FCC RF Test Report

APPLICANT	: Motorola Mobility LLC
EQUIPMENT	: Mobile Phone
BRAND NAME	: Motorola
MODEL NAME	: XT2097-7
FCC ID	: IHDT56ZJ6
STANDARD	: 47 CFR Part 2, 22(H), 24(E), 27(M)
CLASSIFICATION	: PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Feb. 05, 2021 and completely tested on Feb. 24, 2021. We, Sporton International (Kunshan) 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

James Huang

Approved by: James Huang / Manager

ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG0N1205-08B	Rev. 01	Initial issue of report	Mar. 01, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt	PASS	-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7) (Band 38) (Band 41)	EIRP < 2Watt	PASS	-
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a)	Conducted Band Edge Measurement (Band 2) (Band 5) (Band 26)	< 43+10log10(P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)	§27.53(m)(4)		
3.8	§2.1051 §22.917(a) §24.238(a)	Conducted Spurious Emission (Band 2) (Band 5) (Band 26)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log$_{10}$(P[Watts])		
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§2.1053 §22.917(a) §24.238(a)	Radiated Spurious Emission (Band 2) (Band 5) (Band 26)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 11.56 dB at 7760.00 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log$_{10}$(P[Watts])		

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

Motorola Mobility LLC
222 W, Merchandise Mart Plaza,Chicago,IL60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W, Merchandise Mart Plaza,Chicago,IL60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Motorola
Model Name	XT2097-7
FCC ID	IHDT56ZJ6
EUT supports Radios application	GSM/WCDMA/LTE WLAN 2.4GHz 802.11b/g/n HT20 Bluetooth BR / EDR / LE FM Receiver / GNSS
IMEI Code	Conducted: 353913480024766/353913480044764 Radiation: 353913480024774/353913480044772
HW Version	DVT2
SW Version	QOL30.277
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7 : 2500 MHz ~ 2570 MHz LTE Band 26 : 824 MHz ~ 849 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 41 : 2535 MHz ~ 2655 MHz
Rx Frequency	LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 7 : 2620 MHz ~ 2690 MHz LTE Band 26 : 869 MHz ~ 894 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41 : 2535 MHz ~ 2655 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 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
Antenna Gain	LTE Band 2 : -2.70 dBi LTE Band 5 : -4.60 dBi LTE Band 7 : -1.00 dBi LTE Band 26 : -4.60 dBi LTE Band 38 : -1.00 dBi LTE Band 41 : -1.00 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-101
AC Adapter 1(EU)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-102
AC Adapter 1(UK)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-103
AC Adapter 1(AU)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-105
AC Adapter 1(AR)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-106
AC Adapter 1(BR)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-107
AC Adapter 2(IN)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-104
AC Adapter 3(US)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-101
AC Adapter 3(EU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-102
AC Adapter 3(UK)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-103
AC Adapter 3(AU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-105
AC Adapter 3(AR)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-106
AC Adapter 3(Chile)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-109
AC Adapter 4(US)	**Brand Name**	Motorola (Aohai)	**Model Name**	MC-101
AC Adapter 4(EU)	**Brand Name**	Motorola (Aohai)	**Model Name**	MC-102
AC Adapter 4(UK)	**Brand Name**	Motorola (Aohai)	**Model Name**	MC-103
AC Adapter 4(AU)	**Brand Name**	Motorola (Aohai)	**Model Name**	MC-105
AC Adapter 4(AR)	**Brand Name**	Motorola (Aohai)	**Model Name**	MC-106
AC Adapter 5(BR)	**Brand Name**	Motorola (Flex)	**Model Name**	MC-107
AC Adapter 6(BR)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-107
AC Adapter 7(UK)	**Brand Name**	Lenovo (Chenyang)	**Model Name**	SC-43
AC Adapter 8(EU)	**Brand Name**	Lenovo (Salom)	**Model Name**	SC-42
AC Adapter 8(US)	**Brand Name**	Lenovo (Salom)	**Model Name**	SC-41
Battery 1	**Brand Name**	Motorola (Sunwoda)	**Model Name**	JK50
Battery 2	**Brand Name**	Motorola (ATL)	**Model Name**	JK50
Battery 3	**Brand Name**	Motorola (SCUD)	**Model Name**	JK50
Earphone 1	**Brand Name**	Motorola (NEW LEADER)	**Model Name**	NLD-EM313A-23SF
Earphone 2	**Brand Name**	Motorola (Ju wei)	**Model Name**	JWPE1185-ZN01H
USB Cable 1	**Brand Name**	Motorola (Washin)	**Model Name**	HX-ZN-04
USB Cable 2	**Brand Name**	Motorola (Ju wei)	**Model Name**	JWUB1472-ZN01H
USB Cable 3	**Brand Name**	Motorola (I SHENG)	**Model Name**	SC18C28955

1.6 Modification of EUT

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

1.7 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

LTE Band 2		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
20	1860.0 ~ 1900.0	18M5G7D	0.0022	0.1175	18M4W7D	-	0.1002
LTE Band 5		**QPSK**			**16QAM**		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
10	829.0 ~ 844.0	9M01G7D	0.0071	0.0445	8M97W7D	-	0.0374
LTE Band 7		**QPSK**			**16QAM**		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
20	2510.0 ~ 2560.0	18M3G7D	0.0016	0.1811	18M3W7D	-	0.1535
LTE Band 26		**QPSK**			**16QAM**		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
15	831.5 ~ 841.5	13M4G7D	0.0071	0.0455	13M4W7D	-	0.0400
CH26765	821.5	13M4G7D	-	0.0443	13M4G7D	-	0.0394
LTE Band 38		**QPSK**			**16QAM**		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
20	2580.0 ~ 2610.0	18M5G7D	0.0012	0.1824	18M3W7D	-	0.1483
LTE Band 41		**QPSK**			**16QAM**		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
20	2545.0 ~ 2645.0	18M5G7D	0.0012	0.1875	18M3W7D	-	0.1556

Note:

1. LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.
2. LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38.
3. Based on engineering evaluation, only the maximum bandwidth and the worst modulation test results are shown in the report.

1.8 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS TH01-KS	CN1257	314309

1.9 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a

1.10 Applicable Standards

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

- 47 CFR Part 2, 22(H), 24(E), 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.

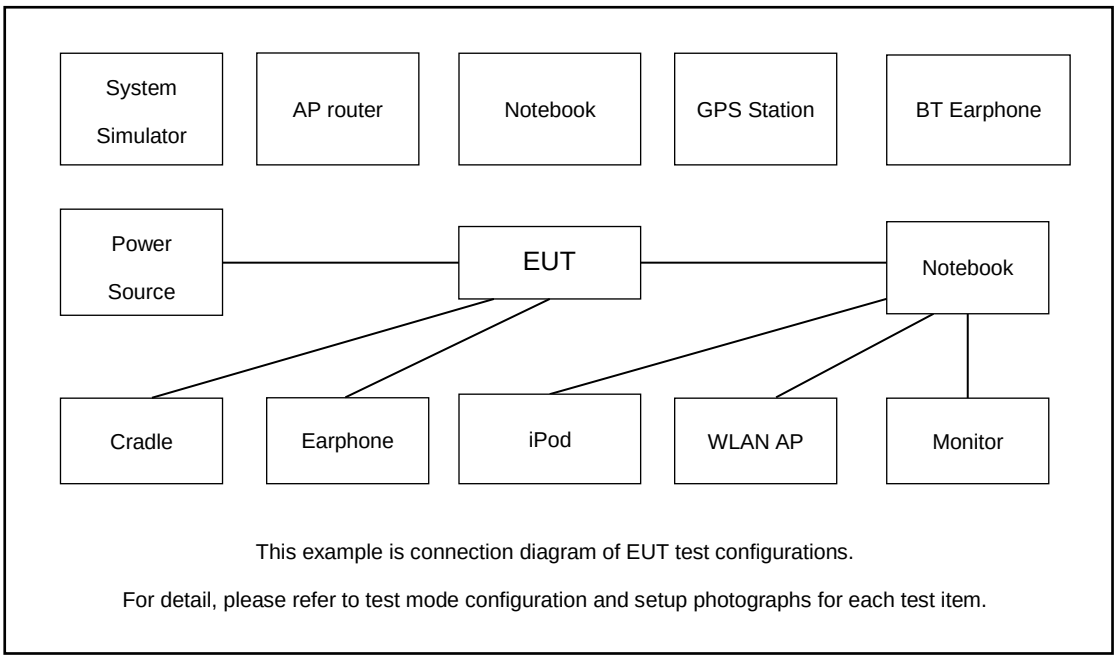
Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
	38	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	2						v	v	v	v			v		v	
	7	-	-				v	v	v	v			v		v	
	26					v	-	v	v	v			v		v	
	41	-	-				v	v	v	v			v		v	
26dB and 99% Bandwidth	2						v	v	v				v		v	
	7	-	-				v	v	v				v		v	
	26				v	v	-	v	v				v		v	
	41	-	-				v	v	v				v		v	
Conducted Band Edge	2	v	v	v	v	v	v	v	v	v	v		v	v		v
	7	-	-	v	v	v	v	v	v	v	v		v	v		v
	26	v	v	v	v	v	-	v	v	v	v		v	v		v
	41	-	-	v	v	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	2	v	v	v	v	v	v	v			v			v	v	v
	7	-	-	v	v	v	v	v			v			v	v	v
	26	v	v	v	v	v	-	v			v			v	v	v
	41	-	-	v	v	v	v	v			v			v	v	v

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Frequency Stability	2						v	v			v				v	
	7	-	-				v	v			v				v	
	26					v	-	v			v				v	
	41	-	-				v	v			v				v	
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
	38	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	2	Worst Case													v	
	7	Worst Case													v	
	26	Worst Case													v	
	41	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. LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 26 as well as Band 5.
5. LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38.

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

For detail, please refer to test mode configuration and setup photographs for each test item.

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

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 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.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 6.0 dB.

Example :

Offset(dB) = RF cable loss(dB).

= 6.0 (dB)

2.5 Frequency List of Low/Middle/High Channels

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

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

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

LTE Band 26 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829	836.5	844
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3

LTE Band 38 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	37850	38000	38150
	Frequency	2580	2595	2610
15	Channel	37825	38000	38175
	Frequency	2577.5	2595	2612.5
10	Channel	37800	38000	38200
	Frequency	2575	2595	2615
5	Channel	37775	38000	38225
	Frequency	2572.5	2595	2617.5

LTE Band 41 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	40140	40640	41140
	Frequency	2545	2595	2645
15	Channel	40115	40640	41165
	Frequency	2542.5	2595	2647.5
10	Channel	40090	40640	41190
	Frequency	2540	2595	2650
5	Channel	40065	40640	41215
	Frequency	2537.5	2595	2652.5

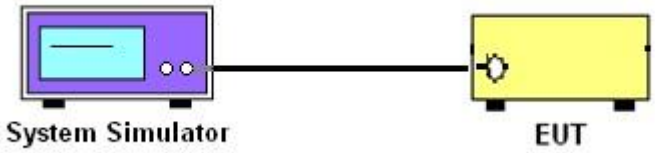
3 Conducted Test Items

3.1 Measuring Instruments

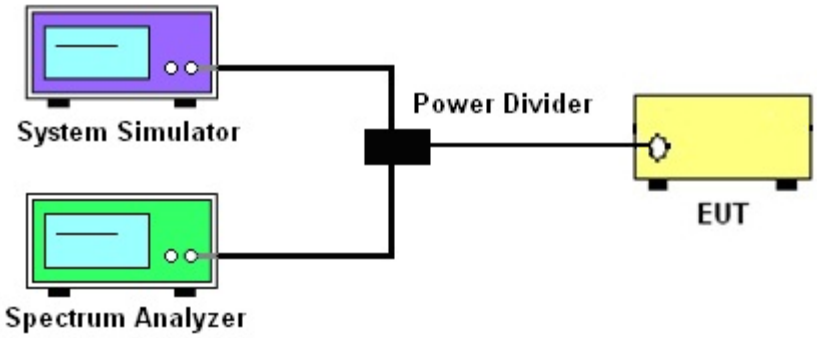
See list of measuring instruments of this test report.

