



RF TEST REPORT

Applicant Honor Device Co., Ltd.
FCC ID 2AYGCVNE-LX1
Product Smart Phone
Model VNE-LX1
Report No. R2208A0708-R3
Issue Date August 10, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2021)/ FCC CFR47 Part 27C (2021)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Prepared by: Xu Ying

Approved by: Xu Kai

TA Technology (Shanghai) Co., Ltd.

Building 3, No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China

TEL: +86-021-50791141/2/3

FAX: +86-021-50791141/2/3-8000



TABLE OF CONTENT

1	Test Laboratory.....	4
1.1	Notes of the Test Report.....	4
1.2.	Test facility.....	4
1.3	Testing Location.....	4
2	General Description of Equipment under Test.....	5
2.1	Applicant and Manufacturer Information.....	5
2.2	General information.....	5
3	Applied Standards.....	7
4	Test Configuration.....	8
5	Test Case.....	9
5.1	RF Power Output and Effective Isotropic Radiated Power.....	9
5.2	Occupied Bandwidth.....	11
5.3	Band Edge Compliance.....	12
5.4	Peak-to-Average Power Ratio (PAPR).....	14
5.5	Frequency Stability.....	15
5.6	Spurious Emissions at Antenna Terminals.....	16
5.7	Radiates Spurious Emission.....	18
6	Test Results.....	21
6.1	RF Power Output and Effective Isotropic Radiated Power.....	21
6.2	Occupied Bandwidth.....	23
6.3	Band Edge Compliance.....	33
6.4	Peak-to-Average Power Ratio (PAPR).....	39
6.5	Frequency Stability.....	40
6.6	Spurious Emissions at Antenna Terminals.....	42
6.7	Radiates Spurious Emission.....	44
7	Main Test Instruments.....	46
	ANNEX A: The EUT Appearance.....	47
	ANNEX B: Test Setup Photos.....	48
	ANNEX C: Product Change Description.....	49



Summary of Measurement Results

Number	Test Case	Clause in FCC rules	Verdict
1	RF Power Output and Effective Isotropic Radiated Power	2.1046 /27.50(h)(2)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Band Edge Compliance	/27.53(m)	PASS
4	Peak-to-Average Power Ratio	27.50(d)/KDB971168 D01(5.7)	PASS
5	Frequency Stability	2.1055 / 27.54	PASS
6	Spurious Emissions at Antenna Terminals	2.1051 /27.53(m)	PASS
7	Radiates Spurious Emission	2.1053 /27.53(m)	PASS

Date of Testing: July 18, 2022 ~ July 24, 2022

Date of Sample Received: July 5, 2022

Note: PASS: The EUT complies with the essential requirements in the standard.

FAIL: The EUT does not comply with the essential requirements in the standard.

All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.

VNE-LX1 (Report No.: R2208A0708-R2) is a variant model of VNE-LX3 (Report No.: R2207A0619-R3V1). There is only tested worst Radiates Spurious Emission (LTE Band 7), and did not worsen, so they were not recorded in the report. Test values all duplicated from Original for variant .The detailed product change description please refers to following table.

The difference between VNE-LX3 and VNE-LX1 are show in the below table:

/	Model	VNE-LX3	VNE-LX1
Licensed Frequency	LTE Band	B2/B4/B5/B7/B13/B26/B38/B66	B5/B7
	UMTS Band	B2/B4/B5	B2/B5
Unlicensed Frequency	NFC	Not support	Support
Software	Version	2.1.0.34(SP02C900E5R1P1)	2.1.0.57(SP03C900E5R1P1)
RF	RF circuit	The RF circuit of the same frequency is the same.	The RF circuit of the same frequency is the same. The different frequency changed by hardware and some RF parameters. Changes are followed: DeleteWB4/LTEB2/B4/B13/B66/B38 SAWS and RF matching.
	Tune-up	The tune-up of the same frequency are the same.	The tune-up of the same frequency are the same.
Others		The same	The same

The detailed product change description please refers to the Difference Declaration Letter.



1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: Building 3, No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Xu Kai
Telephone: +86-021-50791141/2/3
Fax: +86-021-50791141/2/3-8000
Website: <http://www.ta-shanghai.com>
E-mail: xukai@ta-shanghai.com

2 General Description of Equipment under Test

2.1 Applicant and Manufacturer Information

Applicant	Honor Device Co., Ltd.
Applicant address	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
Manufacturer	Honor Device Co., Ltd.
Manufacturer address	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China

2.2 General information

EUT Description			
Model	VNE-LX1		
SN	A96BNU2625200405		
Hardware Version	HL1VNEM		
Software Version	2.1.0.57(SP03C900E5R1P1)		
Power Supply	Battery / AC adapter		
Antenna Type	Internal Antenna		
Antenna Gain	Band	Main Antenna Gain(dBi)	Second Antenna Gain(dBi)
	LTE Band 7	1.0	2.2
Test Mode(s)	LTE Band7		
Test Modulation	(LTE) QPSK, 16QAM(Uplink); QPSK, 16QAM,64QAM(Downlink);		
LTE Category	4		
Maximum E.I.R.P./ E.R.P.	LTE Band 7	24.74dBm	
Rated Power Supply Voltage	3.87V		
Operating Voltage	3.6V ~ 4.45V		
Operating Temperature	Lowest: -0°C Highest: +35°C		
Testing Temperature	Lowest: -30°C Highest: +50°C		
Operating Frequency Range(s)	Mode	Tx (MHz)	Rx (MHz)
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
EUT Accessory			
Accessory	Model	Manufacture	No.
Adapter	HW-050200E02	Honor Device Co., Ltd. (Manufacturer: Huntkey)	1
		Honor Device Co., Ltd. (Manufacturer: BYD)	2
	HW-050200B02	Honor Device Co., Ltd. (Manufacturer: Huntkey)	3



		Honor Device Co., Ltd. (Manufacturer: BYD)	4
	HW-050200U02	Honor Device Co., Ltd. (Manufacturer: Huntkey)	5
		Honor Device Co., Ltd. (Manufacturer: BYD)	6
Battery	HB496590EFW	Honor Device Co., Ltd. (Manufacturer: SCUD)	1
		Honor Device Co., Ltd. (Manufacturer: NVT)	2
	HB496590EFW-F	Honor Device Co., Ltd. (Manufacturer: SCUD)	3
		Honor Device Co., Ltd. (Manufacturer: NVT)	4
Earphone	MEND1532B528C00	Jiangxi Lianchuang Hongsheng Electronic Co., LTD.	1
	1293-3283-3.5mm-33 9	BOLUO COUNTY QUANCHENG ELECTRONIC CO.,LTD.	2
Data Cable	RY0002	NingBo Broad Telecommunication Co., Ltd.	1
	AU2-CRO013HF	Freeport Resources Enterprises Corp.	2
	2120-00001-0	MING JI ELECTRONICS CO., LTD.	3
	L125UC007-CS-H	LUXSHARE PRECISION INDUSTRY CO., LTD.	4
	CUDU01B-HC451-E H	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	5

Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.

2. There is more than Adapter/ Earphone / Data cable/ Battery, each one should be applied throughout the compliance test respectively, and however, only the worst case (Adapter 6/ Earphone 1 / Data cable 1/ Battery 3) will be recorded in this report.



3 Applied Standards

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

Test standards:

FCC CFR47 Part 27C (2021)

FCC CFR47 Part 2 (2021)

Reference standard:

ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01

4 Test Configuration

There is more than one SIM card slot, each one should be applied throughout the compliance test respectively, and however, only the worst case (SIM 1) will be recorded in this report

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (Main Antenna: Z axis, vertical polarization for LTE; Second Antenna: X axis, horizontal polarization for Second Antenna LTE) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated.

Subsequently, only the worst case emissions are reported.

The following testing in LTE is set based on the maximum RF Output Power.

The following testing in different Bandwidth is set to detail in the following table:

Test modes are chosen to be reported as the worst case configuration below for LTE Band 7

Test items	Modes	Bandwidth (MHz)				Modulation		RB			Test Channel		
		5	10	15	20	QPSK	16QAM	1	50%	100%	L	M	H
RF power output and Effective Radiated power	LTE 7	O	O	O	O	O	O	O	O	O	O	O	O
Occupied Bandwidth	LTE 7	O	O	O	O	O	O	-	-	O	O	O	O
Band Edge Compliance	LTE 7	O	O	O	O	O	O	O	-	O	O	-	O
Peak-to-Average Power Ratio	LTE 7	O	O	O	O	O	O	-	-	O	O	-	O
Frequency Stability	LTE 7	O	O	O	O	O	O	O	-	-	-	O	-
Spurious Emissions at Antenna Terminals	LTE 7	O	O	O	O	O	-	O	-	-	O	O	O
Radiates Spurious Emission	LTE 7	O	-	-	O	O	-	O	-	-	-	O	-
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing.												

5 Test Case

5.1 RF Power Output and Effective Isotropic Radiated Power

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

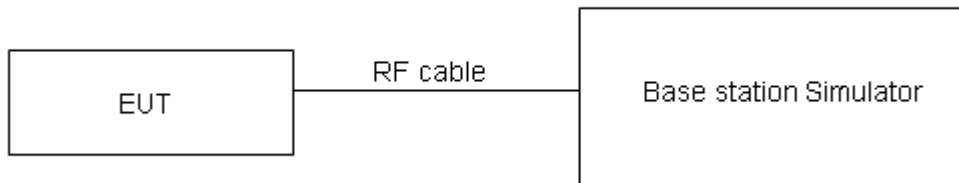
ERP can then be calculated as follows:

$$\text{EIRP (dBm)} = \text{Output Power (dBm)} - \text{Losses (dB)} + \text{Antenna Gain (dBi)}$$

where:dBd refers to gain relative to an ideal dipole.

$$\text{EIRP (dBm)} = \text{ERP (dBm)} + 2.15 \text{ (dB.)}$$

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 27.50(h) (2) specifies that “Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.”

Part 27.50(h)(2) Limit	≤ 2 W (33 dBm)
------------------------	----------------



Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U=0.4$ dB for RF power output, $k = 2$, $U= 1.19$ dB for ERP/EIRP.

Test Results

Refer to the section 6.1 of this report for test data.

5.2 Occupied Bandwidth

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

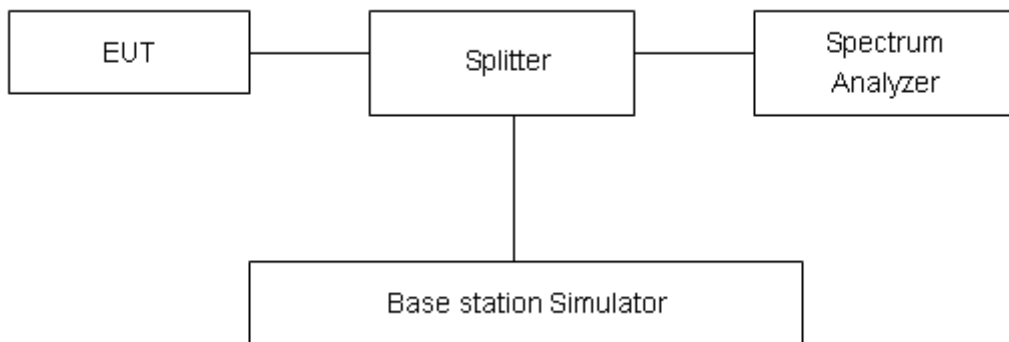
Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.

RBW is set to $\geq 1\%EBW$, VBW is set to 3x RBW.

99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

No specific occupied bandwidth requirements in part 2.1049.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U=624\text{Hz}$.

Test Results

Refer to the section 6.2 of this report for test data.

5.3 Band Edge Compliance

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured.

The testing follows KDB 971168 D01 v03r01 Section 6.0

The EUT was connected to spectrum analyzer and system simulator via a power divider.

The band edges of low and high channels for the highest RF powers were measured.

For LTE Band 7 set RBW \geq 1% EBW in the 1MHz band immediately outside and adjacent to the band edge. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.

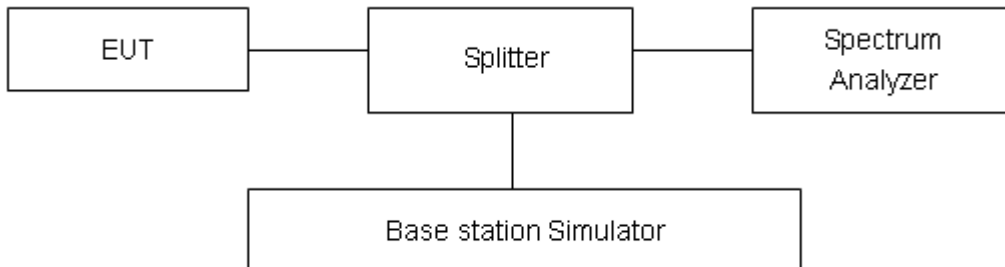
on spectrum analyzer.

Set spectrum analyzer with RMS detector.

The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

Checked that all the results comply with the emission limit line.

Test Setup



Limits

Rule Part 27.53(m) (4) specifies that “for BRS and EBS stations. 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)(4) 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.



Example:

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

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

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

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U=0.684\text{dB}$.

Test Results

Refer to the section 6.3 of this report for test data.

5.4 Peak-to-Average Power Ratio (PAPR)

Ambient condition

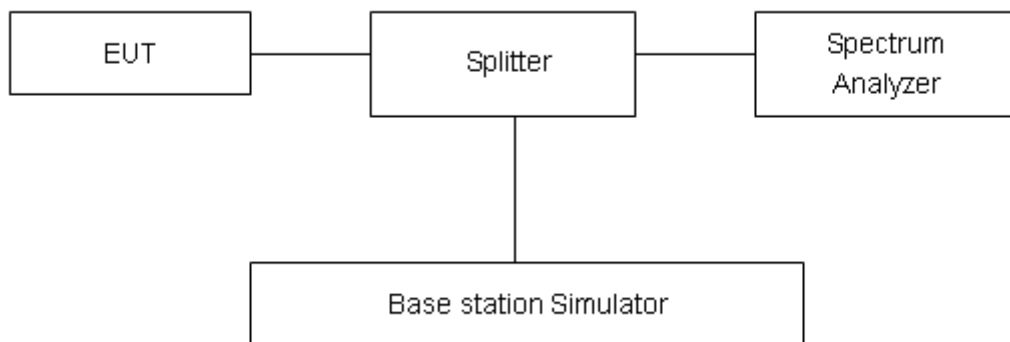
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as PPK. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$PAPR (dB) = PPK (dBm) - PAvg (dBm).$$

Test Setup



Limits

Rule Part 27.50(d)(5) Equipment employed must be authorized in accordance with the provisions of 24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. 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.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB.

