RF TEST REPORT

Applicant	Huawei Device Co.,Ltd.
FCC ID	2ATEYPPA-LX3
Product	Smart Phone
Model	PPA-LX3
Report No.	R2101A0041-R3
Issue Date	January 8, 2021

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.

Prepared by: Peng Tao *Approved by: Kai Xu*

TA Technology (Shanghai) Co., Ltd.

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

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

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

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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	2.1051 /27.53(h) /27.53(m)	PASS
Date of Testing: September 9, 2020 ~ September 17, 2020			
Date of Sample Receiving: September 7, 2020			
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.			

This report is only added FCC ID, there is no test in this report and the original report number is R2009H0244-R3.

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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 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
Country:	P. R. China
Contact:	Xu Kai
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	xukai@ta-shanghai.com

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2 General Description of Equipment under Test

2.1 Applicant and Manufacturer Information

Applicant	Huawei Device Co.,Ltd.
Applicant address	No.2 of Xincheng Road, Songshan Lake Zone, Dongguan, Guangdong 523808, People's Republic of China
Manufacturer	Huawei Device Co.,Ltd.
Manufacturer address	No.2 of Xincheng Road, Songshan Lake Zone, Dongguan, Guangdong 523808, People's Republic of China

2.2 General information

EUT Description			
Model	PPA-LX3		
SN:	2KTNU20811100368		
Hardware Version	HL1PPAM		
Software Version	10.1.1.100(C900E25R1P2)		
Power Supply	Battery/AC adapter		
Antenna Type	Internal Antenna		
Antenna Gain	Band	Main Antenna(dBi)	Second Antenna(dBi)
	WCDMA Band IV	-2.1	-5.1
	LTE Band 4	-2.1	-5.1
	LTE Band 7	0.8	-0.9
	LTE Band 66	-2	-4.8
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		
DC-HSDPA UE Category	24		
LTE Category	4		
Maximum E.I.R.P./ E.R.P.	WCDMA Band IV:	22.29dBm	
	LTE Band 4:	21.47dBm	
	LTE Band 7:	24.30dBm	
	LTE Band 66:	21.76dBm	
Rated Power Supply Voltage:	3.85V		
Operating Voltage	Minimum: 3.6V Maximum: 4.43V		
Operating Temperature	Lowest: 0°C Highest: +35°C		
Extreme Voltage	Minimum: 3.6V Maximum: 4.43V		

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Extreme Temperature	Lowest: -30°C Highest: +55°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 66	1710 ~ 1780	2110 ~ 2200

Accessory	Model	Manufacture	No.
Adapter	HW-100225E00	Huawei Device Co.,Ltd. (Manufacturer: HUIZHOU BYD ELECTRONIC CO., LTD.)	1
		Huawei Device Co.,Ltd. (Manufacturer: DONGGUAN PHITEK ELECTRONICS CO.,LTD)	2
		Huawei Device Co.,Ltd. (Manufacturer: Shenzhen Huntkey Electric Co., Ltd.)	3
	HW-100225U00	Huawei Device Co.,Ltd. (Manufacturer: HUIZHOU BYD ELECTRONIC CO., LTD.)	4
		Huawei Device Co.,Ltd. (Manufacturer: Shenzhen Huntkey Electric Co., Ltd)	5
	HW-100225A00	Huawei Device Co.,Ltd. (Manufacturer: HUIZHOU BYD ELECTRONIC CO., LTD.)	6
		Huawei Device Co.,Ltd. (Manufacturer: Shenzhen Huntkey Electric Co., Ltd)	7
	HW-100225B00	Huawei Device Co.,Ltd. (Manufacturer: HUIZHOU BYD ELECTRONIC CO., LTD.)	8
		H Huawei Device Co.,Ltd. (Manufacturer: Shenzhen Huntkey Electric Co., Ltd)	9
Battery	HB526488EEW	Huawei Device Co.,Ltd. (Manufacturer: Dongguan NVT Technology Co., Ltd)	1
		Huawei Device Co.,Ltd. (Manufacturer: Huizhou Desay Battery Co., Ltd.)	2
		Huawei Device Co.,Ltd. (Manufacturer: Sunwoda Electronic Co., Ltd.)	3
USB Cable	WA0020	NingBo Broad Telecommunication Co.,Ltd.	1
	L99UC131-CS-H	LUXSHARE Precision Industry Co., Ltd.	2
	CUDU01B-HC295-EH	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	3
	18-93C2CHO-001HF	Freeport Resources Enterprises (Jiangxi) Co.,Ltd	4
	203-1572-0	Dongguan Mingji Electronics Technology Group Co.,Ltd	5
Earphone	MEND1532B528A11	Jiangxi Lianchuang Hongsheng Electronic Co. ,LTD	1
	1293-3283-3.5M	Boluo County Quancheng Electronic Co.,ltd	2

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	M-339		
	EPAB542-2WH05-DH	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	3

Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.
2. There are more than one Adapter, Battery, Earphone and USB Cable, each one should be applied throughout the compliance test respectively, however, only the worst case (Adapter1,Battery2, Earphone2 and USB Cable1) 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 (2019)

ANSI C63.26 (2015)

Reference standard:

FCC CFR47 Part 2 (2019)

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 (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 detailin 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 DC-HSDPA
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 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
	LTE 7	-	-	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 66	O	O	O	O	O	O	O	O	-	-	O	O	O	O

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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 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 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	O	O	O	O
	LTE 7	-	-	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
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 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	-	-	-	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 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 is controlled by the Base Station Simulator to ensure max power transmission and proper modulation.

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI C63.26 (2015).
a) Connect the equipment as illustrated. Mount the equipment with the manufacturer specified antenna in a vertical orientation on a manufacturer specified mounting surface located on a non-conducting rotating platform of a RF anechoic chamber (preferred) or a standard radiation site.
b) Key the transmitter, then rotate the EUT 360° azimuthally and record spectrum analyzer power level (LVL) measurements at angular increments that are sufficiently small to permit resolution of all peaks. If a standard radiation test site is used, raise and lower the test antenna to obtain a maximum reading at each angular increment. (Note: several batteries may be needed to offset the effect of battery voltage droop, which should not exceed 5% of the manufactured specified battery voltage during transmission).
c) Replace the transmitter under test with a vertically polarized half-wave dipole (or an antenna whose gain is known relative to an ideal half-wave dipole). The center of the antenna should be at the same location as the center of the antenna under test.
d) Connect the antenna to a signal generator with a known output power and record the path loss (in dB) as LOSS. If a standard radiation test site is used, raise and lower the test antenna to obtain a maximum reading.LOSS = Generator Output Power (dBm) – Analyzer reading (dBm)
e) Determine the effective radiated output power at each angular position from the readings in steps b) and d) using the following equation:ERP (dBm) = LVL (dBm) + LOSS (dB)
f) The maximum ERP is the maximum value determined in the preceding step.
g) When calculating ERP, in addition to knowing the antenna radiation and matching characteristics, it is necessary to know the loss values of all elements (e.g.transmission line attenuation, mismatches, filters, combiners) interposed between the point where transmitter output power is measured, and the point where power is applied to the antenna. 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.)
The RB allocation refers to section 5.1, using the maximum output power configuration.

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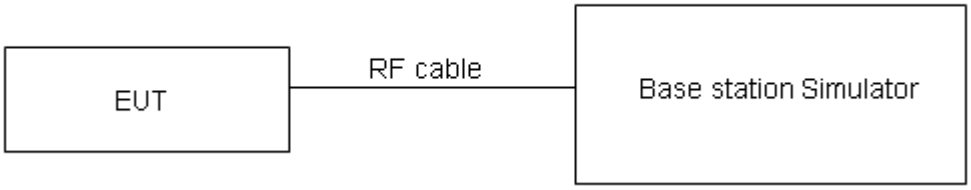
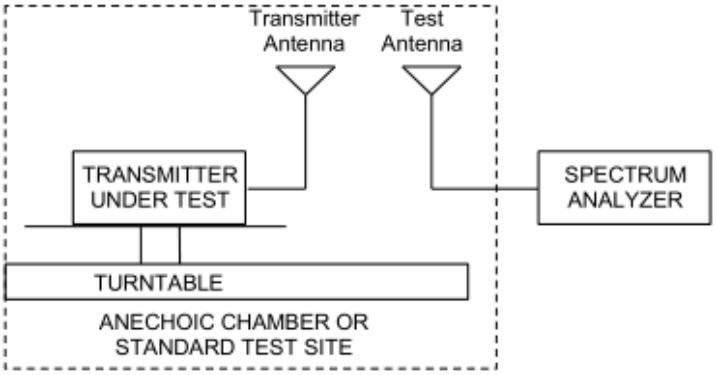
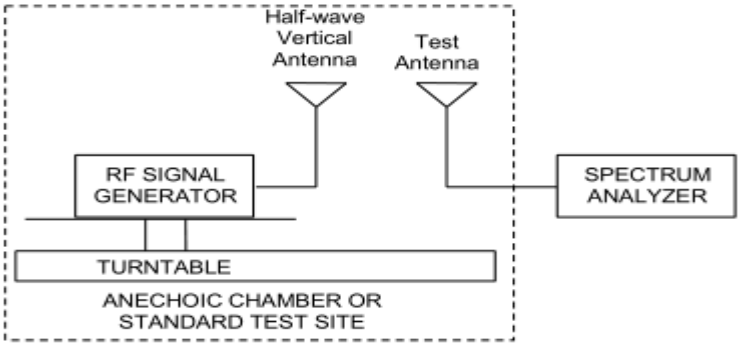
Test Setup



The loss between RF output port of the EUT and the input port of the tester has been taken into consideration.





Note: Area side:2.4mX3.6m

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

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)	⩽ 1 W (30 dBm)
Part 27.50(h)(2)	⩽ 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.

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Test Results

WCDMA Band IV		Maximum Output Power (dBm)			EIRP (dBm) Main Antenna			EIRP (dBm) Second Antenna		
		Channel 1312	Channel 1413	Channel 1513	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)	1712.4 (MHz)	1732.6 (MHz)	1752.6 (MHz)
RMC		24.09	24.39	24.20	21.99	22.29	22.10	18.99	19.29	19.10
HSDPA	Sub - Test 1	23.55	23.81	23.64	21.45	21.71	21.54	18.45	18.71	18.54
	Sub - Test 2	23.54	23.83	23.61	21.44	21.73	21.51	18.44	18.73	18.51
	Sub - Test 3	23.01	23.33	23.13	20.91	21.23	21.03	17.91	18.23	18.03
	Sub - Test 4	23.02	23.34	23.11	20.92	21.24	21.01	17.92	18.24	18.01
HSUPA	Sub - Test 1	23.51	23.80	23.59	21.41	21.70	21.49	18.41	18.70	18.49
	Sub - Test 2	22.50	22.78	22.58	20.40	20.68	20.48	17.40	17.68	17.48
	Sub - Test 3	22.97	23.26	23.07	20.87	21.16	20.97	17.87	18.16	17.97
	Sub - Test 4	22.43	22.75	22.55	20.33	20.65	20.45	17.33	17.65	17.45
	Sub - Test 5	23.44	23.73	23.53	21.34	21.63	21.43	18.34	18.63	18.43
DC-HSDPA	Sub - Test 1	23.43	23.75	23.54	21.33	21.65	21.44	18.33	18.65	18.44
	Sub - Test 2	23.42	23.74	23.53	21.32	21.64	21.43	18.32	18.64	18.43
	Sub - Test 3	23.00	23.23	23.04	20.90	21.13	20.94	17.90	18.13	17.94
	Sub - Test 4	22.99	23.22	23.03	20.89	21.12	20.93	17.89	18.12	17.93

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Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm) Main Antenna	EIRP(dBm) Second Antenna	Verdict
LTE Band4	1.4	19957	1	#0	QPSK	23.38	21.28	18.28	PASS
LTE Band4	1.4	19957	1	#Mid	QPSK	23.28	21.18	18.18	PASS
LTE Band4	1.4	19957	1	#Max	QPSK	23.39	21.29	18.29	PASS
LTE Band4	1.4	19957	3	#0	QPSK	23.39	21.29	18.29	PASS
LTE Band4	1.4	19957	3	#Mid	QPSK	23.37	21.27	18.27	PASS
LTE Band4	1.4	19957	3	#Max	QPSK	23.33	21.23	18.23	PASS
LTE Band4	1.4	19957	6	#0	QPSK	22.81	20.71	17.71	PASS
LTE Band4	1.4	19957	1	#0	QAM16	22.96	20.86	17.86	PASS
LTE Band4	1.4	19957	1	#Mid	QAM16	22.51	20.41	17.41	PASS
LTE Band4	1.4	19957	1	#Max	QAM16	23.01	20.91	17.91	PASS
LTE Band4	1.4	19957	3	#0	QAM16	22.84	20.74	17.74	PASS
LTE Band4	1.4	19957	3	#Mid	QAM16	22.85	20.75	17.75	PASS
LTE Band4	1.4	19957	3	#Max	QAM16	22.78	20.68	17.68	PASS
LTE Band4	1.4	19957	6	#0	QAM16	21.71	19.61	16.61	PASS
LTE Band4	1.4	20175	1	#0	QPSK	23.38	21.28	18.28	PASS
LTE Band4	1.4	20175	1	#Mid	QPSK	23.24	21.14	18.14	PASS
LTE Band4	1.4	20175	1	#Max	QPSK	23.37	21.27	18.27	PASS
LTE Band4	1.4	20175	3	#0	QPSK	23.32	21.22	18.22	PASS
LTE Band4	1.4	20175	3	#Mid	QPSK	23.36	21.26	18.26	PASS
LTE Band4	1.4	20175	3	#Max	QPSK	23.31	21.21	18.21	PASS
LTE Band4	1.4	20175	6	#0	QPSK	22.89	20.79	17.79	PASS
LTE Band4	1.4	20175	1	#0	QAM16	23.09	20.99	17.99	PASS
LTE Band4	1.4	20175	1	#Mid	QAM16	22.53	20.43	17.43	PASS
LTE Band4	1.4	20175	1	#Max	QAM16	23.06	20.96	17.96	PASS
LTE Band4	1.4	20175	3	#0	QAM16	22.84	20.74	17.74	PASS
LTE Band4	1.4	20175	3	#Mid	QAM16	22.85	20.75	17.75	PASS
LTE Band4	1.4	20175	3	#Max	QAM16	22.72	20.62	17.62	PASS
LTE Band4	1.4	20175	6	#0	QAM16	21.80	19.70	16.70	PASS
LTE Band4	1.4	20393	1	#0	QPSK	23.13	21.03	18.03	PASS
LTE Band4	1.4	20393	1	#Mid	QPSK	22.90	20.80	17.80	PASS
LTE Band4	1.4	20393	1	#Max	QPSK	23.17	21.07	18.07	PASS
LTE Band4	1.4	20393	3	#0	QPSK	23.00	20.90	17.90	PASS
LTE Band4	1.4	20393	3	#Mid	QPSK	23.00	20.90	17.90	PASS
LTE Band4	1.4	20393	3	#Max	QPSK	23.02	20.92	17.92	PASS
LTE Band4	1.4	20393	6	#0	QPSK	22.62	20.52	17.52	PASS
LTE Band4	1.4	20393	1	#0	QAM16	22.69	20.59	17.59	PASS
LTE Band4	1.4	20393	1	#Mid	QAM16	22.32	20.22	17.22	PASS
LTE Band4	1.4	20393	1	#Max	QAM16	22.65	20.55	17.55	PASS

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LTE Band4	1.4	20393	3	#0	QAM16	22.61	20.51	17.51	PASS
LTE Band4	1.4	20393	3	#Mid	QAM16	22.63	20.53	17.53	PASS
LTE Band4	1.4	20393	3	#Max	QAM16	22.59	20.49	17.49	PASS
LTE Band4	1.4	20393	6	#0	QAM16	21.63	19.53	16.53	PASS
LTE Band4	3	19965	1	#0	QPSK	23.57	21.47	18.47	PASS
LTE Band4	3	19965	1	#Mid	QPSK	23.44	21.34	18.34	PASS
LTE Band4	3	19965	1	#Max	QPSK	23.35	21.25	18.25	PASS
LTE Band4	3	19965	8	#0	QPSK	22.74	20.64	17.64	PASS
LTE Band4	3	19965	8	#Mid	QPSK	22.75	20.65	17.65	PASS
LTE Band4	3	19965	8	#Max	QPSK	22.80	20.70	17.70	PASS
LTE Band4	3	19965	15	#0	QPSK	22.87	20.77	17.77	PASS
LTE Band4	3	19965	1	#0	QAM16	22.88	20.78	17.78	PASS
LTE Band4	3	19965	1	#Mid	QAM16	22.85	20.75	17.75	PASS
LTE Band4	3	19965	1	#Max	QAM16	23.27	21.17	18.17	PASS
LTE Band4	3	19965	8	#0	QAM16	21.81	19.71	16.71	PASS
LTE Band4	3	19965	8	#Mid	QAM16	21.81	19.71	16.71	PASS
LTE Band4	3	19965	8	#Max	QAM16	21.67	19.57	16.57	PASS
LTE Band4	3	19965	15	#0	QAM16	21.81	19.71	16.71	PASS
LTE Band4	3	20175	1	#0	QPSK	23.34	21.24	18.24	PASS
LTE Band4	3	20175	1	#Mid	QPSK	23.36	21.26	18.26	PASS
LTE Band4	3	20175	1	#Max	QPSK	23.39	21.29	18.29	PASS
LTE Band4	3	20175	8	#0	QPSK	22.83	20.73	17.73	PASS
LTE Band4	3	20175	8	#Mid	QPSK	22.82	20.72	17.72	PASS
LTE Band4	3	20175	8	#Max	QPSK	22.81	20.71	17.71	PASS
LTE Band4	3	20175	15	#0	QPSK	22.88	20.78	17.78	PASS
LTE Band4	3	20175	1	#0	QAM16	22.92	20.82	17.82	PASS
LTE Band4	3	20175	1	#Mid	QAM16	22.88	20.78	17.78	PASS
LTE Band4	3	20175	1	#Max	QAM16	22.89	20.79	17.79	PASS
LTE Band4	3	20175	8	#0	QAM16	21.80	19.70	16.70	PASS
LTE Band4	3	20175	8	#Mid	QAM16	21.82	19.72	16.72	PASS
LTE Band4	3	20175	8	#Max	QAM16	21.79	19.69	16.69	PASS
LTE Band4	3	20175	15	#0	QAM16	21.76	19.66	16.66	PASS
LTE Band4	3	20385	1	#0	QPSK	23.29	21.19	18.19	PASS
LTE Band4	3	20385	1	#Mid	QPSK	23.26	21.16	18.16	PASS
LTE Band4	3	20385	1	#Max	QPSK	23.14	21.04	18.04	PASS
LTE Band4	3	20385	8	#0	QPSK	22.58	20.48	17.48	PASS
LTE Band4	3	20385	8	#Mid	QPSK	22.54	20.44	17.44	PASS
LTE Band4	3	20385	8	#Max	QPSK	22.57	20.47	17.47	PASS
LTE Band4	3	20385	15	#0	QPSK	22.61	20.51	17.51	PASS
LTE Band4	3	20385	1	#0	QAM16	22.73	20.63	17.63	PASS
LTE Band4	3	20385	1	#Mid	QAM16	22.67	20.57	17.57	PASS
LTE Band4	3	20385	1	#Max	QAM16	22.62	20.52	17.52	PASS

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LTE Band4	3	20385	8	#0	QAM16	21.54	19.44	16.44	PASS
LTE Band4	3	20385	8	#Mid	QAM16	21.61	19.51	16.51	PASS
LTE Band4	3	20385	8	#Max	QAM16	21.56	19.46	16.46	PASS
LTE Band4	3	20385	15	#0	QAM16	21.58	19.48	16.48	PASS
LTE Band4	5	19975	1	#0	QPSK	23.50	21.40	18.40	PASS
LTE Band4	5	19975	1	#Mid	QPSK	23.34	21.24	18.24	PASS
LTE Band4	5	19975	1	#Max	QPSK	23.36	21.26	18.26	PASS
LTE Band4	5	19975	12	#0	QPSK	22.96	20.86	17.86	PASS
LTE Band4	5	19975	12	#Mid	QPSK	22.96	20.86	17.86	PASS
LTE Band4	5	19975	12	#Max	QPSK	22.92	20.82	17.82	PASS
LTE Band4	5	19975	25	#0	QPSK	22.89	20.79	17.79	PASS
LTE Band4	5	19975	1	#0	QAM16	22.98	20.88	17.88	PASS
LTE Band4	5	19975	1	#Mid	QAM16	22.96	20.86	17.86	PASS
LTE Band4	5	19975	1	#Max	QAM16	22.96	20.86	17.86	PASS
LTE Band4	5	19975	12	#0	QAM16	21.86	19.76	16.76	PASS
LTE Band4	5	19975	12	#Mid	QAM16	21.84	19.74	16.74	PASS
LTE Band4	5	19975	12	#Max	QAM16	21.87	19.77	16.77	PASS
LTE Band4	5	19975	25	#0	QAM16	21.79	19.69	16.69	PASS
LTE Band4	5	20175	1	#0	QPSK	23.30	21.20	18.20	PASS
LTE Band4	5	20175	1	#Mid	QPSK	23.37	21.27	18.27	PASS
LTE Band4	5	20175	1	#Max	QPSK	23.31	21.21	18.21	PASS
LTE Band4	5	20175	12	#0	QPSK	22.93	20.83	17.83	PASS
LTE Band4	5	20175	12	#Mid	QPSK	22.91	20.81	17.81	PASS
LTE Band4	5	20175	12	#Max	QPSK	22.88	20.78	17.78	PASS
LTE Band4	5	20175	25	#0	QPSK	22.86	20.76	17.76	PASS
LTE Band4	5	20175	1	#0	QAM16	22.88	20.78	17.78	PASS
LTE Band4	5	20175	1	#Mid	QAM16	22.95	20.85	17.85	PASS
LTE Band4	5	20175	1	#Max	QAM16	22.92	20.82	17.82	PASS
LTE Band4	5	20175	12	#0	QAM16	21.82	19.72	16.72	PASS
LTE Band4	5	20175	12	#Mid	QAM16	21.82	19.72	16.72	PASS
LTE Band4	5	20175	12	#Max	QAM16	21.78	19.68	16.68	PASS
LTE Band4	5	20175	25	#0	QAM16	21.72	19.62	16.62	PASS
LTE Band4	5	20375	1	#0	QPSK	23.20	21.10	18.10	PASS
LTE Band4	5	20375	1	#Mid	QPSK	23.13	21.03	18.03	PASS
LTE Band4	5	20375	1	#Max	QPSK	23.08	20.98	17.98	PASS
LTE Band4	5	20375	12	#0	QPSK	22.74	20.64	17.64	PASS
LTE Band4	5	20375	12	#Mid	QPSK	22.75	20.65	17.65	PASS
LTE Band4	5	20375	12	#Max	QPSK	22.65	20.55	17.55	PASS
LTE Band4	5	20375	25	#0	QPSK	22.63	20.53	17.53	PASS
LTE Band4	5	20375	1	#0	QAM16	22.73	20.63	17.63	PASS
LTE Band4	5	20375	1	#Mid	QAM16	22.72	20.62	17.62	PASS
LTE Band4	5	20375	1	#Max	QAM16	22.62	20.52	17.52	PASS

