TEST REPORT

REPORT NUMBER: I21W00031-WWAN_Rev3

ON

Type of Equipment:	LTE Cat.1 cellular module
Model Name:	SLM320-L
Brand Name:	MEIGLink
Manufacturer:	MeiG Smart Technology Co., Ltd

ACCORDING TO

FCC CFR Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS，e-CFR, 2019

PART 22, PUBLIC MOBILE SERVICES，e-CFR, 2019

PART 24, PERSONAL COMMUNICATIONS SERVICES，e-CFR, 2019

PART 27,MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES，e-CFR, 2019

ANSI C63.26-2015

Chongqing Academy of Information and Communications Technology

Month date, year

Oct, 18, 2021

Signature

Xiang Luoyong
Director

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Academy of Information and Communications Technology.

Revision Version

Report Number	Revision	Date	Memo
I21W00031-WWAN	V0.0	2021-09-14	Initial creation of test report
I21W00031-WWAN_Rev1	V1.0	2021-10-11	--
I21W00031-WWAN_Rev2	V2.0	2021-10-12	--
I21W00031-WWAN_Rev3	V3.0	2021-10-18	--

FCC ID:	2APJ4-SLM320-L
Report Date:	2021-10-18
Test Firm Name:	Chongqing Academy of Information and Communications Technology
FCC Registration Number:	CN1239

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, 24, 27,The sample tested was found to comply with the requirements defined in the applied rules.

CONTENTS

1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, 24, 27.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex B.

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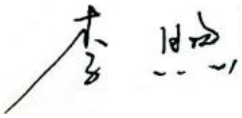
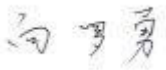
1.2 Testers

Name:	Li Xu
Position:	Engineer
Department:	Department of RF test
Date:	2021-08-30 to 2021-09-14
Signature:	

Editor of this test report:

Name:	Chen Wen
Position:	Engineer
Department:	Department of RF test
Date:	2021-10-18
Signature:	

Technical responsibility for area of testing:

Name:	Xiang Luoyong
Position:	Manager
Department:	Director of the laboratory
Date:	2021-10-18
Signature:	

1.3 Testing Laboratory information

1.3.1 Location

Name:	Chongqing Academy of Information and Communications Technology
Address:	No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China 4th Floor, Block B1-3, 19 East Road, XTB Valley, Yubeu District, Chongqing, P. R. China
Postal Code:	401336
Tel:	+86-23-88069965
Fax:	+86-23-88608777
Email:	liqiao@caict.ac.cn

1.3.2 Test location, where different from section 1.3.1

Name:	------
Street:	------
City:	------
Country:	------
Telephone:	------
Fax:	------
Postcode:	------

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name:	MeiG Smart Technology Co., Ltd
Address:	3/F, No.88, Qinjiang Road, Xuhui District, Shanghai
Country:	CHINA
Telephone:	021-54278676
Fax:	--
Contact:	louxinwei
Email:	louxinwei@meigsmart.com

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name:	--
Address:	--
Country:	--
Telephone:	--
Fax:	--
Contact:	--
Email:	--

2 Test Item

2.1 General Information

Manufacturer:	MeiG Smart Technology Co., Ltd
Type of Equipment:	LTE Cat.1 cellular module
Model Name:	SLM320-L
Brand Name:	MEIGLink
Smart moduleion Status:	Smart module
Hardware Version:	SLM320LA_MB_V1.00_PCB
Software Version:	SLM320LA_68B3A22_20210710_V21_T01
Nominal Voltage:	3.80 V
Extreme High Voltage:	4.20 V
Extreme Low Voltage:	3.50 V
Antenna type:	External antenna
AC Adapter input	100-240V~50/60Hz 0.8A
AC Adapter output	12V⎓2A
Antenna gain:	824.2MHz-848.8MHz: 3.5dBi 1850.2MHz-1909.8MHz: 3.5dBi 1710MHz-1754.9MHz: 3.9dBi 824MHz-848.9MHz: 3.5dBi 2500MHz-2569.9MHz: 5.1dBi
Modulation Type:	GMSK/QPSK/16QAM
Receipt date of test item:	2021-08-23

2.2 Outline of Equipment under Test

The SLM320-L referred to as "EUT" hereafter, is a multi-Band wireless module operating on the GSM/LTE networks. The table below shows the supported Bands for the EUT.

Technology	Band	UL Freq.(MHz)	DL Freq.(MHz)	Note
GSM	GSM850	824 – 849	869 – 894	--
	PCS1900	1850 – 1910	1930 – 1990	--
LTE	B2	1850 – 1910	1930 – 1990	--
	B4	1710 – 1755	2110 – 2155	--
	B5	824 – 849	869 – 894	--
	B7	2500-2570	2620-2690	--

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	IMEI number	Remarks
A	Modules	MeiG Smart Technology Co., Ltd	SLM320-L	863069057875503	None
B	Modules	MeiG Smart Technology Co., Ltd	SLM320-L	863069057875412	None
C	Adaptor	SUNUN	SA24BD-120200	--	None

2.5 Other Information

The development board is powered by an adapter, and the Smart module is connected to the development board for work.

3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

FCC Rules	Name of Test	Result
2.1046,22.913(a),24.232(c),27.50	Conducted RF Power Output	Pass
24.232(b),27.50(d),27.50(h)(2),27.50(c)	ERP and EIRP	Pass
2.1049,22.917(b),24.238(b)	Occupied Bandwidth	*Note 1
2.1051,2.1053,24.238,22.917,27.53	Conducted spurious emissions	Pass
2.1051,2.1053,24.238,22.917,27.53	Radiated Spurious Emission	Pass
2.1051,2.1053,24.238,22.917,27.53	Band Edge	Pass
2.1055,22.355,24.235,27.54	Frequency Stability over Temperature Variation	Pass
2.1055,22.355,24.235,27.54	Frequency Stability over Voltage Variation	Pass
24.232,27.50	Peak to Average Ratio	Pass
Note 1: No applicable performance criteria. Note 2:The module Under 16QAM modulation mode, the maximum number of RB is 27		

4 Test Equipments and Ancillaries Used For Tests

The test equipments and ancillaries used are as follows.

No.	Equipment	Model	SN	Manufacture	Cal. Due Date
1	EMI Test Receiver	ESU26	100367	R&S	2022-06-11
2	Loop antenna	6502	00143163	ETS	2022-01-23
3	Trilog super broadBand test antenna	VULB 9163	01392	Schwarzbeck	2022-04-03
4	Double-Ridged Horn Antenna	HF907	100357	Schwarzbeck	2023-02-10
5	Trilog super broadBand test antenna	VULB 9163	00995	Schwarzbeck	2022-04-03
6	Double-Ridged Horn Antenna	HF907	100356	Schwarzbeck	2023-02-10
7	Fully-Anechoic Chamber	11.8m×6.5 m×6.3m	--	ETS	2023-06-26
8	spectrum analyzer	FSQ 26	201137/026	R&S	2022-06-11
9	Climate chamber	SH-241	92010759	ESPEC	2022-06-11
10	DC Power Supply	N6705B	MY50000919	Agilent	2022-06-11
11	Universal Radio Communication Tester	CMW500	152395	R&S	2022-06-11

4.1 Test software

No.	Name	version	SN	Manufacture
1	EMC32	V8.51.0	--	R&S

5 Test Results

5.1 Conducted RF Power Output

Specifications:	FCC Part 2.1046, 22.913(a), 24.232(c), 27.50
IMEI Number:	863069057875503
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.913(a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

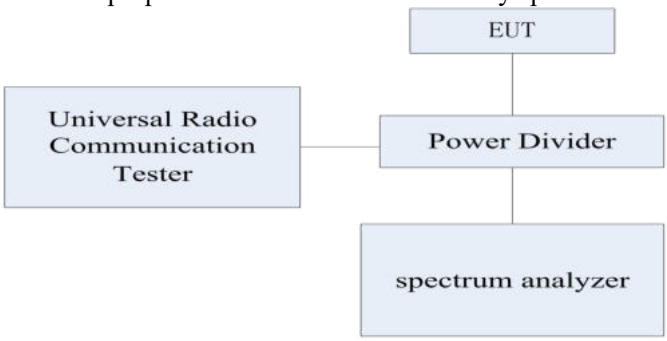
According to Part24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to Part 27.50(d), fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz Band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz Bands are limited to 1 watt EIRP.

According to Part 27.50(h),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.

Test Setup:

During the test, the EUT was controlled via the Wireless Telecommunications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method:

1) The EUT was coupled to the spectrum analyzer and the Wireless Telecommunications Test Set through a power divider. The loss of the RF cables of the test system is calibrated to correct the readings.

2) For RMS power test, the spectrum analyzer was set to RMS Detector function and Maximum hold mode.

3) For Peak power test, the spectrum analyzer was set to Maxpeak Detector function and Maximum hold mode.

4) The resolution Bandwidth of the spectrum analyzer was comparable to the emission Bandwidth.

Note: --

5.1.1 GSM850 Conducted RF Power Output Results

GSM Mode:

Channel No.	Maximum output power(pk) [dBm]
128 (824.2MHz)	33.6
190 (836.6MHz)	33.7
251 (848.8MHz)	33.7

GPRS Mode:

Channel No.	Maximum output power(pk) [dBm]			
	1TS	2TS	3TS	4TS
128 (824.2MHz)	33.7	31.7	30.3	29.3
190 (836.6MHz)	33.8	31.6	30.7	29.3
251 (848.8MHz)	33.7	31.6	30.5	29.5

GSM Mode:

Channel No.	Maximum output power(avg) [dBm]
128 (824.2MHz)	33.1
190 (836.6MHz)	33.0
251 (848.8MHz)	33.1

GPRS Mode:

Channel No.	Maximum output power(avg) [dBm]			
	1TS	2TS	3TS	4TS
128 (824.2MHz)	32.9	32.1	30.4	29.5
190 (836.6MHz)	33.1	32.4	30.3	29.8
251 (848.8MHz)	33.2	32.7	30.1	29.6

5.1.2 PCS1900 Conducted RF Power Output Results

GSM Mode:

Channel No.	Maximum output power(pk) [dBm]
512 (1850.2MHz)	30.2
661 (1880.0MHz)	30.2
810 (1909.8MHz)	30.1

GPRS Mode:

Channel No.	Maximum output power(pk) [dBm]			
	1TS	2TS	3TS	4TS
512 (1850.2MHz)	30.2	28.8	27.7	26.6
661 (1880.0MHz)	30.1	28.5	27.5	26.8
810 (1909.8MHz)	30.3	28.7	27.5	26.8

GSM Mode:

Channel No.	Maximum output power(avg) [dBm]
512 (1850.2MHz)	29.6
661 (1880.0MHz)	29.8
810 (1909.8MHz)	29.8

GPRS GMSK Mode

Channel No.	Maximum output power(avg) [dBm]			
	1TS	2TS	3TS	4TS
512 (1850.2MHz)	29.8	28.1	27.0	26.2
661 (1880.0MHz)	29.5	28.0	26.9	26.3
810 (1909.8MHz)	30.1	28.2	27.1	26.1

5.1.3 LTE B2 Conducted RF Power Output Results

Test Data (1.4MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
18607	1850.7	1	0	QPSK	21.49	28.04	6.55
		1	2		22.36	28.61	6.25
		1	5		21.86	27.58	5.72
		6	0		21.33	27.27	5.94
		1	0	16QAM	20.78	28.29	7.51
		1	2		21.68	28.63	6.95
		1	5		21.26	27.08	5.82
		6	0		20.48	27.97	7.49
18900	1880	1	0	QPSK	21.69	27.39	5.70
		1	2		22.62	28.90	6.28
		1	5		21.99	27.65	5.66
		6	0		21.50	27.17	5.67
		1	0	16QAM	20.57	27.64	7.07
		1	2		21.72	28.04	6.32
		1	5		21.10	26.71	5.61
		6	0		20.41	27.53	7.12
19193	1909.3	1	0	QPSK	20.91	27.28	6.37
		1	2		21.80	27.71	5.91
		1	5		21.24	26.71	5.47
		6	0		20.71	26.96	6.25
		1	0	16QAM	19.70	27.11	7.41
		1	2		20.76	27.58	6.82
		1	5		20.23	26.09	5.86
		6	0		19.76	27.16	7.40

Test Data (3MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
18615	1851.5	1	0	QPSK	21.69	27.55	5.86
		1	8		22.37	28.07	5.70
		1	15		22.23	25.49	3.26
		15	0		21.28	27.27	5.99
		1	0	16QAM	20.32	27.14	6.82
		1	8		21.56	28.02	6.46
		1	15		21.32	27.27	5.95
		15	0		20.43	28.03	7.60
18900	1880	1	0	QPSK	21.30	27.17	5.87
		1	8		22.24	28.37	6.13
		1	15		22.16	25.56	3.40
		15	0		21.30	26.78	5.48
		1	0	16QAM	20.36	28.07	7.71
		1	8		21.33	27.87	6.54
		1	15		22.22	25.61	3.39
		15	0		20.32	28.22	7.90
19185	1908.5	1	0	QPSK	21.13	27.43	6.30
		1	8		21.56	27.26	5.70
		1	15		21.79	25.09	3.30
		15	0		20.70	26.75	6.05
		1	0	16QAM	19.93	26.38	6.45
		1	8		20.77	27.13	6.36
		1	15		21.78	25.09	3.31
		15	0		20.72	26.63	5.91

Test Data (5MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
18625	1852.5	1	0	QPSK	21.64	27.88	6.24
		1	13		22.57	28.52	5.95
		1	24		21.60	27.42	5.82
		25	0		21.45	27.70	6.25
		1	0	16QAM	20.46	28.33	7.87
		1	13		21.40	28.59	7.19
		1	24		20.58	27.08	6.50
		25	0		20.32	28.55	8.23
18900	1880	1	0	QPSK	21.42	27.73	6.31
		1	13		22.19	28.45	6.26
		1	24		21.35	27.88	6.53
		25	0		21.37	27.99	6.62
		1	0	16QAM	20.43	28.18	7.75
		1	13		21.31	29.05	7.74
		1	24		20.39	27.16	6.77
		25	0		20.48	28.20	7.72
19175	1907.5	1	0	QPSK	21.37	27.90	6.53
		1	13		21.89	27.58	5.69
		1	24		20.63	26.12	5.49
		25	0		21.23	27.49	6.26
		1	0	16QAM	20.30	28.22	7.92
		1	13		20.95	28.07	7.12
		1	24		19.91	25.94	6.03
		25	0		20.32	28.19	7.87

Test Data (10MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
18650	1855	1	0	QPSK	21.51	28.45	6.94
		1	25		22.67	28.49	5.82
		1	49		21.67	26.92	5.25
		50	0		21.54	28.68	7.14
		1	0	16QAM	21.20	27.91	6.71
		1	25		22.34	28.16	5.82
		1	49		21.38	27.74	6.36
		27	0		20.81	27.69	6.88
18900	1880	1	0	QPSK	22.36	28.28	5.92
		1	25		23.00	27.29	4.29
		1	49		21.25	26.93	5.68
		50	0		21.96	28.59	6.63
		1	0	16QAM	21.82	28.10	6.28
		1	25		22.50	28.49	5.99
		1	49		20.70	27.52	6.82
		27	0		21.68	28.17	6.49
19150	1905	1	0	QPSK	22.08	27.21	5.13
		1	25		22.56	27.18	4.62
		1	49		20.79	26.29	5.50
		50	0		21.81	28.39	6.58
		1	0	16QAM	21.93	27.66	5.73
		1	25		22.30	27.58	5.28
		1	49		19.93	26.70	6.77
		27	0		20.80	26.99	6.19

Test Data (15MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
18675	1857.5	1	0	QPSK	21.99	27.74	5.75
		1	38		22.76	27.92	5.16
		1	74		22.29	27.64	5.35
		75	0		21.67	28.45	6.78
		1	0	16QAM	21.43	28.03	6.60
		1	38		22.21	27.91	5.70
		1	74		21.76	27.88	6.12
		27	0		20.30	27.56	7.26
18900	1880	1	0	QPSK	23.08	28.08	5.00
		1	38		22.87	28.15	5.28
		1	74		21.84	27.55	5.71
		75	0		21.79	28.06	6.27
		1	0	16QAM	22.24	27.51	5.27
		1	38		21.93	27.02	5.09
		1	74		20.92	26.44	5.52
		27	0		21.36	28.10	6.74
19125	1902.5	1	0	QPSK	22.54	27.50	4.96
		1	38		22.42	27.13	4.71
		1	74		20.39	26.29	5.90
		75	0		21.32	27.92	6.60
		1	0	16QAM	21.71	26.93	5.22
		1	38		21.61	26.62	5.01
		1	74		19.58	25.27	5.69
		27	0		20.59	27.06	6.47

Test Data (20MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
18700	1860	1	0	QPSK	21.66	27.03	5.37
		1	50		22.93	27.51	4.58
		1	99		21.66	26.89	5.23
		100	0		21.39	28.18	6.79
		1	0	16QAM	20.94	27.64	6.70
		1	50		22.25	27.86	5.61
		1	99		21.07	27.47	6.40
		27	0		19.92	27.10	7.18
18900	1880	1	0	QPSK	23.06	28.00	4.94
		1	50		23.05	28.09	5.04
		1	99		21.56	27.19	5.63
		100	0		21.70	28.75	7.05
		1	0	16QAM	22.27	27.91	5.64
		1	50		22.18	27.65	5.47
		1	99		20.73	26.93	6.20
		27	0		21.45	28.00	6.55
19100	1900	1	0	QPSK	22.41	27.50	5.09
		1	50		22.77	27.07	4.30
		1	99		20.18	25.62	5.44
		100	0		21.24	27.93	6.69
		1	0	16QAM	21.40	27.89	6.49
		1	50		21.92	27.38	5.46
		1	99		19.46	26.42	6.96
		27	0		20.63	27.23	6.60

5.1.4 LTE B4 Conducted RF Power Output Results

Test Data (1.4MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
19957	1710.7	1	0	QPSK	22.36	27.36	5.00
		1	2		23.05	27.94	4.89
		1	5		22.39	27.59	5.20
		6	0		21.76	27.54	5.78
		1	0	16QAM	21.65	26.92	5.27
		1	2		22.31	27.46	5.15
		1	5		21.39	26.99	5.60
		6	0		20.98	27.72	6.74
20175	1732.5	1	0	QPSK	22.62	27.81	5.19
		1	2		23.32	27.91	4.59
		1	5		22.51	27.74	5.23
		6	0		22.08	28.23	6.15
		1	0	16QAM	21.83	27.34	5.51
		1	2		22.51	27.43	4.92
		1	5		21.71	27.22	5.51
		6	0		21.03	28.13	7.10
20393	1754.3	1	0	QPSK	22.10	27.41	5.31
		1	2		22.81	27.62	4.81
		1	5		22.06	27.31	5.25
		6	0		21.50	27.26	5.76
		1	0	16QAM	21.12	26.54	5.42
		1	2		21.89	26.96	5.07
		1	5		21.24	26.48	5.24
		6	0		20.73	27.39	6.66

Test Data (3MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
19965	1711.5	1	0	QPSK	21.90	27.31	5.41
		1	8		23.39	28.09	4.70
		1	15		21.65	27.11	5.46
		15	0		21.91	28.28	6.37
		1	0	16QAM	21.52	27.88	6.36
		1	8		22.98	28.55	5.57
		1	15		21.24	27.78	6.54
		15	0		21.11	27.58	6.47
20175	1732.5	1	0	QPSK	21.83	27.19	5.36
		1	8		23.31	27.81	4.50
		1	15		21.91	27.05	5.14
		15	0		21.89	27.62	5.73
		1	0	16QAM	21.14	27.11	5.97
		1	8		22.61	27.49	4.88
		1	15		20.87	26.47	5.60
		15	0		21.10	27.96	6.86
20385	1753.5	1	0	QPSK	21.56	27.21	5.65
		1	8		23.03	27.68	4.65
		1	15		21.46	26.87	5.41
		15	0		21.59	28.46	6.87
		1	0	16QAM	20.85	26.31	5.46
		1	8		22.30	27.05	4.75
		1	15		20.64	26.54	5.90
		15	0		21.02	27.77	6.75

Test Data (5MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
19975	1712.5	1	0	QPSK	21.98	27.65	5.67
		1	13		22.68	27.92	5.24
		1	24		21.55	27.19	5.64
		25	0		21.96	28.41	6.45
		1	0	16QAM	21.34	27.24	5.90
		1	13		22.11	27.82	5.71
		1	24		20.86	27.02	6.16
		25	0		20.98	28.58	7.60
20175	1732.5	1	0	QPSK	21.73	27.37	5.64
		1	13		22.68	27.67	4.99
		1	24		21.80	27.12	5.32
		25	0		21.83	28.21	6.38
		1	0	16QAM	20.93	27.31	6.38
		1	13		21.95	27.67	5.72
		1	24		20.93	27.17	6.24
		25	0		21.05	28.19	7.14
20375	1752.5	1	0	QPSK	21.87	27.90	6.03
		1	13		22.56	28.06	5.50
		1	24		21.38	27.56	6.18
		25	0		21.63	27.80	6.17
		1	0	16QAM	21.07	27.05	5.98
		1	13		21.82	27.75	5.93
		1	24		20.63	27.10	6.47
		25	0		20.97	28.37	7.40

Test Data (10MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20000	1715	1	0	QPSK	21.93	27.96	6.03
		1	25		22.78	27.67	4.89
		1	49		21.10	26.81	5.71
		50	0		21.59	28.63	7.04
		1	0	16QAM	21.48	27.88	6.40
		1	25		22.28	28.27	5.99
		1	49		20.68	27.56	6.88
		27	0		20.83	27.99	7.16
20175	1732.5	1	0	QPSK	21.71	27.83	6.12
		1	25		23.09	27.51	4.42
		1	49		21.74	26.58	4.84
		50	0		22.05	28.70	6.65
		1	0	16QAM	20.88	27.54	6.66
		1	25		22.29	27.24	4.95
		1	49		20.85	26.99	6.14
		27	0		21.26	27.08	5.82
20350	1750	1	0	QPSK	21.66	27.36	5.70
		1	25		23.06	27.68	4.62
		1	49		21.76	26.94	5.18
		50	0		21.89	28.30	6.41
		1	0	16QAM	20.81	27.63	6.82
		1	25		22.17	27.14	4.97
		1	49		20.85	26.74	5.89
		27	0		21.01	27.43	6.42

Test Data (15MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20025	1717.5	1	0	QPSK	22.95	27.98	5.03
		1	38		22.87	28.12	5.25
		1	74		21.82	27.57	5.75
		75	0		21.86	28.59	6.73
		1	0	16QAM	22.20	27.44	5.24
		1	38		22.02	27.29	5.27
		1	74		21.11	26.77	5.66
		27	0		20.87	28.22	7.35
20175	1732.5	1	0	QPSK	22.51	27.82	5.31
		1	38		22.98	27.66	4.68
		1	74		22.35	27.30	4.95
		75	0		21.86	28.29	6.43
		1	0	16QAM	21.75	27.22	5.47
		1	38		22.21	27.21	5.00
		1	74		21.58	26.71	5.13
		27	0		21.01	27.35	6.34
20325	1747.5	1	0	QPSK	23.04	27.59	4.55
		1	38		22.88	27.69	4.81
		1	74		21.52	27.02	5.50
		75	0		21.89	28.64	6.75
		1	0	16QAM	22.51	27.98	5.47
		1	38		22.43	28.09	5.66
		1	74		21.20	27.67	6.47
		27	0		21.52	27.36	5.84

Test Data (20MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20050	1720	1	0	QPSK	22.88	27.76	4.88
		1	50		22.97	27.87	4.90
		1	99		21.72	27.01	5.29
		100	0		21.57	28.46	6.89
		1	0	16QAM	22.77	27.72	4.95
		1	50		22.20	28.39	6.19
		1	99		20.97	27.61	6.64
		27	0		20.71	28.02	7.31
20175	1732.5	1	0	QPSK	22.22	27.69	5.47
		1	50		23.12	27.58	4.46
		1	99		22.01	27.12	5.11
		100	0		21.73	28.38	6.65
		1	0	16QAM	21.46	27.56	6.10
		1	50		22.39	27.45	5.06
		1	99		21.39	27.08	5.69
		27	0		20.66	27.40	6.74
20300	1745	1	0	QPSK	22.76	27.55	4.79
		1	50		23.16	27.69	4.53
		1	99		21.22	26.88	5.66
		100	0		21.92	28.46	6.54
		1	0	16QAM	22.14	27.36	5.22
		1	50		22.58	27.46	4.88
		1	99		20.71	26.75	6.04
		27	0		21.52	26.98	5.46

5.1.5 LTE B5 Conducted RF Power Output Results

Test Data (1.4MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20407	824.7	1	0	QPSK	23.40	27.95	4.55
		1	2		23.77	27.98	4.21
		1	5		23.00	27.57	4.57
		6	0		22.43	28.33	5.90
		1	0	16QAM	22.32	27.60	5.28
		1	2		22.95	27.78	4.83
		1	5		22.27	27.45	5.18
		6	0		21.55	28.56	7.01
20525	836.5	1	0	QPSK	23.20	28.38	5.18
		1	2		23.70	28.58	4.88
		1	5		22.96	28.26	5.30
		6	0		22.42	28.22	5.80
		1	0	16QAM	22.54	27.55	5.01
		1	2		22.96	28.01	5.05
		1	5		22.35	27.61	5.26
		6	0		21.52	28.29	6.77
20643	848.3	1	0	QPSK	21.79	27.36	5.57
		1	2		22.25	27.62	5.37
		1	5		21.58	27.19	5.61
		6	0		21.19	27.30	6.11
		1	0	16QAM	21.01	26.39	5.38
		1	2		21.67	26.86	5.19
		1	5		20.94	26.16	5.22
		6	0		20.33	27.25	6.92

Test Data (3MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20415	825.5	1	0	QPSK	22.58	27.44	4.86
		1	8		23.56	27.87	4.31
		1	15		22.38	27.55	5.17
		15	0		20.20	27.83	7.63
		1	0	16QAM	22.18	27.17	4.99
		1	8		22.92	27.70	4.78
		1	15		21.84	27.06	5.22
		15	0		21.33	28.30	6.97
20525	836.5	1	0	QPSK	22.65	28.07	5.42
		1	8		23.88	28.45	4.57
		1	15		22.85	27.98	5.13
		15	0		22.42	29.30	6.88
		1	0	16QAM	22.08	27.21	5.13
		1	8		23.02	27.88	4.86
		1	15		22.20	27.46	5.26
		15	0		21.57	28.11	6.54
20635	847.5	1	0	QPSK	22.20	27.56	5.36
		1	8		22.56	27.71	5.15
		1	15		21.42	26.81	5.39
		15	0		21.40	27.21	5.81
		1	0	16QAM	21.89	28.22	6.33
		1	8		22.43	28.38	5.95
		1	15		21.05	27.09	6.04
		15	0		20.55	27.35	6.80

Test Data (5MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20425	826.5	1	0	QPSK	22.57	27.99	5.42
		1	13		22.90	28.21	5.31
		1	24		22.47	28.29	5.82
		25	0		22.05	28.09	6.04
		1	0	16QAM	21.92	27.59	5.67
		1	13		22.27	27.80	5.53
		1	24		22.02	27.92	5.90
		25	0		21.32	28.77	7.45
20525	836.5	1	0	QPSK	22.73	28.49	5.76
		1	13		23.38	28.26	4.88
		1	24		23.27	28.11	4.84
		25	0		22.39	28.85	6.46
		1	0	16QAM	22.17	28.03	5.86
		1	13		22.74	28.29	5.55
		1	24		22.64	28.21	5.57
		25	0		21.54	28.98	7.44
20625	846.5	1	0	QPSK	22.84	28.14	5.30
		1	13		22.30	27.94	5.64
		1	24		21.59	27.32	5.73
		25	0		21.69	27.89	6.20
		1	0	16QAM	22.14	28.03	5.89
		1	13		21.80	27.92	6.12
		1	24		20.84	27.43	6.59
		25	0		20.84	28.03	7.19

Test Data (10MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20450	829	1	0	QPSK	23.10	28.64	5.54
		1	25		23.70	28.25	4.55
		1	49		22.81	28.11	5.30
		50	0		22.58	29.11	6.53
		1	0	16QAM	22.57	28.14	5.57
		1	25		23.21	28.71	5.50
		1	49		22.58	28.81	6.23
		27	0		21.95	27.86	5.91
20525	836.5	1	0	QPSK	23.04	28.67	5.63
		1	25		23.78	28.65	4.87
		1	49		23.53	28.56	5.03
		50	0		22.53	29.19	6.66
		1	0	16QAM	22.51	28.90	6.39
		1	25		22.96	28.01	5.05
		1	49		22.71	29.63	6.92
		27	0		21.82	28.53	6.71
20600	844	1	0	QPSK	22.67	27.94	5.27
		1	25		22.94	27.90	4.96
		1	49		21.44	27.09	5.65
		50	0		22.11	28.82	6.71
		1	0	16QAM	22.09	28.31	6.22
		1	25		22.35	27.39	5.04
		1	49		20.63	27.21	6.58
		27	0		21.84	27.86	6.02

5.1.6 LTE B7 Conducted RF Power Output Results

Test Data (5MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20775	2502.5	1	0	QPSK	22.14	27.22	5.08
		1	13		22.93	27.54	4.61
		1	24		22.02	26.99	4.97
		25	0		21.95	28.20	6.25
		1	0	16QAM	21.42	27.02	5.60
		1	13		22.32	27.54	5.22
		1	24		21.41	27.06	5.65
		25	0		21.08	28.62	7.54
21100	2535	1	0	QPSK	21.25	26.86	5.61
		1	13		22.96	27.94	4.98
		1	24		22.46	27.57	5.11
		25	0		22.16	28.52	6.36
		1	0	16QAM	20.68	26.94	6.26
		1	13		22.30	27.84	5.54
		1	24		21.87	27.97	6.10
		25	0		21.33	28.97	7.64
21425	2567.5	1	0	QPSK	21.33	27.34	6.01
		1	13		22.65	27.96	5.31
		1	24		22.01	27.56	5.55
		25	0		21.77	27.94	6.17
		1	0	16QAM	20.31	26.82	6.51
		1	13		22.00	27.49	5.49
		1	24		21.35	27.13	5.78
		25	0		21.37	28.55	7.18

Test Data (10MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20800	2505	1	0	QPSK	22.19	27.56	5.37
		1	25		22.80	27.42	4.62
		1	49		22.80	27.42	4.62
		50	0		21.88	27.68	5.80
		1	0	16QAM	21.90	27.70	5.80
		1	25		22.43	28.01	5.58
		1	49		20.44	27.09	6.65
		27	0		20.81	27.27	6.46
21100	2535	1	0	QPSK	20.62	27.04	6.42
		1	25		23.03	27.61	4.58
		1	49		22.83	27.55	4.72
		50	0		22.13	28.89	6.76
		1	0	16QAM	20.39	26.99	6.60
		1	25		22.77	28.28	5.51
		1	49		22.44	28.18	5.74
		27	0		20.46	27.32	6.86
21400	2565	1	0	QPSK	20.36	25.95	5.59
		1	25		22.72	27.52	4.80
		1	49		22.32	27.42	5.10
		50	0		21.53	28.19	6.66
		1	0	16QAM	19.74	26.38	6.64
		1	25		21.91	26.93	5.02
		1	49		21.91	28.55	6.64
		27	0		20.45	27.29	6.84

Test Data (15MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20825	2507.5	1	0	QPSK	22.44	27.25	4.81
		1	38		22.41	27.46	5.05
		1	74		19.72	25.38	5.66
		75	0		21.65	28.58	6.93
		1	0	16QAM	22.09	27.77	5.68
		1	38		22.17	28.04	5.87
		1	74		19.49	26.38	6.89
		27	0		20.95	27.41	6.46
21100	2535	1	0	QPSK	20.76	26.35	5.59
		1	38		23.16	27.82	4.66
		1	74		23.68	28.15	4.47
		75	0		22.23	28.73	6.50
		1	0	16QAM	20.14	25.53	5.39
		1	38		22.52	27.64	5.12
		1	74		22.94	27.68	4.74
		27	0		20.30	27.35	7.05
21375	2562.5	1	0	QPSK	21.23	26.86	5.63
		1	38		22.42	27.51	5.09
		1	74		22.74	27.38	4.64
		75	0		21.46	28.28	6.82
		1	0	16QAM	20.81	27.35	6.54
		1	38		22.07	27.77	5.70
		1	74		22.43	27.78	5.35
		27	0		20.33	27.13	6.80

Test Data (20MHz bandwidth Mode)

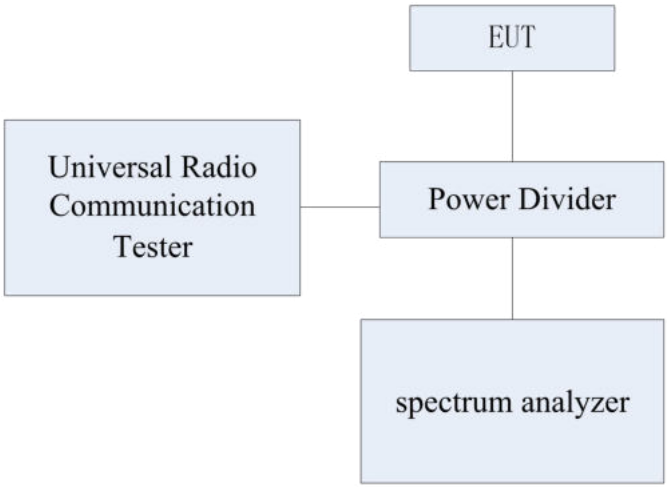
Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20850	2510	1	0	QPSK	22.86	27.52	4.66
		1	50		22.61	27.67	5.06
		1	99		18.93	24.74	5.81
		100	0		21.45	28.30	6.85
		1	0	16QAM	22.21	27.52	5.31
		1	50		21.88	27.56	5.68
		1	99		18.25	24.49	6.24
		27	0		20.93	27.36	6.43
21100	2535	1	0	QPSK	20.64	25.98	5.34
		1	50		23.32	27.65	4.33
		1	99		23.57	27.87	4.30
		100	0		22.02	28.53	6.51
		1	0	16QAM	19.81	26.72	6.91
		1	50		23.69	28.04	4.35
		1	99		22.77	28.22	5.45
		27	0		20.00	27.32	7.32
21350	2560	1	0	QPSK	21.95	27.28	5.33
		1	50		22.21	27.31	5.10
		1	99		22.64	27.29	4.65
		100	0		21.23	28.01	6.78
		1	0	16QAM	21.56	27.16	5.60
		1	50		21.90	27.20	5.30
		1	99		22.36	27.29	4.93
		27	0		20.55	27.33	6.78

5.2 Occupied Bandwidth

Specifications:	FCC Part 2.1049, 22.917(b), 24.238(b)
IMEI Number:	863069057875503
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	--

Test Setup

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method

The 99% occupied Bandwidth was calculated from the spectrum analyzer. Markers in the spectrum analyzer were then placed between the calculated frequencies to show the calculated 99% power Band. The 26dB Bandwidth was also measured and recorded.