3.2 Test Setup

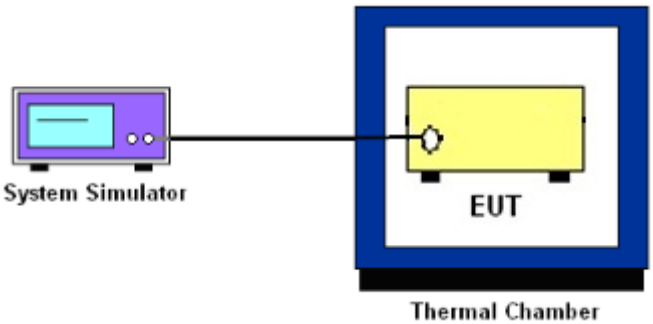
3.2.1 Conducted Output Power



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 ERP/EIRP

3.4.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5 and Band 26.

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 7 and Band 38 and 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

22.917(a)

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

24.238 (a)

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

27.53(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 that 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 >= 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 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
9. For LTE Band 7, 38, 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 7,38,41:

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 10^{th} 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 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
11. For Band 7, 38, 41
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [55+ 10log(P)] (dB)
    = [30+ 10log(P)] (dBm) - [55+ 10log(P)] (dB)
    = -25dBm.

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 ±0.00025% (±2.5ppm) 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±5°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.

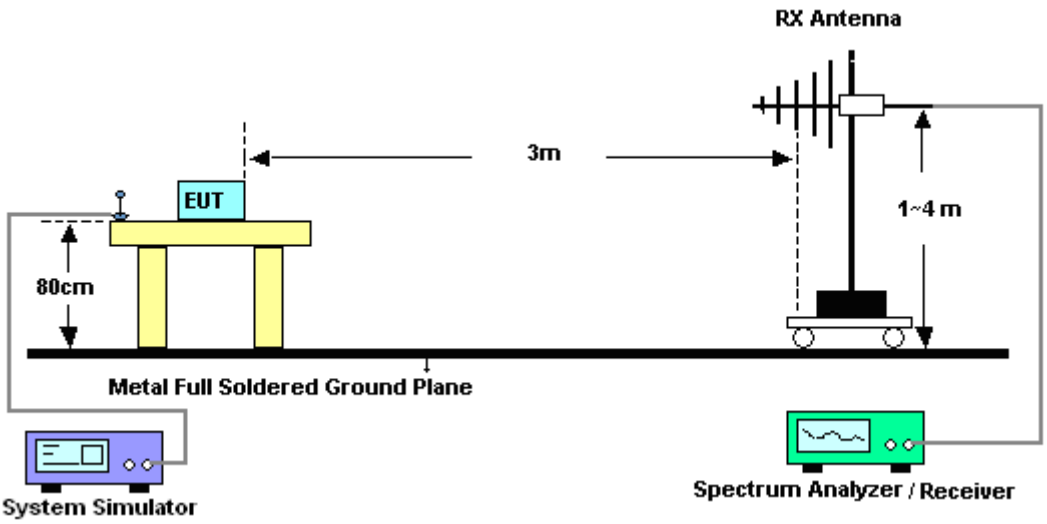
4 Radiated Test Items

4.1 Measuring Instruments

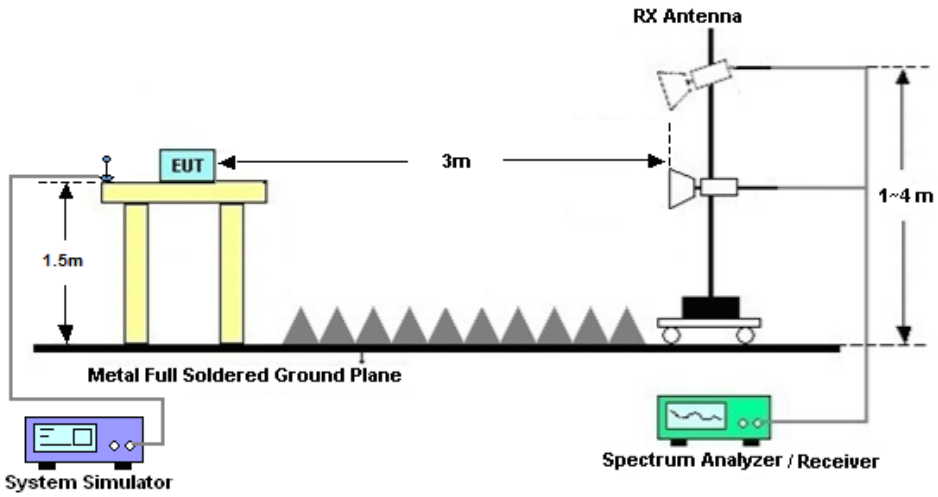
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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 7, 38, 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 (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (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 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
13. For Band 7, 38, 41:
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Nov. 01, 2020	Feb. 10, 2021~ Feb. 24, 2021	Oct. 31, 2021	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 03, 2020	Feb. 10, 2021~ Feb. 24, 2021	Jul. 02, 2021	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 15, 2020	Feb. 08, 2021	Apr. 14, 2021	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Jun. 08, 2020	Feb. 08, 2021	Jun. 07, 2021	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 20, 2020	Feb. 08, 2021	Apr. 19, 2021	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Jan. 06, 2021	Feb. 08, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 06, 2021	Feb. 08, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 07, 2021	Feb. 08, 2021	Jan. 06, 2022	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Feb. 08, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 14, 2020	Feb. 08, 2021	Oct. 13, 2021	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Feb. 08, 2021	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Feb. 08, 2021	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Feb. 08, 2021	NCR	Radiation (03CH04-KS)

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))	**3.3dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power) and ERP/EIRP

LTE Band 2:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP		
Channel				18700	18900	19100			
Frequency (MHz)				1860	1880	1900	L	M	H
20	QPSK	1	0	23.03	23.40	23.21	0.1079	0.1175	0.1125
20	QPSK	1	49	23.33	23.28	23.30	0.1156	0.1143	0.1148
20	QPSK	1	99	23.12	23.22	23.22	0.1102	0.1127	0.1127
20	QPSK	50	0	22.35	22.36	22.34	0.0923	0.0925	0.0920
20	QPSK	50	24	22.30	22.27	22.28	0.0912	0.0906	0.0908
20	QPSK	50	50	22.27	22.20	22.23	0.0906	0.0891	0.0897
20	QPSK	100	0	22.28	22.30	22.28	0.0908	0.0912	0.0908
20	16QAM	1	0	22.71	22.51	22.48	0.1002	0.0957	0.0951
20	64QAM	1	0	21.64	21.67	21.65	0.0783	0.0789	0.0785
Channel				18675	18900	19125	EIRP		
Frequency (MHz)				1857.5	1880	1902.5	L	M	H
15	QPSK	1	0	23.36	23.33	23.32	0.1164	0.1156	0.1153
15	16QAM	1	0	22.60	22.59	22.53	0.0977	0.0975	0.0962
Channel				18650	18900	19150	EIRP		
Frequency (MHz)				1855	1880	1905	L	M	H
10	QPSK	1	0	23.32	23.30	23.25	0.1153	0.1148	0.1135
10	16QAM	1	0	22.39	22.67	22.66	0.0931	0.0993	0.0991
Channel				18625	18900	19175	EIRP		
Frequency (MHz)				1852.5	1880	1907.5	L	M	H
5	QPSK	1	0	23.39	23.35	23.39	0.1172	0.1161	0.1172
5	16QAM	1	0	22.70	22.57	22.53	0.1000	0.0971	0.0962
Channel				18615	18900	19185	EIRP		
Frequency (MHz)				1851.5	1880	1908.5	L	M	H
3	QPSK	1	0	23.14	23.21	23.16	0.1107	0.1125	0.1112
3	16QAM	1	0	22.69	22.59	22.56	0.0998	0.0975	0.0968
Channel				18607	18900	19193	EIRP		
Frequency (MHz)				1850.7	1880	1909.3	L	M	H
1.4	QPSK	1	0	23.32	23.30	23.28	0.1153	0.1148	0.1143
1.4	16QAM	1	0	22.52	22.50	22.42	0.0959	0.0955	0.0938

LTE Band 5:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP		
Channel				20450	20525	20600			
Frequency (MHz)				829	836.5	844	L	M	H
10	QPSK	1	0	23.09	23.23	23.10	0.0431	0.0445	0.0432
10	QPSK	1	25	23.21	23.18	23.22	0.0443	0.0440	0.0444
10	QPSK	1	49	23.11	23.10	23.08	0.0433	0.0432	0.0430
10	QPSK	25	0	22.23	22.26	22.25	0.0353	0.0356	0.0355
10	QPSK	25	12	22.19	22.17	22.18	0.0350	0.0348	0.0349
10	QPSK	25	25	22.20	22.15	22.14	0.0351	0.0347	0.0346
10	QPSK	50	0	22.25	22.21	22.20	0.0355	0.0352	0.0351
10	16QAM	1	0	22.43	22.42	22.48	0.0370	0.0369	0.0374
10	64QAM	1	0	21.45	21.44	21.46	0.0295	0.0294	0.0296
Channel				20425	20525	20625	ERP		
Frequency (MHz)				826.5	836.5	846.5	L	M	H
5	QPSK	1	0	23.19	23.19	23.20	0.0441	0.0441	0.0442
5	16QAM	1	0	22.41	22.39	22.47	0.0368	0.0366	0.0373
Channel				20415	20525	20635	ERP		
Frequency (MHz)				825.5	836.5	847.5	L	M	H
3	QPSK	1	0	23.03	23.02	23.06	0.0425	0.0424	0.0428
3	16QAM	1	0	22.28	22.26	22.30	0.0357	0.0356	0.0359
Channel				20407	20525	20643	ERP		
Frequency (MHz)				824.7	836.5	848.3	L	M	H
1.4	QPSK	1	0	23.11	23.02	23.04	0.0433	0.0424	0.0426
1.4	16QAM	1	0	22.22	22.17	22.27	0.0352	0.0348	0.0356

