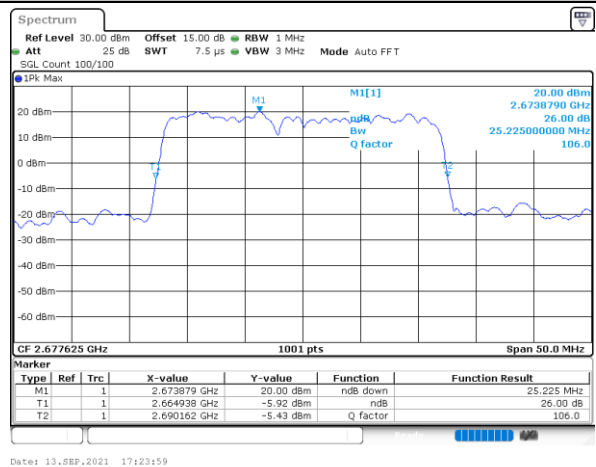
Middle Channel / 10MHz+15MHz



Highest Channel / 5MHz+20MHz



Highest Channel / 10MHz+15MHz

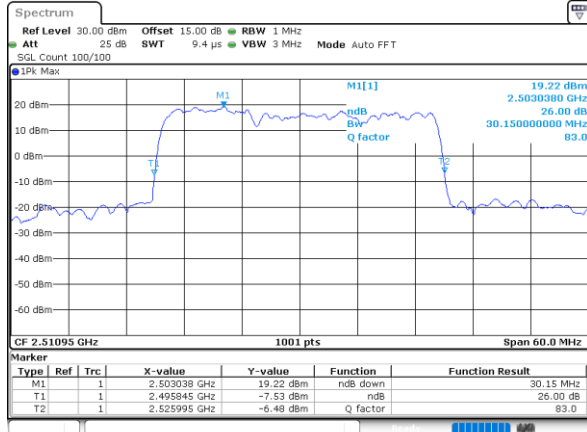




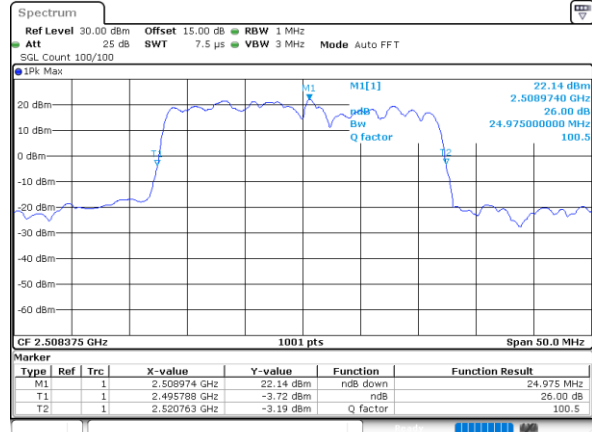
LTE Band 41C

QPSK

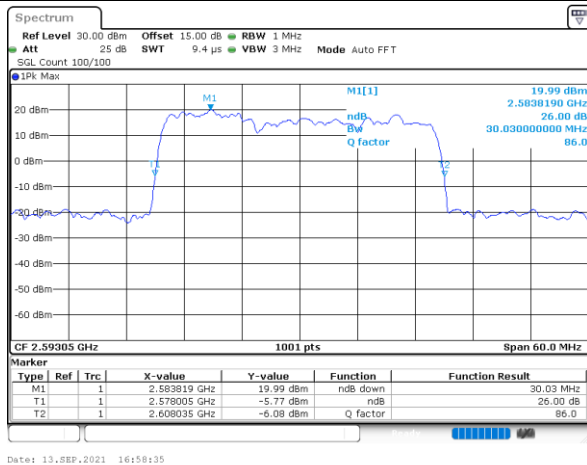
Lowest Channel / 10MHz+20MHz



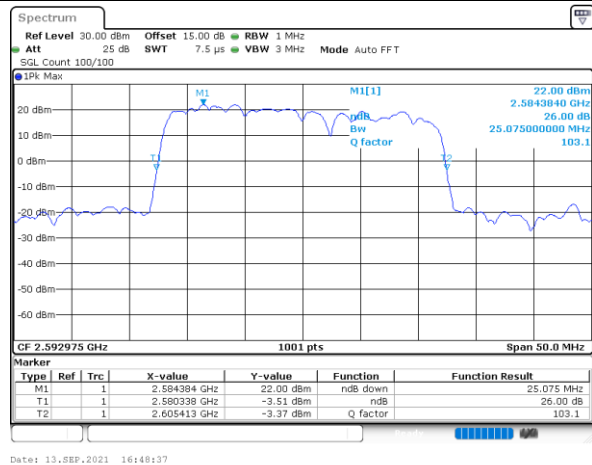
Lowest Channel / 15MHz+10MHz



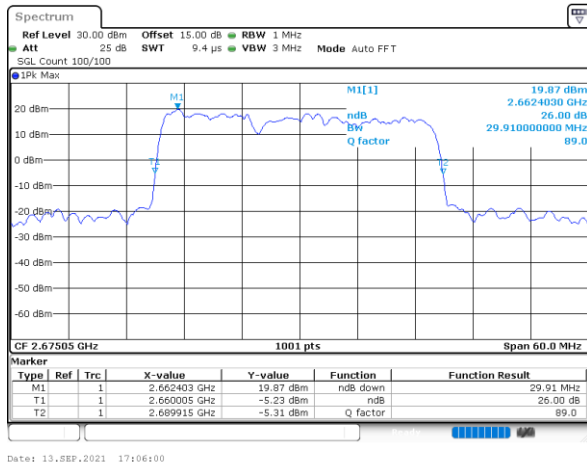
Middle Channel / 10MHz+20MHz



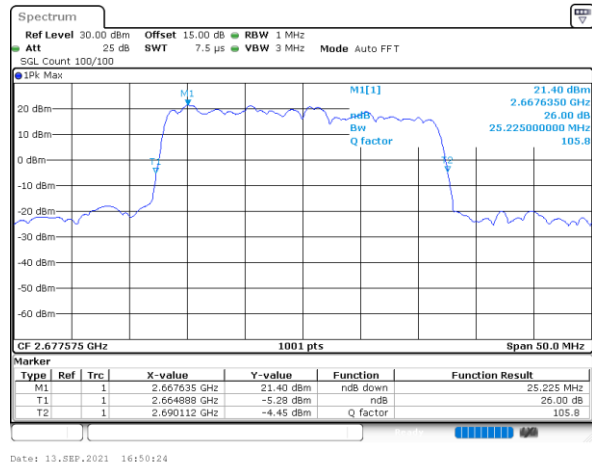
Middle Channel / 15MHz+10MHz



Highest Channel / 10MHz+20MHz



Highest Channel / 15MHz+10MHz

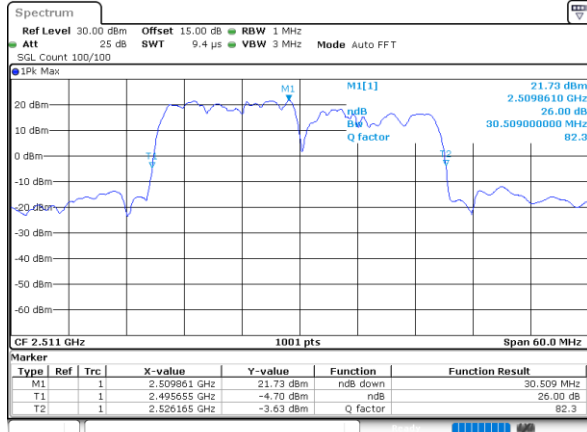




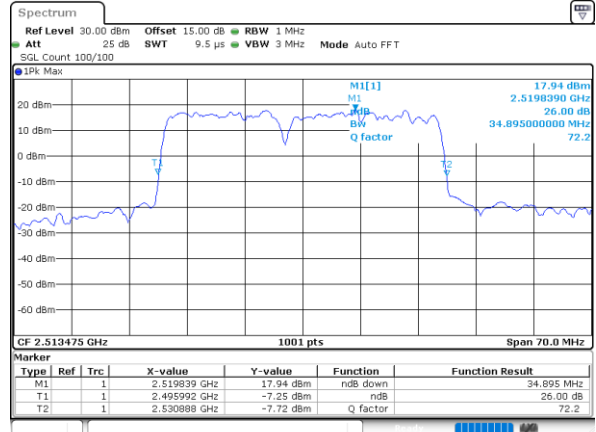
LTE Band 41C

QPSK

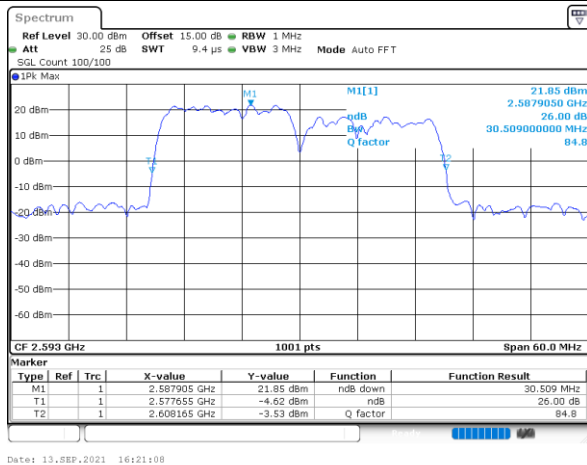
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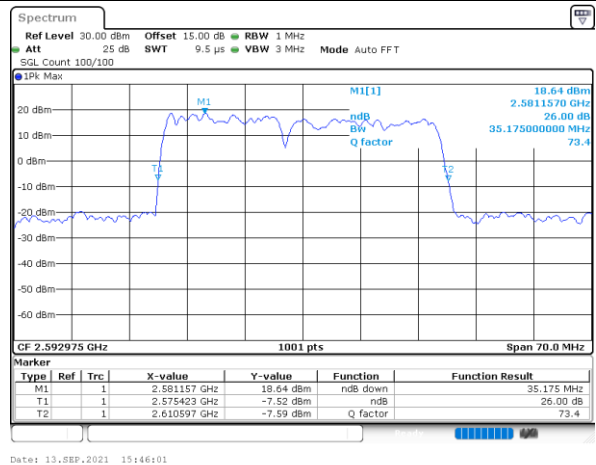
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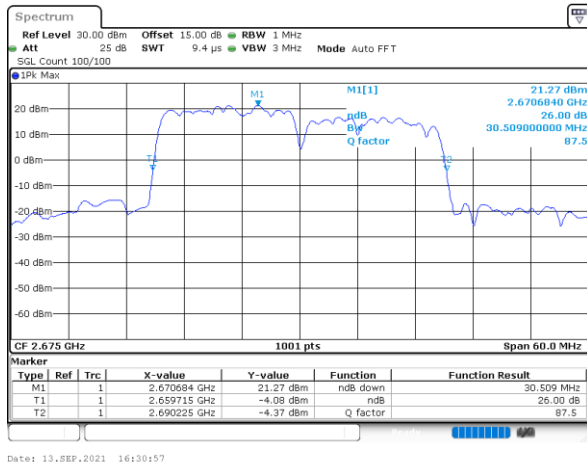
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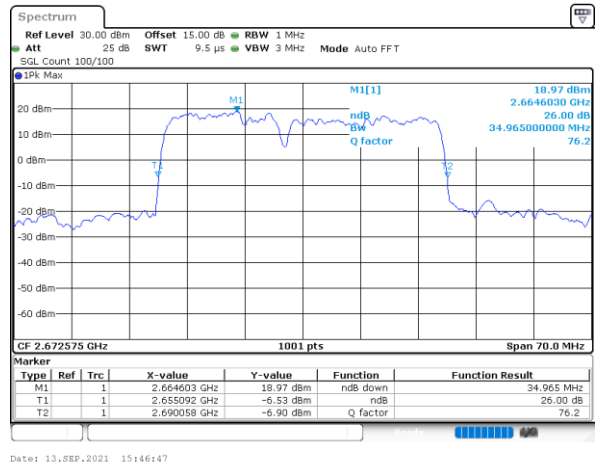
Middle Channel / 15MHz+20MHz