Test Results

Refer to the section 6.4 of this report for test data.

5.5 Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size.

(1)With all power removed, the temperature was decreased to -10°C and permitted to stabilize for three hours.

(2)Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

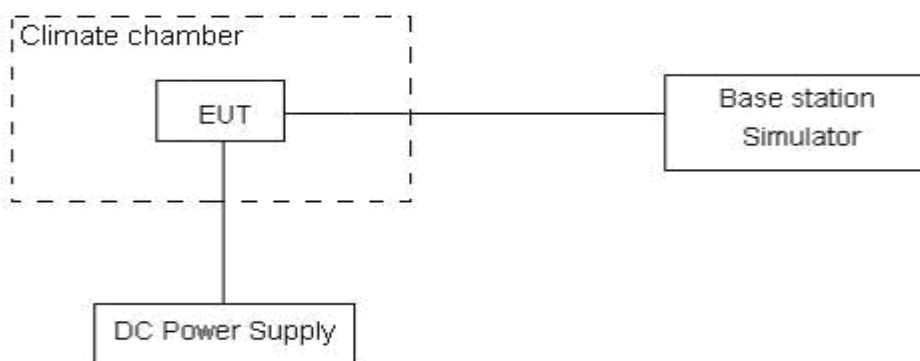
Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.6 V and 4.45 V, with a nominal voltage of 3.87V.

Test setup



Limits

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 3, U=0.01\text{ppm}$.

Test Results

Refer to the section 6.5 of this report for test data.

5.6 Spurious Emissions at Antenna Terminals

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.

RBW is set to 100kHz, VBW is set to 300kHz for 30MHz~1GHz

RBW is set to 1MHz, VBW is set to 3MHz for above 1GHz, Sweep is set to ATUO.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),

RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

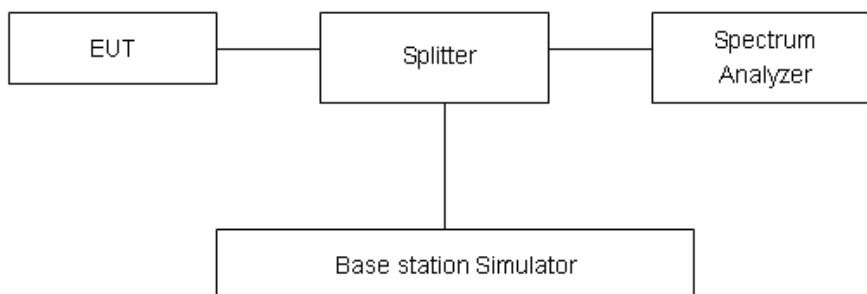
RBW is set to 100 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

Rule Part 27.53(m) $55 + 10 \log (P)$ 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)(4) of this section.

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;



(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) 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 at least 30 kHz may be employed;

Part 27.53(m) Limit	-25 dBm
---------------------	---------

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-26.5GHz	1.407 dB

Test Results

Refer to the section 6.6 of this report for test data.

5.7 Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

- The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI C63.26-2015.
- Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
- A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=100kHz, VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz, and the maximum value of the receiver should be recorded as (Pr).
- The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
- A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
- The measurement results are obtained as described below:

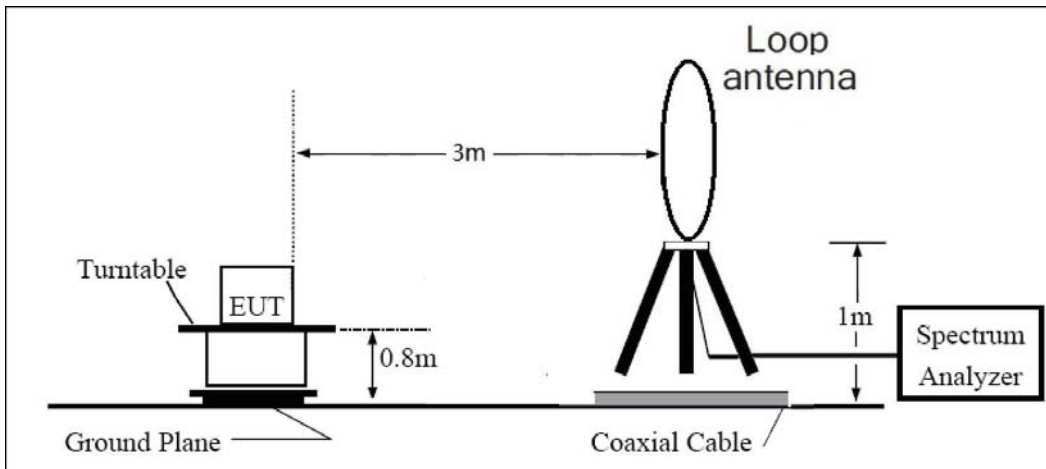
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
 The measurement results are amend as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
- This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, $\text{ERP} = \text{EIRP} - 2.15\text{dB}$.

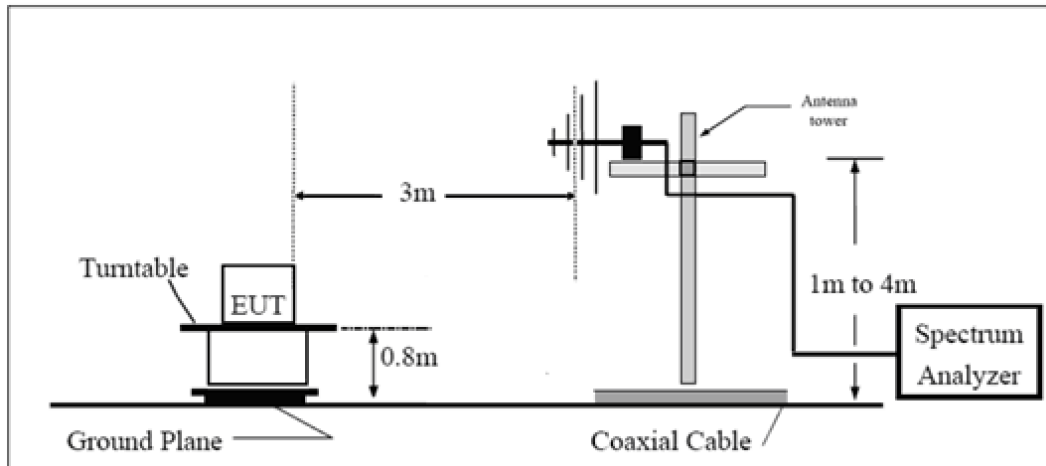
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

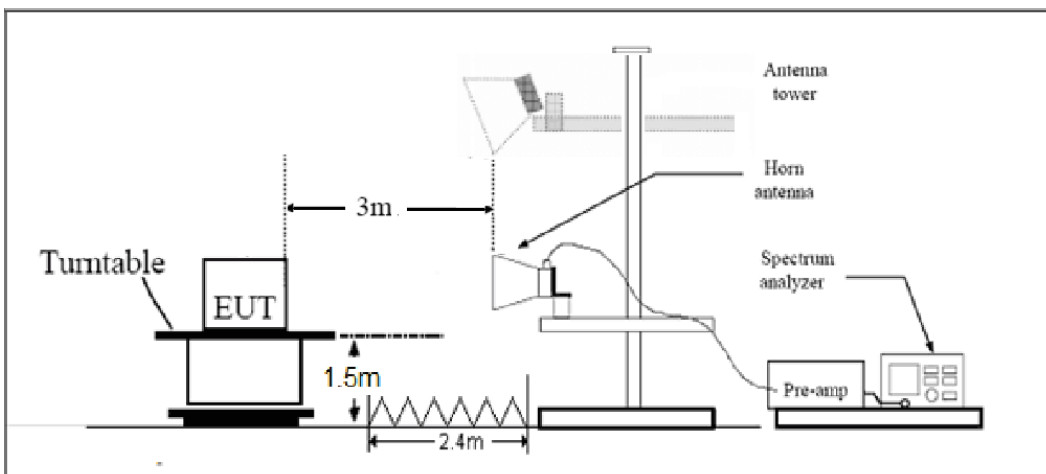
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

**Limits**

Rule Part 27.53(m) $55 + 10 \log (P)$ 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)(4) of this section.

Part 27.53(m) Limit	-25 dBm
---------------------	---------

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = \pm 1.96$, $U = \pm 3.55$ dB.

Test Results

Refer to the section 6.7 of this report for test data.



6 Test Results

6.1 RF Power Output and Effective Isotropic Radiated Power

LTE Band 7				Maximum Output Power (dBm)			Main Antenna EIRP (dBm)			Second Antenna EIRP (dBm)		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				20775/2502.5	21100/2535	21425/2567.5	20775/2502.5	21100/2535	21425/2567.5	20775/2502.5	21100/2535	21425/2567.5
5MHz	QPSK	1	0	22.05	22.04	22.10	23.05	23.04	23.10	24.25	24.24	24.30
		1	13	22.31	22.39	22.53	23.31	23.39	23.53	24.51	24.59	24.73
		1	24	22.16	22.14	22.45	23.16	23.14	23.45	24.36	24.34	24.65
		12	0	21.33	21.24	21.53	22.33	22.24	22.53	23.53	23.44	23.73
		12	6	21.38	21.42	21.61	22.38	22.42	22.61	23.58	23.62	23.81
		12	13	21.40	21.38	21.71	22.40	22.38	22.71	23.60	23.58	23.91
		25	0	21.31	21.32	21.60	22.31	22.32	22.60	23.51	23.52	23.80
	16QAM	1	0	21.26	21.30	21.40	22.26	22.30	22.40	23.46	23.50	23.60
		1	13	21.51	21.59	21.91	22.51	22.59	22.91	23.71	23.79	24.11
		1	24	21.39	21.39	21.75	22.39	22.39	22.75	23.59	23.59	23.95
		12	0	20.32	20.20	20.51	21.32	21.20	21.51	22.52	22.40	22.71
		12	6	20.28	20.33	20.51	21.28	21.33	21.51	22.48	22.53	22.71
		12	13	20.26	20.34	20.61	21.26	21.34	21.61	22.46	22.54	22.81
		25	0	20.21	20.24	20.54	21.21	21.24	21.54	22.41	22.44	22.74
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				20800/2505	21100/2535	21400/2565	20800/2505	21100/2535	21400/2565	20800/2505	21100/2535	21400/2565
10MHz	QPSK	1	0	22.04	22.03	22.09	23.04	23.03	23.09	24.24	24.23	24.29
		1	25	22.32	22.40	22.54	23.32	23.40	23.54	24.52	24.60	24.74
		1	49	22.15	22.13	22.44	23.15	23.13	23.44	24.35	24.33	24.64
		25	0	21.33	21.24	21.53	22.33	22.24	22.53	23.53	23.44	23.73
		25	13	21.39	21.43	21.60	22.39	22.43	22.60	23.59	23.63	23.80
		25	25	21.40	21.40	21.72	22.40	22.40	22.72	23.60	23.60	23.92
		50	0	21.35	21.33	21.62	22.35	22.33	22.62	23.55	23.53	23.82
	16QAM	1	0	21.30	21.29	21.39	22.30	22.29	22.39	23.50	23.49	23.59
		1	25	21.55	21.61	21.91	22.55	22.61	22.91	23.75	23.81	24.11
		1	49	21.39	21.39	21.74	22.39	22.39	22.74	23.59	23.59	23.94
		25	0	20.33	20.21	20.52	21.33	21.21	21.52	22.53	22.41	22.72
		25	13	20.27	20.32	20.50	21.27	21.32	21.50	22.47	22.52	22.70
		25	25	20.26	20.34	20.61	21.26	21.34	21.61	22.46	22.54	22.81
		50	0	20.22	20.25	20.53	21.22	21.25	21.53	22.42	22.45	22.73
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								



idth	lotion	alloc	ation	20825/	21100	21375/2	20825/25	21100/2	21375/2	20825/2	21100/2	21375/
				2507.5	/2535	562.5	07.5	535	562.5	507.5	535	2562.5
15MHz	QPS K	1	0	22.03	21.99	22.07	23.03	22.99	23.07	24.23	24.19	24.27
		1	38	22.30	22.39	22.51	23.30	23.39	23.51	24.50	24.59	24.71
		1	74	22.12	22.08	22.40	23.12	23.08	23.40	24.32	24.28	24.60
		36	0	21.31	21.20	21.50	22.31	22.20	22.50	23.51	23.40	23.70
		36	18	21.36	21.38	21.56	22.36	22.38	22.56	23.56	23.58	23.76
		36	39	21.37	21.37	21.68	22.37	22.37	22.68	23.57	23.57	23.88
		75	0	21.33	21.29	21.57	22.33	22.29	22.57	23.53	23.49	23.77
	16QA M	1	0	21.28	21.27	21.37	22.28	22.27	22.37	23.48	23.47	23.57
		1	38	21.53	21.58	21.89	22.53	22.58	22.89	23.73	23.78	24.09
		1	74	21.37	21.35	21.71	22.37	22.35	22.71	23.57	23.55	23.91
		36	0	20.30	20.19	20.49	21.30	21.19	21.49	22.50	22.39	22.69
		36	18	20.24	20.27	20.46	21.24	21.27	21.46	22.44	22.47	22.66
		36	39	20.24	20.30	20.58	21.24	21.30	21.58	22.44	22.50	22.78
		75	0	20.19	20.20	20.49	21.19	21.20	21.49	22.39	22.40	22.69
Bandw idth	Modu lation	RB alloc ation	offset	Channel/Frequency(MHz)								
				20850/ 2510	21100 /2535	21350/2 560	20850/25 10	21100/2 535	21350/2 560	20850/2 510	21100/2 535	21350/ 2560
20MHz	QPS K	1	0	22.00	21.95	22.04	23.00	22.95	23.04	24.20	24.15	24.24
		1	50	22.29	22.35	22.49	23.29	23.35	23.49	24.49	24.55	24.69
		1	99	22.10	22.07	22.37	23.10	23.07	23.37	24.30	24.27	24.57
		50	0	21.28	21.15	21.46	22.28	22.15	22.46	23.48	23.35	23.66
		50	25	21.34	21.34	21.53	22.34	22.34	22.53	23.54	23.54	23.73
		50	50	21.34	21.32	21.64	22.34	22.32	22.64	23.54	23.52	23.84
		100	0	21.30	21.24	21.53	22.30	22.24	22.53	23.50	23.44	23.73
	16QA M	1	0	21.25	21.23	21.32	22.25	22.23	22.32	23.45	23.43	23.52
		1	50	21.50	21.56	21.85	22.50	22.56	22.85	23.70	23.76	24.05
		1	99	21.34	21.32	21.69	22.34	22.32	22.69	23.54	23.52	23.89
		50	0	20.27	20.15	20.46	21.27	21.15	21.46	22.47	22.35	22.66
		50	25	20.21	20.25	20.43	21.21	21.25	21.43	22.41	22.45	22.63
		50	50	20.21	20.25	20.54	21.21	21.25	21.54	22.41	22.45	22.74
		100	0	20.17	20.16	20.46	21.17	21.16	21.46	22.37	22.36	22.66