LTE Band 7:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP		
Channel				20850	20850	21350			
Frequency (MHz)				2510	2535	2560	L	M	H
20	QPSK	1	0	23.55	23.58	23.11	0.1799	0.1811	0.1626
20	QPSK	1	49	23.41	23.48	23.52	0.1742	0.1770	0.1786
20	QPSK	1	99	23.11	23.20	23.21	0.1626	0.1660	0.1663
20	QPSK	50	0	22.31	22.54	22.50	0.1352	0.1426	0.1413
20	QPSK	50	24	22.41	22.49	22.53	0.1384	0.1409	0.1422
20	QPSK	50	50	22.47	22.52	22.52	0.1403	0.1419	0.1419
20	QPSK	100	0	22.38	22.51	22.50	0.1374	0.1416	0.1413
20	16QAM	1	0	22.65	22.86	22.73	0.1462	0.1535	0.1489
20	64QAM	1	0	21.67	21.75	21.78	0.1167	0.1189	0.1197
Channel				20825	21100	21375	EIRP		
Frequency (MHz)				2507.5	2535	2562.5	L	M	H
15	QPSK	1	0	23.50	23.57	23.33	0.1778	0.1807	0.1710
15	16QAM	1	0	22.71	22.83	22.77	0.1483	0.1524	0.1503
Channel				20800	21100	21400	EIRP		
Frequency (MHz)				2505	2535	2565	L	M	H
10	QPSK	1	0	23.38	23.50	23.46	0.1730	0.1778	0.1762
10	16QAM	1	0	22.63	22.75	22.68	0.1455	0.1496	0.1472
Channel				20775	21100	21425	EIRP		
Frequency (MHz)				2502.5	2535	2567.5	L	M	H
5	QPSK	1	0	23.52	23.57	23.23	0.1786	0.1807	0.1671
5	16QAM	1	0	22.76	22.85	22.80	0.1500	0.1531	0.1514

LTE Band 26:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP			
Channel				26765	26865	26915	26965				
Frequency (MHz)				821.5	831.5	836.5	841.5	L		M	H
15	QPSK	1	0	23.21	23.21	23.33	23.03	0.0443	0.0443	0.0455	0.0425
15	QPSK	1	37	23.14	23.14	23.21	23.22	0.0436	0.0436	0.0443	0.0444
15	QPSK	1	74	22.91	22.91	22.97	22.91	0.0413	0.0413	0.0419	0.0413
15	QPSK	36	0	22.08	22.08	22.26	22.27	0.0341	0.0341	0.0356	0.0356
15	QPSK	36	20	22.12	22.12	22.13	22.12	0.0344	0.0344	0.0345	0.0344
15	QPSK	36	39	22.20	22.20	22.14	22.14	0.0351	0.0351	0.0346	0.0346
15	QPSK	75	0	22.12	22.12	22.10	22.14	0.0344	0.0344	0.0343	0.0346
15	16QAM	1	0	22.70	22.70	22.77	22.67	0.0394	0.0394	0.0400	0.0391
15	64QAM	1	0	21.43	21.43	21.30	21.44	0.0294	0.0294	0.0285	0.0294
Channel					26840	26915	26990		ERP		
Frequency (MHz)					829	836.5	844		L	M	H
10	QPSK	1	0		23.24	23.20	23.19		0.0446	0.0442	0.0441
10	16QAM	1	0		22.55	22.47	22.47		0.0380	0.0373	0.0373
Channel					26815	26915	27015		ERP		
Frequency (MHz)					826.5	836.5	846.5		L	M	H
5	QPSK	1	0		23.02	23.06	23.22		0.0424	0.0428	0.0444
5	16QAM	1	0		22.76	22.59	22.70		0.0399	0.0384	0.0394
Channel					26815	26915	27025		ERP		
Frequency (MHz)					825.5	836.5	847.5		L	M	H
3	QPSK	1	0		23.20	23.07	23.12		0.0442	0.0429	0.0434
3	16QAM	1	0		22.50	22.34	22.42		0.0376	0.0362	0.0369
Channel					26797	26915	27033		ERP		
Frequency (MHz)					824.7	836.5	848.3		L	M	H
1.4	QPSK	1	0		23.31	23.31	23.32		0.0453	0.0453	0.0454
1.4	16QAM	1	0		22.56	22.63	22.49		0.0381	0.0387	0.0375

LTE Band 38:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP		
Channel				37850	38000	38150			
Frequency (MHz)				2580	2595	2610	L	M	H
20	QPSK	1	0	23.24	23.61	23.19	0.1675	0.1824	0.1656
20	QPSK	1	49	23.54	23.45	23.44	0.1795	0.1758	0.1754
20	QPSK	1	99	23.26	23.27	23.28	0.1683	0.1687	0.1690
20	QPSK	50	0	22.47	22.46	22.47	0.1403	0.1400	0.1403
20	QPSK	50	24	22.49	22.47	22.49	0.1409	0.1403	0.1409
20	QPSK	50	50	22.43	22.40	22.46	0.1390	0.1380	0.1400
20	QPSK	100	0	22.55	22.54	22.58	0.1429	0.1426	0.1439
20	16QAM	1	0	22.71	22.67	22.69	0.1483	0.1469	0.1476
20	64QAM	1	0	21.57	21.56	21.59	0.1140	0.1138	0.1146
Channel				37825	38000	38175	EIRP		
Frequency (MHz)				2577.5	2595	2612.5	L	M	H
15	QPSK	1	0	23.60	23.60	23.59	0.1820	0.1820	0.1816
15	16QAM	1	0	22.68	22.64	22.69	0.1472	0.1459	0.1476
Channel				37800	38000	38200	EIRP		
Frequency (MHz)				2575	2595	2615	L	M	H
10	QPSK	1	0	23.59	23.51	23.44	0.1816	0.1782	0.1754
10	16QAM	1	0	22.64	22.58	22.63	0.1459	0.1439	0.1455
Channel				37775	38000	38225	EIRP		
Frequency (MHz)				2572.5	2595	2617.5	L	M	H
5	QPSK	1	0	23.58	23.60	23.60	0.1811	0.1820	0.1820
5	16QAM	1	0	22.65	22.65	22.67	0.1462	0.1462	0.1469

LTE Band 41:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Low Ch. / Freq.	Power High Ch. / Freq.	EIRP		
Channel				40140	40640	41140			
Frequency (MHz)				2545	2595	2645	L	M	H
20	QPSK	1	0	23.38	23.73	23.33	0.1730	0.1875	0.1710
20	QPSK	1	49	23.33	23.41	23.33	0.1710	0.1742	0.1710
20	QPSK	1	99	23.38	23.53	23.33	0.1730	0.1791	0.1710
20	QPSK	50	0	22.56	22.63	22.72	0.1432	0.1455	0.1486
20	QPSK	50	24	22.65	22.70	22.82	0.1462	0.1479	0.1521
20	QPSK	50	50	22.65	22.69	22.76	0.1462	0.1476	0.1500
20	QPSK	100	0	22.63	22.63	22.71	0.1455	0.1455	0.1483
20	16QAM	1	0	22.56	22.78	22.92	0.1432	0.1507	0.1556
20	64QAM	1	0	21.70	21.69	21.69	0.1175	0.1172	0.1172
Channel				40115	40640	41165	EIRP		
Frequency (MHz)				2542.5	2595	2647.5	L	M	H
15	QPSK	1	0	23.63	23.36	23.33	0.1832	0.1722	0.1710
15	16QAM	1	0	22.60	22.42	22.79	0.1445	0.1387	0.1510
Channel				40090	40640	41190	EIRP		
Frequency (MHz)				2540	2595	2650	L	M	H
10	QPSK	1	0	23.56	23.03	23.34	0.1803	0.1596	0.1714
10	16QAM	1	0	22.69	22.53	22.91	0.1476	0.1422	0.1552
Channel				40065	40640	41215	EIRP		
Frequency (MHz)				2537.5	2595	2652.5	L	M	H
5	QPSK	1	0	23.21	23.59	23.19	0.1663	0.1816	0.1656
5	16QAM	1	0	22.66	22.72	22.20	0.1466	0.1486	0.1318

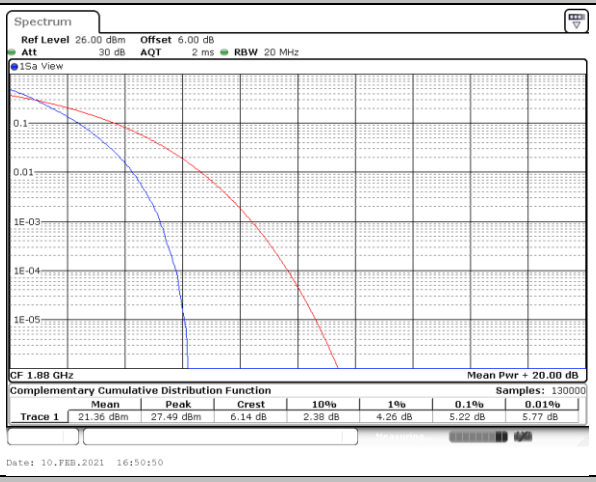
LTE Band 2

Peak-to-Average Ratio

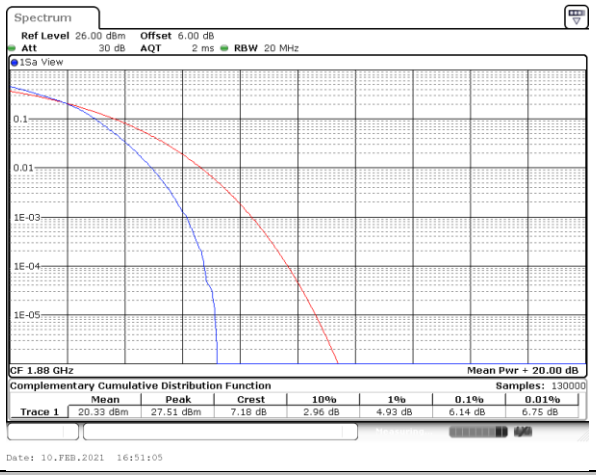
Mode	LTE Band 2 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	5.22	6.14	6.03	PASS