Highest Channel / 15MHz+15MHz



Highest Channel / 15MHz+20MHz

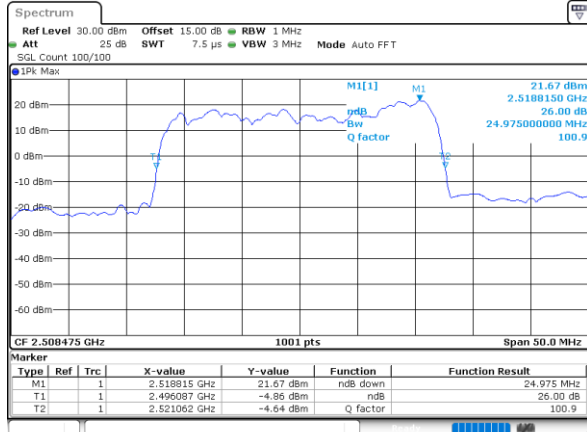




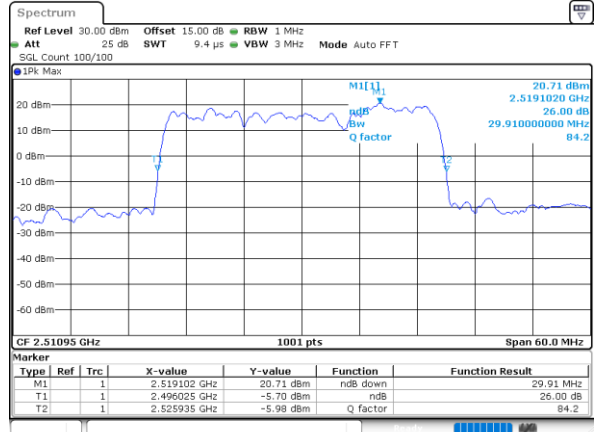
LTE Band 41C

QPSK

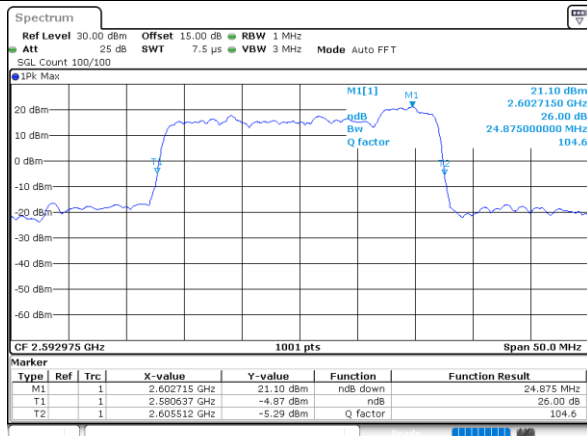
Lowest Channel / 20MHz+5MHz



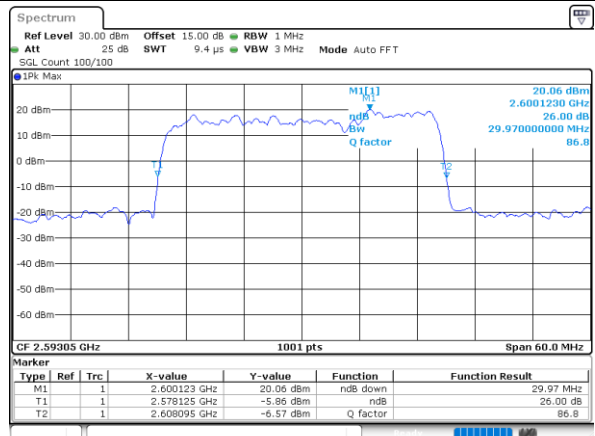
Lowest Channel / 20MHz+10MHz



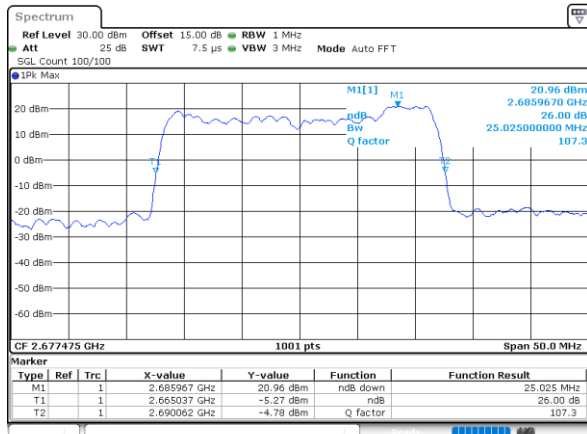
Middle Channel / 20MHz+5MHz



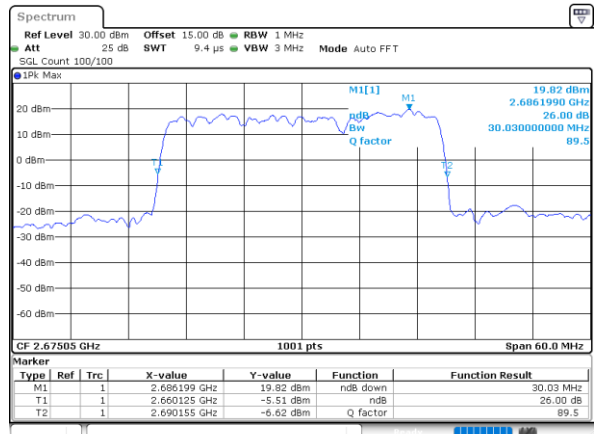
Middle Channel / 20MHz+10MHz



Highest Channel / 20MHz+5MHz



Highest Channel / 20MHz+10MHz

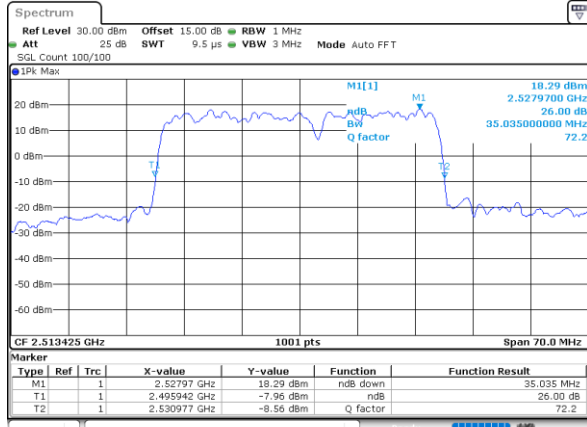




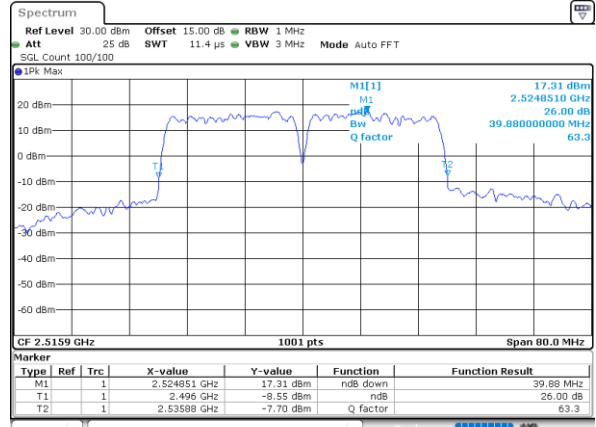
LTE Band 41C

QPSK

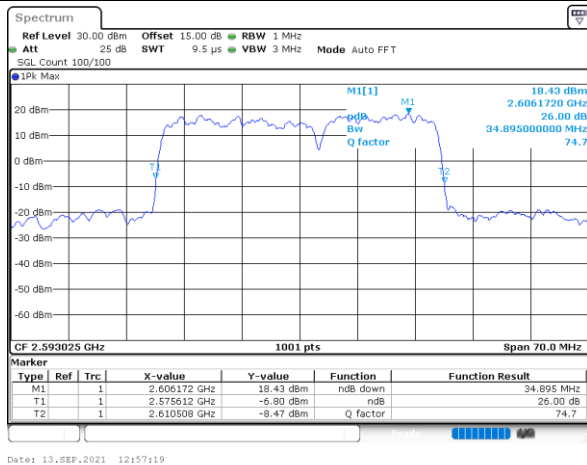
Lowest Channel / 20MHz+15MHz



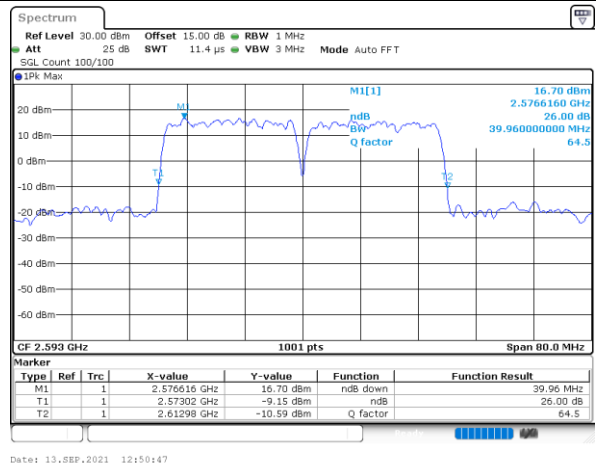
Lowest Channel / 20MHz+20MHz



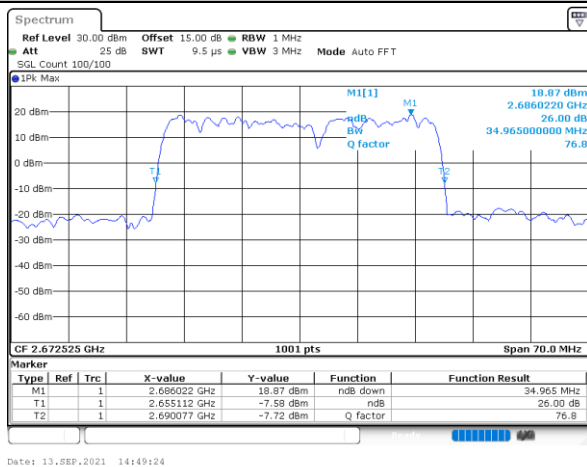
Middle Channel / 20MHz+15MHz



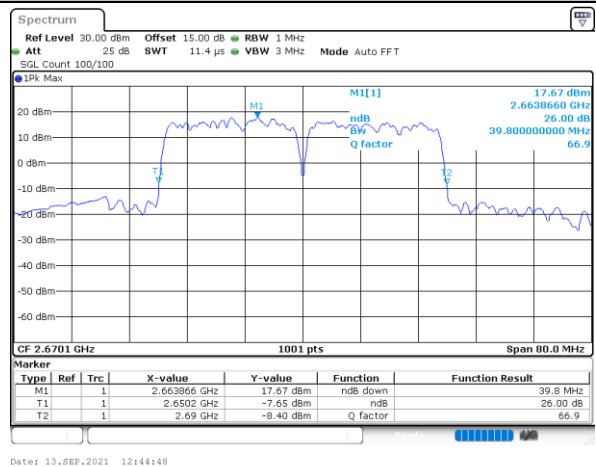
Middle Channel / 20MHz+20MHz



Highest Channel / 20MHz+15MHz



Highest Channel / 20MHz+20MHz

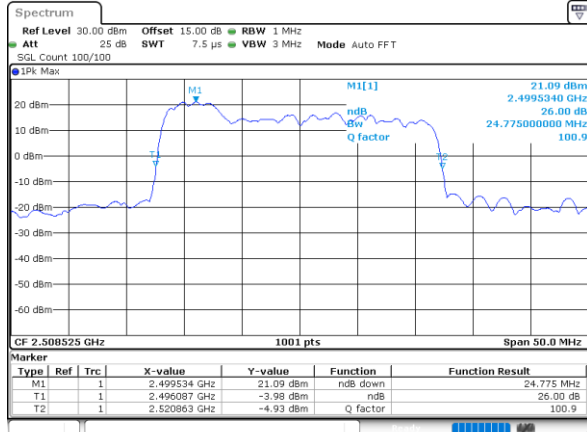




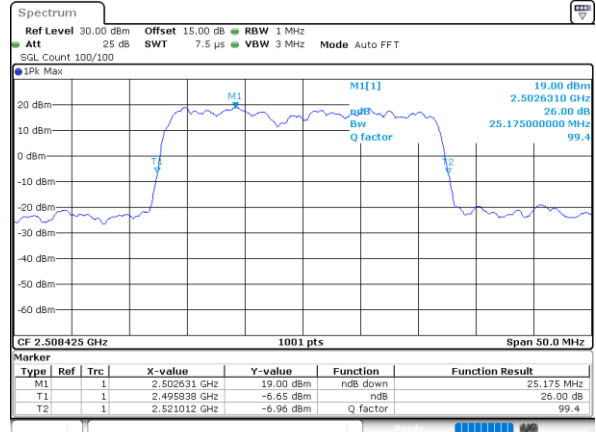
LTE Band 41C

16QAM

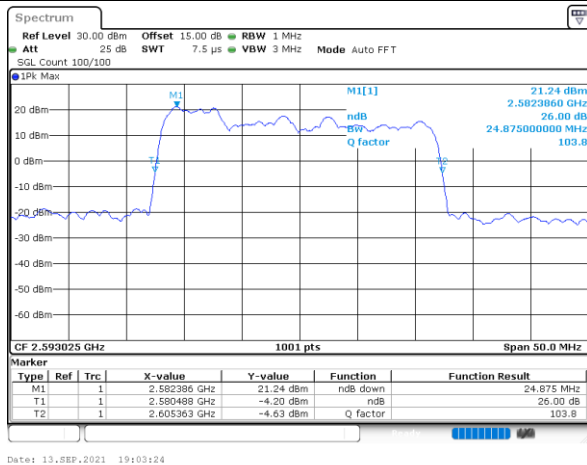
Lowest Channel / 5MHz+20MHz



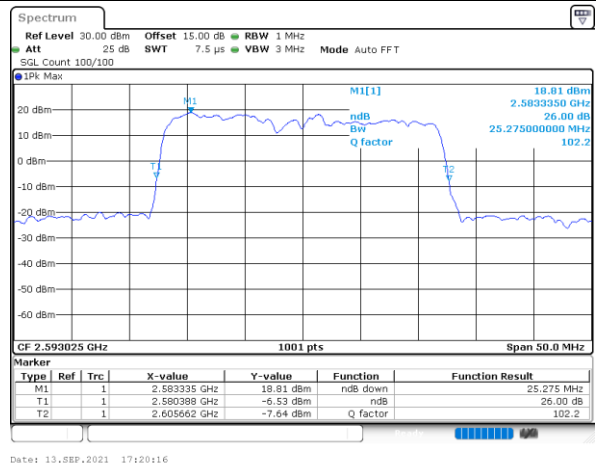
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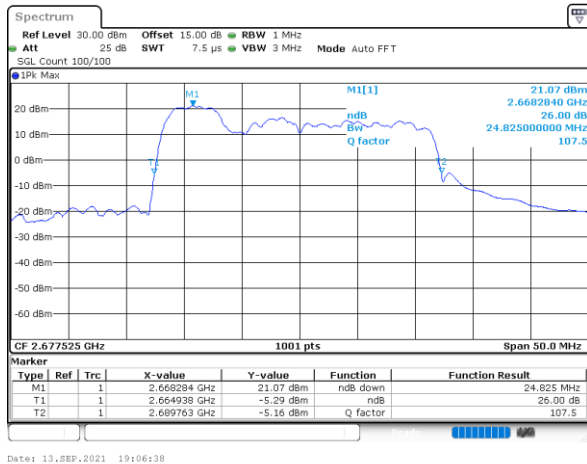
Middle Channel / 5MHz+20MHz



