RF TEST REPORT

Applicant	Honor Device Co., Ltd.
FCC ID	2AYGCVNE-LX3
Product	Smart Phone
Model	VNE-LX3
Report No.	R2207A0619-R3V1
Issue Date	August 2, 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.

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Version	Revision description	Issue Date
Rev.0	Initial issue of report.	July 25, 2022
Rev.1	Update description.	August 2, 2022
Note: This revised report (Report No. R2207A0619-R3V1) supersedes and replaces the previously issued report (Report No. R2207A0619-R3). Please discard or destroy the previously issued report and dispose of it accordingly.		

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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(d)(4) /27.50(b)(10) /27.50(h)(2)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Band Edge Compliance	27.53(h) /27.53(f) /27.53(c) /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(h) /27.53(f) /27.53(c) /27.53(m)	PASS
7	Radiates Spurious Emission	2.1053 /27.53(h) /27.53(f) /27.53(c) /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.			

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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
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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-LX3		
SN	A96BNU2625200405		
Hardware Version	HL1VNEM		
Software Version	2.1.0.34(SP02C900E5R1P1)		
Power Supply	Battery / AC adapter		
Antenna Type	Internal Antenna		
Antenna Gain	Band	Main Antenna Gain(dBi)	Second Antenna Gain(dBi)
	WCDMA Band IV	1.1	-0.1
	LTE Band 4	1.1	-0.1
	LTE Band 7	1.0	2.2
	LTE Band 13	-2.0	-4.4
	LTE Band 38	1.4	1.2
	LTE Band 66	1.1	-0.1
Test Mode(s)	WCDMA Band IV; LTE Band 4/7/13/38/66;		
Test Modulation	(WCDMA) BPSK, QPSK,16QAM; (LTE) QPSK, 16QAM(Uplink); QPSK, 16QAM,64QAM(Downlink);		
HSDPA UE Category	14		
HSUPA UE Category	7		
DC-HSDPA UE Category	24		
HSPA+ UE Category	24		
LTE Category	4		
Maximum E.I.R.P./ E.R.P.	WCDMA Band IV	24.78dBm	
	LTE Band 4	24.47dBm	
	LTE Band 7	24.74dBm	
	LTE Band 13	19.89dBm	
	LTE Band 38	23.97dBm	

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	LTE Band 66	24.39dBm	
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)
	WCDMA Band IV	1710 ~ 1755	2110 ~ 2155
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
	LTE Band 13	777 ~ 787	746 ~ 756
	LTE Band 38	2570 ~ 2620	2570 ~ 2620
	LTE Band 66	1710 ~ 1780	2110 ~ 2180

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-339	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	FOXCONN INTERCONNECT TECHNOLOGY	5

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	2120-00001-0	MING JI ELECTRONICS CO., LTD.	3
	L125UC007-CS-H	LUXSHARE PRECISION INDUSTRY CO., LTD.	4
	CUDU01B-HC451-EH	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.

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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

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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 GSM/WCDMA/LTE; Second Antenna: X axis, horizontal polarization for Second Antenna GSM/WCDMA/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 WCDMA/LTE is set based on the maximum RF Output Power.
The following testing in different Bandwidth is set to detailin the following table:
Test modes are chosen to be reported as the worst case configuration below:

Test items	Modes/Modulation
	WCDMA Band IV
RF Power Output and Effective Isotropic Radi ated Power	RMC HSDPA/HSUPA DC-HSDPA/HSPA+
Occupied Bandwidth	RMC
Band Edge Compliance	RMC
Peak-to-Average Power Ratio	RMC
Frequency Stability	RMC
Spurious Emissions at Antenna Terminals	RMC
Radiates Spurious Emission	RMC

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Test modes are chosen to be reported as the worst case configuration below for LTE Band 4/7/13/38/66:

Test items	Modes	Bandwidth (MHz)						Modulation		RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	50%	100%	L	M	H
RF Power Output and Effective Isotropic Radiated Power	LTE 4	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 7	-	-	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 13	-	-	O	O	-	-	O	O	O	O	O	O	O	O
	LTE 38	-	-	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 66	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Occupied Bandwidth	LTE 4	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 7	-	-	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 13	-	-	O	O	-	-	O	O	-	-	O	O	O	O
	LTE 38	-	-	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 66	O	O	O	O	O	O	O	O	-	-	O	O	O	O
Band Edge Compliance	LTE 4	O	O	O	O	O	O	O	O	O	-	O	O	-	O
	LTE 7	-	-	O	O	O	O	O	O	O	-	O	O	-	O
	LTE 13	-	-	O	O	-	-	O	O	O	-	O	O	-	O
	LTE 38	-	-	O	O	O	O	O	O	O	-	O	O	-	O
	LTE 66	O	O	O	O	O	O	O	O	O	-	O	O	-	O
Peak-to-Average Power Ratio	LTE 4	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 7	-	-	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 13	-	-	O	O	-	-	O	O	-	-	O	O	O	O
	LTE 38	-	-	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 66	O	O	O	O	O	O	O	O	-	-	O	O	O	O
Frequency Stability	LTE 4	O	O	O	O	O	O	O	O	O	-	-	-	O	-
	LTE 7	-	-	O	O	O	O	O	O	O	-	-	-	O	-
	LTE 13	-	-	O	O	-	-	O	O	O	-	-	-	O	-
	LTE 38	-	-	O	O	O	O	O	O	O	-	-	-	O	-
	LTE 66	O	O	O	O	O	O	O	O	O	-	-	-	O	-

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Spurious Emissions at Antenna Terminals	LTE 4	O	O	O	O	O	O	O	-	O	-	-	O	O	O
	LTE 7	-	-	O	O	O	O	O	-	O	-	-	O	O	O
	LTE 13	-	-	O	O	-	-	O	-	O	-	-	O	O	O
	LTE 38	-	-	O	O	O	O	O	-	O	-	-	O	O	O
	LTE 66	O	O	O	O	O	O	O	-	O	-	-	O	O	O
Radiates Spurious Emission	LTE 4	O	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE 7	-	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE 13	-	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE 38	-	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE 66	O	-	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.														

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5 Test Case

5.1 RF Power Output and Effective Isotropic Radiated Power

Ambient condition

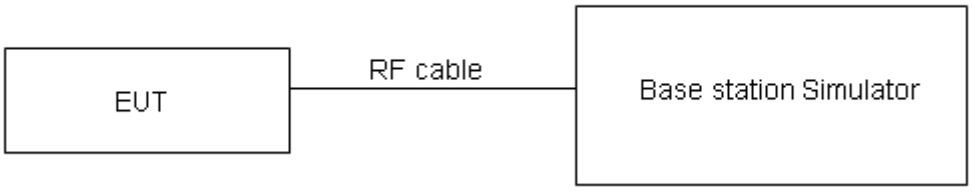
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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:
EIRP (dBm) = Output Power (dBm) - Losses (dB) + Antenna Gain (dBi)
where:dBd refers to gain relative to an ideal dipole.
EIRP (dBm) = ERP (dBm) + 2.15 (dB.)

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 27.50(b) (10) specifies that “Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP”
Rule Part 27.50(d) (4) specifies that “Fixed, mobile and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP”
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(b)(10)Limit	≤ 3 W (34.77 dBm)
Part 27.50(d)(4)Limit	≤ 1 W (30 dBm)
Part 27.50(h)(2) Limit	≤ 2 W (33 dBm)

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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.

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5.2 Occupied Bandwidth

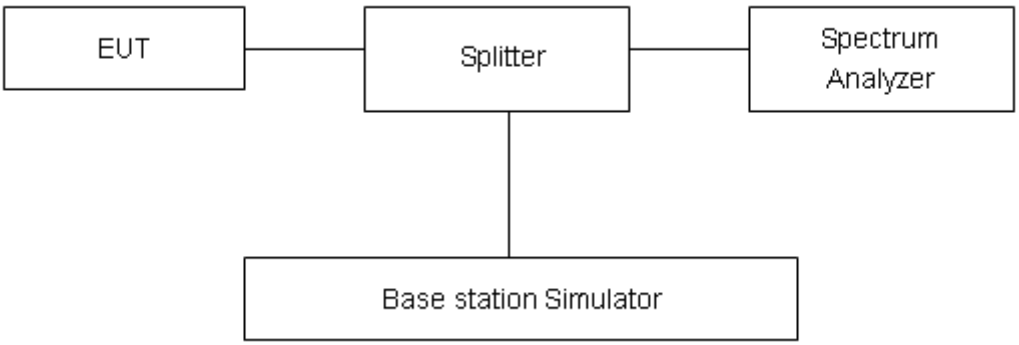
Ambient condition

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 ⩾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*=624Hz.

Test Results

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

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5.3 Band Edge Compliance

Ambient condition

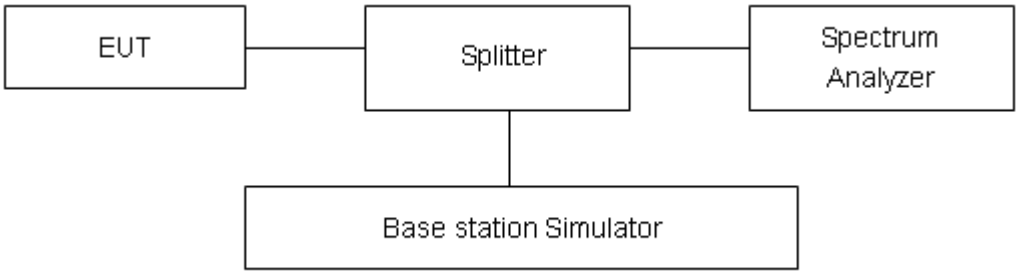
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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 7/38 set RBW >= 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.
RBW is set to ⩾1%EBW, VBW is set to 3x RBW.

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(h) specifies that " for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) dB"
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

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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 + 10log (P) dB below the transmitter power P(Watts)
= P(W)- [43 + 10log(P)] (dB)
= [30 + 10log (P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.

Rule Part 27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions 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.
Rule Part 27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, 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 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;

Measurement Uncertainty

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

Test Results

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

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5.4 Peak-to-Average Power Ratio (PAPR)

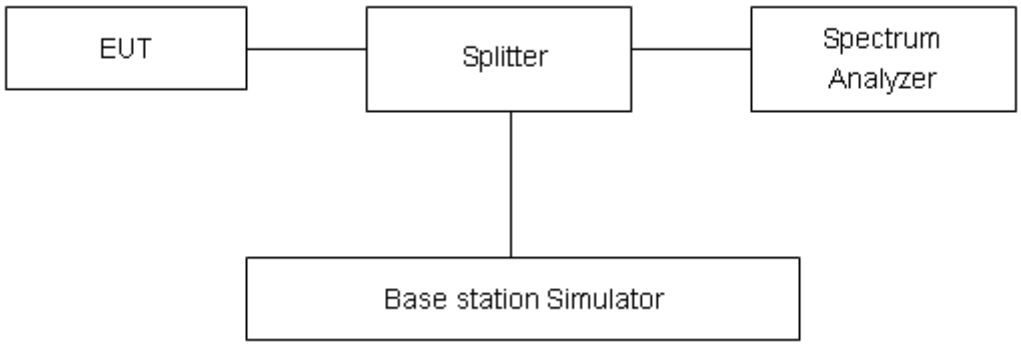
Ambient condition

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 thenormal 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.

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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=0.01ppm.

Test Results

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

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5.6 Spurious Emissions at Antenna Terminals

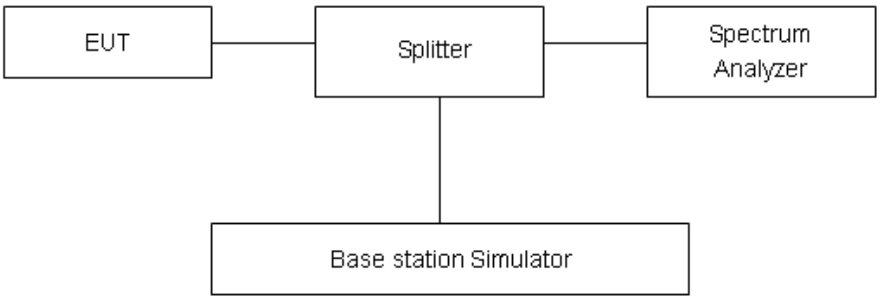
Ambient condition

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(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB..”
Rule Part 27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions 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.
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

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paragraph (m)(4) of this section.

Part 27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, 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 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(h) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm
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.

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5.7 Radiates Spurious Emission

Ambient condition

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

Method of Measurement

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI C63.26-2015.
2. 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).
3. 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.
4. 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).
5. 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.
6. 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.
7. The measurement results are obtained as described below:
Power(EIRP)=PMea- PAg - Pcl + Ga
The measurement results are amend as described below:
Power(EIRP)=PMea- Pcl + Ga
8. 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, ERP = EIRP-2.15dB.

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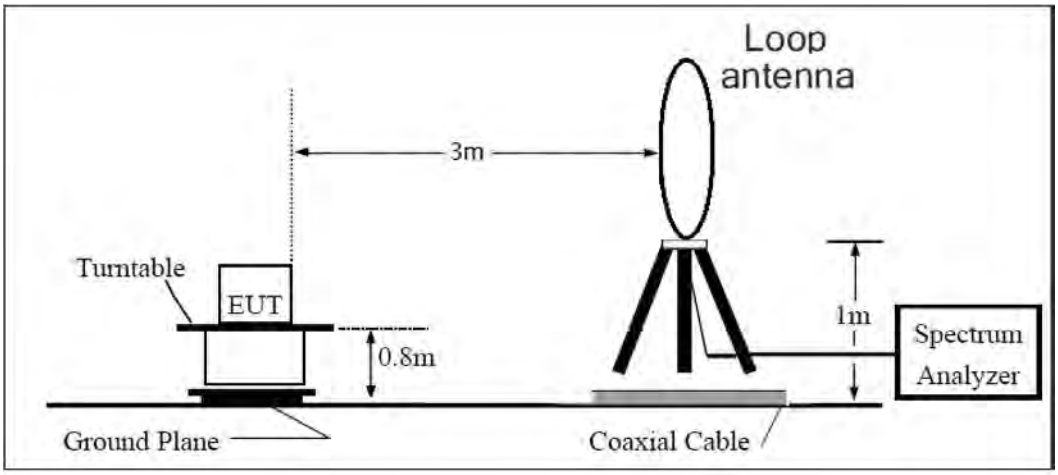
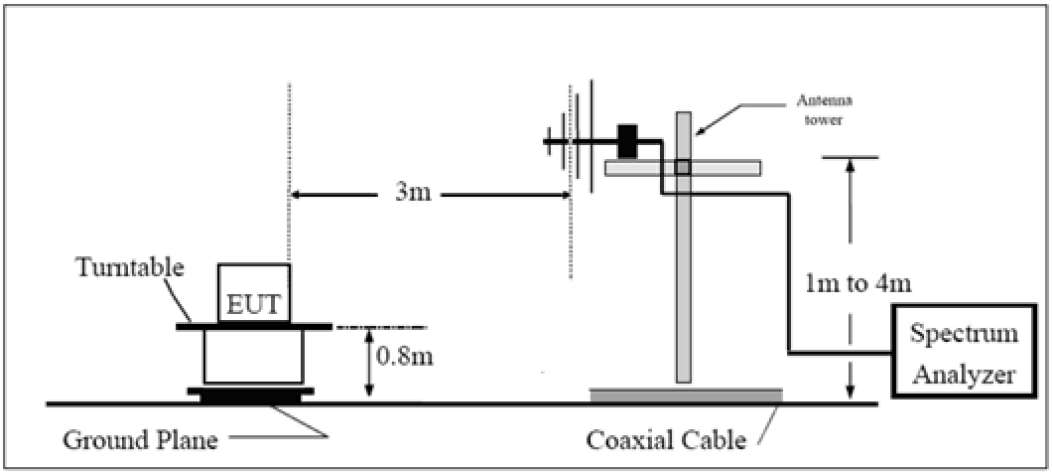
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

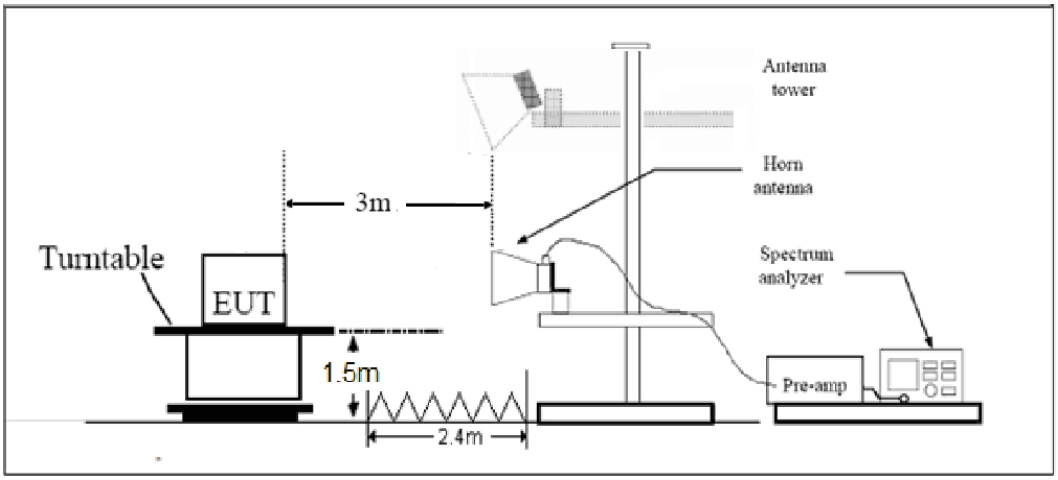
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

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Limits

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.”
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.
Rule Part 27.53(f)For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions 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.
Part 27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, 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 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(h) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm
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 = ±1.96, U= ±3.55 dB.

Test Results

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

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6 Test Results

6.1 RF Power Output and Effective Isotropic Radiated Power

WCDMA Band IV		Maximum Output Power (dBm)			Main Antenna EIRP (dBm)			Second Antenna EIRP (dBm)		
		Channel/Frenqucy(MHz)			Channel/Frenqucy(MHz)			Channel/Frenqucy(MHz)		
		1312/ 1712.4	1413/ 1732.6	1513/ 1752.6	1312/ 1712.4	1413/ 1732.6	1513/ 1752.6	1312/ 1712.4	1413/ 1732.6	1513/ 1752.6
RMC	12.2k	23.56	23.58	23.57	24.66	24.68	24.67	23.46	23.48	23.47
AMR	12.2k	23.68	23.44	23.41	24.78	24.54	24.51	23.58	23.34	23.31
HSDPA	Subtest 1	22.54	22.36	22.33	23.64	23.46	23.43	22.44	22.26	22.23
	Subtest 2	22.54	22.60	22.61	23.64	23.70	23.71	22.44	22.50	22.51
	Subtest 3	22.12	21.84	22.11	23.22	22.94	23.21	22.02	21.74	22.01
	Subtest 4	21.94	22.02	22.05	23.04	23.12	23.15	21.84	21.92	21.95
HSUPA	Subtest 1	21.30	21.56	21.35	22.40	22.66	22.45	21.20	21.46	21.25
	Subtest 2	20.70	20.80	20.75	21.80	21.90	21.85	20.60	20.70	20.65
	Subtest 3	20.76	20.62	20.81	21.86	21.72	21.91	20.66	20.52	20.71
	Subtest 4	20.88	20.78	21.01	21.98	21.88	22.11	20.78	20.68	20.91
	Subtest 5	22.56	22.62	22.33	23.66	23.72	23.43	22.46	22.52	22.23
DC-HSDPA	Subtest 1	22.46	22.58	22.49	23.56	23.68	23.59	22.36	22.48	22.39
	Subtest 2	22.46	22.46	22.49	23.56	23.56	23.59	22.36	22.36	22.39
	Subtest 3	22.06	22.12	22.13	23.16	23.22	23.23	21.96	22.02	22.03
	Subtest 4	21.98	21.92	22.11	23.08	23.02	23.21	21.88	21.82	22.01
HSPA+	16QAM	20.48	20.52	20.31	21.58	21.62	21.41	20.38	20.42	20.21

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LTE Band4				Maximum Output Power (dBm)			Main Antenna EIRP (dBm)			Second Antenna EIRP (dBm)		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				19957/ 1710.7	20175/ 1732.5	20393/ 1754.3	19957/ 1710.7	20175/ 1732.5	20393/ 1754.3	19957/ 1710.7	20175/ 1732.5	20393/ 1754.3
1.4MHz	QPSK	1	0	22.96	23.06	22.92	24.06	24.16	24.02	22.86	22.96	22.82
		1	2	23.34	23.33	23.13	24.44	24.43	24.23	23.24	23.23	23.03
		1	5	22.85	22.80	22.74	23.95	23.90	23.84	22.75	22.70	22.64
		3	0	23.15	23.09	23.03	24.25	24.19	24.13	23.05	22.99	22.93
		3	2	23.15	23.16	23.21	24.25	24.26	24.31	23.05	23.06	23.11
		3	3	23.09	23.10	22.94	24.19	24.20	24.04	22.99	23.00	22.84
		6	0	22.21	22.18	22.10	23.31	23.28	23.20	22.11	22.08	22.00
	16QAM	1	0	22.18	22.30	22.25	23.28	23.40	23.35	22.08	22.20	22.15
		1	2	22.51	22.55	22.31	23.61	23.65	23.41	22.41	22.45	22.21
		1	5	22.12	22.05	21.90	23.22	23.15	23.00	22.02	21.95	21.80
		3	0	22.19	22.06	22.05	23.29	23.16	23.15	22.09	21.96	21.95
		3	2	22.17	22.14	22.10	23.27	23.24	23.20	22.07	22.04	22.00
		3	3	22.06	22.11	21.92	23.16	23.21	23.02	21.96	22.01	21.82
		6	0	21.21	21.17	21.10	22.31	22.27	22.20	21.11	21.07	21.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				19965/1 711.5	20175/17 32.5	20385/ 1753.5	19965/1 711.5	20175/ 1732.5	20385/ 1753.5	19965/ 1711.5	20175/ 1732.5	20385/ 1753.5
3MHz	QPSK	1	0	22.98	23.10	22.95	24.08	24.20	24.05	22.88	23.00	22.85
		1	7	23.32	23.36	23.17	24.42	24.46	24.27	23.22	23.26	23.07
		1	14	22.88	22.85	22.78	23.98	23.95	23.88	22.78	22.75	22.68
		8	0	22.25	22.21	22.16	23.35	23.31	23.26	22.15	22.11	22.06
		8	4	22.27	22.26	22.33	23.37	23.36	23.43	22.17	22.16	22.23
		8	7	22.19	22.21	22.04	23.29	23.31	23.14	22.09	22.11	21.94
		15	0	22.21	22.22	22.13	23.31	23.32	23.23	22.11	22.12	22.03
	16QAM	1	0	22.18	22.32	22.28	23.28	23.42	23.38	22.08	22.22	22.18
		1	7	22.51	22.55	22.35	23.61	23.65	23.45	22.41	22.45	22.25
		1	14	22.14	22.09	21.93	23.24	23.19	23.03	22.04	21.99	21.83
		8	0	21.30	21.19	21.17	22.40	22.29	22.27	21.20	21.09	21.07
		8	4	21.28	21.27	21.22	22.38	22.37	22.32	21.18	21.17	21.12
		8	7	21.16	21.23	21.05	22.26	22.33	22.15	21.06	21.13	20.95
		15	0	21.24	21.21	21.13	22.34	22.31	22.23	21.14	21.11	21.03
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				19975/1 712.5	20175/17 32.5	20375/ 1752.5	19975/1 712.5	20175/ 1732.5	20375/ 1752.5	19975/ 1712.5	20175/ 1732.5	20375/ 1752.5
5MHz	QPSK	1	0	22.95	23.08	22.91	24.05	24.18	24.01	22.85	22.98	22.81
		1	13	23.30	23.32	23.14	24.40	24.42	24.24	23.20	23.22	23.04
		1	24	22.85	22.80	22.74	23.95	23.90	23.84	22.75	22.70	22.64

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		12	0	22.22	22.16	22.12	23.32	23.26	23.22	22.12	22.06	22.02
		12	6	22.25	22.22	22.28	23.35	23.32	23.38	22.15	22.12	22.18
		12	13	22.17	22.19	22.00	23.27	23.29	23.10	22.07	22.09	21.90
		25	0	22.21	22.21	22.11	23.31	23.31	23.21	22.11	22.11	22.01
	16QAM	1	0	22.18	22.28	22.25	23.28	23.38	23.35	22.08	22.18	22.15
		1	13	22.51	22.53	22.32	23.61	23.63	23.42	22.41	22.43	22.22
		1	24	22.11	22.07	21.89	23.21	23.17	22.99	22.01	21.97	21.79
		12	0	21.28	21.15	21.14	22.38	22.25	22.24	21.18	21.05	21.04
		12	6	21.25	21.22	21.18	22.35	22.32	22.28	21.15	21.12	21.08
		12	13	21.13	21.18	21.01	22.23	22.28	22.11	21.03	21.08	20.91
		25	0	21.22	21.17	21.08	22.32	22.27	22.18	21.12	21.07	20.98
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				20000/1715	20175/1732.5	20350/1750	20000/1715	20175/1732.5	20350/1750	20000/1715	20175/1732.5	20350/1750
10MHz	QPSK	1	0	22.97	23.09	22.94	24.07	24.19	24.04	22.87	22.99	22.84
		1	25	23.33	23.37	23.18	24.43	24.47	24.28	23.23	23.27	23.08
		1	49	22.87	22.84	22.77	23.97	23.94	23.87	22.77	22.74	22.67
		25	0	22.25	22.21	22.16	23.35	23.31	23.26	22.15	22.11	22.06
		25	13	22.28	22.27	22.32	23.38	23.37	23.42	22.18	22.17	22.22
		25	25	22.19	22.23	22.05	23.29	23.33	23.15	22.09	22.13	21.95
		50	0	22.25	22.23	22.15	23.35	23.33	23.25	22.15	22.13	22.05
	16QAM	1	0	22.22	22.31	22.27	23.32	23.41	23.37	22.12	22.21	22.17
		1	25	22.55	22.57	22.35	23.65	23.67	23.45	22.45	22.47	22.25
		1	49	22.14	22.09	21.92	23.24	23.19	23.02	22.04	21.99	21.82
		25	0	21.31	21.20	21.18	22.41	22.30	22.28	21.21	21.10	21.08
		25	13	21.27	21.26	21.21	22.37	22.36	22.31	21.17	21.16	21.11
		25	25	21.16	21.23	21.05	22.26	22.33	22.15	21.06	21.13	20.95
		50	0	21.25	21.22	21.12	22.35	22.32	22.22	21.15	21.12	21.02
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				20025/1717.5	20175/1732.5	20325/1747.5	20025/1717.5	20175/1732.5	20325/1747.5	20025/1717.5	20175/1732.5	20325/1747.5
15MHz	QPSK	1	0	22.96	23.05	22.92	24.06	24.15	24.02	22.86	22.95	22.82
		1	38	23.31	23.36	23.15	24.41	24.46	24.25	23.21	23.26	23.05
		1	74	22.84	22.79	22.73	23.94	23.89	23.83	22.74	22.69	22.63
		36	0	22.23	22.17	22.13	23.33	23.27	23.23	22.13	22.07	22.03
		36	18	22.25	22.22	22.28	23.35	23.32	23.38	22.15	22.12	22.18
		36	39	22.16	22.20	22.01	23.26	23.30	23.11	22.06	22.10	21.91
		75	0	22.23	22.19	22.10	23.33	23.29	23.20	22.13	22.09	22.00
	16QAM	1	0	22.20	22.29	22.25	23.30	23.39	23.35	22.10	22.19	22.15
		1	38	22.53	22.54	22.33	23.63	23.64	23.43	22.43	22.44	22.23
		1	74	22.12	22.05	21.89	23.22	23.15	22.99	22.02	21.95	21.79
		36	0	21.28	21.18	21.15	22.38	22.28	22.25	21.18	21.08	21.05
		36	18	21.24	21.21	21.17	22.34	22.31	22.27	21.14	21.11	21.07

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		36	39	21.14	21.19	21.02	22.24	22.29	22.12	21.04	21.09	20.92
		75	0	21.22	21.17	21.08	22.32	22.27	22.18	21.12	21.07	20.98
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				20050/1720	20175/1732.5	20300/1745	20050/1720	20175/1732.5	20300/1745	20050/1720	20175/1732.5	20300/1745
20MHz	QPSK	1	0	22.93	23.01	22.89	24.03	24.11	23.99	22.83	22.91	22.79
		1	50	23.30	23.32	23.13	24.40	24.42	24.23	23.20	23.22	23.03
		1	99	22.82	22.78	22.70	23.92	23.88	23.80	22.72	22.68	22.60
		50	0	22.20	22.12	22.09	23.30	23.22	23.19	22.10	22.02	21.99
		50	25	22.23	22.18	22.25	23.33	23.28	23.35	22.13	22.08	22.15
		50	50	22.13	22.15	21.97	23.23	23.25	23.07	22.03	22.05	21.87
		100	0	22.20	22.14	22.06	23.30	23.24	23.16	22.10	22.04	21.96
	16QAM	1	0	22.17	22.25	22.20	23.27	23.35	23.30	22.07	22.15	22.10
		1	50	22.50	22.52	22.29	23.60	23.62	23.39	22.40	22.42	22.19
		1	99	22.09	22.02	21.87	23.19	23.12	22.97	21.99	21.92	21.77
		50	0	21.25	21.14	21.12	22.35	22.24	22.22	21.15	21.04	21.02
		50	25	21.21	21.19	21.14	22.31	22.29	22.24	21.11	21.09	21.04
		50	50	21.11	21.14	20.98	22.21	22.24	22.08	21.01	21.04	20.88
		100	0	21.20	21.13	21.05	22.30	22.23	22.15	21.10	21.03	20.95

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	QPS	1	0	22.04	22.03	22.09	23.04	23.03	23.09	24.24	24.23	24.29

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	K	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)								
				20825/2507.5	21100/2535	21375/2562.5	20825/2507.5	21100/2535	21375/2562.5	20825/2507.5	21100/2535	21375/2562.5
15MHz	QPSK	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
	16QAM	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
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				20850/2510	21100/2535	21350/2560	20850/2510	21100/2535	21350/2560	20850/2510	21100/2535	21350/2560
20MHz	QPSK	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
	16QAM	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

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		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

LTE Band 13				Maximum Output Power (dBm)			Main Antenna ERP (dBm)			Second Antenna ERP (dBm)		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				23205/779.5	23230/782	23255/784.5	23205/779.5	23230/782	23255/784.5	23205/779.5	23230/782	23255/784.5
5MHz	QPSK	1	0	23.96	23.86	23.93	19.81	19.71	19.78	17.41	17.31	17.38
		1	13	24.04	24.01	24.01	19.89	19.86	19.86	17.49	17.46	17.46
		1	24	23.94	23.89	23.91	19.79	19.74	19.76	17.39	17.34	17.36
		12	0	23.04	22.97	23.01	18.89	18.82	18.86	16.49	16.42	16.46
		12	6	23.05	22.98	23.02	18.90	18.83	18.87	16.50	16.43	16.47
		12	13	23.07	23.00	23.04	18.92	18.85	18.89	16.52	16.45	16.49
		25	0	23.10	23.01	23.08	18.95	18.86	18.93	16.55	16.46	16.53
	16QAM	1	0	23.25	23.20	23.23	19.10	19.05	19.08	16.70	16.65	16.68
		1	13	23.33	23.28	23.29	19.18	19.13	19.14	16.78	16.73	16.74
		1	24	23.34	23.23	23.28	19.19	19.08	19.13	16.79	16.68	16.73
		12	0	22.08	22.02	22.03	17.93	17.87	17.88	15.53	15.47	15.48
		12	6	22.08	22.01	22.04	17.93	17.86	17.89	15.53	15.46	15.49
		12	13	22.13	22.06	22.10	17.98	17.91	17.95	15.58	15.51	15.55
		25	0	22.07	22.01	22.05	17.92	17.86	17.90	15.52	15.46	15.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				/	23230/782	/	/	23230/782	/	/	23230/782	/
10MHz	QPSK	1	0	/	23.78	/	/	19.63	/	/	17.23	/
		1	25	/	23.95	/	/	19.80	/	/	17.40	/
		1	49	/	23.83	/	/	19.68	/	/	17.28	/
		25	0	/	22.92	/	/	18.77	/	/	16.37	/
		25	13	/	22.90	/	/	18.75	/	/	16.35	/
		25	25	/	22.93	/	/	18.78	/	/	16.38	/
		50	0	/	22.93	/	/	18.78	/	/	16.38	/
	16QAM	1	0	/	23.12	/	/	18.97	/	/	16.57	/
		1	25	/	23.22	/	/	19.07	/	/	16.67	/
		1	49	/	23.17	/	/	19.02	/	/	16.62	/
		25	0	/	21.97	/	/	17.82	/	/	15.42	/
		25	13	/	21.93	/	/	17.78	/	/	15.38	/
		25	25	/	21.99	/	/	17.84	/	/	15.44	/
		50	0	/	21.93	/	/	17.78	/	/	15.38	/

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LTE Band 38				Maximum Output Power (dBm)			Main Antenna EIRP (dBm)			Second Antenna EIRP (dBm)		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				37775/ 2572.5	38000 /2595	38225/ 2617.5	37775/ 2572.5	38000 /2595	38225/ 2617.5	37775/ 2572.5	38000 /2595	38225/ 2617.5
5MHz	QPSK	1	0	22.32	22.26	22.12	23.72	23.66	23.52	23.52	23.46	23.32
		1	13	22.54	22.47	22.48	23.94	23.87	23.88	23.74	23.67	23.68
		1	24	22.24	22.14	22.25	23.64	23.54	23.65	23.44	23.34	23.45
		12	0	21.48	21.46	21.42	22.88	22.86	22.82	22.68	22.66	22.62
		12	6	21.56	21.45	21.52	22.96	22.85	22.92	22.76	22.65	22.72
		12	13	21.59	21.36	21.48	22.99	22.76	22.88	22.79	22.56	22.68
		25	0	21.51	21.49	21.48	22.91	22.89	22.88	22.71	22.69	22.68
	16QAM	1	0	21.48	21.42	21.32	22.88	22.82	22.72	22.68	22.62	22.52
		1	13	21.76	21.65	21.62	23.16	23.05	23.02	22.96	22.85	22.82
		1	24	21.45	21.41	21.43	22.85	22.81	22.83	22.65	22.61	22.63
		12	0	20.53	20.50	20.45	21.93	21.90	21.85	21.73	21.70	21.65
		12	6	20.61	20.53	20.54	22.01	21.93	21.94	21.81	21.73	21.74
		12	13	20.49	20.43	20.46	21.89	21.83	21.86	21.69	21.63	21.66
		25	0	20.51	20.47	20.46	21.91	21.87	21.86	21.71	21.67	21.66
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				37800/ 2575	38000 /2595	38200/ 2615	37800/ 2575	38000 /2595	38200/ 2615	37800/ 2575	38000 /2595	38200/ 2615
10MHz	QPSK	1	0	22.34	22.27	22.15	23.74	23.67	23.55	23.54	23.47	23.35
		1	25	22.57	22.52	22.52	23.97	23.92	23.92	23.77	23.72	23.72
		1	49	22.26	22.18	22.28	23.66	23.58	23.68	23.46	23.38	23.48
		25	0	21.51	21.51	21.46	22.91	22.91	22.86	22.71	22.71	22.66
		25	13	21.59	21.50	21.56	22.99	22.90	22.96	22.79	22.70	22.76
		25	25	21.61	21.40	21.53	23.01	22.80	22.93	22.81	22.60	22.73
		50	0	21.55	21.51	21.52	22.95	22.91	22.92	22.75	22.71	22.72
	16QAM	1	0	21.52	21.45	21.34	22.92	22.85	22.74	22.72	22.65	22.54
		1	25	21.80	21.69	21.65	23.20	23.09	23.05	23.00	22.89	22.85
		1	49	21.48	21.43	21.46	22.88	22.83	22.86	22.68	22.63	22.66
		25	0	20.56	20.55	20.49	21.96	21.95	21.89	21.76	21.75	21.69
		25	13	20.63	20.57	20.57	22.03	21.97	21.97	21.83	21.77	21.77
		25	25	20.52	20.48	20.50	21.92	21.88	21.90	21.72	21.68	21.70
		50	0	20.54	20.52	20.50	21.94	21.92	21.90	21.74	21.72	21.70
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				37825/ 2577.5	38000 /2595	38175/ 2612.5	37825/ 2577.5	38000 /2595	38175/ 2612.5	37825/ 2577.5	38000 /2595	38175/ 2612.5
15MHz	QPSK	1	0	22.33	22.23	22.13	23.73	23.63	23.53	23.53	23.43	23.33
		1	38	22.55	22.51	22.49	23.95	23.91	23.89	23.75	23.71	23.69
		1	74	22.23	22.13	22.24	23.63	23.53	23.64	23.43	23.33	23.44
		36	0	21.49	21.47	21.43	22.89	22.87	22.83	22.69	22.67	22.63

