RF TEST REPORT

Applicant	Quectel Wireless Solutions Co., Ltd
FCC ID	XMR201907EC25MX
Product	LTE Module
Brand	Quectel
Model	EC25-MX, EC25-MX MINIPCIE
Report No.	R1906A0272-R3
Issue Date	July 31, 2019

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2018)/ FCC CFR47 Part 27C (2018)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Peng Tao

Performed by: Peng Tao

Kai Xu

Approved by: Kai Xu

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Summary of Measurement Results

Number	Test Case	Clause in FCC rules	Verdict
1	RF power output	2.1046	PASS
2	Effective Isotropic Radiated power	27.50(d)(4) /27.50(h)(2)	PASS
3	Occupied Bandwidth	2.1049	PASS
4	Band Edge Compliance	27.53(h) /27.53(m)	PASS
5	Peak-to-Average Power Ratio	27.50(d)/KDB971168 D01(5.7)	PASS
6	Frequency Stability	2.1055 / 27.54	PASS
7	Spurious Emissions at Antenna Terminals	2.1051 /27.53(h) /27.53(m)	PASS
8	Radiates Spurious Emission	2.1053 /27.53(h) /27.53(m)	PASS
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.			
Date of Testing: June 18, 2019~ July 12, 2019			

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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.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-10766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

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

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1.3 Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City:	Shanghai
Post code:	201201
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2 General Description of Equipment under Test

Client Information

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

General information

EUT Description			
Model	EC25-MX, EC25-MX MINIPCIE		
IMEI	864744040000620		
Hardware Version	R1.0		
Software Version	EC25MXGAR10A02M1G		
Power Supply	External power supply		
Antenna Type	The EUT don't have standard Antenna, The Antenna used for testing in this report is the after-market accessory (Dipole Antenna)		
Antenna Gain	4 dBi		
Test Mode(s)	WCDMA Band IV; LTE Band 4; LTE Band 7, LTE Band 66;		
Test Modulation	(WCDMA) BPSK, QPSK,16QAM; (LTE)QPSK 16QAM;		
HSDPA UE Category	14		
HSUPA UE Category	6		
DC-HSDPA UE Category	24		
HSPA+ UE Category	24		
LTE Category	4		
Maximum E.I.R.P./ E.R.P.	WCDMA Band IV:	24.82dBm	
	LTE Band 4:	24.16dBm	
	LTE Band 7:	26.39dBm	
	LTE Band 66:	25.00dBm	
Rated Power Supply Voltage:	3.8V		
Extreme Voltage	Minimum: 3.3V Maximum: 4.3V		
Extreme Temperature	Lowest:-40°C Highest: +85°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
Note: 1. The information of the EUT is declared by the manufacturer.			

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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 2 (2018)

FCC CFR47 Part 27C (2018)

ANSI C63.26 (2015)

KDB 971168 D01 Power Meas License Digital Systems v03r01

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4 Test Configuration

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (Z 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	RMC HSDPA/HSUPA DC-HSDPA/HSPA+
Effective Isotropic Radiated power	RMC
Occupied Bandwidth	RMC
Band Edge Compliance	RMC
Peak-to-Average Power Ratio	RMC
Frequency Stability	RMC
Spurious Emissions at Antenna Terminals	RMC
Radiates Spurious Emission	RMC

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

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	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
Effective Isotropic Radiated power	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
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
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	-
	LTE 7	-	-	O	O	O	O	O	O	-	-	O	-	O	-
	LTE 66	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

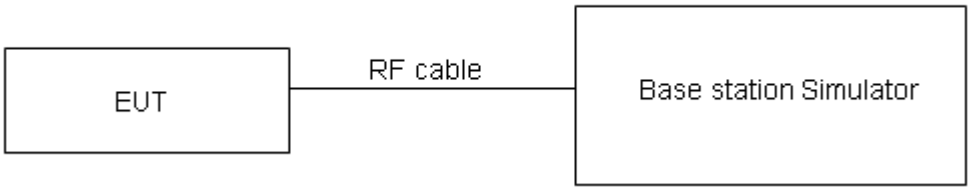
Ambient condition

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.

Test Setup



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

Limits

No specific RF power output requirements in part 2.1046.

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.

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Test Results

WCDMA Band IV		AV Conducted Power(dBm)		
		Channel 1312	Channel 1413	Channel 1513
		1712.4 (MHz)	1732.6 (MHz)	1752.6(MHz)
RMC		22.79	22.86	22.84
HSDPA	Sub - Test 1	22.25	22.28	22.28
	Sub - Test 2	22.24	22.30	22.25
	Sub - Test 3	21.71	21.80	21.77
	Sub - Test 4	21.72	21.81	21.75
HSUPA	Sub - Test 1	22.21	22.27	22.23
	Sub - Test 2	21.20	21.25	21.22
	Sub - Test 3	21.67	21.73	21.71
	Sub - Test 4	21.13	21.22	21.19
	Sub - Test 5	22.14	22.20	22.17
DC-HSDPA	Sub - Test 1	22.13	22.22	22.18
	Sub - Test 2	22.12	22.21	22.17
	Sub - Test 3	21.70	21.70	21.68
	Sub - Test 4	21.69	21.69	21.67
HSPA+	16QAM	21.68	21.77	21.74

LTE Band 4				AV Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				19957/1710.7	20175/1732.5	20393/1754.3
1.4MHz	QPSK	1	0	22.50	22.42	22.45
		1	2	22.47	22.44	22.38
		1	5	22.55	22.36	22.47
		3	0	21.13	21.25	21.21
		3	2	21.12	21.21	21.15
		3	3	21.21	21.12	21.10
		6	0	21.20	21.25	21.20
	16QAM	1	0	21.14	21.65	21.20
		1	2	21.27	21.93	21.02
		1	5	21.11	21.78	21.26
		3	0	20.18	20.24	20.15
		3	2	20.22	20.22	20.17
		3	3	20.18	20.21	20.11
		6	0	20.36	20.27	20.21
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				19965/1711.5	20175/1732.5	20385/1753.5
3MHz	QPSK	1	0	22.52	22.46	22.48

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		1	7	22.50	22.49	22.42
		1	14	22.58	22.41	22.51
		8	0	21.21	21.35	21.32
		8	4	21.22	21.29	21.25
		8	7	21.29	21.21	21.18
		15	0	21.23	21.29	21.23
	16QAM	1	0	21.17	21.67	21.23
		1	7	21.30	21.98	21.06
		1	14	21.13	21.82	21.29
		8	0	20.27	20.35	20.25
		8	4	20.31	20.33	20.27
		8	7	20.26	20.31	20.22
		15	0	20.39	20.31	20.24
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				19975/1712.5	20175/1732.5	20375/1752.5
5MHz	QPSK	1	0	22.49	22.44	22.44
		1	13	22.48	22.45	22.39
		1	24	22.55	22.36	22.47
		12	0	21.18	21.30	21.28
		12	6	21.20	21.25	21.20
		12	13	21.27	21.19	21.14
		25	0	21.21	21.28	21.21
	16QAM	1	0	21.14	21.63	21.20
		1	13	21.27	21.96	21.03
		1	24	21.10	21.80	21.25
		12	0	20.25	20.31	20.22
		12	6	20.28	20.28	20.23
		12	13	20.23	20.26	20.18
		25	0	20.37	20.27	20.19
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20000/1715	20175/1732.5	20350/1750
10MHz	QPSK	1	0	22.51	22.45	22.47
		1	25	22.51	22.50	22.43
		1	49	22.57	22.40	22.50
		25	0	21.21	21.35	21.32
		25	13	21.23	21.30	21.24
		25	25	21.29	21.23	21.19
		50	0	21.29	21.30	21.25
	16QAM	1	0	21.16	21.66	21.22
		1	25	21.30	22.00	21.06
		1	49	21.13	21.82	21.28
		25	0	20.28	20.36	20.26
		25	13	20.30	20.32	20.26

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		25	25	20.26	20.31	20.22
		50	0	20.40	20.32	20.23
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20025/1717.5	20175/1732.5	20325/1747.5
15MHz	QPSK	1	0	22.50	22.41	22.45
		1	38	22.49	22.49	22.40
		1	74	22.54	22.35	22.46
		36	0	21.19	21.31	21.29
		36	18	21.20	21.25	21.20
		36	39	21.26	21.20	21.15
		75	0	21.27	21.26	21.20
	16QAM	1	0	21.11	21.64	21.20
		1	38	21.28	21.97	21.04
		1	74	21.10	21.78	21.25
		36	0	20.25	20.34	20.23
		36	18	20.27	20.27	20.22
		36	39	20.24	20.27	20.19
		75	0	20.37	20.27	20.19
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20050/1720	20175/1732.5	20300/1745
20MHz	QPSK	1	0	22.47	22.37	22.42
		1	50	22.48	22.45	22.38
		1	99	22.52	22.34	22.43
		50	0	21.16	21.26	21.25
		50	25	21.18	21.21	21.17
		50	50	21.23	21.15	21.11
		100	0	21.24	21.21	21.16
	16QAM	1	0	21.09	21.60	21.15
		1	50	21.24	21.95	21.00
		1	99	21.08	21.75	21.23
		50	0	20.22	20.30	20.20
		50	25	20.24	20.25	20.19
		50	50	20.21	20.22	20.15
		100	0	20.35	20.23	20.16

LTE Band 7				**Conducted Power(dBm)**		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20775/2502.5	21100/2535	21425/2567.5
5MHz	QPSK	1	0	22.77	22.51	22.65
		1	13	23.31	22.94	23.09
		1	24	22.89	22.53	22.75
		12	0	22.14	22.14	22.32

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		12	6	22.08	22.15	22.26
		12	13	22.09	22.20	22.18
		25	0	22.14	22.12	22.26
	16QAM	1	0	22.08	22.36	22.93
		1	13	22.21	22.88	23.15
		1	24	21.49	22.61	22.88
		12	0	21.31	21.21	21.25
		12	6	21.19	21.20	21.23
		12	13	21.10	21.25	21.10
		25	0	21.19	21.26	21.16
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20800/2505	21100/2535	21400/2565
10MHz	QPSK	1	0	22.79	22.52	22.68
		1	25	23.34	22.99	23.13
		1	49	22.91	22.57	22.78
		25	0	22.17	22.19	22.36
		25	13	22.11	22.20	22.30
		25	25	22.11	22.24	22.23
		50	0	22.22	22.14	22.30
	16QAM	1	0	22.10	22.39	22.95
		1	25	22.24	22.92	23.18
		1	49	21.52	22.63	22.91
		25	0	21.34	21.26	21.29
		25	13	21.21	21.24	21.26
		25	25	21.13	21.30	21.14
		50	0	21.22	21.31	21.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20825/2507.5	21100/2535	21375/2562.5
15MHz	QPSK	1	0	22.78	22.48	22.66
		1	38	23.32	22.98	23.10
		1	74	22.88	22.52	22.74
		36	0	22.15	22.15	22.33
		36	18	22.08	22.15	22.26
		36	39	22.08	22.21	22.19
		75	0	22.20	22.10	22.25
	16QAM	1	0	22.05	22.37	22.93
		1	38	22.22	22.89	23.16
		1	74	21.49	22.59	22.88
		36	0	21.31	21.24	21.26
		36	18	21.18	21.19	21.22
		36	39	21.11	21.26	21.11
		75	0	21.19	21.26	21.16

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Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20850/2510	21100/2535	21350/2560
20MHz	QPSK	1	0	22.75	22.44	22.63
		1	50	23.31	22.94	23.08
		1	99	22.86	22.51	22.71
		50	0	22.12	22.10	22.29
		50	25	22.06	22.11	22.23
		50	50	22.05	22.16	22.15
		100	0	22.17	22.05	22.21
	16QAM	1	0	22.03	22.33	22.88
		1	50	22.18	22.87	23.12
		1	99	21.47	22.56	22.86
		50	0	21.28	21.20	21.23
		50	25	21.15	21.17	21.19
		50	50	21.08	21.21	21.07
		100	0	21.17	21.22	21.13

LTE Band 66				AV Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				131979/1710.7	132322/1745	132665/1779.3
1.4MHz	QPSK	1	0	22.41	22.50	22.65
		1	2	23.03	22.79	22.92
		1	5	22.52	22.77	22.36
		3	0	21.72	21.72	21.70
		3	2	21.64	21.66	21.56
		3	3	21.62	21.53	21.56
		6	0	21.56	21.59	21.72
	16QAM	1	0	21.85	21.66	22.38
		1	2	22.27	21.50	22.85
		1	5	22.06	21.17	22.16
		3	0	20.71	20.76	20.69
		3	2	20.71	20.65	20.67
		3	3	20.68	20.56	20.58
		6	0	20.79	20.52	20.69
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				131987/1711.5	132322/1745	132657/1778.5
3MHz	QPSK	1	0	22.43	22.54	22.68
		1	7	23.06	22.84	22.96
		1	14	22.55	22.82	22.40
		8	0	21.80	21.82	21.81
		8	4	21.74	21.74	21.66
		8	7	21.70	21.62	21.64

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		15	0	21.59	21.63	21.75
	16QAM	1	0	21.88	21.68	22.41
		1	7	22.30	21.55	22.89
		1	14	22.08	21.21	22.19
		8	0	20.80	20.87	20.79
		8	4	20.80	20.76	20.77
		8	7	20.76	20.66	20.69
		15	0	20.82	20.56	20.72
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				131997/1712.5	132322/1745	132647/1777.5
5MHz	QPSK	1	0	22.40	22.52	22.64
		1	13	23.04	22.80	22.93
		1	24	22.52	22.77	22.36
		12	0	21.77	21.77	21.77
		12	6	21.72	21.70	21.61
		12	13	21.68	21.60	21.60
		25	0	21.57	21.62	21.73
	16QAM	1	0	21.85	21.64	22.38
		1	13	22.27	21.53	22.86
		1	24	22.05	21.19	22.15
		12	0	20.78	20.83	20.76
		12	6	20.77	20.71	20.73
		12	13	20.73	20.61	20.65
		25	0	20.80	20.52	20.67
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132022/1715	132322/1745	132622/1775
10MHz	QPSK	1	0	22.42	22.53	22.67
		1	25	23.07	22.85	22.97
		1	49	22.54	22.81	22.39
		25	0	21.80	21.82	21.81
		25	13	21.75	21.75	21.65
		25	25	21.70	21.64	21.65
		50	0	21.65	21.64	21.77
	16QAM	1	0	21.87	21.67	22.40
		1	25	22.30	21.57	22.89
		1	49	22.08	21.21	22.18
		25	0	20.81	20.88	20.80
		25	13	20.79	20.75	20.76
		25	25	20.76	20.66	20.69
		50	0	20.83	20.57	20.71
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132047/1717.5	132322/1745	132597/1772.5
15MHz	QPSK	1	0	22.41	22.49	22.65

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		1	38	23.05	22.84	22.94
		1	74	22.51	22.76	22.35
		36	0	21.78	21.78	21.78
		36	18	21.72	21.70	21.61
		36	39	21.67	21.61	21.61
		75	0	21.63	21.60	21.72
	16QAM	1	0	21.82	21.65	22.38
		1	38	22.28	21.54	22.87
		1	74	22.05	21.17	22.15
		36	0	20.78	20.86	20.77
		36	18	20.76	20.70	20.72
		36	39	20.74	20.62	20.66
		75	0	20.80	20.52	20.67
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132072/1720	132322/1745	132572/1770
20MHz	QPSK	1	0	22.38	22.45	22.62
		1	50	23.04	22.80	22.92
		1	99	22.49	22.75	22.32
		50	0	21.75	21.73	21.74
		50	25	21.70	21.66	21.58
		50	50	21.64	21.56	21.57
		100	0	21.60	21.55	21.68
	16QAM	1	0	21.80	21.61	22.33
		1	50	22.24	21.52	22.83
		1	99	22.03	21.14	22.13
		50	0	20.75	20.82	20.74
		50	25	20.73	20.68	20.69
		50	50	20.71	20.57	20.62
		100	0	20.78	20.48	20.64

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5.2 Effective Isotropic Radiated Power

Ambient condition

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

Methods of Measurement

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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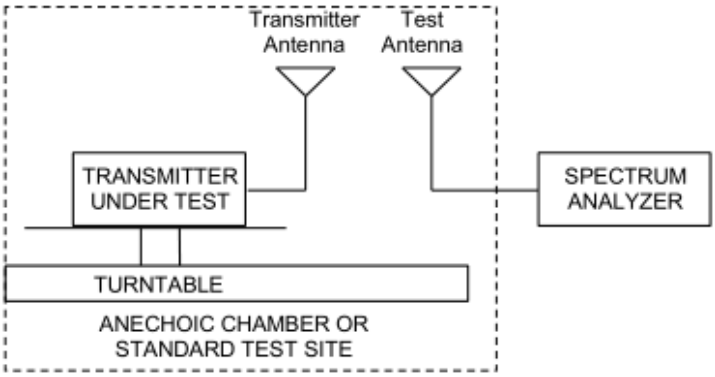
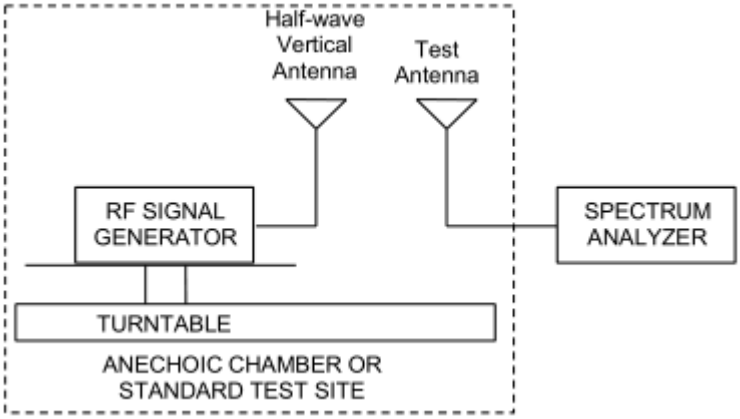
Test setup





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.