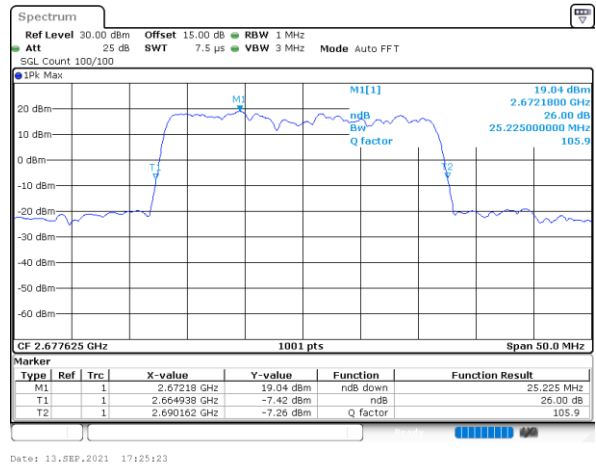
Middle Channel / 10MHz+15MHz



Highest Channel / 5MHz+20MHz



Highest Channel / 10MHz+15MHz

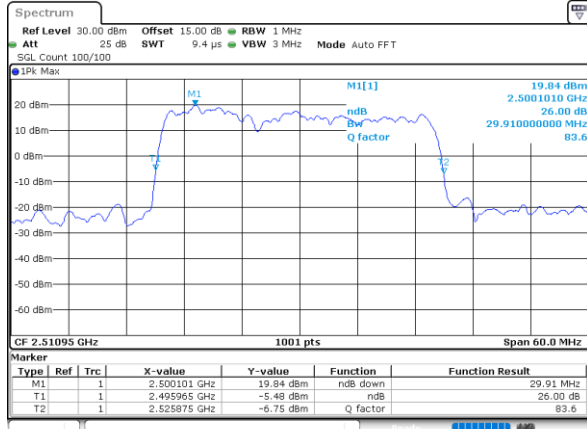




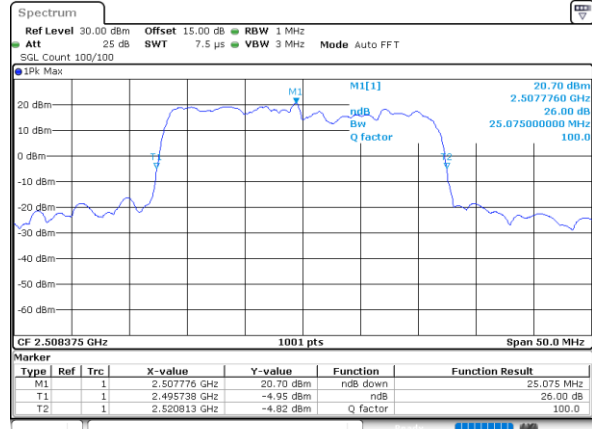
LTE Band 41C

16QAM

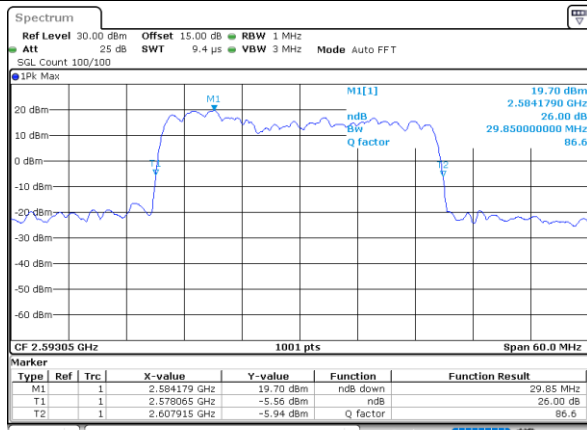
Lowest Channel / 10MHz+20MHz



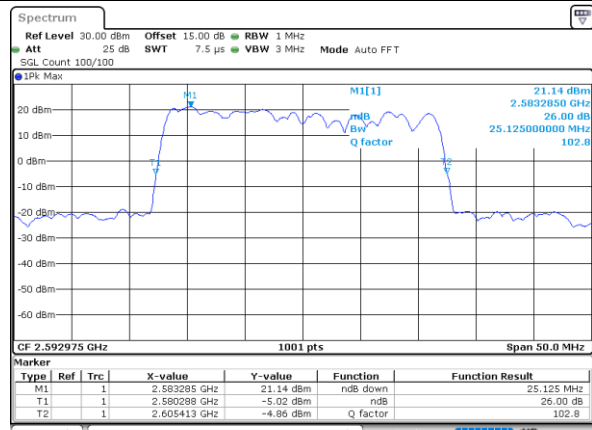
Lowest Channel / 15MHz+10MHz



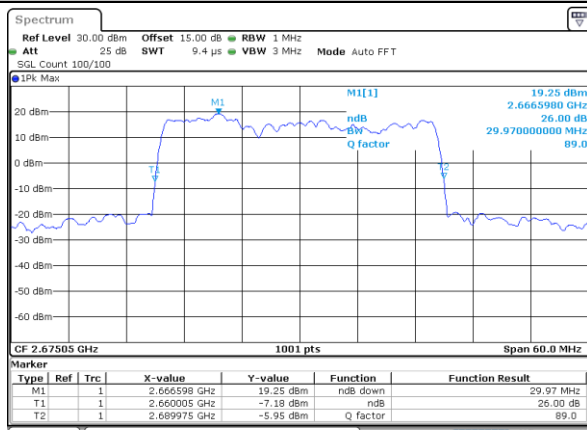
Middle Channel / 10MHz+20MHz



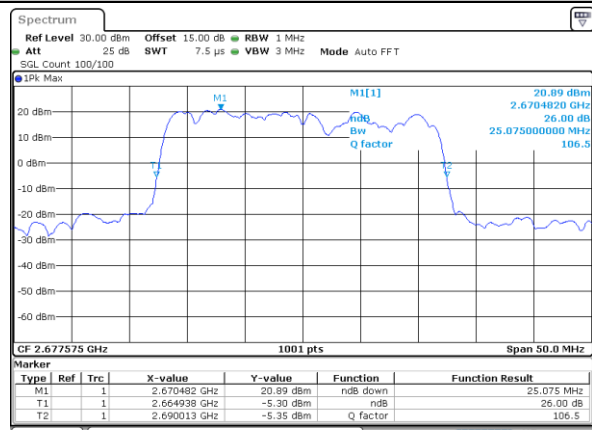
Middle Channel / 15MHz+10MHz



Highest Channel / 10MHz+20MHz



Highest Channel / 15MHz+10MHz

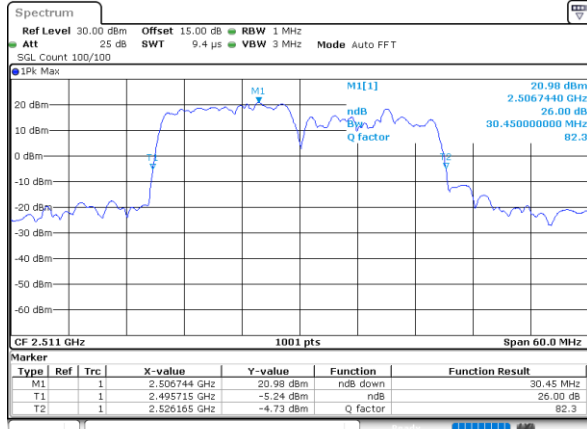




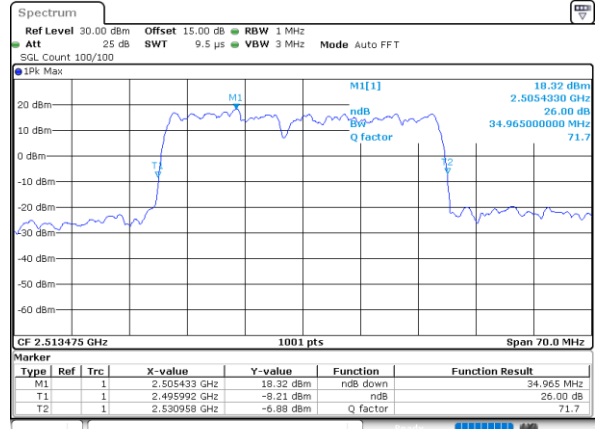
LTE Band 41C

16QAM

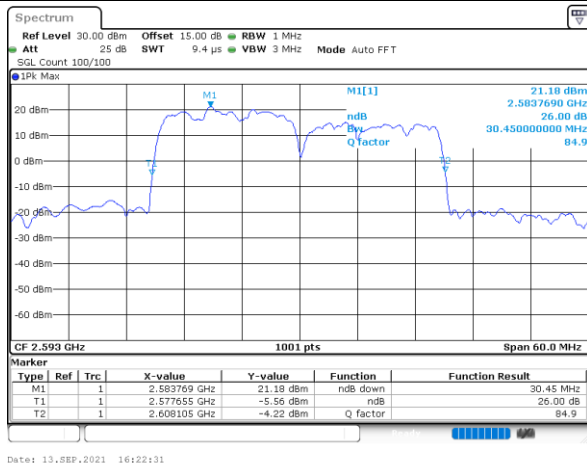
Lowest Channel / 15MHz+15MHz



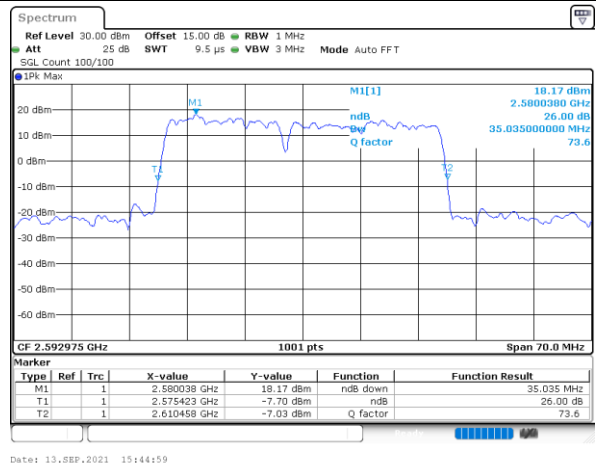
Lowest Channel / 15MHz+20MHz



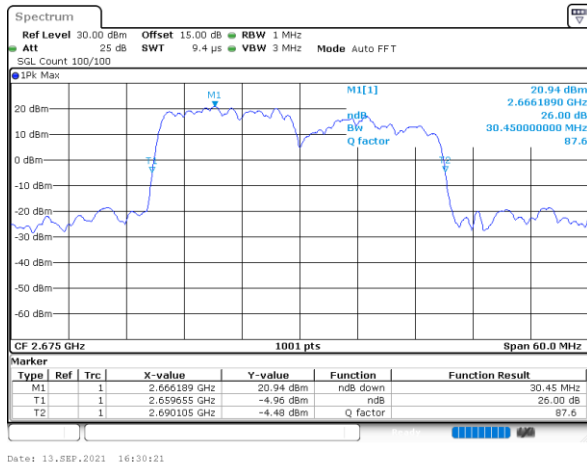
Middle Channel / 15MHz+15MHz



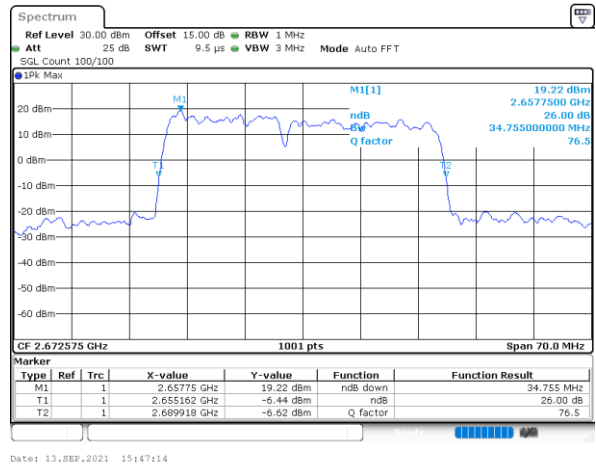
Middle Channel / 15MHz+20MHz



Highest Channel / 15MHz+15MHz



Highest Channel / 15MHz+20MHz

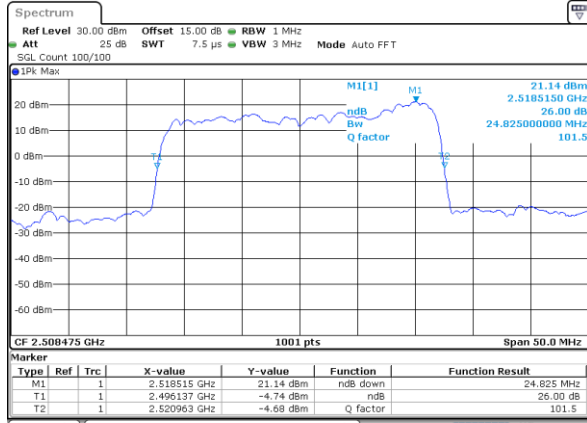




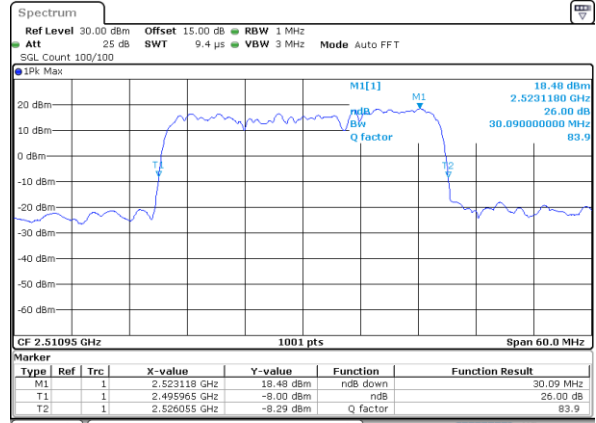
LTE Band 41C

16QAM

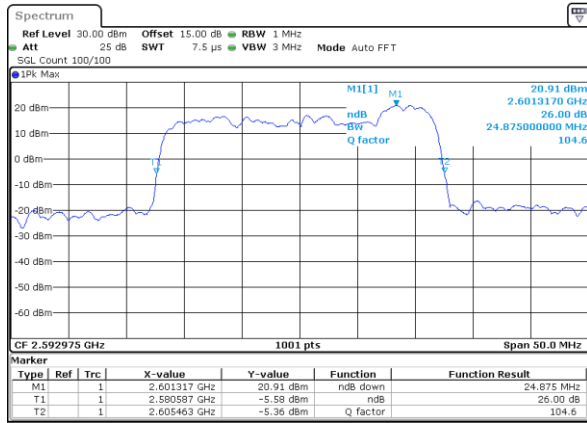
Lowest Channel / 20MHz+5MHz



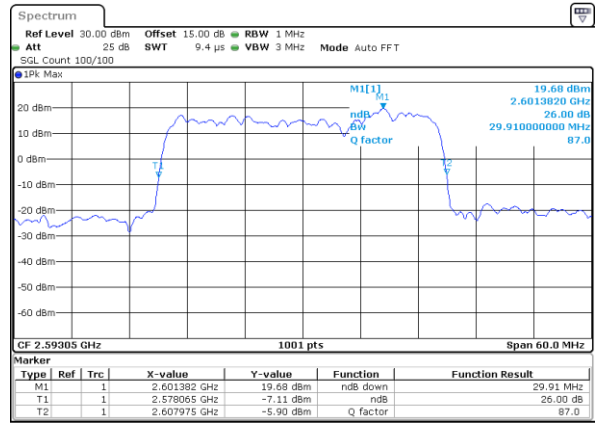
Lowest Channel / 20MHz+10MHz



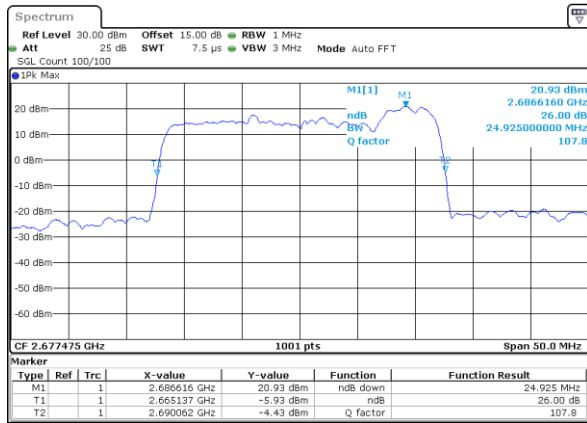