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		36	18	21.56	21.45	21.52	22.96	22.85	22.92	22.76	22.65	22.72
		36	39	21.58	21.37	21.49	22.98	22.77	22.89	22.78	22.57	22.69
		75	0	21.53	21.47	21.47	22.93	22.87	22.87	22.73	22.67	22.67
	16QAM	1	0	21.50	21.43	21.32	22.90	22.83	22.72	22.70	22.63	22.52
		1	38	21.78	21.66	21.63	23.18	23.06	23.03	22.98	22.86	22.83
		1	74	21.46	21.39	21.43	22.86	22.79	22.83	22.66	22.59	22.63
		36	0	20.53	20.53	20.46	21.93	21.93	21.86	21.73	21.73	21.66
		36	18	20.60	20.52	20.53	22.00	21.92	21.93	21.80	21.72	21.73
		36	39	20.50	20.44	20.47	21.90	21.84	21.87	21.70	21.64	21.67
		75	0	20.51	20.47	20.46	21.91	21.87	21.86	21.71	21.67	21.66
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				37850/2580	38000/2595	38150/2610	37850/2580	38000/2595	38150/2610	37850/2580	38000/2595	38150/2610
20MHz	QPSK	1	0	22.30	22.19	22.10	23.70	23.59	23.50	23.50	23.39	23.30
		1	50	22.54	22.47	22.47	23.94	23.87	23.87	23.74	23.67	23.67
		1	99	22.21	22.12	22.21	23.61	23.52	23.61	23.41	23.32	23.41
		50	0	21.46	21.42	21.39	22.86	22.82	22.79	22.66	22.62	22.59
		50	25	21.54	21.41	21.49	22.94	22.81	22.89	22.74	22.61	22.69
		50	50	21.55	21.32	21.45	22.95	22.72	22.85	22.75	22.52	22.65
		100	0	21.50	21.42	21.43	22.90	22.82	22.83	22.70	22.62	22.63
	16QAM	1	0	21.47	21.39	21.27	22.87	22.79	22.67	22.67	22.59	22.47
		1	50	21.75	21.64	21.59	23.15	23.04	22.99	22.95	22.84	22.79
		1	99	21.43	21.36	21.41	22.83	22.76	22.81	22.63	22.56	22.61
		50	0	20.50	20.49	20.43	21.90	21.89	21.83	21.70	21.69	21.63
		50	25	20.57	20.50	20.50	21.97	21.90	21.90	21.77	21.70	21.70
		50	50	20.47	20.39	20.43	21.87	21.79	21.83	21.67	21.59	21.63
		100	0	20.49	20.43	20.43	21.89	21.83	21.83	21.69	21.63	21.63

LTE Band 66				Maximum Output Power (dBm)			Main Antenna EIRP (dBm)			Second Antenna EIRP (dBm)		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				131979/1710.7	132322/1745	132665/1779.3	131979/1710.7	132322/1745	132665/1779.3	131979/1710.7	132322/1745	132665/1779.3
1.4MHz	QPSK	1	0	23.11	23.01	22.91	24.21	24.11	24.01	23.01	22.91	22.81
		1	2	23.29	23.23	23.03	24.39	24.33	24.13	23.19	23.13	22.93
		1	5	22.92	22.81	22.66	24.02	23.91	23.76	22.82	22.71	22.56
		3	0	23.20	23.11	23.01	24.30	24.21	24.11	23.10	23.01	22.91
		3	2	23.20	23.14	22.95	24.30	24.24	24.05	23.10	23.04	22.85
		3	3	23.11	23.05	22.92	24.21	24.15	24.02	23.01	22.95	22.82
		6	0	22.23	22.15	22.03	23.33	23.25	23.13	22.13	22.05	21.93
	16QAM	1	0	22.30	22.29	22.19	23.40	23.39	23.29	22.20	22.19	22.09
		1	2	22.55	22.48	22.39	23.65	23.58	23.49	22.45	22.38	22.29

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		1	5	22.18	22.09	21.92	23.28	23.19	23.02	22.08	21.99	21.82
		3	0	22.22	22.09	22.02	23.32	23.19	23.12	22.12	21.99	21.92
		3	2	22.22	22.14	21.96	23.32	23.24	23.06	22.12	22.04	21.86
		3	3	22.09	22.09	21.83	23.19	23.19	22.93	21.99	21.99	21.73
		6	0	21.21	21.14	21.00	22.31	22.24	22.10	21.11	21.04	20.90
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				131987 1711.5	132322 /1745	132657 /1778.5	131987 1711.5	132322 /1745	132657 /1778.5	131987 1711.5	132322 /1745	132657 /1778.5
3MHz	QPSK	1	0	23.13	23.05	22.94	24.23	24.15	24.04	23.03	22.95	22.84
		1	7	23.27	23.26	23.07	24.37	24.36	24.17	23.17	23.16	22.97
		1	14	22.95	22.86	22.70	24.05	23.96	23.80	22.85	22.76	22.60
		8	0	22.30	22.23	22.14	23.40	23.33	23.24	22.20	22.13	22.04
		8	4	22.32	22.24	22.07	23.42	23.34	23.17	22.22	22.14	21.97
		8	7	22.21	22.16	22.02	23.31	23.26	23.12	22.11	22.06	21.92
		15	0	22.23	22.19	22.06	23.33	23.29	23.16	22.13	22.09	21.96
	16QAM	1	0	22.30	22.31	22.22	23.40	23.41	23.32	22.20	22.21	22.12
		1	7	22.55	22.48	22.43	23.65	23.58	23.53	22.45	22.38	22.33
		1	14	22.20	22.13	21.95	23.30	23.23	23.05	22.10	22.03	21.85
		8	0	21.33	21.22	21.14	22.43	22.32	22.24	21.23	21.12	21.04
		8	4	21.33	21.27	21.08	22.43	22.37	22.18	21.23	21.17	20.98
		8	7	21.19	21.21	20.96	22.29	22.31	22.06	21.09	21.11	20.86
		15	0	21.24	21.18	21.03	22.34	22.28	22.13	21.14	21.08	20.93
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				131997 /1712.5	132322 /1745	132647 /1777.5	131997 /1712.5	132322 /1745	132647 /1777.5	131997 /1712.5	132322 /1745	132647 /1777.5
5MHz	QPSK	1	0	23.10	23.03	22.90	24.20	24.13	24.00	23.00	22.93	22.80
		1	13	23.25	23.22	23.04	24.35	24.32	24.14	23.15	23.12	22.94
		1	24	22.92	22.81	22.66	24.02	23.91	23.76	22.82	22.71	22.56
		12	0	22.27	22.18	22.10	23.37	23.28	23.20	22.17	22.08	22.00
		12	6	22.30	22.20	22.02	23.40	23.30	23.12	22.20	22.10	21.92
		12	13	22.19	22.14	21.98	23.29	23.24	23.08	22.09	22.04	21.88
		25	0	22.23	22.18	22.04	23.33	23.28	23.14	22.13	22.08	21.94
	16QAM	1	0	22.30	22.27	22.19	23.40	23.37	23.29	22.20	22.17	22.09
		1	13	22.55	22.46	22.40	23.65	23.56	23.50	22.45	22.36	22.30
		1	24	22.17	22.11	21.91	23.27	23.21	23.01	22.07	22.01	21.81
		12	0	21.31	21.18	21.11	22.41	22.28	22.21	21.21	21.08	21.01
		12	6	21.30	21.22	21.04	22.40	22.32	22.14	21.20	21.12	20.94
		12	13	21.16	21.16	20.92	22.26	22.26	22.02	21.06	21.06	20.82
		25	0	21.22	21.14	20.98	22.32	22.24	22.08	21.12	21.04	20.88
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				132022 /1715	132322 /1745	132622 /1775	132022 /1715	132322 /1745	132622 /1775	132022 /1715	132322 /1745	132622 /1775
10MHz	QPSK	1	0	23.12	23.04	22.93	24.22	24.14	24.03	23.02	22.94	22.83

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		1	25	23.28	23.27	23.08	24.38	24.37	24.18	23.18	23.17	22.98
		1	49	22.94	22.85	22.69	24.04	23.95	23.79	22.84	22.75	22.59
		25	0	22.30	22.23	22.14	23.40	23.33	23.24	22.20	22.13	22.04
		25	13	22.33	22.25	22.06	23.43	23.35	23.16	22.23	22.15	21.96
		25	25	22.21	22.18	22.03	23.31	23.28	23.13	22.11	22.08	21.93
		50	0	22.27	22.20	22.08	23.37	23.30	23.18	22.17	22.10	21.98
	16QAM	1	0	22.34	22.30	22.21	23.44	23.40	23.31	22.24	22.20	22.11
		1	25	22.59	22.50	22.43	23.69	23.60	23.53	22.49	22.40	22.33
		1	49	22.20	22.13	21.94	23.30	23.23	23.04	22.10	22.03	21.84
		25	0	21.34	21.23	21.15	22.44	22.33	22.25	21.24	21.13	21.05
		25	13	21.32	21.26	21.07	22.42	22.36	22.17	21.22	21.16	20.97
		25	25	21.19	21.21	20.96	22.29	22.31	22.06	21.09	21.11	20.86
		50	0	21.25	21.19	21.02	22.35	22.29	22.12	21.15	21.09	20.92
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				132047/1717.5	132322/1745	132597/1772.5	132047/1717.5	132322/1745	132597/1772.5	132047/1717.5	132322/1745	132597/1772.5
15MHz	QPSK	1	0	23.11	23.00	22.91	24.21	24.10	24.01	23.01	22.90	22.81
		1	38	23.26	23.26	23.05	24.36	24.36	24.15	23.16	23.16	22.95
		1	74	22.91	22.80	22.65	24.01	23.90	23.75	22.81	22.70	22.55
		36	0	22.28	22.19	22.11	23.38	23.29	23.21	22.18	22.09	22.01
		36	18	22.30	22.20	22.02	23.40	23.30	23.12	22.20	22.10	21.92
		36	39	22.18	22.15	21.99	23.28	23.25	23.09	22.08	22.05	21.89
		75	0	22.25	22.16	22.03	23.35	23.26	23.13	22.15	22.06	21.93
	16QAM	1	0	22.32	22.28	22.19	23.42	23.38	23.29	22.22	22.18	22.09
		1	38	22.57	22.47	22.41	23.67	23.57	23.51	22.47	22.37	22.31
		1	74	22.18	22.09	21.91	23.28	23.19	23.01	22.08	21.99	21.81
		36	0	21.31	21.21	21.12	22.41	22.31	22.22	21.21	21.11	21.02
		36	18	21.29	21.21	21.03	22.39	22.31	22.13	21.19	21.11	20.93
		36	39	21.17	21.17	20.93	22.27	22.27	22.03	21.07	21.07	20.83
		75	0	21.22	21.14	20.98	22.32	22.24	22.08	21.12	21.04	20.88
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)								
				132072/1720	132322/1745	132572/1770	132072/1720	132322/1745	132572/1770	132072/1720	132322/1745	132572/1770
20MHz	QPSK	1	0	23.08	22.96	22.88	24.18	24.06	23.98	22.98	22.86	22.78
		1	50	23.25	23.22	23.03	24.35	24.32	24.13	23.15	23.12	22.93
		1	99	22.89	22.79	22.62	23.99	23.89	23.72	22.79	22.69	22.52
		50	0	22.25	22.14	22.07	23.35	23.24	23.17	22.15	22.04	21.97
		50	25	22.28	22.16	21.99	23.38	23.26	23.09	22.18	22.06	21.89
		50	50	22.15	22.10	21.95	23.25	23.20	23.05	22.05	22.00	21.85
		100	0	22.22	22.11	21.99	23.32	23.21	23.09	22.12	22.01	21.89
	16QAM	1	0	22.29	22.24	22.14	23.39	23.34	23.24	22.19	22.14	22.04
		1	50	22.54	22.45	22.37	23.64	23.55	23.47	22.44	22.35	22.27
		1	99	22.15	22.06	21.89	23.25	23.16	22.99	22.05	21.96	21.79

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		50	0	21.28	21.17	21.09	22.38	22.27	22.19	21.18	21.07	20.99
		50	25	21.26	21.19	21.00	22.36	22.29	22.10	21.16	21.09	20.90
		50	50	21.14	21.12	20.89	22.24	22.22	21.99	21.04	21.02	20.79
		100	0	21.20	21.10	20.95	22.30	22.20	22.05	21.10	21.00	20.85

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6.2 Occupied Bandwidth

Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth(MHz)
WCDMA Band IV (RMC)	1312	1712.4	4.162	4.678
	1413	1732.6	4.174	4.699
	1513	1752.6	4.166	4.661

LTE Band 4						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
1	QPSK	1.4	19957	1710.7	0.305	0.481
			20175	1732.5	0.294	0.455
			20393	1754.3	0.306	0.470
		3	19965	1711.5	0.406	0.591
			20175	1732.5	0.395	0.610
			20385	1753.5	0.410	0.606
		5	19975	1712.5	0.742	1.091
			20175	1732.5	0.716	1.015
			20375	1752.5	0.714	0.967
		10	20000	1715	1.123	1.563
			20175	1732.5	1.120	1.608
			20350	1750	1.115	1.501
		15	20025	1717.5	1.568	2.156
			20175	1732.5	1.546	2.130
			20325	1747.5	1.489	1.980
		20	20050	1720	1.820	2.481
			20175	1732.5	1.856	2.581
			20300	1745	1.717	2.395
	16QAM	1.4	19957	1710.7	0.288	0.444
			20175	1732.5	0.296	0.454
			20393	1754.3	0.308	0.479
		3	19965	1711.5	0.374	0.538
			20175	1732.5	0.397	0.588
			20385	1753.5	0.382	0.571
		5	19975	1712.5	0.717	0.947
			20175	1732.5	0.652	0.894
			20375	1752.5	0.730	0.999
		10	20000	1715	1.099	1.525

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			20175	1732.5	1.130	1.440
			20350	1750	1.125	1.582
		15	20025	1717.5	1.485	2.058
			20175	1732.5	1.463	1.935
			20325	1747.5	1.478	2.084
		20	20050	1720	1.798	2.551
			20175	1732.5	1.637	2.343
			20300	1745	1.719	2.356
100%	QPSK	1.4	19957	1710.7	1.100	1.287
			20175	1732.5	1.087	1.281
			20393	1754.3	1.097	1.287
		3	19965	1711.5	2.686	2.927
			20175	1732.5	2.683	2.898
			20385	1753.5	2.679	2.914
		5	19975	1712.5	4.511	4.923
			20175	1732.5	4.508	5.068
			20375	1752.5	4.525	4.888
		10	20000	1715	8.989	9.713
			20175	1732.5	8.991	9.702
			20350	1750	8.972	9.835
		15	20025	1717.5	13.468	15.046
			20175	1732.5	13.452	14.602
			20325	1747.5	13.448	14.562
		20	20050	1720	18.020	19.199
			20175	1732.5	17.911	19.251
			20300	1745	17.942	19.311
	16QAM	1.4	19957	1710.7	1.092	1.272
			20175	1732.5	1.098	1.300
			20393	1754.3	1.090	1.276
		3	19965	1711.5	2.691	2.918
			20175	1732.5	2.686	2.916
			20385	1753.5	2.694	2.914
		5	19975	1712.5	4.499	4.915
			20175	1732.5	4.501	4.897
			20375	1752.5	4.518	4.908
		10	20000	1715	9.006	9.714
			20175	1732.5	9.000	9.670
			20350	1750	8.978	9.640
		15	20025	1717.5	13.484	14.424
			20175	1732.5	13.449	14.466

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			20325	1747.5	13.487	14.556
		20	20050	1720	17.933	19.166
			20175	1732.5	17.942	19.206
			20300	1745	17.922	19.309

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

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			21100	2535	13.463	14.518
			21375	2562.5	13.446	14.510
		20	20850	2510	17.959	19.315
			21100	2535	17.915	19.113
			21350	2560	17.981	19.391
	16QAM	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

LTE Band 13						
RB	**Modulation**	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**99% Power Bandwidth(MHz)**	**-26dBc Bandwidth(MHz)**
1	QPSK	5	23205	779.5	0.753	1.109
			23230	782	0.737	1.076
			23255	784.5	0.703	1.026
		10	23230	782	1.121	1.617
	16QAM	5	23205	779.5	0.756	1.128
			23230	782	0.639	0.952
			23255	784.5	0.715	1.004
		10	23230	782	1.04	1.494
100%	QPSK	5	23205	779.5	4.513	5.145
			23230	782	4.536	5.174
			23255	784.5	4.516	5.072
		10	23230	782	8.995	10.149
	16QAM	5	23205	779.5	4.517	5.174
			23230	782	4.52	5.125
			23255	784.5	4.522	5.084
		10	23230	782	8.994	9.927

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LTE Band 38						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
1	QPSK	5	37775	2572.5	0.730	1.018
			38000	2595	0.658	1.051
			38225	2617.5	0.738	0.945
		10	37800	2575	1.104	1.482
			38000	2595	1.227	1.902
			38200	2615	1.050	1.475
		15	37825	2577.5	1.589	2.476
			38000	2595	1.482	1.983
			38175	2612.5	1.513	2.104
		20	37850	2580	1.810	2.653
			38000	2595	1.843	2.722
			38150	2610	1.757	2.478
	16QAM	5	37775	2572.5	0.694	0.940
			38000	2595	0.685	0.979
			38225	2617.5	0.718	1.017
		10	37800	2575	1.037	1.328
			38000	2595	1.043	1.680
			38200	2615	1.032	1.506
		15	37825	2577.5	1.318	1.958
			38000	2595	1.319	1.735
			38175	2612.5	1.399	1.840
		20	37850	2580	1.458	2.205
			38000	2595	1.725	2.443
			38150	2610	1.744	2.400
100%	QPSK	5	37775	2572.5	4.516	4.853
			38000	2595	4.499	4.809
			38225	2617.5	4.516	4.834
		10	37800	2575	8.997	9.696
			38000	2595	9.007	10.483
			38200	2615	8.984	9.719
		15	37825	2577.5	13.459	14.336
			38000	2595	13.474	14.429
			38175	2612.5	13.460	14.360
		20	37850	2580	17.942	19.229
			38000	2595	17.913	19.644
			38150	2610	17.948	19.100
	16QAM	5	37775	2572.5	4.496	4.818

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			38000	2595	4.502	4.915
			38225	2617.5	4.494	5.128
		10	37800	2575	8.978	9.599
			38000	2595	8.999	9.904
			38200	2615	9.009	9.962
		15	37825	2577.5	13.443	14.371
			38000	2595	13.442	14.279
			38175	2612.5	13.512	14.519
		20	37850	2580	17.947	19.108
			38000	2595	17.979	19.412
			38150	2610	17.945	18.974

LTE Band 66						
RB	**Modulation**	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**99% Power Bandwidth(MHz)**	**-26dBc Bandwidth(MHz)**
1	QPSK	1.4	131979	1710.7	0.292	0.474
			132322	1745	0.302	0.472
			132665	1779.3	0.302	0.477
		3	131987	1711.5	0.400	0.576
			132322	1745	0.397	0.584
			132657	1778.5	0.391	0.594
		5	131997	1712.5	0.725	1.050
			132322	1745	0.726	1.080
			132647	1777.5	0.737	1.045
		10	132022	1715	1.138	1.561
			132322	1745	1.128	1.529
			132622	1775	1.115	1.500
		15	132047	1717.5	1.523	2.172
			132322	1745	1.476	2.230
			132597	1772.5	1.551	2.219
		20	132072	1720	1.775	2.550
			132322	1745	1.801	2.550
			132572	1770	1.750	2.462
	16QAM	1.4	131979	1710.7	0.290	0.446
			132322	1745	0.299	0.453
			132665	1779.3	0.305	0.481
		3	131987	1711.5	0.391	0.553
			132322	1745	0.388	0.549
			132657	1778.5	0.381	0.586

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		5	131997	1712.5	0.775	1.145
			132322	1745	0.666	1.063
			132647	1777.5	0.700	1.038
		10	132022	1715	1.011	1.492
			132322	1745	1.102	1.463
			132622	1775	1.158	1.630
		15	132047	1717.5	1.461	1.939
			132322	1745	1.429	1.992
			132597	1772.5	1.439	1.896
		20	132072	1720	1.757	2.540
			132322	1745	1.691	2.565
			132572	1770	1.791	2.650
100%	QPSK	1.4	131979	1710.7	1.098	1.282
			132322	1745	1.086	1.263
			132665	1779.3	1.100	1.298
		3	131987	1711.5	2.692	2.898
			132322	1745	2.692	2.921
			132657	1778.5	2.698	2.915
		5	131997	1712.5	4.529	4.973
			132322	1745	4.529	5.083
			132647	1777.5	4.521	5.118
		10	132022	1715	9.002	9.886
			132322	1745	8.993	10.042
			132622	1775	9.025	9.955
		15	132047	1717.5	13.493	14.837
			132322	1745	13.526	15.015
			132597	1772.5	13.463	15.651
		20	132072	1720	17.945	19.434
			132322	1745	17.971	19.663
			132572	1770	17.994	19.285
	16QAM	1.4	131979	1710.7	1.094	1.277
			132322	1745	1.098	1.265
			132665	1779.3	1.089	1.282
		3	131987	1711.5	2.680	2.905
			132322	1745	2.684	2.913
			132657	1778.5	2.686	2.922
		5	131997	1712.5	4.517	5.154
			132322	1745	4.538	5.143
			132647	1777.5	4.520	5.155
		10	132022	1715	9.000	9.810

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			132322	1745	9.016	9.897
			132622	1775	8.991	9.981
		15	132047	1717.5	13.471	14.877
			132322	1745	13.526	15.071
			132597	1772.5	13.498	15.017
		20	132072	1720	17.969	19.588
			132322	1745	17.929	19.588
			132572	1770	17.953	19.707

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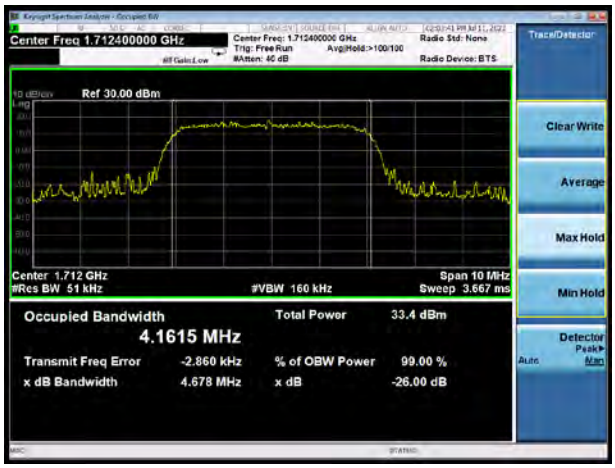
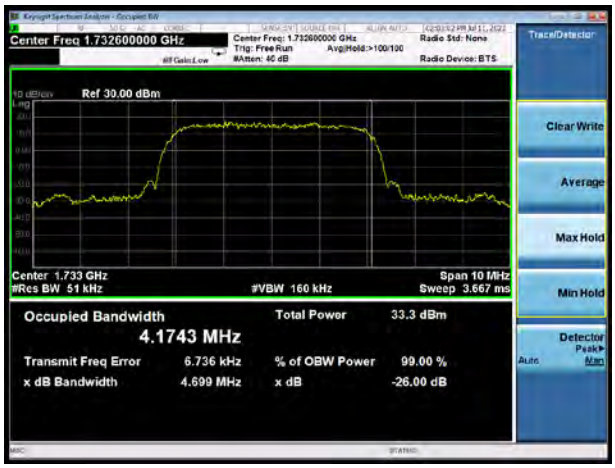
WCDMA Band IV CH-Low



WCDMA Band IV CH Middle



WCDMA Band IV CH High

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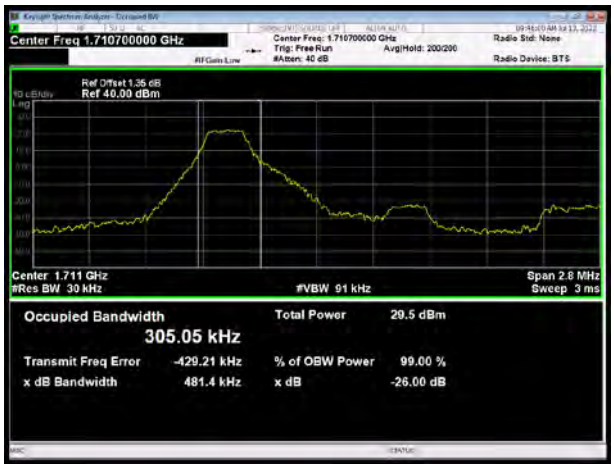
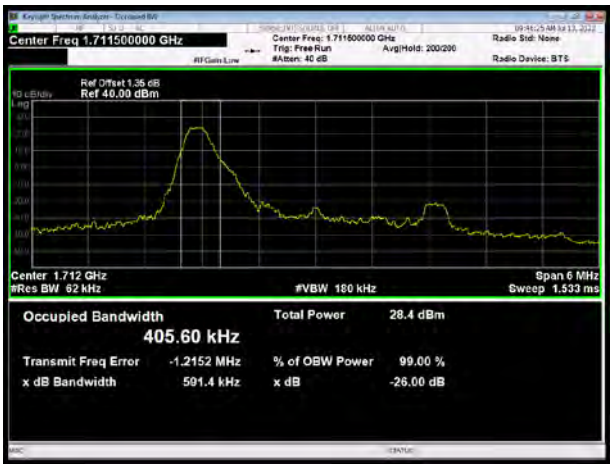
1 RB

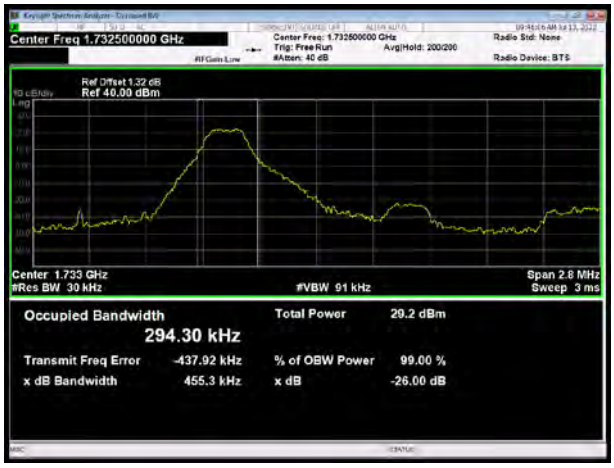
LTE Band 4 QPSK 1.4MHz CH-Low



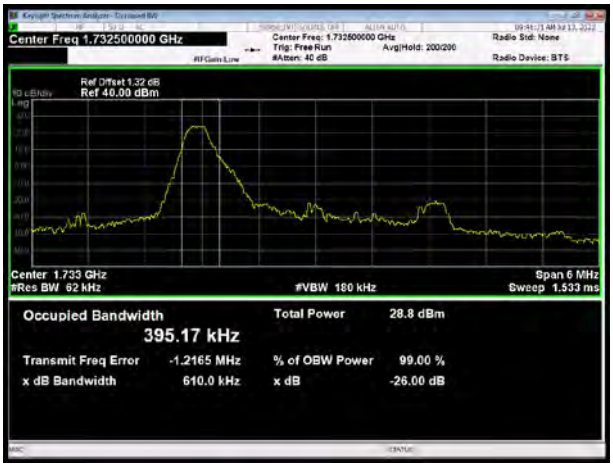
LTE Band 4 QPSK 3MHz CH-Low



LTE Band 4 QPSK 1.4MHz CH-Middle

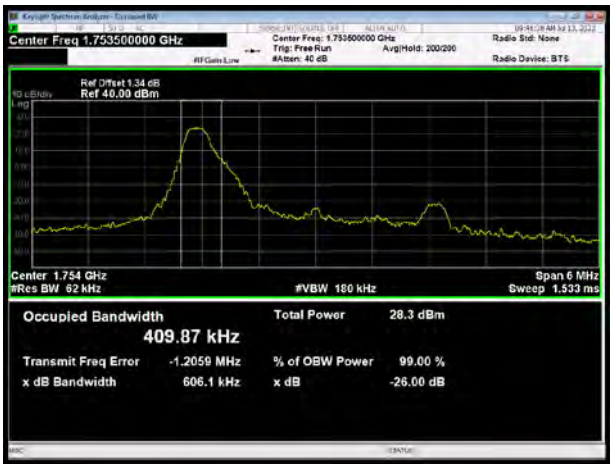


LTE Band 4 QPSK 3MHz CH-Middle



LTE Band 4 QPSK 1.4MHz CH-High

LTE Band 4 QPSK 3MHz CH-High



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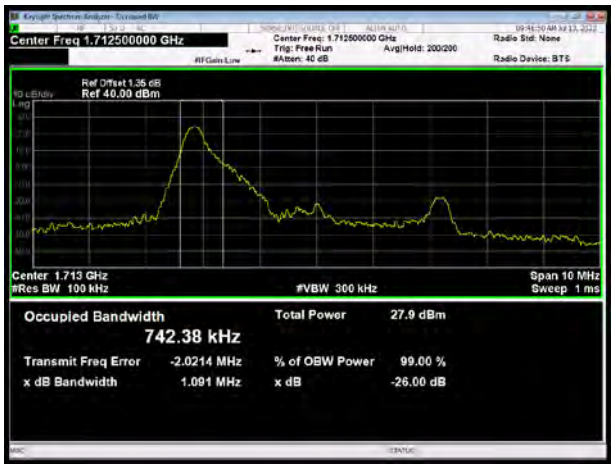
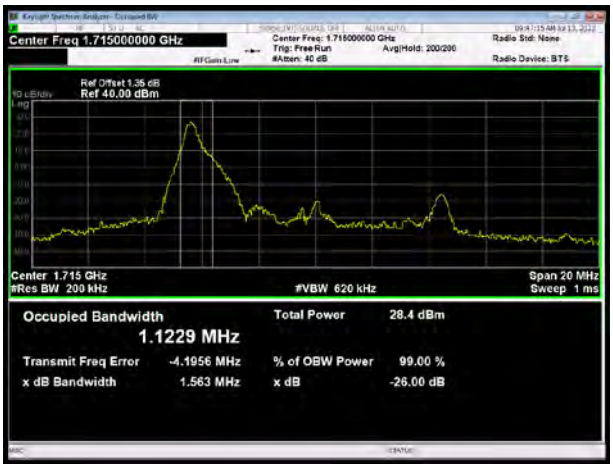
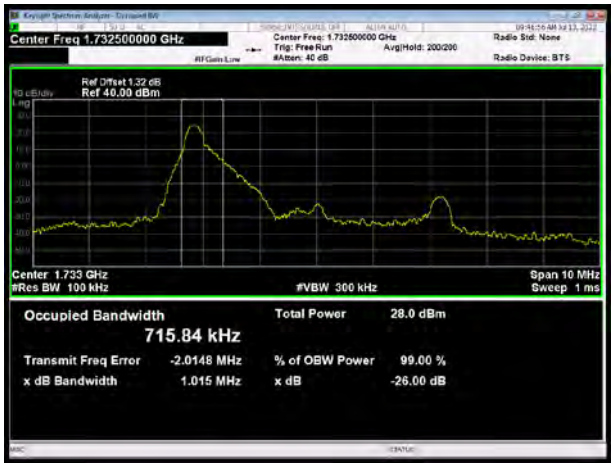
LTE Band 4 QPSK 5MHz CH-Low



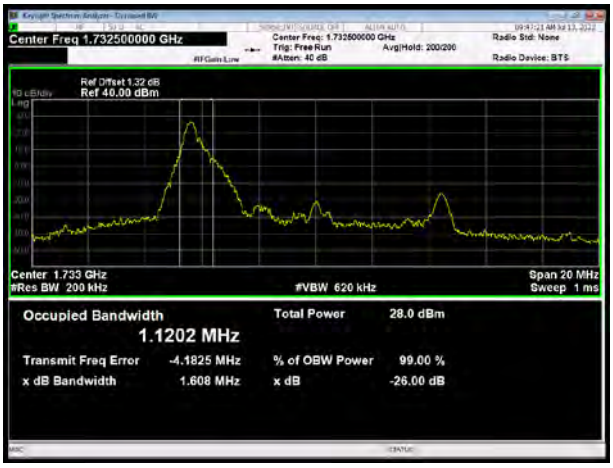
LTE Band 4 QPSK 10MHz CH-Low



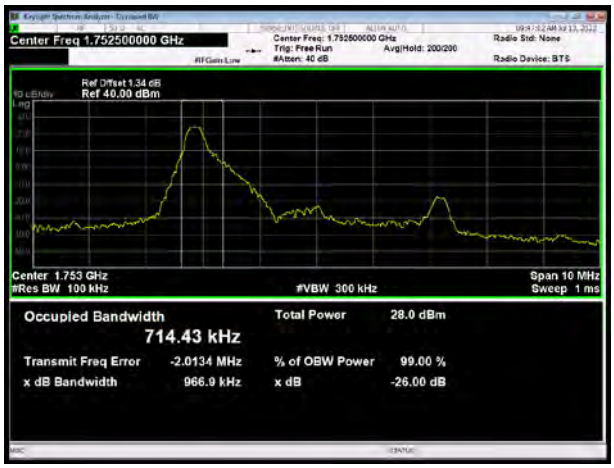
LTE Band 4 QPSK 5MHz CH-Middle



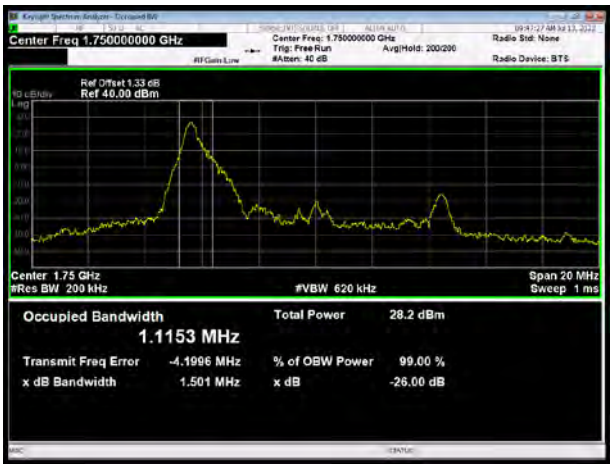
LTE Band 4 QPSK 10MHz CH-Middle



LTE Band 4 QPSK 5MHz CH-High



LTE Band 4 QPSK 10MHz CH-High



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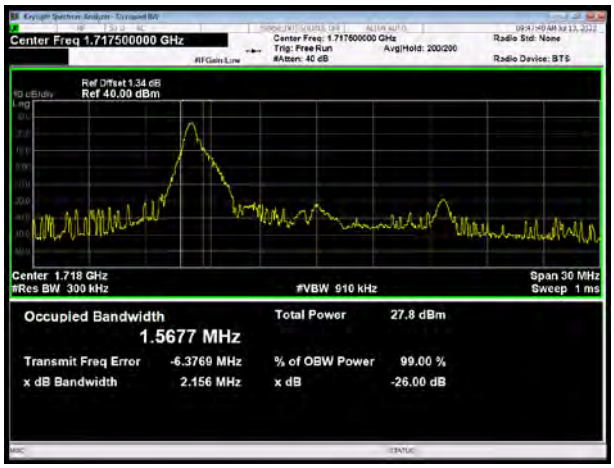
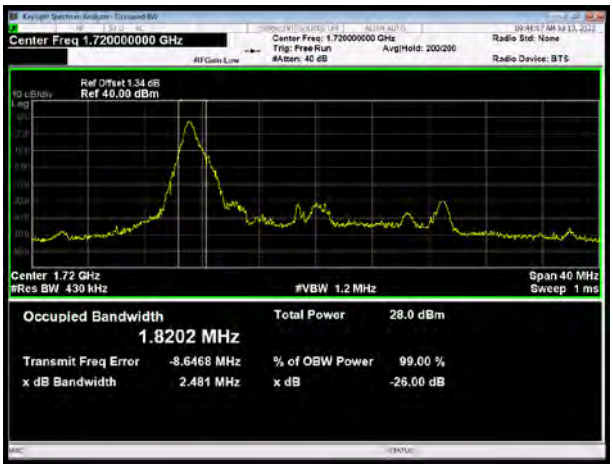
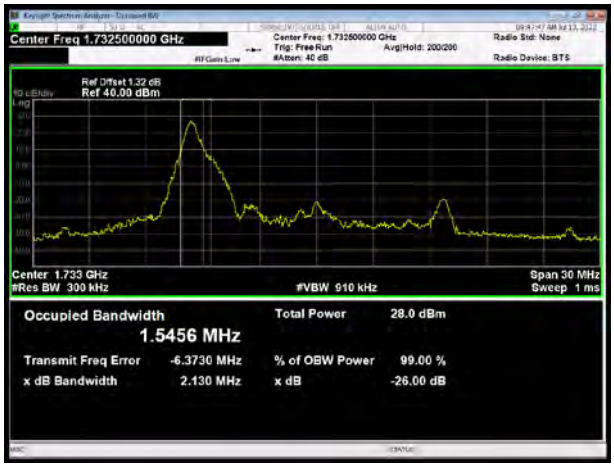
LTE Band 4 QPSK 15MHz CH-Low