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Limits

Rule Part 27.50(d) (4) specifies that “Fixed, mobile and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP”

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

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

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 1.19 dB

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Test Results

The measurement is performed for both of horizontal and vertical antenna Polarization, and only the data of worst mode is recorded in this report.

Mode	Channel	Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Conclusion
WCDMA Band IV	Low	1712.4	Horizontal	24.82	30	Pass
	Mid	1732.6	Horizontal	24.45	30	Pass
	High	1752.6	Horizontal	24.79	30	Pass

LTE Band 4						
Bandwidth	Channel	Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Conclusion
1.4 MHz (QPSK)	Low	1710.7	Horizontal	24.16	30	Pass
	Mid	1732.5	Horizontal	23.94	30	Pass
	High	1754.3	Horizontal	24.12	30	Pass
3 MHz (QPSK)	Low	1711.5	Horizontal	24.11	30	Pass
	Mid	1732.5	Horizontal	23.92	30	Pass
	High	1753.5	Horizontal	24.07	30	Pass
5 MHz (QPSK)	Low	1712.5	Horizontal	24.09	30	Pass
	Mid	1732.5	Horizontal	23.88	30	Pass
	High	1752.5	Horizontal	23.93	30	Pass
10 MHz (QPSK)	Low	1715	Horizontal	24.06	30	Pass
	Mid	1732.5	Horizontal	23.83	30	Pass
	High	1750	Horizontal	23.88	30	Pass
15 MHz (QPSK)	Low	1717.5	Horizontal	24.03	30	Pass
	Mid	1732.5	Horizontal	23.91	30	Pass
	High	1747.5	Horizontal	23.97	30	Pass
20 MHz (QPSK)	Low	1720	Horizontal	24.08	30	Pass
	Mid	1732.5	Horizontal	23.90	30	Pass
	High	1745	Horizontal	23.95	30	Pass
1.4 MHz (16QAM)	Low	1710.7	Horizontal	23.76	30	Pass
	Mid	1732.5	Horizontal	23.49	30	Pass
	High	1754.3	Horizontal	23.71	30	Pass
3 MHz (16QAM)	Low	1711.5	Horizontal	23.68	30	Pass
	Mid	1732.5	Horizontal	23.45	30	Pass
	High	1753.5	Horizontal	23.60	30	Pass
5 MHz (16QAM)	Low	1712.5	Horizontal	23.63	30	Pass
	Mid	1732.5	Horizontal	23.51	30	Pass
	High	1752.5	Horizontal	23.42	30	Pass
10 MHz (16QAM)	Low	1715	Horizontal	23.56	30	Pass
	Mid	1732.5	Horizontal	23.44	30	Pass
	High	1750	Horizontal	23.49	30	Pass

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15 MHz (16QAM)	Low	1717.5	Horizontal	23.56	30	Pass
	Mid	1732.5	Horizontal	23.43	30	Pass
	High	1747.5	Horizontal	23.55	30	Pass
20 MHz (16QAM)	Low	1720	Horizontal	23.62	30	Pass
	Mid	1732.5	Horizontal	23.46	30	Pass
	High	1745	Horizontal	23.52	30	Pass

LTE Band 7						
Band width	**Channel**	**Frequency (MHz)**	**Polarization**	**EIRP (dBm)**	**Limit (dBm)**	**Conclusion**
5 MHz (QPSK)	Low	2502.5	Horizontal	26.04	33	Pass
	Mid	2535	Horizontal	25.86	33	Pass
	High	2567.5	Horizontal	25.43	33	Pass
10 MHz (QPSK)	Low	2505	Horizontal	25.95	33	Pass
	Mid	2535	Horizontal	25.73	33	Pass
	High	2565	Horizontal	25.49	33	Pass
15 MHz (QPSK)	Low	2507.5	Horizontal	26.14	33	Pass
	Mid	2535	Horizontal	25.87	33	Pass
	High	2562.5	Horizontal	25.73	33	Pass
20 MHz (QPSK)	Low	2510	Horizontal	26.39	33	Pass
	Mid	2535	Horizontal	25.66	33	Pass
	High	2560	Horizontal	25.54	33	Pass
5 MHz (16QAM)	Low	2502.5	Horizontal	25.46	33	Pass
	Mid	2535	Horizontal	25.32	33	Pass
	High	2567.5	Horizontal	25.01	33	Pass
10 MHz (16QAM)	Low	2505	Horizontal	25.37	33	Pass
	Mid	2535	Horizontal	25.21	33	Pass
	High	2565	Horizontal	25.01	33	Pass
15 MHz (16QAM)	Low	2507.5	Horizontal	25.65	33	Pass
	Mid	2535	Horizontal	25.34	33	Pass
	High	2562.5	Horizontal	25.29	33	Pass
20 MHz (16QAM)	Low	2510	Horizontal	25.86	33	Pass
	Mid	2535	Horizontal	25.13	33	Pass
	High	2560	Horizontal	25.09	33	Pass

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LTE Band 66						
Band width	Channel	Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Conclusion
1.4 MHz (QPSK)	Low	1710.70	Horizontal	24.65	30	Pass
	Mid	1745.00	Horizontal	24.69	30	Pass
	High	1779.30	Horizontal	24.84	30	Pass
3 MHz (QPSK)	Low	1711.50	Horizontal	24.73	30	Pass
	Mid	1745.00	Horizontal	24.98	30	Pass
	High	1778.50	Horizontal	24.92	30	Pass
5 MHz (QPSK)	Low	1712.50	Horizontal	24.65	30	Pass
	Mid	1745.00	Horizontal	24.82	30	Pass
	High	1777.50	Horizontal	24.62	30	Pass
10 MHz (QPSK)	Low	1715.00	Horizontal	24.79	30	Pass
	Mid	1745.00	Horizontal	24.95	30	Pass
	High	1775.00	Horizontal	24.67	30	Pass
15 MHz (QPSK)	Low	1717.50	Horizontal	24.76	30	Pass
	Mid	1745.00	Horizontal	24.94	30	Pass
	High	1772.50	Horizontal	24.87	30	Pass
20 MHz (QPSK)	Low	1720.00	Horizontal	24.28	30	Pass
	Mid	1745.00	Horizontal	25.00	30	Pass
	High	1770.00	Horizontal	24.82	30	Pass
1.4 MHz (16QAM)	Low	1710.70	Horizontal	24.05	30	Pass
	Mid	1745.00	Horizontal	24.13	30	Pass
	High	1779.30	Horizontal	24.35	30	Pass
3 MHz (16QAM)	Low	1711.50	Horizontal	24.29	30	Pass
	Mid	1745.00	Horizontal	24.21	30	Pass
	High	1778.50	Horizontal	24.32	30	Pass
5 MHz (16QAM)	Low	1712.50	Horizontal	24.00	30	Pass
	Mid	1745.00	Horizontal	24.17	30	Pass
	High	1777.50	Horizontal	24.34	30	Pass
10 MHz (16QAM)	Low	1715.00	Horizontal	24.29	30	Pass
	Mid	1745.00	Horizontal	24.42	30	Pass
	High	1775.00	Horizontal	24.08	30	Pass
15 MHz (16QAM)	Low	1717.50	Horizontal	24.16	30	Pass
	Mid	1745.00	Horizontal	24.43	30	Pass
	High	1772.50	Horizontal	24.37	30	Pass
20 MHz (16QAM)	Low	1720.00	Horizontal	23.83	30	Pass
	Mid	1745.00	Horizontal	24.54	30	Pass
	High	1770.00	Horizontal	24.37	30	Pass

Note: 1. EIRP= E.R.P+2.15

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5.3 Occupied Bandwidth

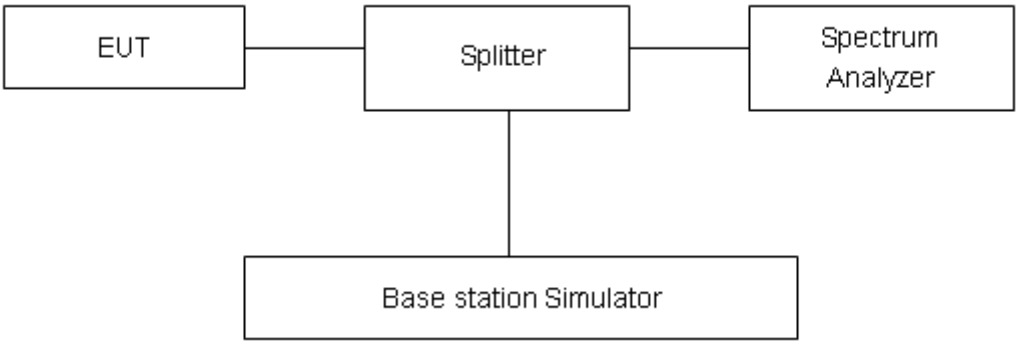
Ambient condition

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 51 kHz, VBW is set to 160 kHz for LTE Band 4/66 (1.4MHz).
RBW is set to 100 kHz, VBW is set to 300 kHz for LTE Band 4/66 (3MHz).
RBW is set to 100 kHz, VBW is set to 300 kHz for LTE Band 4/7/66 (5MHz).
RBW is set to 300 kHz, VBW is set to 1MHz for LTE Band 4/7/66 (10MHz).
RBW is set to 300 kHz, VBW is set to 1MHz for LTE Band 4/7/66(15MHz/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	4.1252	4.699
	1413	1732.6	4.1205	4.678
	1513	1752.6	4.1169	4.683

LTE Band 4						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	19957	1710.7	1.1221	1.340
			20175	1732.5	1.1213	1.358
			20393	1754.3	1.1272	1.327
		3	19965	1711.5	2.7458	3.046
			20175	1732.5	2.7525	3.058
			20385	1753.5	2.7421	3.058
		5	19975	1712.5	4.5362	5.047
			20175	1732.5	4.5177	5.016
			20375	1752.5	4.5085	5.012
		10	20000	1715	9.0269	10.070
			20175	1732.5	9.0079	10.020
			20350	1750	9.0433	10.080
		15	20025	1717.5	13.4410	14.760
			20175	1732.5	13.4150	14.630
			20325	1747.5	13.4390	14.670
		20	20050	1720	17.8970	19.170
			20175	1732.5	17.8710	19.290
			20300	1745	17.8850	19.290
	16QAM	1.4	19957	1710.7	1.1261	1.359
			20175	1732.5	1.1182	1.322
			20393	1754.3	1.1210	1.341
		3	19965	1711.5	2.7644	3.063
			20175	1732.5	2.7339	3.053
			20385	1753.5	2.7340	3.062
		5	19975	1712.5	4.5126	5.017
			20175	1732.5	4.5190	5.028
			20375	1752.5	4.5354	5.052
		10	20000	1715	9.0147	10.050
			20175	1732.5	9.0204	9.958

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			20350	1750	9.0317	10.030
		15	20025	1717.5	13.4600	14.710
			20175	1732.5	13.4350	14.650
			20325	1747.5	13.4580	14.670
		20	20050	1720	17.9080	19.140
			20175	1732.5	17.9130	19.420
			20300	1745	17.8390	19.170

LTE Band 7						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	20775	2502.5	4.5300	5.034
			21100	2535	4.5113	5.033
			21425	2567.5	4.5100	4.971
		10	20800	2505	9.0326	10.090
			21100	2535	9.0068	9.997
			21400	2565	9.0463	10.050
		15	20825	2507.5	13.4680	14.720
			21100	2535	13.4220	14.720
			21375	2562.5	13.4520	14.610
		20	20850	2510	17.8890	19.230
			21100	2535	17.8770	19.230
			21350	2560	17.8800	19.480
	16QAM	5	20775	2502.5	4.4972	5.002
			21100	2535	4.5262	5.054
			21425	2567.5	4.5334	5.026
		10	20800	2505	9.0245	9.989
			21100	2535	9.0188	10.020
			21400	2565	9.0371	10.030
		15	20825	2507.5	13.4400	14.730
			21100	2535	13.4470	14.680
			21375	2562.5	13.4540	14.620
		20	20850	2510	17.9350	19.240
			21100	2535	17.9020	19.280
			21350	2560	17.8530	19.180

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LTE Band 66						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	131979	1710.7	1.1198	1.345
			132322	1745	1.1231	1.359
			132665	1779.3	1.1339	1.345
		3	131987	1711.5	2.7438	3.070
			132322	1745	2.7487	3.049
			132657	1778.5	2.7406	3.072
		5	131997	1712.5	4.5331	5.021
			132322	1745	4.5096	5.008
			132647	1777.5	4.5134	5.009
		10	132022	1715	9.0308	10.030
			132322	1745	9.0084	10.010
			132622	1775	9.0151	10.020
		15	132047	1717.5	13.4620	14.850
			132322	1745	13.4100	14.660
			132597	1772.5	13.4100	14.730
		20	132072	1720	17.8600	19.160
			132322	1745	17.8640	19.260
			132572	1770	17.8280	19.260
	16QAM	1.4	131979	1710.7	1.1242	1.342
			132322	1745	1.1167	1.320
			132665	1779.3	1.1154	1.346
		3	131987	1711.5	2.7499	3.038
			132322	1745	2.7337	3.064
			132657	1778.5	2.7415	3.060
		5	131997	1712.5	4.5173	4.993
			132322	1745	4.5301	5.000
			132647	1777.5	4.5313	5.051
		10	132022	1715	9.0325	10.070
			132322	1745	9.0212	10.030
			132622	1775	9.0088	10.060
		15	132047	1717.5	13.4600	14.740
			132322	1745	13.4530	14.740
			132597	1772.5	13.4360	14.750
		20	132072	1720	17.9300	19.320
			132322	1745	17.8510	19.210
			132572	1770	17.8430	19.160

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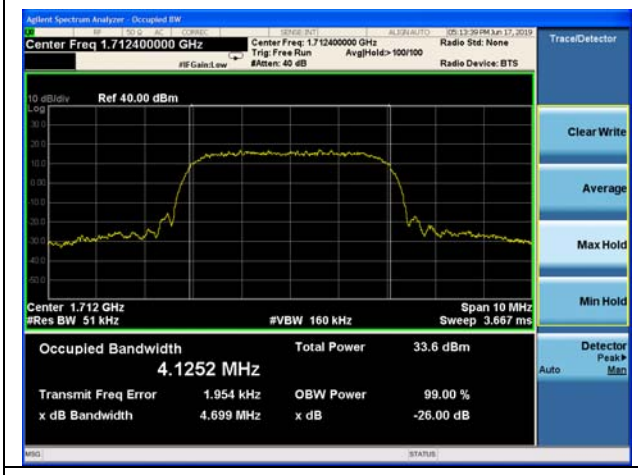
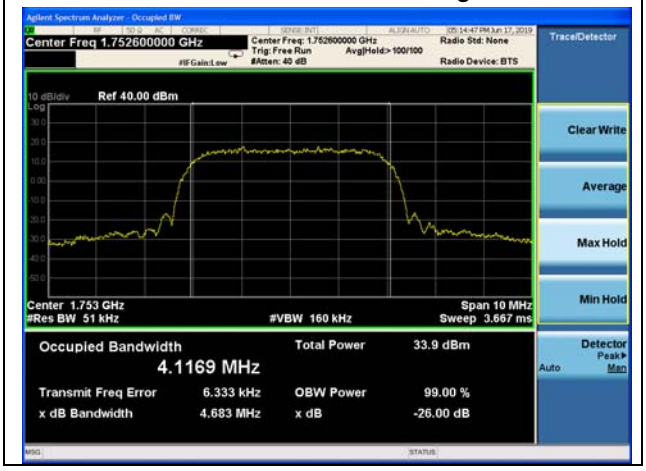
WCDMA Band IV CH-Low