6.2 Occupied Bandwidth

LTE Band 7						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
1	QPSK	5	20775	2502.5	0.724	0.975
			21100	2535	0.711	0.991
			21425	2567.5	0.734	1.029
		10	20800	2505	1.150	1.557
			21100	2535	1.145	1.541
			21400	2565	1.135	1.523
		15	20825	2507.5	1.539	2.118
			21100	2535	1.502	2.043
			21375	2562.5	1.558	2.098
		20	20850	2510	1.853	2.529
			21100	2535	1.861	2.571
			21350	2560	1.884	2.595
	16QAM	5	20775	2502.5	0.699	0.936
			21100	2535	0.695	0.997
			21425	2567.5	0.698	1.003
		10	20800	2505	1.116	1.569
			21100	2535	1.120	1.620
			21400	2565	1.137	1.491
		15	20825	2507.5	1.479	2.071
			21100	2535	1.456	2.015
			21375	2562.5	1.562	2.149
		20	20850	2510	1.793	2.507
			21100	2535	1.775	2.332
			21350	2560	1.804	2.465
100%	QPSK	5	20775	2502.5	4.504	4.914
			21100	2535	4.506	4.915
			21425	2567.5	4.506	4.880
		10	20800	2505	8.986	9.557
			21100	2535	8.998	9.666
			21400	2565	8.977	9.685
		15	20825	2507.5	13.497	14.575
			21100	2535	13.463	14.518
			21375	2562.5	13.446	14.510
		20	20850	2510	17.959	19.315

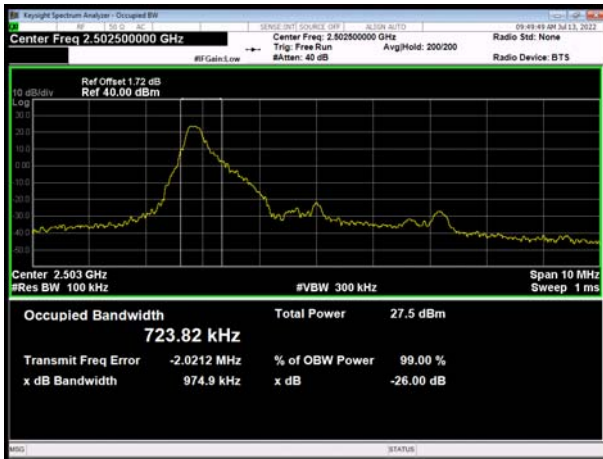


16QAM			21100	2535	17.915	19.113
			21350	2560	17.981	19.391
	5		20775	2502.5	4.505	4.987
			21100	2535	4.499	4.904
			21425	2567.5	4.502	4.945
	10		20800	2505	8.985	9.736
			21100	2535	9.002	9.622
			21400	2565	8.980	9.746
	15		20825	2507.5	13.473	14.423
			21100	2535	13.486	14.480
			21375	2562.5	13.455	14.552
	20		20850	2510	18.039	19.209
			21100	2535	17.945	19.211
			21350	2560	17.970	19.425