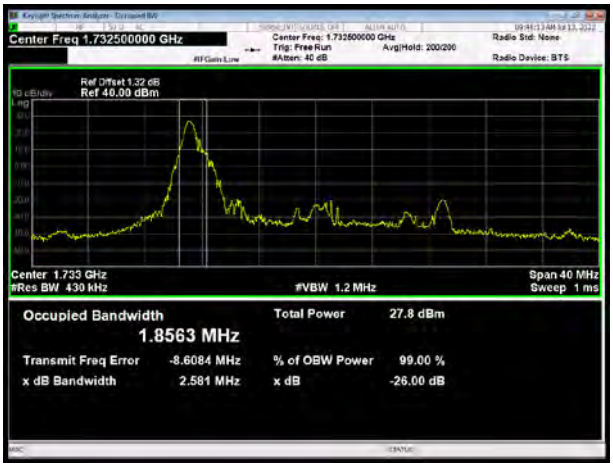
LTE Band 4 QPSK 20MHz CH-Low



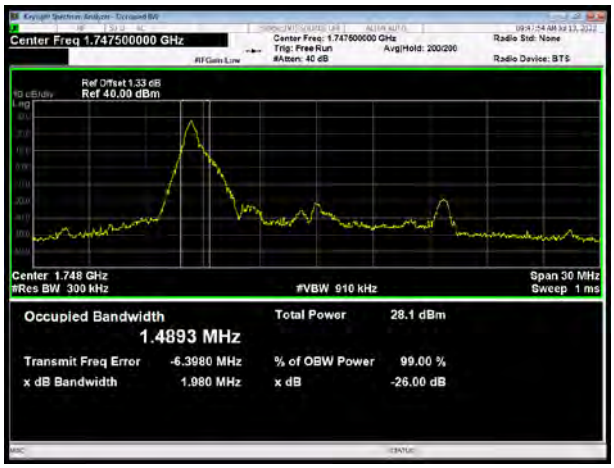
LTE Band 4 QPSK 15MHz CH-Middle



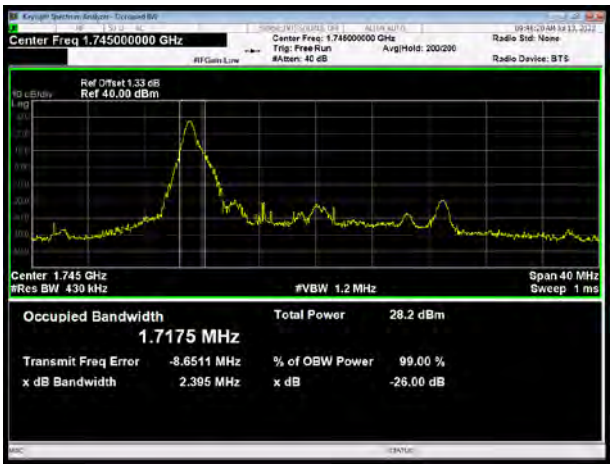
LTE Band 4 QPSK 20MHz CH-Middle



LTE Band 4 QPSK 15MHz CH-High



LTE Band 4 QPSK 20MHz CH-High



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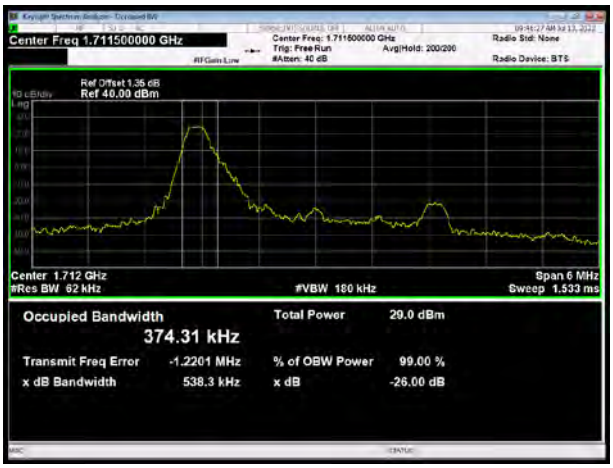
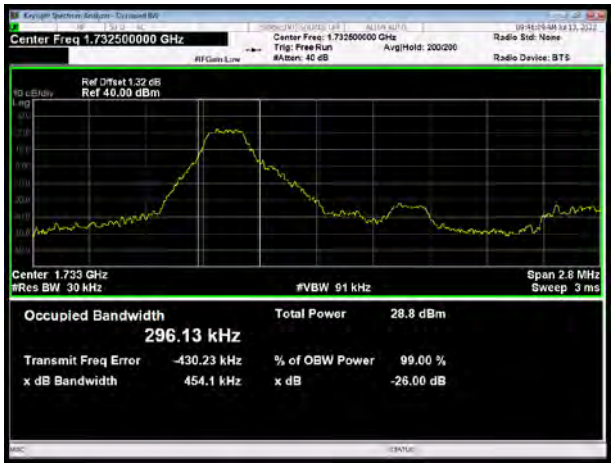
LTE Band 4 16QAM 1.4MHz CH-Low

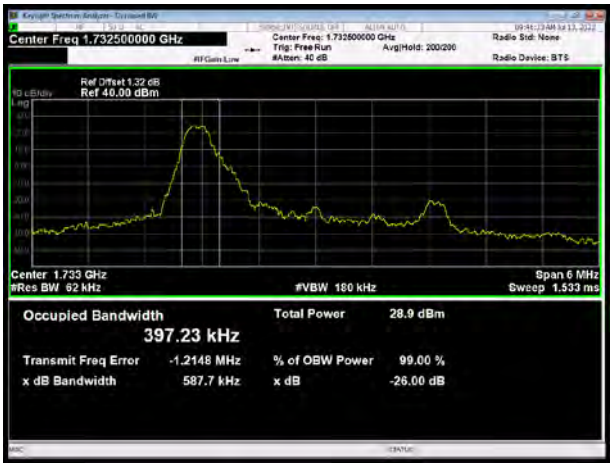
LTE Band 4 16QAM 3MHz CH-Low



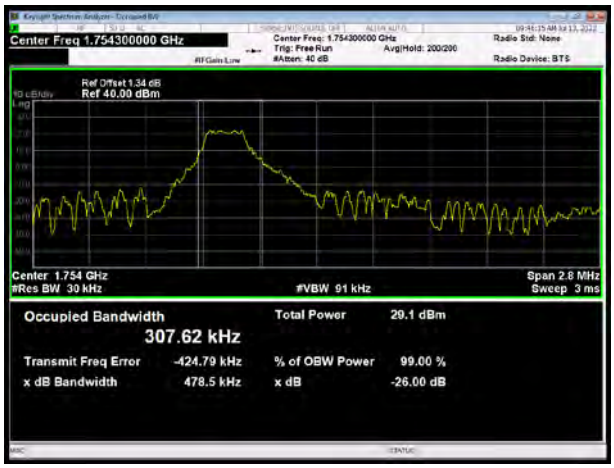
LTE Band 4 16QAM 1.4MHz CH-Middle



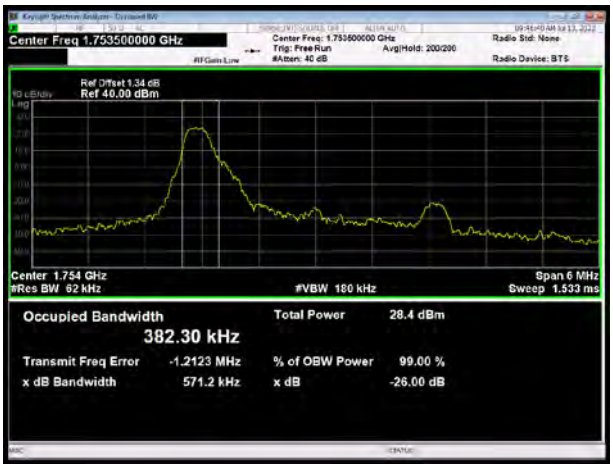
LTE Band 4 16QAM 3MHz CH-Middle



LTE Band 4 16QAM 1.4MHz CH-High



LTE Band 4 16QAM 3MHz CH-High



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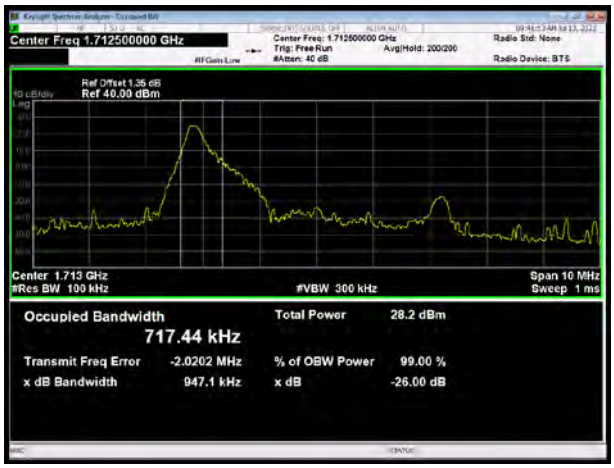
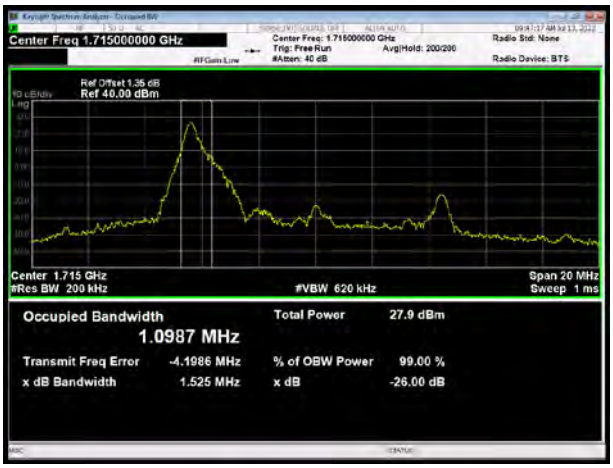
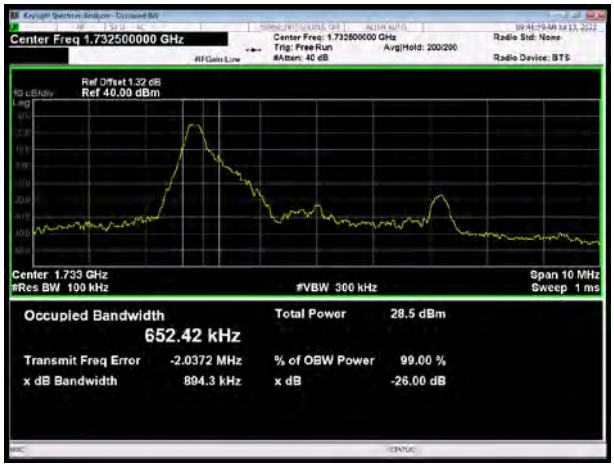
LTE Band 4 16QAM 5MHz CH-Low



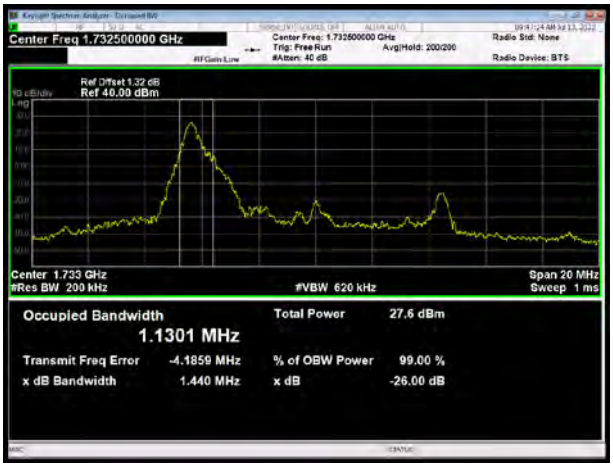
LTE Band 4 16QAM 10MHz CH-Low



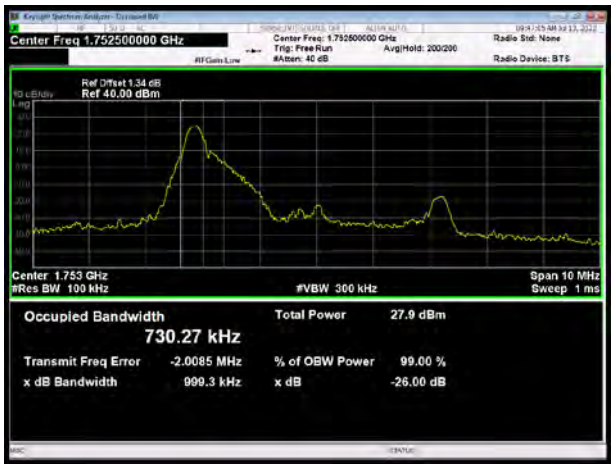
LTE Band 4 16QAM 5MHz CH-Middle



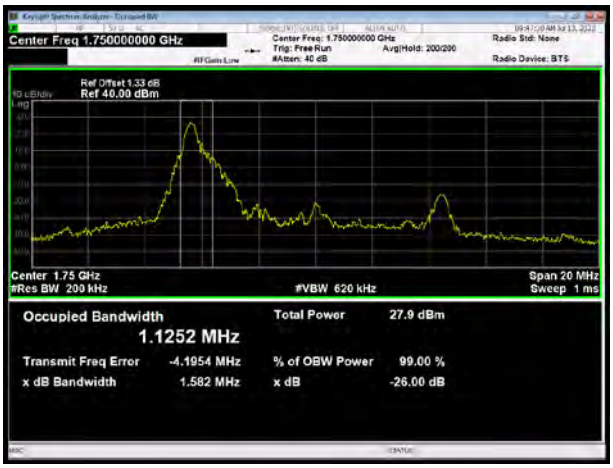
LTE Band 4 16QAM 10MHz CH-Middle



LTE Band 4 16QAM 5MHz CH-High



LTE Band 4 16QAM 10MHz CH-High



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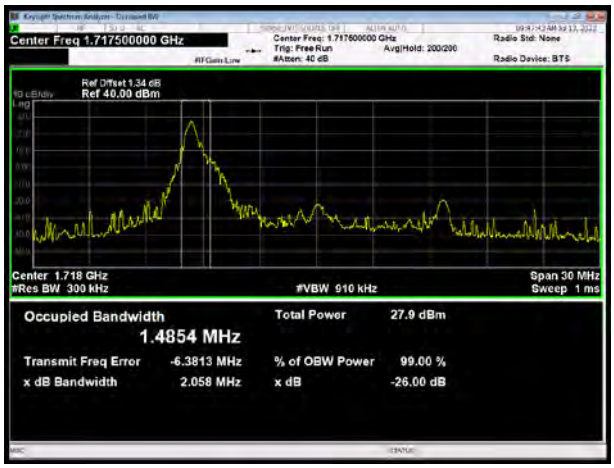
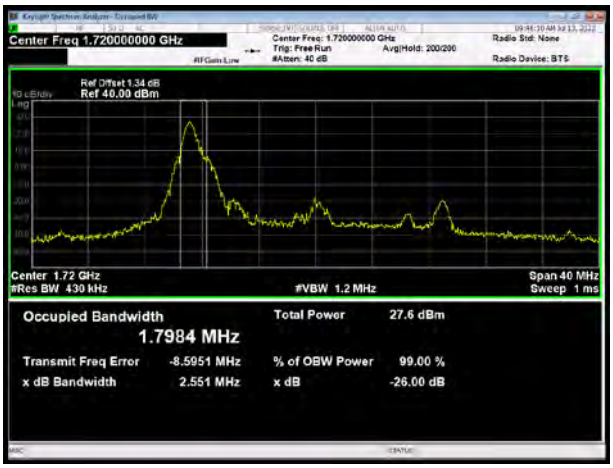
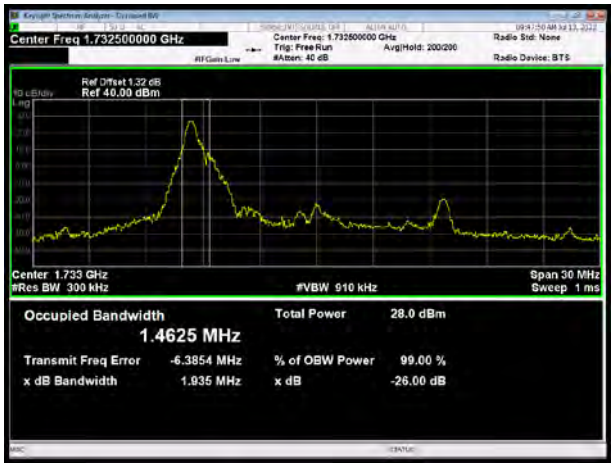
LTE Band 4 16QAM 15MHz CH-Low



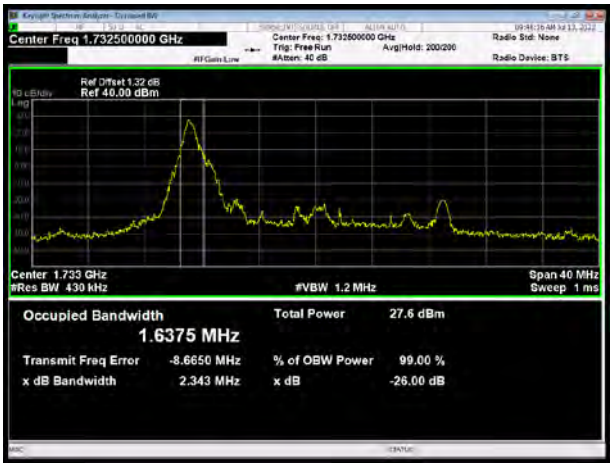
LTE Band 4 16QAM 20MHz CH-Low



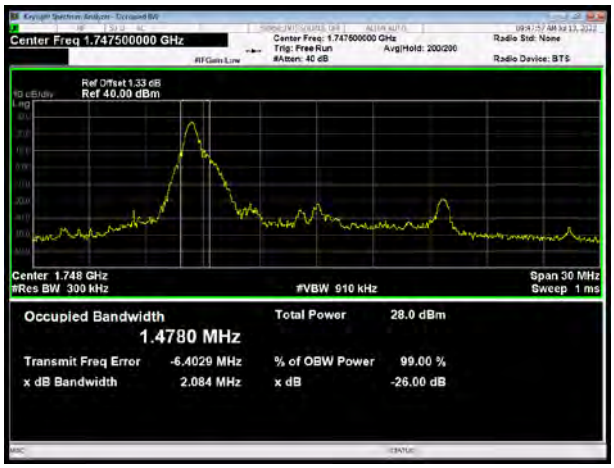
LTE Band 4 16QAM 15MHz CH-Middle



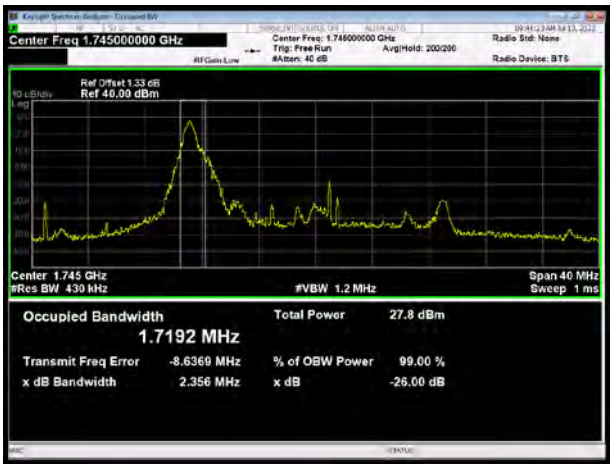
LTE Band 4 16QAM 20MHz CH-Middle



LTE Band 4 16QAM 15MHz CH-High



LTE Band 4 16QAM 20MHz CH-High



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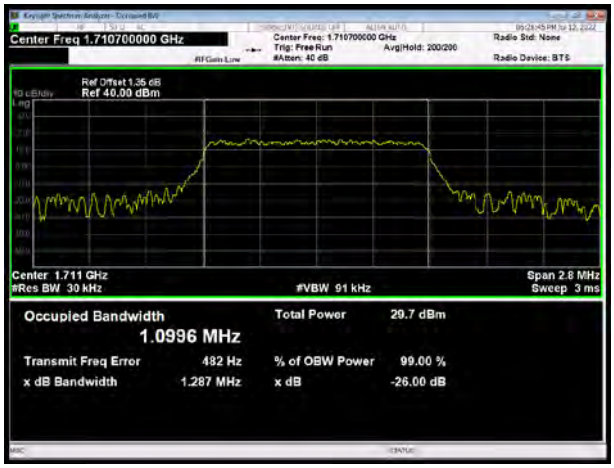
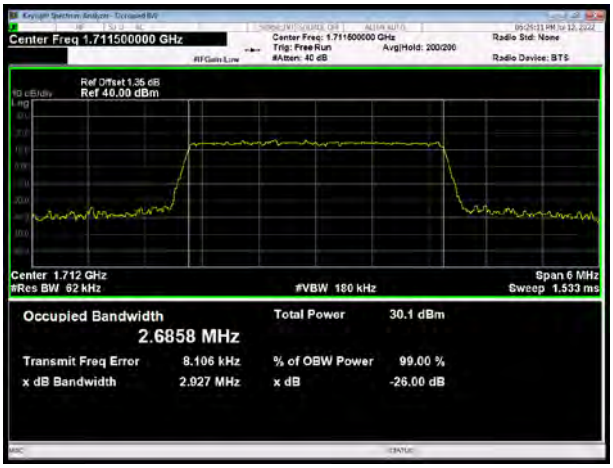
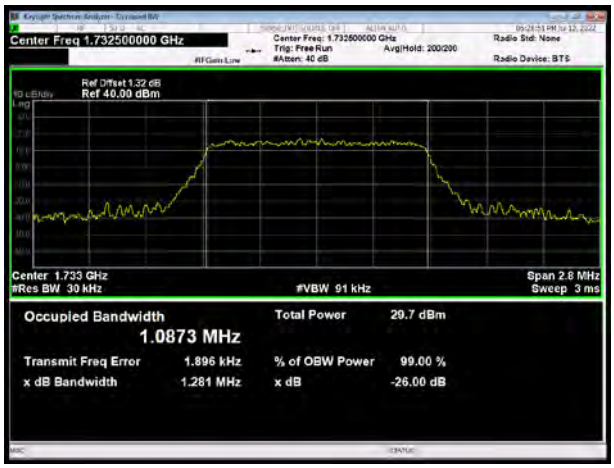
LTE Band 4 QPSK 1.4MHz CH-Low



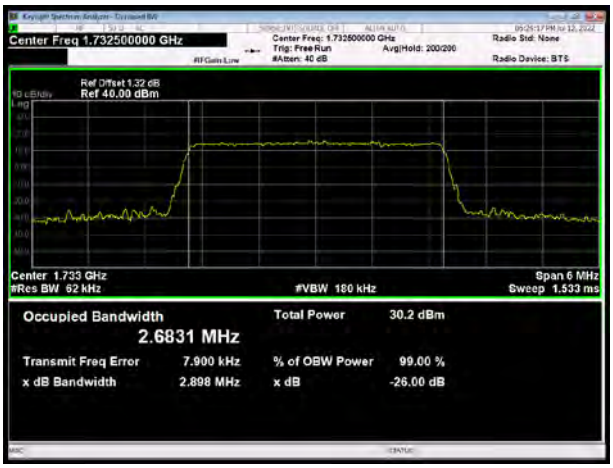
LTE Band 4 QPSK 3MHz CH-Low



LTE Band 4 QPSK 1.4MHz CH-Middle

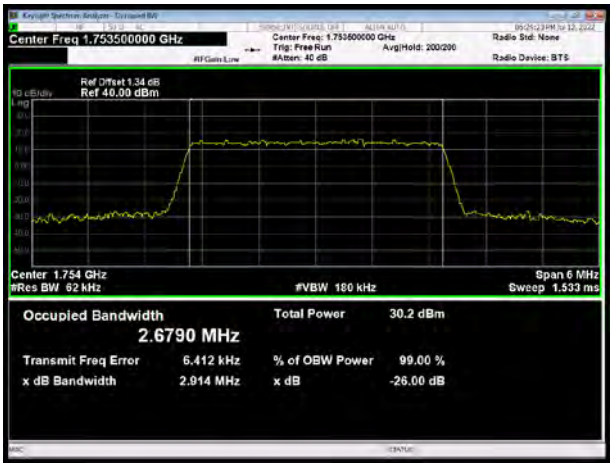


LTE Band 4 QPSK 3MHz CH-Middle



LTE Band 4 QPSK 1.4MHz CH-High

LTE Band 4 QPSK 3MHz CH-High



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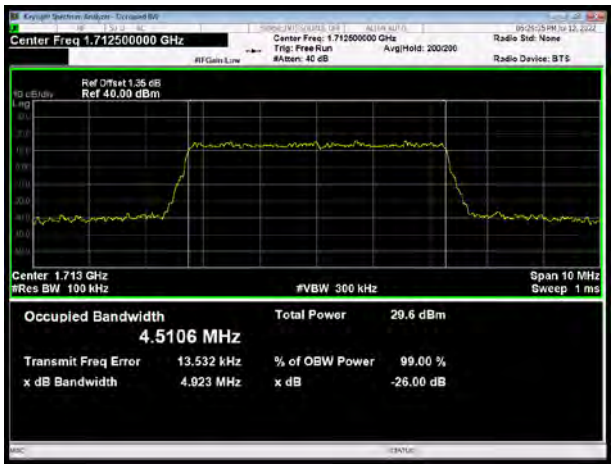
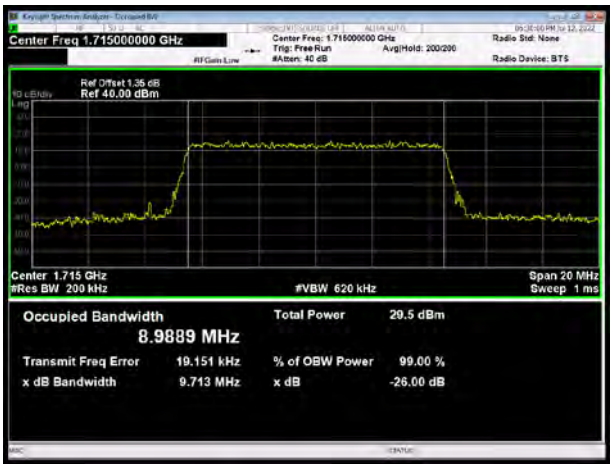
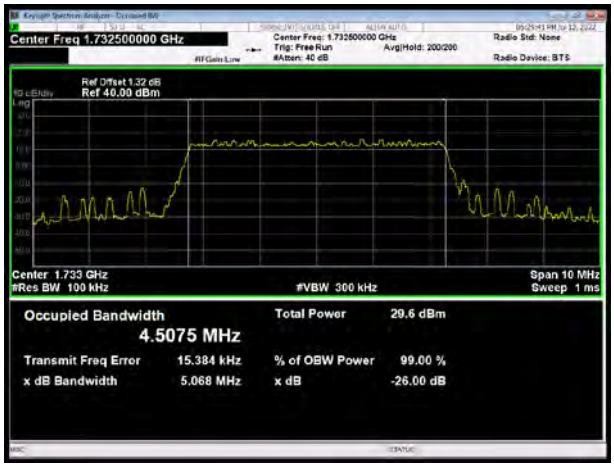
LTE Band 4 QPSK 5MHz CH-Low



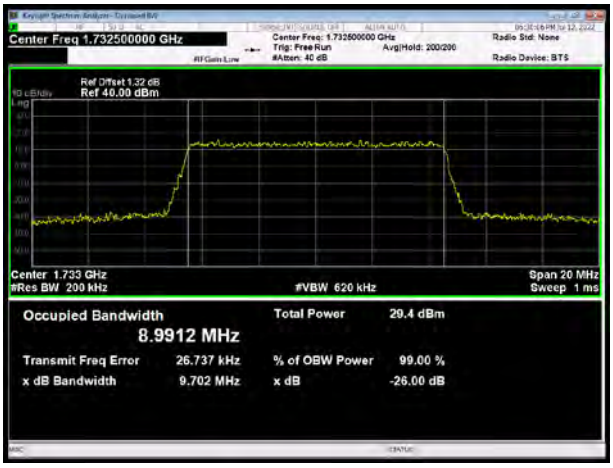
LTE Band 4 QPSK 10MHz CH-Low



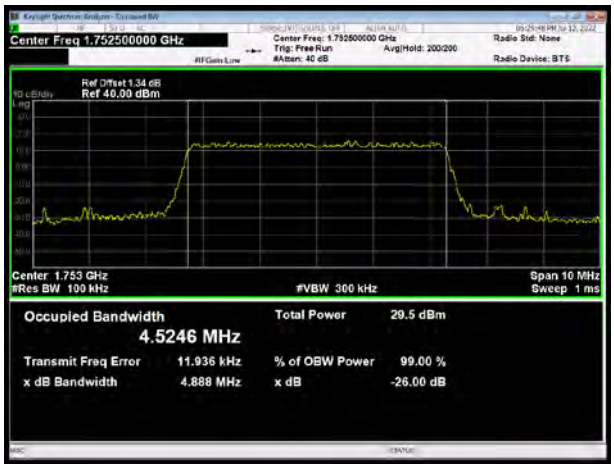
LTE Band 4 QPSK 5MHz CH-Middle



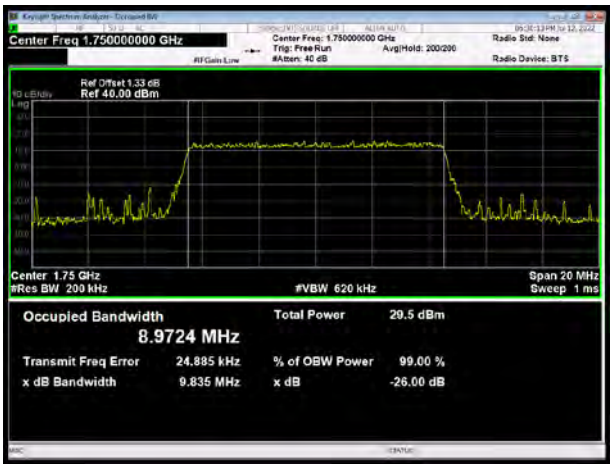
LTE Band 4 QPSK 10MHz CH-Middle



LTE Band 4 QPSK 5MHz CH-High



LTE Band 4 QPSK 10MHz CH-High



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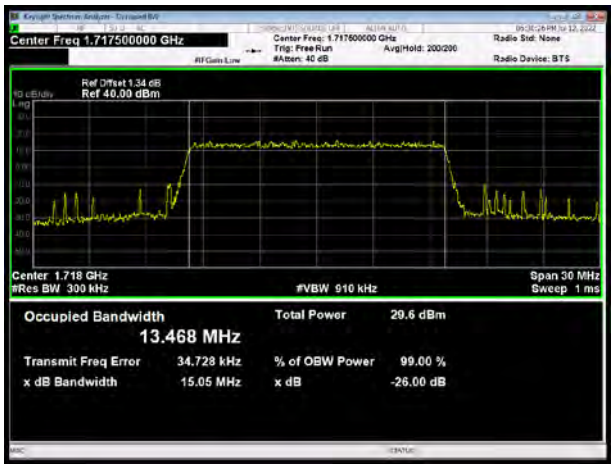
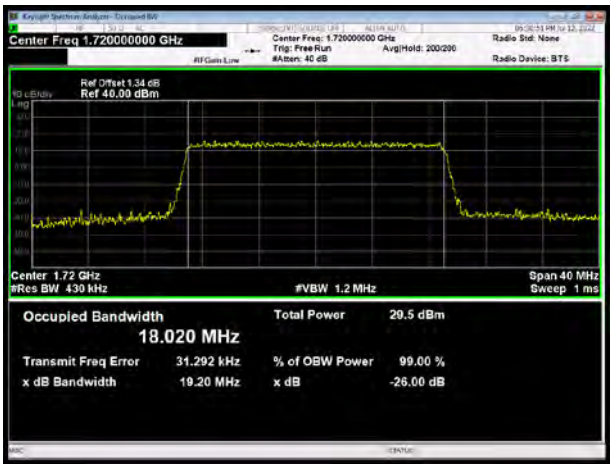
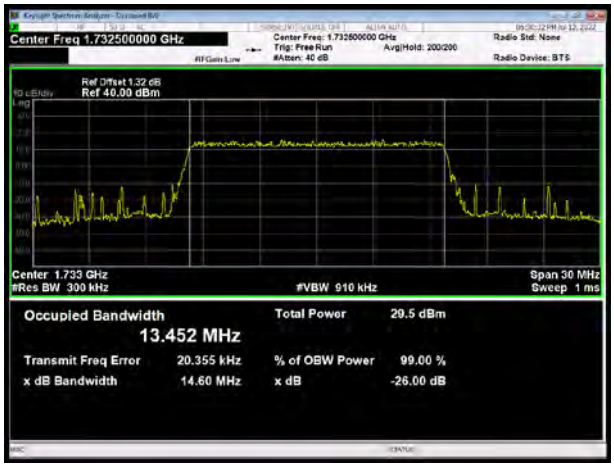
LTE Band 4 QPSK 15MHz CH-Low