WCDMA Band IV CH Middle

WCDMA Band IV CH High



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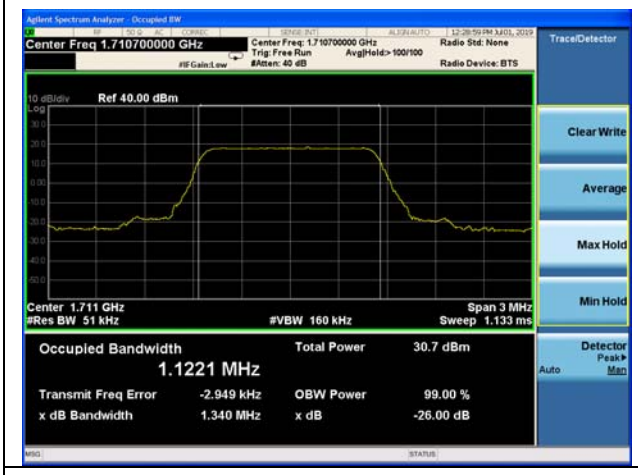
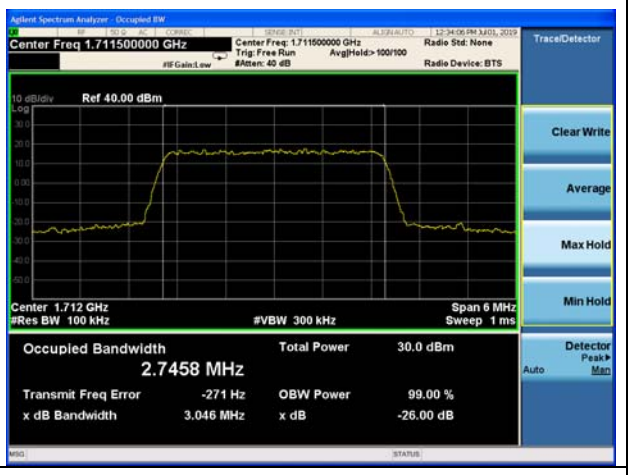
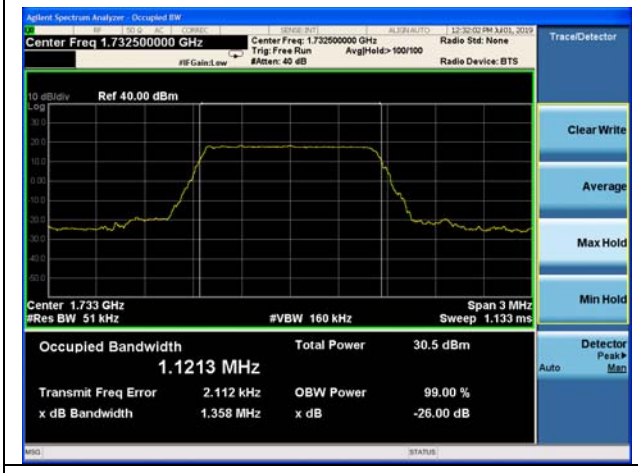
LTE Band 4 QPSK 1.4MHz CH-Low



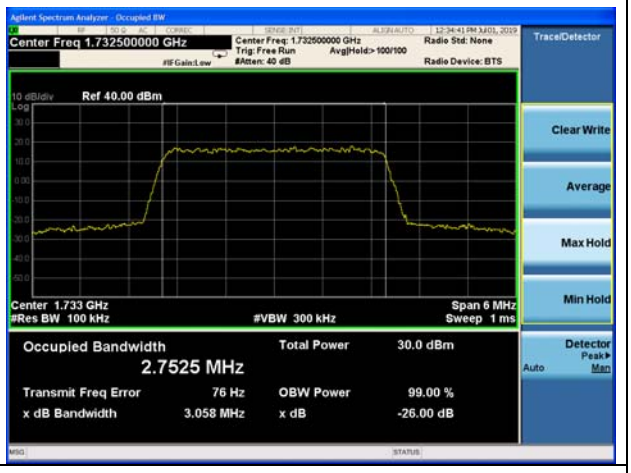
LTE Band 4 QPSK 3MHz CH-Low



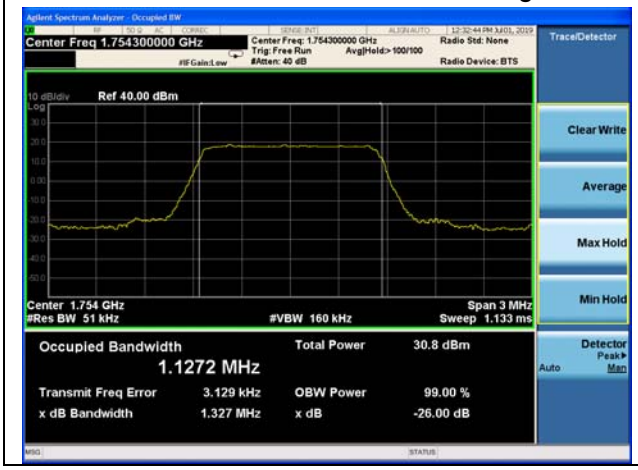
LTE Band 4 QPSK 1.4MHz CH-Middle



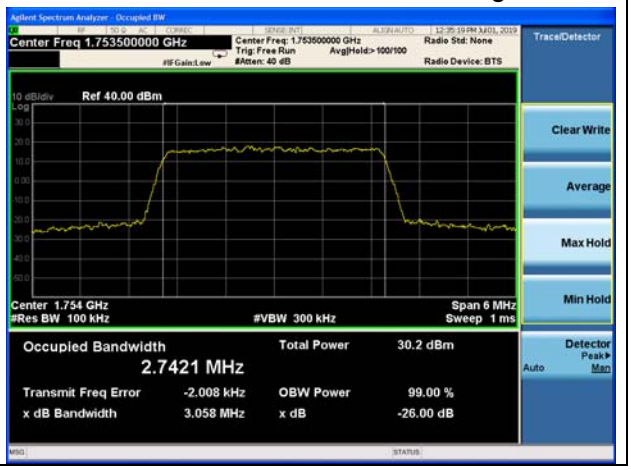
LTE Band 4 QPSK 3MHz CH-Middle



LTE Band 4 QPSK 1.4MHz CH-High



LTE Band 4 QPSK 3MHz CH-High



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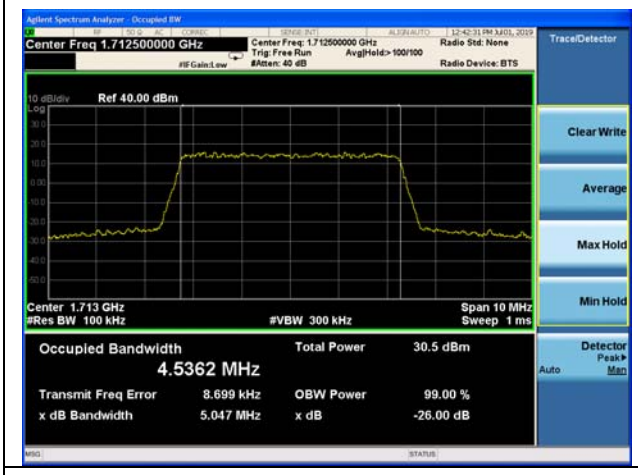
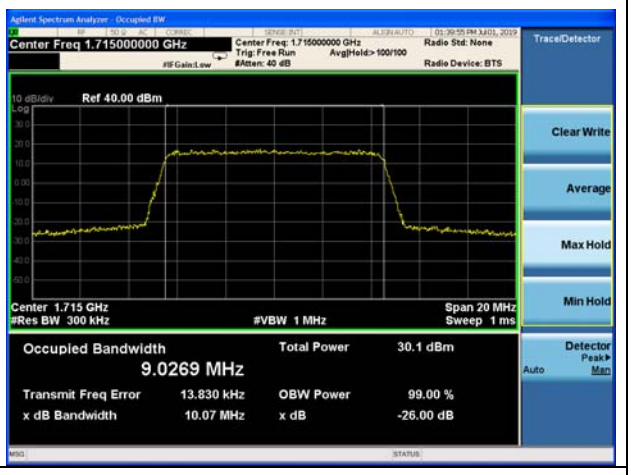
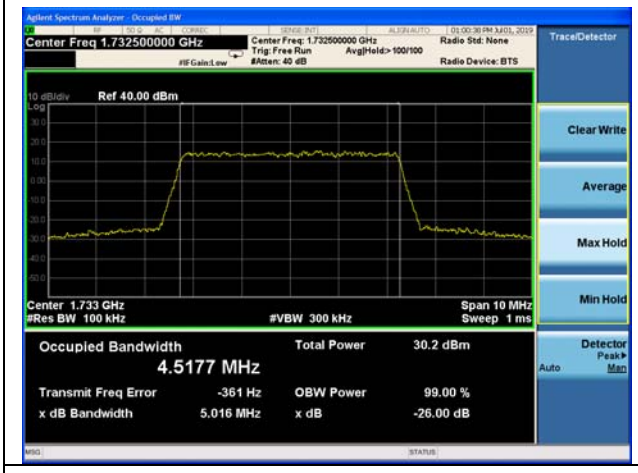
LTE Band 4 QPSK 5MHz CH-Low



LTE Band 4 QPSK 10MHz CH-Low

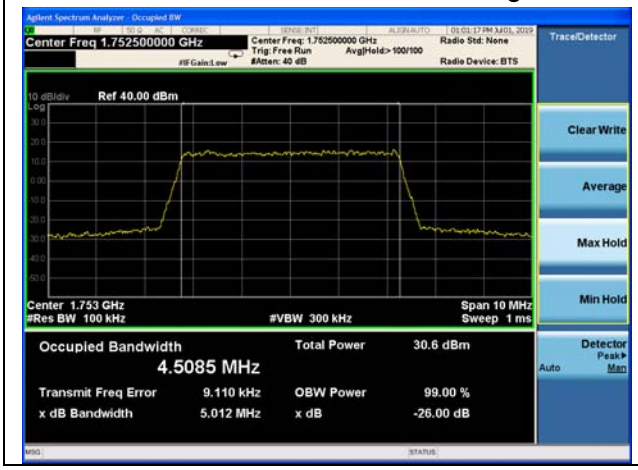


LTE Band 4 QPSK 5MHz CH-Middle

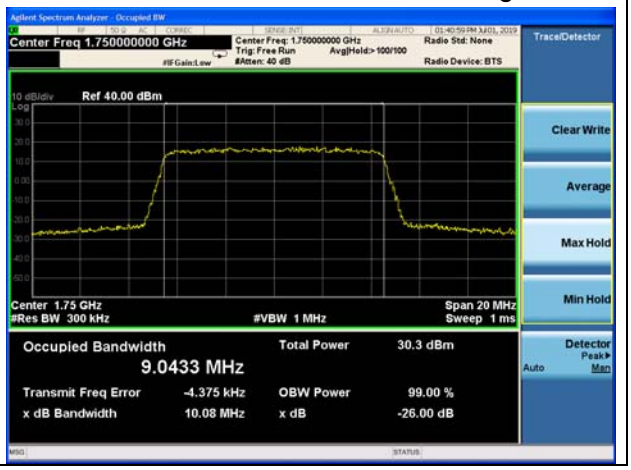


LTE Band 4 QPSK 10MHz CH-Middle

LTE Band 4 QPSK 5MHz CH-High



LTE Band 4 QPSK 10MHz CH-High



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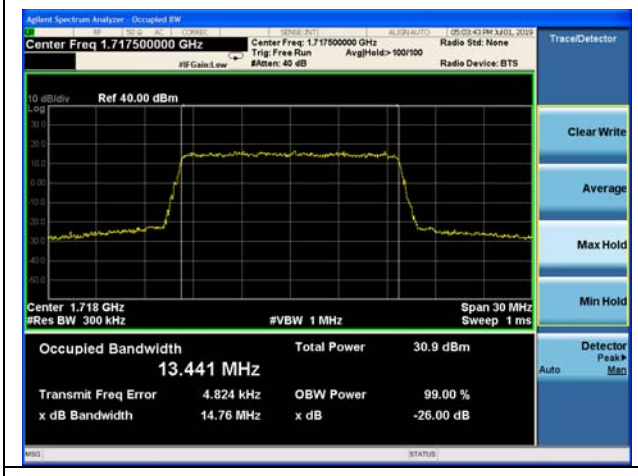
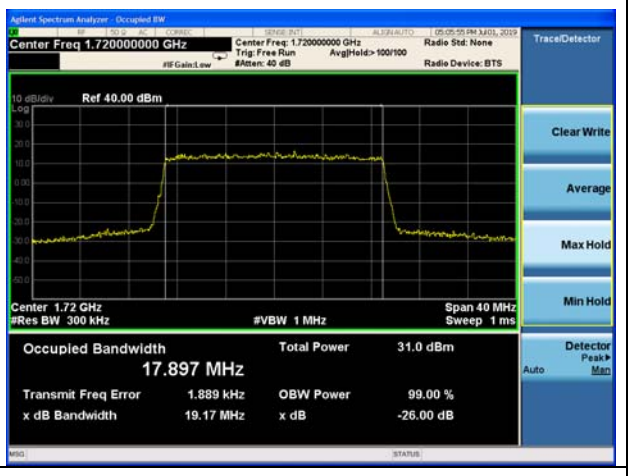
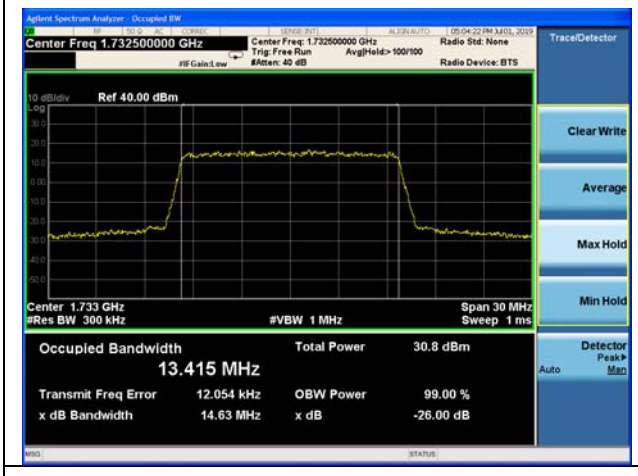
LTE Band 4 QPSK 15MHz CH-Low



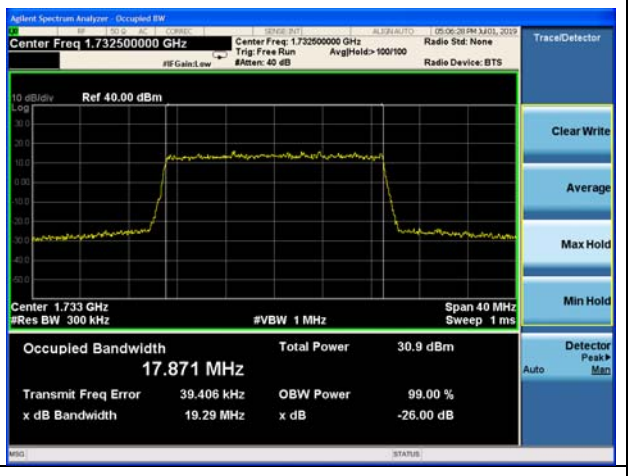
LTE Band 4 QPSK 20MHz CH-Low



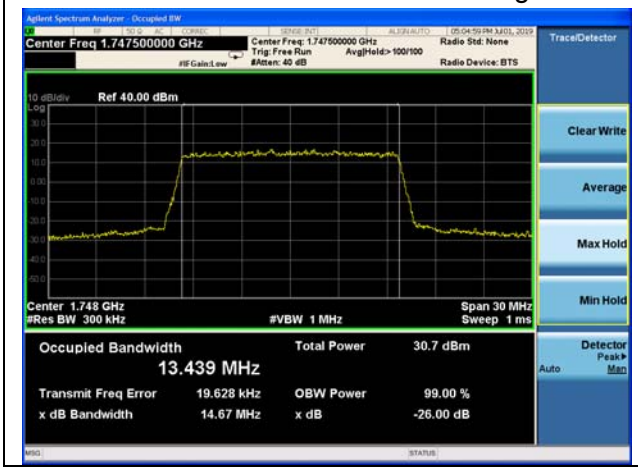
LTE Band 4 QPSK 15MHz CH-Middle



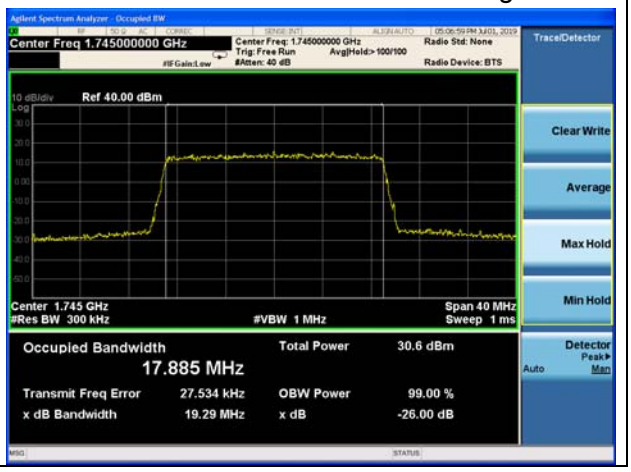
LTE Band 4 QPSK 20MHz CH-Middle



LTE Band 4 QPSK 15MHz CH-High



LTE Band 4 QPSK 20MHz CH-High



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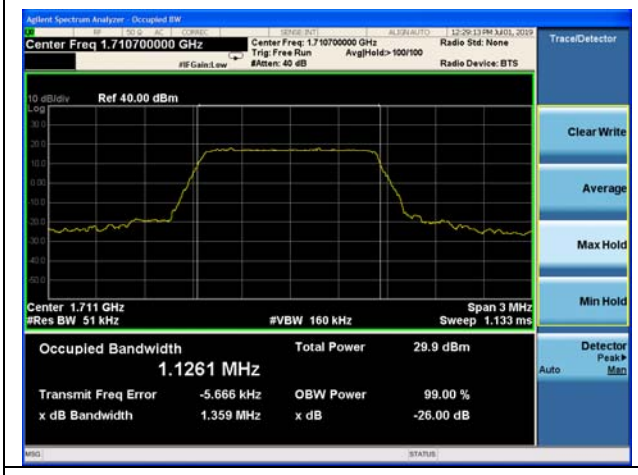
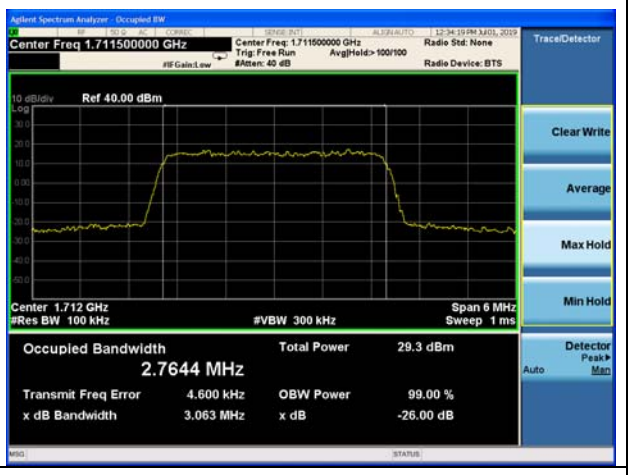
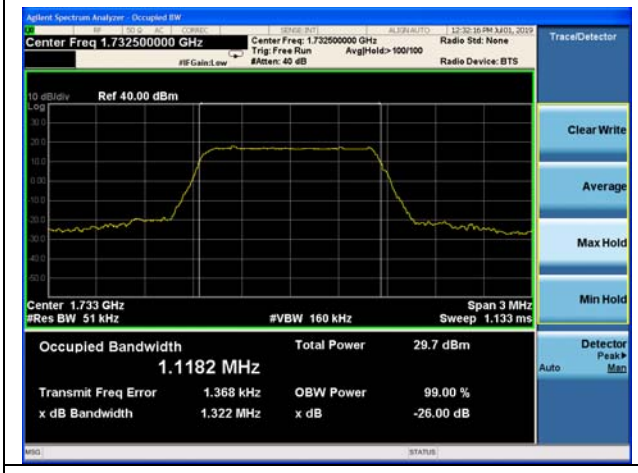
LTE Band 4 16QAM 1.4MHz CH-Low



