



FCC RADIO TEST REPORT

FCC ID : RPV-SE5901B-AF
Equipment : Industrial Cellular Serial Device Server
Industrial Cellular Modbus Gateway
Industrial Cellular Modbus Concentrator
Industrial Cellular Protocol Gateway
Brand Name : 
Model Name : SE5901B-WW-www-XXX-x-Y-yy-bb,
SE5901B-IO-4G-GPS-B-S-US, SE5901B-4G-GPS-B-S-US,
SE5901B-IO-D3G-GPS-S-US,
SE5901B-D3G-S-US, SE5901B-IO-D3G-S-US,
SE5901B-4G-US, SE5901B-4G-B-US,
SE5901B-IO-4G-GPS-US, SE5901B-IO-4G-B-US
MB5901B- WW-www-XXX-x-Y-yy-ZZ-bb
PG5901B-WW-www-XXX-x-Y-yy-zzaa-zzaa-bb
((Refer to 1.1.4 for more details)
Applicant : ATOP Technologies, Inc.
1F, 30, R&D Rd. II, Science-Based Industrial Park, Hsinchu
30076, Taiwan, R.O.C.
Manufacturer : ATOP Technologies, Inc.
1F, 30, R&D Rd. II, Science-Based Industrial Park, Hsinchu
30076, Taiwan, R.O.C.
Standard : 47 CFR Part 90 Subpart R

The product was received on Nov. 21, 2018, and testing was started from Jan. 11, 2019 and completed on Feb. 15, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI/TIA-603-E (2016), ANSI C63.26-2015 and shown compliance with the applicable technical standards.

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

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


Approved by: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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



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TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB Ver1.0



Summary of Test Result

Report Clause	Band	Ref Std. Clause (FCC Rule)	Test Items	Result (PASS/FAIL)	Remark
3.1	14	2.1046 / 90.635	Conducted Output Power	PASS	-
	14	90.542	Effective Radiated Power	PASS	-
3.2	14	KDB 971168 D01(5.7)	Peak-to-Average Ratio	PASS	-
3.3	14	2.1049 / 90.209	Occupied Bandwidth	PASS	-
3.4	14	90.210(b)	Emission Mask	PASS	
3.5	14	90.543 (e)	Conducted Band Edge / Spurious Emission	PASS	-
3.6	14	90.543 (e)	Field Strength of Spurious Radiation	PASS	-
3.7	14	90.539 (c)	Frequency Stability	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Cliff Chang

Report Producer: Wendy Pan



1 General Description

1.1 Information

1.1.1 RF General Information

Items	Description			
EUT Power Type	From DC Power Supply			
EUT Type	☒ Control & Mobile Station ☐ Portable Station			
Operating Frequency	Band	Bandwidth (MHz)	TX Frequency (MHz)	RX Frequency (MHz)
	14	5	790.5 ~ 795.5	760.5 ~ 765.5
		10	793.0	763.0
Maximum Output Power to Antenna	Band	Bandwidth (MHz)	Max. Conducted Power (dBm)	
	14	5	23.42	
		10	23.23	
99% Occupied Bandwidth	Band	Bandwidth (MHz)	Max. 99% Occupied Bandwidth (MHz)	
	14	5	4.463	
		10	8.912	
Type of Modulation	LTE: QPSK / 16QAM			

Note: The above information was declared by manufacturer.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Remark
1	1	MGEAR	C1830-510001-A(SRF2015470)	PCB	SMA	Note	TX/RX
2	2	MGEAR	C1830-510001-A(SRF2015470)	PCB	SMA		RX only

Note1:

WWAN antenna Gain (dBi)											
Function Ant.	WCDMA			LTE							
	Band 5	Band 2	Band 4	Band 5	Band 2	Band 4	Band 12	Band 13	Band 14	Band 66	Band 71
1	1.04	1.99	1.68	1.04	1.99	1.68	0.42	0.90	0.90	1.68	-0.20
2	1.04	1.99	1.68	1.04	1.99	1.68	0.42	0.90	0.90	1.68	-0.20

Note: The above information was declared by manufacturer.

**1.1.3 Maximum ERP Power, Frequency Tolerance, and Emission Designator**

LTE						
Band	Bandwidth (MHz)	Type of Modulation	Max. Conducted Power (W)	Max. ERP (W)	Frequency Tolerance (ppm)	Emission Designator
14	5 MHz	QPSK	0.220	0.165	-1.48	4M93G7D
		16QAM	0.168	0.126		4M92W7D
	10 MHz	QPSK	0.210	0.158		9M56G7D
		16QAM	0.185	0.139		9M65W7D

**1.1.4 Table for Multiple Listing**

Equipment Name		Model Name
Industrial Cellular Serial Device Server		SE5901B-WW-www-XXX-x-Y-yy-bb, SE5901B-IO-4G-GPS-B-S-US, SE5901B-4G-GPS-B-S-US, SE5901B-IO-D3G-GPS-S-US, SE5901B-D3G-S-US, SE5901B-IO-D3G-S-US, SE5901B-4G-US, SE5901B-4G-B-US, SE5901B-IO-4G-GPS-US, SE5901B-IO-4G-B-US
Industrial Cellular Modbus Gateway Industrial Cellular Modbus Concentrator		MB5901B- WW-www-XXX-x-Y-yy-ZZ-bb
Industrial Cellular Protocol Gateway		PG5901B-WW-www-XXX-x-Y-yy-zzaa-zzaa-bb
Description: From above difference equipment name and model names serve as the different marketing strategy and the detail different refer to the list as below:		
WW	IO or Blank	WW can be IO or Blank, for COM port type. Blank: D-sub connector IO: Terminal Block with COM, relay and DI/O function
www	D3G or 4G or Blank	www can be D3G or 4G or Blank D3G: support 3G 4G: support 4G & 3G Blank: No 3G or 4G function
XXX	GPS or Blank	XXX can be GPS or Blank GPS: Support GPS function Blank: no GPS function
x	B or Blank	x can be B or Blank, for Internal battery B: support internal battery Blank: no internal battery
Y	S or Blank	Y can be S or Blank, for SD card S: support SD card Blank: no SD card
yy	US or EU or TW	yy can be US or EU or Blank, for country US: North America EU: Europe Blank: Taiwan
ZZ	CT or Blank	ZZ can be CT or Blank, for software function CT: concentrator Blank: No concentrator
zz	00-99, AA-ZZ, aa-zz or Blank;	zz can be 00-99, AA-ZZ, aa-zz or Blank, for software function
aa	00-99 , AA-ZZ , aa-zz or Blank;	aa can be 00-99 , AA-ZZ , aa-zz or Blank, for software function
bb	00-99 , AA-ZZ , aa-zz or Blank; (Customer Code)	bb can be 00-99, AA-ZZ, aa-zz or Blank, for Customer Code

From the above models, model: SE5901B-IO-4G-GPS-B-S-US was selected as representative model for the test and its data was recorded in this report.



1.2 Applicable Standards

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

- 47 CFR Part 90 Subpart R
- ANSI/TIA-603-E (2016)
- ANSI C63.26-2015
- FCC KDB 971168 D01 v03r01
- FCC KDB 412172 D01 v01r01

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

1.3 Testing Location

Testing Location		
☐	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Ekko Hsieh	22 ~ 24°C / 57~59%	Jan. 11, 2019 ~ Feb. 15, 2019
Radiated	03CH01-CB	Ekko Hsieh	22 ~ 24°C / 54~56%	Jan. 23, 2019 ~ Jan. 25, 2019

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

Test Items	Uncertainty	Remark
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%



2 Test Configuration of Equipment Under Test

2.1 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests		
Tests Item	Conducted Output Power Effective Radiated Power (ERP) Emission Mask Peak-to-Average Ratio 99% OBW and 26dB Bandwidth Conducted Band Edge / Spurious Emission Frequency Stability	
Test Condition	Conducted measurement at transmit chains	
Test Mode	1	LTE Band 14

The Worst Case Mode for Following Conformance Tests		
Tests Item	Field Strength of Spurious Radiation Measurement	
Test Condition	Radiated measurement	
Operating Mode > 1GHz		
1	EUT in Y axis	

Note: The EUT can only be used at Y axis .



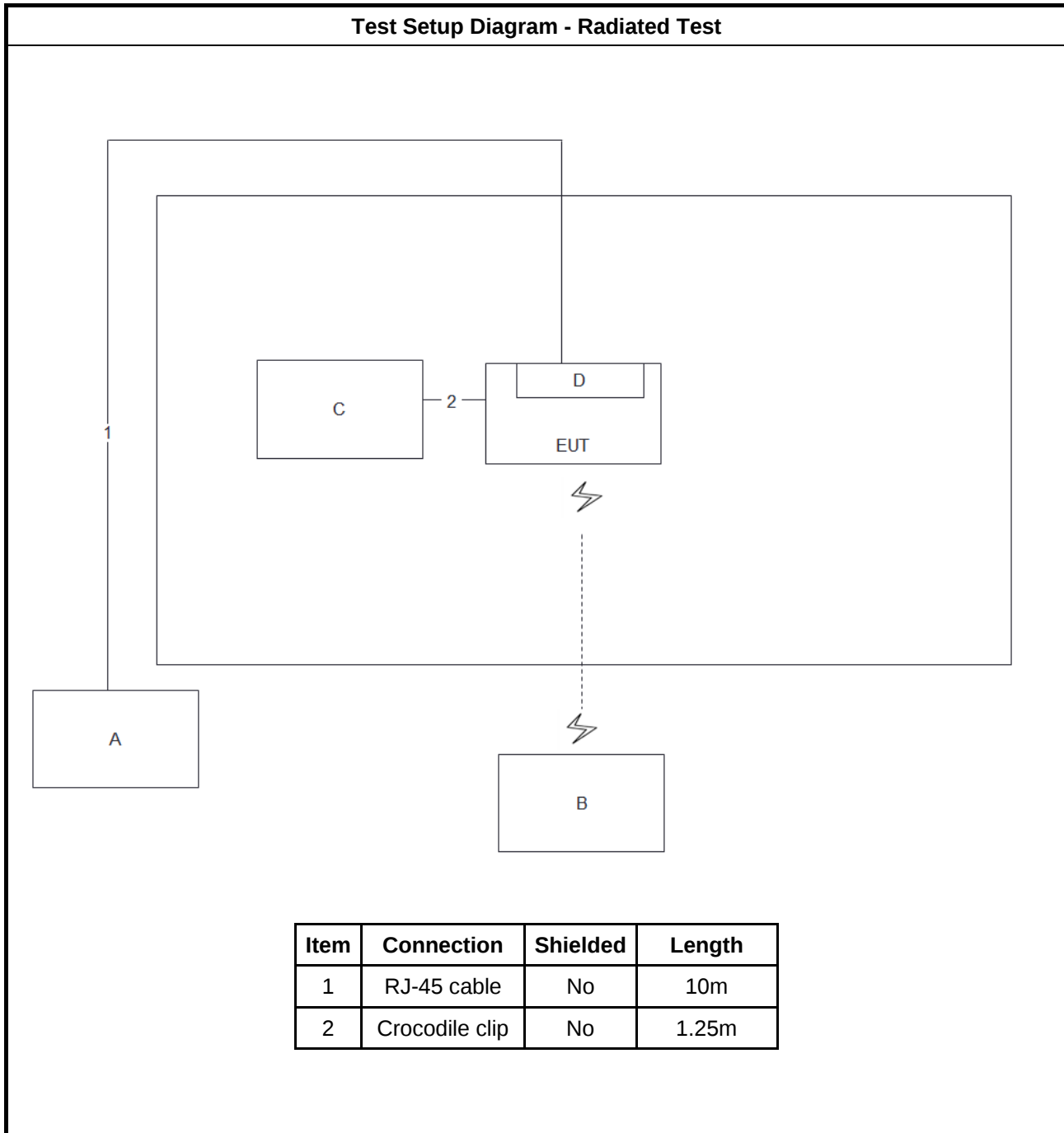
2.2 Accessories

N/A

2.3 Support Equipment

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	LTE base station	Anritsu	MT8820C	N/A
C	Power Supply	Advanced	LPS-305	N/A
D	SIM Card	Anritsu	N/A	N/A

2.4 Test Setup Diagram





2.5 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 RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

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

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 1 dB and a 20dB attenuator.

Example:

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

$$= 1 + 20 = 21 \text{ (dB)}$$

3 Test Result

3.1 Conducted Output Power and ERP Measurement

3.1.1 Description of the Conducted Output Power and ERP Measurement

Conducted Output Power Limit	
☒ Band 14	No Limit
Effective Radiated Power (ERP) Limit	
☒ Band 14	Control & Mobile Stations < 30Watts Portable Stations < 3Watts
Note 1: A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported. Note 2: According to FCC KDB 412172 D01 v01r01 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	

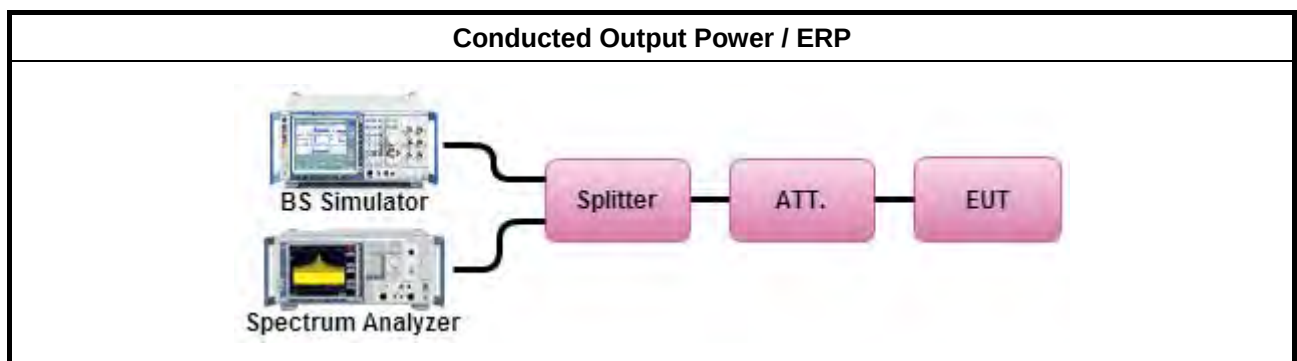
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power & ERP

