



RF TEST REPORT

Applicant Quectel Wireless Solutions Co., Ltd.
FCC ID XMR202011EC200TAU
Product LTE Module
Brand Quectel
Model EC200T-AU, EC200T-AU MINIPCIE
Report No. R2009A0613-R3
Issue Date November 17, 2020

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2019)/ FCC CFR47 Part 27C (2019)**. 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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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(h)(2)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Band Edge Compliance	27.53(h) /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(m)	PASS
7	Radiates Spurious Emission	2.1053 /27.53(h) /27.53(m)	PASS
Date of Testing: September 21, 2020~November 17, 2020			
Date of Sample Received: September 21, 2020			
<p>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.</p>			



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 electromagnetic emissions measurements.

A2LA (Certificate Number: 3857.01)

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

1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City: Shanghai
Post code: 201201
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Website: <http://www.ta-shanghai.com>
E-mail: xukai@ta-shanghai.com

2 General Description of Equipment under Test

2.1 Applicant and Manufacturer Information

Applicant	Quectel Wireless Solutions Co., Ltd.
Applicant address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Manufacturer	Quectel Wireless Solutions Co., Ltd.
Manufacturer address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

2.2 General information

EUT Description		
Model	EC200T-AU, EC200T-AU MINIPCIE	
IMEI	EC200T-AU: 861157040008266 EC200T-AU MINIPCIE: 861157040006484	
Hardware Version	R1.0	
Software Version	EC200TAUAAR05A01M16	
Power Supply	External power supply	
Antenna Type	External Antenna	
Antenna Gain	Frequency(MHz)	Gain (dBi)
	1700	1.67
	1720	1.94
	1740	2.00
	1760	1.57
	1780	0.97
	2500	3.00
	2520	2.68
	2540	2.44
	2560	2.30
2580	2.00	
Test Mode(s)	WCDMA Band IV; LTE Band 4; LTE Band 7, LTE Band 66;	
Test Modulation	(WCDMA) BPSK,QPSK;(LTE)QPSK 16QAM;	
HSDPA UE Category	14	
HSUPA UE Category	6	
LTE Category	4	
Maximum E.I.R.P./ E.R.P.	WCDMA Band IV:	25.38dBm
	LTE Band 4:	25.58dBm
	LTE Band 7:	26.70dBm



	LTE Band 66:	25.47dBm	
Rated Power Supply Voltage:	3.8V		
Extreme Voltage	Minimum: 3.4V	Maximum: 4.5V	
Extreme Temperature	Lowest: -30°C	Highest: +50°C	
Operating Voltage	Minimum: 3.4V	Maximum: 4.5V	
Operating Temperature	Lowest: -40°C	Highest: +85°C	
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 66	1710 ~ 1780	2110 ~ 2180
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.			

The detailed product difference between EC200T-AU and EC200T-AU MINIPCIE please refers to the Difference Statements letter. For conducted test items, this report only record the test results of EC200T-AU.



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 (2019)

ANSI C63.26 (2015)

Reference standard:

FCC CFR47 Part 2 (2019)

KDB 971168 D01 Power Meas License Digital Systems v03r01

4 Test Configuration

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 (X axis, horizontal polarization) 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 detail in the following table:

Test modes are chosen to be reported as the worst case configuration below for WCDMA Band IV:

Test items	Modes/Modulation
	WCDMA Band IV
RF Power Output and Effective Isotropic Radiated Power	RMC HSDPA/HSUPA
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



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

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	O
	LTE 7	-	-	O	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	O
Occupied Bandwidth	LTE 4	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
	LTE 66	O	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	O
	LTE 7	-	-	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
Peak-to-Average Power Ratio	LTE 4	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
	LTE 66	O	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	O	O	O	O	O
	LTE 7	-	-	O	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	O
Spurious Emissions at Antenna Terminals	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 66	O	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 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.															

5 Test Case Results

5.1 RF Power Output and Effective Isotropic Radiated Power

Ambient condition

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

Methods of Measurement

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

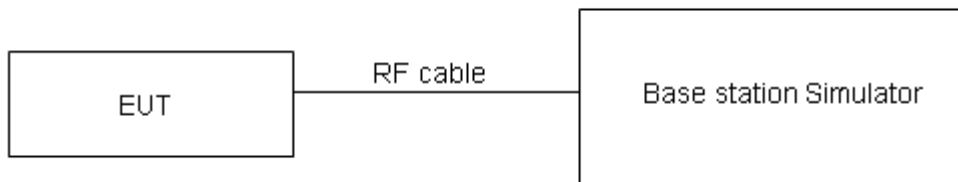
ERP can then be calculated as follows:

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

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

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

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 27.50(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(d)(4)Limit	≤ 1 W (30 dBm)
Part 27.50(h)(2) Limit	≤ 2 W (33 dBm)

Measurement Uncertainty

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



Test Results

WCDMA Band IV		Maximum Output Power (dBm)			EIRP (dBm)		
		Channel 1312	Channel 1413	Channel 1513	Channel 1312	Channel 1413	Channel 1513
		1712.4 (MHz)	1732.6 (MHz)	1752.6 (MHz)	1712.4 (MHz)	1732.6 (MHz)	1752.6 (MHz)
RMC		23.24	23.38	23.23	25.18	25.38	24.80
HSDPA	Sub - Test 1	22.70	22.80	22.67	24.64	24.80	24.24
	Sub - Test 2	22.69	22.82	22.64	24.63	24.82	24.21
	Sub - Test 3	22.16	22.32	22.16	24.10	24.32	23.73
	Sub - Test 4	22.17	22.33	22.14	24.11	24.33	23.71
HSUPA	Sub - Test 1	22.66	22.79	22.62	24.60	24.79	24.19
	Sub - Test 2	21.65	21.77	21.61	23.59	23.77	23.18
	Sub - Test 3	22.12	22.25	22.10	24.06	24.25	23.67
	Sub - Test 4	21.88	22.00	21.98	23.82	24.00	23.55
	Sub - Test 5	22.59	22.72	22.56	24.53	24.72	24.13



Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)	Verdict
LTE Band4	1.4	19957	1	#0	QPSK	23.57	25.51	PASS
LTE Band4	1.4	19957	1	#Mid	QPSK	23.60	25.54	PASS
LTE Band4	1.4	19957	1	#Max	QPSK	23.61	25.55	PASS
LTE Band4	1.4	19957	3	#0	QPSK	23.49	25.43	PASS
LTE Band4	1.4	19957	3	#Mid	QPSK	23.48	25.42	PASS
LTE Band4	1.4	19957	3	#Max	QPSK	23.53	25.47	PASS
LTE Band4	1.4	19957	6	#0	QPSK	22.63	24.57	PASS
LTE Band4	1.4	19957	1	#0	QAM16	22.46	24.40	PASS
LTE Band4	1.4	19957	1	#Mid	QAM16	22.57	24.51	PASS
LTE Band4	1.4	19957	1	#Max	QAM16	22.57	24.51	PASS
LTE Band4	1.4	19957	3	#0	QAM16	22.63	24.57	PASS
LTE Band4	1.4	19957	3	#Mid	QAM16	22.63	24.57	PASS
LTE Band4	1.4	19957	3	#Max	QAM16	22.70	24.64	PASS
LTE Band4	1.4	19957	6	#0	QAM16	21.58	23.52	PASS
LTE Band4	1.4	20175	1	#0	QPSK	23.32	25.32	PASS
LTE Band4	1.4	20175	1	#Mid	QPSK	23.31	25.31	PASS
LTE Band4	1.4	20175	1	#Max	QPSK	23.32	25.32	PASS
LTE Band4	1.4	20175	3	#0	QPSK	23.29	25.29	PASS
LTE Band4	1.4	20175	3	#Mid	QPSK	23.31	25.31	PASS
LTE Band4	1.4	20175	3	#Max	QPSK	23.25	25.25	PASS
LTE Band4	1.4	20175	6	#0	QPSK	22.17	24.17	PASS
LTE Band4	1.4	20175	1	#0	QAM16	22.36	24.36	PASS
LTE Band4	1.4	20175	1	#Mid	QAM16	22.35	24.35	PASS
LTE Band4	1.4	20175	1	#Max	QAM16	22.34	24.34	PASS
LTE Band4	1.4	20175	3	#0	QAM16	22.13	24.13	PASS
LTE Band4	1.4	20175	3	#Mid	QAM16	22.18	24.18	PASS
LTE Band4	1.4	20175	3	#Max	QAM16	22.16	24.16	PASS
LTE Band4	1.4	20175	6	#0	QAM16	21.20	23.20	PASS
LTE Band4	1.4	20393	1	#0	QPSK	23.38	24.95	PASS
LTE Band4	1.4	20393	1	#Mid	QPSK	23.37	24.94	PASS
LTE Band4	1.4	20393	1	#Max	QPSK	23.38	24.95	PASS
LTE Band4	1.4	20393	3	#0	QPSK	23.31	24.88	PASS
LTE Band4	1.4	20393	3	#Mid	QPSK	23.34	24.91	PASS
LTE Band4	1.4	20393	3	#Max	QPSK	23.29	24.86	PASS
LTE Band4	1.4	20393	6	#0	QPSK	22.18	23.75	PASS
LTE Band4	1.4	20393	1	#0	QAM16	22.07	23.64	PASS
LTE Band4	1.4	20393	1	#Mid	QAM16	22.03	23.60	PASS
LTE Band4	1.4	20393	1	#Max	QAM16	22.06	23.63	PASS
LTE Band4	1.4	20393	3	#0	QAM16	22.12	23.69	PASS
LTE Band4	1.4	20393	3	#Mid	QAM16	22.12	23.69	PASS
LTE Band4	1.4	20393	3	#Max	QAM16	22.15	23.72	PASS



LTE Band4	1.4	20393	6	#0	QAM16	21.27	22.84	PASS
LTE Band4	3	19965	1	#0	QPSK	23.42	25.36	PASS
LTE Band4	3	19965	1	#Mid	QPSK	23.45	25.39	PASS
LTE Band4	3	19965	1	#Max	QPSK	23.52	25.46	PASS
LTE Band4	3	19965	8	#0	QPSK	22.60	24.54	PASS
LTE Band4	3	19965	8	#Mid	QPSK	22.60	24.54	PASS
LTE Band4	3	19965	8	#Max	QPSK	22.67	24.61	PASS
LTE Band4	3	19965	15	#0	QPSK	22.68	24.62	PASS
LTE Band4	3	19965	1	#0	QAM16	22.72	24.66	PASS
LTE Band4	3	19965	1	#Mid	QAM16	22.75	24.69	PASS
LTE Band4	3	19965	1	#Max	QAM16	22.83	24.77	PASS
LTE Band4	3	19965	8	#0	QAM16	21.58	23.52	PASS
LTE Band4	3	19965	8	#Mid	QAM16	21.56	23.50	PASS
LTE Band4	3	19965	8	#Max	QAM16	21.59	23.53	PASS
LTE Band4	3	19965	15	#0	QAM16	21.59	23.53	PASS
LTE Band4	3	20175	1	#0	QPSK	23.33	25.33	PASS
LTE Band4	3	20175	1	#Mid	QPSK	23.31	25.31	PASS
LTE Band4	3	20175	1	#Max	QPSK	23.30	25.30	PASS
LTE Band4	3	20175	8	#0	QPSK	22.21	24.21	PASS
LTE Band4	3	20175	8	#Mid	QPSK	22.17	24.17	PASS
LTE Band4	3	20175	8	#Max	QPSK	22.18	24.18	PASS
LTE Band4	3	20175	15	#0	QPSK	22.20	24.20	PASS
LTE Band4	3	20175	1	#0	QAM16	22.38	24.38	PASS
LTE Band4	3	20175	1	#Mid	QAM16	22.35	24.35	PASS
LTE Band4	3	20175	1	#Max	QAM16	22.35	24.35	PASS
LTE Band4	3	20175	8	#0	QAM16	21.26	23.26	PASS
LTE Band4	3	20175	8	#Mid	QAM16	21.24	23.24	PASS
LTE Band4	3	20175	8	#Max	QAM16	21.25	23.25	PASS
LTE Band4	3	20175	15	#0	QAM16	21.18	23.18	PASS
LTE Band4	3	20385	1	#0	QPSK	23.42	24.99	PASS
LTE Band4	3	20385	1	#Mid	QPSK	23.37	24.94	PASS
LTE Band4	3	20385	1	#Max	QPSK	23.42	24.99	PASS
LTE Band4	3	20385	8	#0	QPSK	22.16	23.73	PASS
LTE Band4	3	20385	8	#Mid	QPSK	22.20	23.77	PASS
LTE Band4	3	20385	8	#Max	QPSK	22.22	23.79	PASS
LTE Band4	3	20385	15	#0	QPSK	22.23	23.80	PASS
LTE Band4	3	20385	1	#0	QAM16	22.07	23.64	PASS
LTE Band4	3	20385	1	#Mid	QAM16	22.07	23.64	PASS
LTE Band4	3	20385	1	#Max	QAM16	22.10	23.67	PASS
LTE Band4	3	20385	8	#0	QAM16	21.27	22.84	PASS
LTE Band4	3	20385	8	#Mid	QAM16	21.27	22.84	PASS
LTE Band4	3	20385	8	#Max	QAM16	21.28	22.85	PASS
LTE Band4	3	20385	15	#0	QAM16	21.30	22.87	PASS



LTE Band4	5	19975	1	#0	QPSK	23.52	25.46	PASS
LTE Band4	5	19975	1	#Mid	QPSK	23.55	25.49	PASS
LTE Band4	5	19975	1	#Max	QPSK	23.64	25.58	PASS
LTE Band4	5	19975	12	#0	QPSK	22.69	24.63	PASS
LTE Band4	5	19975	12	#Mid	QPSK	22.69	24.63	PASS
LTE Band4	5	19975	12	#Max	QPSK	22.76	24.70	PASS
LTE Band4	5	19975	25	#0	QPSK	22.74	24.68	PASS
LTE Band4	5	19975	1	#0	QAM16	22.78	24.72	PASS
LTE Band4	5	19975	1	#Mid	QAM16	22.82	24.76	PASS
LTE Band4	5	19975	1	#Max	QAM16	22.93	24.87	PASS
LTE Band4	5	19975	12	#0	QAM16	21.59	23.53	PASS
LTE Band4	5	19975	12	#Mid	QAM16	21.59	23.53	PASS
LTE Band4	5	19975	12	#Max	QAM16	21.65	23.59	PASS
LTE Band4	5	19975	25	#0	QAM16	21.65	23.59	PASS
LTE Band4	5	20175	1	#0	QPSK	23.38	25.38	PASS
LTE Band4	5	20175	1	#Mid	QPSK	23.36	25.36	PASS
LTE Band4	5	20175	1	#Max	QPSK	23.40	25.40	PASS
LTE Band4	5	20175	12	#0	QPSK	22.22	24.22	PASS
LTE Band4	5	20175	12	#Mid	QPSK	22.23	24.23	PASS
LTE Band4	5	20175	12	#Max	QPSK	22.19	24.19	PASS
LTE Band4	5	20175	25	#0	QPSK	22.21	24.21	PASS
LTE Band4	5	20175	1	#0	QAM16	22.40	24.40	PASS
LTE Band4	5	20175	1	#Mid	QAM16	22.38	24.38	PASS
LTE Band4	5	20175	1	#Max	QAM16	22.38	24.38	PASS
LTE Band4	5	20175	12	#0	QAM16	21.25	23.25	PASS
LTE Band4	5	20175	12	#Mid	QAM16	21.22	23.22	PASS
LTE Band4	5	20175	12	#Max	QAM16	21.24	23.24	PASS
LTE Band4	5	20175	25	#0	QAM16	21.23	23.23	PASS
LTE Band4	5	20375	1	#0	QPSK	23.34	24.91	PASS
LTE Band4	5	20375	1	#Mid	QPSK	23.30	24.87	PASS
LTE Band4	5	20375	1	#Max	QPSK	23.34	24.91	PASS
LTE Band4	5	20375	12	#0	QPSK	22.17	23.74	PASS
LTE Band4	5	20375	12	#Mid	QPSK	22.15	23.72	PASS
LTE Band4	5	20375	12	#Max	QPSK	22.20	23.77	PASS
LTE Band4	5	20375	25	#0	QPSK	22.20	23.77	PASS
LTE Band4	5	20375	1	#0	QAM16	22.46	24.03	PASS
LTE Band4	5	20375	1	#Mid	QAM16	22.40	23.97	PASS
LTE Band4	5	20375	1	#Max	QAM16	22.45	24.02	PASS
LTE Band4	5	20375	12	#0	QAM16	21.27	22.84	PASS
LTE Band4	5	20375	12	#Mid	QAM16	21.27	22.84	PASS
LTE Band4	5	20375	12	#Max	QAM16	21.33	22.90	PASS
LTE Band4	5	20375	25	#0	QAM16	21.27	22.84	PASS
LTE Band4	10	20000	1	#0	QPSK	23.49	25.43	PASS



LTE Band4	10	20000	1	#Mid	QPSK	23.53	25.47	PASS
LTE Band4	10	20000	1	#Max	QPSK	23.50	25.44	PASS
LTE Band4	10	20000	25	#0	QPSK	22.75	24.69	PASS
LTE Band4	10	20000	25	#Mid	QPSK	22.75	24.69	PASS
LTE Band4	10	20000	25	#Max	QPSK	22.68	24.62	PASS
LTE Band4	10	20000	50	#0	QPSK	22.71	24.65	PASS
LTE Band4	10	20000	1	#0	QAM16	22.79	24.73	PASS
LTE Band4	10	20000	1	#Mid	QAM16	22.82	24.76	PASS
LTE Band4	10	20000	1	#Max	QAM16	22.66	24.60	PASS
LTE Band4	10	20000	25	#0	QAM16	21.73	23.67	PASS
LTE Band4	10	20000	25	#Mid	QAM16	21.74	23.68	PASS
LTE Band4	10	20000	25	#Max	QAM16	21.77	23.71	PASS
LTE Band4	10	20000	50	#0	QAM16	21.62	23.56	PASS
LTE Band4	10	20175	1	#0	QPSK	23.47	25.47	PASS
LTE Band4	10	20175	1	#Mid	QPSK	23.35	25.35	PASS
LTE Band4	10	20175	1	#Max	QPSK	23.37	25.37	PASS
LTE Band4	10	20175	25	#0	QPSK	22.24	24.24	PASS
LTE Band4	10	20175	25	#Mid	QPSK	22.25	24.25	PASS
LTE Band4	10	20175	25	#Max	QPSK	22.20	24.20	PASS
LTE Band4	10	20175	50	#0	QPSK	22.22	24.22	PASS
LTE Band4	10	20175	1	#0	QAM16	22.47	24.47	PASS
LTE Band4	10	20175	1	#Mid	QAM16	22.38	24.38	PASS
LTE Band4	10	20175	1	#Max	QAM16	22.37	24.37	PASS
LTE Band4	10	20175	25	#0	QAM16	21.33	23.33	PASS
LTE Band4	10	20175	25	#Mid	QAM16	21.30	23.30	PASS
LTE Band4	10	20175	25	#Max	QAM16	21.30	23.30	PASS
LTE Band4	10	20175	50	#0	QAM16	21.27	23.27	PASS
LTE Band4	10	20350	1	#0	QPSK	23.34	24.91	PASS
LTE Band4	10	20350	1	#Mid	QPSK	23.36	24.93	PASS
LTE Band4	10	20350	1	#Max	QPSK	23.38	24.95	PASS
LTE Band4	10	20350	25	#0	QPSK	22.10	23.67	PASS
LTE Band4	10	20350	25	#Mid	QPSK	22.10	23.67	PASS
LTE Band4	10	20350	25	#Max	QPSK	22.16	23.73	PASS
LTE Band4	10	20350	50	#0	QPSK	22.14	23.71	PASS
LTE Band4	10	20350	1	#0	QAM16	21.98	23.55	PASS
LTE Band4	10	20350	1	#Mid	QAM16	22.01	23.58	PASS
LTE Band4	10	20350	1	#Max	QAM16	22.11	23.68	PASS
LTE Band4	10	20350	25	#0	QAM16	21.13	22.70	PASS
LTE Band4	10	20350	25	#Mid	QAM16	21.14	22.71	PASS
LTE Band4	10	20350	25	#Max	QAM16	21.21	22.78	PASS
LTE Band4	10	20350	50	#0	QAM16	21.25	22.82	PASS
LTE Band4	15	20025	1	#0	QPSK	23.47	25.41	PASS
LTE Band4	15	20025	1	#Mid	QPSK	23.44	25.38	PASS