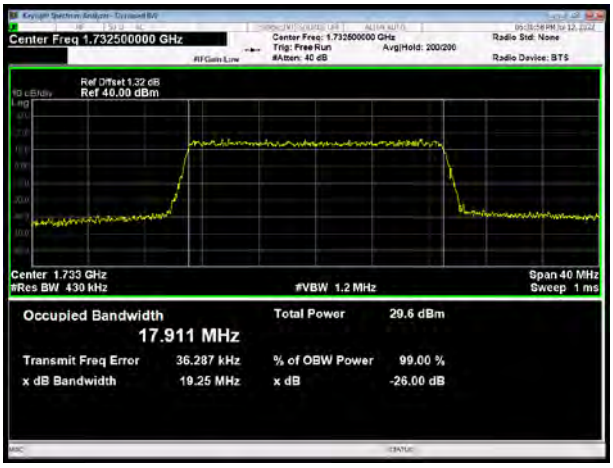
LTE Band 4 QPSK 20MHz CH-Low



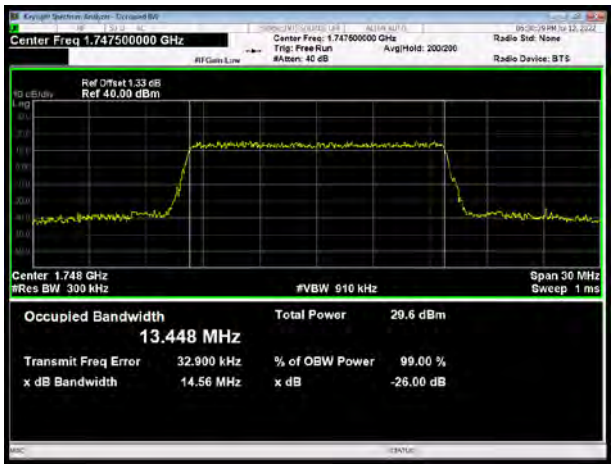
LTE Band 4 QPSK 15MHz CH-Middle



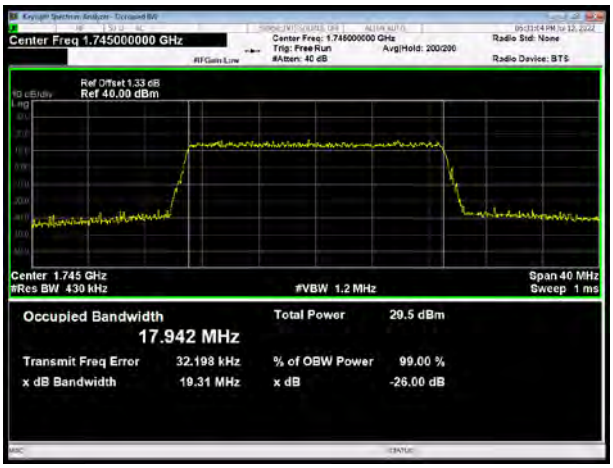
LTE Band 4 QPSK 20MHz CH-Middle



LTE Band 4 QPSK 15MHz CH-High



LTE Band 4 QPSK 20MHz CH-High



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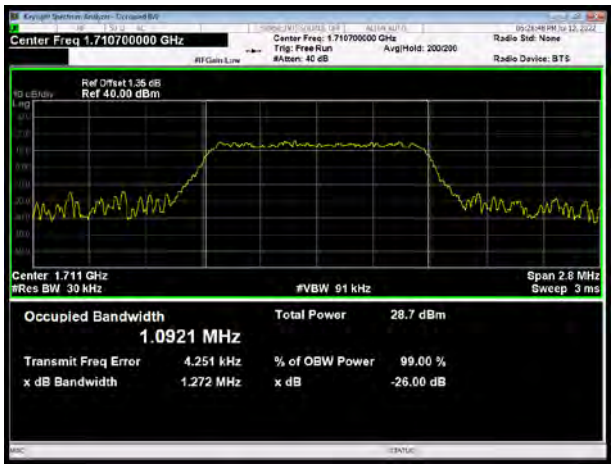
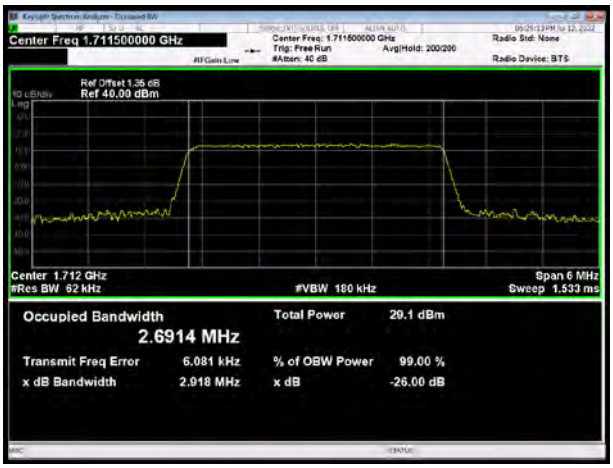
LTE Band 4 16QAM 1.4MHz CH-Low

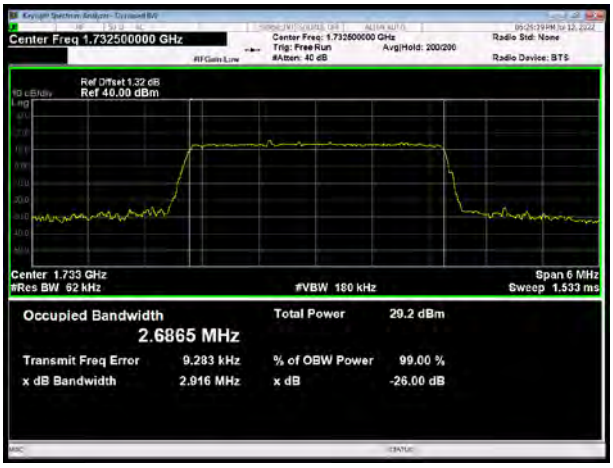


LTE Band 4 16QAM 3MHz CH-Low

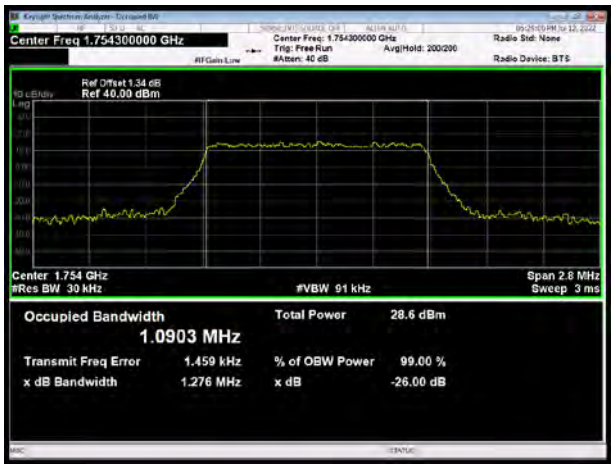


LTE Band 4 16QAM 1.4MHz CH-Middle

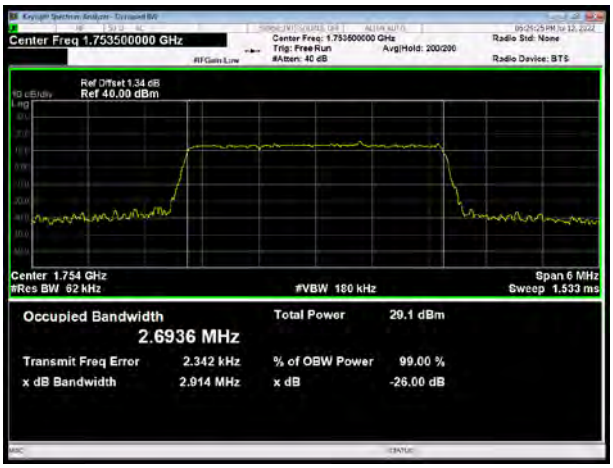
LTE Band 4 16QAM 3MHz CH-Middle



LTE Band 4 16QAM 1.4MHz CH-High



LTE Band 4 16QAM 3MHz CH-High



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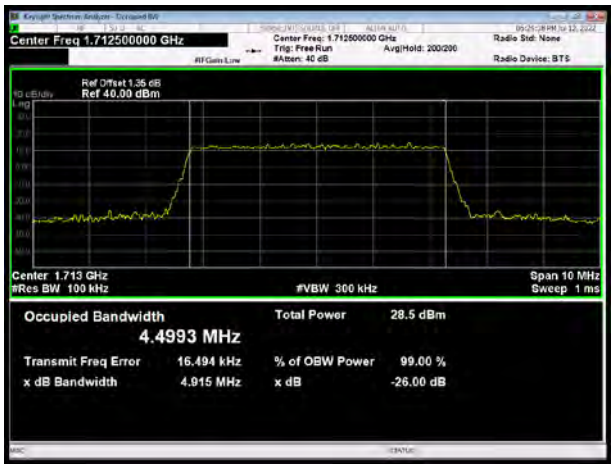
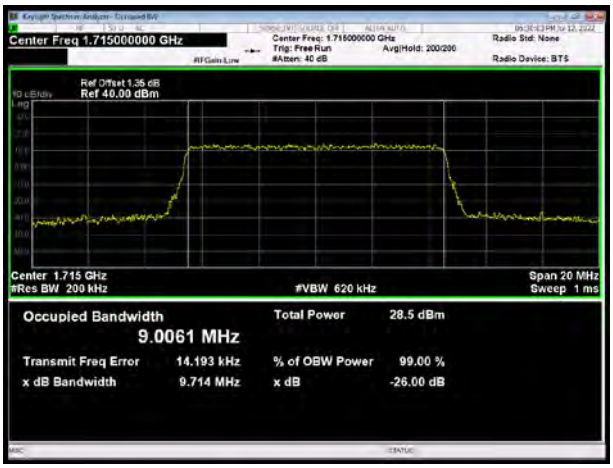
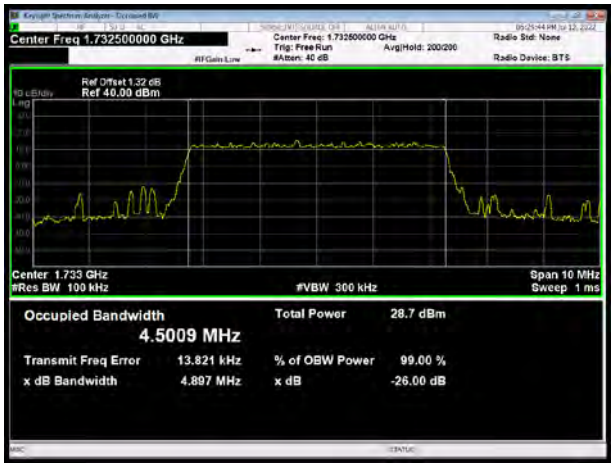
LTE Band 4 16QAM 5MHz CH-Low



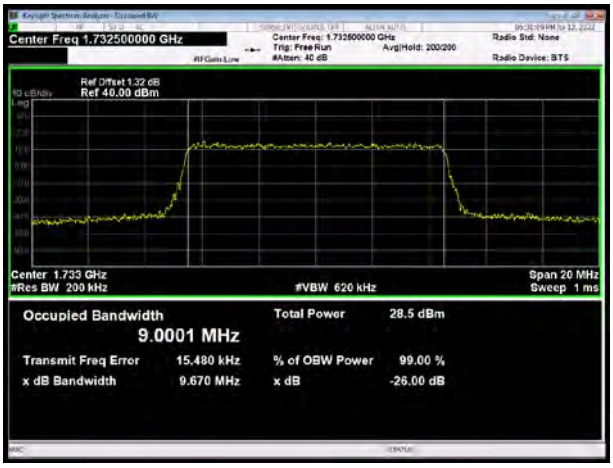
LTE Band 4 16QAM 10MHz CH-Low



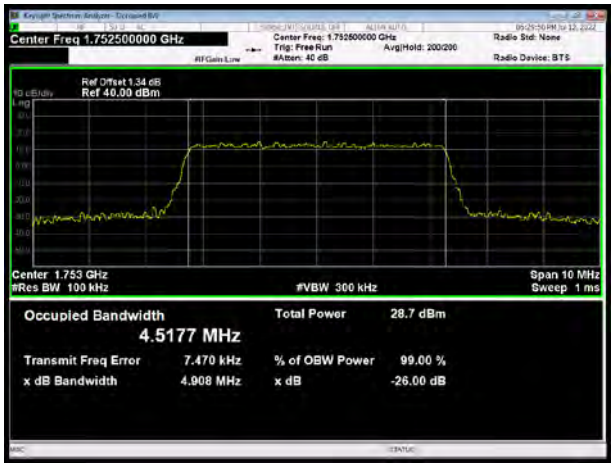
LTE Band 4 16QAM 5MHz CH-Middle



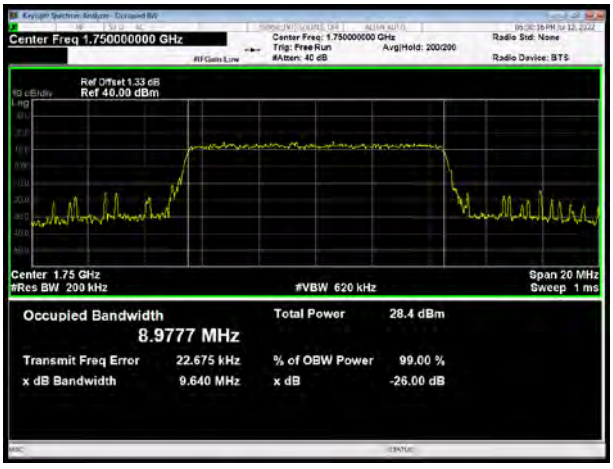
LTE Band 4 16QAM 10MHz CH-Middle



LTE Band 4 16QAM 5MHz CH-High



LTE Band 4 16QAM 10MHz CH-High



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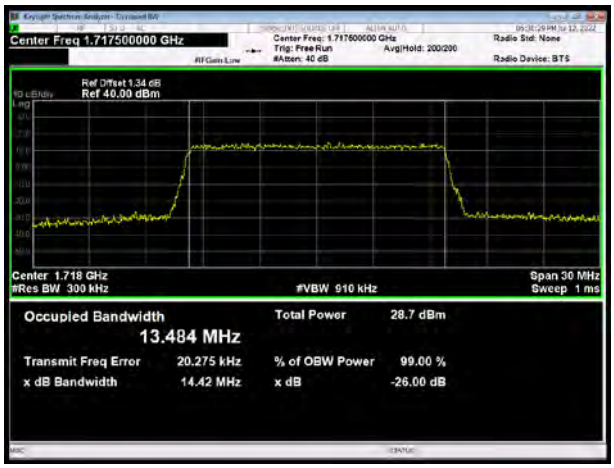
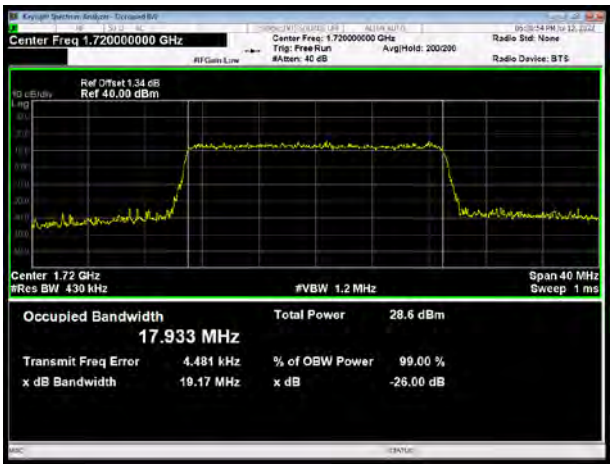
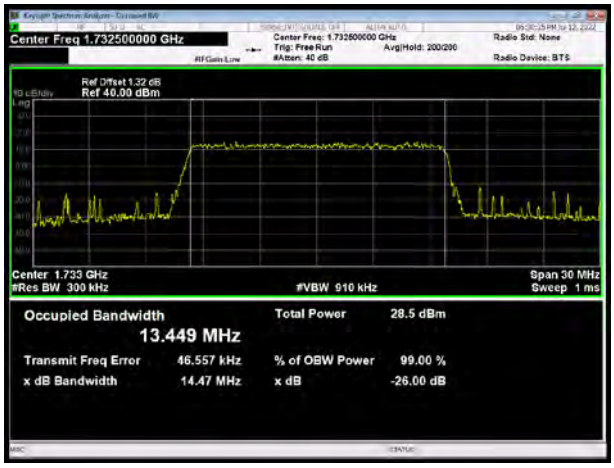
LTE Band 4 16QAM 15MHz CH-Low



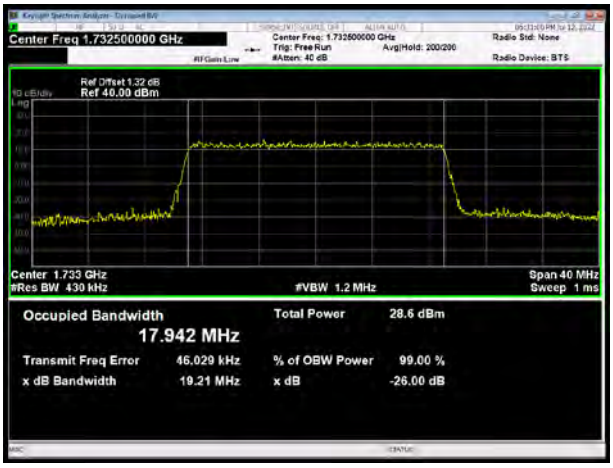
LTE Band 4 16QAM 20MHz CH-Low



LTE Band 4 16QAM 15MHz CH-Middle

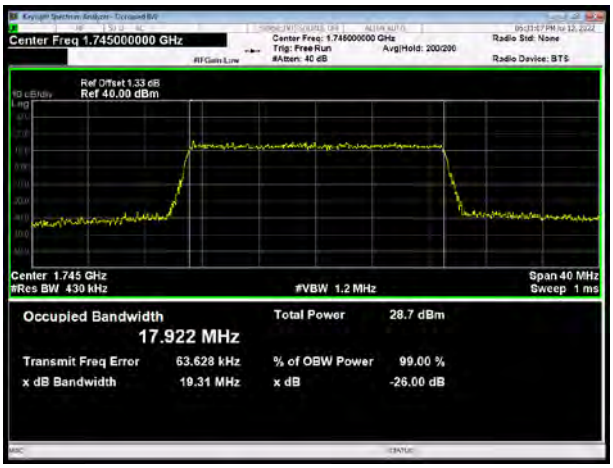


LTE Band 4 16QAM 20MHz CH-Middle



LTE Band 4 16QAM 15MHz CH-High

LTE Band 4 16QAM 20MHz CH-High



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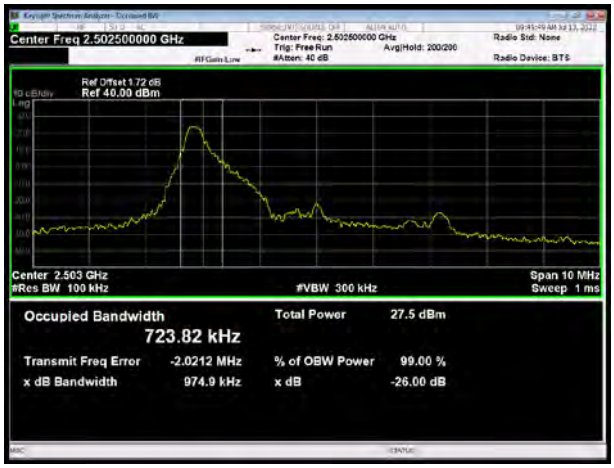
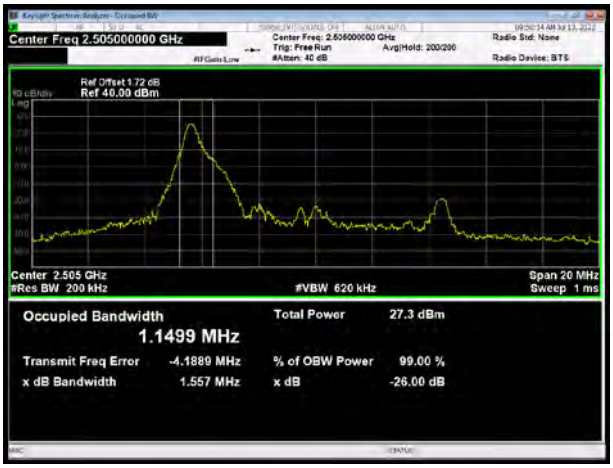
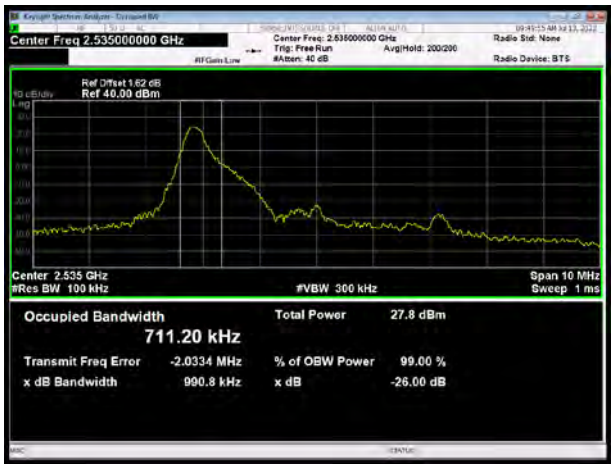
LTE Band 7 QPSK 5MHz CH-Low



LTE Band 7 QPSK 10MHz CH-Low

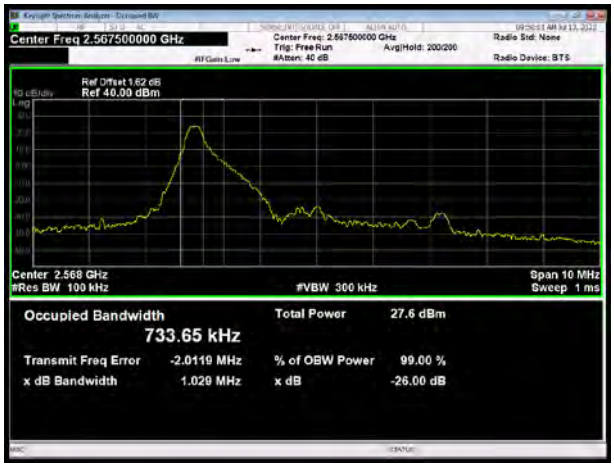


LTE Band 7 QPSK 5MHz CH-Middle

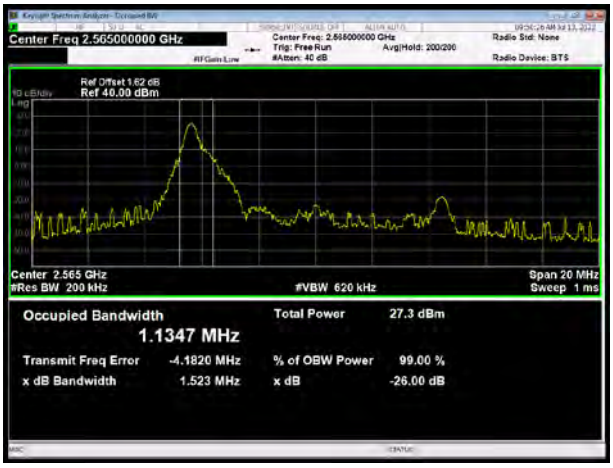


LTE Band 7 QPSK 10MHz CH-Middle

LTE Band 7 QPSK 5MHz CH-High



LTE Band 7 QPSK 10MHz CH-High



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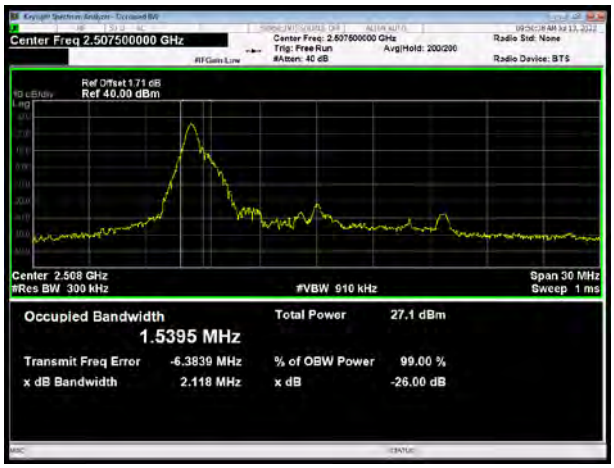
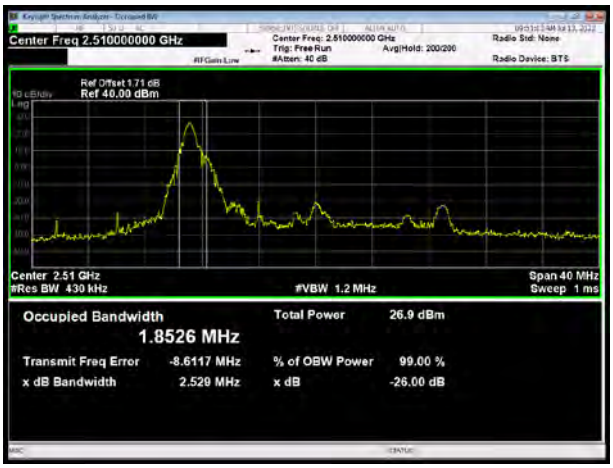
LTE Band 7 QPSK 15MHz CH-Low

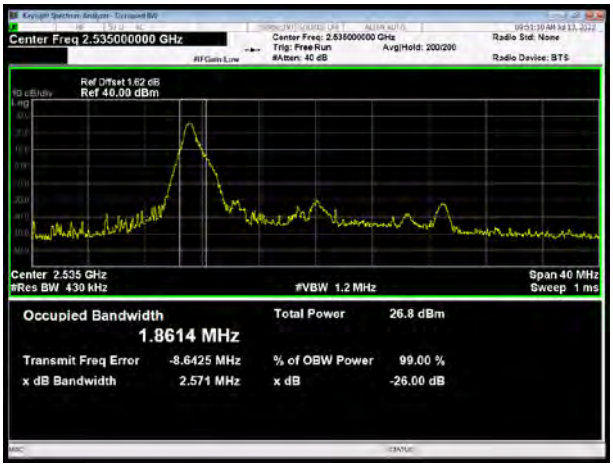


LTE Band 7 QPSK 20MHz CH-Low

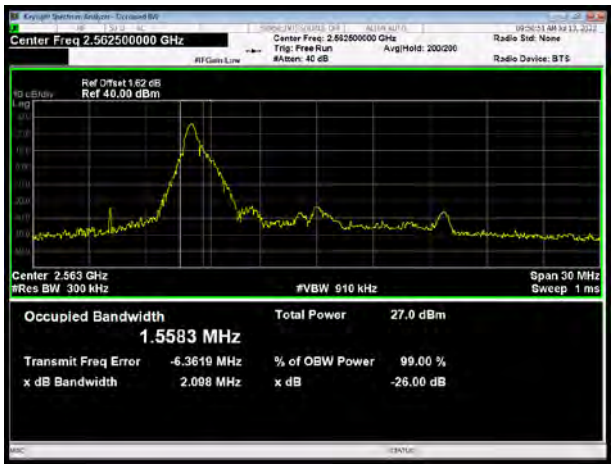


LTE Band 7 QPSK 15MHz CH-Middle

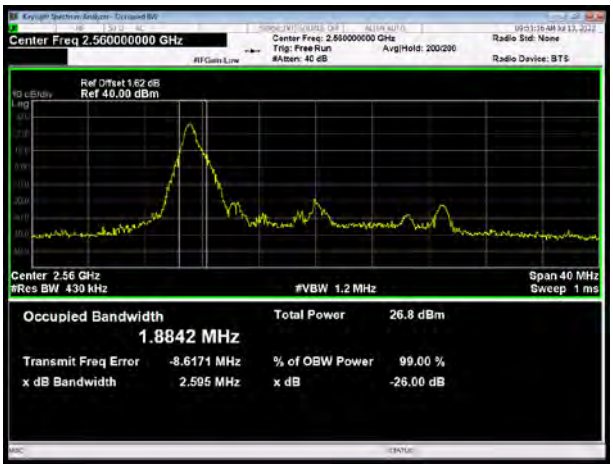
LTE Band 7 QPSK 20MHz CH-Middle



LTE Band 7 QPSK 15MHz CH-High



LTE Band 7 QPSK 20MHz CH-High



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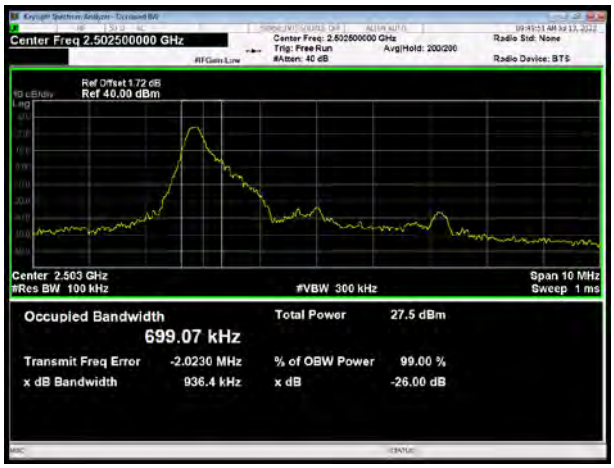
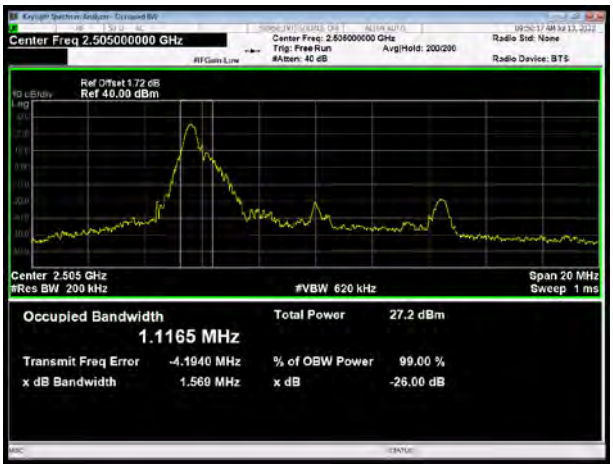
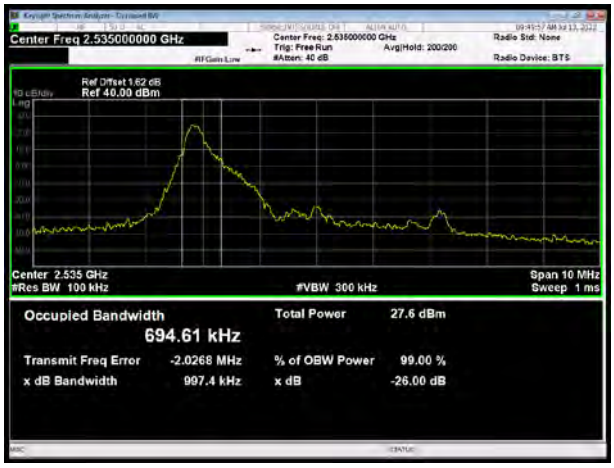
LTE Band 7 16QAM 5MHz CH-Low



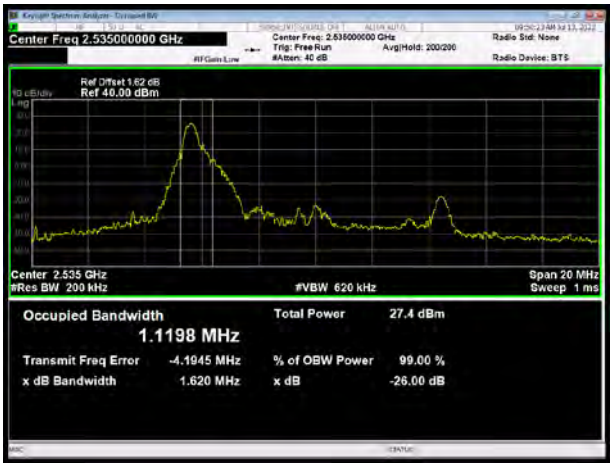
LTE Band 7 16QAM 10MHz CH-Low



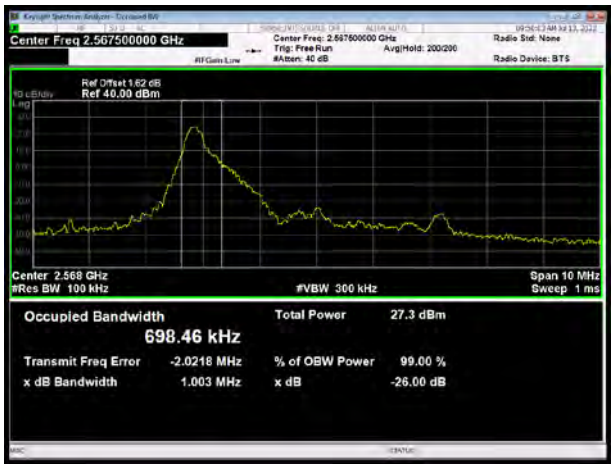
LTE Band 7 16QAM 5MHz CH-Middle



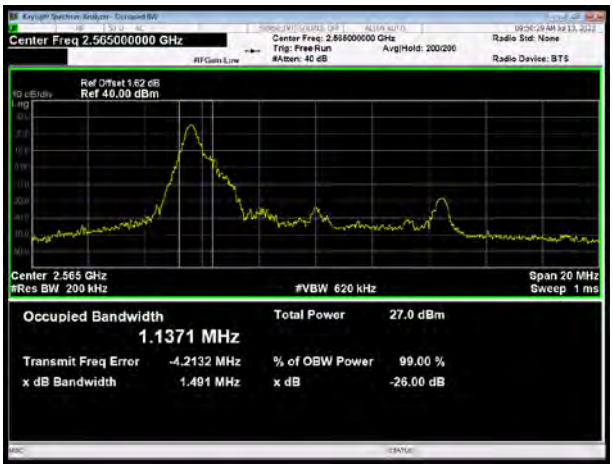
LTE Band 7 16QAM 10MHz CH-Middle



LTE Band 7 16QAM 5MHz CH-High



LTE Band 7 16QAM 10MHz CH-High



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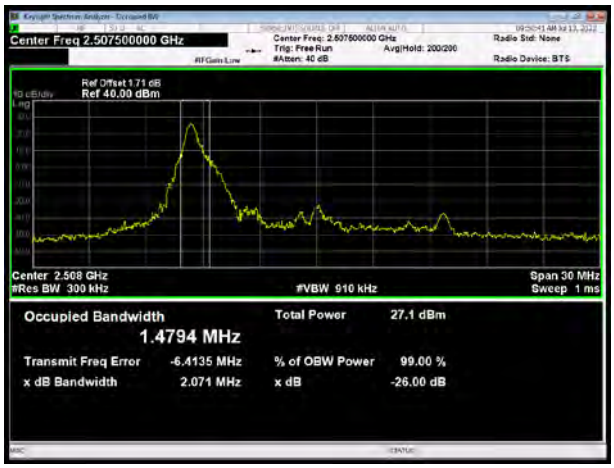
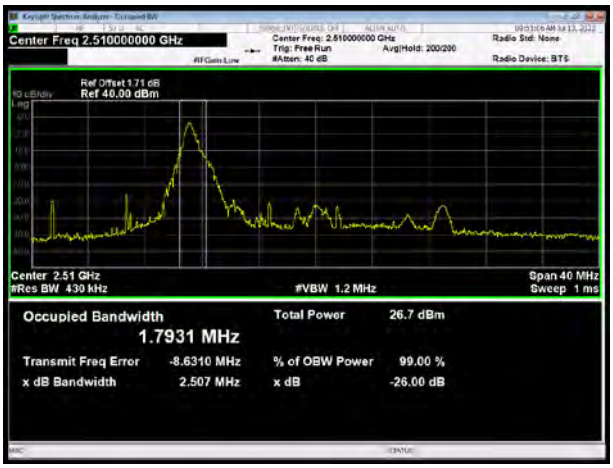
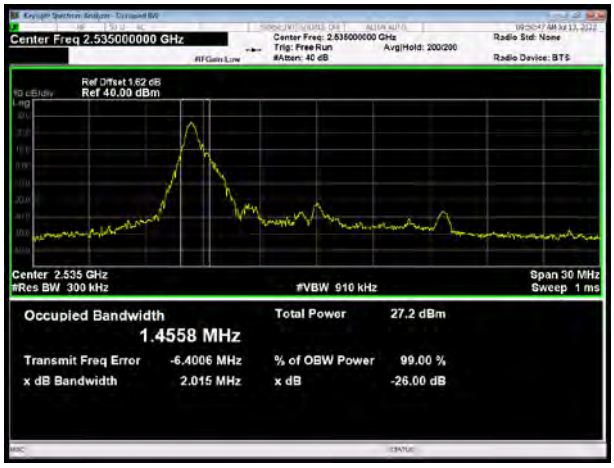
LTE Band 7 16QAM 15MHz CH-Low