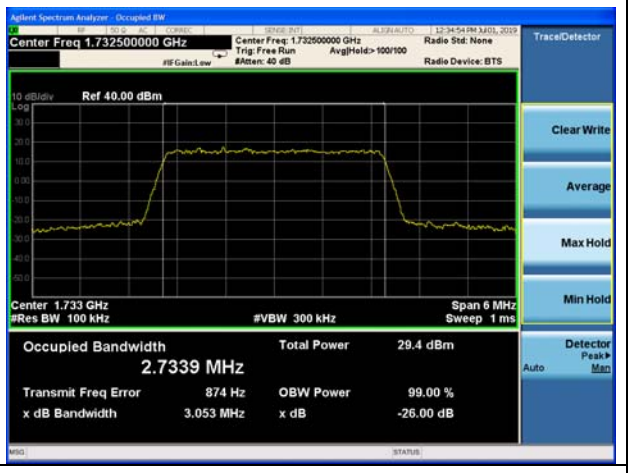
LTE Band 4 16QAM 3MHz CH-Low



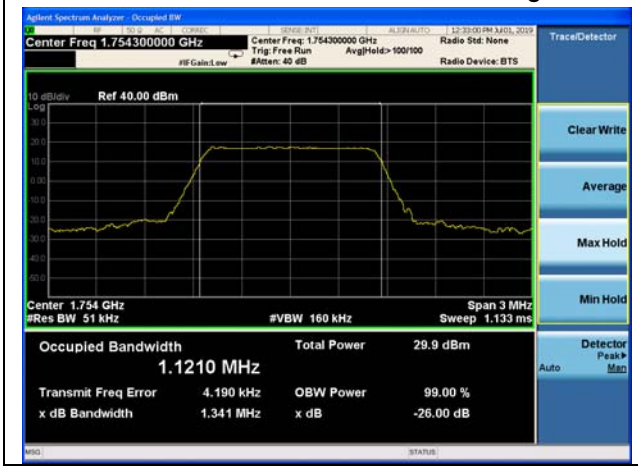
LTE Band 4 16QAM 1.4MHz CH-Middle



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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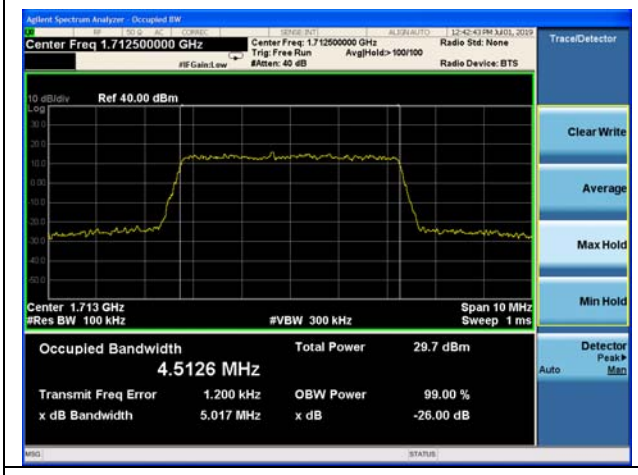
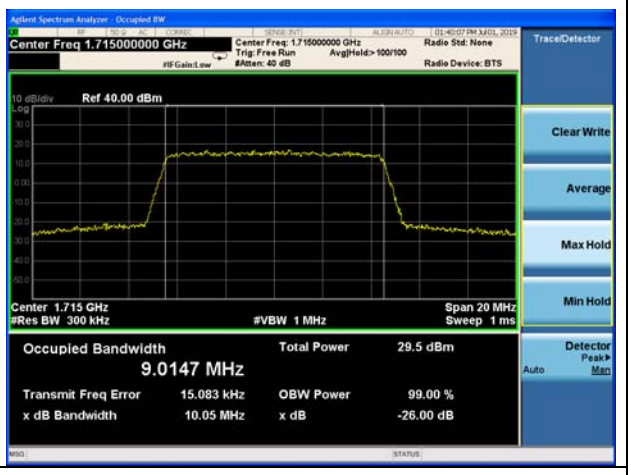
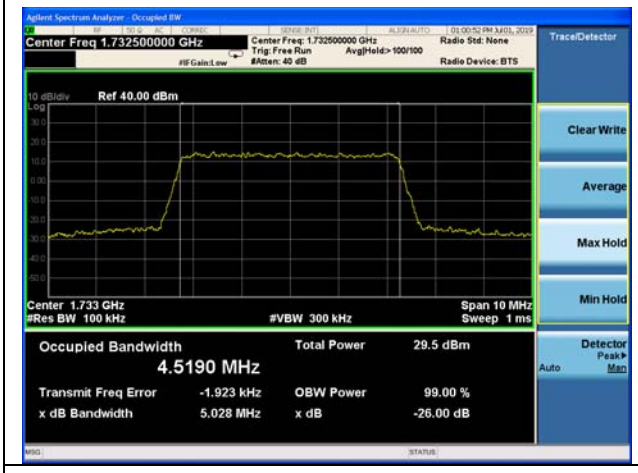
LTE Band 4 16QAM 5MHz CH-Low



LTE Band 4 16QAM 10MHz CH-Low

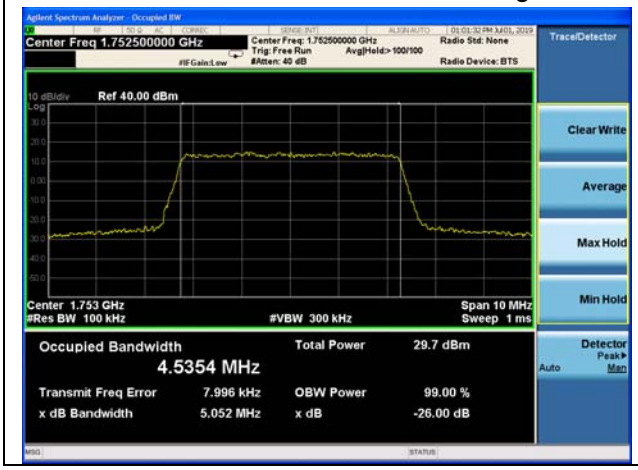


LTE Band 4 16QAM 5MHz CH-Middle



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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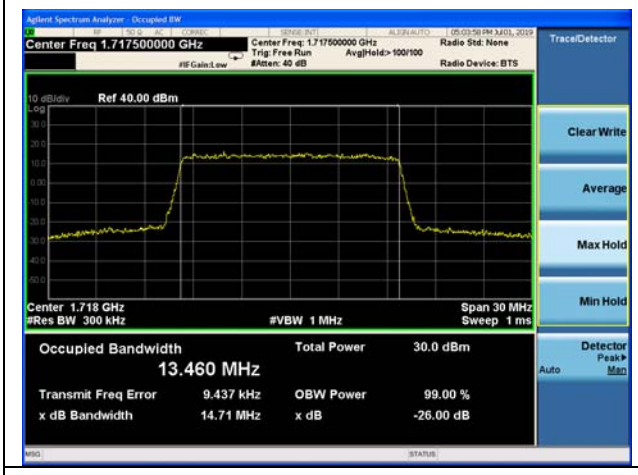
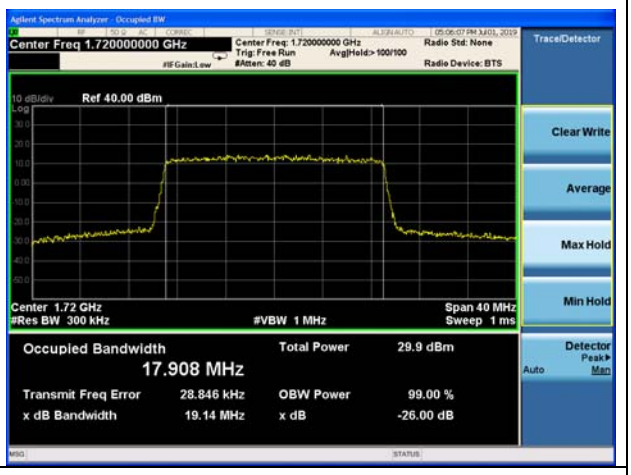
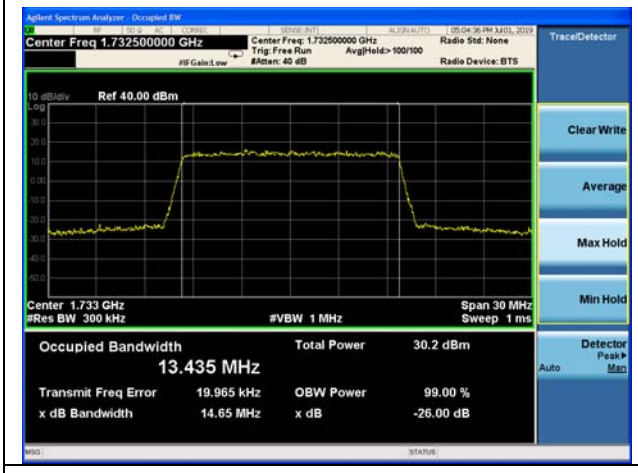
LTE Band 4 16QAM 15MHz CH-Low



LTE Band 4 16QAM 20MHz CH-Low

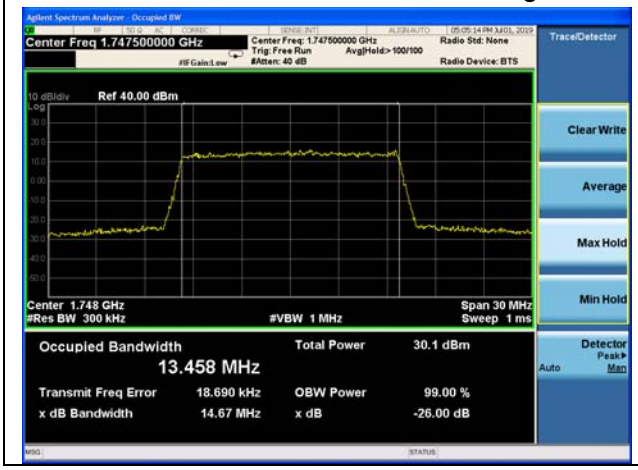


LTE Band 4 16QAM 15MHz CH-Middle

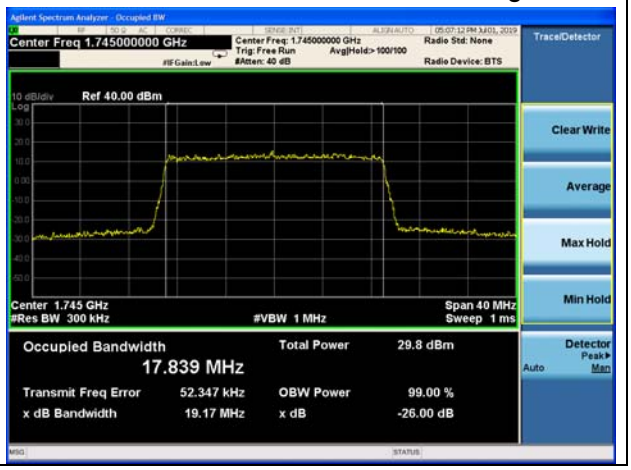


LTE Band 4 16QAM 20MHz CH-Middle

LTE Band 4 16QAM 15MHz CH-High



LTE Band 4 16QAM 20MHz CH-High



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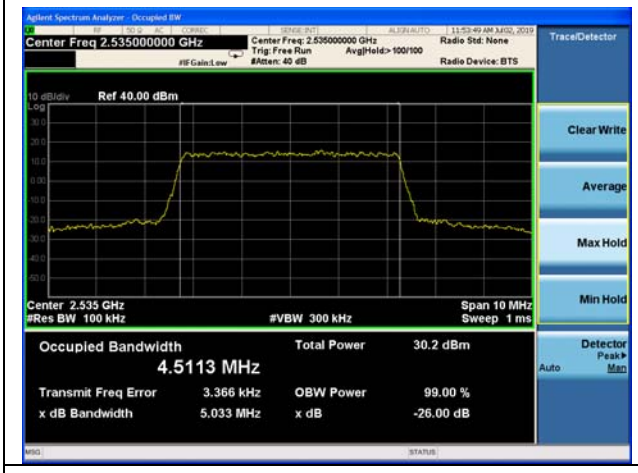
LTE Band 7 QPSK 5MHz CH-Low

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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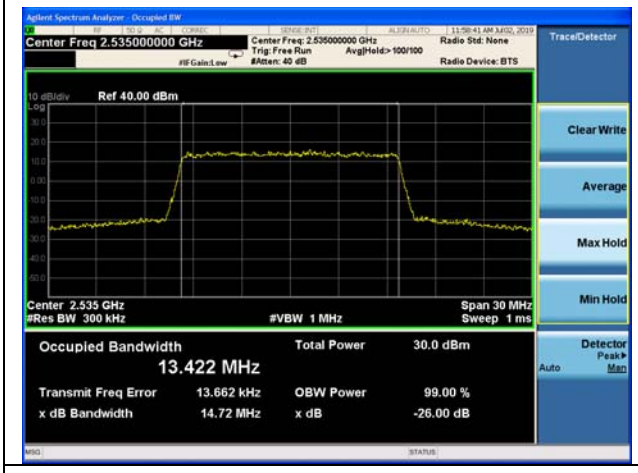
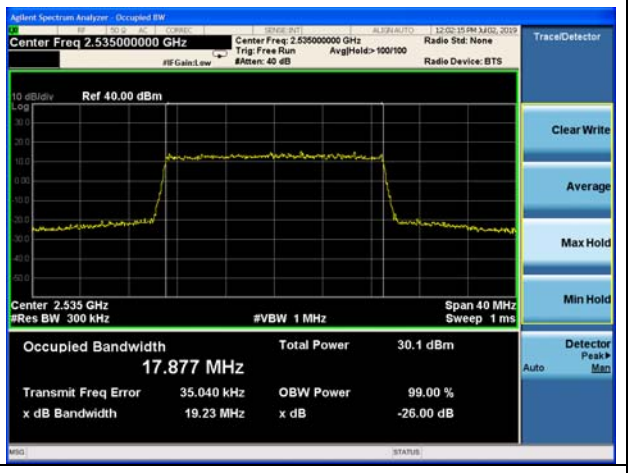
LTE Band 7 QPSK 15MHz CH-Low

LTE Band 7 QPSK 20MHz CH-Low

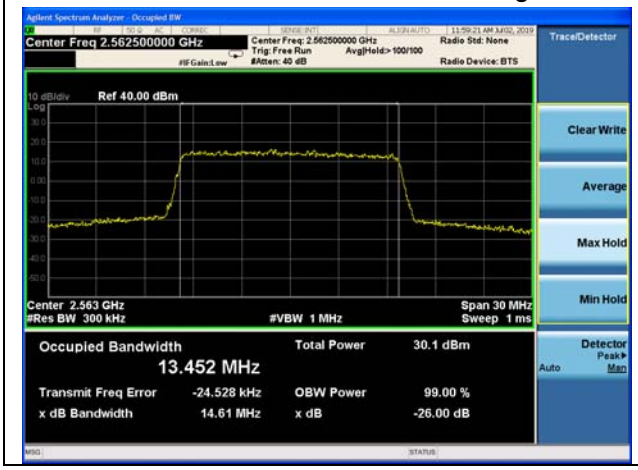
LTE Band 7 QPSK 15MHz CH-Middle



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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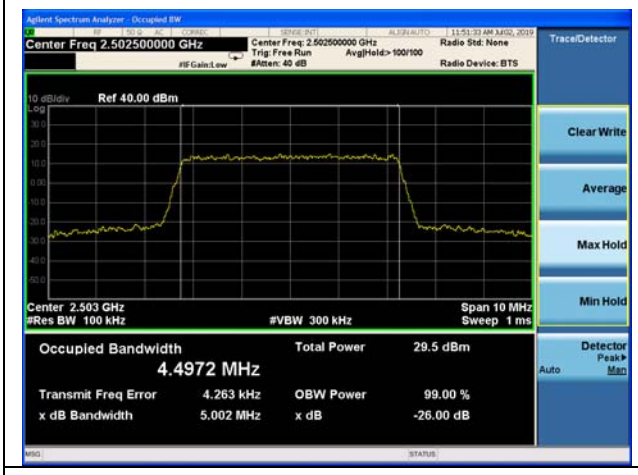
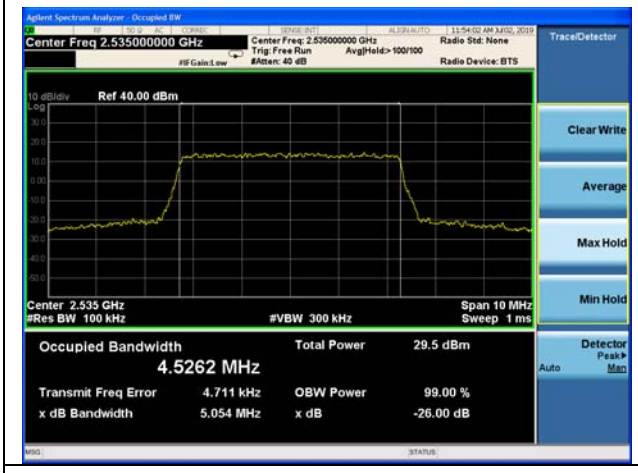
LTE Band 7 16QAM 5MHz CH-Low