LTE Band4	15	20025	1	#Max	QPSK	23.51	25.45	PASS
LTE Band4	15	20025	36	#0	QPSK	22.69	24.63	PASS
LTE Band4	15	20025	36	#Mid	QPSK	22.70	24.64	PASS
LTE Band4	15	20025	36	#Max	QPSK	22.45	24.39	PASS
LTE Band4	15	20025	75	#0	QPSK	22.49	24.43	PASS
LTE Band4	15	20025	1	#0	QAM16	22.77	24.71	PASS
LTE Band4	15	20025	1	#Mid	QAM16	22.69	24.63	PASS
LTE Band4	15	20025	1	#Max	QAM16	22.68	24.62	PASS
LTE Band4	15	20025	36	#0	QAM16	21.66	23.60	PASS
LTE Band4	15	20025	36	#Mid	QAM16	21.64	23.58	PASS
LTE Band4	15	20025	36	#Max	QAM16	21.56	23.50	PASS
LTE Band4	15	20025	75	#0	QAM16	21.58	23.52	PASS
LTE Band4	15	20175	1	#0	QPSK	23.51	25.51	PASS
LTE Band4	15	20175	1	#Mid	QPSK	23.38	25.38	PASS
LTE Band4	15	20175	1	#Max	QPSK	23.34	25.34	PASS
LTE Band4	15	20175	36	#0	QPSK	22.25	24.25	PASS
LTE Band4	15	20175	36	#Mid	QPSK	22.27	24.27	PASS
LTE Band4	15	20175	36	#Max	QPSK	22.21	24.21	PASS
LTE Band4	15	20175	75	#0	QPSK	22.19	24.19	PASS
LTE Band4	15	20175	1	#0	QAM16	22.56	24.56	PASS
LTE Band4	15	20175	1	#Mid	QAM16	22.40	24.40	PASS
LTE Band4	15	20175	1	#Max	QAM16	22.36	24.36	PASS
LTE Band4	15	20175	36	#0	QAM16	21.35	23.35	PASS
LTE Band4	15	20175	36	#Mid	QAM16	21.35	23.35	PASS
LTE Band4	15	20175	36	#Max	QAM16	21.26	23.26	PASS
LTE Band4	15	20175	75	#0	QAM16	21.27	23.27	PASS
LTE Band4	15	20325	1	#0	QPSK	23.39	25.39	PASS
LTE Band4	15	20325	1	#Mid	QPSK	23.33	25.33	PASS
LTE Band4	15	20325	1	#Max	QPSK	23.38	25.38	PASS
LTE Band4	15	20325	36	#0	QPSK	22.08	24.08	PASS
LTE Band4	15	20325	36	#Mid	QPSK	22.08	24.08	PASS
LTE Band4	15	20325	36	#Max	QPSK	22.15	24.15	PASS
LTE Band4	15	20325	75	#0	QPSK	22.13	24.13	PASS
LTE Band4	15	20325	1	#0	QAM16	22.18	24.18	PASS
LTE Band4	15	20325	1	#Mid	QAM16	22.14	24.14	PASS
LTE Band4	15	20325	1	#Max	QAM16	22.21	24.21	PASS
LTE Band4	15	20325	36	#0	QAM16	21.14	23.14	PASS
LTE Band4	15	20325	36	#Mid	QAM16	21.14	23.14	PASS
LTE Band4	15	20325	36	#Max	QAM16	21.20	23.20	PASS
LTE Band4	15	20325	75	#0	QAM16	21.19	23.19	PASS
LTE Band4	20	20050	1	#0	QPSK	23.33	25.27	PASS
LTE Band4	20	20050	1	#Mid	QPSK	23.52	25.46	PASS
LTE Band4	20	20050	1	#Max	QPSK	23.24	25.18	PASS



LTE Band4	20	20050	50	#0	QPSK	22.69	24.63	PASS
LTE Band4	20	20050	50	#Mid	QPSK	22.71	24.65	PASS
LTE Band4	20	20050	50	#Max	QPSK	22.43	24.37	PASS
LTE Band4	20	20050	100	#0	QPSK	22.32	24.26	PASS
LTE Band4	20	20050	1	#0	QAM16	22.51	24.45	PASS
LTE Band4	20	20050	1	#Mid	QAM16	22.55	24.49	PASS
LTE Band4	20	20050	1	#Max	QAM16	22.26	24.20	PASS
LTE Band4	20	20050	50	#0	QAM16	21.59	23.53	PASS
LTE Band4	20	20050	50	#Mid	QAM16	21.62	23.56	PASS
LTE Band4	20	20050	50	#Max	QAM16	21.52	23.46	PASS
LTE Band4	20	20050	100	#0	QAM16	21.36	23.30	PASS
LTE Band4	20	20175	1	#0	QPSK	23.37	25.37	PASS
LTE Band4	20	20175	1	#Mid	QPSK	23.50	25.50	PASS
LTE Band4	20	20175	1	#Max	QPSK	23.16	25.16	PASS
LTE Band4	20	20175	50	#0	QPSK	22.31	24.31	PASS
LTE Band4	20	20175	50	#Mid	QPSK	22.32	24.32	PASS
LTE Band4	20	20175	50	#Max	QPSK	22.18	24.18	PASS
LTE Band4	20	20175	100	#0	QPSK	22.20	24.20	PASS
LTE Band4	20	20175	1	#0	QAM16	22.02	24.02	PASS
LTE Band4	20	20175	1	#Mid	QAM16	22.14	24.14	PASS
LTE Band4	20	20175	1	#Max	QAM16	21.78	23.78	PASS
LTE Band4	20	20175	50	#0	QAM16	21.35	23.35	PASS
LTE Band4	20	20175	50	#Mid	QAM16	21.37	23.37	PASS
LTE Band4	20	20175	50	#Max	QAM16	21.20	23.20	PASS
LTE Band4	20	20175	100	#0	QAM16	21.25	23.25	PASS
LTE Band4	20	20300	1	#0	QPSK	23.09	25.09	PASS
LTE Band4	20	20300	1	#Mid	QPSK	23.31	25.31	PASS
LTE Band4	20	20300	1	#Max	QPSK	23.09	25.09	PASS
LTE Band4	20	20300	50	#0	QPSK	22.12	24.12	PASS
LTE Band4	20	20300	50	#Mid	QPSK	22.12	24.12	PASS
LTE Band4	20	20300	50	#Max	QPSK	22.10	24.10	PASS
LTE Band4	20	20300	100	#0	QPSK	22.13	24.13	PASS
LTE Band4	20	20300	1	#0	QAM16	21.61	23.61	PASS
LTE Band4	20	20300	1	#Mid	QAM16	21.88	23.88	PASS
LTE Band4	20	20300	1	#Max	QAM16	21.67	23.67	PASS
LTE Band4	20	20300	50	#0	QAM16	21.22	23.22	PASS
LTE Band4	20	20300	50	#Mid	QAM16	21.22	23.22	PASS
LTE Band4	20	20300	50	#Max	QAM16	21.20	23.20	PASS
LTE Band4	20	20300	100	#0	QAM16	21.19	23.19	PASS



Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)	Verdict
LTE Band7	5	20775	1	#0	QPSK	23.38	26.38	PASS
LTE Band7	5	20775	1	#Mid	QPSK	23.35	26.35	PASS
LTE Band7	5	20775	1	#Max	QPSK	23.43	26.43	PASS
LTE Band7	5	20775	12	#0	QPSK	22.22	25.22	PASS
LTE Band7	5	20775	12	#Mid	QPSK	22.22	25.22	PASS
LTE Band7	5	20775	12	#Max	QPSK	22.22	25.22	PASS
LTE Band7	5	20775	25	#0	QPSK	22.23	25.23	PASS
LTE Band7	5	20775	1	#0	QAM16	22.41	25.41	PASS
LTE Band7	5	20775	1	#Mid	QAM16	22.32	25.32	PASS
LTE Band7	5	20775	1	#Max	QAM16	22.41	25.41	PASS
LTE Band7	5	20775	12	#0	QAM16	21.18	24.18	PASS
LTE Band7	5	20775	12	#Mid	QAM16	21.19	24.19	PASS
LTE Band7	5	20775	12	#Max	QAM16	21.23	24.23	PASS
LTE Band7	5	20775	25	#0	QAM16	21.22	24.22	PASS
LTE Band7	5	21100	1	#0	QPSK	23.12	25.56	PASS
LTE Band7	5	21100	1	#Mid	QPSK	23.04	25.48	PASS
LTE Band7	5	21100	1	#Max	QPSK	23.01	25.45	PASS
LTE Band7	5	21100	12	#0	QPSK	22.27	24.71	PASS
LTE Band7	5	21100	12	#Mid	QPSK	22.30	24.74	PASS
LTE Band7	5	21100	12	#Max	QPSK	22.18	24.62	PASS
LTE Band7	5	21100	25	#0	QPSK	22.22	24.66	PASS
LTE Band7	5	21100	1	#0	QAM16	22.48	24.92	PASS
LTE Band7	5	21100	1	#Mid	QAM16	22.39	24.83	PASS
LTE Band7	5	21100	1	#Max	QAM16	22.41	24.85	PASS
LTE Band7	5	21100	12	#0	QAM16	21.41	23.85	PASS
LTE Band7	5	21100	12	#Mid	QAM16	21.31	23.75	PASS
LTE Band7	5	21100	12	#Max	QAM16	21.29	23.73	PASS
LTE Band7	5	21100	25	#0	QAM16	21.29	23.73	PASS
LTE Band7	5	21425	1	#0	QPSK	23.13	25.43	PASS
LTE Band7	5	21425	1	#Mid	QPSK	22.87	25.17	PASS
LTE Band7	5	21425	1	#Max	QPSK	22.69	24.99	PASS
LTE Band7	5	21425	12	#0	QPSK	22.01	24.31	PASS
LTE Band7	5	21425	12	#Mid	QPSK	22.03	24.33	PASS
LTE Band7	5	21425	12	#Max	QPSK	21.84	24.14	PASS
LTE Band7	5	21425	25	#0	QPSK	22.00	24.30	PASS
LTE Band7	5	21425	1	#0	QAM16	22.36	24.66	PASS
LTE Band7	5	21425	1	#Mid	QAM16	22.09	24.39	PASS
LTE Band7	5	21425	1	#Max	QAM16	21.98	24.28	PASS
LTE Band7	5	21425	12	#0	QAM16	21.15	23.45	PASS
LTE Band7	5	21425	12	#Mid	QAM16	21.16	23.46	PASS
LTE Band7	5	21425	12	#Max	QAM16	21.01	23.31	PASS



LTE Band7	5	21425	25	#0	QAM16	21.15	23.45	PASS
LTE Band7	10	20800	1	#0	QPSK	23.30	26.30	PASS
LTE Band7	10	20800	1	#Mid	QPSK	23.33	26.33	PASS
LTE Band7	10	20800	1	#Max	QPSK	23.50	26.50	PASS
LTE Band7	10	20800	25	#0	QPSK	22.48	25.48	PASS
LTE Band7	10	20800	25	#Mid	QPSK	22.43	25.43	PASS
LTE Band7	10	20800	25	#Max	QPSK	22.46	25.46	PASS
LTE Band7	10	20800	50	#0	QPSK	22.41	25.41	PASS
LTE Band7	10	20800	1	#0	QAM16	22.66	25.66	PASS
LTE Band7	10	20800	1	#Mid	QAM16	22.53	25.53	PASS
LTE Band7	10	20800	1	#Max	QAM16	22.69	25.69	PASS
LTE Band7	10	20800	25	#0	QAM16	21.43	24.43	PASS
LTE Band7	10	20800	25	#Mid	QAM16	21.42	24.42	PASS
LTE Band7	10	20800	25	#Max	QAM16	21.53	24.53	PASS
LTE Band7	10	20800	50	#0	QAM16	21.42	24.42	PASS
LTE Band7	10	21100	1	#0	QPSK	23.32	25.76	PASS
LTE Band7	10	21100	1	#Mid	QPSK	23.21	25.65	PASS
LTE Band7	10	21100	1	#Max	QPSK	23.28	25.72	PASS
LTE Band7	10	21100	25	#0	QPSK	22.41	24.85	PASS
LTE Band7	10	21100	25	#Mid	QPSK	22.34	24.78	PASS
LTE Band7	10	21100	25	#Max	QPSK	22.26	24.70	PASS
LTE Band7	10	21100	50	#0	QPSK	22.41	24.85	PASS
LTE Band7	10	21100	1	#0	QAM16	22.57	25.01	PASS
LTE Band7	10	21100	1	#Mid	QAM16	22.37	24.81	PASS
LTE Band7	10	21100	1	#Max	QAM16	22.40	24.84	PASS
LTE Band7	10	21100	25	#0	QAM16	21.56	24.00	PASS
LTE Band7	10	21100	25	#Mid	QAM16	21.53	23.97	PASS
LTE Band7	10	21100	25	#Max	QAM16	21.41	23.85	PASS
LTE Band7	10	21100	50	#0	QAM16	21.50	23.94	PASS
LTE Band7	10	21400	1	#0	QPSK	23.21	25.51	PASS
LTE Band7	10	21400	1	#Mid	QPSK	23.32	25.62	PASS
LTE Band7	10	21400	1	#Max	QPSK	22.95	25.25	PASS
LTE Band7	10	21400	25	#0	QPSK	22.22	24.52	PASS
LTE Band7	10	21400	25	#Mid	QPSK	22.19	24.49	PASS
LTE Band7	10	21400	25	#Max	QPSK	22.05	24.35	PASS
LTE Band7	10	21400	50	#0	QPSK	22.14	24.44	PASS
LTE Band7	10	21400	1	#0	QAM16	21.98	24.28	PASS
LTE Band7	10	21400	1	#Mid	QAM16	22.08	24.38	PASS
LTE Band7	10	21400	1	#Max	QAM16	21.73	24.03	PASS
LTE Band7	10	21400	25	#0	QAM16	21.33	23.63	PASS
LTE Band7	10	21400	25	#Mid	QAM16	21.35	23.65	PASS
LTE Band7	10	21400	25	#Max	QAM16	21.20	23.50	PASS
LTE Band7	10	21400	50	#0	QAM16	21.31	23.61	PASS



LTE Band7	15	20825	1	#0	QPSK	23.46	26.46	PASS
LTE Band7	15	20825	1	#Mid	QPSK	23.57	26.57	PASS
LTE Band7	15	20825	1	#Max	QPSK	23.70	26.70	PASS
LTE Band7	15	20825	36	#0	QPSK	22.54	25.54	PASS
LTE Band7	15	20825	36	#Mid	QPSK	22.61	25.61	PASS
LTE Band7	15	20825	36	#Max	QPSK	22.76	25.76	PASS
LTE Band7	15	20825	75	#0	QPSK	22.74	25.74	PASS
LTE Band7	15	20825	1	#0	QAM16	22.84	25.84	PASS
LTE Band7	15	20825	1	#Mid	QAM16	22.82	25.82	PASS
LTE Band7	15	20825	1	#Max	QAM16	22.86	25.86	PASS
LTE Band7	15	20825	36	#0	QAM16	21.53	24.53	PASS
LTE Band7	15	20825	36	#Mid	QAM16	21.57	24.57	PASS
LTE Band7	15	20825	36	#Max	QAM16	21.70	24.70	PASS
LTE Band7	15	20825	75	#0	QAM16	21.64	24.64	PASS
LTE Band7	15	21100	1	#0	QPSK	23.43	25.87	PASS
LTE Band7	15	21100	1	#Mid	QPSK	23.37	25.81	PASS
LTE Band7	15	21100	1	#Max	QPSK	23.47	25.91	PASS
LTE Band7	15	21100	36	#0	QPSK	22.52	24.96	PASS
LTE Band7	15	21100	36	#Mid	QPSK	22.50	24.94	PASS
LTE Band7	15	21100	36	#Max	QPSK	22.43	24.87	PASS
LTE Band7	15	21100	75	#0	QPSK	22.41	24.85	PASS
LTE Band7	15	21100	1	#0	QAM16	22.69	25.13	PASS
LTE Band7	15	21100	1	#Mid	QAM16	22.54	24.98	PASS
LTE Band7	15	21100	1	#Max	QAM16	22.39	24.83	PASS
LTE Band7	15	21100	36	#0	QAM16	21.64	24.08	PASS
LTE Band7	15	21100	36	#Mid	QAM16	21.60	24.04	PASS
LTE Band7	15	21100	36	#Max	QAM16	21.51	23.95	PASS
LTE Band7	15	21100	75	#0	QAM16	21.55	23.99	PASS
LTE Band7	15	21375	1	#0	QPSK	23.38	25.68	PASS
LTE Band7	15	21375	1	#Mid	QPSK	23.54	25.84	PASS
LTE Band7	15	21375	1	#Max	QPSK	23.11	25.41	PASS
LTE Band7	15	21375	36	#0	QPSK	22.19	24.49	PASS
LTE Band7	15	21375	36	#Mid	QPSK	22.24	24.54	PASS
LTE Band7	15	21375	36	#Max	QPSK	22.31	24.61	PASS
LTE Band7	15	21375	75	#0	QPSK	22.31	24.61	PASS
LTE Band7	15	21375	1	#0	QAM16	22.12	24.42	PASS
LTE Band7	15	21375	1	#Mid	QAM16	22.33	24.63	PASS
LTE Band7	15	21375	1	#Max	QAM16	22.02	24.32	PASS
LTE Band7	15	21375	36	#0	QAM16	21.33	23.63	PASS
LTE Band7	15	21375	36	#Mid	QAM16	21.35	23.65	PASS
LTE Band7	15	21375	36	#Max	QAM16	21.43	23.73	PASS
LTE Band7	15	21375	75	#0	QAM16	21.44	23.74	PASS
LTE Band7	20	20850	1	#0	QPSK	23.42	26.10	PASS



LTE Band7	20	20850	1	#Mid	QPSK	23.81	26.49	PASS
LTE Band7	20	20850	1	#Max	QPSK	23.60	26.28	PASS
LTE Band7	20	20850	50	#0	QPSK	22.71	25.39	PASS
LTE Band7	20	20850	50	#Mid	QPSK	22.59	25.27	PASS
LTE Band7	20	20850	50	#Max	QPSK	22.62	25.30	PASS
LTE Band7	20	20850	100	#0	QPSK	22.98	25.66	PASS
LTE Band7	20	20850	1	#0	QAM16	22.57	25.25	PASS
LTE Band7	20	20850	1	#Mid	QAM16	22.99	25.67	PASS
LTE Band7	20	20850	1	#Max	QAM16	22.53	25.21	PASS
LTE Band7	20	20850	50	#0	QAM16	21.54	24.22	PASS
LTE Band7	20	20850	50	#Mid	QAM16	21.54	24.22	PASS
LTE Band7	20	20850	50	#Max	QAM16	21.66	24.34	PASS
LTE Band7	20	20850	100	#0	QAM16	21.74	24.42	PASS
LTE Band7	20	21100	1	#0	QPSK	23.51	25.95	PASS
LTE Band7	20	21100	1	#Mid	QPSK	23.53	25.97	PASS
LTE Band7	20	21100	1	#Max	QPSK	23.32	25.76	PASS
LTE Band7	20	21100	50	#0	QPSK	22.51	24.95	PASS
LTE Band7	20	21100	50	#Mid	QPSK	22.54	24.98	PASS
LTE Band7	20	21100	50	#Max	QPSK	22.43	24.87	PASS
LTE Band7	20	21100	100	#0	QPSK	22.44	24.88	PASS
LTE Band7	20	21100	1	#0	QAM16	22.20	24.64	PASS
LTE Band7	20	21100	1	#Mid	QAM16	22.31	24.75	PASS
LTE Band7	20	21100	1	#Max	QAM16	21.92	24.36	PASS
LTE Band7	20	21100	50	#0	QAM16	21.56	24.00	PASS
LTE Band7	20	21100	50	#Mid	QAM16	21.54	23.98	PASS
LTE Band7	20	21100	50	#Max	QAM16	21.47	23.91	PASS
LTE Band7	20	21100	100	#0	QAM16	21.54	23.98	PASS
LTE Band7	20	21350	1	#0	QPSK	22.99	25.29	PASS
LTE Band7	20	21350	1	#Mid	QPSK	23.38	25.68	PASS
LTE Band7	20	21350	1	#Max	QPSK	22.97	25.27	PASS
LTE Band7	20	21350	50	#0	QPSK	22.08	24.38	PASS
LTE Band7	20	21350	50	#Mid	QPSK	22.06	24.36	PASS
LTE Band7	20	21350	50	#Max	QPSK	22.34	24.64	PASS
LTE Band7	20	21350	100	#0	QPSK	22.20	24.50	PASS
LTE Band7	20	21350	1	#0	QAM16	21.47	23.77	PASS
LTE Band7	20	21350	1	#Mid	QAM16	22.03	24.33	PASS
LTE Band7	20	21350	1	#Max	QAM16	21.62	23.92	PASS
LTE Band7	20	21350	50	#0	QAM16	21.29	23.59	PASS
LTE Band7	20	21350	50	#Mid	QAM16	21.28	23.58	PASS
LTE Band7	20	21350	50	#Max	QAM16	21.50	23.80	PASS
LTE Band7	20	21350	100	#0	QAM16	21.33	23.63	PASS



Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)	Verdict
LTE Band66	1.4	131979	1	#0	QPSK	23.51	25.45	PASS
LTE Band66	1.4	131979	1	#Mid	QPSK	23.52	25.46	PASS
LTE Band66	1.4	131979	1	#Max	QPSK	23.53	25.47	PASS
LTE Band66	1.4	131979	3	#0	QPSK	23.39	25.33	PASS
LTE Band66	1.4	131979	3	#Mid	QPSK	23.39	25.33	PASS
LTE Band66	1.4	131979	3	#Max	QPSK	23.44	25.38	PASS
LTE Band66	1.4	131979	6	#0	QPSK	22.44	24.38	PASS
LTE Band66	1.4	131979	1	#0	QAM16	22.41	24.35	PASS
LTE Band66	1.4	131979	1	#Mid	QAM16	22.47	24.41	PASS
LTE Band66	1.4	131979	1	#Max	QAM16	22.48	24.42	PASS
LTE Band66	1.4	131979	3	#0	QAM16	22.55	24.49	PASS
LTE Band66	1.4	131979	3	#Mid	QAM16	22.54	24.48	PASS
LTE Band66	1.4	131979	3	#Max	QAM16	22.57	24.51	PASS
LTE Band66	1.4	131979	6	#0	QAM16	21.64	23.58	PASS
LTE Band66	1.4	132322	1	#0	QPSK	23.24	25.24	PASS
LTE Band66	1.4	132322	1	#Mid	QPSK	23.25	25.25	PASS
LTE Band66	1.4	132322	1	#Max	QPSK	23.25	25.25	PASS
LTE Band66	1.4	132322	3	#0	QPSK	23.18	25.18	PASS
LTE Band66	1.4	132322	3	#Mid	QPSK	23.18	25.18	PASS
LTE Band66	1.4	132322	3	#Max	QPSK	23.17	25.17	PASS
LTE Band66	1.4	132322	6	#0	QPSK	22.22	24.22	PASS
LTE Band66	1.4	132322	1	#0	QAM16	22.46	24.46	PASS
LTE Band66	1.4	132322	1	#Mid	QAM16	22.43	24.43	PASS
LTE Band66	1.4	132322	1	#Max	QAM16	22.44	24.44	PASS
LTE Band66	1.4	132322	3	#0	QAM16	22.30	24.30	PASS
LTE Band66	1.4	132322	3	#Mid	QAM16	22.25	24.25	PASS
LTE Band66	1.4	132322	3	#Max	QAM16	22.29	24.29	PASS
LTE Band66	1.4	132322	6	#0	QAM16	21.27	23.27	PASS
LTE Band66	1.4	132665	1	#0	QPSK	23.06	24.03	PASS
LTE Band66	1.4	132665	1	#Mid	QPSK	23.07	24.04	PASS
LTE Band66	1.4	132665	1	#Max	QPSK	23.05	24.02	PASS
LTE Band66	1.4	132665	3	#0	QPSK	22.98	23.95	PASS
LTE Band66	1.4	132665	3	#Mid	QPSK	22.97	23.94	PASS
LTE Band66	1.4	132665	3	#Max	QPSK	22.95	23.92	PASS
LTE Band66	1.4	132665	6	#0	QPSK	22.16	23.13	PASS
LTE Band66	1.4	132665	1	#0	QAM16	22.12	23.09	PASS
LTE Band66	1.4	132665	1	#Mid	QAM16	21.98	22.95	PASS
LTE Band66	1.4	132665	1	#Max	QAM16	22.01	22.98	PASS
LTE Band66	1.4	132665	3	#0	QAM16	22.07	23.04	PASS
LTE Band66	1.4	132665	3	#Mid	QAM16	22.06	23.03	PASS
LTE Band66	1.4	132665	3	#Max	QAM16	22.02	22.99	PASS



LTE Band66	1.4	132665	6	#0	QAM16	21.35	22.32	PASS
LTE Band66	3	131987	1	#0	QPSK	23.33	25.27	PASS
LTE Band66	3	131987	1	#Mid	QPSK	23.39	25.33	PASS
LTE Band66	3	131987	1	#Max	QPSK	23.41	25.35	PASS
LTE Band66	3	131987	8	#0	QPSK	22.48	24.42	PASS
LTE Band66	3	131987	8	#Mid	QPSK	22.48	24.42	PASS
LTE Band66	3	131987	8	#Max	QPSK	22.57	24.51	PASS
LTE Band66	3	131987	15	#0	QPSK	22.55	24.49	PASS
LTE Band66	3	131987	1	#0	QAM16	22.62	24.56	PASS
LTE Band66	3	131987	1	#Mid	QAM16	22.67	24.61	PASS
LTE Band66	3	131987	1	#Max	QAM16	22.85	24.79	PASS
LTE Band66	3	131987	8	#0	QAM16	21.63	23.57	PASS
LTE Band66	3	131987	8	#Mid	QAM16	21.63	23.57	PASS
LTE Band66	3	131987	8	#Max	QAM16	21.72	23.66	PASS
LTE Band66	3	131987	15	#0	QAM16	21.62	23.56	PASS
LTE Band66	3	132322	1	#0	QPSK	23.23	25.23	PASS
LTE Band66	3	132322	1	#Mid	QPSK	23.18	25.18	PASS
LTE Band66	3	132322	1	#Max	QPSK	23.20	25.20	PASS
LTE Band66	3	132322	8	#0	QPSK	22.22	24.22	PASS
LTE Band66	3	132322	8	#Mid	QPSK	22.22	24.22	PASS
LTE Band66	3	132322	8	#Max	QPSK	22.24	24.24	PASS
LTE Band66	3	132322	15	#0	QPSK	22.20	24.20	PASS
LTE Band66	3	132322	1	#0	QAM16	22.42	24.42	PASS
LTE Band66	3	132322	1	#Mid	QAM16	22.38	24.38	PASS
LTE Band66	3	132322	1	#Max	QAM16	22.44	24.44	PASS
LTE Band66	3	132322	8	#0	QAM16	21.30	23.30	PASS
LTE Band66	3	132322	8	#Mid	QAM16	21.33	23.33	PASS
LTE Band66	3	132322	8	#Max	QAM16	21.33	23.33	PASS
LTE Band66	3	132322	15	#0	QAM16	21.17	23.17	PASS
LTE Band66	3	132657	1	#0	QPSK	23.02	23.99	PASS
LTE Band66	3	132657	1	#Mid	QPSK	23.04	24.01	PASS
LTE Band66	3	132657	1	#Max	QPSK	22.98	23.95	PASS
LTE Band66	3	132657	8	#0	QPSK	22.26	23.23	PASS
LTE Band66	3	132657	8	#Mid	QPSK	22.26	23.23	PASS
LTE Band66	3	132657	8	#Max	QPSK	22.15	23.12	PASS
LTE Band66	3	132657	15	#0	QPSK	22.14	23.11	PASS
LTE Band66	3	132657	1	#0	QAM16	22.07	23.04	PASS
LTE Band66	3	132657	1	#Mid	QAM16	21.97	22.94	PASS
LTE Band66	3	132657	1	#Max	QAM16	21.98	22.95	PASS
LTE Band66	3	132657	8	#0	QAM16	21.36	22.33	PASS
LTE Band66	3	132657	8	#Mid	QAM16	21.35	22.32	PASS
LTE Band66	3	132657	8	#Max	QAM16	21.40	22.37	PASS
LTE Band66	3	132657	15	#0	QAM16	21.31	22.28	PASS



LTE Band66	5	131997	1	#0	QPSK	23.38	25.32	PASS
LTE Band66	5	131997	1	#Mid	QPSK	23.46	25.40	PASS
LTE Band66	5	131997	1	#Max	QPSK	23.50	25.44	PASS
LTE Band66	5	131997	12	#0	QPSK	22.56	24.50	PASS
LTE Band66	5	131997	12	#Mid	QPSK	22.52	24.46	PASS
LTE Band66	5	131997	12	#Max	QPSK	22.76	24.70	PASS
LTE Band66	5	131997	25	#0	QPSK	22.58	24.52	PASS
LTE Band66	5	131997	1	#0	QAM16	22.66	24.60	PASS
LTE Band66	5	131997	1	#Mid	QAM16	22.76	24.70	PASS
LTE Band66	5	131997	1	#Max	QAM16	22.92	24.86	PASS
LTE Band66	5	131997	12	#0	QAM16	21.69	23.63	PASS
LTE Band66	5	131997	12	#Mid	QAM16	21.66	23.60	PASS
LTE Band66	5	131997	12	#Max	QAM16	21.79	23.73	PASS
LTE Band66	5	131997	25	#0	QAM16	21.72	23.66	PASS
LTE Band66	5	132322	1	#0	QPSK	23.10	25.10	PASS
LTE Band66	5	132322	1	#Mid	QPSK	23.20	25.20	PASS
LTE Band66	5	132322	1	#Max	QPSK	23.23	25.23	PASS
LTE Band66	5	132322	12	#0	QPSK	22.21	24.21	PASS
LTE Band66	5	132322	12	#Mid	QPSK	22.21	24.21	PASS
LTE Band66	5	132322	12	#Max	QPSK	22.24	24.24	PASS
LTE Band66	5	132322	25	#0	QPSK	22.17	24.17	PASS
LTE Band66	5	132322	1	#0	QAM16	22.44	24.44	PASS
LTE Band66	5	132322	1	#Mid	QAM16	22.43	24.43	PASS
LTE Band66	5	132322	1	#Max	QAM16	22.45	24.45	PASS
LTE Band66	5	132322	12	#0	QAM16	21.26	23.26	PASS
LTE Band66	5	132322	12	#Mid	QAM16	21.24	23.24	PASS
LTE Band66	5	132322	12	#Max	QAM16	21.34	23.34	PASS
LTE Band66	5	132322	25	#0	QAM16	21.28	23.28	PASS
LTE Band66	5	132647	1	#0	QPSK	22.92	23.89	PASS
LTE Band66	5	132647	1	#Mid	QPSK	22.95	23.92	PASS
LTE Band66	5	132647	1	#Max	QPSK	22.87	23.84	PASS
LTE Band66	5	132647	12	#0	QPSK	22.24	23.21	PASS
LTE Band66	5	132647	12	#Mid	QPSK	22.23	23.20	PASS
LTE Band66	5	132647	12	#Max	QPSK	22.20	23.17	PASS
LTE Band66	5	132647	25	#0	QPSK	22.16	23.13	PASS
LTE Band66	5	132647	1	#0	QAM16	22.40	23.37	PASS
LTE Band66	5	132647	1	#Mid	QAM16	22.29	23.26	PASS
LTE Band66	5	132647	1	#Max	QAM16	22.28	23.25	PASS
LTE Band66	5	132647	12	#0	QAM16	21.34	22.31	PASS
LTE Band66	5	132647	12	#Mid	QAM16	21.34	22.31	PASS
LTE Band66	5	132647	12	#Max	QAM16	21.39	22.36	PASS
LTE Band66	5	132647	25	#0	QAM16	21.32	22.29	PASS
LTE Band66	10	132022	1	#0	QPSK	23.41	25.35	PASS



LTE Band66	10	132022	1	#Mid	QPSK	23.47	25.41	PASS
LTE Band66	10	132022	1	#Max	QPSK	23.28	25.22	PASS
LTE Band66	10	132022	25	#0	QPSK	22.65	24.59	PASS
LTE Band66	10	132022	25	#Mid	QPSK	22.69	24.63	PASS
LTE Band66	10	132022	25	#Max	QPSK	22.72	24.66	PASS
LTE Band66	10	132022	50	#0	QPSK	22.73	24.67	PASS
LTE Band66	10	132022	1	#0	QAM16	22.69	24.63	PASS
LTE Band66	10	132022	1	#Mid	QAM16	22.90	24.84	PASS
LTE Band66	10	132022	1	#Max	QAM16	22.73	24.67	PASS
LTE Band66	10	132022	25	#0	QAM16	21.83	23.77	PASS
LTE Band66	10	132022	25	#Mid	QAM16	21.85	23.79	PASS
LTE Band66	10	132022	25	#Max	QAM16	21.81	23.75	PASS
LTE Band66	10	132022	50	#0	QAM16	21.76	23.70	PASS
LTE Band66	10	132322	1	#0	QPSK	23.11	25.11	PASS
LTE Band66	10	132322	1	#Mid	QPSK	23.13	25.13	PASS
LTE Band66	10	132322	1	#Max	QPSK	23.30	25.30	PASS
LTE Band66	10	132322	25	#0	QPSK	22.22	24.22	PASS
LTE Band66	10	132322	25	#Mid	QPSK	22.17	24.17	PASS
LTE Band66	10	132322	25	#Max	QPSK	22.27	24.27	PASS
LTE Band66	10	132322	50	#0	QPSK	22.22	24.22	PASS
LTE Band66	10	132322	1	#0	QAM16	22.39	24.39	PASS
LTE Band66	10	132322	1	#Mid	QAM16	22.44	24.44	PASS
LTE Band66	10	132322	1	#Max	QAM16	22.52	24.52	PASS
LTE Band66	10	132322	25	#0	QAM16	21.23	23.23	PASS
LTE Band66	10	132322	25	#Mid	QAM16	21.25	23.25	PASS
LTE Band66	10	132322	25	#Max	QAM16	21.39	23.39	PASS
LTE Band66	10	132322	50	#0	QAM16	21.19	23.19	PASS
LTE Band66	10	132622	1	#0	QPSK	22.86	23.83	PASS
LTE Band66	10	132622	1	#Mid	QPSK	22.97	23.94	PASS
LTE Band66	10	132622	1	#Max	QPSK	23.02	23.99	PASS
LTE Band66	10	132622	25	#0	QPSK	22.06	23.03	PASS
LTE Band66	10	132622	25	#Mid	QPSK	22.05	23.02	PASS
LTE Band66	10	132622	25	#Max	QPSK	22.16	23.13	PASS
LTE Band66	10	132622	50	#0	QPSK	22.16	23.13	PASS
LTE Band66	10	132622	1	#0	QAM16	21.84	22.81	PASS
LTE Band66	10	132622	1	#Mid	QAM16	22.03	23.00	PASS
LTE Band66	10	132622	1	#Max	QAM16	21.98	22.95	PASS
LTE Band66	10	132622	25	#0	QAM16	21.07	22.04	PASS
LTE Band66	10	132622	25	#Mid	QAM16	21.06	22.03	PASS
LTE Band66	10	132622	25	#Max	QAM16	21.30	22.27	PASS
LTE Band66	10	132622	50	#0	QAM16	21.25	22.22	PASS
LTE Band66	15	132047	1	#0	QPSK	23.43	25.43	PASS
LTE Band66	15	132047	1	#Mid	QPSK	23.39	25.39	PASS



LTE Band66	15	132047	1	#Max	QPSK	23.31	25.31	PASS
LTE Band66	15	132047	36	#0	QPSK	22.66	24.66	PASS
LTE Band66	15	132047	36	#Mid	QPSK	22.67	24.67	PASS
LTE Band66	15	132047	36	#Max	QPSK	22.53	24.53	PASS
LTE Band66	15	132047	75	#0	QPSK	22.57	24.57	PASS
LTE Band66	15	132047	1	#0	QAM16	22.72	24.72	PASS
LTE Band66	15	132047	1	#Mid	QAM16	22.84	24.84	PASS
LTE Band66	15	132047	1	#Max	QAM16	22.74	24.74	PASS
LTE Band66	15	132047	36	#0	QAM16	21.82	23.82	PASS
LTE Band66	15	132047	36	#Mid	QAM16	21.82	23.82	PASS
LTE Band66	15	132047	36	#Max	QAM16	21.59	23.59	PASS
LTE Band66	15	132047	75	#0	QAM16	21.62	23.62	PASS
LTE Band66	15	132322	1	#0	QPSK	23.13	25.13	PASS
LTE Band66	15	132322	1	#Mid	QPSK	23.16	25.16	PASS
LTE Band66	15	132322	1	#Max	QPSK	23.22	25.22	PASS
LTE Band66	15	132322	36	#0	QPSK	22.24	24.24	PASS
LTE Band66	15	132322	36	#Mid	QPSK	22.23	24.23	PASS
LTE Band66	15	132322	36	#Max	QPSK	22.29	24.29	PASS
LTE Band66	15	132322	75	#0	QPSK	22.26	24.26	PASS
LTE Band66	15	132322	1	#0	QAM16	22.40	24.40	PASS
LTE Band66	15	132322	1	#Mid	QAM16	22.45	24.45	PASS
LTE Band66	15	132322	1	#Max	QAM16	22.54	24.54	PASS
LTE Band66	15	132322	36	#0	QAM16	21.25	23.25	PASS
LTE Band66	15	132322	36	#Mid	QAM16	21.27	23.27	PASS
LTE Band66	15	132322	36	#Max	QAM16	21.31	23.31	PASS
LTE Band66	15	132322	75	#0	QAM16	21.25	23.25	PASS
LTE Band66	15	132597	1	#0	QPSK	22.93	23.90	PASS
LTE Band66	15	132597	1	#Mid	QPSK	22.88	23.85	PASS
LTE Band66	15	132597	1	#Max	QPSK	23.01	23.98	PASS
LTE Band66	15	132597	36	#0	QPSK	21.98	22.95	PASS
LTE Band66	15	132597	36	#Mid	QPSK	21.97	22.94	PASS
LTE Band66	15	132597	36	#Max	QPSK	22.07	23.04	PASS
LTE Band66	15	132597	75	#0	QPSK	22.08	23.05	PASS
LTE Band66	15	132597	1	#0	QAM16	22.08	23.05	PASS
LTE Band66	15	132597	1	#Mid	QAM16	22.03	23.00	PASS
LTE Band66	15	132597	1	#Max	QAM16	22.04	23.01	PASS
LTE Band66	15	132597	36	#0	QAM16	21.02	21.99	PASS
LTE Band66	15	132597	36	#Mid	QAM16	21.01	21.98	PASS
LTE Band66	15	132597	36	#Max	QAM16	21.21	22.18	PASS
LTE Band66	15	132597	75	#0	QAM16	21.12	22.09	PASS
LTE Band66	20	132072	1	#0	QPSK	23.17	25.11	PASS
LTE Band66	20	132072	1	#Mid	QPSK	23.30	25.24	PASS
LTE Band66	20	132072	1	#Max	QPSK	22.83	24.77	PASS



LTE Band66	20	132072	50	#0	QPSK	22.73	24.67	PASS
LTE Band66	20	132072	50	#Mid	QPSK	22.74	24.68	PASS
LTE Band66	20	132072	50	#Max	QPSK	22.46	24.40	PASS
LTE Band66	20	132072	100	#0	QPSK	22.31	24.25	PASS
LTE Band66	20	132072	1	#0	QAM16	22.36	24.30	PASS
LTE Band66	20	132072	1	#Mid	QAM16	22.67	24.61	PASS
LTE Band66	20	132072	1	#Max	QAM16	22.18	24.12	PASS
LTE Band66	20	132072	50	#0	QAM16	21.75	23.69	PASS
LTE Band66	20	132072	50	#Mid	QAM16	21.77	23.71	PASS
LTE Band66	20	132072	50	#Max	QAM16	21.50	23.44	PASS
LTE Band66	20	132072	100	#0	QAM16	21.31	23.25	PASS
LTE Band66	20	132322	1	#0	QPSK	22.75	24.75	PASS
LTE Band66	20	132322	1	#Mid	QPSK	23.22	25.22	PASS
LTE Band66	20	132322	1	#Max	QPSK	22.94	24.94	PASS
LTE Band66	20	132322	50	#0	QPSK	22.25	24.25	PASS
LTE Band66	20	132322	50	#Mid	QPSK	22.24	24.24	PASS
LTE Band66	20	132322	50	#Max	QPSK	22.26	24.26	PASS
LTE Band66	20	132322	100	#0	QPSK	22.22	24.22	PASS
LTE Band66	20	132322	1	#0	QAM16	21.67	23.67	PASS
LTE Band66	20	132322	1	#Mid	QAM16	22.20	24.20	PASS
LTE Band66	20	132322	1	#Max	QAM16	21.89	23.89	PASS
LTE Band66	20	132322	50	#0	QAM16	21.21	23.21	PASS
LTE Band66	20	132322	50	#Mid	QAM16	21.22	23.22	PASS
LTE Band66	20	132322	50	#Max	QAM16	21.24	23.24	PASS
LTE Band66	20	132322	100	#0	QAM16	21.24	23.24	PASS
LTE Band66	20	132572	1	#0	QPSK	22.61	23.58	PASS
LTE Band66	20	132572	1	#Mid	QPSK	22.74	23.71	PASS
LTE Band66	20	132572	1	#Max	QPSK	22.64	23.61	PASS
LTE Band66	20	132572	50	#0	QPSK	21.98	22.95	PASS
LTE Band66	20	132572	50	#Mid	QPSK	21.98	22.95	PASS
LTE Band66	20	132572	50	#Max	QPSK	21.97	22.94	PASS
LTE Band66	20	132572	100	#0	QPSK	22.00	22.97	PASS
LTE Band66	20	132572	1	#0	QAM16	21.50	22.47	PASS
LTE Band66	20	132572	1	#Mid	QAM16	21.71	22.68	PASS
LTE Band66	20	132572	1	#Max	QAM16	21.48	22.45	PASS
LTE Band66	20	132572	50	#0	QAM16	21.05	22.02	PASS
LTE Band66	20	132572	50	#Mid	QAM16	21.06	22.03	PASS
LTE Band66	20	132572	50	#Max	QAM16	21.15	22.12	PASS
LTE Band66	20	132572	100	#0	QAM16	21.02	21.99	PASS

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 51 kHz, VBW is set to 160 kHz for WCDMA Band IV.

RBW is set to 30 kHz, VBW is set to 91 kHz for LTE Band 4/66 (1.4MHz).

RBW is set to 62 kHz, VBW is set to 180 kHz for LTE Band 4/66 (3MHz).

RBW is set to 100 kHz, VBW is set to 300 kHz for LTE Band 4/7/66 (5MHz).