LTE Band 2 / 20MHz

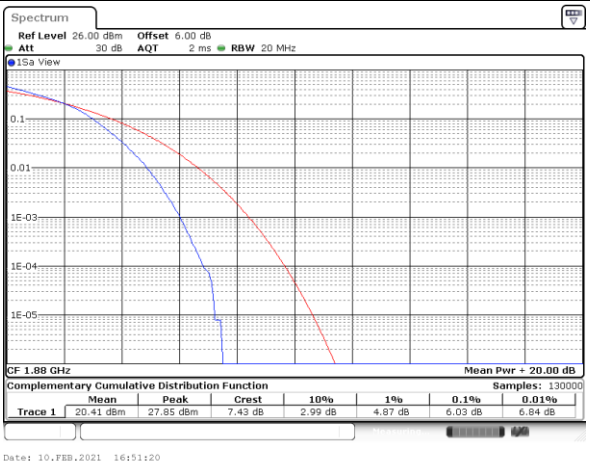
Middle Channel / Full RB/ QPSK



Middle Channel / Full RB/ 16QAM



Middle Channel / Full RB/ 64QAM

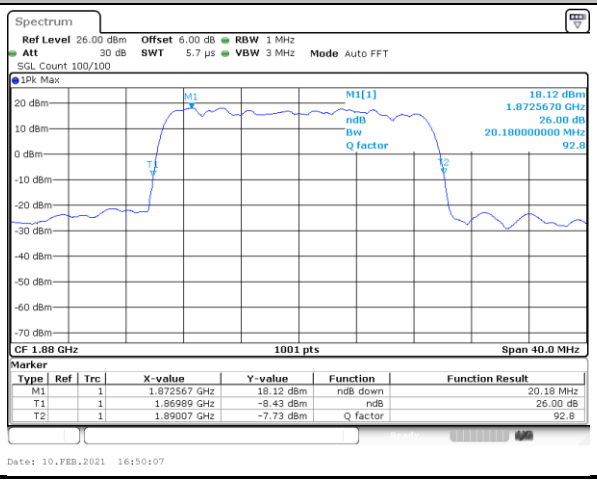


26dB Bandwidth

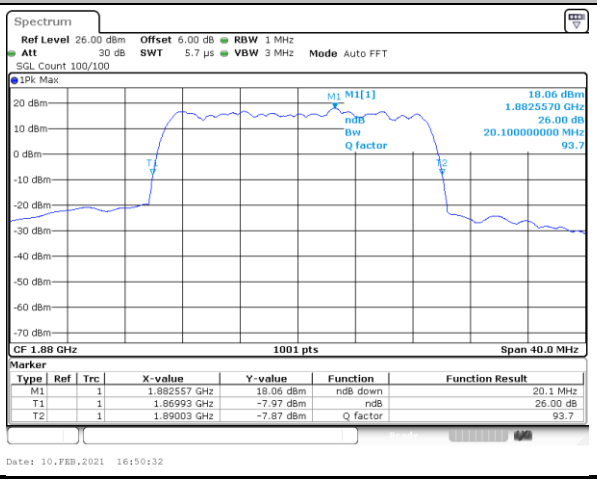
Mode	LTE Band 2 : 26dB BW(MHz)	
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	20.18	20.1

LTE Band 2

Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM

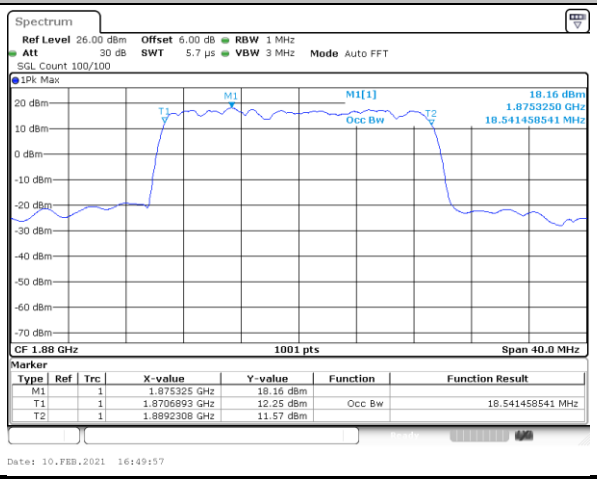


Occupied Bandwidth

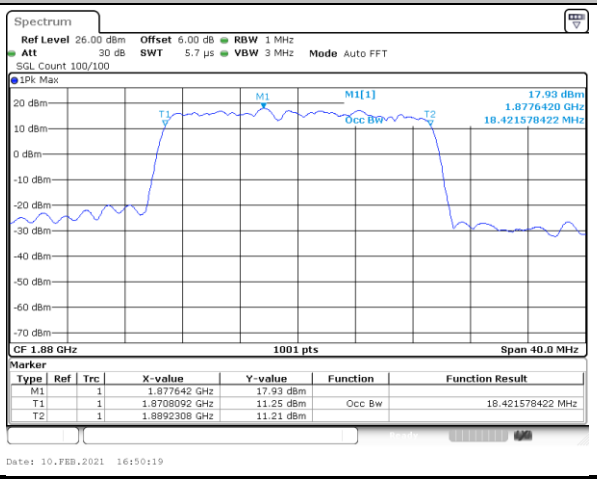
Mode	LTE Band 2 : 99%OBW(MHz)	
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	18.54	18.42