Middle Channel / 20MHz+5MHz



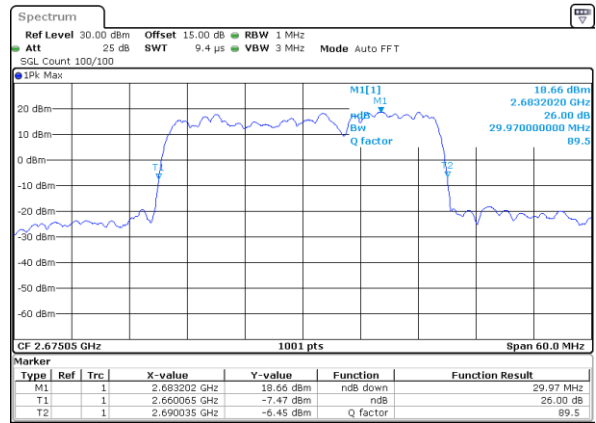
Middle Channel / 20MHz+10MHz



Highest Channel / 20MHz+5MHz



Highest Channel / 20MHz+10MHz

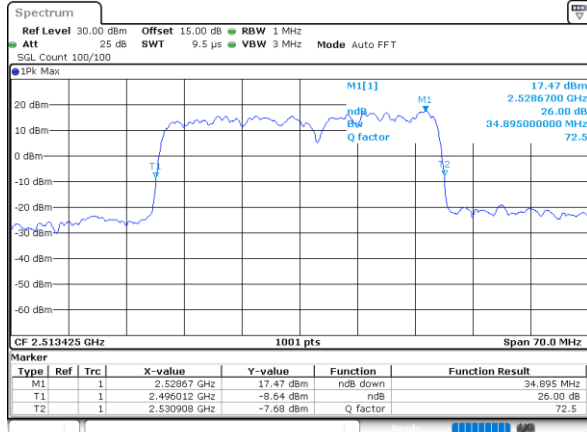




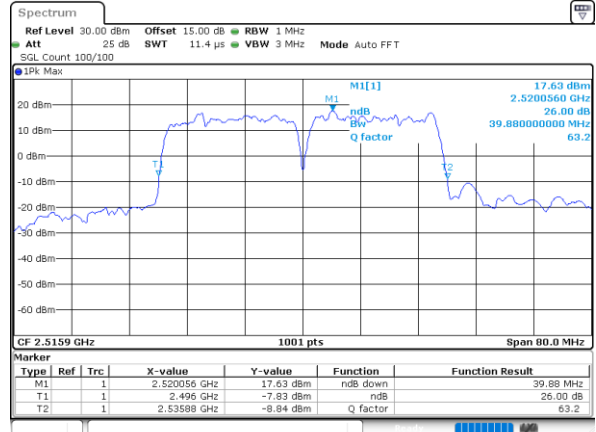
LTE Band 41C

16QAM

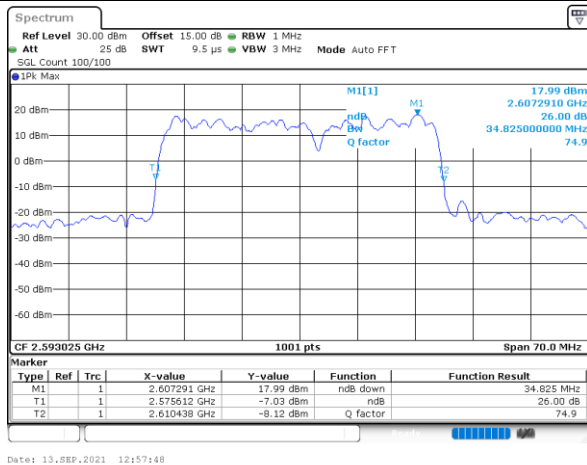
Lowest Channel / 20MHz+15MHz



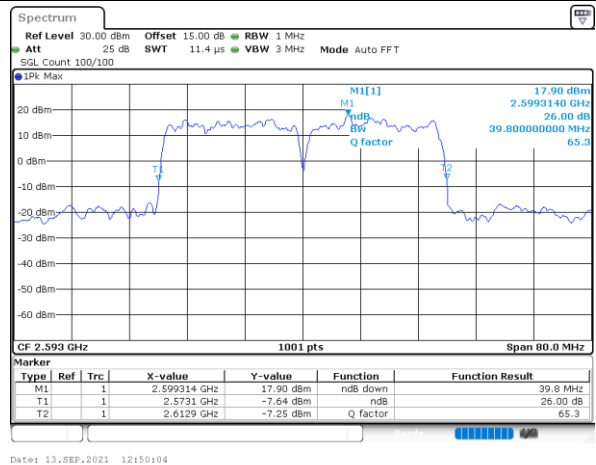
Lowest Channel / 20MHz+20MHz



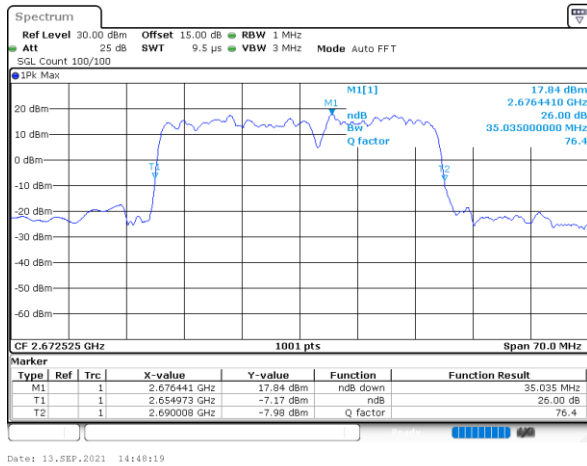
Middle Channel / 20MHz+15MHz



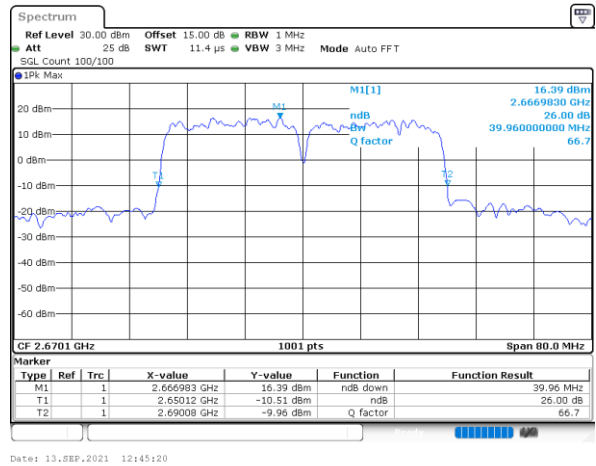
Middle Channel / 20MHz+20MHz



Highest Channel / 20MHz+15MHz



Highest Channel / 20MHz+20MHz

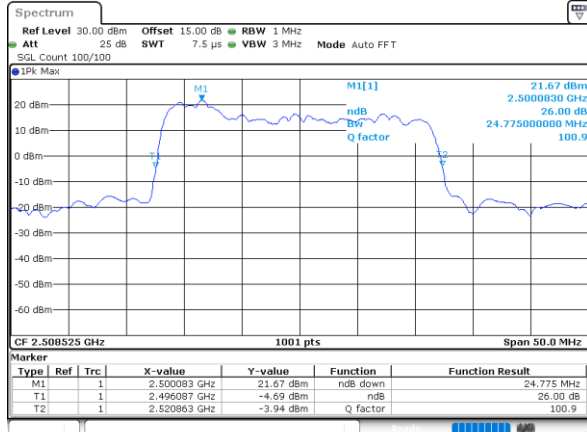




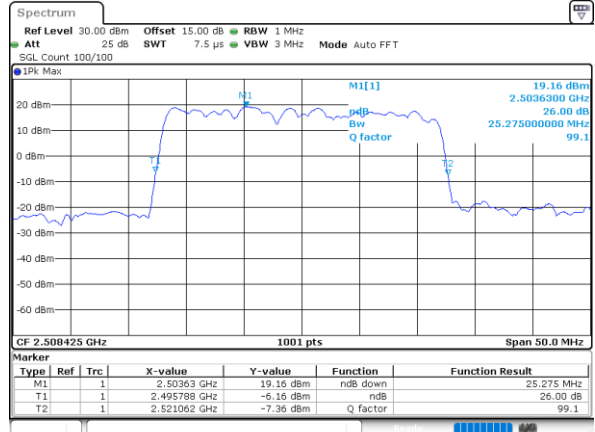
LTE Band 41C

64QAM

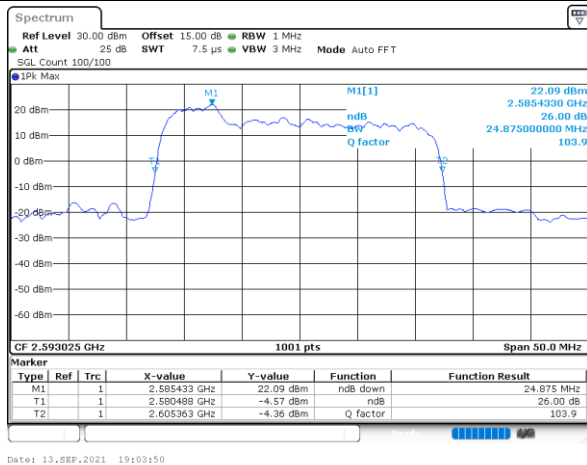
Lowest Channel / 5MHz+20MHz



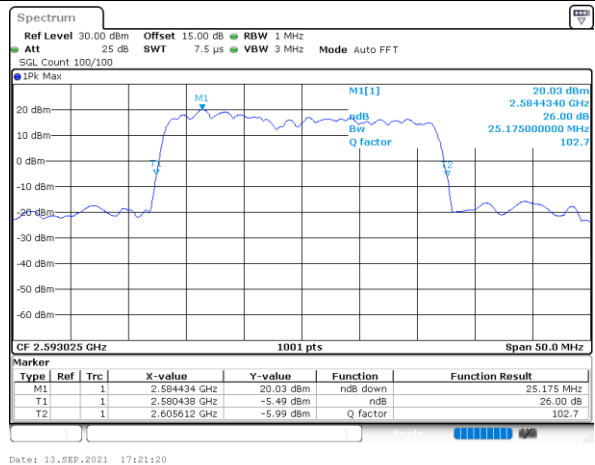
Lowest Channel / 10MHz+15MHz



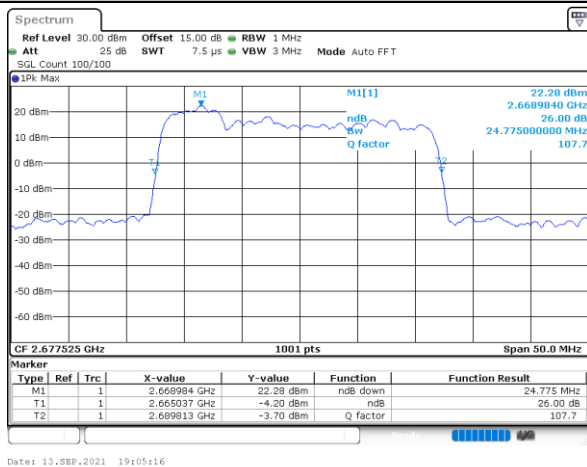
Middle Channel / 5MHz+20MHz



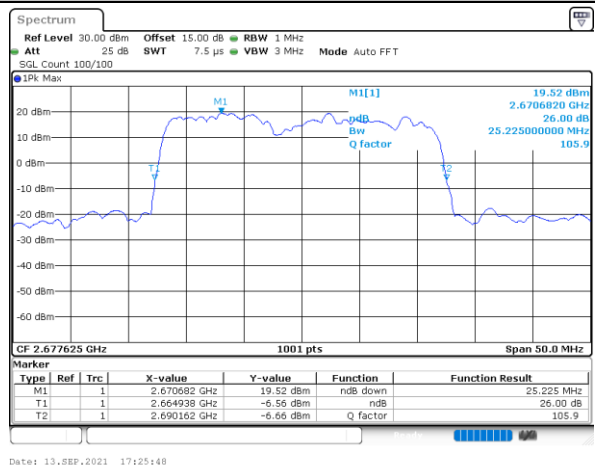
Middle Channel / 10MHz+15MHz



Highest Channel / 5MHz+20MHz



Highest Channel / 10MHz+15MHz

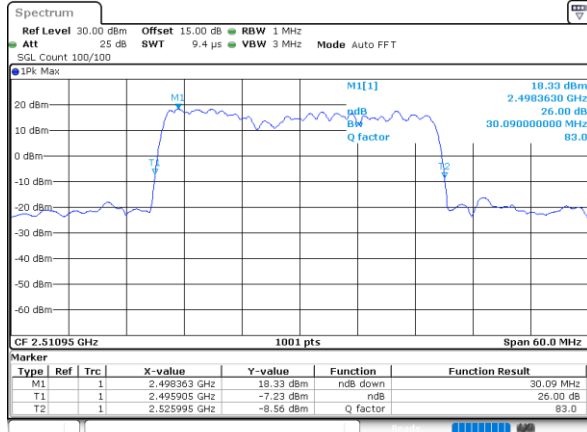




LTE Band 41C

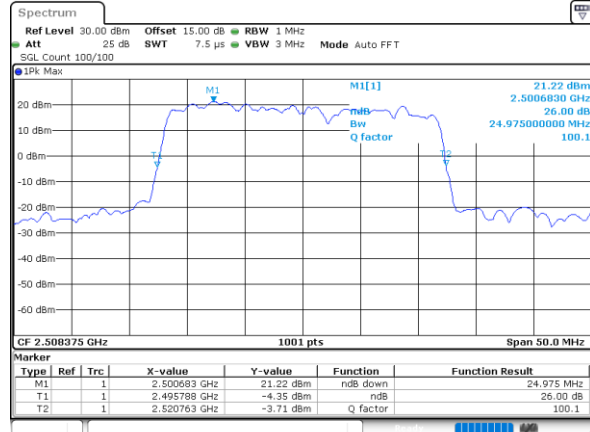
64QAM

Lowest Channel / 10MHz+20MHz



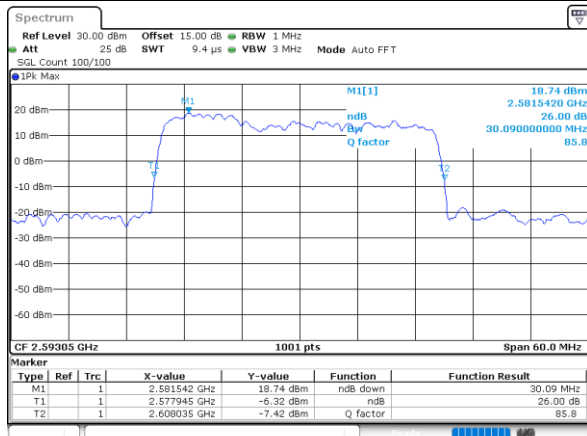
Date: 13,SEP,2021 16:55:28

Lowest Channel / 15MHz+10MHz