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LTE Band4	5	20375	12	#0	QAM16	21.72	19.62	16.62	PASS
LTE Band4	5	20375	12	#Mid	QAM16	21.72	19.62	16.62	PASS
LTE Band4	5	20375	12	#Max	QAM16	21.67	19.57	16.57	PASS
LTE Band4	5	20375	25	#0	QAM16	21.65	19.55	16.55	PASS
LTE Band4	10	20000	1	#0	QPSK	23.51	21.41	18.41	PASS
LTE Band4	10	20000	1	#Mid	QPSK	23.16	21.06	18.06	PASS
LTE Band4	10	20000	1	#Max	QPSK	23.33	21.23	18.23	PASS
LTE Band4	10	20000	25	#0	QPSK	22.89	20.79	17.79	PASS
LTE Band4	10	20000	25	#Mid	QPSK	22.90	20.80	17.80	PASS
LTE Band4	10	20000	25	#Max	QPSK	22.80	20.70	17.70	PASS
LTE Band4	10	20000	50	#0	QPSK	22.84	20.74	17.74	PASS
LTE Band4	10	20000	1	#0	QAM16	23.02	20.92	17.92	PASS
LTE Band4	10	20000	1	#Mid	QAM16	22.50	20.40	17.40	PASS
LTE Band4	10	20000	1	#Max	QAM16	22.86	20.76	17.76	PASS
LTE Band4	10	20000	25	#0	QAM16	21.91	19.81	16.81	PASS
LTE Band4	10	20000	25	#Mid	QAM16	21.87	19.77	16.77	PASS
LTE Band4	10	20000	25	#Max	QAM16	21.83	19.73	16.73	PASS
LTE Band4	10	20000	50	#0	QAM16	21.73	19.63	16.63	PASS
LTE Band4	10	20175	1	#0	QPSK	23.36	21.26	18.26	PASS
LTE Band4	10	20175	1	#Mid	QPSK	23.19	21.09	18.09	PASS
LTE Band4	10	20175	1	#Max	QPSK	23.36	21.26	18.26	PASS
LTE Band4	10	20175	25	#0	QPSK	22.92	20.82	17.82	PASS
LTE Band4	10	20175	25	#Mid	QPSK	22.90	20.80	17.80	PASS
LTE Band4	10	20175	25	#Max	QPSK	22.88	20.78	17.78	PASS
LTE Band4	10	20175	50	#0	QPSK	22.85	20.75	17.75	PASS
LTE Band4	10	20175	1	#0	QAM16	22.90	20.80	17.80	PASS
LTE Band4	10	20175	1	#Mid	QAM16	22.44	20.34	17.34	PASS
LTE Band4	10	20175	1	#Max	QAM16	22.86	20.76	17.76	PASS
LTE Band4	10	20175	25	#0	QAM16	21.80	19.70	16.70	PASS
LTE Band4	10	20175	25	#Mid	QAM16	21.82	19.72	16.72	PASS
LTE Band4	10	20175	25	#Max	QAM16	21.73	19.63	16.63	PASS
LTE Band4	10	20175	50	#0	QAM16	21.76	19.66	16.66	PASS
LTE Band4	10	20350	1	#0	QPSK	23.36	21.26	18.26	PASS
LTE Band4	10	20350	1	#Mid	QPSK	23.08	20.98	17.98	PASS
LTE Band4	10	20350	1	#Max	QPSK	23.13	21.03	18.03	PASS
LTE Band4	10	20350	25	#0	QPSK	22.75	20.65	17.65	PASS
LTE Band4	10	20350	25	#Mid	QPSK	22.77	20.67	17.67	PASS
LTE Band4	10	20350	25	#Max	QPSK	22.64	20.54	17.54	PASS
LTE Band4	10	20350	50	#0	QPSK	22.66	20.56	17.56	PASS
LTE Band4	10	20350	1	#0	QAM16	22.86	20.76	17.76	PASS
LTE Band4	10	20350	1	#Mid	QAM16	22.47	20.37	17.37	PASS
LTE Band4	10	20350	1	#Max	QAM16	22.71	20.61	17.61	PASS

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LTE Band4	10	20350	25	#0	QAM16	21.73	19.63	16.63	PASS
LTE Band4	10	20350	25	#Mid	QAM16	21.77	19.67	16.67	PASS
LTE Band4	10	20350	25	#Max	QAM16	21.58	19.48	16.48	PASS
LTE Band4	10	20350	50	#0	QAM16	21.60	19.50	16.50	PASS
LTE Band4	15	20025	1	#0	QPSK	23.49	21.39	18.39	PASS
LTE Band4	15	20025	1	#Mid	QPSK	23.37	21.27	18.27	PASS
LTE Band4	15	20025	1	#Max	QPSK	23.26	21.16	18.16	PASS
LTE Band4	15	20025	36	#0	QPSK	22.95	20.85	17.85	PASS
LTE Band4	15	20025	36	#Mid	QPSK	22.96	20.86	17.86	PASS
LTE Band4	15	20025	36	#Max	QPSK	22.87	20.77	17.77	PASS
LTE Band4	15	20025	75	#0	QPSK	22.84	20.74	17.74	PASS
LTE Band4	15	20025	1	#0	QAM16	22.90	20.80	17.80	PASS
LTE Band4	15	20025	1	#Mid	QAM16	22.96	20.86	17.86	PASS
LTE Band4	15	20025	1	#Max	QAM16	22.77	20.67	17.67	PASS
LTE Band4	15	20025	36	#0	QAM16	21.79	19.69	16.69	PASS
LTE Band4	15	20025	36	#Mid	QAM16	21.84	19.74	16.74	PASS
LTE Band4	15	20025	36	#Max	QAM16	21.84	19.74	16.74	PASS
LTE Band4	15	20025	75	#0	QAM16	21.79	19.69	16.69	PASS
LTE Band4	15	20175	1	#0	QPSK	23.30	21.20	18.20	PASS
LTE Band4	15	20175	1	#Mid	QPSK	23.36	21.26	18.26	PASS
LTE Band4	15	20175	1	#Max	QPSK	23.25	21.15	18.15	PASS
LTE Band4	15	20175	36	#0	QPSK	22.86	20.76	17.76	PASS
LTE Band4	15	20175	36	#Mid	QPSK	22.84	20.74	17.74	PASS
LTE Band4	15	20175	36	#Max	QPSK	22.89	20.79	17.79	PASS
LTE Band4	15	20175	75	#0	QPSK	22.81	20.71	17.71	PASS
LTE Band4	15	20175	1	#0	QAM16	22.80	20.70	17.70	PASS
LTE Band4	15	20175	1	#Mid	QAM16	22.88	20.78	17.78	PASS
LTE Band4	15	20175	1	#Max	QAM16	22.69	20.59	17.59	PASS
LTE Band4	15	20175	36	#0	QAM16	21.79	19.69	16.69	PASS
LTE Band4	15	20175	36	#Mid	QAM16	21.79	19.69	16.69	PASS
LTE Band4	15	20175	36	#Max	QAM16	21.85	19.75	16.75	PASS
LTE Band4	15	20175	75	#0	QAM16	21.82	19.72	16.72	PASS
LTE Band4	15	20325	1	#0	QPSK	23.31	21.21	18.21	PASS
LTE Band4	15	20325	1	#Mid	QPSK	23.29	21.19	18.19	PASS
LTE Band4	15	20325	1	#Max	QPSK	23.02	20.92	17.92	PASS
LTE Band4	15	20325	36	#0	QPSK	22.80	20.70	17.70	PASS
LTE Band4	15	20325	36	#Mid	QPSK	22.81	20.71	17.71	PASS
LTE Band4	15	20325	36	#Max	QPSK	22.64	20.54	17.54	PASS
LTE Band4	15	20325	75	#0	QPSK	22.74	20.64	17.64	PASS
LTE Band4	15	20325	1	#0	QAM16	22.81	20.71	17.71	PASS
LTE Band4	15	20325	1	#Mid	QAM16	22.80	20.70	17.70	PASS
LTE Band4	15	20325	1	#Max	QAM16	22.55	20.45	17.45	PASS

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LTE Band4	15	20325	36	#0	QAM16	21.76	19.66	16.66	PASS
LTE Band4	15	20325	36	#Mid	QAM16	21.81	19.71	16.71	PASS
LTE Band4	15	20325	36	#Max	QAM16	21.60	19.50	16.50	PASS
LTE Band4	15	20325	75	#0	QAM16	21.65	19.55	16.55	PASS
LTE Band4	20	20050	1	#0	QPSK	23.56	21.46	18.46	PASS
LTE Band4	20	20050	1	#Mid	QPSK	23.11	21.01	18.01	PASS
LTE Band4	20	20050	1	#Max	QPSK	23.35	21.25	18.25	PASS
LTE Band4	20	20050	50	#0	QPSK	22.92	20.82	17.82	PASS
LTE Band4	20	20050	50	#Mid	QPSK	22.89	20.79	17.79	PASS
LTE Band4	20	20050	50	#Max	QPSK	22.88	20.78	17.78	PASS
LTE Band4	20	20050	100	#0	QPSK	22.93	20.83	17.83	PASS
LTE Band4	20	20050	1	#0	QAM16	22.98	20.88	17.88	PASS
LTE Band4	20	20050	1	#Mid	QAM16	22.60	20.50	17.50	PASS
LTE Band4	20	20050	1	#Max	QAM16	22.95	20.85	17.85	PASS
LTE Band4	20	20050	50	#0	QAM16	21.84	19.74	16.74	PASS
LTE Band4	20	20050	50	#Mid	QAM16	21.83	19.73	16.73	PASS
LTE Band4	20	20050	50	#Max	QAM16	21.77	19.67	16.67	PASS
LTE Band4	20	20050	100	#0	QAM16	21.80	19.70	16.70	PASS
LTE Band4	20	20175	1	#0	QPSK	23.39	21.29	18.29	PASS
LTE Band4	20	20175	1	#Mid	QPSK	22.97	20.87	17.87	PASS
LTE Band4	20	20175	1	#Max	QPSK	23.24	21.14	18.14	PASS
LTE Band4	20	20175	50	#0	QPSK	22.87	20.77	17.77	PASS
LTE Band4	20	20175	50	#Mid	QPSK	22.85	20.75	17.75	PASS
LTE Band4	20	20175	50	#Max	QPSK	22.82	20.72	17.72	PASS
LTE Band4	20	20175	100	#0	QPSK	22.80	20.70	17.70	PASS
LTE Band4	20	20175	1	#0	QAM16	23.08	20.98	17.98	PASS
LTE Band4	20	20175	1	#Mid	QAM16	22.46	20.36	17.36	PASS
LTE Band4	20	20175	1	#Max	QAM16	22.87	20.77	17.77	PASS
LTE Band4	20	20175	50	#0	QAM16	21.82	19.72	16.72	PASS
LTE Band4	20	20175	50	#Mid	QAM16	21.81	19.71	16.71	PASS
LTE Band4	20	20175	50	#Max	QAM16	21.76	19.66	16.66	PASS
LTE Band4	20	20175	100	#0	QAM16	21.79	19.69	16.69	PASS
LTE Band4	20	20300	1	#0	QPSK	23.52	21.42	18.42	PASS
LTE Band4	20	20300	1	#Mid	QPSK	23.08	20.98	17.98	PASS
LTE Band4	20	20300	1	#Max	QPSK	23.13	21.03	18.03	PASS
LTE Band4	20	20300	50	#0	QPSK	22.89	20.79	17.79	PASS
LTE Band4	20	20300	50	#Mid	QPSK	22.84	20.74	17.74	PASS
LTE Band4	20	20300	50	#Max	QPSK	22.67	20.57	17.57	PASS
LTE Band4	20	20300	100	#0	QPSK	22.79	20.69	17.69	PASS
LTE Band4	20	20300	1	#0	QAM16	23.13	21.03	18.03	PASS
LTE Band4	20	20300	1	#Mid	QAM16	22.61	20.51	17.51	PASS
LTE Band4	20	20300	1	#Max	QAM16	22.79	20.69	17.69	PASS

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LTE Band4	20	20300	50	#0	QAM16	21.74	19.64	16.64	PASS
LTE Band4	20	20300	50	#Mid	QAM16	21.75	19.65	16.65	PASS
LTE Band4	20	20300	50	#Max	QAM16	21.64	19.54	16.54	PASS
LTE Band4	20	20300	100	#0	QAM16	21.69	19.59	16.59	PASS

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm) Main Antenna	EIRP(dBm) Second Antenna	Verdict
LTE Band7	5	20775	1	#0	QPSK	23.34	24.14	22.44	PASS
LTE Band7	5	20775	1	#Mid	QPSK	23.30	24.10	22.40	PASS
LTE Band7	5	20775	1	#Max	QPSK	23.21	24.01	22.31	PASS
LTE Band7	5	20775	12	#0	QPSK	22.87	23.67	21.97	PASS
LTE Band7	5	20775	12	#Mid	QPSK	22.85	23.65	21.95	PASS
LTE Band7	5	20775	12	#Max	QPSK	22.77	23.57	21.87	PASS
LTE Band7	5	20775	25	#0	QPSK	22.79	23.59	21.89	PASS
LTE Band7	5	20775	1	#0	QAM16	22.92	23.72	22.02	PASS
LTE Band7	5	20775	1	#Mid	QAM16	22.89	23.69	21.99	PASS
LTE Band7	5	20775	1	#Max	QAM16	22.84	23.64	21.94	PASS
LTE Band7	5	20775	12	#0	QAM16	21.88	22.68	20.98	PASS
LTE Band7	5	20775	12	#Mid	QAM16	21.88	22.68	20.98	PASS
LTE Band7	5	20775	12	#Max	QAM16	21.77	22.57	20.87	PASS
LTE Band7	5	20775	25	#0	QAM16	21.73	22.53	20.83	PASS
LTE Band7	5	21100	1	#0	QPSK	23.40	24.20	22.50	PASS
LTE Band7	5	21100	1	#Mid	QPSK	23.49	24.29	22.59	PASS
LTE Band7	5	21100	1	#Max	QPSK	23.37	24.17	22.47	PASS
LTE Band7	5	21100	12	#0	QPSK	22.93	23.73	22.03	PASS
LTE Band7	5	21100	12	#Mid	QPSK	22.94	23.74	22.04	PASS
LTE Band7	5	21100	12	#Max	QPSK	22.96	23.76	22.06	PASS
LTE Band7	5	21100	25	#0	QPSK	22.91	23.71	22.01	PASS
LTE Band7	5	21100	1	#0	QAM16	22.62	23.42	21.72	PASS
LTE Band7	5	21100	1	#Mid	QAM16	22.74	23.54	21.84	PASS
LTE Band7	5	21100	1	#Max	QAM16	22.64	23.44	21.74	PASS
LTE Band7	5	21100	12	#0	QAM16	21.84	22.64	20.94	PASS
LTE Band7	5	21100	12	#Mid	QAM16	21.82	22.62	20.92	PASS
LTE Band7	5	21100	12	#Max	QAM16	21.84	22.64	20.94	PASS
LTE Band7	5	21100	25	#0	QAM16	21.80	22.60	20.90	PASS
LTE Band7	5	21425	1	#0	QPSK	22.95	23.75	22.05	PASS
LTE Band7	5	21425	1	#Mid	QPSK	22.94	23.74	22.04	PASS
LTE Band7	5	21425	1	#Max	QPSK	22.96	23.76	22.06	PASS
LTE Band7	5	21425	12	#0	QPSK	22.53	23.33	21.63	PASS
LTE Band7	5	21425	12	#Mid	QPSK	22.51	23.31	21.61	PASS

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LTE Band7	5	21425	12	#Max	QPSK	22.48	23.28	21.58	PASS
LTE Band7	5	21425	25	#0	QPSK	22.44	23.24	21.54	PASS
LTE Band7	5	21425	1	#0	QAM16	22.59	23.39	21.69	PASS
LTE Band7	5	21425	1	#Mid	QAM16	22.58	23.38	21.68	PASS
LTE Band7	5	21425	1	#Max	QAM16	22.58	23.38	21.68	PASS
LTE Band7	5	21425	12	#0	QAM16	21.37	22.17	20.47	PASS
LTE Band7	5	21425	12	#Mid	QAM16	21.38	22.18	20.48	PASS
LTE Band7	5	21425	12	#Max	QAM16	21.44	22.24	20.54	PASS
LTE Band7	5	21425	25	#0	QAM16	21.37	22.17	20.47	PASS
LTE Band7	10	20800	1	#0	QPSK	23.43	24.23	22.53	PASS
LTE Band7	10	20800	1	#Mid	QPSK	22.62	23.42	21.72	PASS
LTE Band7	10	20800	1	#Max	QPSK	23.15	23.95	22.25	PASS
LTE Band7	10	20800	25	#0	QPSK	22.78	23.58	21.88	PASS
LTE Band7	10	20800	25	#Mid	QPSK	22.78	23.58	21.88	PASS
LTE Band7	10	20800	25	#Max	QPSK	22.72	23.52	21.82	PASS
LTE Band7	10	20800	50	#0	QPSK	22.78	23.58	21.88	PASS
LTE Band7	10	20800	1	#0	QAM16	23.00	23.80	22.10	PASS
LTE Band7	10	20800	1	#Mid	QAM16	22.68	23.48	21.78	PASS
LTE Band7	10	20800	1	#Max	QAM16	22.72	23.52	21.82	PASS
LTE Band7	10	20800	25	#0	QAM16	21.77	22.57	20.87	PASS
LTE Band7	10	20800	25	#Mid	QAM16	21.73	22.53	20.83	PASS
LTE Band7	10	20800	25	#Max	QAM16	21.66	22.46	20.76	PASS
LTE Band7	10	20800	50	#0	QAM16	21.68	22.48	20.78	PASS
LTE Band7	10	21100	1	#0	QPSK	23.17	23.97	22.27	PASS
LTE Band7	10	21100	1	#Mid	QPSK	22.95	23.75	22.05	PASS
LTE Band7	10	21100	1	#Max	QPSK	23.33	24.13	22.43	PASS
LTE Band7	10	21100	25	#0	QPSK	22.87	23.67	21.97	PASS
LTE Band7	10	21100	25	#Mid	QPSK	22.85	23.65	21.95	PASS
LTE Band7	10	21100	25	#Max	QPSK	22.86	23.66	21.96	PASS
LTE Band7	10	21100	50	#0	QPSK	22.85	23.65	21.95	PASS
LTE Band7	10	21100	1	#0	QAM16	22.69	23.49	21.79	PASS
LTE Band7	10	21100	1	#Mid	QAM16	22.63	23.43	21.73	PASS
LTE Band7	10	21100	1	#Max	QAM16	22.58	23.38	21.68	PASS
LTE Band7	10	21100	25	#0	QAM16	21.83	22.63	20.93	PASS
LTE Band7	10	21100	25	#Mid	QAM16	21.83	22.63	20.93	PASS
LTE Band7	10	21100	25	#Max	QAM16	21.83	22.63	20.93	PASS
LTE Band7	10	21100	50	#0	QAM16	21.81	22.61	20.91	PASS
LTE Band7	10	21400	1	#0	QPSK	23.03	23.83	22.13	PASS
LTE Band7	10	21400	1	#Mid	QPSK	22.89	23.69	21.99	PASS
LTE Band7	10	21400	1	#Max	QPSK	22.98	23.78	22.08	PASS
LTE Band7	10	21400	25	#0	QPSK	22.48	23.28	21.58	PASS
LTE Band7	10	21400	25	#Mid	QPSK	22.45	23.25	21.55	PASS

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LTE Band7	10	21400	25	#Max	QPSK	22.52	23.32	21.62	PASS
LTE Band7	10	21400	50	#0	QPSK	22.45	23.25	21.55	PASS
LTE Band7	10	21400	1	#0	QAM16	22.52	23.32	21.62	PASS
LTE Band7	10	21400	1	#Mid	QAM16	21.95	22.75	21.05	PASS
LTE Band7	10	21400	1	#Max	QAM16	22.51	23.31	21.61	PASS
LTE Band7	10	21400	25	#0	QAM16	21.46	22.26	20.56	PASS
LTE Band7	10	21400	25	#Mid	QAM16	21.48	22.28	20.58	PASS
LTE Band7	10	21400	25	#Max	QAM16	21.41	22.21	20.51	PASS
LTE Band7	10	21400	50	#0	QAM16	21.37	22.17	20.47	PASS
LTE Band7	15	20825	1	#0	QPSK	23.42	24.22	22.52	PASS
LTE Band7	15	20825	1	#Mid	QPSK	23.22	24.02	22.32	PASS
LTE Band7	15	20825	1	#Max	QPSK	23.09	23.89	22.19	PASS
LTE Band7	15	20825	36	#0	QPSK	22.86	23.66	21.96	PASS
LTE Band7	15	20825	36	#Mid	QPSK	22.86	23.66	21.96	PASS
LTE Band7	15	20825	36	#Max	QPSK	22.67	23.47	21.77	PASS
LTE Band7	15	20825	75	#0	QPSK	22.74	23.54	21.84	PASS
LTE Band7	15	20825	1	#0	QAM16	22.82	23.62	21.92	PASS
LTE Band7	15	20825	1	#Mid	QAM16	22.76	23.56	21.86	PASS
LTE Band7	15	20825	1	#Max	QAM16	22.65	23.45	21.75	PASS
LTE Band7	15	20825	36	#0	QAM16	21.74	22.54	20.84	PASS
LTE Band7	15	20825	36	#Mid	QAM16	21.77	22.57	20.87	PASS
LTE Band7	15	20825	36	#Max	QAM16	21.61	22.41	20.71	PASS
LTE Band7	15	20825	75	#0	QAM16	21.68	22.48	20.78	PASS
LTE Band7	15	21100	1	#0	QPSK	23.22	24.02	22.32	PASS
LTE Band7	15	21100	1	#Mid	QPSK	23.44	24.24	22.54	PASS
LTE Band7	15	21100	1	#Max	QPSK	23.26	24.06	22.36	PASS
LTE Band7	15	21100	36	#0	QPSK	22.86	23.66	21.96	PASS
LTE Band7	15	21100	36	#Mid	QPSK	22.84	23.64	21.94	PASS
LTE Band7	15	21100	36	#Max	QPSK	22.85	23.65	21.95	PASS
LTE Band7	15	21100	75	#0	QPSK	22.79	23.59	21.89	PASS
LTE Band7	15	21100	1	#0	QAM16	22.77	23.57	21.87	PASS
LTE Band7	15	21100	1	#Mid	QAM16	22.94	23.74	22.04	PASS
LTE Band7	15	21100	1	#Max	QAM16	22.84	23.64	21.94	PASS
LTE Band7	15	21100	36	#0	QAM16	21.69	22.49	20.79	PASS
LTE Band7	15	21100	36	#Mid	QAM16	21.69	22.49	20.79	PASS
LTE Band7	15	21100	36	#Max	QAM16	21.83	22.63	20.93	PASS
LTE Band7	15	21100	75	#0	QAM16	21.79	22.59	20.89	PASS
LTE Band7	15	21375	1	#0	QPSK	23.04	23.84	22.14	PASS
LTE Band7	15	21375	1	#Mid	QPSK	22.97	23.77	22.07	PASS
LTE Band7	15	21375	1	#Max	QPSK	22.90	23.70	22.00	PASS
LTE Band7	15	21375	36	#0	QPSK	22.56	23.36	21.66	PASS
LTE Band7	15	21375	36	#Mid	QPSK	22.55	23.35	21.65	PASS

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LTE Band7	15	21375	36	#Max	QPSK	22.47	23.27	21.57	PASS
LTE Band7	15	21375	75	#0	QPSK	22.44	23.24	21.54	PASS
LTE Band7	15	21375	1	#0	QAM16	22.58	23.38	21.68	PASS
LTE Band7	15	21375	1	#Mid	QAM16	22.52	23.32	21.62	PASS
LTE Band7	15	21375	1	#Max	QAM16	22.41	23.21	21.51	PASS
LTE Band7	15	21375	36	#0	QAM16	21.47	22.27	20.57	PASS
LTE Band7	15	21375	36	#Mid	QAM16	21.50	22.30	20.60	PASS
LTE Band7	15	21375	36	#Max	QAM16	21.44	22.24	20.54	PASS
LTE Band7	15	21375	75	#0	QAM16	21.41	22.21	20.51	PASS
LTE Band7	20	20850	1	#0	QPSK	23.50	24.30	22.60	PASS
LTE Band7	20	20850	1	#Mid	QPSK	22.88	23.68	21.98	PASS
LTE Band7	20	20850	1	#Max	QPSK	23.23	24.03	22.33	PASS
LTE Band7	20	20850	50	#0	QPSK	22.73	23.53	21.83	PASS
LTE Band7	20	20850	50	#Mid	QPSK	22.76	23.56	21.86	PASS
LTE Band7	20	20850	50	#Max	QPSK	22.65	23.45	21.75	PASS
LTE Band7	20	20850	100	#0	QPSK	22.77	23.57	21.87	PASS
LTE Band7	20	20850	1	#0	QAM16	23.16	23.96	22.26	PASS
LTE Band7	20	20850	1	#Mid	QAM16	22.71	23.51	21.81	PASS
LTE Band7	20	20850	1	#Max	QAM16	22.92	23.72	22.02	PASS
LTE Band7	20	20850	50	#0	QAM16	21.67	22.47	20.77	PASS
LTE Band7	20	20850	50	#Mid	QAM16	21.72	22.52	20.82	PASS
LTE Band7	20	20850	50	#Max	QAM16	21.56	22.36	20.66	PASS
LTE Band7	20	20850	100	#0	QAM16	21.63	22.43	20.73	PASS
LTE Band7	20	21100	1	#0	QPSK	23.24	24.04	22.34	PASS
LTE Band7	20	21100	1	#Mid	QPSK	22.93	23.73	22.03	PASS
LTE Band7	20	21100	1	#Max	QPSK	23.32	24.12	22.42	PASS
LTE Band7	20	21100	50	#0	QPSK	22.84	23.64	21.94	PASS
LTE Band7	20	21100	50	#Mid	QPSK	22.81	23.61	21.91	PASS
LTE Band7	20	21100	50	#Max	QPSK	22.86	23.66	21.96	PASS
LTE Band7	20	21100	100	#0	QPSK	22.82	23.62	21.92	PASS
LTE Band7	20	21100	1	#0	QAM16	22.86	23.66	21.96	PASS
LTE Band7	20	21100	1	#Mid	QAM16	22.49	23.29	21.59	PASS
LTE Band7	20	21100	1	#Max	QAM16	23.00	23.80	22.10	PASS
LTE Band7	20	21100	50	#0	QAM16	21.78	22.58	20.88	PASS
LTE Band7	20	21100	50	#Mid	QAM16	21.79	22.59	20.89	PASS
LTE Band7	20	21100	50	#Max	QAM16	21.78	22.58	20.88	PASS
LTE Band7	20	21100	100	#0	QAM16	21.73	22.53	20.83	PASS
LTE Band7	20	21350	1	#0	QPSK	23.27	24.07	22.37	PASS
LTE Band7	20	21350	1	#Mid	QPSK	22.74	23.54	21.84	PASS
LTE Band7	20	21350	1	#Max	QPSK	23.04	23.84	22.14	PASS
LTE Band7	20	21350	50	#0	QPSK	22.64	23.44	21.74	PASS
LTE Band7	20	21350	50	#Mid	QPSK	22.55	23.35	21.65	PASS