LTE Band 2

Middle Channel / 20MHz / QPSK



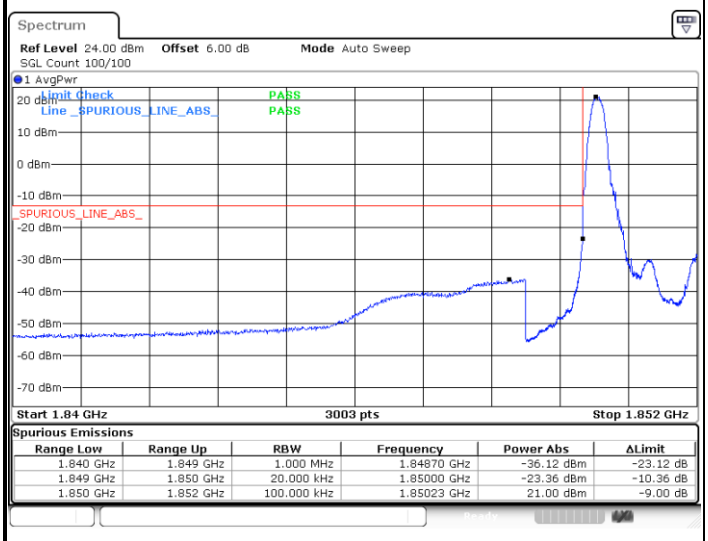
Middle Channel / 20MHz / 16QAM



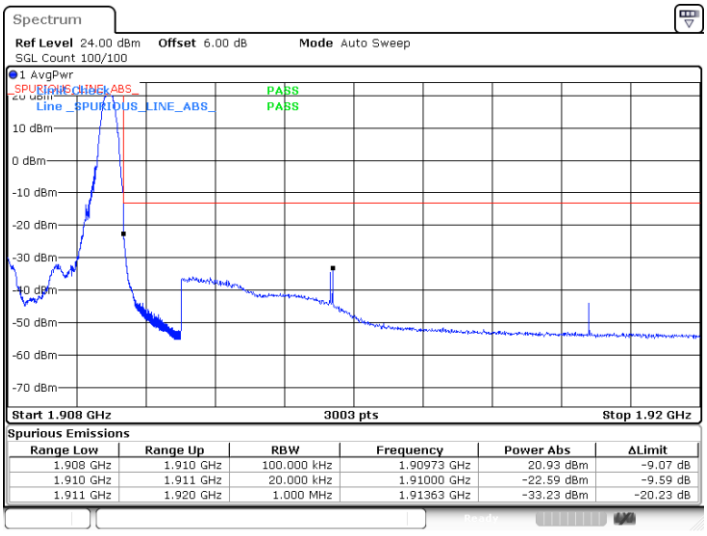
Conducted Band Edge

LTE Band 2 / 1.4MHz / QPSK

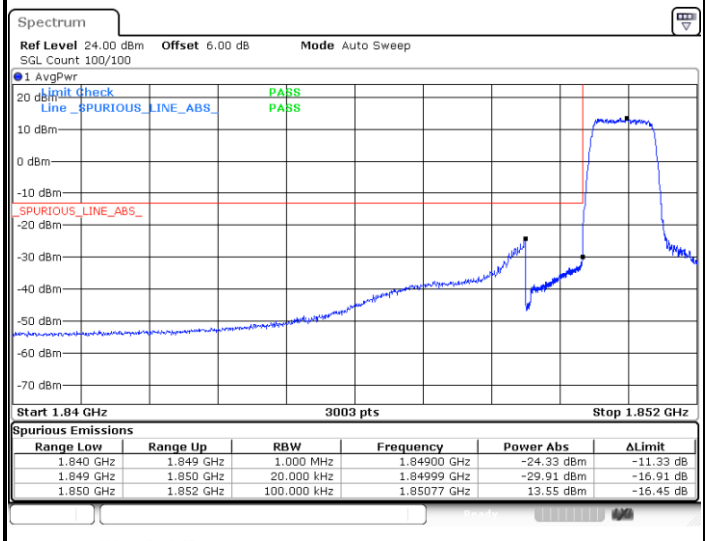
Lowest Band Edge / 1RB



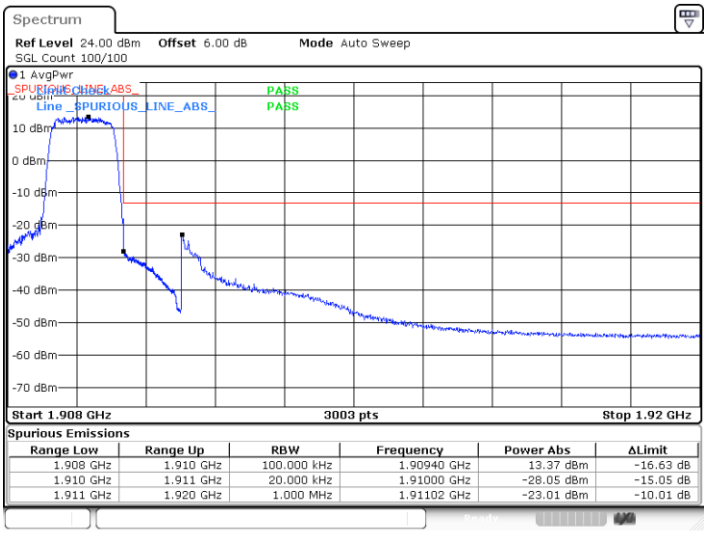
Highest Band Edge / 1RB



Lowest Band Edge / Full RB

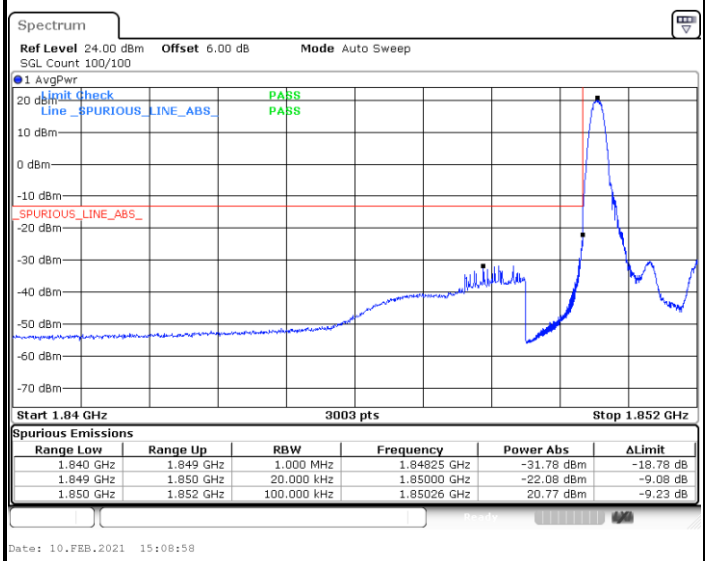


Highest Band Edge / Full RB

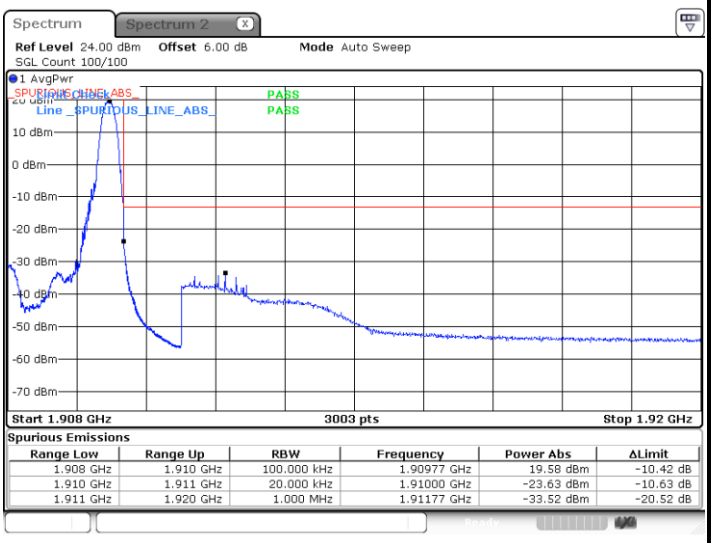


LTE Band 2 / 1.4MHz / 16QAM

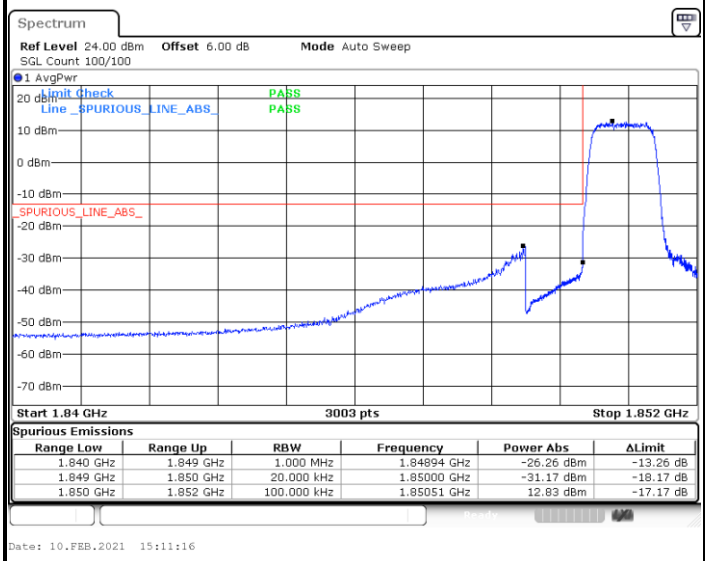
Lowest Band Edge / 1 RB



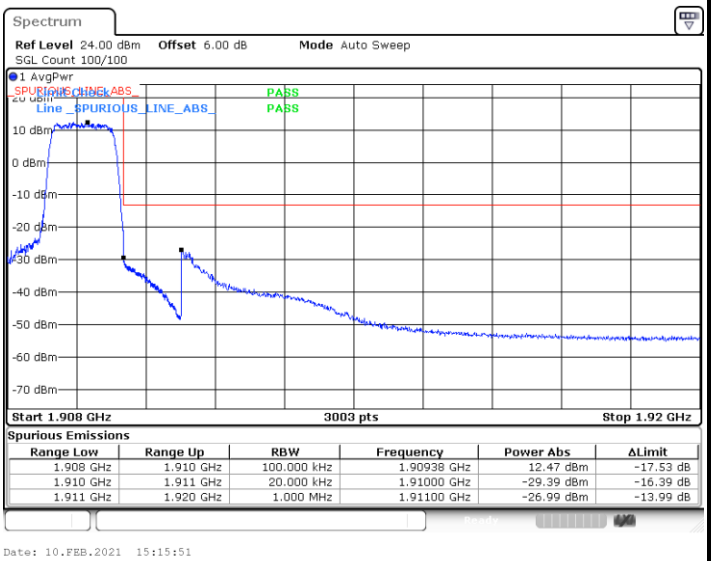
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB

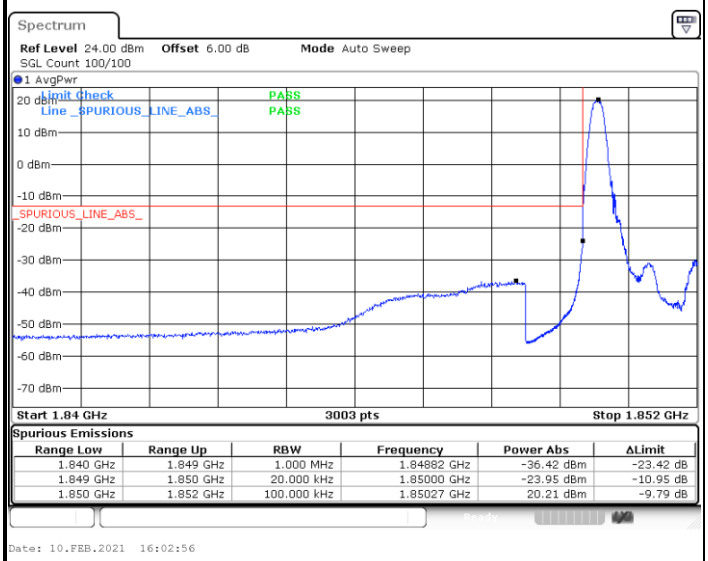


Highest Band Edge / Full RB

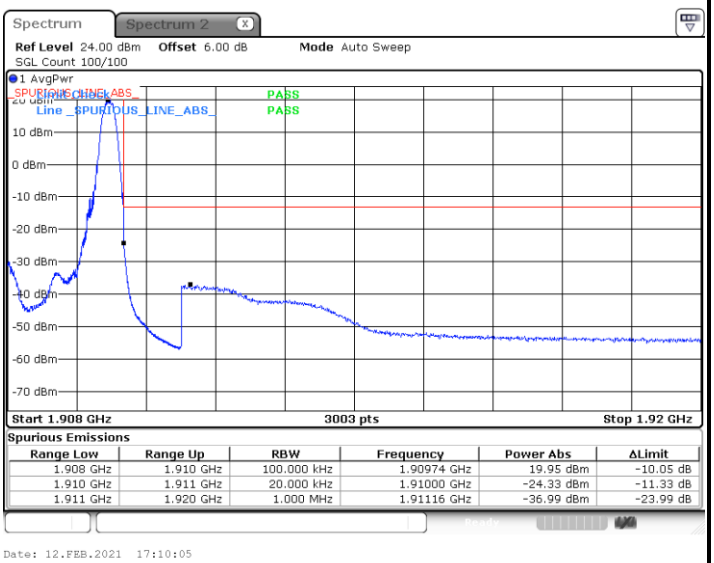


LTE Band 2 / 1.4MHz / 64QAM

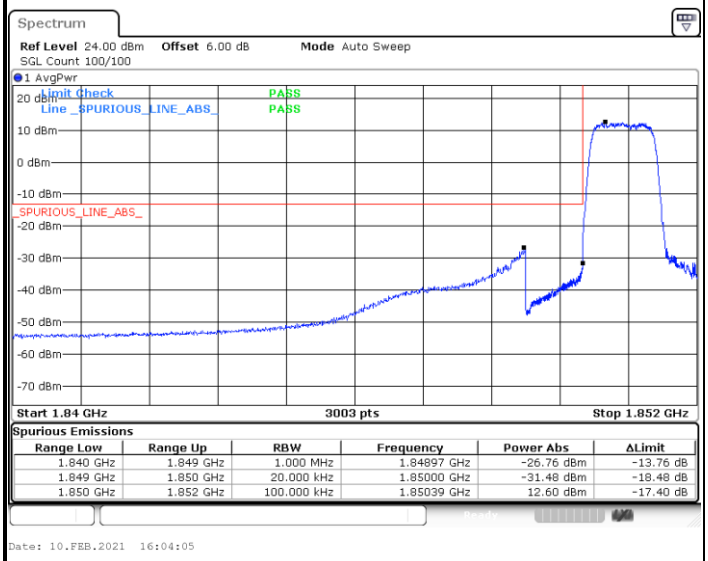
Lowest Band Edge / 1 RB



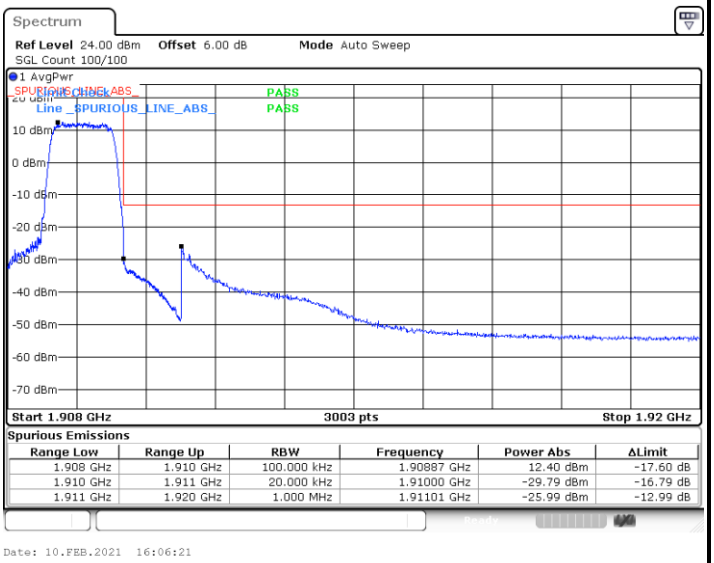
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB

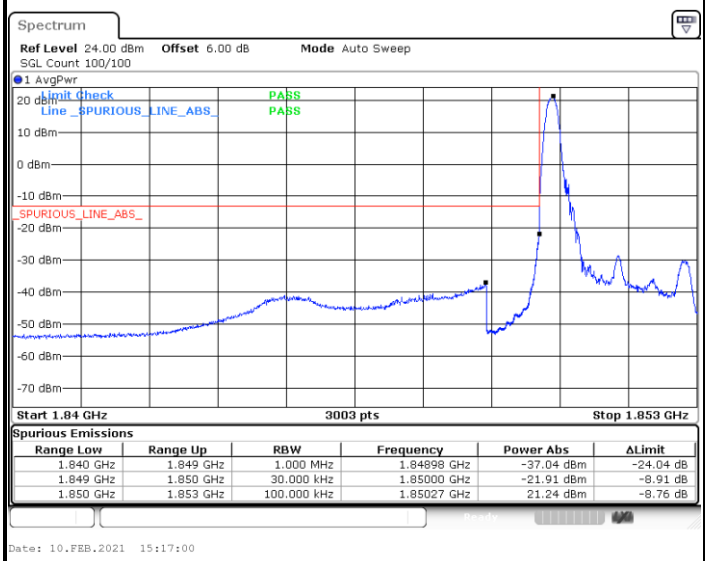


Highest Band Edge / Full RB



LTE Band 2 / 3MHz / QPSK

Lowest Band Edge / 1RB

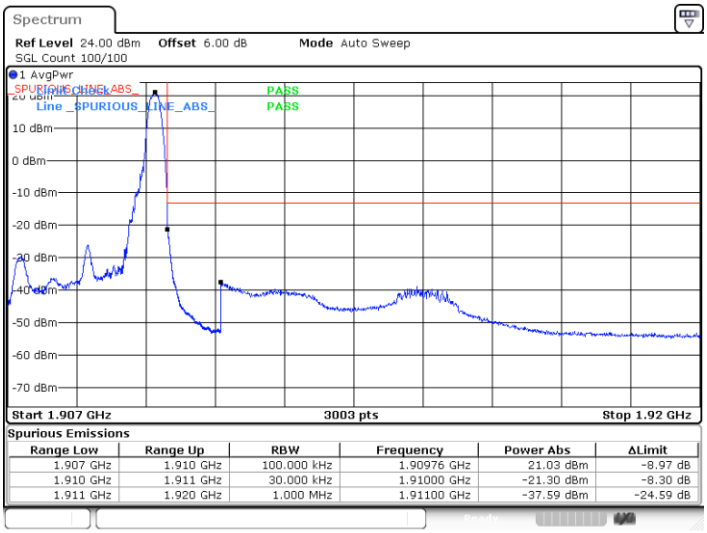


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84898 GHz	-37.04 dBm	-24.04 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-21.91 dBm	-8.91 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85027 GHz	21.24 dBm	-8.76 dB