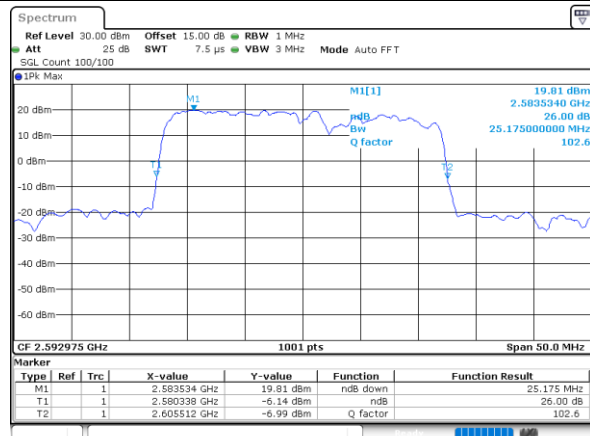
Date: 13,SEP,2021 16:43:20

Middle Channel / 10MHz+20MHz



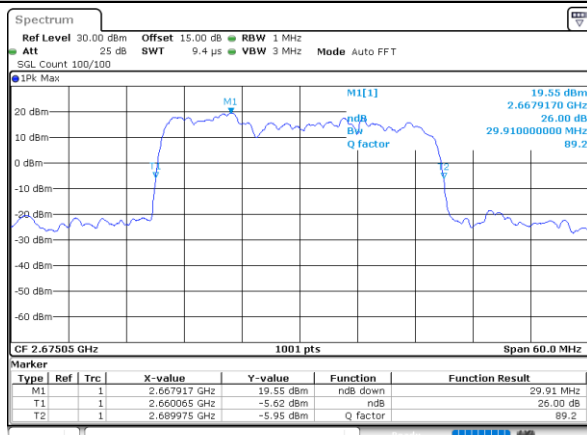
Date: 13,SEP,2021 16:59:33

Middle Channel / 15MHz+10MHz



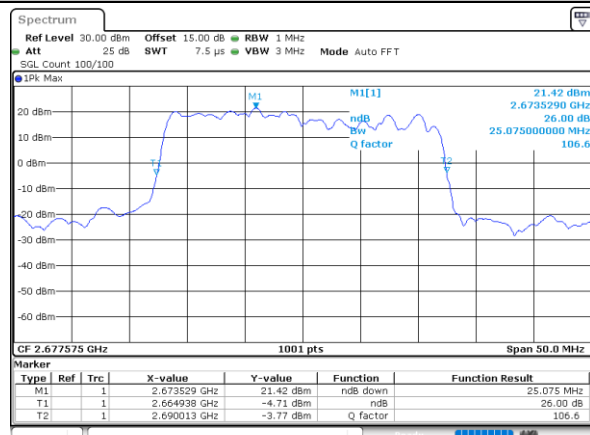
Date: 13,SEP,2021 16:46:19

Highest Channel / 10MHz+20MHz



Date: 13,SEP,2021 17:04:19

Highest Channel / 15MHz+10MHz



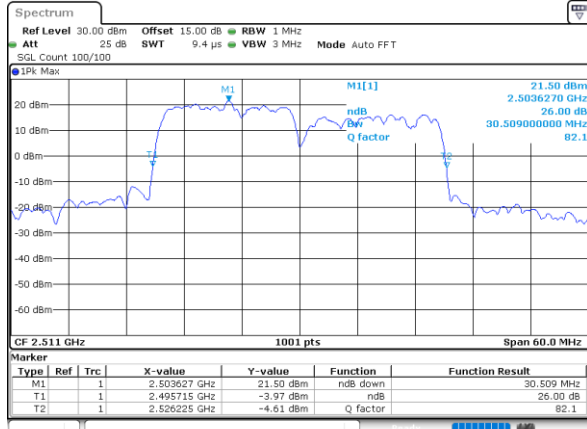
Date: 13,SEP,2021 16:52:20



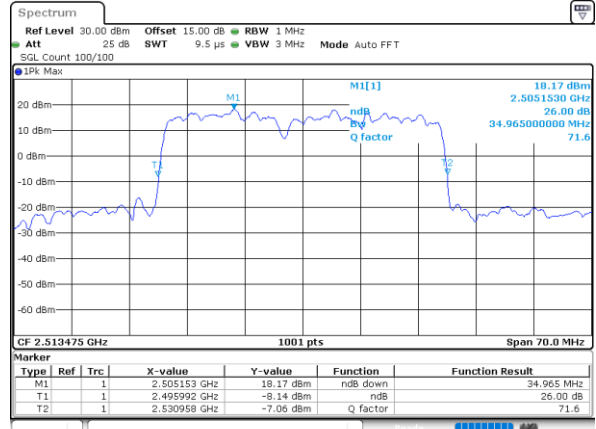
LTE Band 41C

64QAM

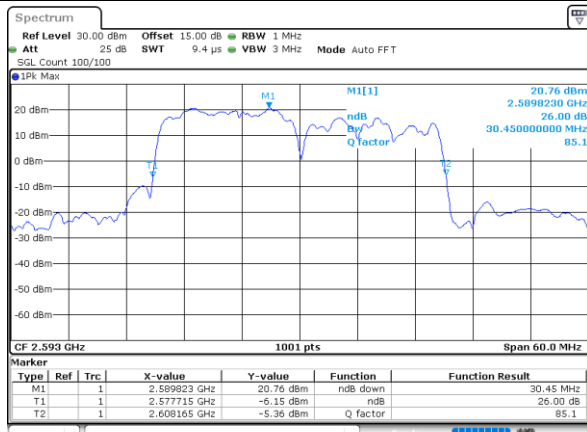
Lowest Channel / 15MHz+15MHz



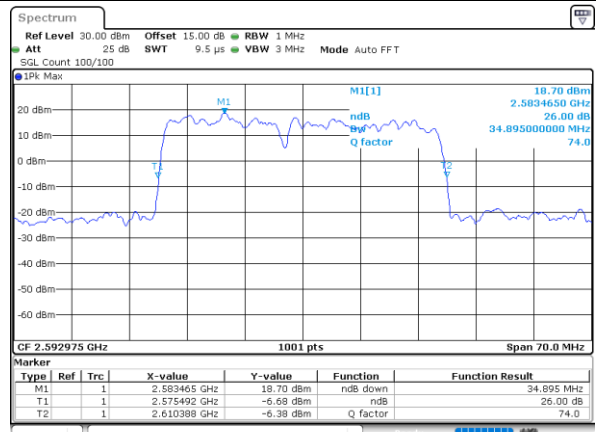
Lowest Channel / 15MHz+20MHz



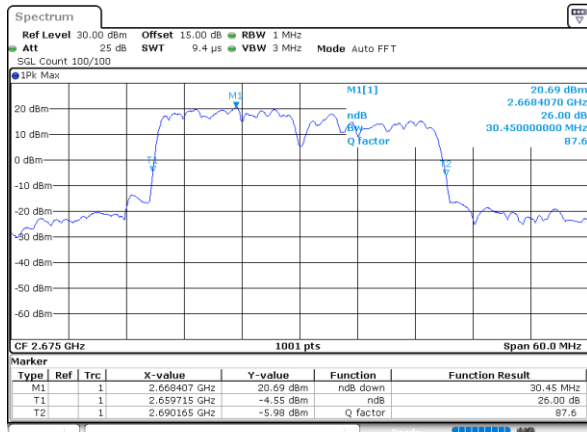
Middle Channel / 15MHz+15MHz



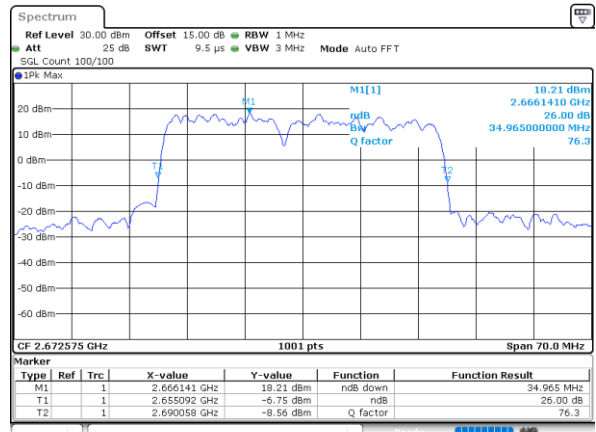
Middle Channel / 15MHz+20MHz



Highest Channel / 15MHz+15MHz



Highest Channel / 15MHz+20MHz

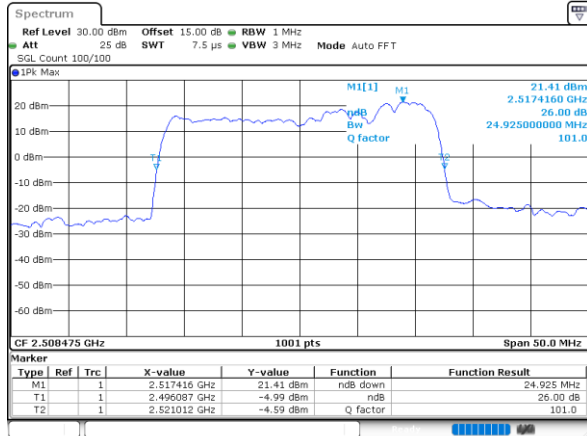




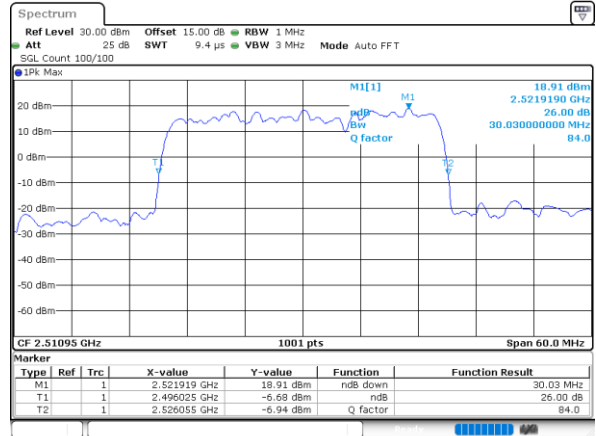
LTE Band 41C

64QAM

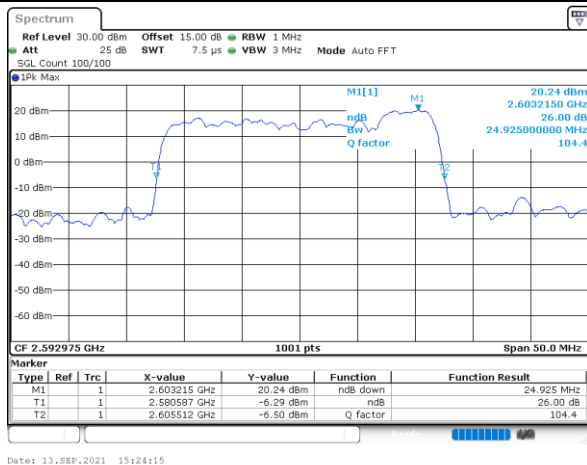
Lowest Channel / 20MHz+5MHz



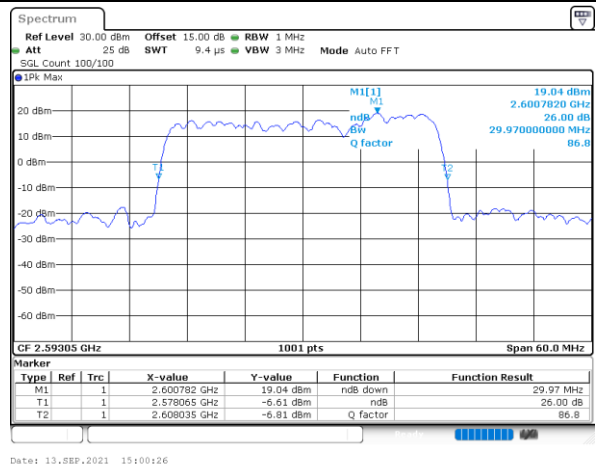
Lowest Channel / 20MHz+10MHz



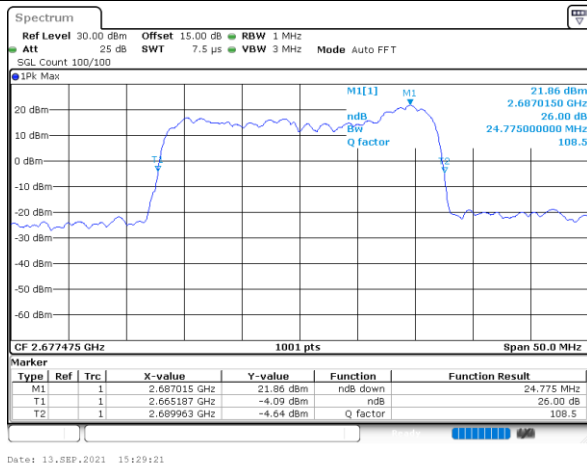
Middle Channel / 20MHz+5MHz



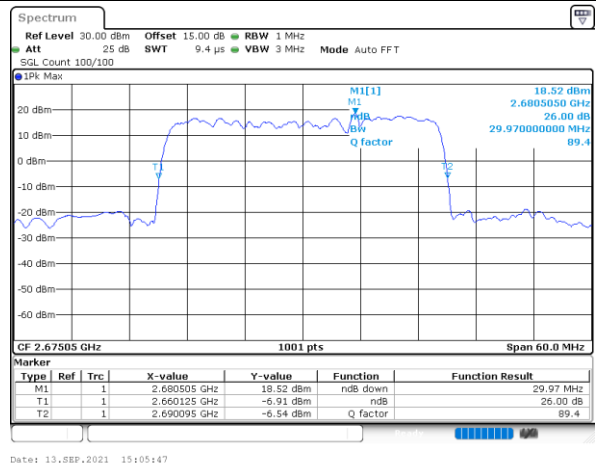
Middle Channel / 20MHz+10MHz



Highest Channel / 20MHz+5MHz



Highest Channel / 20MHz+10MHz

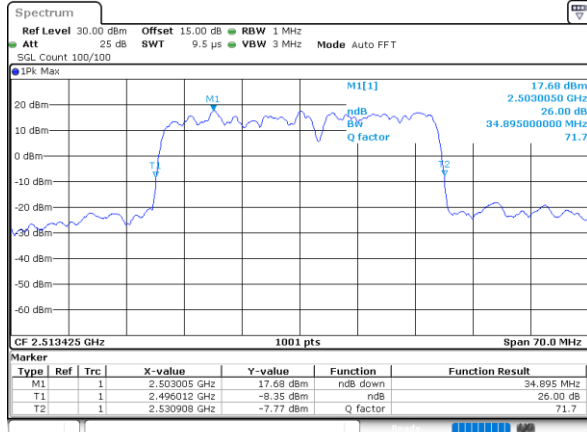