Note: --

5.2.1 GSM Mode Occupied Bandwidth Results

Band	EUT channel No.	Mode	99% OBW (MHz)	-26dBc OBW (MHz)
GSM850	128	GMSK	0.23	0.28
	190	GMSK	0.23	0.30
	251	GMSK	0.23	0.28
PCS1900	512	GMSK	0.23	0.31
	661	GMSK	0.23	0.29
	810	GMSK	0.23	0.29

5.2.2 LTE B2 occupied bandwidth Results

Mode	EUT channel No.	bandwidth	No. RB	RB offset	99% occupied bandwidth [MHz]	-26dBc occupied bandwidth [MHz]
QPSK	18900 (1880MHz)	1.4MHz	6	0	1.10	1.41
		3MHz	15		2.67	2.99
		5MHz	25		4.50	5.03
		10MHz	50		8.88	9.49
		15MHz	75		13.61	15.12
		20MHz	100		18.03	20.10
16QAM		1.4MHz	6		1.11	1.44
		3MHz	15		2.67	2.93
		5MHz	25		4.47	5.05
		10MHz	27		4.96	6.82
		15MHz	27		6.15	9.32
		20MHz	27		7.05	9.23

5.2.3 LTE B4 occupied bandwidth Results

Mode	EUT channel No.	bandwidth	No. RB	RB offset	99% occupied bandwidth [MHz]	-26dBc occupied bandwidth [MHz]
QPSK	20175 (1732.5MHz)	1.4MHz	6	0	1.10	1.41
		3MHz	15		2.67	2.99
		5MHz	25		4.49	4.98
		10MHz	50		8.91	9.45
		15MHz	75		13.56	15.72
		20MHz	100		17.98	19.98
16QAM		1.4MHz	6		1.10	1.46
		3MHz	15		2.67	3.00
		5MHz	25		4.49	5.06
		10MHz	27		4.96	6.34
		15MHz	27		6.68	9.90
		20MHz	27		8.46	10.24

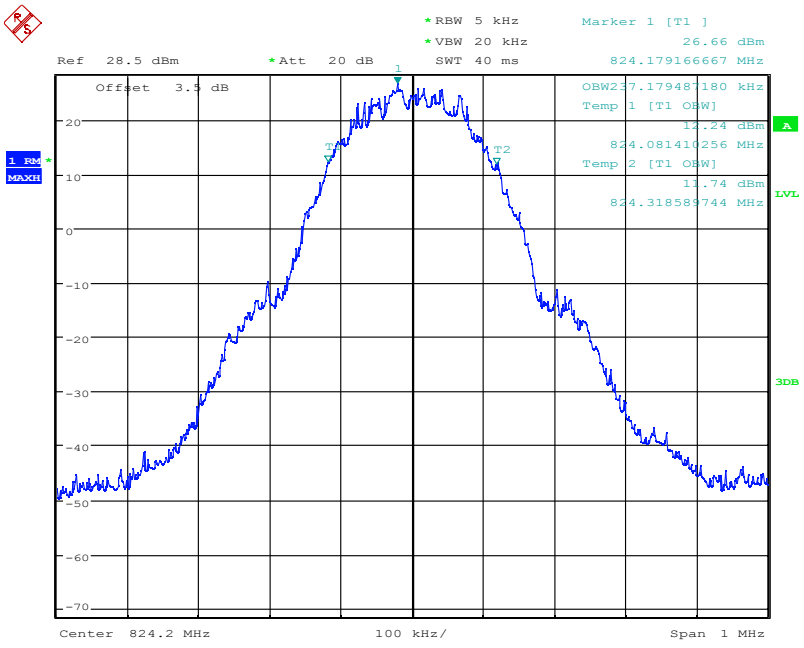
5.2.4 LTE B5 occupied bandwidth Results

Mode	EUT channel No.	bandwidth	No. RB	RB offset	99% occupied bandwidth [MHz]	-26dBc occupied bandwidth [MHz]
QPSK	20525 (836.5MHz)	1.4MHz	6	0	1.09	1.37
		3MHz	15		2.67	2.97
		5MHz	25		4.48	5.02
		10MHz	50		8.91	9.42
16QAM		1.4MHz	6		1.10	1.40
		3MHz	15		2.67	2.93
		5MHz	25		4.49	4.99
		10MHz	27		4.93	6.37

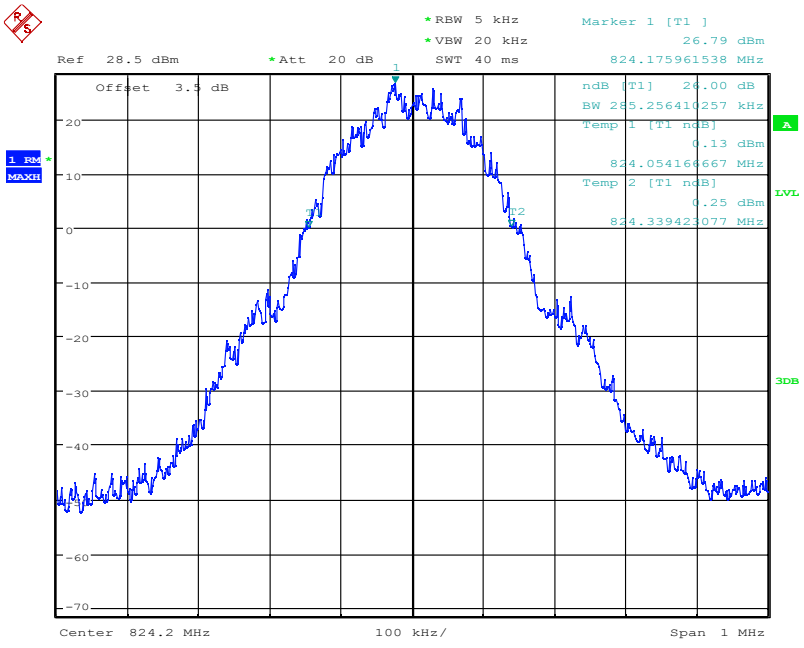
5.2.5 LTE B7 occupied bandwidth Results

Mode	EUT channel No.	bandwidth	No. RB	RB offset	99% occupied bandwidth [MHz]	-26dBc occupied bandwidth [MHz]
QPSK	21100(2535MHz)	5MHz	25	0	4.49	5.06
		10MHz	50		8.91	9.43
		15MHz	75		13.60	15.52
		20MHz	100		18.03	19.90
16QAM		5MHz	25		4.49	4.92
		10MHz	27		4.90	6.44
		15MHz	27		6.29	9.90
		20MHz	27		7.69	10.12

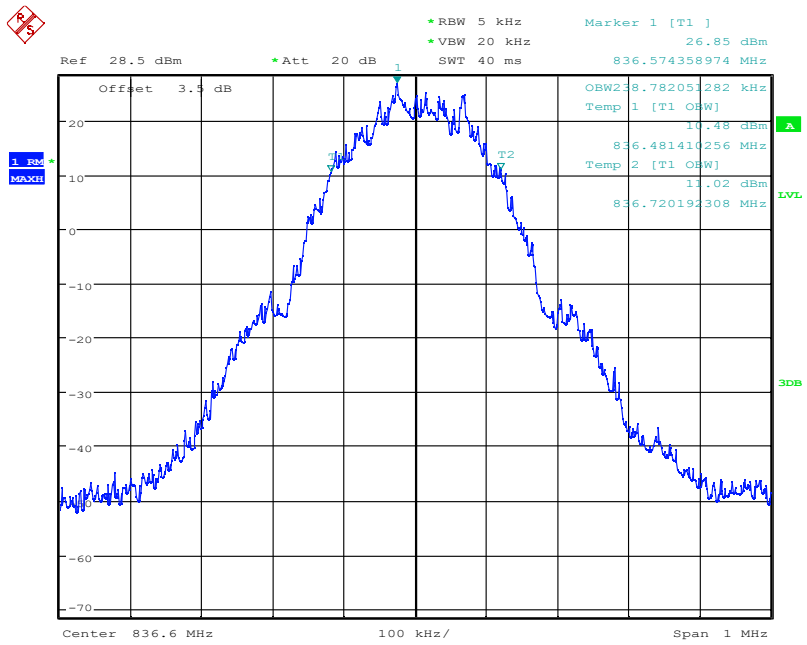
Graphical results for GSM850:



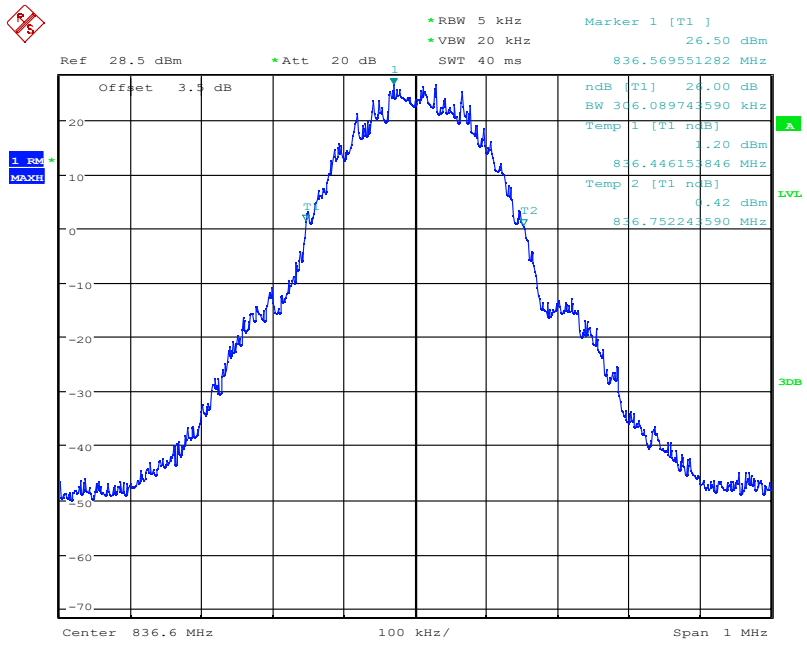
GMSK 99% Channel 128



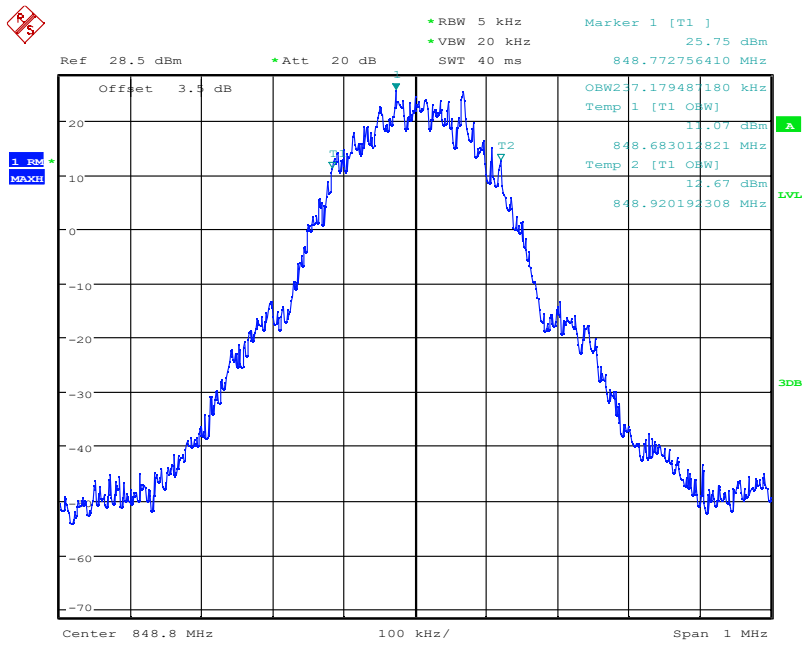
GMSK -26dBc Channel 128



GMSK 99% Channel 190

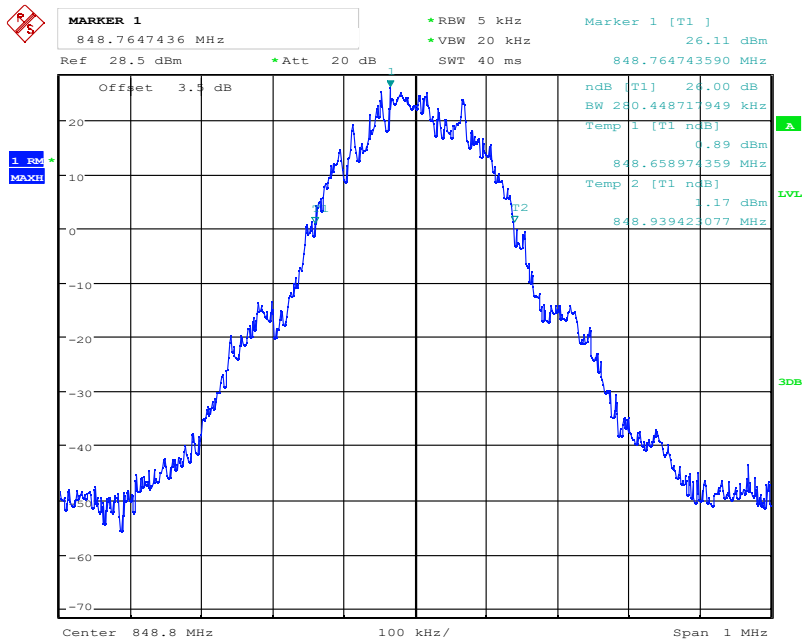


GMSK -26dBc Channel 190



Date: 6.SEP.2021 16:36:43

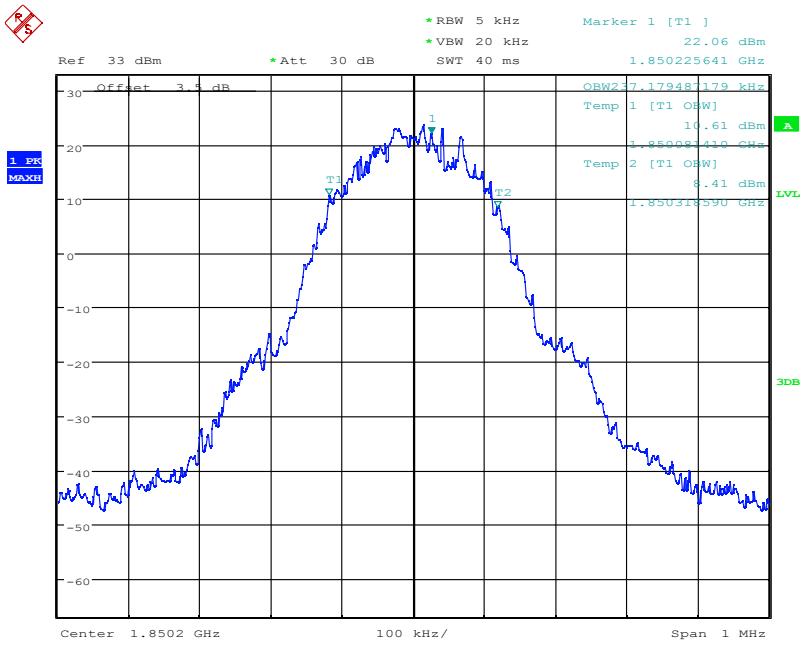
GMSK 99% Channel 251



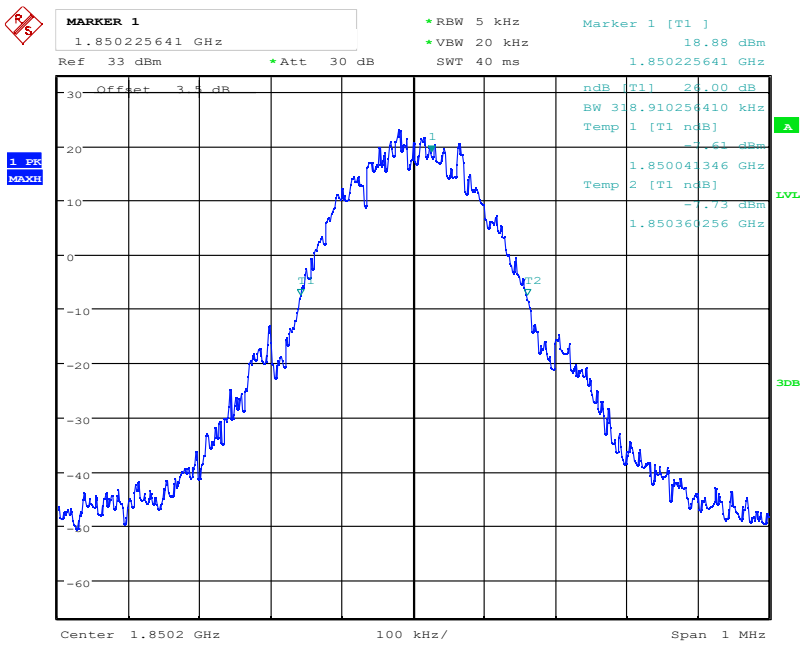
Date: 6.SEP.2021 16:37:00

GMSK -26dBc Channel 251

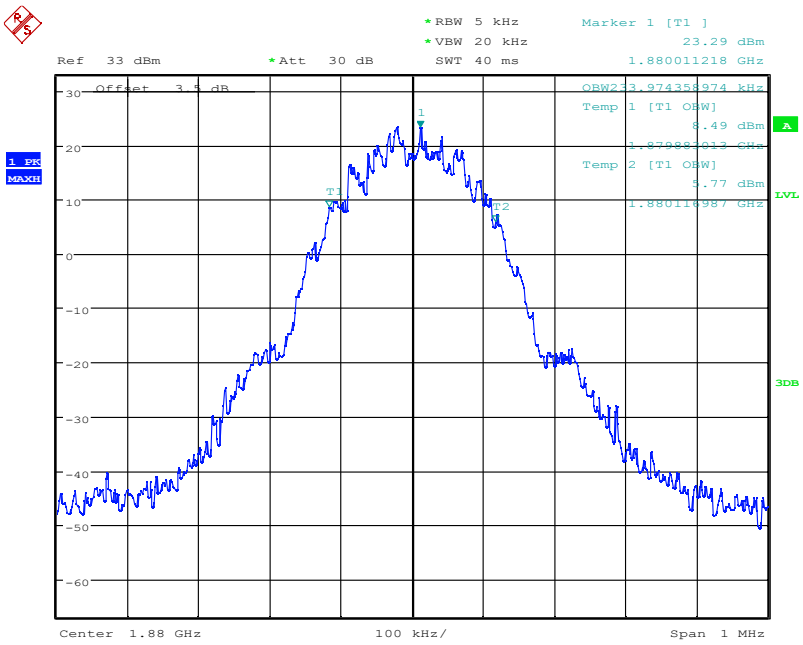
Graphical results for GSM1900:



GMSK 99% Channel 512

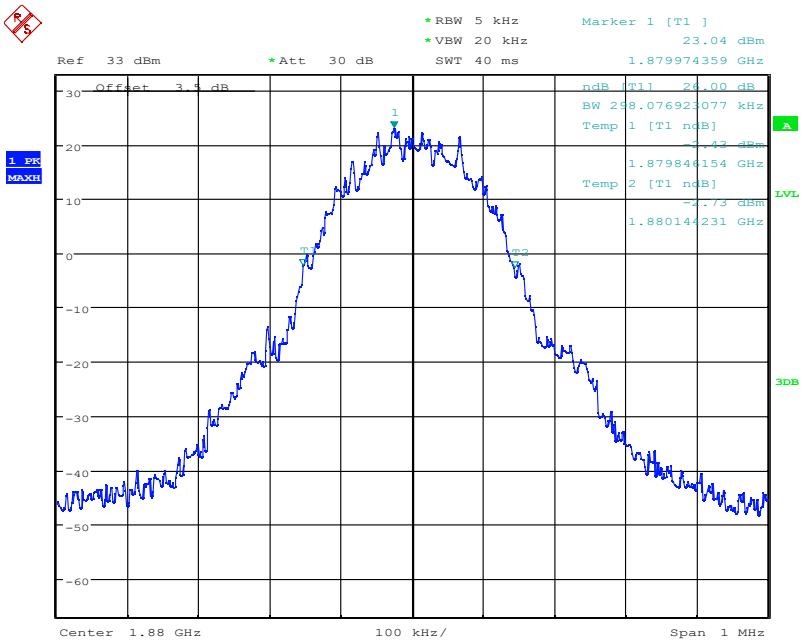


GMSK -26dBc Channel 512



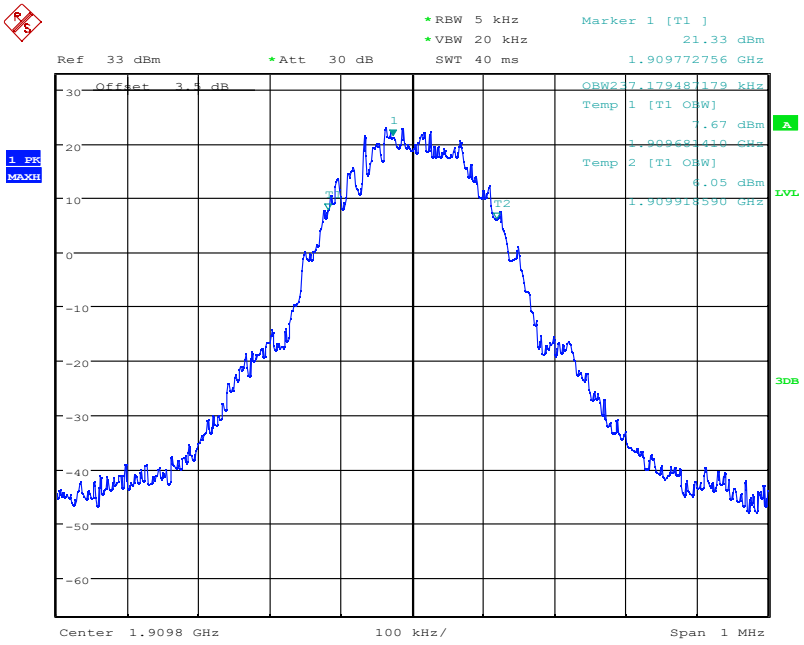
Date: 6.SEP.2021 21:11:25

GMSK 99% Channel 661

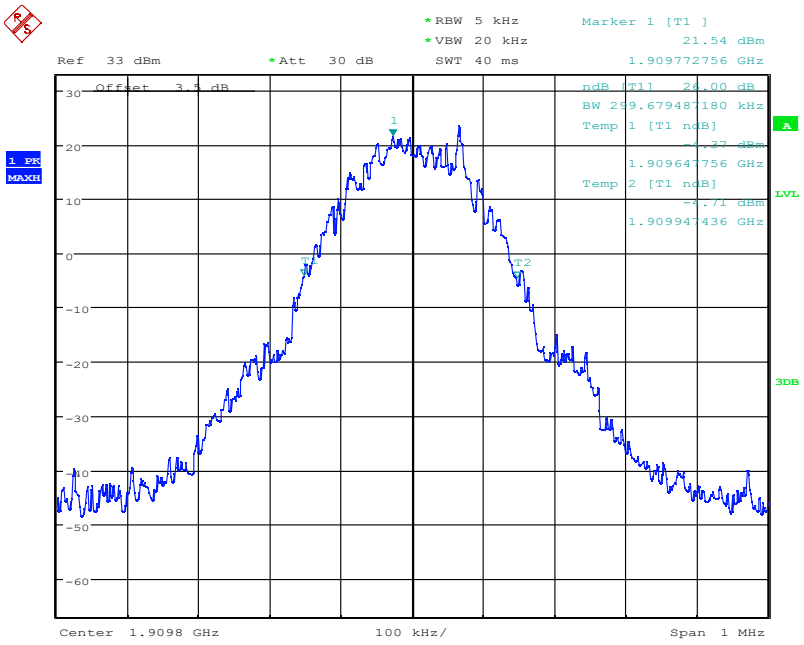


Date: 6.SEP.2021 21:11:17

GMSK -26dBc Channel 661

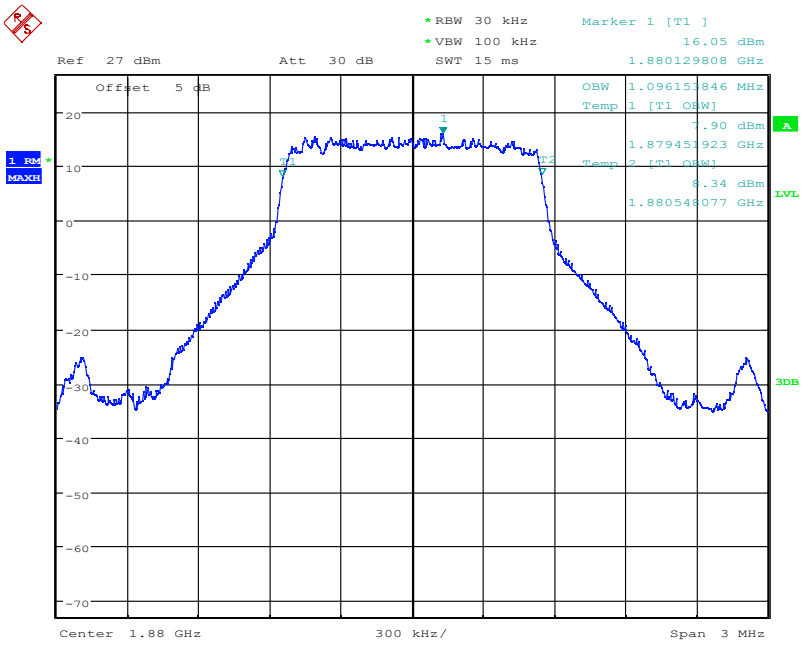


GMSK 99% Channel 810



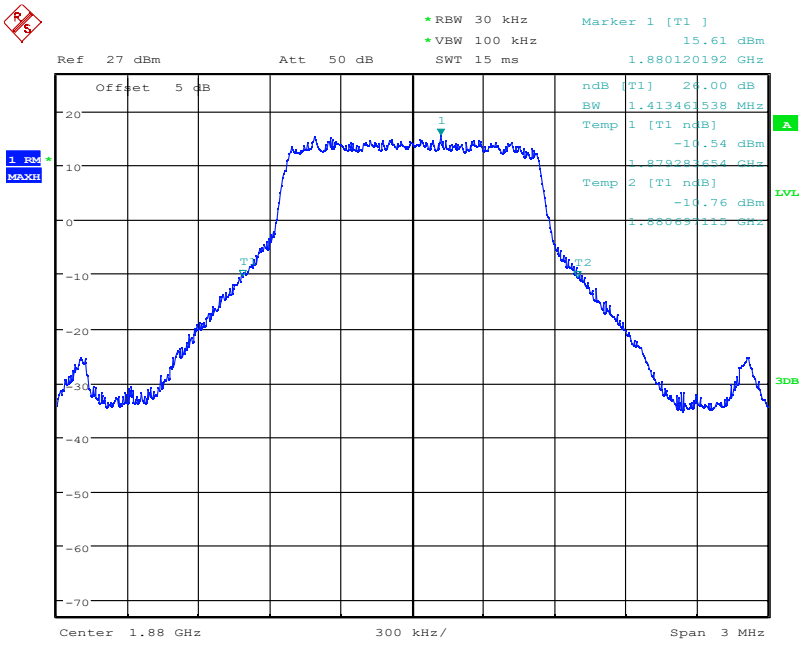
GMSK -26dBc Channel 810

Graphical results for LTE B2:



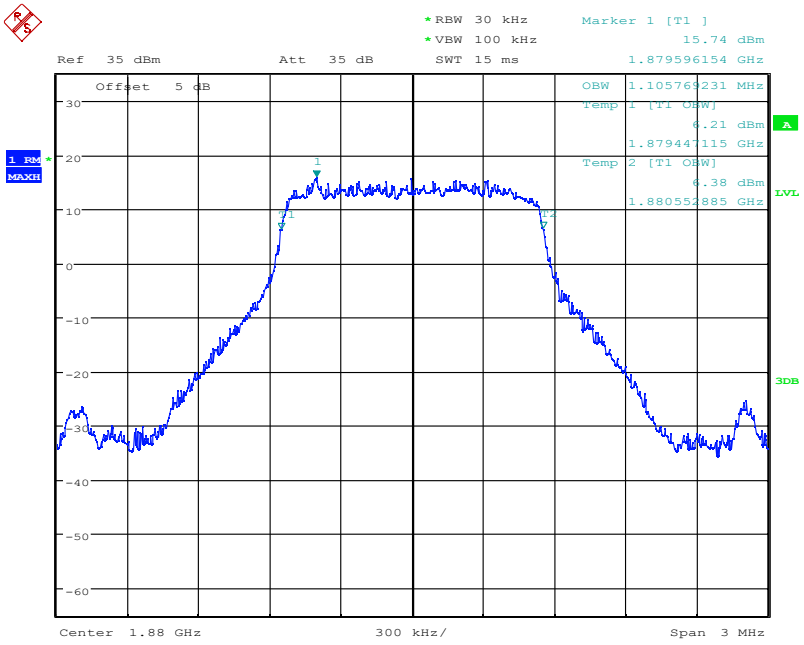
Date: 31.AUG.2021 17:21:12

LTE Band2 QPSK 99% Channel 18900 BW=1.4MHz RB=6 RB Offset=0



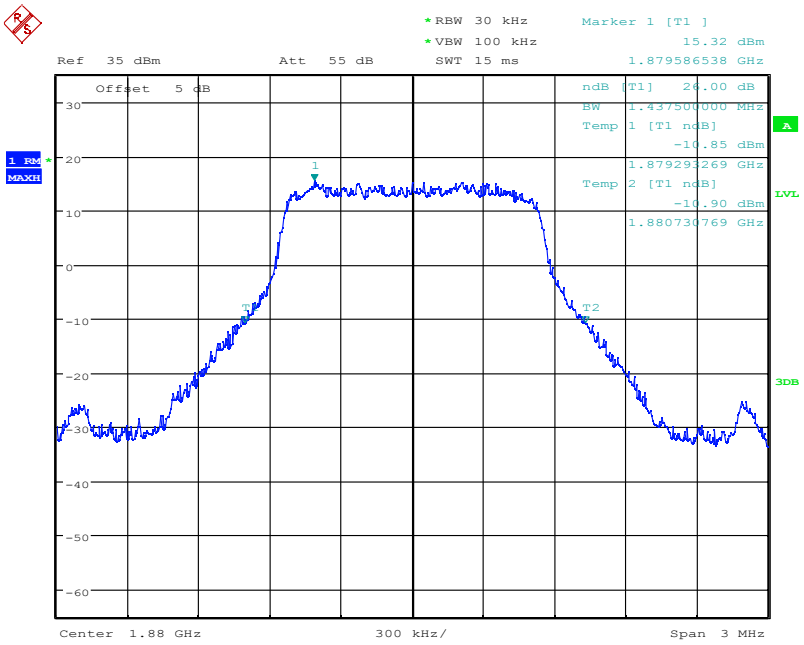
Date: 31.AUG.2021 17:21:46

LTE Band2 QPSK -26dBc Channel 18900 BW=1.4MHz RB=6 RB Offset=0



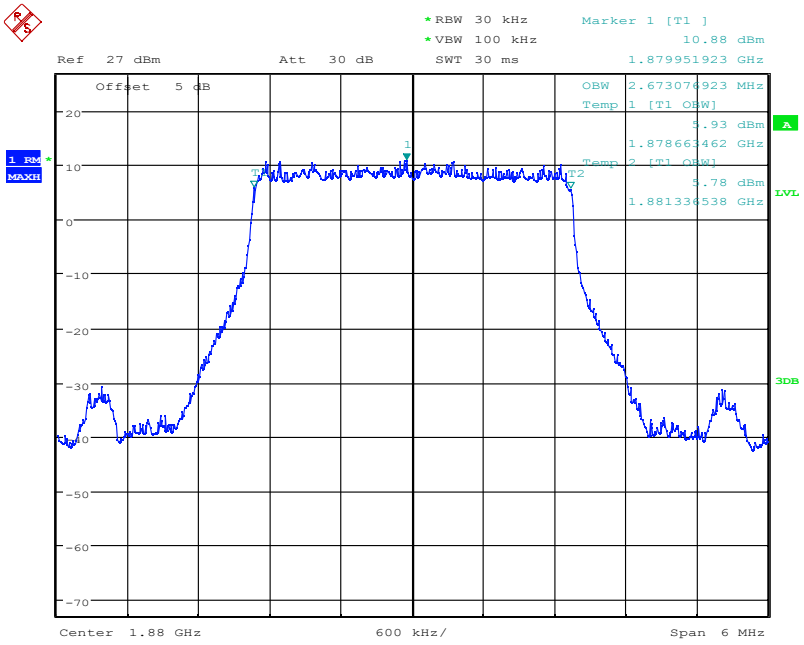
Date: 31.AUG.2021 17:56:34

LTE Band2 16QAM 99% Channel 18900 BW=1.4MHz RB=6 RB Offset=0



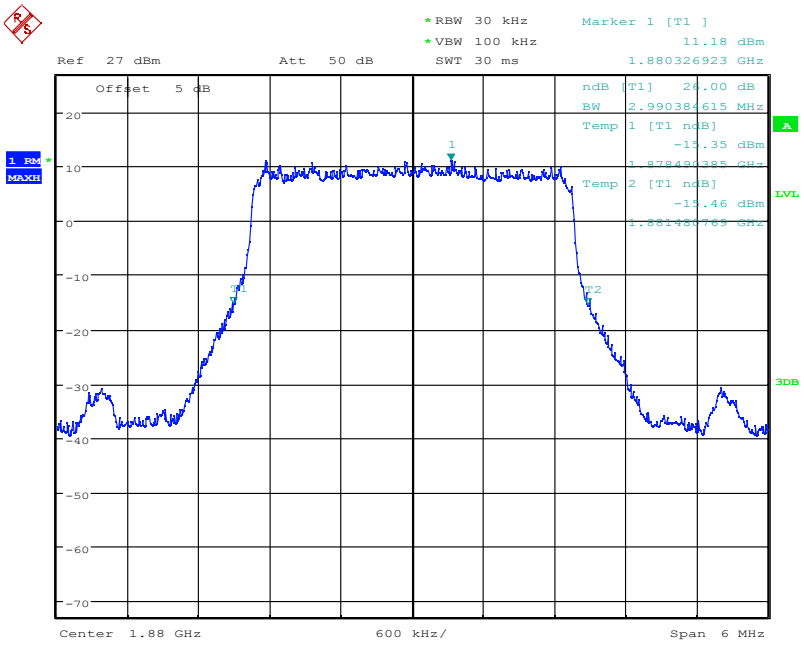
Date: 31.AUG.2021 17:56:07

LTE Band2 16QAM -26dBc Channel 18900 BW=1.4MHz RB=6 RB Offset=0



Date: 31.AUG.2021 17:32:58

LTE Band2 QPSK 99% Channel 18900 BW=3MHz RB=15 RB Offset=0



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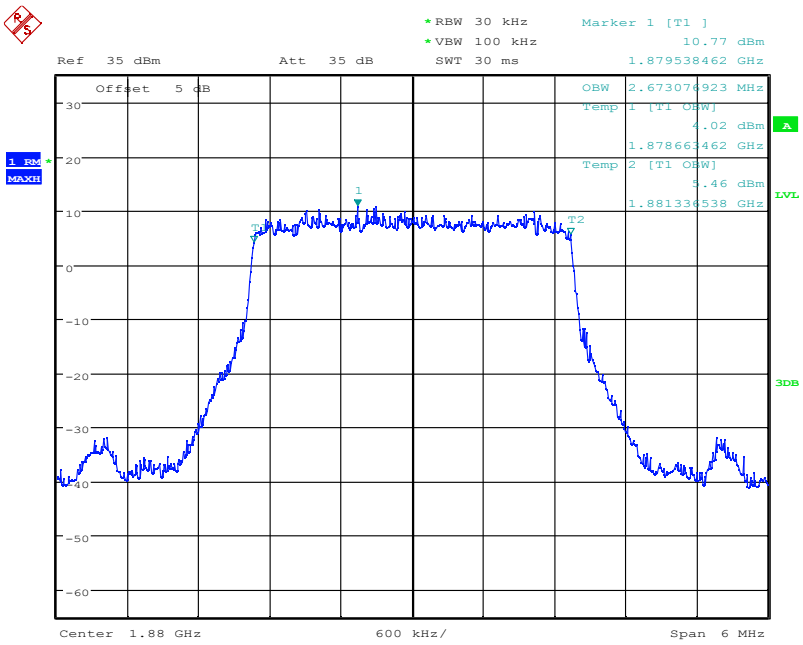
LTE Band2 QPSK -26dBc Channel 18900 BW=3MHz RB=15 RB Offset=0



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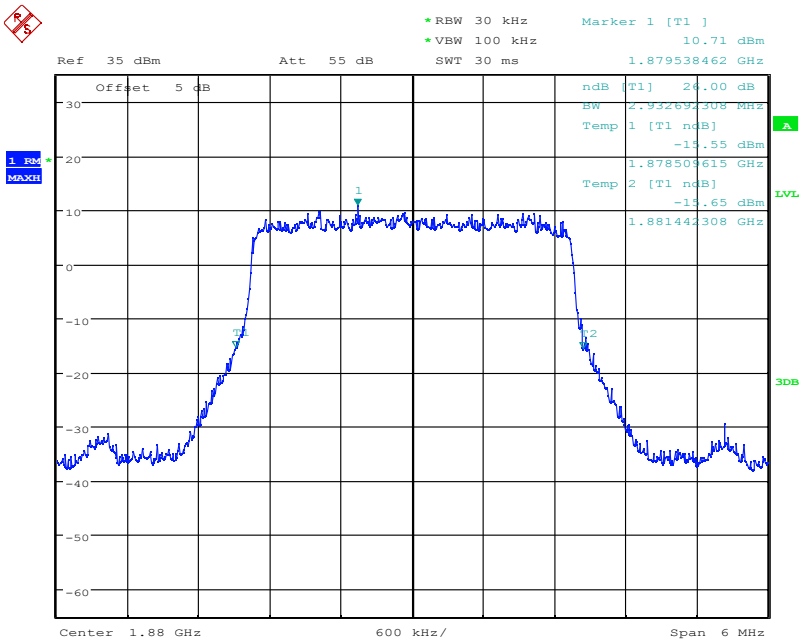
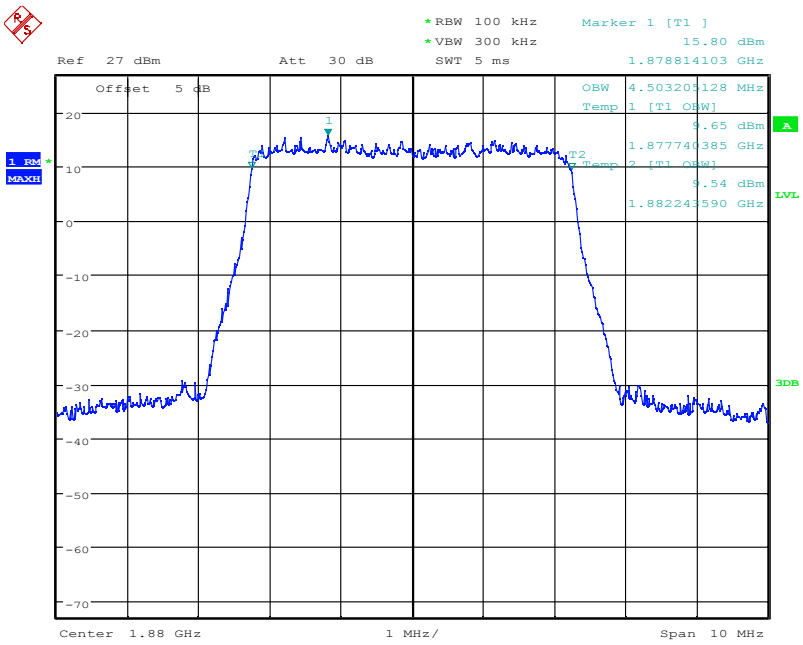
LTE Band2 16QAM 99% Channel 18900 BW=3MHz RB=15 RB Offset=0