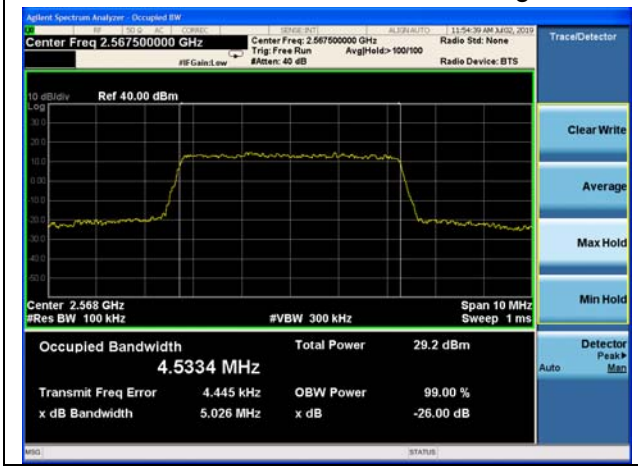
LTE Band 7 16QAM 10MHz CH-Low

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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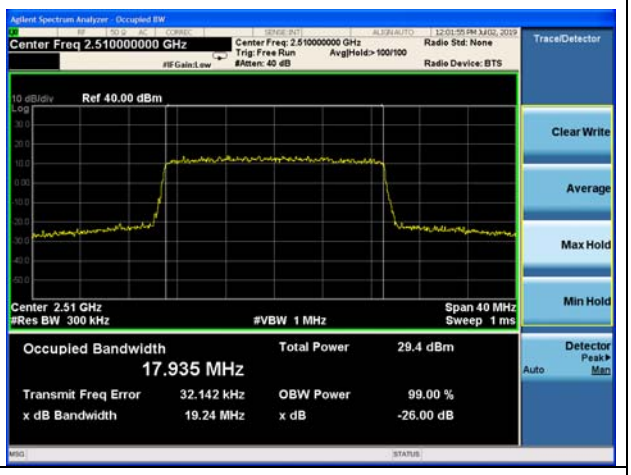
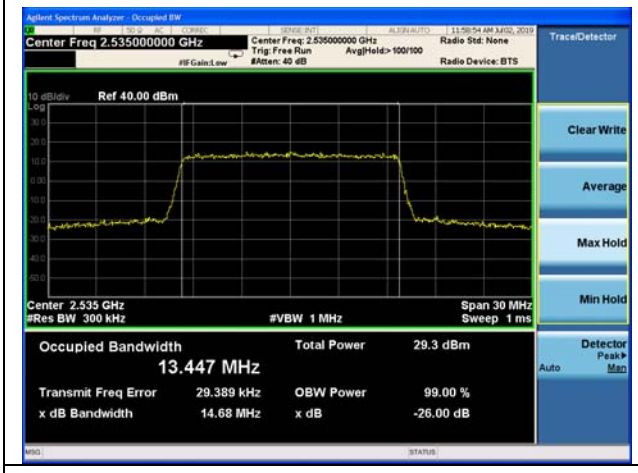
LTE Band 7 16QAM 15MHz CH-Low

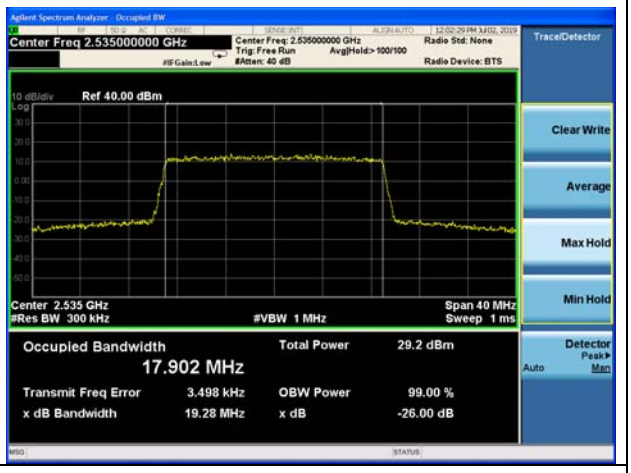
LTE Band 7 16QAM 20MHz CH-Low



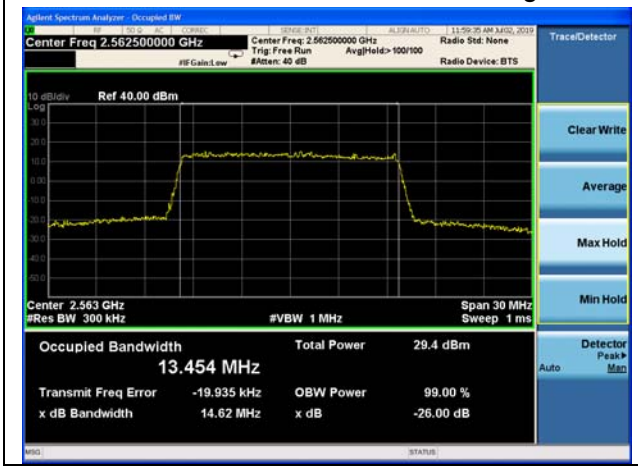
LTE Band 7 16QAM 15MHz CH-Middle



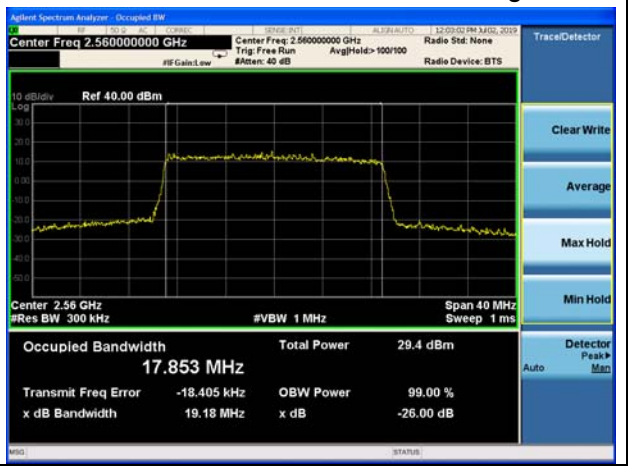
LTE Band 7 16QAM 20MHz CH-Middle



LTE Band 7 16QAM 15MHz CH-High



LTE Band 7 16QAM 20MHz CH-High



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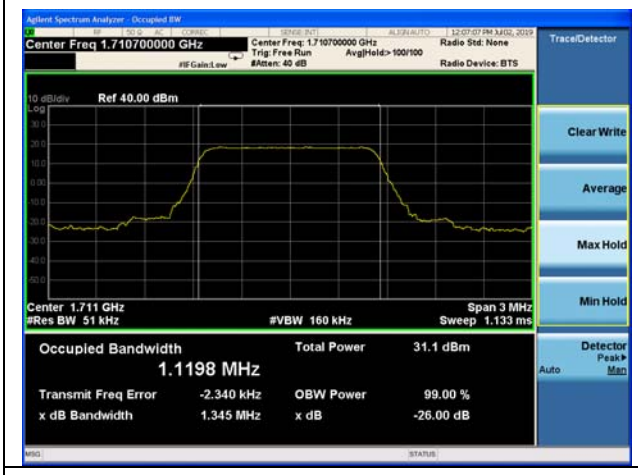
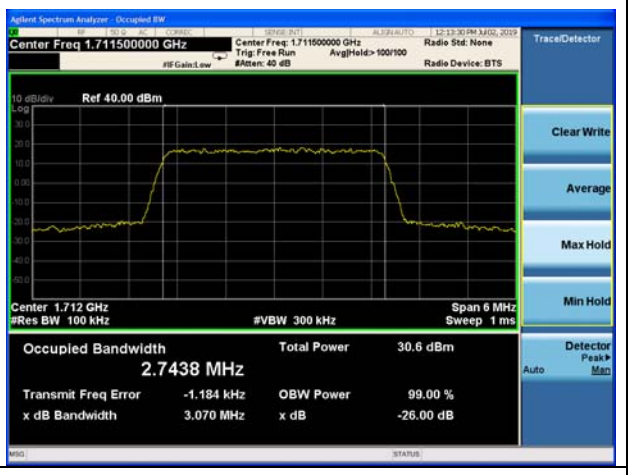
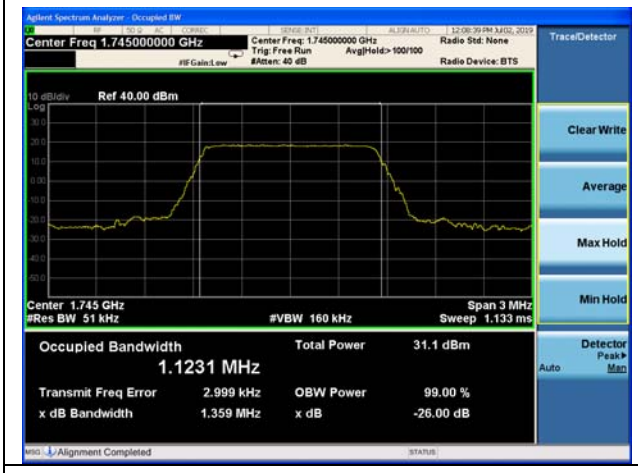
LTE Band 66 QPSK 1.4MHz CH-Low



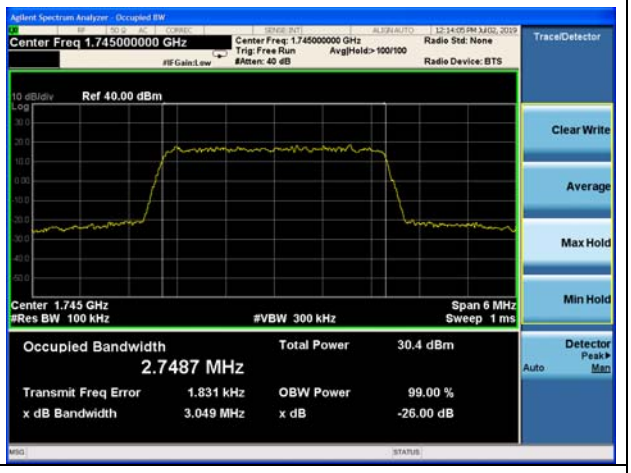
LTE Band 66 QPSK 3MHz CH-Low



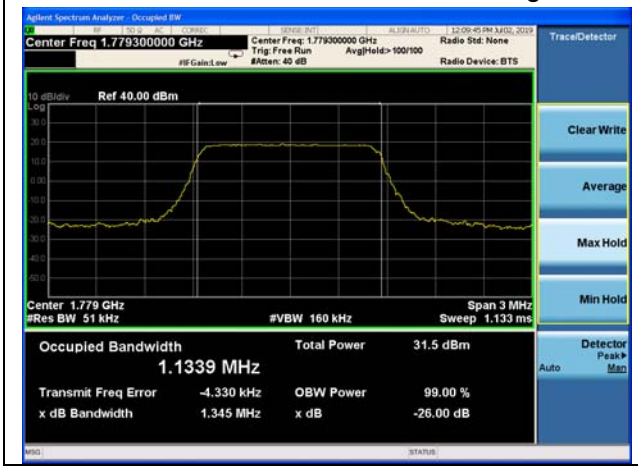
LTE Band 66 QPSK 1.4MHz CH-Middle



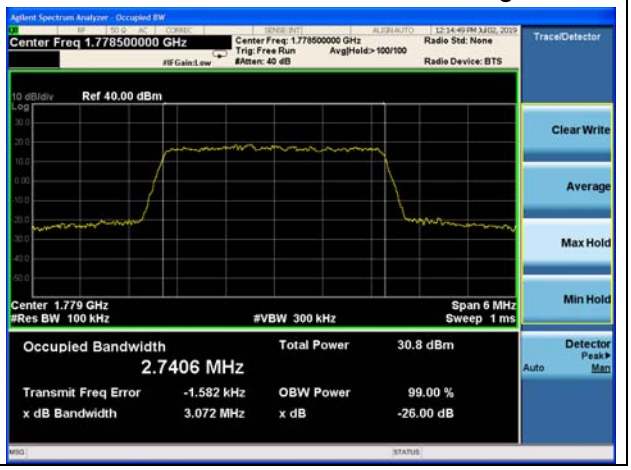
LTE Band 66 QPSK 3MHz CH-Middle



LTE Band 66 QPSK 1.4MHz CH-High



LTE Band 66 QPSK 3MHz CH-High



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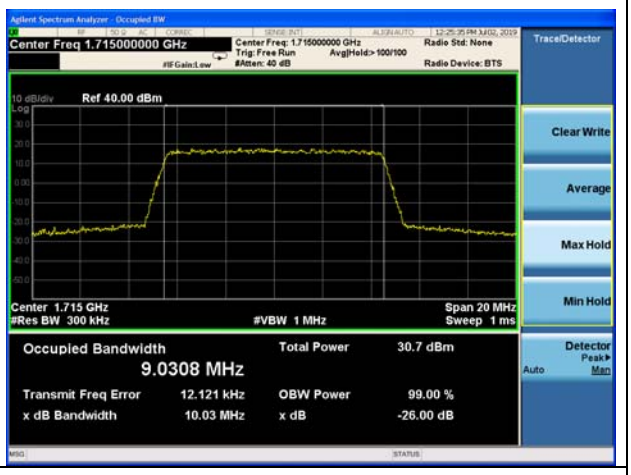
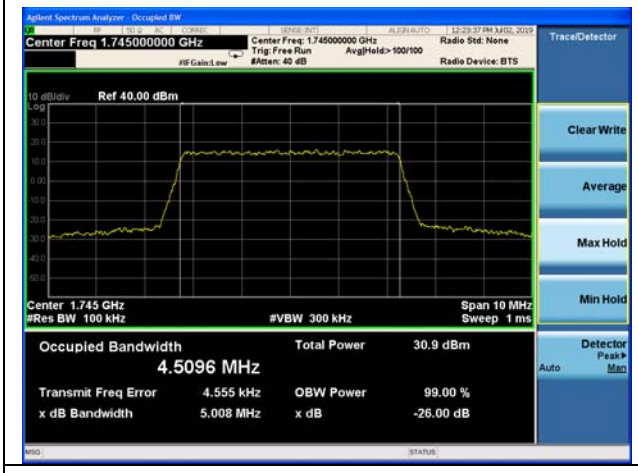
LTE Band 66 QPSK 5MHz CH-Low

