



RF TEST REPORT

Applicant Xiaomi Communications Co., Ltd.
FCC ID 2AFZZC3JH
Product Mobile Phone
Brand Redmi
Model M1908C3JH
Report No. R1907A0358-R3
Issue Date August 9, 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.

Performed 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



TABLE OF CONTENT

1	Test Laboratory	4
1.1	Notes of the Test Report	4
1.2	Test facility	4
1.3	Testing Location	5
2	General Description of Equipment under Test	6
3	Applied Standards	8
4	Test Configuration	9
5	Test Case Results	11
5.1	RF Power Output	11
5.2	Effective Isotropic Radiated Power	23
5.3	Occupied Bandwidth	32
5.4	Band Edge Compliance	67
5.5	Peak-to-Average Power Ratio (PAPR)	106
5.6	Frequency Stability	113
5.7	Spurious Emissions at Antenna Terminals	119
5.8	Radiates Spurious Emission	168
6	Main Test Instruments	179



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 2, 2019 ~July 30, 2019			



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.



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

2 General Description of Equipment under Test

Client Information

Applicant	Xiaomi Communications Co., Ltd.
Applicant address	The Rainbow City of China Resources,NO.68,Qinghe Middle Street,Haidian District,Beijing,China
Manufacturer	Xiaomi Communications Co., Ltd.
Manufacturer address	The Rainbow City of China Resources,NO.68,Qinghe Middle Street,Haidian District,Beijing,China

General information

EUT Description			
Model	M1908C3JH		
IMEI	IMEI 1: 865888040001069 IMEI 2: 865666040004204		
Hardware Version	P1.1		
Software Version	MIUI 10		
Power Supply	Battery/AC adapter		
Antenna Type	Fixed Internal Antenna		
Antenna Gain	WCDMA Band IV :-0.8dBi LTE Band 4:-0.5dBi LTE Band 7:-0.9dBi LTE Band 38:-0.9dBi		
Test Mode(s)	WCDMA Band IV; LTE Band 4; LTE Band 7, LTE Band 38; CA_7C; CA_38C		
Test Modulation	(WCDMA) BPSK, QPSK,16QAM; (LTE)QPSK 16QAM 64QAM;		
HSDPA UE Category	24		
HSUPA UE Category	7		
LTE Category	12		
Maximum E.I.R.P./ E.R.P.	WCDMA Band IV:	21.71dBm	
	LTE Band 4:	23.07 dBm	
	LTE Band 7:	21.94 dBm	
	LTE Band 38	20.58 dBm	
	CA-7C	21.22 dBm	
	CA-38C	20.65 dBm	
Rated Power Supply Voltage:	3.85V		
Extreme Voltage	Minimum: 3.65V Maximum: 4.4V		
Extreme Temperature	Lowest: 0°C Highest: +40°C		
Operating Frequency Range(s)	Mode	Tx (MHz)	Rx (MHz)



RF Test Report

Report No.: R1907A0350-R3

	WCDMA Band IV	1710 ~ 1755	2110 ~ 2155
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
	LTE Band 38	2570 ~ 2620	2570 ~ 2620
EUT Accessory			
Adapter	Manufacturer: Jiangsu Chenyang Electron Co., Ltd. Model: MDY-09-EQ		
Battery	Manufacturer: CosMX Model: BN46		
USB Cable 1	Manufacturer: LUXSHARE Precision Industry Co., Ltd. Model: L23312 100cm Cable, Shielded		
USB Cable 2	Manufacturer: SU ZHOU KELI SCIENCE&TECHNOLOGY DEVELOPMENT CO.,LTD Model: K23312 100cm Cable, Shielded		
Note: The information of the EUT is declared by the manufacturer.			



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

4 Test Configuration

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

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

Subsequently, only the worst case emissions are reported.

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

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

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

Test items	Modes/Modulation
	WCDMA Band IV
RF power output	RMC HSDPA/HSUPA DC-HSDPA/
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



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

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 38	-	-	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	O	O
	LTE 7	-	-	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 38	-	-	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 38	-	-	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 38	-	-	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 38	-	-	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 38	-	-	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 38	-	-	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 38	-	-	O	-	-	O	O	-	O	-	-	-	O	-
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing.														

5 Test Case Results

5.1 RF Power Output

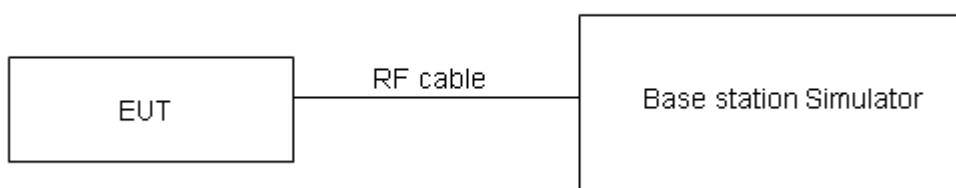
Ambient condition

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.



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	12.2k	23.59	23.53	23.52
HSDPA	Sub - Test 1	22.48	22.44	22.46
	Sub - Test 2	21.57	21.43	21.53
	Sub - Test 3	21.56	21.42	21.52
	Sub - Test 4	21.55	21.41	21.51
HSUPA	Sub - Test 1	22.48	22.40	22.50
	Sub - Test 2	21.97	21.89	21.99
	Sub - Test 3	21.96	21.88	21.98
	Sub - Test 4	22.00	21.87	21.97
	Sub - Test 5	22.49	22.36	22.46
DC-HSDPA	Sub - Test 1	22.5	22.38	22.46
	Sub - Test 2	21.49	21.37	21.45
	Sub - Test 3	21.57	21.36	21.46
	Sub - Test 4	21.56	21.35	21.45
HSPA+	16QAM	21.08	21.04	21.03

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	22.87	22.83	22.82
		1	2	22.74	22.67	22.75
		1	5	22.81	22.71	22.85
		3	0	21.84	21.88	21.73
		3	2	21.80	21.81	21.72
		3	3	21.81	21.77	21.82
		6	0	21.77	21.86	21.78
	16QAM	1	0	22.13	22.53	22.21
		1	2	22.09	22.32	22.10
		1	5	22.12	22.34	22.18
		3	0	20.96	20.92	20.80
		3	2	21.01	20.93	20.80
		3	3	20.94	20.88	20.86
		6	0	20.97	20.95	20.88
	64QAM	1	0	22.30	21.82	22.04
		1	2	21.54	21.90	21.95
		1	5	21.61	21.89	22.01
		3	0	20.80	20.91	20.65
		3	2	20.80	20.88	20.75
		3	3	20.83	20.82	20.74
		6	0	20.95	20.80	20.73
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				19965/1711.5	20175/1732.5	20385/1753.5
3MHz	QPSK	1	0	22.89	22.87	22.85
		1	7	22.77	22.72	22.79
		1	14	22.84	22.76	22.89
		8	0	21.92	21.98	21.84
		8	4	21.90	21.89	21.82
		8	7	21.89	21.86	21.90
		15	0	21.80	21.90	21.81
	16QAM	1	0	22.16	22.55	22.24
		1	7	22.12	22.37	22.14
		1	14	22.14	22.38	22.21
		8	0	21.05	21.03	20.90
		8	4	21.10	21.04	20.90
		8	7	21.02	20.98	20.97
		15	0	21.00	20.99	20.91
	64QAM	1	0	22.33	21.84	22.07
		1	7	21.57	21.95	21.99



		1	14	21.63	21.93	22.04
		8	0	20.89	21.02	20.75
		8	4	20.89	20.99	20.85
		8	7	20.91	20.92	20.85
		15	0	20.98	20.84	20.76
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				19975/1712.5	20175/1732.5	20375/1752.5
5MHz	QPSK	1	0	22.86	22.85	22.81
		1	13	22.75	22.68	22.76
		1	24	22.81	22.71	22.85
		12	0	21.89	21.93	21.80
		12	6	21.88	21.85	21.77
		12	13	21.87	21.84	21.86
		25	0	21.78	21.89	21.79
	16QAM	1	0	22.13	22.51	22.21
		1	13	22.09	22.35	22.11
		1	24	22.11	22.36	22.17
		12	0	21.03	20.99	20.87
		12	6	21.07	20.99	20.86
		12	13	20.99	20.93	20.93
		25	0	20.98	20.95	20.86
	64QAM	1	0	22.30	21.80	22.04
		1	13	21.54	21.93	21.96
		1	24	21.60	21.91	22.00
		12	0	20.87	20.98	20.72
		12	6	20.86	20.94	20.81
		12	13	20.88	20.87	20.81
		25	0	20.96	20.80	20.71
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20000/1715	20175/1732.5	20350/1750
10MHz	QPSK	1	0	22.88	22.86	22.84
		1	25	22.78	22.73	22.80
		1	49	22.83	22.75	22.88
		25	0	21.92	21.98	21.84
		25	13	21.91	21.90	21.81
		25	25	21.89	21.88	21.91
		50	0	21.86	21.91	21.83
	16QAM	1	0	22.15	22.54	22.23
		1	25	22.12	22.39	22.14
		1	49	22.14	22.38	22.20
		25	0	21.06	21.04	20.91
		25	13	21.09	21.03	20.89
		25	25	21.02	20.98	20.97



	64QAM	50	0	21.01	21.00	20.90
		1	0	22.32	21.83	22.06
		1	25	21.57	21.97	21.99
		1	49	21.63	21.93	22.03
		25	0	20.90	21.03	20.76
		25	13	20.88	20.98	20.84
		25	25	20.91	20.92	20.85
		50	0	20.99	20.85	20.75
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20025/1717.5	20175/1732.5	20325/1747.5
15MHz	QPSK	1	0	22.87	22.82	22.82
		1	38	22.76	22.72	22.77
		1	74	22.80	22.70	22.84
		36	0	21.90	21.94	21.81
		36	18	21.88	21.85	21.77
		36	39	21.86	21.85	21.87
		75	0	21.84	21.87	21.78
		75	0	21.84	21.87	21.78
	16QAM	1	0	22.10	22.52	22.21
		1	38	22.10	22.36	22.12
		1	74	22.11	22.34	22.17
		36	0	21.03	21.02	20.88
		36	18	21.06	20.98	20.85
		36	39	21.00	20.94	20.94
		75	0	20.98	20.95	20.86
		75	0	20.98	20.95	20.86
	64QAM	1	0	22.27	21.81	22.04
		1	38	21.55	21.94	21.97
		1	74	21.60	21.89	22.00
		36	0	20.87	21.01	20.73
		36	18	20.85	20.93	20.80
		36	39	20.89	20.88	20.82
		75	0	20.96	20.80	20.71
		75	0	20.96	20.80	20.71
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20050/1720	20175/1732.5	20300/1745
20MHz	QPSK	1	0	22.84	22.78	22.79
		1	50	22.75	22.68	22.75
		1	99	22.78	22.69	22.81
		50	0	21.87	21.89	21.77
		50	25	21.86	21.81	21.74
		50	50	21.83	21.80	21.83
		100	0	21.81	21.82	21.74
		100	0	21.81	21.82	21.74
	16QAM	1	0	22.08	22.48	22.16
		1	50	22.06	22.34	22.08
		1	99	22.09	22.31	22.15



		50	0	21.00	20.98	20.85
		50	25	21.03	20.96	20.82
		50	50	20.97	20.89	20.90
		100	0	20.96	20.91	20.83
	64QAM	1	0	22.25	21.77	21.99
		1	50	21.51	21.92	21.93
		1	99	21.58	21.86	21.98
		50	0	20.84	20.97	20.70
		50	25	20.82	20.91	20.77
		50	50	20.86	20.83	20.78
		100	0	20.94	20.76	20.68

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	22.31	22.59	22.56
		1	13	22.50	22.54	22.67
		1	24	22.59	22.42	22.71
		12	0	21.51	21.49	21.62
		12	6	21.52	21.51	21.65
		12	13	21.65	21.64	21.68
		25	0	21.53	21.62	21.69
	16QAM	1	0	21.62	21.86	22.09
		1	13	21.84	21.95	22.23
		1	24	21.89	21.91	22.15
		12	0	20.51	20.51	20.65
		12	6	20.70	20.60	20.73
		12	13	20.72	20.72	20.74
		25	0	20.63	20.66	20.71
	64QAM	1	0	21.66	21.63	21.99
		1	13	21.75	21.60	22.04
		1	24	21.80	21.69	21.94
		12	0	20.65	20.70	20.79
		12	6	20.64	20.75	20.82
		12	13	20.76	20.87	20.87
		25	0	20.75	20.74	20.88
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20800/2505	21100/2535	21400/2565
10MHz	QPSK	1	0	22.33	22.60	22.59
		1	25	22.53	22.59	22.71
		1	49	22.61	22.46	22.74
		25	0	21.54	21.54	21.66



		25	13	21.55	21.56	21.69
		25	25	21.67	21.68	21.73
		50	0	21.61	21.64	21.73
	16QAM	1	0	21.64	21.89	22.11
		1	25	21.87	21.99	22.26
		1	49	21.92	21.93	22.18
		25	0	20.54	20.56	20.69
		25	13	20.72	20.64	20.76
		25	25	20.75	20.77	20.78
		50	0	20.66	20.71	20.75
	64QAM	1	0	21.68	21.66	22.01
		1	25	21.78	21.64	22.07
		1	49	21.83	21.71	21.97
		25	0	20.68	20.75	20.83
		25	13	20.66	20.79	20.85
		25	25	20.79	20.92	20.91
		50	0	20.78	20.79	20.92
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20825/2507.5	21100/2535	21375/2562.5
15MHz	QPSK	1	0	22.32	22.56	22.57
		1	38	22.51	22.58	22.68
		1	74	22.58	22.41	22.70
		36	0	21.52	21.50	21.63
		36	18	21.52	21.51	21.65
		36	39	21.64	21.65	21.69
		75	0	21.59	21.60	21.68
	16QAM	1	0	21.59	21.87	22.09
		1	38	21.85	21.96	22.24
		1	74	21.89	21.89	22.15
		36	0	20.51	20.54	20.66
		36	18	20.69	20.59	20.72
		36	39	20.73	20.73	20.75
		75	0	20.63	20.66	20.71
	64QAM	1	0	21.63	21.64	21.99
		1	38	21.76	21.61	22.05
		1	74	21.80	21.67	21.94
		36	0	20.65	20.73	20.80
		36	18	20.63	20.74	20.81
		36	39	20.77	20.88	20.88
		75	0	20.75	20.74	20.88
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20850/2510	21100/2535	21350/2560
20MHz	QPSK	1	0	22.29	22.52	22.54



		1	50	22.50	22.54	22.66
		1	99	22.56	22.40	22.67
		50	0	21.49	21.45	21.59
		50	25	21.50	21.47	21.62
		50	50	21.61	21.60	21.65
		100	0	21.56	21.55	21.64
	16QAM	1	0	21.57	21.83	22.04
		1	50	21.81	21.94	22.20
		1	99	21.87	21.86	22.13
		50	0	20.48	20.50	20.63
		50	25	20.66	20.57	20.69
		50	50	20.70	20.68	20.71
		100	0	20.61	20.62	20.68
	64QAM	1	0	21.61	21.60	21.94
		1	50	21.72	21.59	22.01
		1	99	21.78	21.64	21.92
		50	0	20.62	20.69	20.77
		50	25	20.60	20.72	20.78
		50	50	20.74	20.83	20.84
		100	0	20.73	20.70	20.85

LTE Band 38				AV Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				37775/2572.5	38000/2595	38225/2617.5
5MHz	QPSK	1	0	22.76	22.98	22.64
		1	13	22.91	23.06	23.18
		1	24	23.04	22.89	23.25
		12	0	21.84	22.13	22.18
		12	6	22.81	22.12	22.13
		12	13	21.80	22.08	22.14
		25	0	22.30	22.20	22.06
	16QAM	1	0	21.84	22.01	22.26
		1	13	21.71	22.22	22.04
		1	24	22.54	22.23	21.93
		12	0	21.02	21.08	21.29
		12	6	21.12	21.13	21.29
		12	13	21.34	21.16	21.29
		25	0	21.03	21.31	21.04
	64QAM	1	0	22.33	22.13	22.34
		1	13	22.45	22.21	22.53
		1	24	22.18	22.69	22.53
		12	0	21.38	21.39	21.89



		12	6	21.40	21.36	21.66
		12	13	21.47	21.35	21.39
		25	0	21.44	21.36	21.11
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				37800/2575	38000/2595	38200/2615
10MHz	QPSK	1	0	22.78	22.99	22.67
		1	25	22.94	23.11	23.22
		1	49	23.06	22.93	23.28
		25	0	21.87	22.18	22.22
		25	13	22.84	22.17	22.17
		25	25	21.82	22.12	22.19
		50	0	22.38	22.22	22.10
	16QAM	1	0	21.86	22.04	22.28
		1	25	21.74	22.26	22.07
		1	49	22.57	22.25	21.96
		25	0	21.05	21.13	21.33
		25	13	21.14	21.17	21.32
		25	25	21.37	21.21	21.33
		50	0	21.06	21.36	21.08
	64QAM	1	0	22.35	22.16	22.36
		1	25	22.48	22.25	22.56
		1	49	22.21	22.71	22.56
		25	0	21.41	21.44	21.93
		25	13	21.42	21.40	21.69
		25	25	21.50	21.40	21.43
		50	0	21.47	21.41	21.15
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				37825/2577.5	38000/2595	38175/2612.5
15MHz	QPSK	1	0	22.77	22.95	22.65
		1	38	22.92	23.10	23.19
		1	74	23.03	22.88	23.24
		36	0	21.85	22.14	22.19
		36	18	22.81	22.12	22.13
		36	39	21.79	22.09	22.15
		75	0	22.36	22.18	22.05
	16QAM	1	0	21.81	22.02	22.26
		1	38	21.72	22.23	22.05
		1	74	22.54	22.21	21.93
		36	0	21.02	21.11	21.30
		36	18	21.11	21.12	21.28
		36	39	21.35	21.17	21.30
		75	0	21.03	21.31	21.04
	64QAM	1	0	22.30	22.14	22.34



		1	38	22.46	22.22	22.54
		1	74	22.18	22.67	22.53
		36	0	21.38	21.42	21.90
		36	18	21.39	21.35	21.65
		36	39	21.48	21.36	21.40
		75	0	21.44	21.36	21.11
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				37850/2580	38000/2595	38150/2610
20MHz	QPSK	1	0	22.74	22.91	22.62
		1	50	22.91	23.06	23.17
		1	99	23.01	22.87	23.21
		50	0	21.82	22.09	22.15
		50	25	22.79	22.08	22.10
		50	50	21.76	22.04	22.11
		100	0	22.33	22.13	22.01
	16QAM	1	0	21.79	21.98	22.21
		1	50	21.68	22.21	22.01
		1	99	22.52	22.18	21.91
		50	0	20.99	21.07	21.27
		50	25	21.08	21.10	21.25
		50	50	21.32	21.12	21.26
		100	0	21.01	21.27	21.01
	64QAM	1	0	22.28	22.10	22.29
		1	50	22.42	22.20	22.50
		1	99	22.16	22.64	22.51
		50	0	21.35	21.38	21.87
		50	25	21.36	21.33	21.62
		50	50	21.45	21.31	21.36
		100	0	21.42	21.32	21.08



CA_7C	PCC	SCC	PCC RB		SCC1 RB		Conducted Power (dBm)		
	Frequency (MHz)	Frequency (MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM
10MHz+ 20MHz	2505.5	2519.9	1	49	1	0	22.66	21.69	21.45
			50	0	100	0	19.78	18.91	18.64
	2525.6	2540	1	49	1	0	22.75	21.74	21.52
			50	0	100	0	19.90	18.97	18.75
	2545.6	2560	1	49	1	0	22.74	21.76	21.57
			50	0	100	0	19.85	18.99	18.80
20MHz+ 10MHz	2510	2524.4	1	99	1	0	22.9	22.12	21.89
			100	0	50	0	20.15	19.18	19.02
	2530.1	2544.5	1	99	1	0	22.87	22.13	21.85
			100	0	50	0	20.11	19.15	18.89
	2550.1	2564.5	1	99	1	0	22.93	22.19	21.96
			100	0	50	0	20.12	19.20	18.98
15MHz+ 15MHz	2507.5	2522.5	1	74	1	0	22.55	21.80	21.61
			75	0	75	0	19.78	18.92	18.72
	2527.5	2542.5	1	74	1	0	22.61	21.91	21.71
			75	0	75	0	19.88	18.95	18.80
	2547.5	2562.5	1	74	1	0	22.65	21.90	21.78
			75	0	75	0	19.80	18.93	18.80
15MHz+ 20MHz	2507.8	2524.9	1	74	1	0	22.59	21.84	21.62
			75	0	100	0	19.76	18.90	18.66
	2525.3	2542.4	1	74	1	0	22.70	21.93	21.71
			75	0	100	0	19.85	19.00	18.74
	2542.9	2560	1	74	1	0	22.69	21.97	21.78
			75	0	100	0	19.85	18.95	18.76
20MHz+ 15MHz	2510	2527.1	1	99	1	0	22.91	21.96	21.85
			100	0	75	0	19.99	19.05	18.20
	2527.6	2544.7	1	99	1	0	22.82	22.08	21.86
			100	0	75	0	19.98	19.05	18.81
	2545.1	2562.2	1	99	1	0	22.97	22.17	21.92
			100	0	75	0	19.96	19.10	18.82
20MHz+ 20MHz	2510	2529.8	1	99	1	0	22.81	22.05	21.61
			1	0	1	99	13.21	13.57	13.28
			100	0	100	0	19.95	19.01	18.75
	2525.1	2544.9	1	99	1	0	22.84	22.06	21.74
			1	0	1	99	13.17	13.52	13.19
			100	0	100	0	19.94	19.00	18.71
	2540.2	2560	1	99	1	0	22.82	22.11	21.90
			1	0	1	99	13.30	13.64	13.40



			100	0	100	0	19.95	18.98	18.74
--	--	--	-----	---	-----	---	-------	-------	-------

CA_38C	PCC	SCC	PCC RB		SCC1 RB		Conducted Power (dBm)		
	Frequency (MHz)	Frequency (MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM
15MHz+15MHz	2577.5	2592.5	1	74	1	0	23.01	22.17	21.97
			75	0	75	0	20.25	19.41	19.21
	2587.5	2602.5	1	74	1	0	23.03	22.15	21.88
			75	0	75	0	20.31	19.42	19.10
	2597.5	2612.5	1	74	1	0	23.06	21.91	21.85
			75	0	75	0	20.38	19.44	19.12
20MHz+20MHz	2580	2599.8	1	99	1	0	23.16	22.38	21.87
			1	0	1	99	13.53	13.73	13.15
			100	0	100	0	20.30	19.38	19.11
	2585.1	2604.9	1	99	1	0	23.24	22.39	21.95
			1	0	1	99	13.57	13.76	13.22
			100	0	100	0	20.41	19.46	19.16
	2590.2	2610	1	99	1	0	23.21	22.35	22.18
			1	0	1	99	13.56	13.72	13.47
			100	0	100	0	20.45	19.42	19.13

5.2 Effective Isotropic Radiated Power

Ambient condition

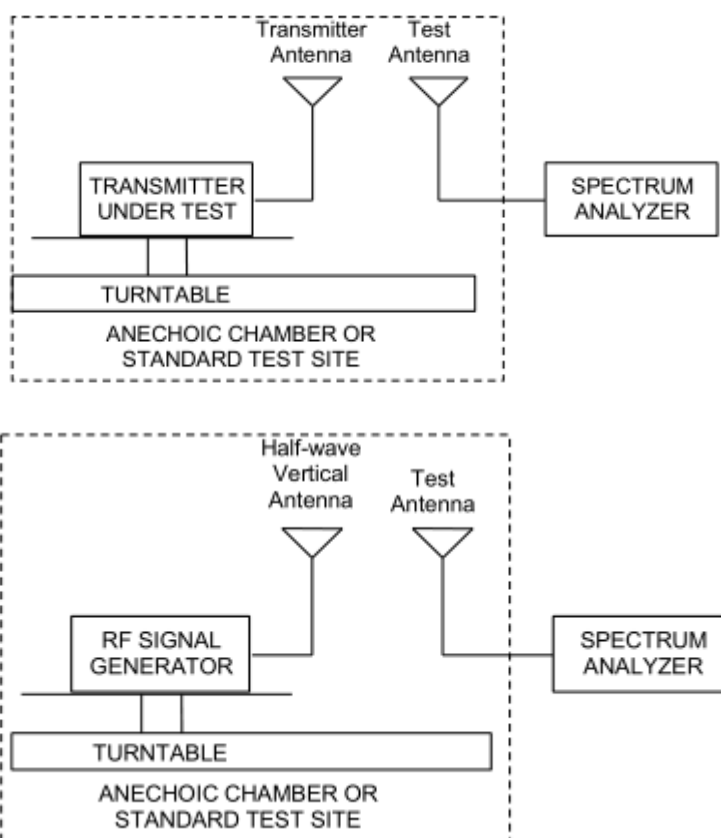
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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. $LOSS = \text{Generator Output Power (dBm)} - \text{Analyzer reading (dBm)}$
 - e) Determine the effective radiated output power at each angular position from the readings in steps b) and d) using the following equation: $ERP \text{ (dBm)} = LVL \text{ (dBm)} + LOSS \text{ (dB)}$
 - 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:
 $EIRP \text{ (dBm)} = \text{Output Power (dBm)} - \text{Losses (dB)} + \text{Antenna Gain (dBi)}$
 where: dBd refers to gain relative to an ideal dipole.
 $EIRP \text{ (dBm)} = ERP \text{ (dBm)} + 2.15 \text{ (dB.)}$

The RB allocation refers to section 5.1, using the maximum output power configuration.

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.

**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	$\leq 1 \text{ W}$ (30 dBm)
Part 27.50(h)(2) Limit	$\leq 2 \text{ W}$ (33 dBm)

Measurement Uncertainty

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

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	21.64	30	Pass
	Mid	1732.6	Horizontal	21.47	30	Pass
	High	1752.6	Horizontal	21.71	30	Pass

LTE Band 4						
Bandwidth	Channel	Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Conclusion
1.4 MHz (QPSK)	Low	1710.7	Horizontal	21.88	30	Pass
	Mid	1732.5	Horizontal	22.25	30	Pass
	High	1754.3	Horizontal	22.62	30	Pass
3 MHz (QPSK)	Low	1711.5	Horizontal	21.62	30	Pass
	Mid	1732.5	Horizontal	22.27	30	Pass
	High	1753.5	Horizontal	22.75	30	Pass
5 MHz (QPSK)	Low	1712.5	Horizontal	21.42	30	Pass
	Mid	1732.5	Horizontal	22.31	30	Pass
	High	1752.5	Horizontal	22.85	30	Pass
10 MHz (QPSK)	Low	1715	Horizontal	21.97	30	Pass
	Mid	1732.5	Horizontal	22.28	30	Pass
	High	1750	Horizontal	23.07	30	Pass
15 MHz (QPSK)	Low	1717.5	Horizontal	21.76	30	Pass
	Mid	1732.5	Horizontal	22.21	30	Pass
	High	1747.5	Horizontal	22.55	30	Pass
20 MHz (QPSK)	Low	1720	Horizontal	21.36	30	Pass
	Mid	1732.5	Horizontal	22.04	30	Pass
	High	1745	Horizontal	22.32	30	Pass
1.4 MHz (16QAM)	Low	1710.7	Horizontal	21.33	30	Pass
	Mid	1732.5	Horizontal	21.68	30	Pass
	High	1754.3	Horizontal	22.07	30	Pass
3 MHz (16QAM)	Low	1711.5	Horizontal	21.04	30	Pass
	Mid	1732.5	Horizontal	21.71	30	Pass
	High	1753.5	Horizontal	22.17	30	Pass
5 MHz (16QAM)	Low	1712.5	Horizontal	20.86	30	Pass
	Mid	1732.5	Horizontal	21.76	30	Pass
	High	1752.5	Horizontal	22.29	30	Pass
10 MHz (16QAM)	Low	1715	Horizontal	21.39	30	Pass
	Mid	1732.5	Horizontal	21.74	30	Pass
	High	1750	Horizontal	22.52	30	Pass



15 MHz (16QAM)	Low	1717.5	Horizontal	21.23	30	Pass
	Mid	1732.5	Horizontal	21.65	30	Pass
	High	1747.5	Horizontal	21.99	30	Pass
20 MHz (16QAM)	Low	1720	Horizontal	20.83	30	Pass
	Mid	1732.5	Horizontal	21.49	30	Pass
	High	1745	Horizontal	21.76	30	Pass
1.4 MHz (64QAM)	Low	1710.7	Horizontal	20.78	30	Pass
	Mid	1732.5	Horizontal	21.14	30	Pass
	High	1754.3	Horizontal	21.52	30	Pass
3 MHz (64QAM)	Low	1711.5	Horizontal	20.48	30	Pass
	Mid	1732.5	Horizontal	21.15	30	Pass
	High	1753.5	Horizontal	21.64	30	Pass
5 MHz (64QAM)	Low	1712.5	Horizontal	20.31	30	Pass
	Mid	1732.5	Horizontal	21.22	30	Pass
	High	1752.5	Horizontal	21.73	30	Pass
10 MHz (64QAM)	Low	1715	Horizontal	20.83	30	Pass
	Mid	1732.5	Horizontal	21.17	30	Pass
	High	1750	Horizontal	21.94	30	Pass
15 MHz (64QAM)	Low	1717.5	Horizontal	20.67	30	Pass
	Mid	1732.5	Horizontal	21.09	30	Pass
	High	1747.5	Horizontal	21.43	30	Pass
20 MHz (64QAM)	Low	1720	Horizontal	20.28	30	Pass
	Mid	1732.5	Horizontal	20.96	30	Pass
	High	1745	Horizontal	21.21	30	Pass

LTE Band 7						
Band width	Channel	Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Conclusion
5 MHz (QPSK)	Low	2502.5	Horizontal	21.07	33	Pass
	Mid	2535	Horizontal	20.61	33	Pass
	High	2567.5	Horizontal	21.07	33	Pass
10 MHz (QPSK)	Low	2505	Horizontal	21.23	33	Pass
	Mid	2535	Horizontal	21.03	33	Pass
	High	2565	Horizontal	21.14	33	Pass
15 MHz (QPSK)	Low	2507.5	Horizontal	21.46	33	Pass
	Mid	2535	Horizontal	21.32	33	Pass
	High	2562.5	Horizontal	21.08	33	Pass
20 MHz (QPSK)	Low	2510	Horizontal	21.94	33	Pass
	Mid	2535	Horizontal	21.25	33	Pass
	High	2560	Horizontal	20.77	33	Pass
5 MHz	Low	2502.5	Horizontal	20.49	33	Pass