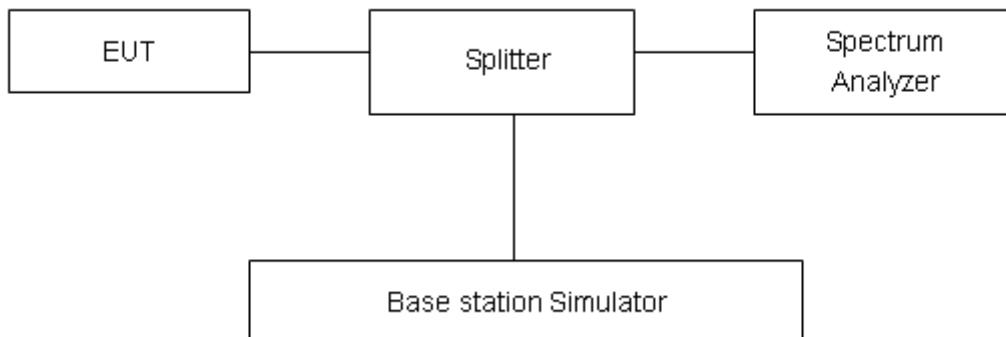
RBW is set to 200 kHz, VBW is set to 620 kHz for LTE Band 4/7/66 (10MHz).

RBW is set to 300 kHz, VBW is set to 910 kHz for LTE Band 4/7/66 (15MHz).

RBW is set to 430 kHz, VBW is set to 1.2 MHz for LTE Band 4/7/66 (20MHz).

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

Test Setup



Limits

No specific occupied bandwidth requirements in part 2.1049.

Measurement Uncertainty

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



Test Result

Mode	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
WCDMA Band IV (RMC)	1312	1712.4	4.1354	4.7340
	1413	1732.6	4.1318	4.7010
	1513	1752.6	4.1356	4.7090

LTE Band 4						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	19957	1710.7	1.1173	1.5660
			20175	1732.5	1.1140	1.5370
			20393	1754.3	1.1096	1.5030
		3	19965	1711.5	2.7343	3.2210
			20175	1732.5	2.7163	3.1890
			20385	1753.5	2.7220	3.3160
		5	19975	1712.5	4.5225	5.1230
			20175	1732.5	4.5268	5.1710
			20375	1752.5	4.5137	5.1560
		10	20000	1715	9.0322	10.7200
			20175	1732.5	9.0254	10.4000
			20350	1750	9.0086	10.4000
	15	20025	1717.5	13.4970	15.9000	
		20175	1732.5	13.5100	15.3900	
		20325	1747.5	13.5350	16.5200	
	20	20050	1720	17.9410	20.9500	
		20175	1732.5	17.9920	21.5000	
		20300	1745	18.0570	21.7600	
	16QAM	1.4	19957	1710.7	1.1281	1.6420
			20175	1732.5	1.1055	1.5190
			20393	1754.3	1.1157	1.4850
		3	19965	1711.5	2.7176	3.2140
			20175	1732.5	2.7273	3.3220
			20385	1753.5	2.7201	3.1710
5		19975	1712.5	4.5293	5.1690	
		20175	1732.5	4.5278	5.2790	
		20375	1752.5	4.5591	5.1660	
10		20000	1715	9.0041	10.6600	
		20175	1732.5	9.0438	10.3500	
		20350	1750	9.0000	10.4500	

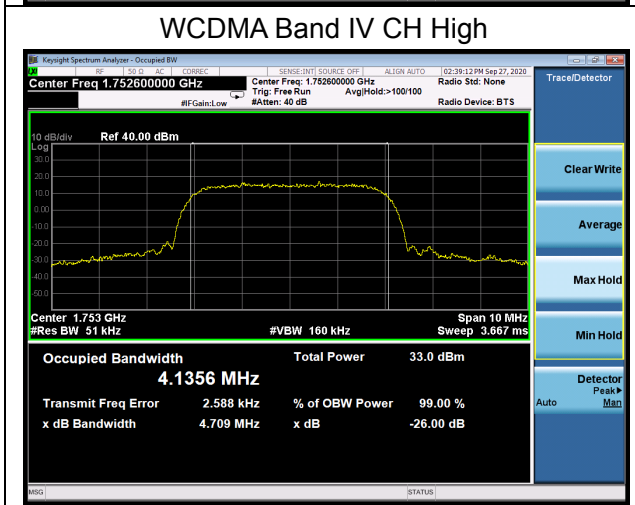
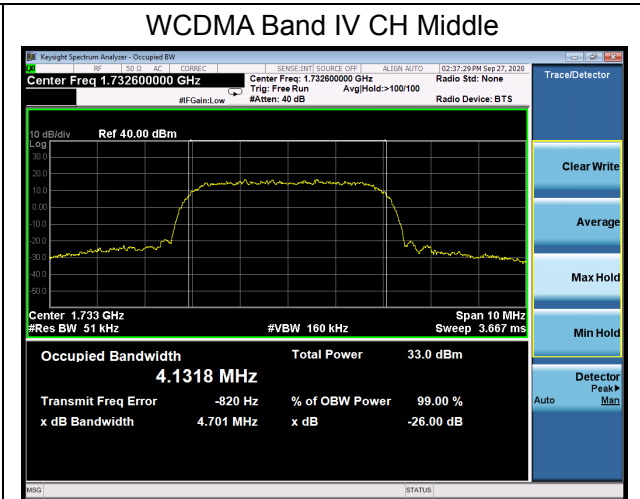
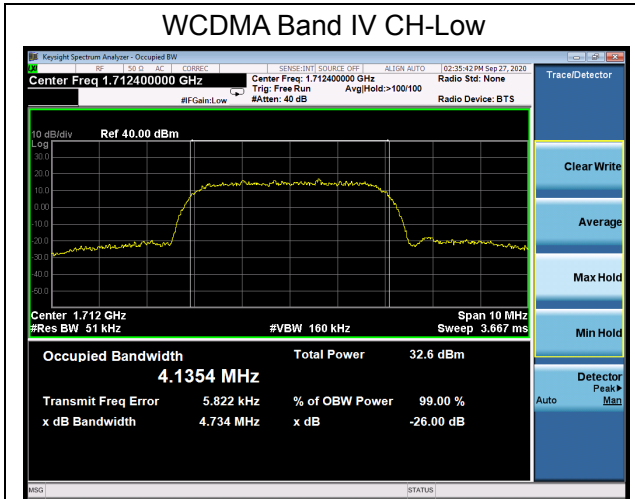


		15	20025	1717.5	13.5170	16.1800
			20175	1732.5	13.5030	16.0200
			20325	1747.5	13.5030	15.8900
		20	20050	1720	17.9960	21.1900
			20175	1732.5	18.0000	21.3300
			20300	1745	18.0290	21.4400

LTE Band 7						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	20775	2502.5	4.5252	5.1520
			21100	2535	4.5270	5.1770
			21425	2567.5	4.5178	5.1670
		10	20800	2505	9.0471	10.4300
			21100	2535	9.0219	10.3500
			21400	2565	9.0409	10.4400
		15	20825	2507.5	13.5490	16.0500
			21100	2535	13.4830	15.5700
			21375	2562.5	13.5340	16.4200
		20	20850	2510	18.0620	21.0800
			21100	2535	17.9810	21.6600
			21350	2560	17.9500	21.2000
	16QAM	5	20775	2502.5	4.5224	5.1550
			21100	2535	4.5327	5.1400
			21425	2567.5	4.5387	5.1550
		10	20800	2505	9.0435	10.5300
			21100	2535	9.0145	10.2200
			21400	2565	9.0392	10.2900
		15	20825	2507.5	13.5430	16.2700
			21100	2535	13.5020	16.3800
			21375	2562.5	13.5090	15.7400
		20	20850	2510	18.0900	21.2800
			21100	2535	18.0270	21.6300
			21350	2560	18.0400	21.0800

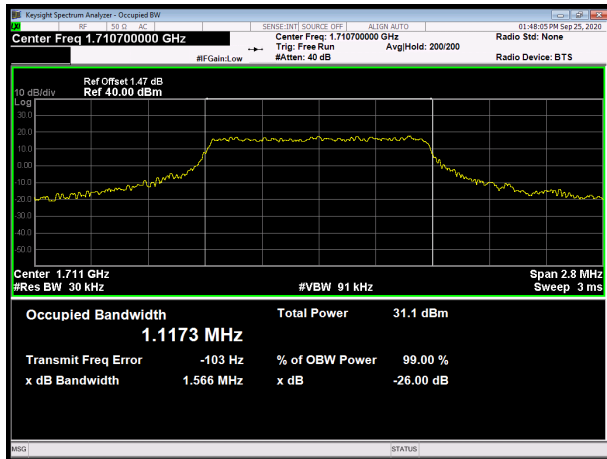


LTE Band 66						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	131979	1710.7	1.1117	1.5340
			132322	1745	1.1165	1.5790
			132665	1779.3	1.1167	1.5110
		3	131987	1711.5	2.7198	3.2540
			132322	1745	2.7085	3.2310
			132657	1778.5	2.7239	3.1760
		5	131997	1712.5	4.5343	5.1680
			132322	1745	4.5335	5.2340
			132647	1777.5	4.5077	5.0160
		10	132022	1715	9.0115	10.2300
			132322	1745	9.0044	10.1600
			132622	1775	9.0442	10.4500
	15	132047	1717.5	13.4780	15.5900	
		132322	1745	13.5090	15.6600	
		132597	1772.5	13.5290	16.0300	
	20	132072	1720	18.0070	20.9100	
		132322	1745	18.0080	21.0100	
		132572	1770	18.0570	21.8700	
	16QAM	1.4	131979	1710.7	1.1289	1.6360
			132322	1745	1.1071	1.5620
			132665	1779.3	1.1242	1.5630
		3	131987	1711.5	2.7263	3.2750
			132322	1745	2.7222	3.3710
			132657	1778.5	2.7131	3.2570
5		131997	1712.5	4.5162	5.2130	
		132322	1745	4.5316	5.1990	
		132647	1777.5	4.5366	5.0970	
10		132022	1715	9.0053	10.5400	
		132322	1745	9.0169	10.1800	
		132622	1775	9.0184	10.2500	
15	132047	1717.5	13.4970	15.8000		
	132322	1745	13.5120	16.1900		
	132597	1772.5	13.5120	15.8600		
20	132072	1720	17.9200	21.2500		
	132322	1745	18.0320	21.3900		
	132572	1770	18.0190	21.8300		

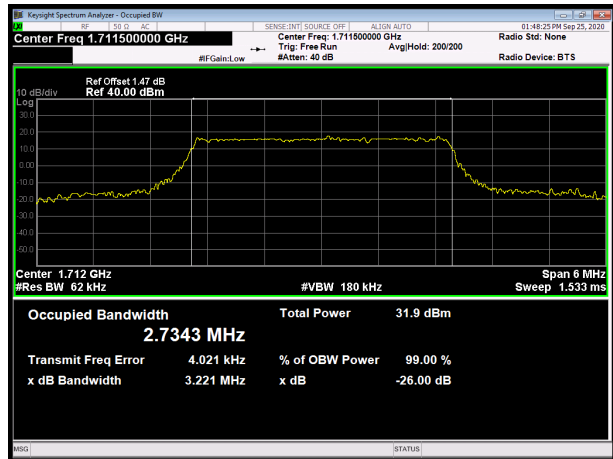




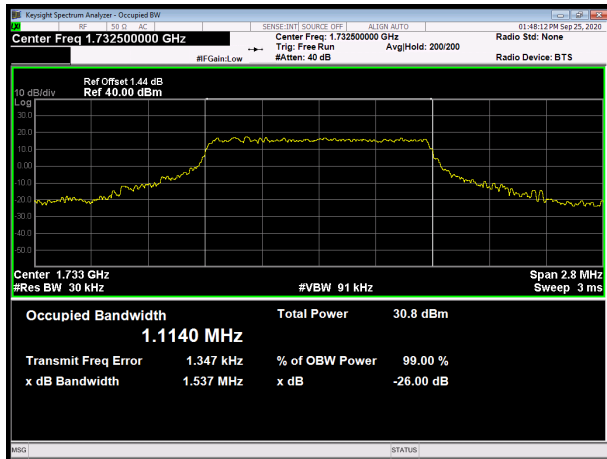
LTE Band 4 QPSK 1.4MHz CH-Low



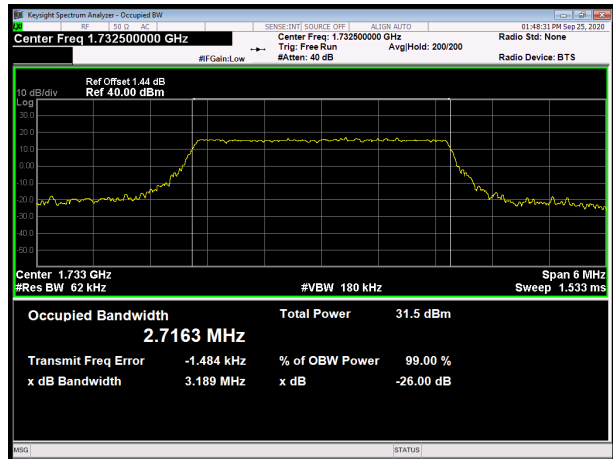
LTE Band 4 QPSK 3MHz CH-Low



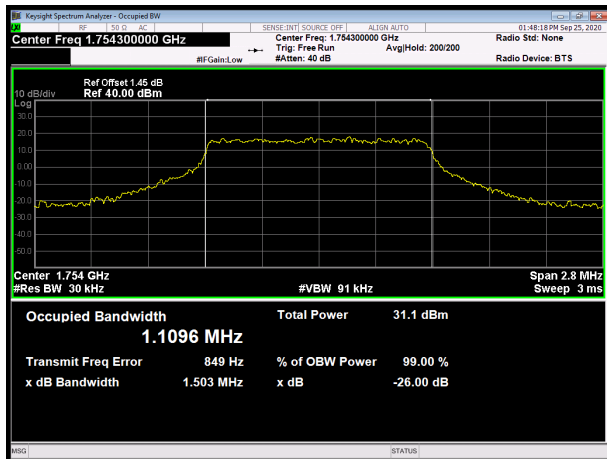
LTE Band 4 QPSK 1.4MHz CH-Middle



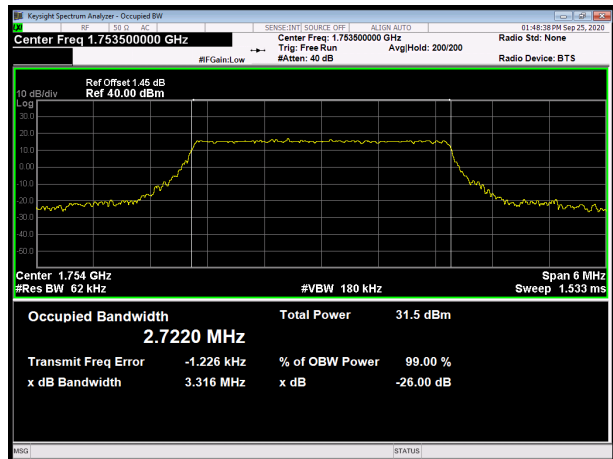
LTE Band 4 QPSK 3MHz CH-Middle



LTE Band 4 QPSK 1.4MHz CH-High

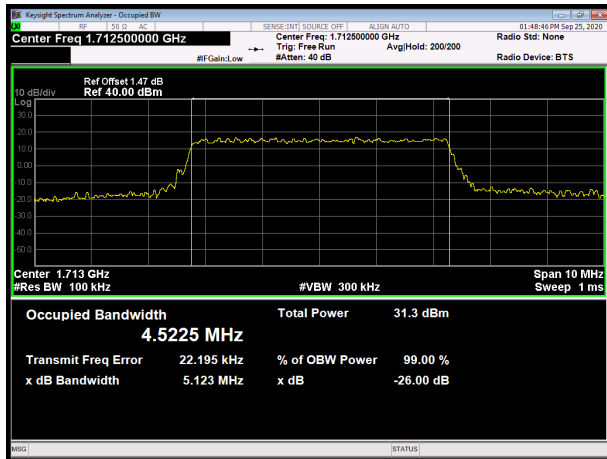


LTE Band 4 QPSK 3MHz CH-High

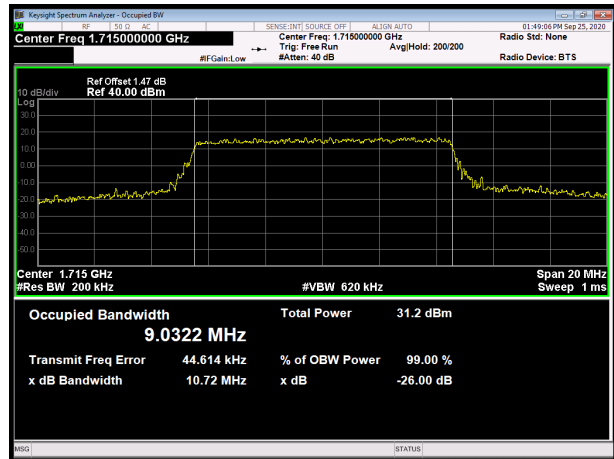




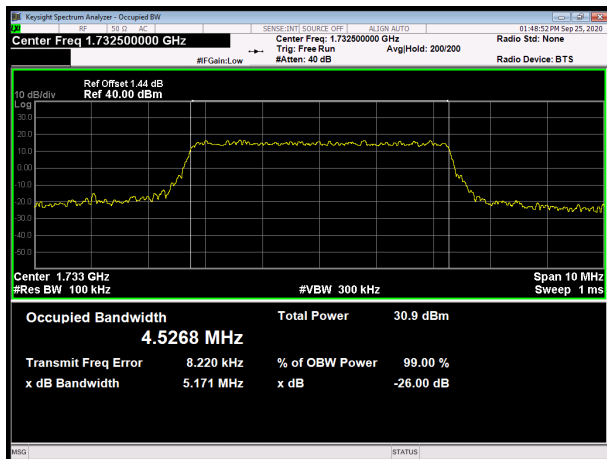
LTE Band 4 QPSK 5MHz CH-Low



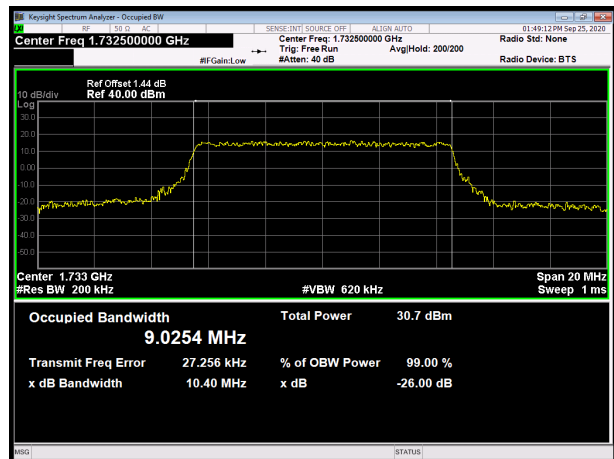
LTE Band 4 QPSK 10MHz CH-Low



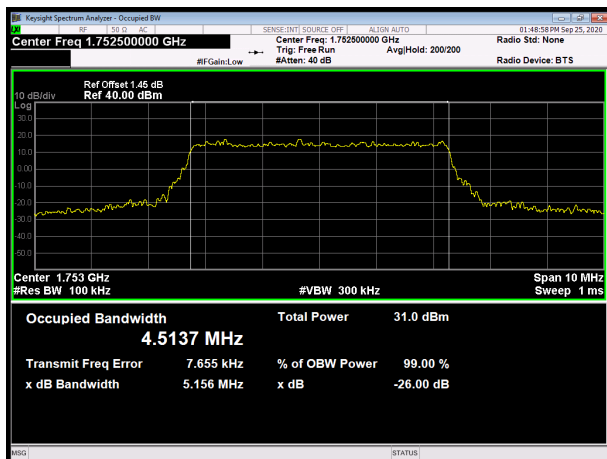
LTE Band 4 QPSK 5MHz CH-Middle



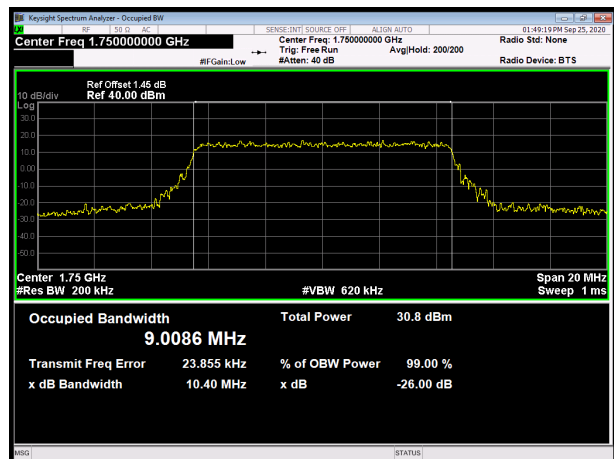
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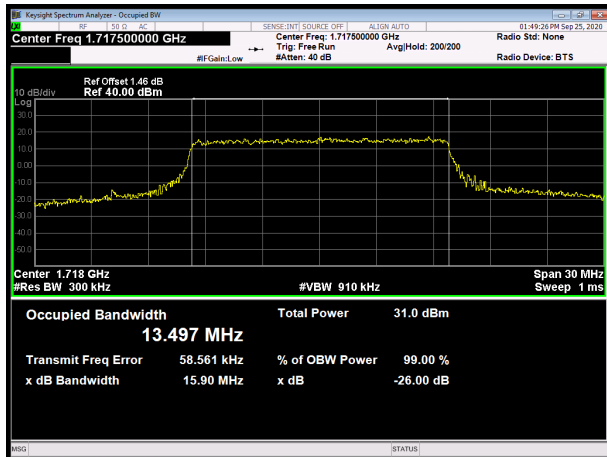