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LTE Band7	20	21350	50	#Max	QPSK	22.52	23.32	21.62	PASS
LTE Band7	20	21350	100	#0	QPSK	22.56	23.36	21.66	PASS
LTE Band7	20	21350	1	#0	QAM16	23.02	23.82	22.12	PASS
LTE Band7	20	21350	1	#Mid	QAM16	22.29	23.09	21.39	PASS
LTE Band7	20	21350	1	#Max	QAM16	22.64	23.44	21.74	PASS
LTE Band7	20	21350	50	#0	QAM16	21.54	22.34	20.64	PASS
LTE Band7	20	21350	50	#Mid	QAM16	21.57	22.37	20.67	PASS
LTE Band7	20	21350	50	#Max	QAM16	21.37	22.17	20.47	PASS
LTE Band7	20	21350	100	#0	QAM16	21.46	22.26	20.56	PASS

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP(dBm) Main Antenna	EIRP(dBm) Second Antenna	Verdict
LTE Band66	1.4	131979	1	#0	QPSK	23.41	21.41	18.61	PASS
LTE Band66	1.4	131979	1	#Mid	QPSK	23.05	21.05	18.25	PASS
LTE Band66	1.4	131979	1	#Max	QPSK	23.39	21.39	18.59	PASS
LTE Band66	1.4	131979	3	#0	QPSK	23.32	21.32	18.52	PASS
LTE Band66	1.4	131979	3	#Mid	QPSK	23.32	21.32	18.52	PASS
LTE Band66	1.4	131979	3	#Max	QPSK	23.37	21.37	18.57	PASS
LTE Band66	1.4	131979	6	#0	QPSK	22.82	20.82	18.02	PASS
LTE Band66	1.4	131979	1	#0	QAM16	22.96	20.96	18.16	PASS
LTE Band66	1.4	131979	1	#Mid	QAM16	22.71	20.71	17.91	PASS
LTE Band66	1.4	131979	1	#Max	QAM16	23.02	21.02	18.22	PASS
LTE Band66	1.4	131979	3	#0	QAM16	22.87	20.87	18.07	PASS
LTE Band66	1.4	131979	3	#Mid	QAM16	22.86	20.86	18.06	PASS
LTE Band66	1.4	131979	3	#Max	QAM16	22.89	20.89	18.09	PASS
LTE Band66	1.4	131979	6	#0	QAM16	21.84	19.84	17.04	PASS
LTE Band66	1.4	132322	1	#0	QPSK	23.33	21.33	18.53	PASS
LTE Band66	1.4	132322	1	#Mid	QPSK	23.03	21.03	18.23	PASS
LTE Band66	1.4	132322	1	#Max	QPSK	23.31	21.31	18.51	PASS
LTE Band66	1.4	132322	3	#0	QPSK	23.31	21.31	18.51	PASS
LTE Band66	1.4	132322	3	#Mid	QPSK	23.37	21.37	18.57	PASS
LTE Band66	1.4	132322	3	#Max	QPSK	23.22	21.22	18.42	PASS
LTE Band66	1.4	132322	6	#0	QPSK	22.59	20.59	17.79	PASS
LTE Band66	1.4	132322	1	#0	QAM16	23.01	21.01	18.21	PASS
LTE Band66	1.4	132322	1	#Mid	QAM16	22.68	20.68	17.88	PASS
LTE Band66	1.4	132322	1	#Max	QAM16	22.90	20.90	18.10	PASS
LTE Band66	1.4	132322	3	#0	QAM16	22.84	20.84	18.04	PASS
LTE Band66	1.4	132322	3	#Mid	QAM16	22.79	20.79	17.99	PASS
LTE Band66	1.4	132322	3	#Max	QAM16	22.60	20.60	17.80	PASS
LTE Band66	1.4	132322	6	#0	QAM16	21.65	19.65	16.85	PASS
LTE Band66	1.4	132665	1	#0	QPSK	23.71	21.71	18.91	PASS
LTE Band66	1.4	132665	1	#Mid	QPSK	23.62	21.62	18.82	PASS

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LTE Band66	1.4	132665	1	#Max	QPSK	23.73	21.73	18.93	PASS
LTE Band66	1.4	132665	3	#0	QPSK	23.66	21.66	18.86	PASS
LTE Band66	1.4	132665	3	#Mid	QPSK	23.64	21.64	18.84	PASS
LTE Band66	1.4	132665	3	#Max	QPSK	23.64	21.64	18.84	PASS
LTE Band66	1.4	132665	6	#0	QPSK	23.02	21.02	18.22	PASS
LTE Band66	1.4	132665	1	#0	QAM16	23.26	21.26	18.46	PASS
LTE Band66	1.4	132665	1	#Mid	QAM16	23.16	21.16	18.36	PASS
LTE Band66	1.4	132665	1	#Max	QAM16	23.25	21.25	18.45	PASS
LTE Band66	1.4	132665	3	#0	QAM16	22.94	20.94	18.14	PASS
LTE Band66	1.4	132665	3	#Mid	QAM16	23.18	21.18	18.38	PASS
LTE Band66	1.4	132665	3	#Max	QAM16	23.24	21.24	18.44	PASS
LTE Band66	1.4	132665	6	#0	QAM16	22.03	20.03	17.23	PASS
LTE Band66	3	131987	1	#0	QPSK	23.53	21.53	18.73	PASS
LTE Band66	3	131987	1	#Mid	QPSK	23.42	21.42	18.62	PASS
LTE Band66	3	131987	1	#Max	QPSK	23.42	21.42	18.62	PASS
LTE Band66	3	131987	8	#0	QPSK	22.77	20.77	17.97	PASS
LTE Band66	3	131987	8	#Mid	QPSK	22.82	20.82	18.02	PASS
LTE Band66	3	131987	8	#Max	QPSK	22.88	20.88	18.08	PASS
LTE Band66	3	131987	15	#0	QPSK	22.84	20.84	18.04	PASS
LTE Band66	3	131987	1	#0	QAM16	22.63	20.63	17.83	PASS
LTE Band66	3	131987	1	#Mid	QAM16	23.11	21.11	18.31	PASS
LTE Band66	3	131987	1	#Max	QAM16	23.08	21.08	18.28	PASS
LTE Band66	3	131987	8	#0	QAM16	21.91	19.91	17.11	PASS
LTE Band66	3	131987	8	#Mid	QAM16	21.91	19.91	17.11	PASS
LTE Band66	3	131987	8	#Max	QAM16	21.77	19.77	16.97	PASS
LTE Band66	3	131987	15	#0	QAM16	21.80	19.80	17.00	PASS
LTE Band66	3	132322	1	#0	QPSK	23.30	21.30	18.50	PASS
LTE Band66	3	132322	1	#Mid	QPSK	23.26	21.26	18.46	PASS
LTE Band66	3	132322	1	#Max	QPSK	23.28	21.28	18.48	PASS
LTE Band66	3	132322	8	#0	QPSK	22.73	20.73	17.93	PASS
LTE Band66	3	132322	8	#Mid	QPSK	22.85	20.85	18.05	PASS
LTE Band66	3	132322	8	#Max	QPSK	22.79	20.79	17.99	PASS
LTE Band66	3	132322	15	#0	QPSK	22.83	20.83	18.03	PASS
LTE Band66	3	132322	1	#0	QAM16	22.60	20.60	17.80	PASS
LTE Band66	3	132322	1	#Mid	QAM16	22.61	20.61	17.81	PASS
LTE Band66	3	132322	1	#Max	QAM16	23.02	21.02	18.22	PASS
LTE Band66	3	132322	8	#0	QAM16	21.76	19.76	16.96	PASS
LTE Band66	3	132322	8	#Mid	QAM16	21.78	19.78	16.98	PASS
LTE Band66	3	132322	8	#Max	QAM16	21.72	19.72	16.92	PASS
LTE Band66	3	132322	15	#0	QAM16	21.67	19.67	16.87	PASS
LTE Band66	3	132657	1	#0	QPSK	23.64	21.64	18.84	PASS
LTE Band66	3	132657	1	#Mid	QPSK	23.75	21.75	18.95	PASS
LTE Band66	3	132657	1	#Max	QPSK	23.76	21.76	18.96	PASS

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LTE Band66	3	132657	8	#0	QPSK	23.07	21.07	18.27	PASS
LTE Band66	3	132657	8	#Mid	QPSK	23.09	21.09	18.29	PASS
LTE Band66	3	132657	8	#Max	QPSK	23.06	21.06	18.26	PASS
LTE Band66	3	132657	15	#0	QPSK	23.14	21.14	18.34	PASS
LTE Band66	3	132657	1	#0	QAM16	23.11	21.11	18.31	PASS
LTE Band66	3	132657	1	#Mid	QAM16	23.23	21.23	18.43	PASS
LTE Band66	3	132657	1	#Max	QAM16	23.17	21.17	18.37	PASS
LTE Band66	3	132657	8	#0	QAM16	22.03	20.03	17.23	PASS
LTE Band66	3	132657	8	#Mid	QAM16	21.95	19.95	17.15	PASS
LTE Band66	3	132657	8	#Max	QAM16	22.16	20.16	17.36	PASS
LTE Band66	3	132657	15	#0	QAM16	22.07	20.07	17.27	PASS
LTE Band66	5	131997	1	#0	QPSK	23.59	21.59	18.79	PASS
LTE Band66	5	131997	1	#Mid	QPSK	23.46	21.46	18.66	PASS
LTE Band66	5	131997	1	#Max	QPSK	23.37	21.37	18.57	PASS
LTE Band66	5	131997	12	#0	QPSK	22.95	20.95	18.15	PASS
LTE Band66	5	131997	12	#Mid	QPSK	22.94	20.94	18.14	PASS
LTE Band66	5	131997	12	#Max	QPSK	23.01	21.01	18.21	PASS
LTE Band66	5	131997	25	#0	QPSK	22.91	20.91	18.11	PASS
LTE Band66	5	131997	1	#0	QAM16	22.90	20.90	18.10	PASS
LTE Band66	5	131997	1	#Mid	QAM16	22.94	20.94	18.14	PASS
LTE Band66	5	131997	1	#Max	QAM16	22.87	20.87	18.07	PASS
LTE Band66	5	131997	12	#0	QAM16	21.92	19.92	17.12	PASS
LTE Band66	5	131997	12	#Mid	QAM16	21.93	19.93	17.13	PASS
LTE Band66	5	131997	12	#Max	QAM16	21.89	19.89	17.09	PASS
LTE Band66	5	131997	25	#0	QAM16	21.79	19.79	16.99	PASS
LTE Band66	5	132322	1	#0	QPSK	23.33	21.33	18.53	PASS
LTE Band66	5	132322	1	#Mid	QPSK	23.33	21.33	18.53	PASS
LTE Band66	5	132322	1	#Max	QPSK	23.27	21.27	18.47	PASS
LTE Band66	5	132322	12	#0	QPSK	22.93	20.93	18.13	PASS
LTE Band66	5	132322	12	#Mid	QPSK	22.93	20.93	18.13	PASS
LTE Band66	5	132322	12	#Max	QPSK	22.87	20.87	18.07	PASS
LTE Band66	5	132322	25	#0	QPSK	22.84	20.84	18.04	PASS
LTE Band66	5	132322	1	#0	QAM16	22.92	20.92	18.12	PASS
LTE Band66	5	132322	1	#Mid	QAM16	22.86	20.86	18.06	PASS
LTE Band66	5	132322	1	#Max	QAM16	22.78	20.78	17.98	PASS
LTE Band66	5	132322	12	#0	QAM16	21.82	19.82	17.02	PASS
LTE Band66	5	132322	12	#Mid	QAM16	21.80	19.80	17.00	PASS
LTE Band66	5	132322	12	#Max	QAM16	21.77	19.77	16.97	PASS
LTE Band66	5	132322	25	#0	QAM16	21.74	19.74	16.94	PASS
LTE Band66	5	132647	1	#0	QPSK	23.50	21.50	18.70	PASS
LTE Band66	5	132647	1	#Mid	QPSK	23.55	21.55	18.75	PASS
LTE Band66	5	132647	1	#Max	QPSK	23.65	21.65	18.85	PASS
LTE Band66	5	132647	12	#0	QPSK	23.09	21.09	18.29	PASS

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LTE Band66	5	132647	12	#Mid	QPSK	23.09	21.09	18.29	PASS
LTE Band66	5	132647	12	#Max	QPSK	23.19	21.19	18.39	PASS
LTE Band66	5	132647	25	#0	QPSK	23.07	21.07	18.27	PASS
LTE Band66	5	132647	1	#0	QAM16	23.20	21.20	18.40	PASS
LTE Band66	5	132647	1	#Mid	QAM16	23.19	21.19	18.39	PASS
LTE Band66	5	132647	1	#Max	QAM16	23.26	21.26	18.46	PASS
LTE Band66	5	132647	12	#0	QAM16	22.07	20.07	17.27	PASS
LTE Band66	5	132647	12	#Mid	QAM16	22.07	20.07	17.27	PASS
LTE Band66	5	132647	12	#Max	QAM16	22.08	20.08	17.28	PASS
LTE Band66	5	132647	25	#0	QAM16	22.07	20.07	17.27	PASS
LTE Band66	10	132022	1	#0	QPSK	23.42	21.42	18.62	PASS
LTE Band66	10	132022	1	#Mid	QPSK	23.24	21.24	18.44	PASS
LTE Band66	10	132022	1	#Max	QPSK	23.29	21.29	18.49	PASS
LTE Band66	10	132022	25	#0	QPSK	22.93	20.93	18.13	PASS
LTE Band66	10	132022	25	#Mid	QPSK	22.90	20.90	18.10	PASS
LTE Band66	10	132022	25	#Max	QPSK	22.88	20.88	18.08	PASS
LTE Band66	10	132022	50	#0	QPSK	22.90	20.90	18.10	PASS
LTE Band66	10	132022	1	#0	QAM16	22.96	20.96	18.16	PASS
LTE Band66	10	132022	1	#Mid	QAM16	22.74	20.74	17.94	PASS
LTE Band66	10	132022	1	#Max	QAM16	22.90	20.90	18.10	PASS
LTE Band66	10	132022	25	#0	QAM16	21.81	19.81	17.01	PASS
LTE Band66	10	132022	25	#Mid	QAM16	21.77	19.77	16.97	PASS
LTE Band66	10	132022	25	#Max	QAM16	21.74	19.74	16.94	PASS
LTE Band66	10	132022	50	#0	QAM16	21.77	19.77	16.97	PASS
LTE Band66	10	132322	1	#0	QPSK	23.26	21.26	18.46	PASS
LTE Band66	10	132322	1	#Mid	QPSK	23.10	21.10	18.30	PASS
LTE Band66	10	132322	1	#Max	QPSK	23.10	21.10	18.30	PASS
LTE Band66	10	132322	25	#0	QPSK	22.83	20.83	18.03	PASS
LTE Band66	10	132322	25	#Mid	QPSK	22.83	20.83	18.03	PASS
LTE Band66	10	132322	25	#Max	QPSK	22.75	20.75	17.95	PASS
LTE Band66	10	132322	50	#0	QPSK	22.79	20.79	17.99	PASS
LTE Band66	10	132322	1	#0	QAM16	22.79	20.79	17.99	PASS
LTE Band66	10	132322	1	#Mid	QAM16	22.56	20.56	17.76	PASS
LTE Band66	10	132322	1	#Max	QAM16	22.67	20.67	17.87	PASS
LTE Band66	10	132322	25	#0	QAM16	21.78	19.78	16.98	PASS
LTE Band66	10	132322	25	#Mid	QAM16	21.77	19.77	16.97	PASS
LTE Band66	10	132322	25	#Max	QAM16	21.72	19.72	16.92	PASS
LTE Band66	10	132322	50	#0	QAM16	21.74	19.74	16.94	PASS
LTE Band66	10	132622	1	#0	QPSK	23.40	21.40	18.60	PASS
LTE Band66	10	132622	1	#Mid	QPSK	23.41	21.41	18.61	PASS
LTE Band66	10	132622	1	#Max	QPSK	23.62	21.62	18.82	PASS
LTE Band66	10	132622	25	#0	QPSK	22.93	20.93	18.13	PASS
LTE Band66	10	132622	25	#Mid	QPSK	22.92	20.92	18.12	PASS

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LTE Band66	10	132622	25	#Max	QPSK	22.95	20.95	18.15	PASS
LTE Band66	10	132622	50	#0	QPSK	22.99	20.99	18.19	PASS
LTE Band66	10	132622	1	#0	QAM16	22.96	20.96	18.16	PASS
LTE Band66	10	132622	1	#Mid	QAM16	22.84	20.84	18.04	PASS
LTE Band66	10	132622	1	#Max	QAM16	23.01	21.01	18.21	PASS
LTE Band66	10	132622	25	#0	QAM16	21.89	19.89	17.09	PASS
LTE Band66	10	132622	25	#Mid	QAM16	21.89	19.89	17.09	PASS
LTE Band66	10	132622	25	#Max	QAM16	21.94	19.94	17.14	PASS
LTE Band66	10	132622	50	#0	QAM16	21.85	19.85	17.05	PASS
LTE Band66	15	132047	1	#0	QPSK	23.40	21.40	18.60	PASS
LTE Band66	15	132047	1	#Mid	QPSK	23.44	21.44	18.64	PASS
LTE Band66	15	132047	1	#Max	QPSK	23.24	21.24	18.44	PASS
LTE Band66	15	132047	36	#0	QPSK	22.88	20.88	18.08	PASS
LTE Band66	15	132047	36	#Mid	QPSK	22.87	20.87	18.07	PASS
LTE Band66	15	132047	36	#Max	QPSK	22.87	20.87	18.07	PASS
LTE Band66	15	132047	75	#0	QPSK	22.86	20.86	18.06	PASS
LTE Band66	15	132047	1	#0	QAM16	22.77	20.77	17.97	PASS
LTE Band66	15	132047	1	#Mid	QAM16	22.89	20.89	18.09	PASS
LTE Band66	15	132047	1	#Max	QAM16	22.70	20.70	17.90	PASS
LTE Band66	15	132047	36	#0	QAM16	21.82	19.82	17.02	PASS
LTE Band66	15	132047	36	#Mid	QAM16	21.85	19.85	17.05	PASS
LTE Band66	15	132047	36	#Max	QAM16	21.85	19.85	17.05	PASS
LTE Band66	15	132047	75	#0	QAM16	21.84	19.84	17.04	PASS
LTE Band66	15	132322	1	#0	QPSK	23.32	21.32	18.52	PASS
LTE Band66	15	132322	1	#Mid	QPSK	23.36	21.36	18.56	PASS
LTE Band66	15	132322	1	#Max	QPSK	23.10	21.10	18.30	PASS
LTE Band66	15	132322	36	#0	QPSK	22.85	20.85	18.05	PASS
LTE Band66	15	132322	36	#Mid	QPSK	22.85	20.85	18.05	PASS
LTE Band66	15	132322	36	#Max	QPSK	22.73	20.73	17.93	PASS
LTE Band66	15	132322	75	#0	QPSK	22.78	20.78	17.98	PASS
LTE Band66	15	132322	1	#0	QAM16	22.77	20.77	17.97	PASS
LTE Band66	15	132322	1	#Mid	QAM16	22.83	20.83	18.03	PASS
LTE Band66	15	132322	1	#Max	QAM16	22.61	20.61	17.81	PASS
LTE Band66	15	132322	36	#0	QAM16	21.81	19.81	17.01	PASS
LTE Band66	15	132322	36	#Mid	QAM16	21.81	19.81	17.01	PASS
LTE Band66	15	132322	36	#Max	QAM16	21.70	19.70	16.90	PASS
LTE Band66	15	132322	75	#0	QAM16	21.76	19.76	16.96	PASS
LTE Band66	15	132597	1	#0	QPSK	23.18	21.18	18.38	PASS
LTE Band66	15	132597	1	#Mid	QPSK	23.38	21.38	18.58	PASS
LTE Band66	15	132597	1	#Max	QPSK	23.36	21.36	18.56	PASS
LTE Band66	15	132597	36	#0	QPSK	22.87	20.87	18.07	PASS
LTE Band66	15	132597	36	#Mid	QPSK	22.86	20.86	18.06	PASS
LTE Band66	15	132597	36	#Max	QPSK	22.96	20.96	18.16	PASS

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LTE Band66	15	132597	75	#0	QPSK	22.91	20.91	18.11	PASS
LTE Band66	15	132597	1	#0	QAM16	22.84	20.84	18.04	PASS
LTE Band66	15	132597	1	#Mid	QAM16	23.08	21.08	18.28	PASS
LTE Band66	15	132597	1	#Max	QAM16	23.07	21.07	18.27	PASS
LTE Band66	15	132597	36	#0	QAM16	21.79	19.79	16.99	PASS
LTE Band66	15	132597	36	#Mid	QAM16	21.83	19.83	17.03	PASS
LTE Band66	15	132597	36	#Max	QAM16	21.92	19.92	17.12	PASS
LTE Band66	15	132597	75	#0	QAM16	21.77	19.77	16.97	PASS
LTE Band66	20	132072	1	#0	QPSK	23.35	21.35	18.55	PASS
LTE Band66	20	132072	1	#Mid	QPSK	22.96	20.96	18.16	PASS
LTE Band66	20	132072	1	#Max	QPSK	23.28	21.28	18.48	PASS
LTE Band66	20	132072	50	#0	QPSK	22.86	20.86	18.06	PASS
LTE Band66	20	132072	50	#Mid	QPSK	22.88	20.88	18.08	PASS
LTE Band66	20	132072	50	#Max	QPSK	22.84	20.84	18.04	PASS
LTE Band66	20	132072	100	#0	QPSK	22.88	20.88	18.08	PASS
LTE Band66	20	132072	1	#0	QAM16	22.93	20.93	18.13	PASS
LTE Band66	20	132072	1	#Mid	QAM16	22.43	20.43	17.63	PASS
LTE Band66	20	132072	1	#Max	QAM16	22.81	20.81	18.01	PASS
LTE Band66	20	132072	50	#0	QAM16	21.83	19.83	17.03	PASS
LTE Band66	20	132072	50	#Mid	QAM16	21.79	19.79	16.99	PASS
LTE Band66	20	132072	50	#Max	QAM16	21.81	19.81	17.01	PASS
LTE Band66	20	132072	100	#0	QAM16	21.79	19.79	16.99	PASS
LTE Band66	20	132322	1	#0	QPSK	23.45	21.45	18.65	PASS
LTE Band66	20	132322	1	#Mid	QPSK	23.14	21.14	18.34	PASS
LTE Band66	20	132322	1	#Max	QPSK	23.09	21.09	18.29	PASS
LTE Band66	20	132322	50	#0	QPSK	22.87	20.87	18.07	PASS
LTE Band66	20	132322	50	#Mid	QPSK	22.87	20.87	18.07	PASS
LTE Band66	20	132322	50	#Max	QPSK	22.72	20.72	17.92	PASS
LTE Band66	20	132322	100	#0	QPSK	22.77	20.77	17.97	PASS
LTE Band66	20	132322	1	#0	QAM16	22.75	20.75	17.95	PASS
LTE Band66	20	132322	1	#Mid	QAM16	22.61	20.61	17.81	PASS
LTE Band66	20	132322	1	#Max	QAM16	22.70	20.70	17.90	PASS
LTE Band66	20	132322	50	#0	QAM16	21.71	19.71	16.91	PASS
LTE Band66	20	132322	50	#Mid	QAM16	21.71	19.71	16.91	PASS
LTE Band66	20	132322	50	#Max	QAM16	21.57	19.57	16.77	PASS
LTE Band66	20	132322	100	#0	QAM16	21.67	19.67	16.87	PASS
LTE Band66	20	132572	1	#0	QPSK	23.24	21.24	18.44	PASS
LTE Band66	20	132572	1	#Mid	QPSK	23.09	21.09	18.29	PASS
LTE Band66	20	132572	1	#Max	QPSK	23.42	21.42	18.62	PASS
LTE Band66	20	132572	50	#0	QPSK	22.73	20.73	17.93	PASS
LTE Band66	20	132572	50	#Mid	QPSK	22.77	20.77	17.97	PASS
LTE Band66	20	132572	50	#Max	QPSK	22.86	20.86	18.06	PASS
LTE Band66	20	132572	100	#0	QPSK	22.77	20.77	17.97	PASS

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LTE Band66	20	132572	1	#0	QAM16	22.67	20.67	17.87	PASS
LTE Band66	20	132572	1	#Mid	QAM16	22.22	20.22	17.42	PASS
LTE Band66	20	132572	1	#Max	QAM16	22.90	20.90	18.10	PASS
LTE Band66	20	132572	50	#0	QAM16	21.62	19.62	16.82	PASS
LTE Band66	20	132572	50	#Mid	QAM16	21.62	19.62	16.82	PASS
LTE Band66	20	132572	50	#Max	QAM16	21.76	19.76	16.96	PASS
LTE Band66	20	132572	100	#0	QAM16	21.72	19.72	16.92	PASS

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5.2 Occupied Bandwidth

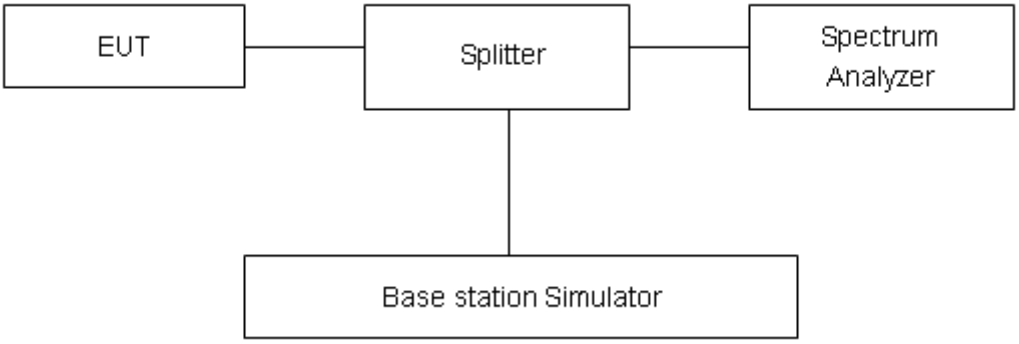
Ambient condition

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 51 kHz, VBW is set to 160 kHz for WCDMA Band IV.
RBW is set to 30kHz, VBW is set to 91kHz for LTE Band 4/66 (1.4MHz).
RBW is set to 62kHz, VBW is set to 180kHz for LTE Band 4/66(3MHz).
RBW is set to 100kHz, VBW is set to 300 kHz for LTE Band 4/7/66 (5MHz).
RBW is set to 200kHz, VBW is set to 620kHz for LTE Band 4/7/66 (10MHz).
RBW is set to 300 kHz, VBW is set to 910kHz for LTE Band 4/7/66 (15MHz).
RBW is set to 430 kHz, VBW is set to 1.2MHz 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=624Hz.