(16QAM)	Mid	2535	Horizontal	20.05	33	Pass
	High	2567.5	Horizontal	20.50	33	Pass
10 MHz (16QAM)	Low	2505	Horizontal	20.67	33	Pass
	Mid	2535	Horizontal	20.48	33	Pass
	High	2565	Horizontal	20.59	33	Pass
15 MHz (16QAM)	Low	2507.5	Horizontal	20.88	33	Pass
	Mid	2535	Horizontal	20.76	33	Pass
	High	2562.5	Horizontal	20.54	33	Pass
20 MHz (16QAM)	Low	2510	Horizontal	21.38	33	Pass
	Mid	2535	Horizontal	20.69	33	Pass
	High	2560	Horizontal	20.23	33	Pass
5 MHz (64QAM)	Low	2502.5	Horizontal	19.94	33	Pass
	Mid	2535	Horizontal	19.53	33	Pass
	High	2567.5	Horizontal	19.94	33	Pass
10 MHz (64QAM)	Low	2505	Horizontal	20.13	33	Pass
	Mid	2535	Horizontal	19.93	33	Pass
	High	2565	Horizontal	20.06	33	Pass
15 MHz (64QAM)	Low	2507.5	Horizontal	20.35	33	Pass
	Mid	2535	Horizontal	20.21	33	Pass
	High	2562.5	Horizontal	20.01	33	Pass
20 MHz (64QAM)	Low	2510	Horizontal	20.82	33	Pass
	Mid	2535	Horizontal	20.14	33	Pass
	High	2560	Horizontal	19.67	33	Pass



LTE Band 38						
Band width	Channel	Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Conclusion
5 MHz (QPSK)	Low	2572.5	Horizontal	20.50	33	Pass
	Mid	2595	Horizontal	20.49	33	Pass
	High	2617.5	Horizontal	20.58	33	Pass
10 MHz (QPSK)	Low	2575	Horizontal	20.36	33	Pass
	Mid	2595	Horizontal	20.42	33	Pass
	High	2615	Horizontal	20.37	33	Pass
15 MHz (QPSK)	Low	2577.5	Horizontal	20.26	33	Pass
	Mid	2595	Horizontal	20.19	33	Pass
	High	2612.5	Horizontal	20.26	33	Pass
20 MHz (QPSK)	Low	2580	Horizontal	20.26	33	Pass
	Mid	2595	Horizontal	20.13	33	Pass
	High	2610	Horizontal	20.42	33	Pass
5 MHz (16QAM)	Low	2572.5	Horizontal	19.93	33	Pass
	Mid	2595	Horizontal	19.91	33	Pass
	High	2617.5	Horizontal	20.05	33	Pass
10 MHz (16QAM)	Low	2575	Horizontal	19.81	33	Pass
	Mid	2595	Horizontal	19.86	33	Pass
	High	2615	Horizontal	19.85	33	Pass
15 MHz (16QAM)	Low	2577.5	Horizontal	19.71	33	Pass
	Mid	2595	Horizontal	19.64	33	Pass
	High	2612.5	Horizontal	19.69	33	Pass
20 MHz (16QAM)	Low	2580	Horizontal	19.72	33	Pass
	Mid	2595	Horizontal	19.58	33	Pass
	High	2610	Horizontal	19.83	33	Pass
5 MHz (64QAM)	Low	2572.5	Horizontal	19.38	33	Pass
	Mid	2595	Horizontal	19.35	33	Pass
	High	2617.5	Horizontal	19.49	33	Pass
10 MHz (64QAM)	Low	2575	Horizontal	19.27	33	Pass
	Mid	2595	Horizontal	19.32	33	Pass
	High	2615	Horizontal	19.28	33	Pass
15 MHz (64QAM)	Low	2577.5	Horizontal	19.17	33	Pass
	Mid	2595	Horizontal	19.09	33	Pass
	High	2612.5	Horizontal	19.16	33	Pass
20 MHz (64QAM)	Low	2580	Horizontal	19.17	33	Pass
	Mid	2595	Horizontal	19.02	33	Pass
	High	2610	Horizontal	19.27	33	Pass



CA_7C	PCC	SCC	PCC RB		SCC1 RB		Polarization	EIRP (dBm)		
	Frequency(MHz)	Frequency(MHz)	Size	Offset	Size	Offset		QPSK	16QAM	64QAM
10MHz+20MHz	2505.5	2519.9	1	49	1	0	V	21.06	20.50	19.80
	2525.6	2540	1	49	1	0	V	20.98	20.51	19.88
	2545.6	2560	1	49	1	0	V	20.77	20.16	19.55
20MHz+10MHz	2510	2524.4	1	99	1	0	V	20.76	20.22	19.65
	2530.1	2544.5	1	99	1	0	V	20.87	20.35	19.77
	2550.1	2564.5	1	99	1	0	V	20.79	20.31	19.60
15MHz+15MHz	2507.5	2522.5	1	74	1	0	V	20.71	20.22	19.52
	2527.5	2542.5	1	74	1	0	V	21.03	20.41	19.80
	2547.5	2562.5	1	74	1	0	V	20.89	20.28	19.65
15MHz+20MHz	2507.8	2524.9	1	74	1	0	V	20.47	19.95	19.37
	2525.3	2542.4	1	74	1	0	V	20.91	20.37	19.71
	2542.9	2560	1	74	1	0	V	20.52	20.03	19.40
20MHz+15MHz	2510	2527.1	1	99	1	0	V	20.53	19.96	19.26
	2527.6	2544.7	1	99	1	0	V	20.67	20.13	19.42
	2545.1	2562.2	1	99	1	0	V	20.78	20.17	19.49
20MHz+20MHz	2510	2529.8	1	99	1	0	V	20.35	19.73	19.07
	2525.1	2544.9	1	99	1	0	V	21.22	20.63	19.93
	2540.2	2560	1	99	1	0	V	20.91	20.34	19.73

CA_38C	PCC	SCC	PCC RB		SCC1 RB		Polarization	EIRP (dBm)		
	Frequency(MHz)	Frequency(MHz)	Size	Offset	Size	Offset		QPSK	16QAM	64QAM
15MHz+15MHz	2577.5	2592.5	1	74	1	0	H	20.43	19.72	19.01
	2587.5	2602.5	1	74	1	0	H	20.65	19.97	19.27
	2597.5	2612.5	1	74	1	0	H	20.38	19.72	19.11
20MHz+20MHz	2580	2599.8	1	99	1	0	H	20.27	19.57	18.94
	2585.1	2604.9	1	99	1	0	H	20.53	19.92	19.34
	2590.2	2610	1	99	1	0	H	20.24	19.72	19.06



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 4/12 (1.4MHz).

RBW is set to 100 kHz, VBW is set to 300 kHz for LTE Band 4/12 (3MHz).

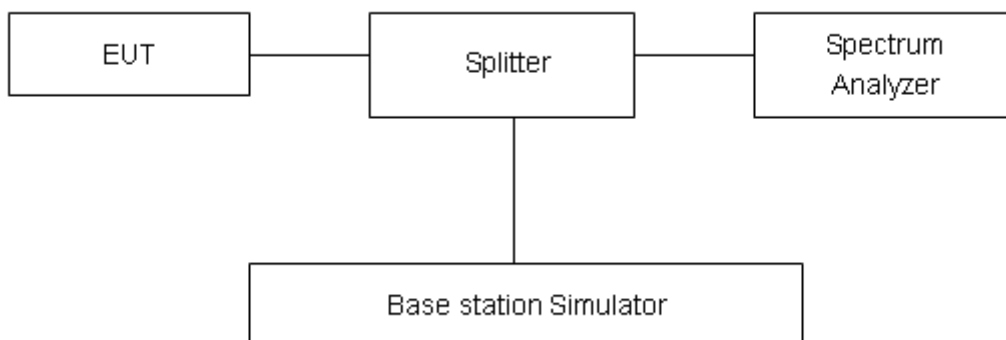
RBW is set to 100 kHz, VBW is set to 300 kHz for LTE Band 4/7/38 (5MHz).

RBW is set to 300 kHz, VBW is set to 1MHz for LTE Band 4/7/38 (10MHz).

RBW is set to 300 kHz, VBW is set to 1MHz for LTE Band 4/7/38 (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 $k = 2$, $U=624\text{Hz}$.



Test Result

Mode	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
WCDMA Band IV (RMC)	1312	1712.4	4.1253	4.703
	1413	1732.6	4.1303	4.691
	1513	1752.6	4.1472	4.720

LTE Band 4						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	19957	1710.7	1.112	1.276
			20175	1732.5	1.1124	1.28
			20393	1754.3	1.1289	1.275
		3	19965	1711.5	2.7425	3.099
			20175	1732.5	2.7431	3.074
			20385	1753.5	2.7465	3.078
		5	19975	1712.5	4.5372	4.986
			20175	1732.5	4.5207	4.985
			20375	1752.5	4.5138	4.982
		10	20000	1715	9.0423	10.02
			20175	1732.5	9.0318	10.03
			20350	1750	9.0422	9.989
		15	20025	1717.5	13.474	14.81
			20175	1732.5	13.431	14.73
			20325	1747.5	13.451	14.75
		20	20050	1720	17.909	19.23
			20175	1732.5	17.875	19.24
			20300	1745	17.902	19.49
	16QAM	1.4	19957	1710.7	1.1128	1.273
			20175	1732.5	1.1115	1.264
			20393	1754.3	1.1108	1.281
		3	19965	1711.5	2.7456	3.049
			20175	1732.5	2.7384	3.078
			20385	1753.5	2.741	3.089
		5	19975	1712.5	4.513	4.954
			20175	1732.5	4.5279	5.007
			20375	1752.5	4.537	5.018
		10	20000	1715	9.0481	9.97
			20175	1732.5	9.0478	9.947



		15	20350	1750	9.0405	9.991
			20025	1717.5	13.488	14.62
			20175	1732.5	13.47	14.65
			20325	1747.5	13.477	14.65
		20	20050	1720	17.925	19.27
			20175	1732.5	17.893	19.33
			20300	1745	17.876	19.25
	64QAM	1.4	19957	1710.7	1.1182	1.275
			20175	1732.5	1.1081	1.272
			20393	1754.3	1.1105	1.284
		3	19965	1711.5	2.7453	3.098
			20175	1732.5	2.7343	3.063
			20385	1753.5	2.7334	3.08
		5	19975	1712.5	4.5213	4.973
			20175	1732.5	4.5399	5.003
			20375	1752.5	4.5284	5.01
		10	20000	1715	9.0416	9.978
			20175	1732.5	9.0462	9.984
			20350	1750	9.0412	9.984
		15	20025	1717.5	13.461	14.66
			20175	1732.5	13.455	14.71
			20325	1747.5	13.476	14.7
		20	20050	1720	17.939	19.34
			20175	1732.5	17.916	19.39
			20300	1745	17.893	19.36



LTE Band 7						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	20775	2502.5	4.5330	4.970
			21100	2535	4.5207	4.997
			21425	2567.5	4.5375	5.005
		10	20800	2505	9.0542	10.010
			21100	2535	9.0433	10.030
			21400	2565	9.0425	10.040
		15	20825	2507.5	13.4830	14.780
			21100	2535	13.4470	14.720
			21375	2562.5	13.4610	14.730
		20	20850	2510	17.8890	19.310
			21100	2535	17.9190	19.310
			21350	2560	17.8860	19.350
	16QAM	5	20775	2502.5	4.5130	4.965
			21100	2535	4.5393	5.007
			21425	2567.5	4.5087	4.971
		10	20800	2505	9.0448	9.960
			21100	2535	9.0436	9.982
			21400	2565	9.0567	10.030
		15	20825	2507.5	13.4660	14.650
			21100	2535	13.4850	14.700
			21375	2562.5	13.4670	14.760
		20	20850	2510	17.9480	19.250
			21100	2535	17.9230	19.400
			21350	2560	17.8500	19.390
	64QAM	5	20775	2502.5	4.5136	5.004
			21100	2535	4.5261	4.978
			21425	2567.5	4.5316	5.013
		10	20800	2505	9.0675	9.941
			21100	2535	9.0338	9.969
			21400	2565	9.0573	10.020
		15	20825	2507.5	13.4690	14.610
			21100	2535	13.5000	14.700
			21375	2562.5	13.4740	14.740
		20	20850	2510	17.9380	19.320
			21100	2535	17.9000	19.270
			21350	2560	17.8810	19.210



LTE Band 38						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	37775	2572.5	4.5185	4.989
			38000	2595	4.5195	4.941
			38225	2617.5	4.5105	4.976
		10	37800	2575	9.0536	9.978
			38000	2595	9.0409	9.98
			38200	2615	9.0521	9.952
		15	37825	2577.5	13.48	14.78
			38000	2595	13.44	14.62
			38175	2612.5	13.425	14.72
		20	37850	2580	17.934	19.26
			38000	2595	17.876	19.27
			38150	2610	17.907	19.28
	16QAM	5	37775	2572.5	4.5096	4.968
			38000	2595	4.5422	4.997
			38225	2617.5	4.5166	4.985
		10	37800	2575	9.0676	9.959
			38000	2595	9.0185	9.923
			38200	2615	9.0405	9.956
		15	37825	2577.5	13.459	14.73
			38000	2595	13.471	14.66
			38175	2612.5	13.479	14.67
		20	37850	2580	17.903	19.26
			38000	2595	17.908	19.19
			38150	2610	17.881	19.14
	64QAM	5	37775	2572.5	4.5145	4.962
			38000	2595	4.5311	4.963
			38225	2617.5	4.5124	4.954
		10	37800	2575	9.0526	9.931
			38000	2595	9.0267	9.894
			38200	2615	9.0228	9.968
		15	37825	2577.5	13.467	14.63
			38000	2595	13.485	14.64
			38175	2612.5	13.444	14.66
		20	37850	2580	17.897	19.23
			38000	2595	17.936	19.39
			38150	2610	17.89	19.12



CA_7C	PCC		SCC1		PCC RB	SCC1 RB	Bandwidth(MHz)	
	Chan nel	Freque ncy (MHz)	Chan nel	Freque ncy (MHz)			99% Power	-26dBc
CA_7C_10MHz+20MHz_QPSK	21006	2525.6	21150	2540	50#0	75#0	28.12	30.05
CA_7C_10MHz+20MHz_16QAM	21006	2525.6	21150	2540	50#0	75#0	27.97	30.00
CA_7C_10MHz+20MHz_64QAM	21006	2525.6	21150	2540	50#0	75#0	27.94	29.91
CA_7C_20MHz+10MHz_QPSK	21051	2530.1	21195	2544.5	75#0	50#0	28.10	30.37
CA_7C_20MHz+10MHz_16QAM	21051	2530.1	21195	2544.5	75#0	50#0	28.09	30.30
CA_7C_20MHz+10MHz_64QAM	21051	2530.1	21195	2544.5	75#0	50#0	28.15	30.24
CA_7C_15MHz+10MHz_QPSK	21051	2530.1	21171	2542.1	75#0	75#0	23.53	25.54
CA_7C_15MHz+10MHz_16QAM	21025	2527.5	21175	2542.1	75#0	75#0	23.54	25.50
CA_7C_15MHz+10MHz_64QAM	21025	2527.5	21175	2542.1	75#0	75#0	23.54	25.48
CA_7C_15MHz+15MHz_QPSK	21025	2527.5	21175	2542.5	75#0	75#0	28.67	30.76
CA_7C_15MHz+15MHz_16QAM	21025	2527.5	21175	2542.5	75#0	75#0	28.70	30.66
CA_7C_15MHz+15MHz_64QAM	21025	2527.5	21175	2542.5	75#0	75#0	28.64	30.64
CA_7C_15MHz+20MHz_QPSK	21003	2525.3	21174	2542.4	75#0	100#0	32.86	35.11
CA_7C_15MHz+20MHz_16QAM	21003	2525.3	21174	2542.4	75#0	100#0	32.84	34.97
CA_7C_15MHz+20MHz_64QAM	21003	2525.3	21174	2542.4	75#0	100#0	32.86	34.96
CA_7C_20MHz+15MHz_QPSK	21026	2527.6	21197	2544.7	100#0	75#0	32.97	35.40
CA_7C_20MHz+15MHz_16QAM	21026	2527.6	21197	2544.7	100#0	75#0	32.97	35.21
CA_7C_20MHz+15MHz_64QAM	21026	2527.6	21197	2544.7	100#0	75#0	33.05	35.17
CA_7C_20MHz+20MHz_QPSK	21001	2525.1	21199	2544.9	100#0	100#0	37.69	40.17
CA_7C_20MHz+20MHz_16QAM	21001	2525.1	21199	2544.9	100#0	100#0	37.69	39.93

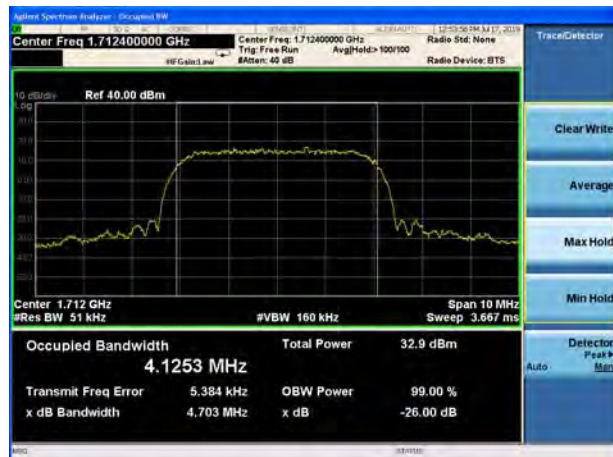


CA_7C_20MHz+20MHz _64QAM	21001	2525.1	21199	2544.9	100#0	100#0	39.61	39.95
-----------------------------	-------	--------	-------	--------	-------	-------	-------	-------

CA_38C	PCC		SCC1		PCC RB	SCC1 RB	Bandwidth(MHz)	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)			99% Power	-26dBc
CA_38C_15MHz+ 15MHz_QPSK	37925	2587.5	38075	2602.5	75#0	75#0	28.35	30.53
CA_38C_15MHz+ 15MHz_16QAM	37925	2587.5	38075	2602.5	75#0	75#0	28.47	30.59
CA_38C_15MHz+ 15MHz_64QAM	37925	2587.5	38075	2602.5	75#0	75#0	28.35	30.67
CA_38C_20MHz+ 20MHz_QPSK	37901	2585.1	38099	2604.9	100#0	100#0	37.58	39.94
CA_38C_20MHz+ 20MHz_16QAM	37901	2585.1	38099	2604.9	100#0	100#0	37.50	39.89
CA_38C_20MHz+ 20MHz_64QAM	37901	2585.1	38099	2604.9	100#0	100#0	37.56	39.92