LTE Band 4 QPSK 10MHz CH-High

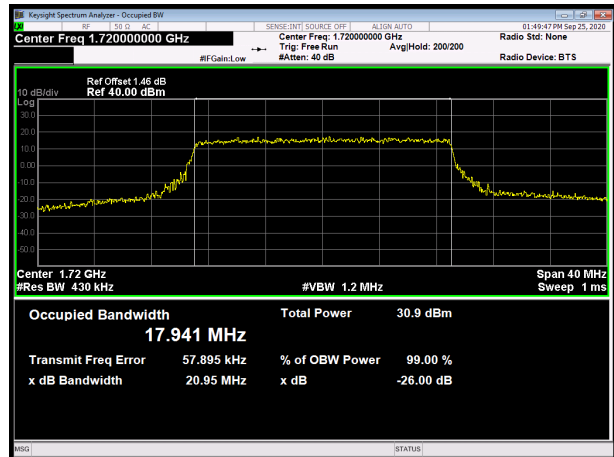




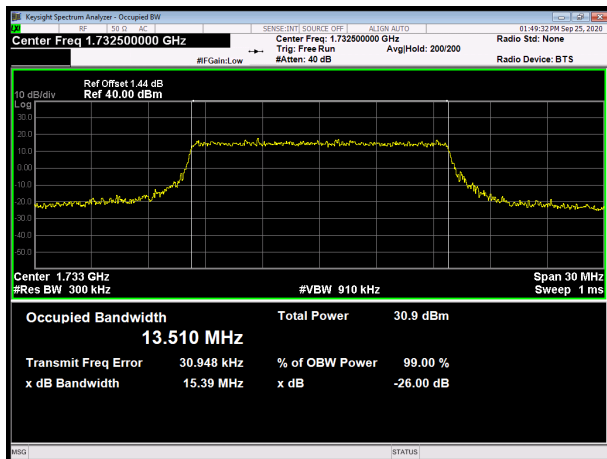
LTE Band 4 QPSK 15MHz CH-Low



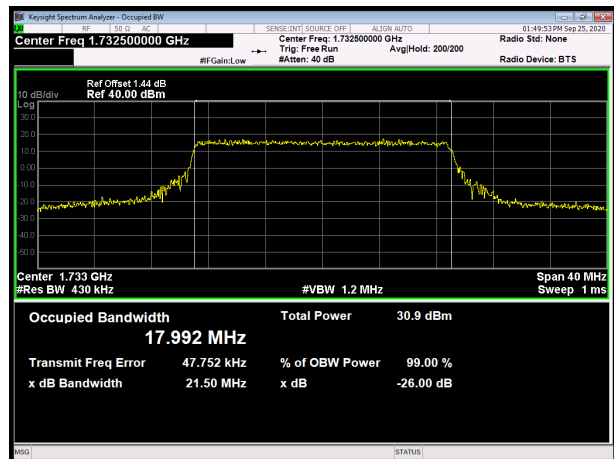
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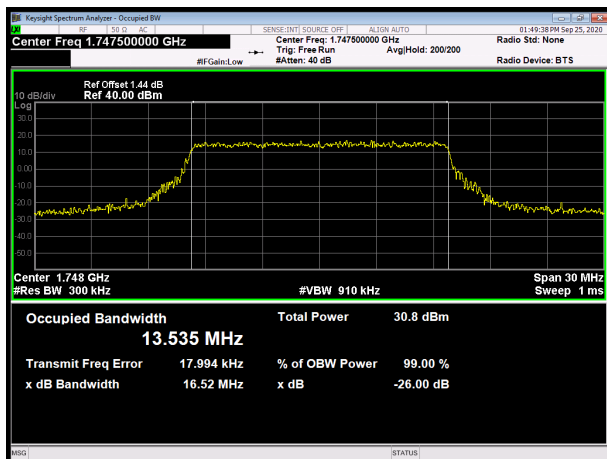
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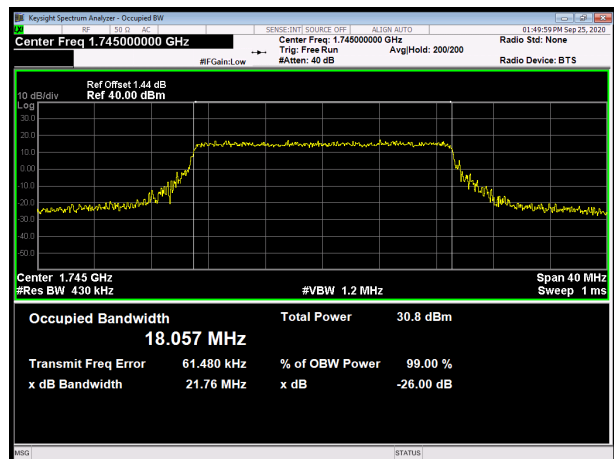
LTE Band 4 QPSK 20MHz CH-Middle



LTE Band 4 QPSK 15MHz CH-High

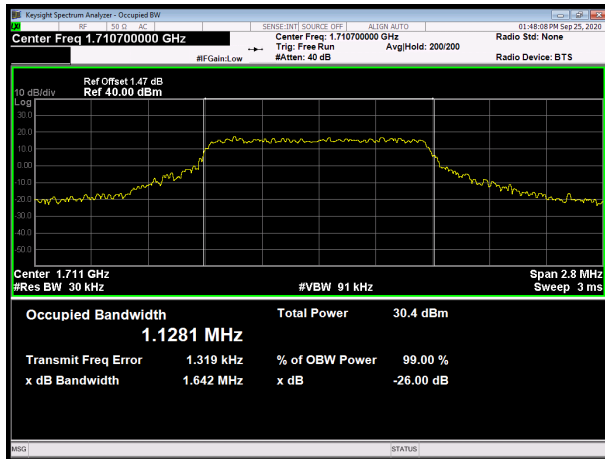


LTE Band 4 QPSK 20MHz CH-High

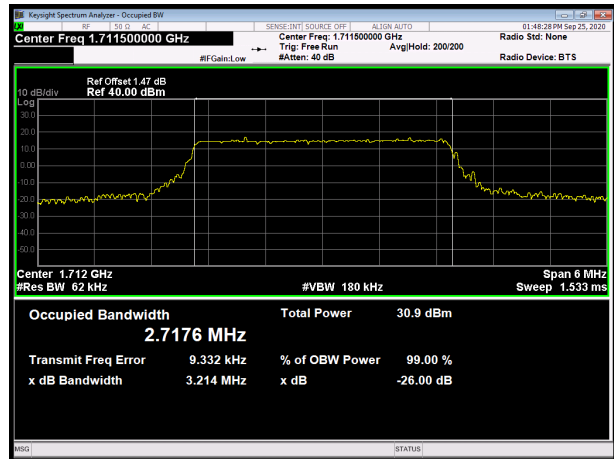




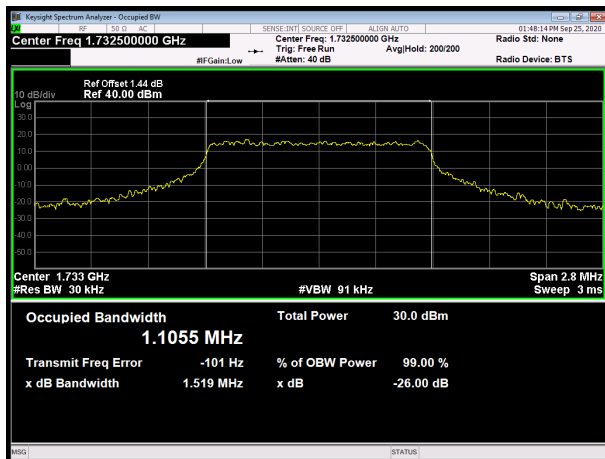
LTE Band 4 16QAM 1.4MHz CH-Low



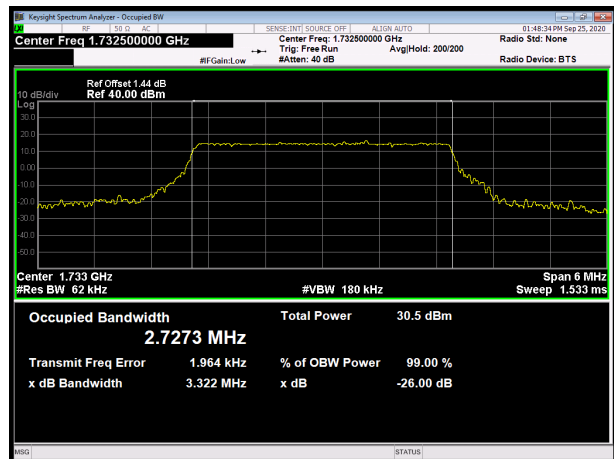
LTE Band 4 16QAM 3MHz CH-Low



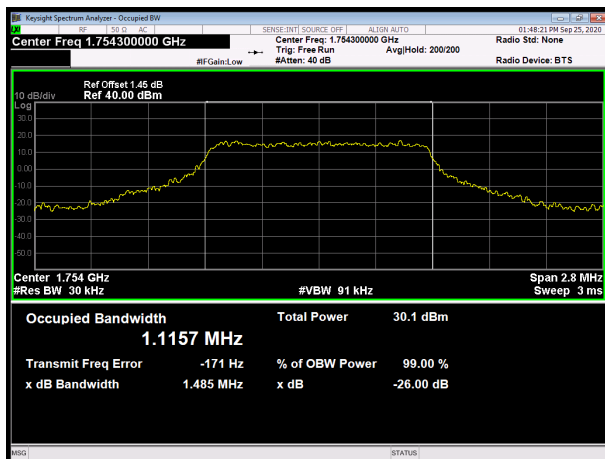
LTE Band 4 16QAM 1.4MHz CH-Middle



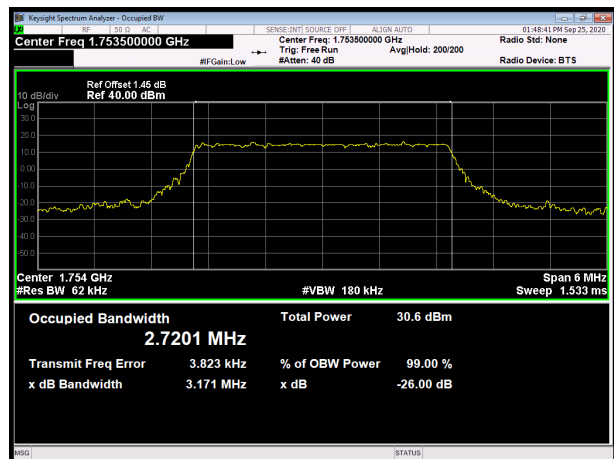
LTE Band 4 16QAM 3MHz CH-Middle



LTE Band 4 16QAM 1.4MHz CH-High

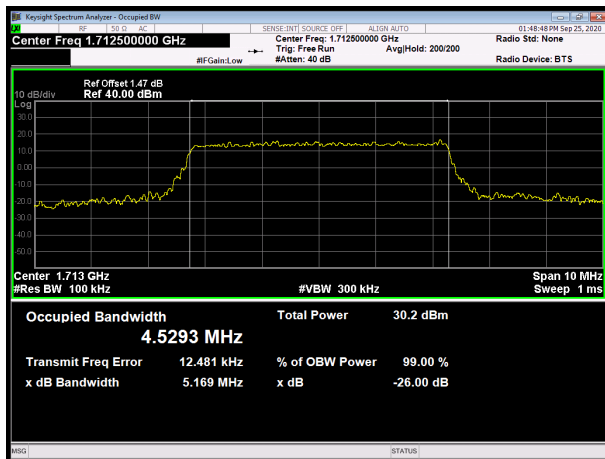


LTE Band 4 16QAM 3MHz CH-High

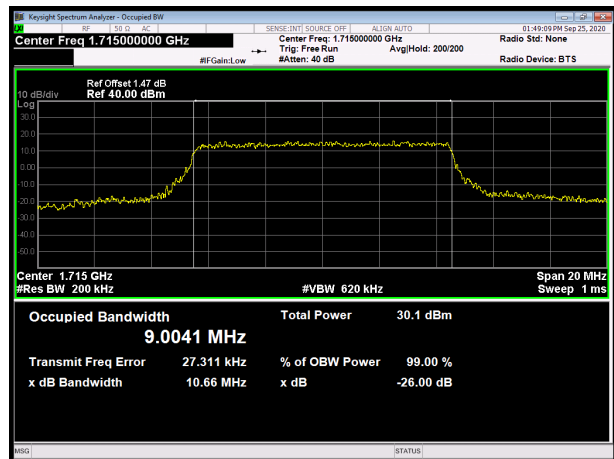




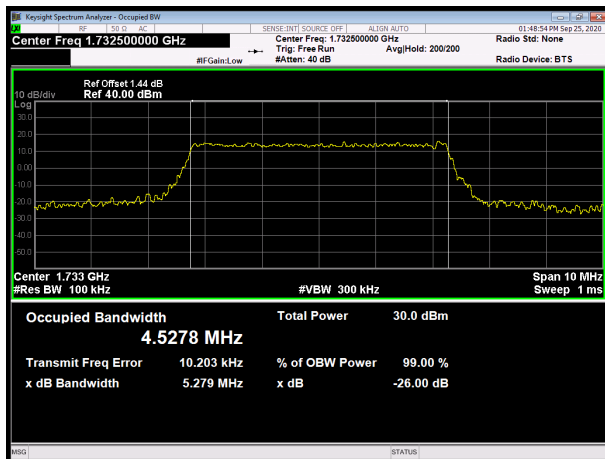
LTE Band 4 16QAM 5MHz CH-Low



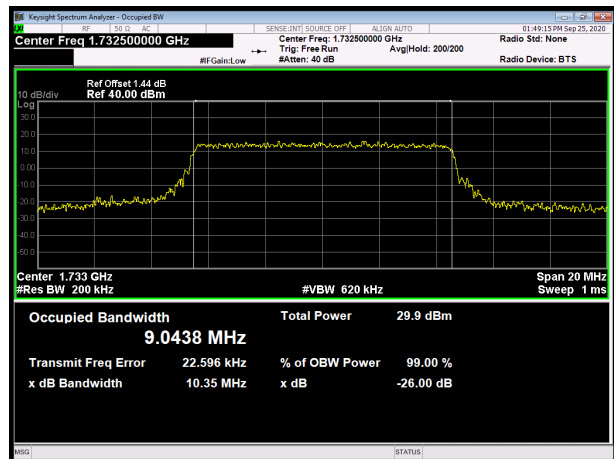
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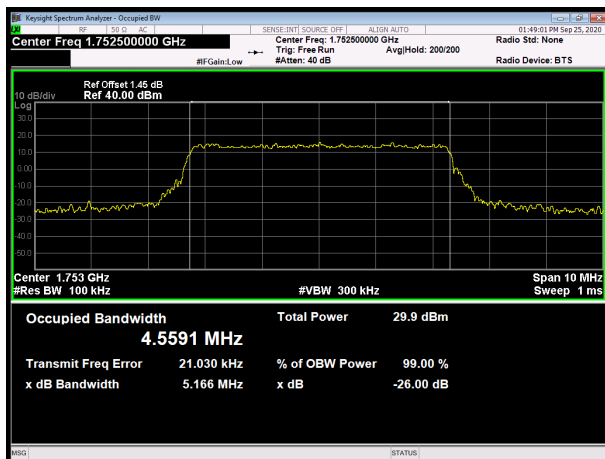
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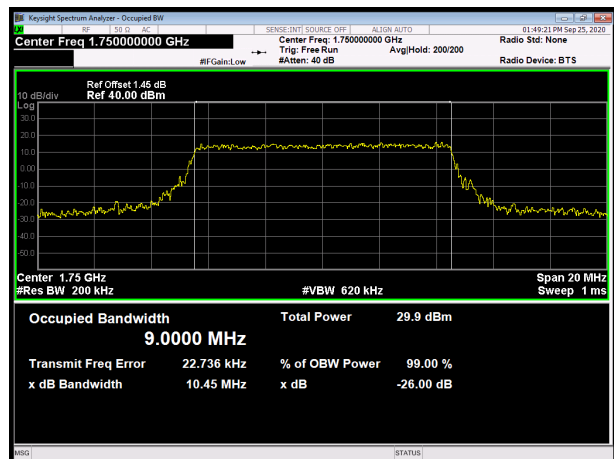
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LTE Band 4 16QAM 5MHz CH-High

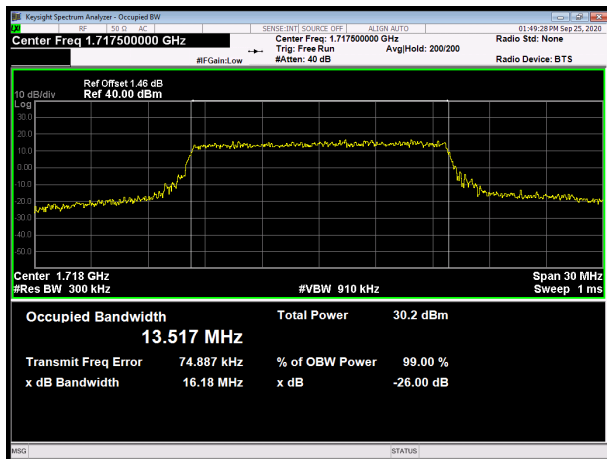


LTE Band 4 16QAM 10MHz CH-High

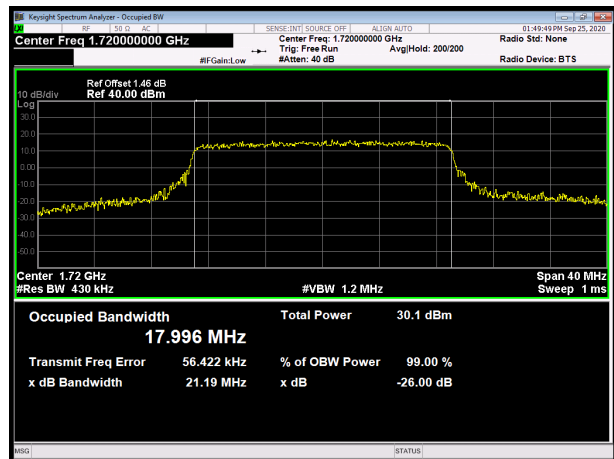




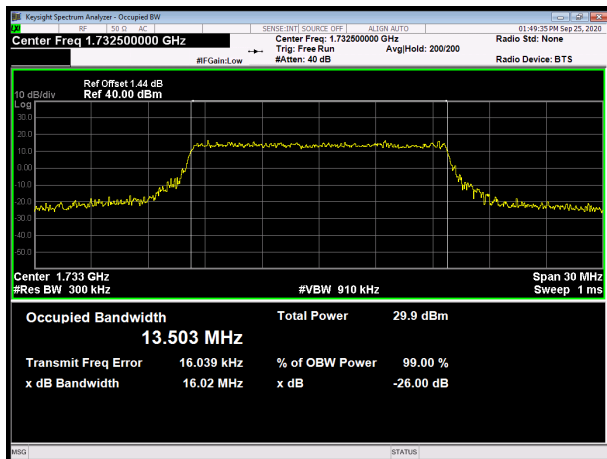
LTE Band 4 16QAM 15MHz CH-Low



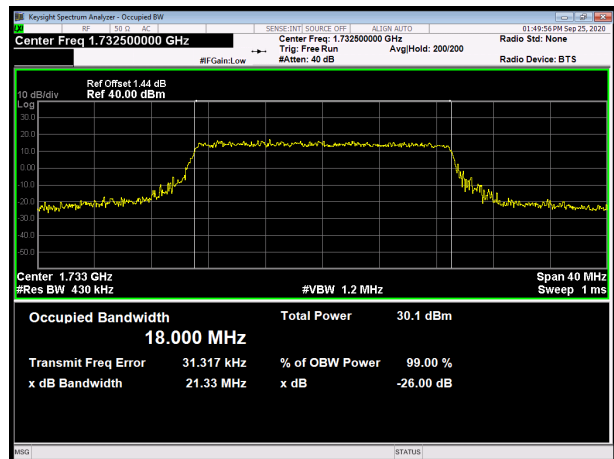
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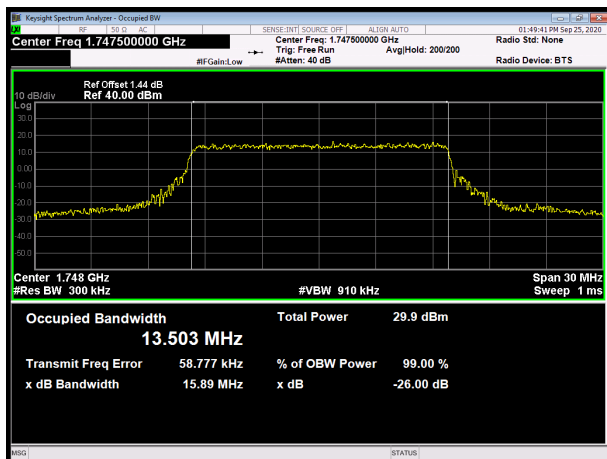
LTE Band 4 16QAM 15MHz CH-Middle