Refer as Appendix A

3.2 Peak-to-Average Ratio Measurement

3.2.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

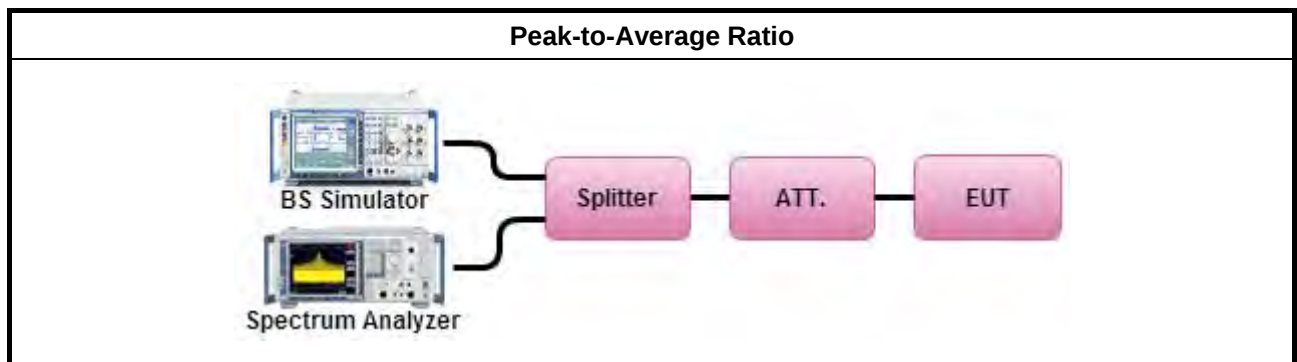
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Peak-to-Average Ratio

Refer as Appendix B



3.3 Occupied Bandwidth Measurement

3.3.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

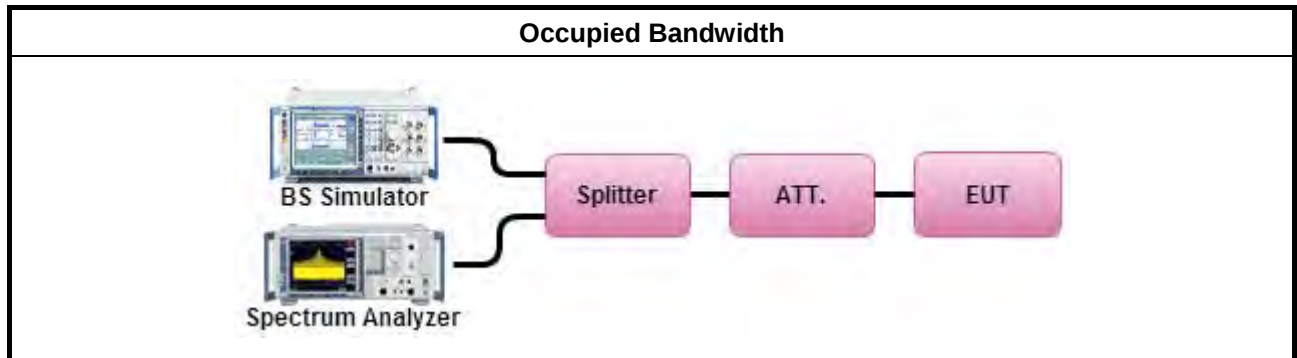
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of Occupied Bandwidth

Refer as Appendix C



3.4 Emission Mask Measurement

3.4.1 Description of Emission Mask Measurement

Emission Mask	
☒ Band 14	Emission Mask B. For transmitters that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows: (1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB. (2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB. (3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \log (P)$ dB. Rule Part 90.1323(a) The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB.

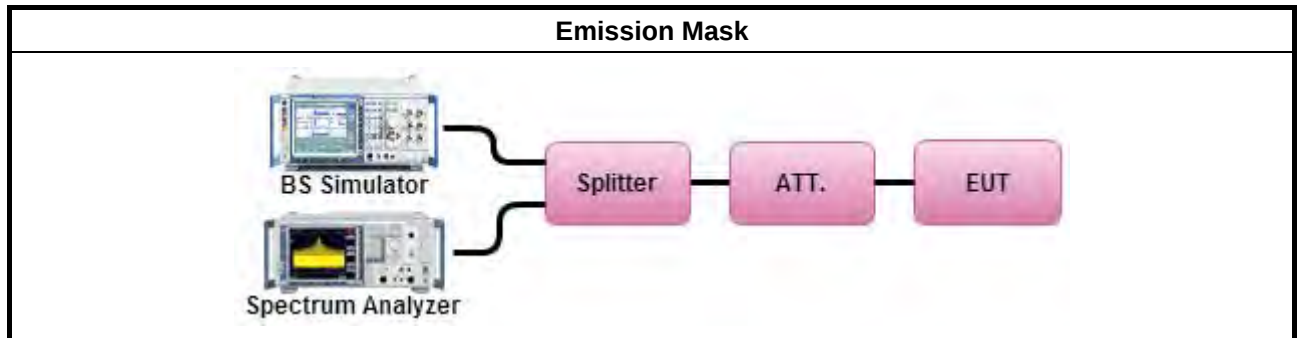
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The emission mask of low and high channels for the highest RF powers were measured.
3. Set RBW = approximately 1% of the emission bandwidth.
4. Set the VBW = $3 \times$ RBW.
5. Set spectrum analyzer with RMS detector.
6. Checked that all the results comply with the emission limit line.

3.4.4 Test Setup



3.4.5 Test Result of Emission Mask

Refer as Appendix D



3.5 Conducted Band Edge / Spurious Emission Measurement

3.5.1 Description of Conducted Band Edge / Spurious Emission Measurement

Conducted Band Edge / Spurious Emission	
☒ Band14	For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following: (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations. (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations. (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB. (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment. (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed. (f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

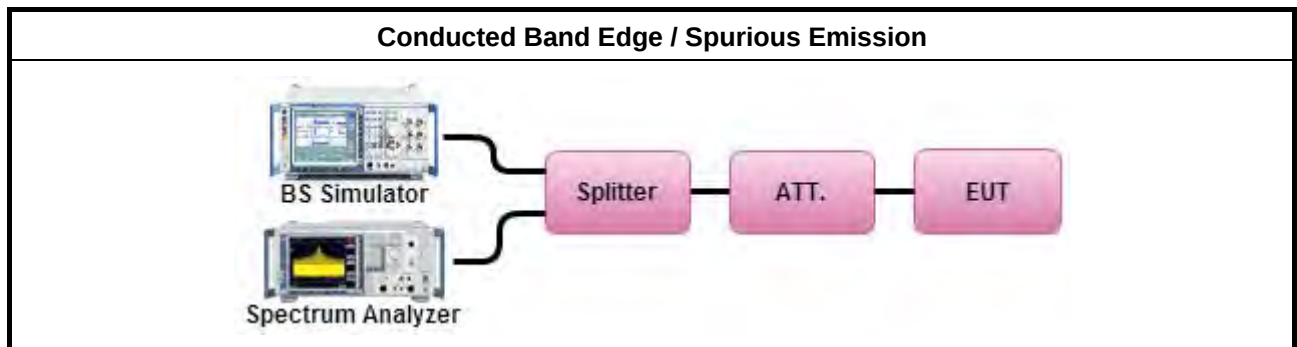
3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. RBW is set to 10kHz, VBW is set to 30 kHz for LTE Band 14 (769MHz~775MHz).
6. RBW is set to 100 kHz, VBW is set to 300kHz for LTE Band14 (775MHz~788MHz).
7. RBW is set to 10kHz, VBW is set to 30 kHz for LTE Band 14 (799MHz~805MHz).
8. Set spectrum analyzer with RMS detector.
9. Taking the record of maximum spurious emission.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.5.4 Test Setup



3.5.5 Test Result of Conducted Band Edge / Spurious Emission

Refer as Appendix E

3.6 Field Strength of Spurious Radiation Measurement

3.6.1 Description of Field Strength of Spurious Radiated Measurement

Field Strength of Spurious Radiated	
☒ Band 14	For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following: (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations. (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations. (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB. (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment. (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed. (f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

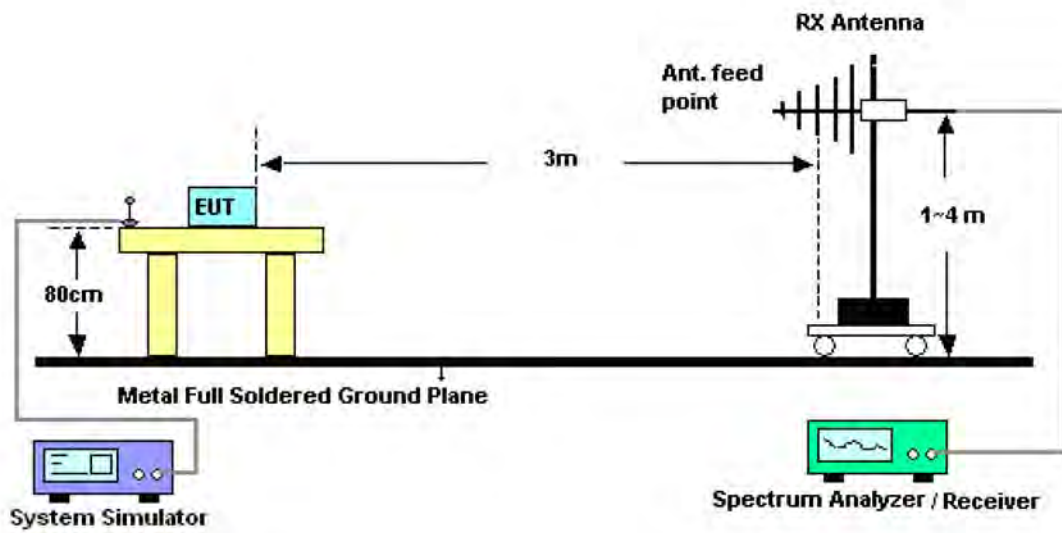


3.6.3 Test Procedures

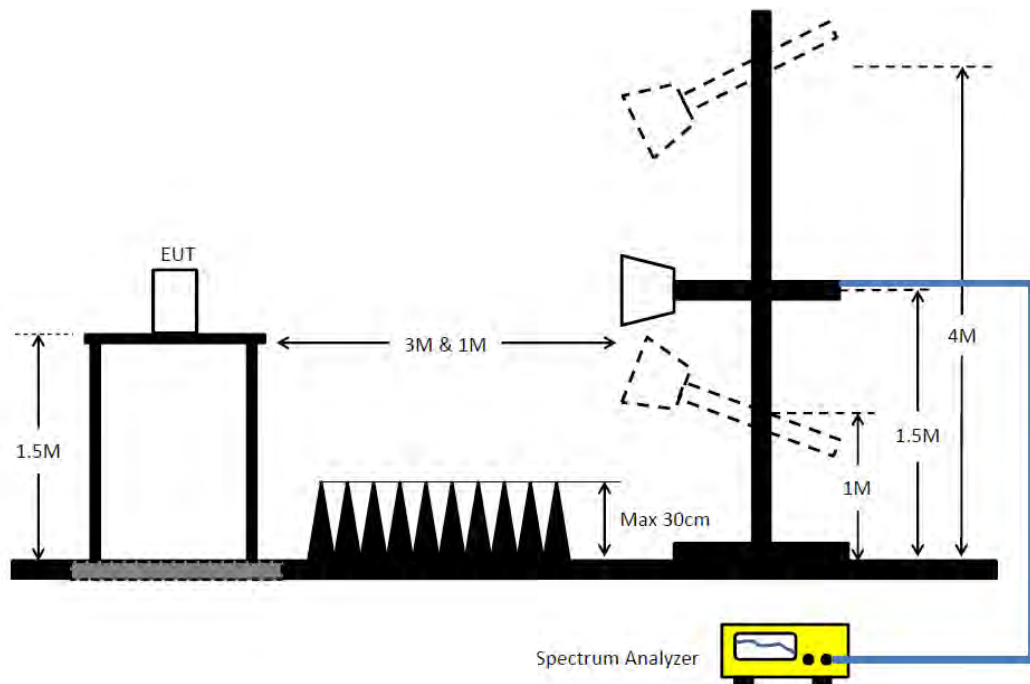
1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.6.4 Test Setup

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.6.5 Test Result of Field Strength of Spurious Radiated (Below 1GHz)

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

3.6.6 Test Result of Field Strength of Spurious Radiated (Above 1GHz)

Refer as Appendix F

3.7 Frequency Stability Measurement

3.7.1 Description of Frequency Stability Measurement

Frequency Stability	
☒ Band 14	The frequency stability of mobile, portable, and control transmitters operating in the Narrowband segment must be 400 parts per billion or better when AFC is locked to the base station. When AFC is not locked to the base station, the frequency stability must be at least 1.0 ppm for 6.25 kHz, 1.5 ppm for 12.5 kHz (2 channel aggregate), and 2.5 ppm for 25 kHz (4 channel aggregate).
Note: 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.	

3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

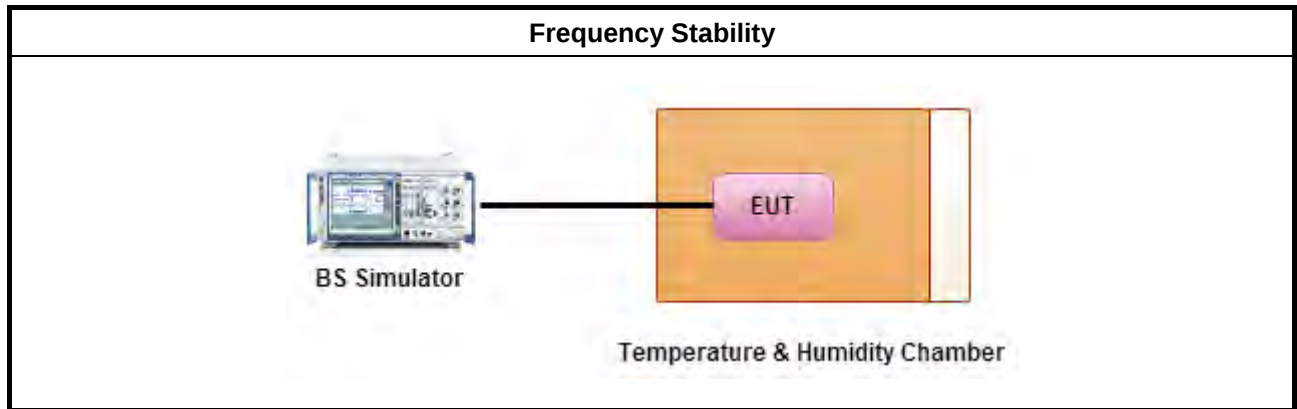
3.7.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -40°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in -40°C steps up to 85°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.7.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85 to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

3.7.5 Test Setup



3.7.6 Test Result of Frequency Stability

Refer as Appendix G



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum analyzer	Keysight	N9020A	MY55400138	10 Hz up to 26.5 GHz	Dec. 18, 2018	Dec. 17, 2019	Conducted (TH01-CB)
MW Analog Signal Generator	Keysight	N5183A	MY50142965	100kHz~20GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
Vector Signal Generator	Keysight	N5182B	MY53052408	9kHz~6GHz	Jan. 04, 2019	Jan. 03, 2020	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-C2SP	TBN-1010206	-20~150 degree	Mar. 05, 2018	Mar. 06, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz ~ 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz ~26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz ~26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz ~26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz ~26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 05, 2018	Nov. 04, 2019	Conducted (TH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESCS	100359	9kHz ~ 2.75GHz	Jul. 03, 2018	Jul. 02, 2019	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)



FCC RADIO TEST REPORT

Report No. : FG8N2127AB

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)

Note: Calibration Interval of instruments listed above is one year.