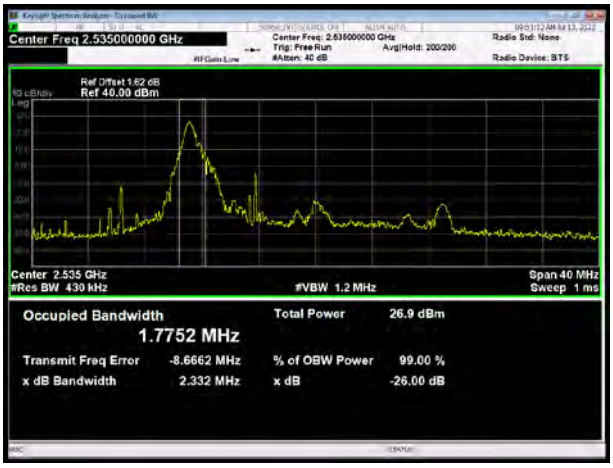
LTE Band 7 16QAM 20MHz CH-Low



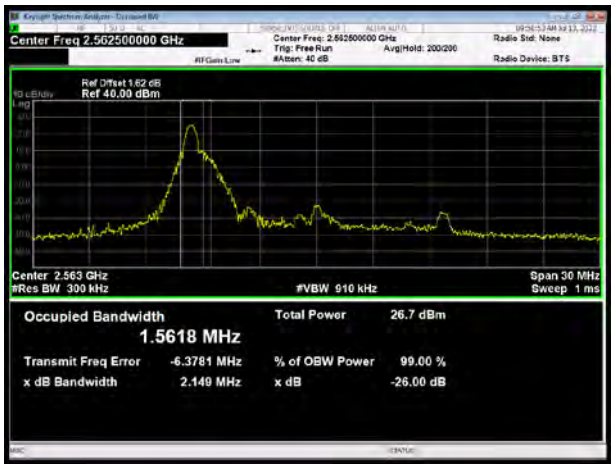
LTE Band 7 16QAM 15MHz CH-Middle



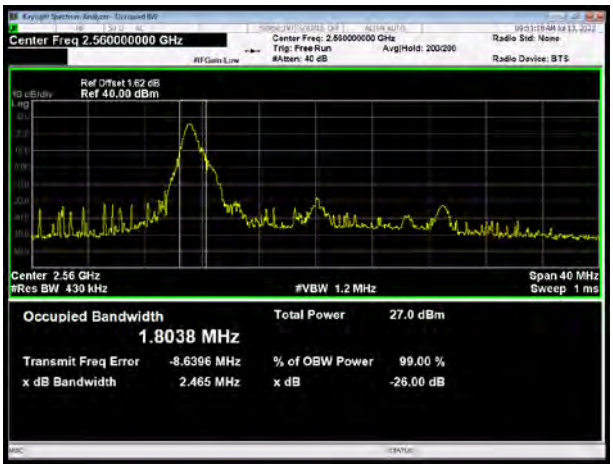
LTE Band 7 16QAM 20MHz CH-Middle



LTE Band 7 16QAM 15MHz CH-High



LTE Band 7 16QAM 20MHz CH-High



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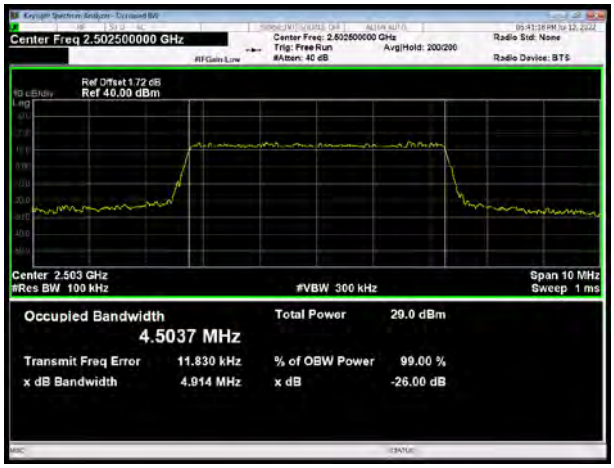
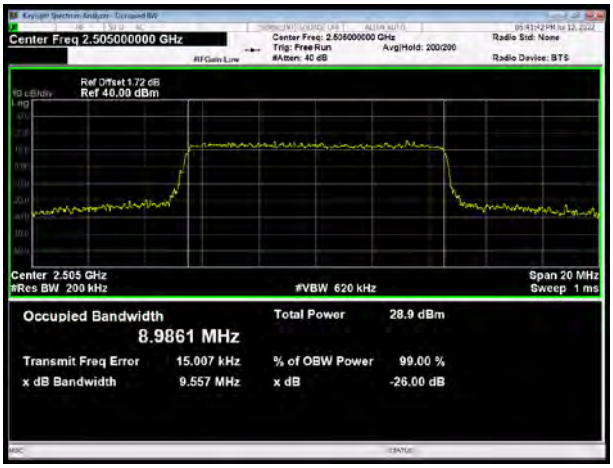
100% RB

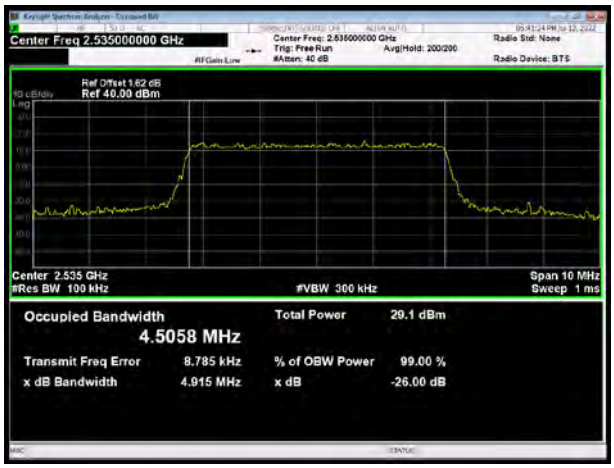
LTE Band 7 QPSK 5MHz CH-Low



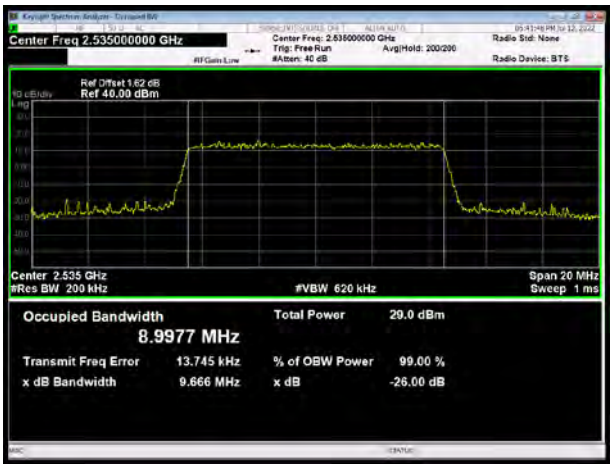
LTE Band 7 QPSK 10MHz CH-Low



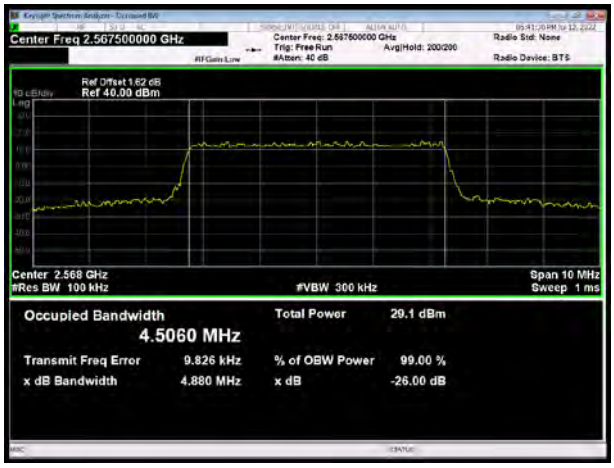
LTE Band 7 QPSK 5MHz CH-Middle



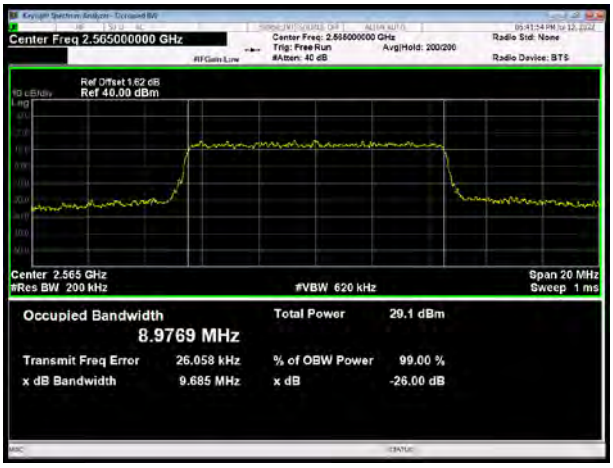
LTE Band 7 QPSK 10MHz CH-Middle



LTE Band 7 QPSK 5MHz CH-High



LTE Band 7 QPSK 10MHz CH-High



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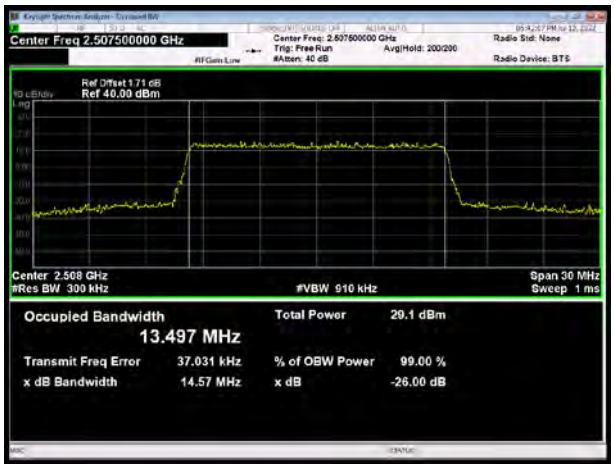
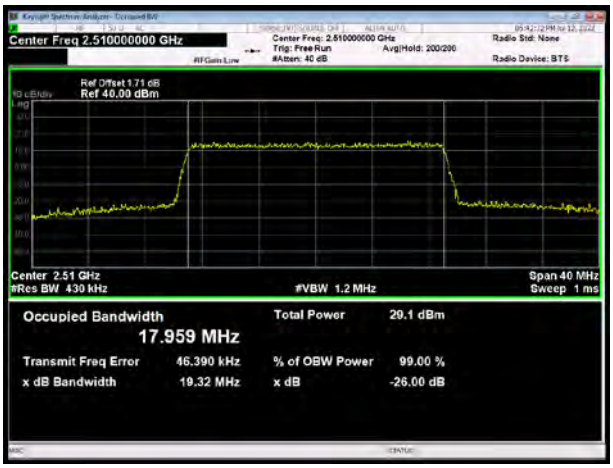
LTE Band 7 QPSK 15MHz CH-Low

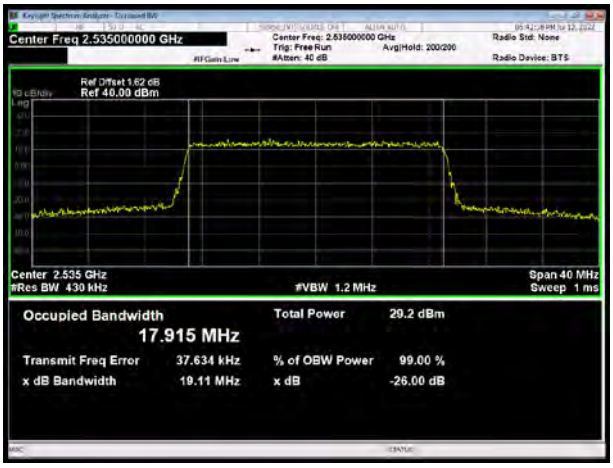


LTE Band 7 QPSK 20MHz CH-Low

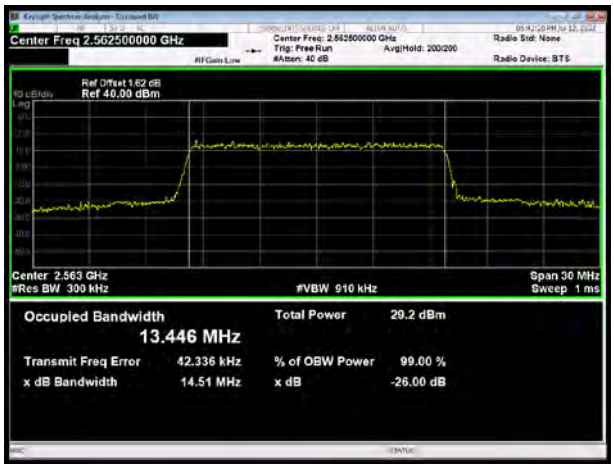


LTE Band 7 QPSK 15MHz CH-Middle

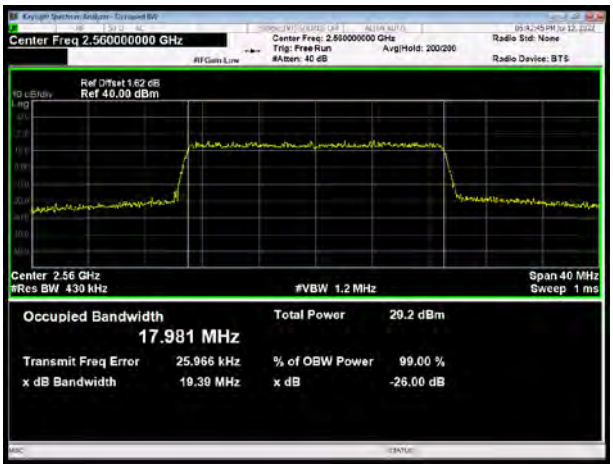
LTE Band 7 QPSK 20MHz CH-Middle



LTE Band 7 QPSK 15MHz CH-High



LTE Band 7 QPSK 20MHz CH-High



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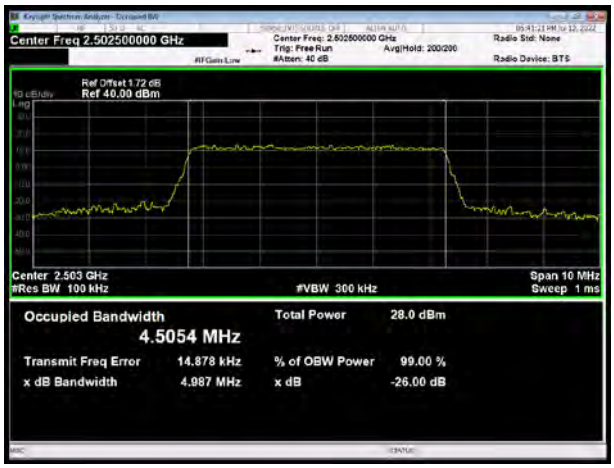
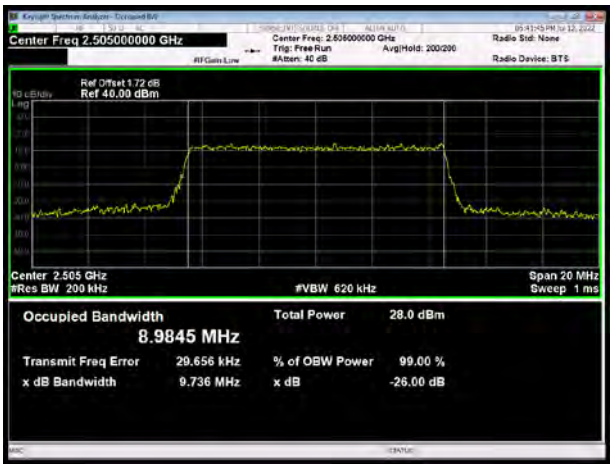
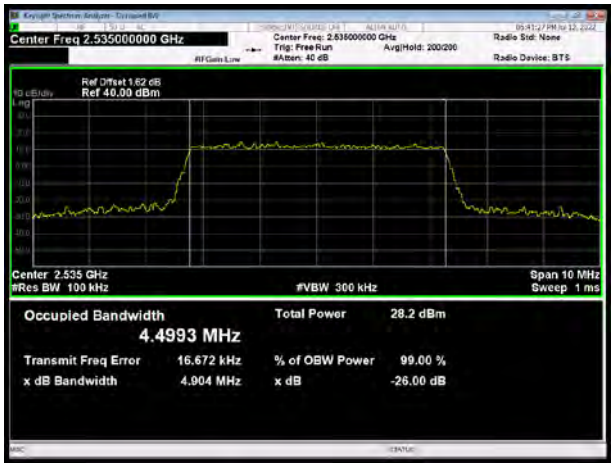
LTE Band 7 16QAM 5MHz CH-Low



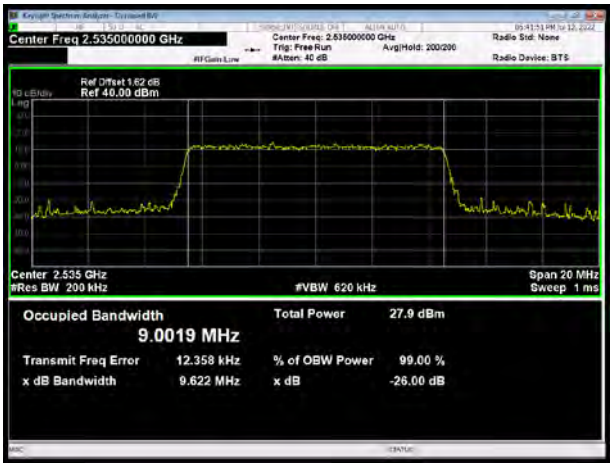
LTE Band 7 16QAM 10MHz CH-Low



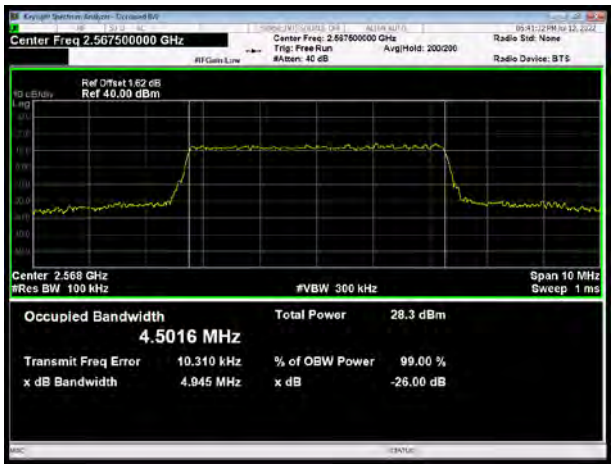
LTE Band 7 16QAM 5MHz CH-Middle



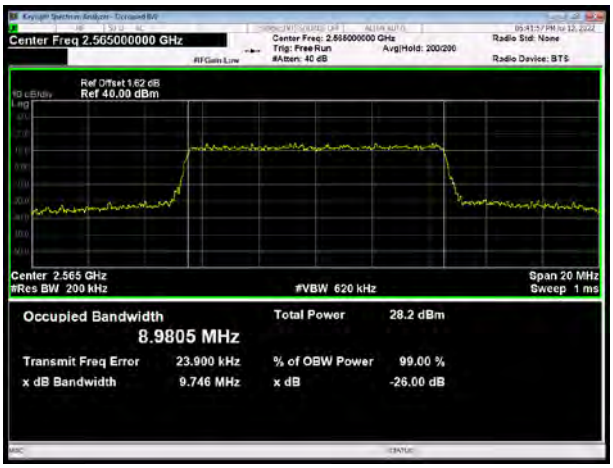
LTE Band 7 16QAM 10MHz CH-Middle



LTE Band 7 16QAM 5MHz CH-High



LTE Band 7 16QAM 10MHz CH-High



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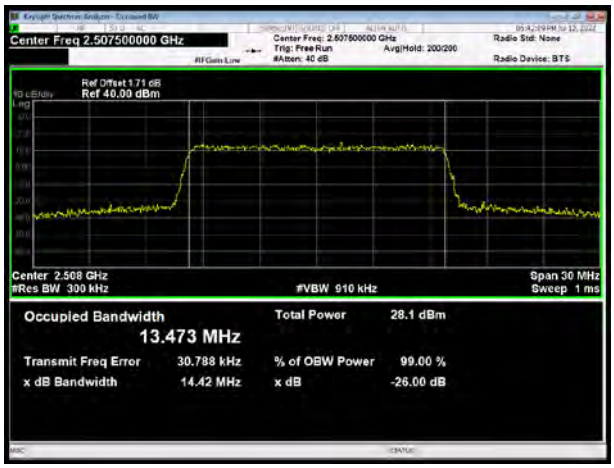
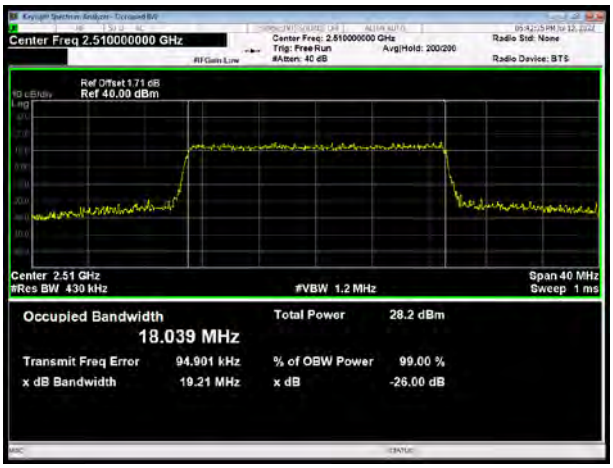
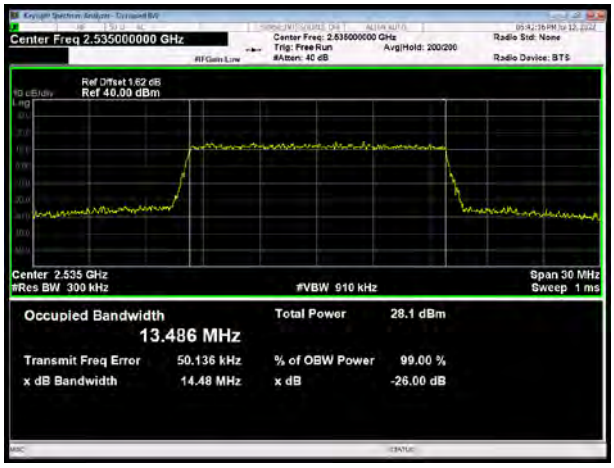
LTE Band 7 16QAM 15MHz CH-Low



LTE Band 7 16QAM 20MHz CH-Low

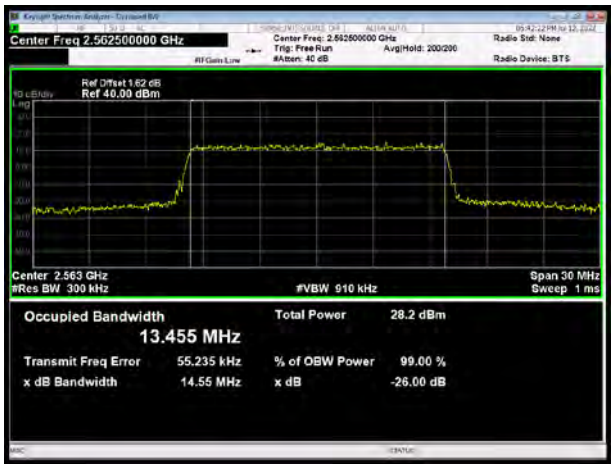


LTE Band 7 16QAM 15MHz CH-Middle

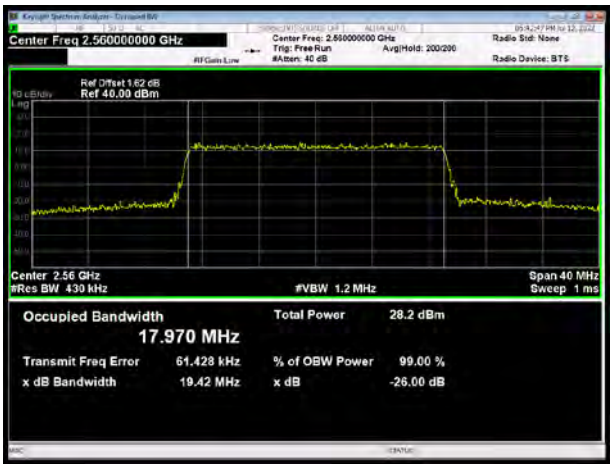


LTE Band 7 16QAM 20MHz CH-Middle

LTE Band 7 16QAM 15MHz CH-High



LTE Band 7 16QAM 20MHz CH-High



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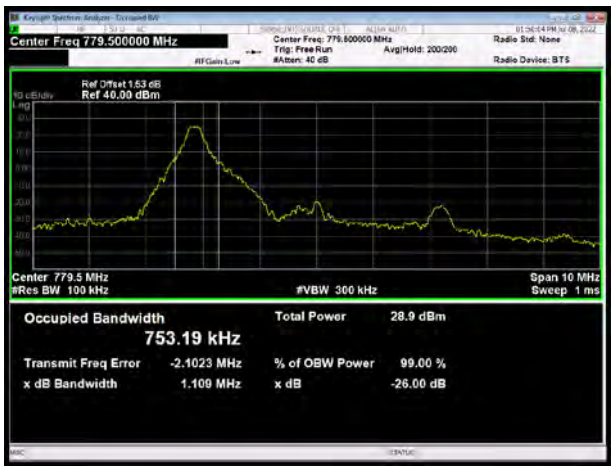
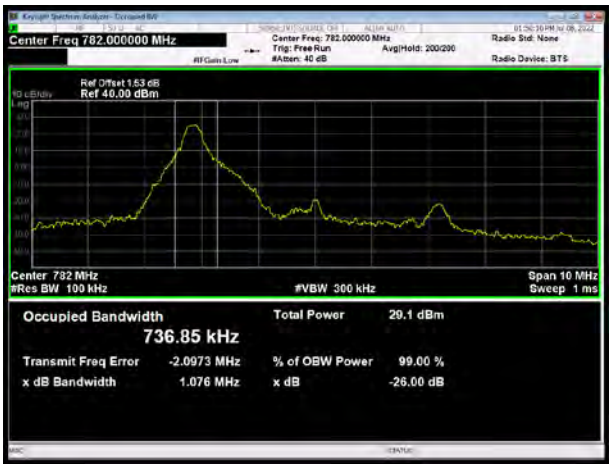
1 RB

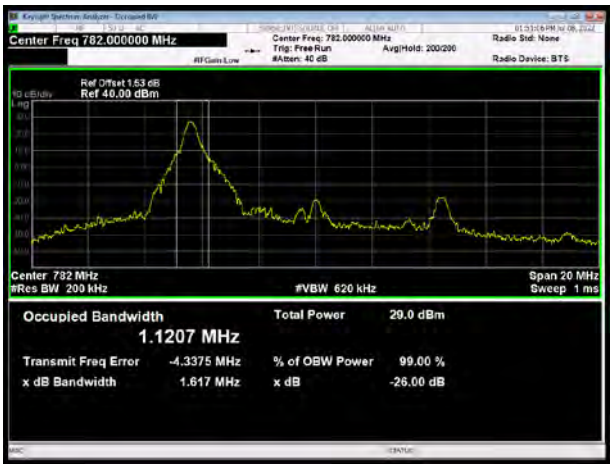
LTE Band 13 QPSK 5MHz CH-Low



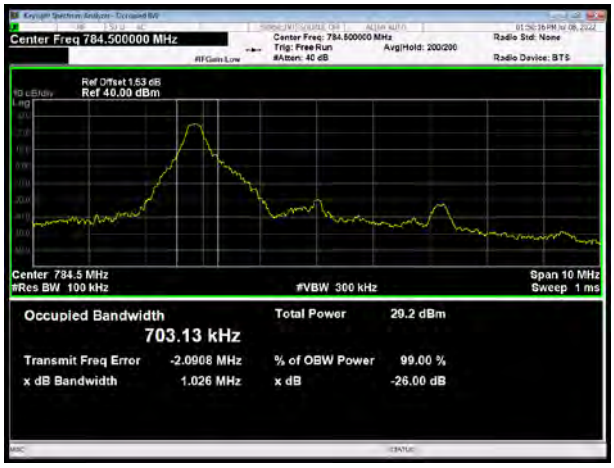
LTE Band 13 QPSK 5MHz CH-Middle



LTE Band 13 QPSK 10MHz CH-Middle



LTE Band 13 QPSK 5MHz CH-High



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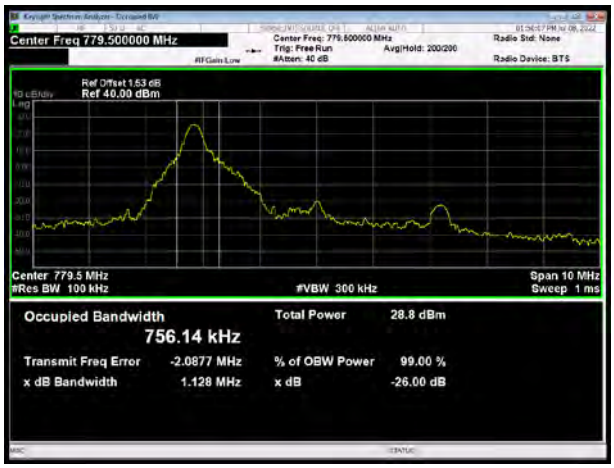
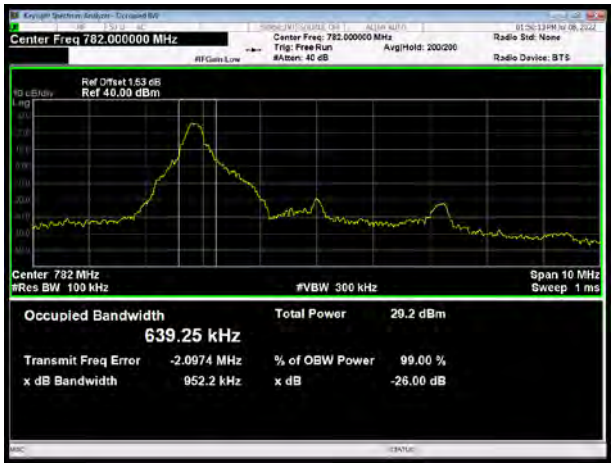
LTE Band 13 16QAM 5MHz CH-Low

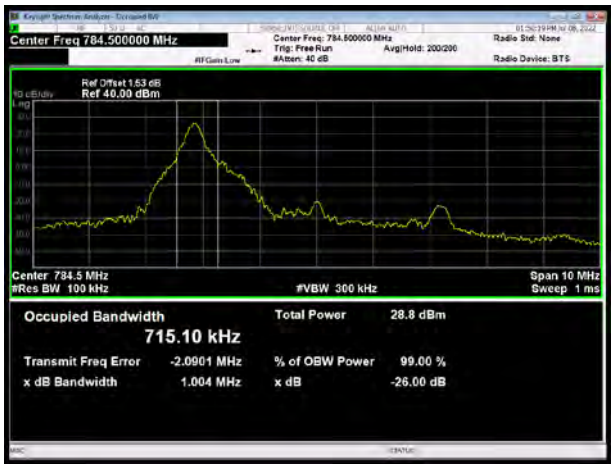


LTE Band 13 16QAM 5MHz CH-Middle



LTE Band 13 16QAM 10MHz CH-Middle

LTE Band 13 16QAM 5MHz CH-High



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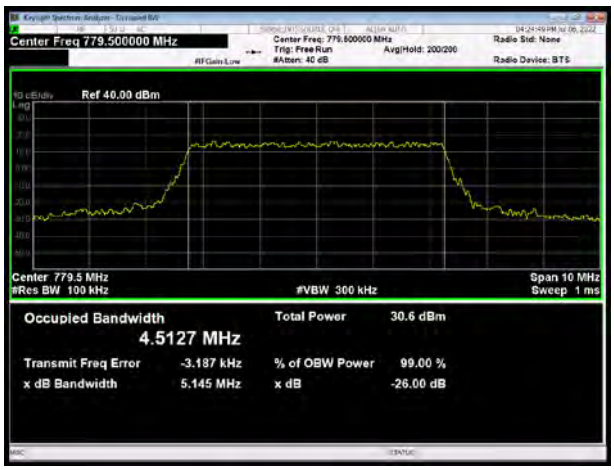
100% RB

LTE Band 13 QPSK 5MHz CH-Low



LTE Band 13 QPSK 5MHz CH-Middle

LTE Band 13 QPSK 10MHz CH-Middle

LTE Band 13 QPSK 5MHz CH-High

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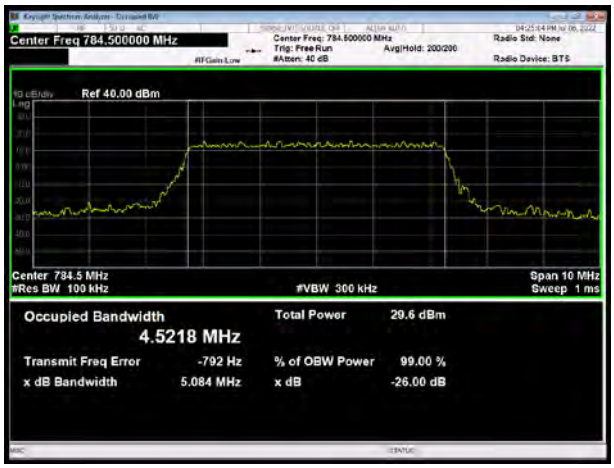
LTE Band 13 16QAM 5MHz CH-Low

LTE Band 13 16QAM 5MHz CH-Middle

LTE Band 13 16QAM 10MHz CH-Middle

LTE Band 13 16QAM 5MHz CH-High



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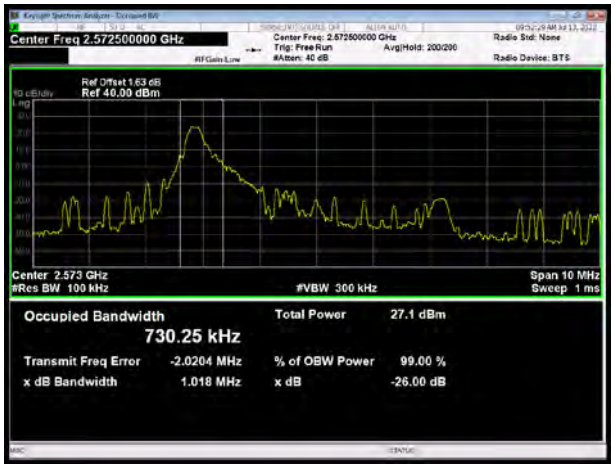
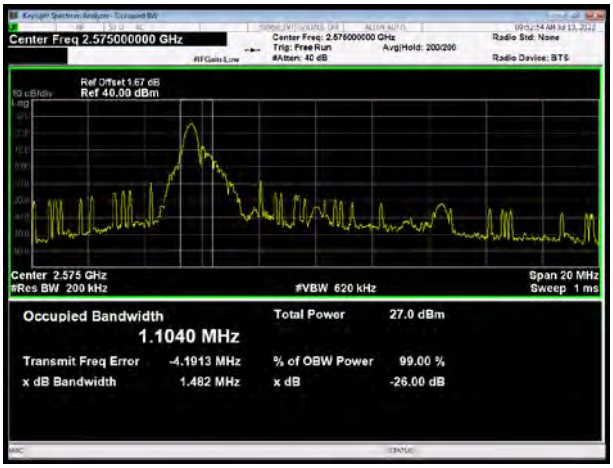
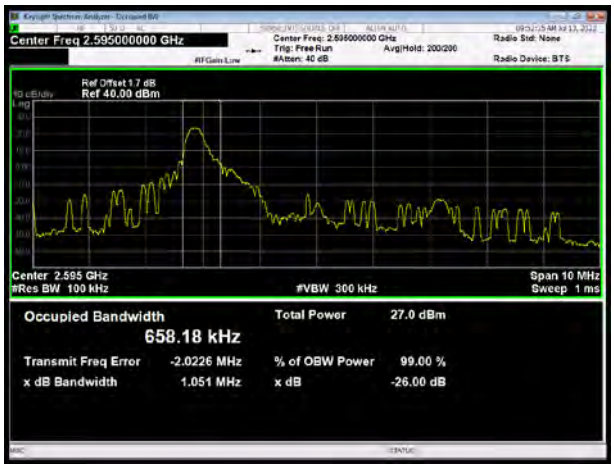
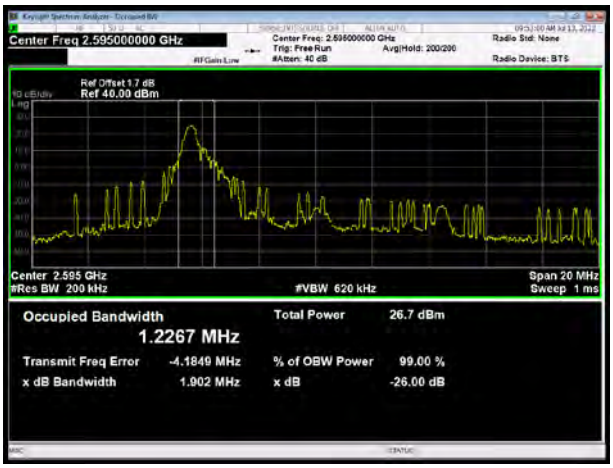
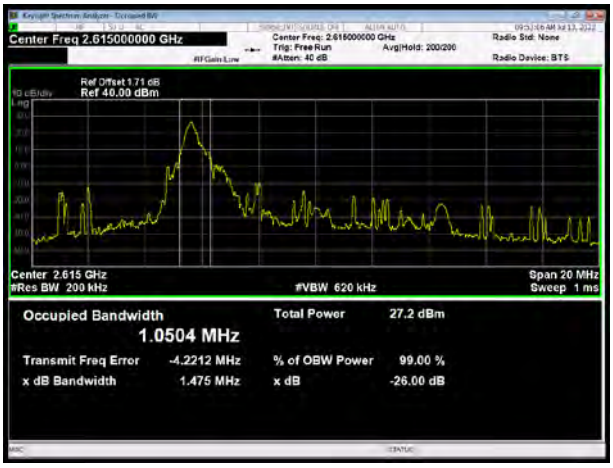
1 RB