LTE Band 41C

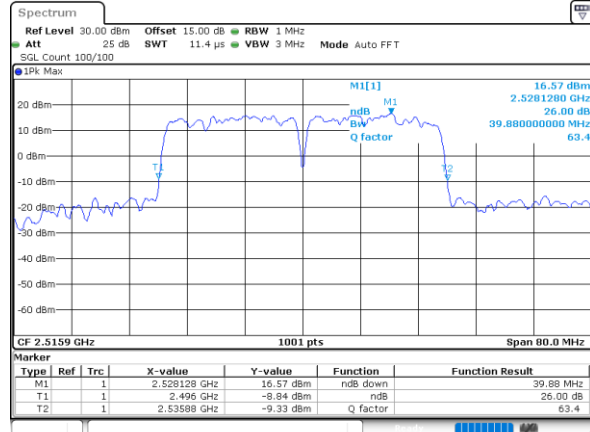
64QAM

Lowest Channel / 20MHz+15MHz



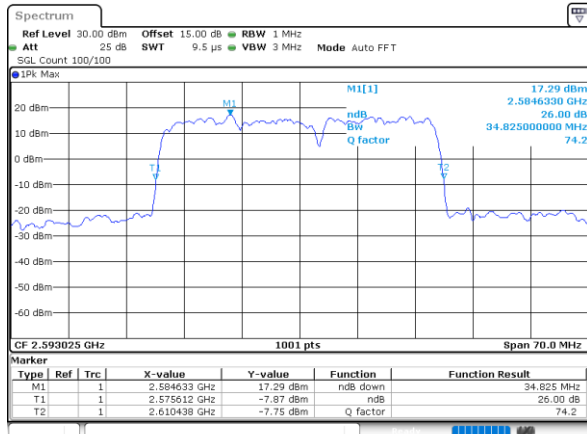
Date: 13,SEP,2021 12:55:35

Lowest Channel / 20MHz+20MHz



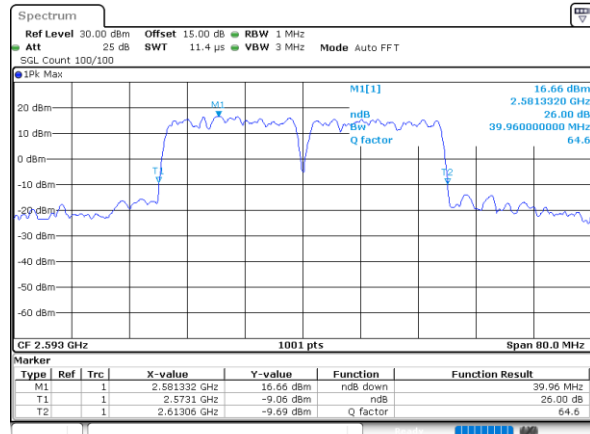
Date: 13,SEP,2021 12:52:36

Middle Channel / 20MHz+15MHz



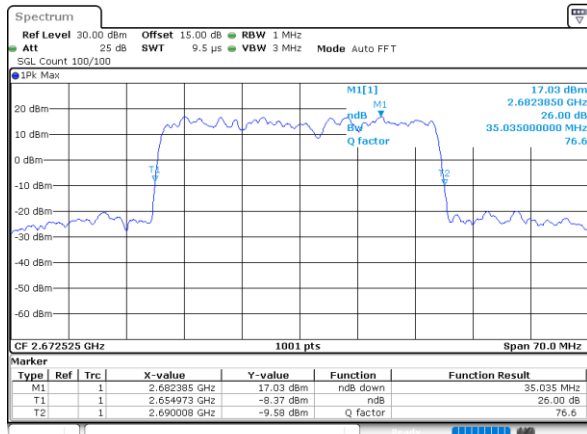
Date: 13,SEP,2021 12:58:14

Middle Channel / 20MHz+20MHz



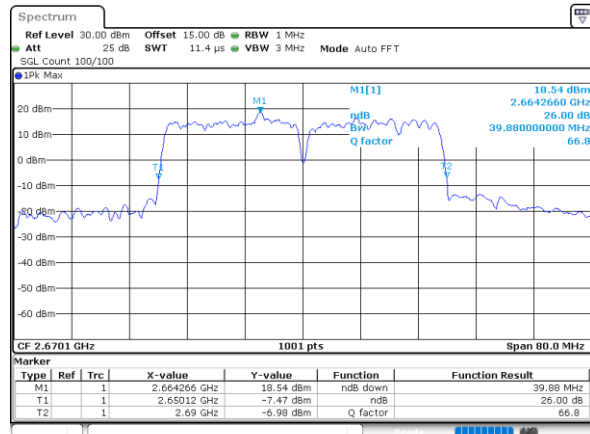
Date: 13,SEP,2021 12:49:35

Highest Channel / 20MHz+15MHz



Date: 13,SEP,2021 14:46:49

Highest Channel / 20MHz+20MHz



Date: 13,SEP,2021 12:46:37

**Occupied Bandwidth**

Mode	LTE Band 41C : 99%OBW(MHz)				
QPSK					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.38	23.63	27.87	23.53	28.47
Middle CH	23.18	23.23	28.05	23.43	28.47
Highest CH	23.23	23.43	27.99	23.53	28.41
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	33.01	23.38	27.93	32.94	37.64
Middle CH	32.87	23.18	28.17	32.80	37.96
Highest CH	32.80	23.28	27.87	32.80	37.80

Mode	LTE Band 41C : 99%OBW(MHz)				
16QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.13	23.43	27.99	23.13	28.41
Middle CH	23.33	23.48	27.93	23.68	28.41
Highest CH	23.28	23.63	27.99	23.43	28.41
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.80	23.28	27.99	32.80	37.80
Middle CH	32.59	23.23	27.93	32.80	37.72
Highest CH	33.08	23.18	27.93	32.66	37.88