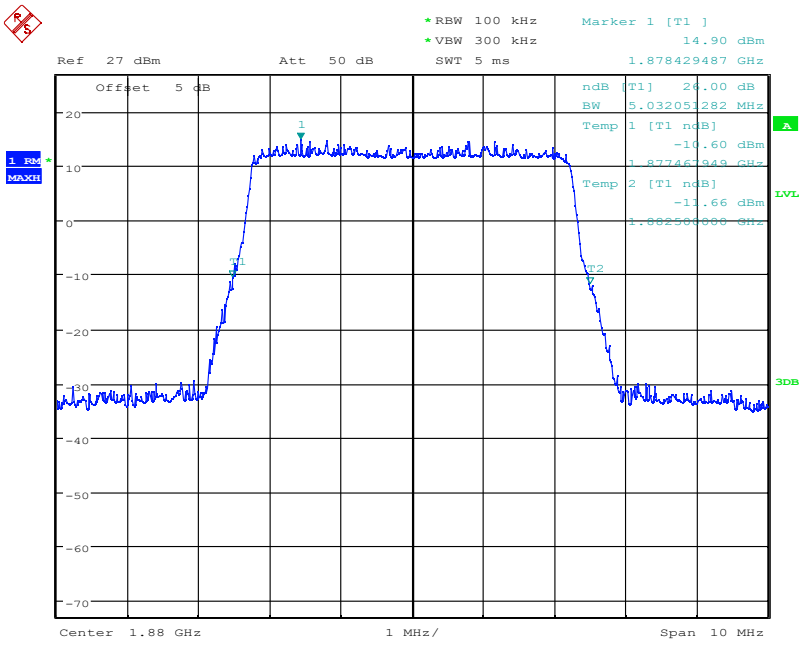


Date: 31.AUG.2021 17:58:37

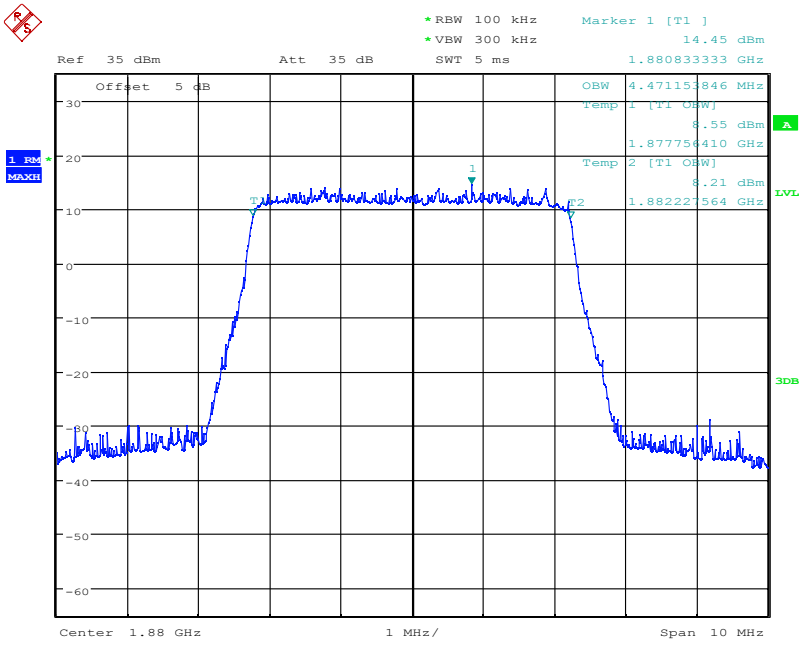
LTE Band2 16QAM -26dBc Channel 18900 BW=3MHz RB=15 RB Offset=0



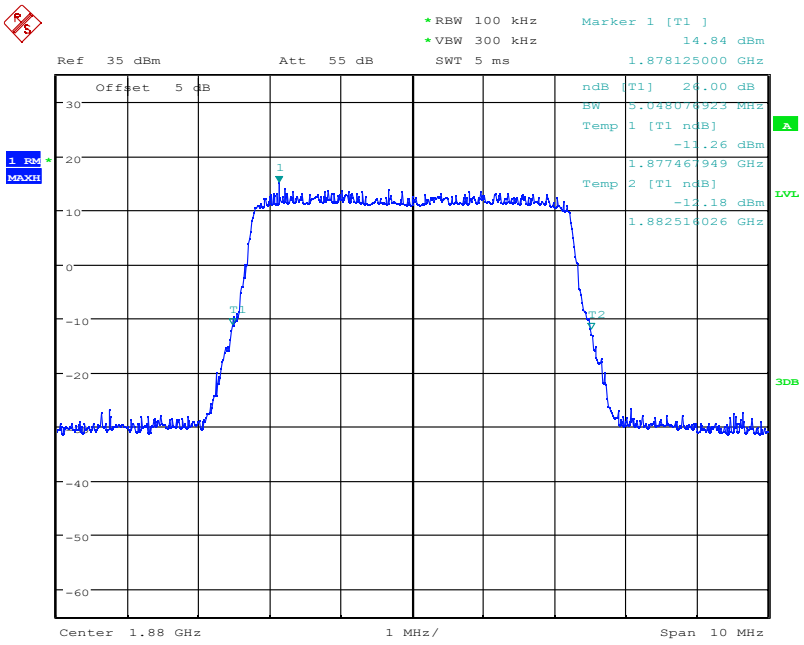
LTE Band2 QPSK 99% Channel 18900 BW=5MHz RB=25 RB Offset=0



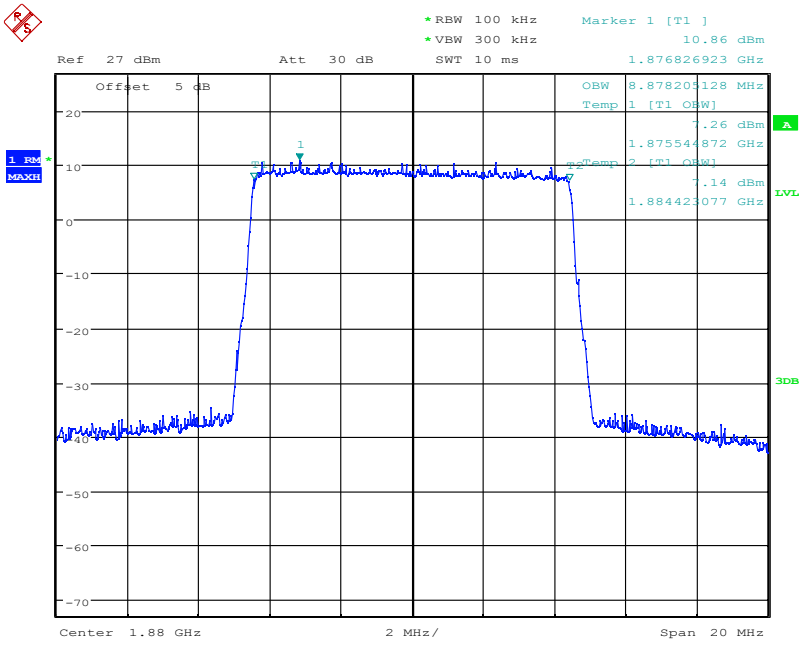
LTE Band2 QPSK -26dBc Channel 18900 BW=5MHz RB=25 RB Offset=0



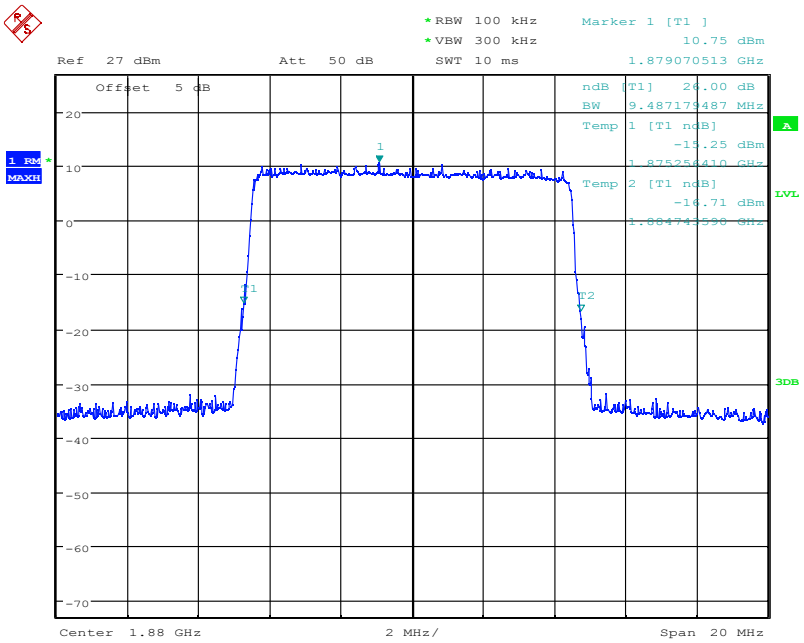
LTE Band2 16QAM 99% Channel 18900 BW=5MHz RB=25 RB Offset=0



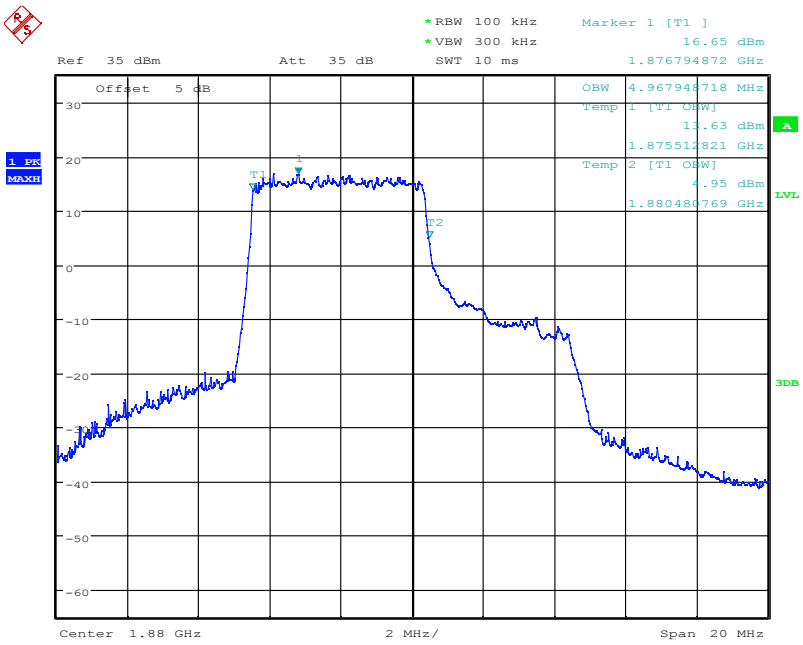
LTE Band2 16QAM -26dBc Channel 18900 BW=5MHz RB=25 RB Offset=0



LTE Band2 QPSK 99% Channel 18900 BW=10MHz RB=50 RB Offset=0

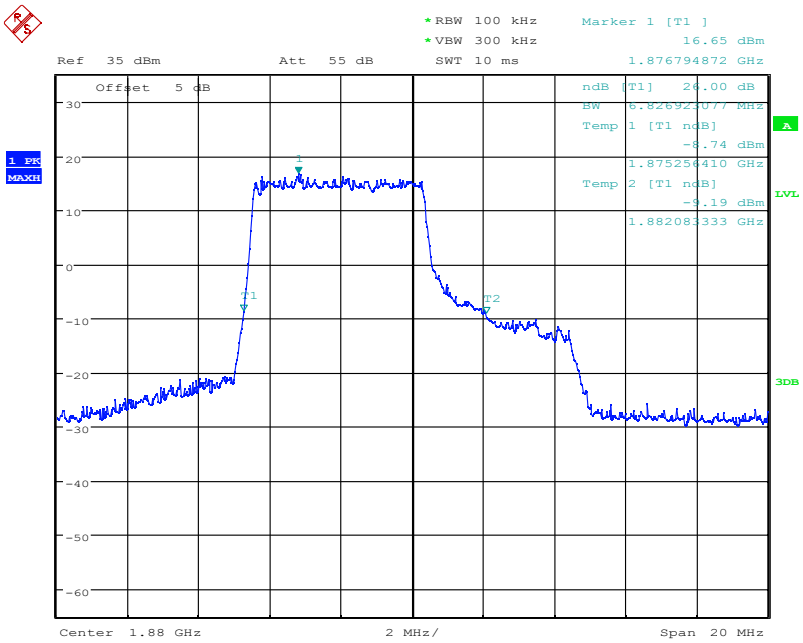


LTE Band2 QPSK -26dBc Channel 18900 BW=10MHz RB=50 RB Offset=0



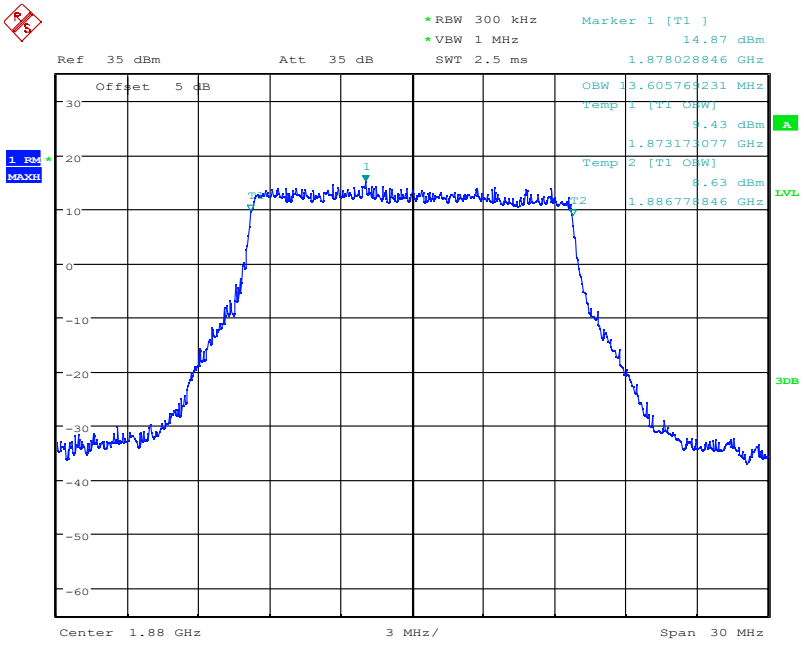
Date: 7.SEP.2021 15:10:46

LTE Band2 16QAM 99% Channel 18900 BW=10MHz RB=27 RB Offset=0



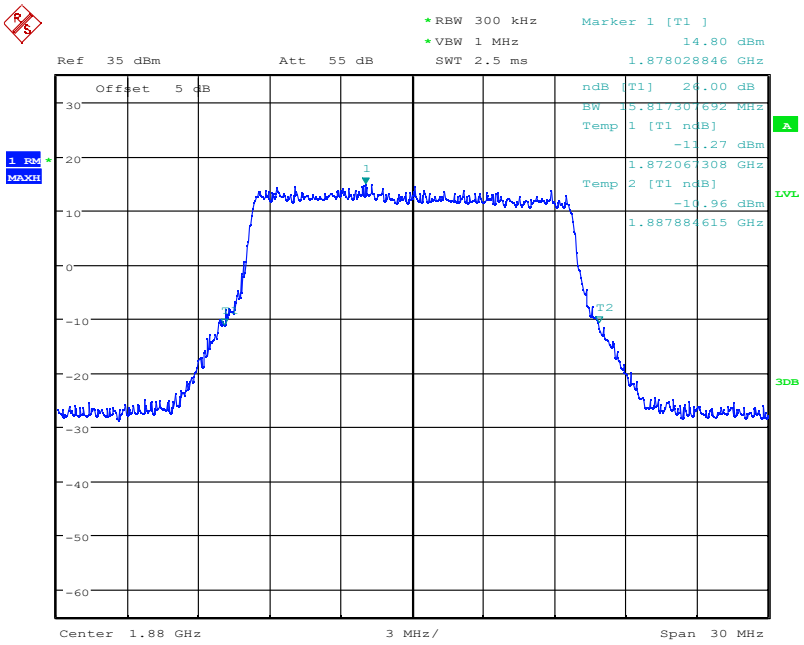
Date: 7.SEP.2021 15:12:03

LTE Band2 16QAM -26dBc Channel 18900 BW=10MHz RB=27 RB Offset=0



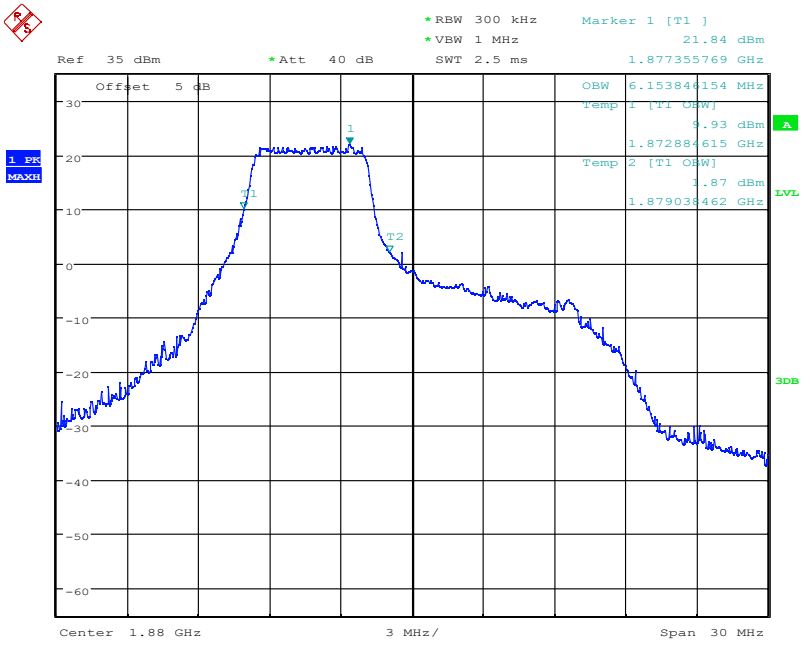
Date: 31.AUG.2021 17:46:41

LTE Band2 QPSK 99% Channel 18900 BW=15MHz RB=75 RB Offset=0

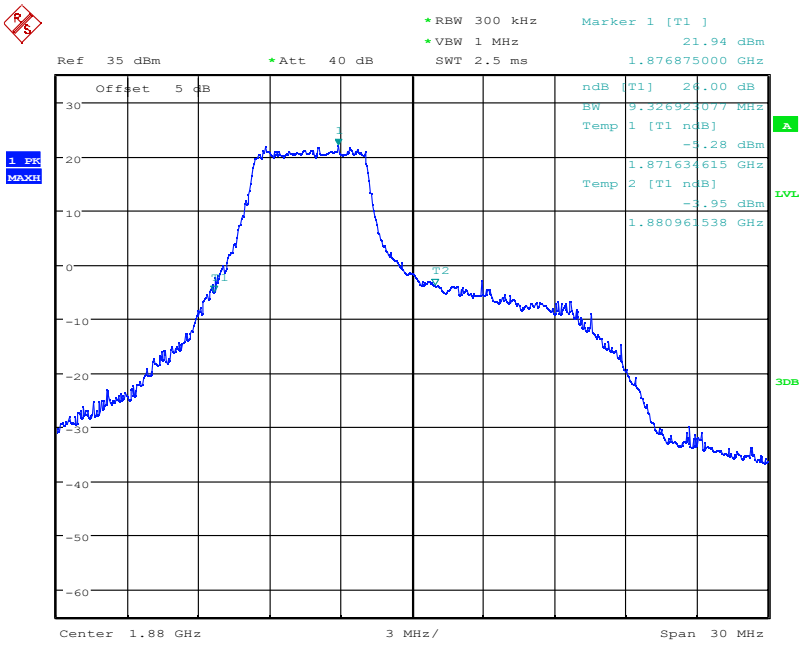


Date: 31.AUG.2021 17:48:15

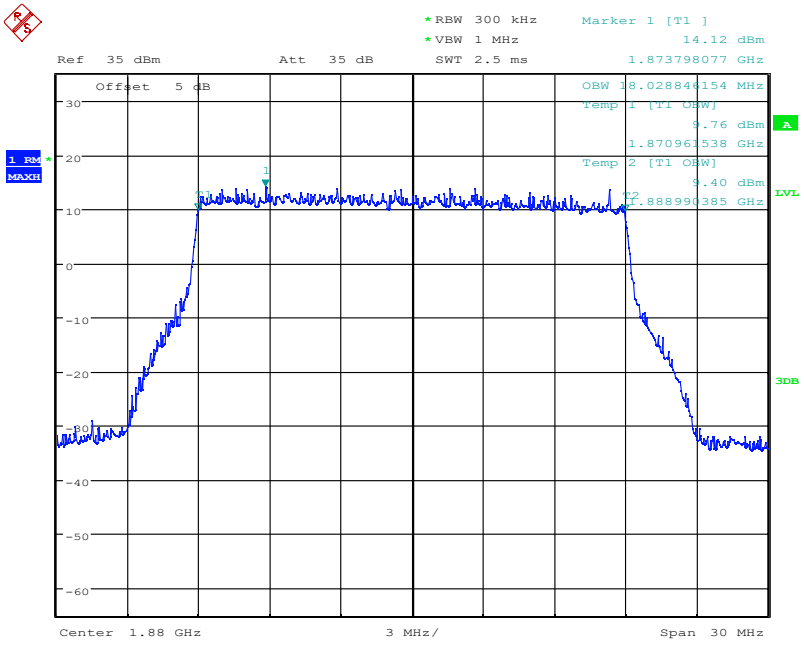
LTE Band2 QPSK -26dBc Channel 18900 BW=15MHz RB=75 RB Offset=0



LTE Band2 16QAM 99% Channel 18900 BW=15MHz RB=27 RB Offset=0

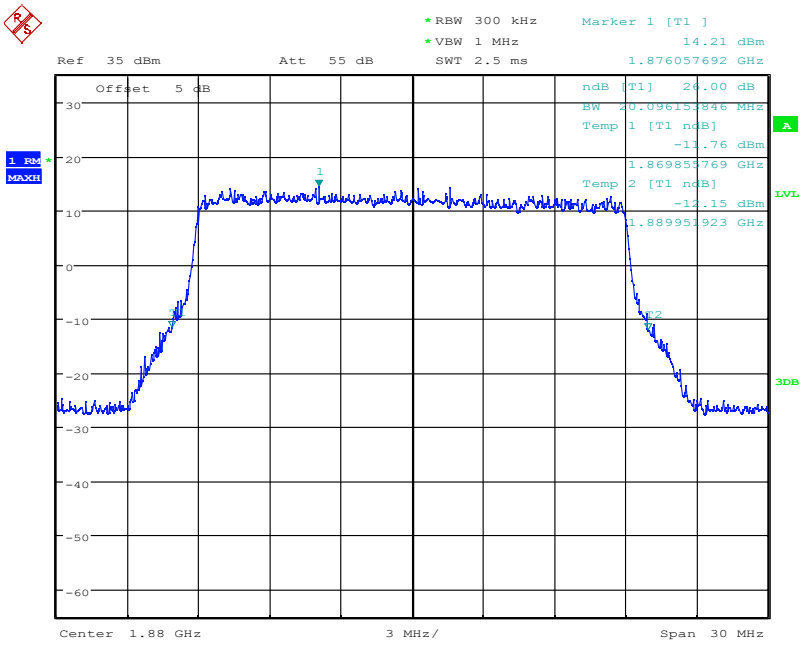


LTE Band2 16QAM -26dBc Channel 18900 BW=15MHz RB=27 RB Offset=0



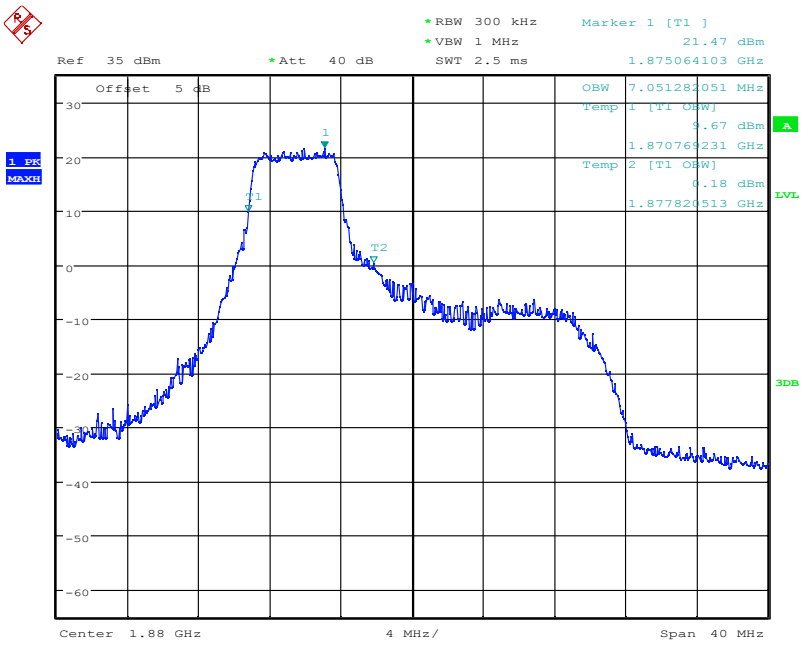
Date: 31.AUG.2021 17:49:55

LTE Band2 QPSK 99% Channel 18900 BW=20MHz RB=100 RB Offset=0



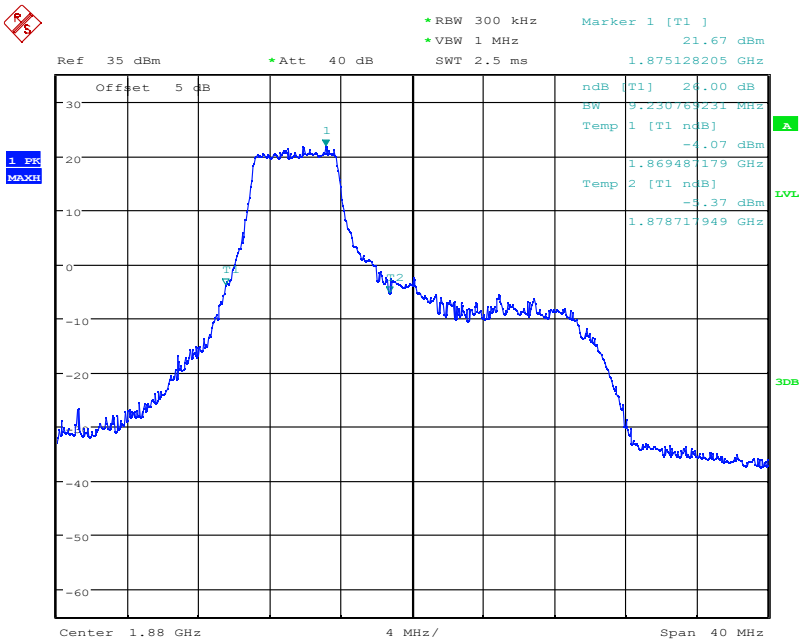
Date: 31.AUG.2021 17:49:31

LTE Band2 QPSK -26dBc Channel 18900 BW=20MHz RB=100 RB Offset=0



Date: 8.SEP.2021 09:09:34

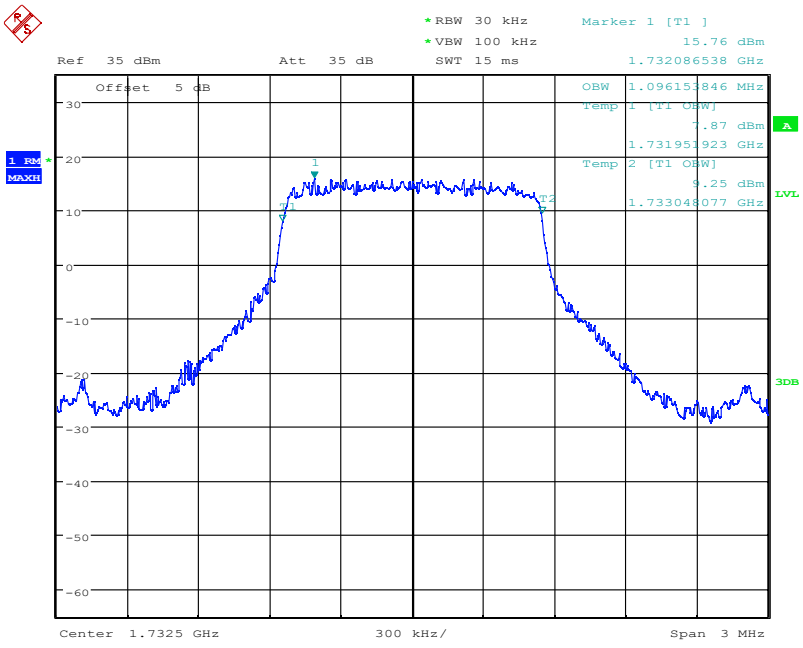
LTE Band2 16QAM 99% Channel 18900 BW=20MHz RB=27 RB Offset=0



Date: 8.SEP.2021 09:08:39

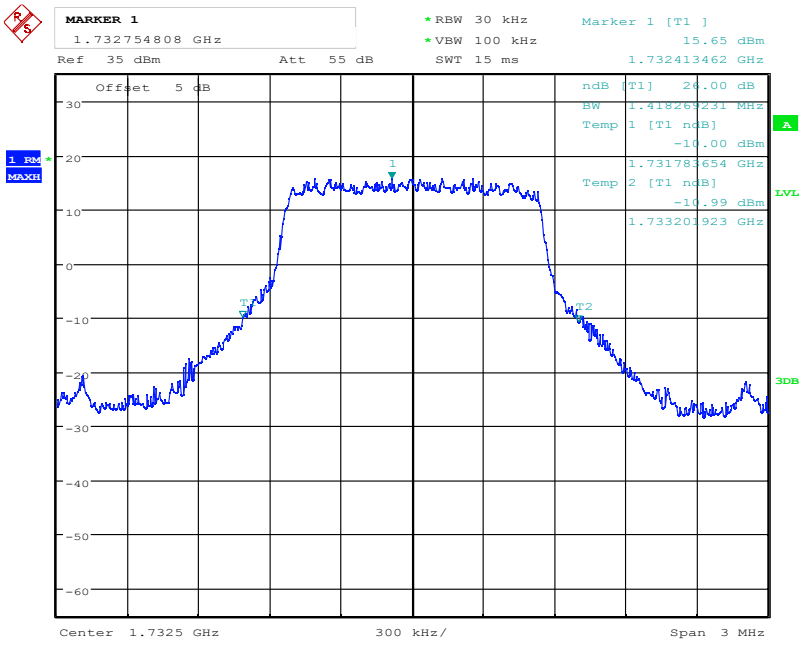
LTE Band2 16QAM -26dBc Channel 18900 BW=20MHz RB=27 RB Offset=0

Graphical results for LTE B4



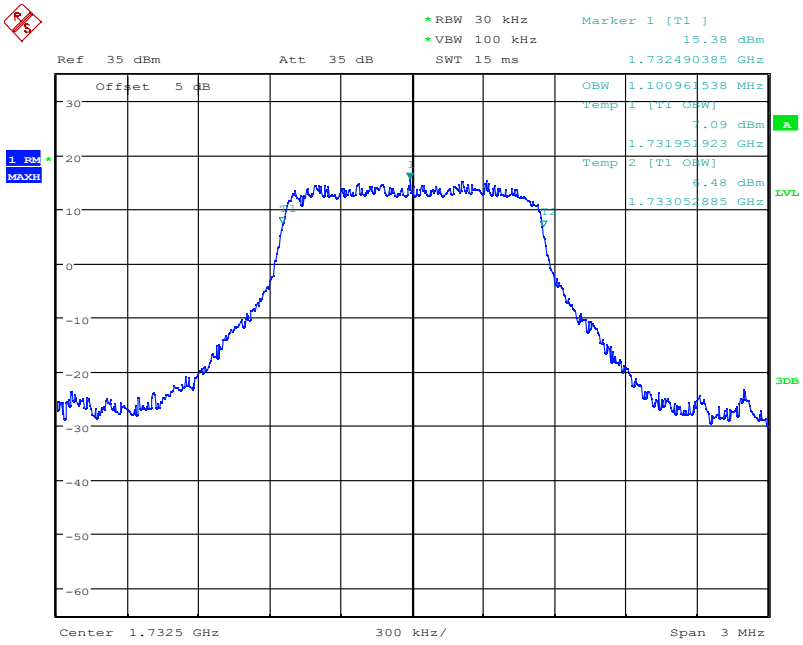
Date: 31.AUG.2021 18:04:47

LTE Band4 QPSK 99% Channel 20175 BW=1.4MHz RB=6 RB Offset=0

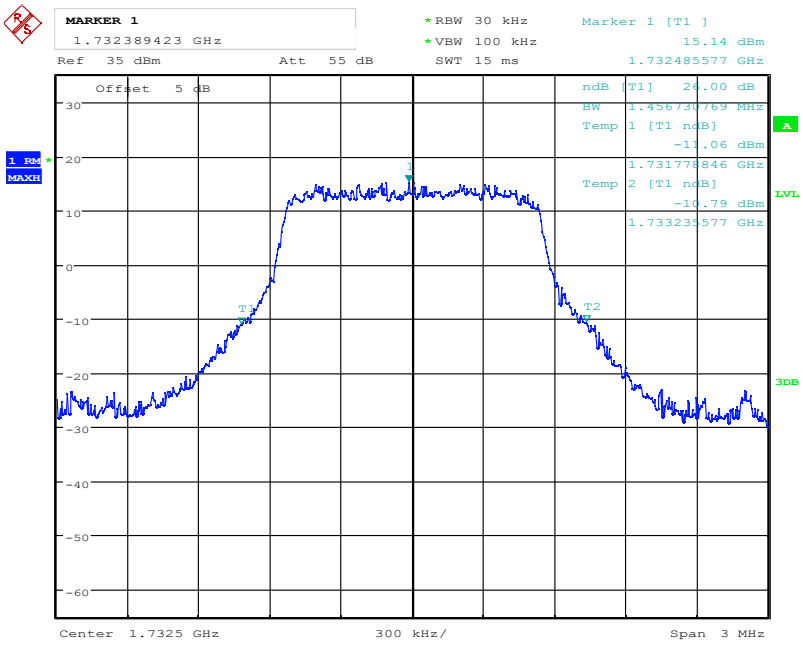


Date: 31.AUG.2021 18:05:08

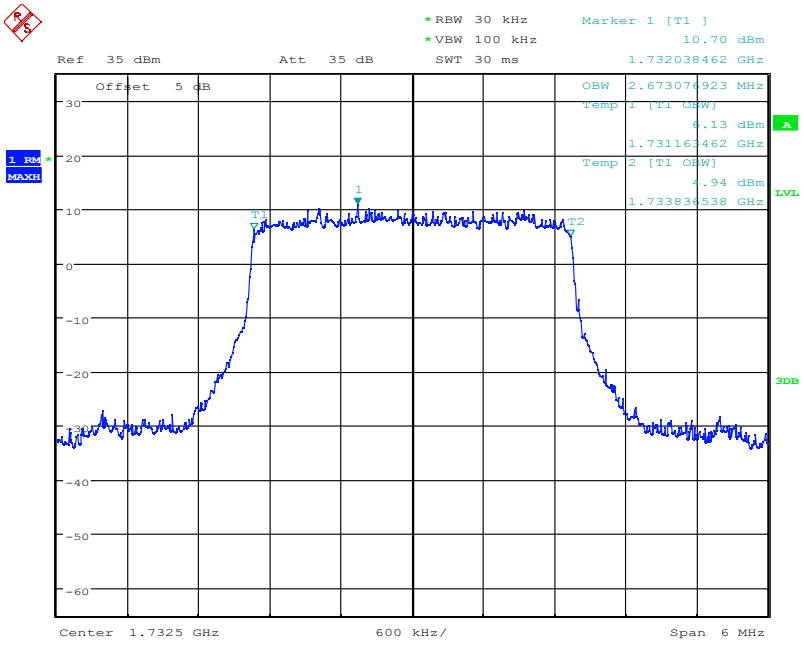
LTE Band4 QPSK -26dBc Channel 20175 BW=1.4MHz RB=6 RB Offset=0