Date: 10.FEB.2021 15:17:00

Highest Band Edge / 1 RB

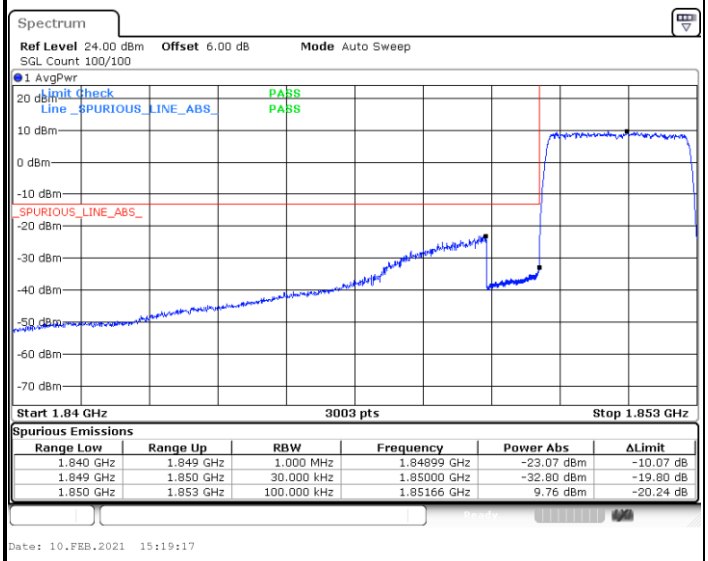


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90976 GHz	21.03 dBm	-8.97 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-21.30 dBm	-8.30 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91100 GHz	-37.59 dBm	-24.59 dB

Date: 10.FEB.2021 15:21:45

Lowest Band Edge / Full RB

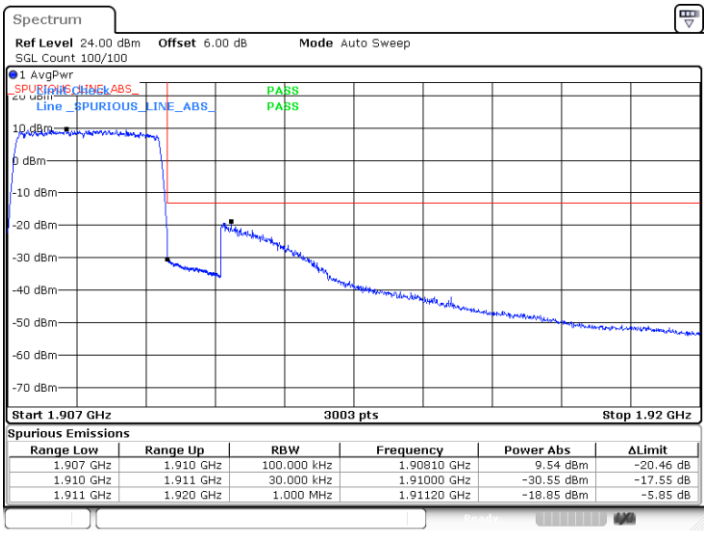


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-23.07 dBm	-10.07 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-32.80 dBm	-19.80 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85166 GHz	9.76 dBm	-20.24 dB

Date: 10.FEB.2021 15:19:17

Highest Band Edge / Full RB

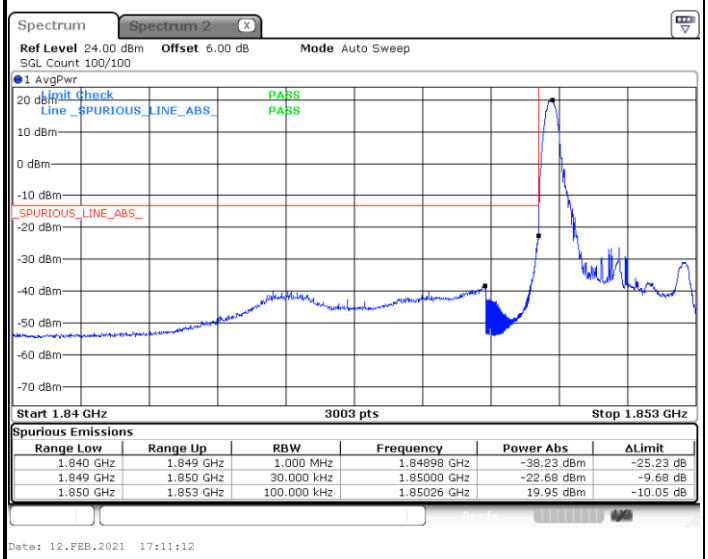


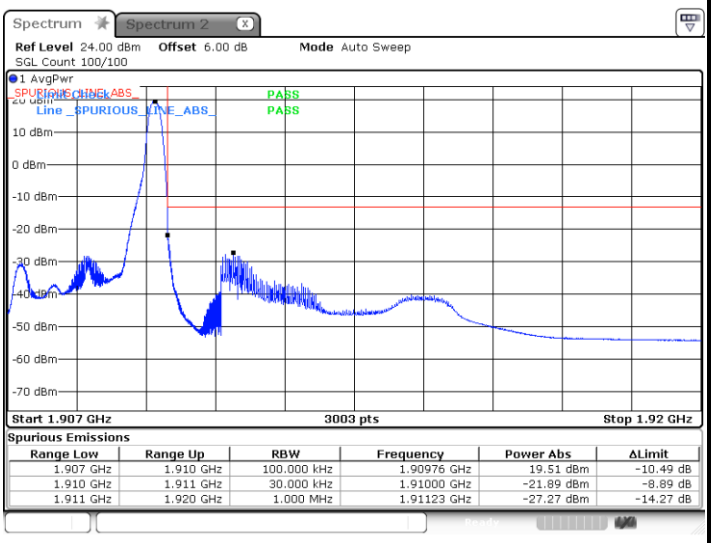
Spurious Emissions

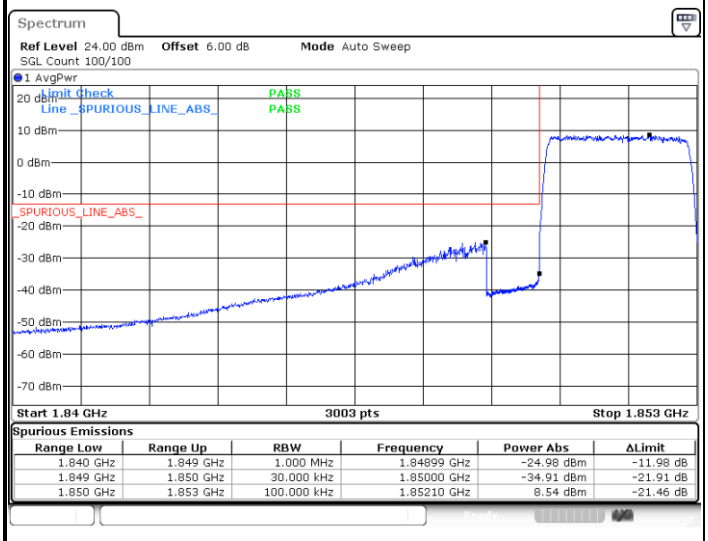
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90810 GHz	9.54 dBm	-20.46 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-30.55 dBm	-17.55 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91120 GHz	-18.85 dBm	-5.85 dB

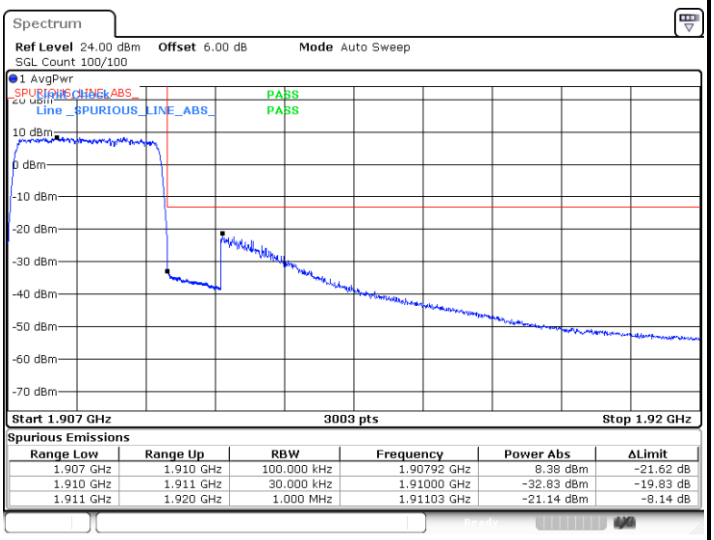
Date: 10.FEB.2021 15:24:02

LTE Band 2 / 3MHz / 16QAM	
Lowest Band Edge / 1 RB	**Highest Band Edge /1 RB**
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**