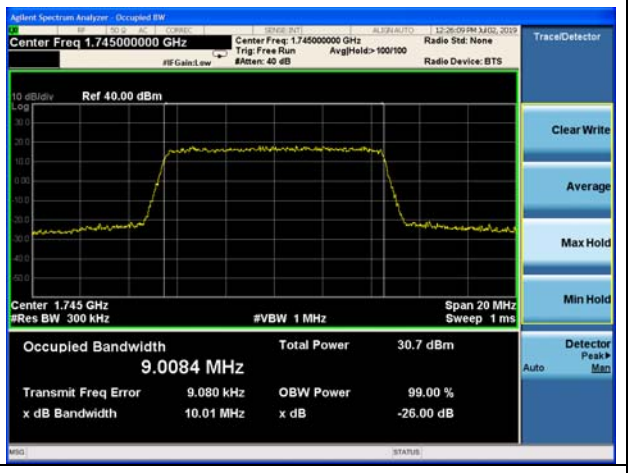
LTE Band 66 QPSK 10MHz CH-Low



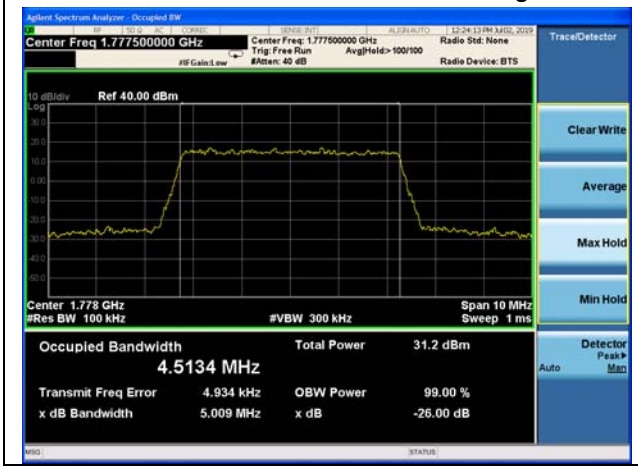
LTE Band 66 QPSK 5MHz CH-Middle



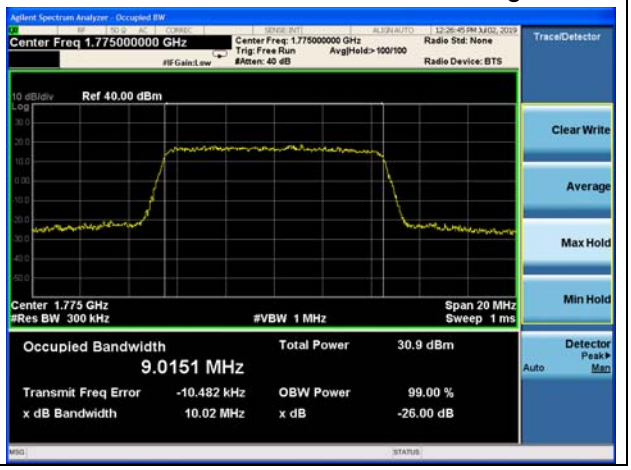
LTE Band 66 QPSK 10MHz CH-Middle



LTE Band 66 QPSK 5MHz CH-High



LTE Band 66 QPSK 10MHz CH-High



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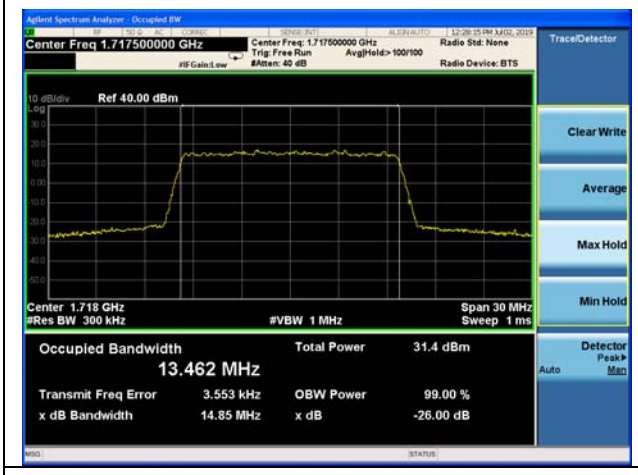
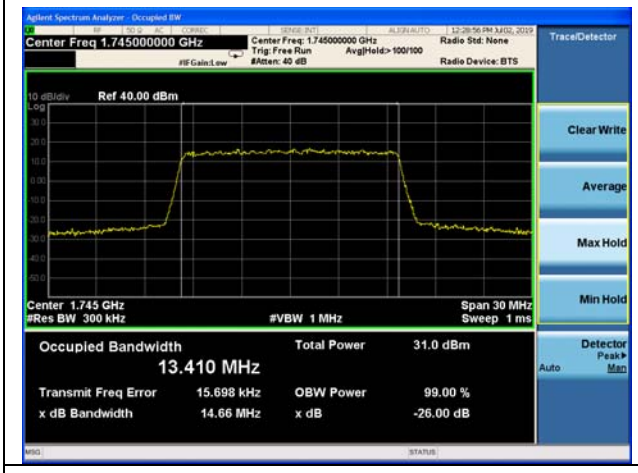
LTE Band 66 QPSK 15MHz CH-Low



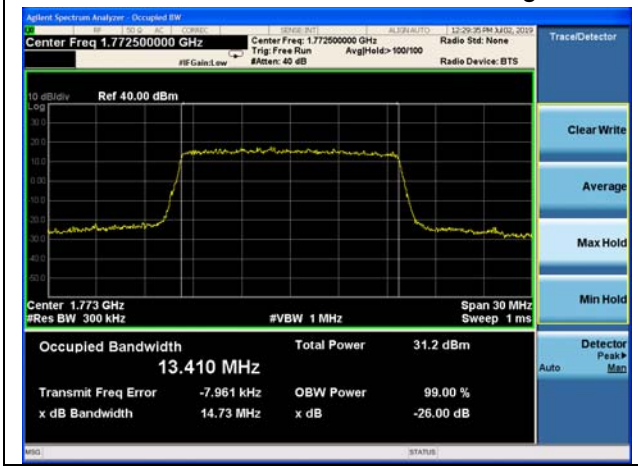
LTE Band 66 QPSK 20MHz CH-Low

LTE Band 66 QPSK 15MHz CH-Middle

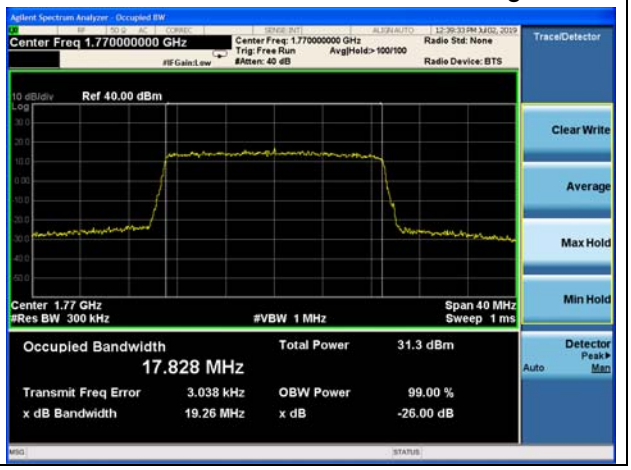


LTE Band 66 QPSK 20MHz CH-Middle

LTE Band 66 QPSK 15MHz CH-High



LTE Band 66 QPSK 20MHz CH-High



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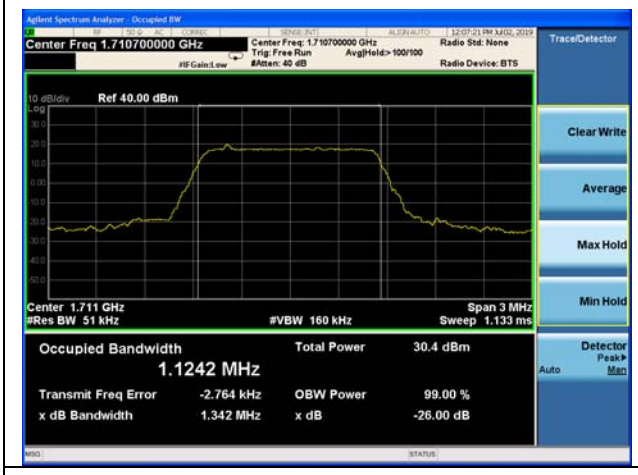
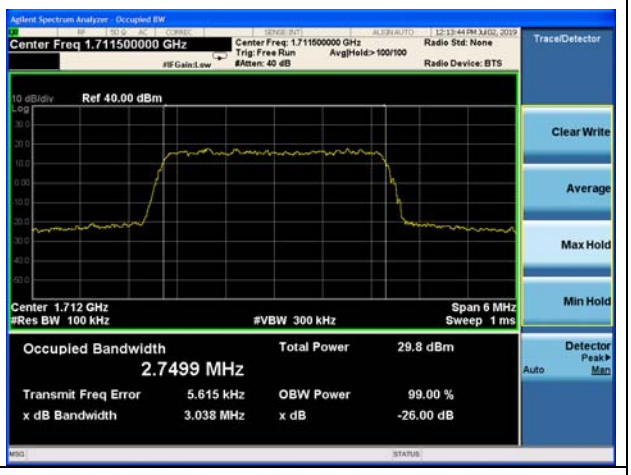
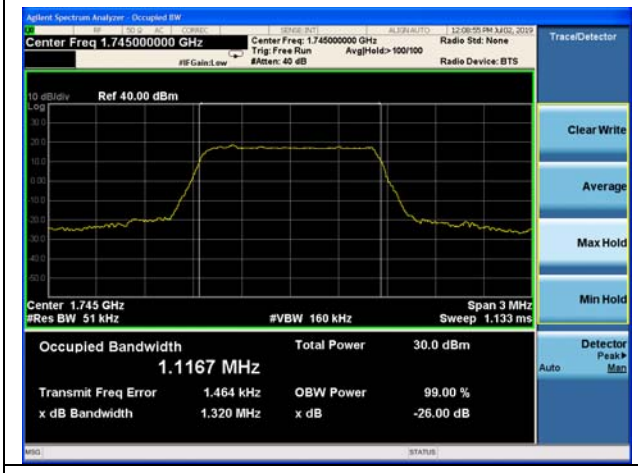
LTE Band 66 16QAM 1.4MHz CH-Low



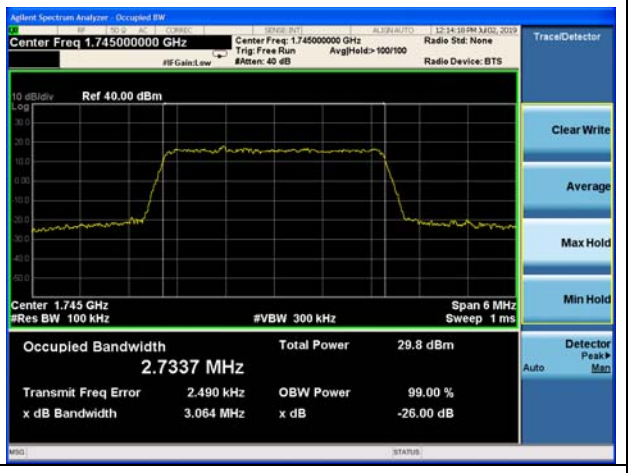
LTE Band 66 16QAM 3MHz CH-Low



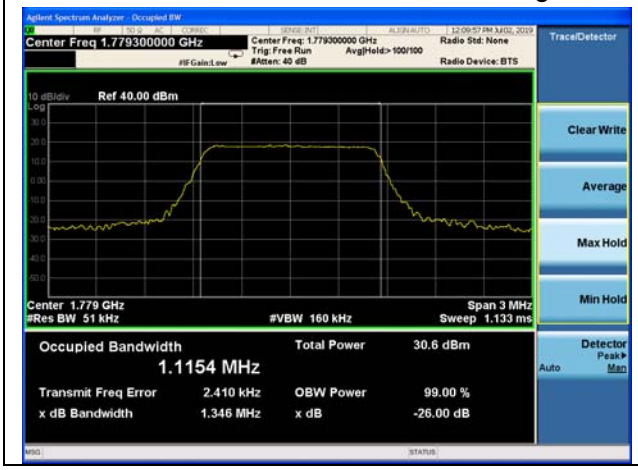
LTE Band 66 16QAM 1.4MHz CH-Middle



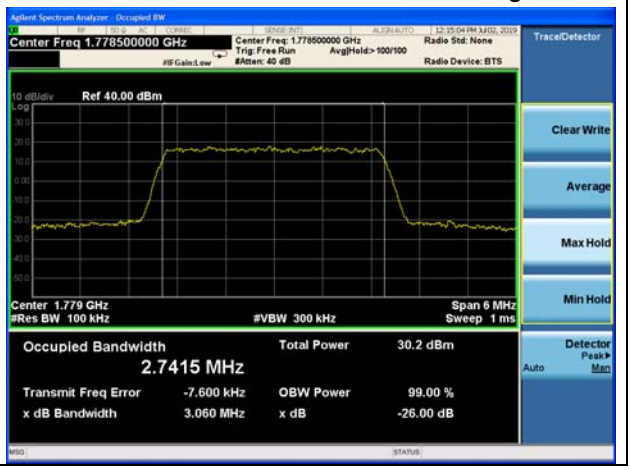
LTE Band 66 16QAM 3MHz CH-Middle



LTE Band 66 16QAM 1.4MHz CH-High



LTE Band 66 16QAM 3MHz CH-High



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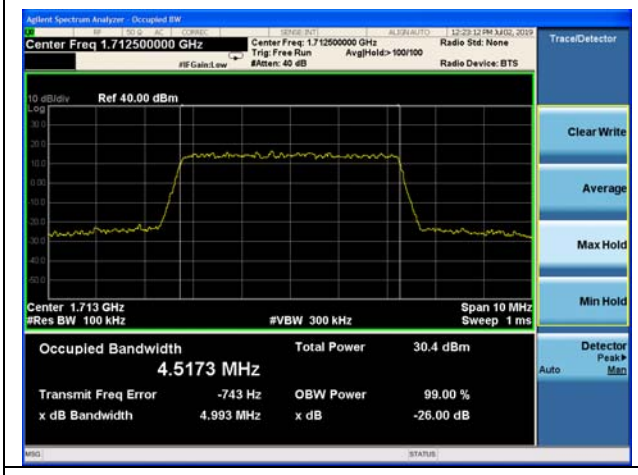
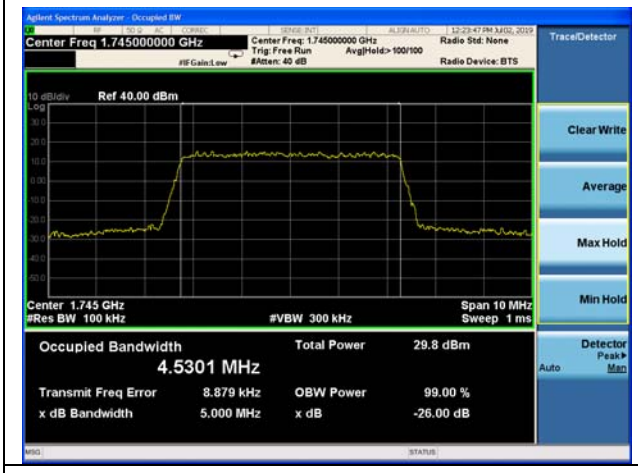
LTE Band 66 16QAM 5MHz CH-Low

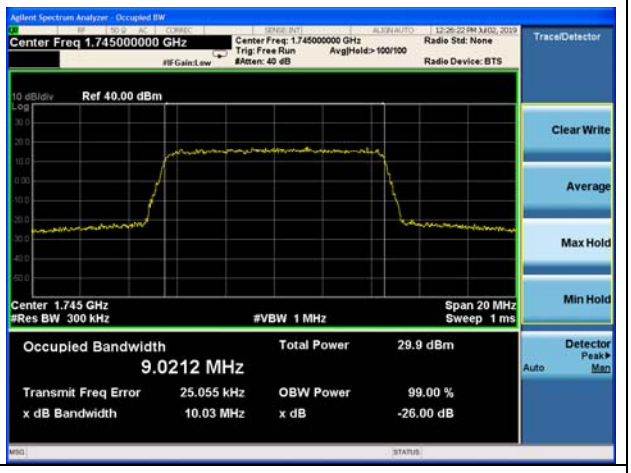


LTE Band 66 16QAM 10MHz CH-Low

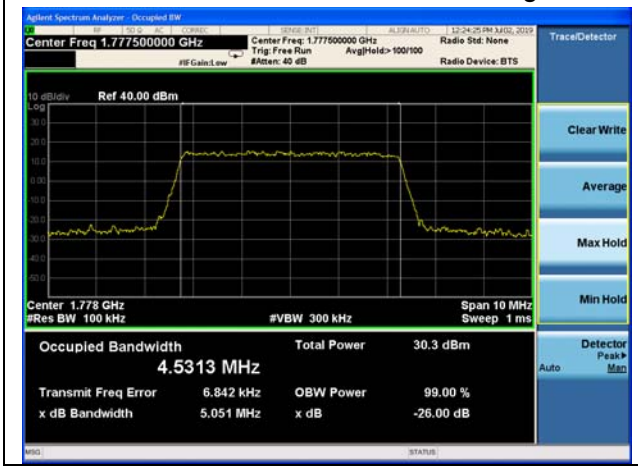
LTE Band 66 16QAM 5MHz CH-Middle



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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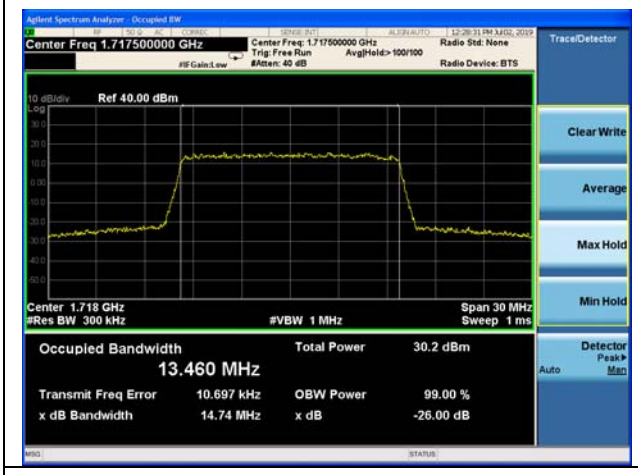
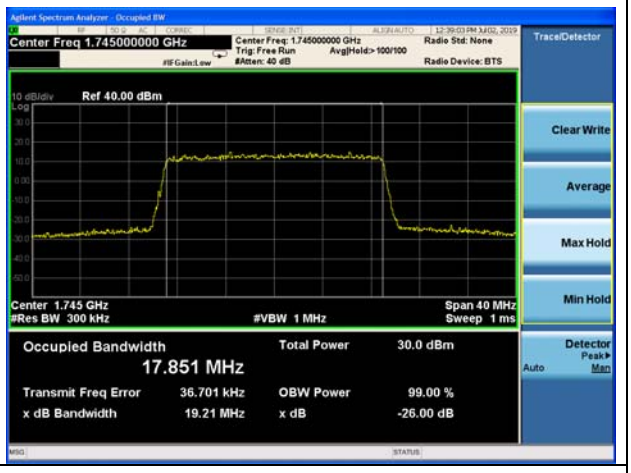
LTE Band 66 16QAM 15MHz CH-Low