Summary

Mode	Power (dBm)	Power (W)	ERP (dBm)	ERP (W)
Band 14	-	-	-	-
LTE_5MHz_Nss1,QPSK_1TX	23.42	0.220	22.17	0.165
LTE_5MHz_Nss1,16QAM_1TX	22.26	0.168	21.01	0.126
LTE_10MHz_Nss1,QPSK_1TX	23.23	0.210	21.98	0.158
LTE_10MHz_Nss1,16QAM_1TX	22.67	0.185	21.42	0.139

Result

Mode	Result	Port 1 (dBm)	Power (dBm)	Power (W)	DG (dBi)	ERP (dBm)	ERP (W)	ERP Lim. (W)
LTE_5MHz_Nss1_1TX	-	-	-	-	-	-	-	-
790.5MHz_QPSK_RB 25,#RB 0	Pass	22.19	22.19	0.166	0.90	20.94	0.124	30
790.5MHz_QPSK_RB 1,#RB L	Pass	22.56	22.56	0.180	0.90	21.31	0.135	30
790.5MHz_QPSK_RB 1,#RB M	Pass	23.23	23.23	0.210	0.90	21.98	0.158	30
790.5MHz_QPSK_RB 1,#RB H	Pass	22.93	22.93	0.196	0.90	21.68	0.147	30
790.5MHz_QPSK_RB 12,#RB L	Pass	22.07	22.07	0.161	0.90	20.82	0.121	30
790.5MHz_QPSK_RB 12,#RB M	Pass	22.19	22.19	0.166	0.90	20.94	0.124	30
790.5MHz_QPSK_RB 12,#RB H	Pass	22.17	22.17	0.165	0.90	20.92	0.124	30
793MHz_QPSK_RB 25,#RB 0	Pass	22.09	22.09	0.162	0.90	20.84	0.121	30
793MHz_QPSK_RB 1,#RB L	Pass	23.23	23.23	0.210	0.90	21.98	0.158	30
793MHz_QPSK_RB 1,#RB M	Pass	23.42	23.42	0.220	0.90	22.17	0.165	30
793MHz_QPSK_RB 1,#RB H	Pass	23.25	23.25	0.211	0.90	22	0.158	30
793MHz_QPSK_RB 12,#RB L	Pass	22.18	22.18	0.165	0.90	20.93	0.124	30
793MHz_QPSK_RB 12,#RB M	Pass	22.20	22.20	0.166	0.90	20.95	0.124	30
793MHz_QPSK_RB 12,#RB H	Pass	22.15	22.15	0.164	0.90	20.9	0.123	30
795.5MHz_QPSK_RB 25,#RB 0	Pass	22.14	22.14	0.164	0.90	20.89	0.123	30
795.5MHz_QPSK_RB 1,#RB L	Pass	22.73	22.73	0.187	0.90	21.48	0.141	30
795.5MHz_QPSK_RB 1,#RB M	Pass	23.29	23.29	0.213	0.90	22.04	0.160	30
795.5MHz_QPSK_RB 1,#RB H	Pass	23.04	23.04	0.201	0.90	21.79	0.151	30
795.5MHz_QPSK_RB 12,#RB L	Pass	22.02	22.02	0.159	0.90	20.77	0.119	30
795.5MHz_QPSK_RB 12,#RB M	Pass	22.27	22.27	0.169	0.90	21.02	0.126	30
795.5MHz_QPSK_RB 12,#RB H	Pass	21.94	21.94	0.156	0.90	20.69	0.117	30
790.5MHz_16QAM_RB 25,#RB 0	Pass	21.01	21.01	0.126	0.90	19.76	0.095	30
790.5MHz_16QAM_RB 1,#RB L	Pass	21.61	21.61	0.145	0.90	20.36	0.109	30
790.5MHz_16QAM_RB 1,#RB M	Pass	21.97	21.97	0.157	0.90	20.72	0.118	30
790.5MHz_16QAM_RB 1,#RB H	Pass	21.64	21.64	0.146	0.90	20.39	0.109	30
790.5MHz_16QAM_RB 12,#RB L	Pass	20.84	20.84	0.121	0.90	19.59	0.091	30
790.5MHz_16QAM_RB 12,#RB M	Pass	21.04	21.04	0.127	0.90	19.79	0.095	30
790.5MHz_16QAM_RB 12,#RB H	Pass	21.20	21.20	0.132	0.90	19.95	0.099	30
793MHz_16QAM_RB 25,#RB 0	Pass	21.04	21.04	0.127	0.90	19.79	0.095	30
793MHz_16QAM_RB 1,#RB L	Pass	21.76	21.76	0.150	0.90	20.51	0.112	30
793MHz_16QAM_RB 1,#RB M	Pass	22.06	22.06	0.161	0.90	20.81	0.121	30
793MHz_16QAM_RB 1,#RB H	Pass	21.95	21.95	0.157	0.90	20.7	0.117	30
793MHz_16QAM_RB 12,#RB L	Pass	21.15	21.15	0.130	0.90	19.9	0.098	30
793MHz_16QAM_RB 12,#RB M	Pass	20.94	20.94	0.124	0.90	19.69	0.093	30
793MHz_16QAM_RB 12,#RB H	Pass	20.74	20.74	0.119	0.90	19.49	0.089	30
795.5MHz_16QAM_RB 25,#RB 0	Pass	20.94	20.94	0.124	0.90	19.69	0.093	30
795.5MHz_16QAM_RB 1,#RB L	Pass	22.26	22.26	0.168	0.90	21.01	0.126	30
795.5MHz_16QAM_RB 1,#RB M	Pass	22.07	22.07	0.161	0.90	20.82	0.121	30
795.5MHz_16QAM_RB 1,#RB H	Pass	22.17	22.17	0.165	0.90	20.92	0.124	30
795.5MHz_16QAM_RB 12,#RB L	Pass	20.83	20.83	0.121	0.90	19.58	0.091	30
795.5MHz_16QAM_RB 12,#RB M	Pass	21.22	21.22	0.132	0.90	19.97	0.099	30
795.5MHz_16QAM_RB 12,#RB H	Pass	20.98	20.98	0.125	0.90	19.73	0.094	30
LTE_10MHz_Nss1_1TX	-	-	-	-	-	-	-	-

Mode	Result	Port 1 (dBm)	Power (dBm)	Power (W)	DG (dBi)	ERP (dBm)	ERP (W)	ERP Lim. (W)
793MHz_QPSK_RB 50,#RB 0	Pass	22.16	22.16	0.164	0.90	20.91	0.123	30
793MHz_QPSK_RB 1,#RB L	Pass	23.16	23.16	0.207	0.90	21.91	0.155	30
793MHz_QPSK_RB 1,#RB M	Pass	23.23	23.23	0.210	0.90	21.98	0.158	30
793MHz_QPSK_RB 1,#RB H	Pass	23.00	23.00	0.200	0.90	21.75	0.150	30
793MHz_QPSK_RB 25,#RB L	Pass	22.20	22.20	0.166	0.90	20.95	0.124	30
793MHz_QPSK_RB 25,#RB M	Pass	22.10	22.10	0.162	0.90	20.85	0.122	30
793MHz_QPSK_RB 25,#RB H	Pass	22.09	29	0.162	0.90	20.84	0.121	30
793MHz_16QAM_RB 50,#RB 0	Pass	21.28	21.28	0.134	0.90	20.03	0.101	30
793MHz_16QAM_RB 1,#RB L	Pass	21.66	21.66	0.147	0.90	20.41	0.110	30
793MHz_16QAM_RB 1,#RB M	Pass	22.67	22.67	0.185	0.90	21.42	0.139	30
793MHz_16QAM_RB 1,#RB H	Pass	22.10	22.10	0.162	0.90	20.85	0.122	30
793MHz_16QAM_RB 25,#RB L	Pass	20.98	20.98	0.125	0.90	19.73	0.094	30
793MHz_16QAM_RB 25,#RB M	Pass	21.13	21.13	0.130	0.90	19.88	0.097	30
793MHz_16QAM_RB 25,#RB H	Pass	21.29	21.29	0.135	0.90	20.04	0.101	30

DG = Directional Gain; **Port n** = Port n output power

Summary

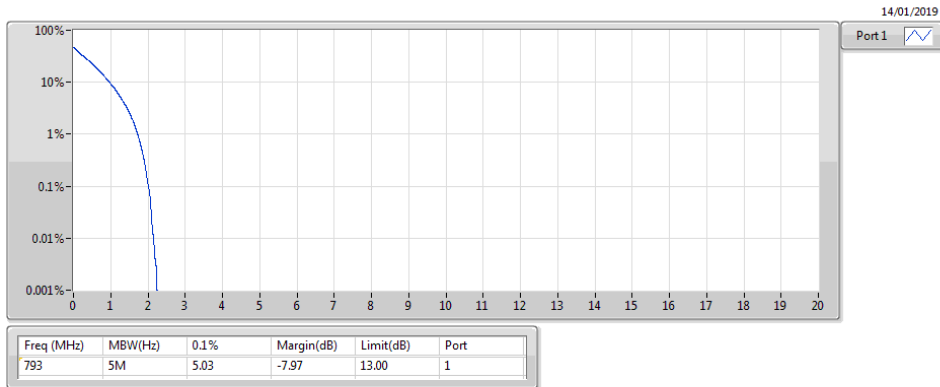
Mode	Result	Freq (MHz)	Margin (dB)	Limit (dB)	0.1%	Port
Band 14_LTE_5MHz_Nss1_1TX	Pass	793	-7.22	13.00	5.78	1
Band 14_LTE_10MHz_Nss1_1TX	Pass	793	-7.22	13.00	5.78	1

Result

Mode	Result	Freq (MHz)	Margin (dB)	Limit (dB)	0.1%	Port
LTE_5MHz_Nss1_1TX	-	-	-	-	-	-
793MHz_QPSK_RB 25,#RB 0	Pass	793	-7.97	13.00	5.03	1
793MHz_QPSK_RB 1,#RB M	Pass	793	-9.18	13.00	3.82	1
793MHz_QPSK_RB 12,#RB M	Pass	793	-8.51	13.00	4.49	1
793MHz_16QAM_RB 25,#RB 0	Pass	793	-7.22	13.00	5.78	1
793MHz_16QAM_RB 1,#RB M	Pass	793	-8.46	13.00	4.54	1
793MHz_16QAM_RB 12,#RB M	Pass	793	-7.59	13.00	5.41	1
LTE_10MHz_Nss1_1TX	-	-	-	-	-	-
793MHz_QPSK_RB 50,#RB 0	Pass	793	-7.96	13.00	5.04	1
793MHz_QPSK_RB 1,#RB M	Pass	793	-9.23	13.00	3.77	1
793MHz_QPSK_RB 25,#RB M	Pass	793	-8.51	13.00	4.49	1
793MHz_16QAM_RB 50,#RB 0	Pass	793	-7.22	13.00	5.78	1
793MHz_16QAM_RB 1,#RB M	Pass	793	-8.22	13.00	4.78	1
793MHz_16QAM_RB 25,#RB M	Pass	793	-7.54	13.00	5.46	1