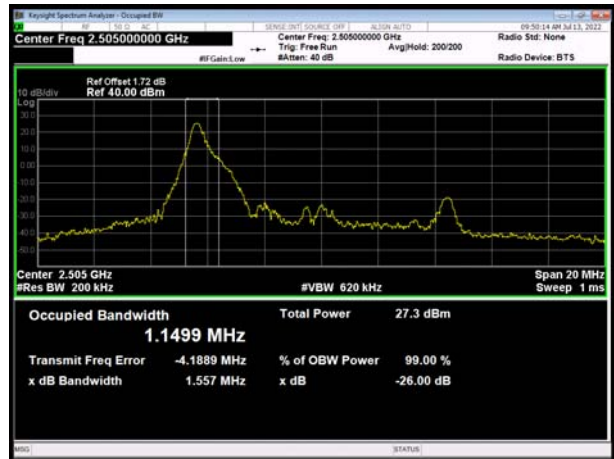


1 RB

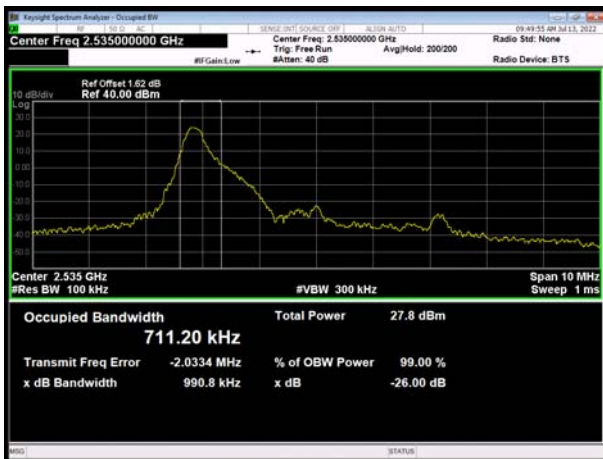
LTE Band 7 QPSK 5MHz CH-Low



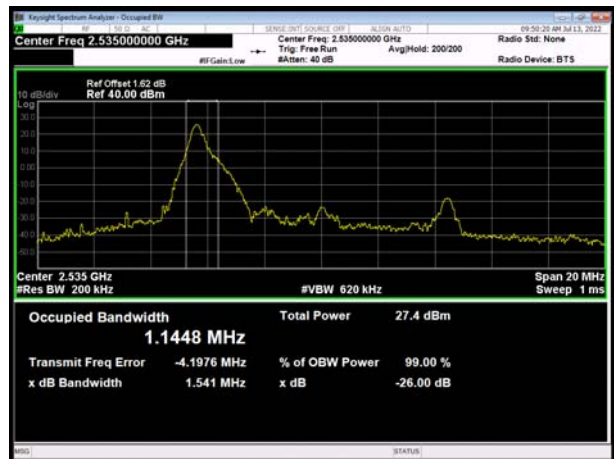
LTE Band 7 QPSK 10MHz CH-Low



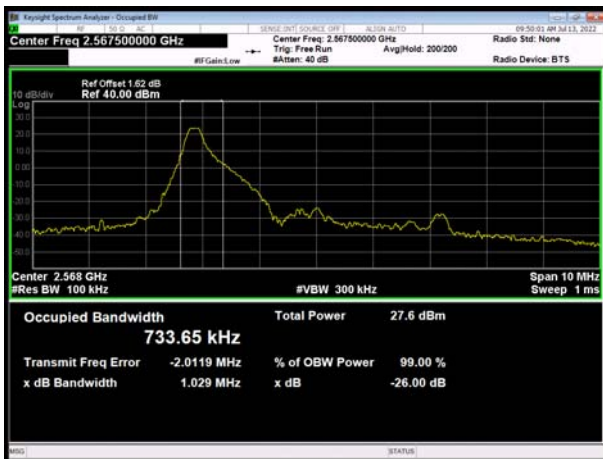
LTE Band 7 QPSK 5MHz CH-Middle



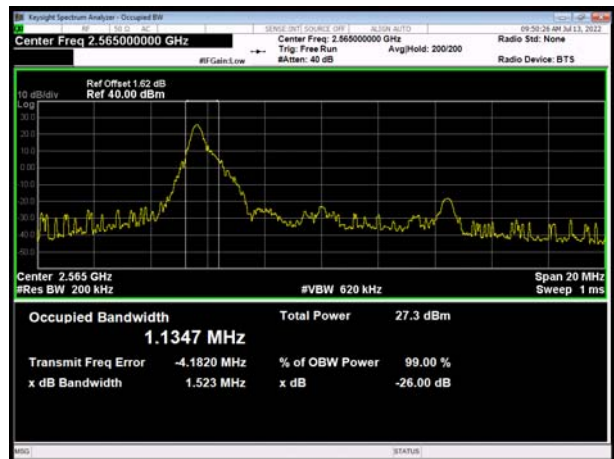
LTE Band 7 QPSK 10MHz CH-Middle



LTE Band 7 QPSK 5MHz CH-High



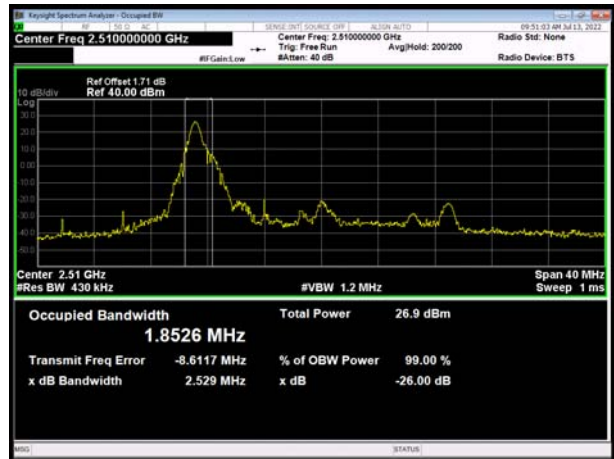
LTE Band 7 QPSK 10MHz CH-High



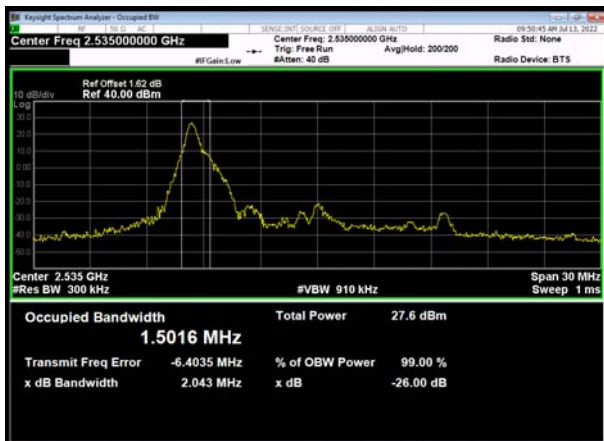
LTE Band 7 QPSK 15MHz CH-Low



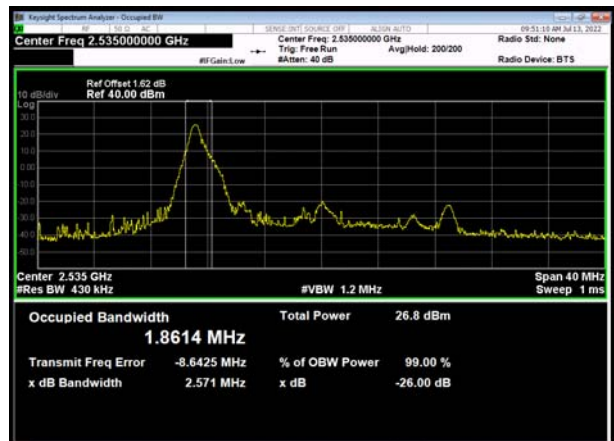
LTE Band 7 QPSK 20MHz CH-Low



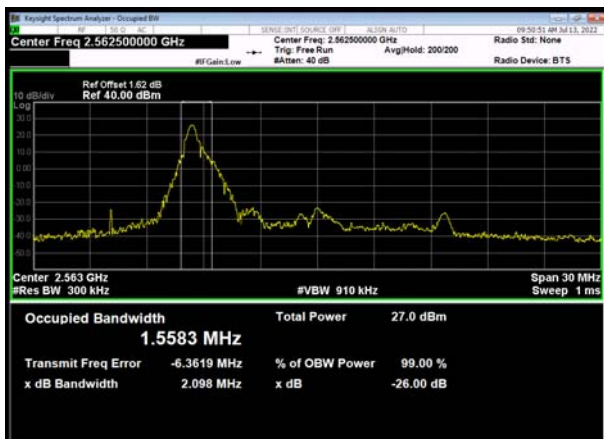
LTE Band 7 QPSK 15MHz CH-Middle



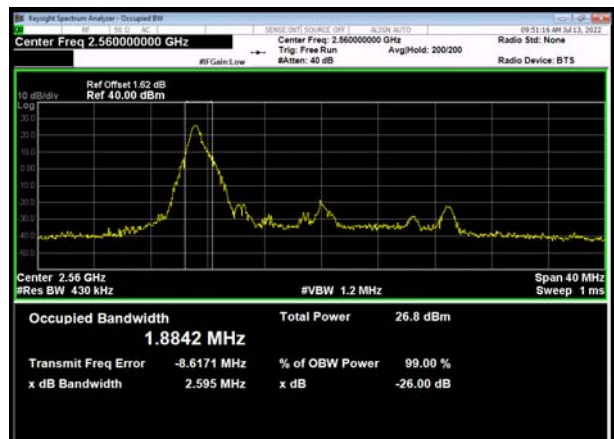
LTE Band 7 QPSK 20MHz CH-Middle



LTE Band 7 QPSK 15MHz CH-High

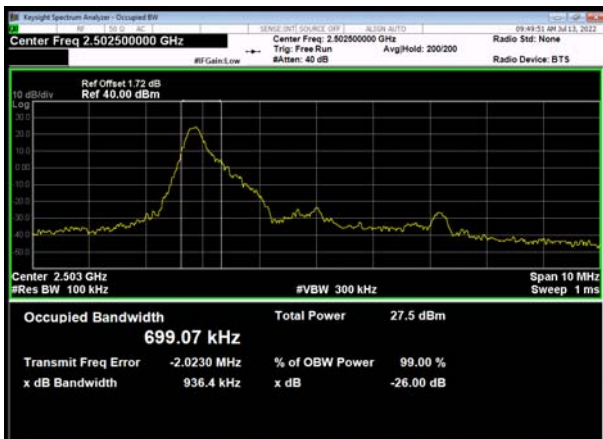


LTE Band 7 QPSK 20MHz CH-High

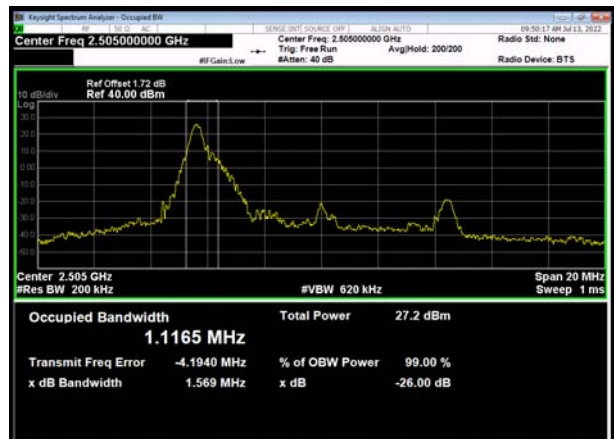




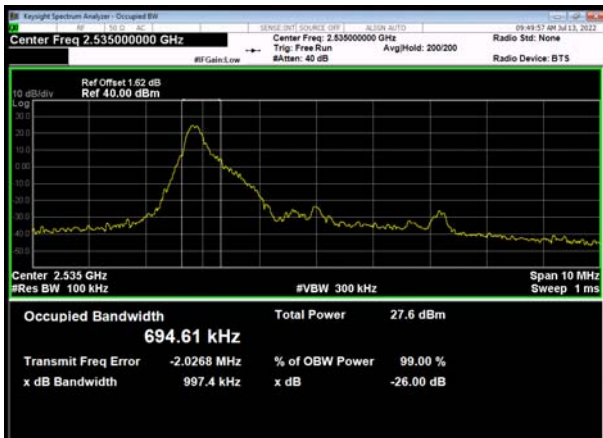
LTE Band 7 16QAM 5MHz CH-Low



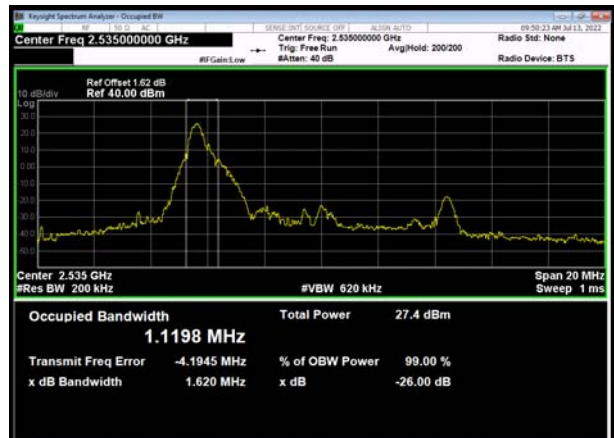
LTE Band 7 16QAM 10MHz CH-Low



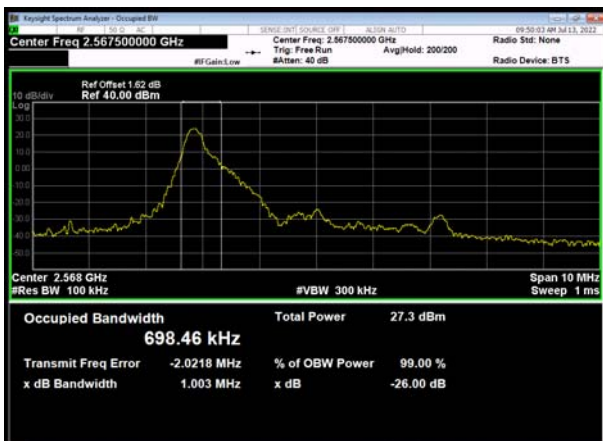
LTE Band 7 16QAM 5MHz CH-Middle



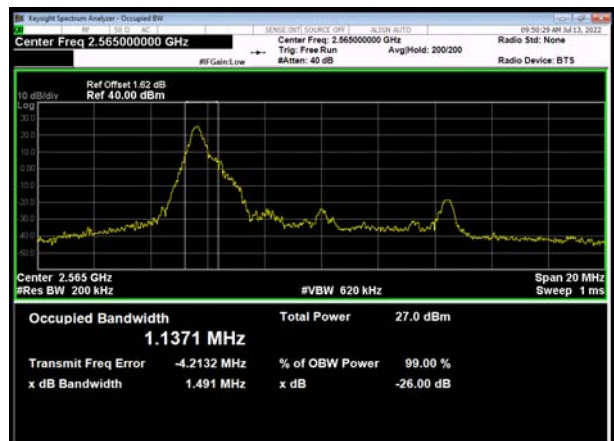
LTE Band 7 16QAM 10MHz CH-Middle