WCDMA Band IV CH-Low



WCDMA Band IV CH Middle



WCDMA Band IV CH High

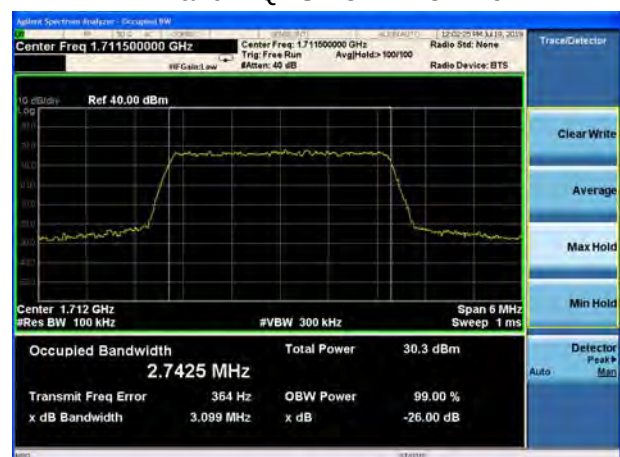


LTE Band 4 QPSK 1.4MHz CH-Low

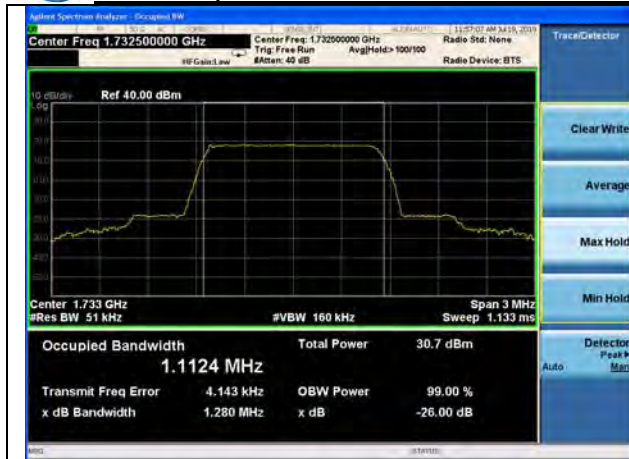


LTE Band 4 QPSK 1.4MHz CH-Middle

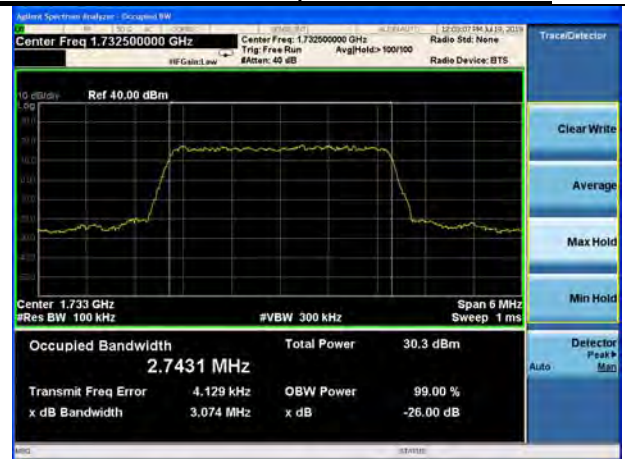
LTE Band 4 QPSK 3MHz CH-Low



LTE Band 4 QPSK 3MHz CH-Middle



LTE Band 4 QPSK 1.4MHz CH-High



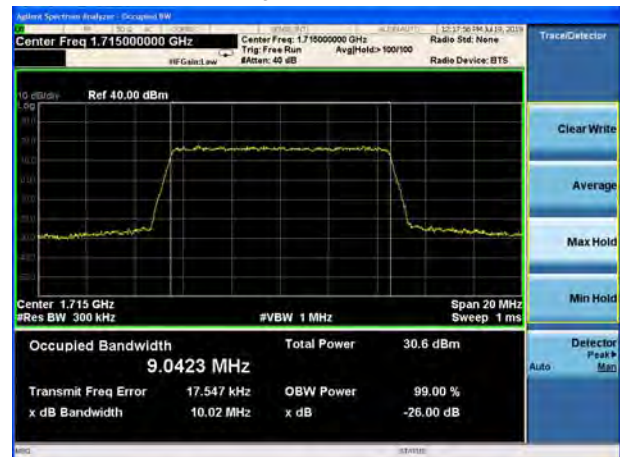
LTE Band 4 QPSK 3MHz CH-High



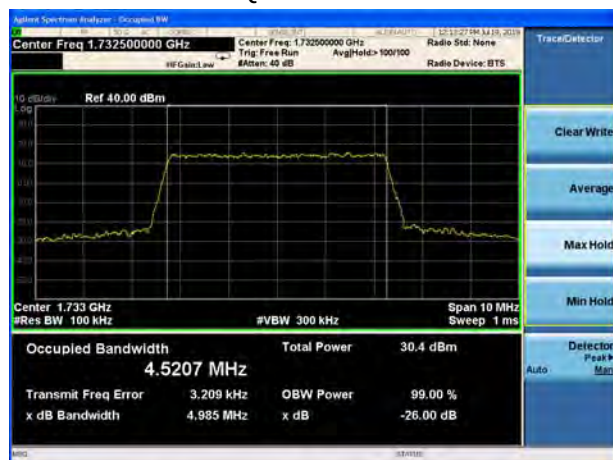
LTE Band 4 QPSK 5MHz CH-Low



LTE Band 4 QPSK 10MHz CH-Low



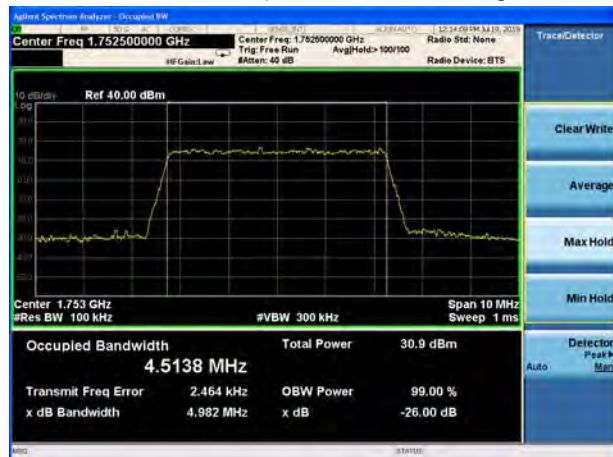
LTE Band 4 QPSK 5MHz CH-Middle



LTE Band 4 QPSK 10MHz CH-Middle



LTE Band 4 QPSK 5MHz CH-High

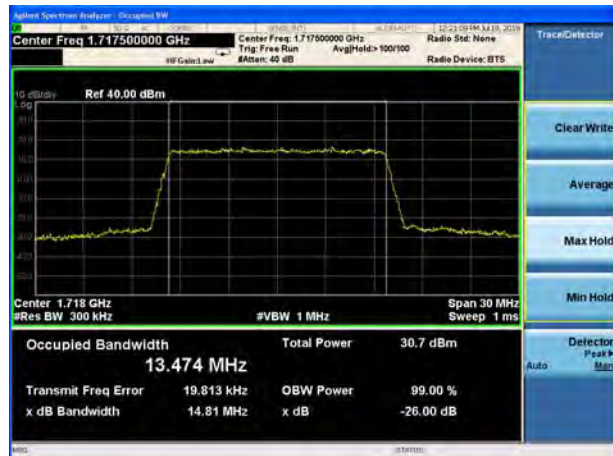


LTE Band 4 QPSK 10MHz CH-High

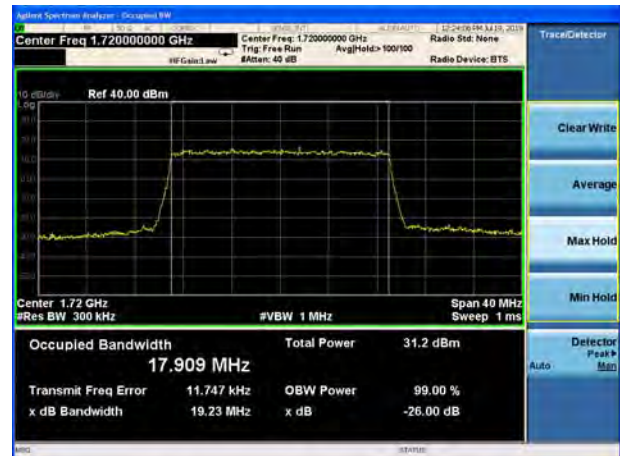




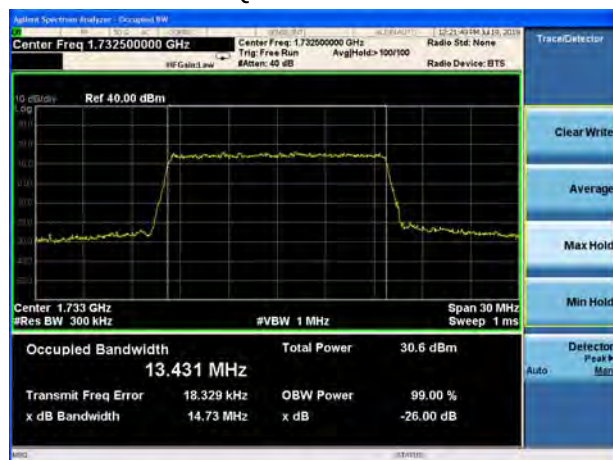
LTE Band 4 QPSK 15MHz CH-Low



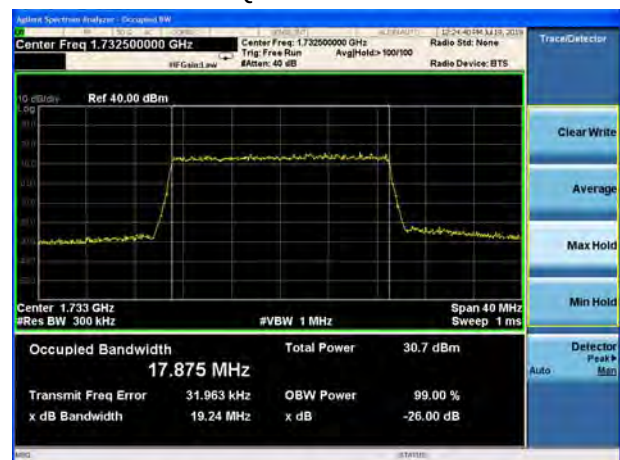
LTE Band 4 QPSK 20MHz CH-Low



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



LTE Band 4 16QAM 1.4MHz CH-Low



LTE Band 4 16QAM 3MHz CH-Low



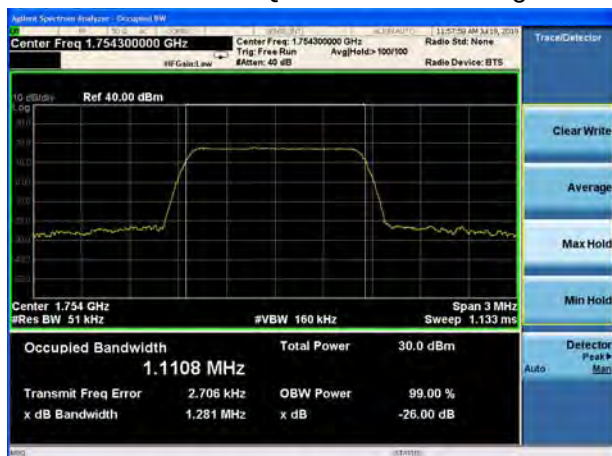
LTE Band 4 16QAM 1.4MHz CH-Middle



LTE Band 4 16QAM 3MHz CH-Middle



LTE Band 4 16QAM 1.4MHz CH-High

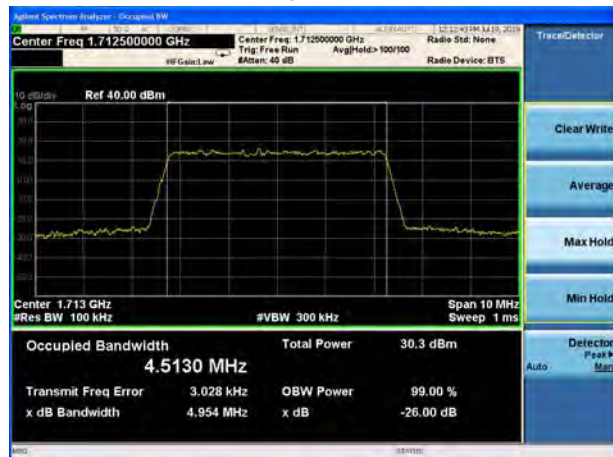


LTE Band 4 16QAM 3MHz CH-High





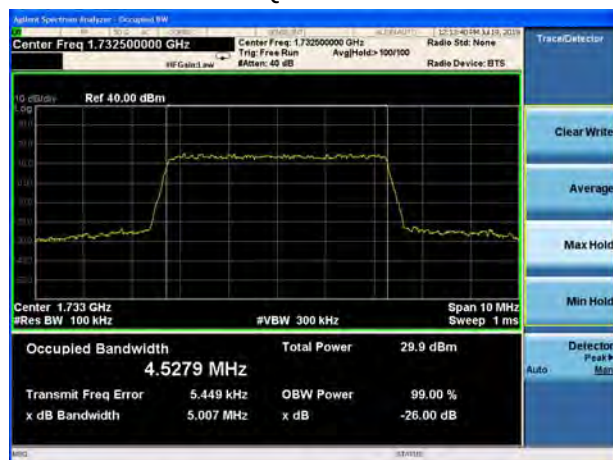
LTE Band 4 16QAM 5MHz CH-Low



LTE Band 4 16QAM 10MHz CH-Low



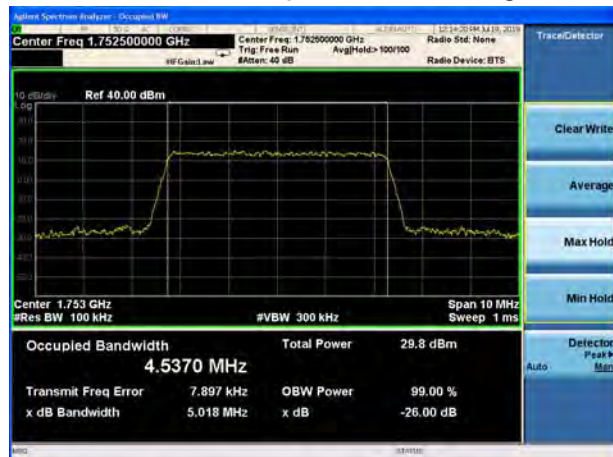
LTE Band 4 16QAM 5MHz CH-Middle



LTE Band 4 16QAM 10MHz CH-Middle



LTE Band 4 16QAM 5MHz CH-High



LTE Band 4 16QAM 10MHz CH-High





LTE Band 4 16QAM 15MHz CH-Low



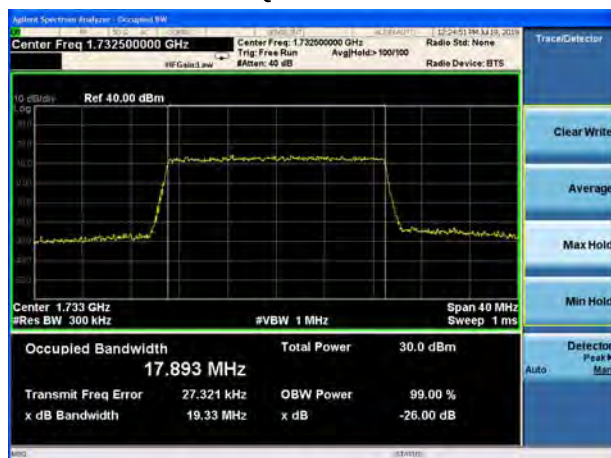
LTE Band 4 16QAM 20MHz CH-Low



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





LTE Band 4 64QAM 1.4MHz CH-Low



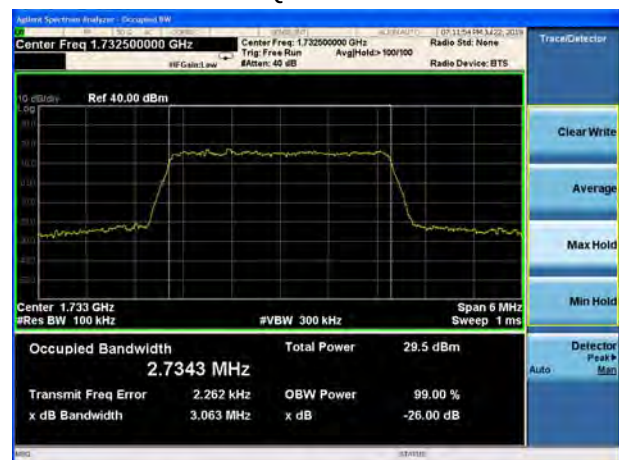
LTE Band 4 64QAM 3MHz CH-Low



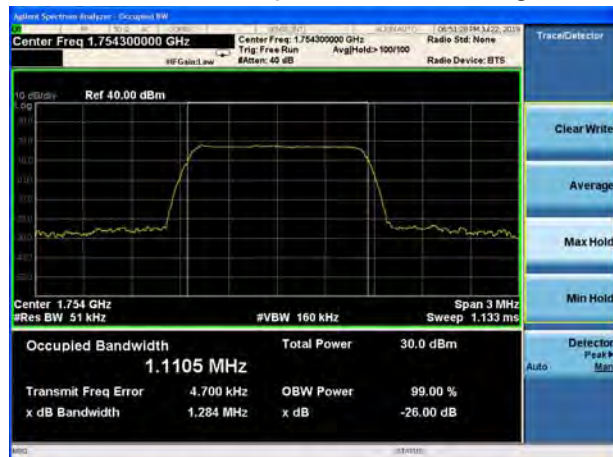
LTE Band 4 64QAM 1.4MHz CH-Middle



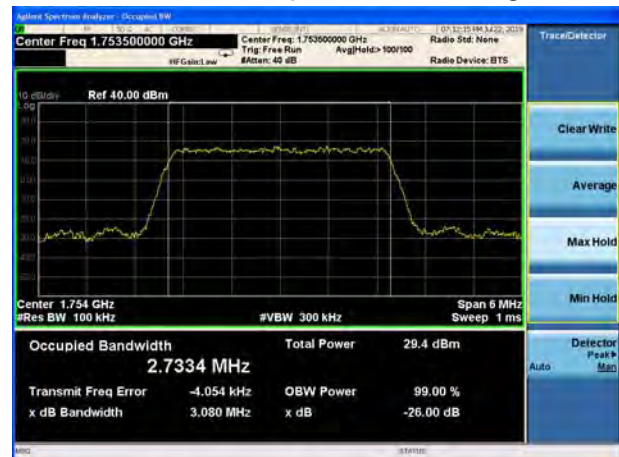
LTE Band 4 64QAM 3MHz CH-Middle



LTE Band 4 64QAM 1.4MHz CH-High

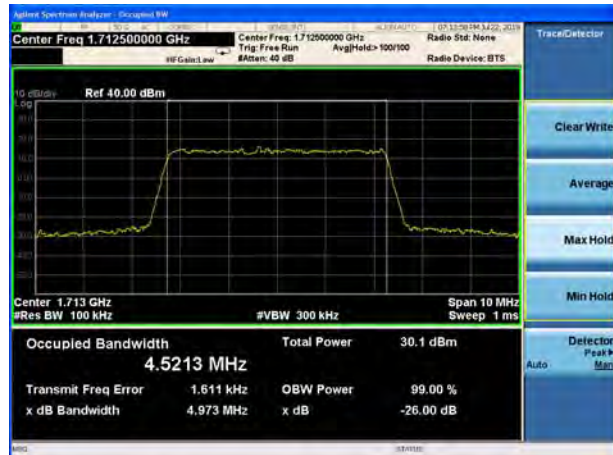


LTE Band 4 64QAM 3MHz CH-High





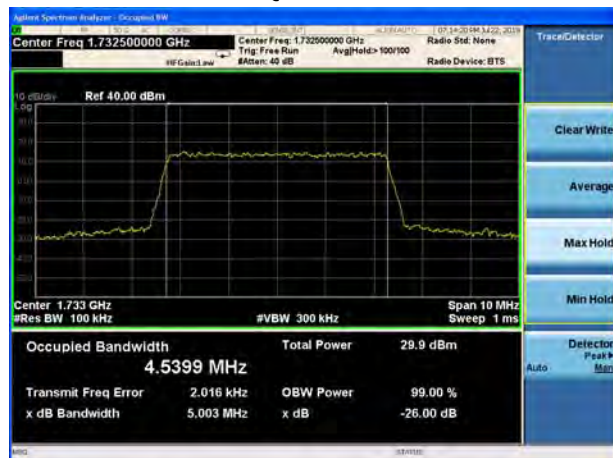
LTE Band 4 64QAM 5MHz CH-Low



LTE Band 4 64QAM 10MHz CH-Low



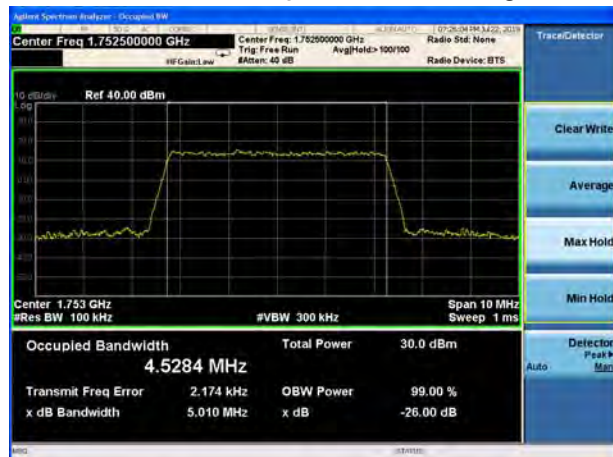
LTE Band 4 64QAM 5MHz CH-Middle



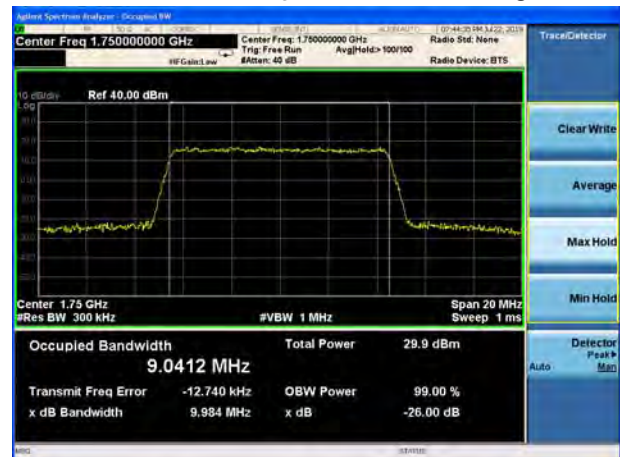
LTE Band 4 64QAM 10MHz CH-Middle



LTE Band 4 64QAM 5MHz CH-High



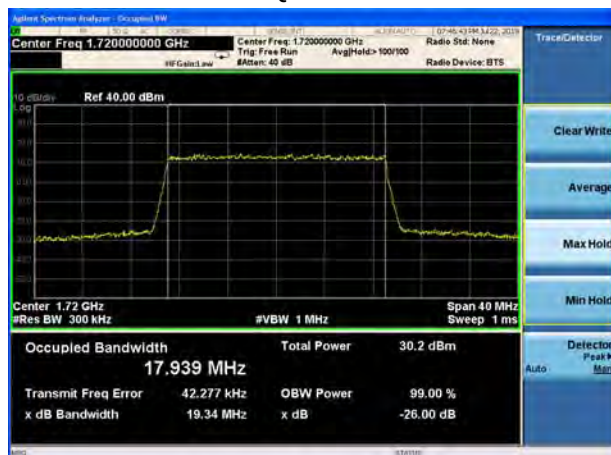
LTE Band 4 64QAM 10MHz CH-High



LTE Band 4 64QAM 15MHz CH-Low



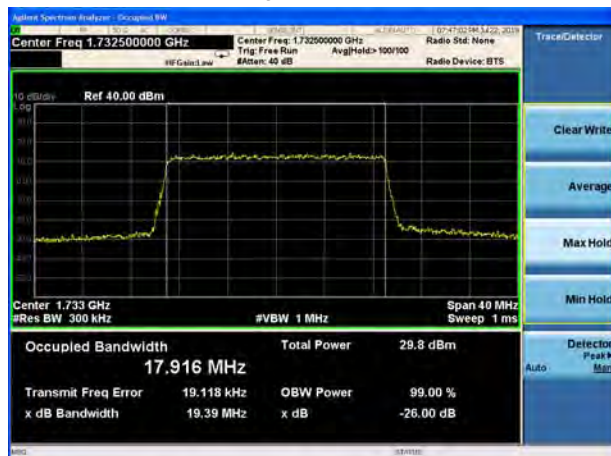
LTE Band 4 64QAM 20MHz CH-Low



LTE Band 4 64QAM 15MHz CH-Middle



LTE Band 4 64QAM 20MHz CH-Middle



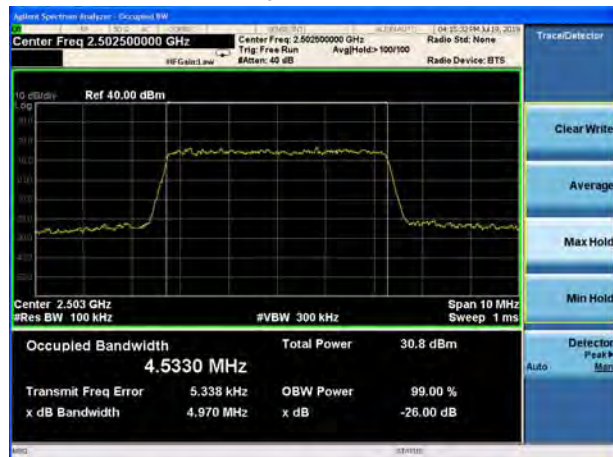
LTE Band 4 64QAM 15MHz CH-High



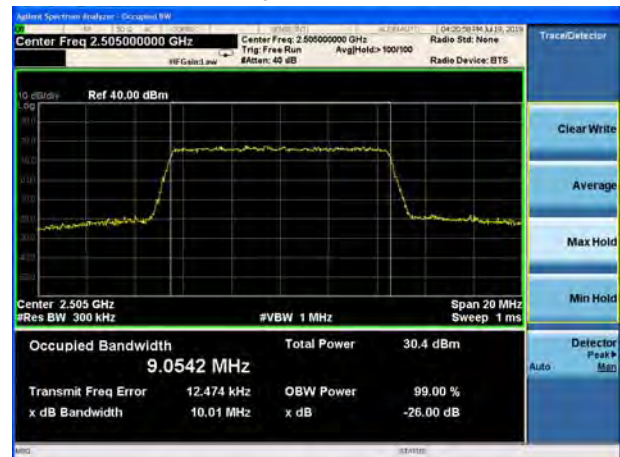
LTE Band 4 64QAM 20MHz CH-High



LTE Band 7 QPSK 5MHz CH-Low



LTE Band 7 QPSK 10MHz CH-Low



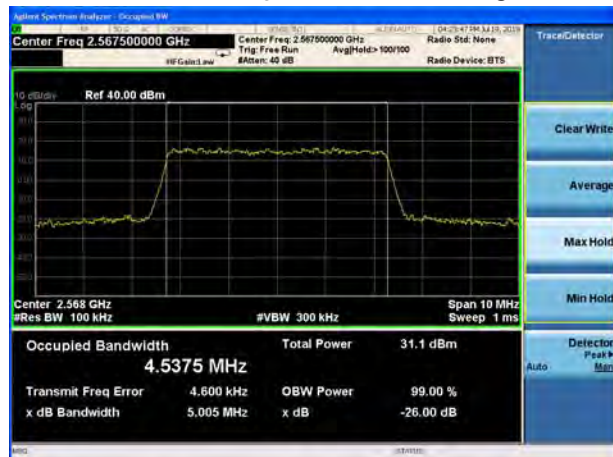
LTE Band 7 QPSK 5MHz CH-Middle



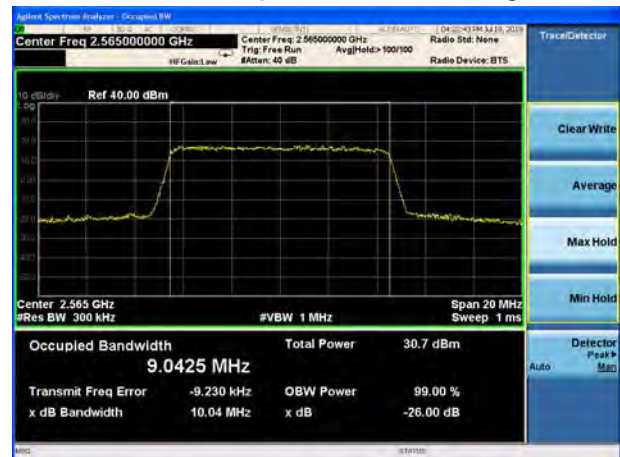
LTE Band 7 QPSK 10MHz CH-Middle



LTE Band 7 QPSK 5MHz CH-High



LTE Band 7 QPSK 10MHz CH-High



LTE Band 7 QPSK 15MHz CH-Low



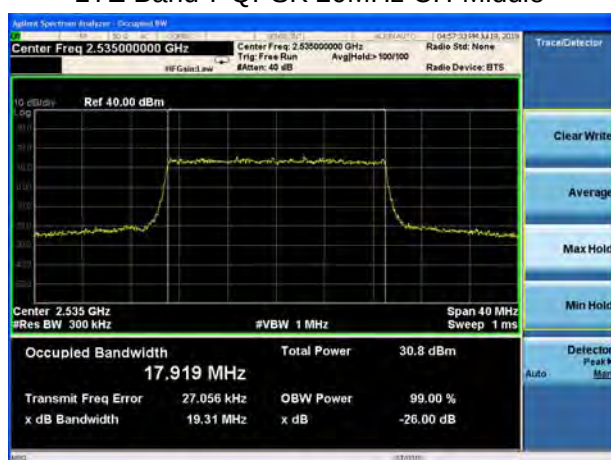
LTE Band 7 QPSK 20MHz CH-Low



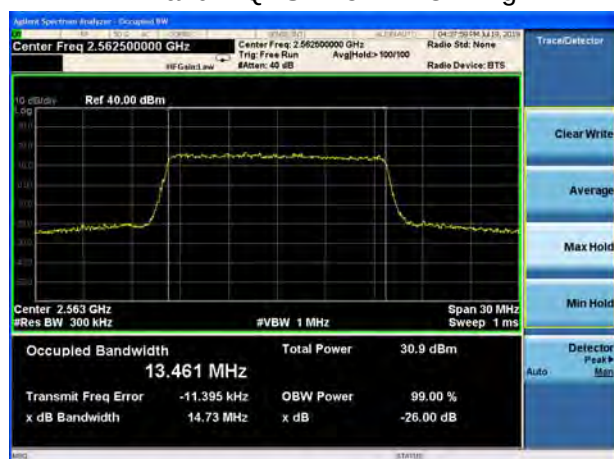
LTE Band 7 QPSK 15MHz CH-Middle



LTE Band 7 QPSK 20MHz CH-Middle



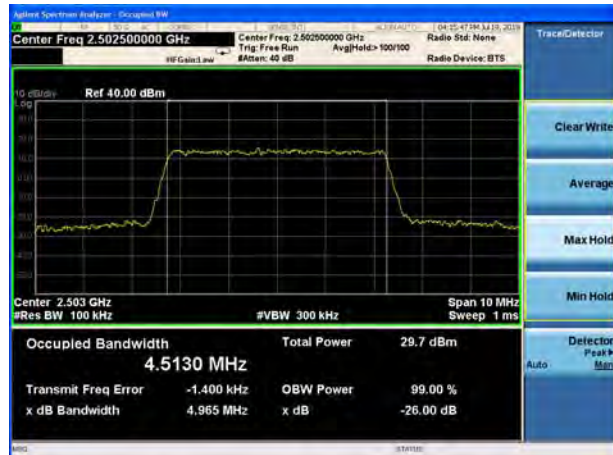
LTE Band 7 QPSK 15MHz CH-High



LTE Band 7 QPSK 20MHz CH-High



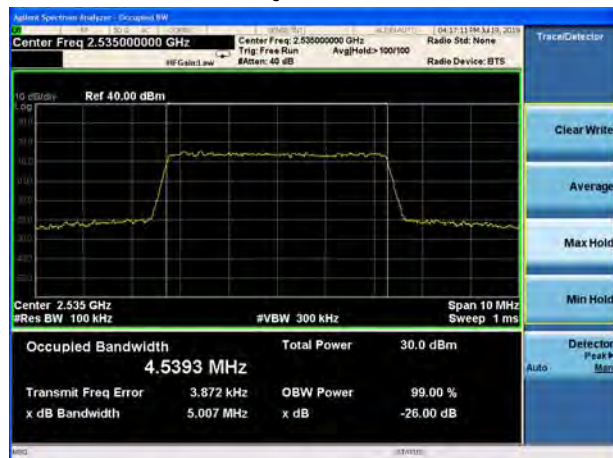
LTE Band 7 16QAM 5MHz CH-Low



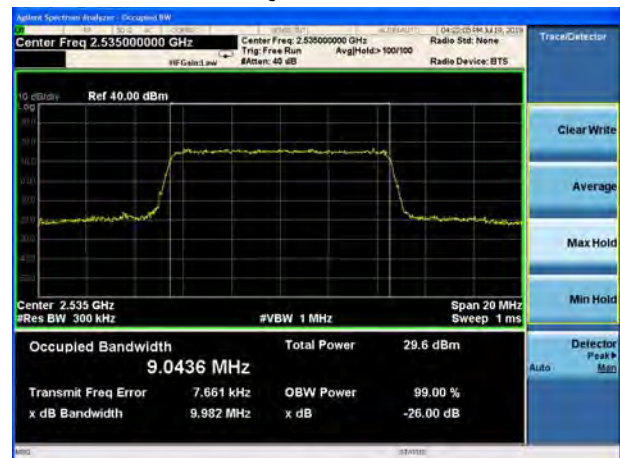
LTE Band 7 16QAM 10MHz CH-Low



LTE Band 7 16QAM 5MHz CH-Middle



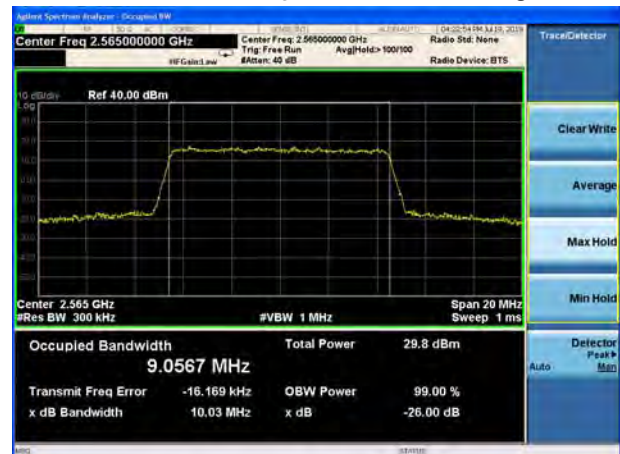
LTE Band 7 16QAM 10MHz CH-Middle



LTE Band 7 16QAM 5MHz CH-High



LTE Band 7 16QAM 10MHz CH-High





LTE Band 7 16QAM 15MHz CH-Low



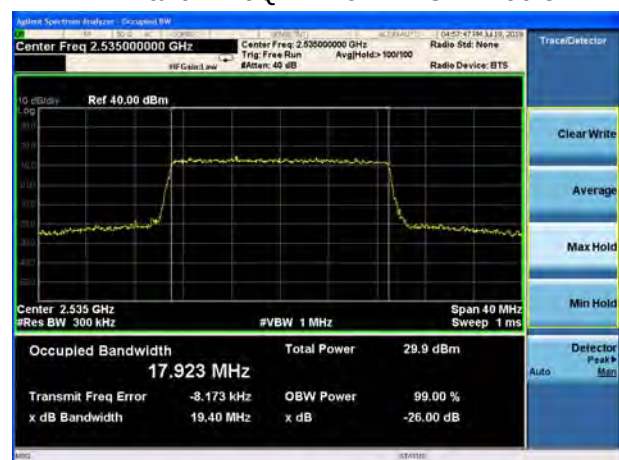
LTE Band 7 16QAM 20MHz CH-Low



LTE Band 7 16QAM 15MHz CH-Middle



LTE Band 7 16QAM 20MHz CH-Middle



LTE Band 7 16QAM 15MHz CH-High

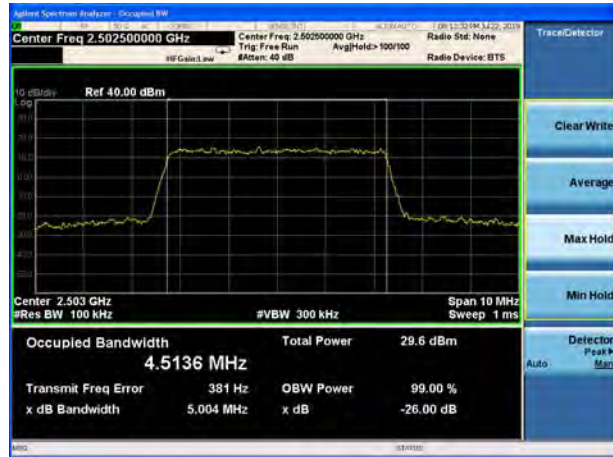


LTE Band 7 16QAM 20MHz CH-High





LTE Band 7 64QAM 5MHz CH-Low



LTE Band 7 64QAM 10MHz CH-Low



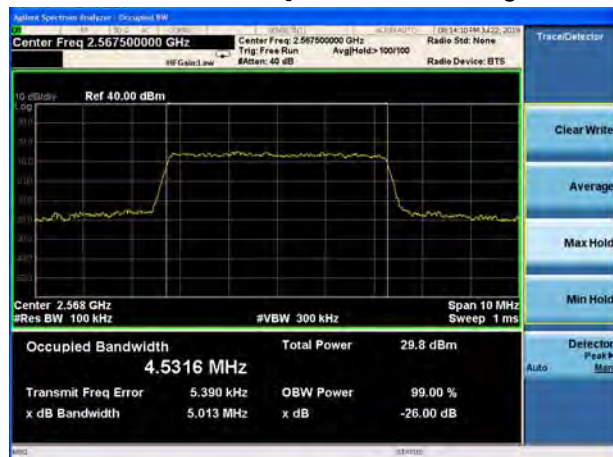
LTE Band 7 64QAM 5MHz CH-Middle



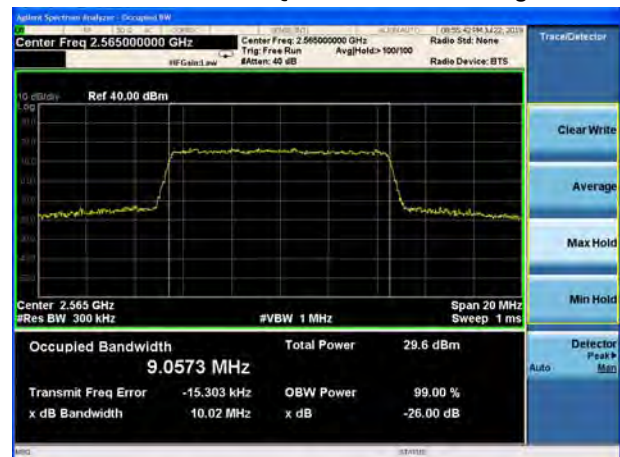
LTE Band 7 64QAM 10MHz CH-Middle



LTE Band 7 64QAM 5MHz CH-High



LTE Band 7 64QAM 10MHz CH-High

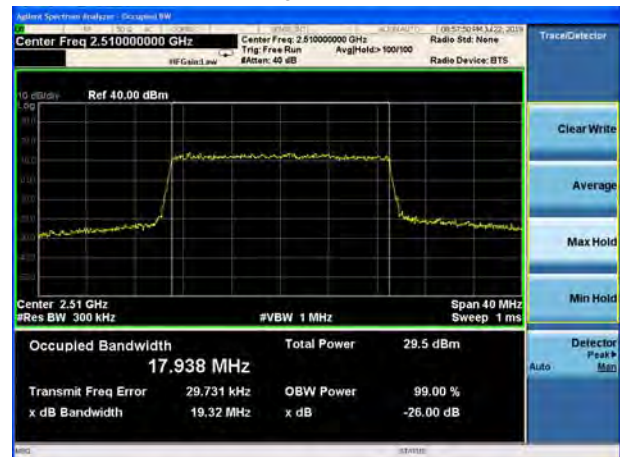




LTE Band 7 64QAM 15MHz CH-Low



LTE Band 7 64QAM 20MHz CH-Low



LTE Band 7 64QAM 15MHz CH-Middle



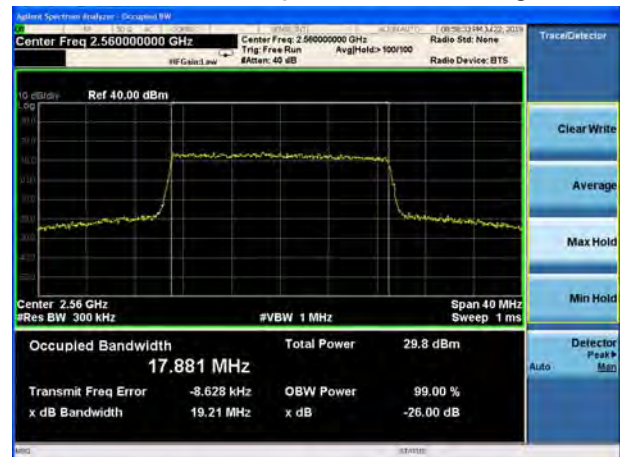
LTE Band 7 64QAM 20MHz CH-Middle



LTE Band 7 64QAM 15MHz CH-High



LTE Band 7 64QAM 20MHz CH-High





LTE Band 38 QPSK 5MHz CH-Low