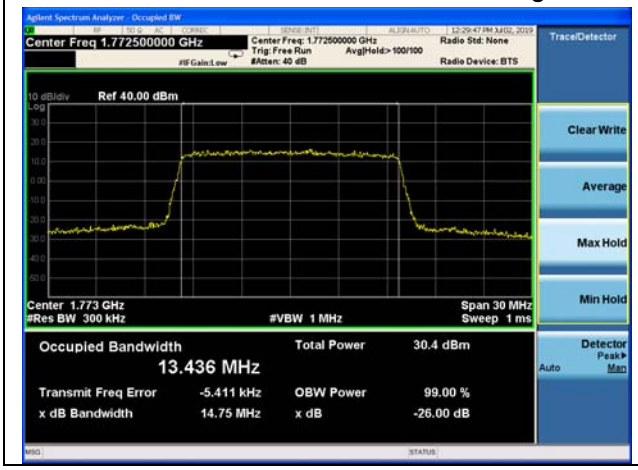
LTE Band 66 16QAM 20MHz CH-Low

LTE Band 66 16QAM 15MHz CH-Middle

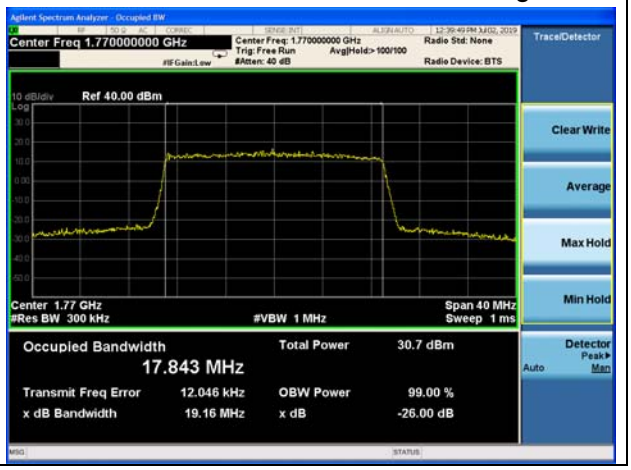
LTE Band 66 16QAM 20MHz CH-Middle



LTE Band 66 16QAM 15MHz CH-High



LTE Band 66 16QAM 20MHz CH-High



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5.4 Band Edge Compliance

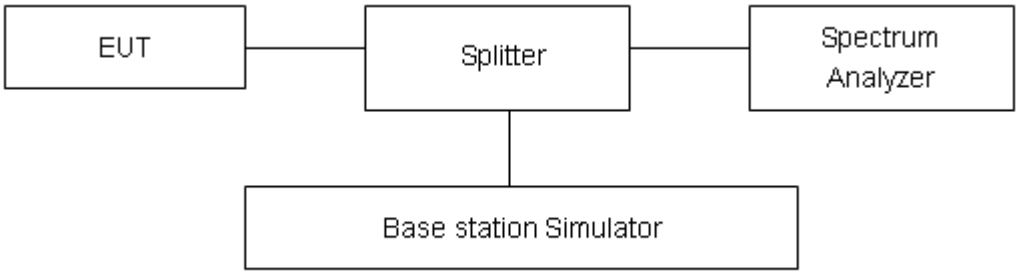
Ambient condition

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 51 kHz for LTE Band 4/66 (1.4MHz).
RBW is set to 30 kHz, VBW is set to 100 kHz for LTE Band 4/66 (3MHz).
RBW is set to 51 kHz, VBW is set to 160 kHz for LTE Band 4/7/66 (5MHz).
RBW is set to 100 kHz, VBW is set to 300kHz for LTE Band 4/7/66 (10MHz).
RBW is set to 150 kHz, VBW is set to 510 kHz for LTE Band 4/7/66 (15MHz).
RBW is set to 200 kHz, VBW is set to 620 kHz for LTE Band 4/7/66 (20MHz)
on spectrum analyzer.
Set spectrum analyzer with RMS detector.
The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
Checked that all the results comply with the emission limit line.

Test Setup



Limits

Rule Part 27.53(h) specifies that " for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be

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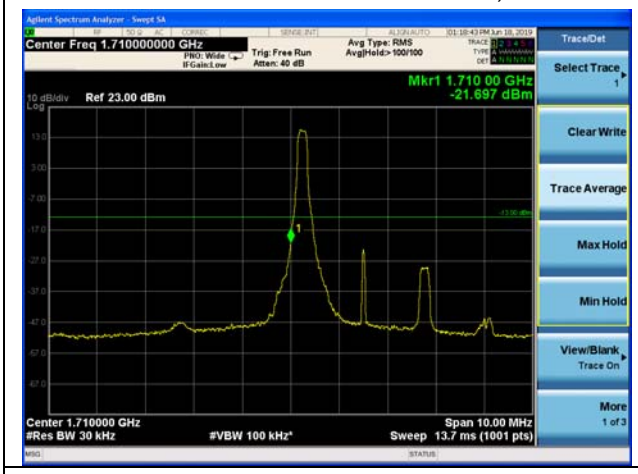
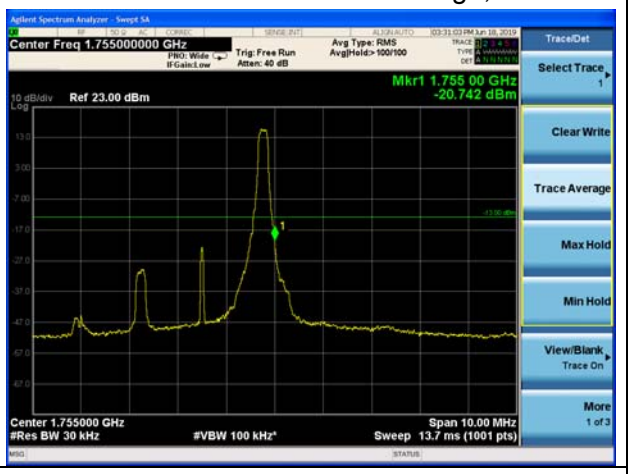
LTE Band 4 QPSK 3MHz CH-Low, 1 RB



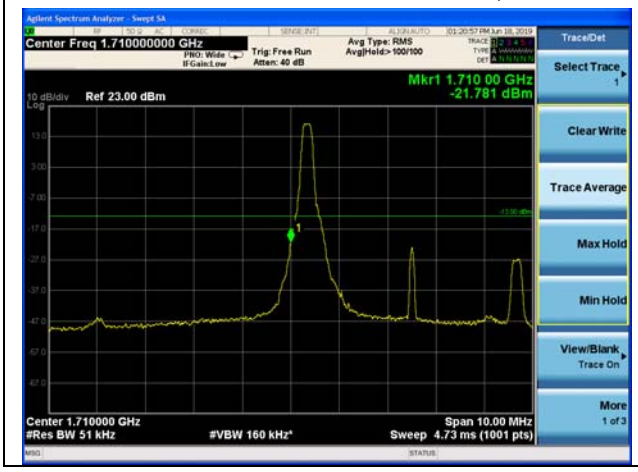
LTE Band 4 QPSK 3MHz CH-High, 1 RB



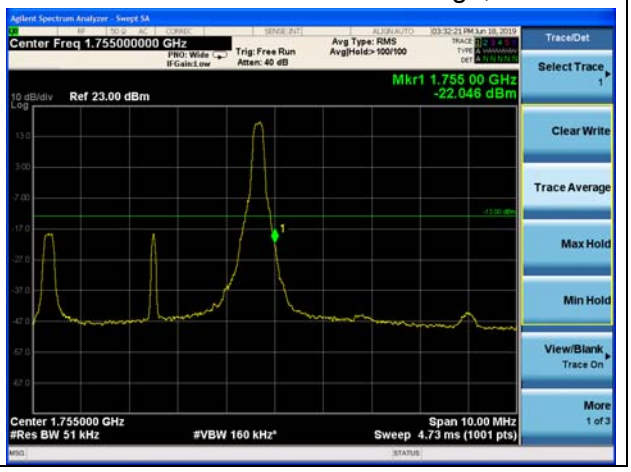
LTE Band 4 QPSK 3MHz CH-Low, 100%RB

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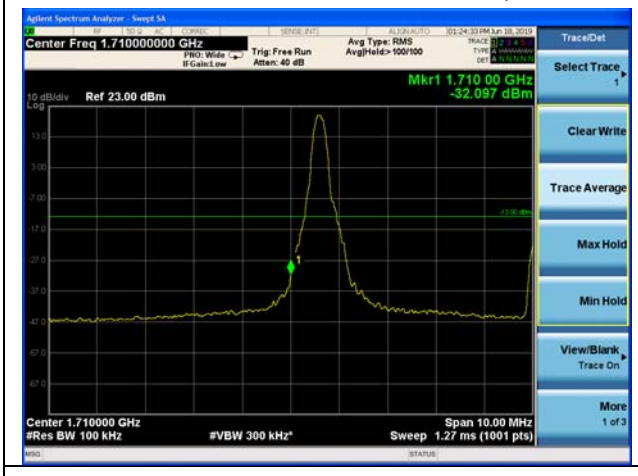
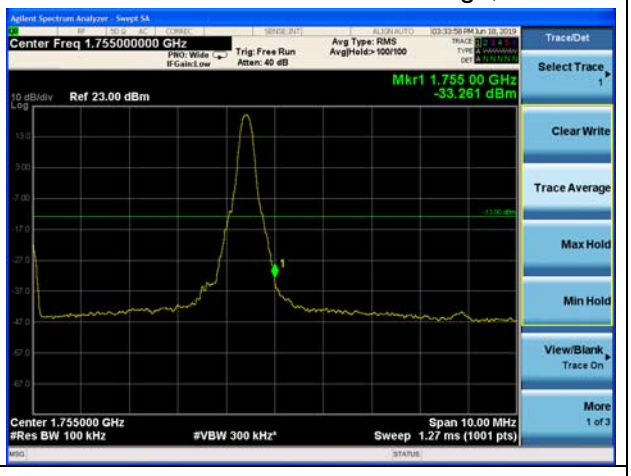
LTE Band 4 QPSK 5MHz CH-Low, 100%RB

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

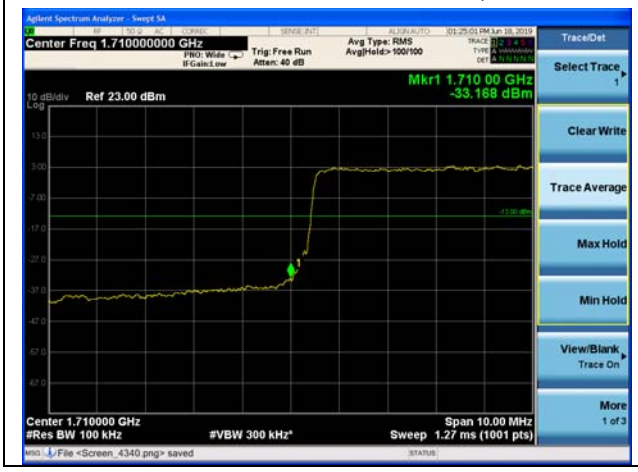
LTE Band 4 QPSK 10MHz CH-Low, 1 RB



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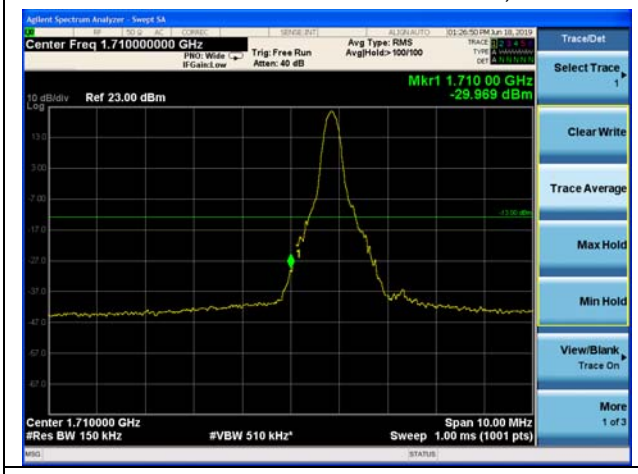
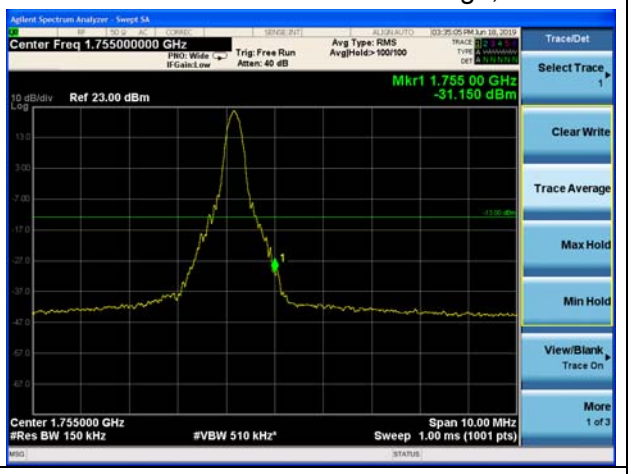
LTE Band 4 QPSK 15MHz CH-Low, 1 RB



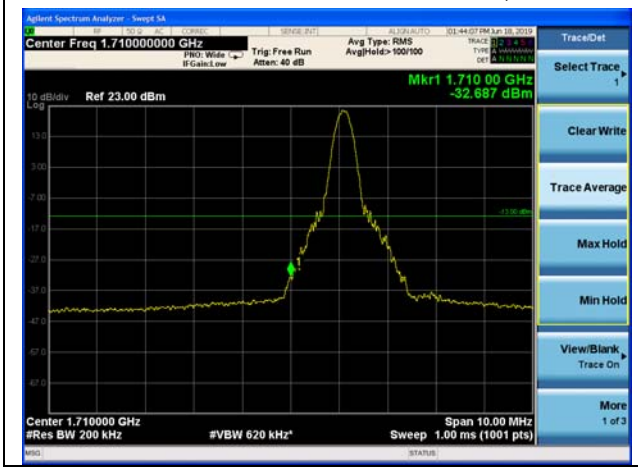
LTE Band 4 QPSK 15MHz CH-High, 1 RB



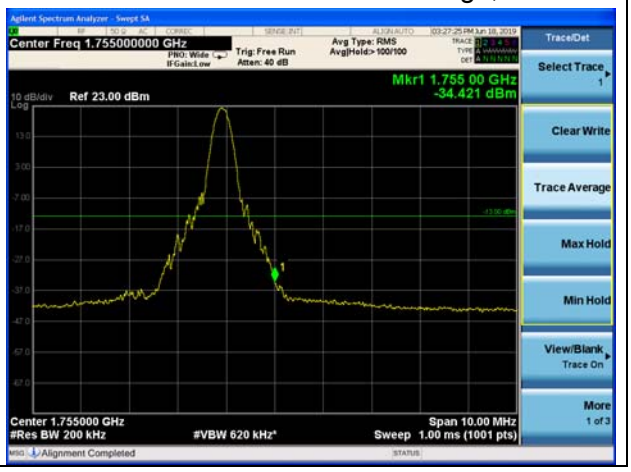
LTE Band 4 QPSK 15MHz CH-Low, 100%RB

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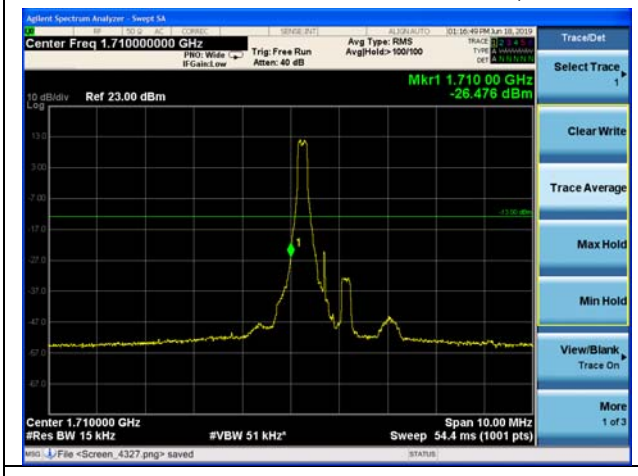
LTE Band 4 QPSK 20MHz CH-Low, 100%RB