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Test Result

Mode	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
WCDMA Band IV (RMC)	1312	1712.4	4.1520	4.667
	1413	1732.6	4.1594	4.656
	1513	1752.6	4.1640	4.684

LTE Band 4						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	19957	1710.7	1.0953	1.245
			20175	1732.5	1.0945	1.247
			20393	1754.3	1.0955	1.244
		3	19965	1711.5	2.6968	2.972
			20175	1732.5	2.7030	2.961
			20385	1753.5	2.7077	2.983
		5	19975	1712.5	4.5155	4.961
			20175	1732.5	4.5193	5.002
			20375	1752.5	4.5201	4.946
		10	20000	1715	8.9927	9.834
			20175	1732.5	9.0175	9.845
			20350	1750	8.9934	9.694
		15	20025	1717.5	13.4890	14.820
			20175	1732.5	13.4790	14.950
			20325	1747.5	13.4560	14.770
		20	20050	1720	17.9930	19.460
			20175	1732.5	17.9700	19.900
			20300	1745	17.9250	19.630
	16QAM	1.4	19957	1710.7	1.0950	1.243
			20175	1732.5	1.1003	1.234
			20393	1754.3	1.0999	1.246
		3	19965	1711.5	2.7003	2.983
			20175	1732.5	2.7032	2.985
			20385	1753.5	2.6946	2.961
		5	19975	1712.5	4.5204	4.965
			20175	1732.5	4.5212	4.966
			20375	1752.5	4.5353	4.965
		10	20000	1715	8.9797	9.835
			20175	1732.5	8.9926	9.908

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			20350	1750	8.9884	9.775
		15	20025	1717.5	13.4480	14.650
			20175	1732.5	13.5080	14.900
			20325	1747.5	13.4610	14.760
		20	20050	1720	17.9920	19.800
			20175	1732.5	18.0150	19.680
			20300	1745	17.9360	19.570

LTE Band 7						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	20775	2502.5	4.5332	5.016
			21100	2535	4.5278	4.937
			21425	2567.5	4.5364	4.968
		10	20800	2505	8.9931	9.803
			21100	2535	8.9741	9.799
			21400	2565	8.9804	9.825
		15	20825	2507.5	13.4800	14.890
			21100	2535	13.5110	14.800
			21375	2562.5	13.4850	14.910
		20	20850	2510	17.9920	19.730
			21100	2535	17.9440	19.730
			21350	2560	17.9680	19.660
	16QAM	5	20775	2502.5	4.5393	4.956
			21100	2535	4.5118	4.951
			21425	2567.5	4.5088	4.953
		10	20800	2505	8.9939	9.743
			21100	2535	9.0111	9.833
			21400	2565	8.9969	9.796
		15	20825	2507.5	13.4650	14.750
			21100	2535	13.4980	14.820
			21375	2562.5	13.4870	14.870
		20	20850	2510	18.0010	19.790
			21100	2535	17.9440	19.720
			21350	2560	18.0520	19.900

LTE Band 66						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	131979	1710.7	1.1001	1.247

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			132322	1745	1.0956	1.245
			132665	1779.3	1.1056	1.240
		3	131987	1711.5	2.7023	2.976
			132322	1745	2.6983	2.973
			132657	1778.5	2.6941	2.983
		5	131997	1712.5	4.5103	4.949
			132322	1745	4.5280	4.916
			132647	1777.5	4.4998	4.914
		10	132022	1715	8.9910	9.767
			132322	1745	9.0303	9.826
			132622	1775	8.9660	9.785
		15	132047	1717.5	13.4990	14.860
			132322	1745	13.4460	14.760
			132597	1772.5	13.4790	14.720
		20	132072	1720	18.0440	19.670
			132322	1745	17.9470	19.440
			132572	1770	17.9500	19.670
	16QAM	1.4	131979	1710.7	1.0929	1.237
			132322	1745	1.0922	1.241
			132665	1779.3	1.0993	1.244
		3	131987	1711.5	2.6956	2.961
			132322	1745	2.6973	2.950
			132657	1778.5	2.6988	2.946
		5	131997	1712.5	4.5151	4.996
			132322	1745	4.5261	4.956
			132647	1777.5	4.5082	4.954
		10	132022	1715	8.9567	9.825
			132322	1745	8.9882	9.845
			132622	1775	8.9764	9.859
		15	132047	1717.5	13.4450	14.810
			132322	1745	13.4850	14.700
			132597	1772.5	13.4560	14.680
		20	132072	1720	17.9690	19.580
			132322	1745	17.9220	19.700
			132572	1770	17.9600	19.640

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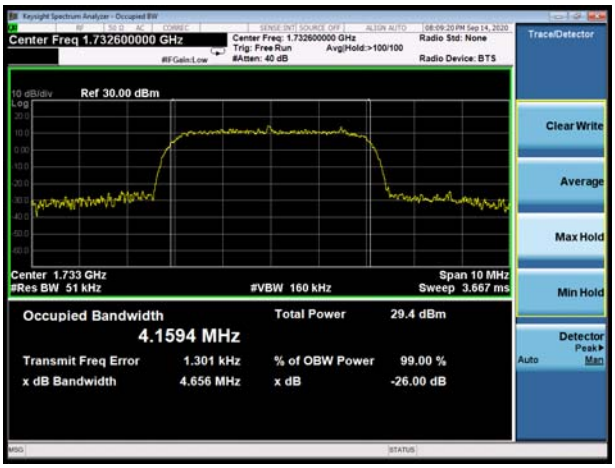
WCDMA Band IV CH-Low

WCDMA Band IV CH Middle



WCDMA Band IV CH High

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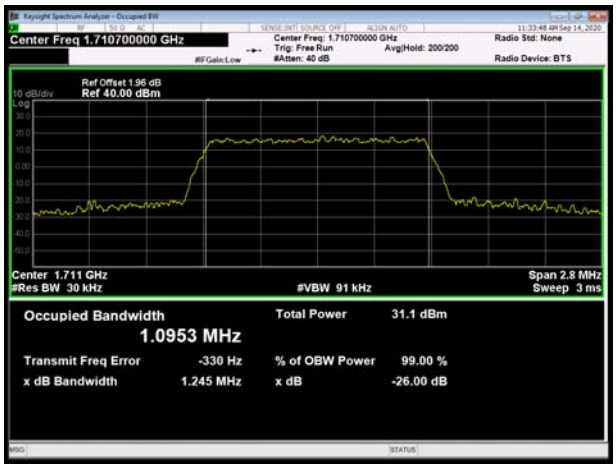
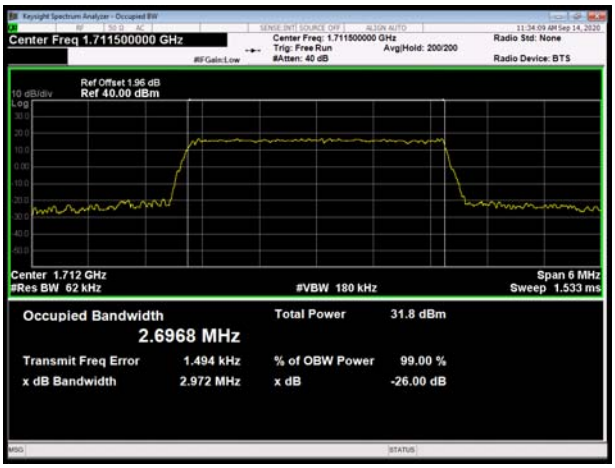
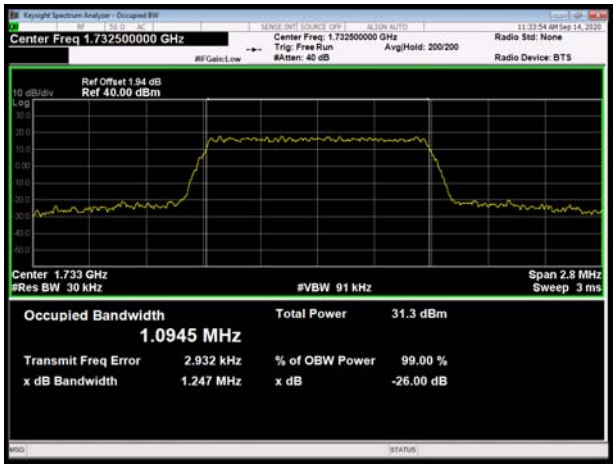
LTE Band 4 QPSK 1.4MHz CH-Low



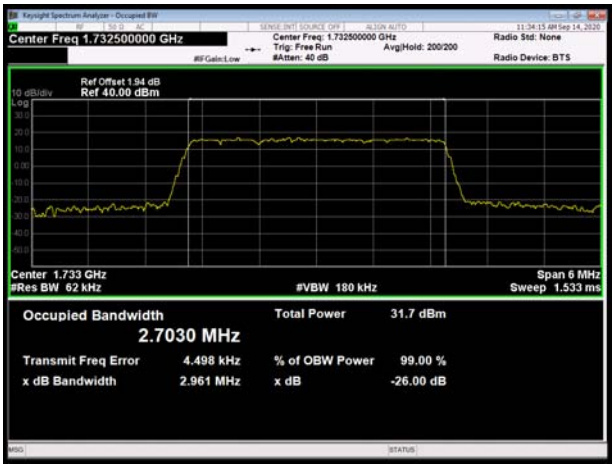
LTE Band 4 QPSK 3MHz CH-Low



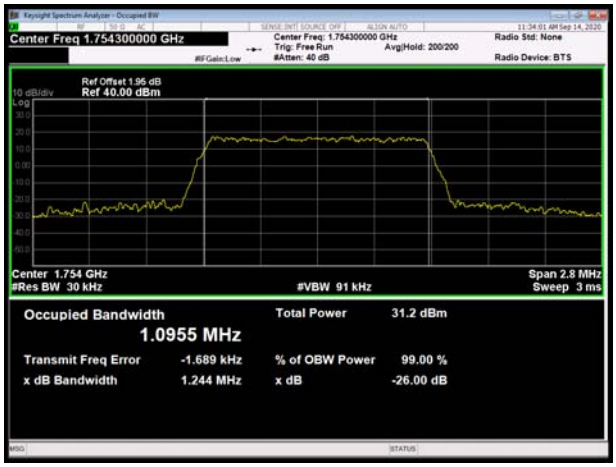
LTE Band 4 QPSK 1.4MHz CH-Middle



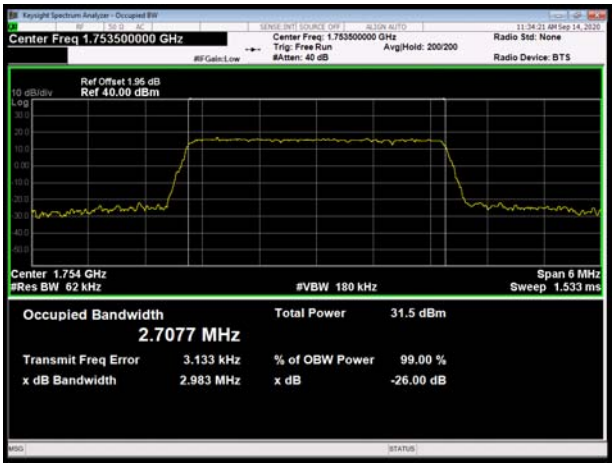
LTE Band 4 QPSK 3MHz CH-Middle



LTE Band 4 QPSK 1.4MHz CH-High



LTE Band 4 QPSK 3MHz CH-High



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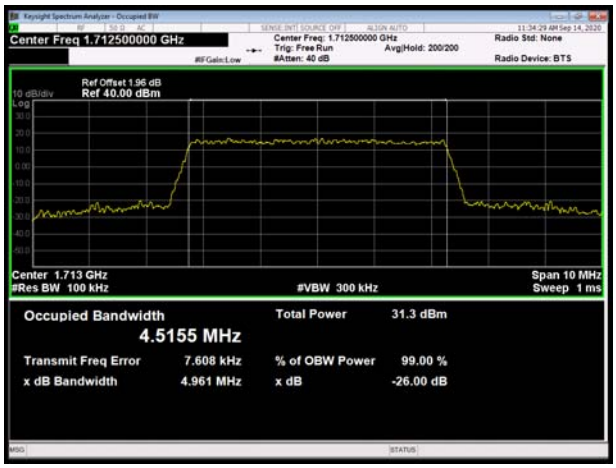
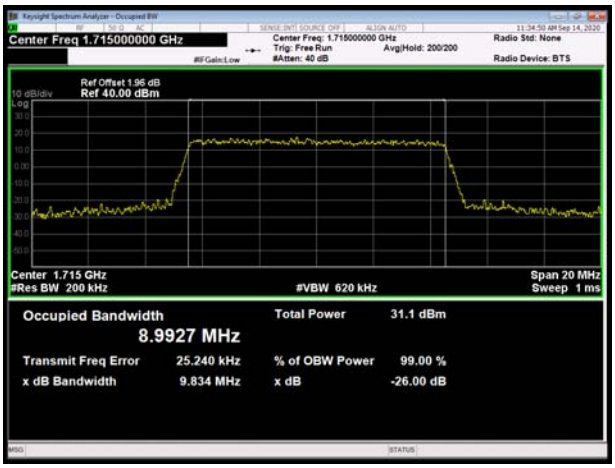
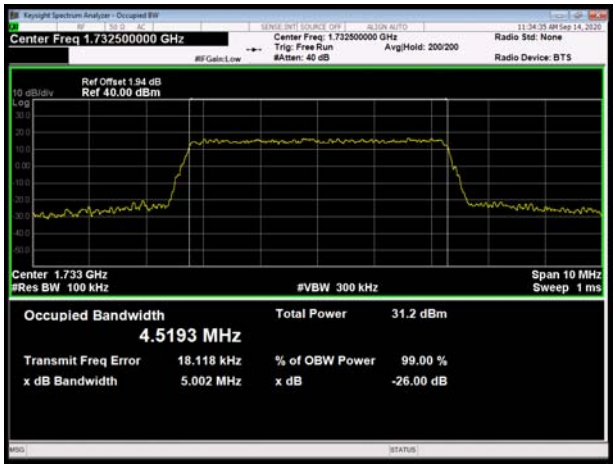
LTE Band 4 QPSK 5MHz CH-Low



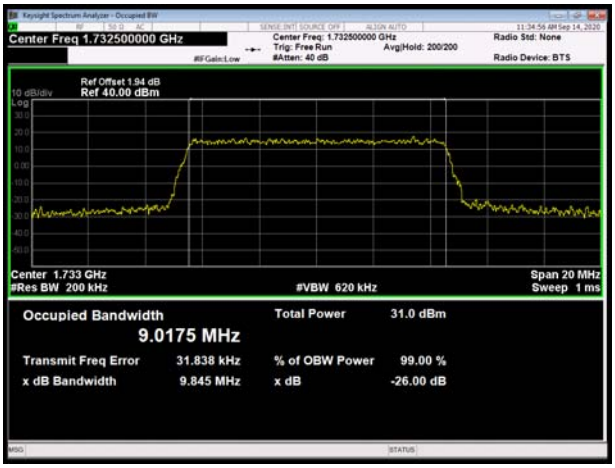
LTE Band 4 QPSK 10MHz CH-Low



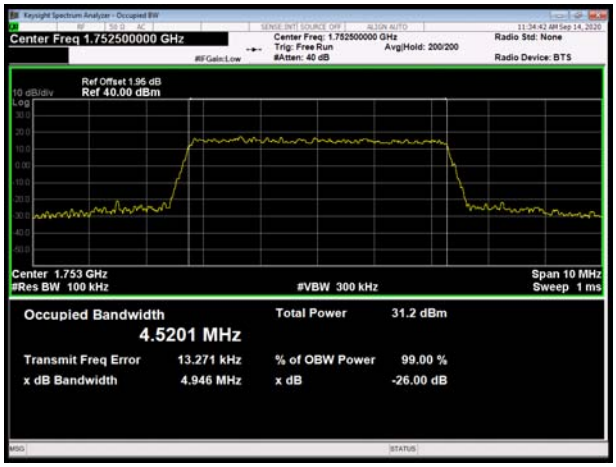
LTE Band 4 QPSK 5MHz CH-Middle



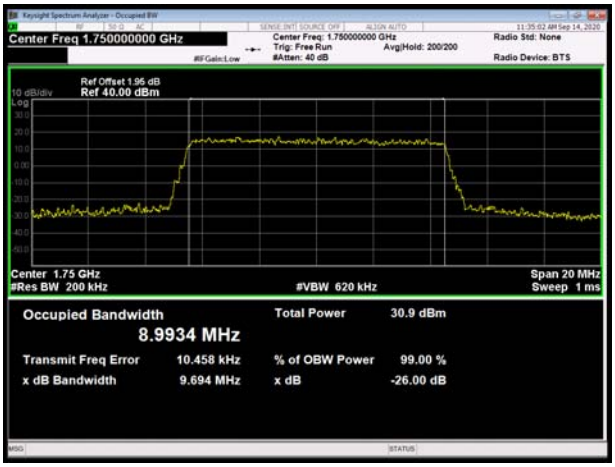
LTE Band 4 QPSK 10MHz CH-Middle



LTE Band 4 QPSK 5MHz CH-High



LTE Band 4 QPSK 10MHz CH-High



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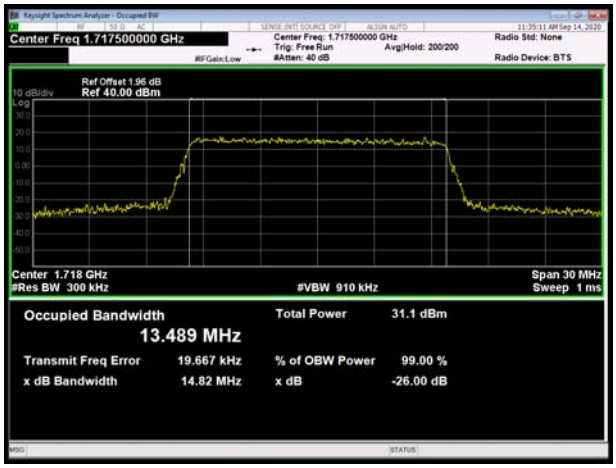
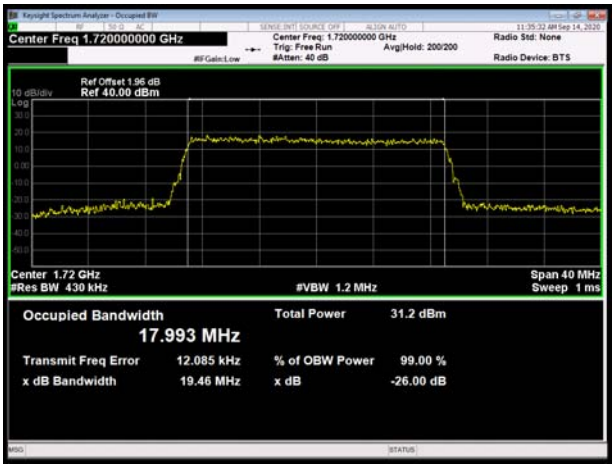
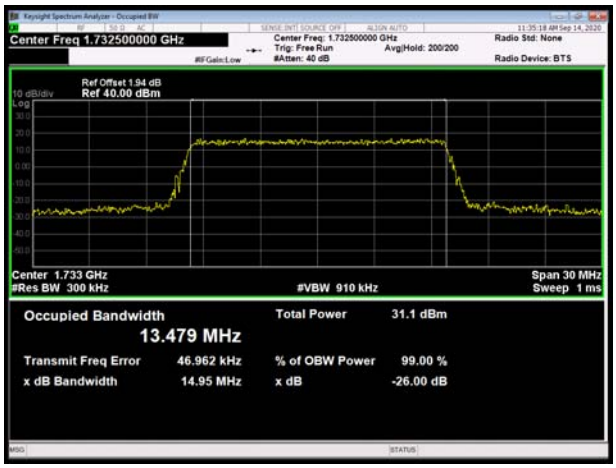
LTE Band 4 QPSK 15MHz CH-Low