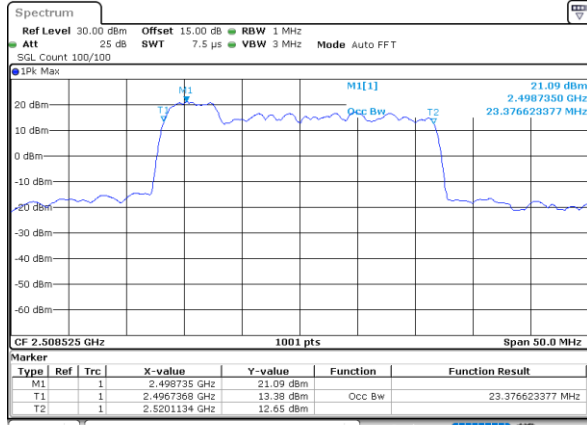
Mode	LTE Band 41C : 99%OBW(MHz)				
64QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.18	23.43	27.99	23.48	28.47
Middle CH	23.23	23.53	28.05	23.53	28.71
Highest CH	23.13	23.33	27.93	23.08	28.47
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.66	23.13	28.17	32.87	37.72
Middle CH	32.87	23.28	28.05	32.80	37.72
Highest CH	32.80	23.13	27.81	32.73	37.48