LTE Band 7 16QAM 5MHz CH-High

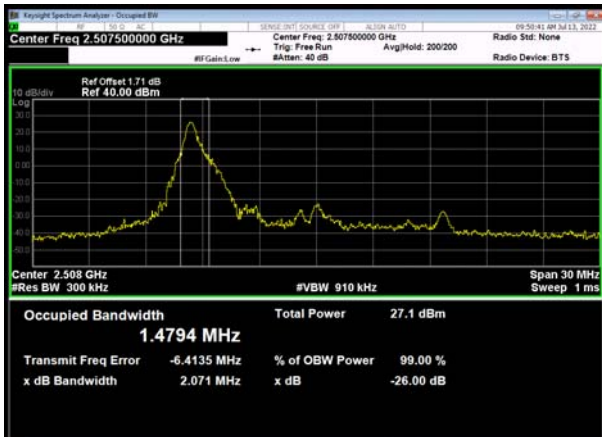


LTE Band 7 16QAM 10MHz CH-High

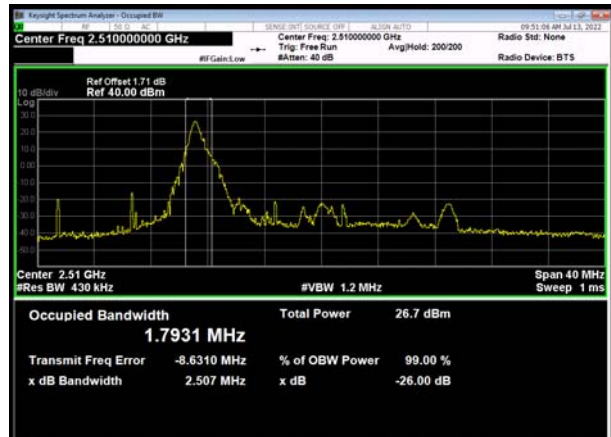




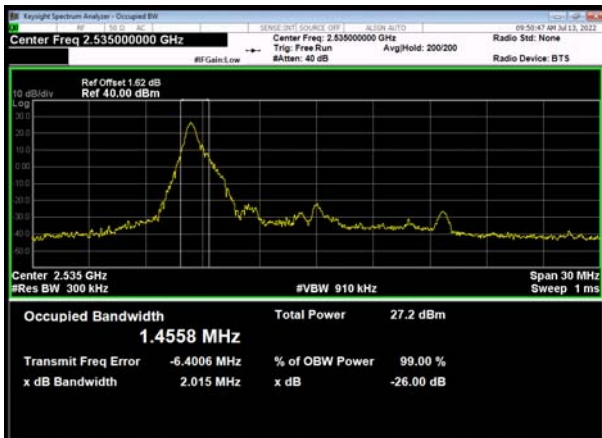
LTE Band 7 16QAM 15MHz CH-Low



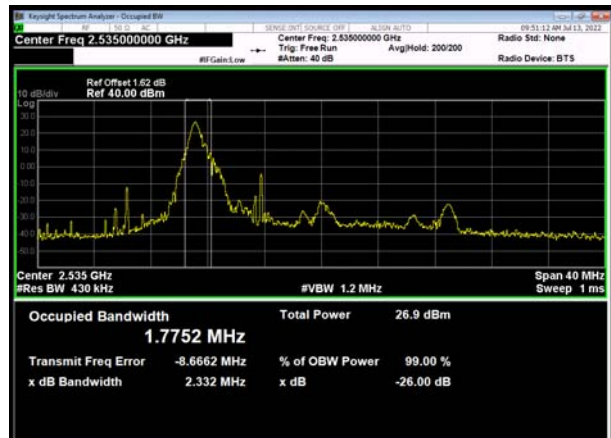
LTE Band 7 16QAM 20MHz CH-Low



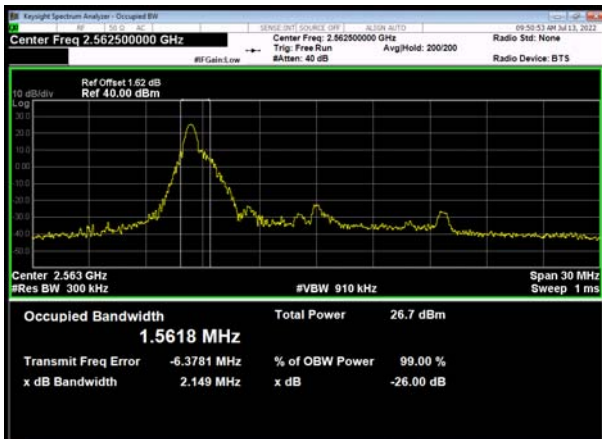
LTE Band 7 16QAM 15MHz CH-Middle



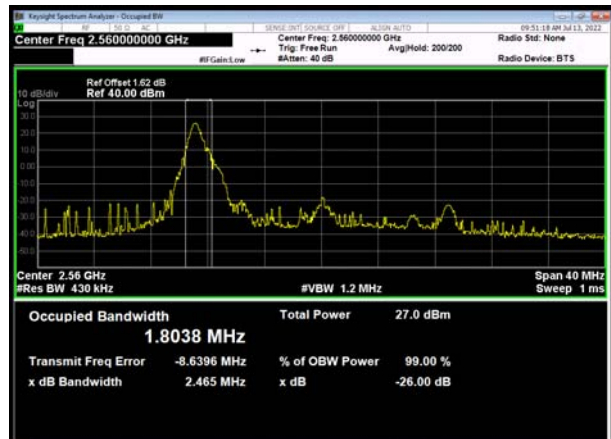
LTE Band 7 16QAM 20MHz CH-Middle



LTE Band 7 16QAM 15MHz CH-High



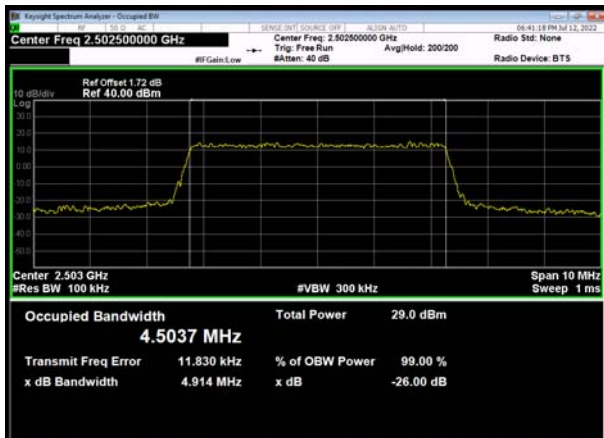
LTE Band 7 16QAM 20MHz CH-High



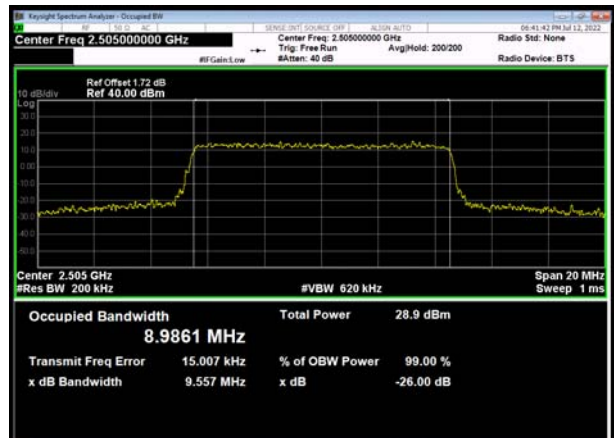


100% RB

LTE Band 7 QPSK 5MHz CH-Low



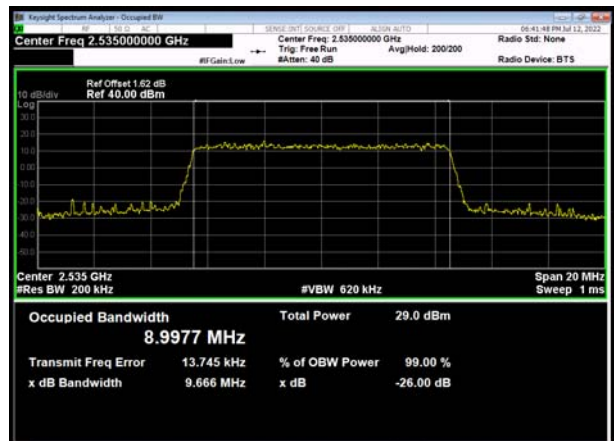
LTE Band 7 QPSK 10MHz CH-Low



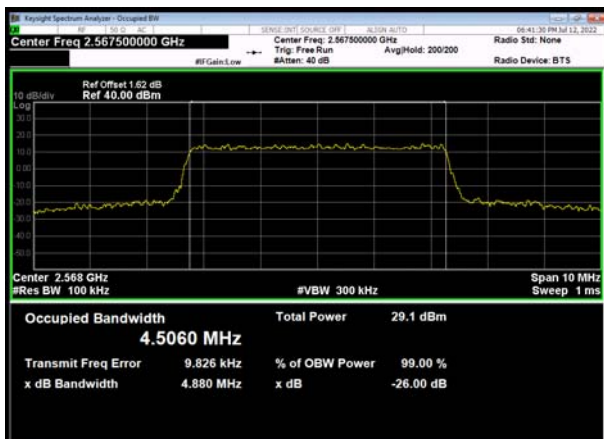
LTE Band 7 QPSK 5MHz CH-Middle



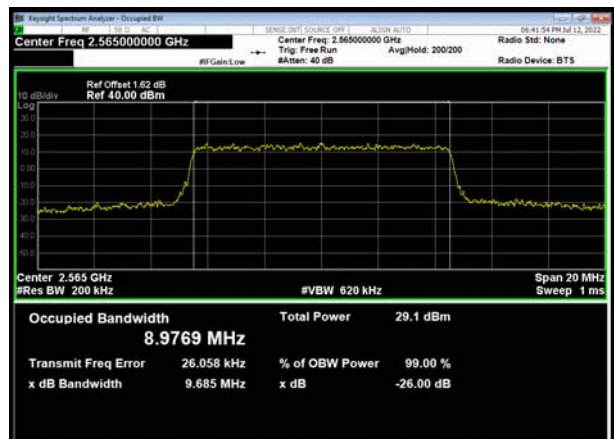
LTE Band 7 QPSK 10MHz CH-Middle



LTE Band 7 QPSK 5MHz CH-High

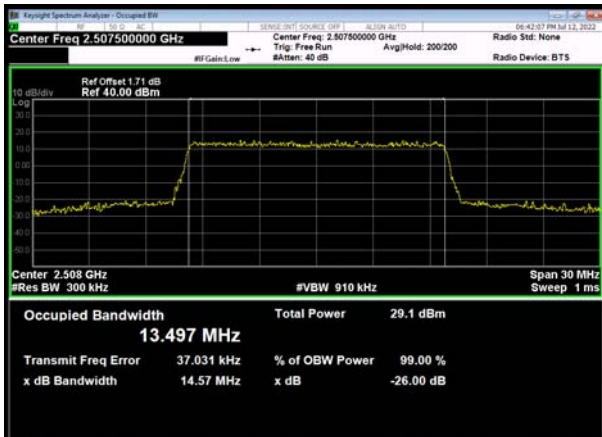


LTE Band 7 QPSK 10MHz CH-High

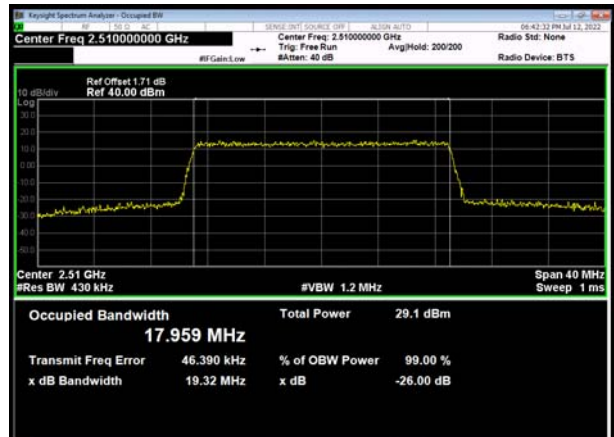




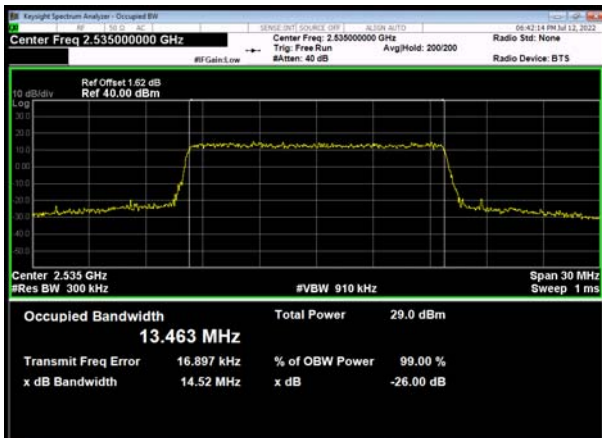
LTE Band 7 QPSK 15MHz CH-Low



LTE Band 7 QPSK 20MHz CH-Low



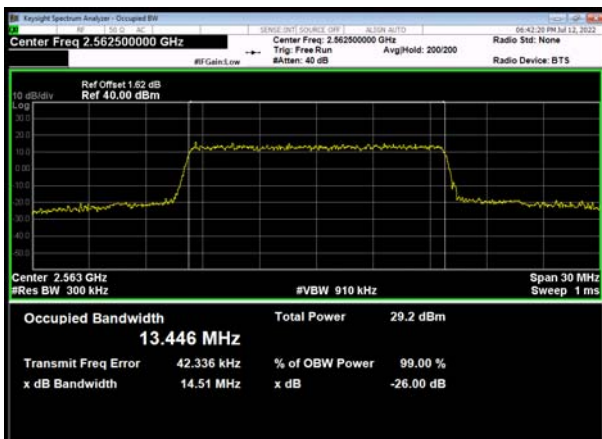
LTE Band 7 QPSK 15MHz CH-Middle