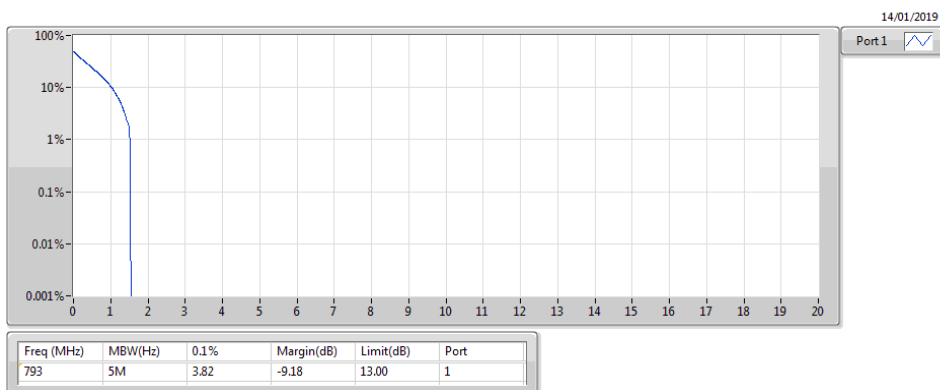
Band 14_LTE_5MHz_Nss1_1TX

793MHz_QPSK_RB 25,#RB 0



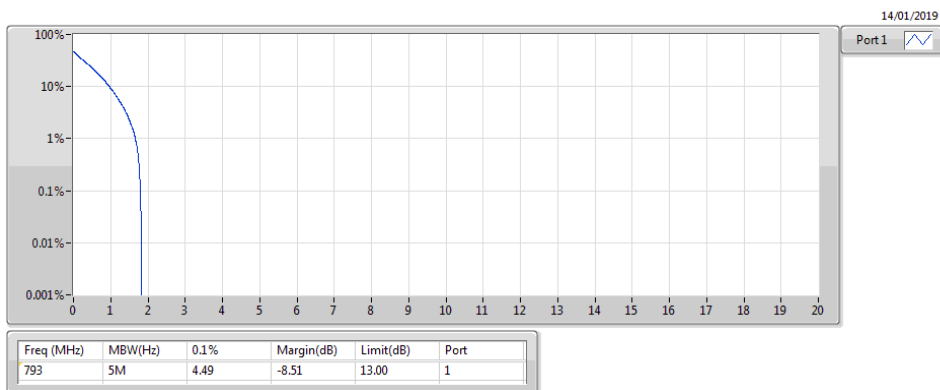
Band 14_LTE_5MHz_Nss1_1TX

793MHz_QPSK_RB 1,#RB M



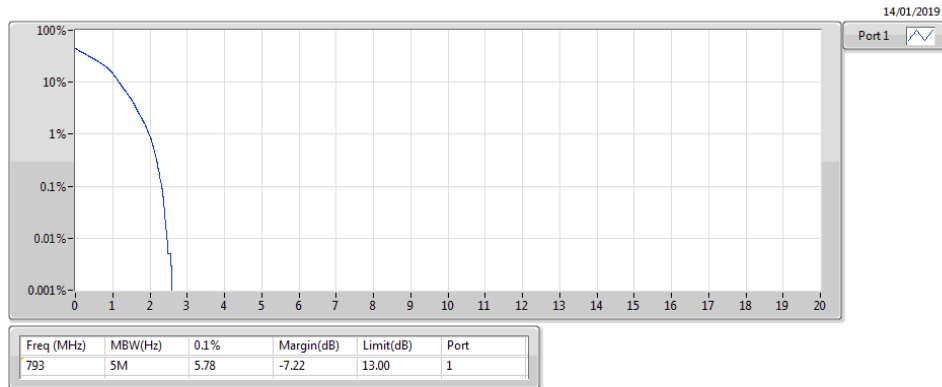
Band 14_LTE_5MHz_Nss1_1TX

793MHz_QPSK_RB 12,#RB M



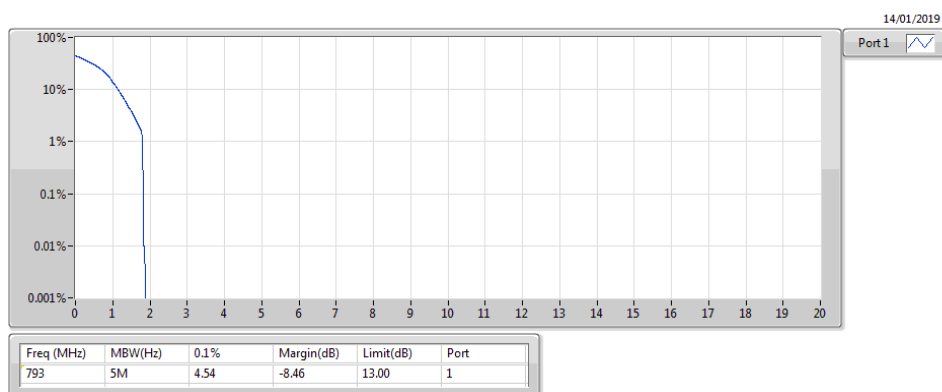
Band 14_LTE_5MHz_Nss1_1TX

793MHz_16QAM_RB 25,#RB 0



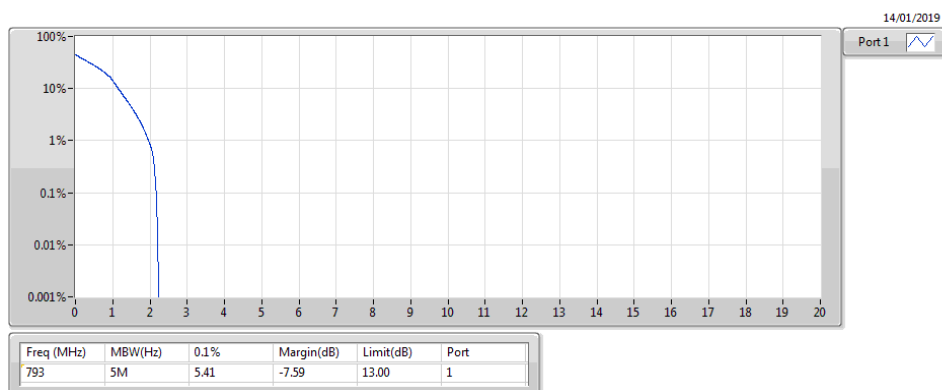
Band 14_LTE_5MHz_Nss1_1TX

793MHz_16QAM_RB 1,#RB M



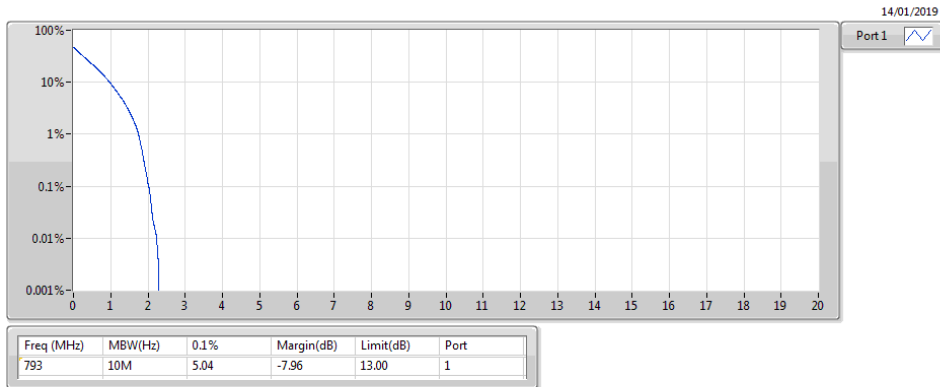
Band 14_LTE_5MHz_Nss1_1TX

793MHz_16QAM_RB 12,#RB M



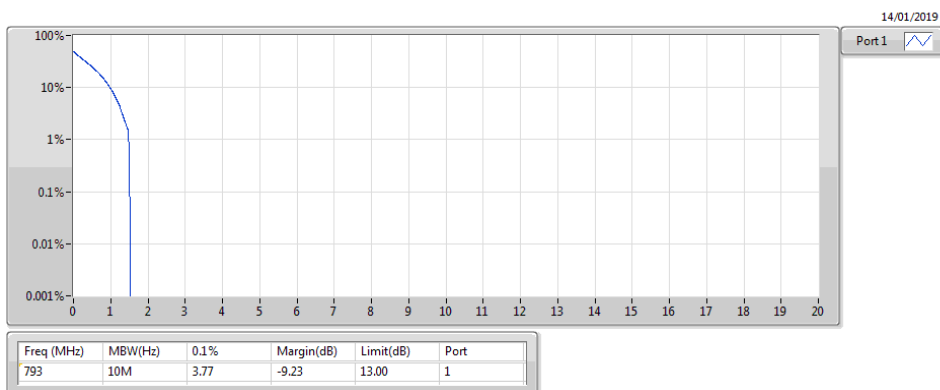
Band 14_LTE_10MHz_Nss1_1TX

793MHz_QPSK_RB 50,#RB 0



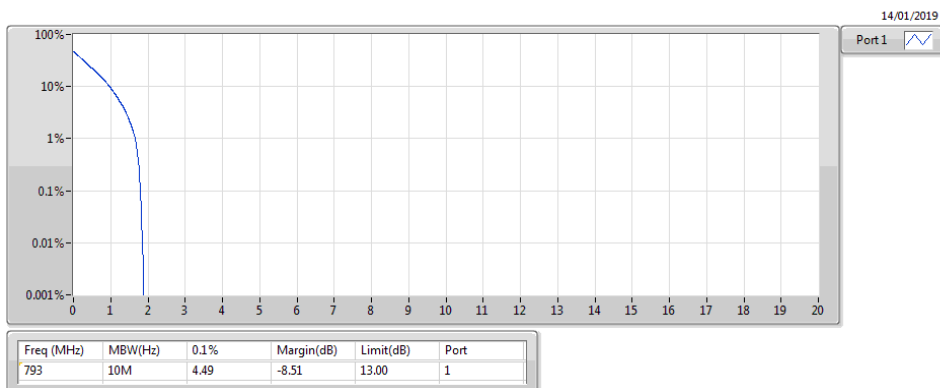
Band 14_LTE_10MHz_Nss1_1TX

793MHz_QPSK_RB 1,#RB M



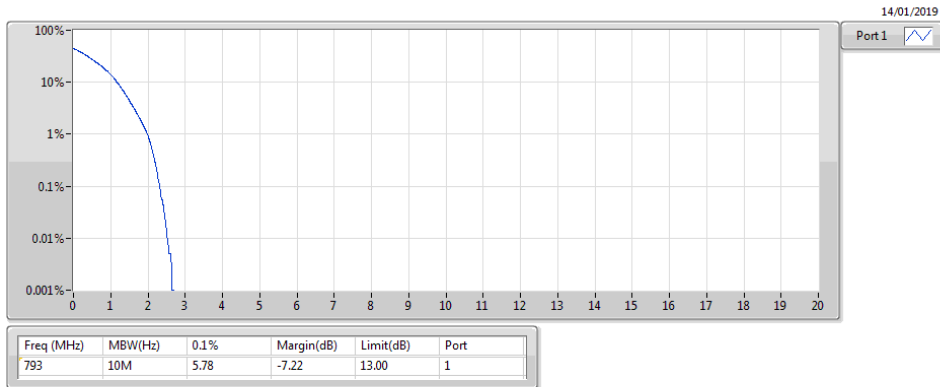
Band 14_LTE_10MHz_Nss1_1TX

793MHz_QPSK_RB 25,#RB M



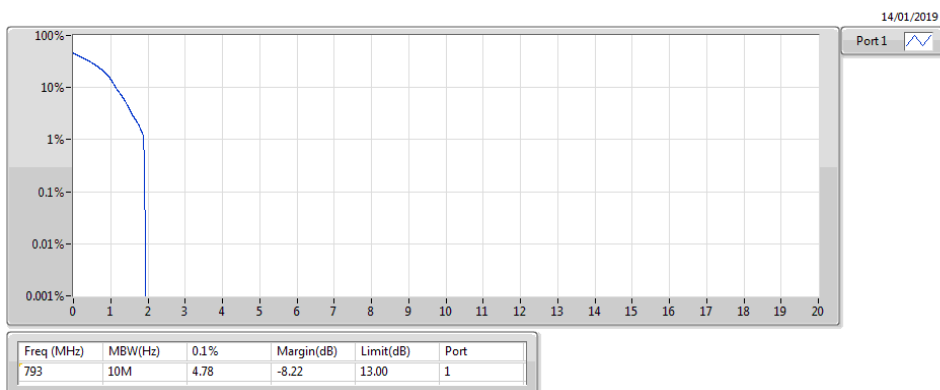
Band 14_LTE_10MHz_Nss1_1TX

793MHz_16QAM_RB 50,#RB 0



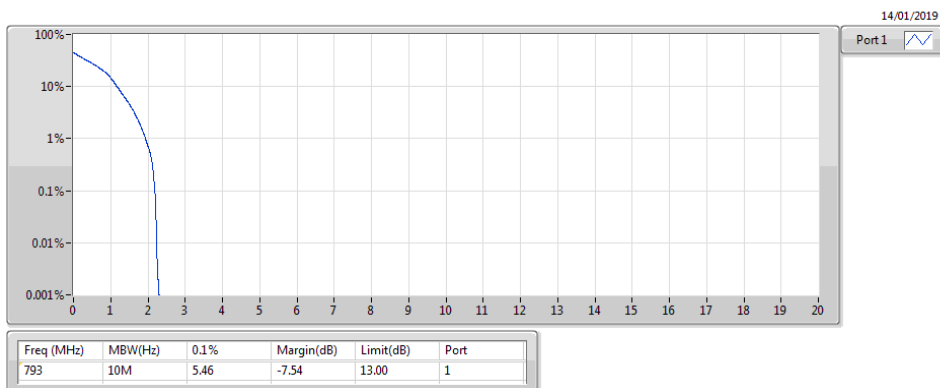
Band 14_LTE_10MHz_Nss1_1TX

793MHz_16QAM_RB 1,#RB M



Band 14_LTE_10MHz_Nss1_1TX

793MHz_16QAM_RB 25,#RB M



Summary

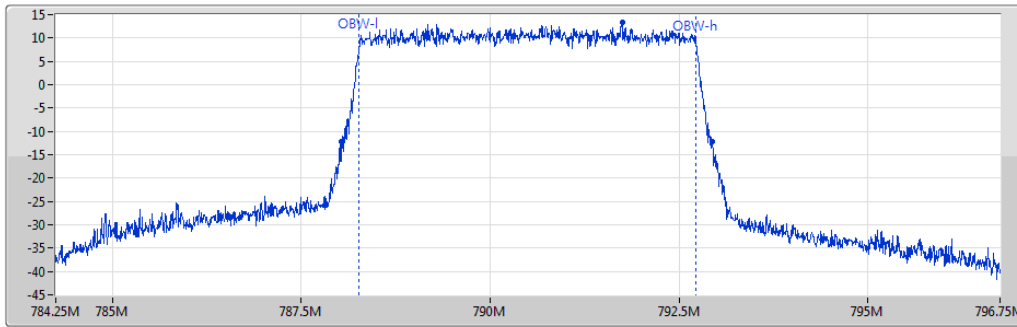
Mode	Max-NdB (Hz)	Max-OBW (Hz)	ITU-Code	Min-NdB (Hz)
Band 14	-		-	-
Band 14_LTE_5MHz_QPSK_1TX	4.931M	4.463M	4M93G7D	4.462M
Band 14_LTE_5MHz_16QAM_1TX	4.919M	4.462M	4M92W7D	4.459M
Band 14_LTE_10MHz_QPSK_1TX	9.563M	8.912M	9M56G7D	8.912M
Band 14_LTE_10MHz_16QAM_1TX	9.65M	8.893M	9M65W7D	8.893M

Max-N dB = Maximum26dB downbandwidth;**Max-OBW** = Maximum99% occupied bandwidth;
Min-N dB = Minimum26dB downbandwidth;**Min-OBW** = Minimum99% occupied bandwidth;

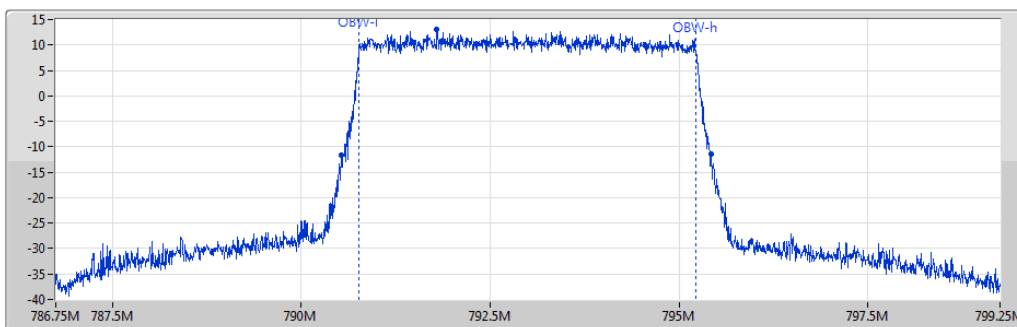
Result

Mode	Result	Port 1-NdB (Hz)	Port 1-OBW (Hz)
LTE_5MHz_Nss1_1TX	-	-	-
790.5MHz_QPSK_RB 25,#RB 0	Pass	4.919M	4.462M
793MHz_QPSK_RB 25,#RB 0	Pass	4.894M	4.463M
795.5MHz_QPSK_RB 25,#RB 0	Pass	4.931M	4.471M
790.5MHz_16QAM_RB 25,#RB 0	Pass	4.875M	4.459M
793MHz_16QAM_RB 25,#RB 0	Pass	4.919M	4.461M
795.5MHz_16QAM_RB 25,#RB 0	Pass	4.856M	4.462M
LTE_10MHz_Nss1_1TX	-	-	-
793MHz_QPSK_RB 50,#RB 0	Pass	9.563M	8.912M
793MHz_16QAM_RB 50,#RB 0	Pass	9.65M	8.893M

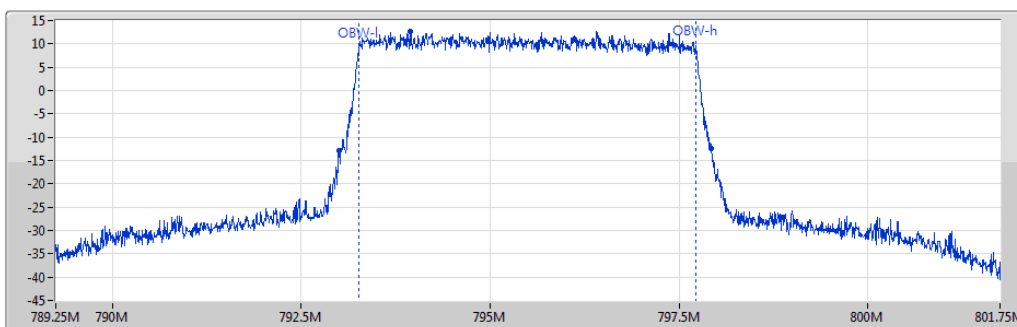
Port X-N dB = Port X26dB downbandwidth; **Port X-OBW** = Port X99% occupied bandwidth;