LTE Band4 16QAM 99% Channel 20175 BW=1.4MHz RB=6 RB Offset=0

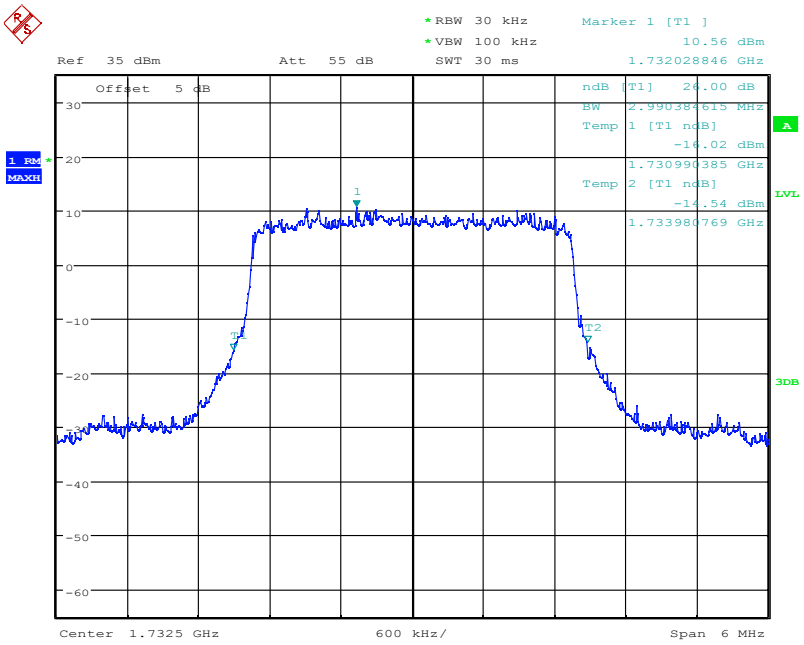


LTE Band4 16QAM -26dBc Channel 20175 BW=1.4MHz RB=6 RB Offset=0



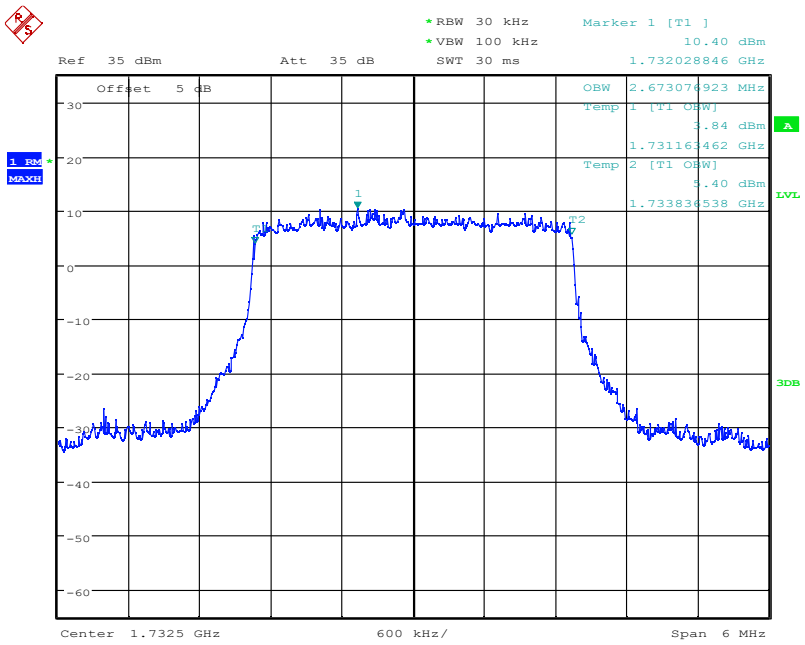
Date: 31.AUG.2021 18:05:53

LTE Band4 QPSK 99% Channel 20175 BW=3MHz RB=15 RB Offset=0



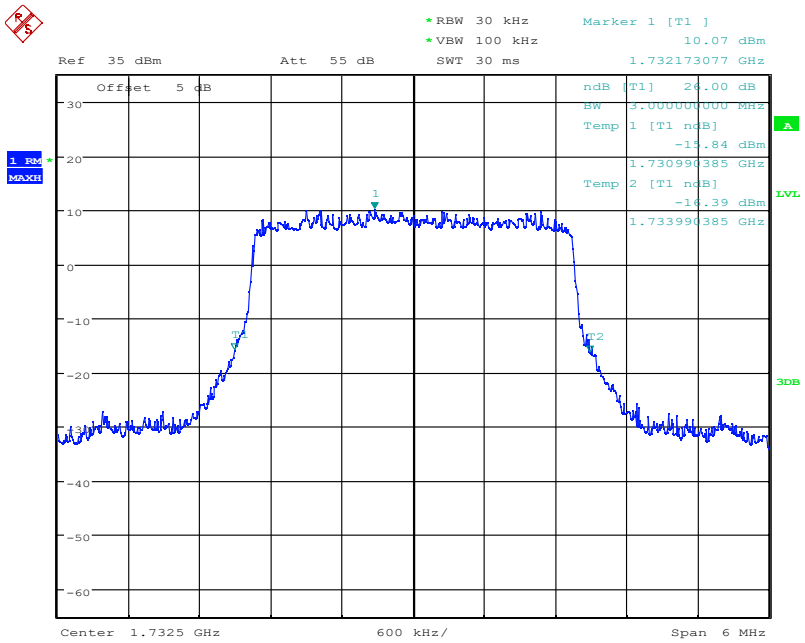
Date: 31.AUG.2021 18:05:38

LTE Band4 QPSK -26dBc Channel 20175 BW=3MHz RB=15 RB Offset=0



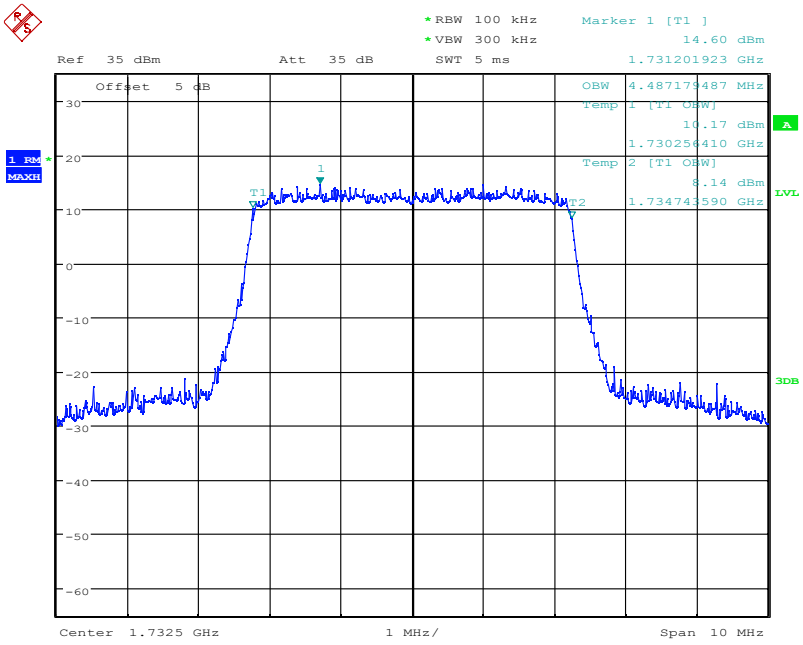
Date: 31.AUG.2021 18:13:36

LTE Band4 16QAM 99% Channel 20175 BW=3MHz RB=15 RB Offset=0



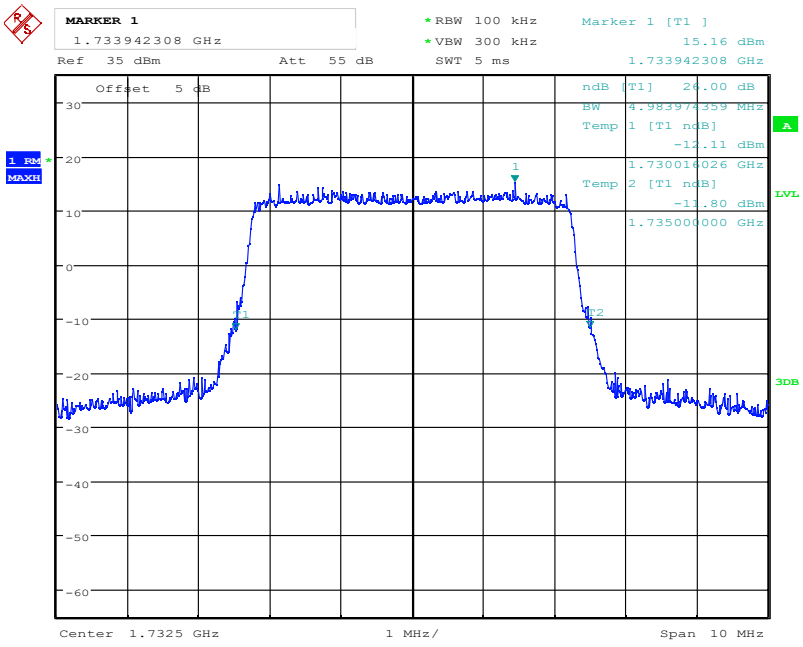
Date: 31.AUG.2021 18:13:22

LTE Band4 16QAM -26dBc Channel 20175 BW=3MHz RB=15 RB Offset=0



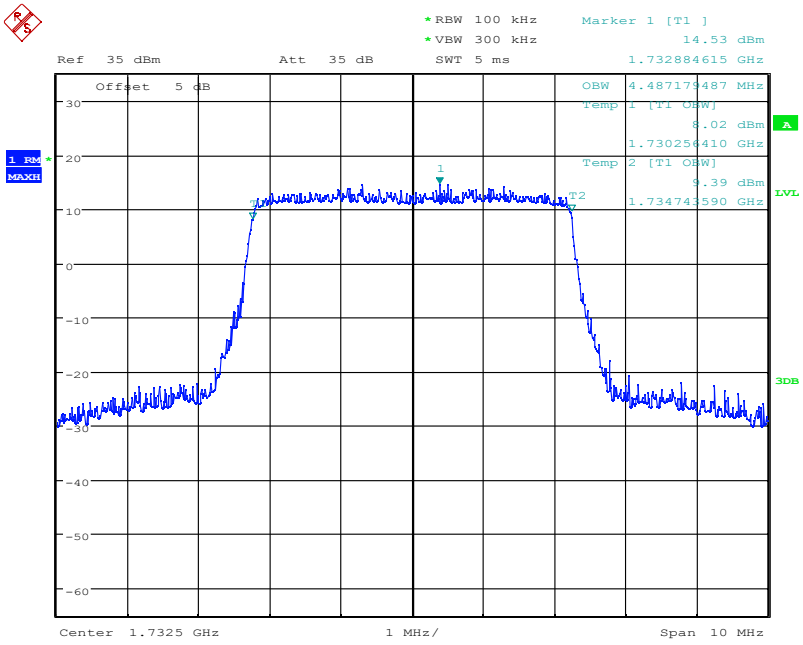
Date: 31.AUG.2021 18:06:24

LTE Band4 QPSK 99% Channel 20175 BW=5MHz RB=25 RB Offset=0



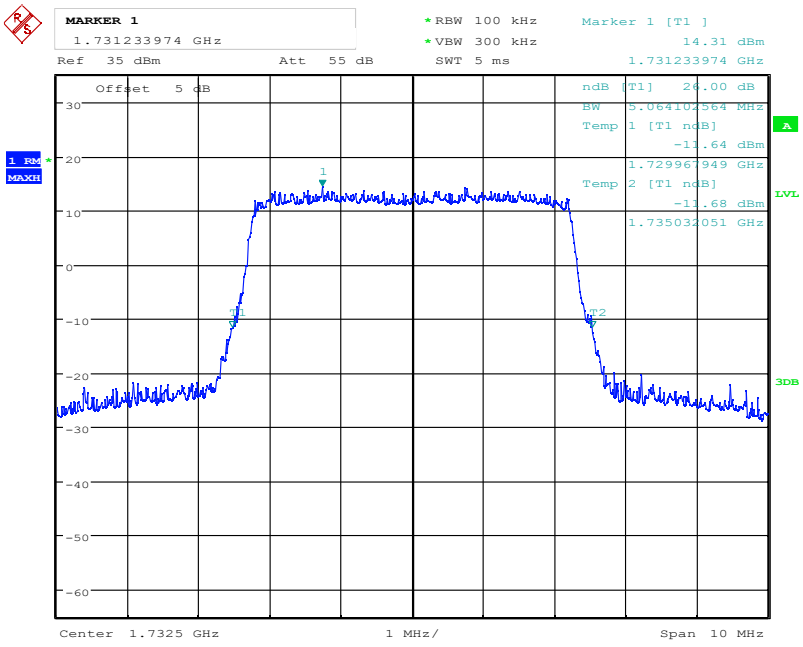
Date: 31.AUG.2021 18:06:46

LTE Band4 QPSK -26dBc Channel 20175 BW=5MHz RB=25 RB Offset=0



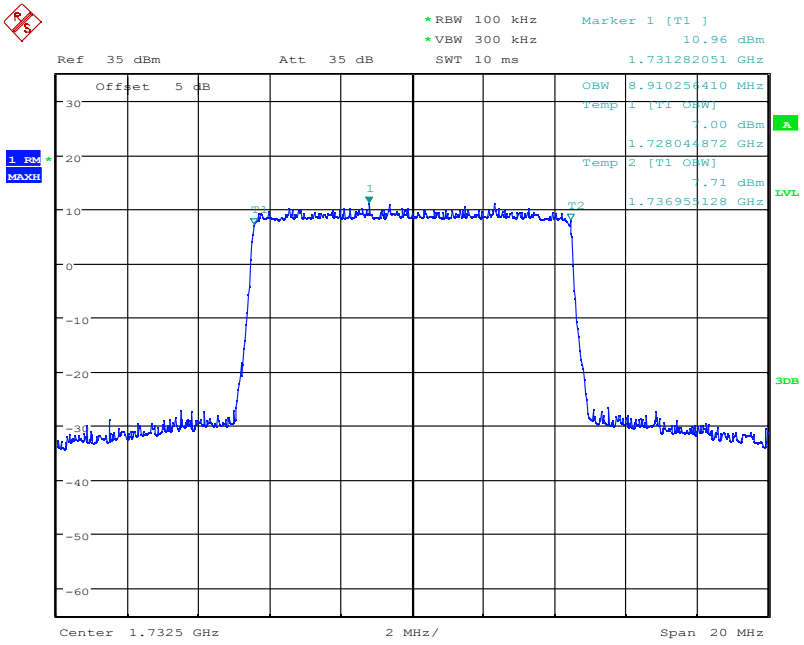
Date: 31.AUG.2021 18:13:59

LTE Band4 16QAM 99% Channel 20175 BW=5MHz RB=25 RB Offset=0



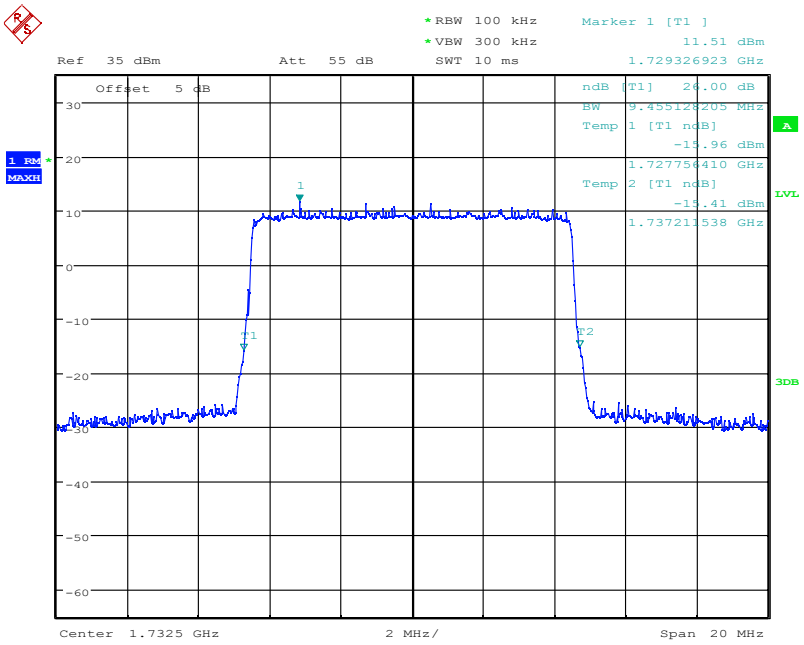
Date: 31.AUG.2021 18:14:17

LTE Band4 16QAM -26dBc Channel 20175 BW=5MHz RB=25 RB Offset=0



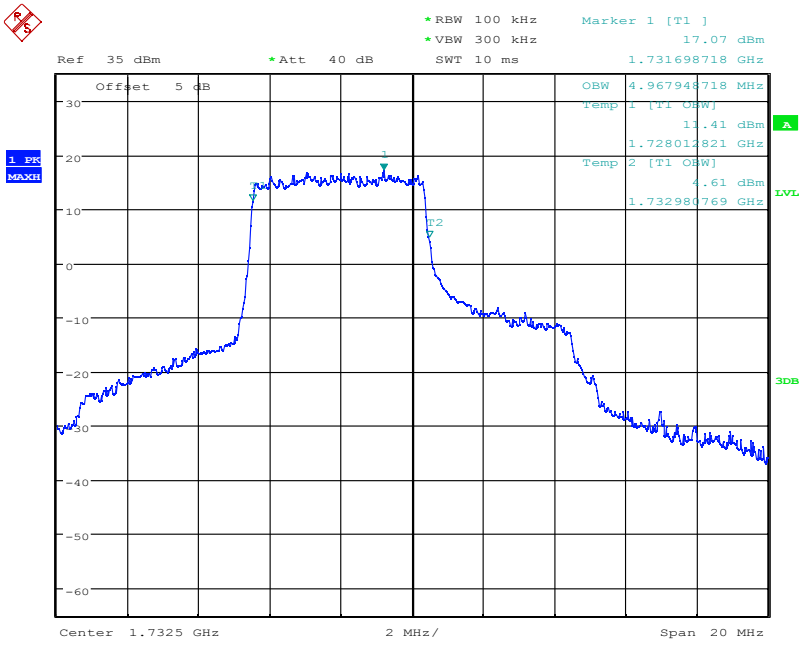
Date: 31.AUG.2021 18:08:11

LTE Band4 QPSK 99% Channel 20175 BW=10MHz RB=50 RB Offset=0

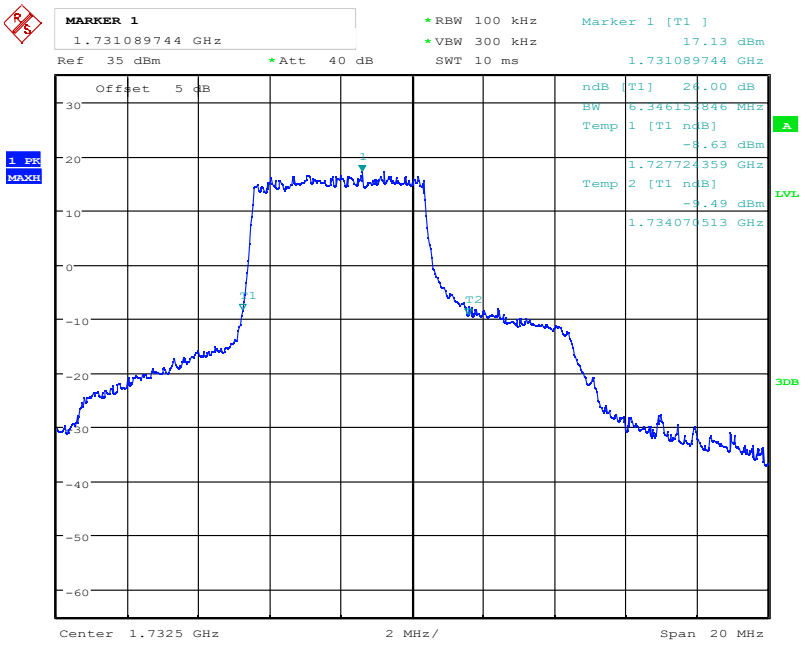


Date: 31.AUG.2021 18:07:49

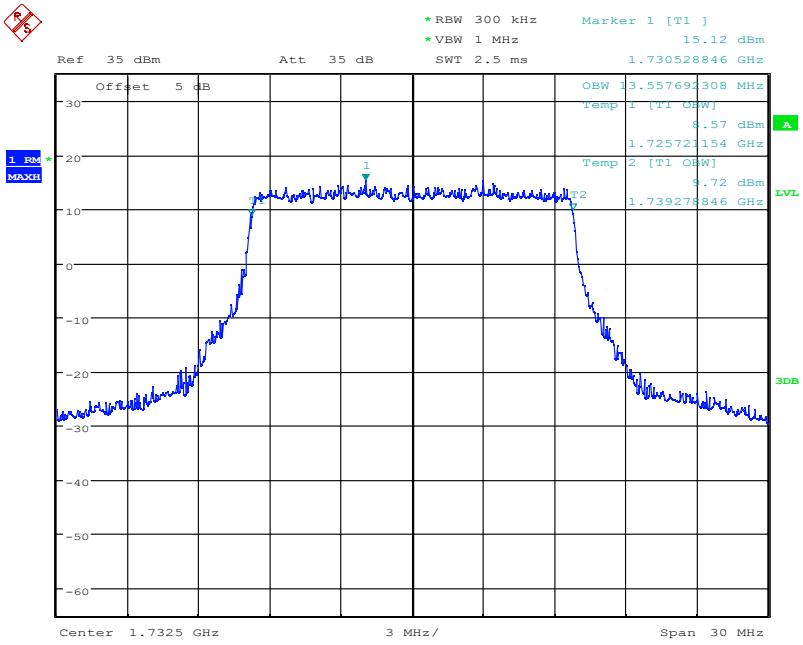
LTE Band4 QPSK -26dBc Channel 20175 BW=10MHz RB=50 RB Offset=0



LTE Band4 16QAM 99% Channel 20175 BW=10MHz RB=27 RB Offset=0

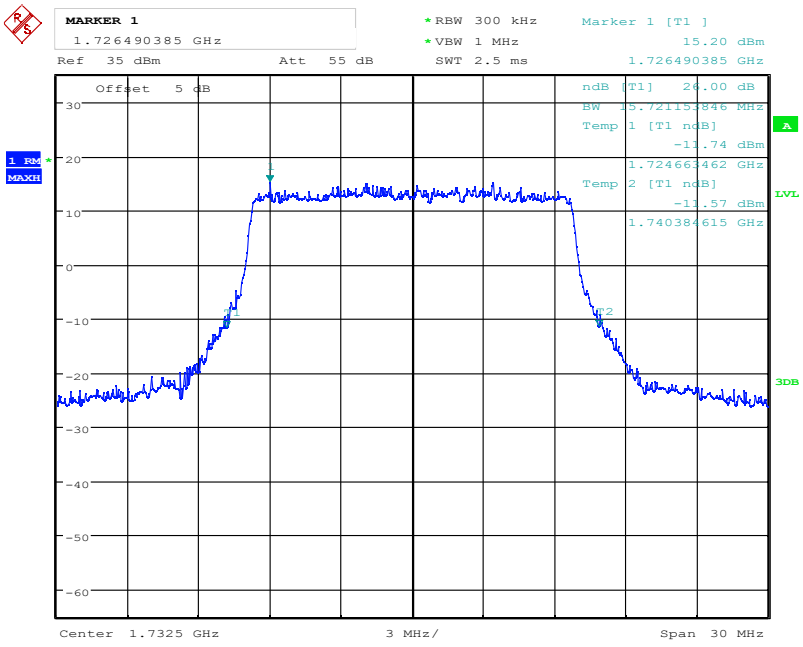


LTE Band4 16QAM -26dBc Channel 20175 BW=10MHz RB=27 RB Offset=0



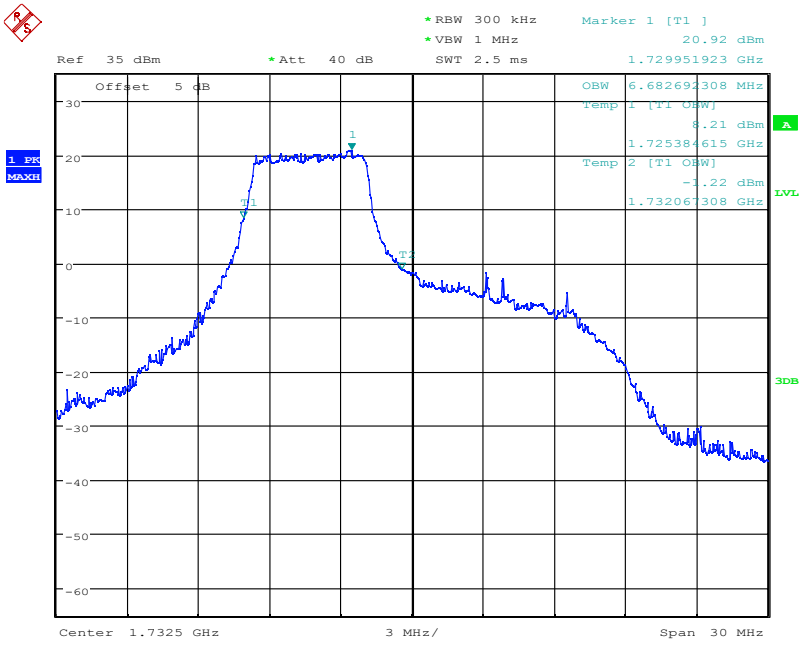
Date: 31.AUG.2021 18:09:55

LTE Band4 QPSK 99% Channel 20175 BW=15MHz RB=75 RB Offset=0

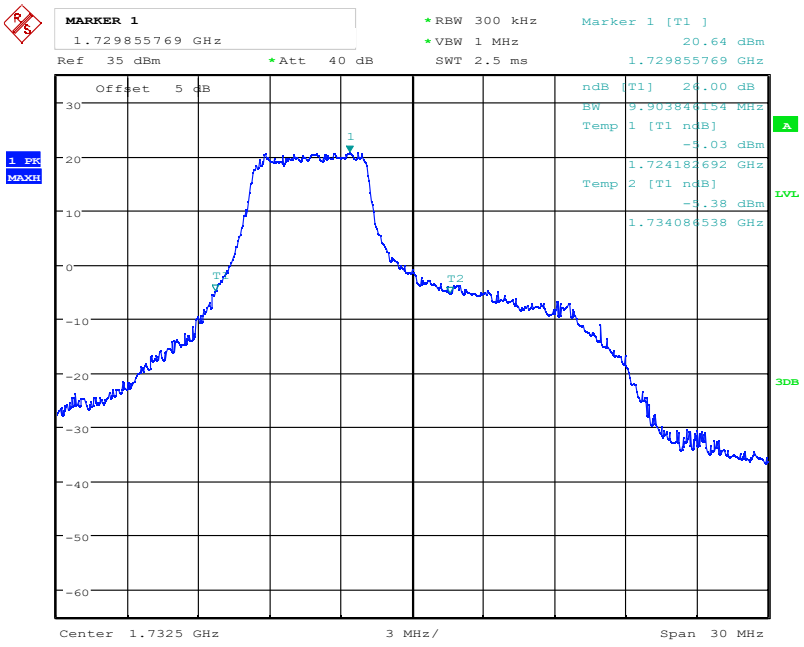


Date: 31.AUG.2021 18:10:19

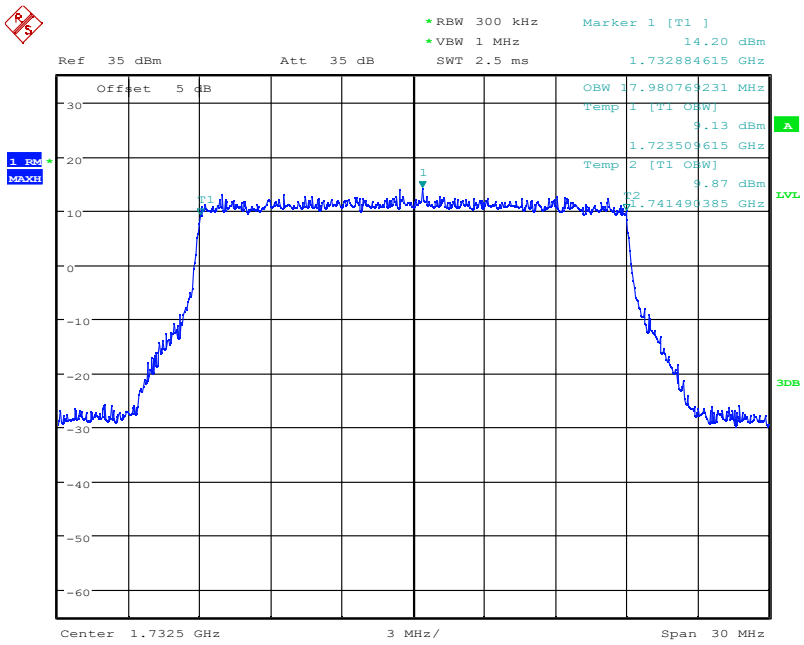
LTE Band4 QPSK -26dBc Channel 20175 BW=15MHz RB=75 RB Offset=0



LTE Band4 16QAM 99% Channel 20175 BW=15MHz RB=27 RB Offset=0

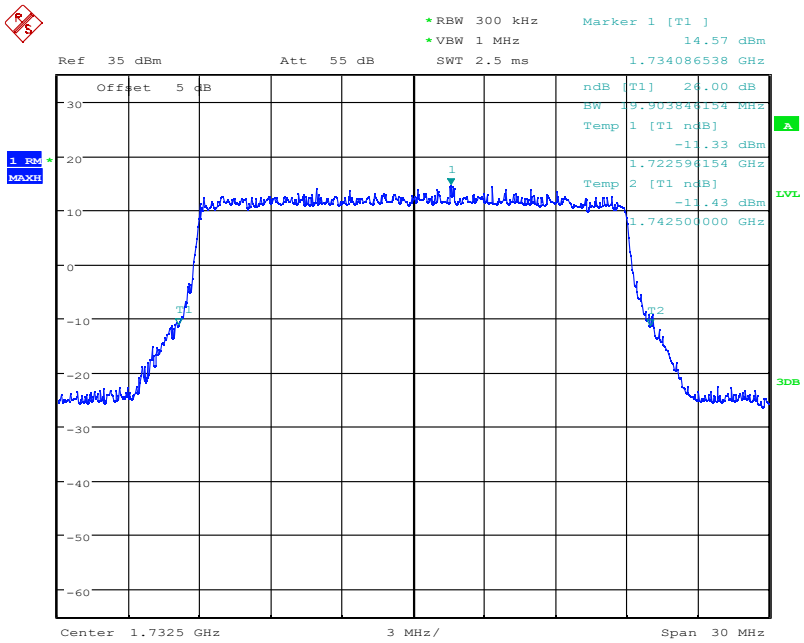


LTE Band4 16QAM -26dBc Channel 20175 BW=15MHz RB=27 RB Offset=0



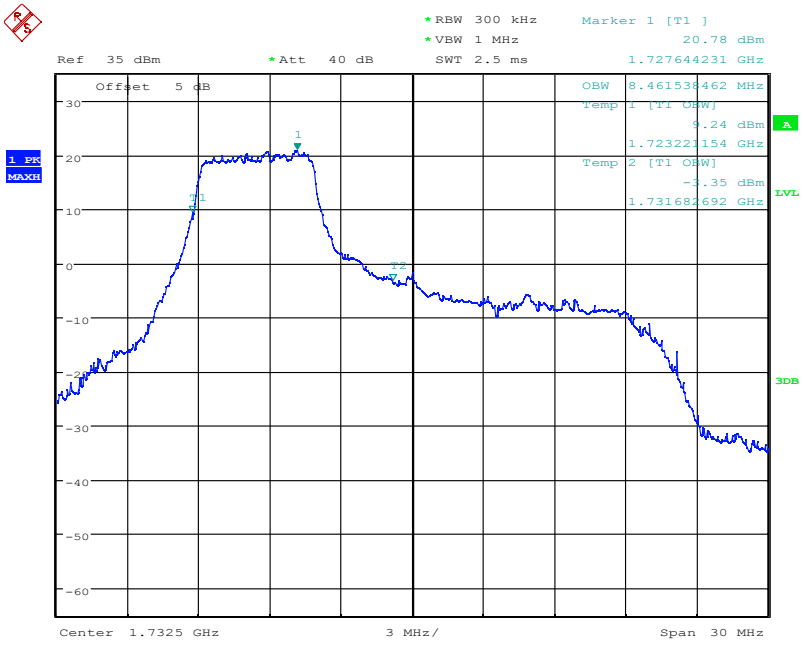
Date: 31.AUG.2021 18:11:29

LTE Band4 QPSK 99% Channel 20175 BW=20MHz RB=100 RB Offset=0



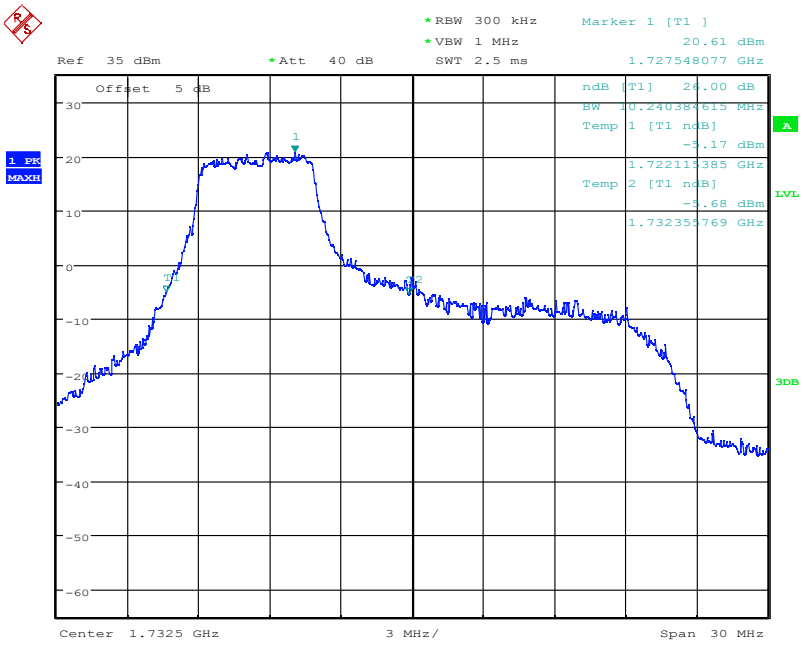
Date: 31.AUG.2021 18:11:02

LTE Band4 QPSK -26dBc Channel 20175 BW=20MHz RB=100 RB Offset=0



Date: 8.SEP.2021 09:15:05

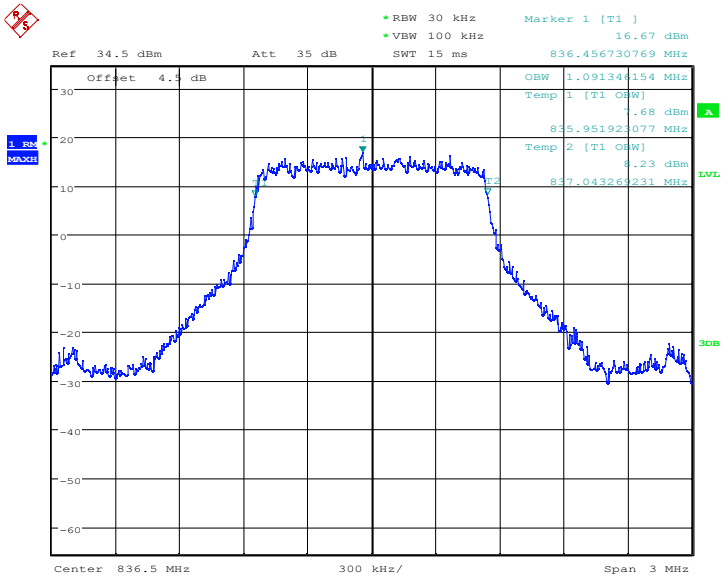
LTE Band4 16QAM 99% Channel 20175 BW=20MHz RB=27 RB Offset=0