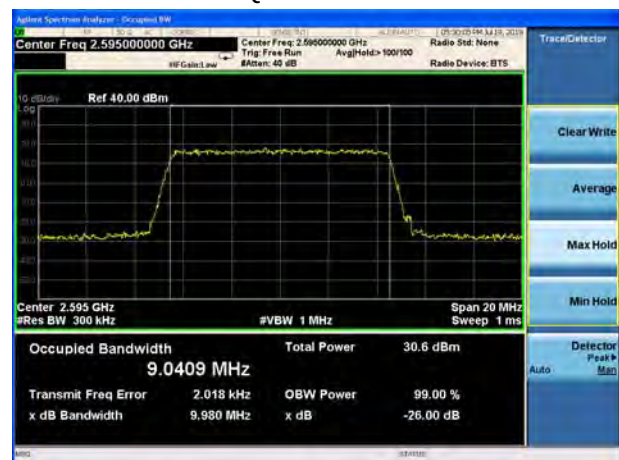
LTE Band 38 QPSK 10MHz CH-Low



LTE Band 38 QPSK 5MHz CH-Middle



LTE Band 38 QPSK 10MHz CH-Middle



LTE Band 38 QPSK 5MHz CH-High



LTE Band 38 QPSK 10MHz CH-High

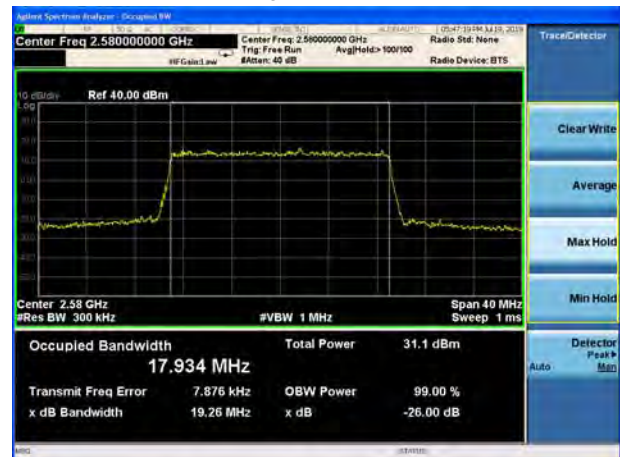




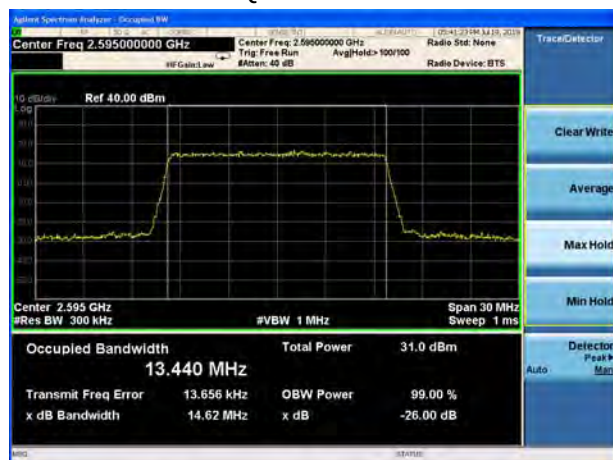
LTE Band 38 QPSK 15MHz CH-Low



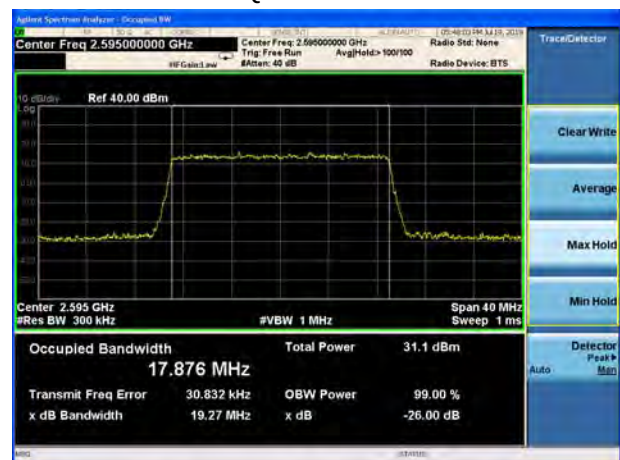
LTE Band 38 QPSK 20MHz CH-Low



LTE Band 38 QPSK 15MHz CH-Middle



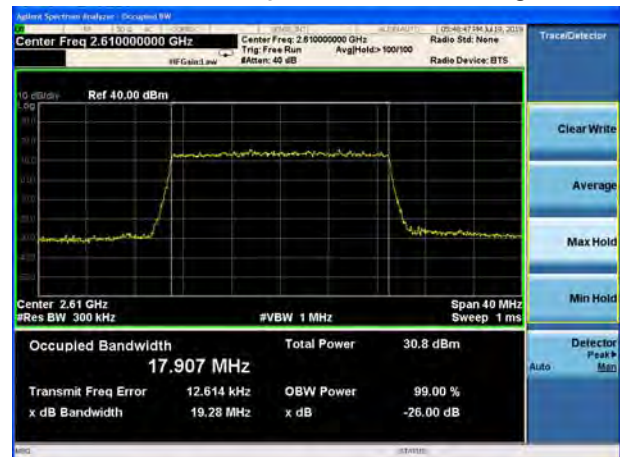
LTE Band 38 QPSK 20MHz CH-Middle



LTE Band 38 QPSK 15MHz CH-High

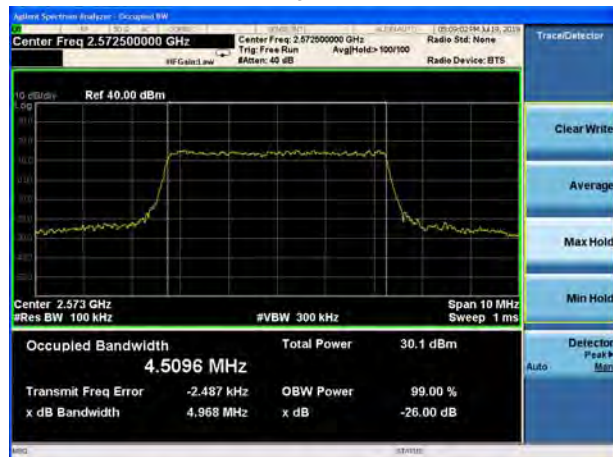


LTE Band 38 QPSK 20MHz CH-High





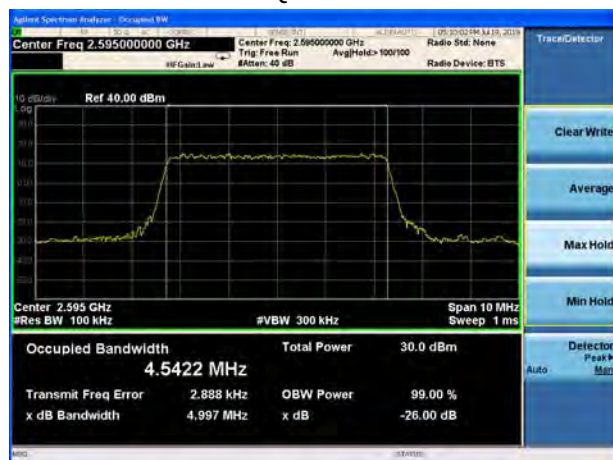
LTE Band 38 16QAM 5MHz CH-Low



LTE Band 38 16QAM 10MHz CH-Low



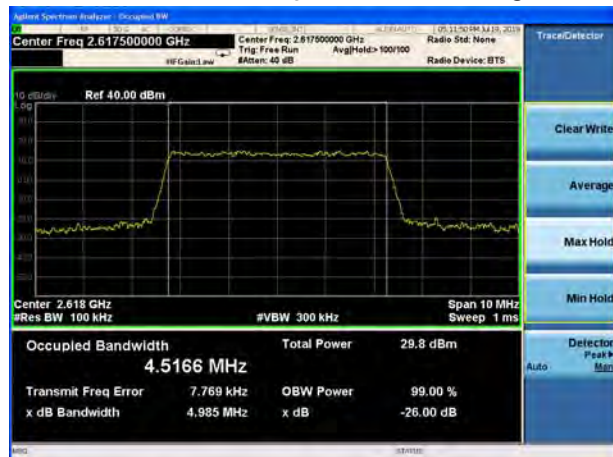
LTE Band 38 16QAM 5MHz CH-Middle



LTE Band 38 16QAM 10MHz CH-Middle



LTE Band 38 16QAM 5MHz CH-High



LTE Band 38 16QAM 10MHz CH-High

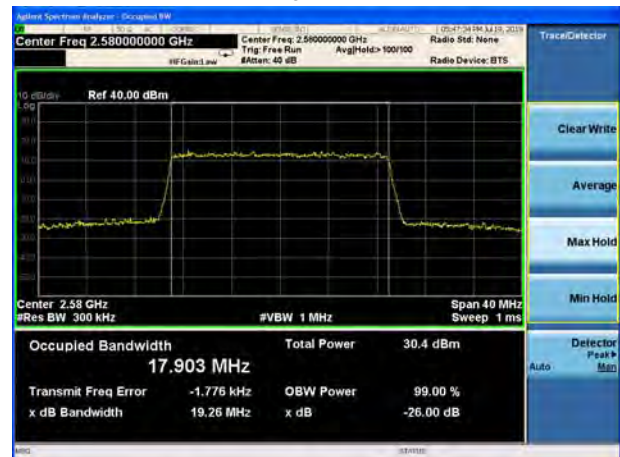




LTE Band 38 16QAM 15MHz CH-Low



LTE Band 38 16QAM 20MHz CH-Low



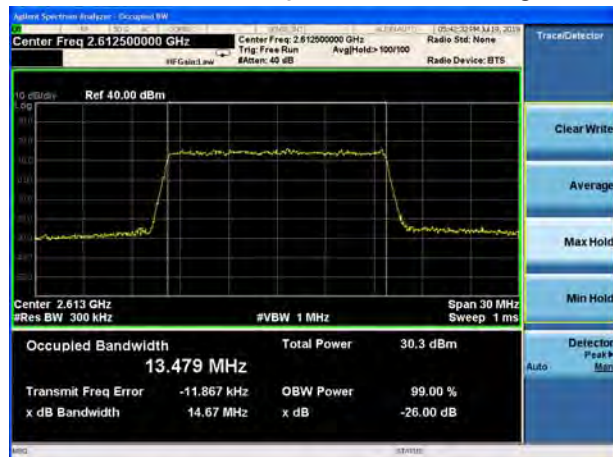
LTE Band 38 16QAM 15MHz CH-Middle



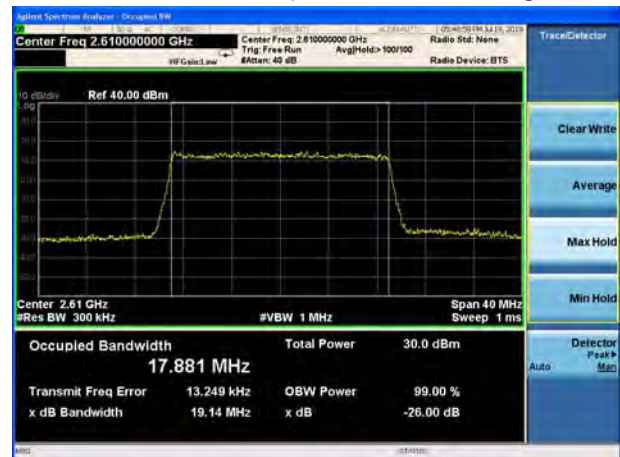
LTE Band 38 16QAM 20MHz CH-Middle



LTE Band 38 16QAM 15MHz CH-High



LTE Band 38 16QAM 20MHz CH-High





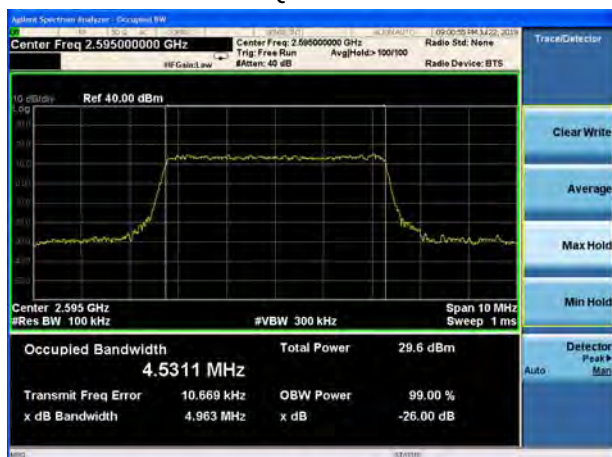
LTE Band 38 64QAM 5MHz CH-Low



LTE Band 38 64QAM 10MHz CH-Low



LTE Band 38 64QAM 5MHz CH-Middle



LTE Band 38 64QAM 10MHz CH-Middle



LTE Band 38 64QAM 5MHz CH-High

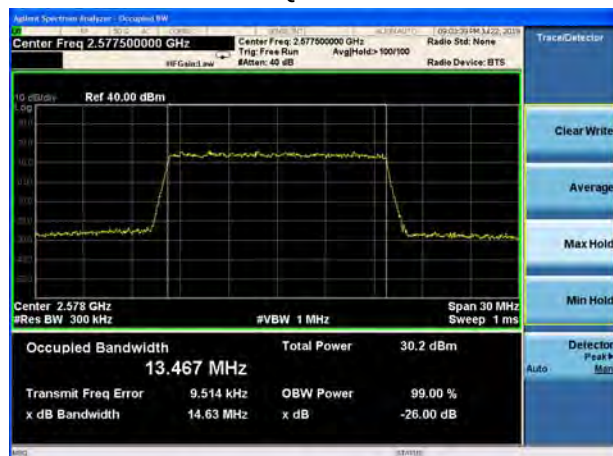


LTE Band 38 64QAM 10MHz CH-High





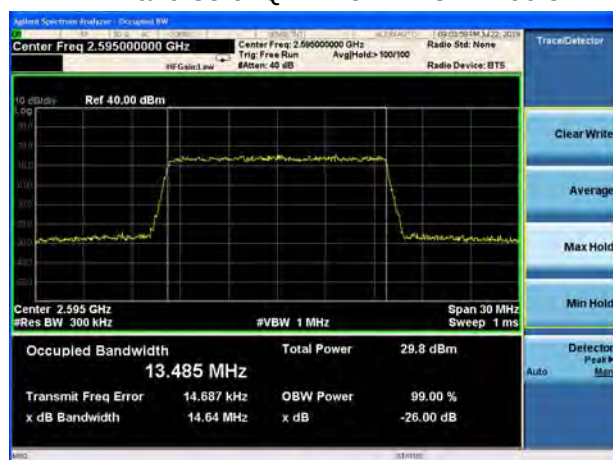
LTE Band 38 64QAM 15MHz CH-Low



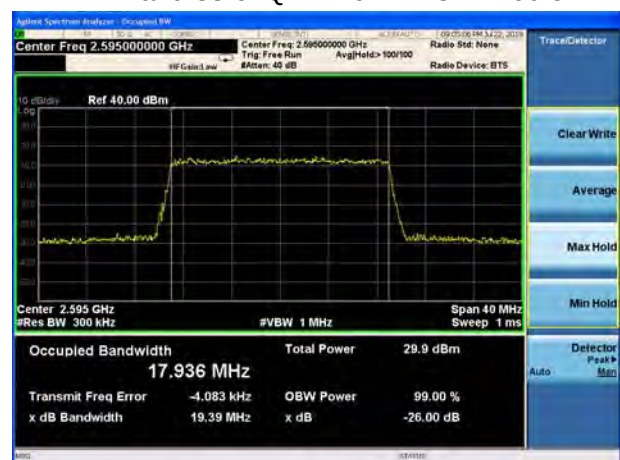
LTE Band 38 64QAM 20MHz CH-Low



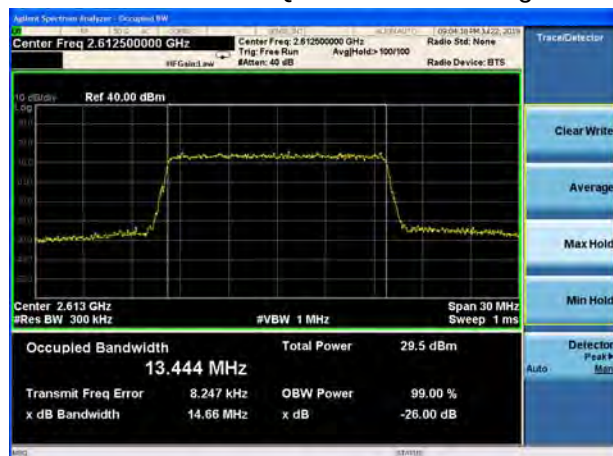
LTE Band 38 64QAM 15MHz CH-Middle



LTE Band 38 64QAM 20MHz CH-Middle



LTE Band 38 64QAM 15MHz CH-High



LTE Band 38 64QAM 20MHz CH-High

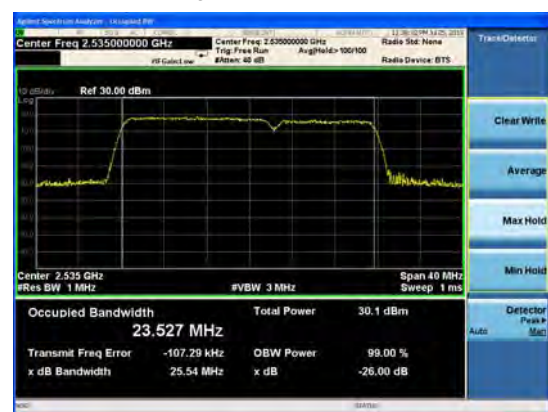




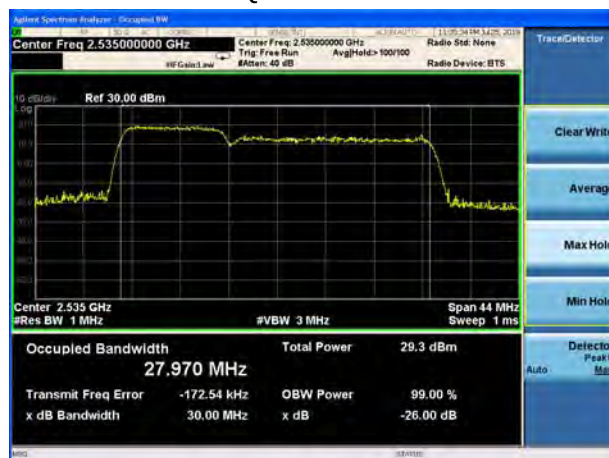
CA-7C QPSK 10MHz+20MHz



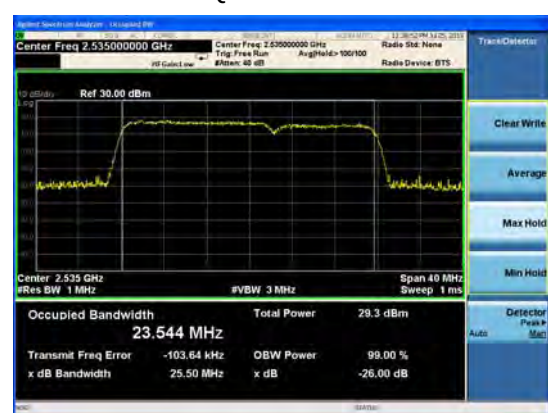
CA-7C QPSK 15MHz+10MHz



CA-7C 16QAM 10MHz+20MHz



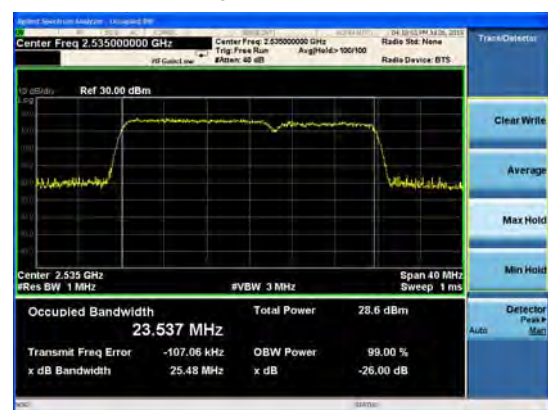
CA-7C 16QAM 15MHz+10MHz



CA-7C 64QAM 10MHz+20MHz



CA-7C 64QAM 15MHz+10MHz





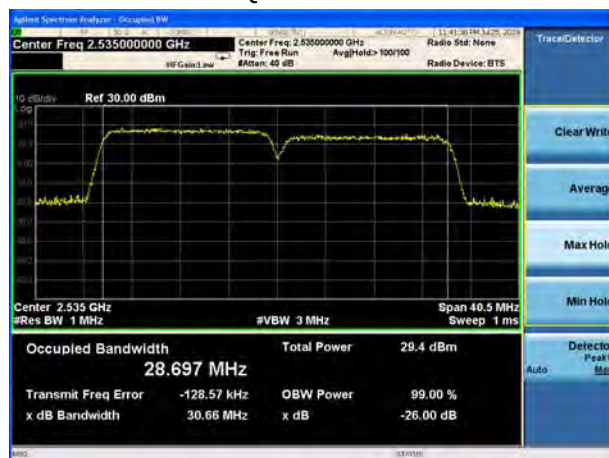
CA-7C QPSK 15MHz+15MHz



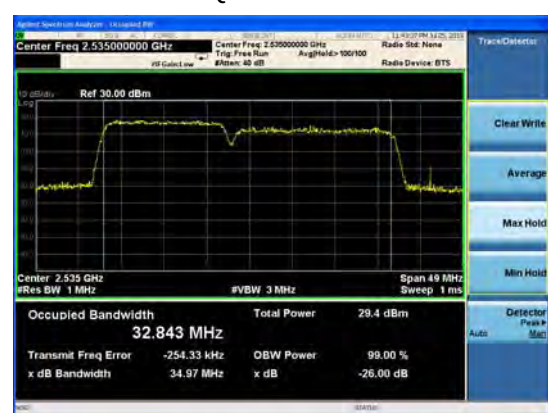
CA-7C QPSK 15MHz+20MHz



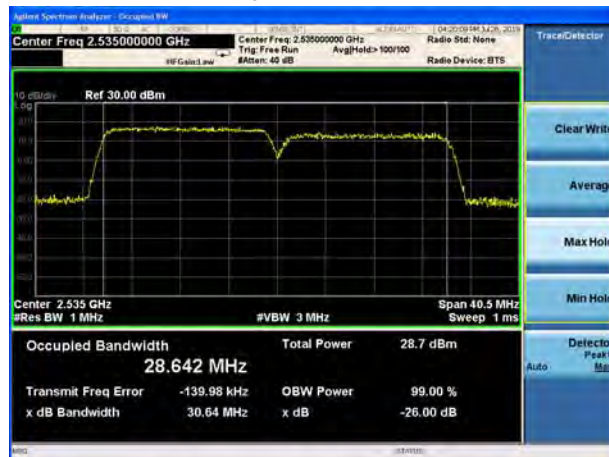
CA-7C 16QAM 15MHz+15MHz



CA-7C 16QAM 15MHz+20MHz



CA-7C 64QAM 15MHz+15MHz

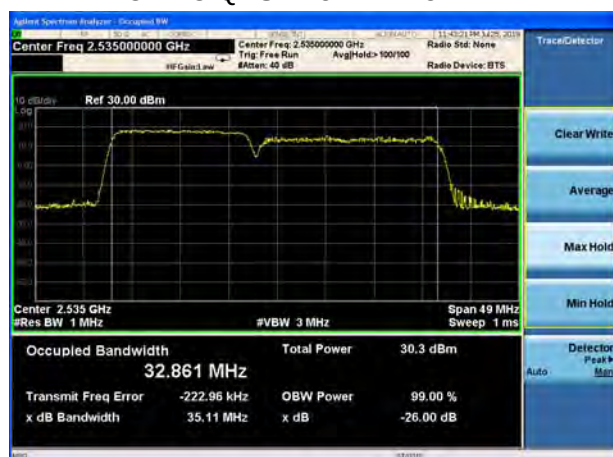


CA-7C 64QAM 15MHz+20MHz

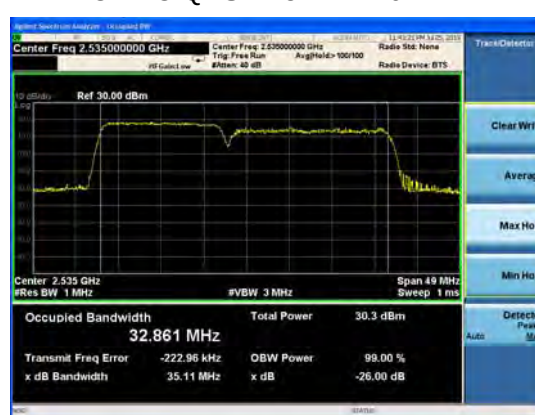




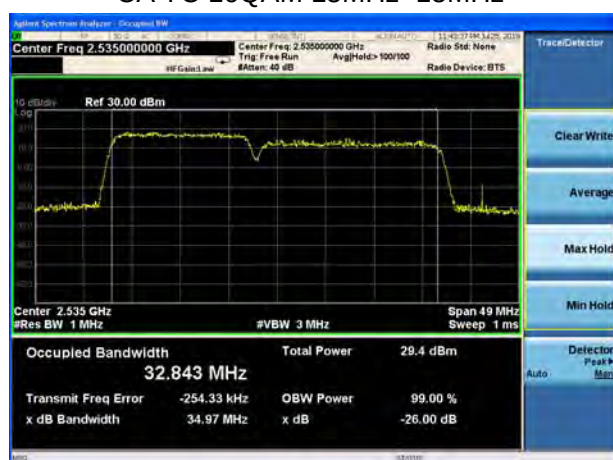
CA-7C QPSK 15MHz+15MHz



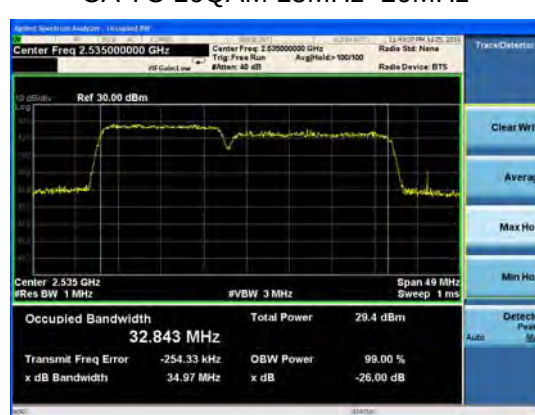
CA-7C QPSK 15MHz+20MHz



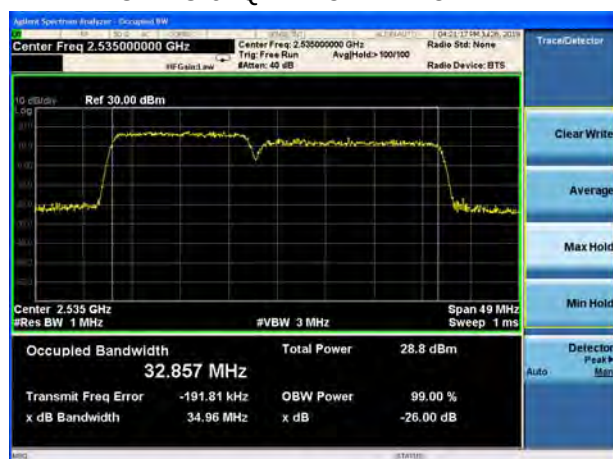
CA-7C 16QAM 15MHz+15MHz



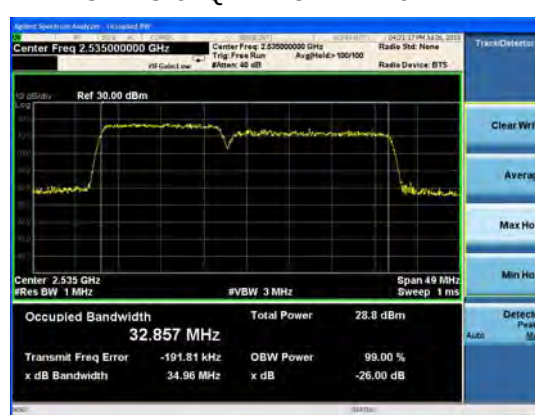
CA-7C 16QAM 15MHz+20MHz



CA-7C 64QAM 15MHz+15MHz

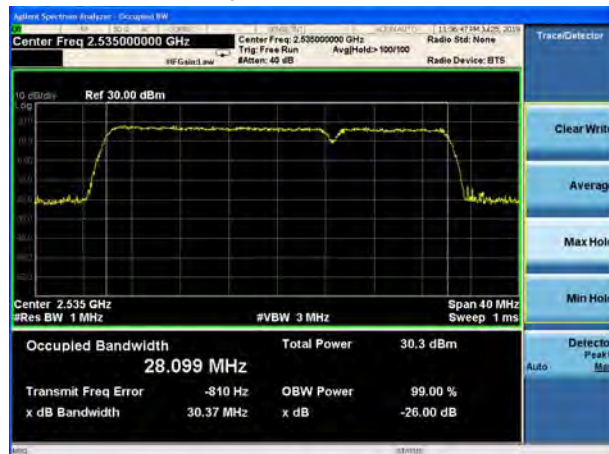


CA-7C 64QAM 15MHz+20MHz

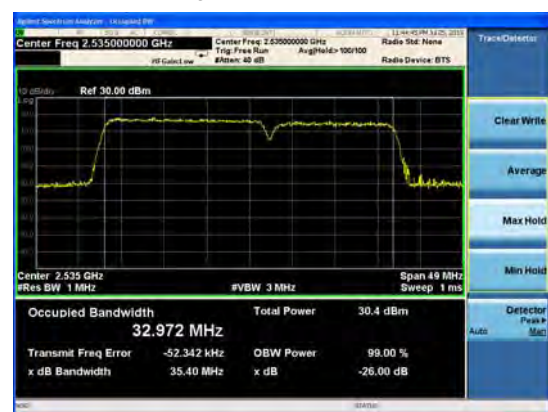




CA-7C QPSK 20MHz+10MHz



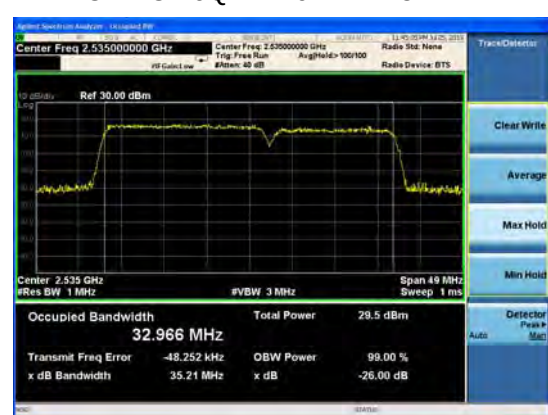
CA-7C QPSK 20MHz+15MHz



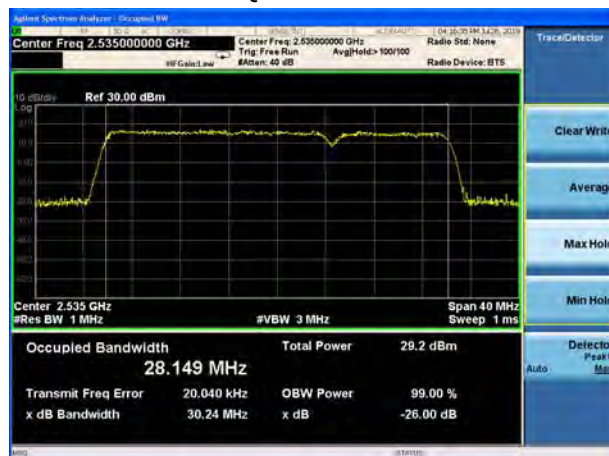
CA-7C 16QAM 20MHz+10MHz



CA-7C 16QAM 20MHz+15MHz

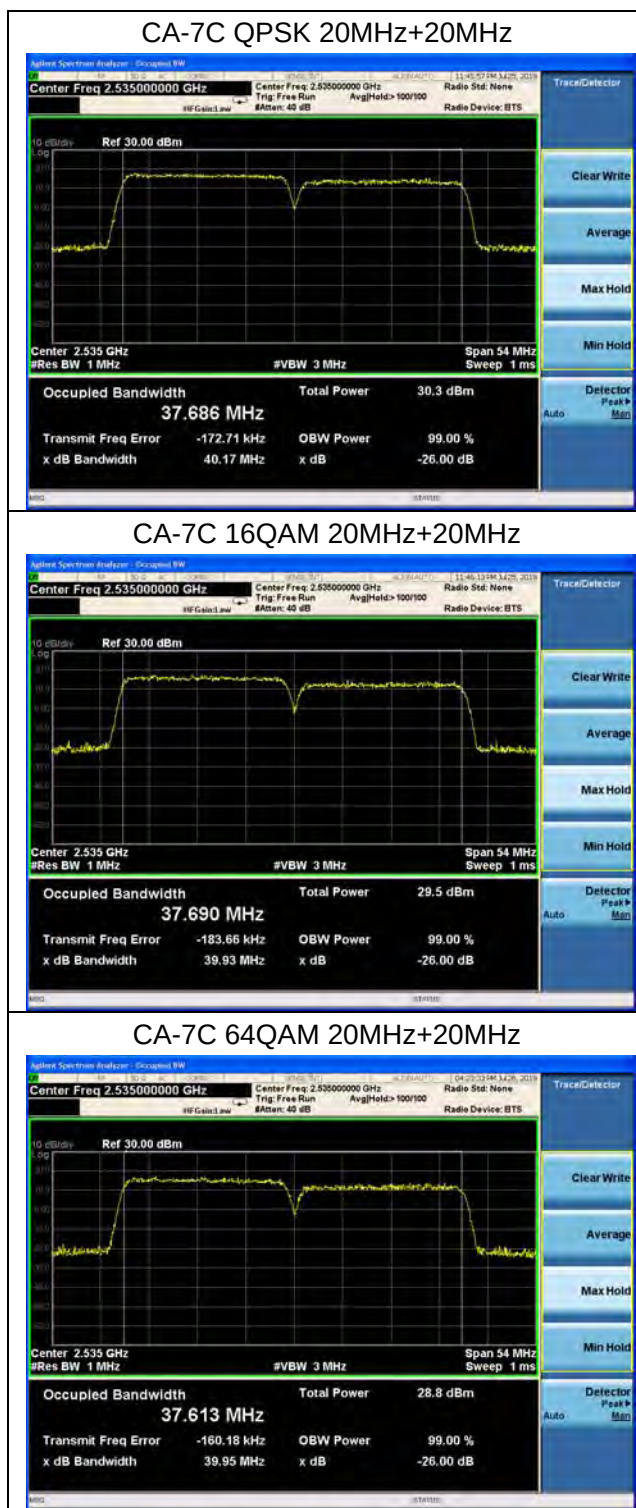


CA-7C 64QAM 20MHz+10MHz



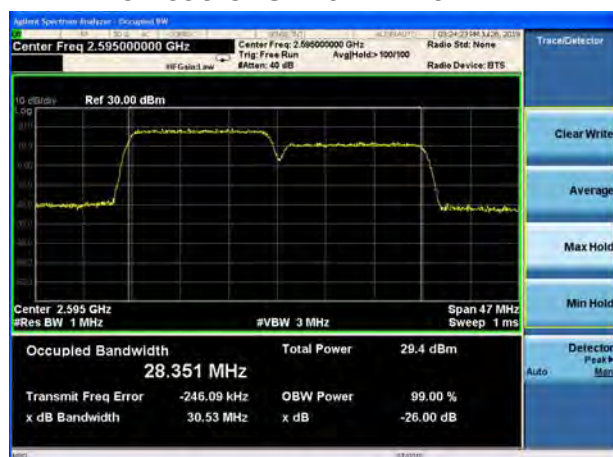
CA-7C 64QAM 20MHz+15MHz







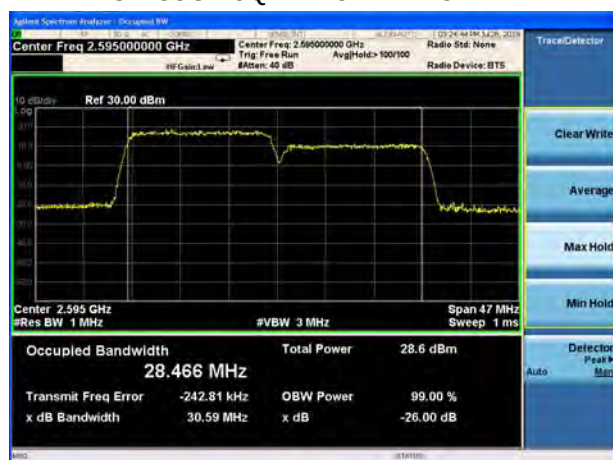
CA-38C OPSK 15MHz+15MHz



CA-38C OPSK 15MHz+20MHz



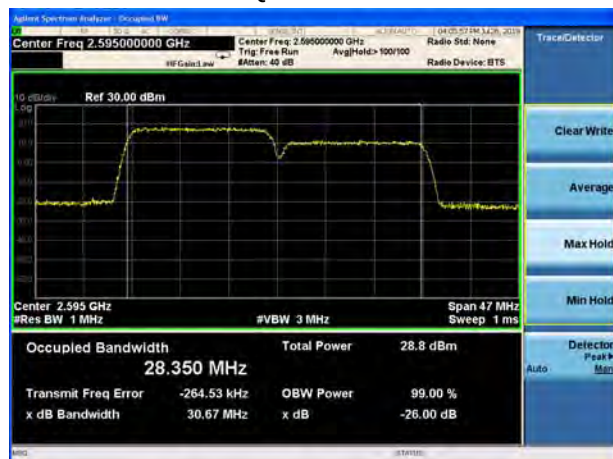
CA-38C 16QAM 15MHz+15MHz



CA-38C 16QAM 15MHz+20MHz



CA-38C 64QAM 15MHz+15MHz



CA-38C 64QAM 15MHz+20MHz



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 (1.4MHz).

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

RBW is set to 51 kHz, VBW is set to 160 kHz for LTE Band 4(5MHz).

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

RBW is set to 150 kHz, VBW is set to 510 kHz for LTE Band 4 (15MHz).

RBW is set to 200 kHz, VBW is set to 620 kHz for LTE Band 4 (20MHz)

RBW is set to 50 kHz, VBW is set to 200 kHz for LTE Band 7/38 (5MHz).

RBW is set to 100 kHz, VBW is set to 300kHz for LTE Band 7/38(10MHz).

RBW is set to 200kHz, VBW is set to 1MHz for LTE Band 7/38 (15MHz/20MHz).

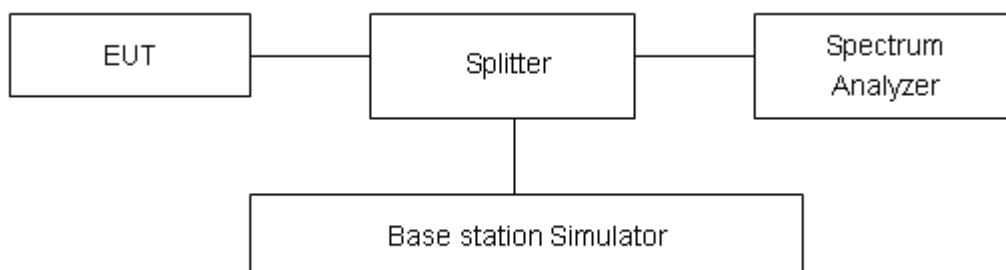
on spectrum analyzer.

Set spectrum analyzer with RMS detector.

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

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

Test Setup



Limits

Rule Part 27.53(h) specifies that “ for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB”

Rule Part 27.53(m) (4)/ specifies that “for BRS and EBS stations. For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Example:

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

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

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

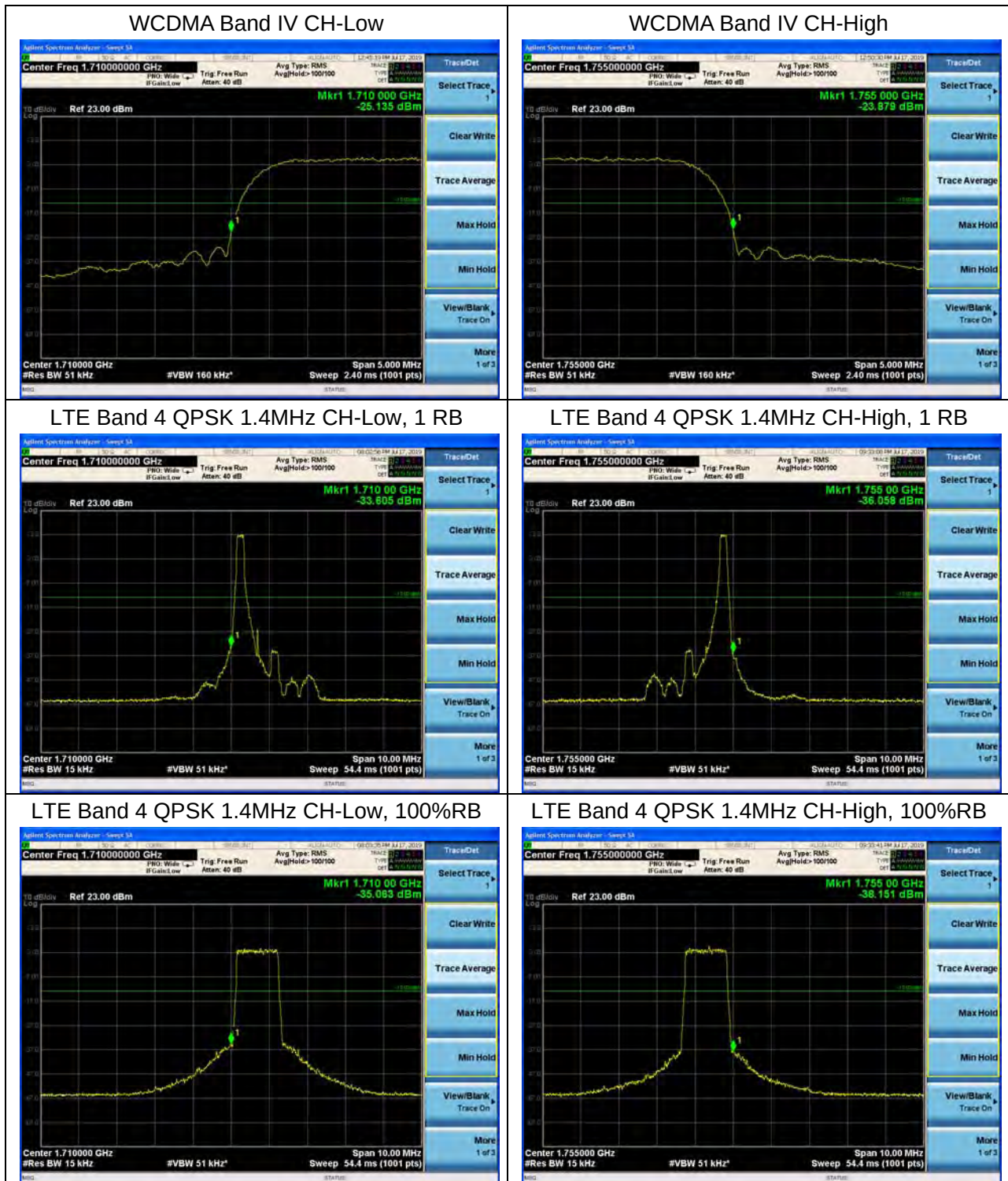
Measurement Uncertainty

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



Test Result

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



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



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





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



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



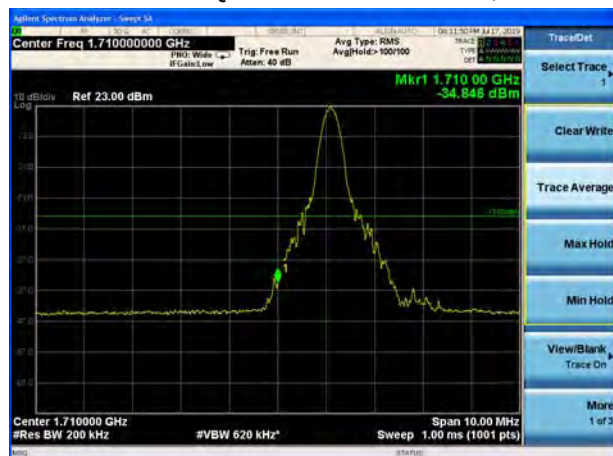
LTE Band 4 QPSK 15MHz CH-Low, 100%RB



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





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



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



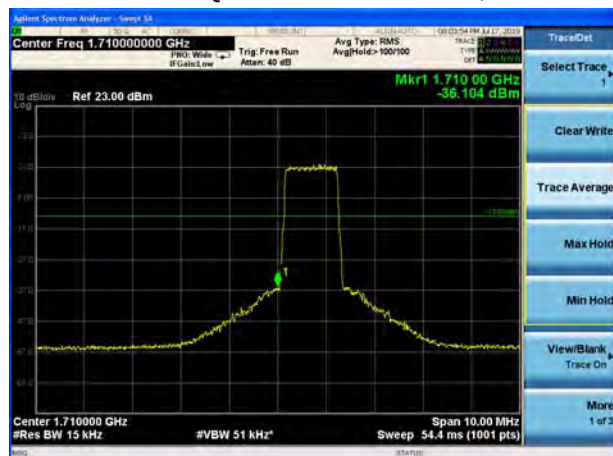
LTE Band 4 16QAM 1.4MHz CH-Low, 1 RB



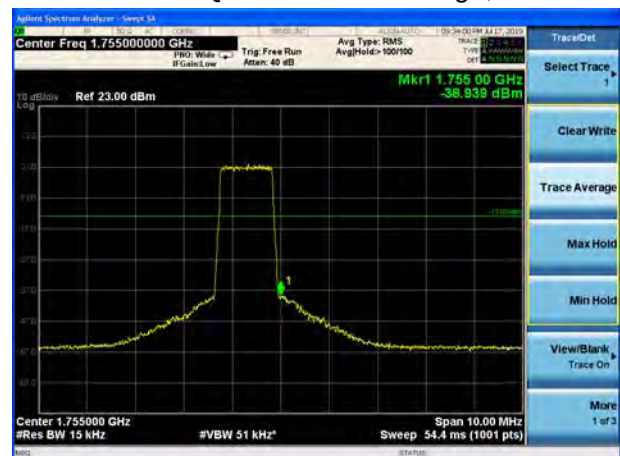
LTE Band 4 16QAM 1.4MHz CH-High, 1 RB



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



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



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



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





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



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



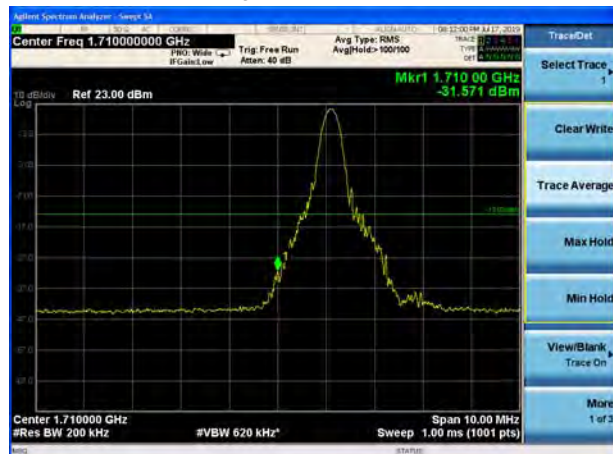
LTE Band 4 16QAM 15MHz CH-Low, 100%RB



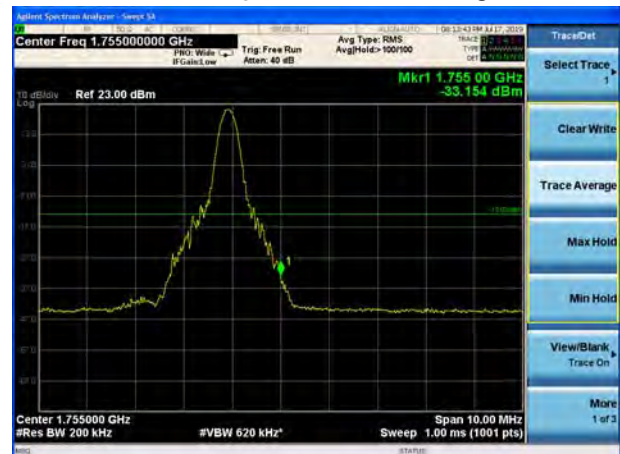
LTE Band 4 16QAM 15MHz CH-High, 100%RB



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



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



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



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



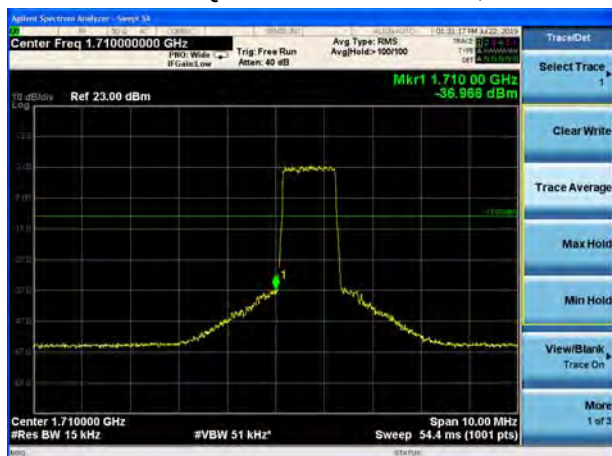
LTE Band 4 64QAM 1.4MHz CH-Low, 1 RB



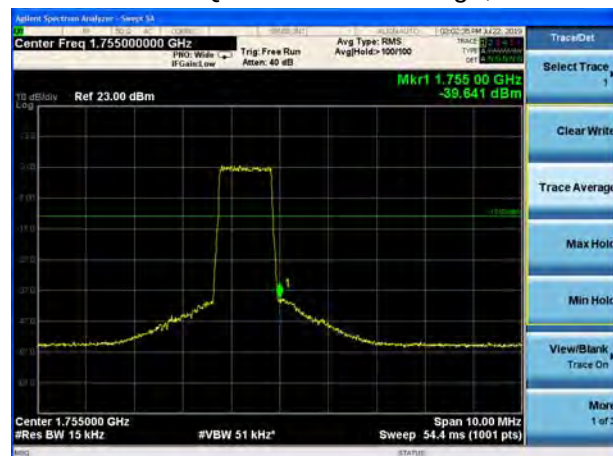
LTE Band 4 64QAM 1.4MHz CH-High, 1 RB



LTE Band 4 64QAM 1.4MHz CH-Low, 100%RB



LTE Band 4 64QAM 1.4MHz CH-High, 100%RB





LTE Band 4 64QAM 3MHz CH-Low, 1 RB



LTE Band 4 64QAM 3MHz CH-High, 1 RB



LTE Band 4 64QAM 3MHz CH-Low, 100%RB



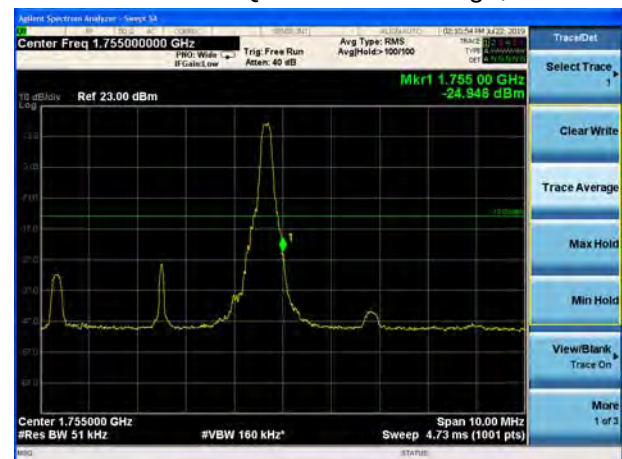
LTE Band 4 64QAM 3MHz CH-High, 100%RB



LTE Band 4 64QAM 5MHz CH-Low, 1 RB



LTE Band 4 64QAM 5MHz CH-High, 1 RB





LTE Band 4 64QAM 5MHz CH-Low, 100%RB



LTE Band 4 64QAM 5MHz CH-High, 100%RB



LTE Band 4 64QAM 10MHz CH-Low, 1 RB



LTE Band 4 64QAM 10MHz CH-High, 1 RB



LTE Band 4 64QAM 10MHz CH-Low, 100%RB

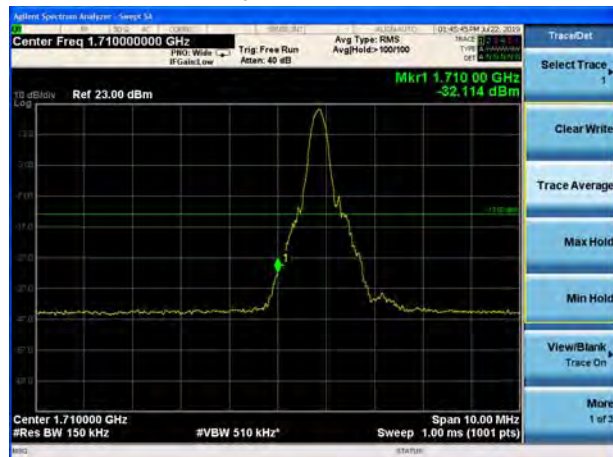


LTE Band 4 64QAM 10MHz CH-High, 100%RB





LTE Band 4 64QAM 15MHz CH-Low, 1 RB



LTE Band 4 64QAM 15MHz CH-High, 1 RB



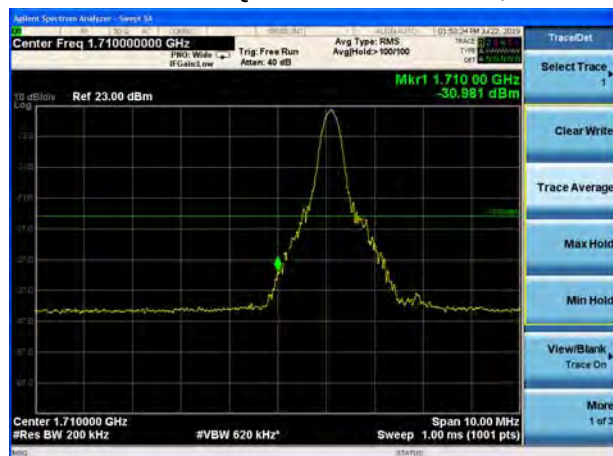
LTE Band 4 64QAM 15MHz CH-Low, 100%RB



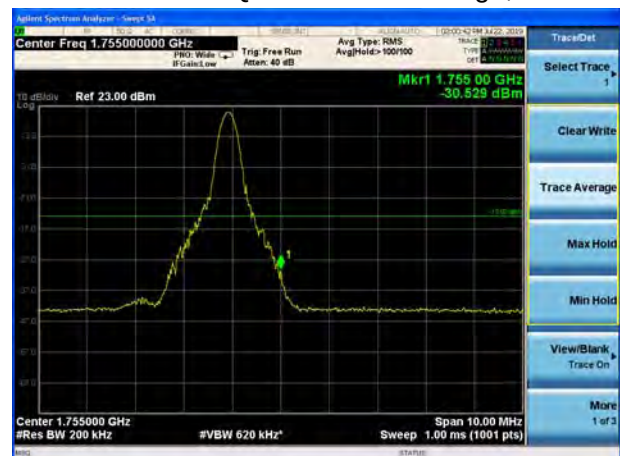
LTE Band 4 64QAM 15MHz CH-High, 100%RB



LTE Band 4 64QAM 20MHz CH-Low, 1 RB



LTE Band 4 64QAM 20MHz CH-High, 1 RB





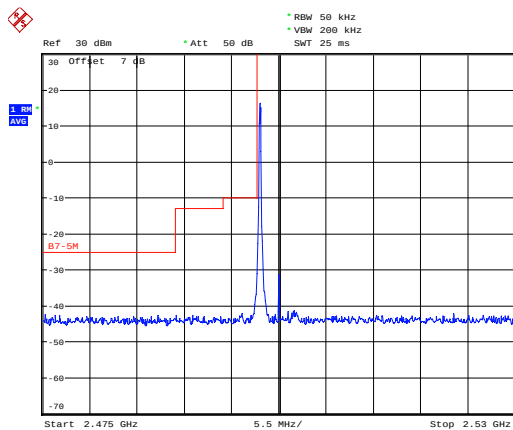
LTE Band 4 64QAM 20MHz CH-Low, 100%RB



LTE Band 4 64QAM 20MHz CH-High, 100%RB

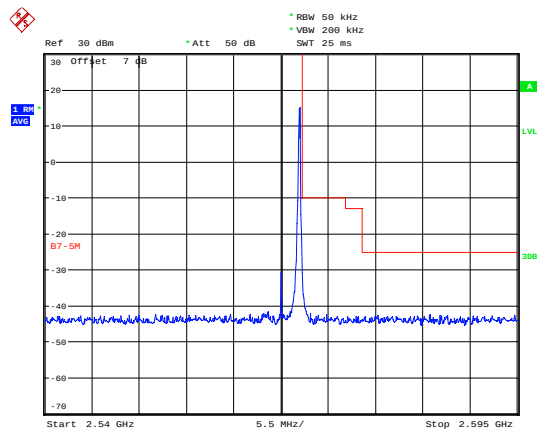


LTE Band 7 QPSK 5MHz CH-Low, 1 RB



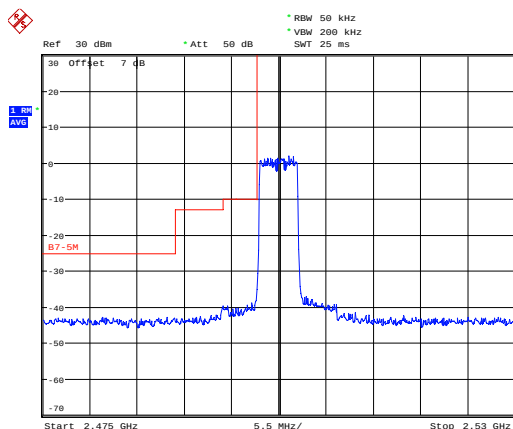
Date: 15.JUL.2019 20:11:15

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



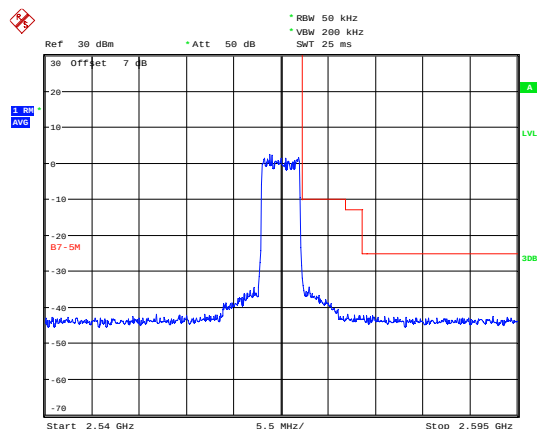
Date: 15.JUL.2019 20:19:00

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



Date: 15.JUL.2019 20:11:44

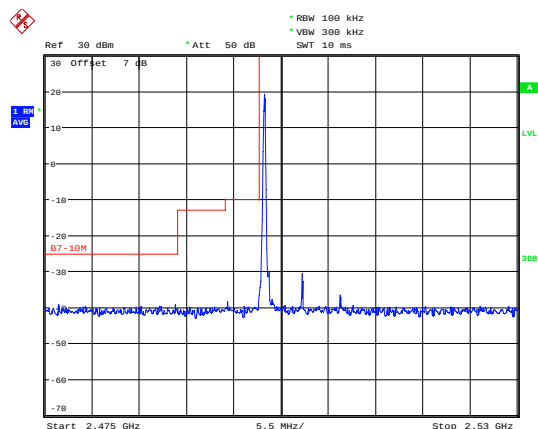
LTE Band 7 QPSK 5MHz CH-High, 100%RB



Date: 15.JUL.2019 20:19:21

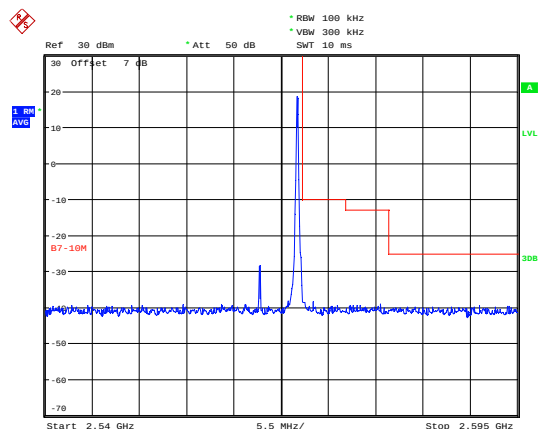


LTE Band 7 QPSK 10MHz CH-Low, 1 RB



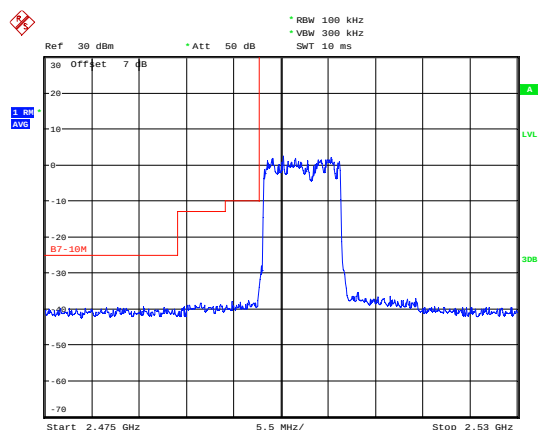
Date: 15.JUL.2019 20:12:58

LTE Band 7 QPSK 10MHz CH-High, 1 RB



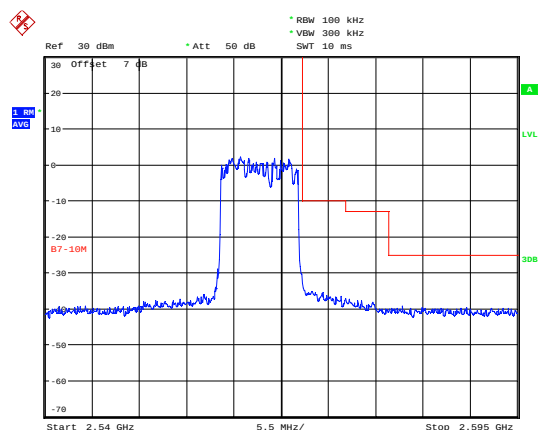
Date: 15.JUL.2019 20:20:13

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



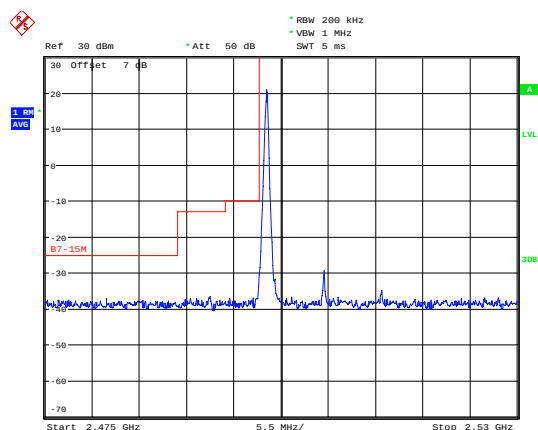
Date: 15.JUL.2019 20:13:42

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



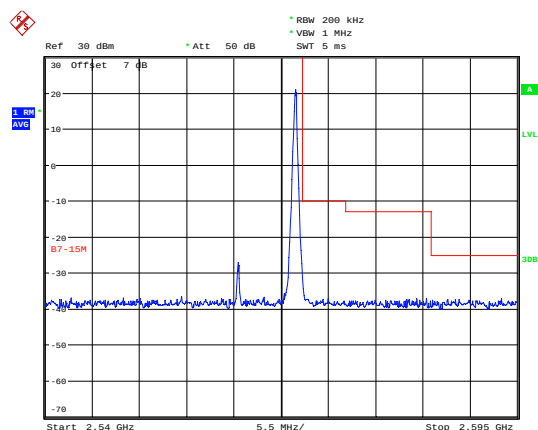