LTE Band 38 QPSK 5MHz CH-Low	LTE Band 38 QPSK 10MHz CH-Low
	
LTE Band 38 QPSK 5MHz CH-Middle	LTE Band 38 QPSK 10MHz CH-Middle
	
LTE Band 38 QPSK 5MHz CH-High	LTE Band 38 QPSK 10MHz CH-High
	

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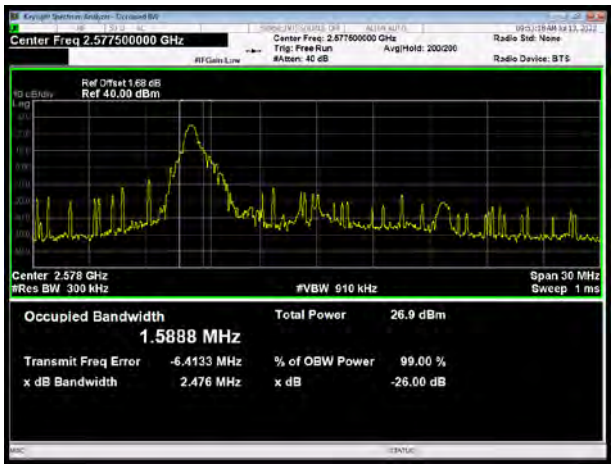
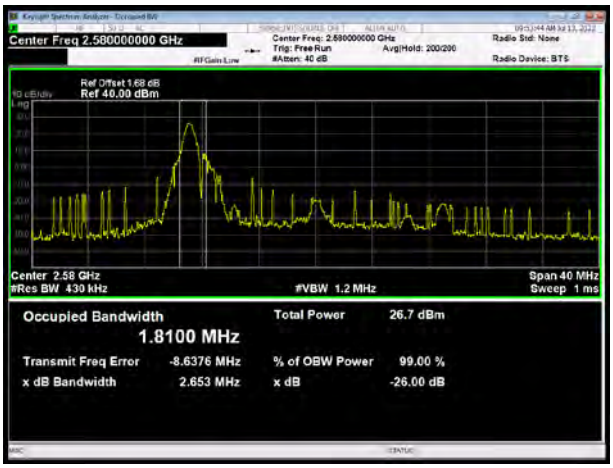
LTE Band 38 QPSK 15MHz CH-Low

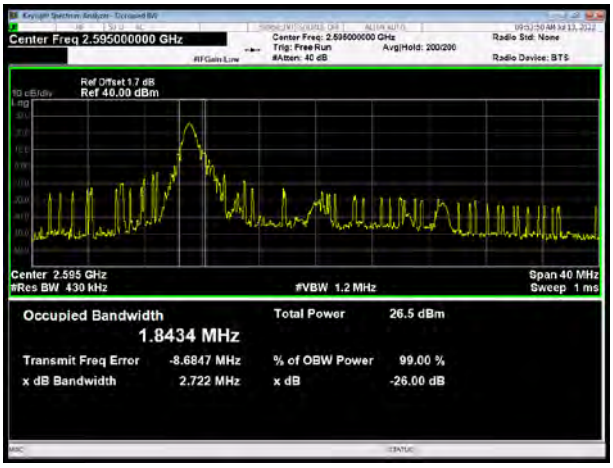


LTE Band 38 QPSK 20MHz CH-Low

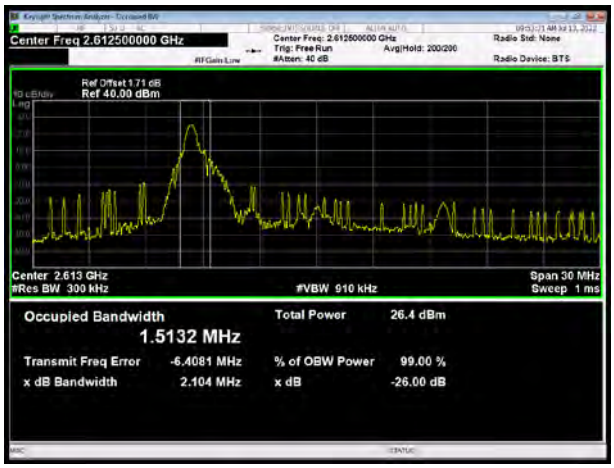


LTE Band 38 QPSK 15MHz CH-Middle

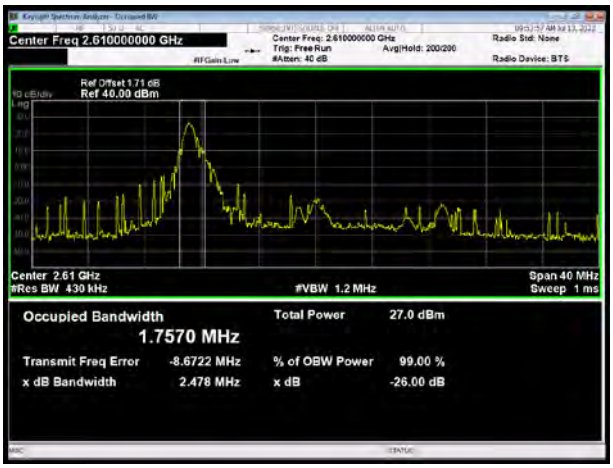
LTE Band 38 QPSK 20MHz CH-Middle



LTE Band 38 QPSK 15MHz CH-High



LTE Band 38 QPSK 20MHz CH-High



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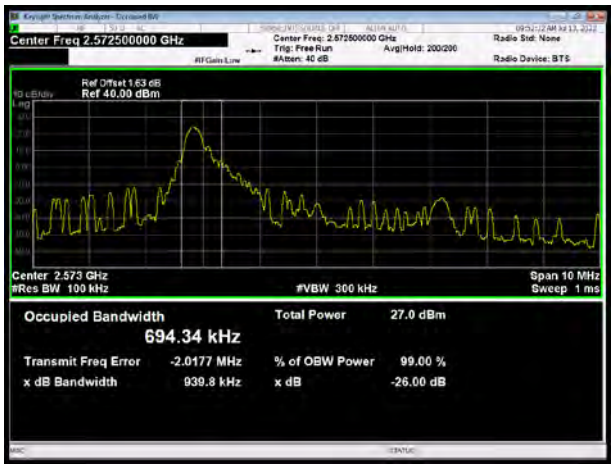
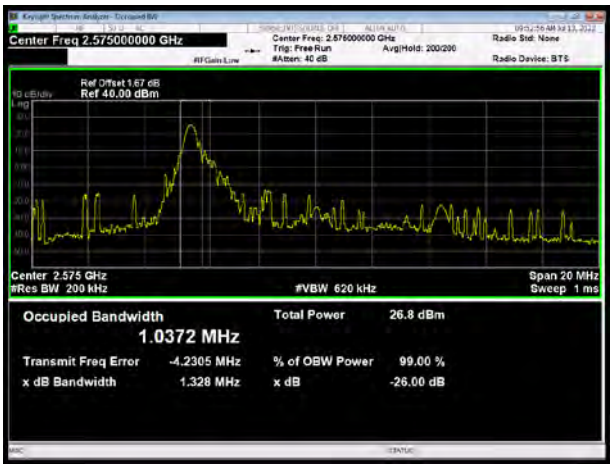
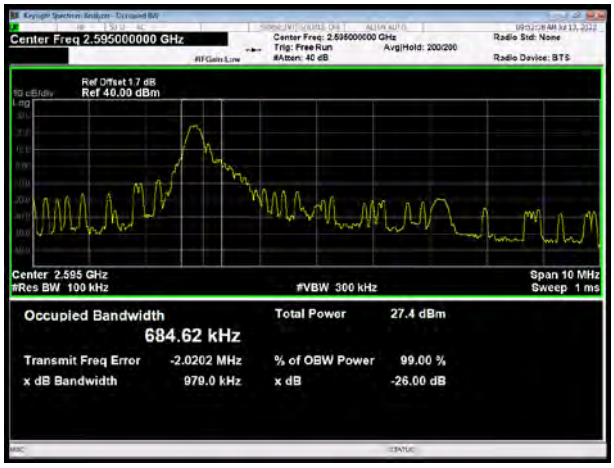
LTE Band 38 16QAM 5MHz CH-Low



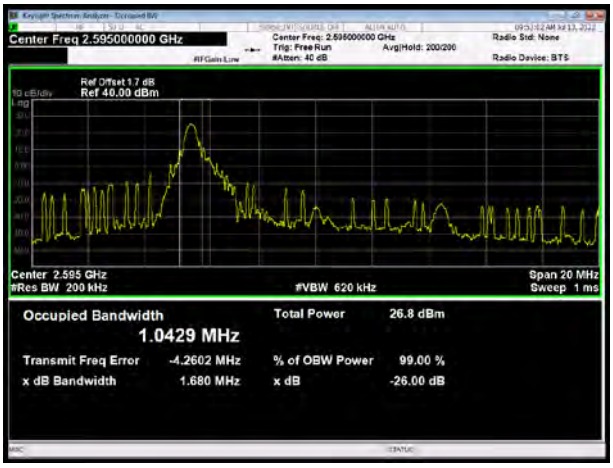
LTE Band 38 16QAM 10MHz CH-Low



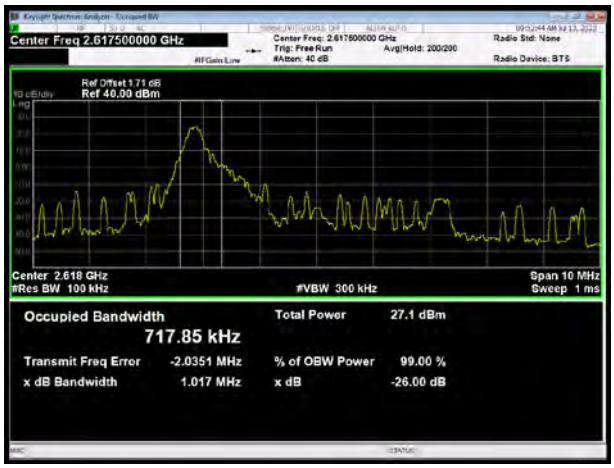
LTE Band 38 16QAM 5MHz CH-Middle



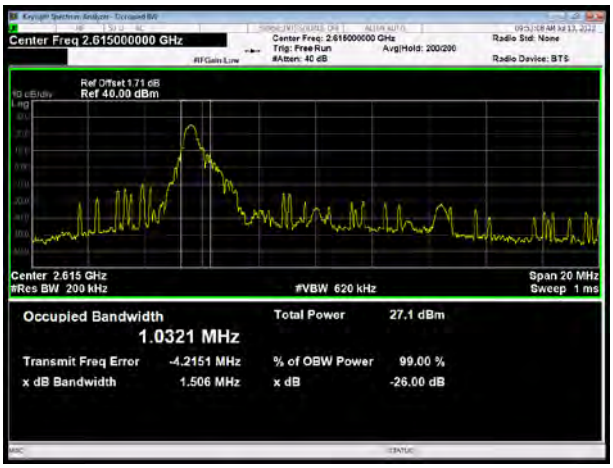
LTE Band 38 16QAM 10MHz CH-Middle



LTE Band 38 16QAM 5MHz CH-High



LTE Band 38 16QAM 10MHz CH-High



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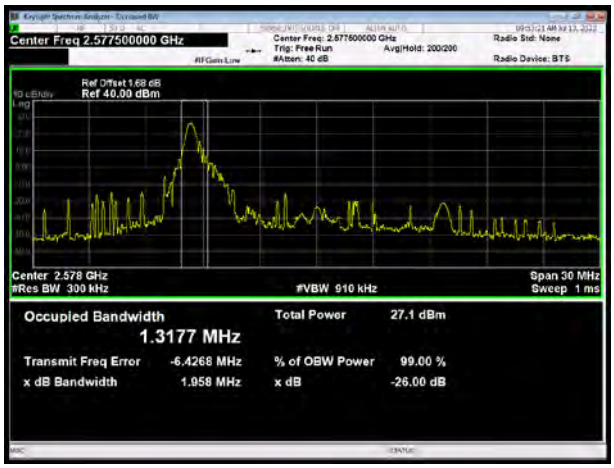
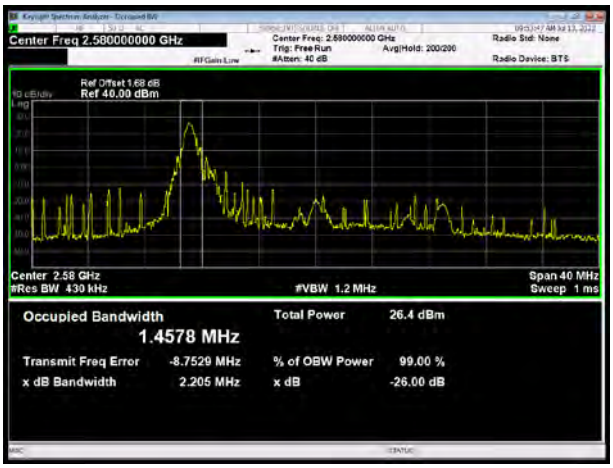
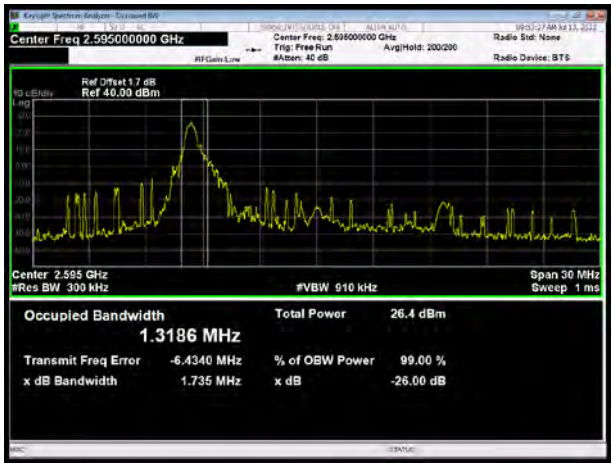
LTE Band 38 16QAM 15MHz CH-Low



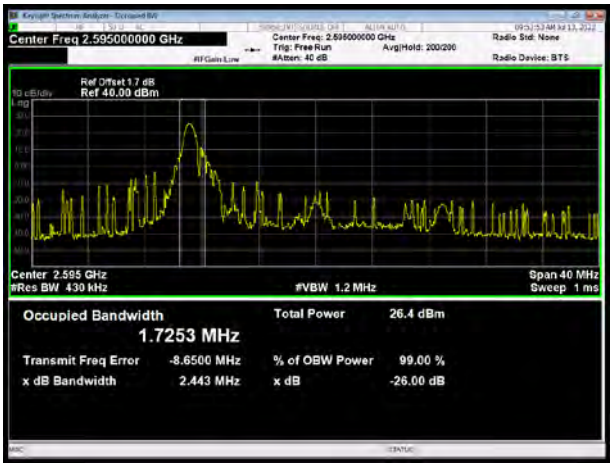
LTE Band 38 16QAM 20MHz CH-Low



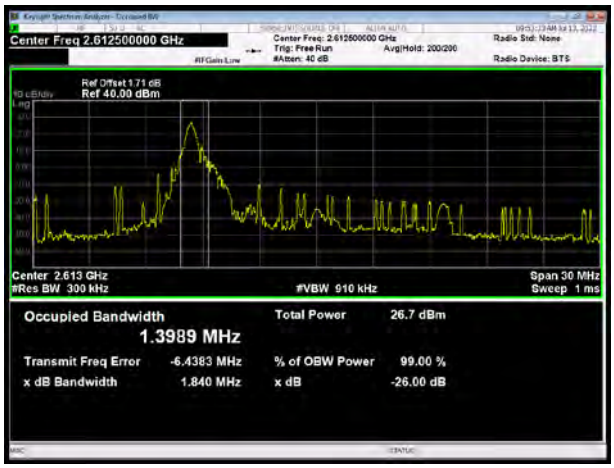
LTE Band 38 16QAM 15MHz CH-Middle



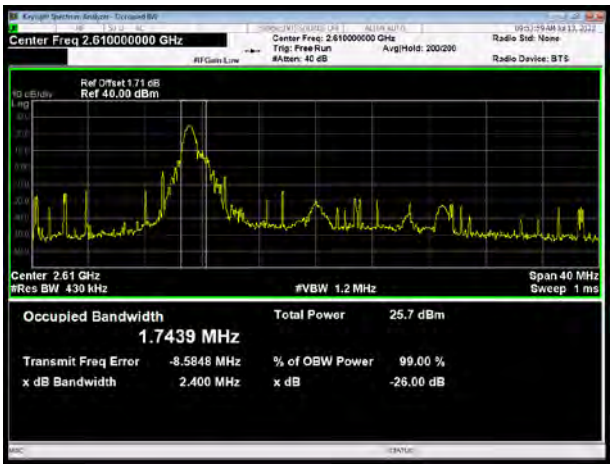
LTE Band 38 16QAM 20MHz CH-Middle



LTE Band 38 16QAM 15MHz CH-High



LTE Band 38 16QAM 20MHz CH-High



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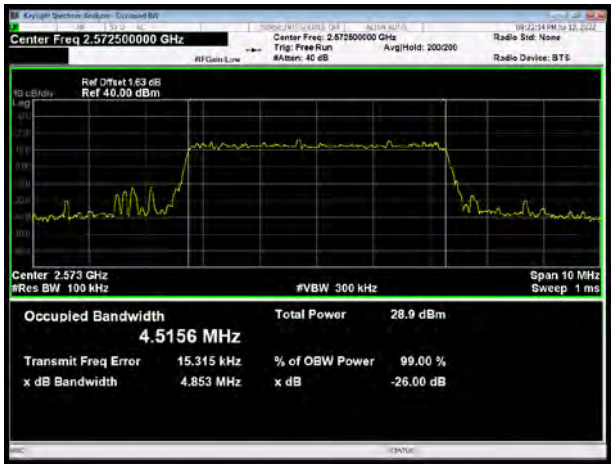
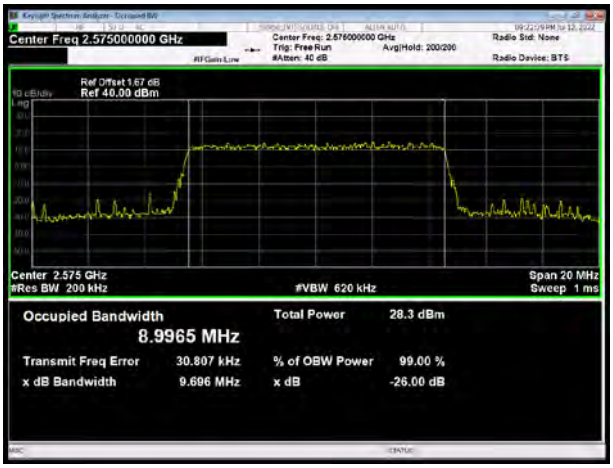
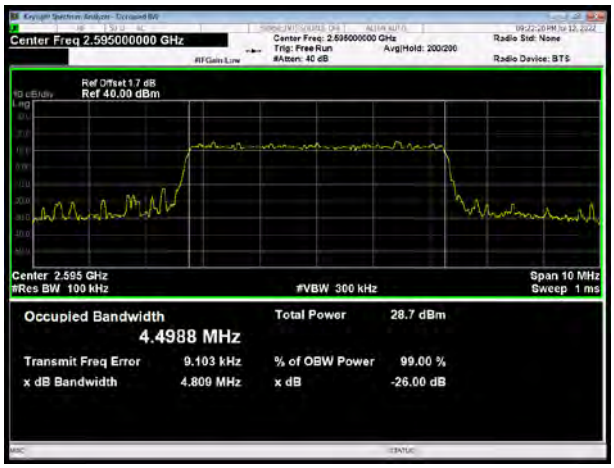
LTE Band 38 QPSK 5MHz CH-Low



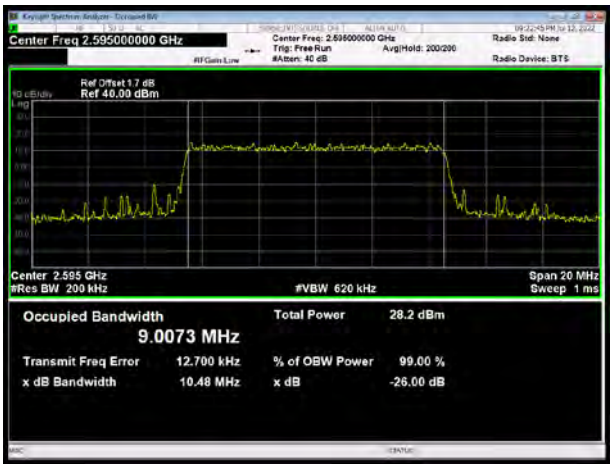
LTE Band 38 QPSK 10MHz CH-Low



LTE Band 38 QPSK 5MHz CH-Middle

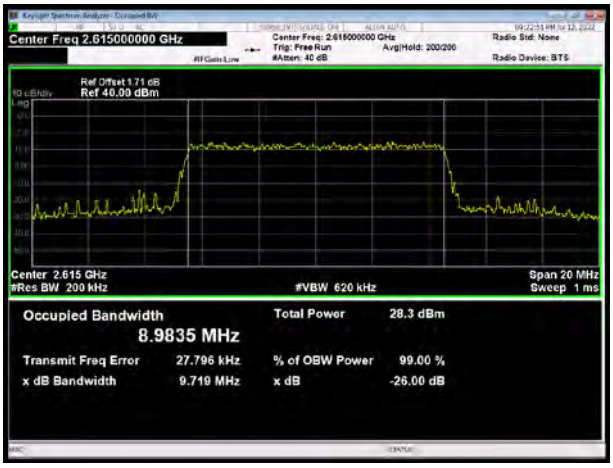


LTE Band 38 QPSK 10MHz CH-Middle



LTE Band 38 QPSK 5MHz CH-High

LTE Band 38 QPSK 10MHz CH-High



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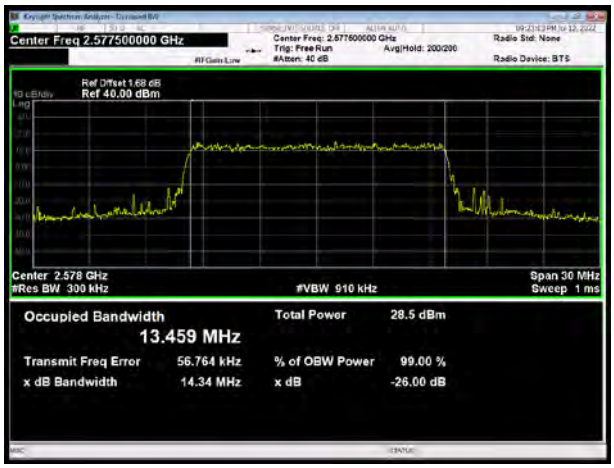
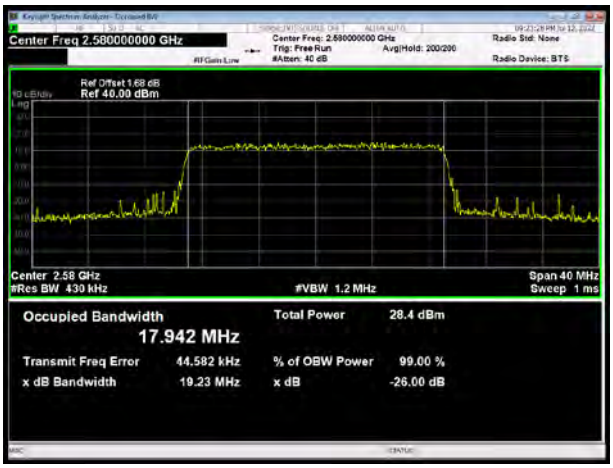
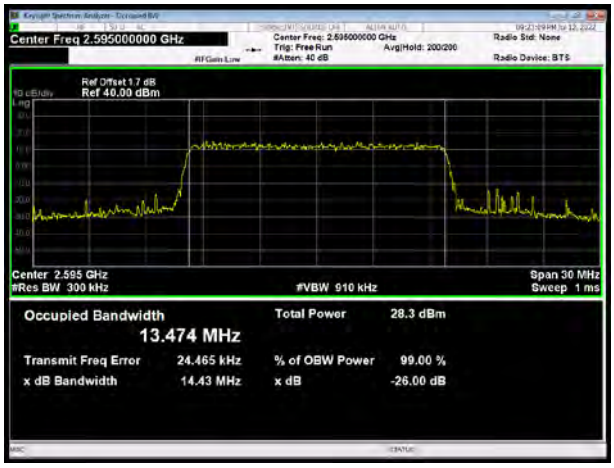
LTE Band 38 QPSK 15MHz CH-Low



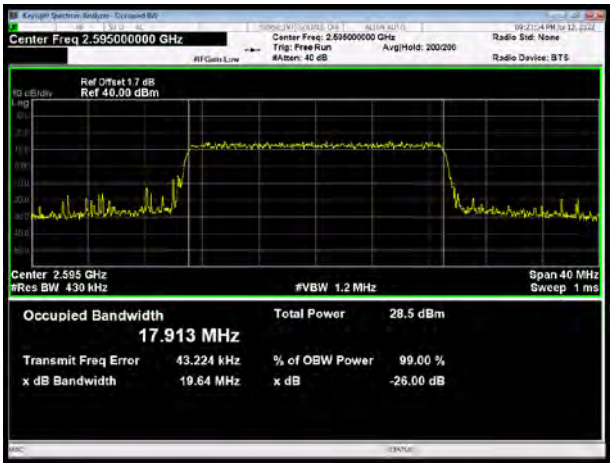
LTE Band 38 QPSK 20MHz CH-Low



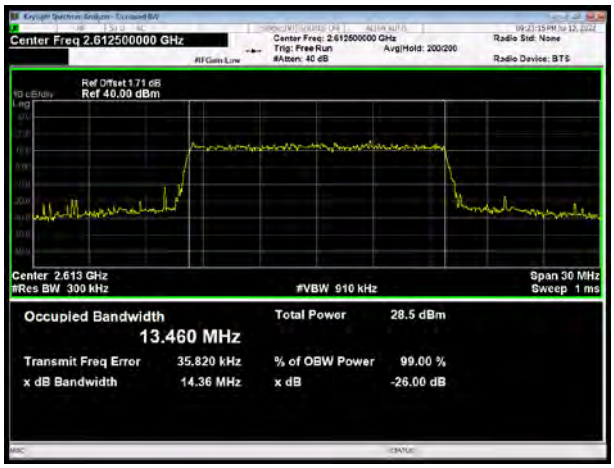
LTE Band 38 QPSK 15MHz CH-Middle



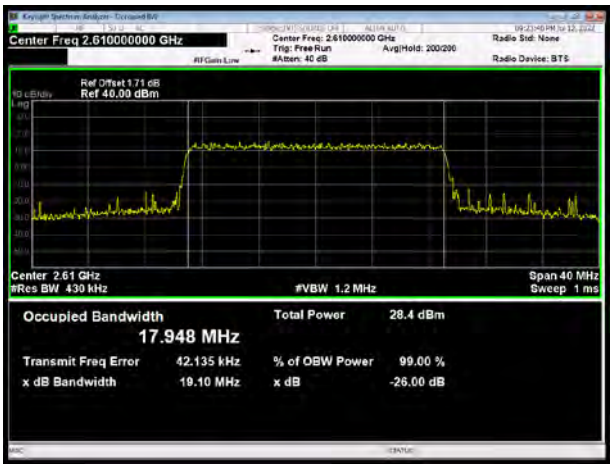
LTE Band 38 QPSK 20MHz CH-Middle



LTE Band 38 QPSK 15MHz CH-High



LTE Band 38 QPSK 20MHz CH-High



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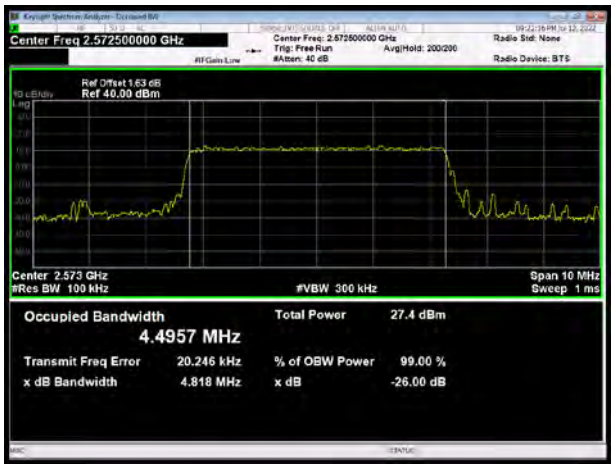
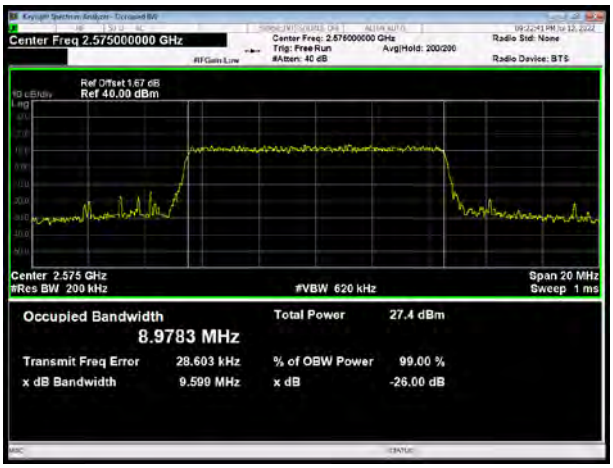
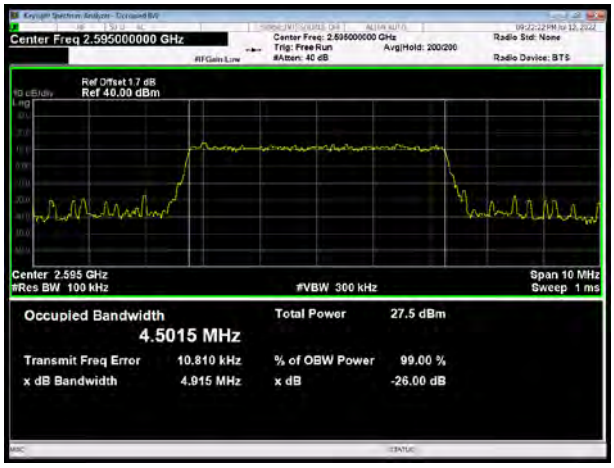
LTE Band 38 16QAM 5MHz CH-Low



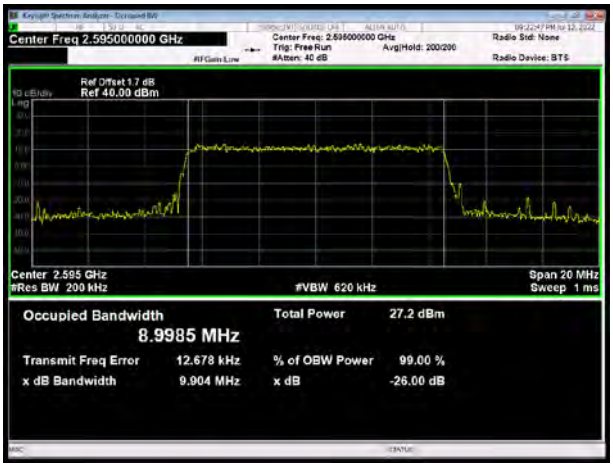
LTE Band 38 16QAM 10MHz CH-Low



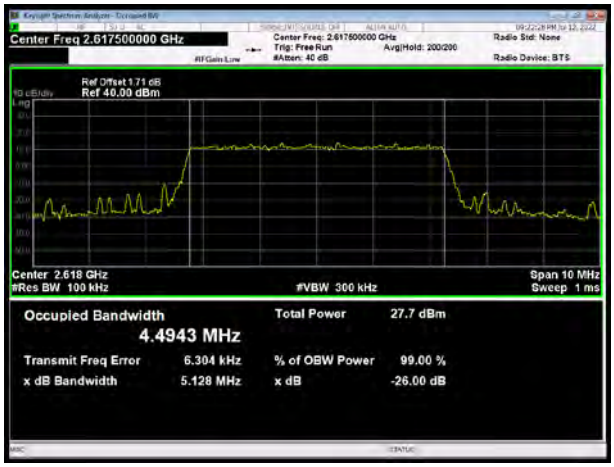
LTE Band 38 16QAM 5MHz CH-Middle



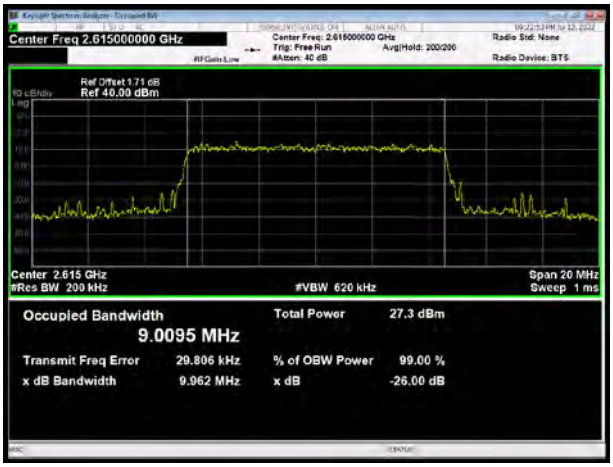
LTE Band 38 16QAM 10MHz CH-Middle



LTE Band 38 16QAM 5MHz CH-High



LTE Band 38 16QAM 10MHz CH-High



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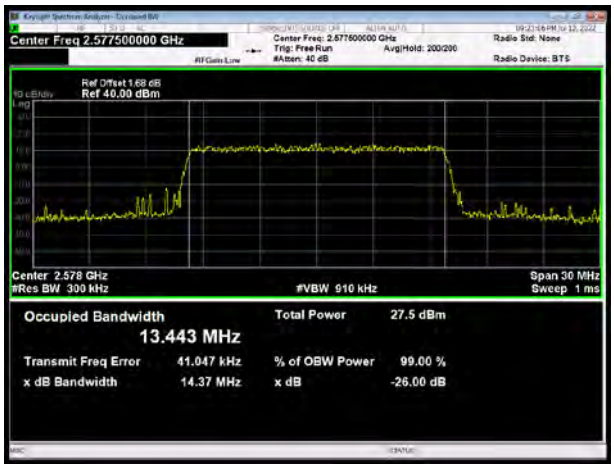
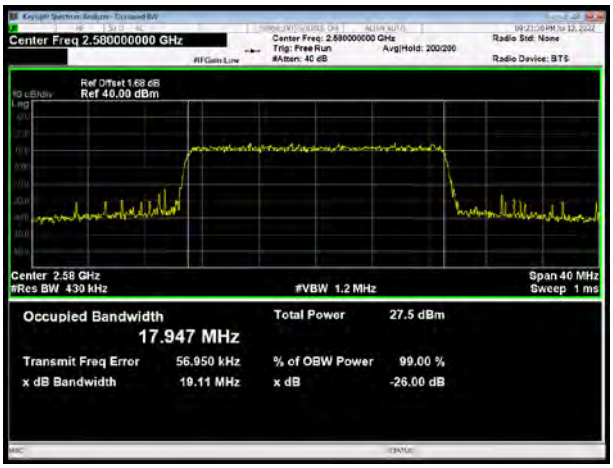
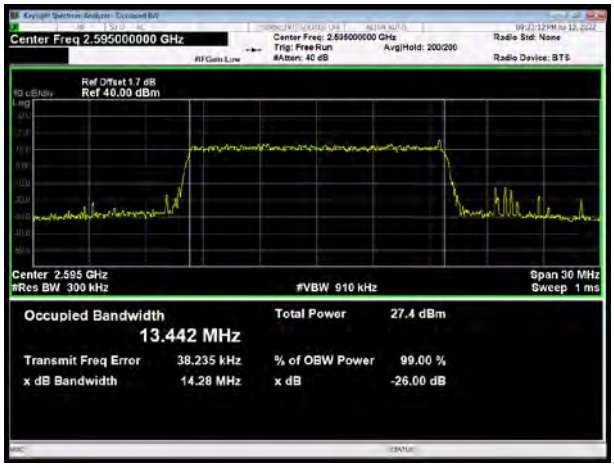
LTE Band 38 16QAM 15MHz CH-Low