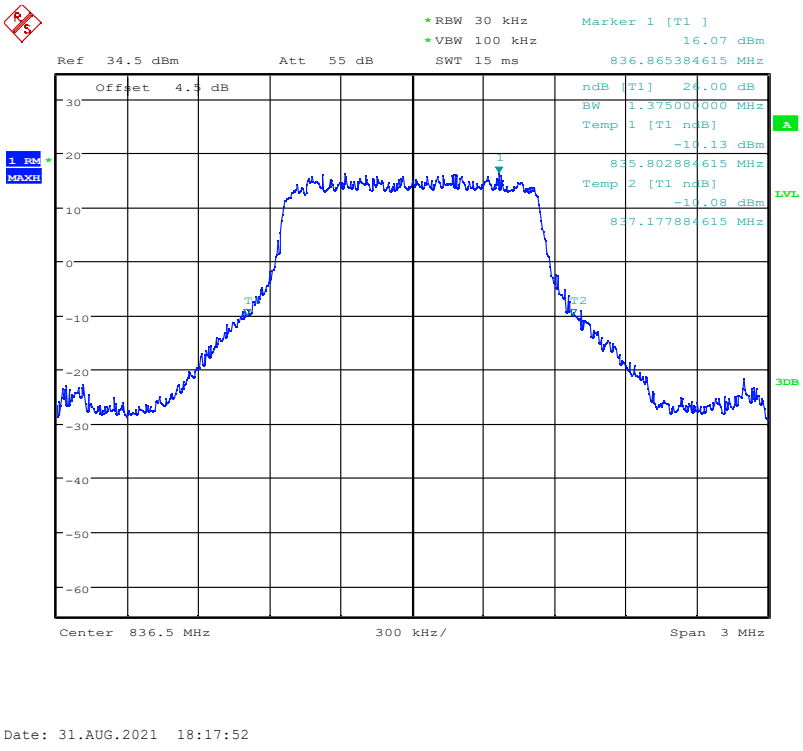
Date: 8.SEP.2021 09:12:45

LTE Band4 16QAM -26dBc Channel 20175 BW=20MHz RB=27 RB Offset=0

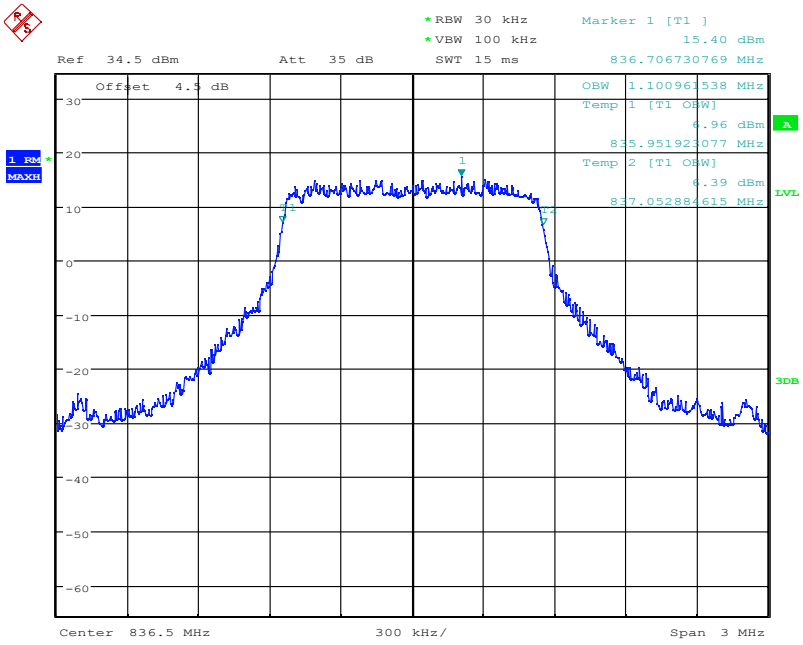
Graphical results for LTE B5:



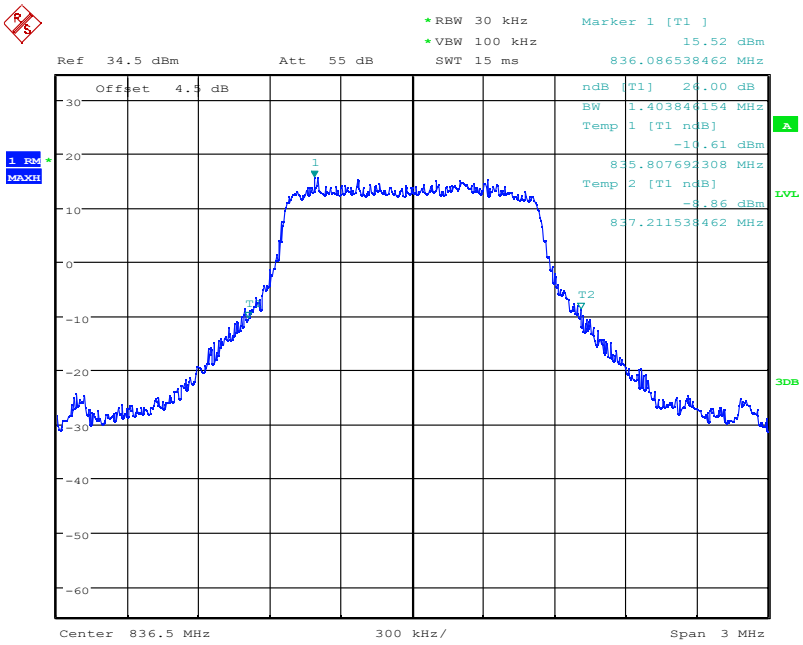
LTE Band5 QPSK 99% Channel 20525 BW=1.4MHz RB=6 RB Offset=0



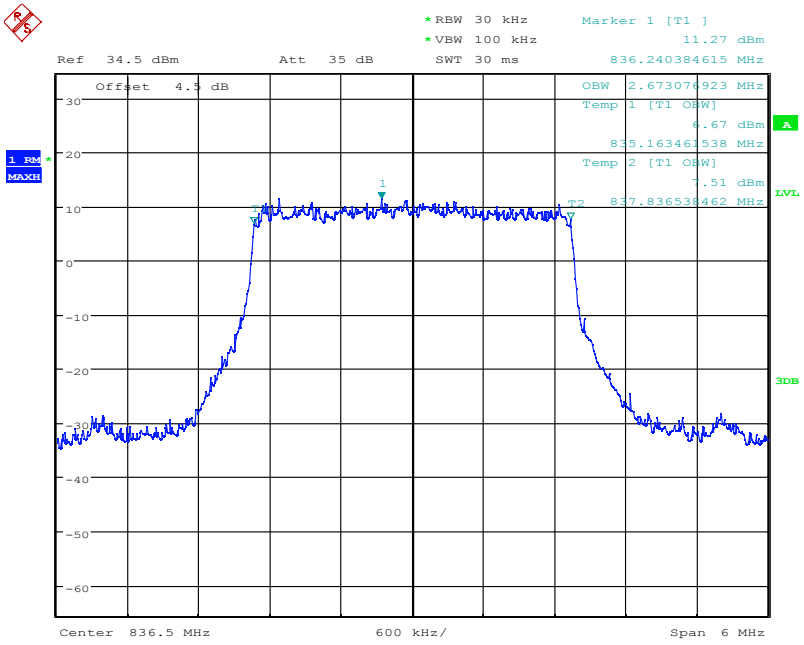
LTE Band5 QPSK -26dBc Channel 20525 BW=1.4MHz RB=6 RB Offset=0



LTE Band5 16QAM 99% Channel 20525 BW=1.4MHz RB=6 RB Offset=0

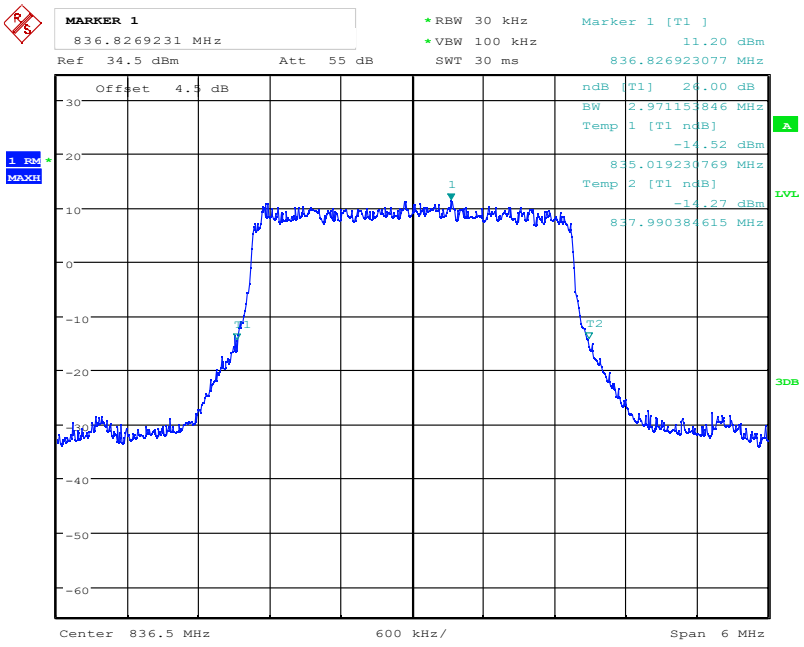


LTE Band5 16QAM -26dBc Channel 20525 BW=1.4MHz RB=6 RB Offset=0



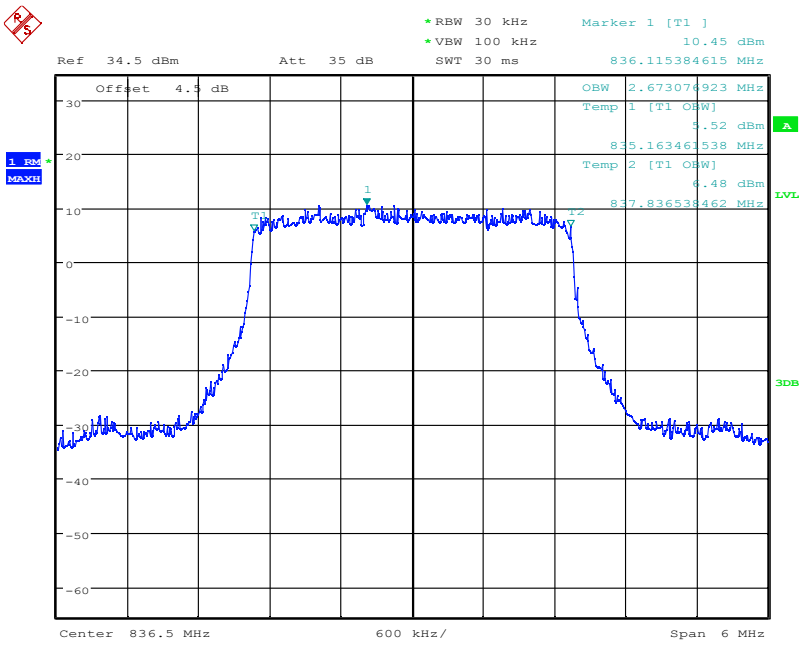
Date: 31.AUG.2021 18:54:55

LTE Band5 QPSK 99% Channel 20525 BW=3MHz RB=15 RB Offset=0



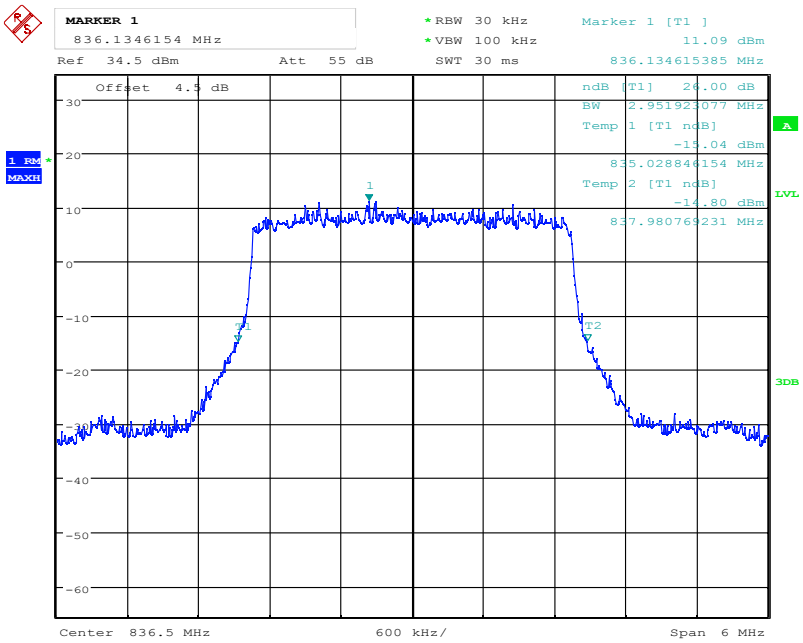
Date: 31.AUG.2021 18:55:20

LTE Band5 QPSK 16dBc Channel 20525 BW=3MHz RB=15 RB Offset=0



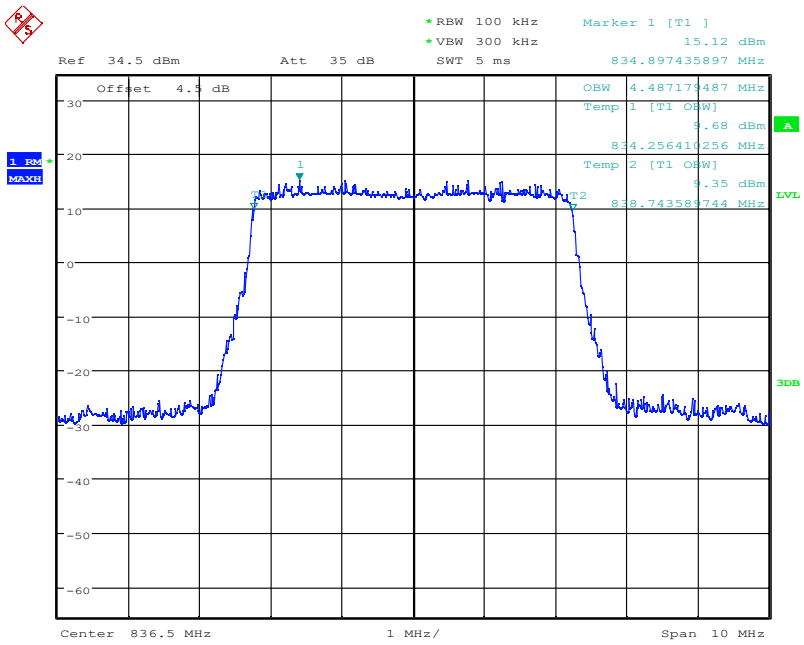
Date: 31.AUG.2021 19:03:38

LTE Band5 16QAM 99% Channel 20525 BW=3MHz RB=15 RB Offset=0



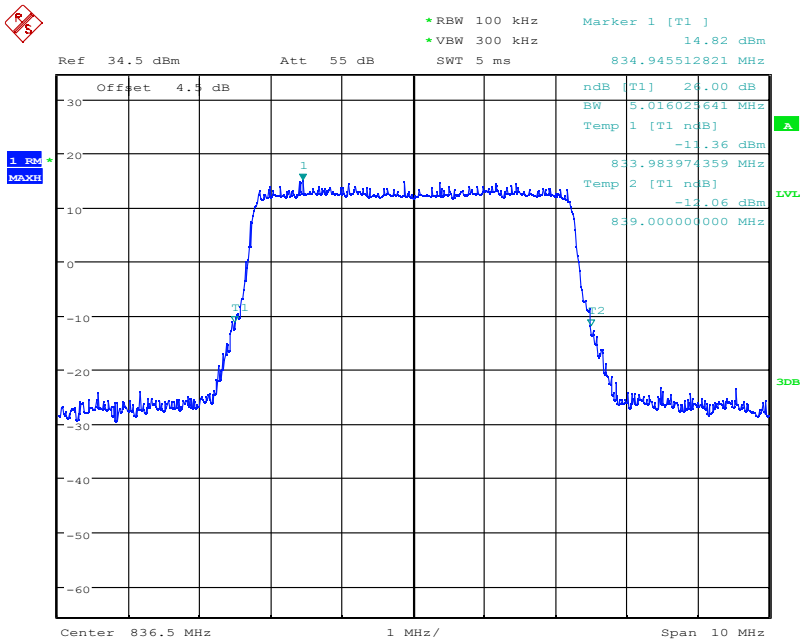
Date: 31.AUG.2021 19:03:59

LTE Band5 16QAM -26dBc Channel 20525 BW=3MHz RB=15 RB Offset=0



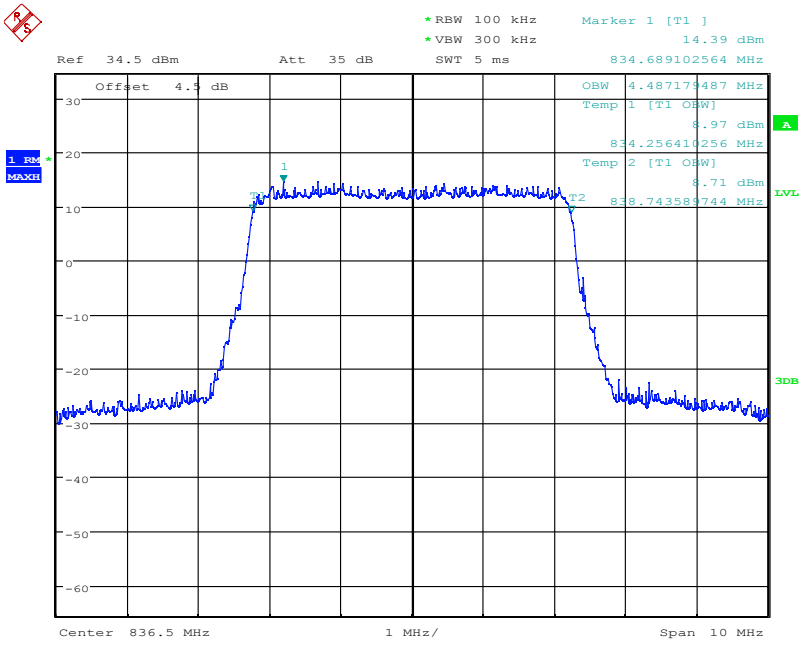
Date: 31.AUG.2021 18:56:11

LTE Band5 QPSK 99% Channel 20525 BW=5MHz RB=25 RB Offset=0

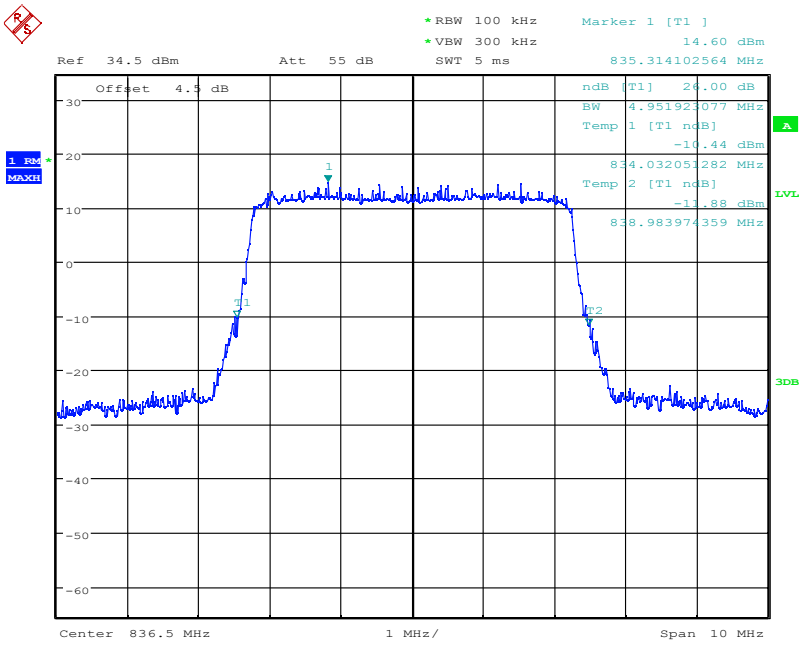


Date: 31.AUG.2021 18:55:54

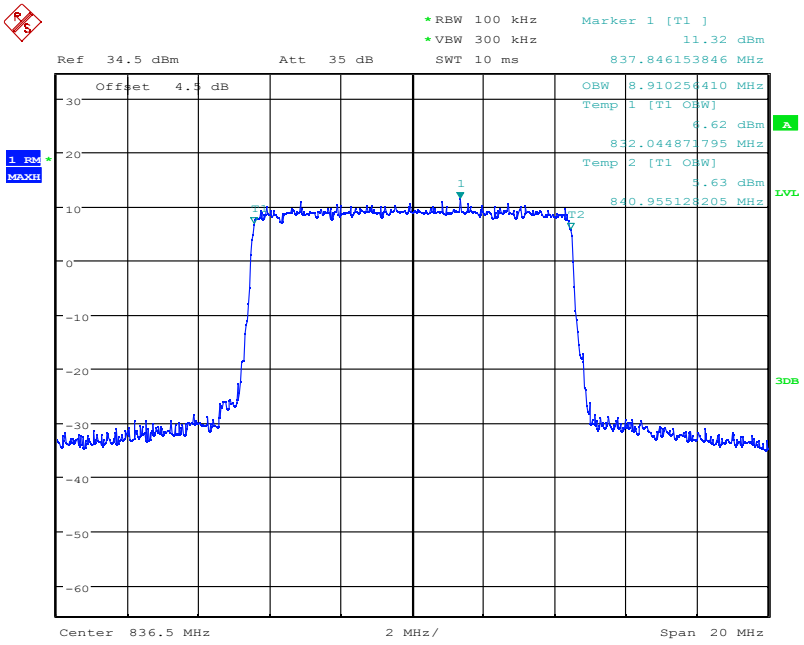
LTE Band5 QPSK -26dBc Channel 20525 BW=5MHz RB=25 RB Offset=0



LTE Band5 16QAM 99% Channel 20525 BW=5MHz RB=25 RB Offset=0

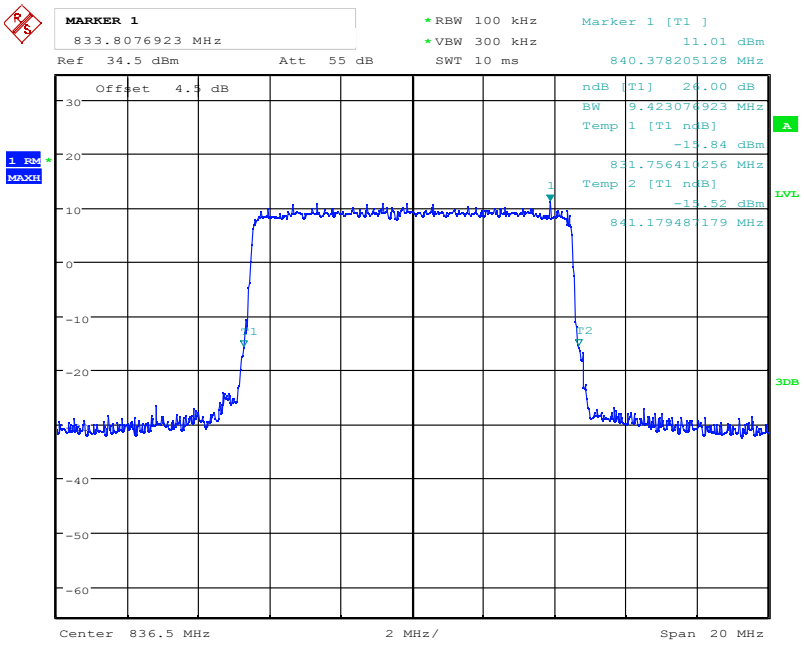


LTE Band5 16QAM -26dBc Channel 20525 BW=5MHz RB=25 RB Offset=0



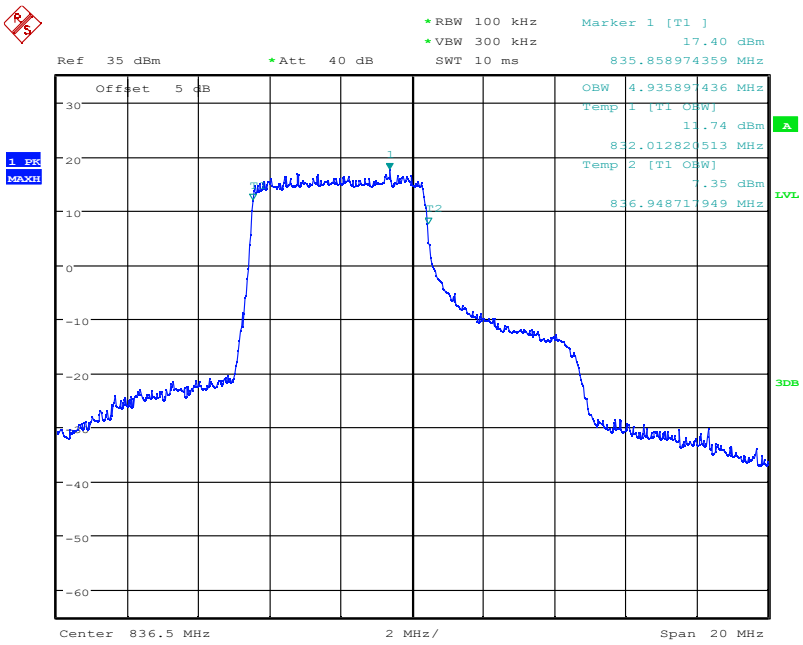
Date: 31.AUG.2021 18:56:38

LTE Band5 QPSK 99% Channel 20525 BW=10MHz RB=50 RB Offset=0



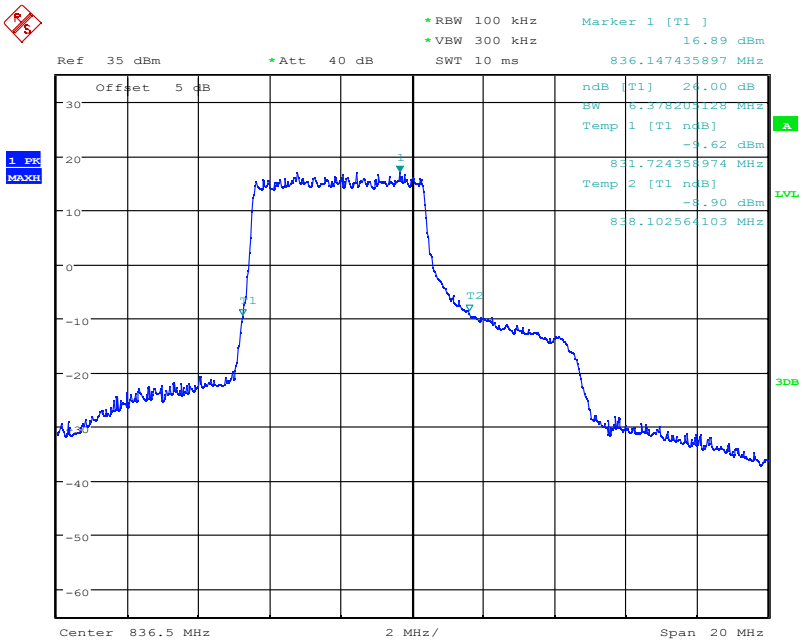
Date: 31.AUG.2021 18:56:58

LTE Band5 QPSK -26dBc Channel 20525 BW=10MHz RB=50 RB Offset=0



Date: 8.SEP.2021 09:20:21

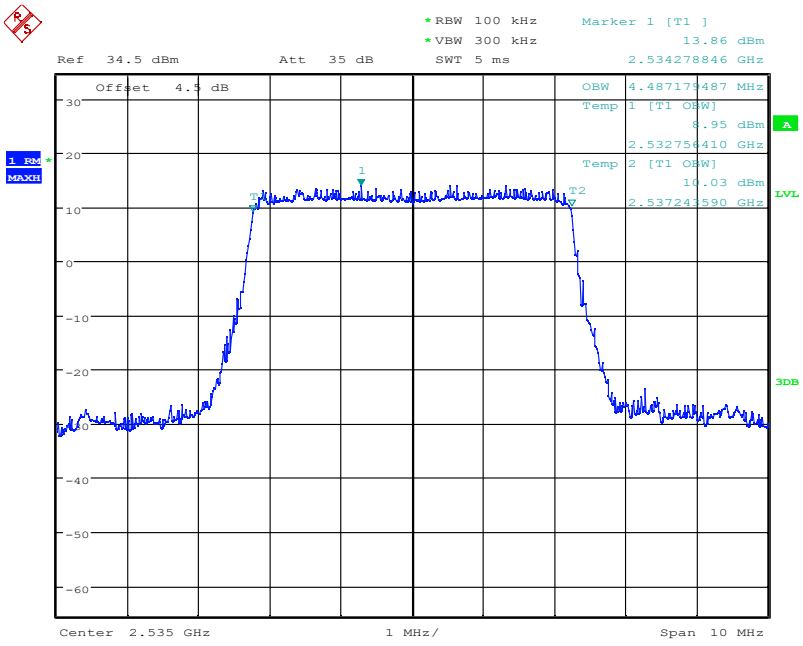
LTE Band5 16QAM 99% Channel 20525 BW=10MHz RB=27 RB Offset=0



Date: 8.SEP.2021 09:19:12

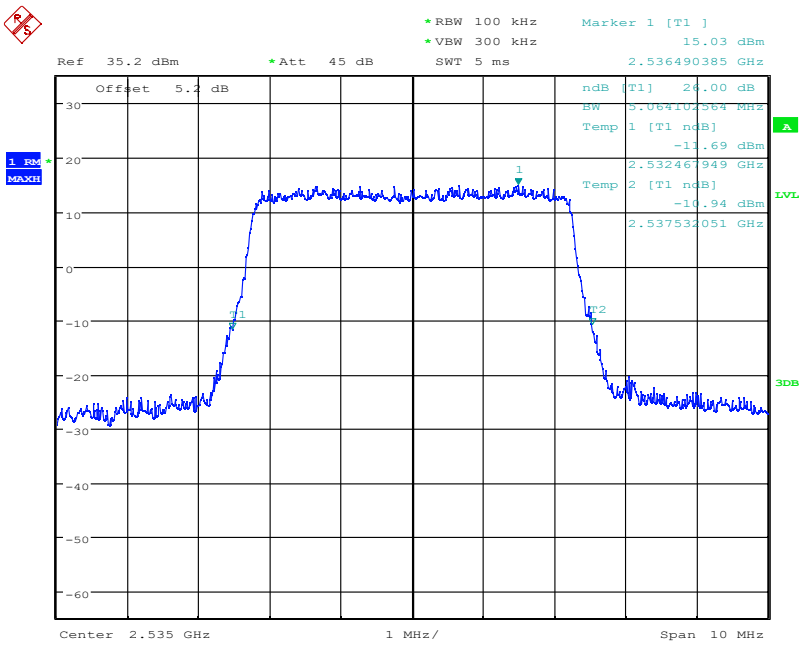
LTE Band5 16QAM -26dBc Channel 20525 BW=10MHz RB=27 RB Offset=0

Graphical results for LTE B7:



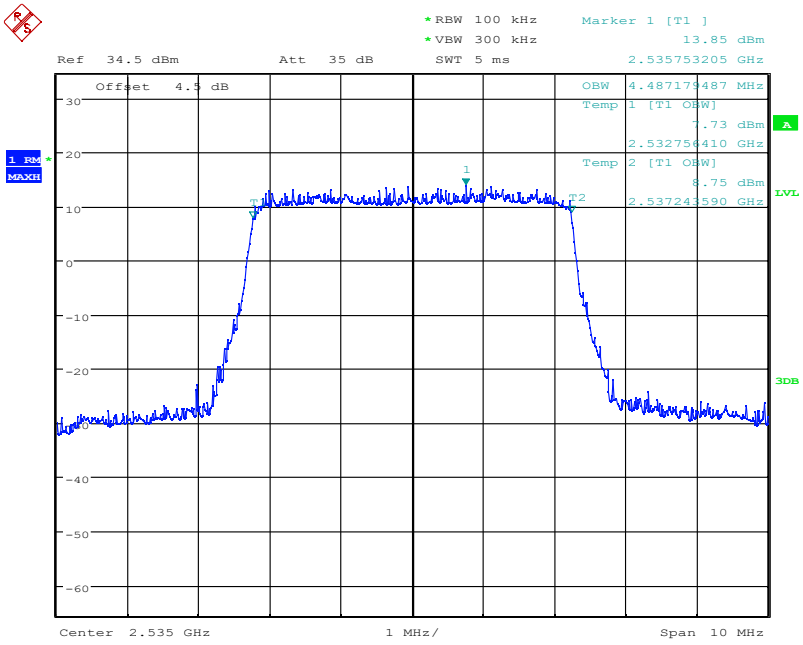
Date: 31.AUG.2021 19:08:10

LTE Band7 QPSK 99% Channel 21100 BW=5MHz RB=25 RB Offset=0



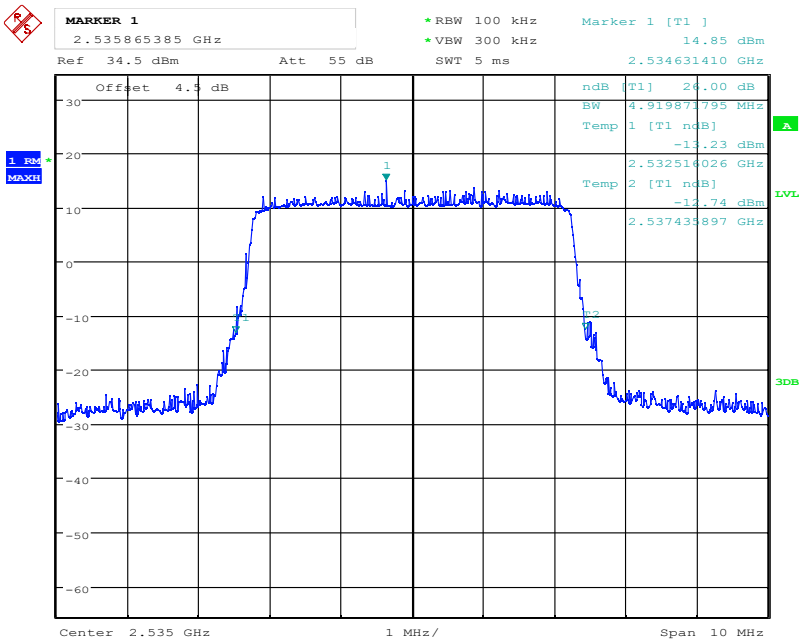
Date: 31.AUG.2021 22:57:41

LTE Band7 QPSK -26dBc Channel 21100 BW=5MHz RB=25 RB Offset=0



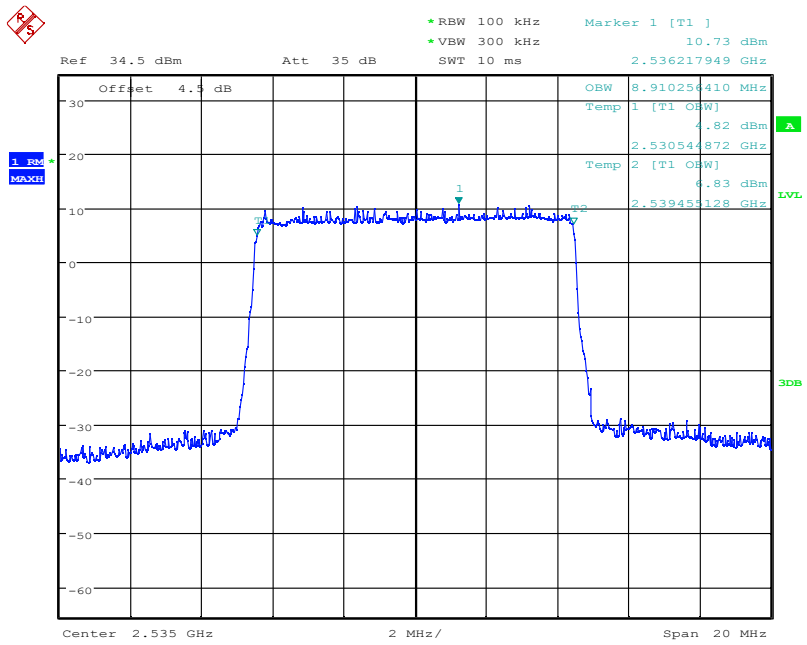
Date: 31.AUG.2021 19:12:23

LTE Band7 16QAM 99% Channel 21100 BW=5MHz RB=25 RB Offset=0



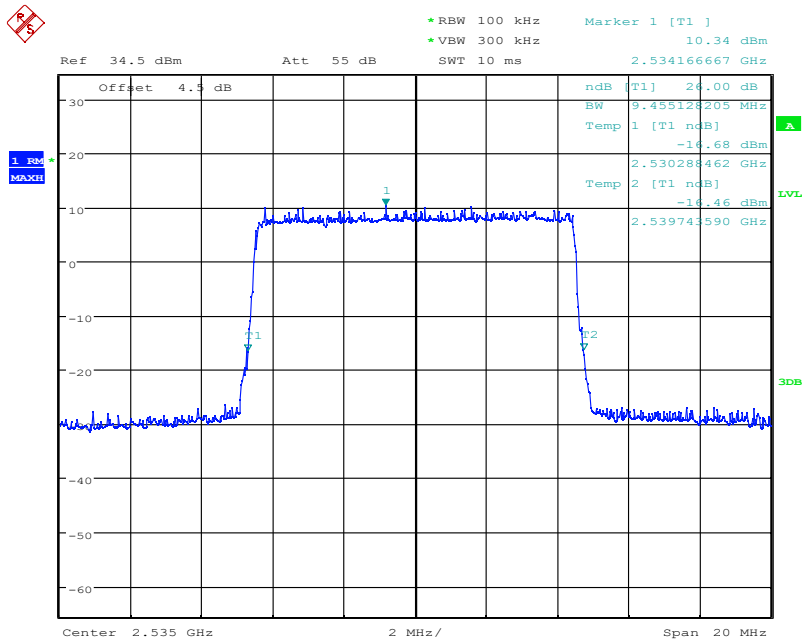
Date: 31.AUG.2021 19:12:37

LTE Band7 16QAM -26dBc Channel 21100 BW=5MHz RB=25 RB Offset=0



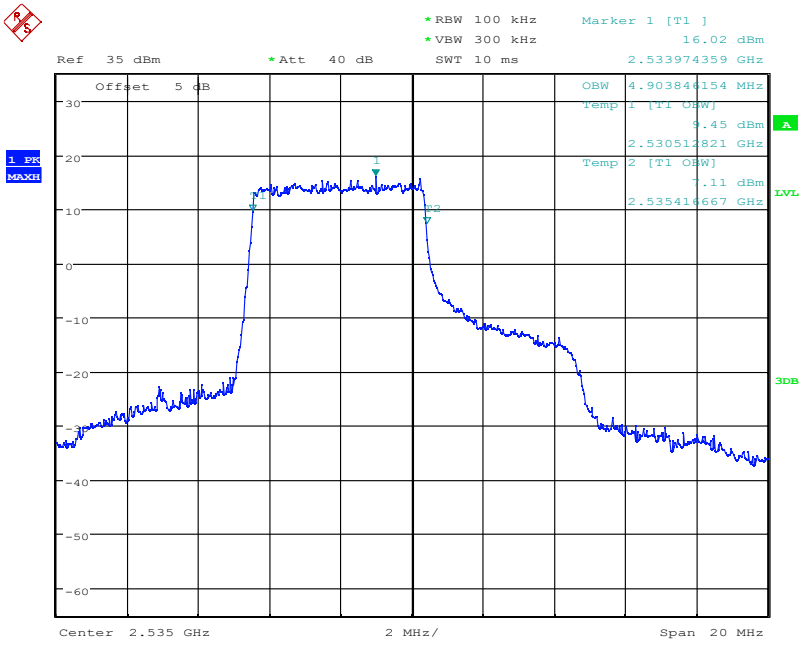
Date: 31.AUG.2021 19:09:38

LTE Band7 QPSK 99% Channel 21100 BW=10MHz RB=50 RB Offset=0

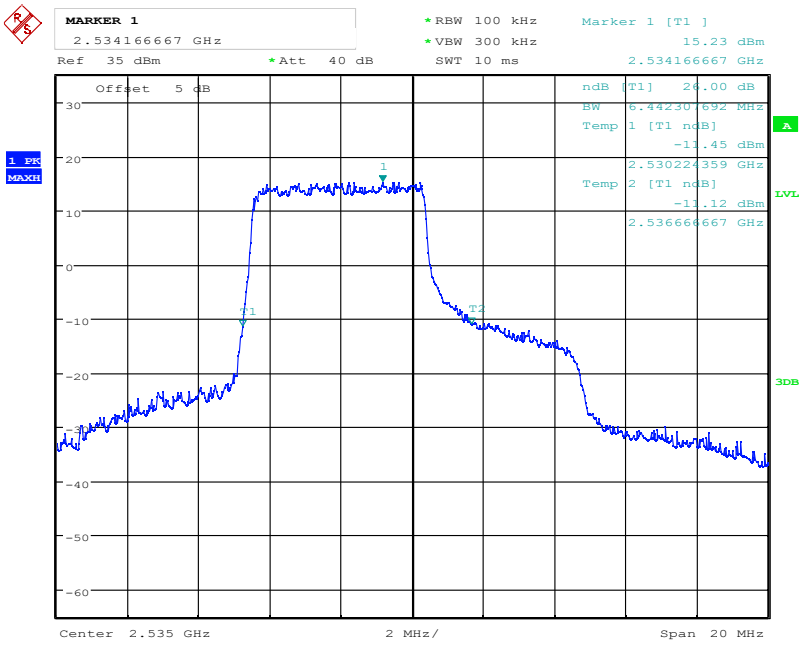


Date: 31.AUG.2021 19:09:17

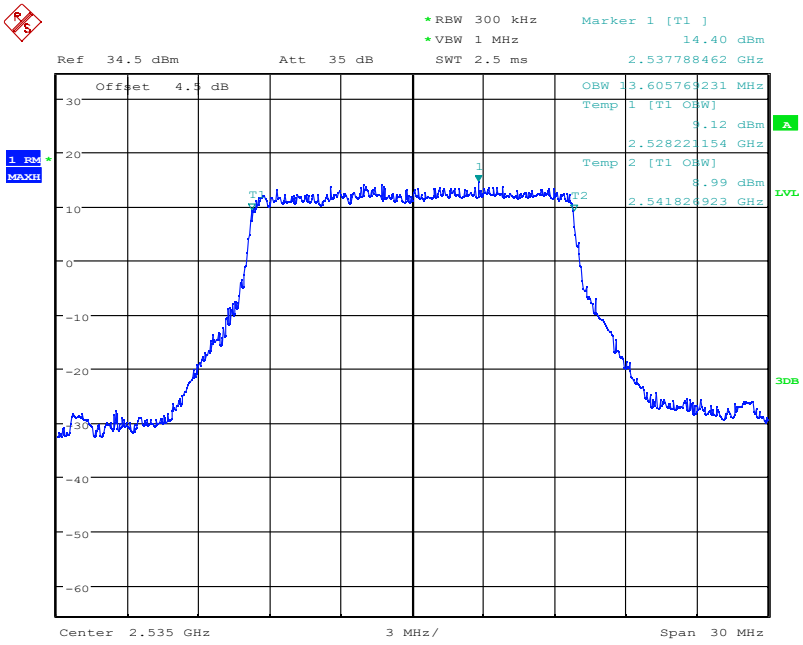
LTE Band7 QPSK -26dBc Channel 21100 BW=10MHz RB=50 RB Offset=0