Date: 15.JUL.2019 20:20:34

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



Date: 15.JUL.2019 20:15:12

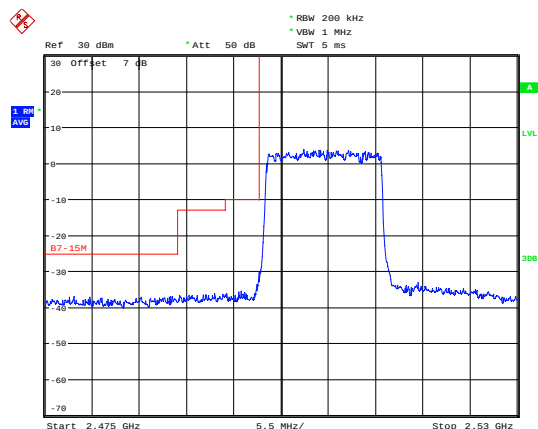
LTE Band 7 QPSK 15MHz CH-High, 1 RB



Date: 15.JUL.2019 20:21:29

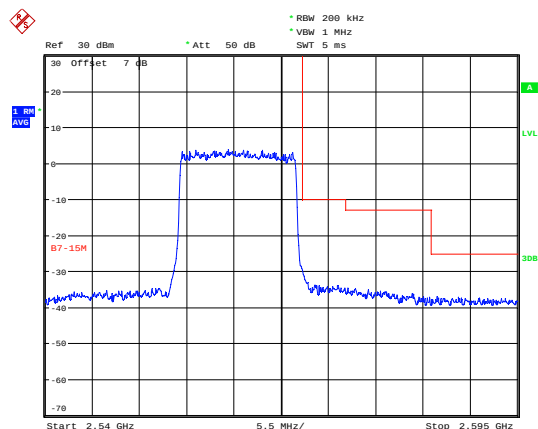


LTE Band 7 QPSK 15MHz CH-Low, 100%RB



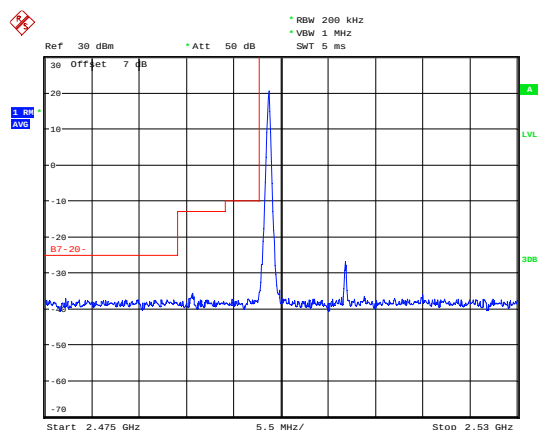
Date: 15.JUL.2019 20:15:31

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



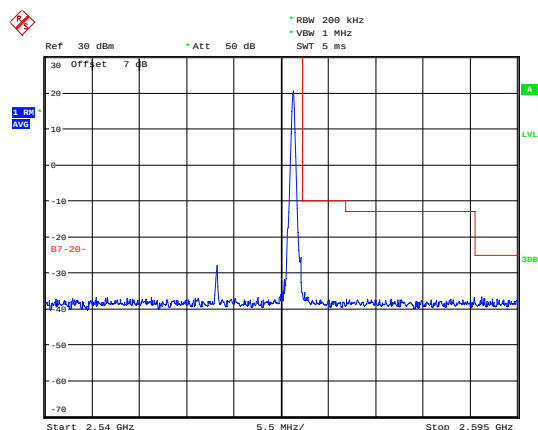
Date: 15.JUL.2019 20:21:50

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



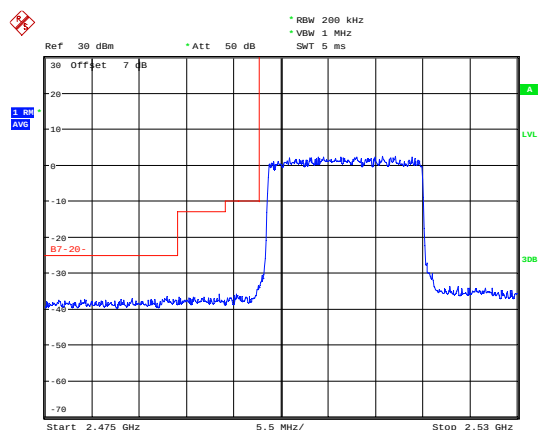
Date: 15.JUL.2019 20:16:19

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



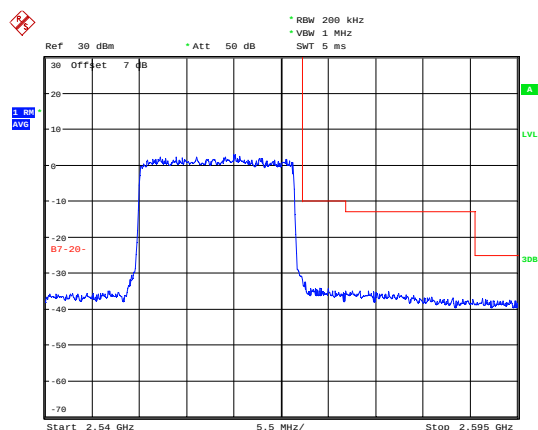
Date: 15.JUL.2019 20:17:33

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



Date: 15.JUL.2019 20:16:41

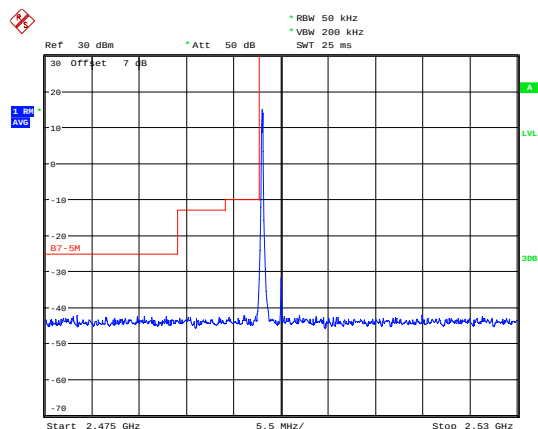
LTE Band 7 QPSK 20MHz CH-High, 100%RB



Date: 15.JUL.2019 20:17:55

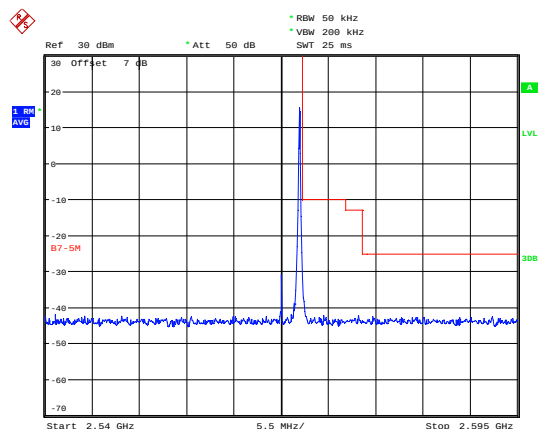


LTE Band 7 16QAM 5MHz CH-Low, 1 RB



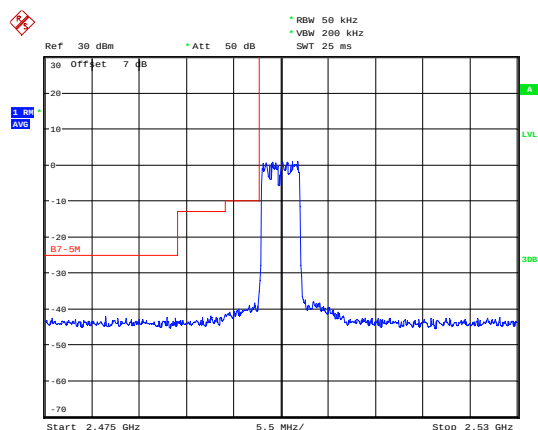
Date: 15.JUL.2019 20:11:32

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



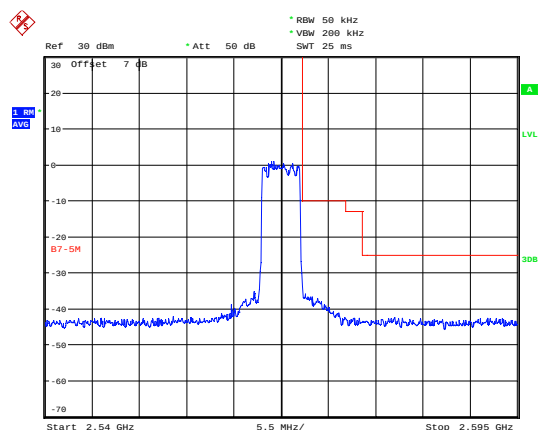
Date: 15.JUL.2019 20:19:09

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



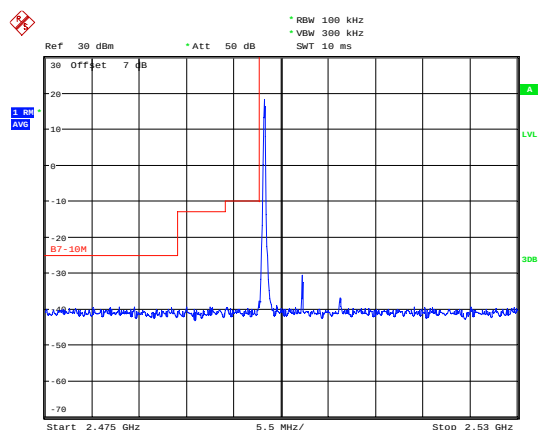
Date: 15.JUL.2019 20:11:54

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



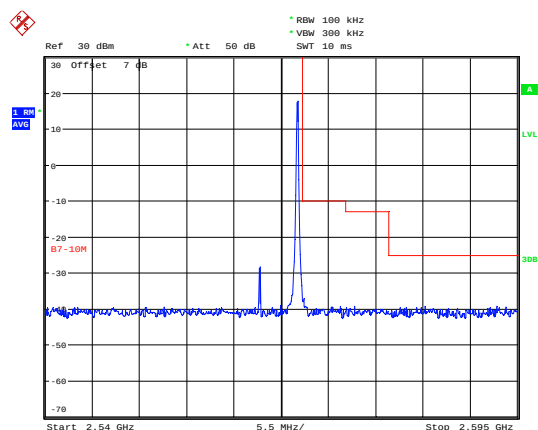
Date: 15.JUL.2019 20:19:30

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



Date: 15.JUL.2019 20:13:31

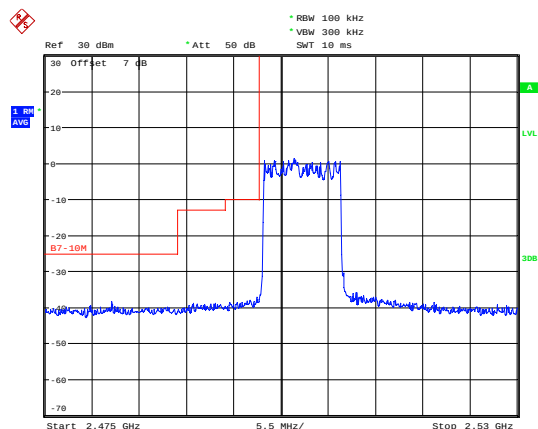
LTE Band 7 16QAM 10MHz CH-High, 1 RB



Date: 15.JUL.2019 20:28:23

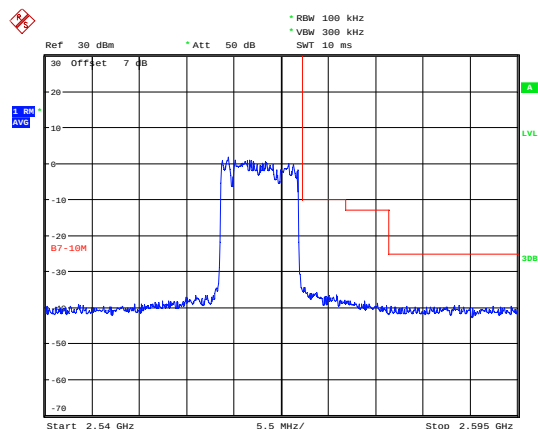


LTE Band 7 16QAM 10MHz CH-Low, 100%RB



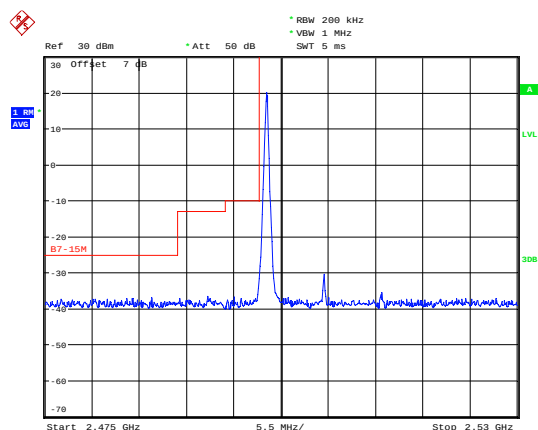
Date: 15.JUL.2019 20:13:50

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



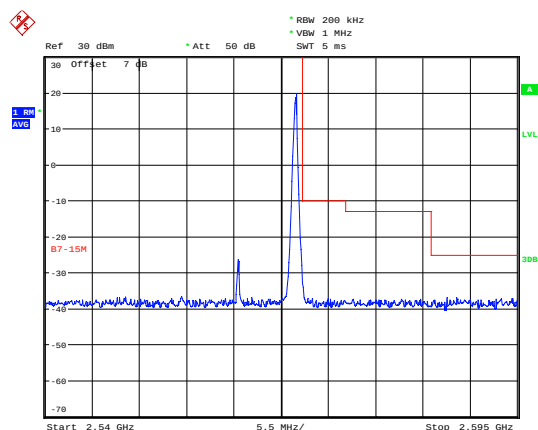
Date: 15.JUL.2019 20:20:43

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



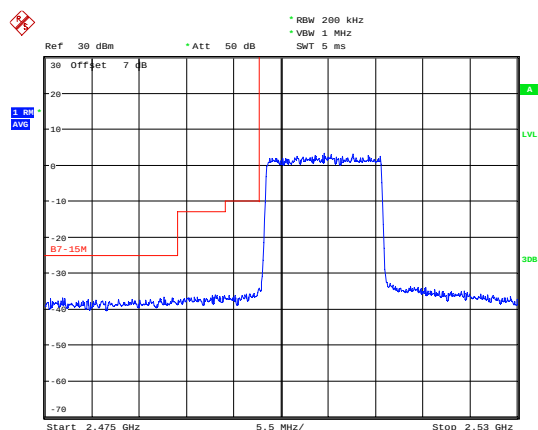
Date: 15.JUL.2019 20:15:21

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



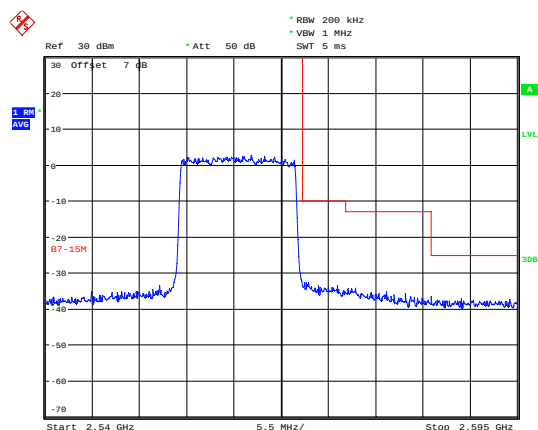
Date: 15.JUL.2019 20:21:39

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



Date: 15.JUL.2019 20:15:39

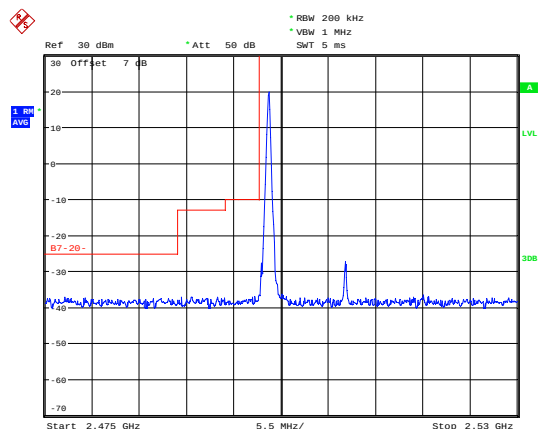
LTE Band 7 16QAM 15MHz CH-High, 100%RB



Date: 15.JUL.2019 20:22:00

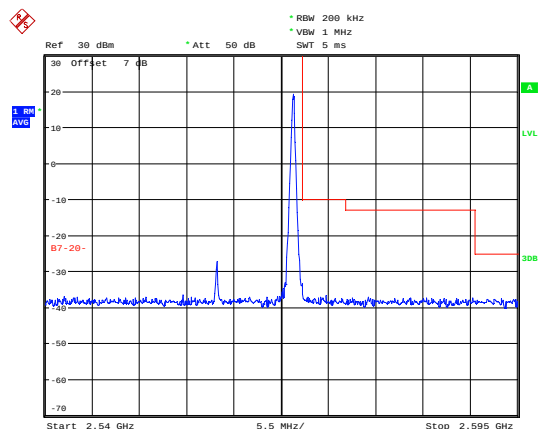


LTE Band 7 16QAM 20MHz CH-Low, 1 RB



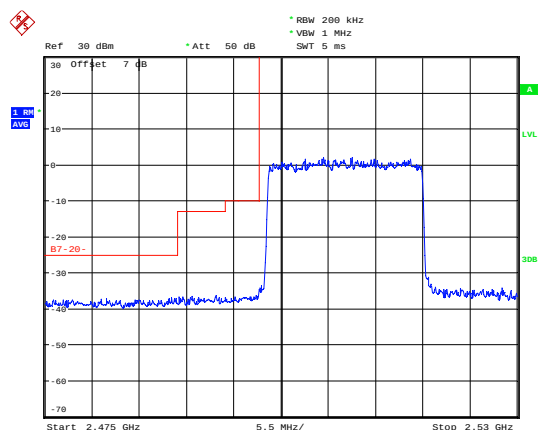
Date: 15.JUL.2019 20:16:30

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



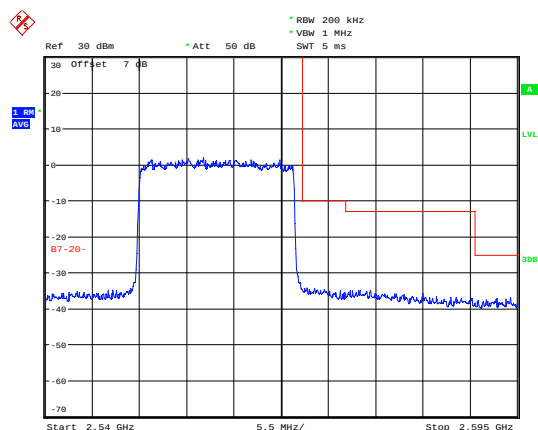
Date: 15.JUL.2019 20:17:45

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



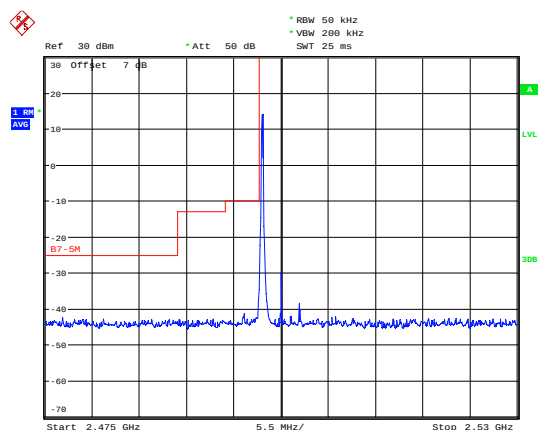
Date: 15.JUL.2019 20:16:53

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



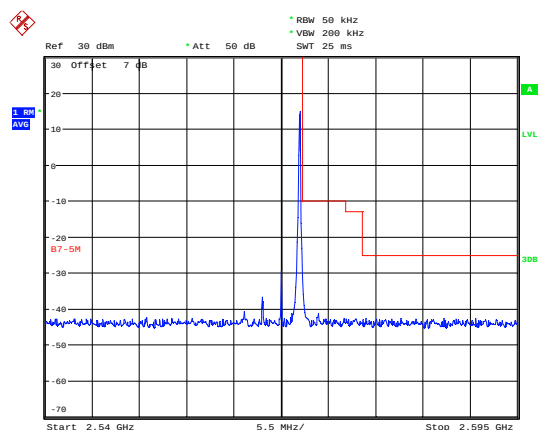
Date: 15.JUL.2019 20:18:04

LTE Band 7 64QAM 5MHz CH-Low, 1 RB



Date: 17.JUL.2019 15:07:50

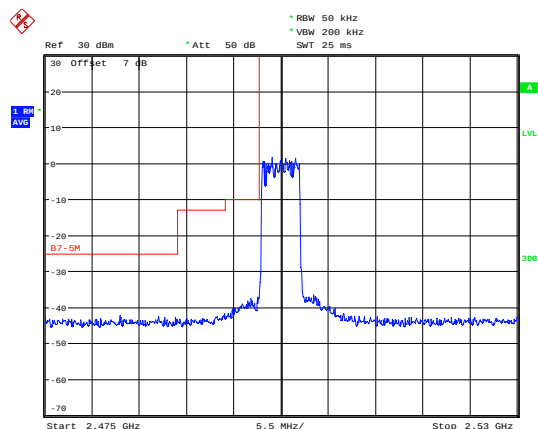
LTE Band 7 64QAM 5MHz CH-High, 1 RB



Date: 17.JUL.2019 15:14:57

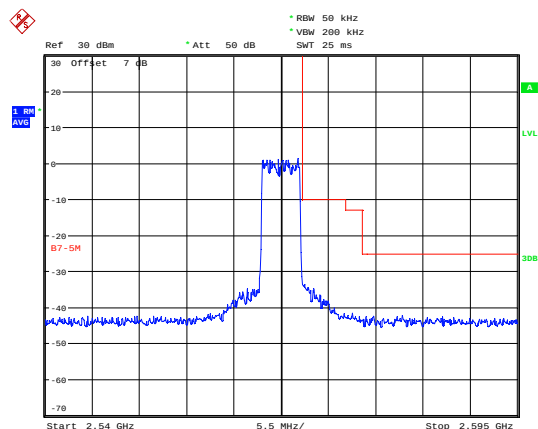


LTE Band 7 64QAM 5MHz CH-Low, 100%RB



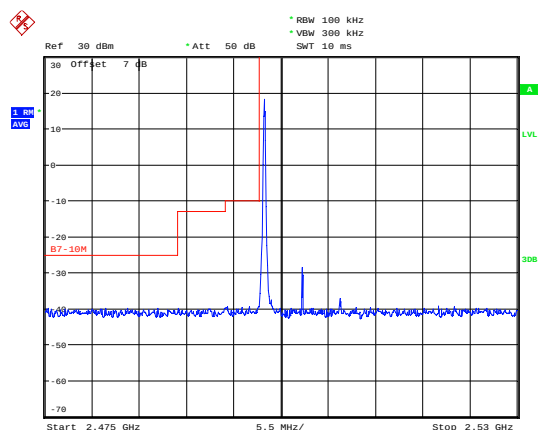
Date: 17.JUL.2019 15:08:02

LTE Band 7 64QAM 5MHz CH-High, 100%RB



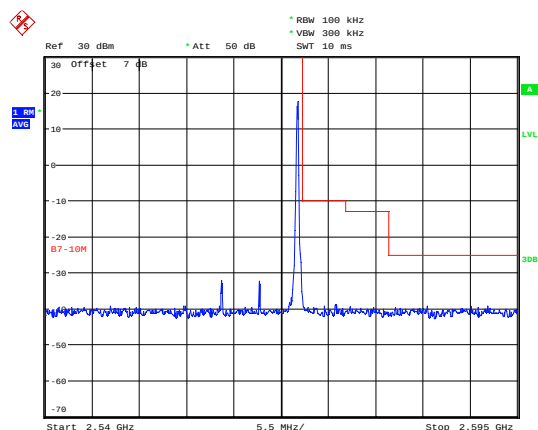
Date: 17.JUL.2019 15:15:07

LTE Band 7 64QAM 10MHz CH-Low, 1 RB



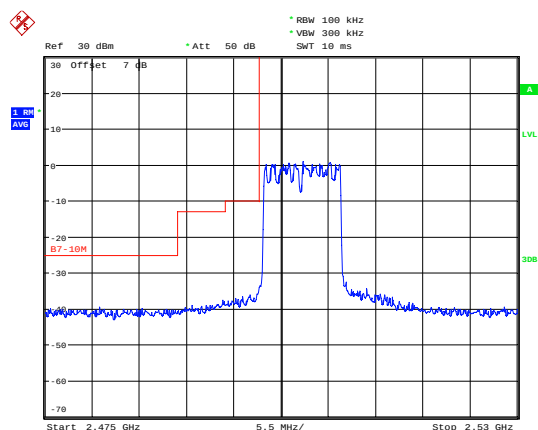
Date: 17.JUL.2019 15:09:04

LTE Band 7 64QAM 10MHz CH-High, 1 RB



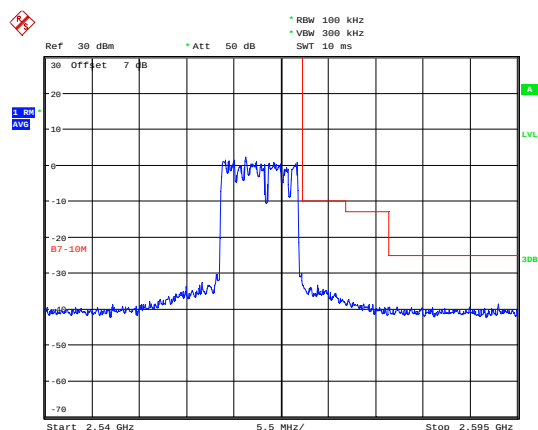
Date: 17.JUL.2019 15:14:00

LTE Band 7 64QAM 10MHz CH-Low, 100%RB



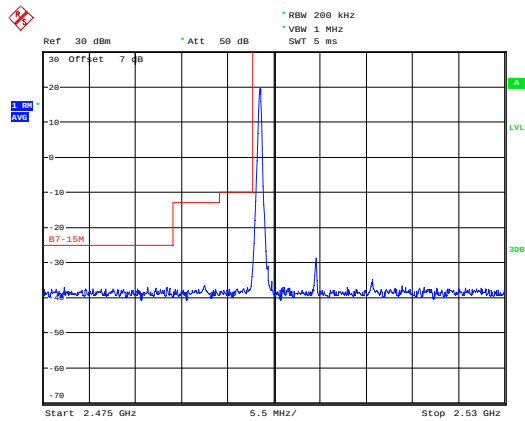
Date: 17.JUL.2019 15:09:17

LTE Band 7 64QAM 10MHz CH-High, 100%RB



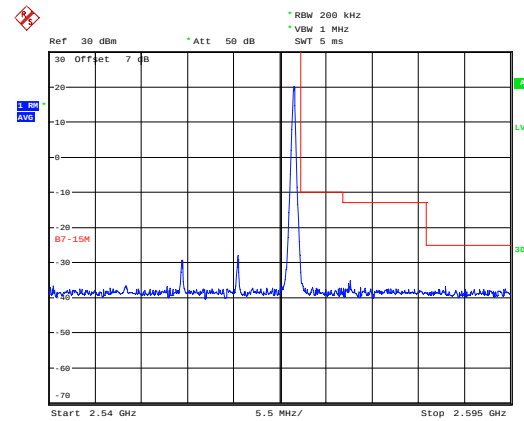
Date: 17.JUL.2019 15:14:18

LTE Band 7 64QAM 15MHz CH-Low, 1 RB



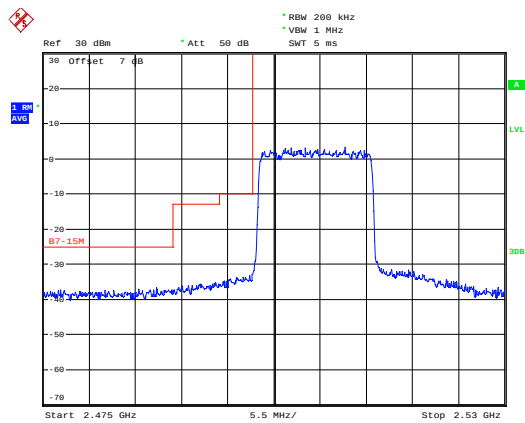
Date: 17.JUL.2019 15:10:03

LTE Band 7 64QAM 15MHz CH-High, 1 RB