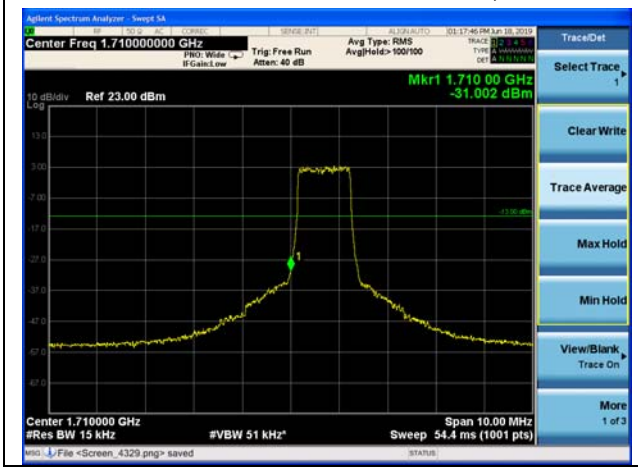
LTE Band 4 QPSK 20MHz CH-High, 100%RB

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

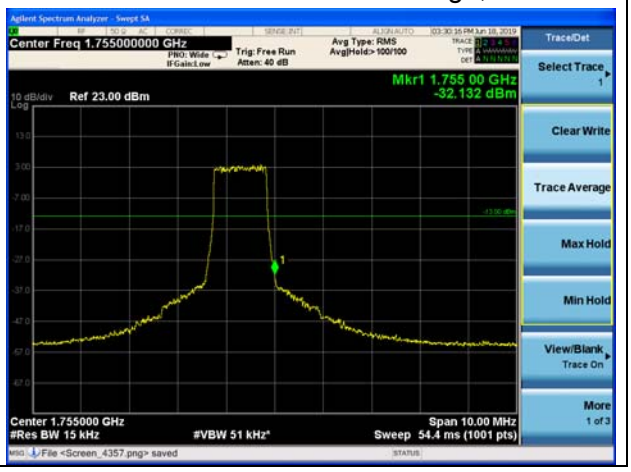


LTE Band 4 16QAM 1.4MHz CH-High, 1 RB

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



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



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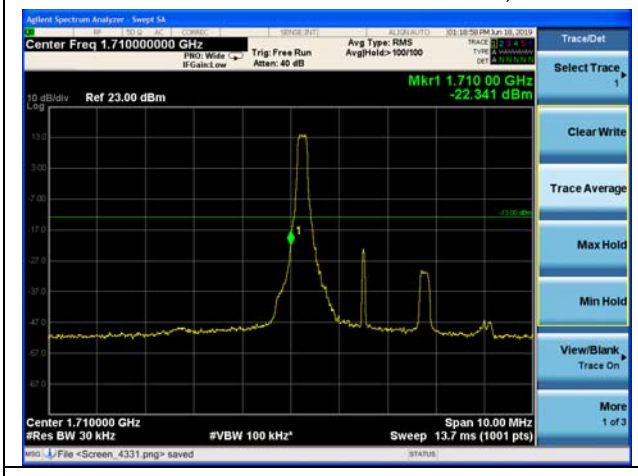
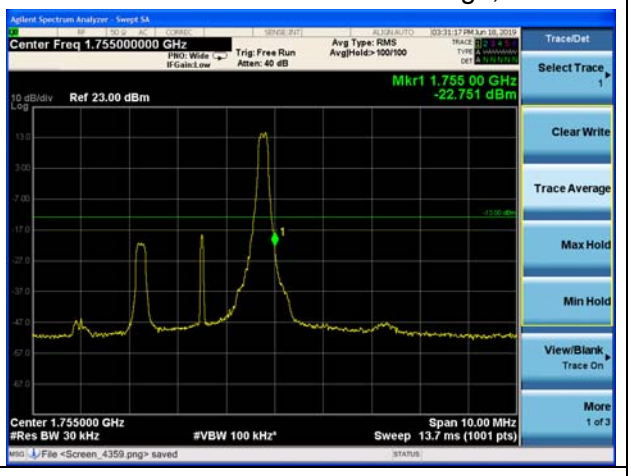
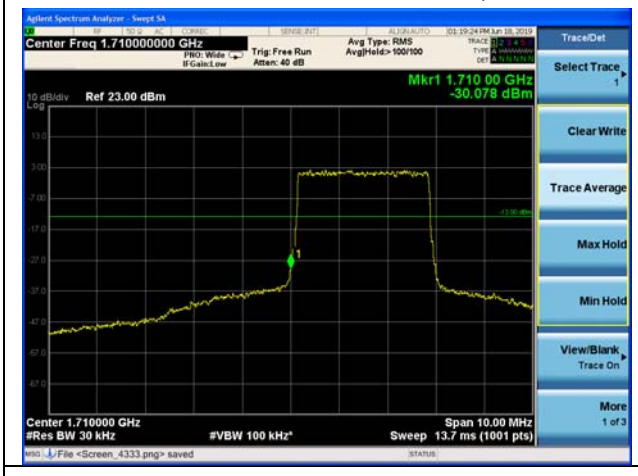
LTE Band 4 16QAM 3MHz CH-Low, 1 RB



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

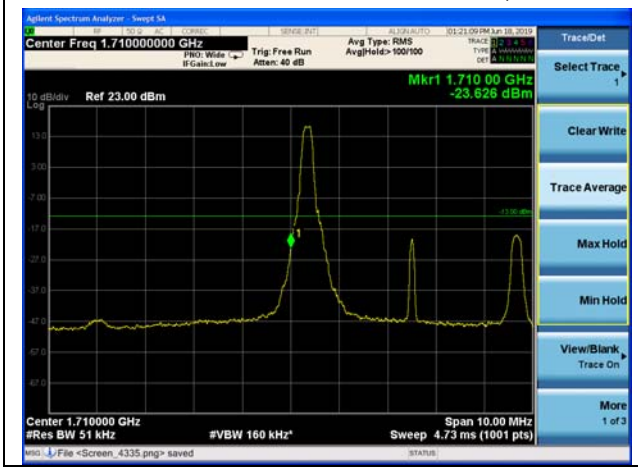


LTE Band 4 16QAM 3MHz CH-Low, 100%RB

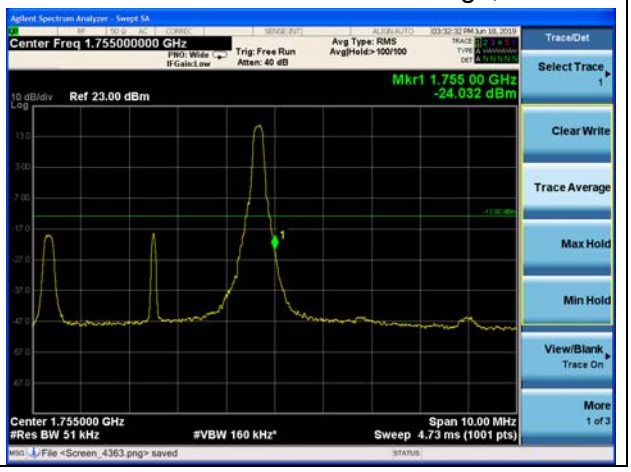


LTE Band 4 16QAM 3MHz CH-High, 100%RB

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



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



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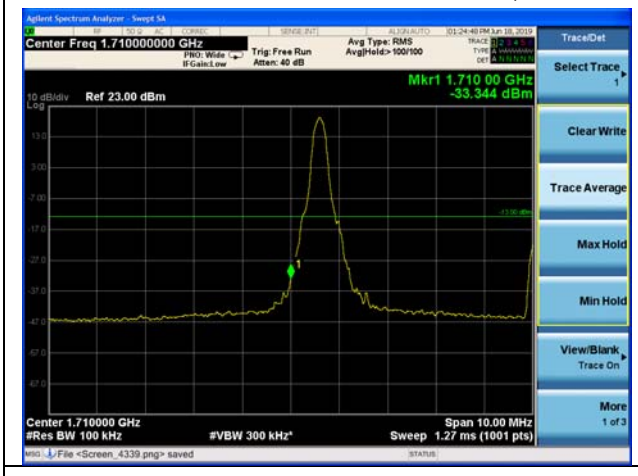
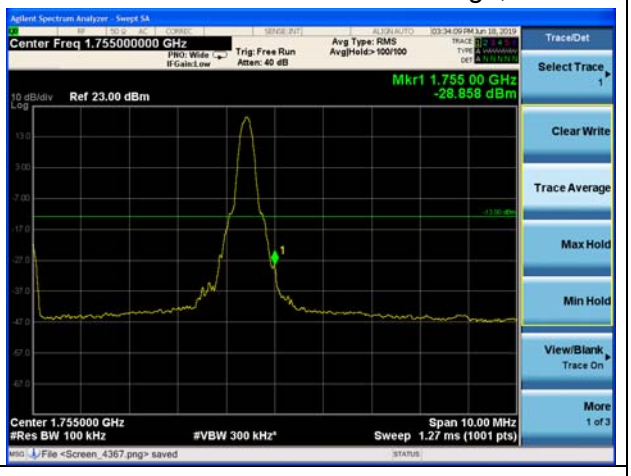
LTE Band 4 16QAM 5MHz CH-Low, 100%RB

LTE Band 4 16QAM 5MHz CH-High, 100%RB

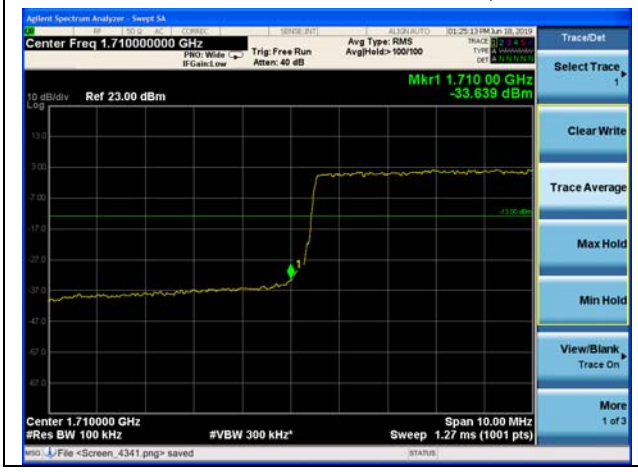
LTE Band 4 16QAM 10MHz CH-Low, 1 RB



LTE Band 4 16QAM 10MHz CH-High, 1 RB



LTE Band 4 16QAM 10MHz CH-Low, 100%RB



LTE Band 4 16QAM 10MHz CH-High, 100%RB

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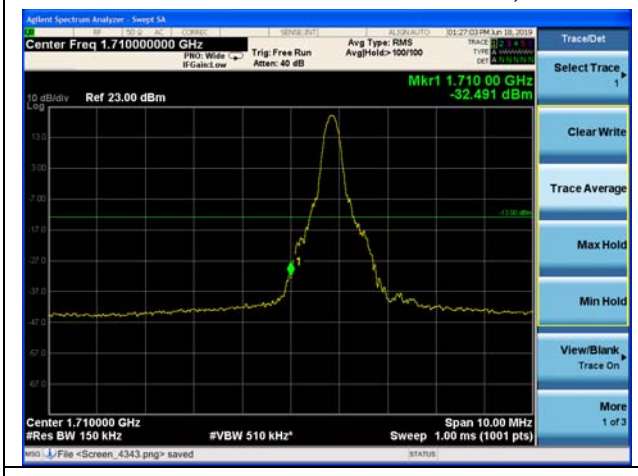
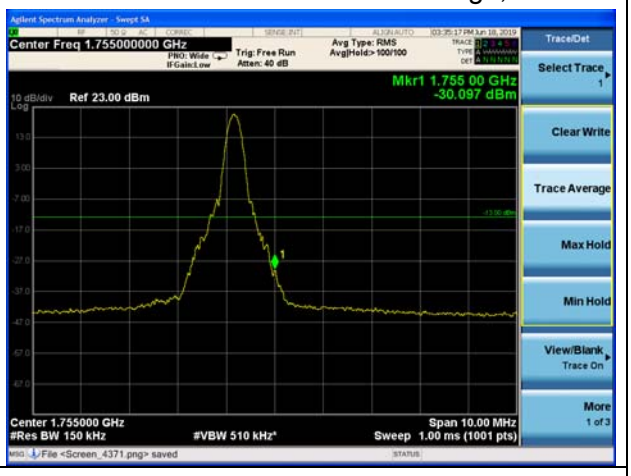
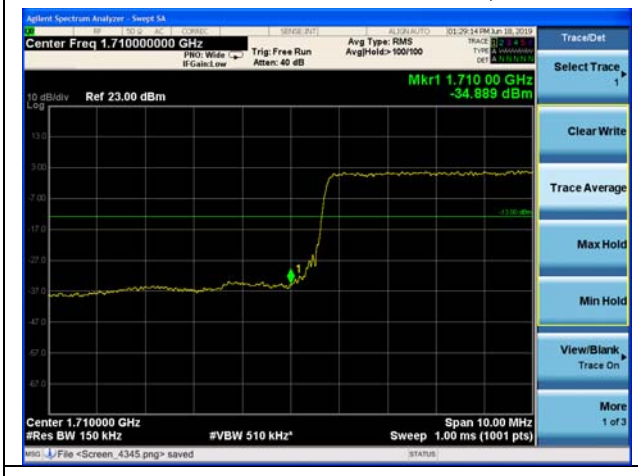
LTE Band 4 16QAM 15MHz CH-Low, 1 RB



LTE Band 4 16QAM 15MHz CH-High, 1 RB

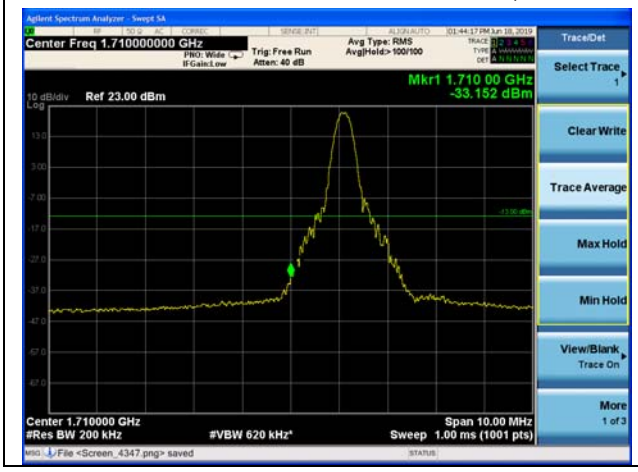


LTE Band 4 16QAM 15MHz CH-Low, 100%RB

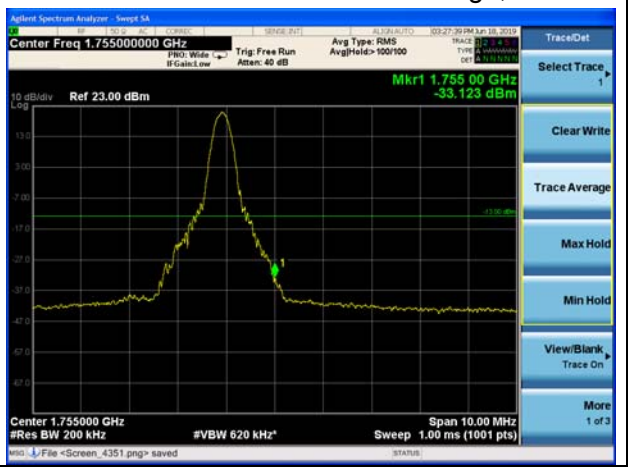


LTE Band 4 16QAM 15MHz CH-High, 100%RB

LTE Band 4 16QAM 20MHz CH-Low, 1 RB



LTE Band 4 16QAM 20MHz CH-High, 1 RB



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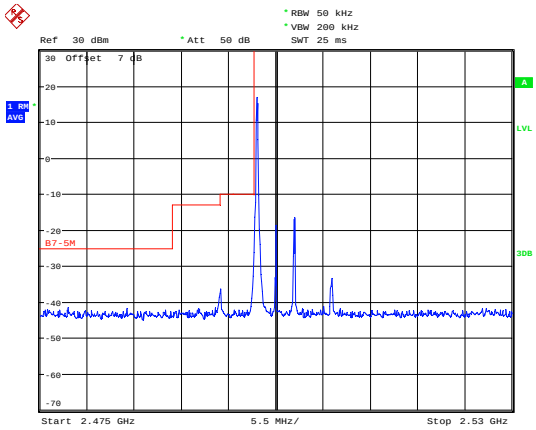
LTE Band 4 16QAM 20MHz CH-Low, 100%RB

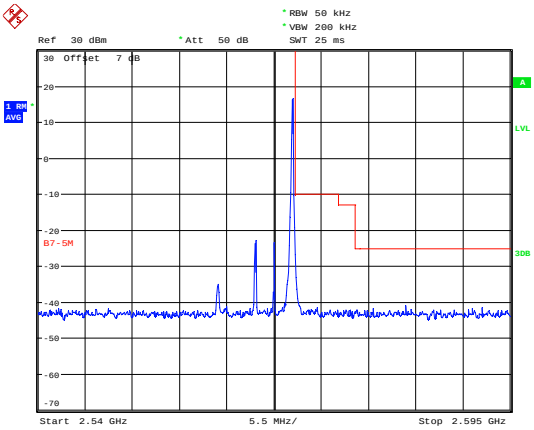
LTE Band 4 16QAM 20MHz CH-High, 100%RB

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



Date: 3.JUL.2019 18:49:05

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



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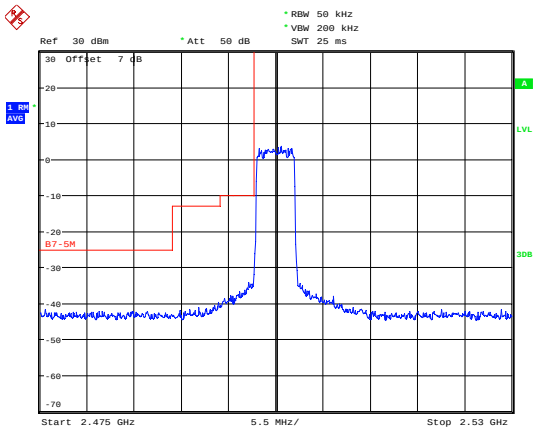
LTE Band 7 QPSK 5MHz CH-Low, 100%RB



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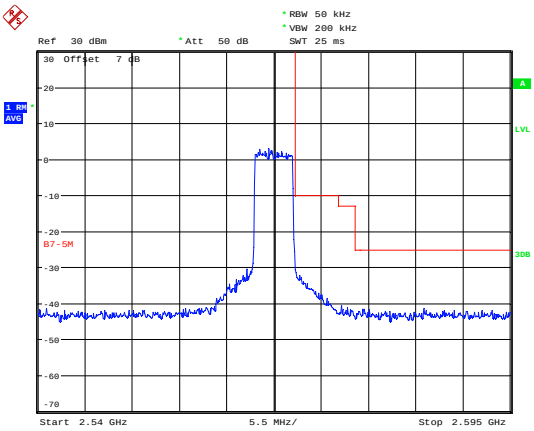
LTE Band 7 QPSK 5MHz CH-High, 100%RB



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