LTE Band7 16QAM 99% Channel 21100 BW=10MHz RB=27 RB Offset=0

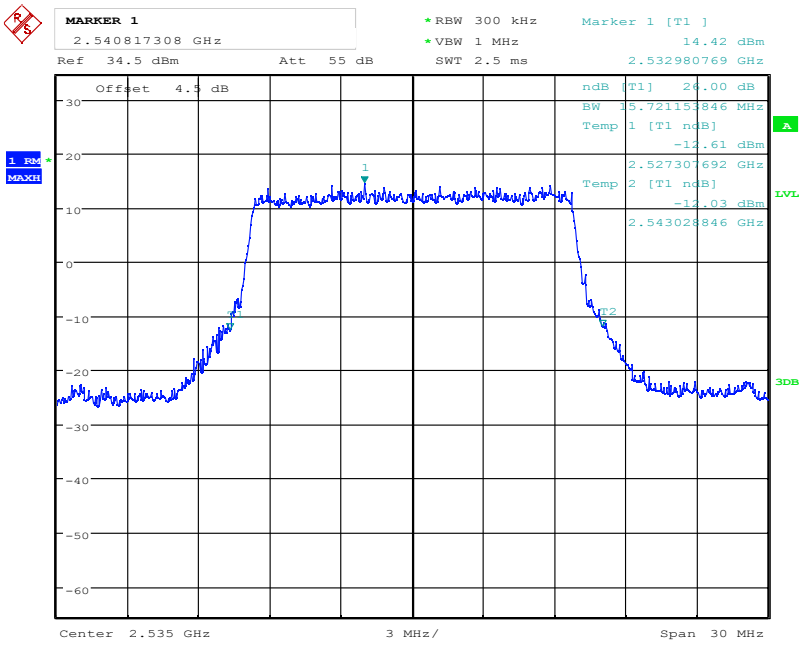


LTE Band7 16QAM -26dBc Channel 21100 BW=10MHz RB=27 RB Offset=0



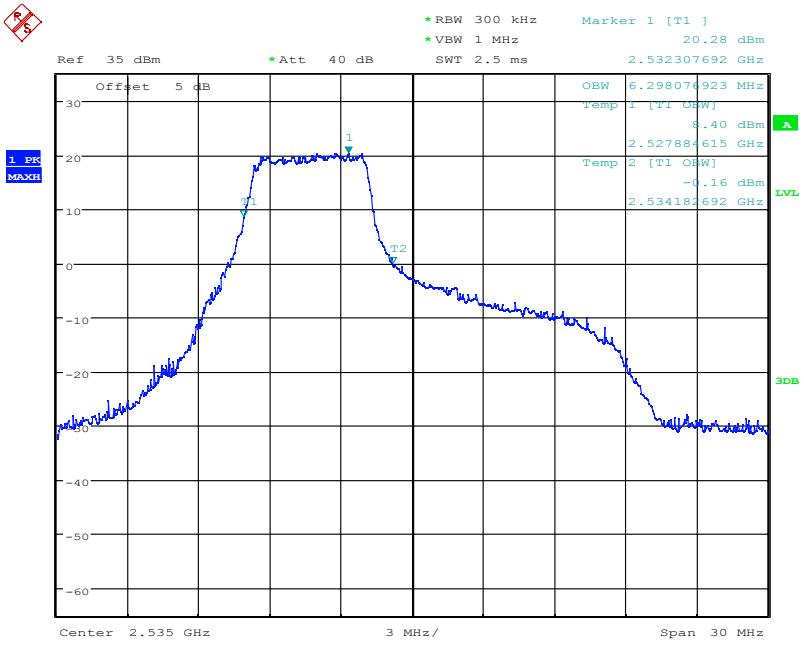
Date: 31.AUG.2021 19:10:22

LTE Band7 QPSK 99% Channel 21100 BW=15MHz RB=75 RB Offset=0

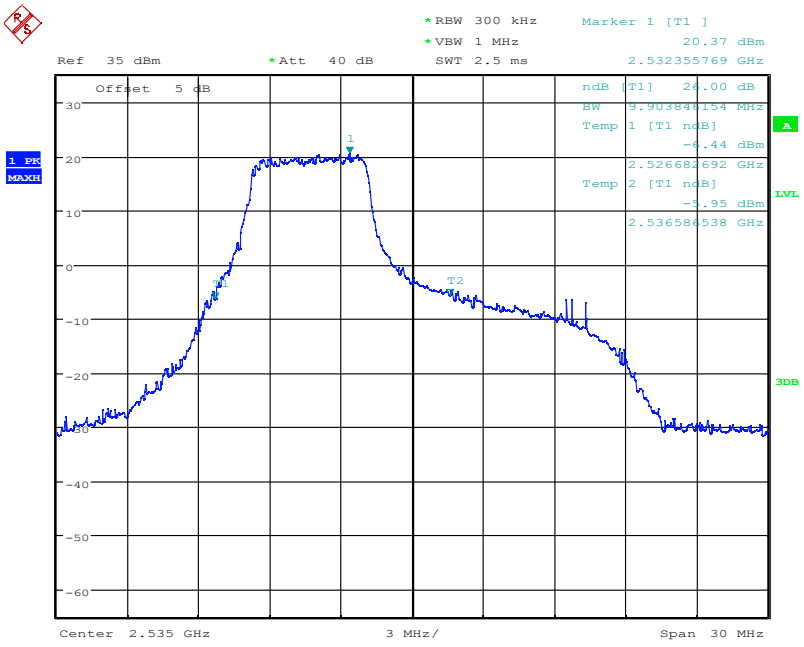


Date: 31.AUG.2021 19:10:38

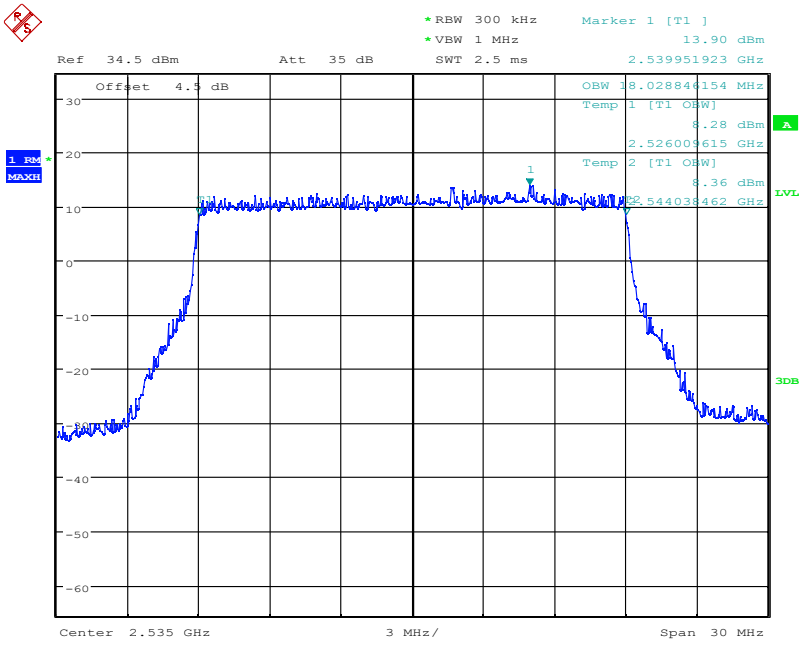
LTE Band7 QPSK -26dBc Channel 21100 BW=15MHz RB=75 RB Offset=0



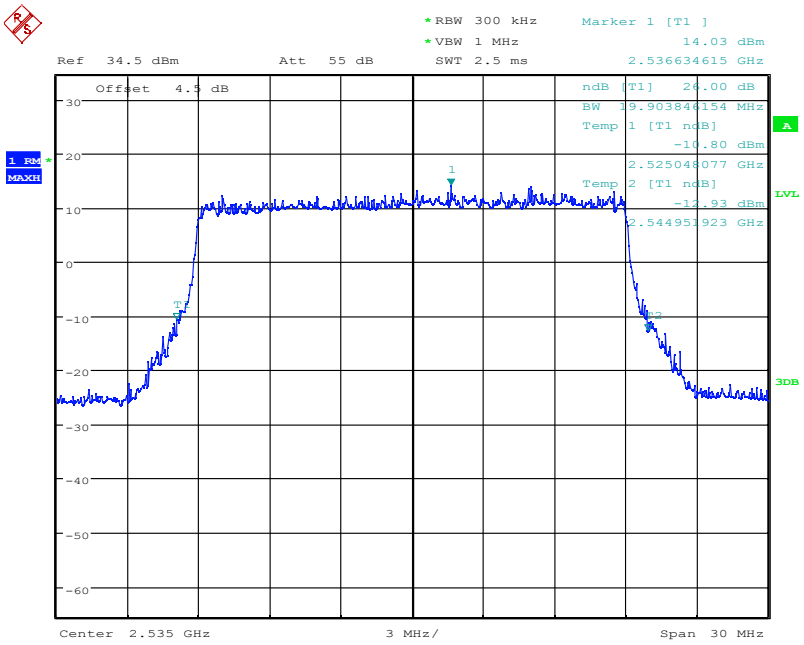
LTE Band7 16QAM 99% Channel 21100 BW=15MHz RB=27 RB Offset=0



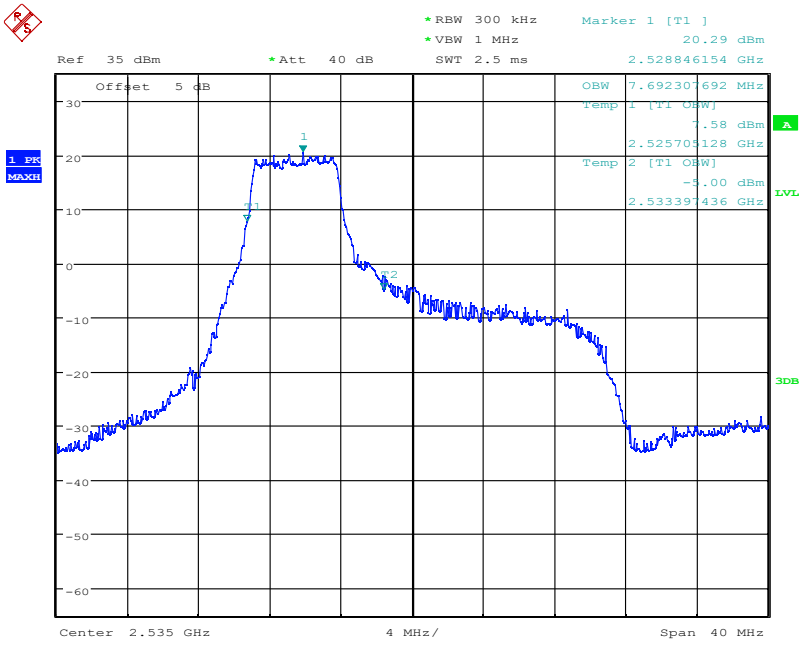
LTE Band7 16QAM -26dBc Channel 21100 BW=15MHz RB=27 RB Offset=0



LTE Band7 QPSK 99% Channel 21100 BW=20MHz RB=100 RB Offset=0

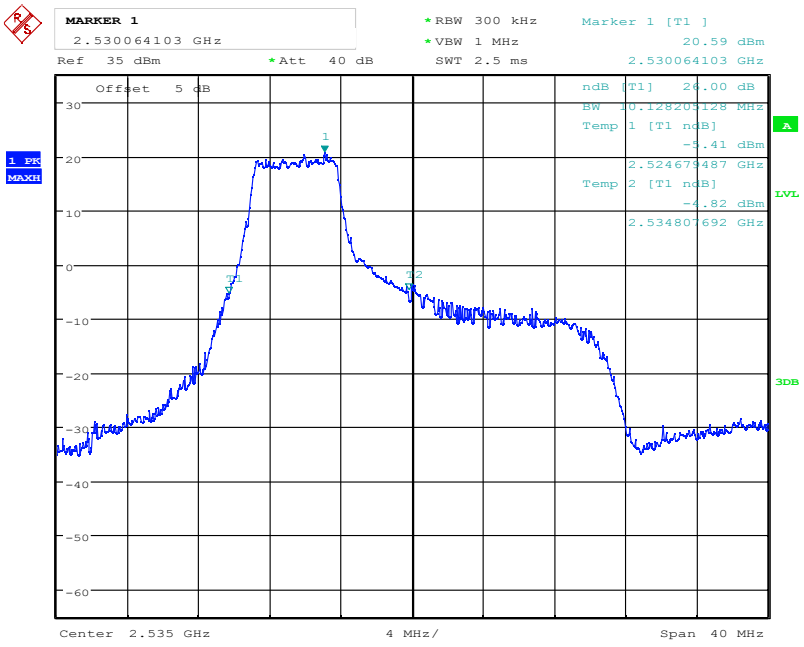


LTE Band7 QPSK -26dBc Channel 21100 BW=20MHz RB=100 RB Offset=0



Date: 8.SEP.2021 09:24:57

LTE Band7 16QAM 99% Channel 21100 BW=20MHz RB=27 RB Offset=0



Date: 8.SEP.2021 09:25:29

LTE Band7 16QAM -26dBc Channel 21100 BW=20MHz RB=27 RB Offset=0

5.3 Conducted Spurious Emission

Specifications:	FCC Part 2.1051, 24.238, 2.1053, 22.917, 27.53
IMEI Number:	863069057875503
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to Part 24.238 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is: P(dBm)– (43 + 10 log(P)) dB= -13dBm.

According to Part 27.53(h):

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 Bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10(P) dB.

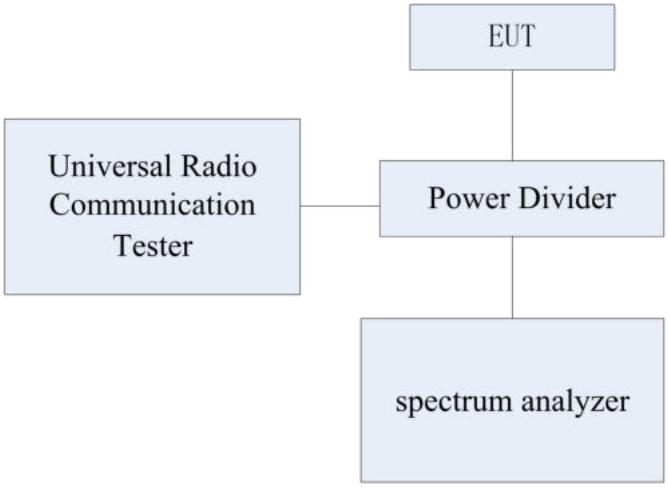
According to Part 27.53(m):

For BRS and EBS stations, the power of any emissions outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts in accordance with the standards below. If a licensee has multiple contiguous channels, out-of-band emissions shall be measured from the upper and lower edges of the contiguous channels:

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)(6) 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.

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.

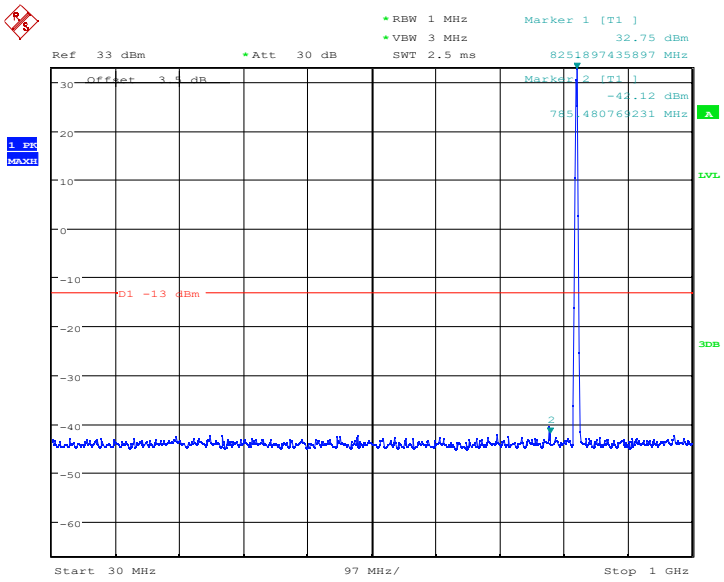


Test Method:

The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-D: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.
The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-D-2010: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.
The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-Band emissions, if any, up to 10th harmonic. The EUT was scanned for spurious emissions from 30MHz to 20GHz with sufficient Bandwidth and video resolution. The spectrum analyzer was set to Maximum hold mode to ensure that the worst-case emissions were captured.

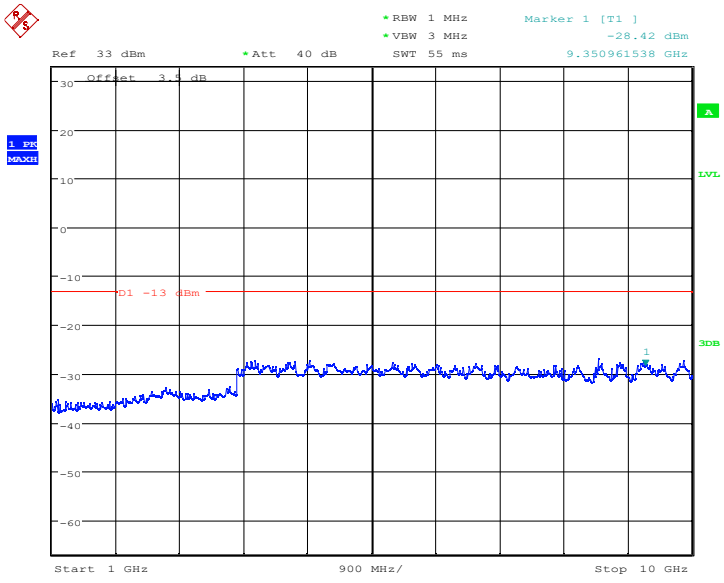
Note: --

5.3.1 GSM850 Conducted Spurious Emission Results

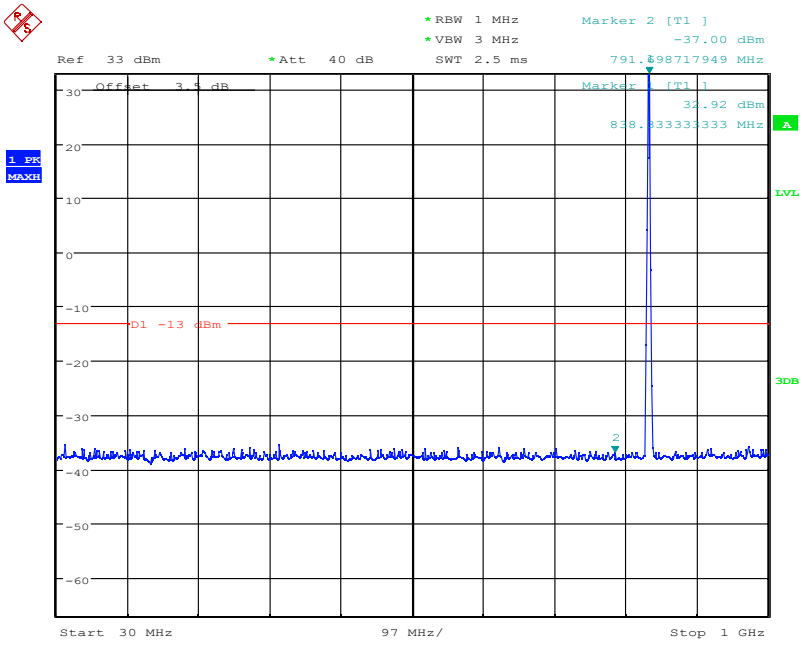


GMSK, Low channel, 824.200 MHz, 30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

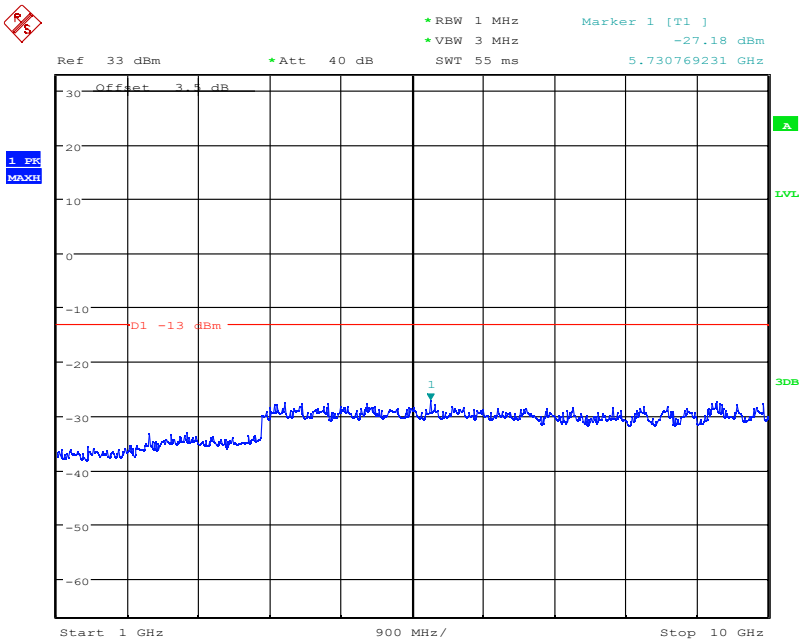


GMSK, Low channel, 824.200 MHz, 1GHz to 10GHz

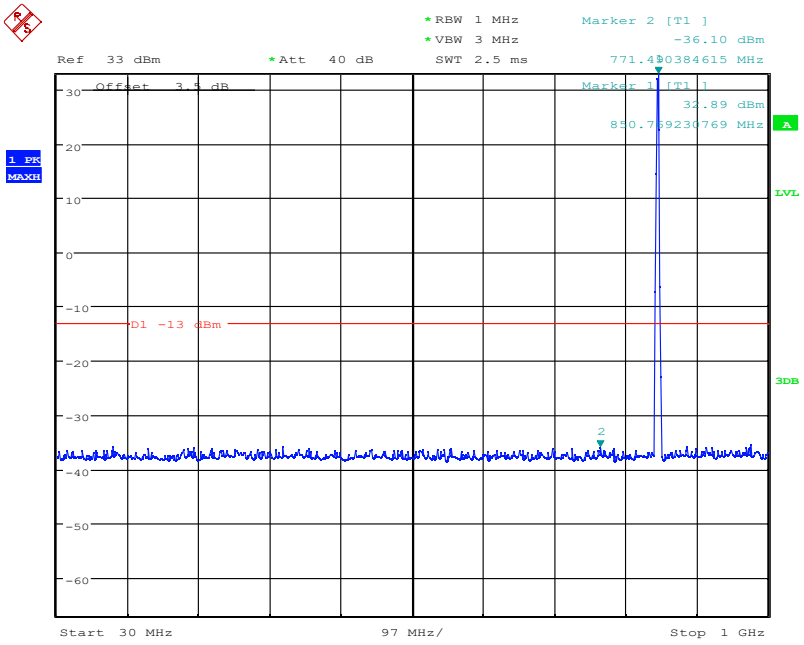


GMSK, Mid Channel, 836.6 MHz, 30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

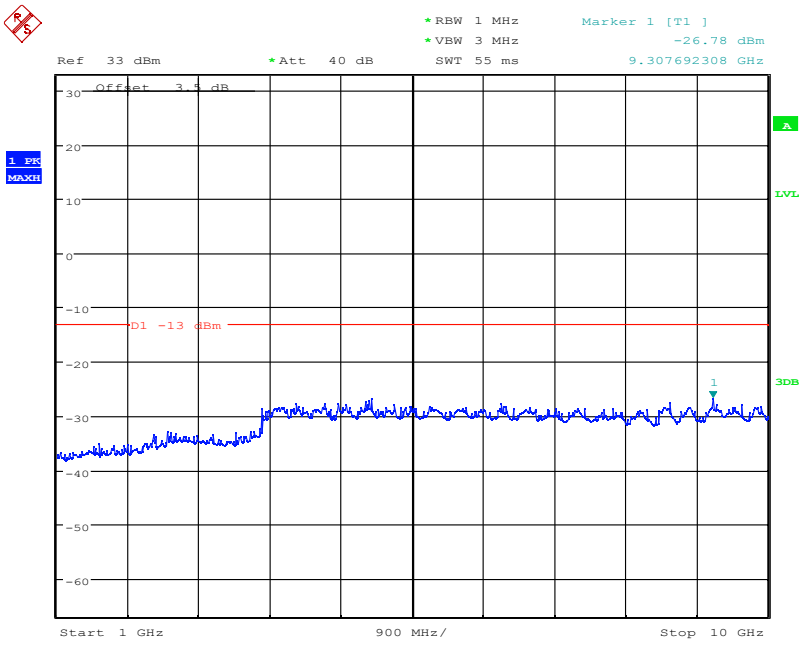


GMSK, Mid Channel, 836.6 MHz, 1GHz to 10GHz



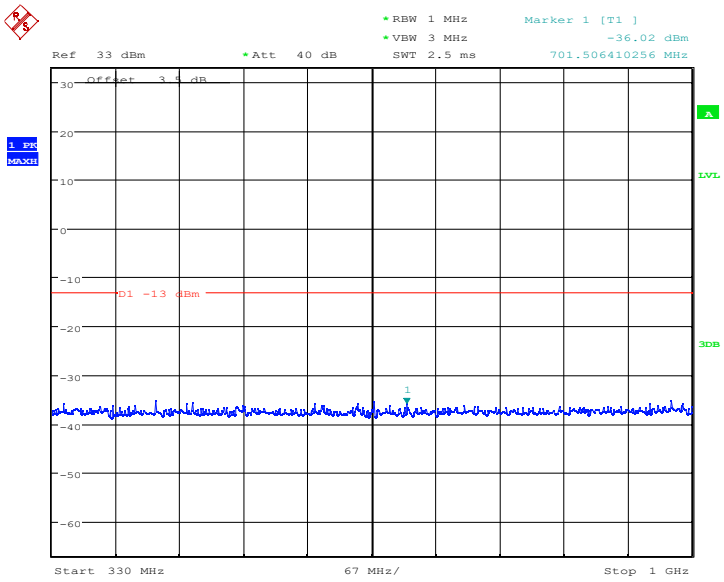
GMSK, High Channel, 848.8 MHz, 30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

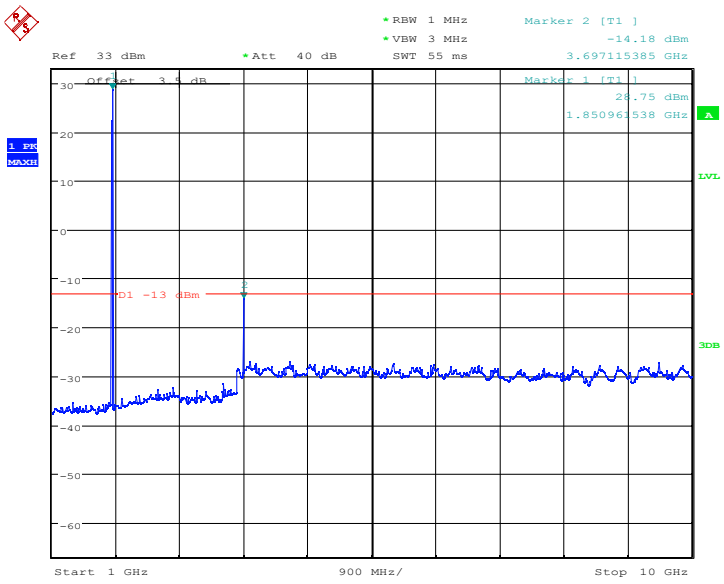


GMSK, High Channel, 848.8 MHz, 1GHz to 10GHz

5.3.2 PCS1900 Conducted Spurious Emission Results

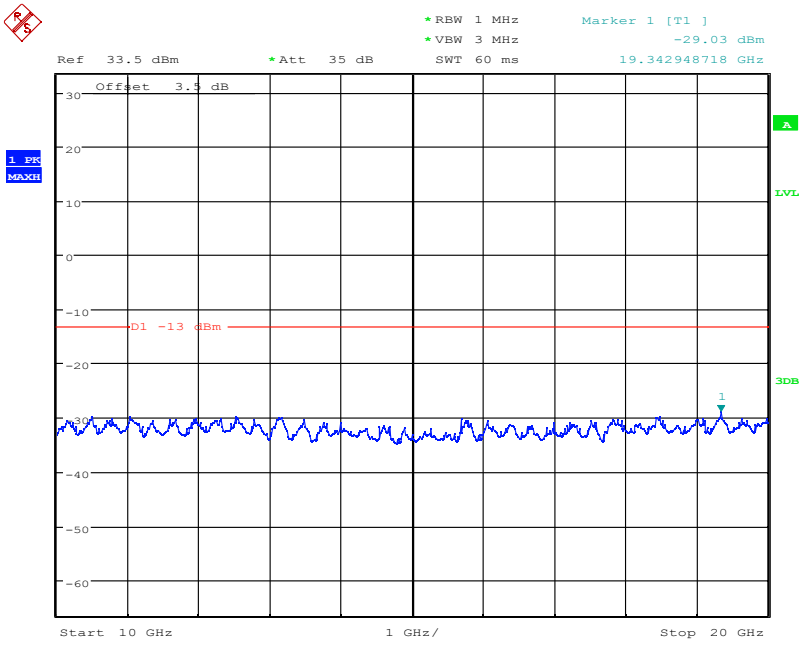


GMSK, Low channel, 1850.2 MHz, 30MHz to 1GHz

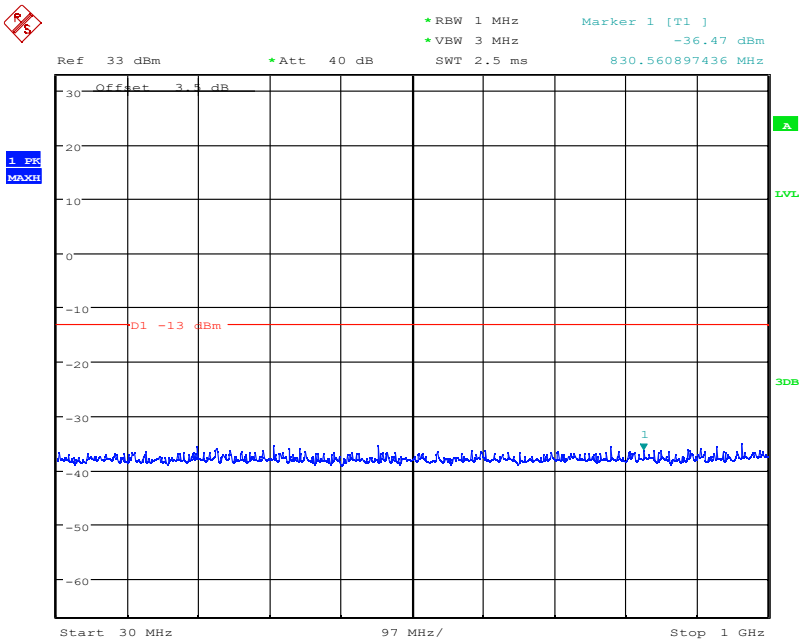


GMSK, Low channel, 1850.2 MHz, 1GHz to 10GHz

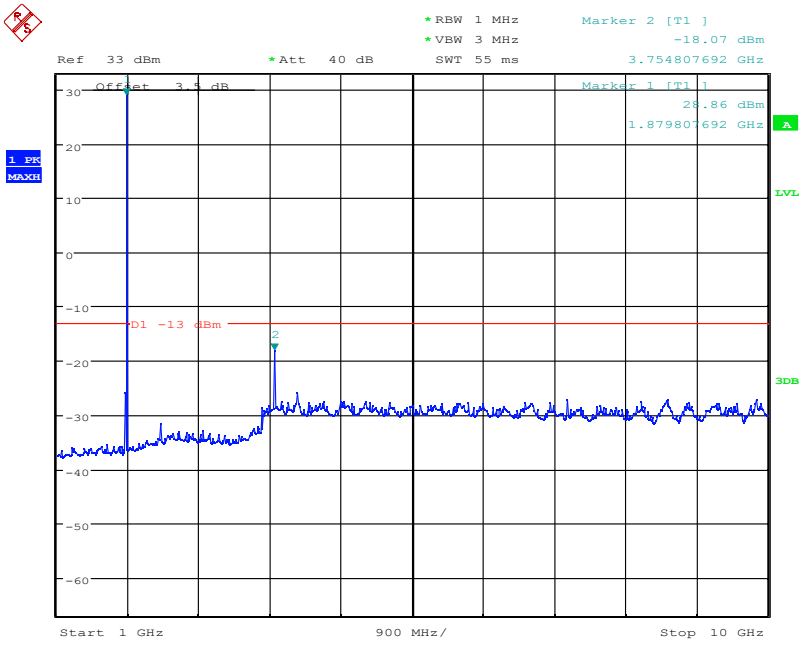
Note: The strong emission shown is the carrier signal.