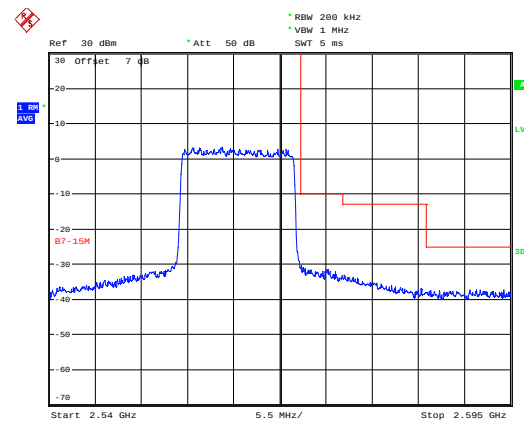
Date: 17.JUL.2019 15:13:17

LTE Band 7 64QAM 15MHz CH-Low, 100%RB



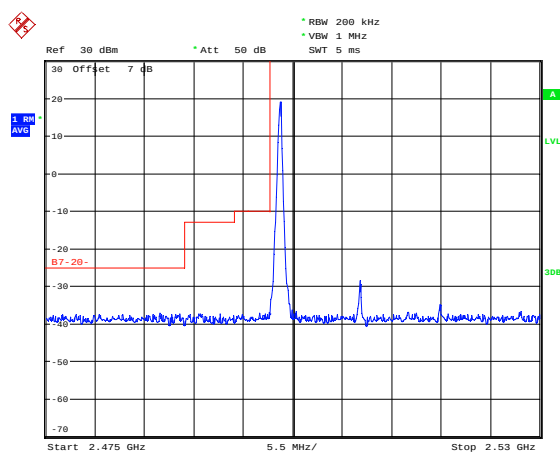
Date: 17.JUL.2019 15:10:13

LTE Band 7 64QAM 15MHz CH-High, 100%RB



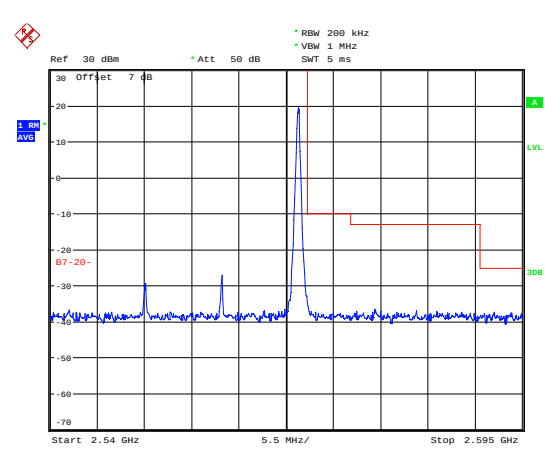
Date: 17.JUL.2019 15:13:26

LTE Band 7 64QAM 20MHz CH-Low, 1 RB



Date: 17.JUL.2019 15:11:08

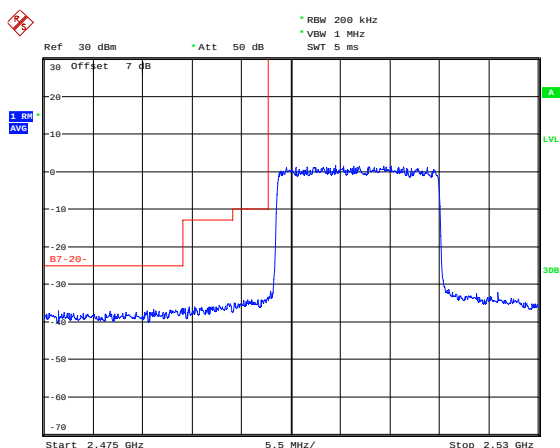
LTE Band 7 64QAM 20MHz CH-High, 1 RB



Date: 17.JUL.2019 15:12:07

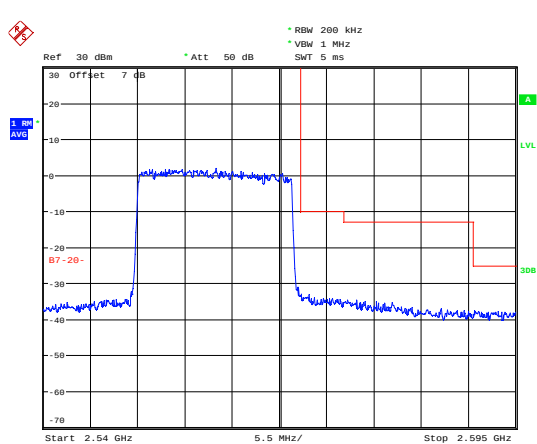


LTE Band 7 64QAM 20MHz CH-Low, 100%RB



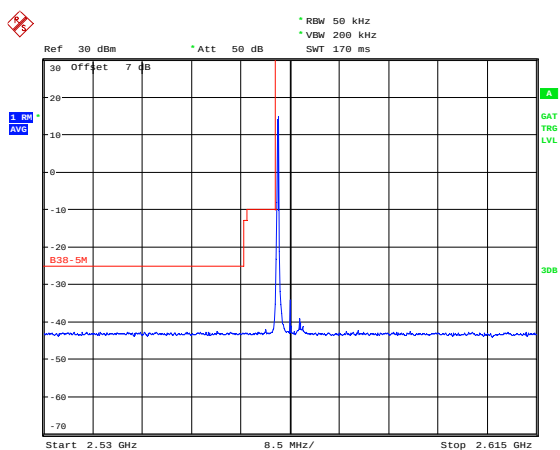
Date: 17.JUL.2019 15:11:19

LTE Band 7 64QAM 20MHz CH-High, 100%RB



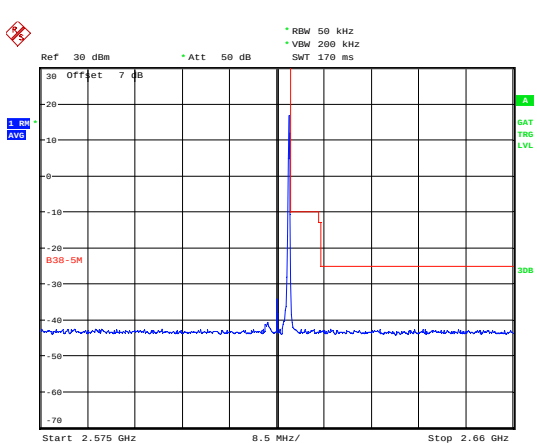
Date: 17.JUL.2019 15:12:16

LTE Band 38 QPSK 5MHz CH-Low, 1 RB



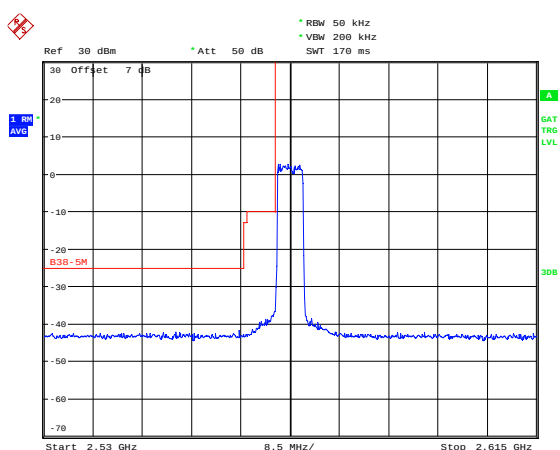
Date: 15.JUL.2019 21:23:05

LTE Band 38 QPSK 5MHz CH-High, 1 RB



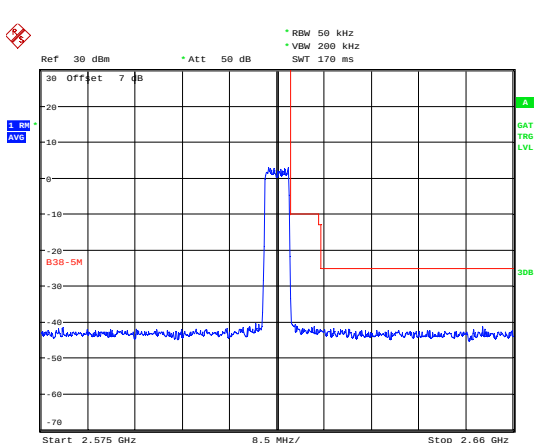
Date: 15.JUL.2019 22:14:28

LTE Band 38 QPSK 5MHz CH-Low, 100%RB



Date: 15.JUL.2019 21:23:43

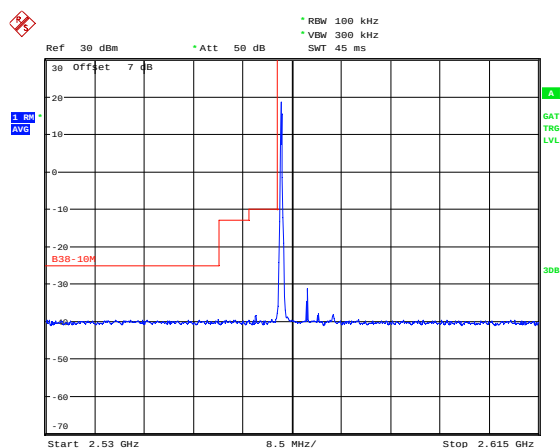
LTE Band 38 QPSK 5MHz CH-High, 100%RB



Date: 15.JUL.2019 22:14:54

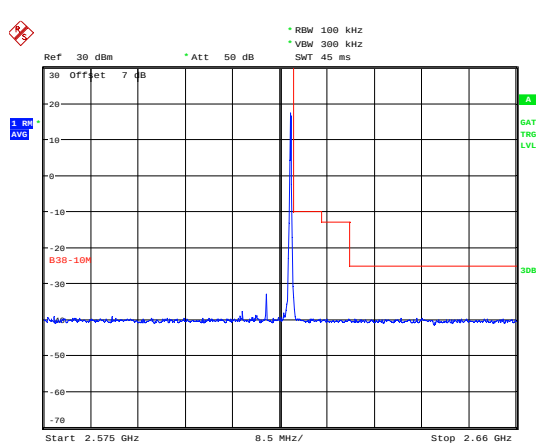


LTE Band 38 QPSK 10MHz CH-Low, 1 RB



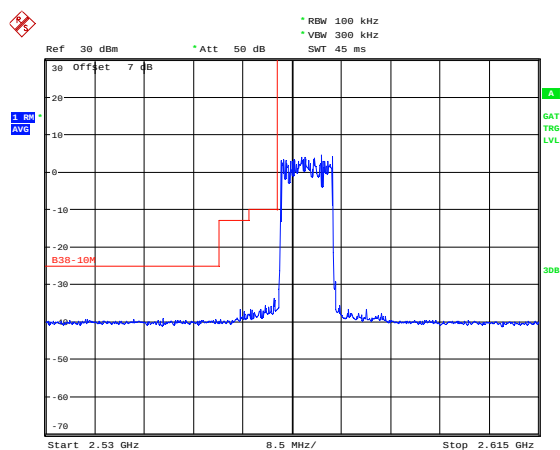
Date: 15.JUL.2019 21:34:35

LTE Band 38 QPSK 10MHz CH-High, 1 RB



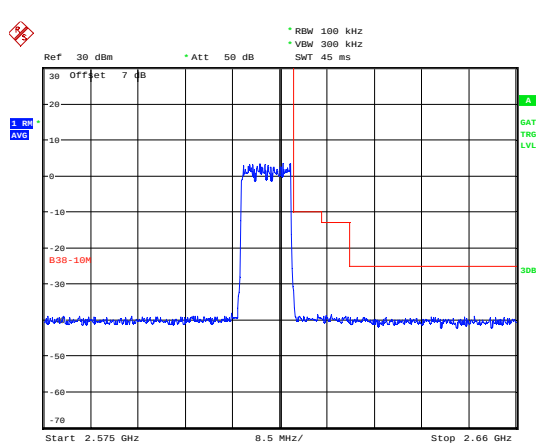
Date: 15.JUL.2019 22:15:42

LTE Band 38 QPSK 10MHz CH-Low, 100%RB



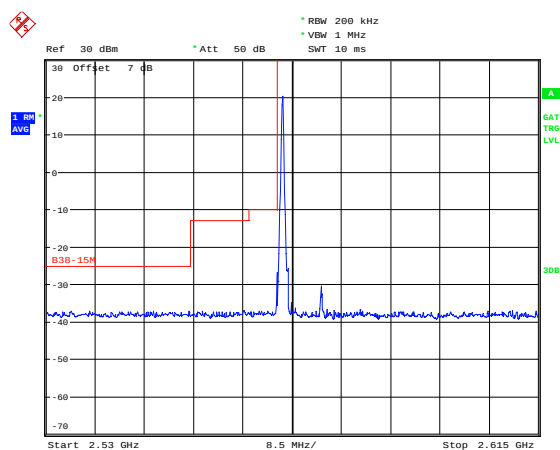
Date: 15.JUL.2019 21:40:40

LTE Band 38 QPSK 10MHz CH-High, 100%RB



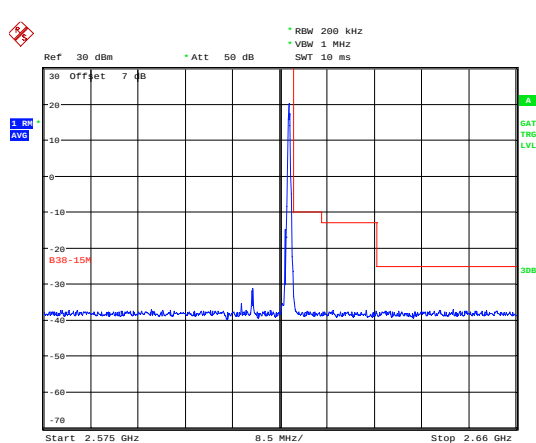
Date: 15.JUL.2019 22:16:38

LTE Band 38 QPSK 15MHz CH-Low, 1 RB



Date: 15.JUL.2019 22:06:41

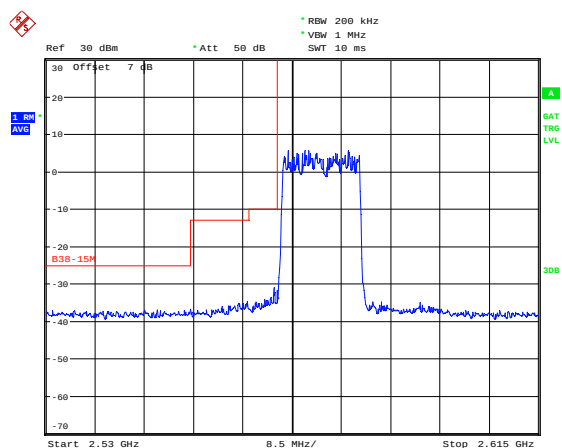
LTE Band 38 QPSK 15MHz CH-High, 1 RB



Date: 15.JUL.2019 22:12:32

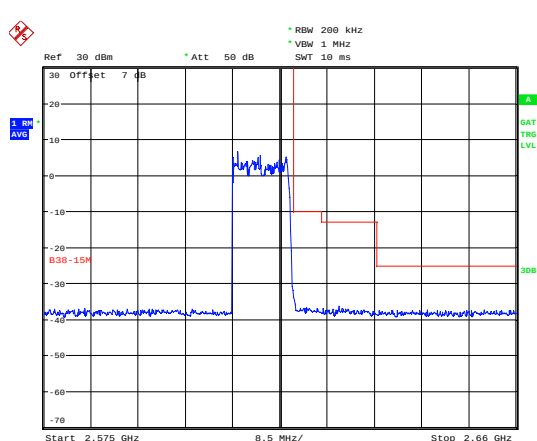


LTE Band 38 QPSK 15MHz CH-Low, 100%RB



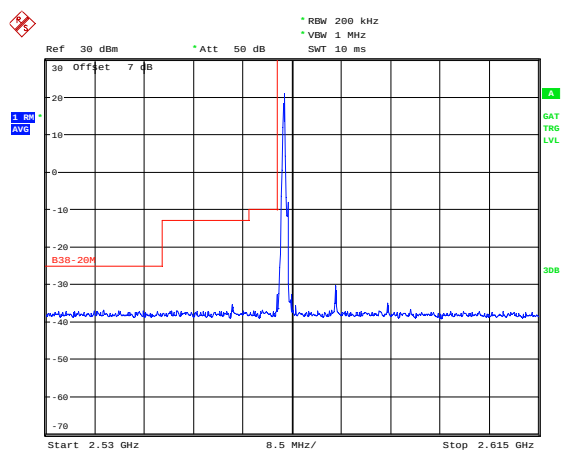
Date: 15.JUL.2019 22:07:07

LTE Band 38 QPSK 15MHz CH-High, 100%RB



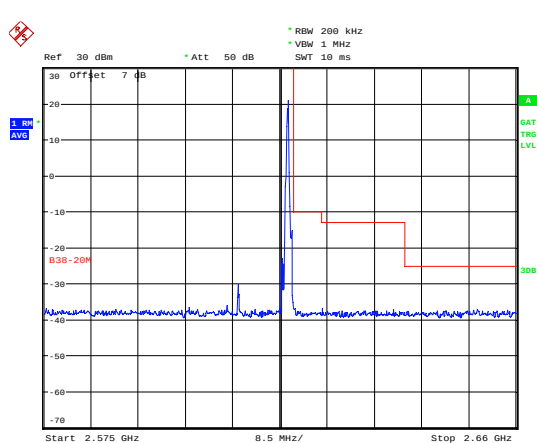
Date: 15.JUL.2019 22:13:16

LTE Band 38 QPSK 20MHz CH-Low, 1 RB



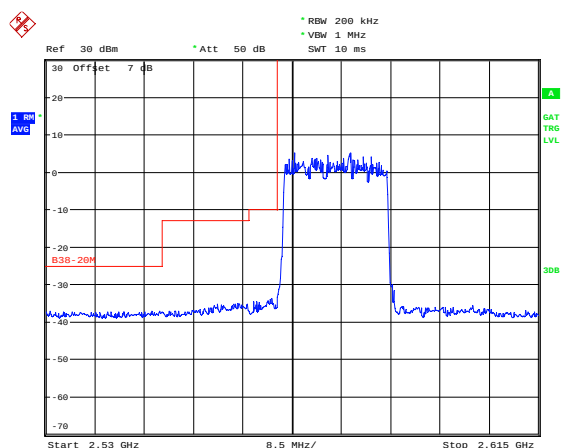
Date: 15.JUL.2019 22:10:11

LTE Band 38 QPSK 20MHz CH-High, 1 RB



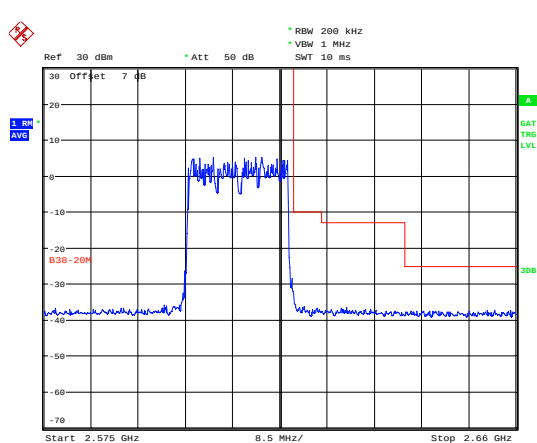
Date: 15.JUL.2019 22:11:31

LTE Band 38 QPSK 20MHz CH-Low, 100%RB



Date: 15.JUL.2019 22:10:38

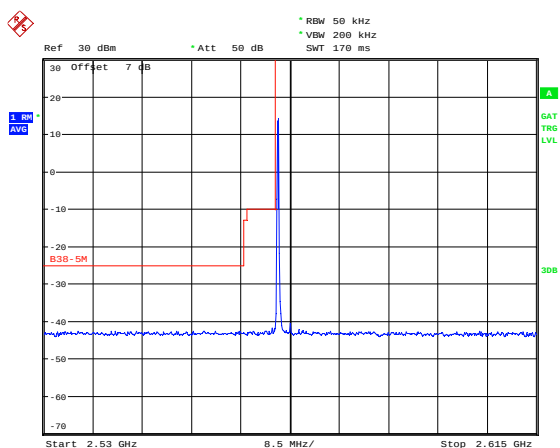
LTE Band 38 QPSK 20MHz CH-High, 100%RB



Date: 15.JUL.2019 22:11:49

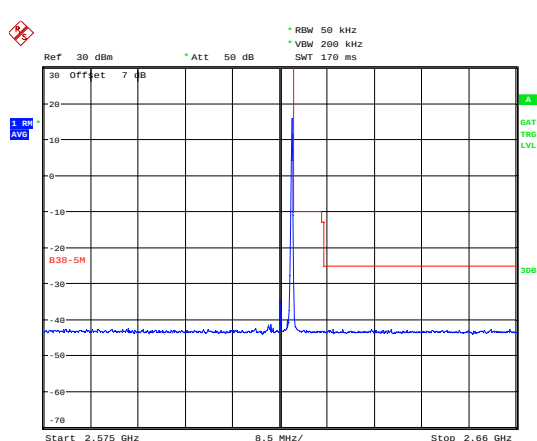


LTE Band 38 16QAM 5MHz CH-Low, 1 RB



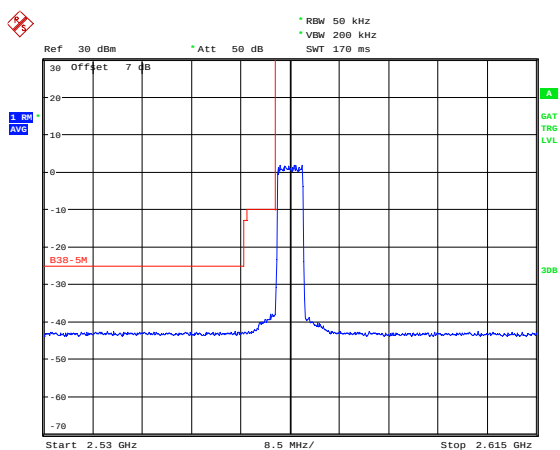
Date: 15.JUL.2019 21:23:26

LTE Band 38 16QAM 5MHz CH-High, 1 RB



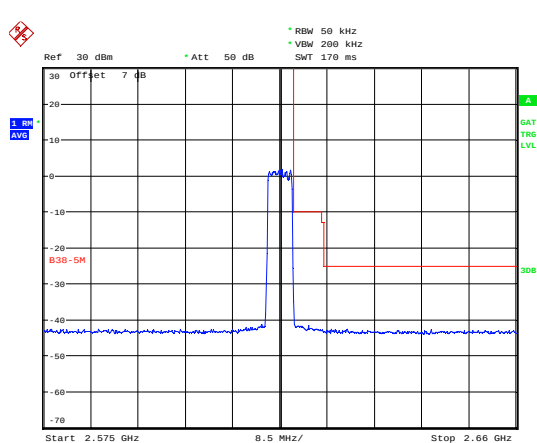
Date: 15.JUL.2019 22:14:41

LTE Band 38 16QAM 5MHz CH-Low, 100%RB



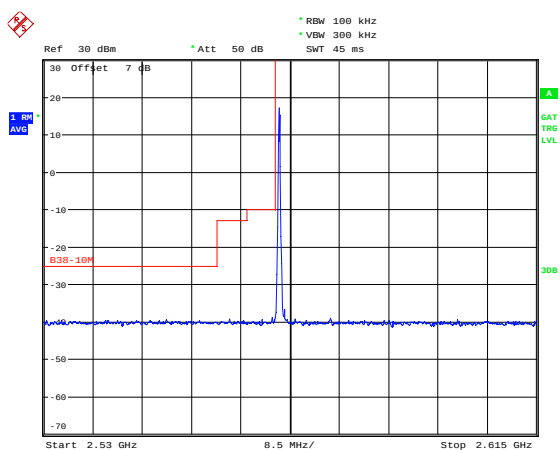
Date: 15.JUL.2019 21:23:56

LTE Band 38 16QAM 5MHz CH-High, 100%RB



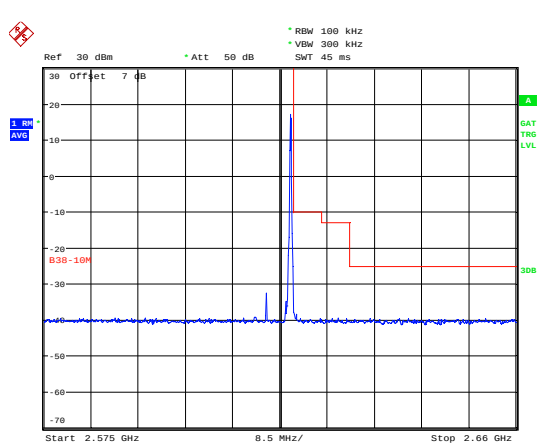
Date: 15.JUL.2019 22:15:06

LTE Band 38 16QAM 10MHz CH-Low, 1 RB



Date: 15.JUL.2019 21:39:55

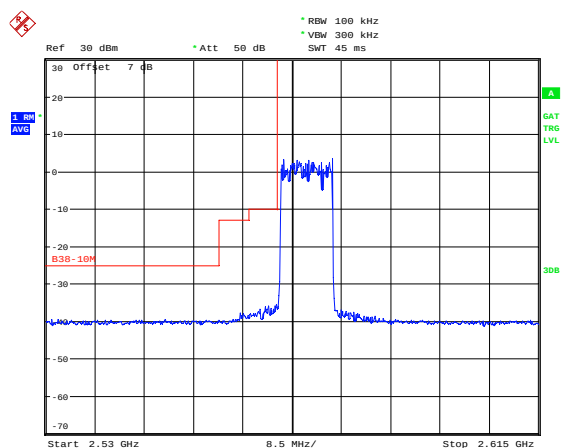
LTE Band 38 16QAM 10MHz CH-High, 1 RB



Date: 15.JUL.2019 22:16:25

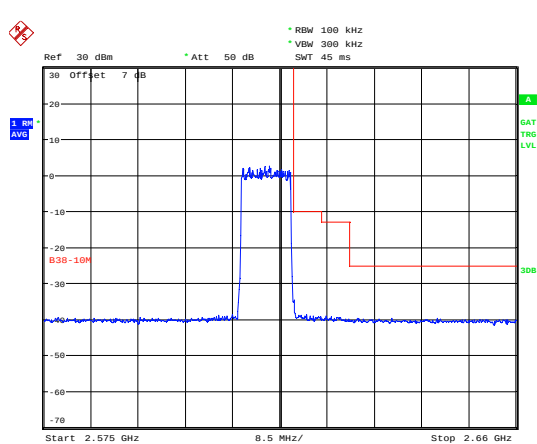


LTE Band 38 16QAM 10MHz CH-Low, 100%RB



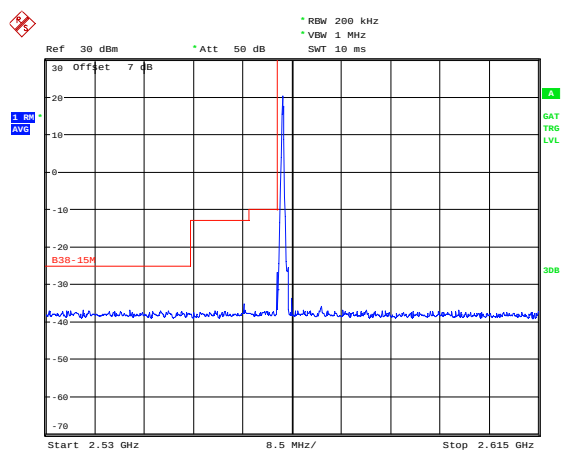
Date: 15.JUL.2019 21:40:50

LTE Band 38 16QAM 10MHz CH-High, 100%RB



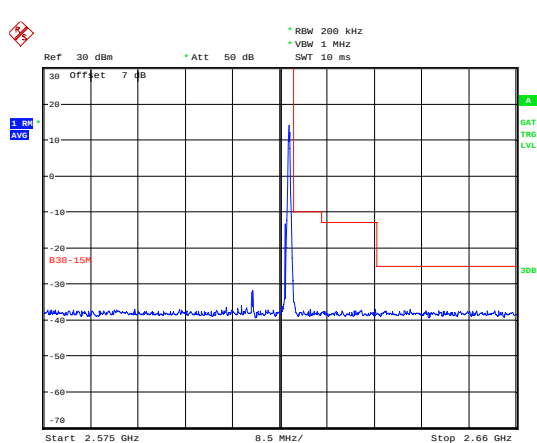
Date: 15.JUL.2019 22:16:49

LTE Band 38 16QAM 15MHz CH-Low, 1 RB



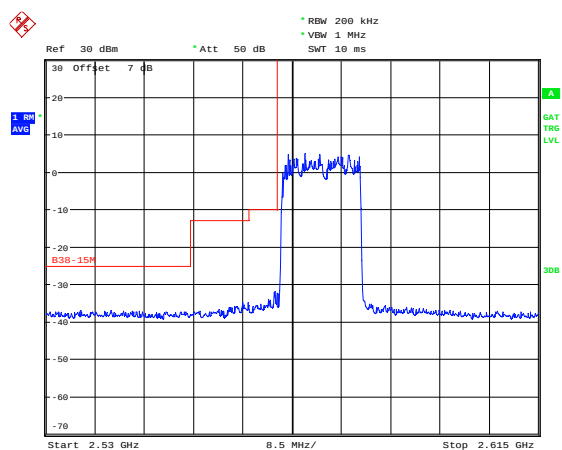
Date: 15.JUL.2019 22:06:56

LTE Band 38 16QAM 15MHz CH-High, 1 RB



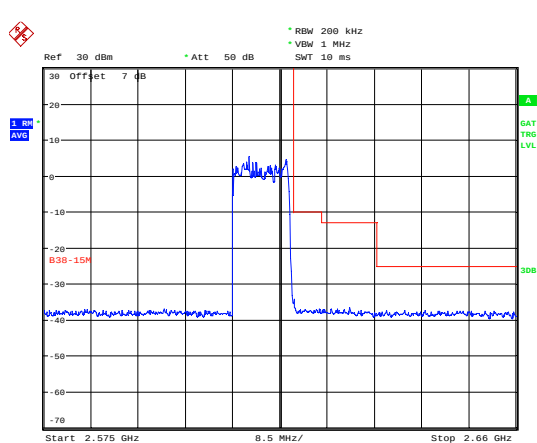
Date: 15.JUL.2019 22:13:01

LTE Band 38 16QAM 15MHz CH-Low, 100%RB



Date: 15.JUL.2019 22:07:16

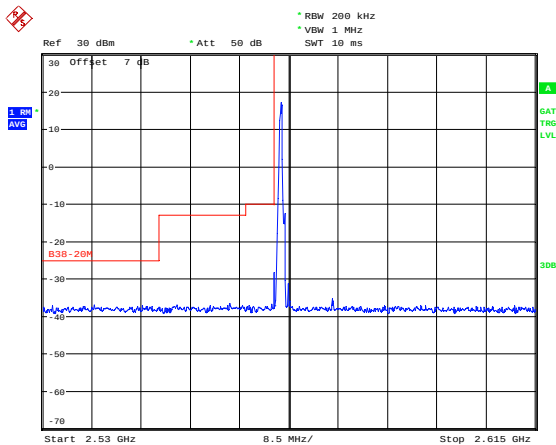
LTE Band 38 16QAM 15MHz CH-High, 100%RB



Date: 15.JUL.2019 22:13:25

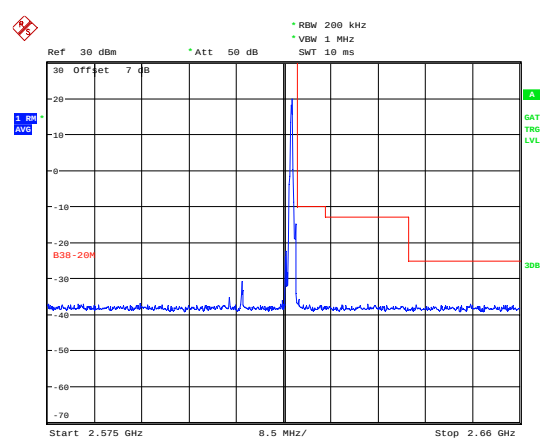


LTE Band 38 16QAM 20MHz CH-Low, 1 RB



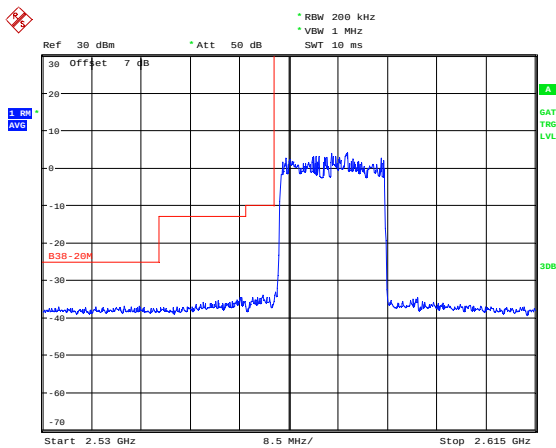
Date: 15.JUL.2019 22:10:20

LTE Band 38 16QAM 20MHz CH-High, 1 RB