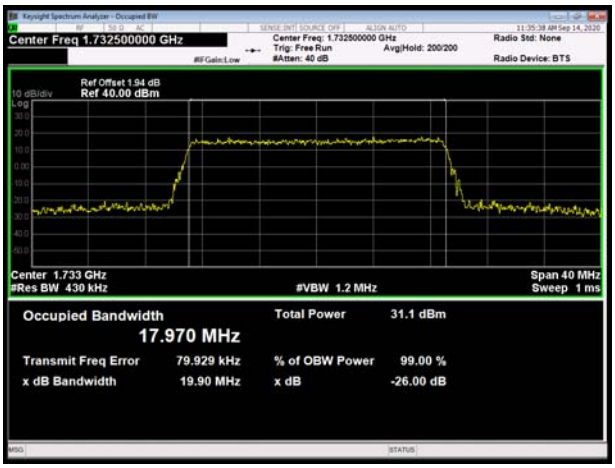
LTE Band 4 QPSK 20MHz CH-Low



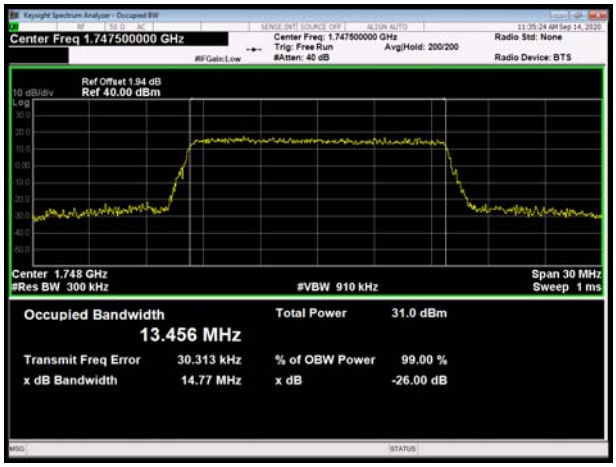
LTE Band 4 QPSK 15MHz CH-Middle



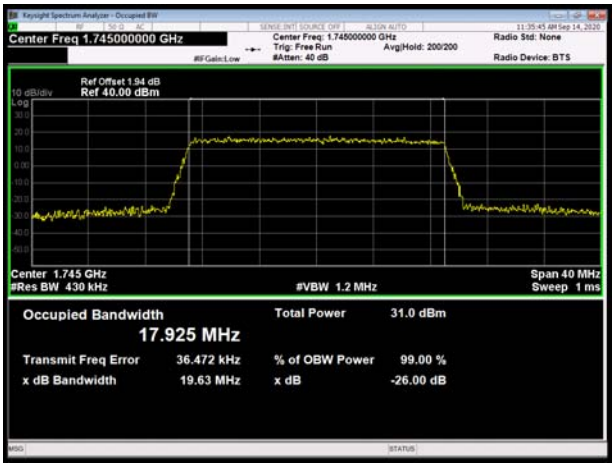
LTE Band 4 QPSK 20MHz CH-Middle



LTE Band 4 QPSK 15MHz CH-High



LTE Band 4 QPSK 20MHz CH-High



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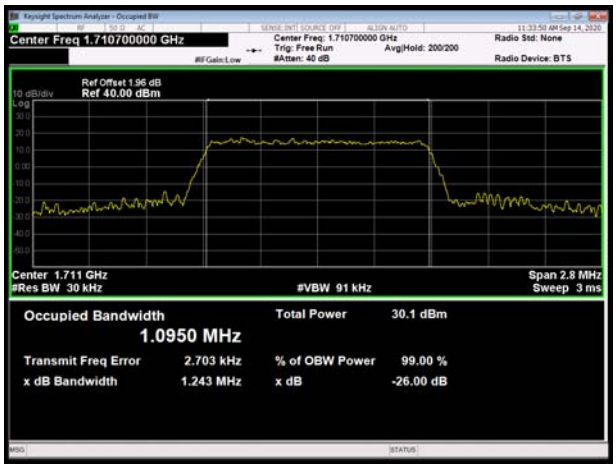
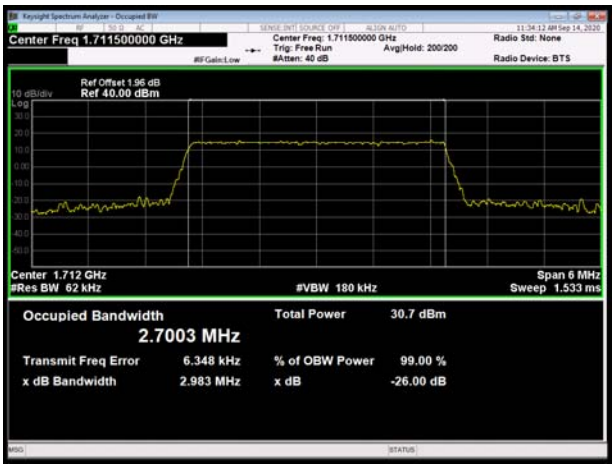
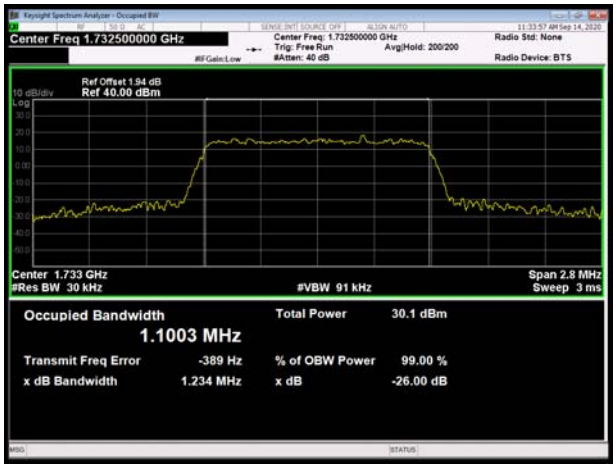
LTE Band 4 16QAM 1.4MHz CH-Low



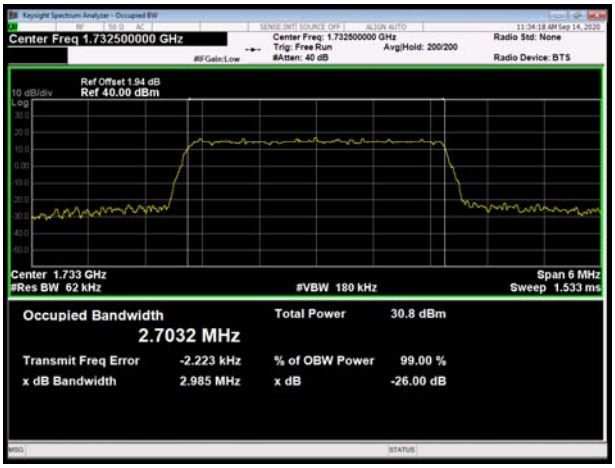
LTE Band 4 16QAM 3MHz CH-Low



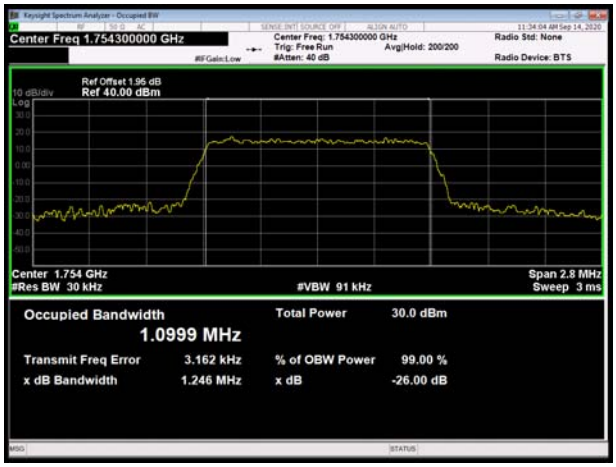
LTE Band 4 16QAM 1.4MHz CH-Middle



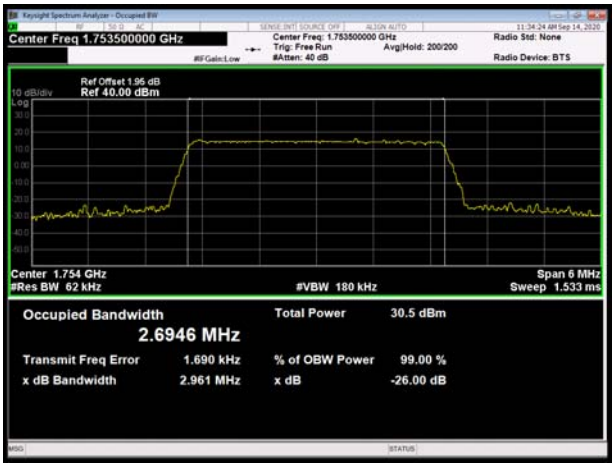
LTE Band 4 16QAM 3MHz CH-Middle



LTE Band 4 16QAM 1.4MHz CH-High



LTE Band 4 16QAM 3MHz CH-High



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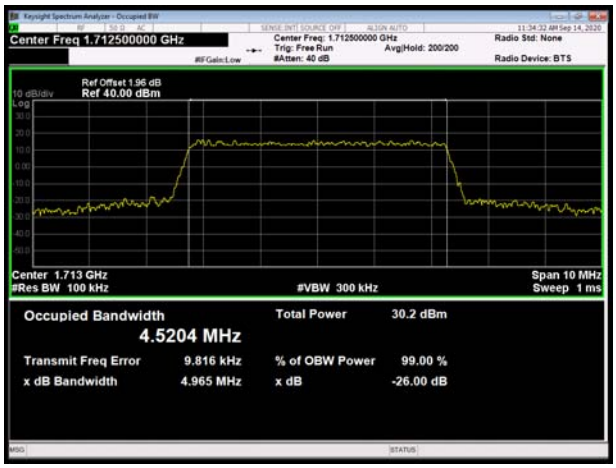
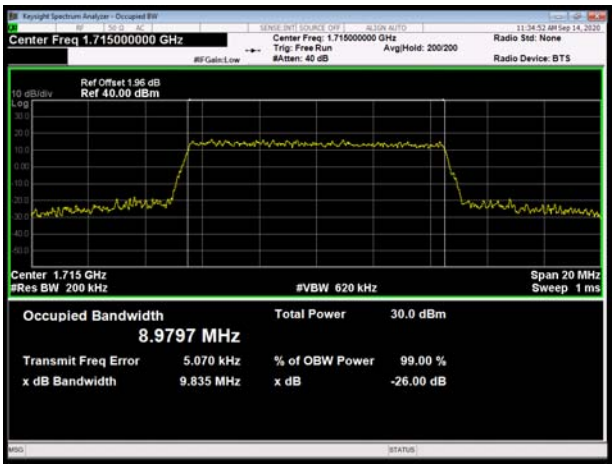
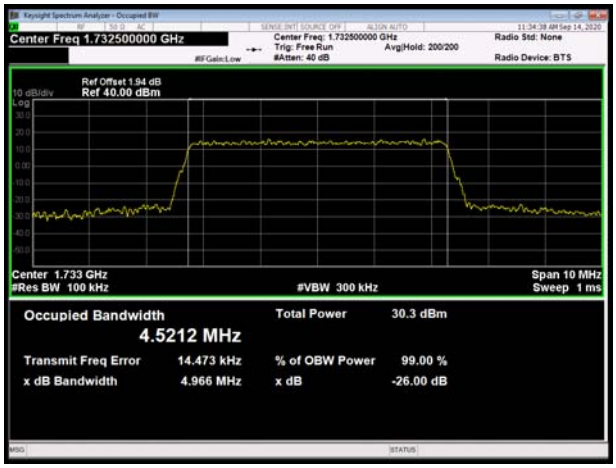
LTE Band 4 16QAM 5MHz CH-Low



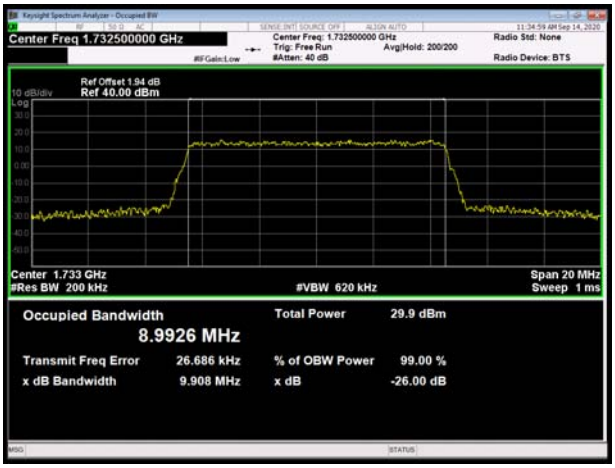
LTE Band 4 16QAM 10MHz CH-Low



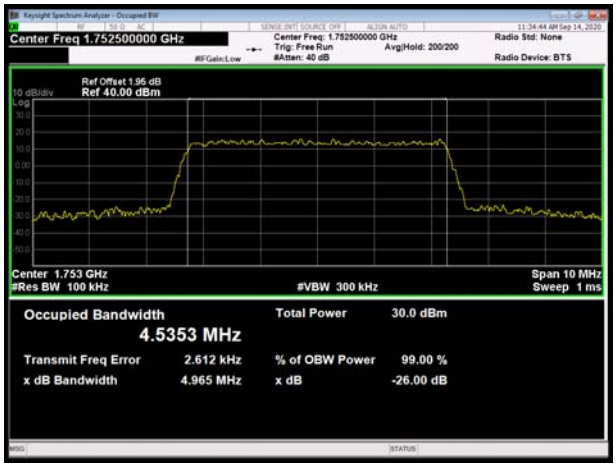
LTE Band 4 16QAM 5MHz CH-Middle



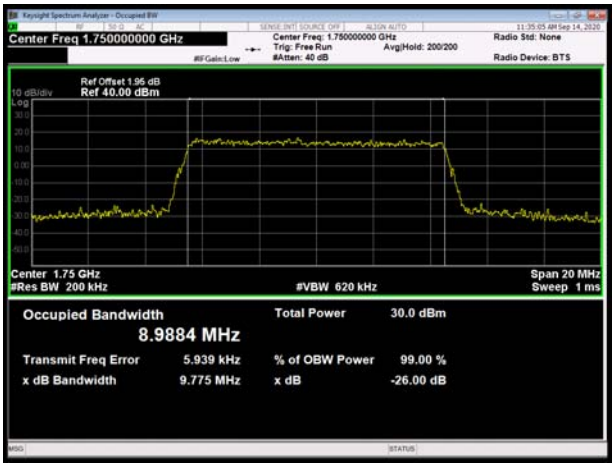
LTE Band 4 16QAM 10MHz CH-Middle



LTE Band 4 16QAM 5MHz CH-High



LTE Band 4 16QAM 10MHz CH-High



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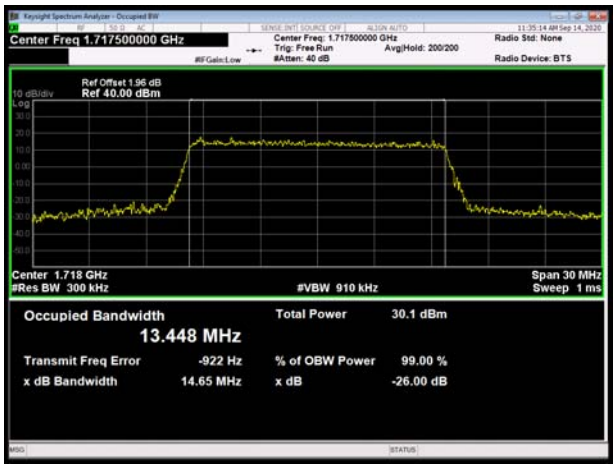
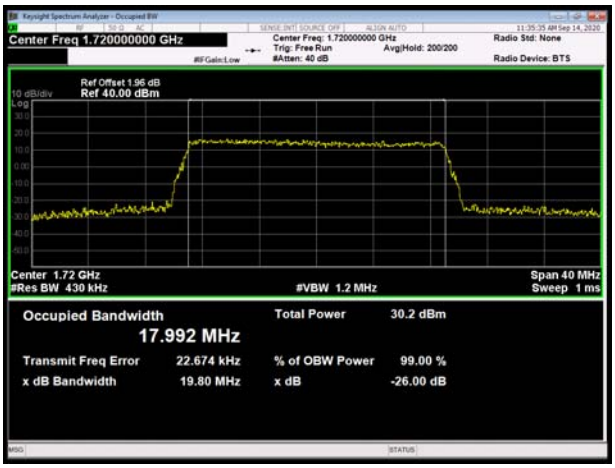
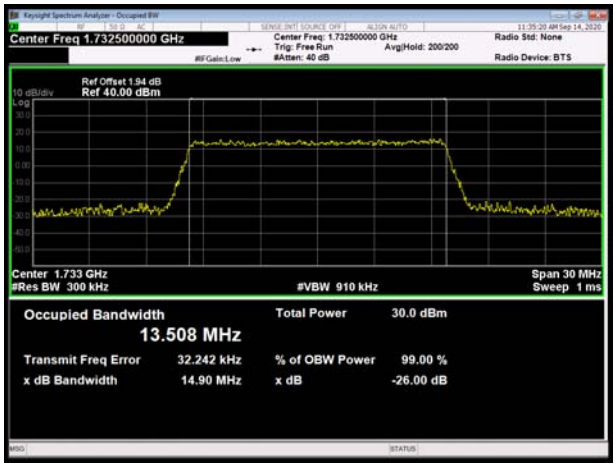
LTE Band 4 16QAM 15MHz CH-Low



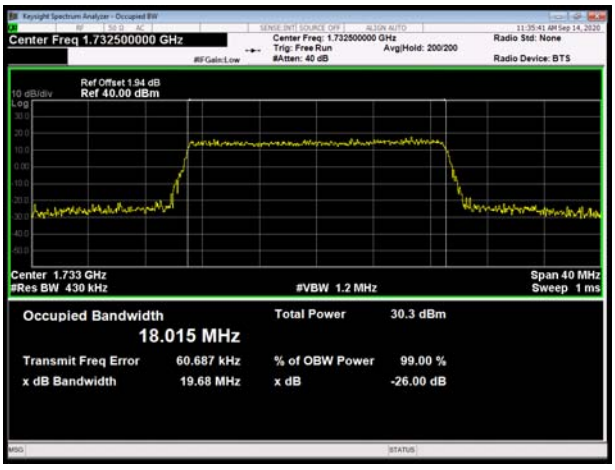
LTE Band 4 16QAM 20MHz CH-Low



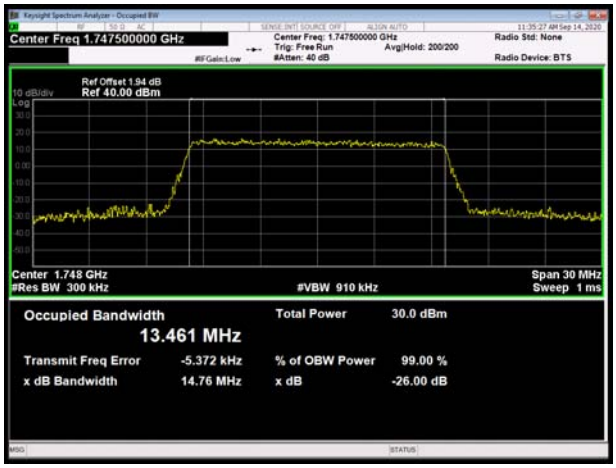
LTE Band 4 16QAM 15MHz CH-Middle



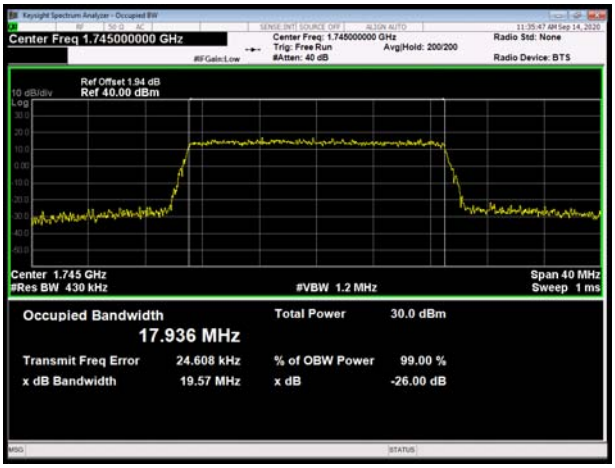
LTE Band 4 16QAM 20MHz CH-Middle



LTE Band 4 16QAM 15MHz CH-High



LTE Band 4 16QAM 20MHz CH-High



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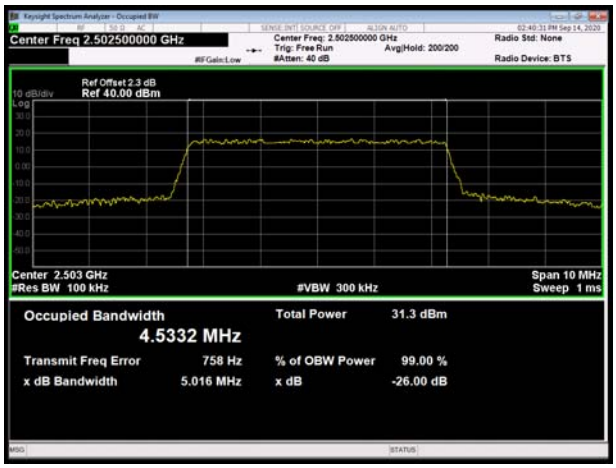
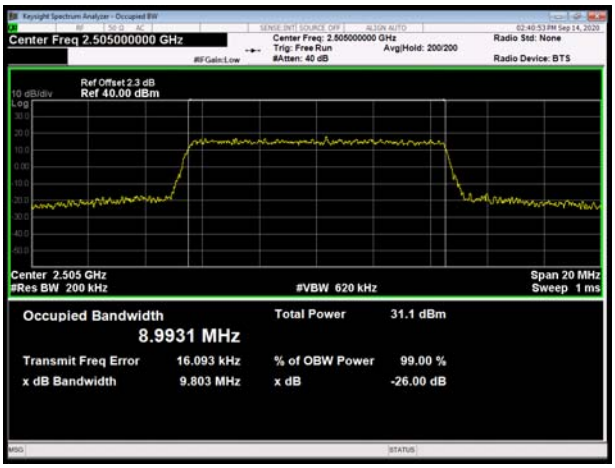
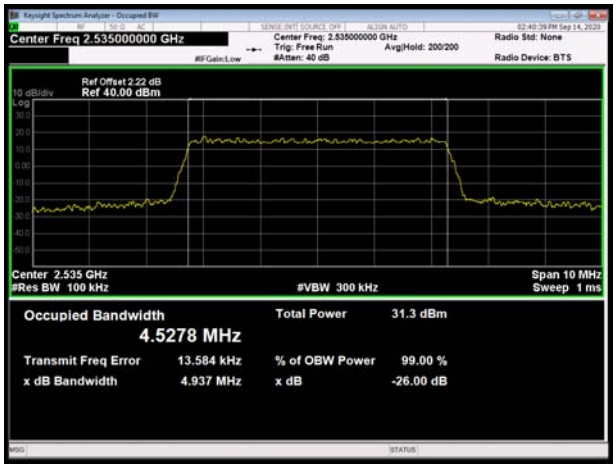
LTE Band 7 QPSK 5MHz CH-Low



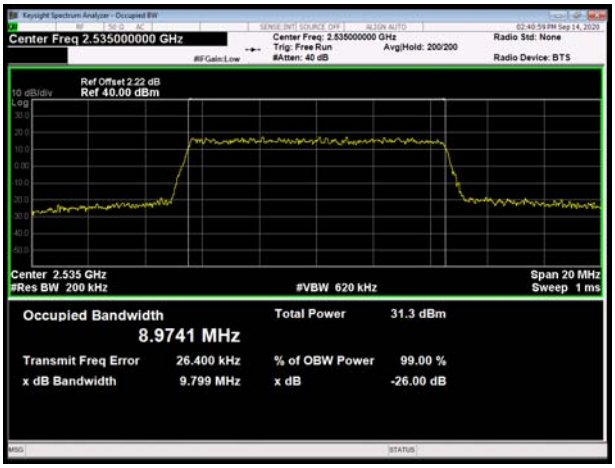
LTE Band 7 QPSK 10MHz CH-Low



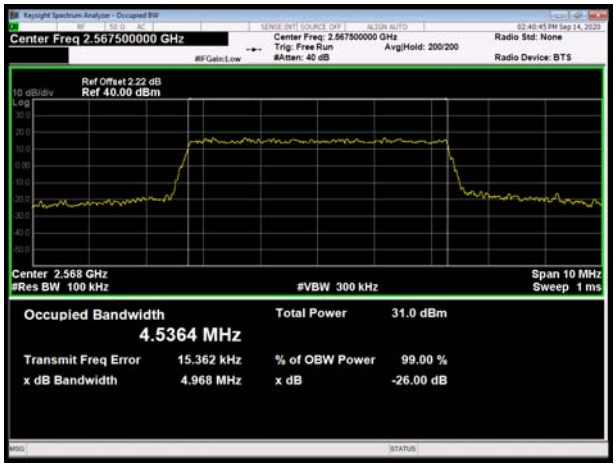
LTE Band 7 QPSK 5MHz CH-Middle



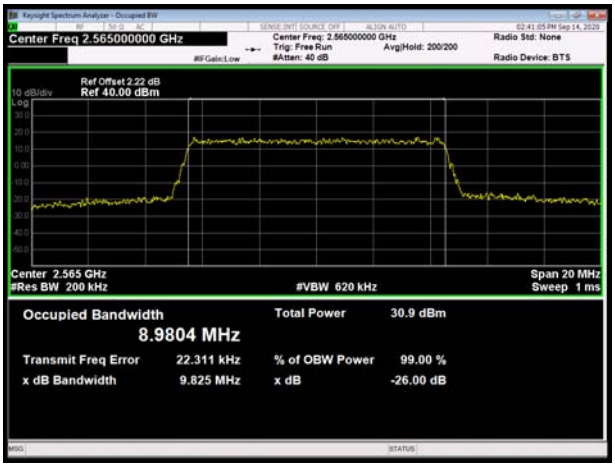
LTE Band 7 QPSK 10MHz CH-Middle



LTE Band 7 QPSK 5MHz CH-High



LTE Band 7 QPSK 10MHz CH-High



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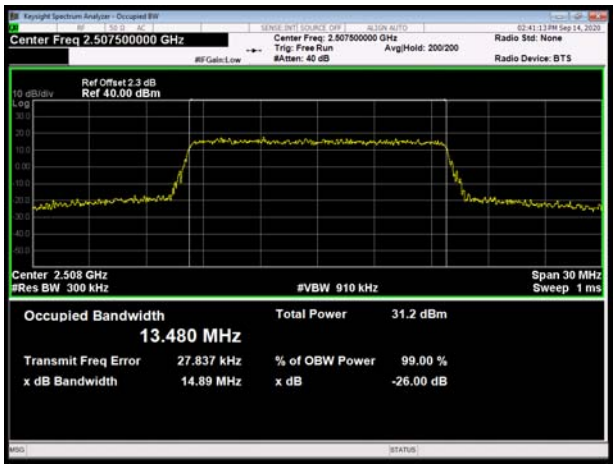
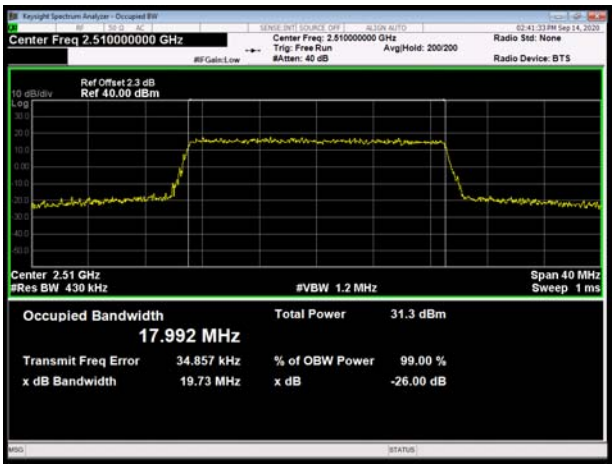
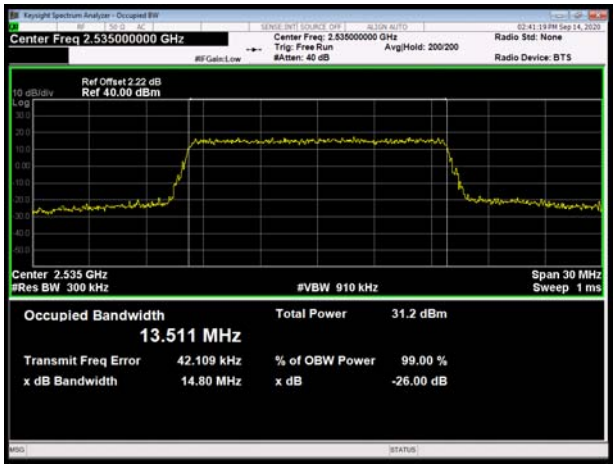
LTE Band 7 QPSK 15MHz CH-Low