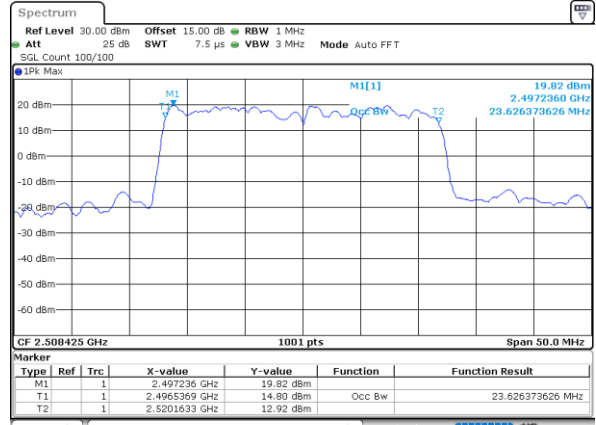
LTE Band 41C

QPSK

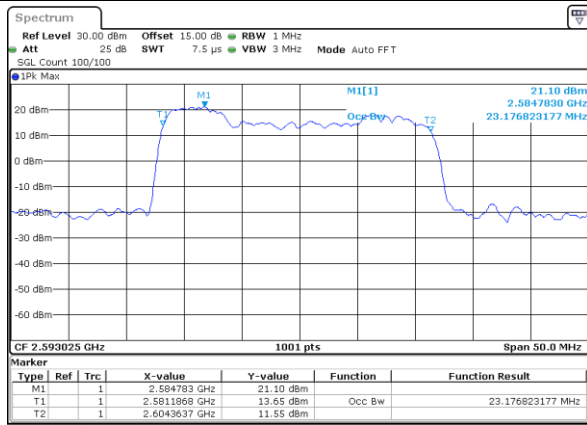
Lowest Channel / 5MHz+20MHz



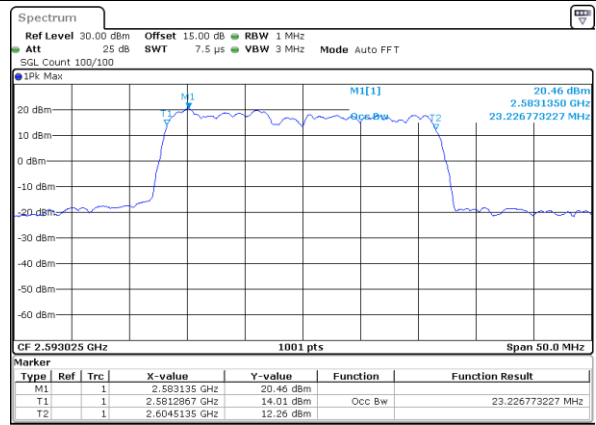
Lowest Channel / 10MHz+15MHz



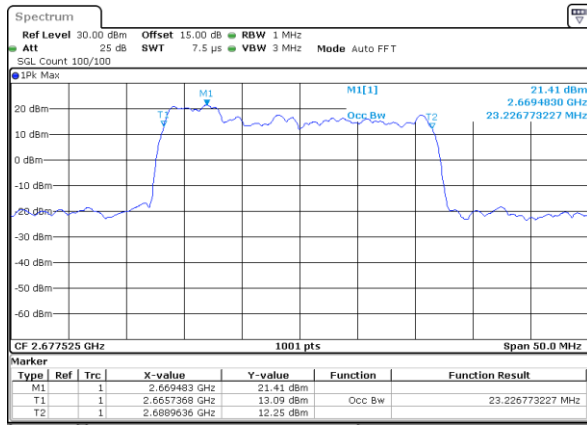
Middle Channel / 5MHz+20MHz



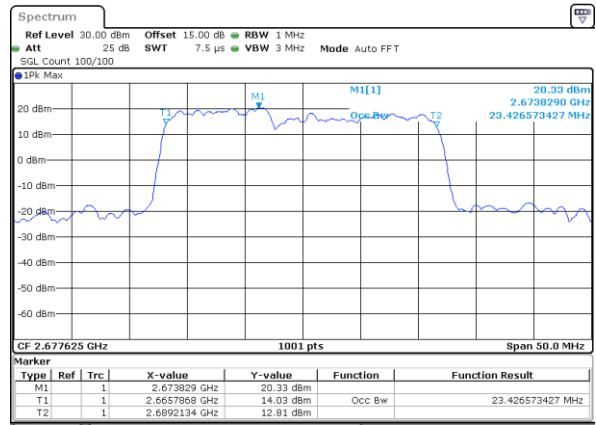
Middle Channel / 10MHz+15MHz



Highest Channel / 5MHz+20MHz



Highest Channel / 10MHz+15MHz

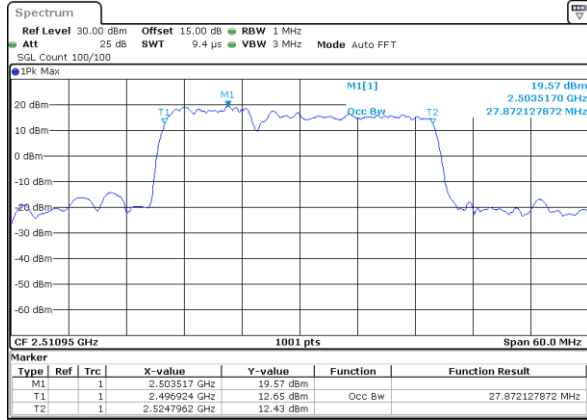




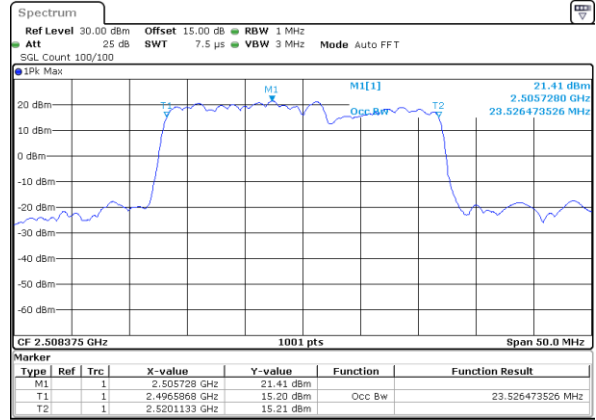
LTE Band 41C

QPSK

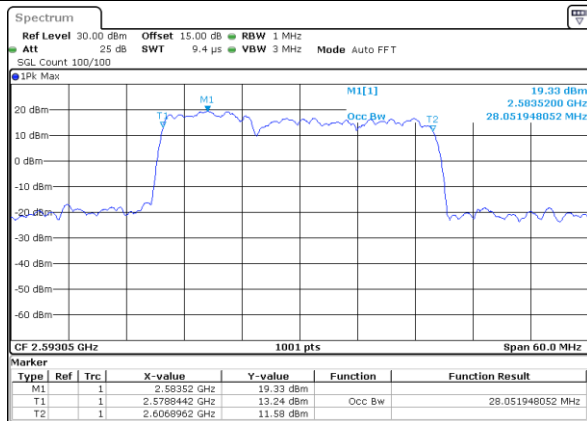
Lowest Channel / 10MHz+20MHz



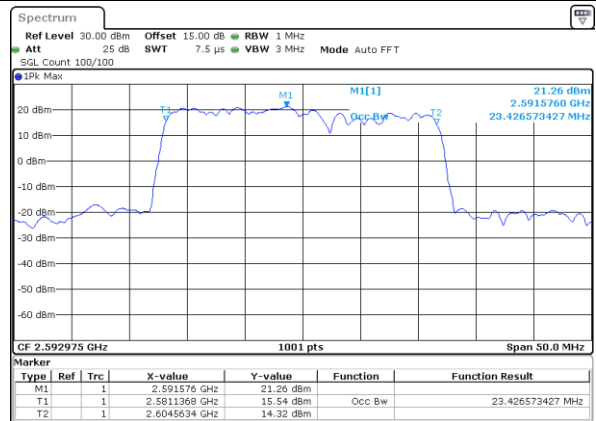
Lowest Channel / 15MHz+10MHz



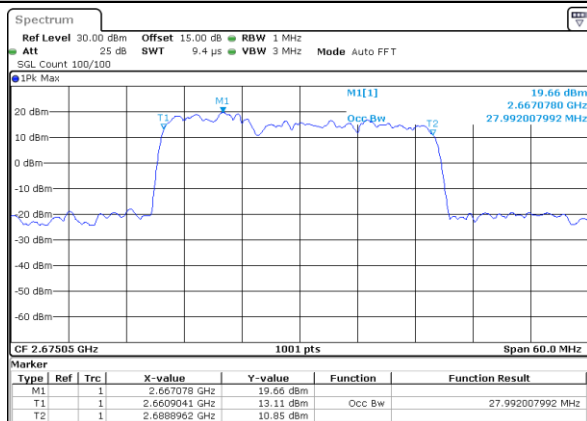
Middle Channel / 10MHz+20MHz



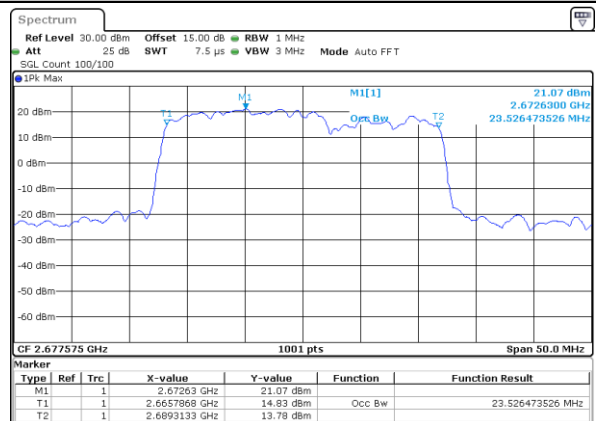
Middle Channel / 15MHz+10MHz



Highest Channel / 10MHz+20MHz



Highest Channel / 15MHz+10MHz

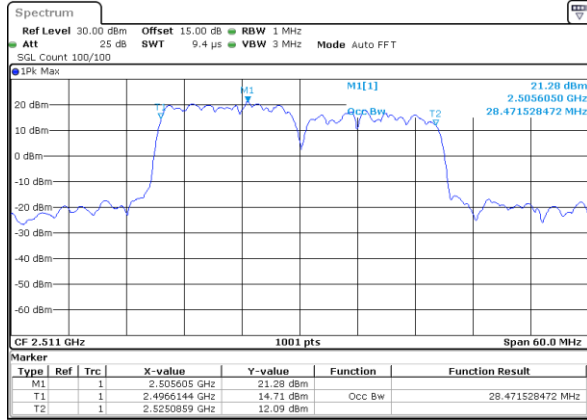




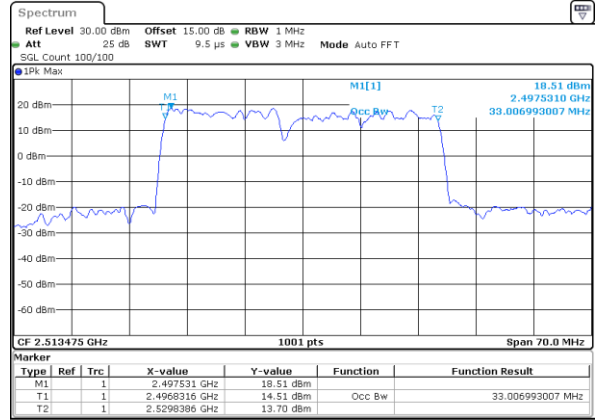
LTE Band 41C

QPSK

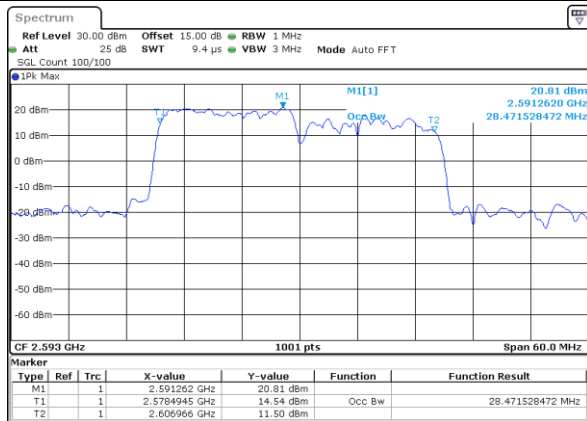
Lowest Channel / 15MHz+15MHz



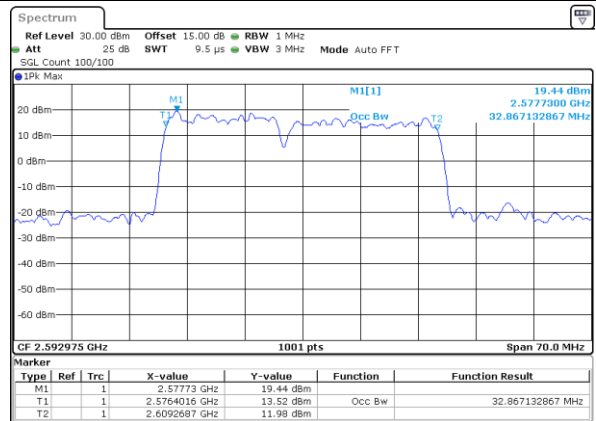
Lowest Channel / 15MHz+20MHz



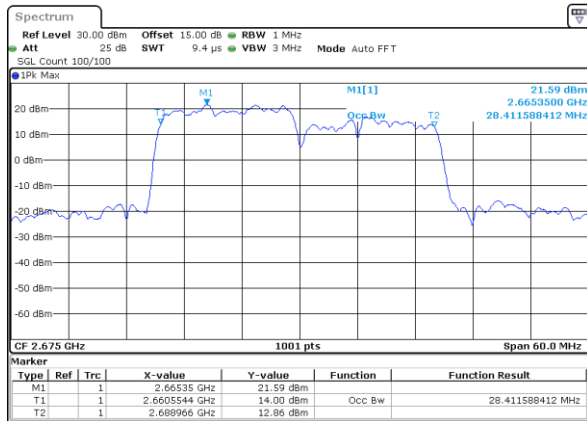
Middle Channel / 15MHz+15MHz



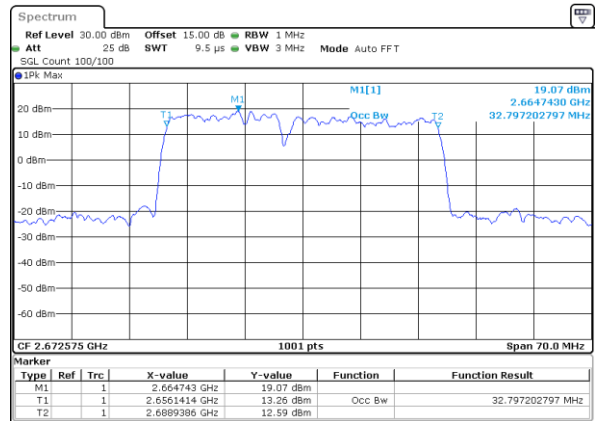
Middle Channel / 15MHz+20MHz



Highest Channel / 15MHz+15MHz



Highest Channel / 15MHz+20MHz

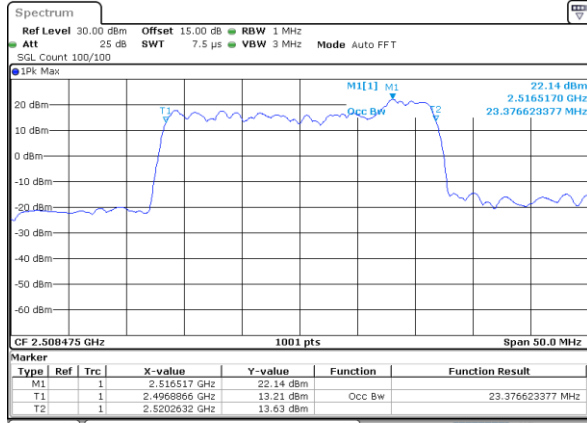




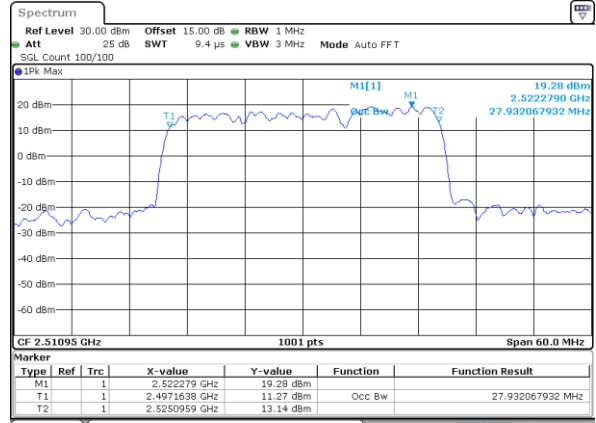
LTE Band 41C

QPSK

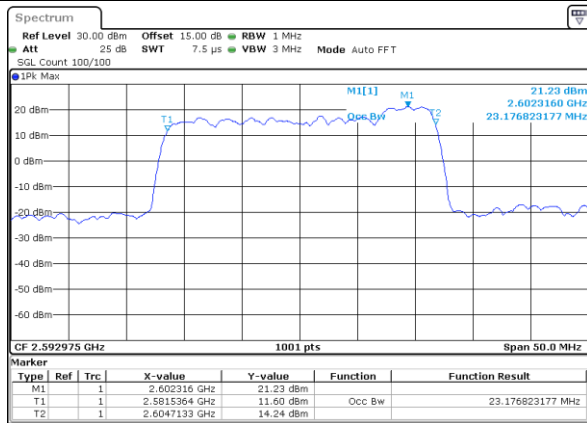
Lowest Channel / 20MHz+5MHz



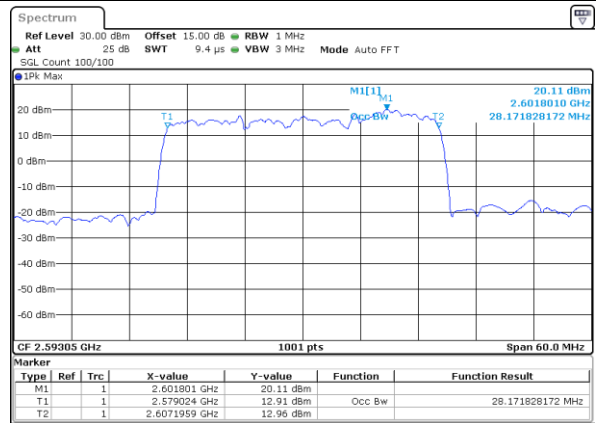
Lowest Channel / 20MHz+10MHz



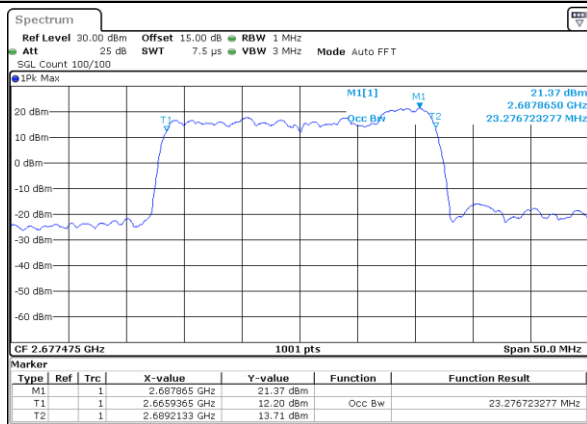
Middle Channel / 20MHz+5MHz



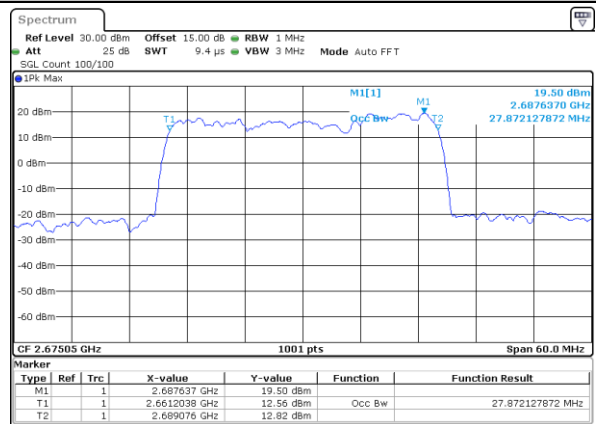
Middle Channel / 20MHz+10MHz



Highest Channel / 20MHz+5MHz



Highest Channel / 20MHz+10MHz

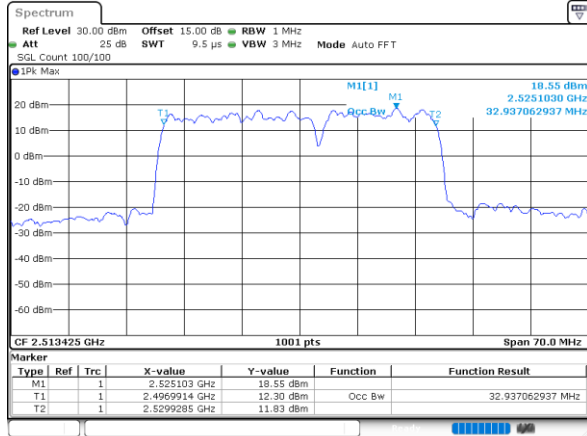




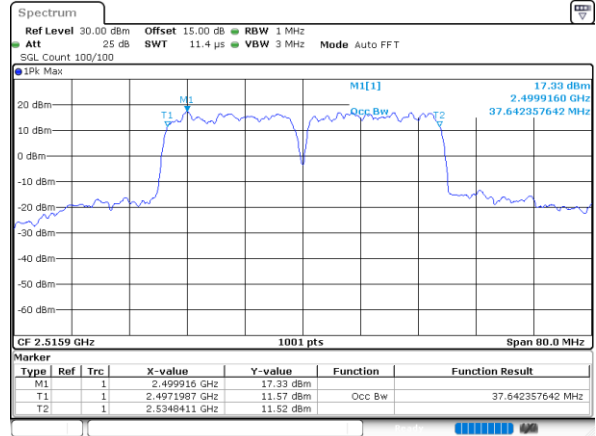
LTE Band 41C

QPSK

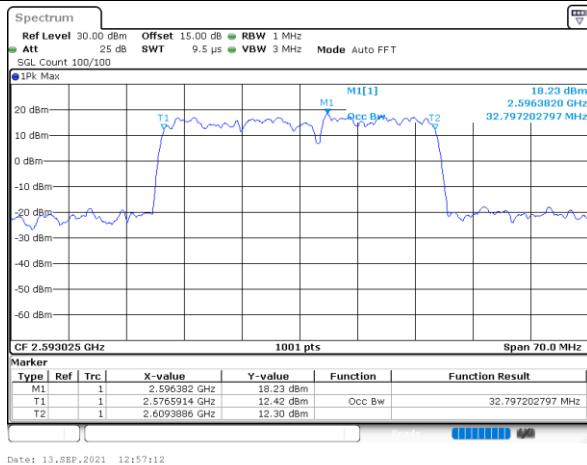
Lowest Channel / 20MHz+15MHz



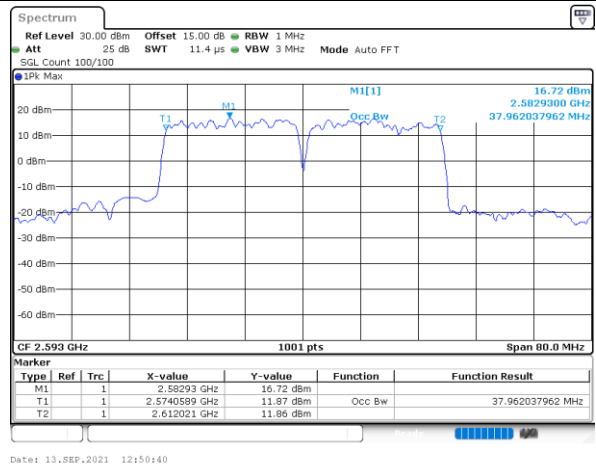
Lowest Channel / 20MHz+20MHz



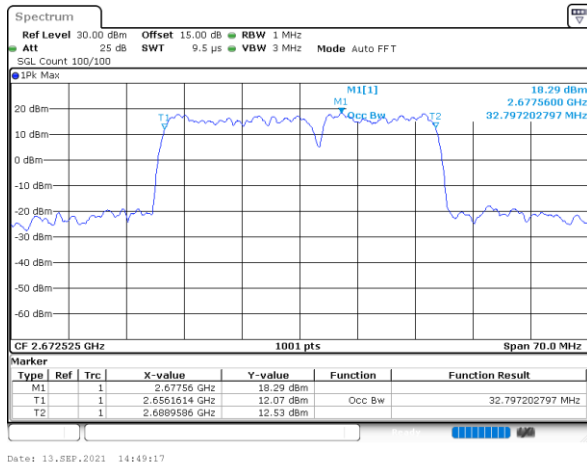
Middle Channel / 20MHz+15MHz



Middle Channel / 20MHz+20MHz



Highest Channel / 20MHz+15MHz



Highest Channel / 20MHz+20MHz