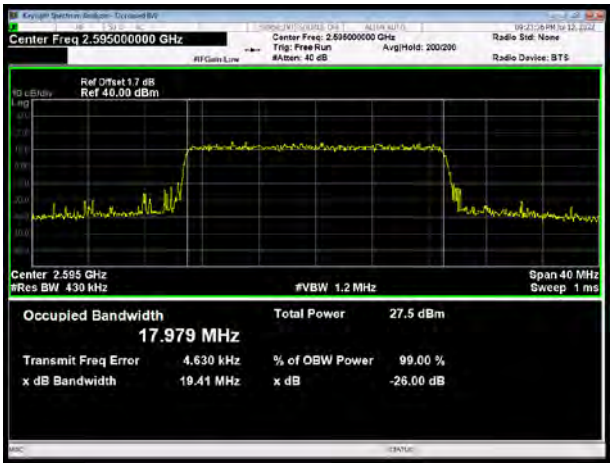
LTE Band 38 16QAM 20MHz CH-Low



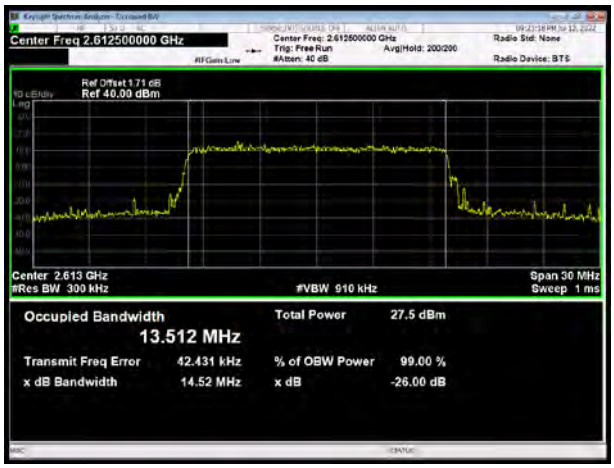
LTE Band 38 16QAM 15MHz CH-Middle



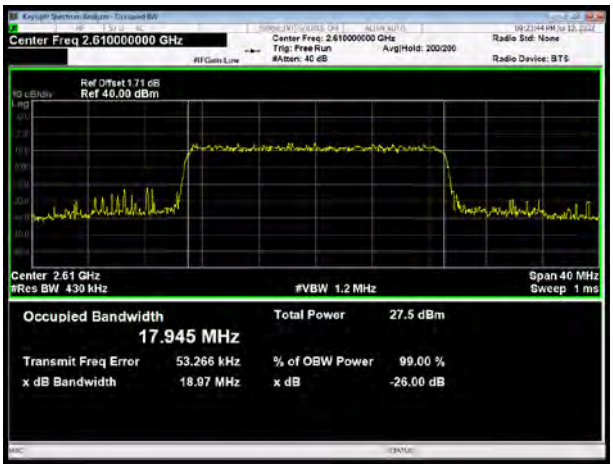
LTE Band 38 16QAM 20MHz CH-Middle



LTE Band 38 16QAM 15MHz CH-High



LTE Band 38 16QAM 20MHz CH-High



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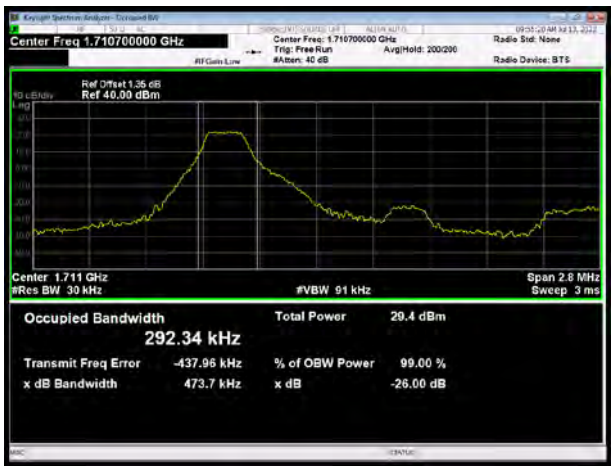
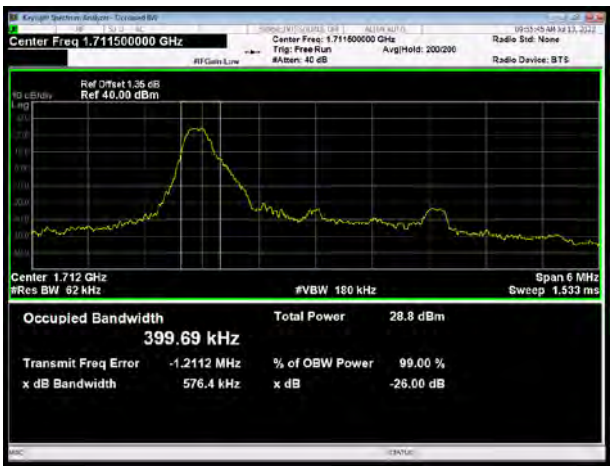
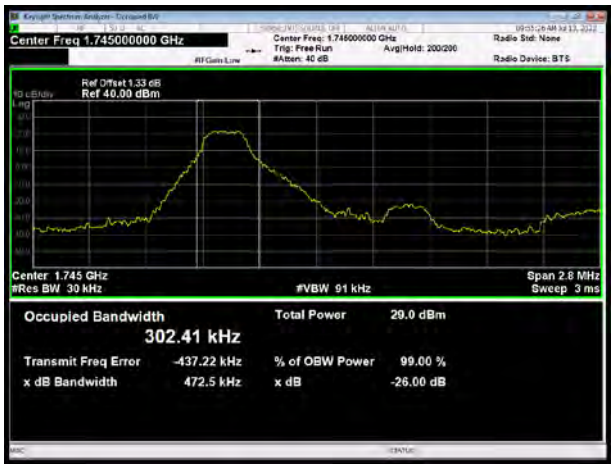
LTE Band 66 QPSK 1.4MHz CH-Low



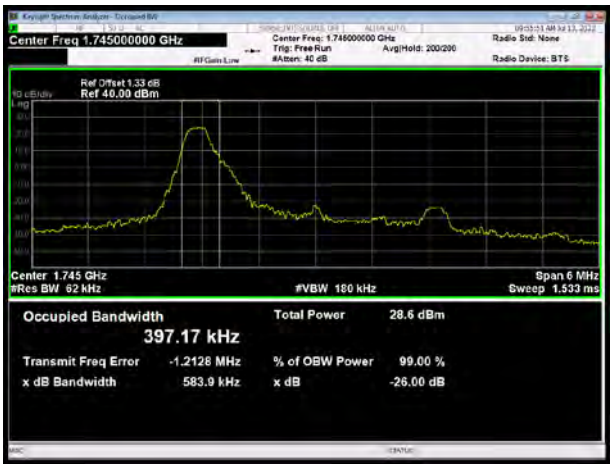
LTE Band 66 QPSK 3MHz CH-Low



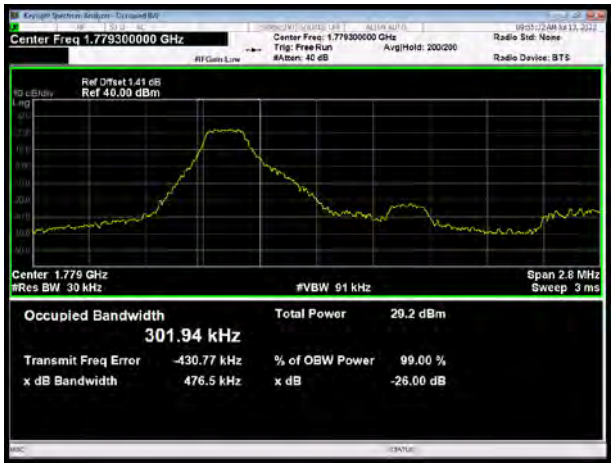
LTE Band 66 QPSK 1.4MHz CH-Middle



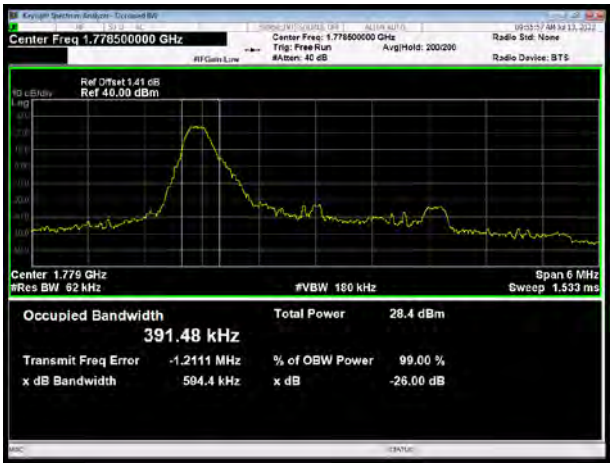
LTE Band 66 QPSK 3MHz CH-Middle



LTE Band 66 QPSK 1.4MHz CH-High



LTE Band 66 QPSK 3MHz CH-High



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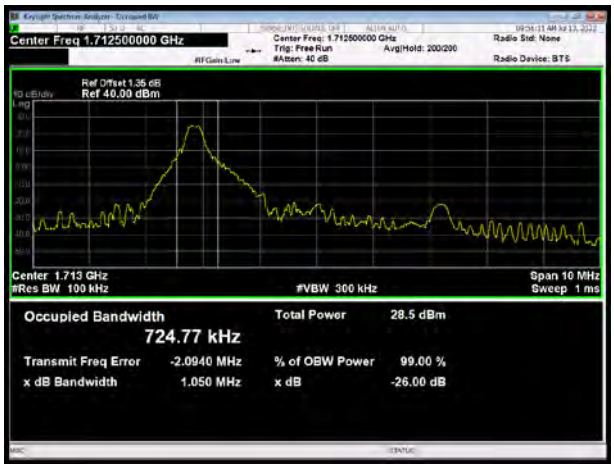
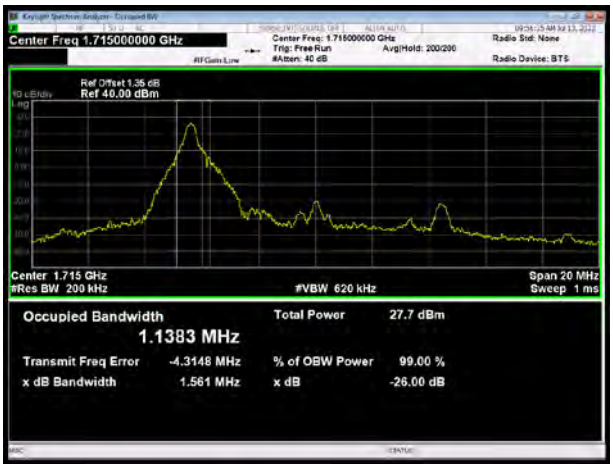
LTE Band 66 QPSK 5MHz CH-Low



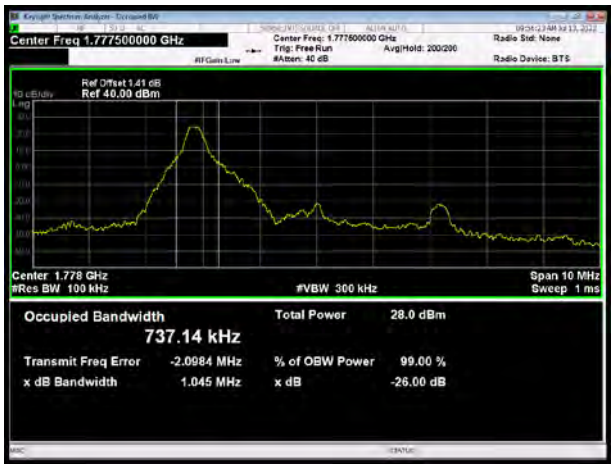
LTE Band 66 QPSK 10MHz CH-Low



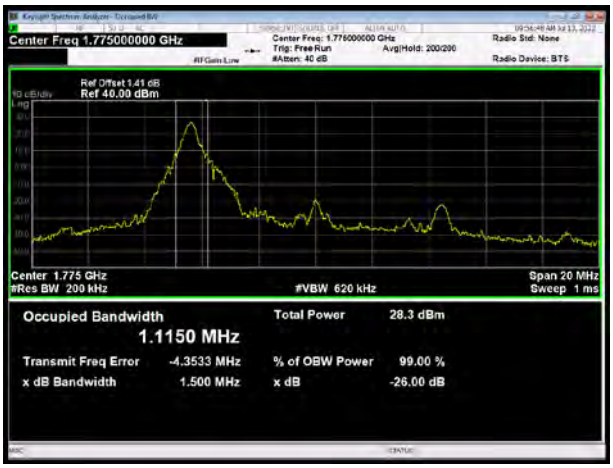
LTE Band 66 QPSK 5MHz CH-Middle

LTE Band 66 QPSK 10MHz CH-Middle

LTE Band 66 QPSK 5MHz CH-High



LTE Band 66 QPSK 10MHz CH-High



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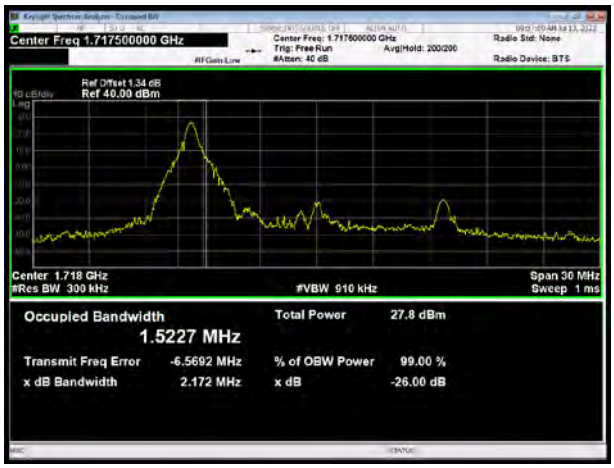
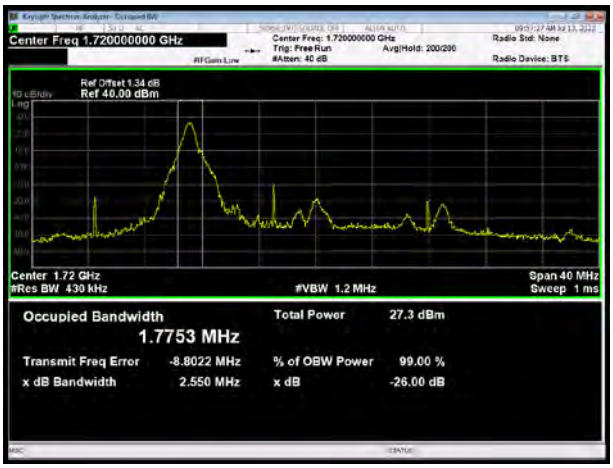
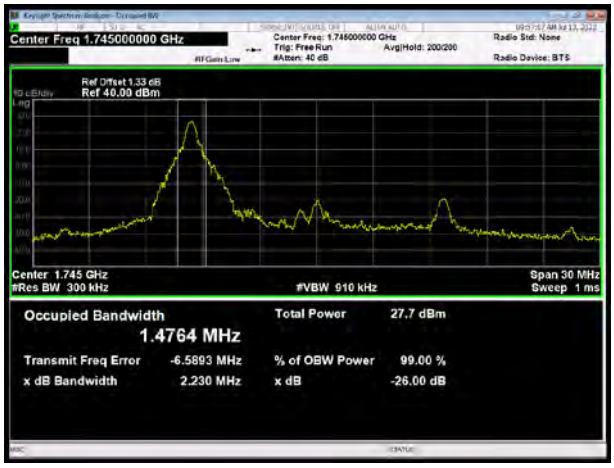
LTE Band 66 QPSK 15MHz CH-Low



LTE Band 66 QPSK 20MHz CH-Low

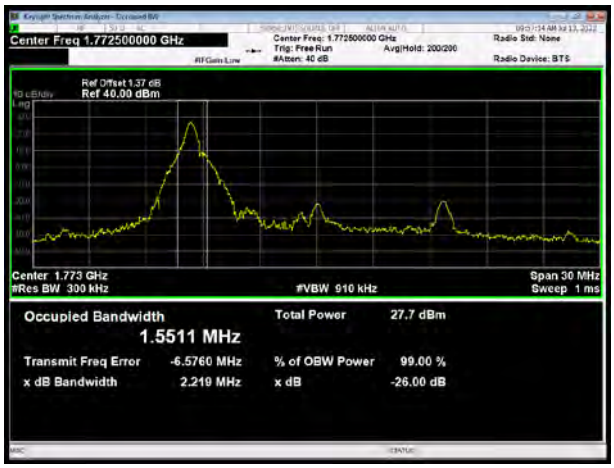


LTE Band 66 QPSK 15MHz CH-Middle

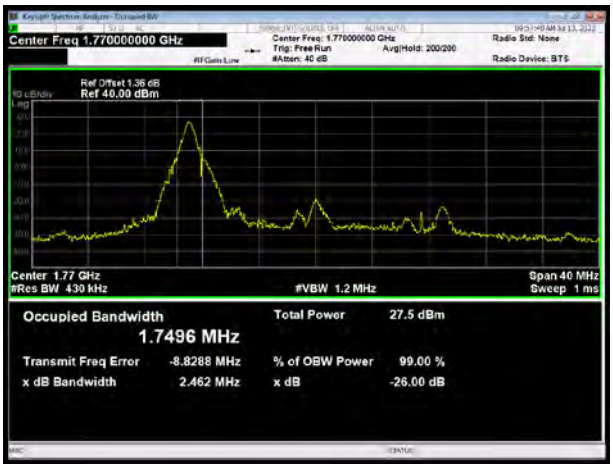


LTE Band 66 QPSK 20MHz CH-Middle

LTE Band 66 QPSK 15MHz CH-High



LTE Band 66 QPSK 20MHz CH-High



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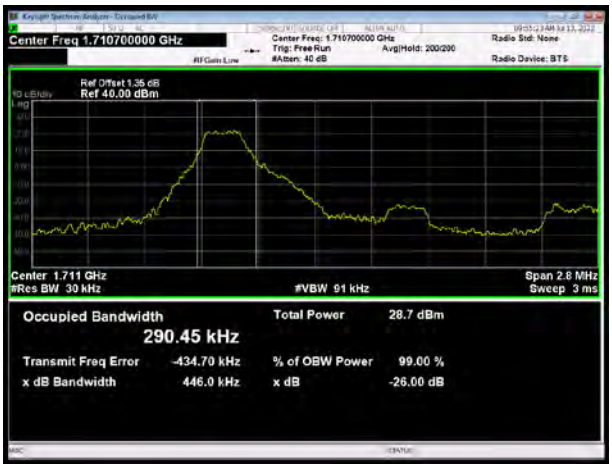
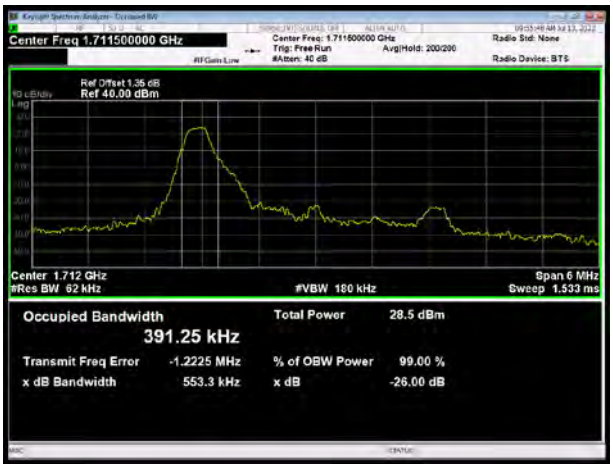
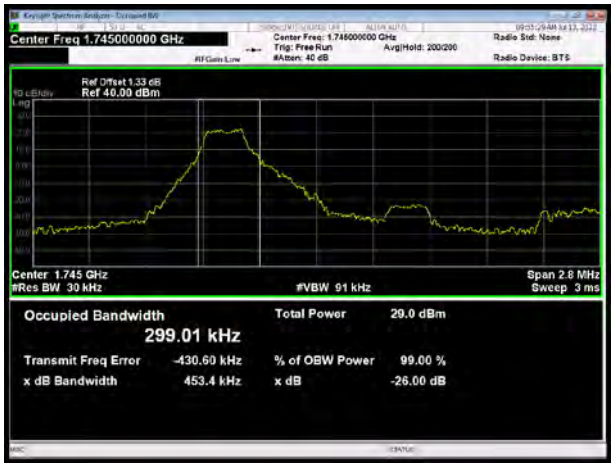
LTE Band 66 16QAM 1.4MHz CH-Low



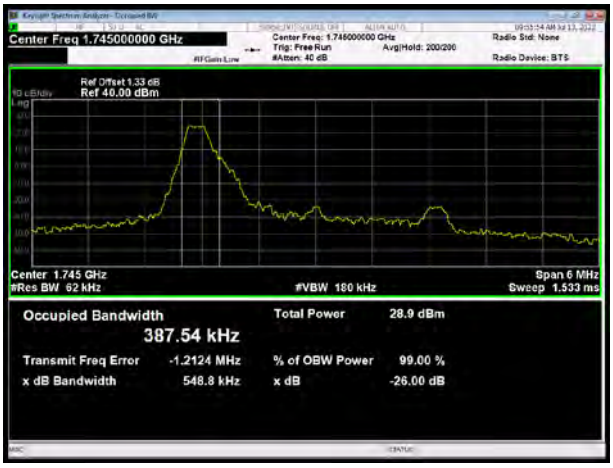
LTE Band 66 16QAM 3MHz CH-Low



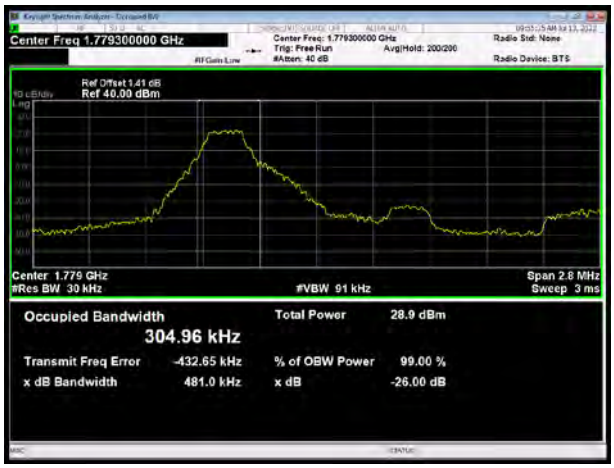
LTE Band 66 16QAM 1.4MHz CH-Middle



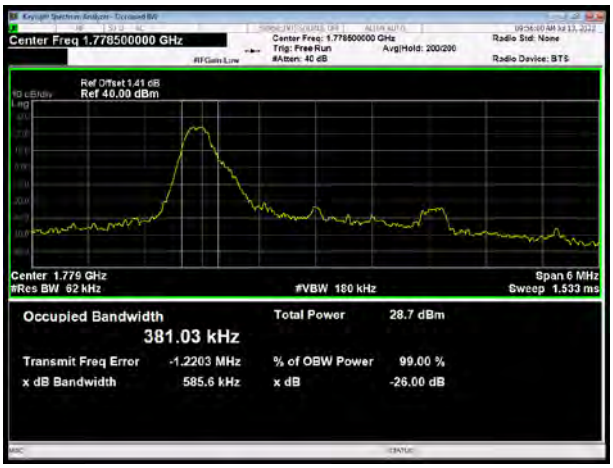
LTE Band 66 16QAM 3MHz CH-Middle



LTE Band 66 16QAM 1.4MHz CH-High



LTE Band 66 16QAM 3MHz CH-High



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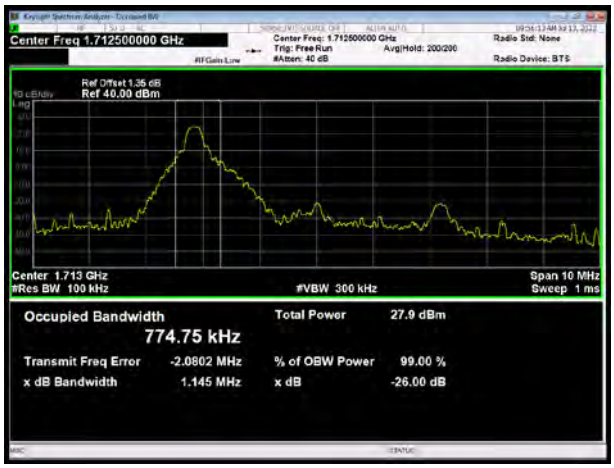
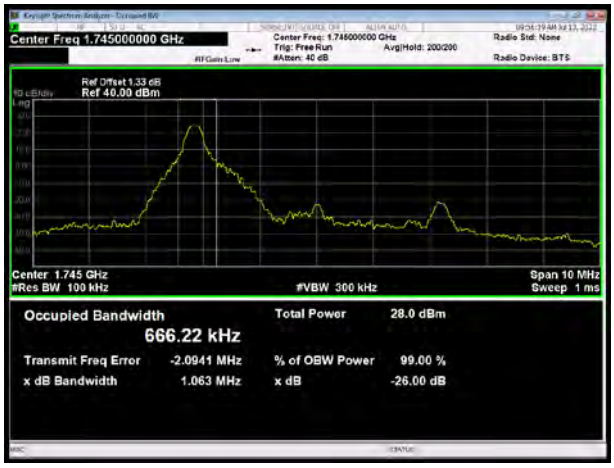
LTE Band 66 16QAM 5MHz CH-Low

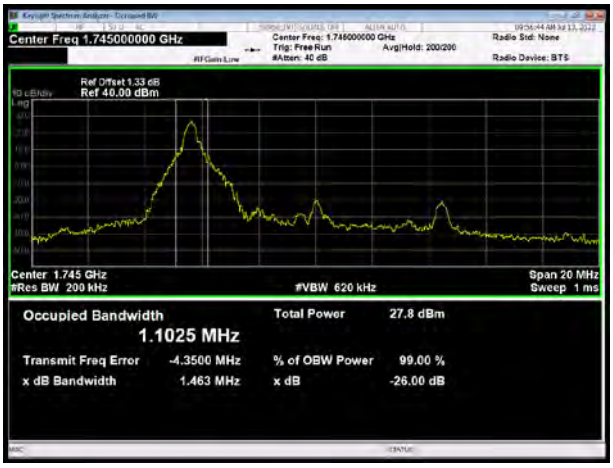


LTE Band 66 16QAM 10MHz CH-Low

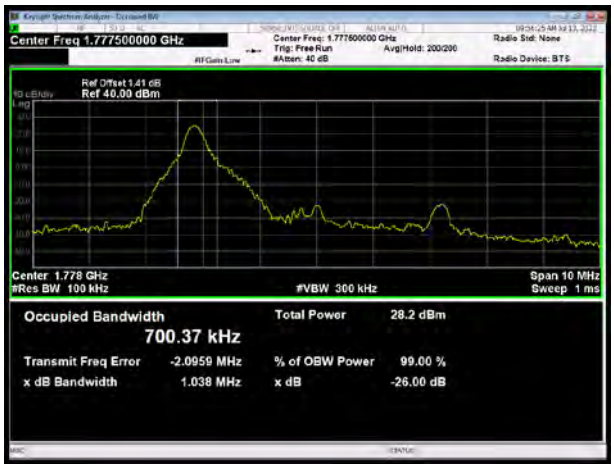
LTE Band 66 16QAM 5MHz CH-Middle



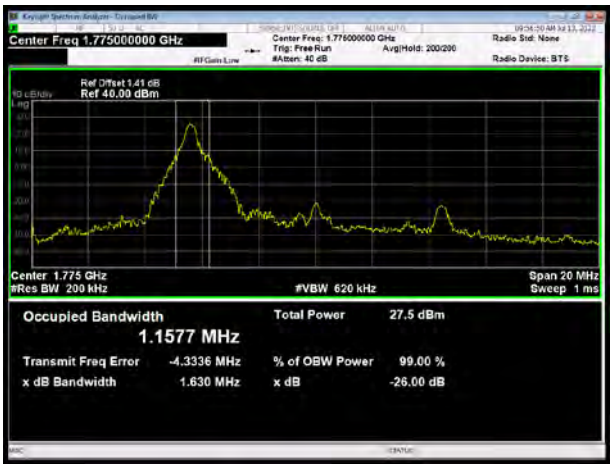
LTE Band 66 16QAM 10MHz CH-Middle



LTE Band 66 16QAM 5MHz CH-High



LTE Band 66 16QAM 10MHz CH-High



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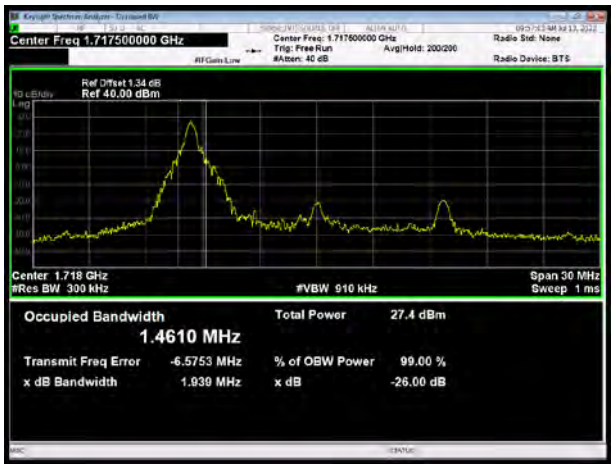
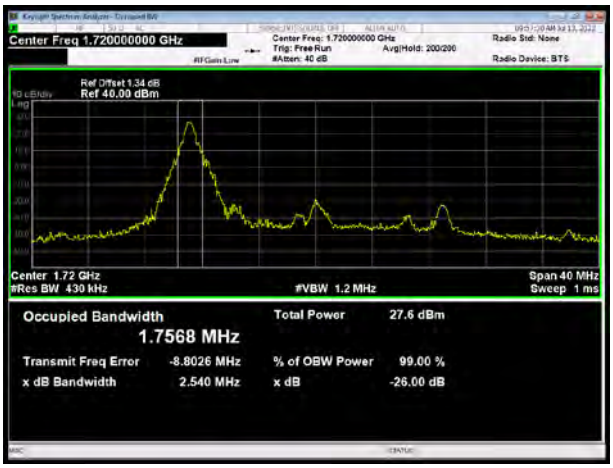
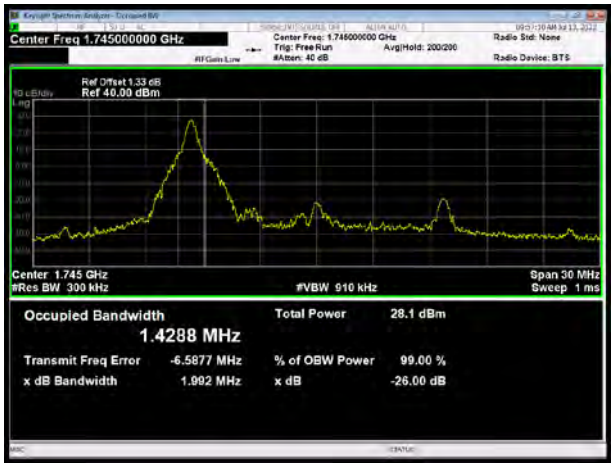
LTE Band 66 16QAM 15MHz CH-Low



LTE Band 66 16QAM 20MHz CH-Low

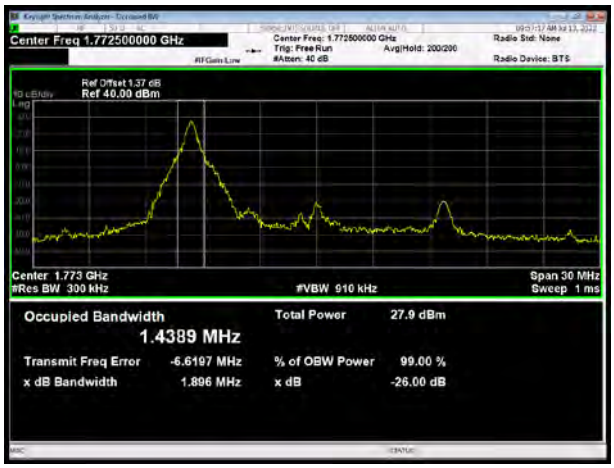


LTE Band 66 16QAM 15MHz CH-Middle

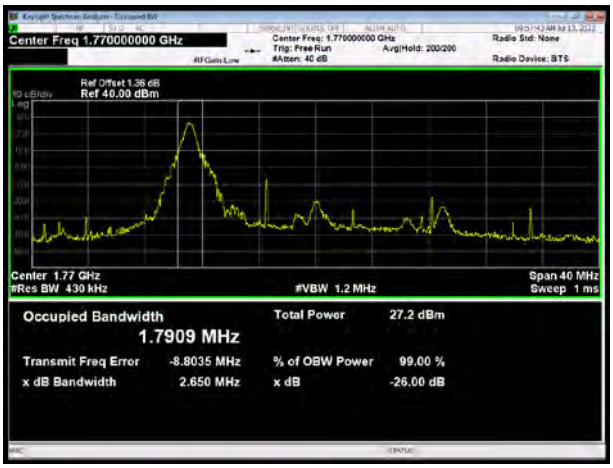


LTE Band 66 16QAM 20MHz CH-Middle

LTE Band 66 16QAM 15MHz CH-High



LTE Band 66 16QAM 20MHz CH-High



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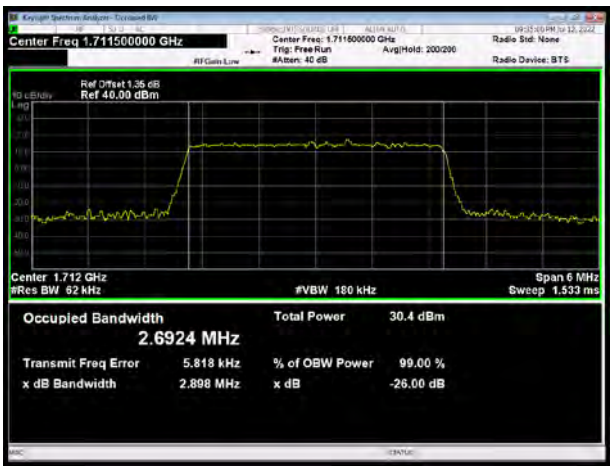
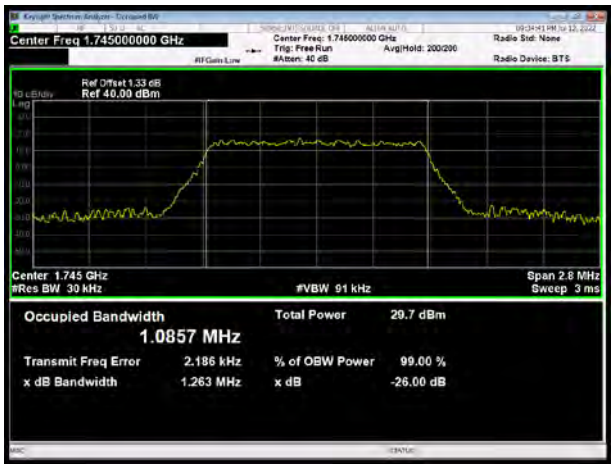
100% RB