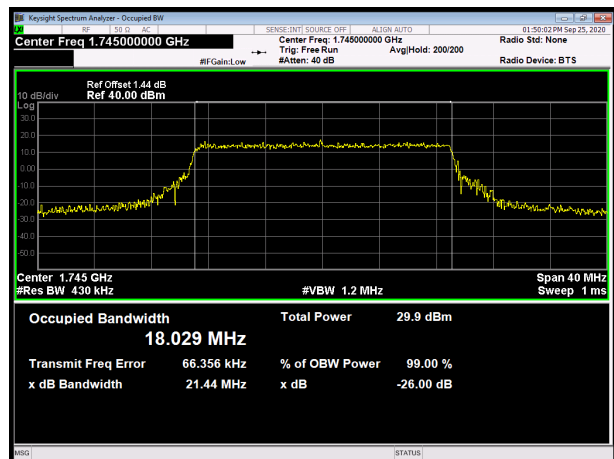
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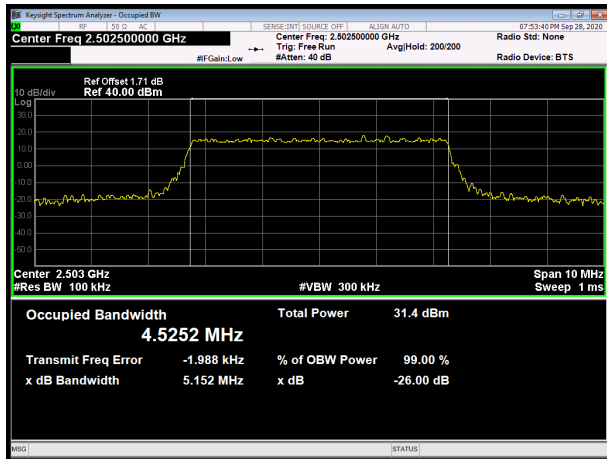


LTE Band 4 16QAM 20MHz CH-High

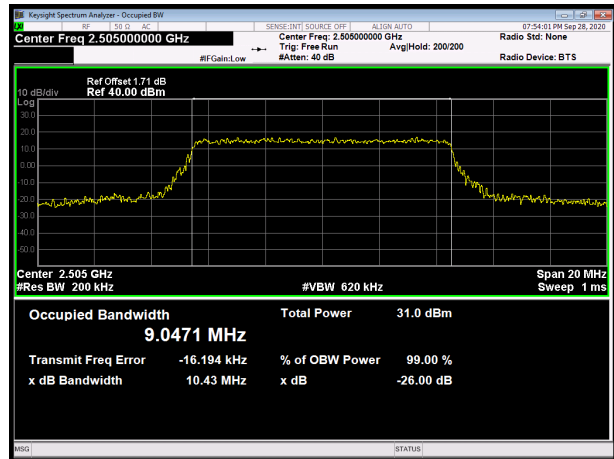




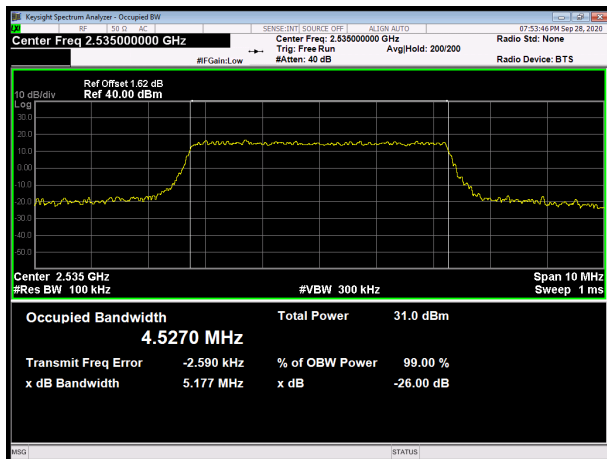
LTE Band 7 QPSK 5MHz CH-Low



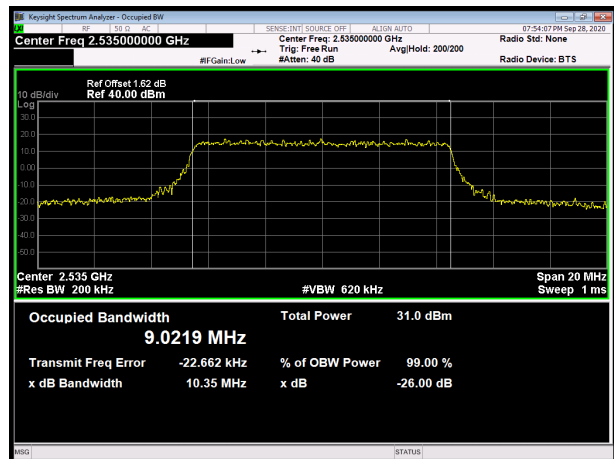
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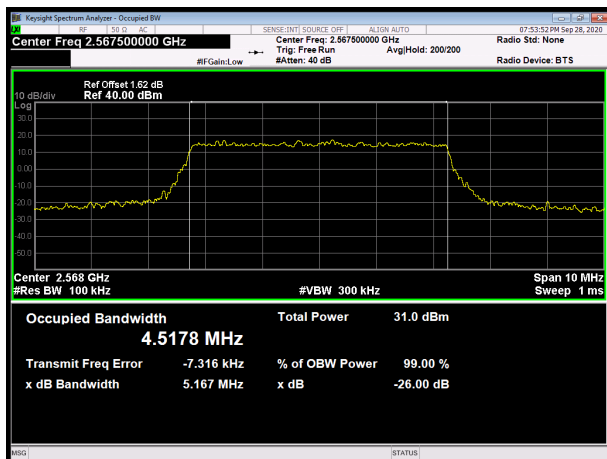
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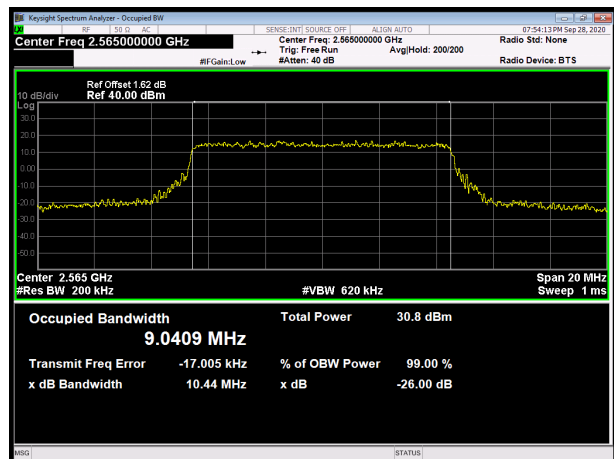
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LTE Band 7 QPSK 5MHz CH-High

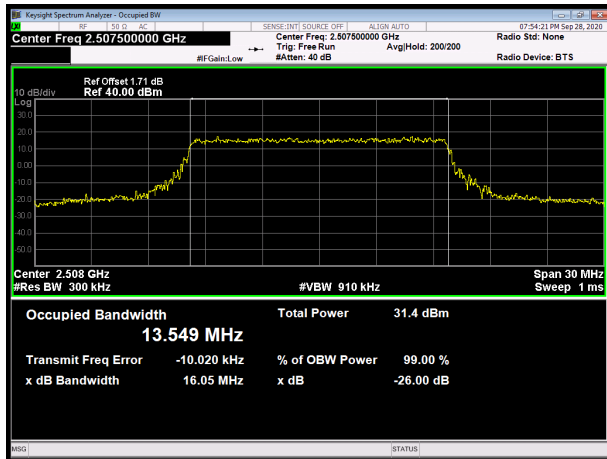


LTE Band 7 QPSK 10MHz CH-High

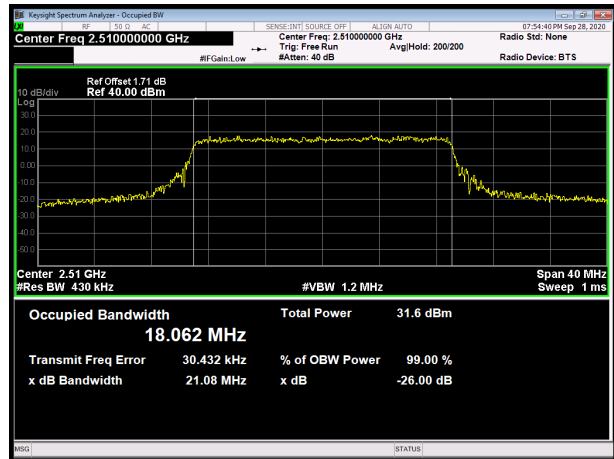




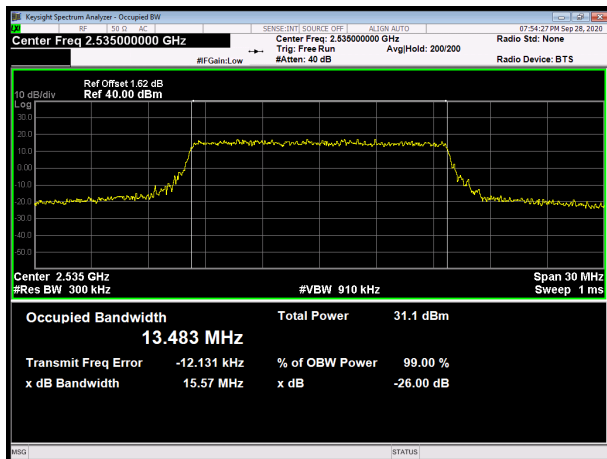
LTE Band 7 QPSK 15MHz CH-Low



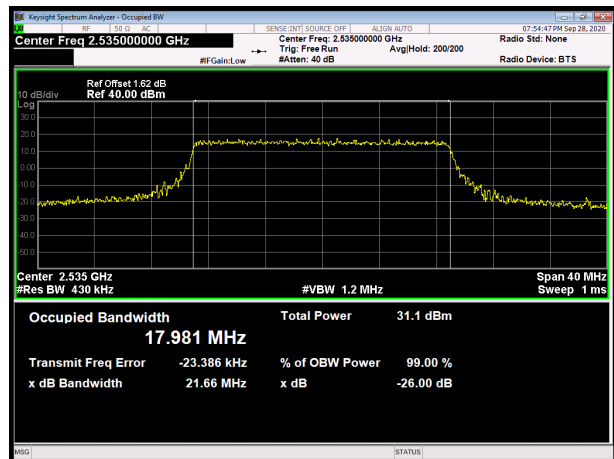
LTE Band 7 QPSK 20MHz CH-Low



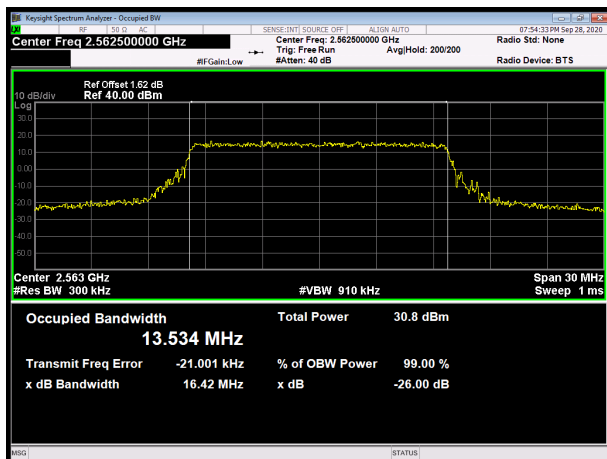
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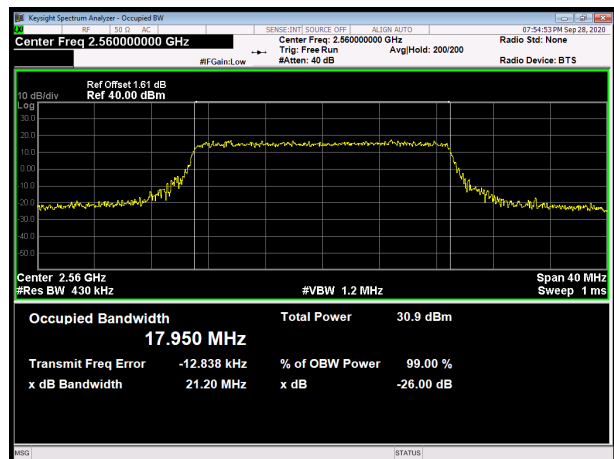
LTE Band 7 QPSK 20MHz CH-Middle