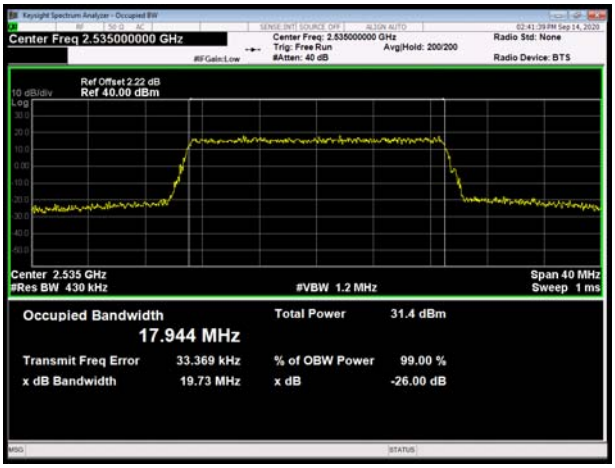
LTE Band 7 QPSK 20MHz CH-Low



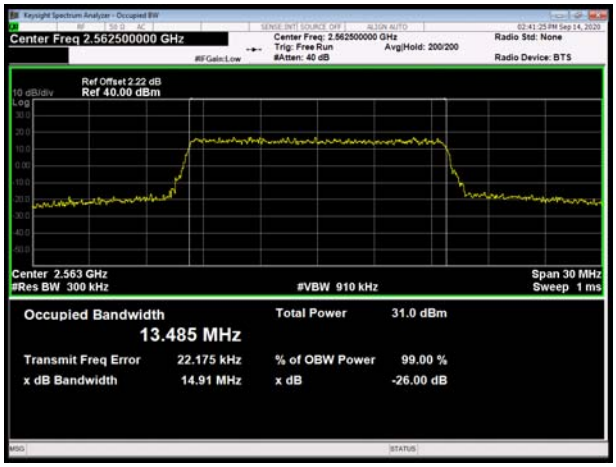
LTE Band 7 QPSK 15MHz CH-Middle



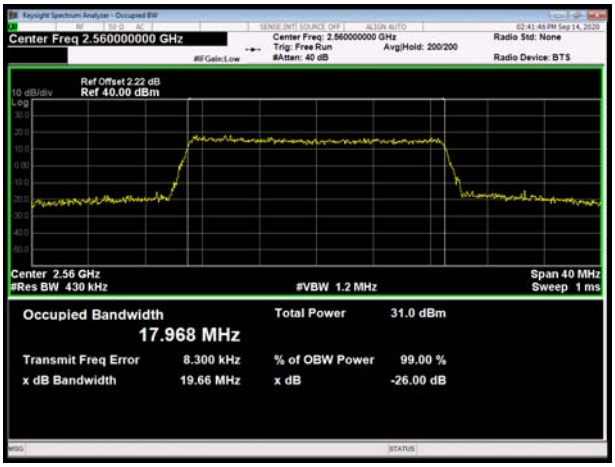
LTE Band 7 QPSK 20MHz CH-Middle



LTE Band 7 QPSK 15MHz CH-High



LTE Band 7 QPSK 20MHz CH-High



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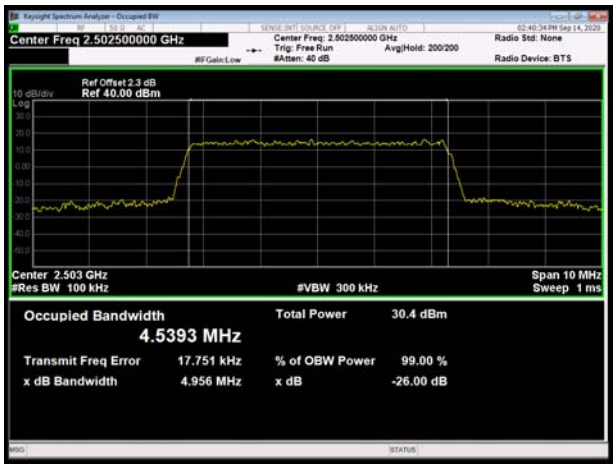
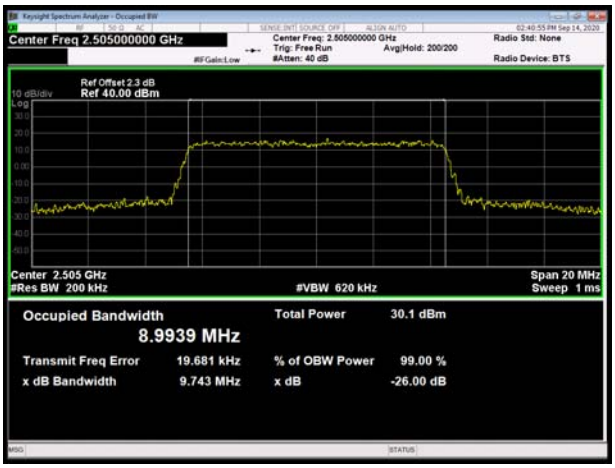
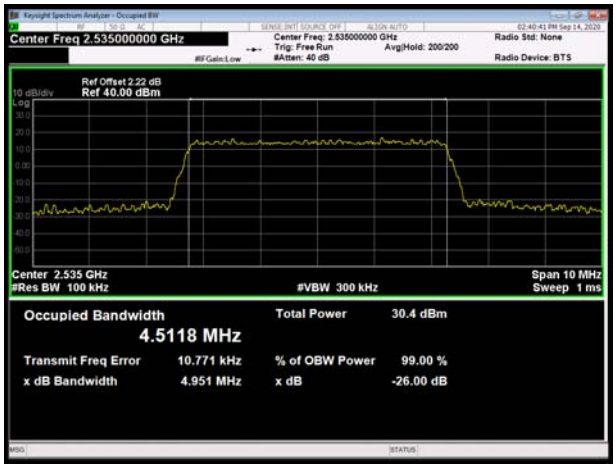
LTE Band 7 16QAM 5MHz CH-Low



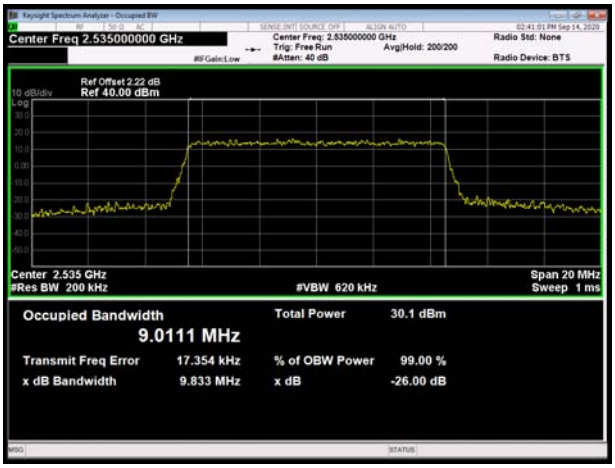
LTE Band 7 16QAM 10MHz CH-Low



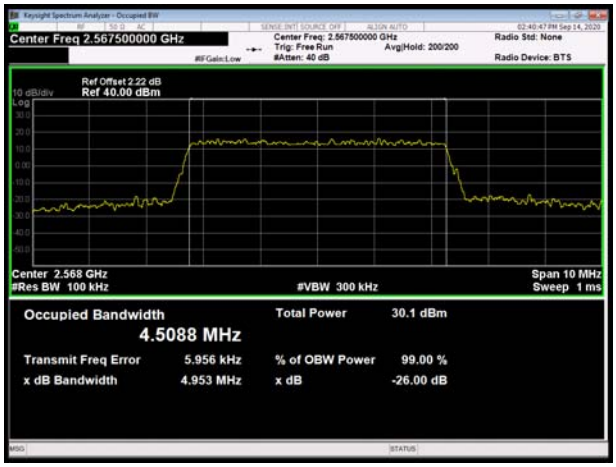
LTE Band 7 16QAM 5MHz CH-Middle



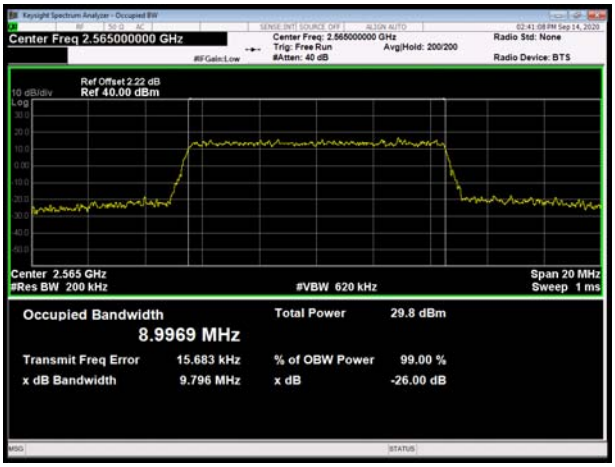
LTE Band 7 16QAM 10MHz CH-Middle



LTE Band 7 16QAM 5MHz CH-High



LTE Band 7 16QAM 10MHz CH-High



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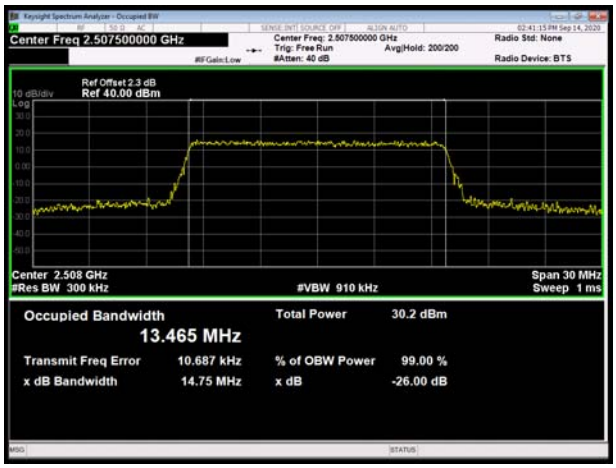
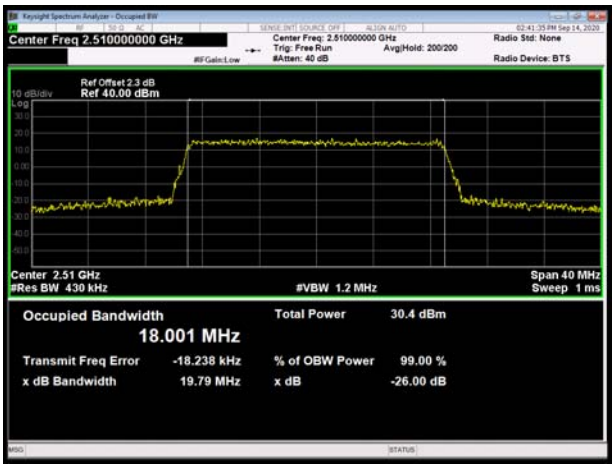
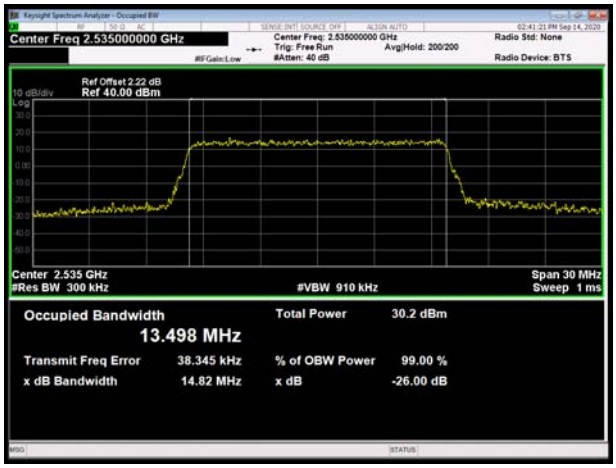
LTE Band 7 16QAM 15MHz CH-Low



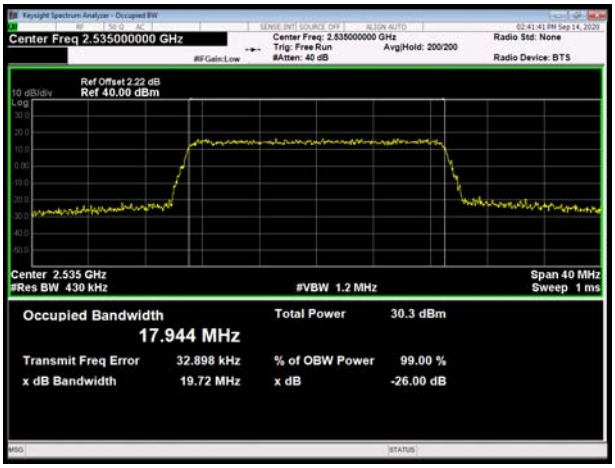
LTE Band 7 16QAM 20MHz CH-Low



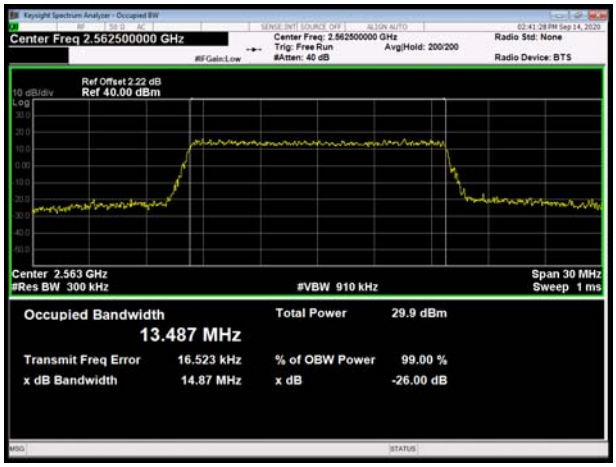
LTE Band 7 16QAM 15MHz CH-Middle



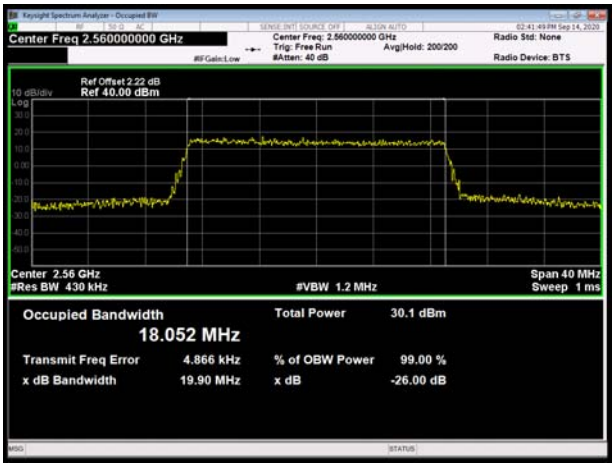
LTE Band 7 16QAM 20MHz CH-Middle



LTE Band 7 16QAM 15MHz CH-High



LTE Band 7 16QAM 20MHz CH-High



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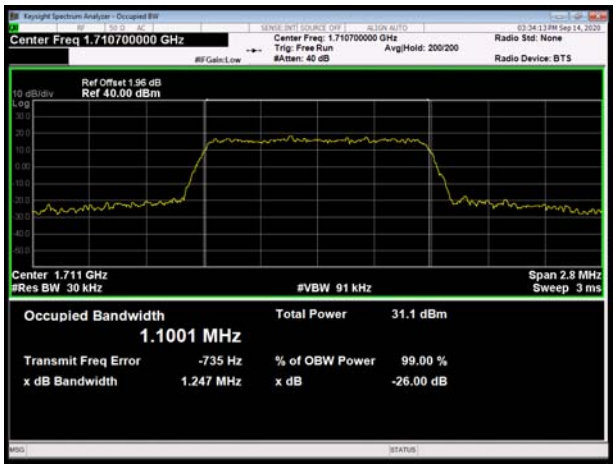
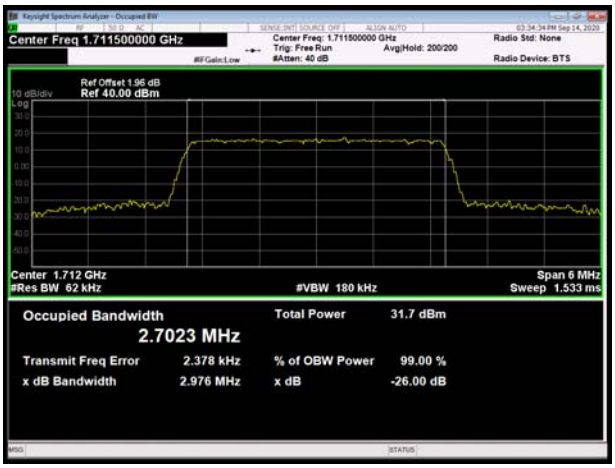
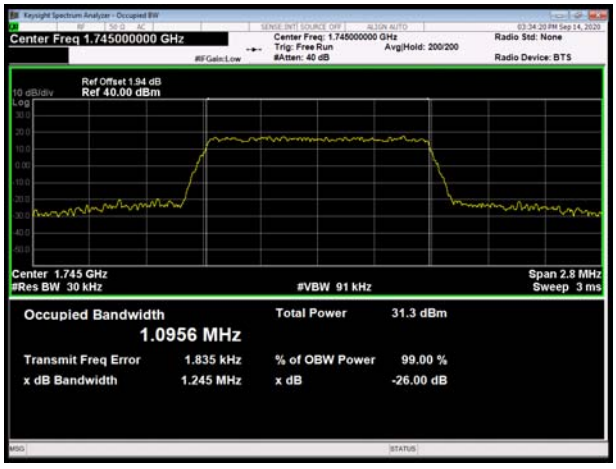
LTE Band 66 QPSK 1.4MHz CH-Low



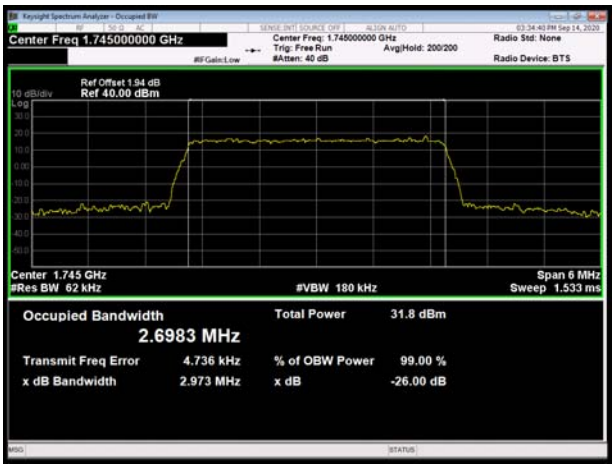
LTE Band 66 QPSK 3MHz CH-Low



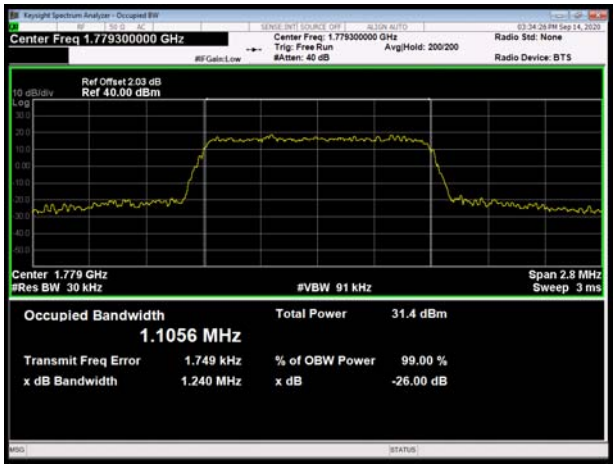
LTE Band 66 QPSK 1.4MHz CH-Middle



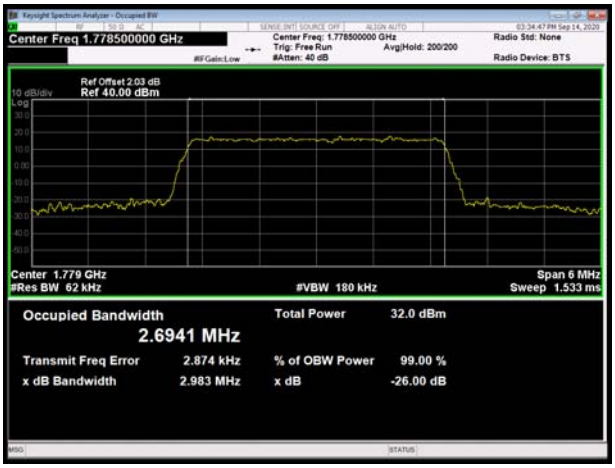
LTE Band 66 QPSK 3MHz CH-Middle



LTE Band 66 QPSK 1.4MHz CH-High



LTE Band 66 QPSK 3MHz CH-High



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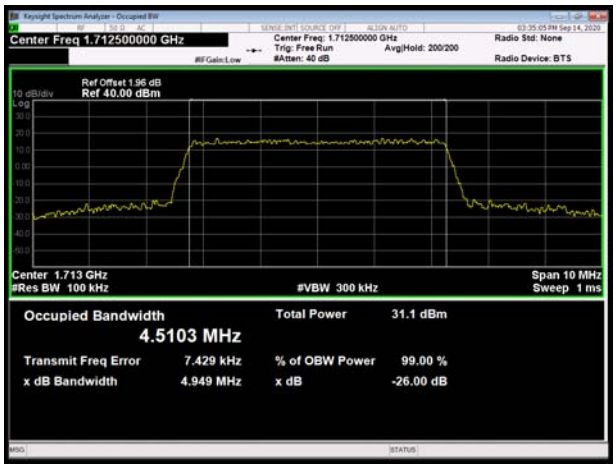
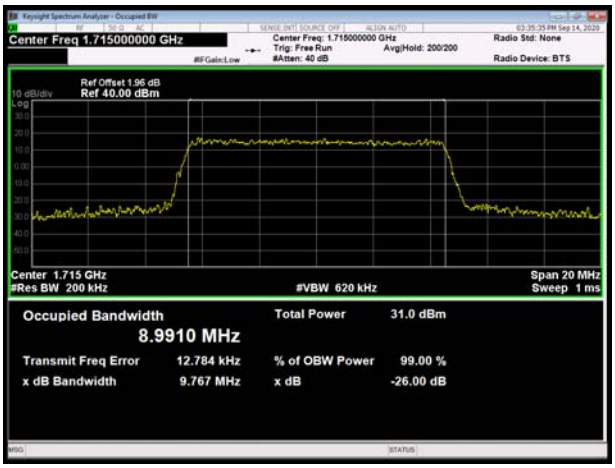
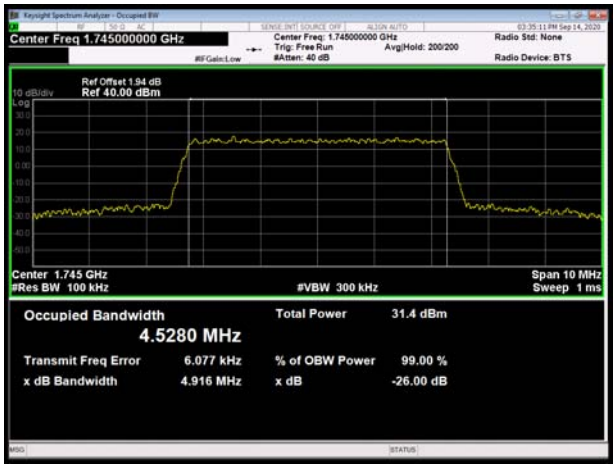
LTE Band 66 QPSK 5MHz CH-Low