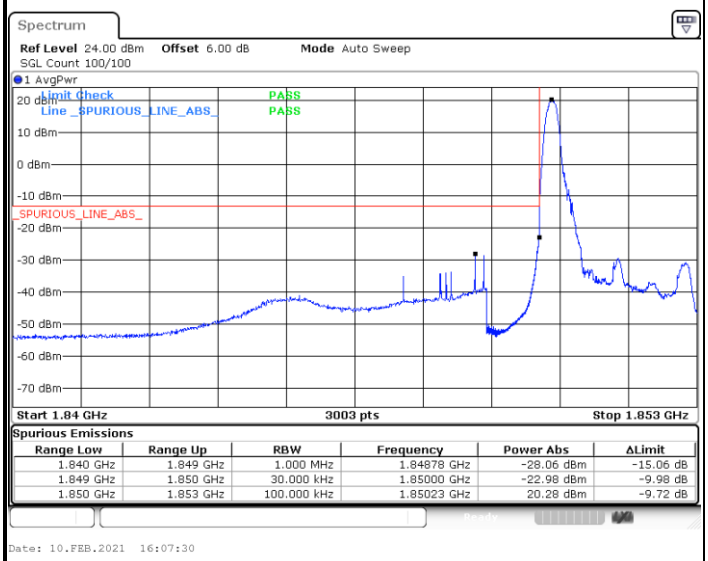




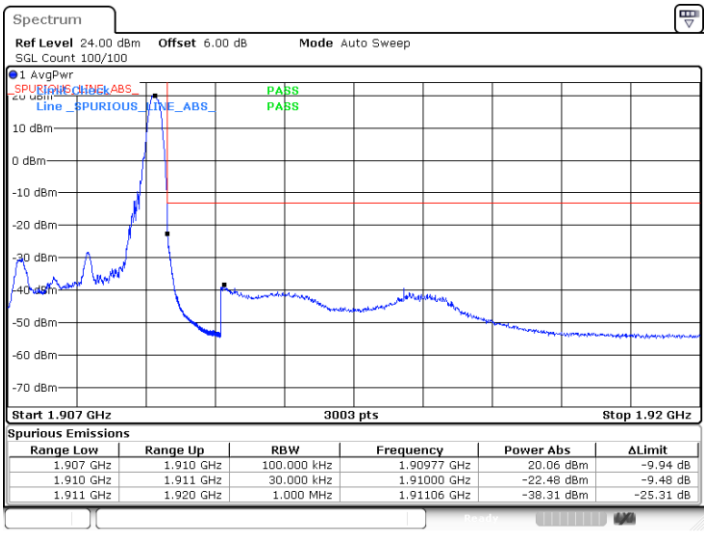




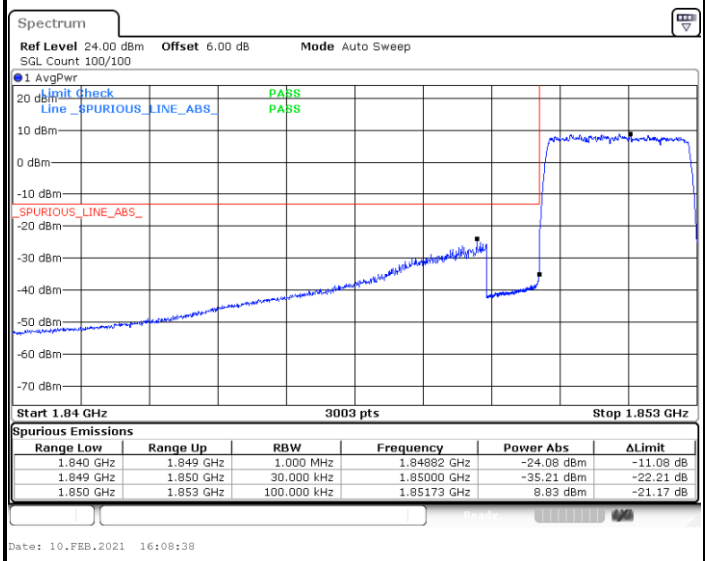
LTE Band 2 / 3MHz / 64QAM	
Lowest Band Edge / 1 RB	**Highest Band Edge /1 RB**
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**



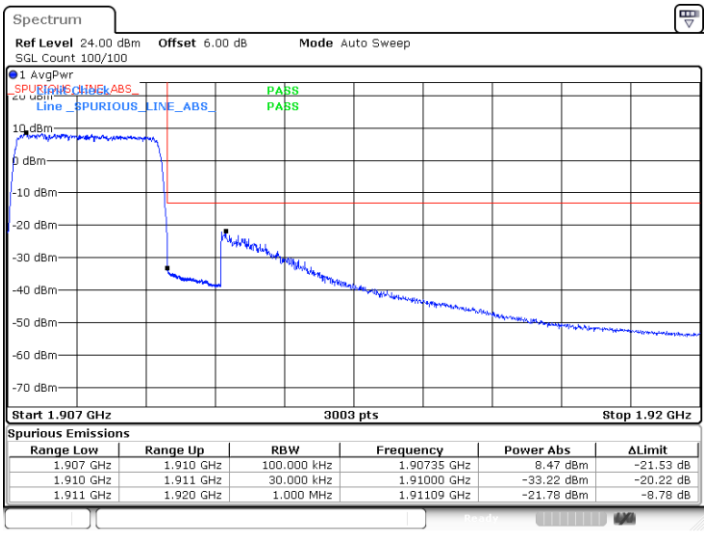
Date: 10.FEB.2021 16:07:30



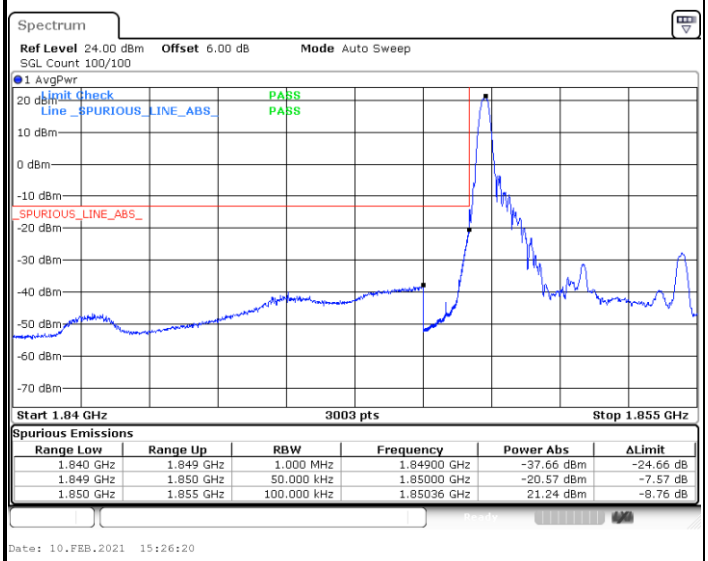
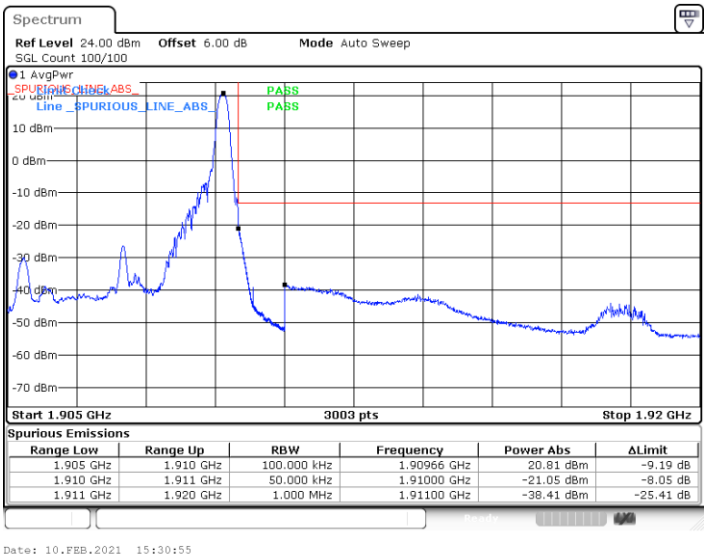
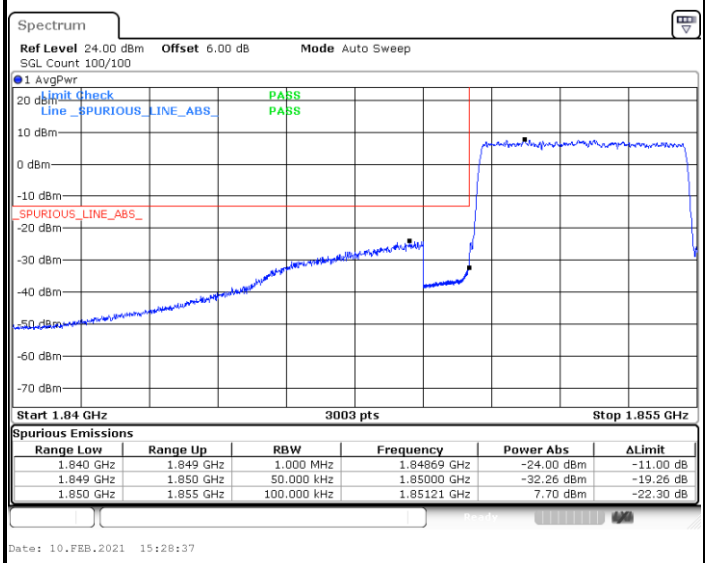
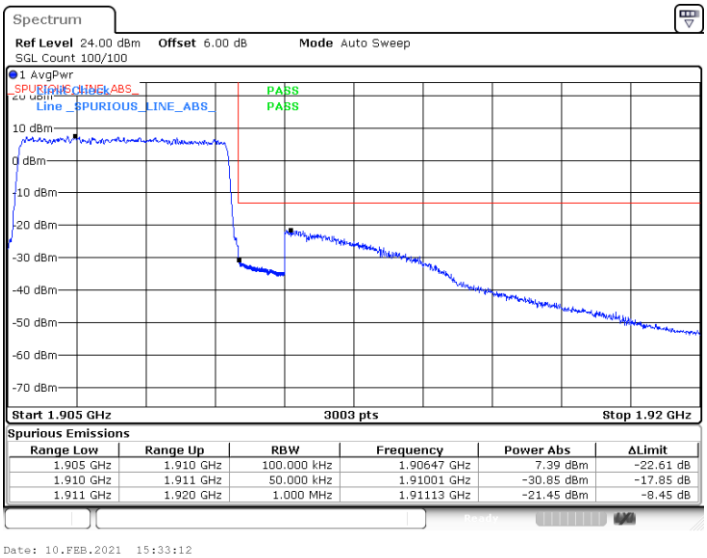
Date: 10.FEB.2021 16:10:55