LTE Band 7 QPSK 15MHz CH-High

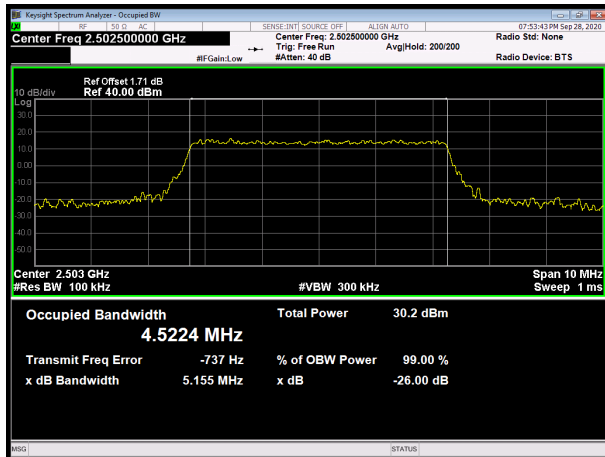


LTE Band 7 QPSK 20MHz CH-High

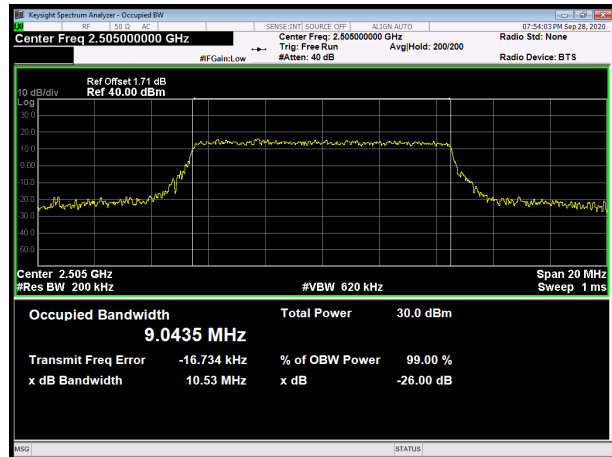




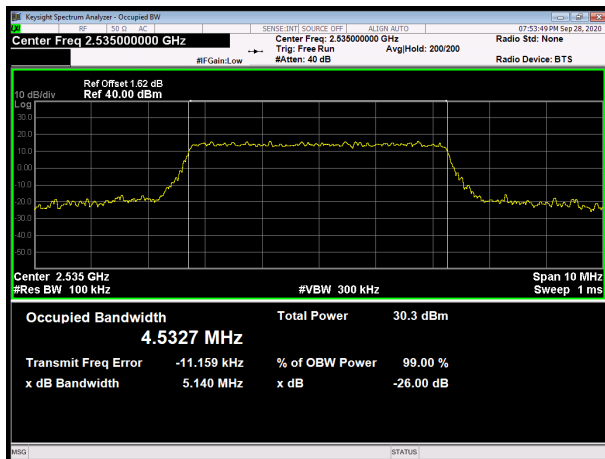
LTE Band 7 16QAM 5MHz CH-Low



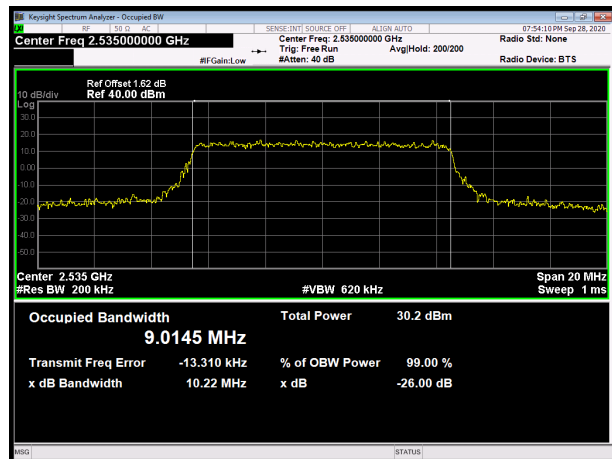
LTE Band 7 16QAM 10MHz CH-Low



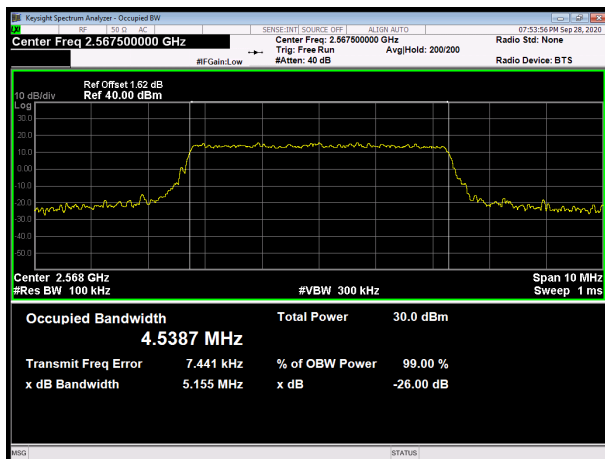
LTE Band 7 16QAM 5MHz CH-Middle



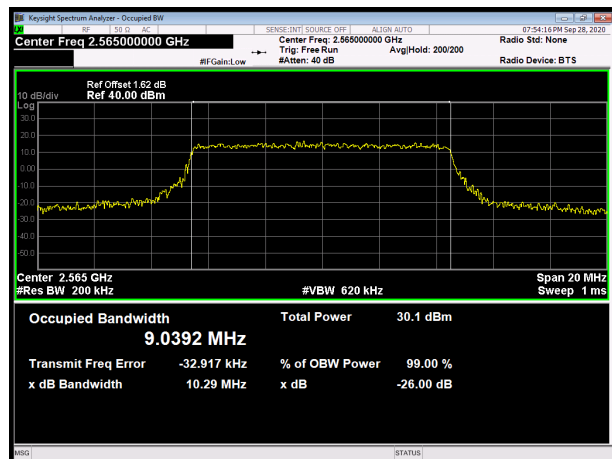
LTE Band 7 16QAM 10MHz CH-Middle



LTE Band 7 16QAM 5MHz CH-High

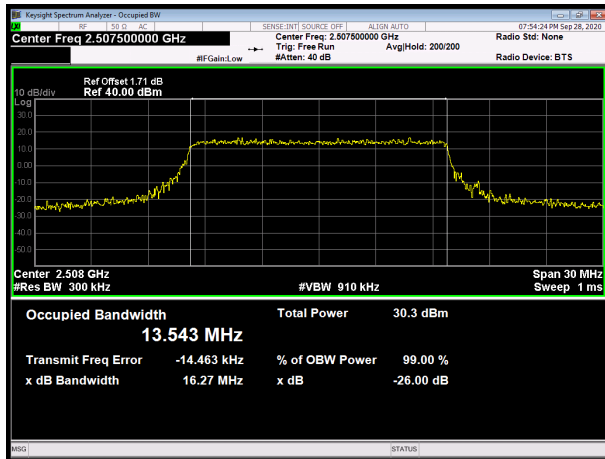


LTE Band 7 16QAM 10MHz CH-High

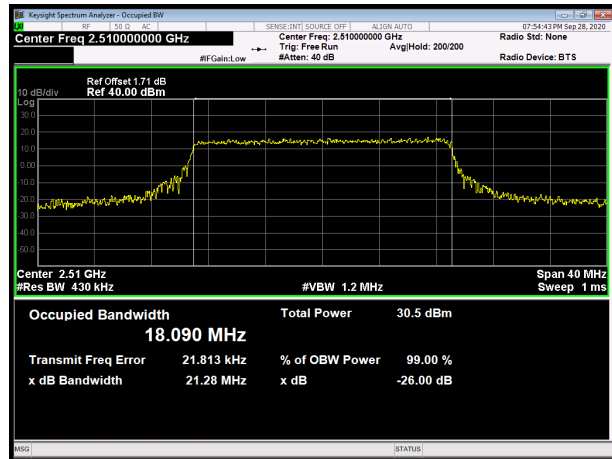




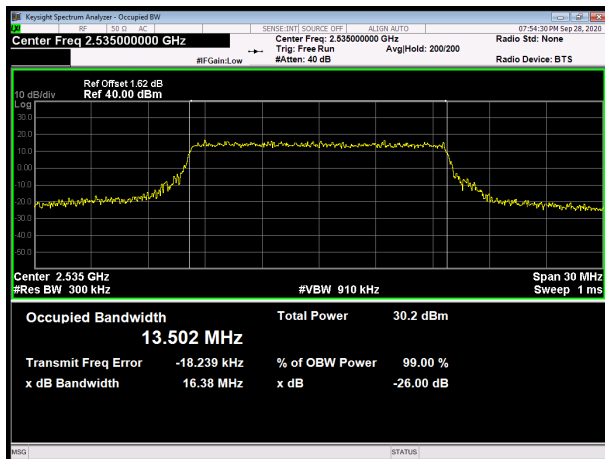
LTE Band 7 16QAM 15MHz CH-Low



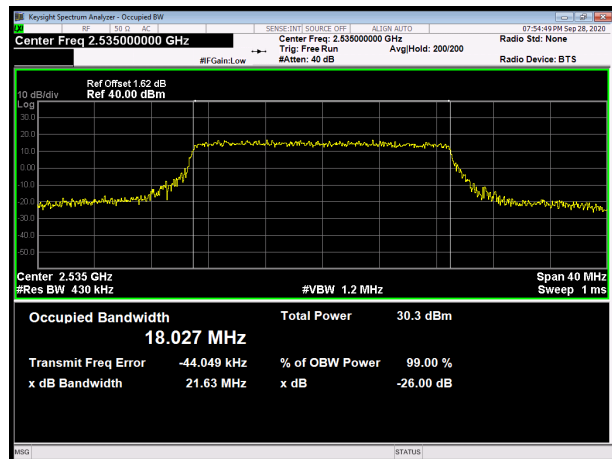
LTE Band 7 16QAM 20MHz CH-Low



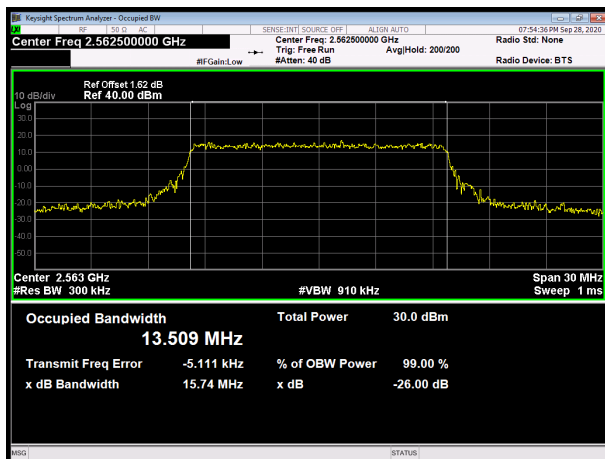
LTE Band 7 16QAM 15MHz CH-Middle



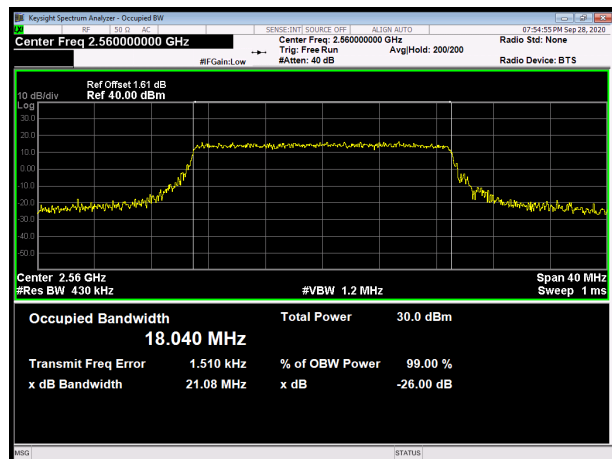
LTE Band 7 16QAM 20MHz CH-Middle



LTE Band 7 16QAM 15MHz CH-High

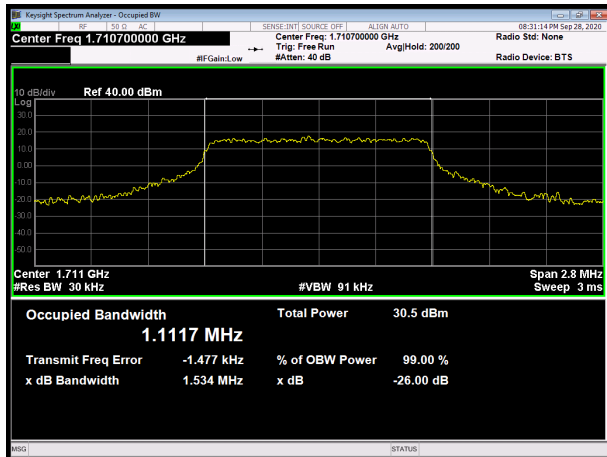


LTE Band 7 16QAM 20MHz CH-High

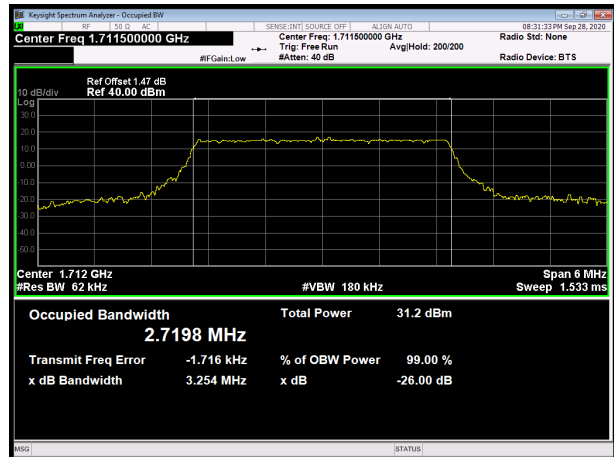




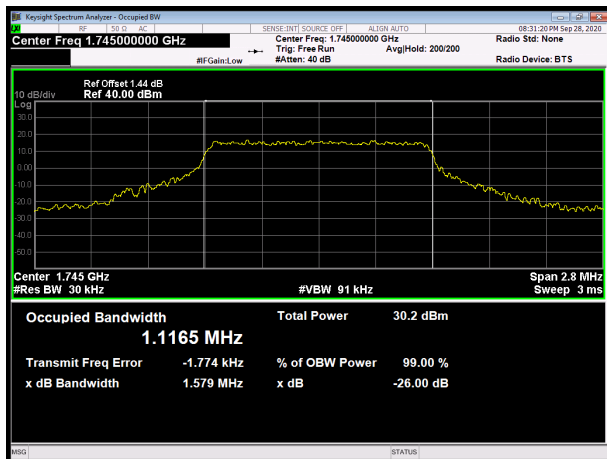
LTE Band 66 QPSK 1.4MHz CH-Low



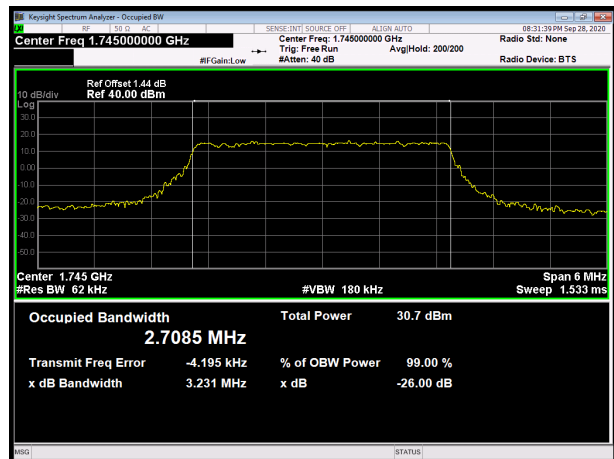
LTE Band 66 QPSK 3MHz CH-Low



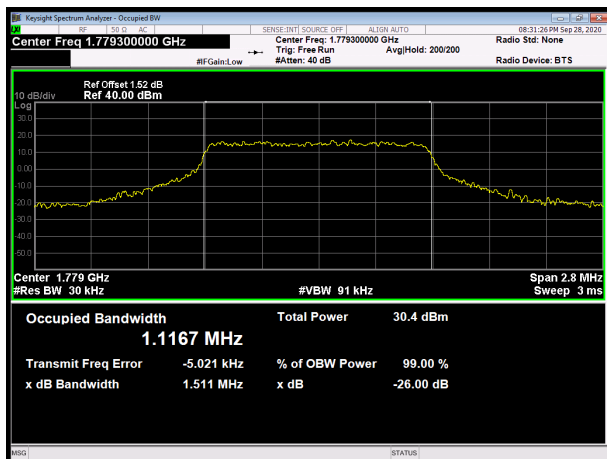
LTE Band 66 QPSK 1.4MHz CH-Middle



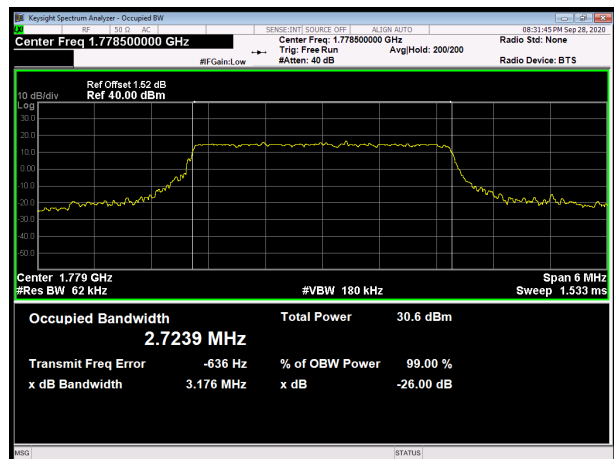
LTE Band 66 QPSK 3MHz CH-Middle



LTE Band 66 QPSK 1.4MHz CH-High

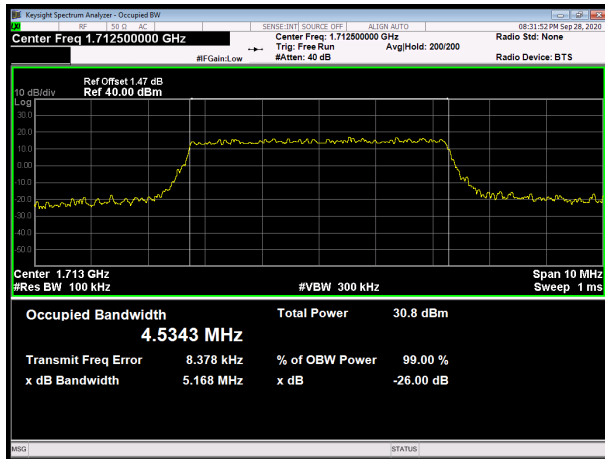


LTE Band 66 QPSK 3MHz CH-High

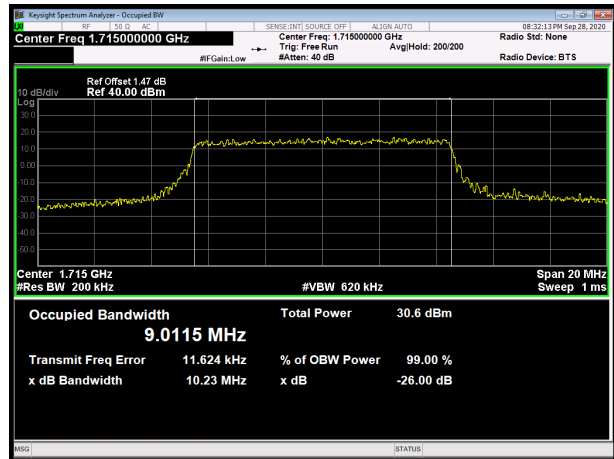




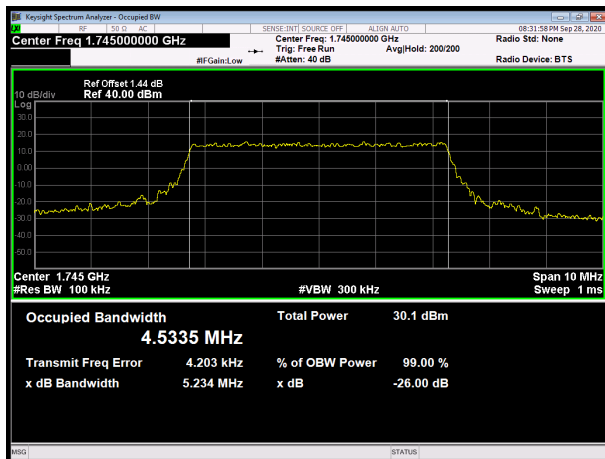
LTE Band 66 QPSK 5MHz CH-Low



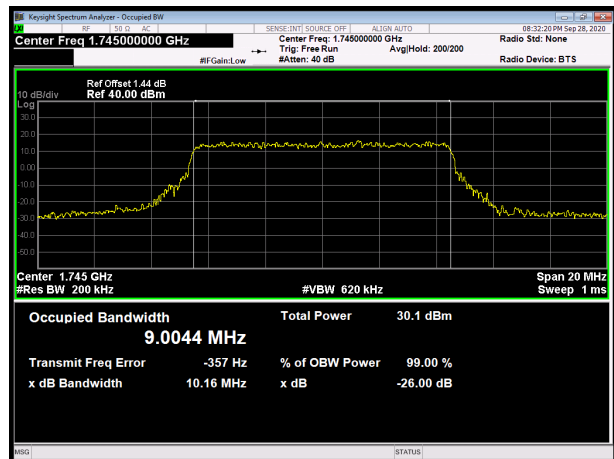
LTE Band 66 QPSK 10MHz CH-Low



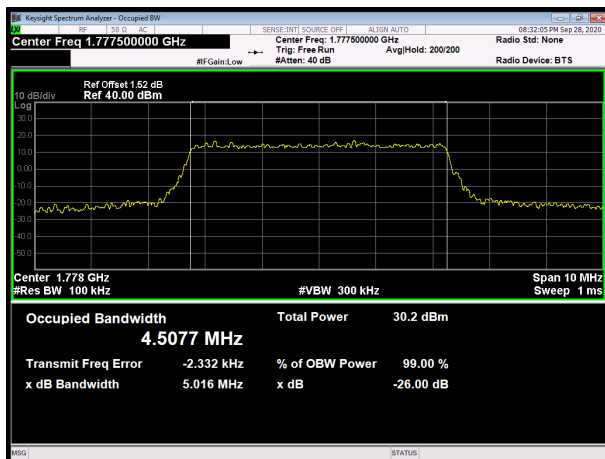
LTE Band 66 QPSK 5MHz CH-Middle



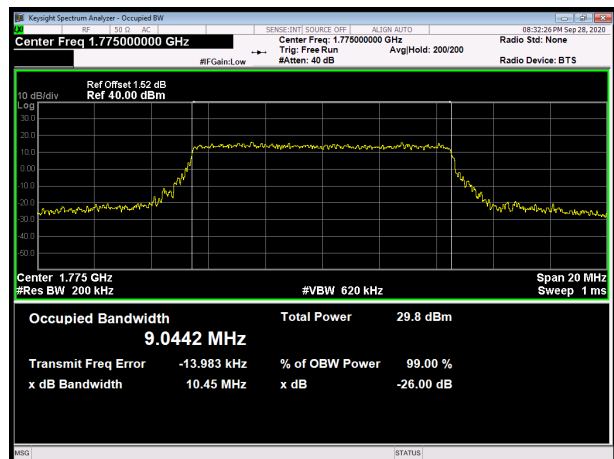
LTE Band 66 QPSK 10MHz CH-Middle



LTE Band 66 QPSK 5MHz CH-High

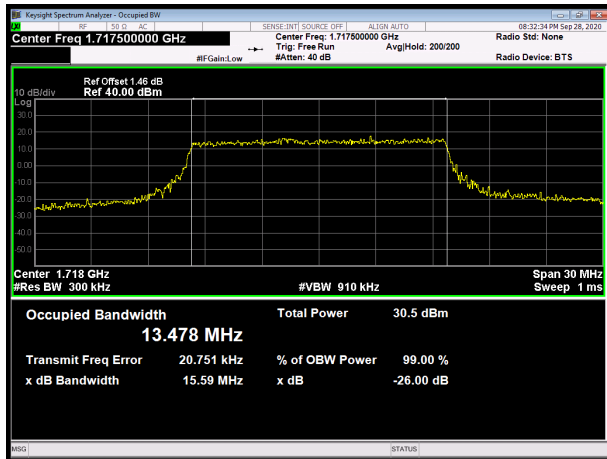


LTE Band 66 QPSK 10MHz CH-High

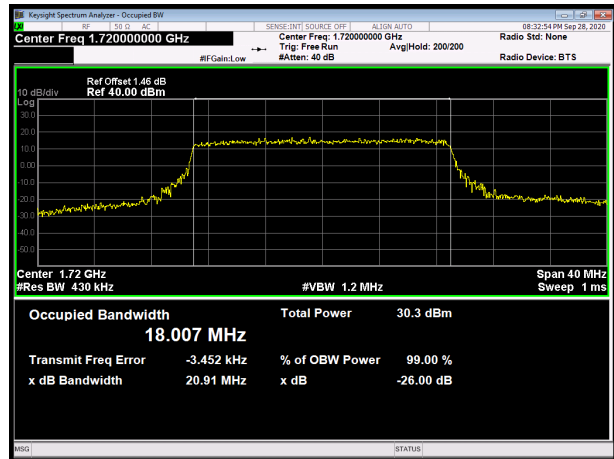




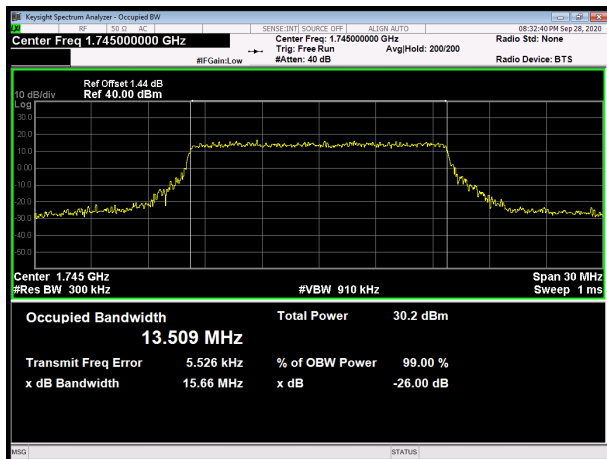
LTE Band 66 QPSK 15MHz CH-Low



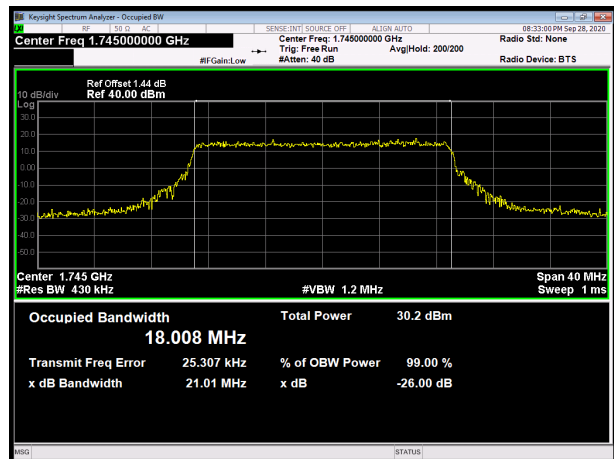
LTE Band 66 QPSK 20MHz CH-Low



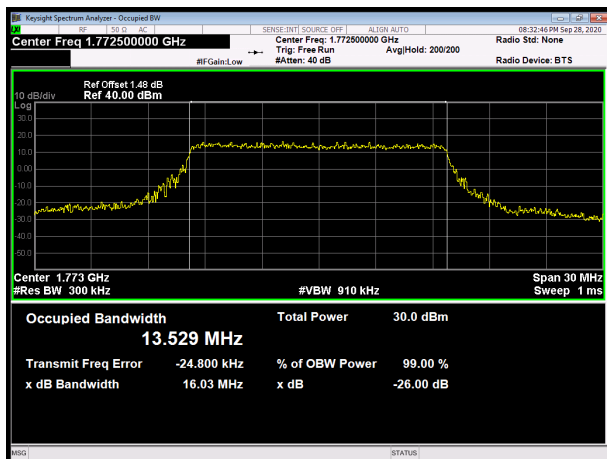
LTE Band 66 QPSK 15MHz CH-Middle



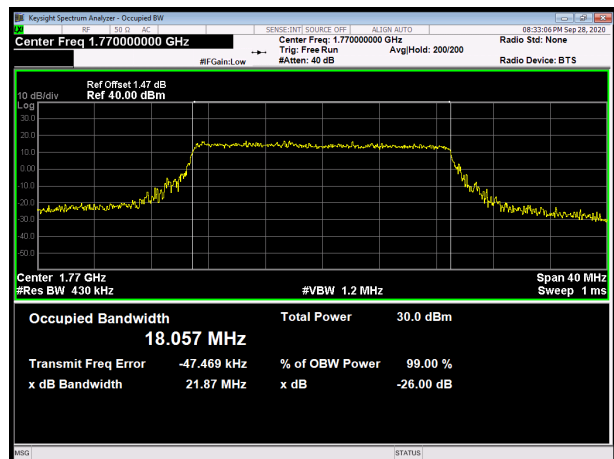
LTE Band 66 QPSK 20MHz CH-Middle



LTE Band 66 QPSK 15MHz CH-High

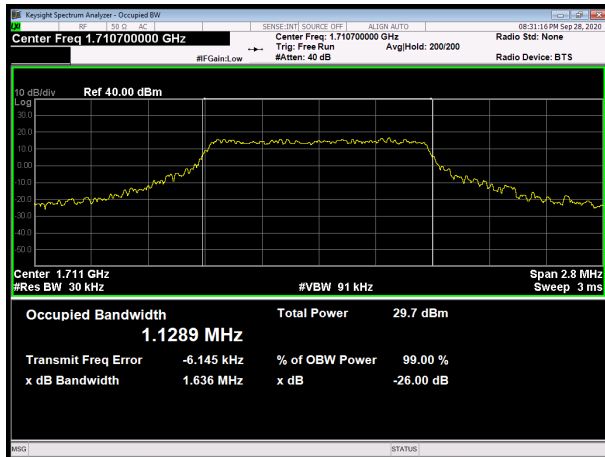


LTE Band 66 QPSK 20MHz CH-High

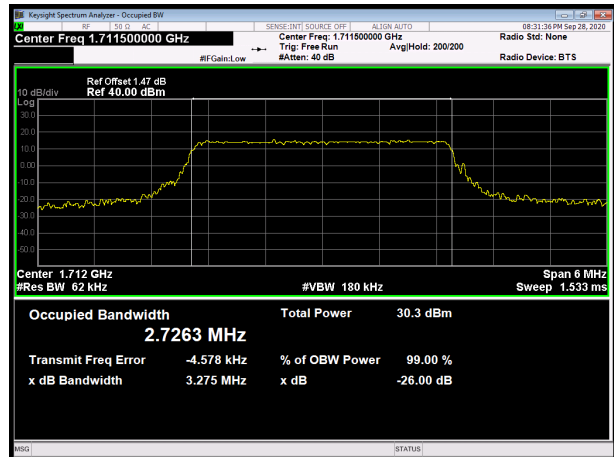




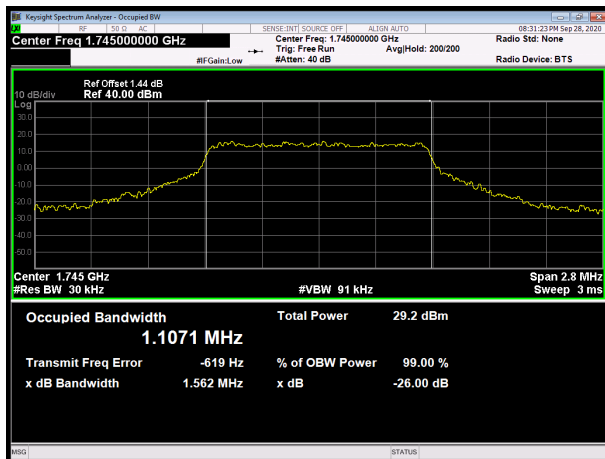
LTE Band 66 16QAM 1.4MHz CH-Low