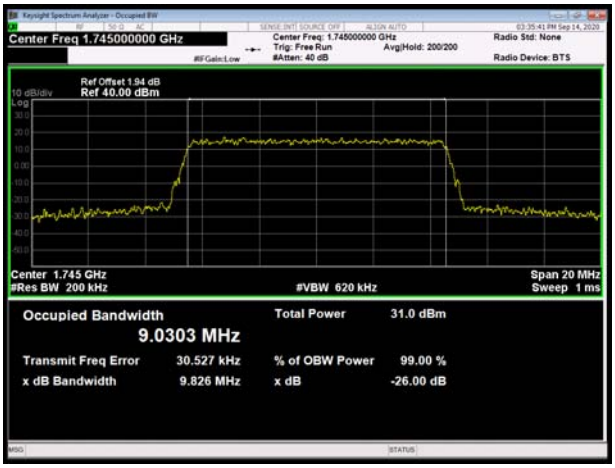
LTE Band 66 QPSK 10MHz CH-Low



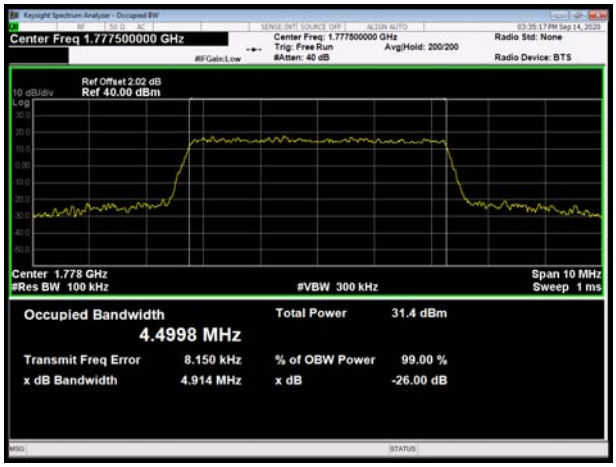
LTE Band 66 QPSK 5MHz CH-Middle



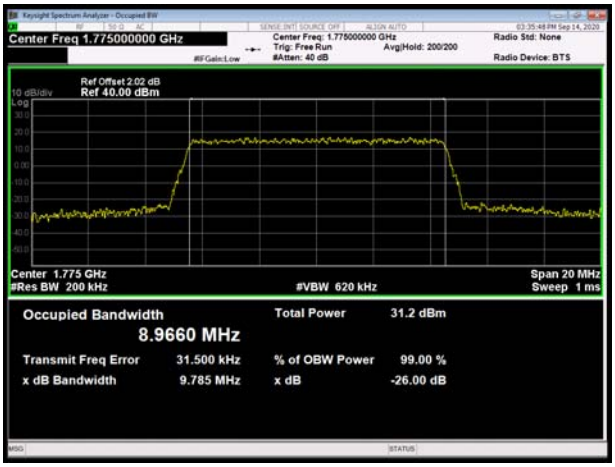
LTE Band 66 QPSK 10MHz CH-Middle



LTE Band 66 QPSK 5MHz CH-High



LTE Band 66 QPSK 10MHz CH-High



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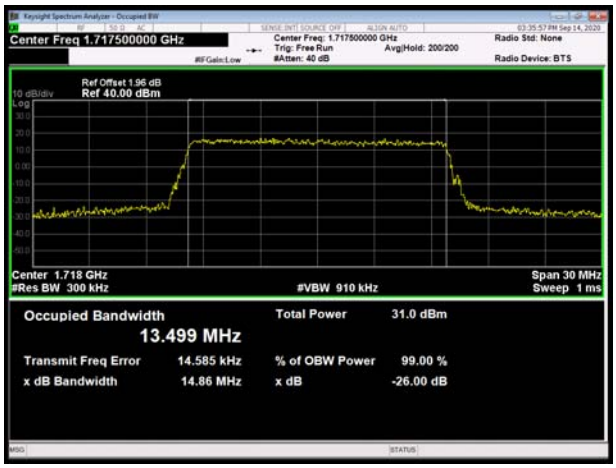
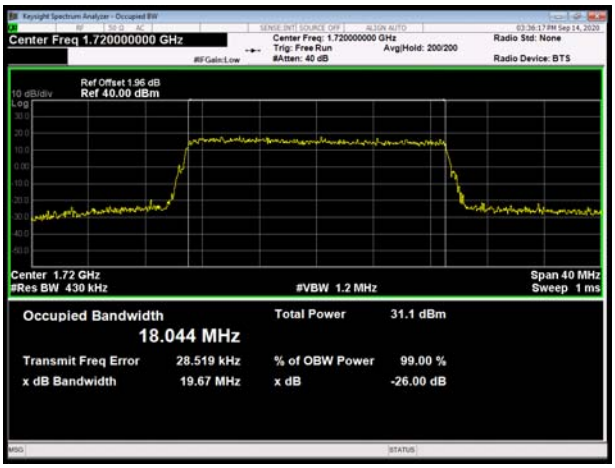
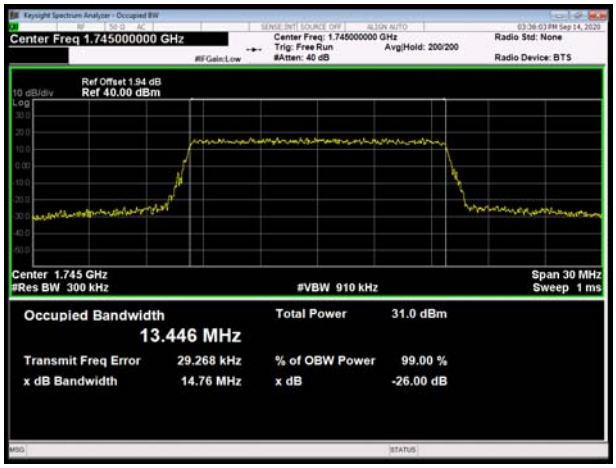
LTE Band 66 QPSK 15MHz CH-Low



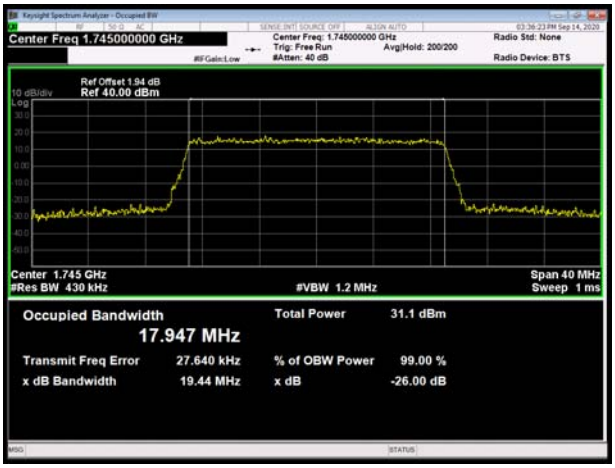
LTE Band 66 QPSK 20MHz CH-Low



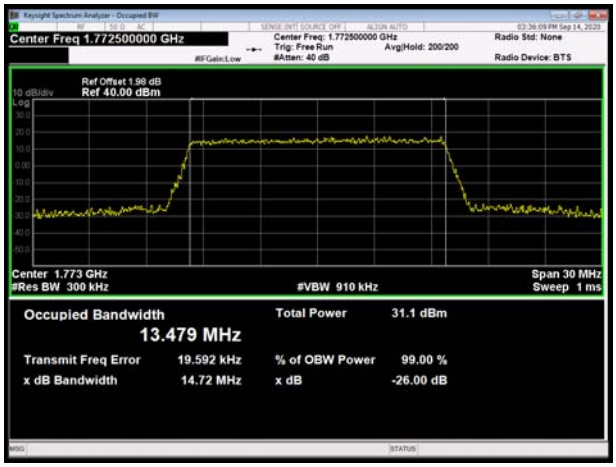
LTE Band 66 QPSK 15MHz CH-Middle



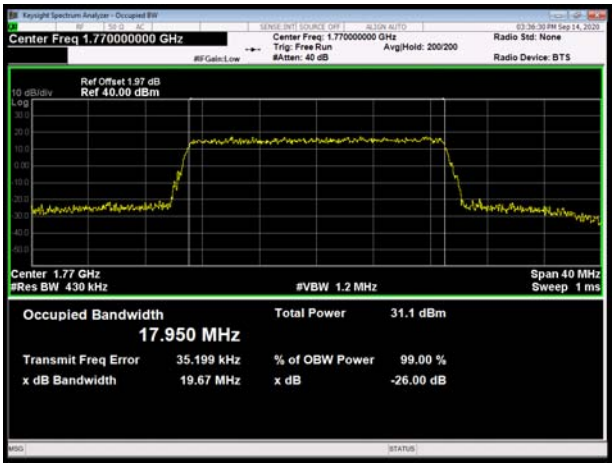
LTE Band 66 QPSK 20MHz CH-Middle



LTE Band 66 QPSK 15MHz CH-High



LTE Band 66 QPSK 20MHz CH-High



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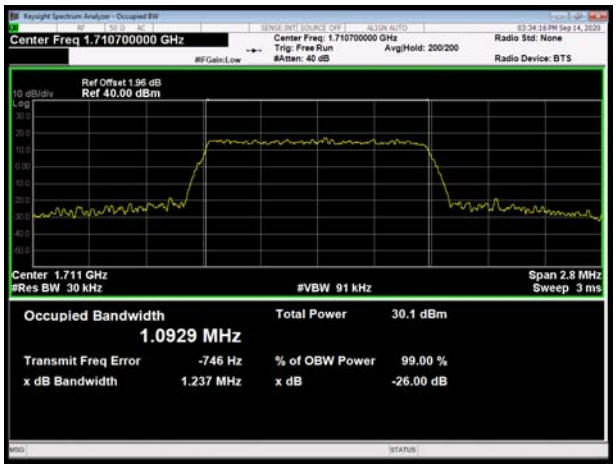
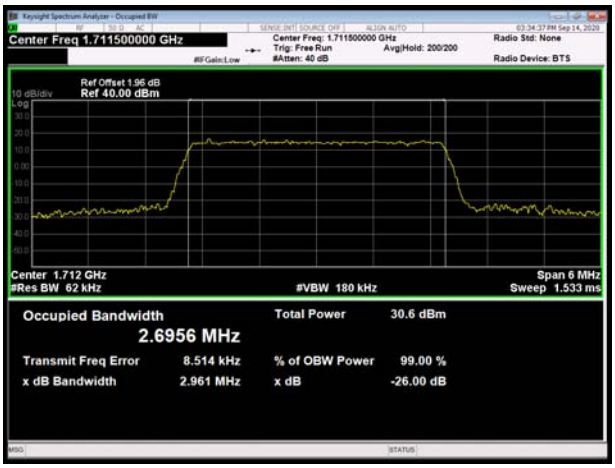
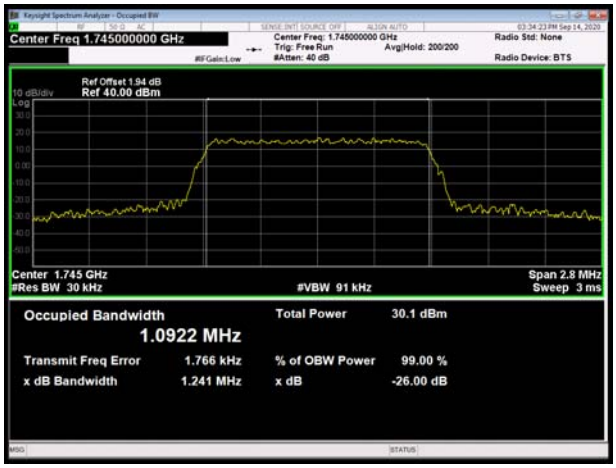
LTE Band 66 16QAM 1.4MHz CH-Low



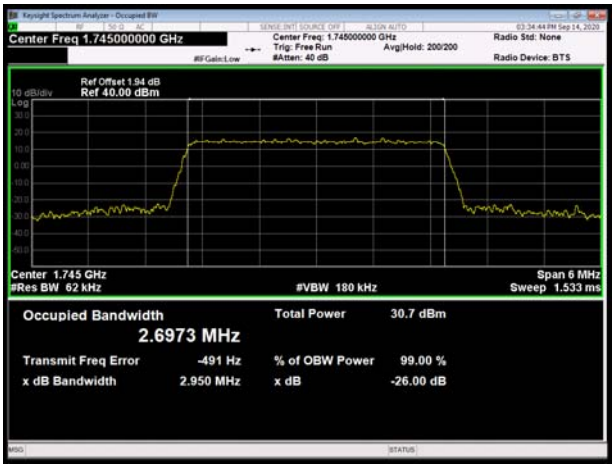
LTE Band 66 16QAM 3MHz CH-Low



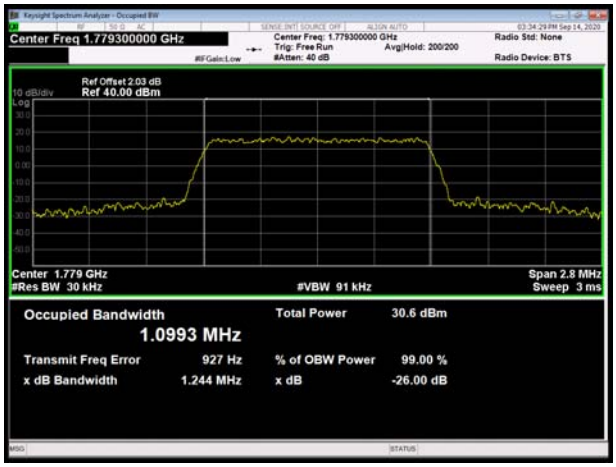
LTE Band 66 16QAM 1.4MHz CH-Middle



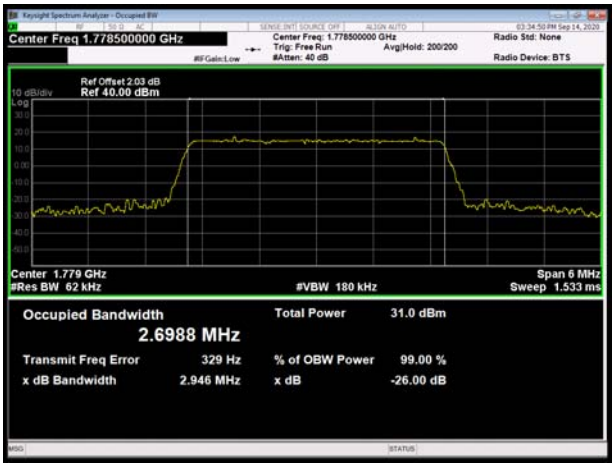
LTE Band 66 16QAM 3MHz CH-Middle



LTE Band 66 16QAM 1.4MHz CH-High



LTE Band 66 16QAM 3MHz CH-High



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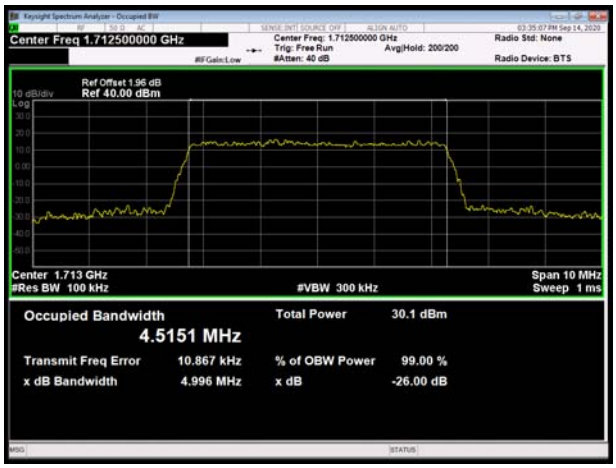
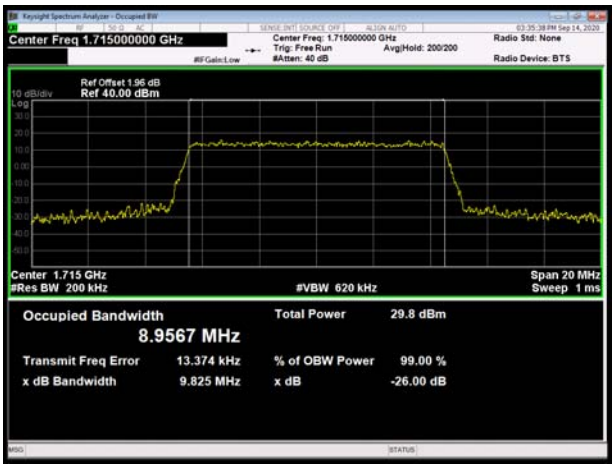
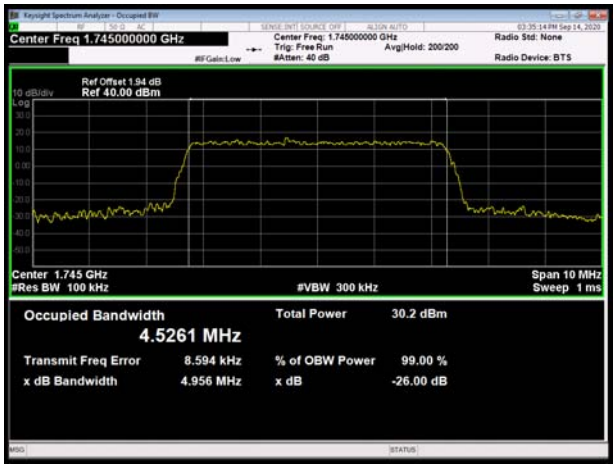
LTE Band 66 16QAM 5MHz CH-Low



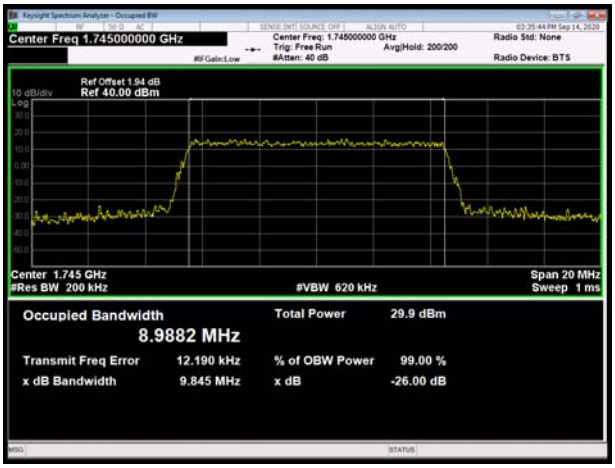
LTE Band 66 16QAM 10MHz CH-Low



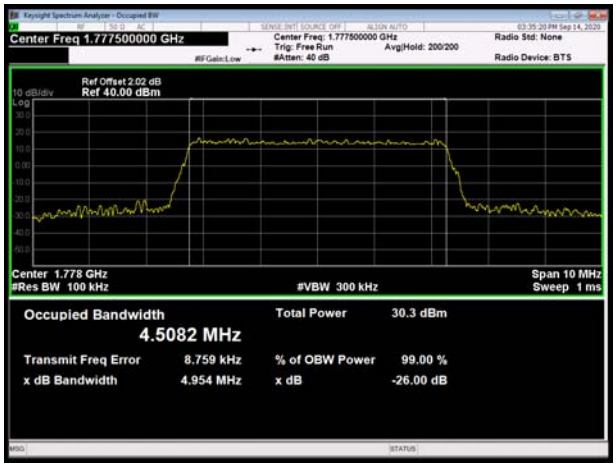
LTE Band 66 16QAM 5MHz CH-Middle



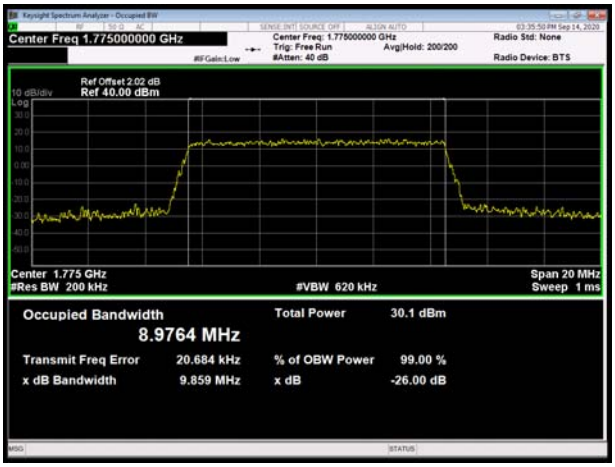
LTE Band 66 16QAM 10MHz CH-Middle



LTE Band 66 16QAM 5MHz CH-High



LTE Band 66 16QAM 10MHz CH-High



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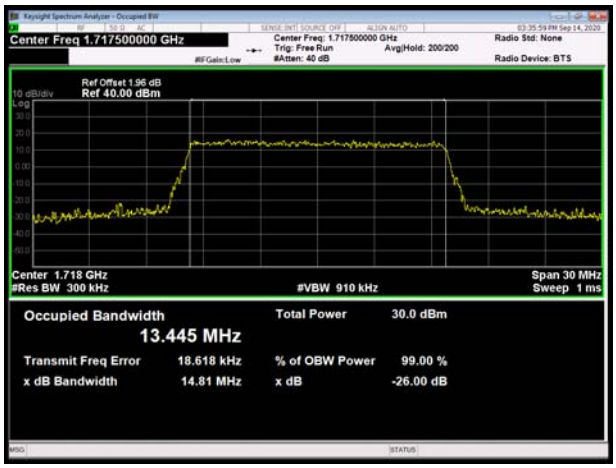
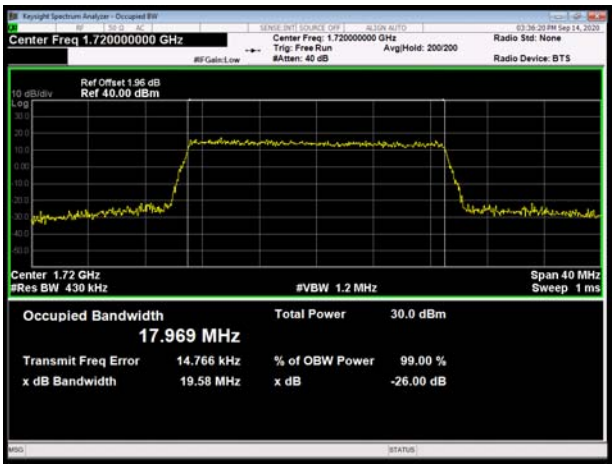
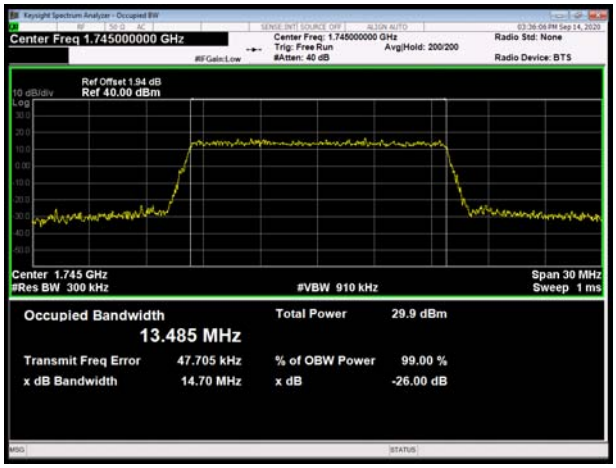
LTE Band 66 16QAM 15MHz CH-Low



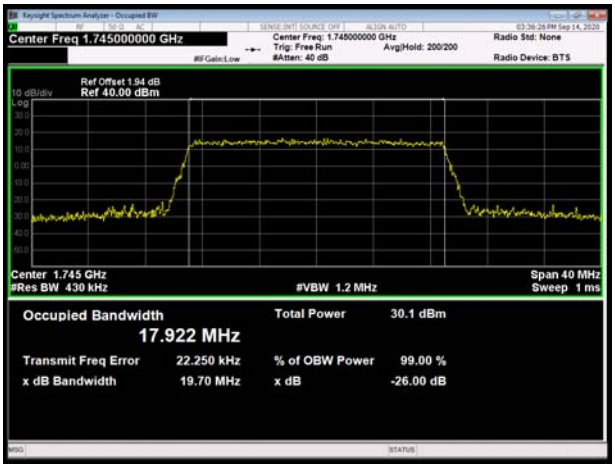
LTE Band 66 16QAM 20MHz CH-Low



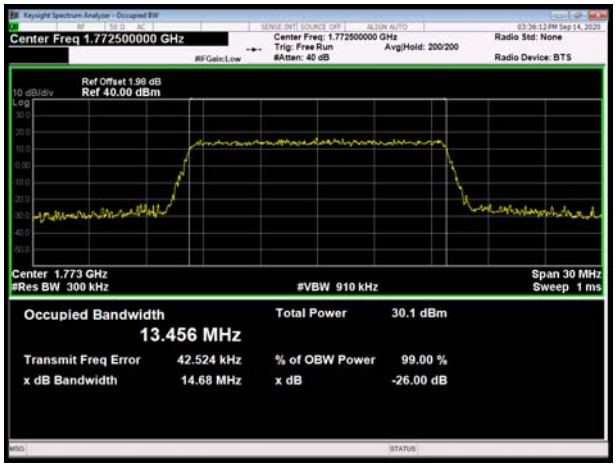
LTE Band 66 16QAM 15MHz CH-Middle



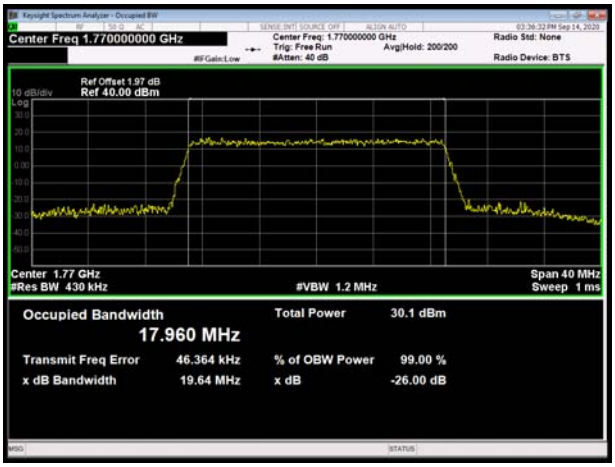
LTE Band 66 16QAM 20MHz CH-Middle



LTE Band 66 16QAM 15MHz CH-High



LTE Band 66 16QAM 20MHz CH-High



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5.3 Band Edge Compliance

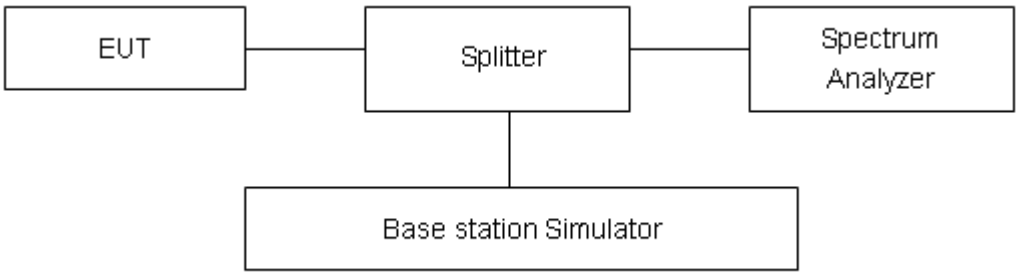
Ambient condition

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 15 kHz, VBW is set to 43 kHz for LTE Band 4/66 (1.4MHz).
RBW is set to 30 kHz, VBW is set to 91 kHz for LTE Band 4/66 (3MHz).
RBW is set to 51 kHz, VBW is set to 150 kHz for LTE Band 4/66 (5MHz).
RBW is set to 100 kHz, VBW is set to 300kHz for LTE Band 4/66 (10MHz).
RBW is set to 150 kHz, VBW is set to 470kHz for LTE Band 4/66 (15MHz).
RBW is set to 200 kHz, VBW is set to 620 kHz for LTE Band 4/66 (20MHz)
RBW is set to 50 kHz, VBW is set to 200kHz for LTE Band 7(5MHz).
RBW is set to 100 kHz, VBW is set to 300kHz for LTE Band 7(10MHz).
RBW is set to 200 kHz, VBW is set to 1MHz for LTE Band 7(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

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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 + 10log (P) dB below the transmitter power P(Watts)

= P(W)- [43 + 10log(P)] (dB)

= [30 + 10log (P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.