Band 14_LTE_5MHz_Nss1_1TX
EBW
790.5MHz_QPSK_RB 25,#RB 0


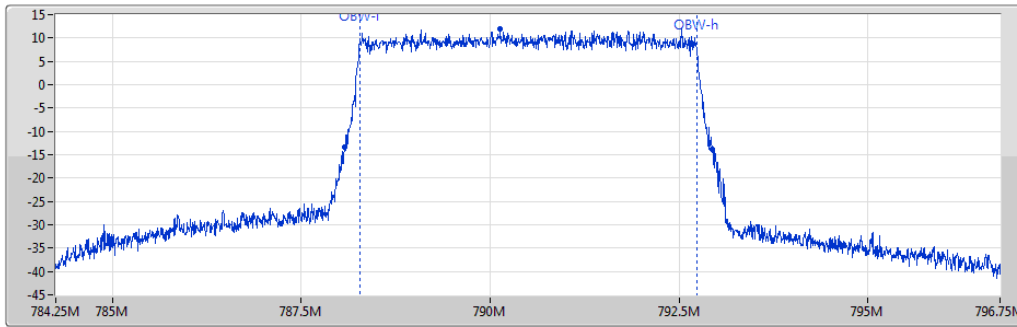
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
4.919M	788.025M	792.94375M	4.462M	788.266889M	792.728725M	1	790.5M	12.5M	51k	200k

Band 14_LTE_5MHz_Nss1_1TX
EBW
793MHz_QPSK_RB 25,#RB 0


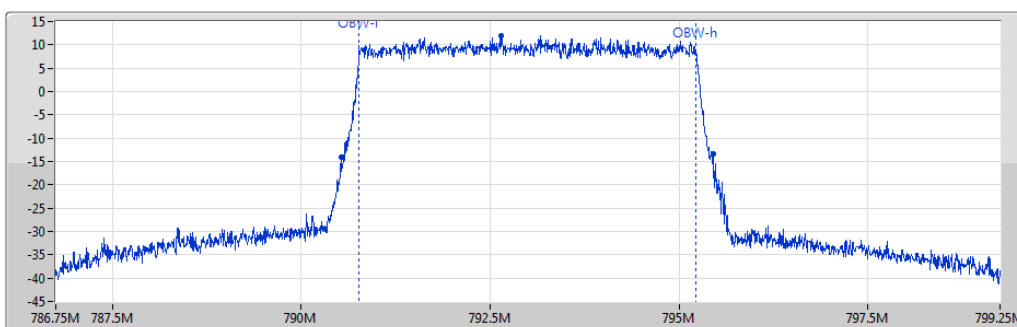
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
4.894M	790.5375M	795.43125M	4.463M	790.7644M	795.227483M	1	793M	12.5M	51k	200k

Band 14_LTE_5MHz_Nss1_1TX
EBW
795.5MHz_QPSK_RB 25,#RB 0


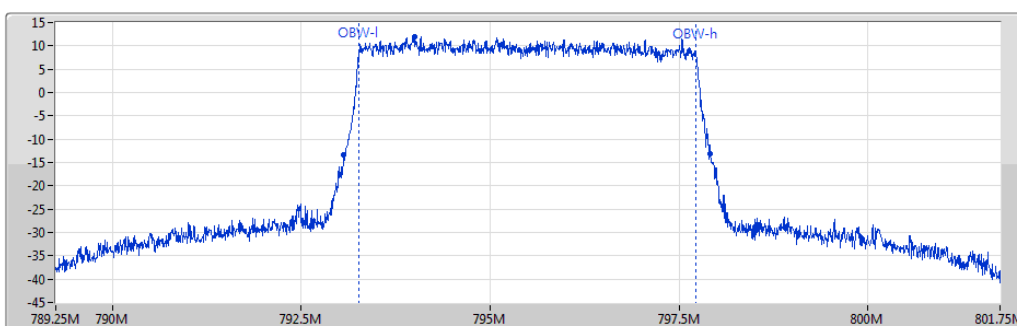
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
4.931M	793M	797.93125M	4.471M	793.257551M	797.728082M	1	795.5M	12.5M	51k	200k

Band 14_LTE_5MHz_Nss1_1TX
EBW
790.5MHz_16QAM_RB 25,#RB 0


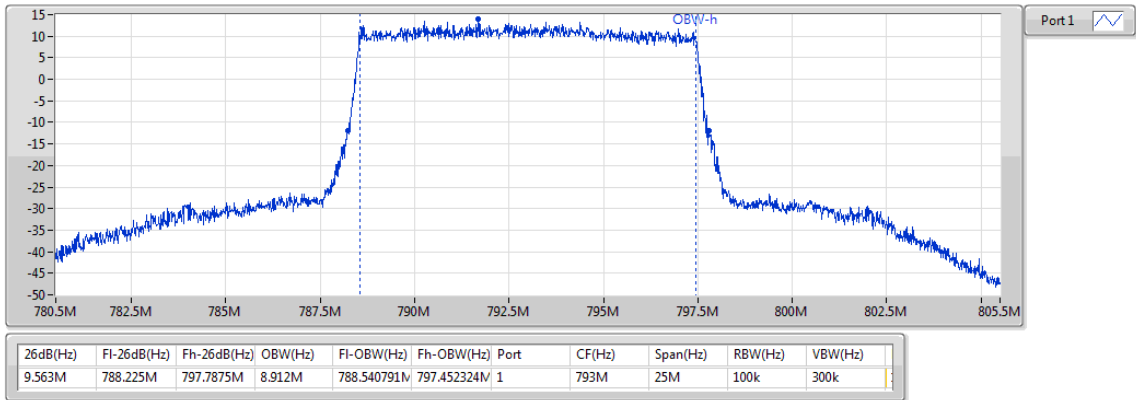
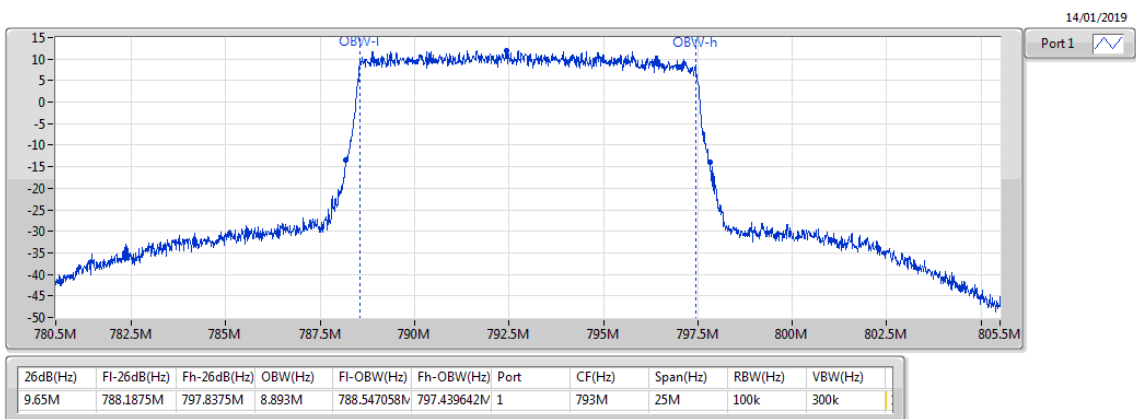
26dB(Hz)	FI-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
4.875M	788.06875M	792.94375M	4.459M	788.271877M	792.730928M	1	790.5M	12.5M	51k	200k

Band 14_LTE_5MHz_Nss1_1TX
EBW
793MHz_16QAM_RB 25,#RB 0


26dB(Hz)	FI-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
4.919M	790.53125M	795.45M	4.461M	790.768646M	795.229661M	1	793M	12.5M	51k	200k

Band 14_LTE_5MHz_Nss1_1TX
EBW
795.5MHz_16QAM_RB 25,#RB 0


26dB(Hz)	FI-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
4.856M	793.0625M	797.91875M	4.462M	793.265355M	797.727184M	1	795.5M	12.5M	51k	200k

Band 14_LTE_10MHz_Nss1_1TX
EBW
793MHz_QPSK_RB 50,#RB 0

Band 14_LTE_10MHz_Nss1_1TX
EBW
793MHz_16QAM_RB 50,#RB 0


**Summary**

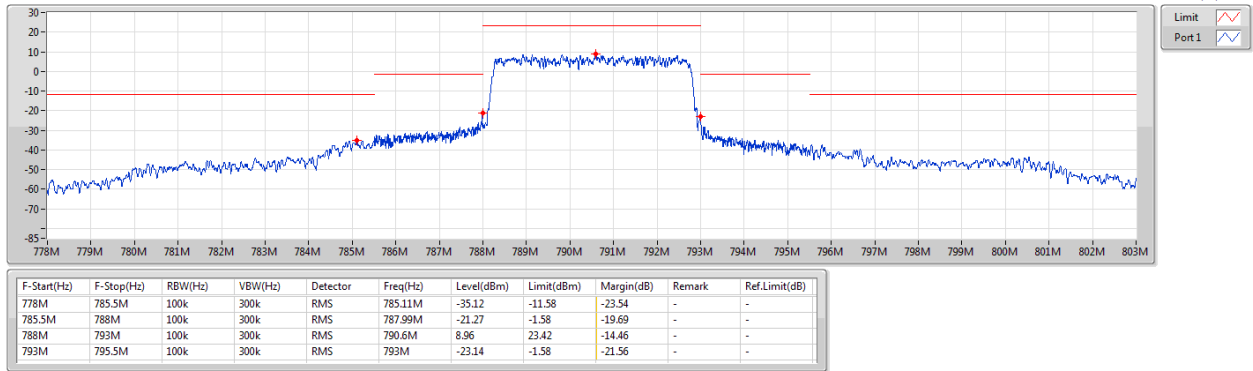
Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 14	-	-	-	-	-	-	-	-	-	-	-	-
LTE_5MHz_Nss1,QPSK_1TX	Pass	788M	793M	100k	300k	RMS	790.6M	8.96	23.42	-14.46	-	-
LTE_5MHz_Nss1,16QAM_1TX	Pass	793M	798M	100k	300k	RMS	794.74M	8.47	23.42	-14.95	-	-
LTE_10MHz_Nss1,QPSK_1TX	Pass	788M	798M	100k	300k	RMS	793M	5.97	23.42	-17.45	-	-
LTE_10MHz_Nss1,16QAM_1TX	Pass	788M	798M	100k	300k	RMS	792.3M	6.02	23.42	-17.40	-	-

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 14_LTE_5MHz_Nss1,QPSK_1TX	-	-	-	-	-	-	-	-	-	-	-	-
790.5MHz_RB 25,#RB 0	Pass	778M	785.5M	100k	300k	RMS	785.11M	-35.12	-11.58	-23.54	-	-
790.5MHz_RB 25,#RB 0	Pass	785.5M	788M	100k	300k	RMS	787.99M	-21.27	-1.58	-19.69	-	-
790.5MHz_RB 25,#RB 0	Pass	788M	793M	100k	300k	RMS	790.6M	8.96	23.42	-14.46	-	-
790.5MHz_RB 25,#RB 0	Pass	793M	795.5M	100k	300k	RMS	793M	-23.14	-1.58	-21.56	-	-
793MHz_RB 25,#RB 0	Pass	780.5M	788M	100k	300k	RMS	787.96M	-33.92	-11.58	-22.34	-	-
793MHz_RB 25,#RB 0	Pass	788M	790.5M	100k	300k	RMS	790.37M	-24.95	-1.58	-23.37	-	-
793MHz_RB 25,#RB 0	Pass	790.5M	795.5M	100k	300k	RMS	793.23M	8.71	23.42	-14.71	-	-
793MHz_RB 25,#RB 0	Pass	795.5M	798M	100k	300k	RMS	795.54M	-23.09	-1.58	-21.51	-	-
795.5MHz_RB 25,#RB 0	Pass	783M	790.5M	100k	300k	RMS	790.37M	-34.25	-11.58	-22.67	-	-
795.5MHz_RB 25,#RB 0	Pass	790.5M	793M	100k	300k	RMS	792.99M	-22.68	-1.58	-21.10	-	-
795.5MHz_RB 25,#RB 0	Pass	793M	798M	100k	300k	RMS	793.88M	8.76	23.42	-14.66	-	-
795.5MHz_RB 25,#RB 0	Pass	798M	800.5M	100k	300k	RMS	798.01M	-22.70	-1.58	-21.12	-	-
Band 14_LTE_5MHz_Nss1,16QAM_1TX	-	-	-	-	-	-	-	-	-	-	-	-
790.5MHz_RB 25,#RB 0	Pass	778M	785.5M	100k	300k	RMS	785.45M	-35.47	-11.58	-23.89	-	-
790.5MHz_RB 25,#RB 0	Pass	785.5M	788M	100k	300k	RMS	787.99M	-25.40	-1.58	-23.82	-	-
790.5MHz_RB 25,#RB 0	Pass	788M	793M	100k	300k	RMS	789.01M	8.26	23.42	-15.16	-	-
790.5MHz_RB 25,#RB 0	Pass	793M	795.5M	100k	300k	RMS	793.06M	-26.71	-1.58	-25.13	-	-
793MHz_RB 25,#RB 0	Pass	780.5M	788M	100k	300k	RMS	788M	-36.19	-11.58	-24.61	-	-
793MHz_RB 25,#RB 0	Pass	788M	790.5M	100k	300k	RMS	790.48M	-22.35	-1.58	-20.77	-	-
793MHz_RB 25,#RB 0	Pass	790.5M	795.5M	100k	300k	RMS	792.71M	7.77	23.42	-15.65	-	-
793MHz_RB 25,#RB 0	Pass	795.5M	798M	100k	300k	RMS	795.54M	-30.03	-1.58	-28.45	-	-
795.5MHz_RB 25,#RB 0	Pass	783M	790.5M	100k	300k	RMS	790.2M	-36.09	-11.58	-24.51	-	-
795.5MHz_RB 25,#RB 0	Pass	790.5M	793M	100k	300k	RMS	792.99M	-23.73	-1.58	-22.15	-	-
795.5MHz_RB 25,#RB 0	Pass	793M	798M	100k	300k	RMS	794.74M	8.47	23.42	-14.95	-	-
795.5MHz_RB 25,#RB 0	Pass	798M	800.5M	100k	300k	RMS	798M	-25.57	-1.58	-23.99	-	-
Band 14_LTE_10MHz_Nss1,QPSK_1TX	-	-	-	-	-	-	-	-	-	-	-	-
793MHz_RB 50,#RB 0	Pass	768M	783M	100k	300k	RMS	782.66M	-40.19	-11.58	-28.61	-	-
793MHz_RB 50,#RB 0	Pass	783M	788M	100k	300k	RMS	787.94M	-29.75	-1.58	-28.17	-	-
793MHz_RB 50,#RB 0	Pass	788M	798M	100k	300k	RMS	793M	5.97	23.42	-17.45	-	-
793MHz_RB 50,#RB 0	Pass	798M	803M	100k	300k	RMS	798.05M	-31.77	-1.58	-30.19	-	-
Band 14_LTE_10MHz_Nss1,16QAM_1TX	-	-	-	-	-	-	-	-	-	-	-	-
793MHz_RB 50,#RB 0	Pass	768M	783M	100k	300k	RMS	782.96M	-40.17	-11.58	-28.59	-	-
793MHz_RB 50,#RB 0	Pass	783M	788M	100k	300k	RMS	787.94M	-32.05	-1.58	-30.47	-	-
793MHz_RB 50,#RB 0	Pass	788M	798M	100k	300k	RMS	792.3M	6.02	23.42	-17.40	-	-
793MHz_RB 50,#RB 0	Pass	798M	803M	100k	300k	RMS	798.09M	-34.31	-1.58	-32.73	-	-