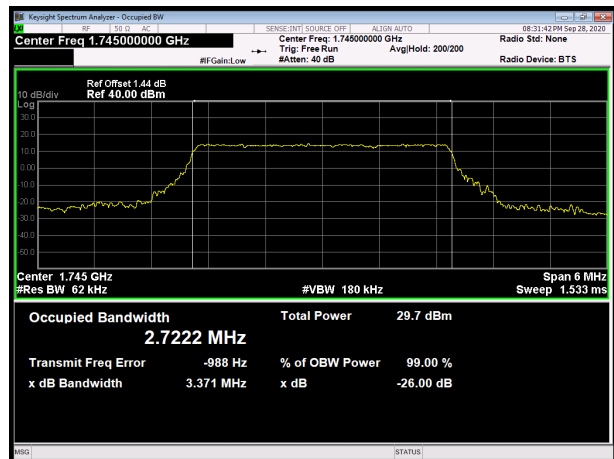
LTE Band 66 16QAM 3MHz CH-Low



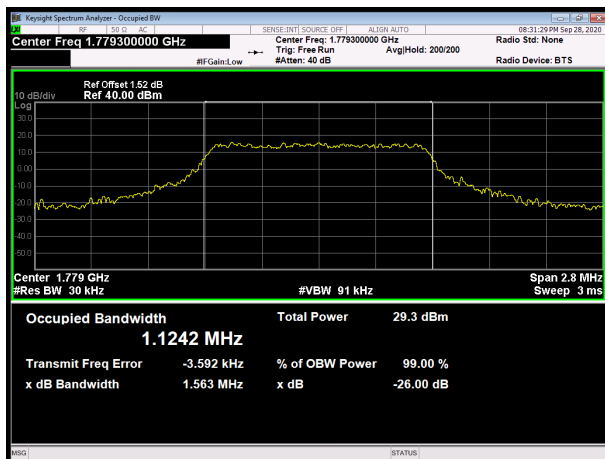
LTE Band 66 16QAM 1.4MHz CH-Middle



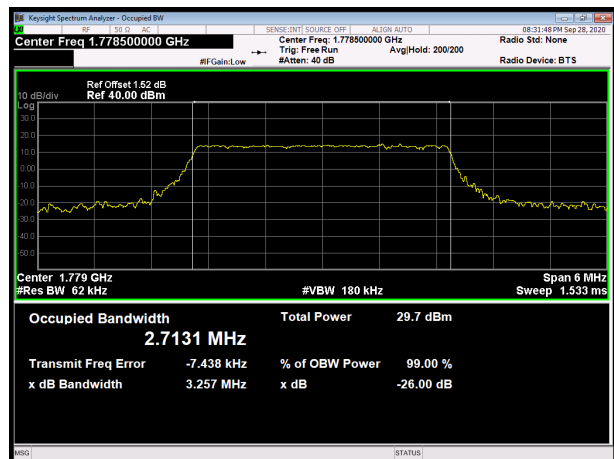
LTE Band 66 16QAM 3MHz CH-Middle



LTE Band 66 16QAM 1.4MHz CH-High

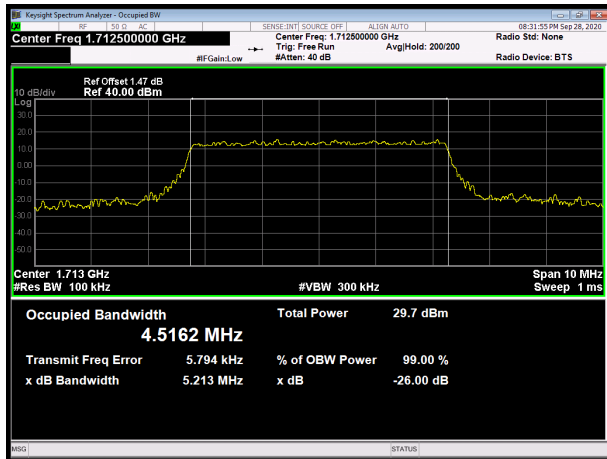


LTE Band 66 16QAM 3MHz CH-High

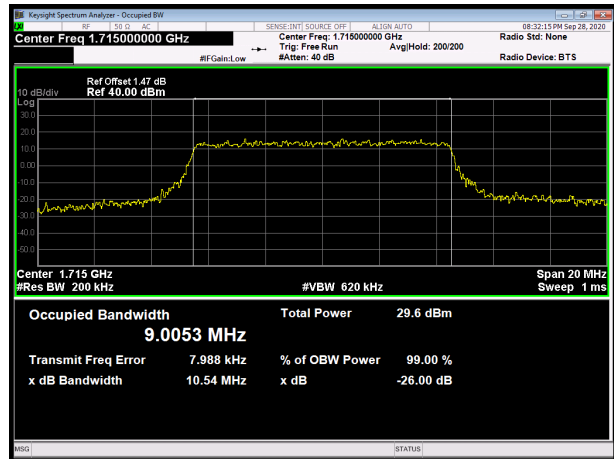




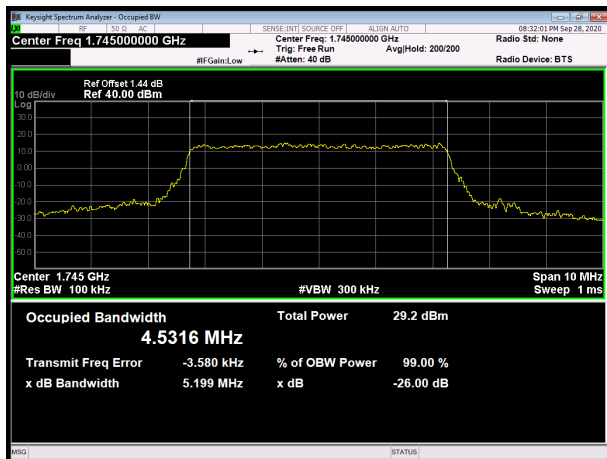
LTE Band 66 16QAM 5MHz CH-Low



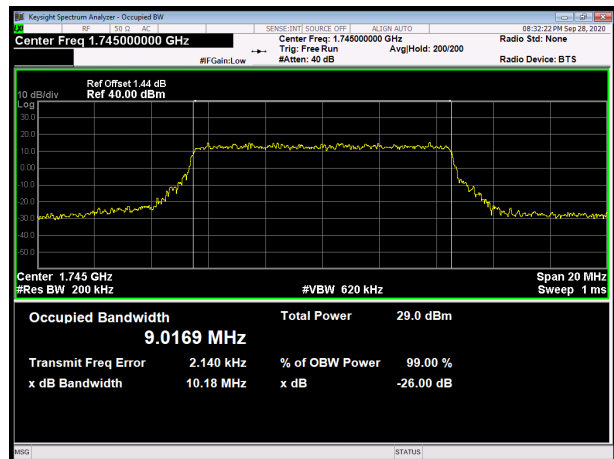
LTE Band 66 16QAM 10MHz CH-Low



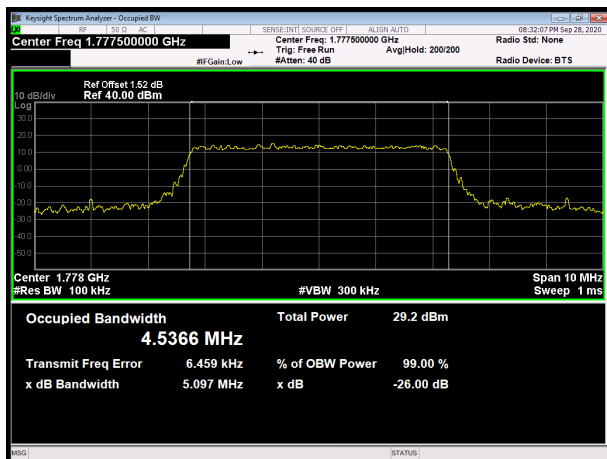
LTE Band 66 16QAM 5MHz CH-Middle



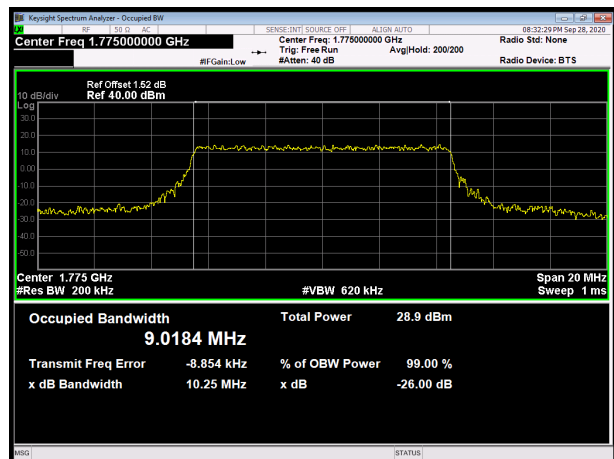
LTE Band 66 16QAM 10MHz CH-Middle



LTE Band 66 16QAM 5MHz CH-High

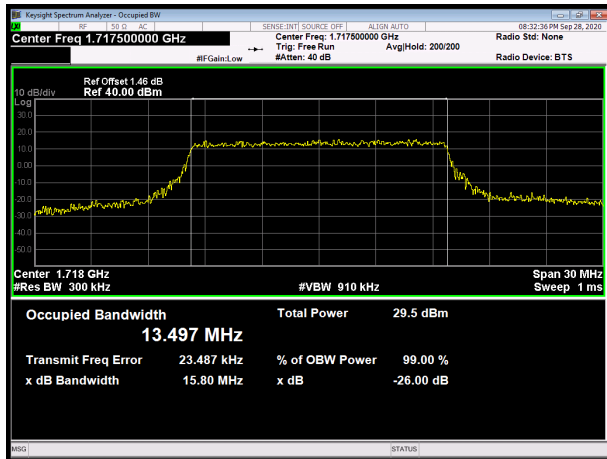


LTE Band 66 16QAM 10MHz CH-High

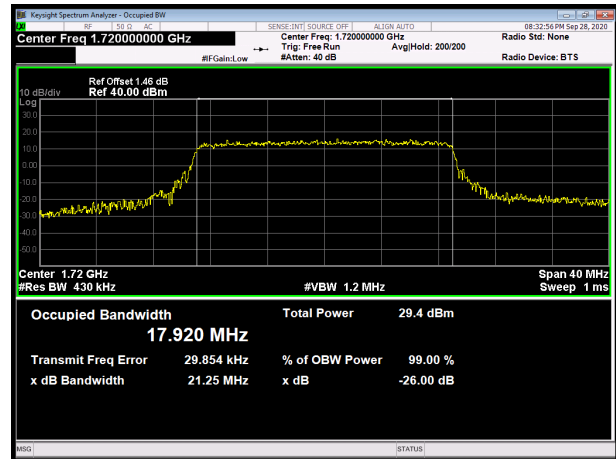




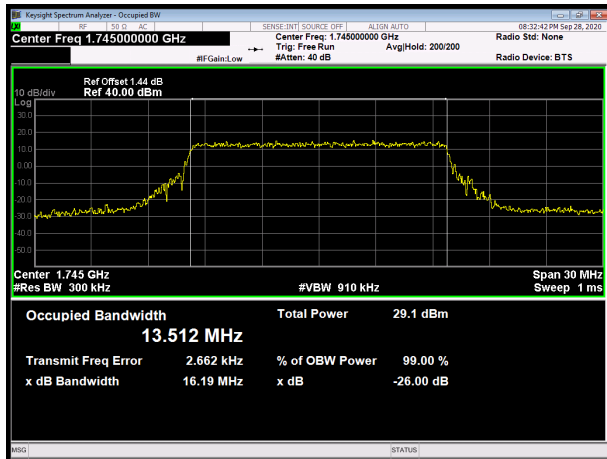
LTE Band 66 16QAM 15MHz CH-Low



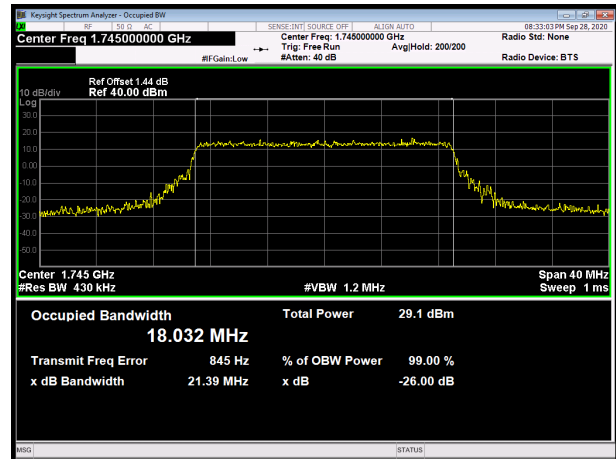
LTE Band 66 16QAM 20MHz CH-Low



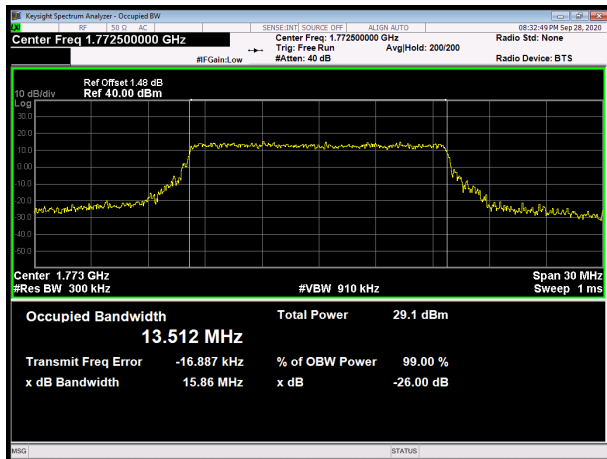
LTE Band 66 16QAM 15MHz CH-Middle



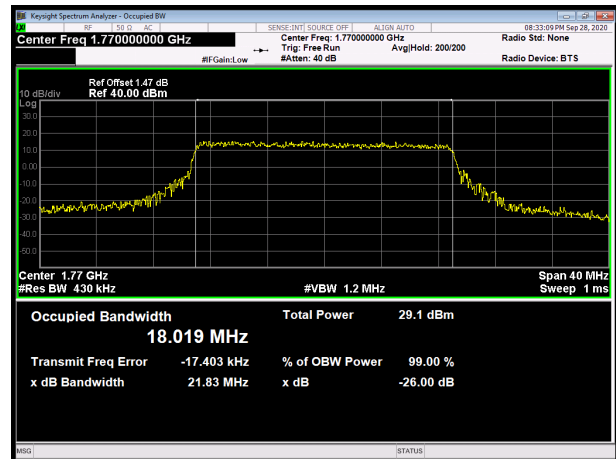
LTE Band 66 16QAM 20MHz CH-Middle



LTE Band 66 16QAM 15MHz CH-High



LTE Band 66 16QAM 20MHz CH-High



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.

RBW is set to 51 kHz, VBW is set to 160 kHz for WCDMA Band IV.

RBW is set to 20 kHz, VBW is set to 100kHz for LTE Band 4/66 (1.4MHz).

RBW is set to 30 kHz, VBW is set to 100 kHz for LTE Band 4/66 (3MHz).

RBW is set to 50 kHz, VBW is set to 200 kHz for LTE Band 4/7/66 (5MHz).

RBW is set to 100 kHz, VBW is set to 300kHz for LTE Band 4/7/66 (10MHz).

RBW is set to 200 kHz, VBW is set to 1MHz for LTE Band 4/7/66 (15MHz/20MHz).

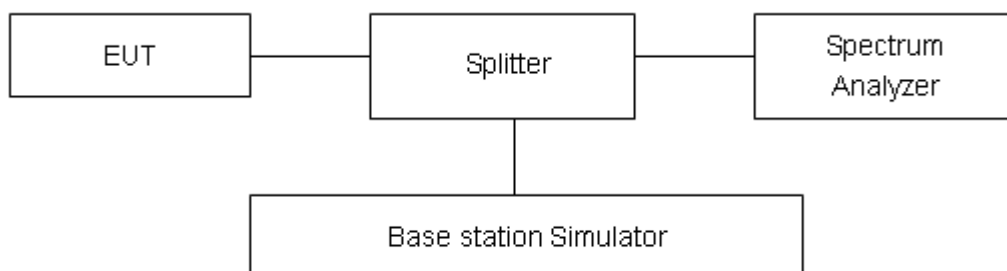
on spectrum analyzer.

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 shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Example:

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

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

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

Measurement Uncertainty

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



Test Result

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

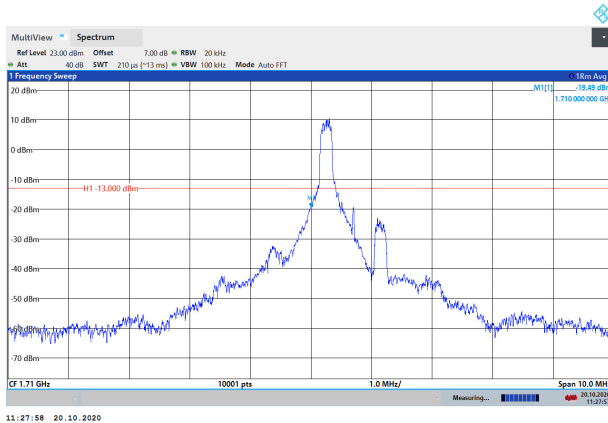
WCDMA Band IV CH-Low



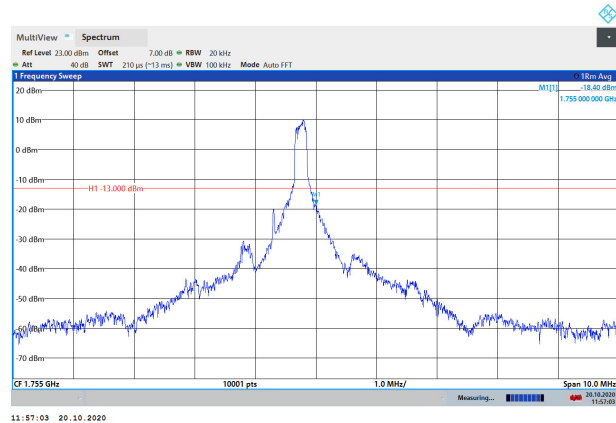
WCDMA Band IV CH-High



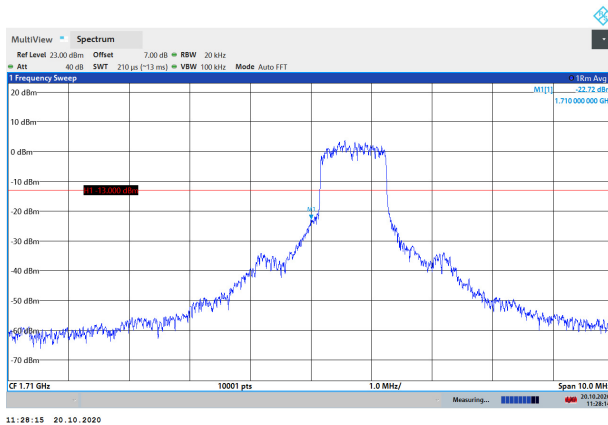
LTE Band 4 QPSK 1.4MHz CH-Low, 1 RB



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