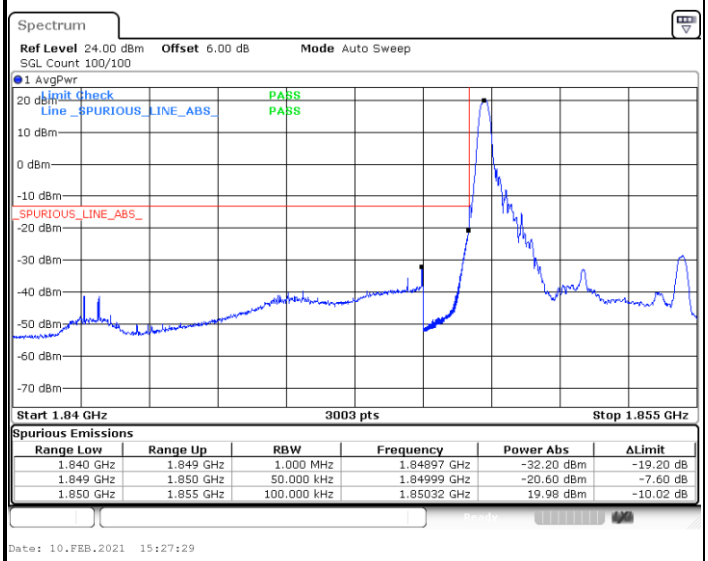
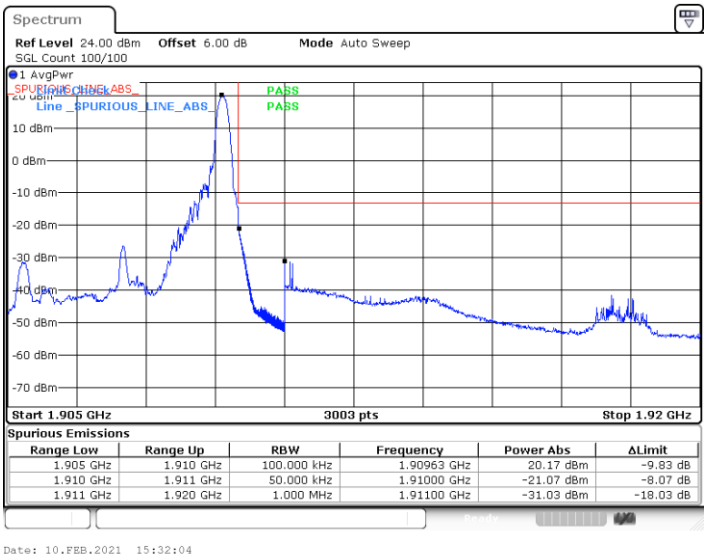
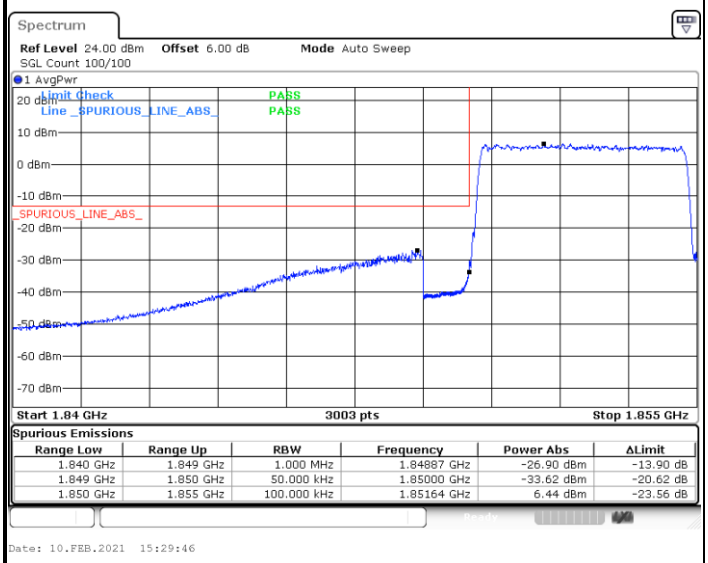
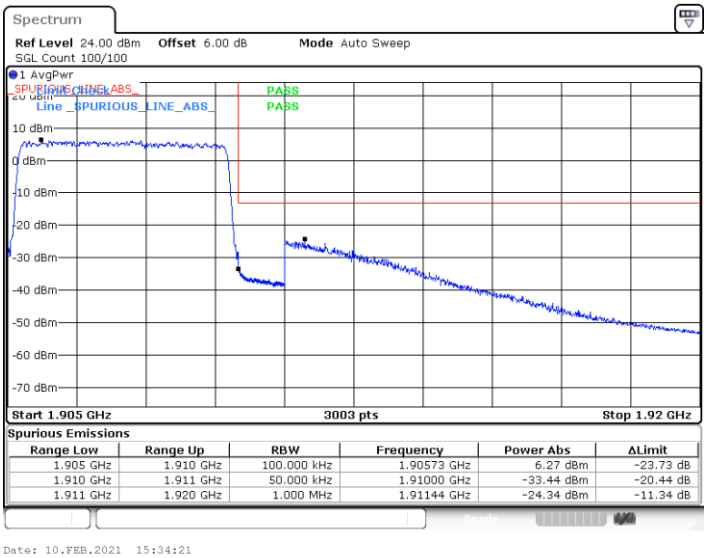


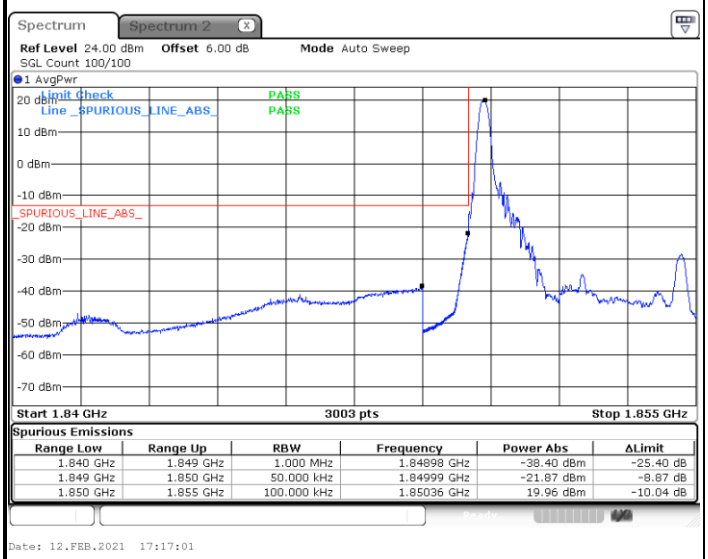
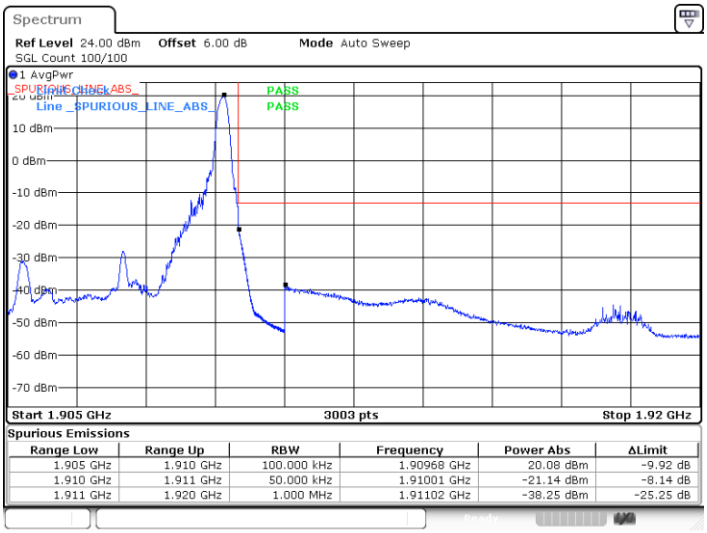
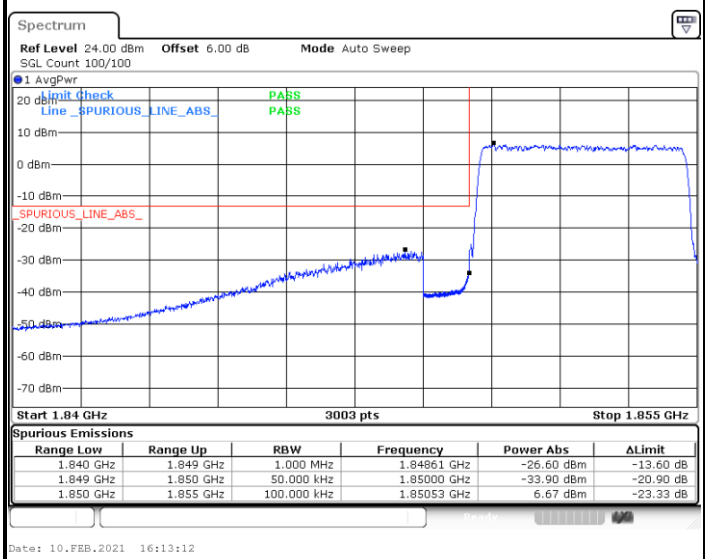
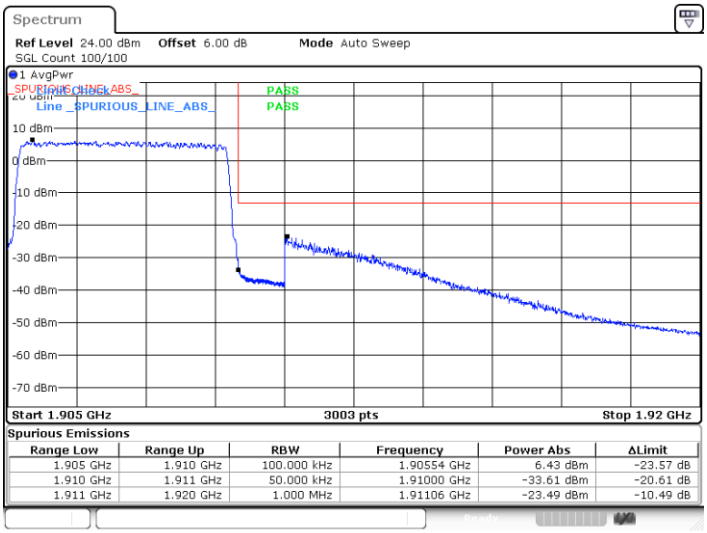
Date: 10.FEB.2021 16:08:38

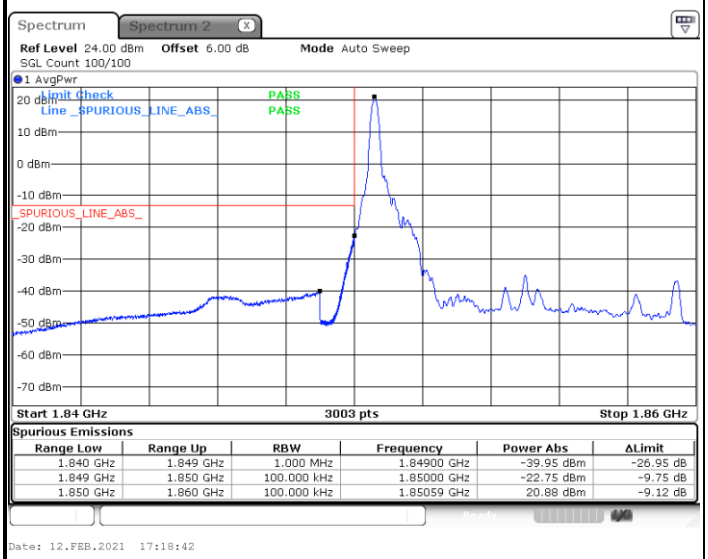
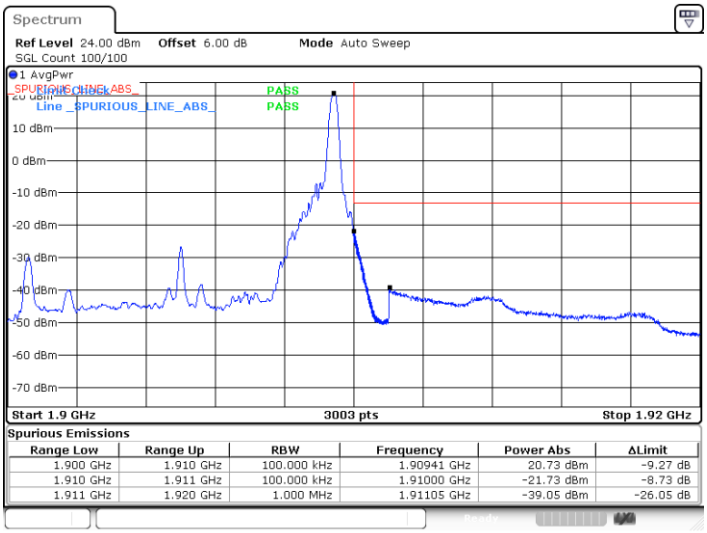


Date: 10.FEB.2021 16:09:47

LTE Band 2 / 5MHz / QPSK	
Lowest Band Edge / 1 RB	**Highest Band Edge / 1 RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

LTE Band 2 / 5MHz / 16QAM	
Lowest Band Edge / 1RB	**Highest Band Edge / 1 RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

LTE Band 2 / 5MHz / 64QAM	
Lowest Band Edge / 1RB	**Highest Band Edge / 1 RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

LTE Band 2 / 10MHz / QPSK	
Lowest Band Edge / 1 RB	**Highest Band Edge / 1 RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**