LTE Band 66 QPSK 1.4MHz CH-Low

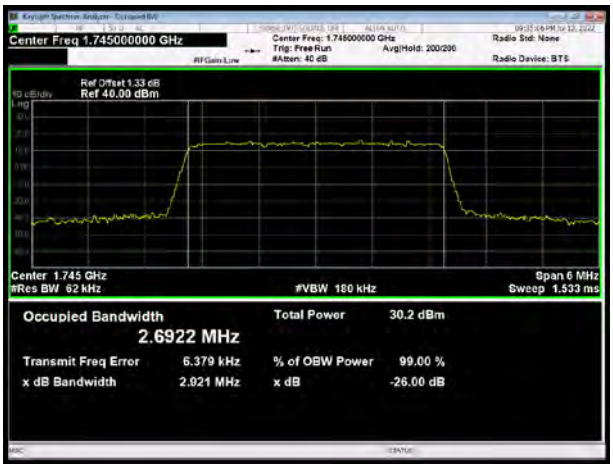
LTE Band 66 QPSK 3MHz CH-Low



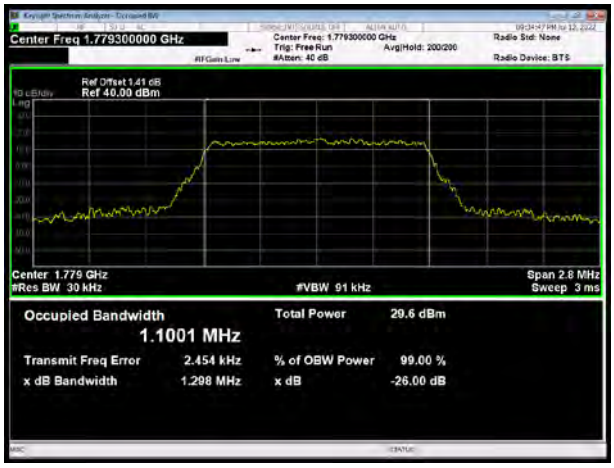
LTE Band 66 QPSK 1.4MHz CH-Middle



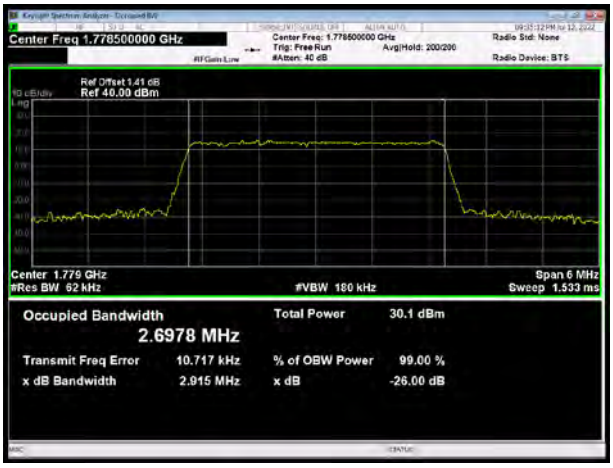
LTE Band 66 QPSK 3MHz CH-Middle



LTE Band 66 QPSK 1.4MHz CH-High



LTE Band 66 QPSK 3MHz CH-High



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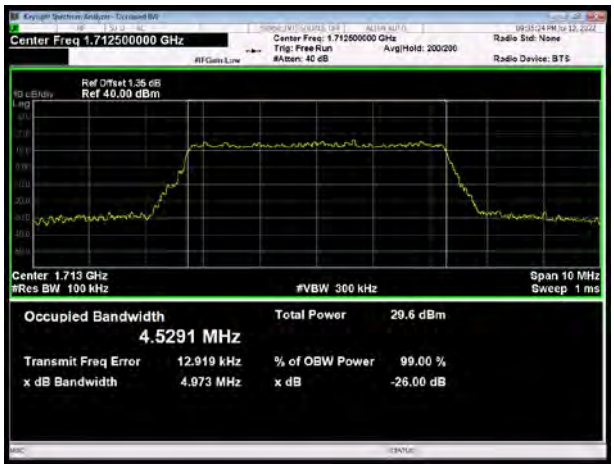
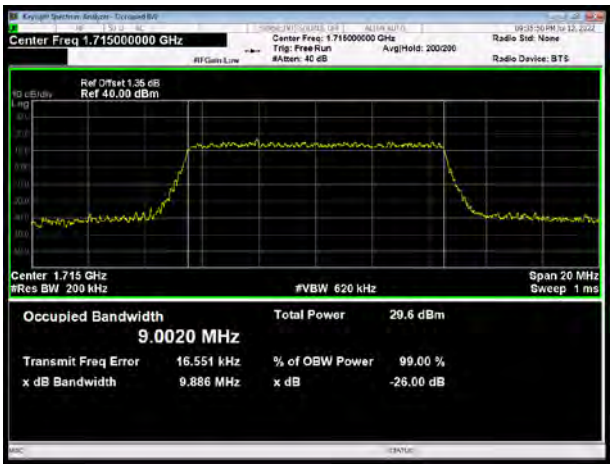
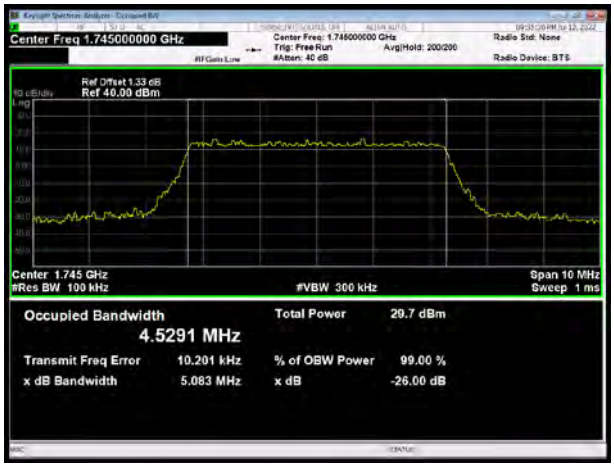
LTE Band 66 QPSK 5MHz CH-Low



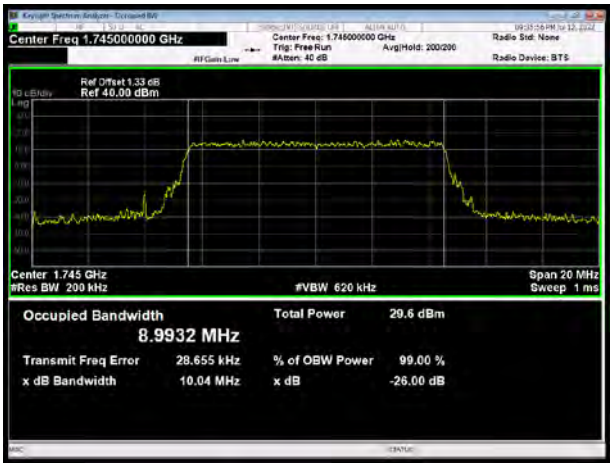
LTE Band 66 QPSK 10MHz CH-Low



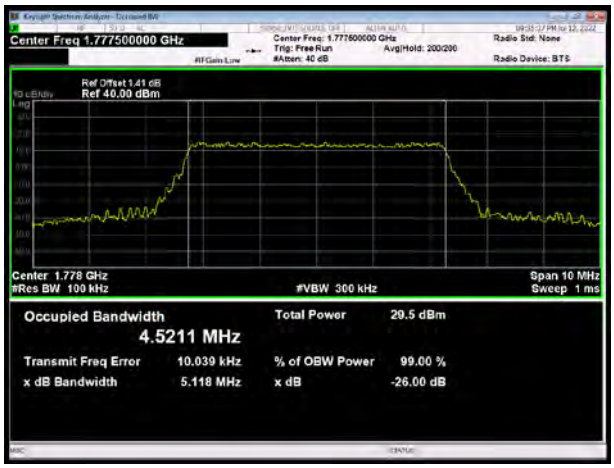
LTE Band 66 QPSK 5MHz CH-Middle



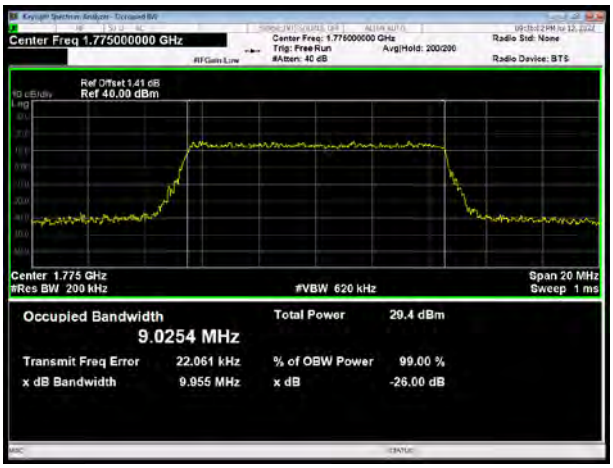
LTE Band 66 QPSK 10MHz CH-Middle



LTE Band 66 QPSK 5MHz CH-High



LTE Band 66 QPSK 10MHz CH-High



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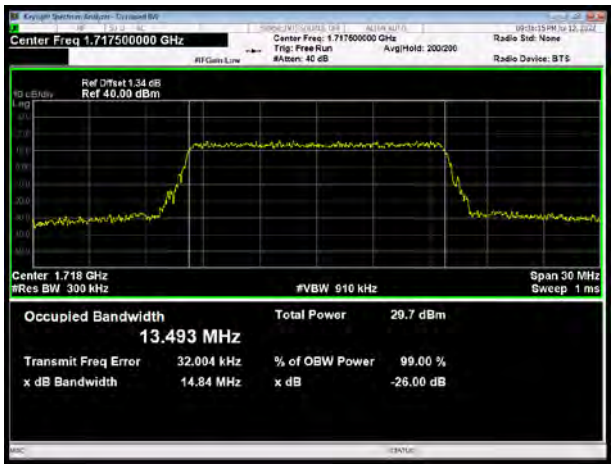
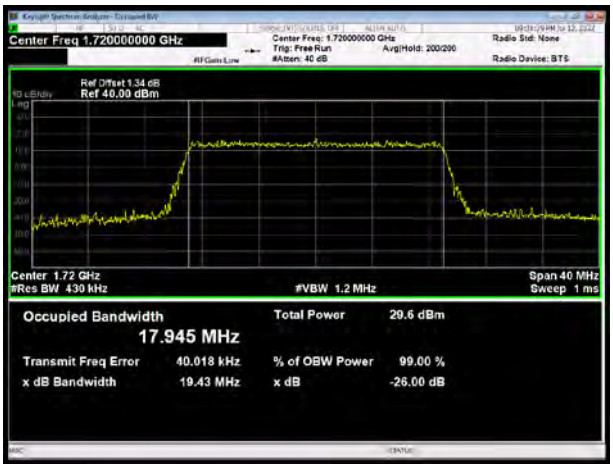
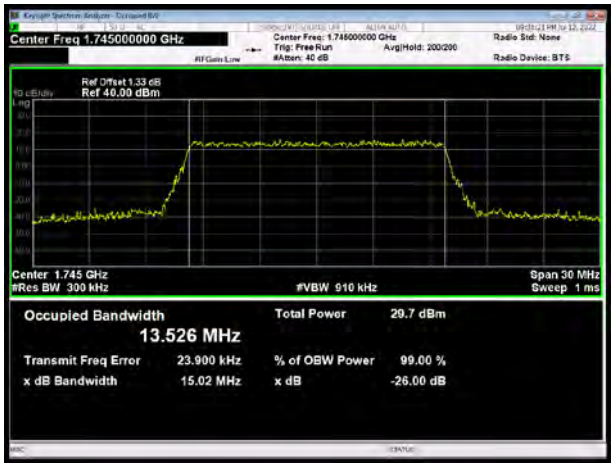
LTE Band 66 QPSK 15MHz CH-Low



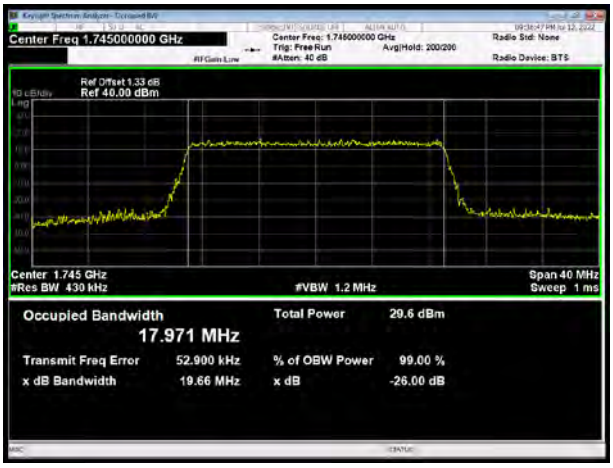
LTE Band 66 QPSK 20MHz CH-Low



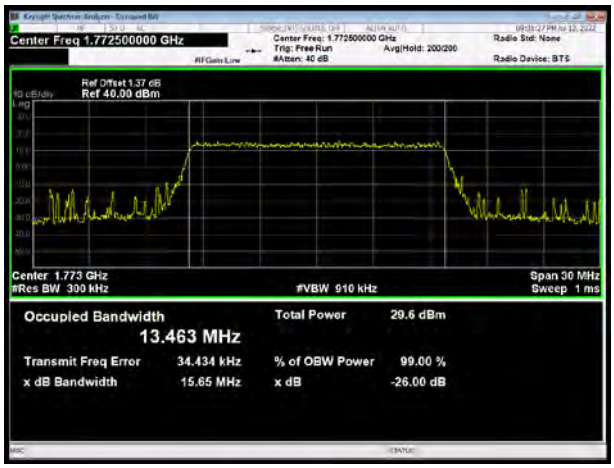
LTE Band 66 QPSK 15MHz CH-Middle



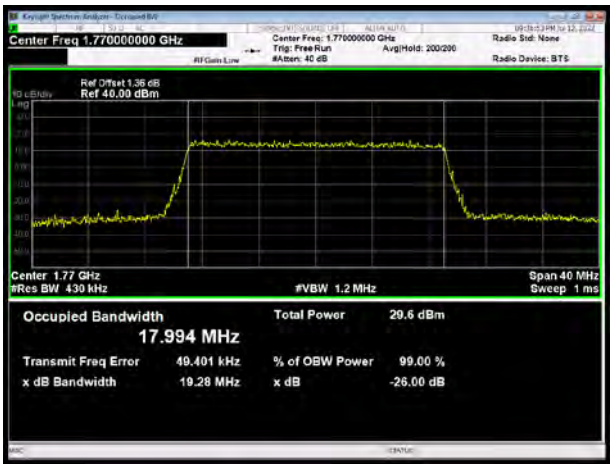
LTE Band 66 QPSK 20MHz CH-Middle



LTE Band 66 QPSK 15MHz CH-High



LTE Band 66 QPSK 20MHz CH-High



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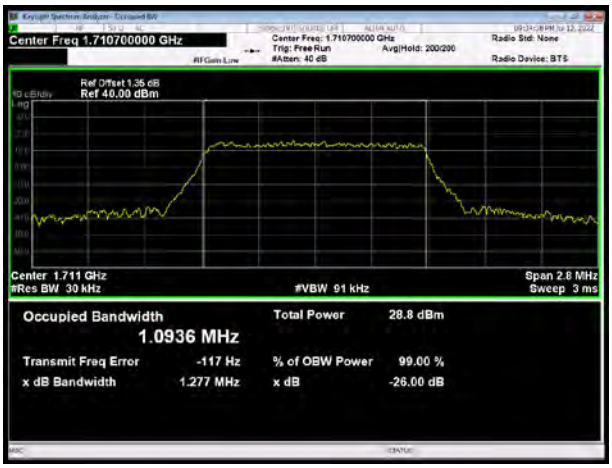
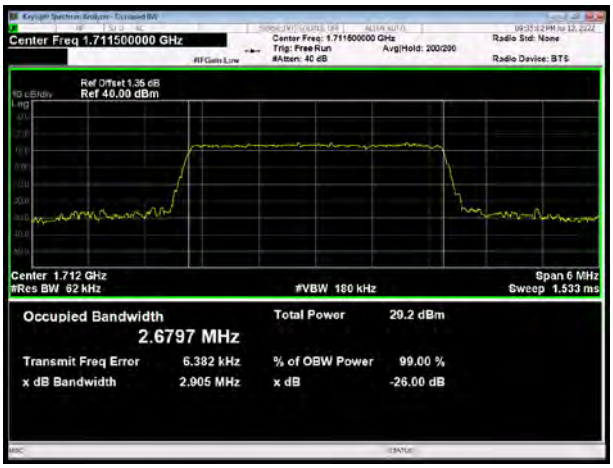
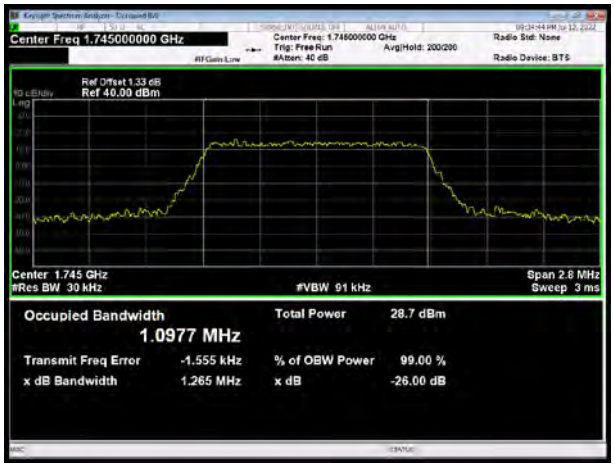
LTE Band 66 16QAM 1.4MHz CH-Low



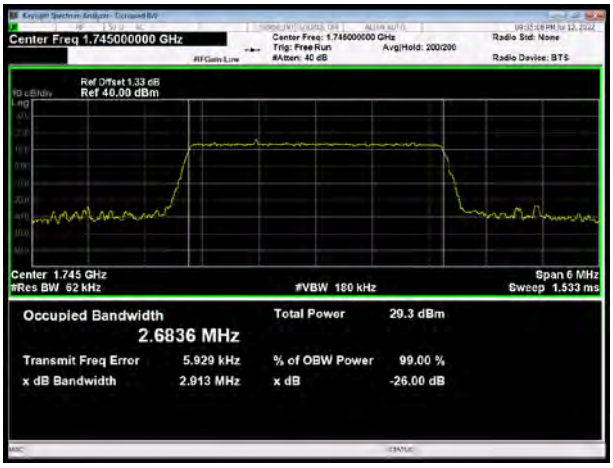
LTE Band 66 16QAM 3MHz CH-Low



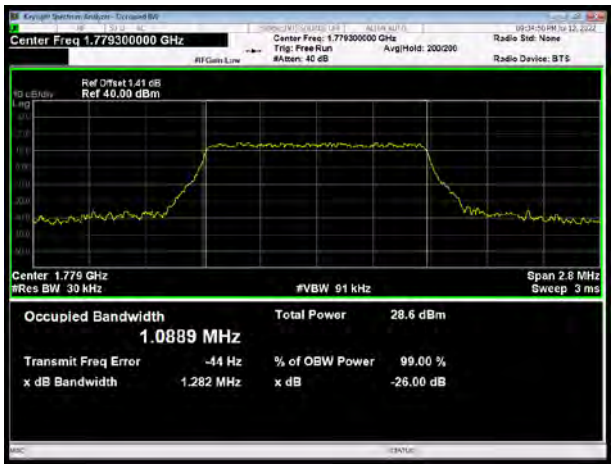
LTE Band 66 16QAM 1.4MHz CH-Middle



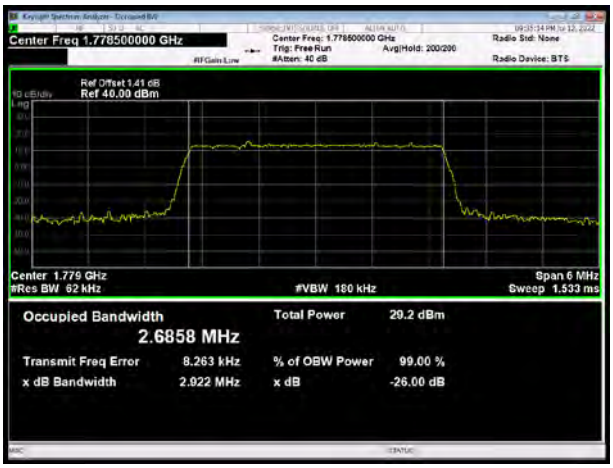
LTE Band 66 16QAM 3MHz CH-Middle



LTE Band 66 16QAM 1.4MHz CH-High



LTE Band 66 16QAM 3MHz CH-High



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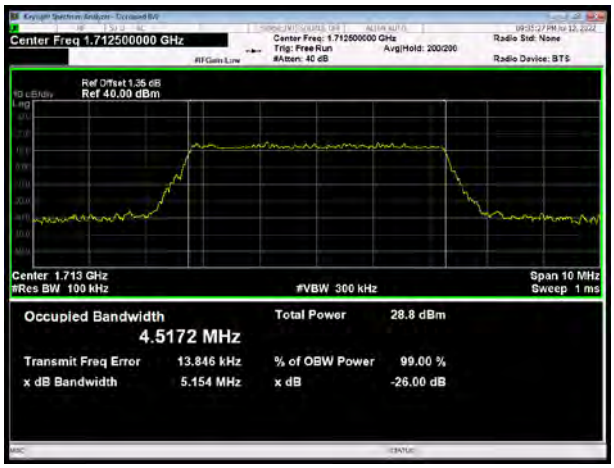
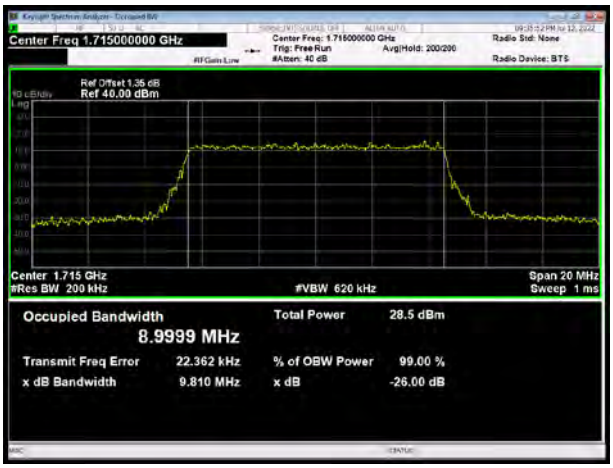
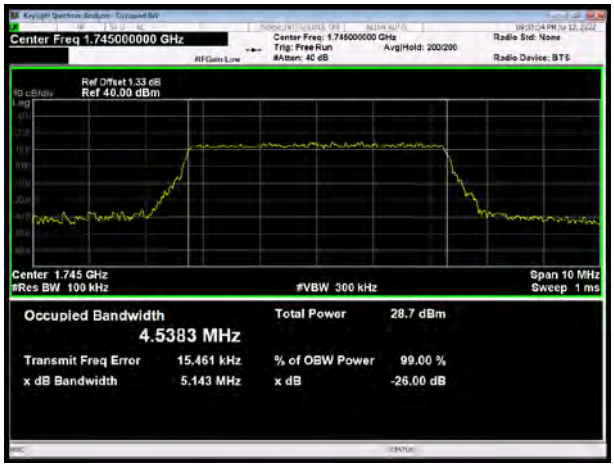
LTE Band 66 16QAM 5MHz CH-Low



LTE Band 66 16QAM 10MHz CH-Low

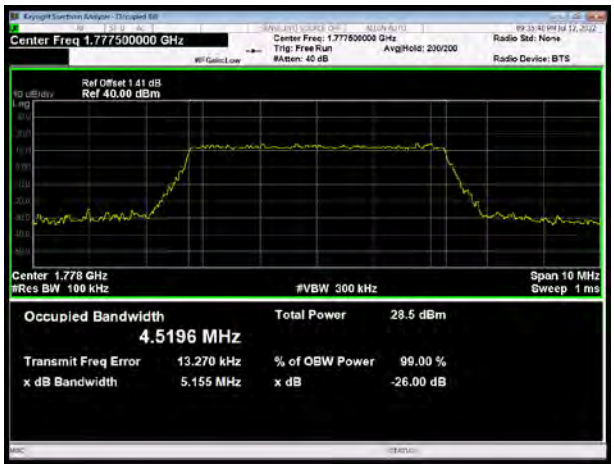


LTE Band 66 16QAM 5MHz CH-Middle

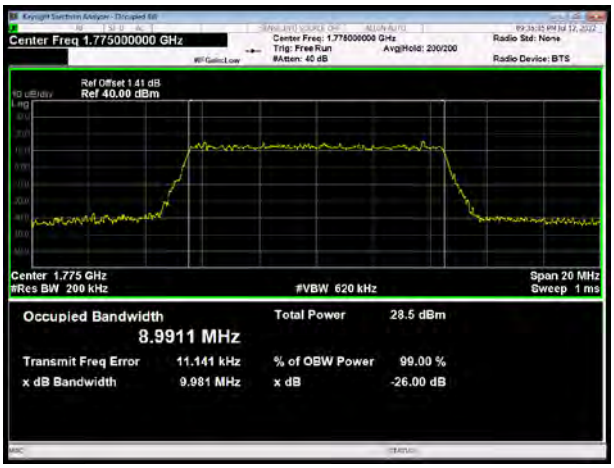


LTE Band 66 16QAM 10MHz CH-Middle

LTE Band 66 16QAM 5MHz CH-High



LTE Band 66 16QAM 10MHz CH-High



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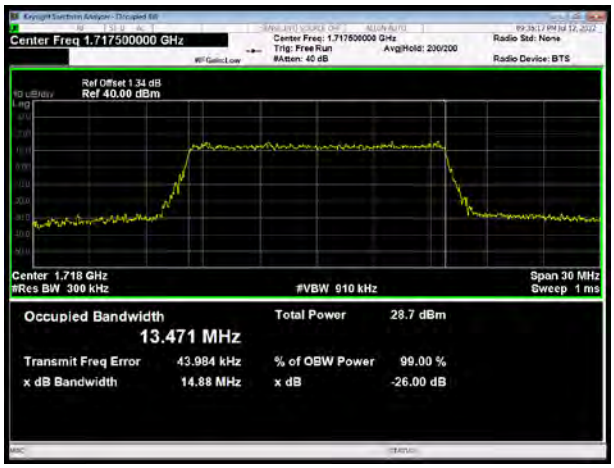
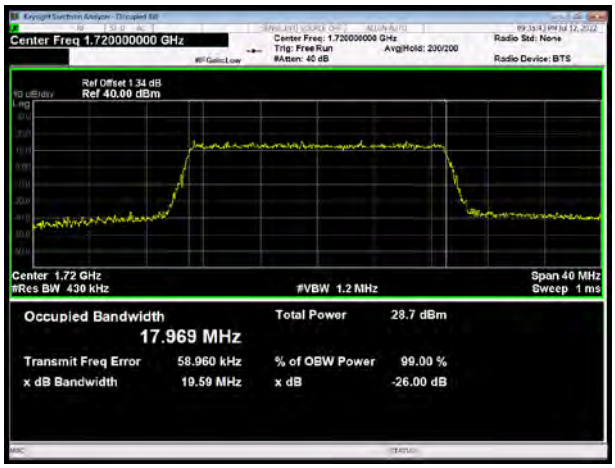
LTE Band 66 16QAM 15MHz CH-Low

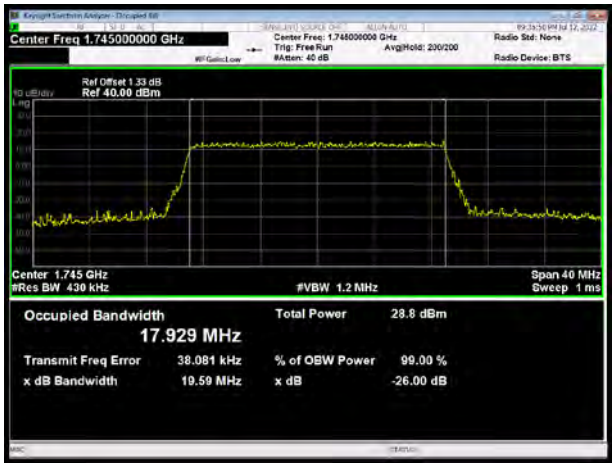


LTE Band 66 16QAM 20MHz CH-Low

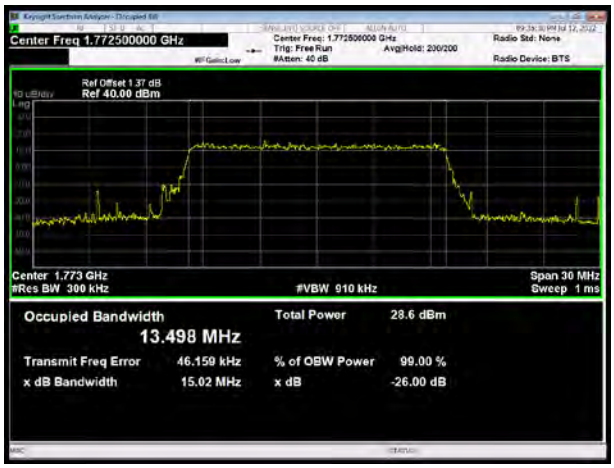


LTE Band 66 16QAM 15MHz CH-Middle

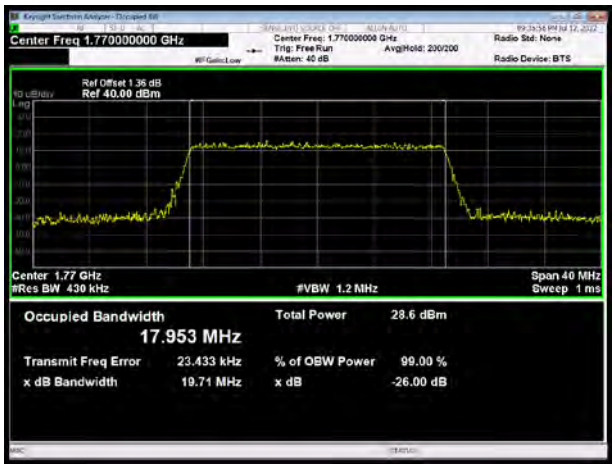
LTE Band 66 16QAM 20MHz CH-Middle



LTE Band 66 16QAM 15MHz CH-High



LTE Band 66 16QAM 20MHz CH-High



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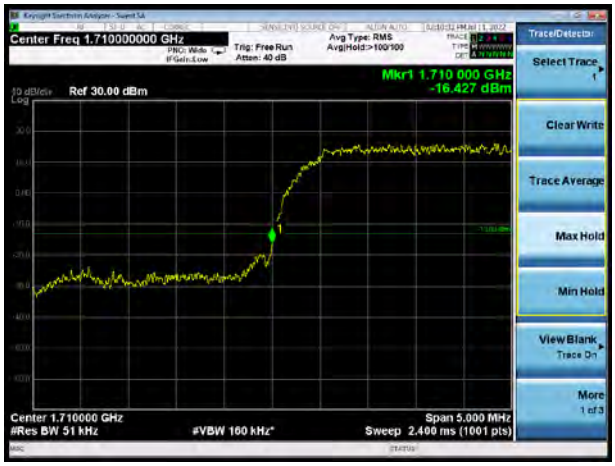
6.3 Band Edge Compliance

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

WCDMA Band IV CH-Low	WCDMA Band IV CH-High
	

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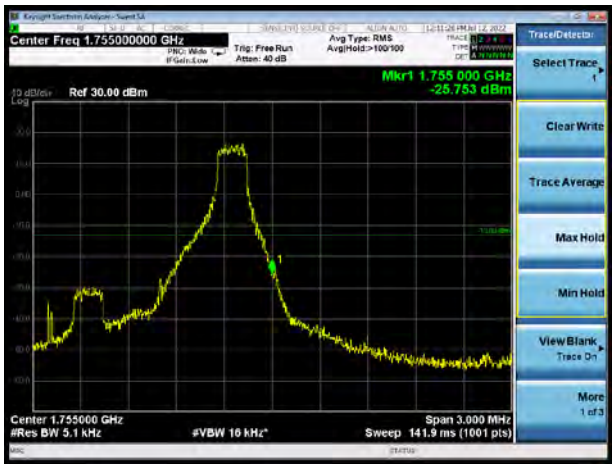
LTE Band 4 QPSK 1.4MHz CH-Low, 1 RB

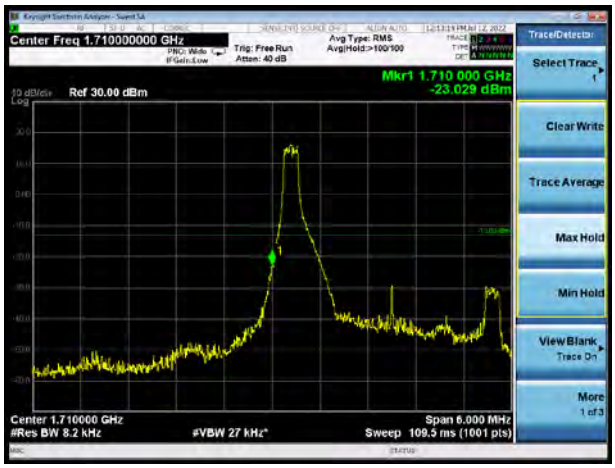
LTE Band 4 QPSK 1.4MHz CH-High, 1 RB



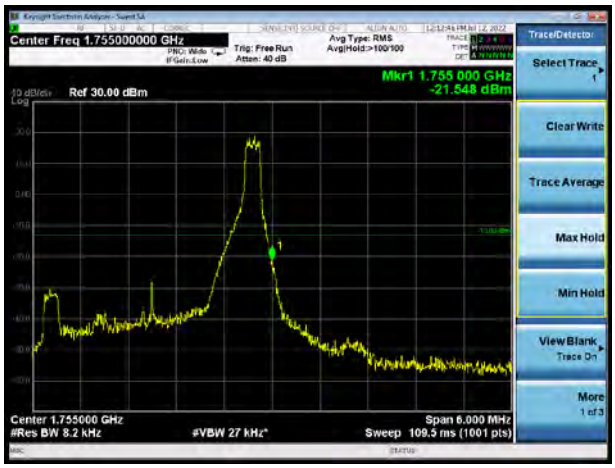
LTE Band 4 QPSK 1.4MHz CH-Low, 100%RB

LTE Band 4 QPSK 1.4MHz CH-High, 100%RB

LTE Band 4 QPSK 3MHz CH-Low, 1 RB



LTE Band 4 QPSK 3MHz CH-High, 1 RB



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