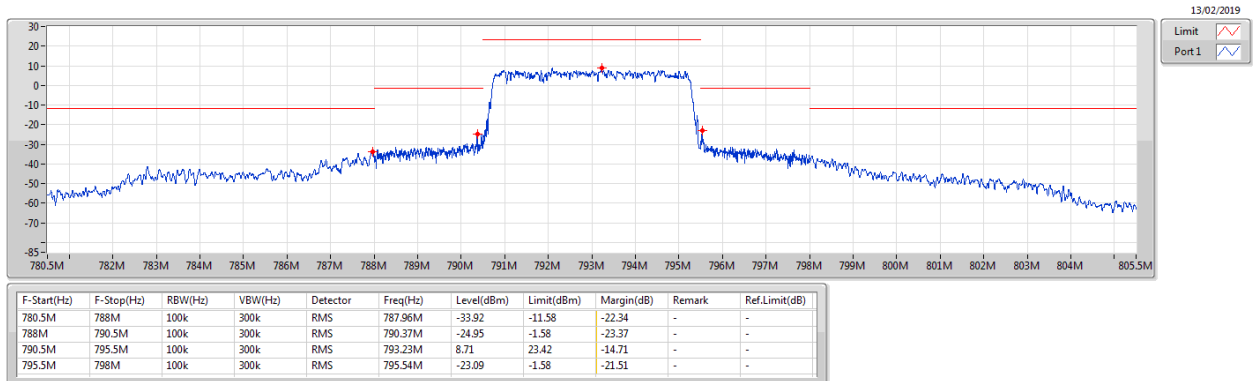
Band 14_LTE_5MHz_Nss1,QPSK_1TX

790.5MHz_QPSK_RB 25,#RB 0



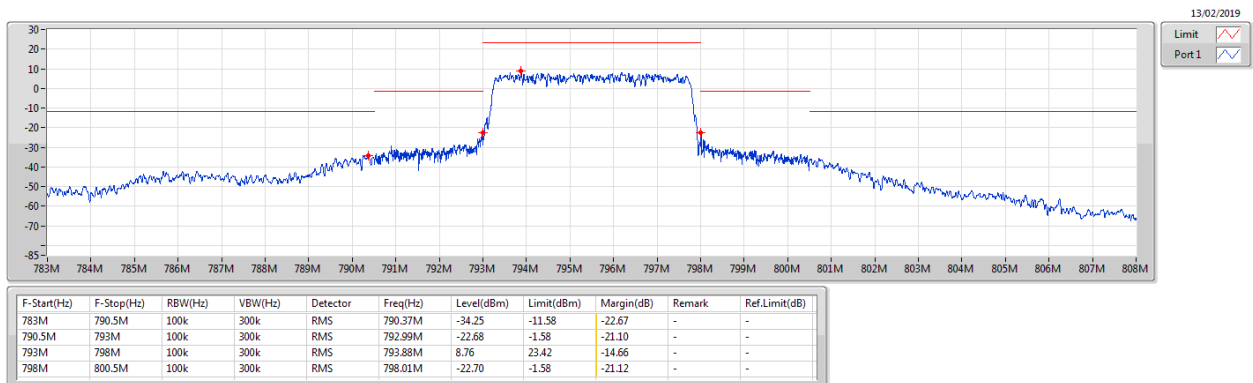
Band 14_LTE_5MHz_Nss1,QPSK_1TX

793MHz_QPSK_RB 25,#RB 0



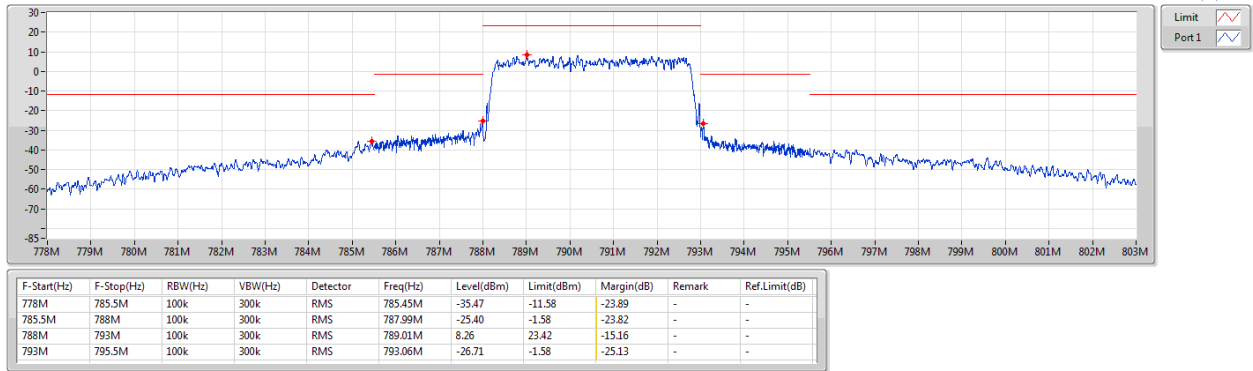
Band 14_LTE_5MHz_Nss1,QPSK_1TX

795.5MHz_QPSK_RB 25,#RB 0



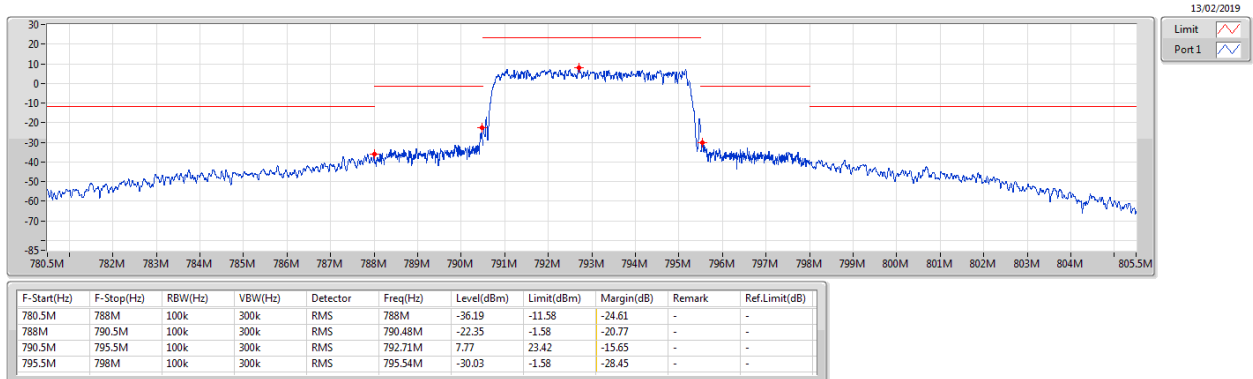
Band 14_LTE_5MHz_Nss1,16QAM_1TX

790.5MHz_16QAM_RB 25,#RB 0



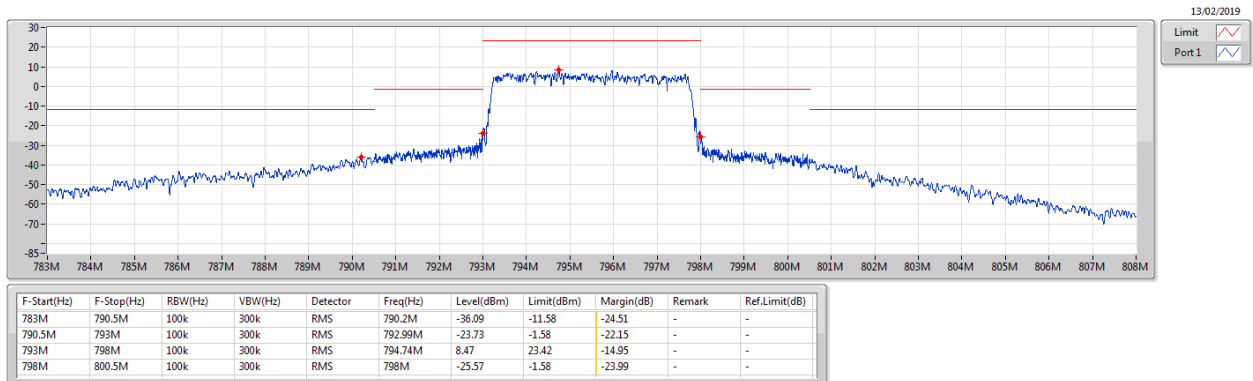
Band 14_LTE_5MHz_Nss1,16QAM_1TX

793MHz_16QAM_RB 25,#RB 0



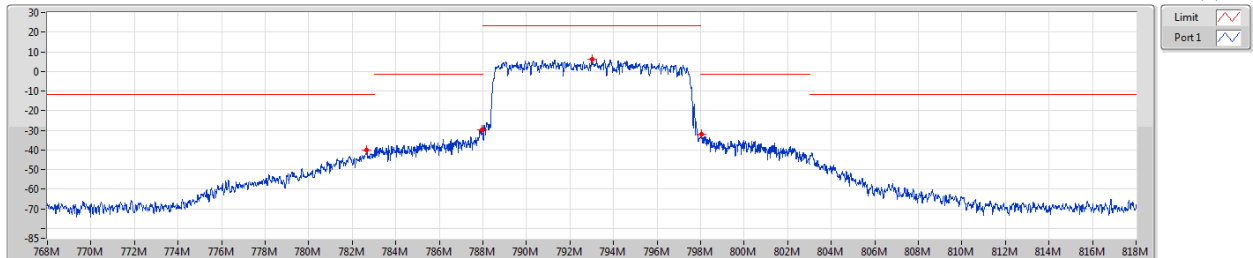
Band 14_LTE_5MHz_Nss1,16QAM_1TX

795.5MHz_16QAM_RB 25,#RB 0



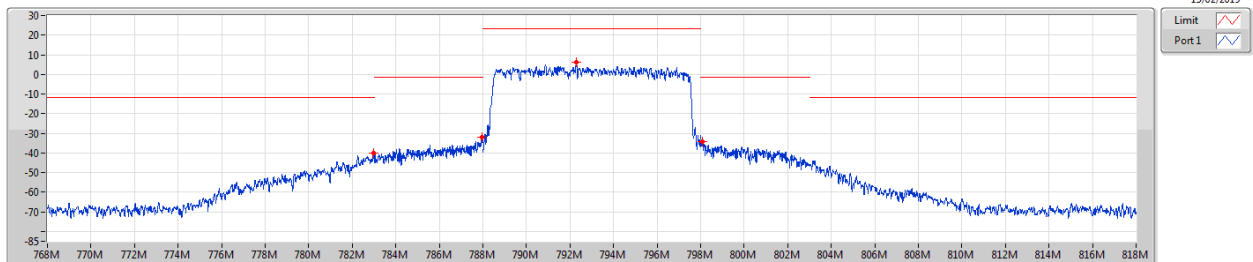
Band 14_LTE_10MHz_Nss1,QPSK_1TX

793MHz_QPSK_RB 50,#RB 0



Band 14_LTE_10MHz_Nss1,16QAM_1TX

793MHz_16QAM_RB 50,#RB 0



Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 14	-	-	-	-	-	-	-	-	-	-	-	-
LTE_5MHz_Nss1,QPSK_1TX	Pass	798.1M	1G	100k	300k	RMS	798.1M	-13.11	-13.00	-0.11	-	-
LTE_5MHz_Nss1,16QAM_1TX	Pass	798.1M	1G	100k	300k	RMS	798.1M	-15.64	-13.00	-2.64	-	-
LTE_10MHz_Nss1,QPSK_1TX	Pass	1.559G	1.61G	1M	3M	RMS	1.57736G	-42.60	-40.00	-2.60	-	-
LTE_10MHz_Nss1,16QAM_1TX	Pass	1.559G	1.61G	1M	3M	RMS	1.57754G	-43.85	-40.00	-3.85	-	-



Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 14_LTE_5MHz_Nss1,QPSK_1TX	-	-	-	-	-	-	-	-	-	-	-	-
790.5MHz_RB 25,#RB 0	Pass	9k	150k	200	10k	RMS	58.42k	-67.69	-13.00	-54.69	-	-
790.5MHz_RB 25,#RB 0	Pass	150k	30M	10k	30k	RMS	150k	-60.10	-13.00	-47.10	-	-
790.5MHz_RB 25,#RB 0	Pass	30M	787.9M	100k	300k	RMS	787.9M	-29.22	-13.00	-16.22	-	-
790.5MHz_RB 25,#RB 0	Pass	787.9M	788M	30k	100k	RMS	787.99M	-28.69	-13.00	-15.69	-	-
790.5MHz_RB 25,#RB 0	Pass	798M	798.1M	30k	100k	RMS	798M	-49.25	-13.00	-36.25	-	-
790.5MHz_RB 25,#RB 0	Pass	798.1M	1G	100k	300k	RMS	800.83M	-46.79	-13.00	-33.79	-	-
790.5MHz_RB 25,#RB 0	Pass	1G	10G	1M	3M	RMS	1.5805G	-49.73	-13.00	-36.73	-	-
790.5MHz_RB 25,#RB 0	Pass	769M	775M	10k	30k	RMS	773.22M	-79.48	-35.00	-44.48	-	-
790.5MHz_RB 25,#RB 0	Pass	799M	806M	10k	30k	RMS	800.5M	-53.01	-35.00	-18.01	-	-
790.5MHz_RB 25,#RB 0	Pass	1.559G	1.61G	1M	3M	RMS	1.58103G	-51.93	-40.00	-11.93	-	-
790.5MHz_RB 1,#RB L	Pass	9k	150k	200	10k	RMS	58.42k	-66.60	-13.00	-53.60	-	-
790.5MHz_RB 1,#RB L	Pass	150k	30M	10k	30k	RMS	150k	-58.36	-13.00	-45.36	-	-
790.5MHz_RB 1,#RB L	Pass	30M	787.9M	100k	300k	RMS	787.9M	-19.46	-13.00	-6.46	-	-
790.5MHz_RB 1,#RB L	Pass	787.9M	788M	30k	100k	RMS	787.99M	-22.61	-13.00	-9.61	-	-
790.5MHz_RB 1,#RB L	Pass	798M	798.1M	30k	100k	RMS	798.05M	-67.03	-13.00	-54.03	-	-
790.5MHz_RB 1,#RB L	Pass	798.1M	1G	100k	300k	RMS	811.02M	-62.29	-13.00	-49.29	-	-
790.5MHz_RB 1,#RB L	Pass	1G	10G	1M	3M	RMS	1.576G	-47.60	-13.00	-34.60	-	-
790.5MHz_RB 1,#RB L	Pass	769M	775M	10k	30k	RMS	773.15M	-79.36	-35.00	-44.36	-	-
790.5MHz_RB 1,#RB L	Pass	799M	806M	10k	30k	RMS	799.11M	-75.28	-35.00	-40.28	-	-
790.5MHz_RB 1,#RB L	Pass	1.559G	1.61G	1M	3M	RMS	1.57677G	-44.80	-40.00	-4.80	-	-
793MHz_RB 25,#RB 0	Pass	9k	150k	200	10k	RMS	58.42k	-67.07	-13.00	-54.07	-	-
793MHz_RB 25,#RB 0	Pass	150k	30M	10k	30k	RMS	150k	-59.47	-13.00	-46.47	-	-
793MHz_RB 25,#RB 0	Pass	30M	787.9M	100k	300k	RMS	762.51M	-37.88	-13.00	-24.88	-	-
793MHz_RB 25,#RB 0	Pass	787.9M	788M	30k	100k	RMS	787.98M	-41.50	-13.00	-28.50	-	-
793MHz_RB 25,#RB 0	Pass	798M	798.1M	30k	100k	RMS	798M	-42.16	-13.00	-29.16	-	-
793MHz_RB 25,#RB 0	Pass	798.1M	1G	100k	300k	RMS	798.2M	-41.11	-13.00	-28.11	-	-
793MHz_RB 25,#RB 0	Pass	1G	10G	1M	3M	RMS	9.8515G	-50.31	-13.00	-37.31	-	-
793MHz_RB 25,#RB 0	Pass	769M	775M	10k	30k	RMS	772.24M	-79.80	-35.00	-44.80	-	-
793MHz_RB 25,#RB 0	Pass	799M	806M	10k	30k	RMS	799.01M	-52.56	-35.00	-17.56	-	-
793MHz_RB 25,#RB 0	Pass	1.559G	1.61G	1M	3M	RMS	1.5858G	-50.77	-40.00	-10.77	-	-
793MHz_RB 1,#RB L	Pass	9k	150k	200	10k	RMS	58.42k	-66.60	-13.00	-53.60	-	-
793MHz_RB 1,#RB L	Pass	150k	30M	10k	30k	RMS	150k	-58.23	-13.00	-45.23	-	-
793MHz_RB 1,#RB L	Pass	30M	787.9M	100k	300k	RMS	764.03M	-37.18	-13.00	-24.18	-	-
793MHz_RB 1,#RB L	Pass	787.9M	788M	30k	100k	RMS	787.96M	-48.45	-13.00	-35.45	-	-
793MHz_RB 1,#RB L	Pass	798M	798.1M	30k	100k	RMS	798.03M	-65.52	-13.00	-52.52	-	-
793MHz_RB 1,#RB L	Pass	798.1M	1G	100k	300k	RMS	799.51M	-41.68	-13.00	-28.68	-	-
793MHz_RB 1,#RB L	Pass	1G	10G	1M	3M	RMS	1.5805G	-46.42	-13.00	-33.42	-	-
793MHz_RB 1,#RB L	Pass	769M	775M	10k	30k	RMS	771.44M	-78.86	-35.00	-43.86	-	-
793MHz_RB 1,#RB L	Pass	799M	806M	10k	30k	RMS	799.47M	-46.15	-35.00	-11.15	-	-
793MHz_RB 1,#RB L	Pass	1.559G	1.61G	1M	3M	RMS	1.58167G	-42.72	-40.00	-2.72	-	-
795.5MHz_RB 25,#RB 0	Pass	9k	150k	200	10k	RMS	58.42k	-66.98	-13.00	-53.98	-	-
795.5MHz_RB 25,#RB 0	Pass	150k	30M	10k	30k	RMS	150k	-60.14	-13.00	-47.14	-	-
795.5MHz_RB 25,#RB 0	Pass	30M	787.9M	100k	300k	RMS	765.92M	-37.18	-13.00	-24.18	-	-



Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
795.5MHz_RB 25,#RB 0	Pass	787.9M	788M	30k	100k	RMS	787.98M	-47.64	-13.00	-34.64	-	-
795.5MHz_RB 25,#RB 0	Pass	798M	798.1M	30k	100k	RMS	798.01M	-30.13	-13.00	-17.13	-	-
795.5MHz_RB 25,#RB 0	Pass	798.1M	1G	100k	300k	RMS	798.1M	-26.24	-13.00	-13.24	-	-
795.5MHz_RB 25,#RB 0	Pass	1G	10G	1M	3M	RMS	1.5895G	-49.32	-13.00	-36.32	-	-
795.5MHz_RB 25,#RB 0	Pass	769M	775M	10k	30k	RMS	769.09M	-79.89	-35.00	-44.89	-	-
795.5MHz_RB 25,#RB 0	Pass	799M	806M	10k	30k	RMS	799.02M	-43.12	-35.00	-8.12	-	-
795.5MHz_RB 25,#RB 0	Pass	1.559G	1.61G	1M	3M	RMS	1.59136G	-50.86	-40.00	-10.86	-	-
795.5MHz_RB 1,#RB H	Pass	9k	150k	200	10k	RMS	58.42k	-67.47	-13.00	-54.47	-	-
795.5MHz_RB 1,#RB H	Pass	150k	30M	10k	30k	RMS	150k	-58.62	-13.00	-45.62	-	-
795.5MHz_RB 1,#RB H	Pass	30M	787.9M	100k	300k	RMS	766.3M	-37.73	-13.00	-24.73	-	-
795.5MHz_RB 1,#RB H	Pass	787.9M	788M	30k	100k	RMS	787.91M	-70.62	-13.00	-57.62	-	-
795.5MHz_RB 1,#RB H	Pass	798M	798.1M	30k	100k	RMS	798.01M	-21.95	-13.00	-8.95	-	-
795.5MHz_RB 1,#RB H	Pass	798.1M	1G	100k	300k	RMS	798.1M	-13.11	-13.00	-0.11	-	-
795.5MHz_RB 1,#RB H	Pass	1G	10G	1M	3M	RMS	1.594G	-47.22	-13.00	-34.22	-	-
795.5MHz_RB 1,#RB H	Pass	769M	775M	10k	30k	RMS	769.12M	-79.27	-35.00	-44.27	-	-
795.5MHz_RB 1,#RB H	Pass	799M	806M	10k	30k	RMS	799.84M	-54.47	-35.00	-19.47	-	-
795.5MHz_RB 1,#RB H	Pass	1.559G	1.61G	1M	3M	RMS	1.59536G	-41.58	-40.00	-1.58	-	-
Band 14_LTE_5MHz_Nss1,16QAM_1T X	-	-	-	-	-	-	-	-	-	-	-	-
790.5MHz_RB 25,#RB 0	Pass	9k	150k	200	10k	RMS	58.491k	-67.76	-13.00	-54.76	-	-
790.5MHz_RB 25,#RB 0	Pass	150k	30M	10k	30k	RMS	150k	-59.50	-13.00	-46.50	-	-
790.5MHz_RB 25,#RB 0	Pass	30M	787.9M	100k	300k	RMS	787.9M	-28.41	-13.00	-15.41	-	-
790.5MHz_RB 25,#RB 0	Pass	787.9M	788M	30k	100k	RMS	788M	-28.90	-13.00	-15.90	-	-
790.5MHz_RB 25,#RB 0	Pass	798M	798.1M	30k	100k	RMS	798.08M	-48.20	-13.00	-35.20	-	-
790.5MHz_RB 25,#RB 0	Pass	798.1M	1G	100k	300k	RMS	798.6M	-45.73	-13.00	-32.73	-	-
790.5MHz_RB 25,#RB 0	Pass	1G	10G	1M	3M	RMS	9.838G	-49.99	-13.00	-36.99	-	-
790.5MHz_RB 25,#RB 0	Pass	769M	775M	10k	30k	RMS	774.68M	-79.09	-35.00	-44.09	-	-
790.5MHz_RB 25,#RB 0	Pass	799M	806M	10k	30k	RMS	799.37M	-55.54	-35.00	-20.54	-	-
790.5MHz_RB 25,#RB 0	Pass	1.559G	1.61G	1M	3M	RMS	1.58144G	-51.46	-40.00	-11.46	-	-
790.5MHz_RB 1,#RB L	Pass	9k	150k	200	10k	RMS	58.42k	-66.24	-13.00	-53.24	-	-
790.5MHz_RB 1,#RB L	Pass	150k	30M	10k	30k	RMS	150k	-58.73	-13.00	-45.73	-	-
790.5MHz_RB 1,#RB L	Pass	30M	787.9M	100k	300k	RMS	787.9M	-19.53	-13.00	-6.53	-	-
790.5MHz_RB 1,#RB L	Pass	787.9M	788M	30k	100k	RMS	787.99M	-22.92	-13.00	-9.92	-	-
790.5MHz_RB 1,#RB L	Pass	798M	798.1M	30k	100k	RMS	798.08M	-67.43	-13.00	-54.43	-	-
790.5MHz_RB 1,#RB L	Pass	798.1M	1G	100k	300k	RMS	966.69M	-62.15	-13.00	-49.15	-	-
790.5MHz_RB 1,#RB L	Pass	1G	10G	1M	3M	RMS	1.576G	-47.97	-13.00	-34.97	-	-
790.5MHz_RB 1,#RB L	Pass	769M	775M	10k	30k	RMS	770.02M	-79.51	-35.00	-44.51	-	-
790.5MHz_RB 1,#RB L	Pass	799M	806M	10k	30k	RMS	799.05M	-77.40	-35.00	-42.40	-	-
790.5MHz_RB 1,#RB L	Pass	1.559G	1.61G	1M	3M	RMS	1.57698G	-44.30	-40.00	-4.30	-	-
793MHz_RB 25,#RB 0	Pass	9k	150k	200	10k	RMS	58.42k	-66.94	-13.00	-53.94	-	-
793MHz_RB 25,#RB 0	Pass	150k	30M	10k	30k	RMS	150k	-59.24	-13.00	-46.24	-	-
793MHz_RB 25,#RB 0	Pass	30M	787.9M	100k	300k	RMS	761.75M	-37.30	-13.00	-24.30	-	-
793MHz_RB 25,#RB 0	Pass	787.9M	788M	30k	100k	RMS	787.94M	-41.58	-13.00	-28.58	-	-
793MHz_RB 25,#RB 0	Pass	798M	798.1M	30k	100k	RMS	798.08M	-43.37	-13.00	-30.37	-	-
793MHz_RB 25,#RB 0	Pass	798.1M	1G	100k	300k	RMS	798.1M	-40.85	-13.00	-27.85	-	-



Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
793MHz_RB 25,#RB 0	Pass	1G	10G	1M	3M	RMS	9.865G	-50.15	-13.00	-37.15	-	-
793MHz_RB 25,#RB 0	Pass	769M	775M	10k	30k	RMS	774.68M	-80.26	-35.00	-45.26	-	-
793MHz_RB 25,#RB 0	Pass	799M	806M	10k	30k	RMS	799.27M	-52.28	-35.00	-17.28	-	-
793MHz_RB 25,#RB 0	Pass	1.559G	1.61G	1M	3M	RMS	1.58657G	-52.53	-40.00	-12.53	-	-
793MHz_RB 1,#RB L	Pass	9k	150k	200	10k	RMS	58.42k	-67.34	-13.00	-54.34	-	-
793MHz_RB 1,#RB L	Pass	150k	30M	10k	30k	RMS	150k	-58.63	-13.00	-45.63	-	-
793MHz_RB 1,#RB L	Pass	30M	787.9M	100k	300k	RMS	764.03M	-37.34	-13.00	-24.34	-	-
793MHz_RB 1,#RB L	Pass	787.9M	788M	30k	100k	RMS	787.95M	-51.12	-13.00	-38.12	-	-
793MHz_RB 1,#RB L	Pass	798M	798.1M	30k	100k	RMS	798.01M	-66.17	-13.00	-53.17	-	-
793MHz_RB 1,#RB L	Pass	798.1M	1G	100k	300k	RMS	799.51M	-41.96	-13.00	-28.96	-	-
793MHz_RB 1,#RB L	Pass	1G	10G	1M	3M	RMS	1.5805G	-47.04	-13.00	-34.04	-	-
793MHz_RB 1,#RB L	Pass	769M	775M	10k	30k	RMS	773.53M	-79.87	-35.00	-44.87	-	-
793MHz_RB 1,#RB L	Pass	799M	806M	10k	30k	RMS	799.45M	-48.33	-35.00	-13.33	-	-
793MHz_RB 1,#RB L	Pass	1.559G	1.61G	1M	3M	RMS	1.58182G	-46.87	-40.00	-6.87	-	-
795.5MHz_RB 25,#RB 0	Pass	9k	150k	200	10k	RMS	58.42k	-67.73	-13.00	-54.73	-	-
795.5MHz_RB 25,#RB 0	Pass	150k	30M	10k	30k	RMS	150k	-60.04	-13.00	-47.04	-	-
795.5MHz_RB 25,#RB 0	Pass	30M	787.9M	100k	300k	RMS	765.16M	-36.92	-13.00	-23.92	-	-
795.5MHz_RB 25,#RB 0	Pass	787.9M	788M	30k	100k	RMS	787.98M	-48.45	-13.00	-35.45	-	-
795.5MHz_RB 25,#RB 0	Pass	798M	798.1M	30k	100k	RMS	798.01M	-31.02	-13.00	-18.02	-	-
795.5MHz_RB 25,#RB 0	Pass	798.1M	1G	100k	300k	RMS	798.1M	-26.82	-13.00	-13.82	-	-
795.5MHz_RB 25,#RB 0	Pass	1G	10G	1M	3M	RMS	9.5365G	-49.94	-13.00	-36.94	-	-
795.5MHz_RB 25,#RB 0	Pass	769M	775M	10k	30k	RMS	774.39M	-79.75	-35.00	-44.75	-	-
795.5MHz_RB 25,#RB 0	Pass	799M	806M	10k	30k	RMS	799.64M	-44.12	-35.00	-9.12	-	-
795.5MHz_RB 25,#RB 0	Pass	1.559G	1.61G	1M	3M	RMS	1.59161G	-50.72	-40.00	-10.72	-	-
795.5MHz_RB 1,#RB H	Pass	9k	150k	200	10k	RMS	58.42k	-68.24	-13.00	-55.24	-	-
795.5MHz_RB 1,#RB H	Pass	150k	30M	10k	30k	RMS	150k	-58.66	-13.00	-45.66	-	-
795.5MHz_RB 1,#RB H	Pass	30M	787.9M	100k	300k	RMS	763.65M	-36.99	-13.00	-23.99	-	-
795.5MHz_RB 1,#RB H	Pass	787.9M	788M	30k	100k	RMS	787.95M	-70.81	-13.00	-57.81	-	-
795.5MHz_RB 1,#RB H	Pass	798M	798.1M	30k	100k	RMS	798.01M	-23.65	-13.00	-10.65	-	-
795.5MHz_RB 1,#RB H	Pass	798.1M	1G	100k	300k	RMS	798.1M	-15.64	-13.00	-2.64	-	-
795.5MHz_RB 1,#RB H	Pass	1G	10G	1M	3M	RMS	2.3905G	-49.79	-13.00	-36.79	-	-
795.5MHz_RB 1,#RB H	Pass	769M	775M	10k	30k	RMS	772.38M	-79.54	-35.00	-44.54	-	-
795.5MHz_RB 1,#RB H	Pass	799M	806M	10k	30k	RMS	799.68M	-56.54	-35.00	-21.54	-	-
795.5MHz_RB 1,#RB H	Pass	1.559G	1.61G	1M	3M	RMS	1.59539G	-46.14	-40.00	-6.14	-	-
Band 14_LTE_10MHz_Nss1,QPSK_1TX	-	-	-	-	-	-	-	-	-	-	-	-
793MHz_RB 50,#RB 0	Pass	9k	150k	200	10k	RMS	58.42k	-69.01	-13.00	-56.01	-	-
793MHz_RB 50,#RB 0	Pass	150k	30M	10k	30k	RMS	150k	-59.77	-13.00	-46.77	-	-
793MHz_RB 50,#RB 0	Pass	30M	787.9M	100k	300k	RMS	787.9M	-33.07	-13.00	-20.07	-	-
793MHz_RB 50,#RB 0	Pass	787.9M	788M	30k	100k	RMS	788M	-34.42	-13.00	-21.42	-	-
793MHz_RB 50,#RB 0	Pass	798M	798.1M	30k	100k	RMS	798.06M	-35.51	-13.00	-22.51	-	-
793MHz_RB 50,#RB 0	Pass	798.1M	1G	100k	300k	RMS	798.1M	-34.03	-13.00	-21.03	-	-
793MHz_RB 50,#RB 0	Pass	1G	10G	1M	3M	RMS	9.577G	-50.01	-13.00	-37.01	-	-
793MHz_RB 50,#RB 0	Pass	769M	775M	10k	30k	RMS	774.82M	-72.23	-35.00	-37.23	-	-
793MHz_RB 50,#RB 0	Pass	799M	806M	10k	30k	RMS	799.54M	-45.56	-35.00	-10.56	-	-
793MHz_RB 50,#RB 0	Pass	1.559G	1.61G	1M	3M	RMS	1.58547G	-52.89	-40.00	-12.89	-	-