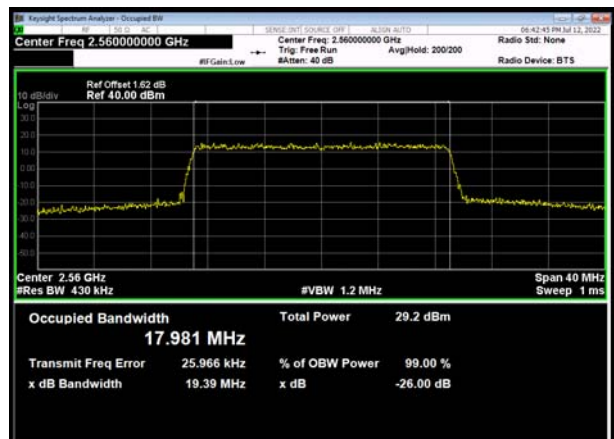
LTE Band 7 QPSK 20MHz CH-Middle



LTE Band 7 QPSK 15MHz CH-High

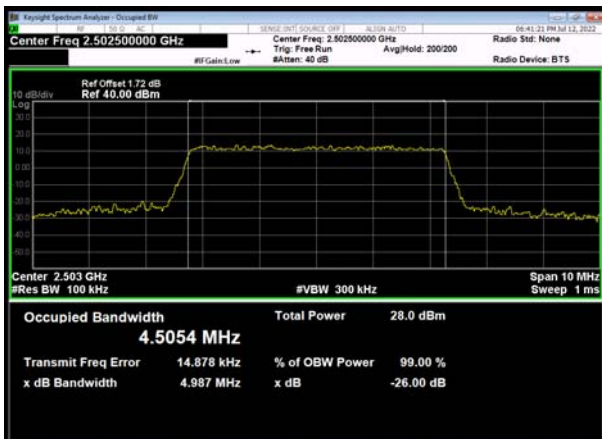


LTE Band 7 QPSK 20MHz CH-High

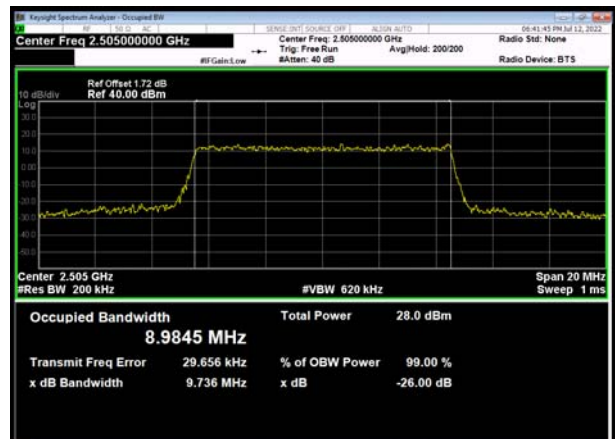




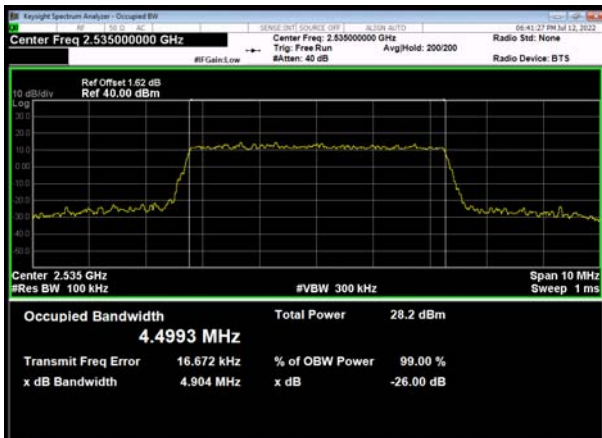
LTE Band 7 16QAM 5MHz CH-Low



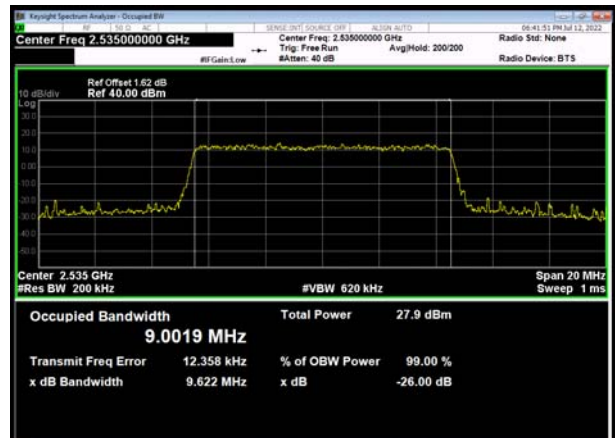
LTE Band 7 16QAM 10MHz CH-Low



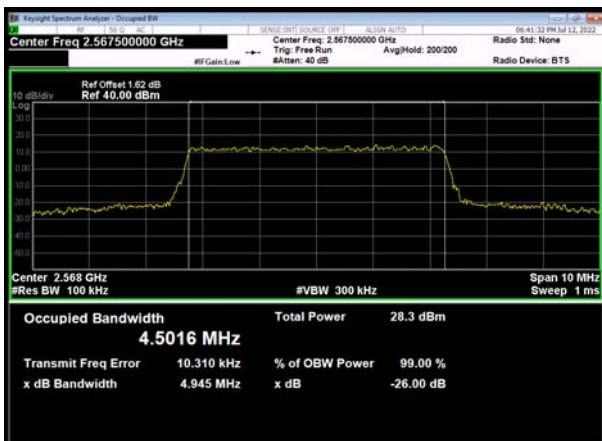
LTE Band 7 16QAM 5MHz CH-Middle



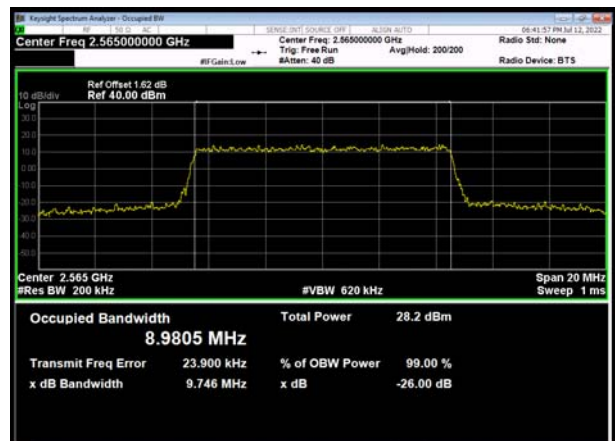
LTE Band 7 16QAM 10MHz CH-Middle



LTE Band 7 16QAM 5MHz CH-High

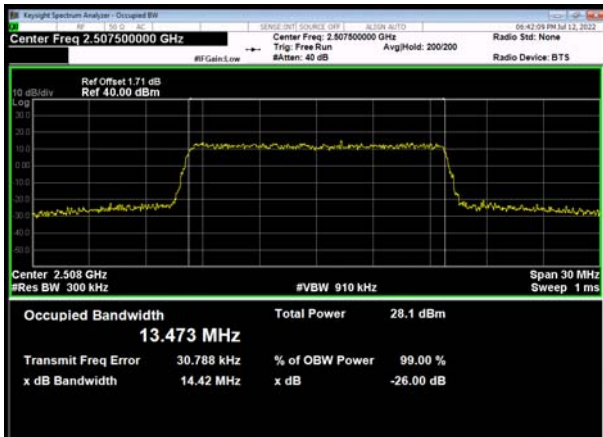


LTE Band 7 16QAM 10MHz CH-High

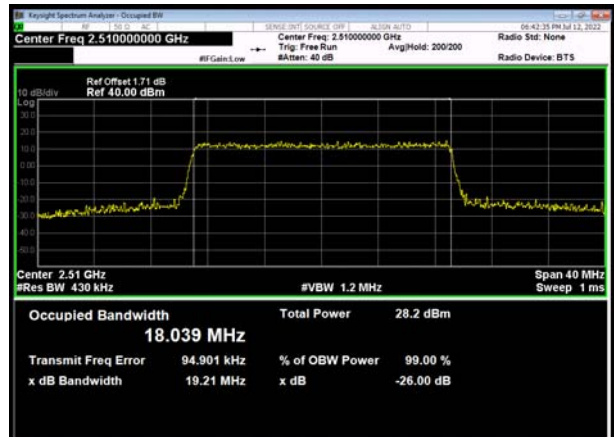




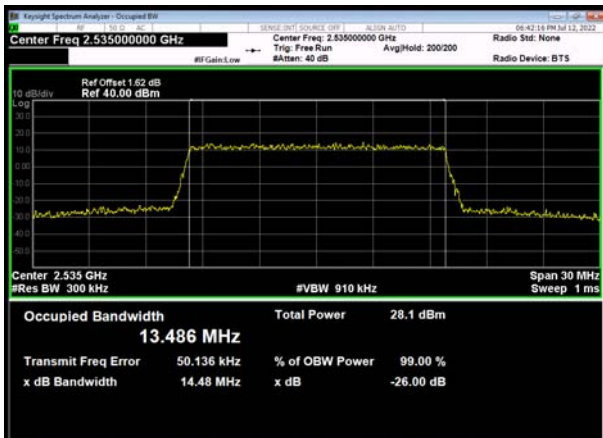
LTE Band 7 16QAM 15MHz CH-Low



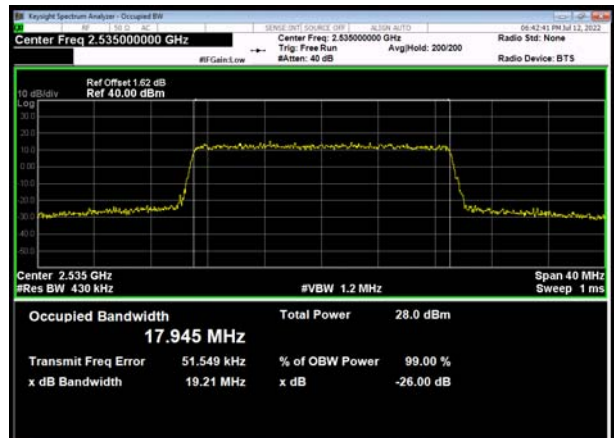
LTE Band 7 16QAM 20MHz CH-Low



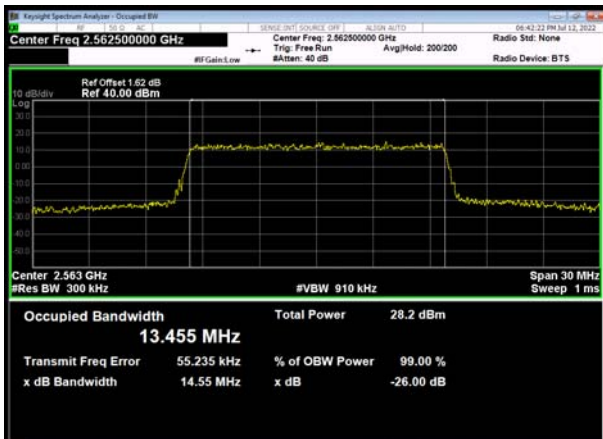
LTE Band 7 16QAM 15MHz CH-Middle



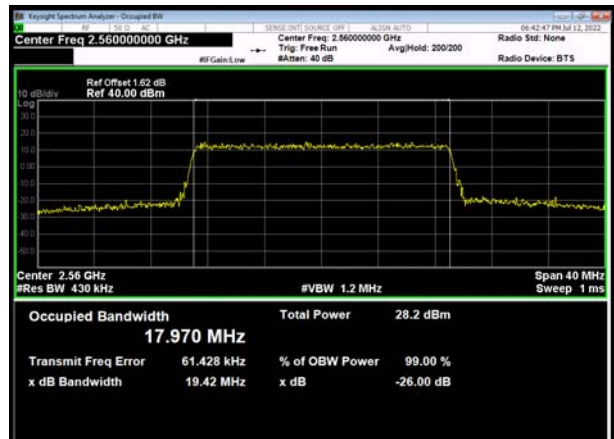
LTE Band 7 16QAM 20MHz CH-Middle



LTE Band 7 16QAM 15MHz CH-High

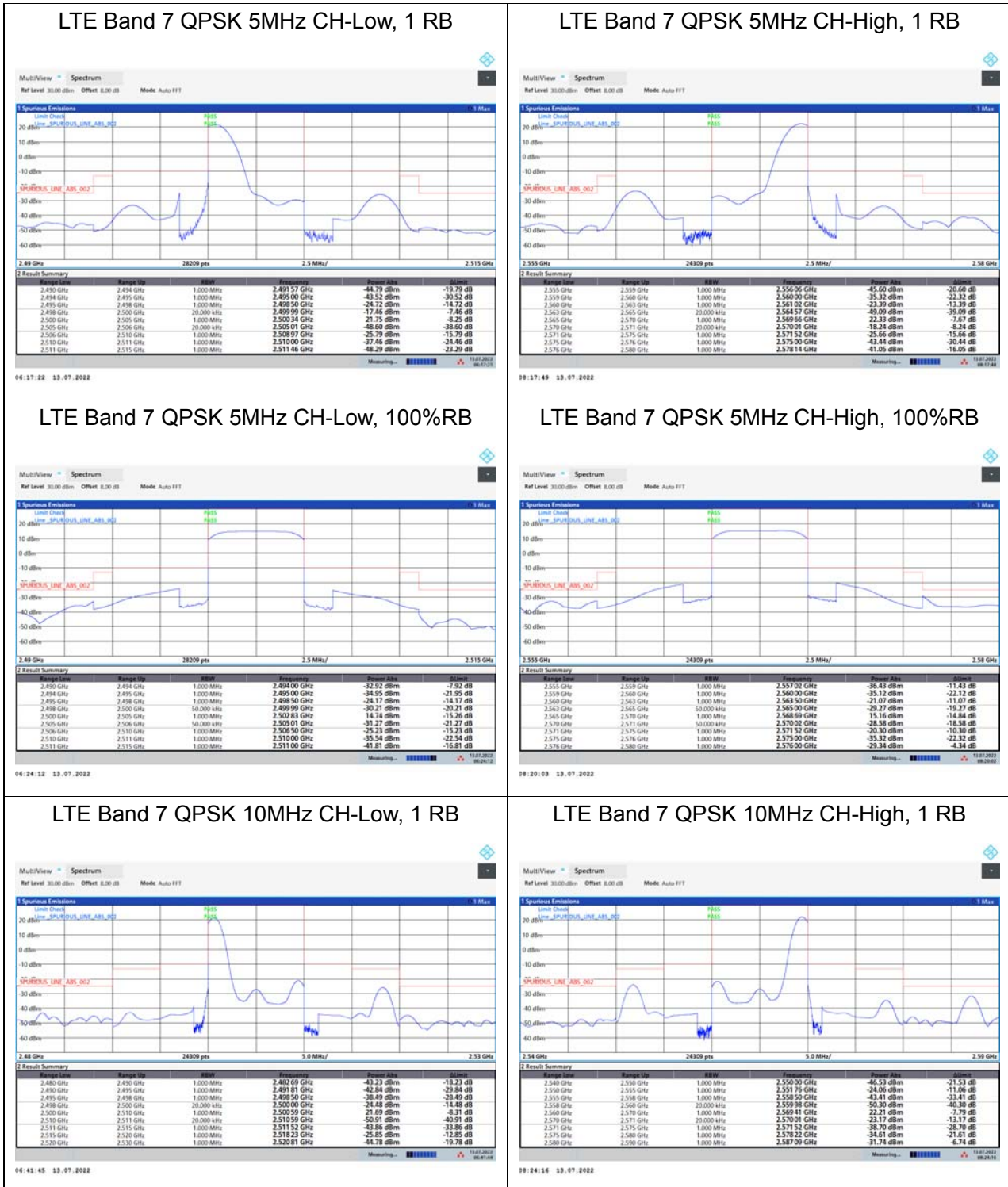


LTE Band 7 16QAM 20MHz CH-High

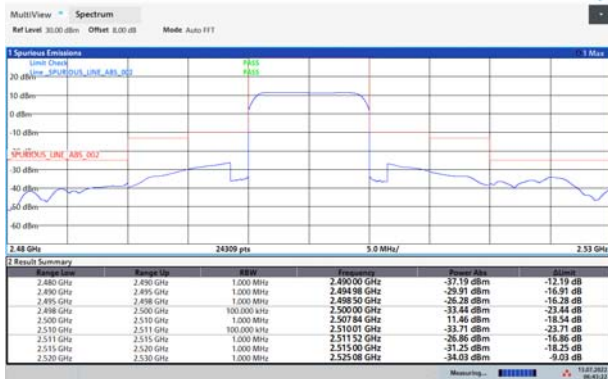


6.3 Band Edge Compliance

All the test traces in the plots shows the test results clearly.