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.

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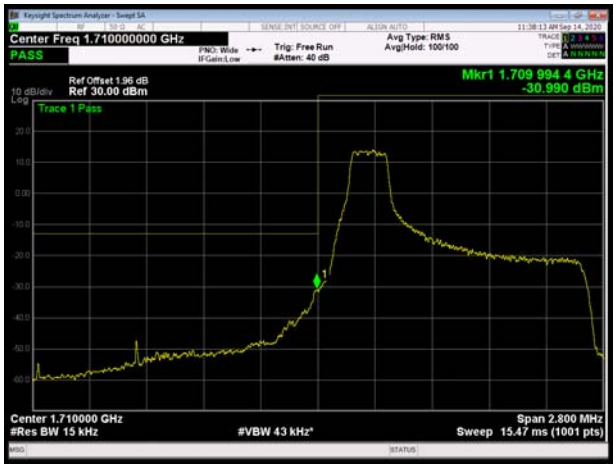
Test Result

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

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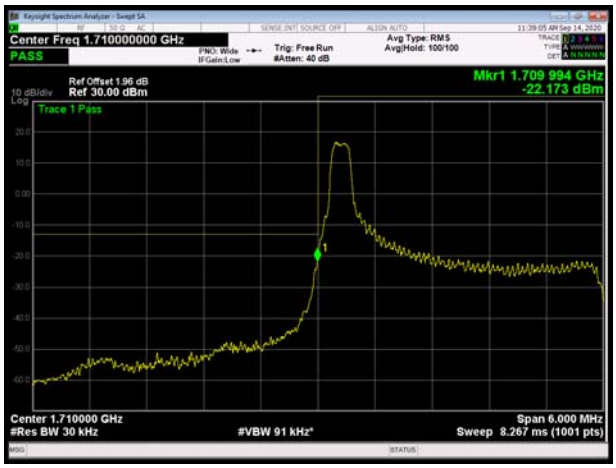
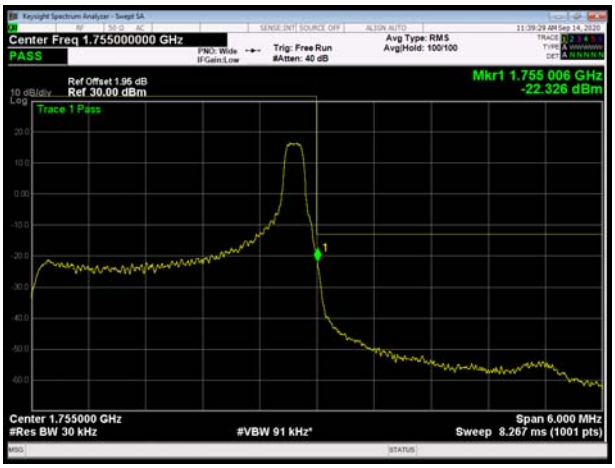
LTE Band 4 QPSK 3MHz CH-Low, 1 RB



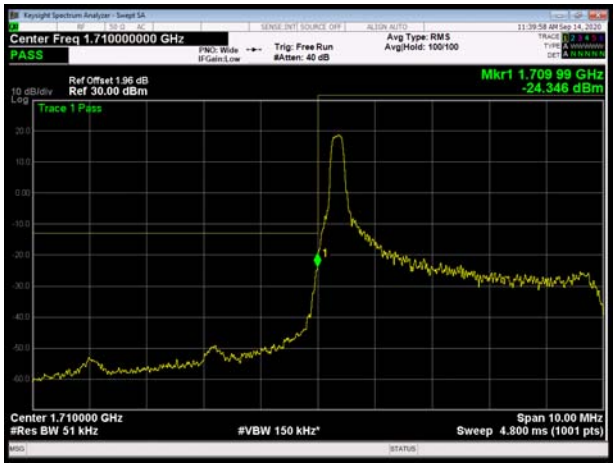
LTE Band 4 QPSK 3MHz CH-High, 1 RB



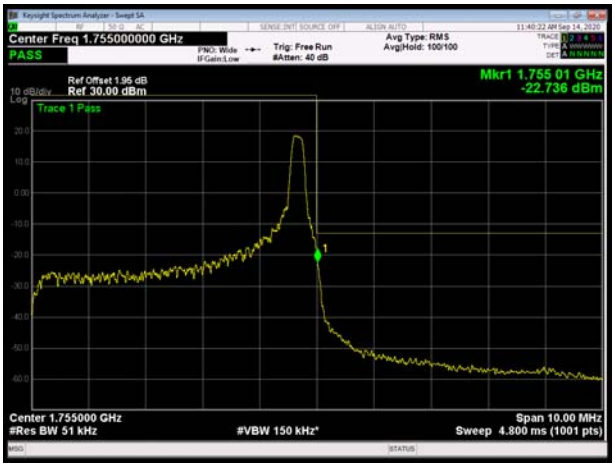
LTE Band 4 QPSK 3MHz CH-Low, 100%RB

LTE Band 4 QPSK 3MHz CH-High, 100%RB

LTE Band 4 QPSK 5MHz CH-Low, 1 RB



LTE Band 4 QPSK 5MHz CH-High, 1 RB



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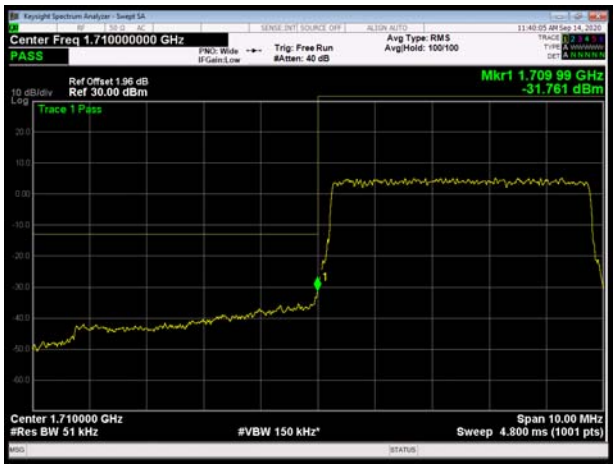
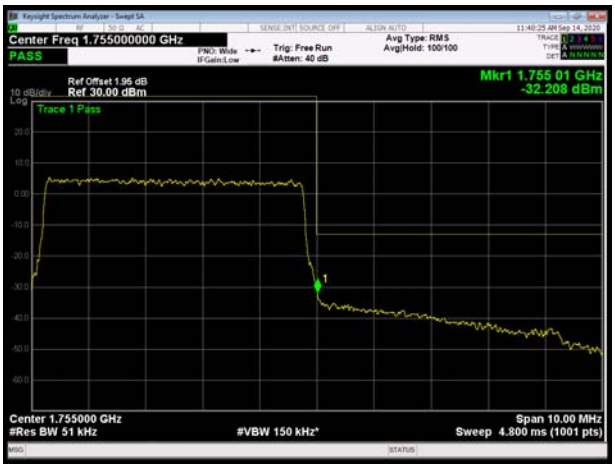
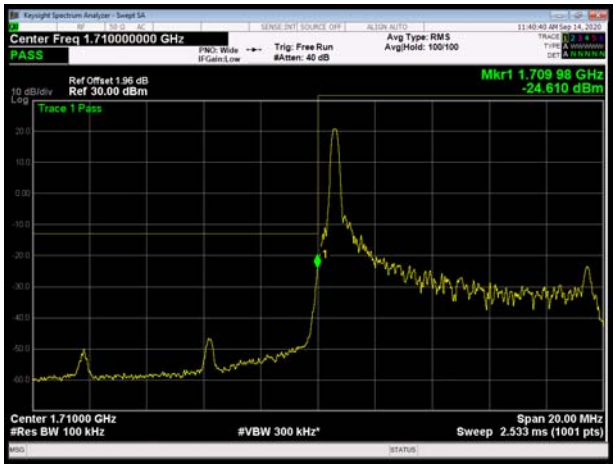
LTE Band 4 QPSK 5MHz CH-Low, 100%RB



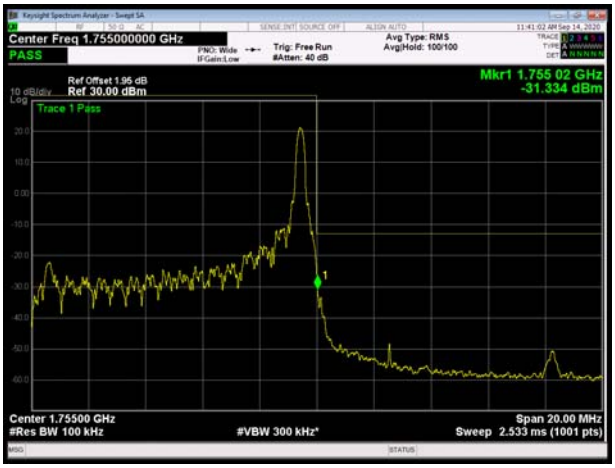
LTE Band 4 QPSK 5MHz CH-High, 100%RB



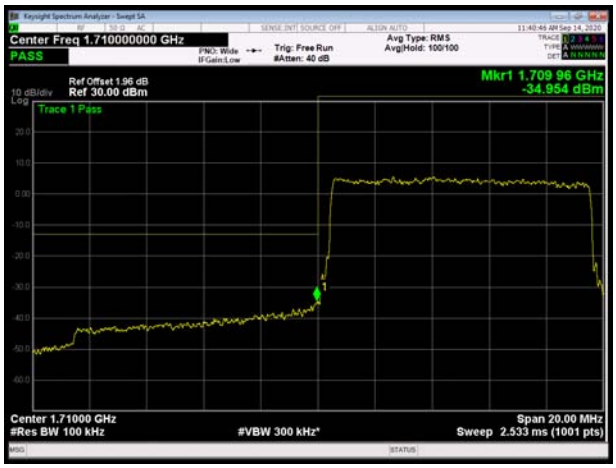
LTE Band 4 QPSK 10MHz CH-Low, 1 RB



LTE Band 4 QPSK 10MHz CH-High, 1 RB



LTE Band 4 QPSK 10MHz CH-Low, 100%RB



LTE Band 4 QPSK 10MHz CH-High, 100%RB

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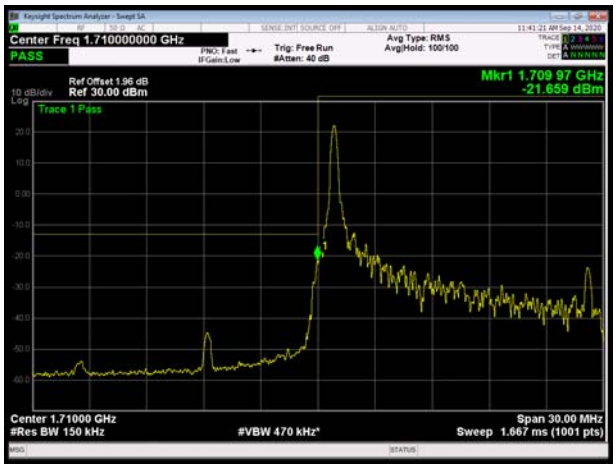
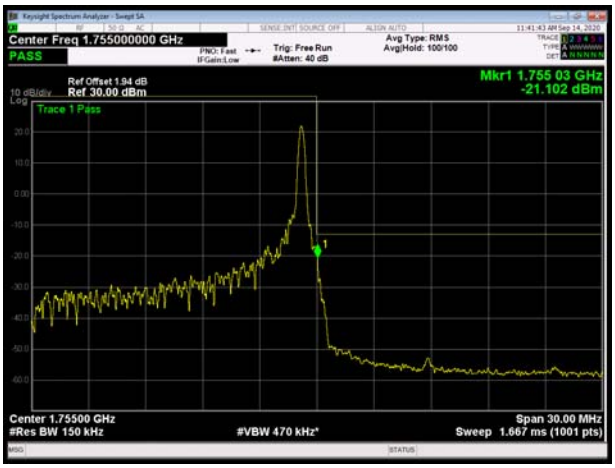
LTE Band 4 QPSK 15MHz CH-Low, 1 RB



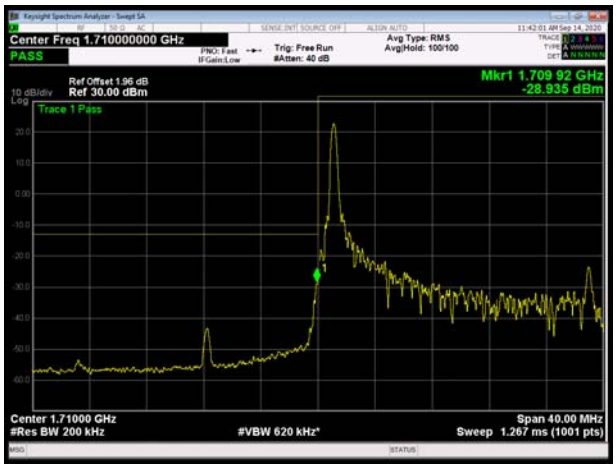
LTE Band 4 QPSK 15MHz CH-High, 1 RB



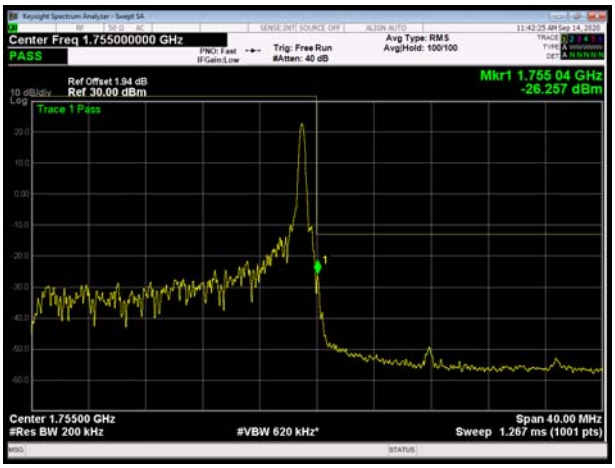
LTE Band 4 QPSK 15MHz CH-Low, 100%RB

LTE Band 4 QPSK 15MHz CH-High, 100%RB

LTE Band 4 QPSK 20MHz CH-Low, 1 RB



LTE Band 4 QPSK 20MHz CH-High, 1 RB



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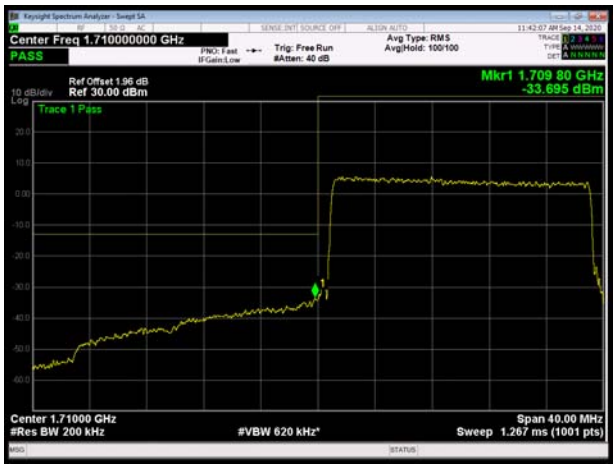
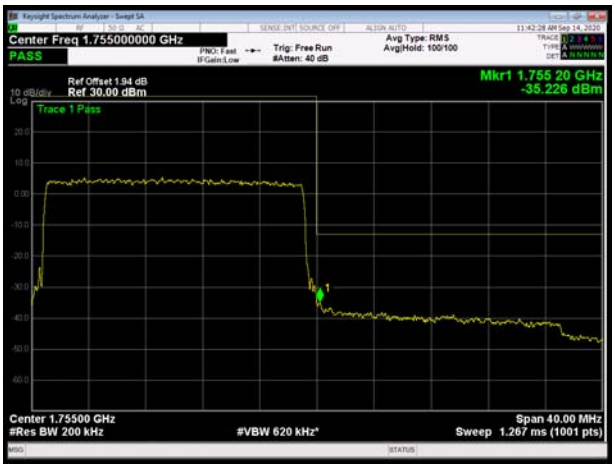
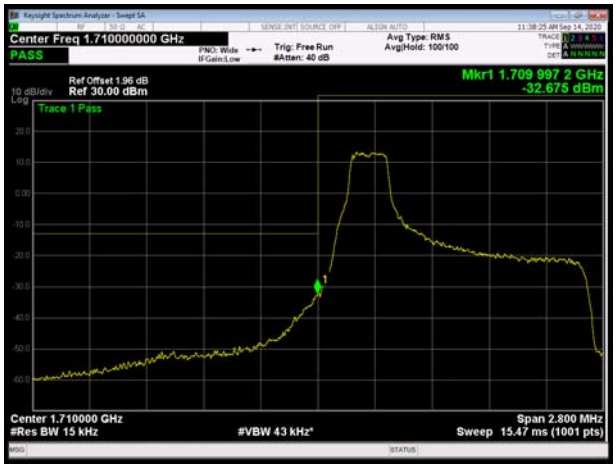
LTE Band 4 QPSK 20MHz CH-Low, 100%RB



LTE Band 4 QPSK 20MHz CH-High, 100%RB



LTE Band 4 16QAM 1.4MHz CH-Low, 1 RB



LTE Band 4 16QAM 1.4MHz CH-High, 1 RB

LTE Band 4 16QAM 1.4MHz CH-Low, 100%RB

LTE Band 4 16QAM 1.4MHz CH-High, 100%RB

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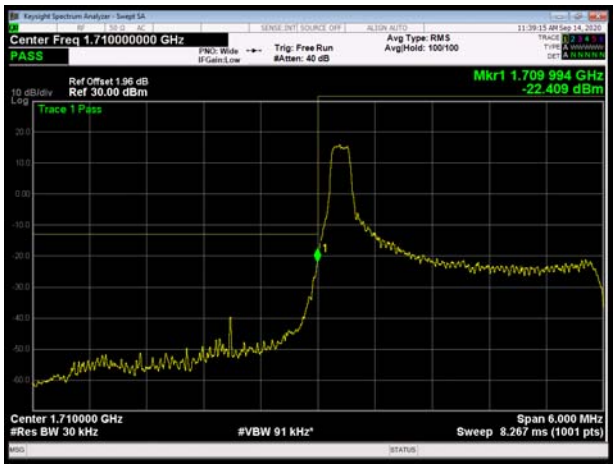
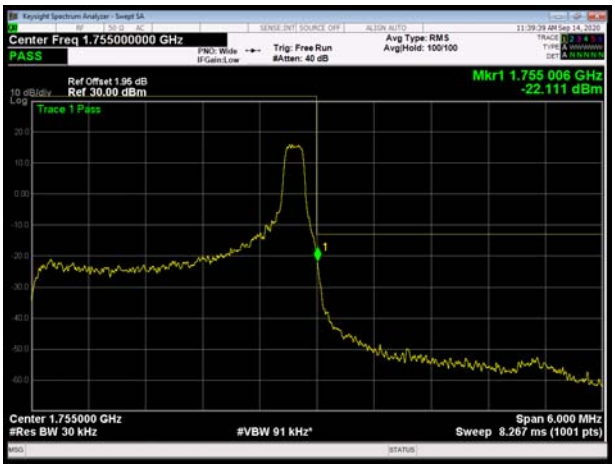
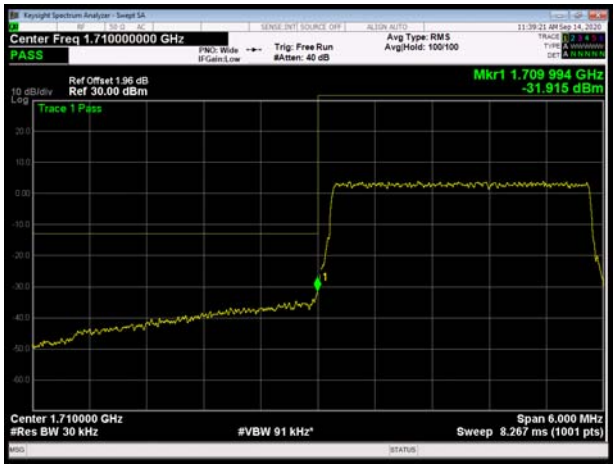
LTE Band 4 16QAM 3MHz CH-Low, 1 RB



LTE Band 4 16QAM 3MHz CH-High, 1 RB

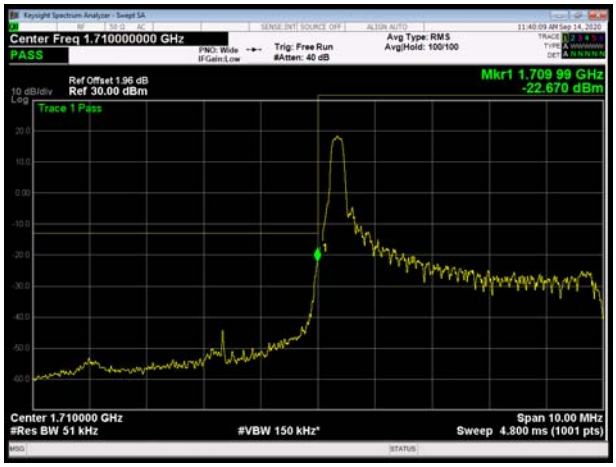


LTE Band 4 16QAM 3MHz CH-Low, 100%RB

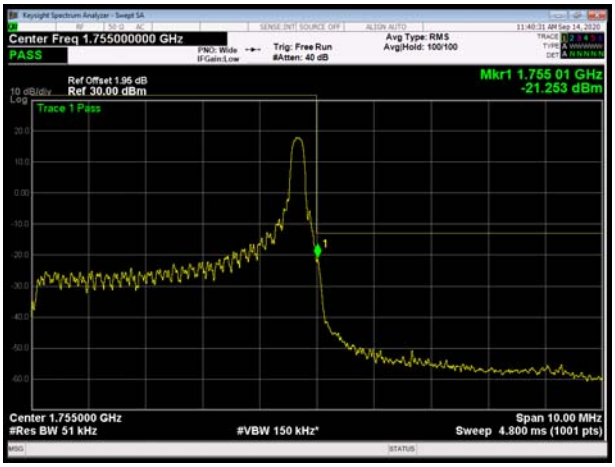


LTE Band 4 16QAM 3MHz CH-High, 100%RB

LTE Band 4 16QAM 5MHz CH-Low, 1 RB



LTE Band 4 16QAM 5MHz CH-High, 1 RB



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