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
793MHz_RB 1,#RB L	Pass	9k	150k	200	10k	RMS	58.42k	-68.54	-13.00	-55.54	-	-
793MHz_RB 1,#RB L	Pass	150k	30M	10k	30k	RMS	150k	-59.16	-13.00	-46.16	-	-
793MHz_RB 1,#RB L	Pass	30M	787.9M	100k	300k	RMS	787.9M	-34.46	-13.00	-21.46	-	-
793MHz_RB 1,#RB L	Pass	787.9M	788M	30k	100k	RMS	788M	-35.86	-13.00	-22.86	-	-
793MHz_RB 1,#RB L	Pass	798M	798.1M	30k	100k	RMS	798.06M	-60.09	-13.00	-47.09	-	-
793MHz_RB 1,#RB L	Pass	798.1M	1G	100k	300k	RMS	798.1M	-58.29	-13.00	-45.29	-	-
793MHz_RB 1,#RB L	Pass	1G	10G	1M	3M	RMS	1.576G	-44.99	-13.00	-31.99	-	-
793MHz_RB 1,#RB L	Pass	769M	775M	10k	30k	RMS	774.76M	-78.84	-35.00	-43.84	-	-
793MHz_RB 1,#RB L	Pass	799M	806M	10k	30k	RMS	801.8M	-68.20	-35.00	-33.20	-	-
793MHz_RB 1,#RB L	Pass	1.559G	1.61G	1M	3M	RMS	1.57736G	-42.60	-40.00	-2.60	-	-
Band 14_LTE_10MHz_Nss1,16QAM_1T X	-	-	-	-	-	-	-	-	-	-	-	-
793MHz_RB 50,#RB 0	Pass	9k	150k	200	10k	RMS	58.42k	-68.88	-13.00	-55.88	-	-
793MHz_RB 50,#RB 0	Pass	150k	30M	10k	30k	RMS	150k	-59.65	-13.00	-46.65	-	-
793MHz_RB 50,#RB 0	Pass	30M	787.9M	100k	300k	RMS	787.9M	-36.09	-13.00	-23.09	-	-
793MHz_RB 50,#RB 0	Pass	787.9M	788M	30k	100k	RMS	787.92M	-36.75	-13.00	-23.75	-	-
793MHz_RB 50,#RB 0	Pass	798M	798.1M	30k	100k	RMS	798.08M	-37.24	-13.00	-24.24	-	-
793MHz_RB 50,#RB 0	Pass	798.1M	1G	100k	300k	RMS	798.4M	-36.84	-13.00	-23.84	-	-
793MHz_RB 50,#RB 0	Pass	1G	10G	1M	3M	RMS	9.847G	-49.79	-13.00	-36.79	-	-
793MHz_RB 50,#RB 0	Pass	769M	775M	10k	30k	RMS	774.93M	-74.41	-35.00	-39.41	-	-
793MHz_RB 50,#RB 0	Pass	799M	806M	10k	30k	RMS	799.29M	-46.04	-35.00	-11.04	-	-
793MHz_RB 50,#RB 0	Pass	1.559G	1.61G	1M	3M	RMS	1.58555G	-53.81	-40.00	-13.81	-	-
793MHz_RB 1,#RB L	Pass	9k	150k	200	10k	RMS	58.491k	-68.67	-13.00	-55.67	-	-
793MHz_RB 1,#RB L	Pass	150k	30M	10k	30k	RMS	150k	-58.51	-13.00	-45.51	-	-
793MHz_RB 1,#RB L	Pass	30M	787.9M	100k	300k	RMS	787.9M	-27.08	-13.00	-14.08	-	-
793MHz_RB 1,#RB L	Pass	787.9M	788M	30k	100k	RMS	787.93M	-33.49	-13.00	-20.49	-	-
793MHz_RB 1,#RB L	Pass	798M	798.1M	30k	100k	RMS	798.06M	-56.66	-13.00	-43.66	-	-
793MHz_RB 1,#RB L	Pass	798.1M	1G	100k	300k	RMS	806.18M	-61.04	-13.00	-48.04	-	-
793MHz_RB 1,#RB L	Pass	1G	10G	1M	3M	RMS	1.576G	-47.57	-13.00	-34.57	-	-
793MHz_RB 1,#RB L	Pass	769M	775M	10k	30k	RMS	774.92M	-78.87	-35.00	-43.87	-	-
793MHz_RB 1,#RB L	Pass	799M	806M	10k	30k	RMS	801.81M	-69.91	-35.00	-34.91	-	-
793MHz_RB 1,#RB L	Pass	1.559G	1.61G	1M	3M	RMS	1.57754G	-43.85	-40.00	-3.85	-	-



RSE above 1GHz Result_LTE Band 14

Appendix F

Band	LTE Band 14	Test Mode	QPSK / 5MHz
Test Channel	23305 (790.5 MHz)		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	1579.71	28.25	55.20	-26.95	33.86	4.02	25.40	35.03	113	121	Average HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	1579.83	28.29	55.20	-26.91	33.90	4.02	25.40	35.03	206	185	Average VERTICAL

Band	LTE Band 14	Test Mode	QPSK / 5MHz
Test Channel	23330 (793 MHz)		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1586.19	28.73	55.20	-26.47	34.32	4.03	25.40	35.02	115	125	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1587.45	28.75	55.20	-26.45	34.34	4.03	25.40	35.02	204	184	Average	VERTICAL

Band	LTE Band 14	Test Mode	QPSK / 5MHz
Test Channel	23355 (795.5 MHz)		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1590.35	28.06	55.20	-27.14	33.64	4.04	25.40	35.02	110	121	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1591.46	28.02	55.20	-27.18	33.60	4.04	25.40	35.02	202	178	Average	VERTICAL



Summary

Mode	Result	Ch (MHz)	Center M(Hz)	Fl (MHz)	Fh M(Hz)	ppm	Limit (ppm)	Port	Remark
Band 14	-	-	-	-	-	-	-	-	-
QPSK_RB 50,#RB 0_126.5V	Pass	793	792.99883	790.64980	795.34785	-1.48	±1.5	1	-

Result

Mode	Result	Ch (MHz)	Center (MHz)	Fl (MHz)	Fh (MHz)	ppm	Limit (ppm)	Port	Remark
LTE_5MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-
793MHz_QPSK_RB 25,#RB 0_-40°C	Pass	793	792.99938	790.65000	795.34875	-0.79	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_-30°C	Pass	793	792.99901	790.64992	795.34810	-1.25	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_-20°C	Pass	793	792.99922	790.64990	795.34854	-0.98	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_-10°C	Pass	793	792.99917	790.64987	795.34847	-1.05	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_0°C	Pass	793	792.99912	790.64985	795.34838	-1.12	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_10°C	Pass	793	792.99903	790.64982	795.34824	-1.22	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_20°C	Pass	793	792.99930	790.64991	795.34869	-0.88	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_30°C	Pass	793	792.99919	790.64984	795.34853	-1.03	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_40°C	Pass	793	792.99901	790.64995	795.34806	-1.25	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_50°C	Pass	793	792.99915	790.64993	795.34836	-1.08	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_60°C	Pass	793	792.99900	790.64980	795.34819	-1.27	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_70°C	Pass	793	792.99911	790.64999	795.34822	-1.13	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_80°C	Pass	793	792.99916	790.64991	795.34841	-1.06	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_85°C	Pass	793	792.99922	790.64989	795.34855	-0.98	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_126.5V	Pass	793	792.99917	790.64986	795.34848	-1.05	±1.5	1	-
793MHz_QPSK_RB 25,#RB 0_93.5V	Pass	793	792.99919	790.64980	795.34858	-1.02	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_-40°C	Pass	793	792.99938	790.64375	795.35500	-0.79	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_-30°C	Pass	793	792.99925	790.64368	795.35481	-0.95	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_-20°C	Pass	793	792.99915	790.64371	795.35458	-1.08	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_-10°C	Pass	793	792.99929	790.64371	795.35487	-0.90	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_0°C	Pass	793	792.99927	790.64355	795.35499	-0.92	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_10°C	Pass	793	792.99932	790.64371	795.35492	-0.86	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_20°C	Pass	793	792.99904	790.64372	795.35435	-1.22	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_30°C	Pass	793	792.99898	790.64363	795.35433	-1.29	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_40°C	Pass	793	792.99925	790.64355	795.35494	-0.95	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_50°C	Pass	793	792.99903	790.64365	795.35440	-1.23	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_60°C	Pass	793	792.99925	790.64355	795.35494	-0.95	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_70°C	Pass	793	792.99924	790.64358	795.35490	-0.96	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_80°C	Pass	793	792.99915	790.64369	795.35460	-1.08	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_85°C	Pass	793	792.99931	790.64366	795.35496	-0.87	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_126.5V	Pass	793	792.99906	790.64369	795.35442	-1.19	±1.5	1	-
793MHz_16QAM_RB 25,#RB 0_93.5V	Pass	793	792.99914	790.64367	795.35461	-1.08	±1.5	1	-
LTE_10MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-
793MHz_QPSK_RB 50,#RB 0_-40°C	Pass	793	792.99922	790.64990	795.34854	-0.98	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_-30°C	Pass	793	792.99902	790.64970	795.34834	-1.24	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_-20°C	Pass	793	792.99892	790.64972	795.34811	-1.37	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_-10°C	Pass	793	792.99901	790.64976	795.34826	-1.25	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_0°C	Pass	793	792.99907	790.64977	795.34837	-1.17	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_10°C	Pass	793	792.99899	790.64989	795.34808	-1.28	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_20°C	Pass	793	792.99900	790.64986	795.34814	-1.26	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_30°C	Pass	793	792.99912	790.64988	795.34835	-1.12	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_40°C	Pass	793	792.99904	790.64972	795.34835	-1.22	±1.5	1	-



Frequency Stability Result_LTE Band 14

Appendix G

Mode	Result	Ch (MHz)	Center (MHz)	Fl (MHz)	Fh (MHz)	ppm	Limit (ppm)	Port	Remark
793MHz_QPSK_RB 50,#RB 0_50°C	Pass	793	792.99892	790.64984	795.34799	-1.37	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_60°C	Pass	793	792.99911	790.64978	795.34844	-1.12	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_70°C	Pass	793	792.99902	790.64972	795.34831	-1.24	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_80°C	Pass	793	792.99911	790.64975	795.34847	-1.12	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_85°C	Pass	793	792.99909	790.64975	795.34842	-1.15	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_126.5V	Pass	793	792.99883	790.64980	795.34785	-1.48	±1.5	1	-
793MHz_QPSK_RB 50,#RB 0_93.5V	Pass	793	792.99899	790.64988	795.34810	-1.27	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_-40°C	Pass	793	792.99932	790.64371	795.35492	-0.86	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_-30°C	Pass	793	792.99920	790.64353	795.35487	-1.01	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_-20°C	Pass	793	792.99902	790.64368	795.35435	-1.24	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_-10°C	Pass	793	792.99894	790.64366	795.35422	-1.34	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_0°C	Pass	793	792.99910	790.64353	795.35467	-1.13	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_10°C	Pass	793	792.99915	790.64352	795.35477	-1.08	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_20°C	Pass	793	792.99900	790.64368	795.35431	-1.27	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_30°C	Pass	793	792.99910	790.64355	795.35464	-1.14	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_40°C	Pass	793	792.99921	790.64370	795.35472	-1.00	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_50°C	Pass	793	792.99914	790.64355	795.35472	-1.09	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_60°C	Pass	793	792.99898	790.64367	795.35428	-1.29	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_70°C	Pass	793	792.99904	790.64353	795.35454	-1.22	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_80°C	Pass	793	792.99915	790.64367	795.35462	-1.08	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_85°C	Pass	793	792.99907	790.64353	795.35461	-1.17	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_126.5V	Pass	793	792.99924	790.64360	795.35487	-0.96	±1.5	1	-
793MHz_16QAM_RB 50,#RB 0_93.5V	Pass	793	792.99898	790.64362	795.35433	-1.29	±1.5	1	-