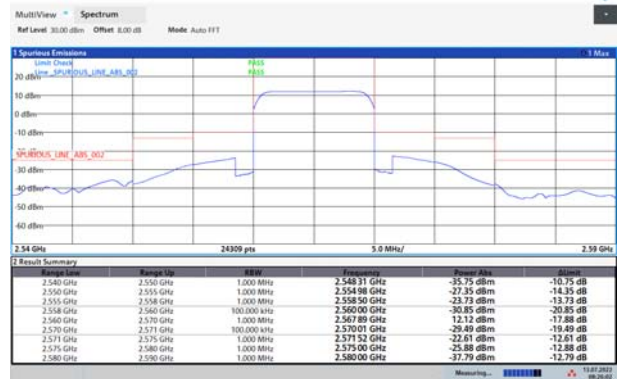


LTE Band 7 QPSK 10MHz CH-Low, 100%RB



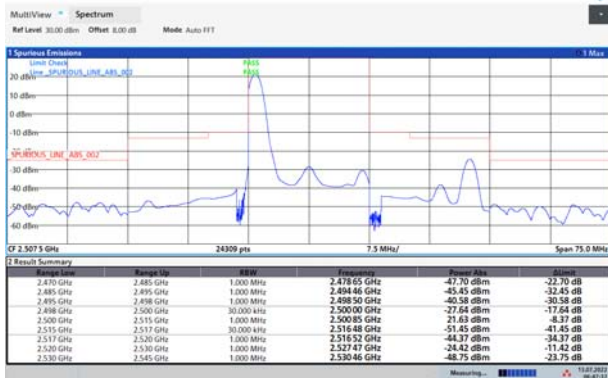
04:43:22 13.07.2022

LTE Band 7 QPSK 10MHz CH-High, 100%RB



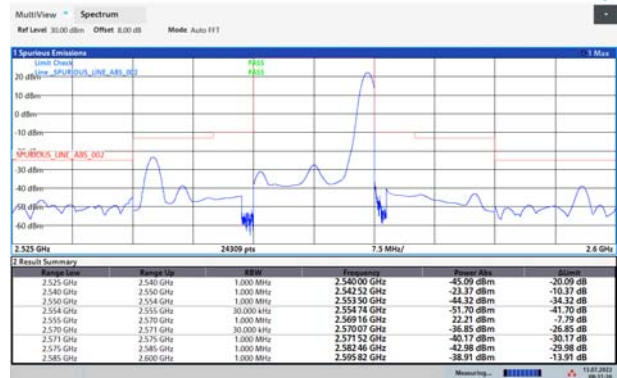
08:24:02 13.07.2022

LTE Band 7 QPSK 15MHz CH-Low, 1 RB



04:47:32 13.07.2022

LTE Band 7 QPSK 15MHz CH-High, 1 RB



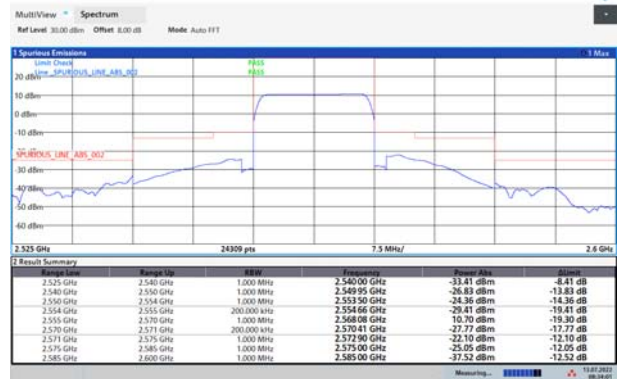
08:31:27 13.07.2022

LTE Band 7 QPSK 15MHz CH-Low, 100%RB



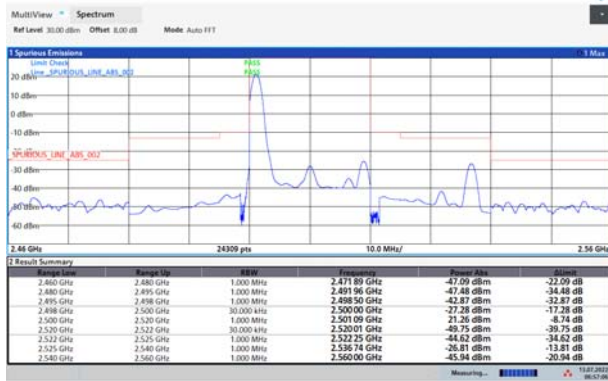
04:51:08 13.07.2022

LTE Band 7 QPSK 15MHz CH-High, 100%RB



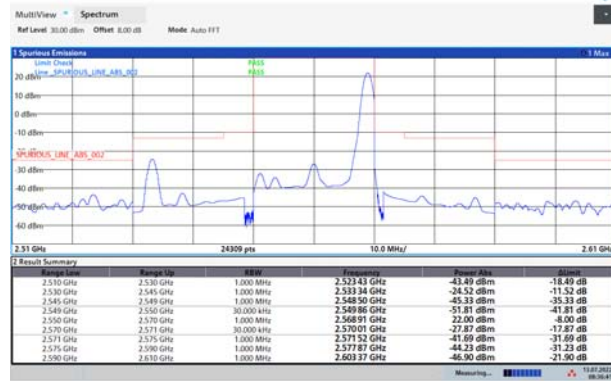
08:34:01 13.07.2022

LTE Band 7 QPSK 20MHz CH-Low, 1 RB



04:57:04 13. 07. 2022

LTE Band 7 QPSK 20MHz CH-High, 1 RB



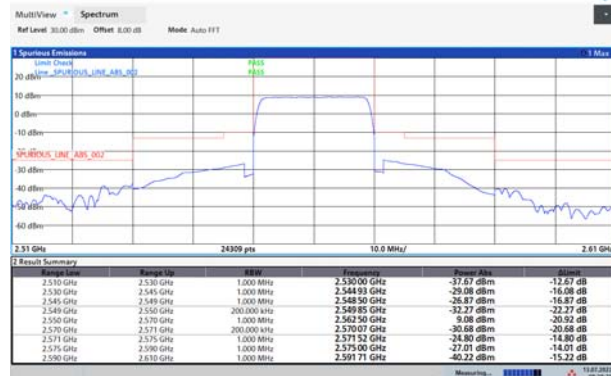
08:34:42 13. 07. 2022

LTE Band 7 QPSK 20MHz CH-Low, 100%RB



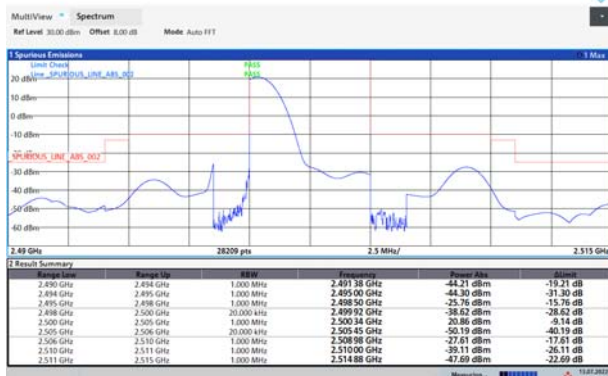
04:58:40 13. 07. 2022

LTE Band 7 QPSK 20MHz CH-High, 100%RB



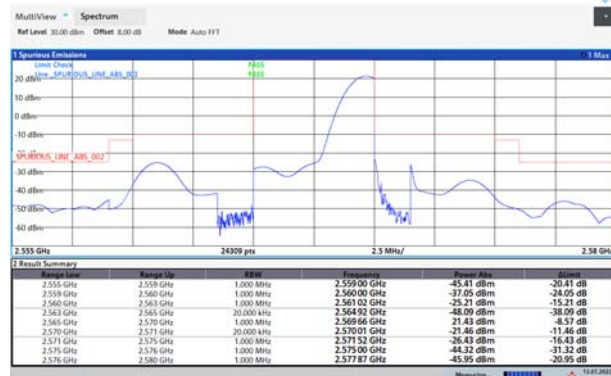
08:38:21 13. 07. 2022

LTE Band 7 16QAM 5MHz CH-Low, 1 RB



04:18:13 13. 07. 2022

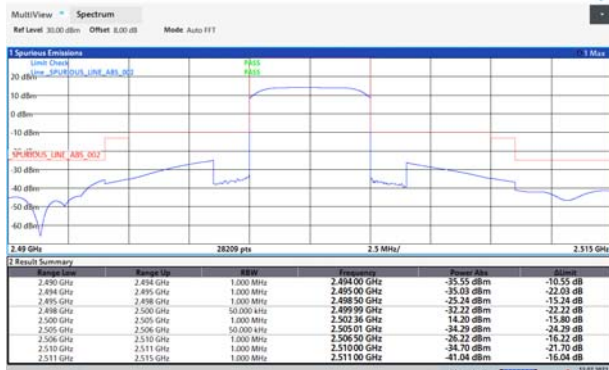
LTE Band 7 16QAM 5MHz CH-High, 1 RB



08:18:25 13. 07. 2022

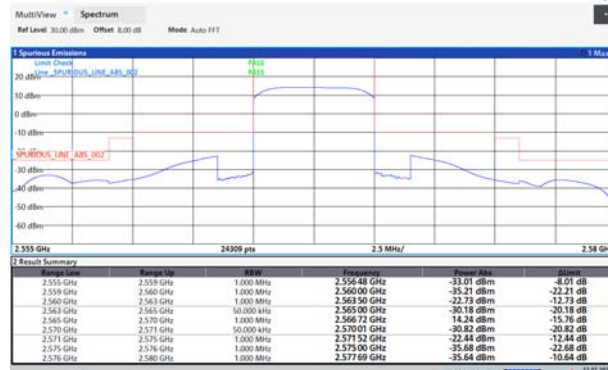


LTE Band 7 16QAM 5MHz CH-Low, 100%RB



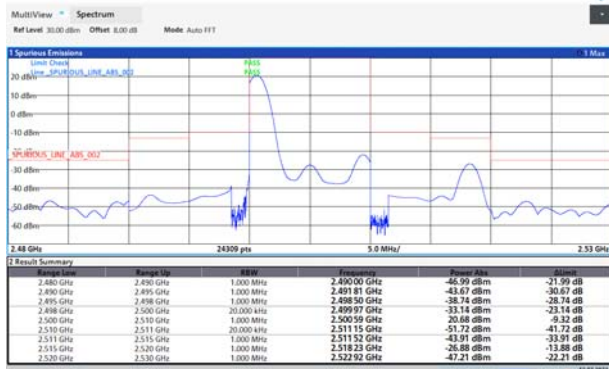
04:23:38 13.07.2022

LTE Band 7 16QAM 5MHz CH-High, 100%RB



08:19:40 13.07.2022

LTE Band 7 16QAM 10MHz CH-Low, 1 RB



04:42:09 13.07.2022

LTE Band 7 16QAM 10MHz CH-High, 1 RB



08:24:58 13.07.2022

LTE Band 7 16QAM 10MHz CH-Low, 100%RB



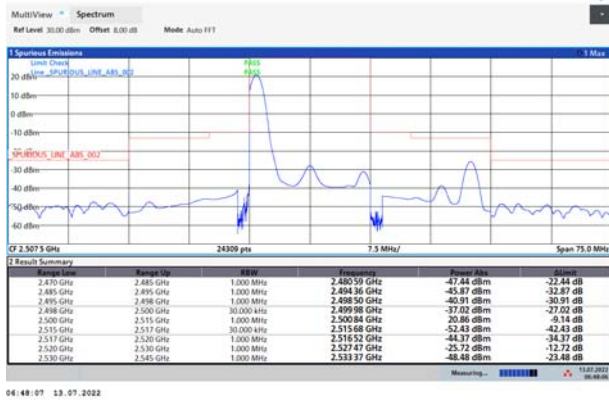
04:42:58 13.07.2022

LTE Band 7 16QAM 10MHz CH-High, 100%RB



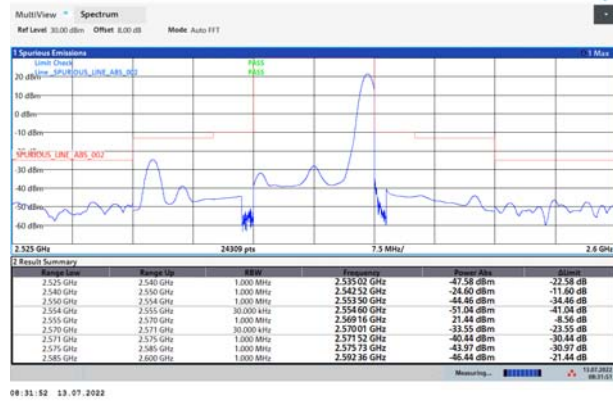
08:25:37 13.07.2022

LTE Band 7 16QAM 15MHz CH-Low, 1 RB



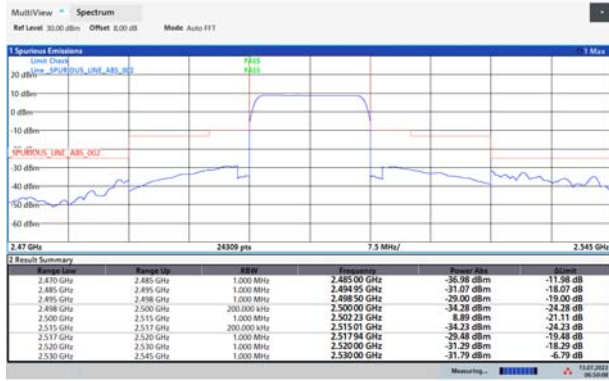
04:48:07 13.07.2022

LTE Band 7 16QAM 15MHz CH-High, 1 RB



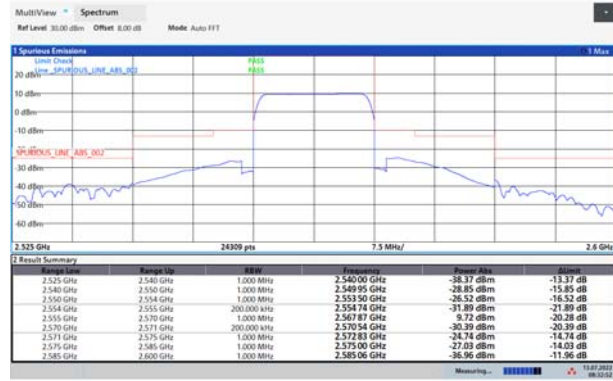
08:31:52 13.07.2022

LTE Band 7 16QAM 15MHz CH-Low, 100%RB



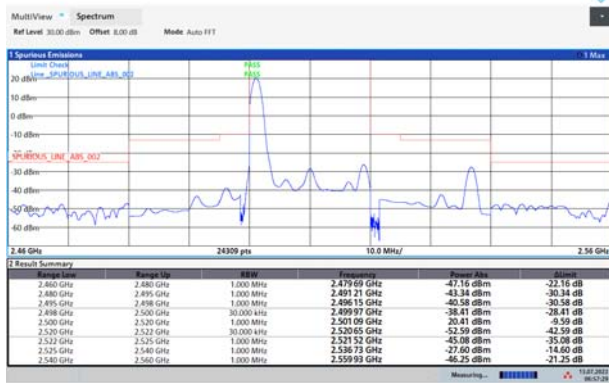
04:50:09 13.07.2022

LTE Band 7 16QAM 15MHz CH-High, 100%RB



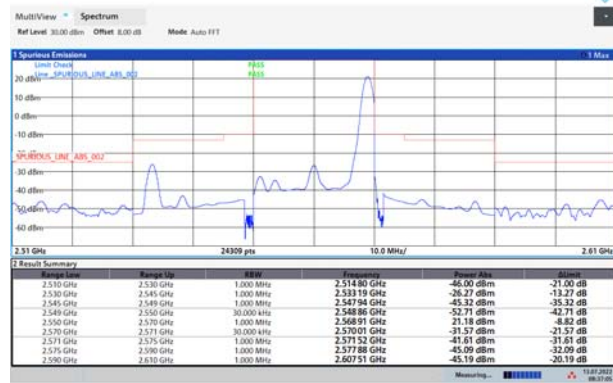
08:32:53 13.07.2022

LTE Band 7 16QAM 20MHz CH-Low, 1 RB



04:57:28 13.07.2022

LTE Band 7 16QAM 20MHz CH-High, 1 RB

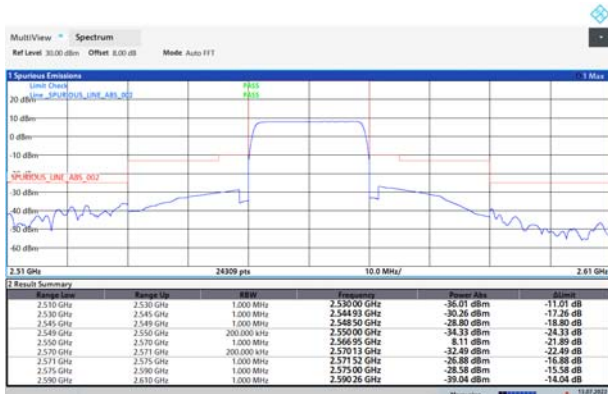
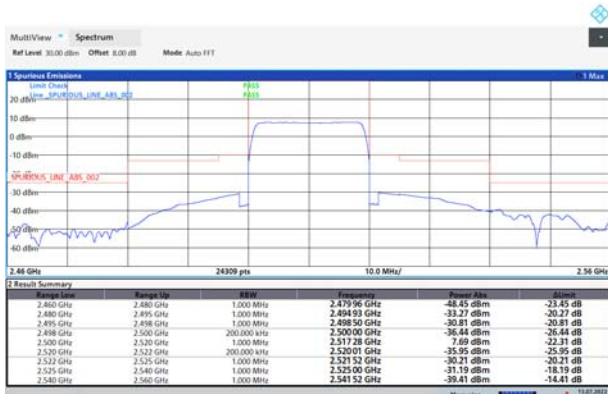


08:37:08 13.07.2022



LTE Band 7 16QAM 20MHz CH-Low, 100% RB

LTE Band 7 16QAM 20MHz CH-High, 100% RB



04:58:17 13. 07. 2022

08:37:50 13. 07. 2022



6.4 Peak-to-Average Power Ratio (PAPR)

LTE Band 7								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	20775	2502.5	26.07	21.12	4.95	≤13	PASS
		21100	2535	26.41	21.13	5.28	≤13	PASS
		21425	2567.5	26.30	21.25	5.05	≤13	PASS
	10	20800	2505	26.23	21.21	5.02	≤13	PASS
		21100	2535	26.46	21.18	5.28	≤13	PASS
		21400	2565	26.25	21.26	4.99	≤13	PASS
	15	20825	2507.5	26.69	21.24	5.45	≤13	PASS
		21100	2535	26.82	21.20	5.62	≤13	PASS
		21375	2562.5	26.67	21.32	5.35	≤13	PASS
	20	20850	2510	26.58	21.18	5.40	≤13	PASS
		21100	2535	26.50	21.10	5.40	≤13	PASS
		21350	2560	26.52	21.24	5.28	≤13	PASS
16QAM	5	20775	2502.5	25.88	20.09	5.79	≤13	PASS
		21100	2535	26.12	20.11	6.01	≤13	PASS
		21425	2567.5	26.07	20.20	5.87	≤13	PASS
	10	20800	2505	26.00	20.16	5.84	≤13	PASS
		21100	2535	26.28	20.20	6.08	≤13	PASS
		21400	2565	26.12	20.28	5.84	≤13	PASS
	15	20825	2507.5	26.27	20.21	6.06	≤13	PASS
		21100	2535	26.37	20.16	6.21	≤13	PASS
		21375	2562.5	26.25	20.24	6.01	≤13	PASS
	20	20850	2510	26.31	20.19	6.12	≤13	PASS
		21100	2535	26.31	20.12	6.19	≤13	PASS
		21350	2560	26.27	20.23	6.04	≤13	PASS

6.5 Frequency Stability

LTE Band 7						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability(ppm)	Frequency Stability(ppm)	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal(25°C)	Normal	6.57	16.41	0.00259	0.00647	PASS
Extreme(50°C)		3.78	4.42	0.00149	0.00174	PASS
Extreme(40°C)		7.94	16.62	0.00313	0.00656	PASS
Extreme(30°C)		9.46	8.54	0.00373	0.00337	PASS
Extreme(20°C)		6.33	14.24	0.00250	0.00562	PASS
Extreme(10°C)		5.91	17.92	0.00233	0.00707	PASS
Extreme(0°C)		3.02	4.91	0.00119	0.00194	PASS
Extreme(-10°C)		14.23	5.00	0.00561	0.00197	PASS
Extreme(-20°C)		17.79	13.99	0.00702	0.00552	PASS
Extreme(-30°C)		2.67	6.23	0.00105	0.00246	PASS
25°C		LV	5.22	9.18	0.00206	0.00362
	HV	8.47	17.06	0.00334	0.00673	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability(ppm)	Frequency Stability(ppm)	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal(25°C)	Normal	1.97	13.25	0.00078	0.00522	PASS
Extreme(50°C)		2.35	14.23	0.00093	0.00561	PASS
Extreme(40°C)		9.93	2.70	0.00392	0.00106	PASS
Extreme(30°C)		12.83	2.81	0.00506	0.00111	PASS
Extreme(20°C)		10.59	7.58	0.00418	0.00299	PASS
Extreme(10°C)		14.06	9.38	0.00555	0.00370	PASS
Extreme(0°C)		11.70	9.72	0.00462	0.00384	PASS
Extreme(-10°C)		10.73	16.45	0.00423	0.00649	PASS
Extreme(-20°C)		11.69	7.11	0.00461	0.00280	PASS
Extreme(-30°C)		17.47	12.93	0.00689	0.00510	PASS
25°C		LV	6.20	14.68	0.00244	0.00579
	HV	15.02	3.43	0.00592	0.00135	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability(ppm)	Frequency Stability(ppm)	Verdict
BANDWIDTH	15MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal(25°C)	Normal	10.99	6.07	0.00433	0.00239	PASS