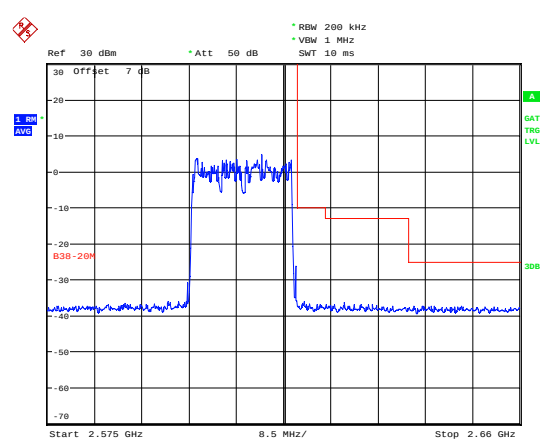
Date: 15.JUL.2019 22:11:39

LTE Band 38 16QAM 20MHz CH-Low, 100%RB



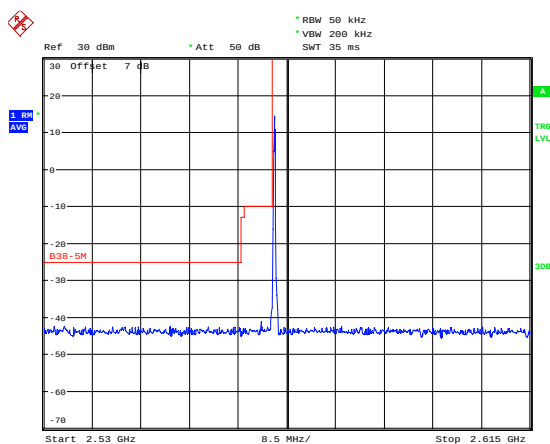
Date: 15.JUL.2019 22:10:47

LTE Band 38 16QAM 20MHz CH-High, 100%RB



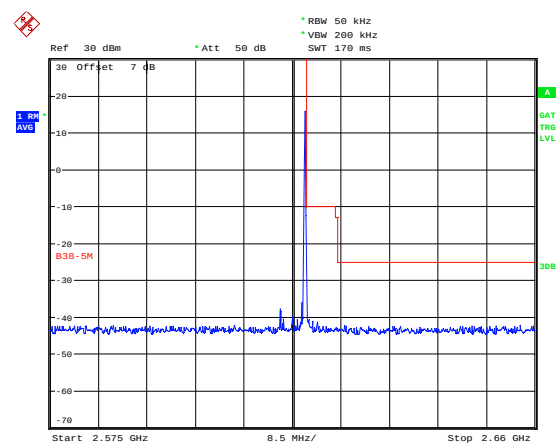
Date: 15.JUL.2019 22:12:01

LTE Band 38 64QAM 5MHz CH-Low, 1 RB



Date: 17.JUL.2019 15:17:16

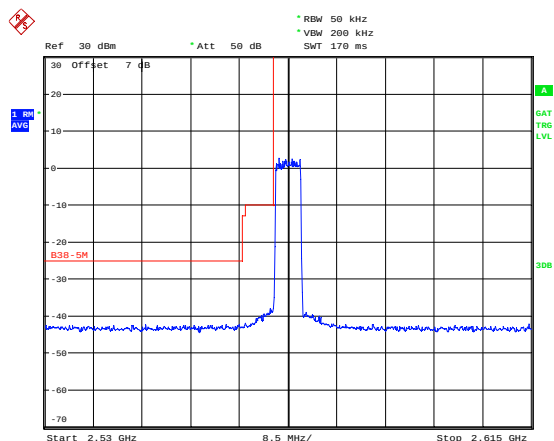
LTE Band 38 64QAM 5MHz CH-High, 1 RB



Date: 17.JUL.2019 15:29:05

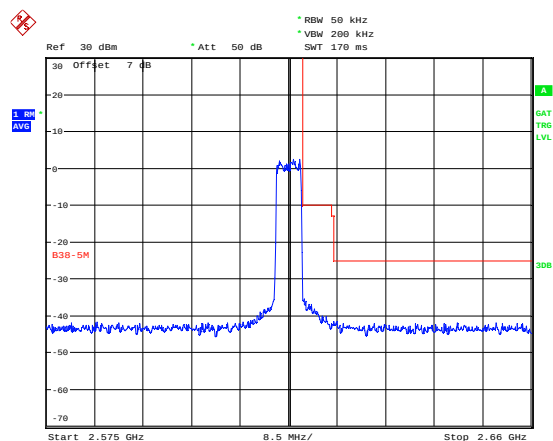


LTE Band 38 64QAM 5MHz CH-Low, 100%RB



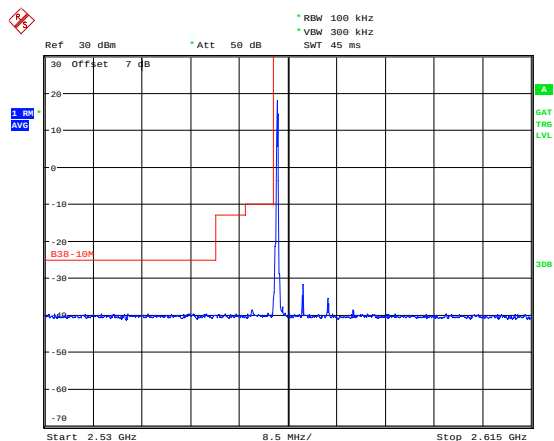
Date: 17.JUL.2019 15:17:48

LTE Band 38 64QAM 5MHz CH-High, 100%RB



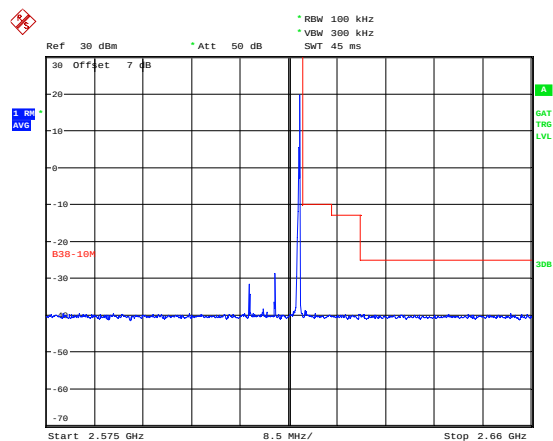
Date: 17.JUL.2019 15:29:19

LTE Band 38 64QAM 10MHz CH-Low, 1 RB



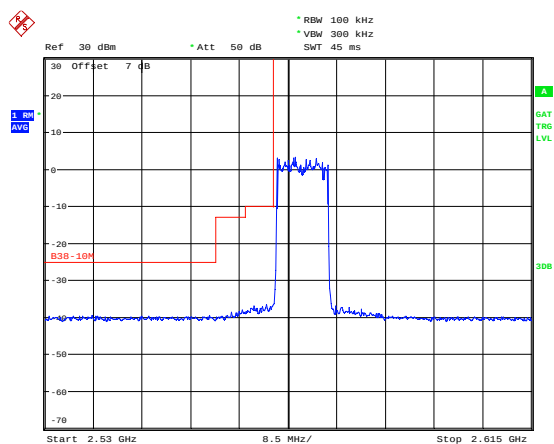
Date: 17.JUL.2019 15:18:40

LTE Band 38 64QAM 10MHz CH-High, 1 RB



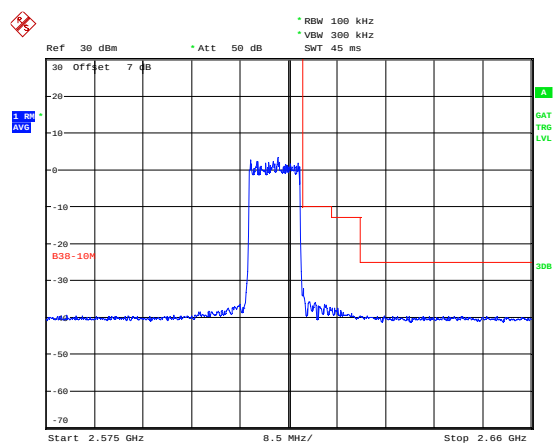
Date: 17.JUL.2019 15:26:19

LTE Band 38 64QAM 10MHz CH-Low, 100%RB



Date: 17.JUL.2019 15:18:59

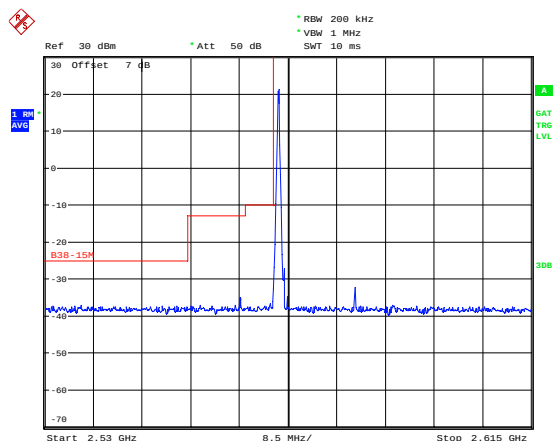
LTE Band 38 64QAM 10MHz CH-High, 100%RB



Date: 17.JUL.2019 15:26:32

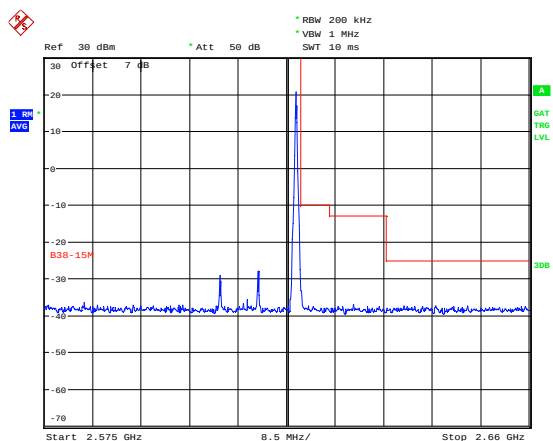


LTE Band 38 64QAM 15MHz CH-Low, 1 RB



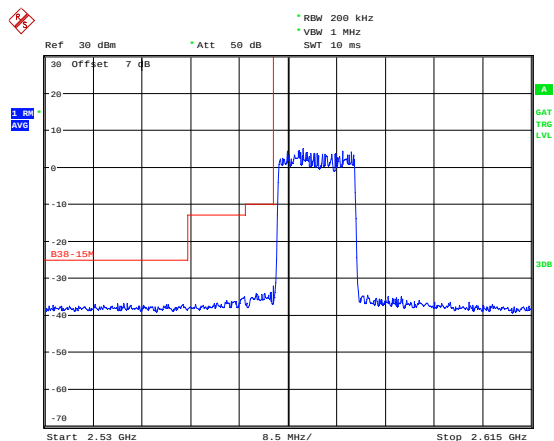
Date: 17.JUL.2019 15:21:27

LTE Band 38 64QAM 15MHz CH-High, 1 RB



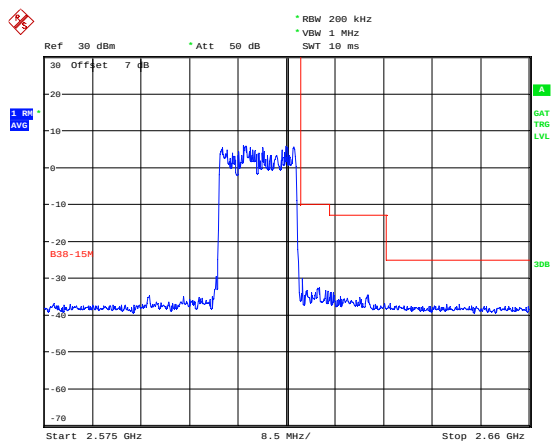
Date: 17.JUL.2019 15:25:05

LTE Band 38 64QAM 15MHz CH-Low, 100%RB



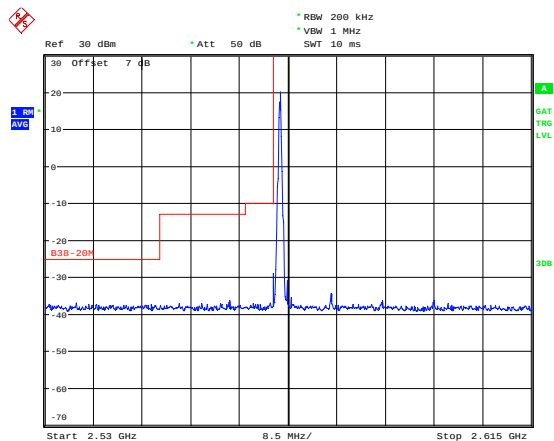
Date: 17.JUL.2019 15:21:39

LTE Band 38 64QAM 15MHz CH-High, 100%RB



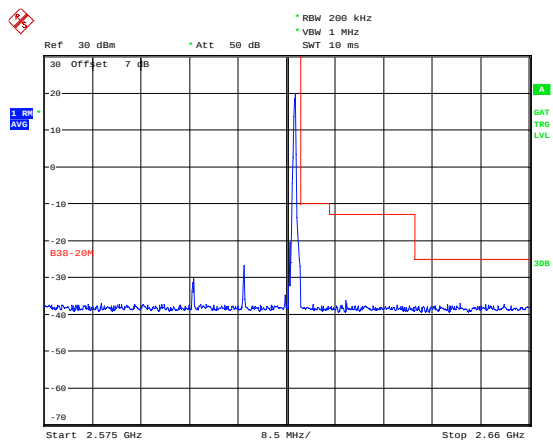
Date: 17.JUL.2019 15:25:19

LTE Band 38 64QAM 20MHz CH-Low, 1 RB



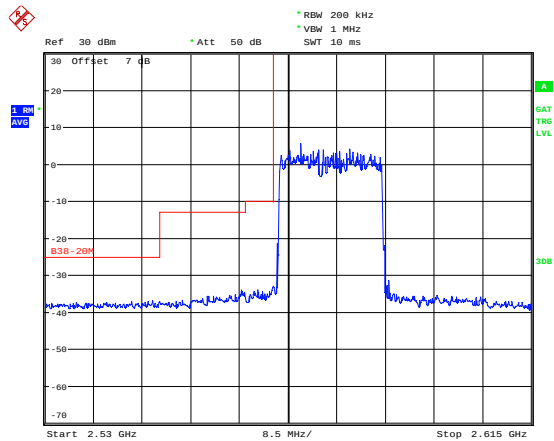
Date: 17.JUL.2019 15:22:16

LTE Band 38 64QAM 20MHz CH-High, 1 RB



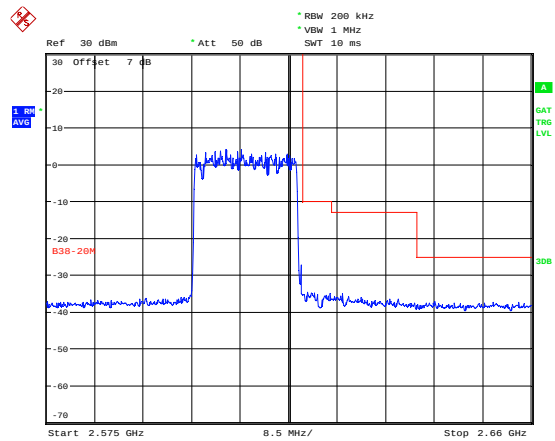
Date: 17.JUL.2019 15:23:07

LTE Band 38 64QAM 20MHz CH-Low, 100%RB



Date: 17.JUL.2019 15:22:25

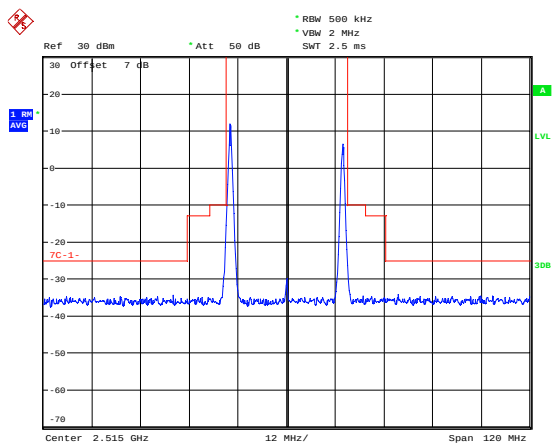
LTE Band 38 64QAM 20MHz CH-High, 100%RB



Date: 17.JUL.2019 15:23:17

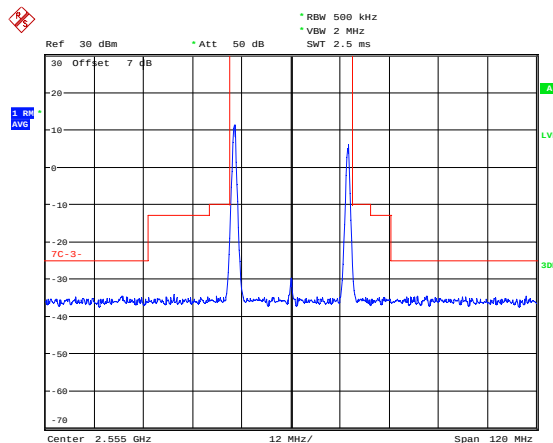


CA-7C QPSK 20MHz+10MHz CH-Low, 1 RB



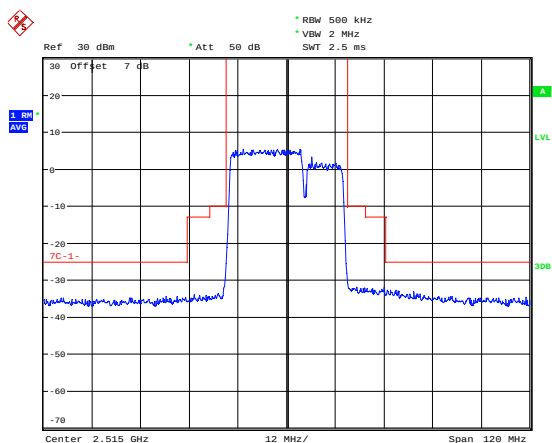
Date: 26.JUL.2019 15:52:22

CA-7C QPSK 20MHz+10MHz CH-High, 1 RB



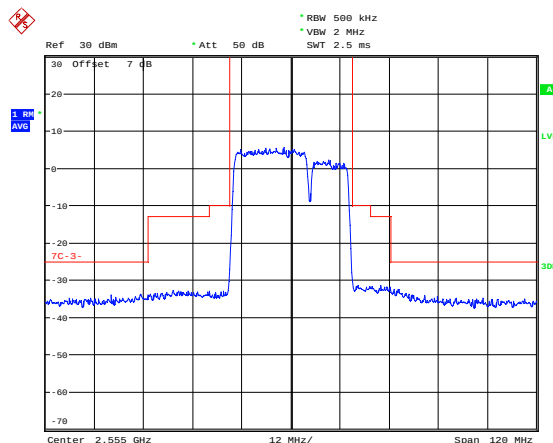
Date: 26.JUL.2019 15:58:05

CA-7C QPSK 20MHz+10MHz CH-Low, 100%RB



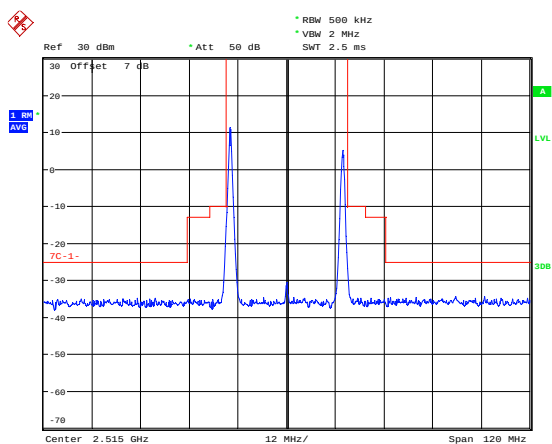
Date: 26.JUL.2019 15:53:03

CA-7C QPSK 20MHz+10MHz CH-High, 100%RB



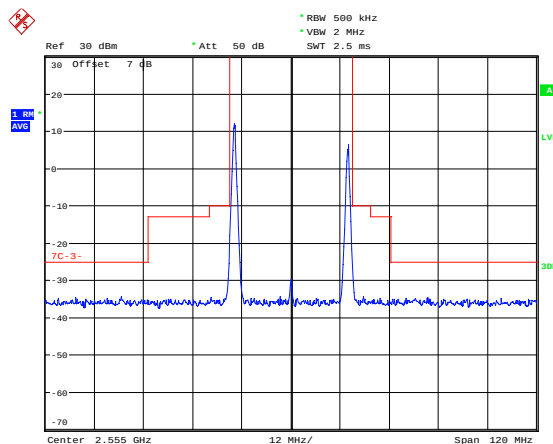
Date: 26.JUL.2019 15:58:42

CA-7C 16QAM 20MHz+10MHz CH-Low, 1 RB



Date: 26.JUL.2019 15:52:45

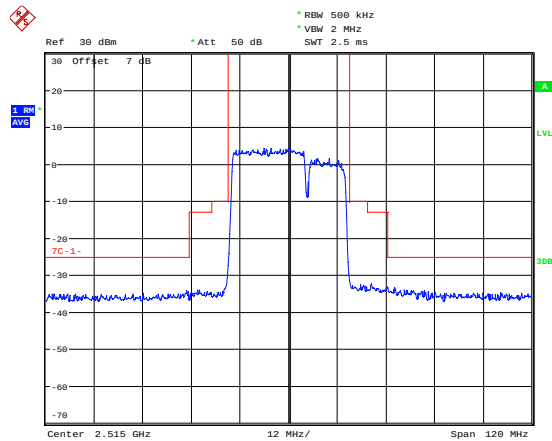
CA-7C 16QAM 20MHz+10MHz CH-High, 1 RB



Date: 26.JUL.2019 15:58:23

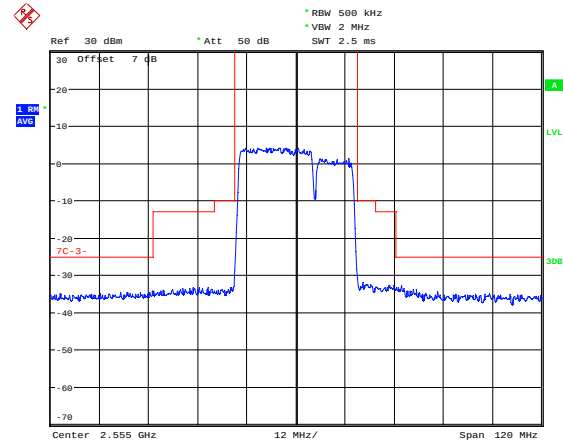


CA-7C 16QAM 20MHz+10MHz CH-Low, 100%RB



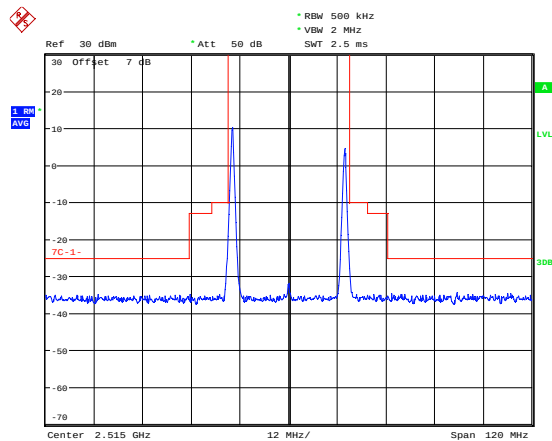
Date: 26.JUL.2019 15:53:21

CA-7C 16QAM 20MHz+10MHz CH-High, 100%RB



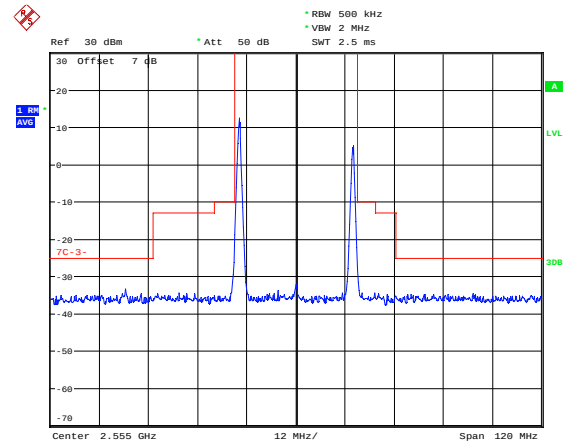
Date: 26.JUL.2019 15:58:59

CA-7C 64QAM 20MHz+10MHz CH-Low, 1 RB



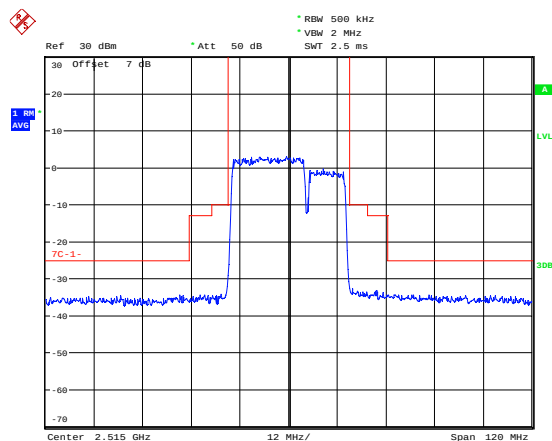
Date: 26.JUL.2019 16:16:09

CA-7C 64QAM 20MHz+10MHz CH-High, 1 RB



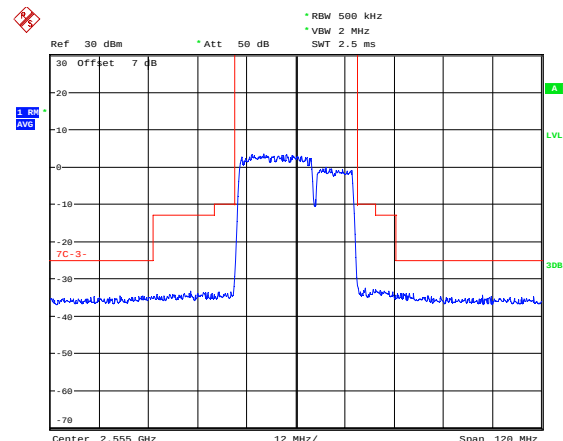
Date: 26.JUL.2019 16:17:26

CA-7C 64QAM 20MHz+10MHz CH-Low, 100%RB



Date: 26.JUL.2019 16:16:29

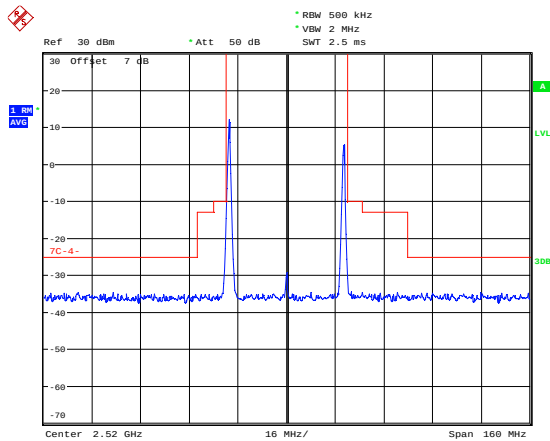
CA-7C 64QAM 20MHz+10MHz CH-High, 100%RB



Date: 26.JUL.2019 16:17:45

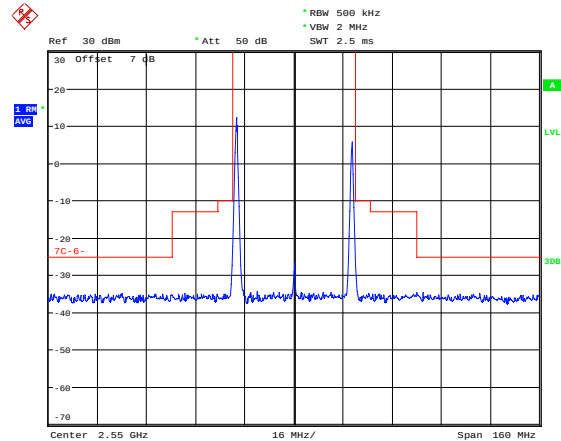


CA-7C QPSK 20MHz+20MHz CH-Low, 1 RB



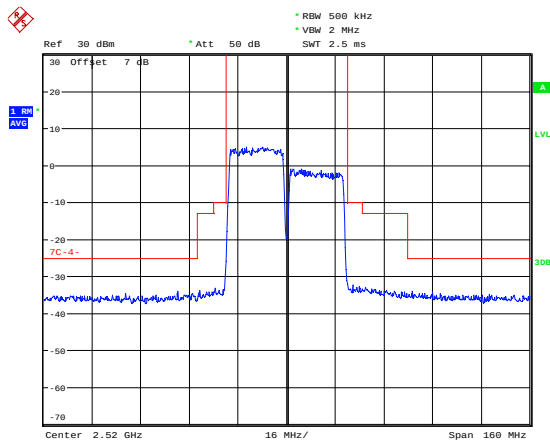
Date: 26.JUL.2019 16:01:05

CA-7C QPSK 20MHz+20MHz CH-High, 1 RB



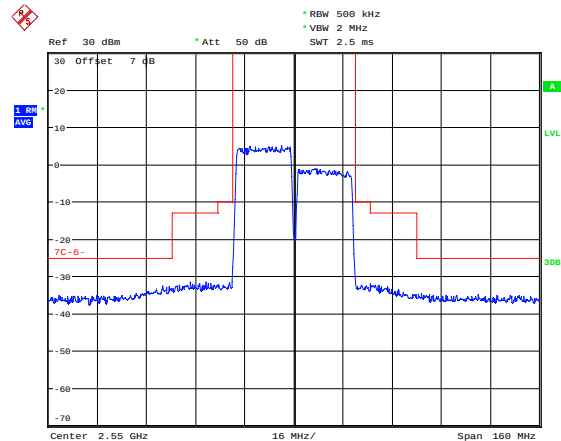
Date: 26.JUL.2019 16:05:10

CA-7C QPSK 20MHz+20MHz CH-Low, 100%RB



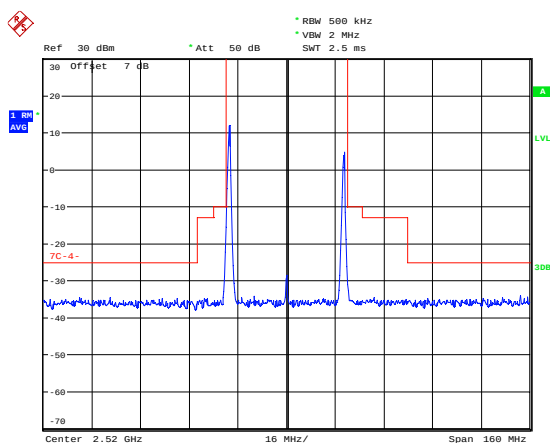
Date: 26.JUL.2019 16:01:45

CA-7C QPSK 20MHz+20MHz CH-High, 100%RB



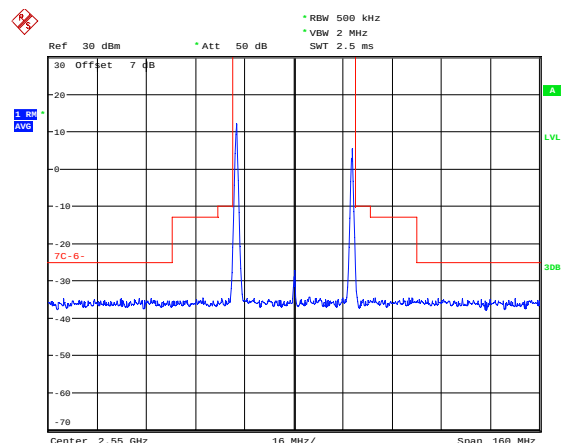
Date: 26.JUL.2019 16:05:49

CA-7C 16QAM 20MHz+20MHz CH-Low, 1 RB



Date: 26.JUL.2019 16:01:22

CA-7C 16QAM 20MHz+20MHz CH-High, 1 RB



Date: 26.JUL.2019 16:05:26