GMSK, Low channel, 1850.2 MHz, 10GHz to 20GHz

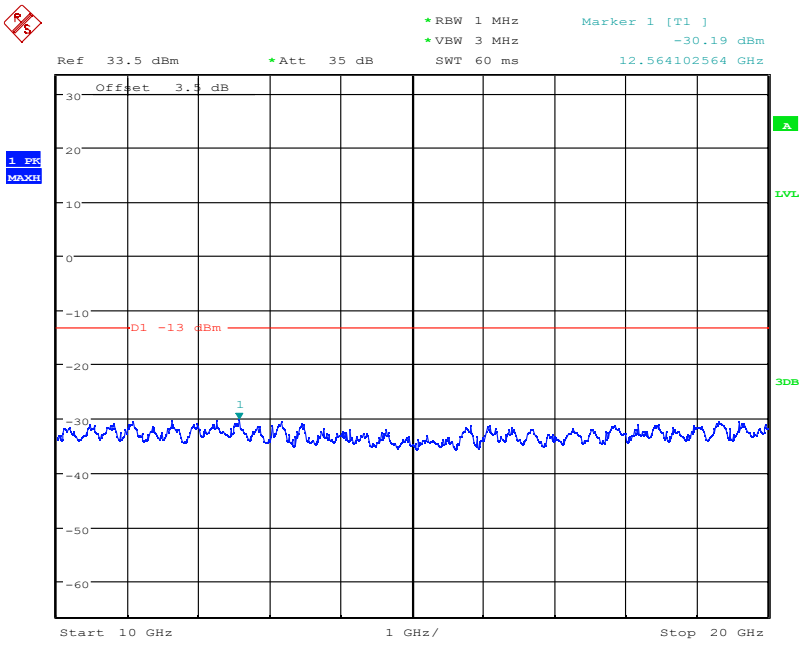


GMSK, Middle channel, 1880.0 MHz, 30MHz to 1GHz

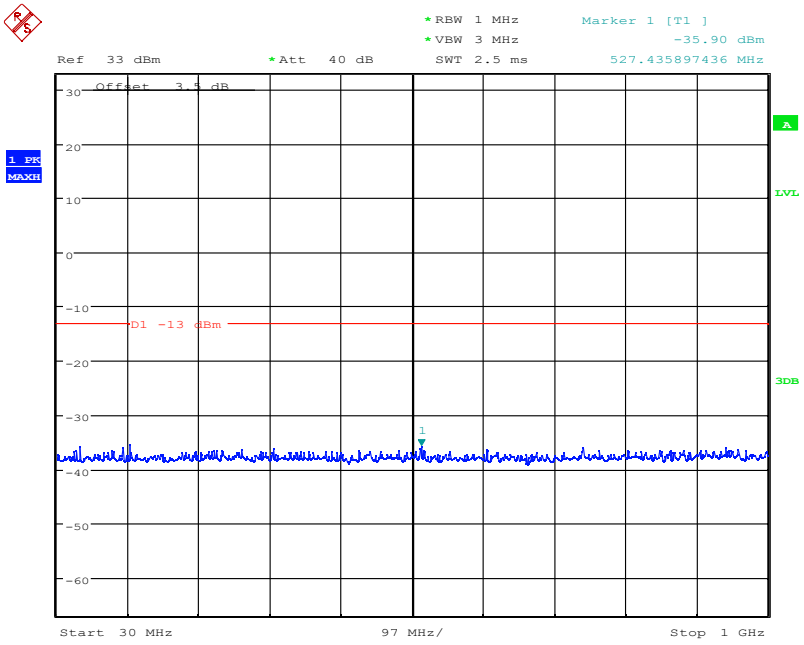


GMSK, Middle channel, 1880.0 MHz, 1GHz to 10GHz

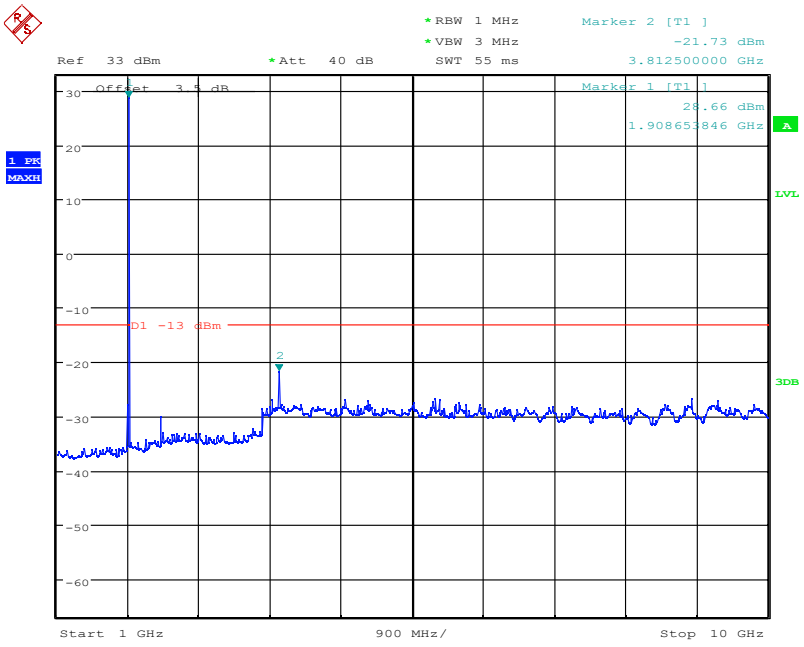
Note: The strong emission shown is the carrier signal.



GMSK, Middle channel, 1880.0 MHz, 10GHz to 20GHz

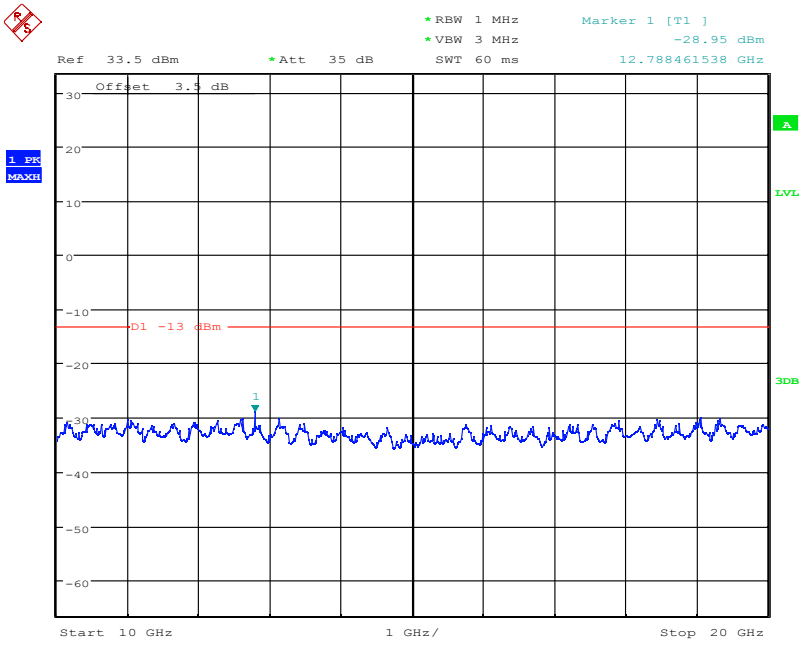


GMSK, High channel, 1909.8 MHz, 30MHz to 1GHz



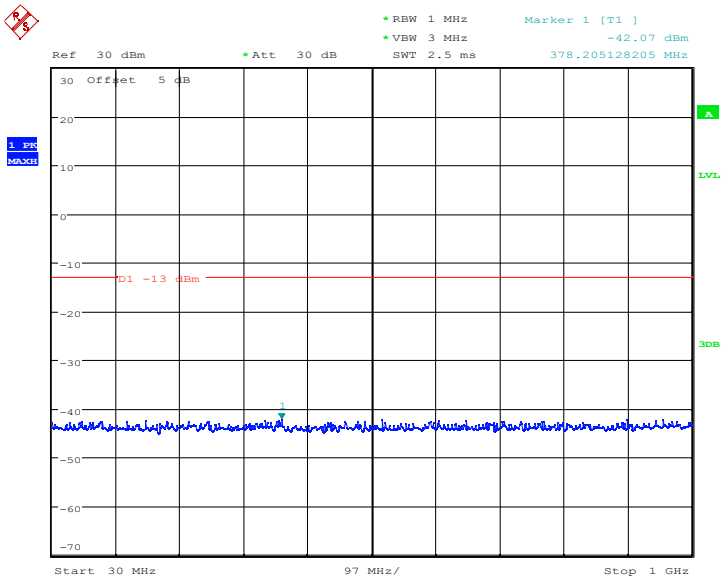
GMSK, High channel, 1909.8 MHz, 1GHz to 10GHz

Note: The strong emission shown is the carrier signal.



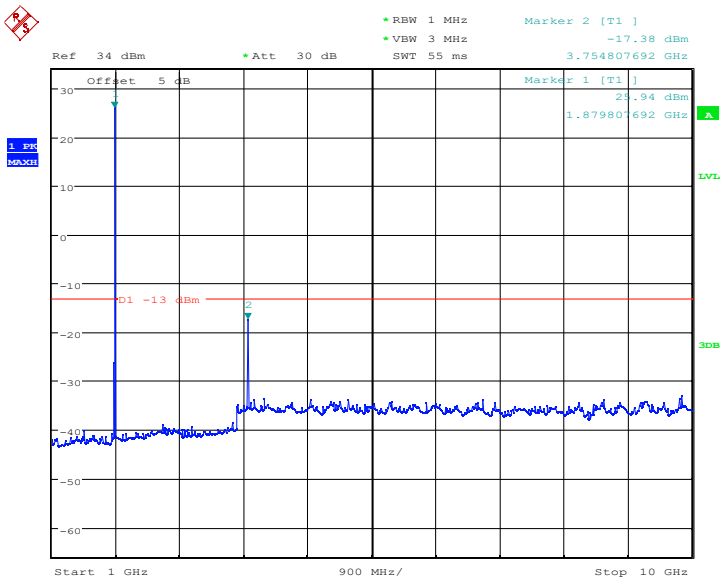
GMSK, High channel, 1909.8 MHz, 10GHz to 20GHz

5.3.3 LTE B2 Conducted Spurious Emission Results



Date: 31.AUG.2021 19:50:51

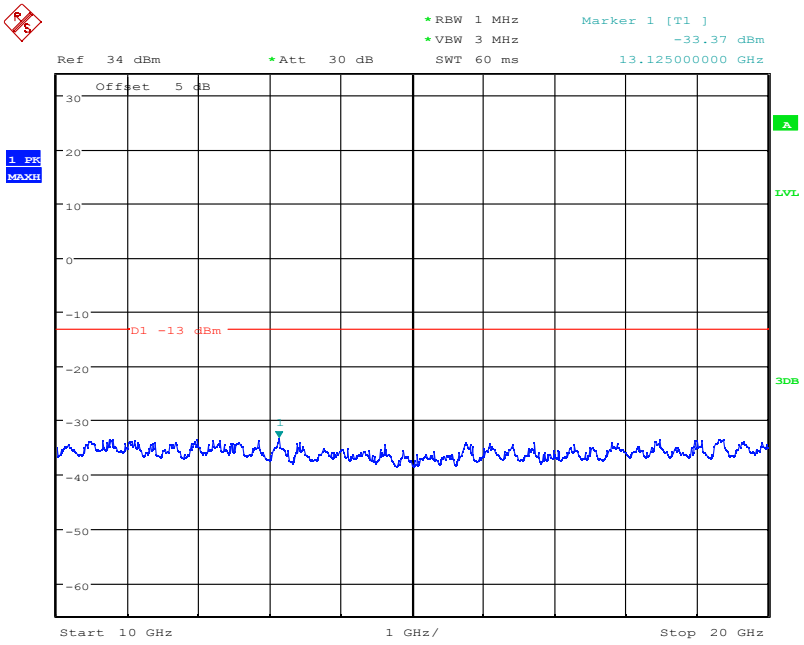
1.4MHz bandwidth QPSK Mode Middle channel, 1880 MHz, 30MHz to 1GHz



Date: 31.AUG.2021 19:51:33

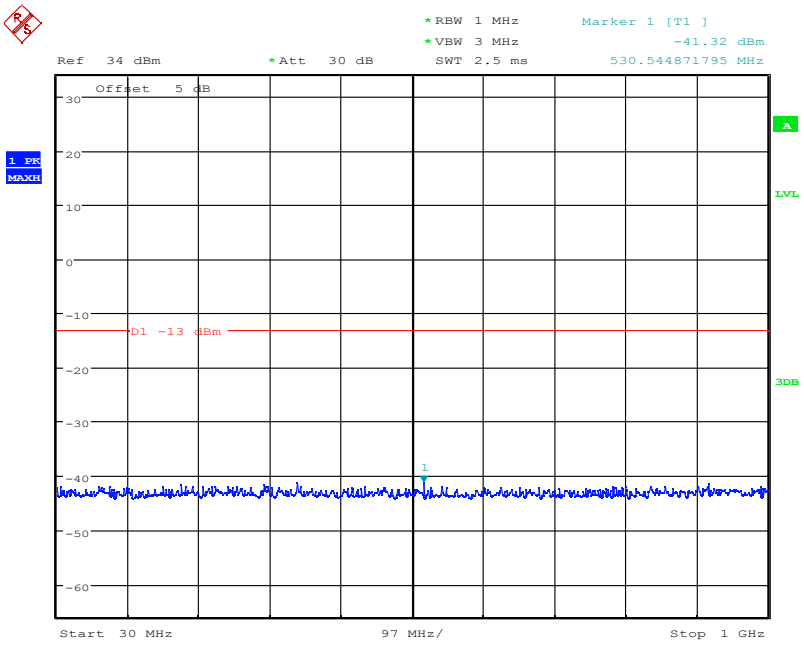
1.4MHz bandwidth QPSK Middle channel, 1880MHz,1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



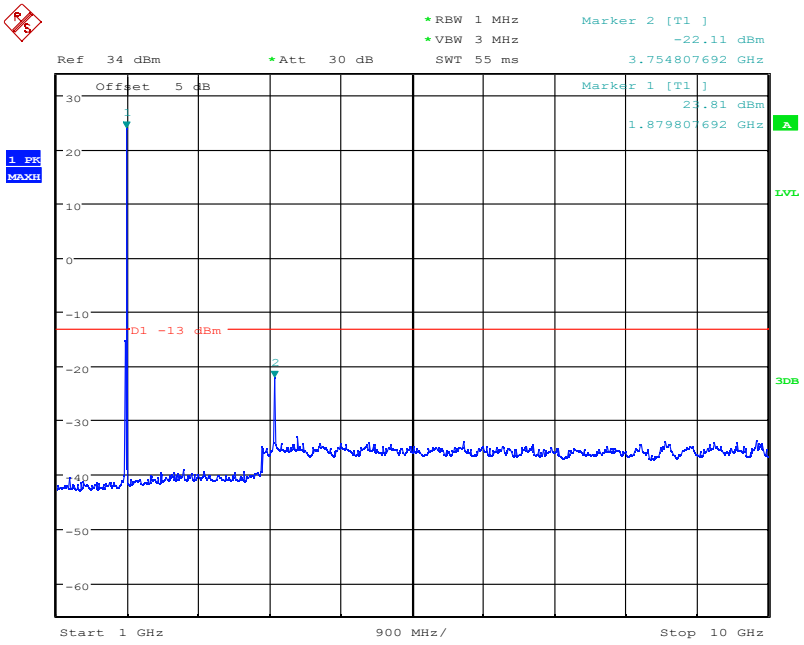
Date: 31.AUG.2021 19:51:59

1.4MHz bandwidth QPSK Middle channel, 1880 MHz,10GHz to 20GHz



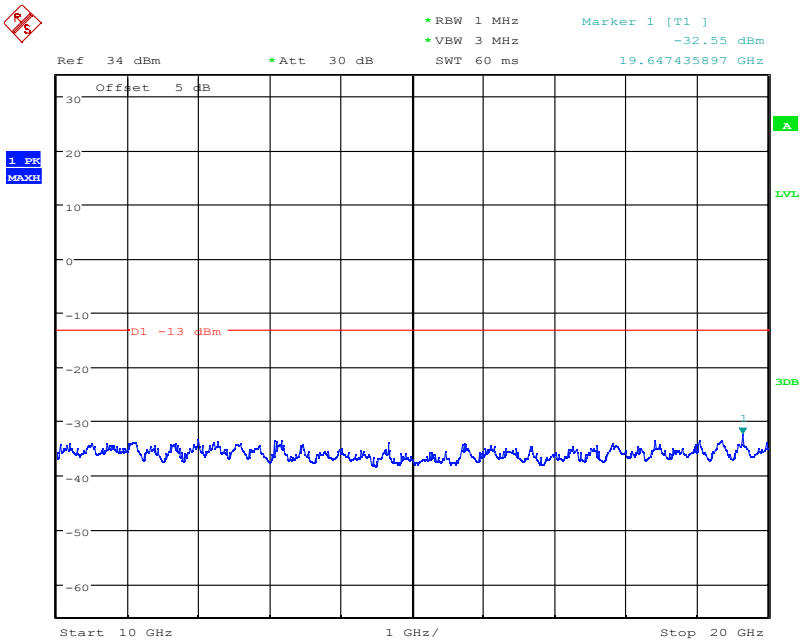
Date: 31.AUG.2021 19:53:21

3MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 30MHz to 1GHz

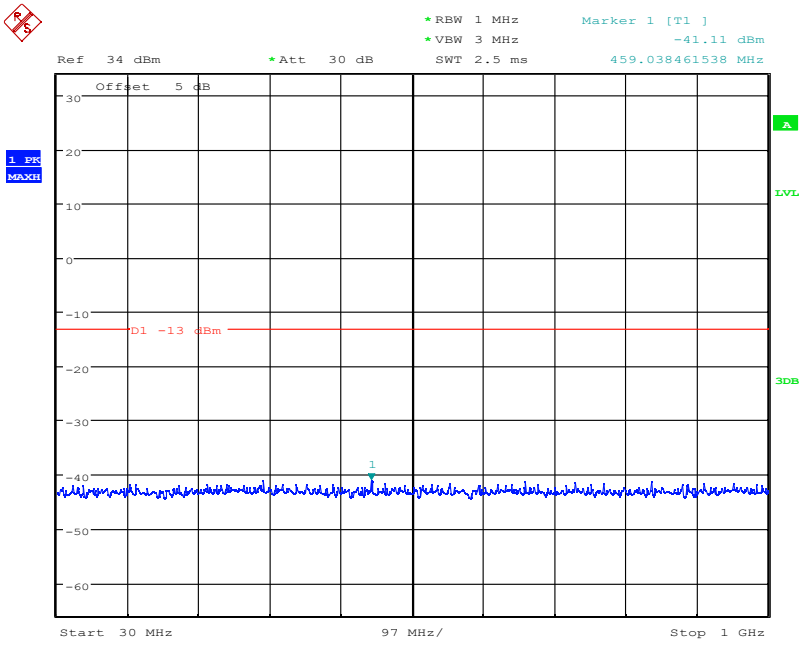


3MHz bandwidth QPSK Middle Channel, 1880 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.

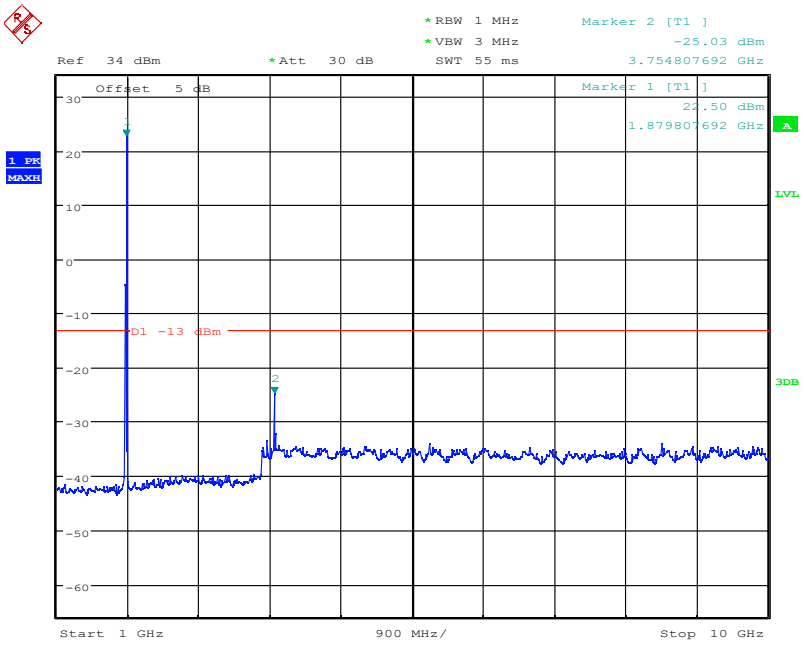


3MHz bandwidth QPSK Middle Channel, 1880 MHz, 10GHz to 20GHz



Date: 31.AUG.2021 19:53:48

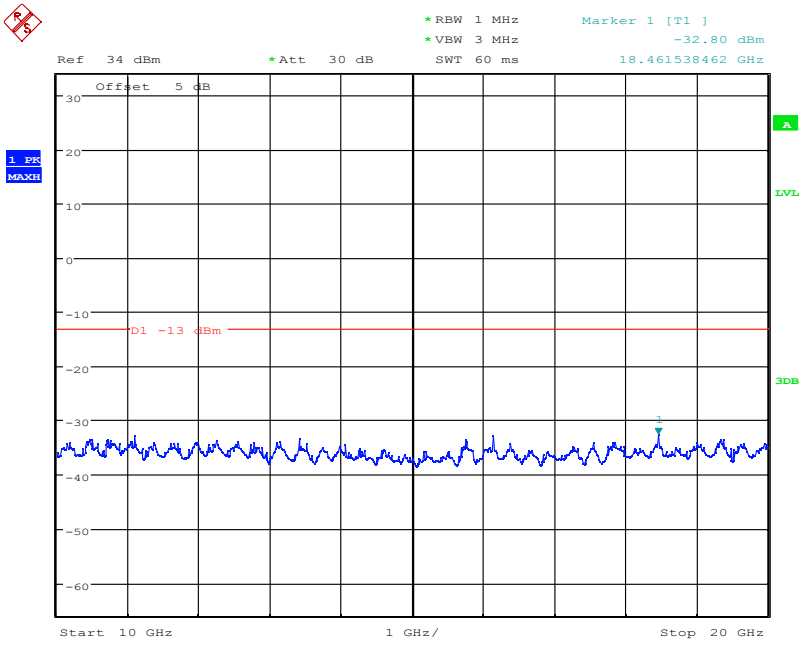
5MHz bandwidth QPSK Mode Middle Channel, 1880 MHz,30MHz to 1GHz



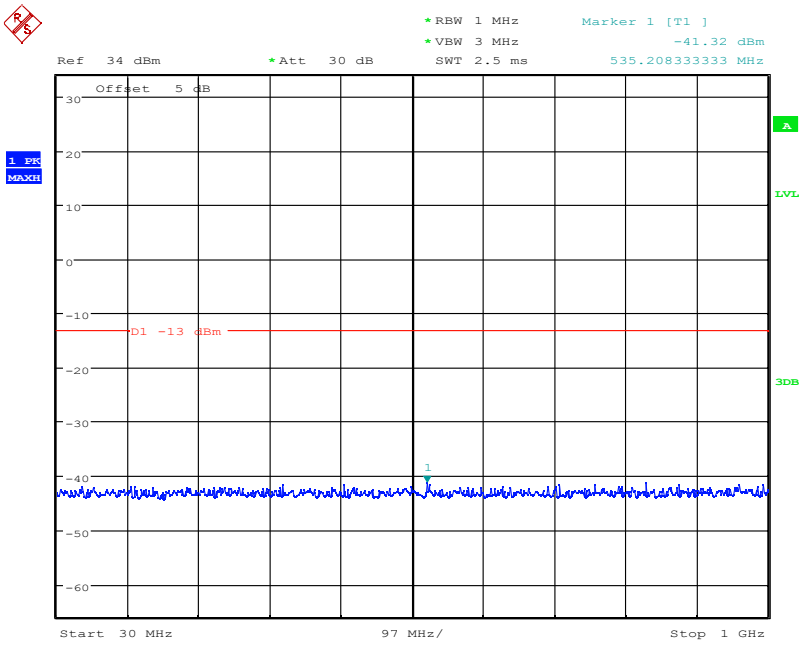
Date: 31.AUG.2021 19:54:04

5MHz bandwidth QPSK Mode Middle Channel, 1880 MHz,1GHz to 10GHz

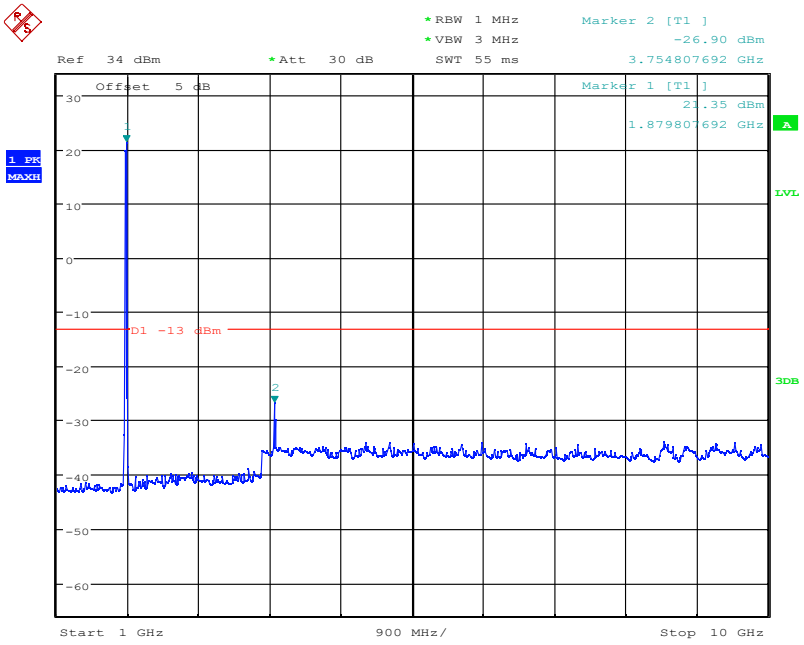
Note: The strong emission shown in each case is the carrier signal.



5MHz bandwidth QPSK Mode Middle Channel, 1880 MHz,10GHz to 20GHz



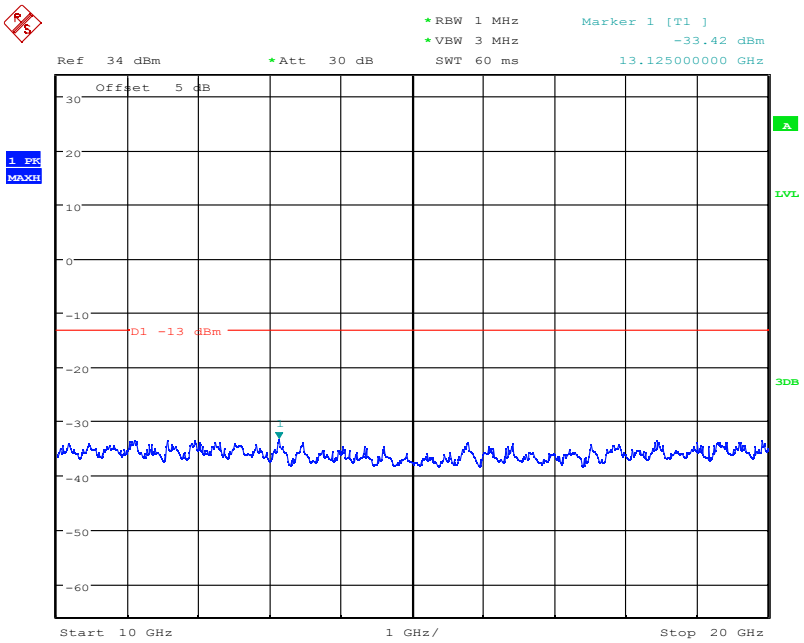
10MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 30MHz to 1GHz



Date: 31.AUG.2021 19:54:58

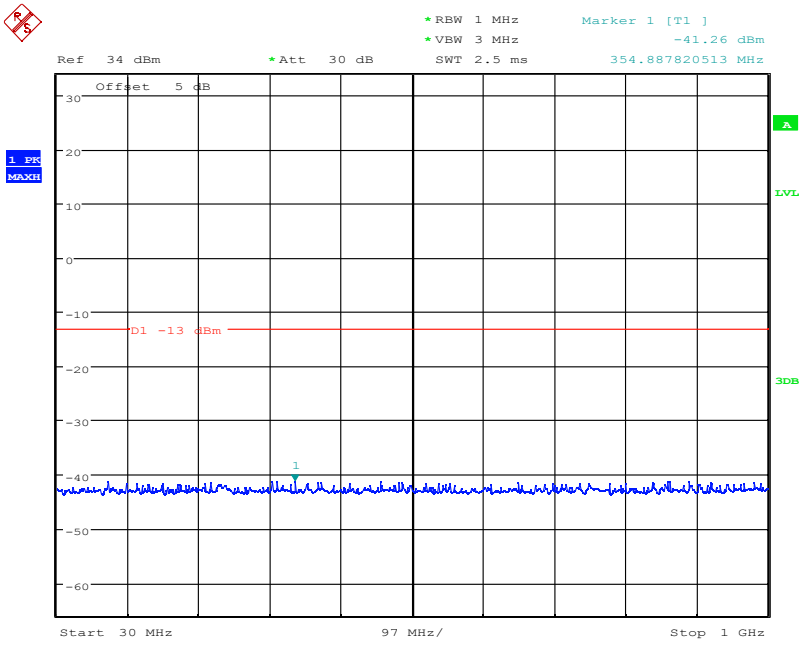
10MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



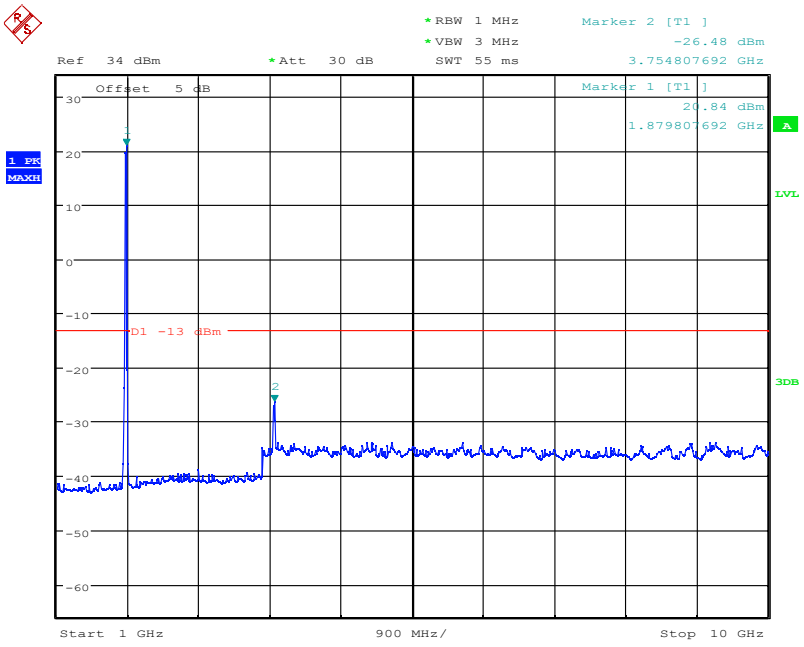
Date: 31.AUG.2021 19:54:42

10MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 10GHz to 20GHz



Date: 31.AUG.2021 19:55:45

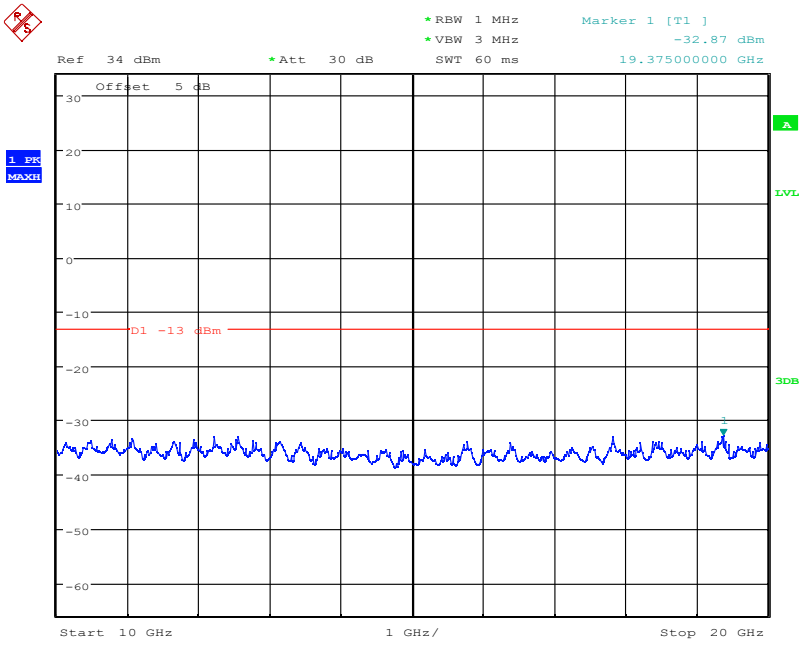
15MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 30MHz to 1GHz



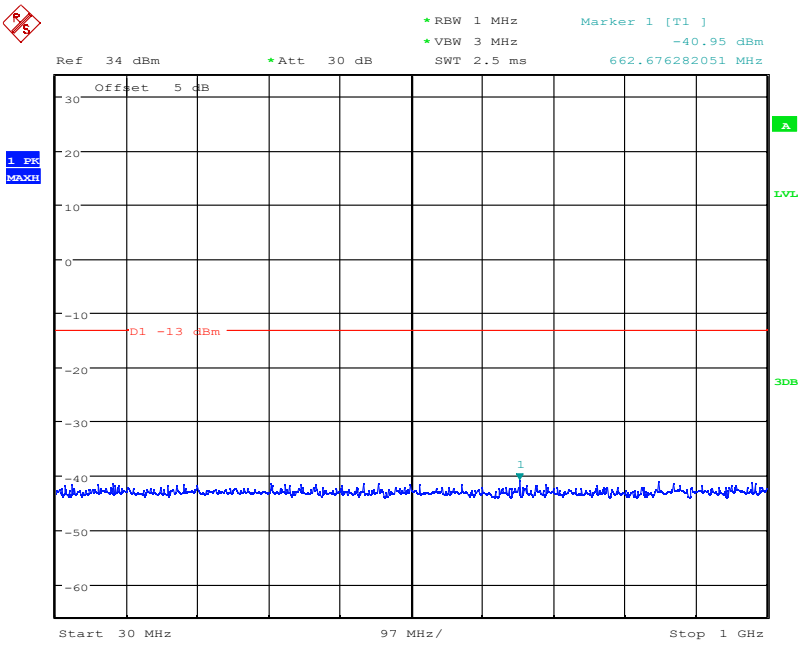
Date: 31.AUG.2021 19:56:18

15MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.