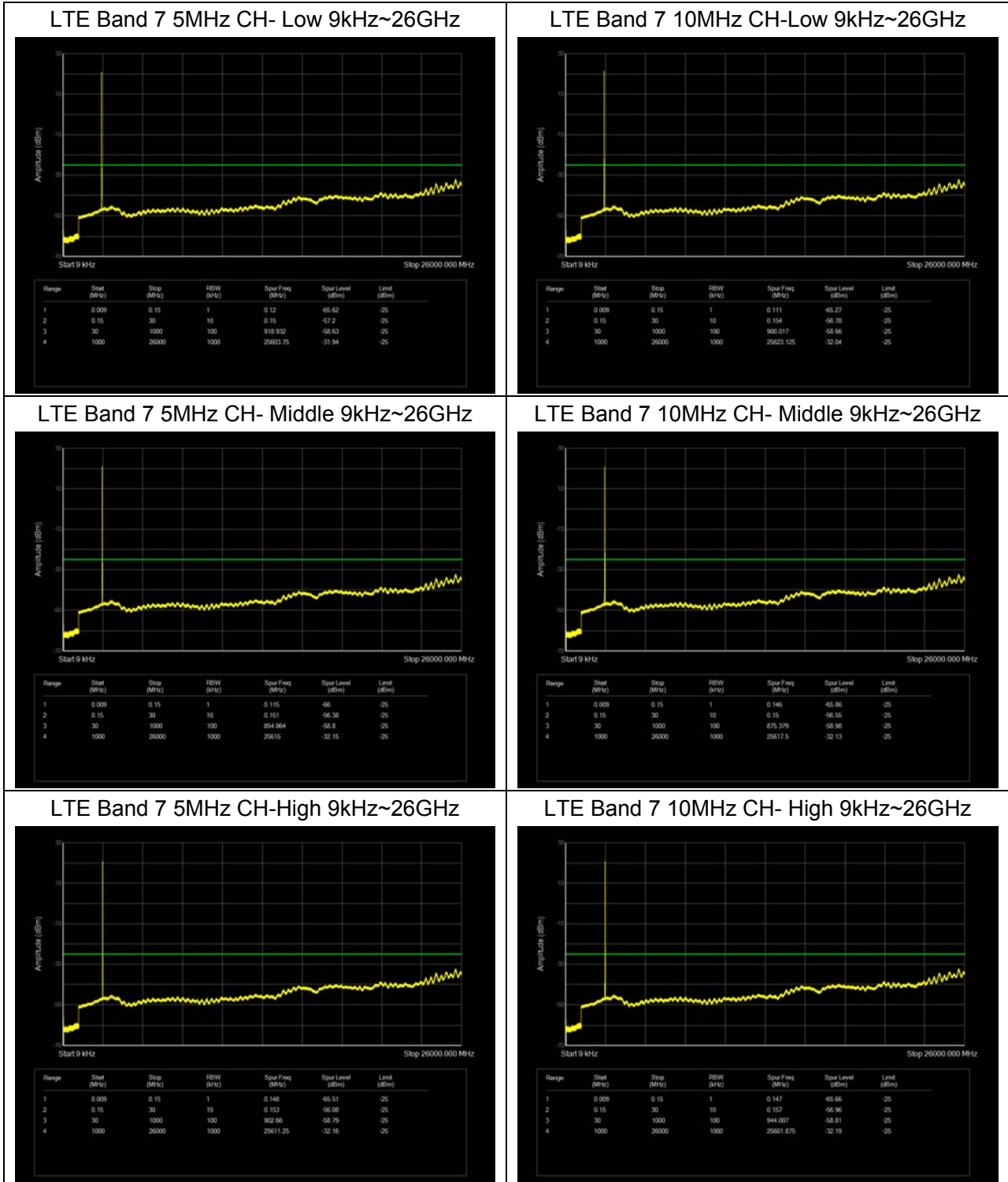
Extreme(50°C)		10.33	16.14	0.00408	0.00637	PASS
Extreme(40°C)		15.11	6.55	0.00596	0.00258	PASS
Extreme(30°C)		1.96	4.96	0.00077	0.00196	PASS
Extreme(20°C)		10.06	11.50	0.00397	0.00454	PASS
Extreme(10°C)		14.07	8.58	0.00555	0.00339	PASS
Extreme(0°C)		4.85	1.01	0.00191	0.00040	PASS
Extreme(-10°C)		3.49	17.50	0.00138	0.00690	PASS
Extreme(-20°C)		13.75	12.99	0.00542	0.00512	PASS
Extreme(-30°C)		8.75	4.61	0.00345	0.00182	PASS
25°C	LV	13.21	2.87	0.00521	0.00113	PASS
	HV	6.48	13.39	0.00256	0.00528	PASS
Condition		Freq.Error	Freq.Error	Frequency	Frequency	Verdict
BANDWIDTH	20MHz	(Hz)	(Hz)	Stability(ppm)	Stability(ppm)	
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal(25°C)	Normal	16.34	5.92	0.00645	0.00233	PASS
Extreme(50°C)		15.16	12.92	0.00598	0.00510	PASS
Extreme(40°C)		12.67	9.06	0.00500	0.00357	PASS
Extreme(30°C)		9.44	2.11	0.00372	0.00083	PASS
Extreme(20°C)		13.43	4.51	0.00530	0.00178	PASS
Extreme(10°C)		13.25	16.02	0.00523	0.00632	PASS
Extreme(0°C)		12.86	16.24	0.00507	0.00641	PASS
Extreme(-10°C)		10.20	8.37	0.00402	0.00330	PASS
Extreme(-20°C)		9.25	12.46	0.00365	0.00492	PASS
Extreme(-30°C)		6.58	17.57	0.00259	0.00693	PASS
25°C	LV	3.34	16.30	0.00132	0.00643	PASS
	HV	13.09	11.02	0.00516	0.00435	PASS



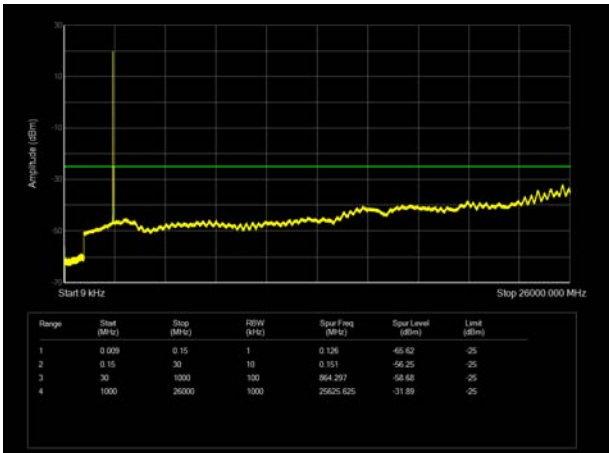
6.6 Spurious Emissions at Antenna Terminals

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

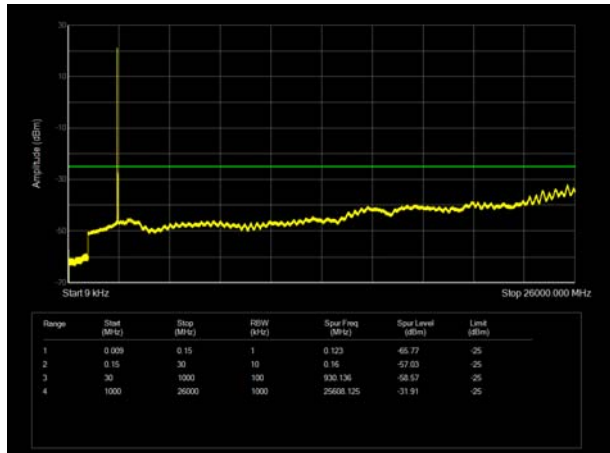
The signal beyond the limit is carrier.



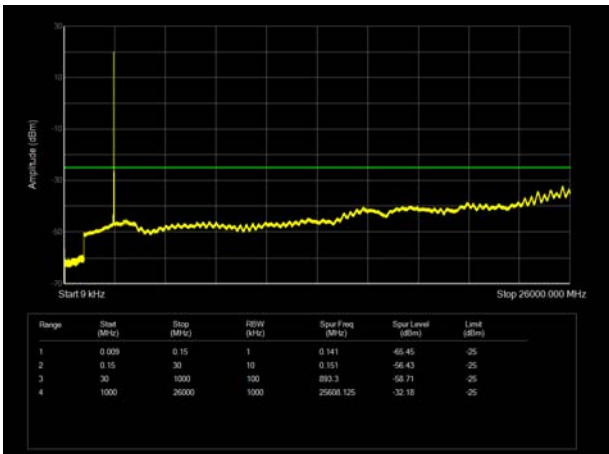
LTE Band 7 15MHz CH- Low 9kHz~26GHz



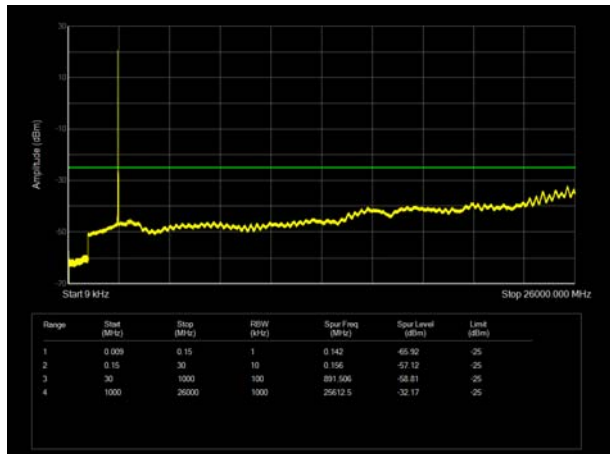
LTE Band 7 20MHz CH-Low 9kHz~26GHz



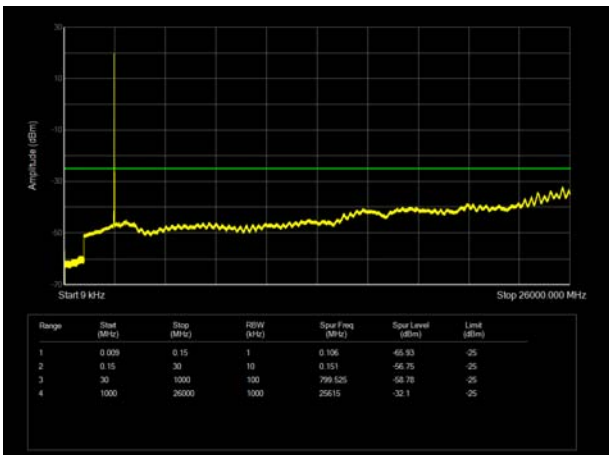
LTE Band 7 15MHz CH- Middle 9kHz~26GHz



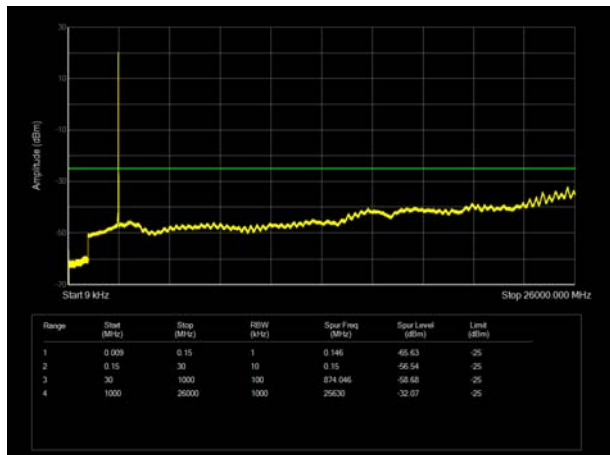
LTE Band 7 20MHz CH- Middle 9kHz~26GHz



LTE Band 7 15MHz CH-High 9kHz~26GHz



LTE Band 7 20MHz CH- High 9kHz~26GHz





6.7 Radiates Spurious Emission

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

Main Antenna

LTE Band 7 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.20	-62.93	3.40	12.50	Vertical	-53.83	-25.00	28.83	180
3	7578.30	-56.21	4.40	12.20	Vertical	-48.41	-25.00	23.41	0
4	10104.40	-52.50	4.70	11.30	Vertical	-45.90	-25.00	20.90	315
5	12630.50	-51.97	5.40	13.20	Vertical	-44.17	-25.00	19.17	0
6	15156.60	-52.82	6.10	13.10	Vertical	-45.82	-25.00	20.82	180
7	17745.00	-49.13	6.10	14.20	Vertical	-41.03	-25.00	16.03	0
8	20208.80	--	--	--	--	--	--	--	--
9	22734.90	--	--	--	--	--	--	--	--
10	25261.00	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 7 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5065.80	-63.89	3.40	12.50	Vertical	-54.79	-25.00	29.79	0
3	7598.60	-57.00	4.40	12.20	Vertical	-49.20	-25.00	24.20	90
4	10130.63	-52.82	4.70	11.30	Vertical	-46.22	-25.00	21.22	180
5	12675.00	-53.41	5.40	13.20	Vertical	-45.61	-25.00	20.61	315
6	15210.00	-53.35	6.10	13.10	Vertical	-46.35	-25.00	21.35	225
7	17745.00	-49.65	6.10	14.20	Vertical	-41.55	-25.00	16.55	270
8	20280.00	--	--	--	--	--	--	--	--
9	22815.00	--	--	--	--	--	--	--	--
10	25350.00	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

**Second Antenna**

LTE Band 7 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.20	-65.11	3.40	12.50	Horizontal	-56.01	-25.00	31.01	180
3	7578.30	-56.45	4.40	12.20	Horizontal	-48.65	-25.00	23.65	0
4	10104.40	-51.36	4.70	11.30	Horizontal	-44.76	-25.00	19.76	315
5	12630.50	-52.55	5.40	13.20	Horizontal	-44.75	-25.00	19.75	0
6	15156.60	-53.29	6.10	13.10	Horizontal	-46.29	-25.00	21.29	180
7	17745.00	-49.54	6.10	14.20	Horizontal	-41.44	-25.00	16.44	0
8	20208.80	--	--	--	--	--	--	--	--
9	22734.90	--	--	--	--	--	--	--	--
10	25261.00	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Horizontal position.

LTE Band 7 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5065.80	-65.39	3.40	12.50	Horizontal	-56.29	-25.00	31.29	0
3	7598.60	-57.85	4.40	12.20	Horizontal	-50.05	-25.00	25.05	90
4	10130.63	-53.24	4.70	11.30	Horizontal	-46.64	-25.00	21.64	180
5	12675.00	-52.27	5.40	13.20	Horizontal	-44.47	-25.00	19.47	315
6	15210.00	-51.90	6.10	13.10	Horizontal	-44.90	-25.00	19.90	225
7	17745.00	-50.00	6.10	14.20	Horizontal	-41.90	-25.00	16.90	270
8	20280.00	--	--	--	--	--	--	--	--
9	22815.00	--	--	--	--	--	--	--	--
10	25350.00	--	--	--	--	--	--	--	--

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Horizontal position.



7 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113824	2022-05-14	2023-05-13
Spectrum Analyzer	Keysight	N9020A	MY50510203	2021-12-12	2022-12-11
Universal Radio Communication Tester	Agilent	E5515C	GB44400275	2021-12-12	2022-12-11
Signal Analyzer	R&S	FSV3030	101411	2021-12-12	2022-12-11
Climatic Chamber	ESPEC	SU-242	93000506	2021-12-12	2022-12-11
Radiates Spurious Emission					
Signal Analyzer	R&S	FSV30	100815	2021-12-12	2022-12-11
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2022-12-15
Horn Antenna	R&S	HF907	102723	2020-08-11	2023-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Horn Antenna	STEATITE	QSH-SL-26-40-K-15	16779	2019-12-24	2022-12-23
Software	R&S	EMC32	10.35.10	/	/

*****END OF REPORT *****



ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.



ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.



ANNEX C: Product Change Description

The Product Change Description are submitted separately.