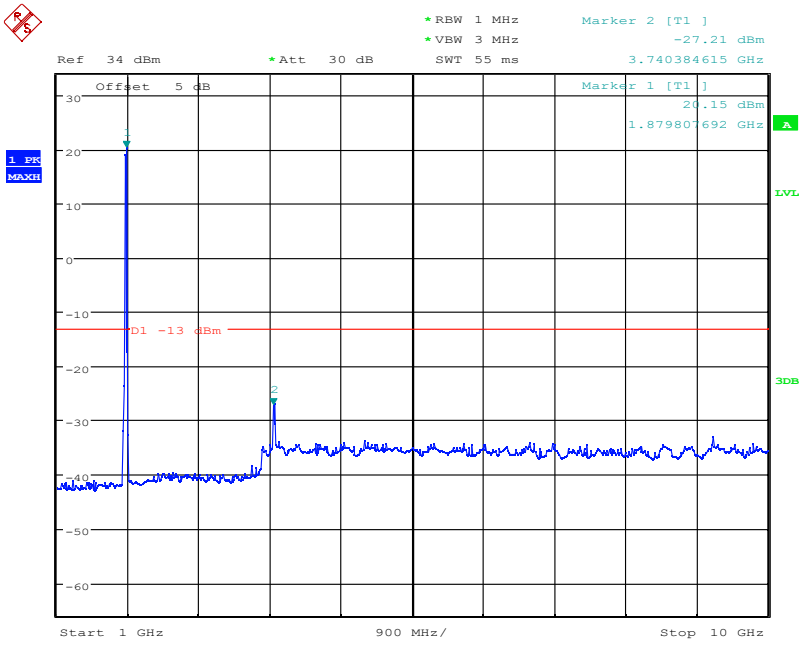


15MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 10GHz to 20GHz



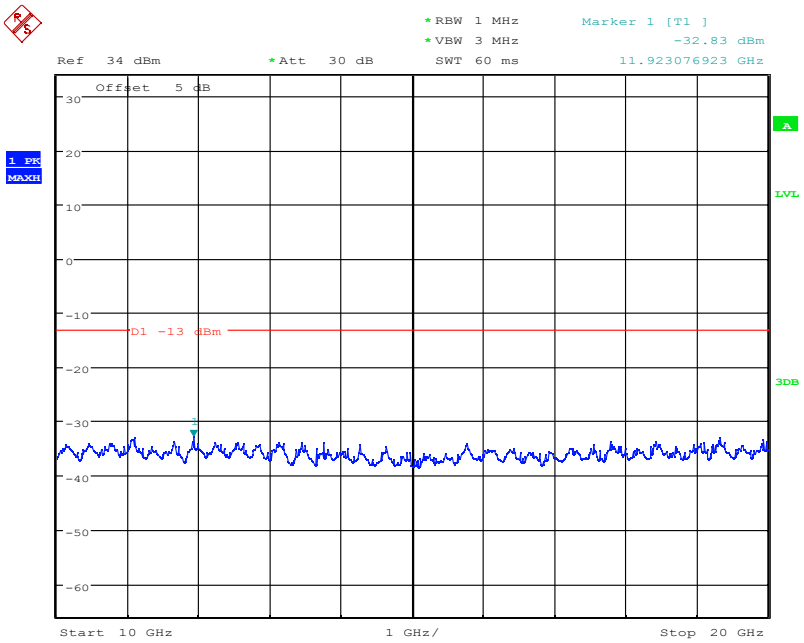
20MHz bandwidth

QPSK Mode Middle Channel, 1880 MHz, 30MHz to 1GHz



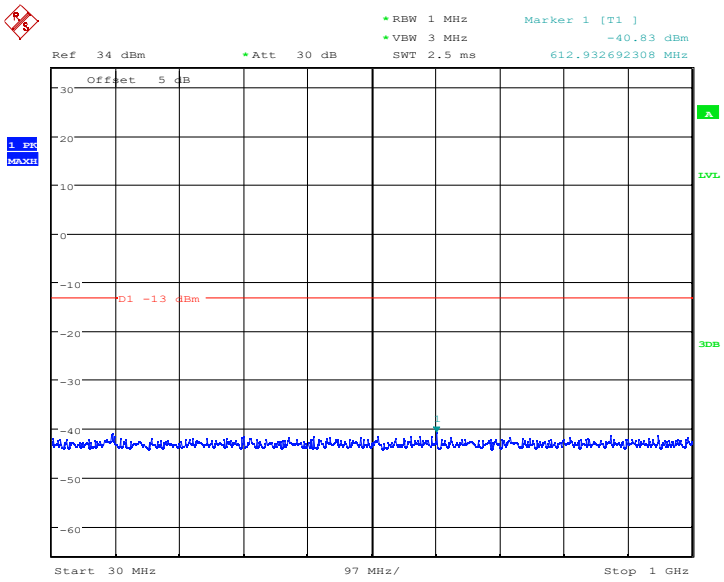
20MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.

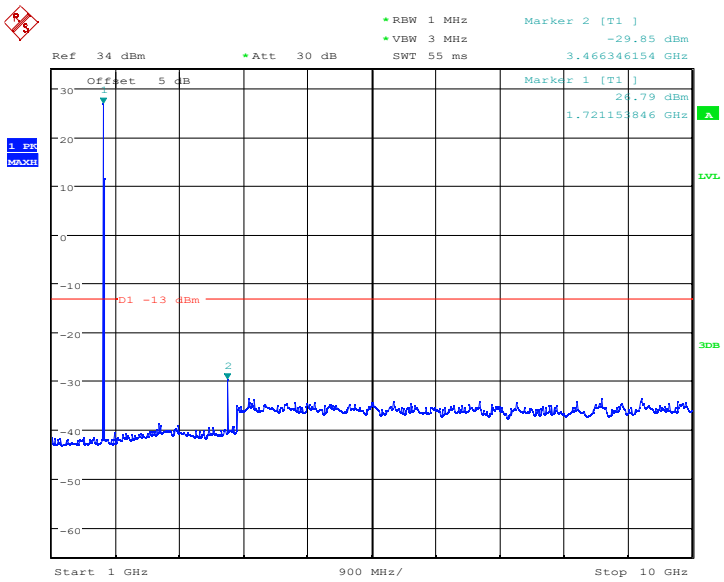


20MHz bandwidth QPSK Mode Middle Channel, 1880 MHz, 10GHz to 20GHz

5.3.4 LTE B4 Conducted Spurious Emission Results

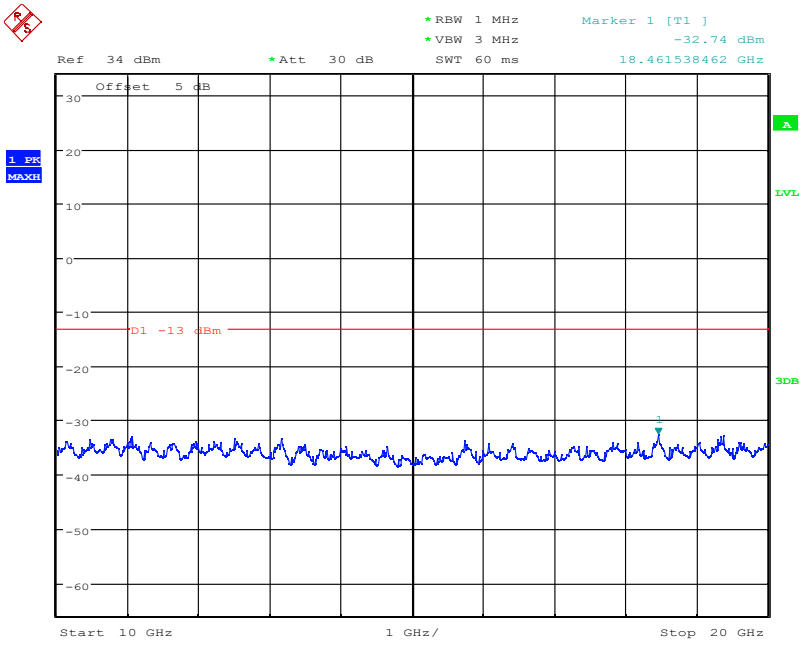


1.4MHz bandwidth QPSK Mode Middle channel, 1732.5 MHz, 30MHz to 1GHz

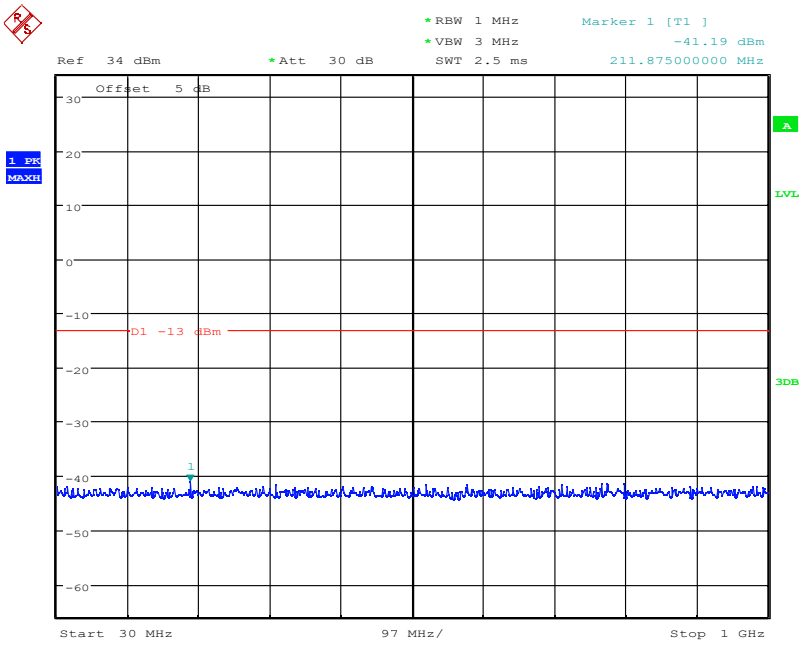


1.4MHz bandwidth QPSK Middle channel, 1732.5MHz,1GHz to 10GHz

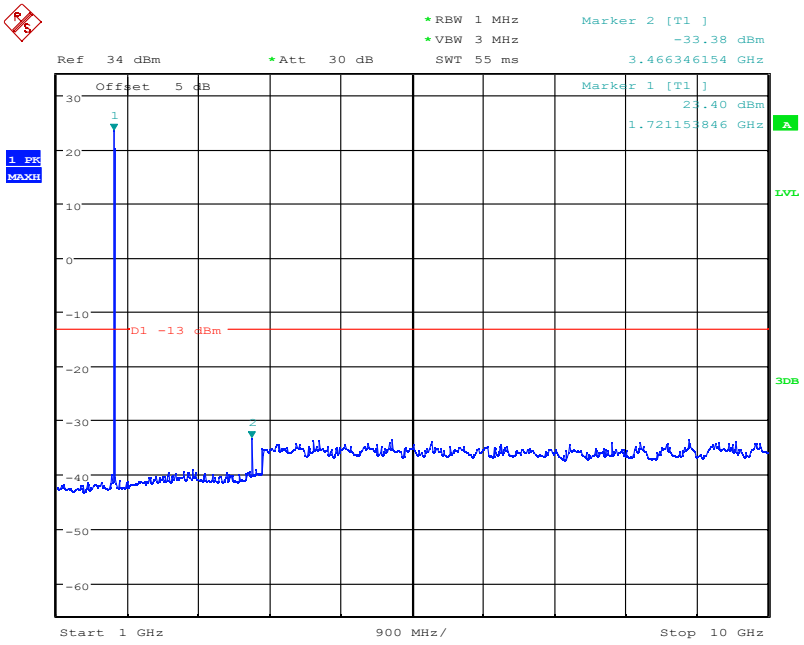
Note: The strong emission shown in each case is the carrier signal.



1.4MHz bandwidth QPSK Middle channel, 1732.5 MHz,10GHz to 20GHz

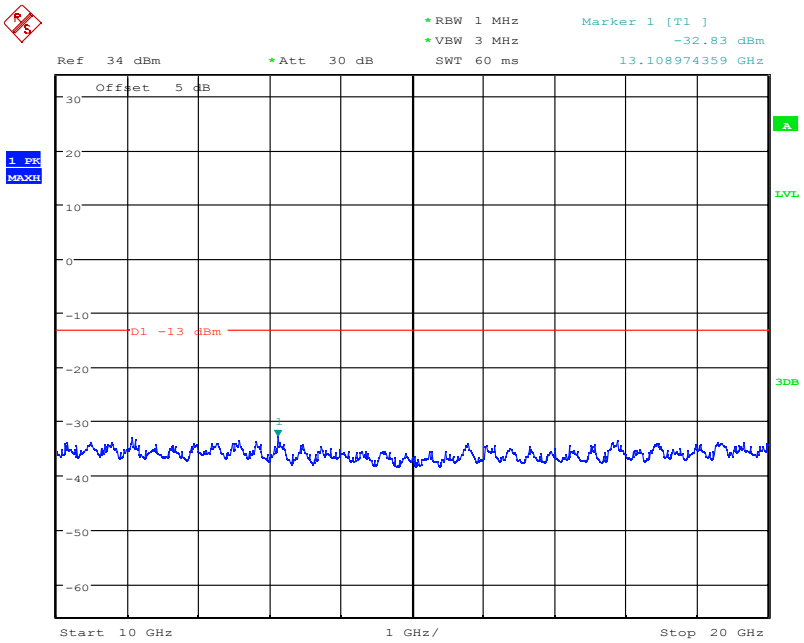


3MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 30MHz to 1GHz

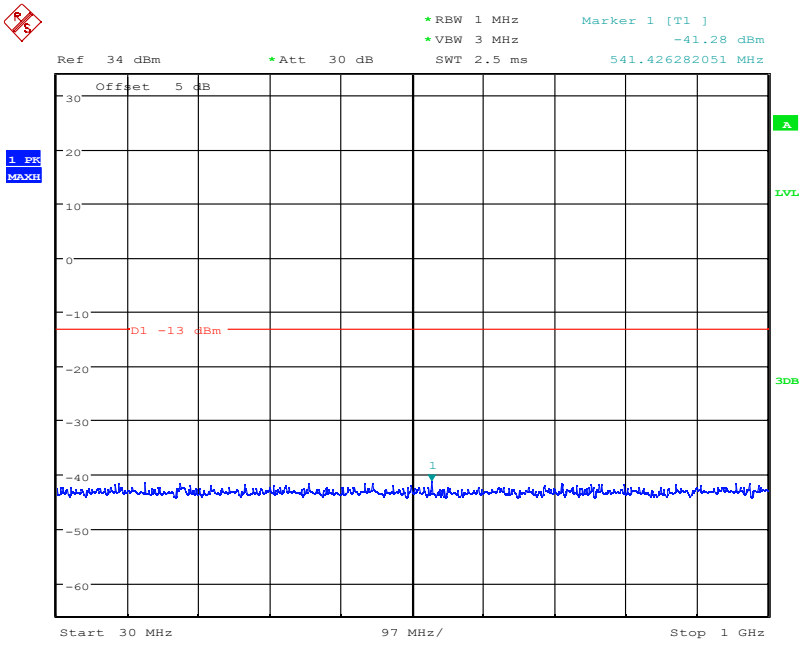


3MHz bandwidth QPSK Middle Channel, 1732.5 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



3MHz bandwidth QPSK Middle Channel, 1732.5 MHz, 10GHz to 20GHz



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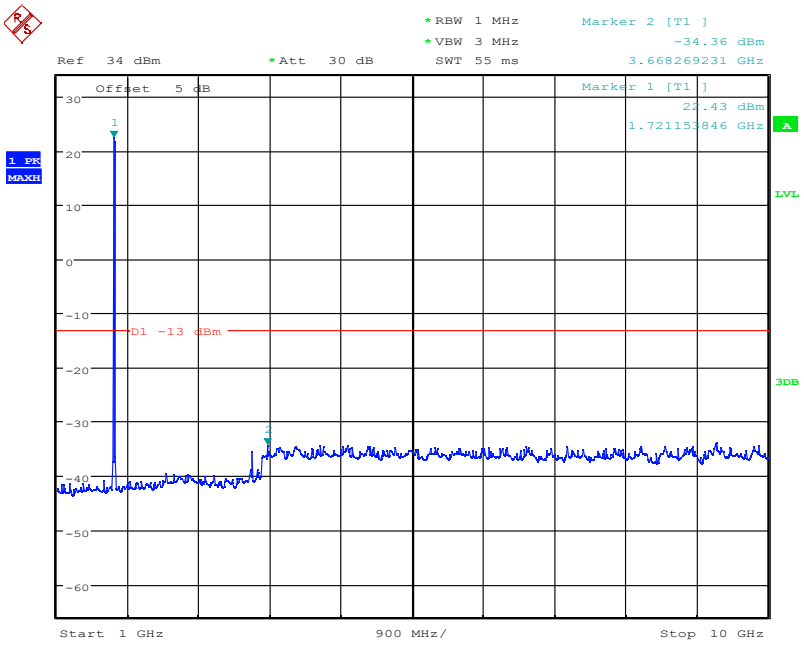
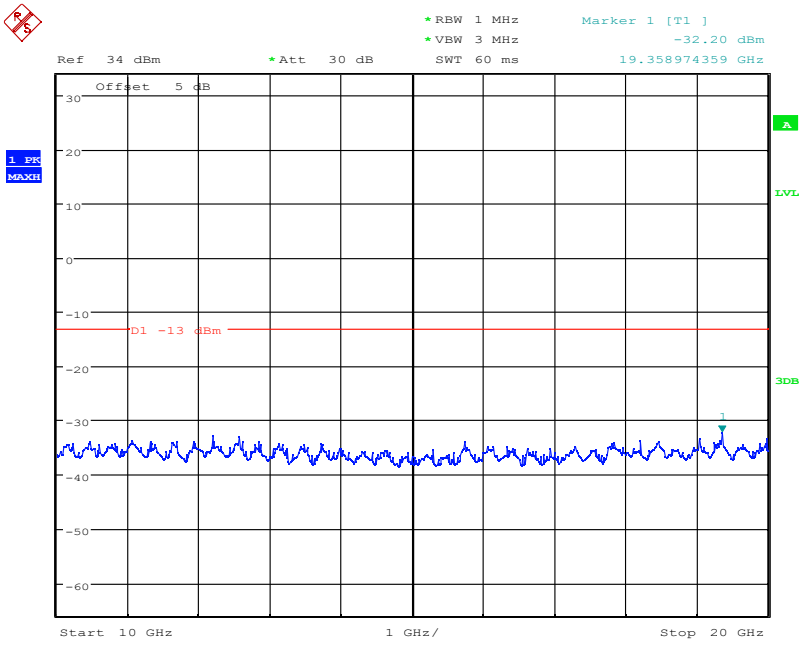
5MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz,30MHz to 1GHz



Date: 31.AUG.2021 20:01:33

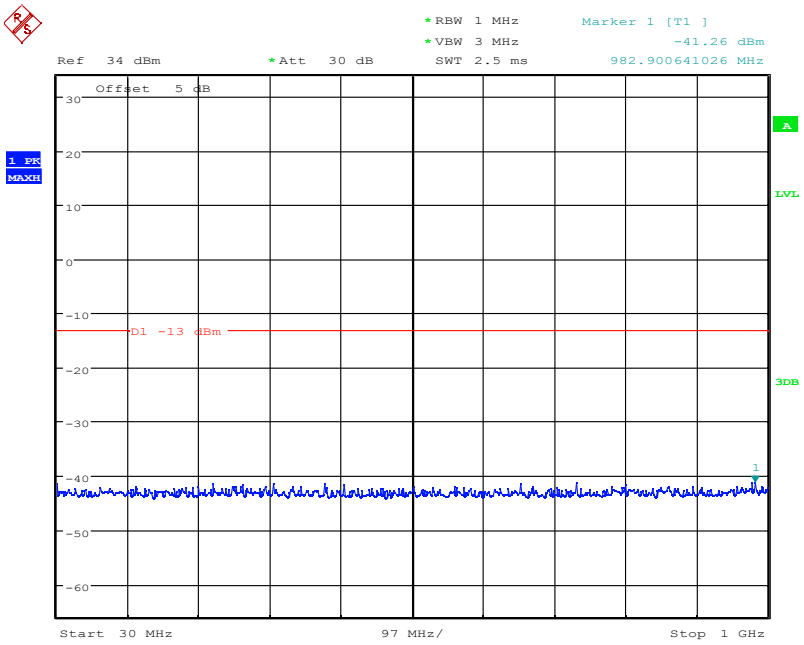
5MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz,1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



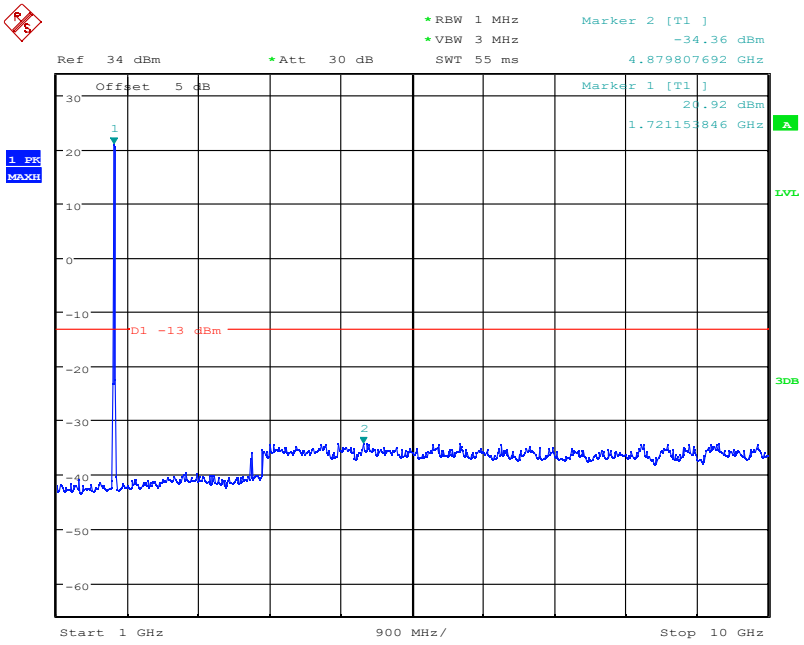
Date: 31.AUG.2021 20:01:48

5MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz,10GHz to 20GHz



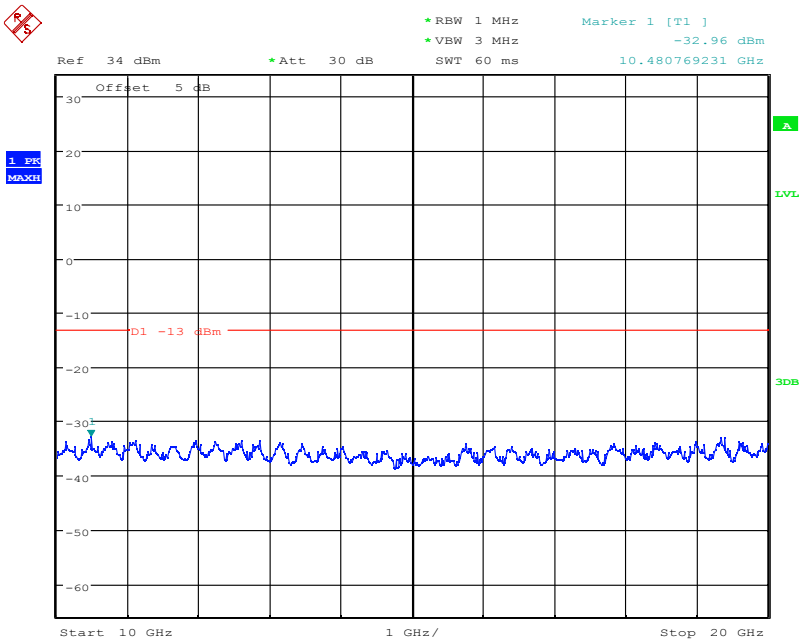
Date: 31.AUG.2021 20:02:50

10MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 30MHz to 1GHz

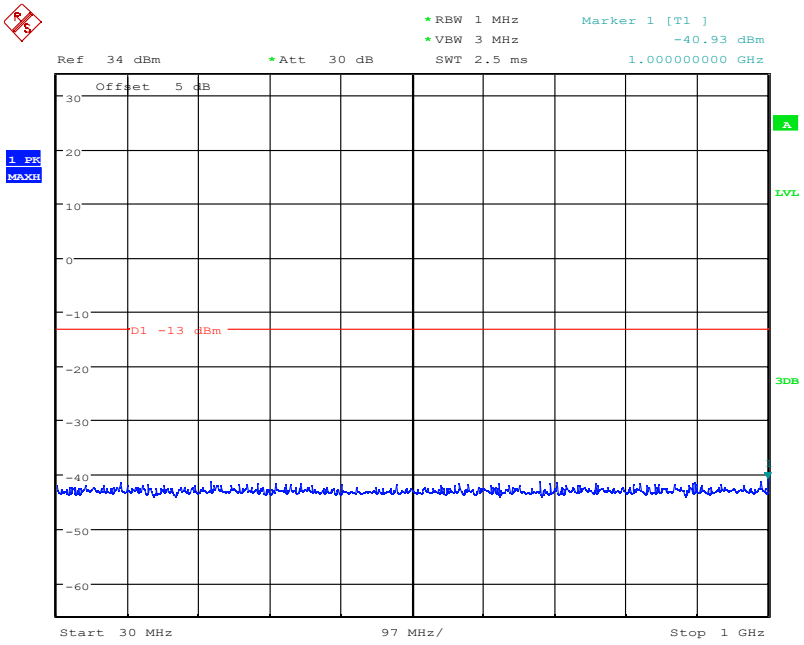


10MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.

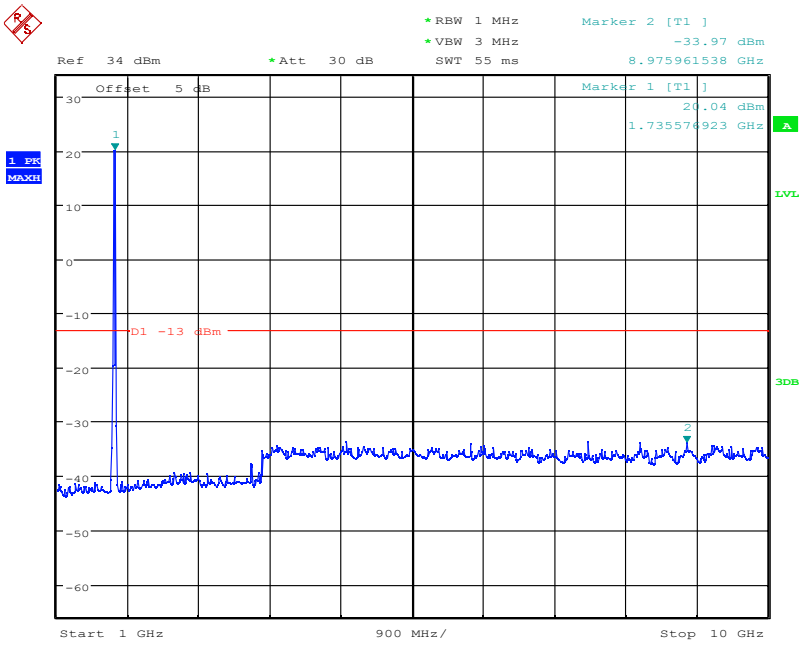


10MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 10GHz to 20GHz



Date: 31.AUG.2021 20:03:10

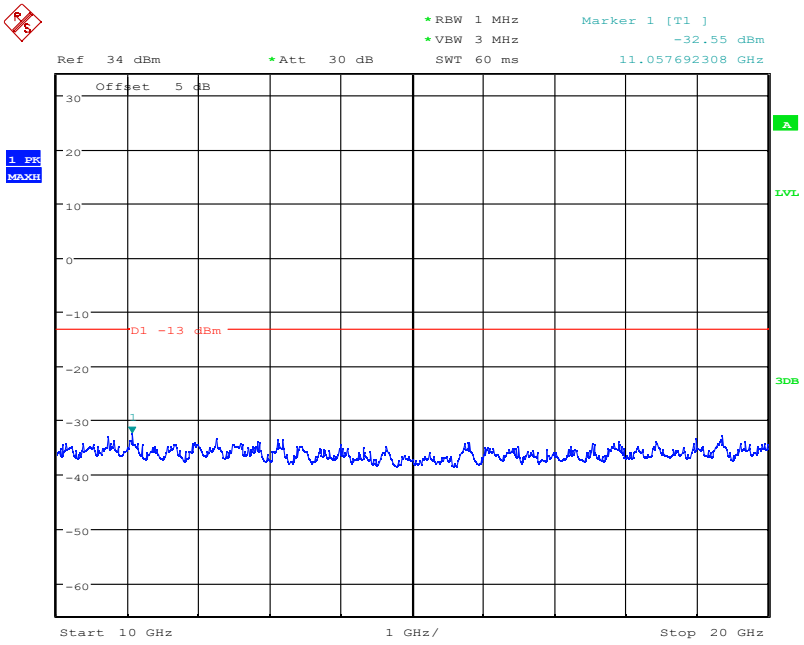
15MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 30MHz to 1GHz



Date: 31.AUG.2021 20:03:27

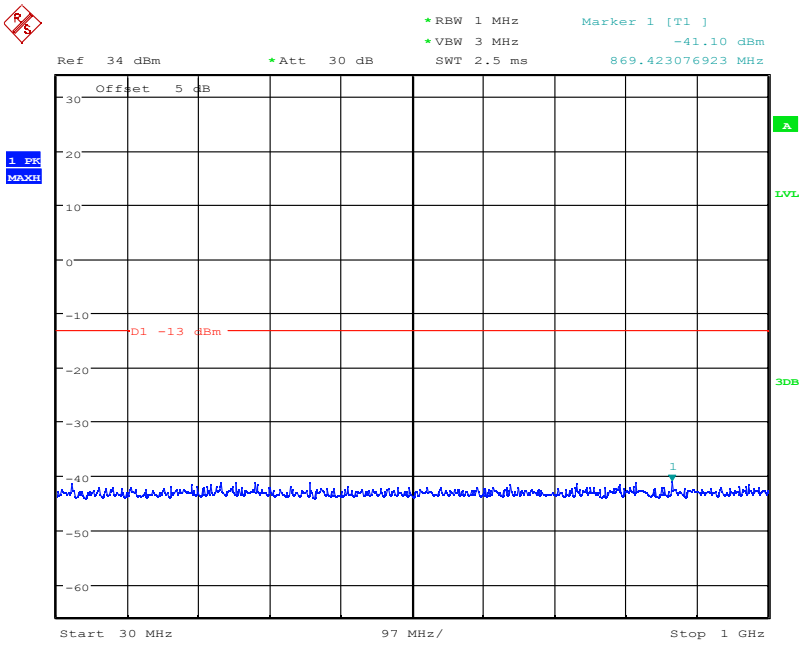
15MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



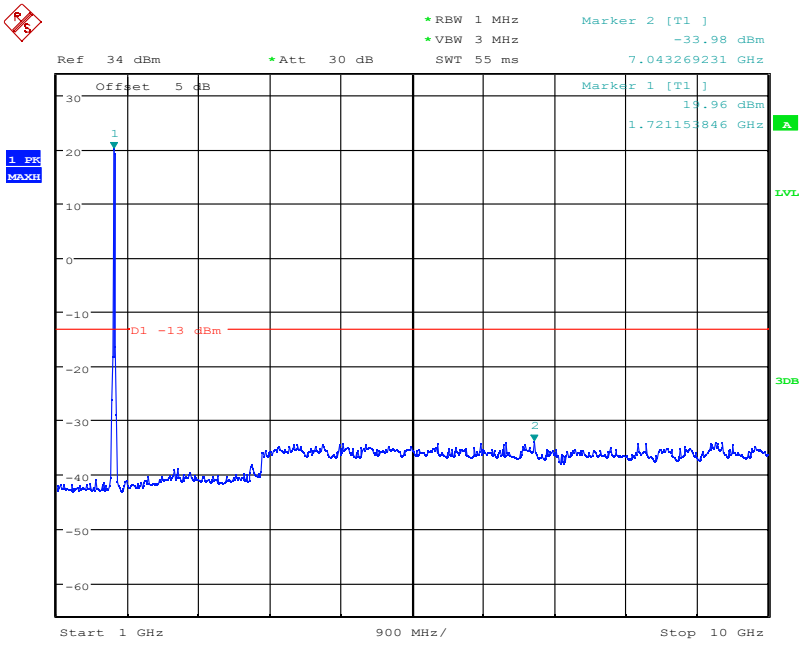
Date: 31.AUG.2021 20:03:40

15MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 10GHz to 20GHz



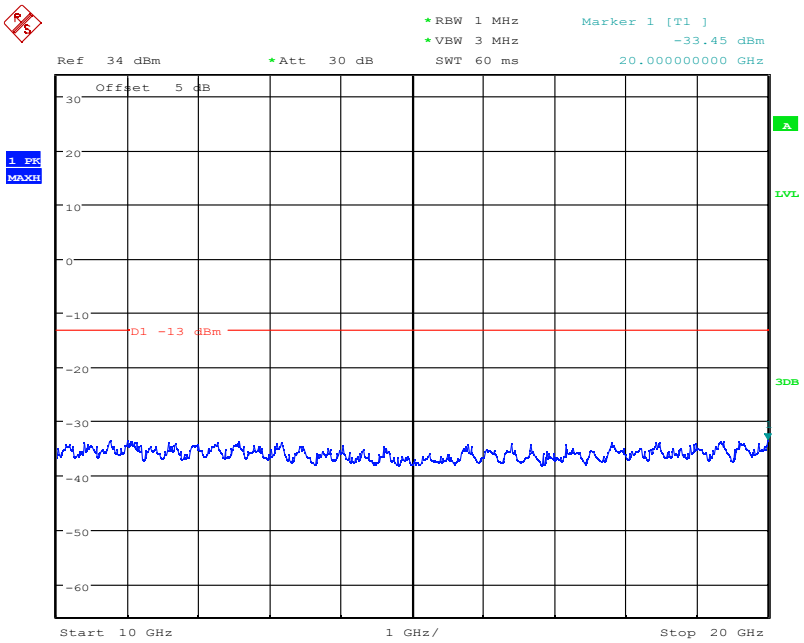
Date: 31.AUG.2021 20:04:40

20MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 30MHz to 1GHz



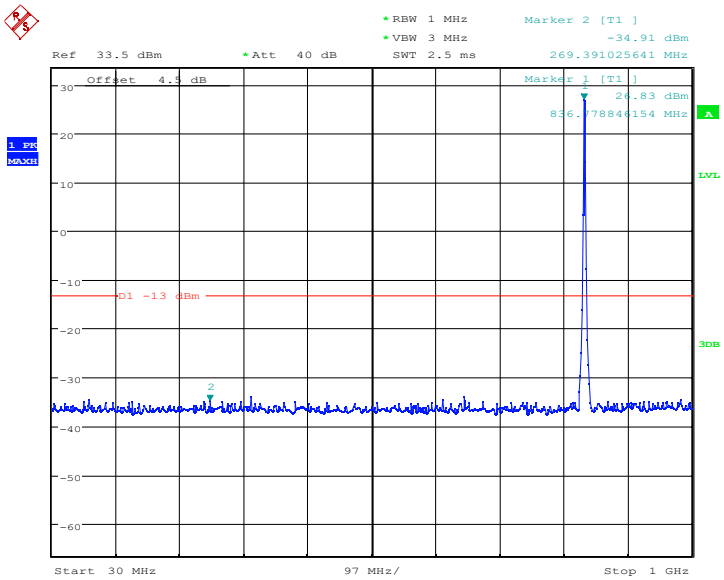
20MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



20MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 10GHz to 20GHz

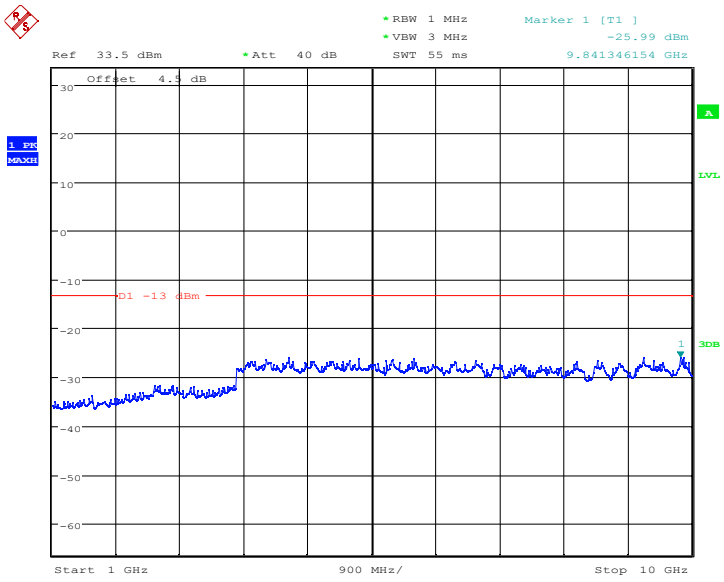
5.3.5 LTE B5 Conducted Spurious Emission Results



Date: 31.AUG.2021 20:19:13

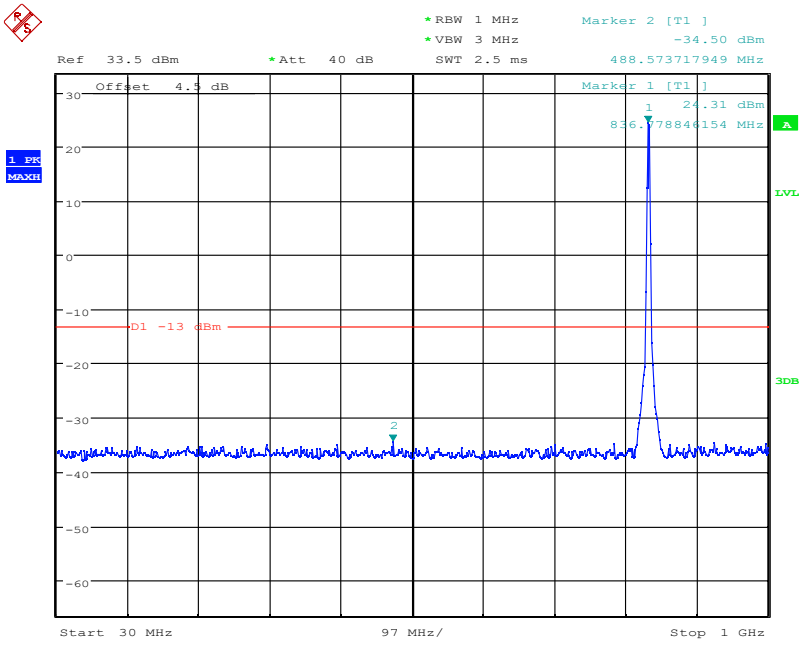
1.4MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



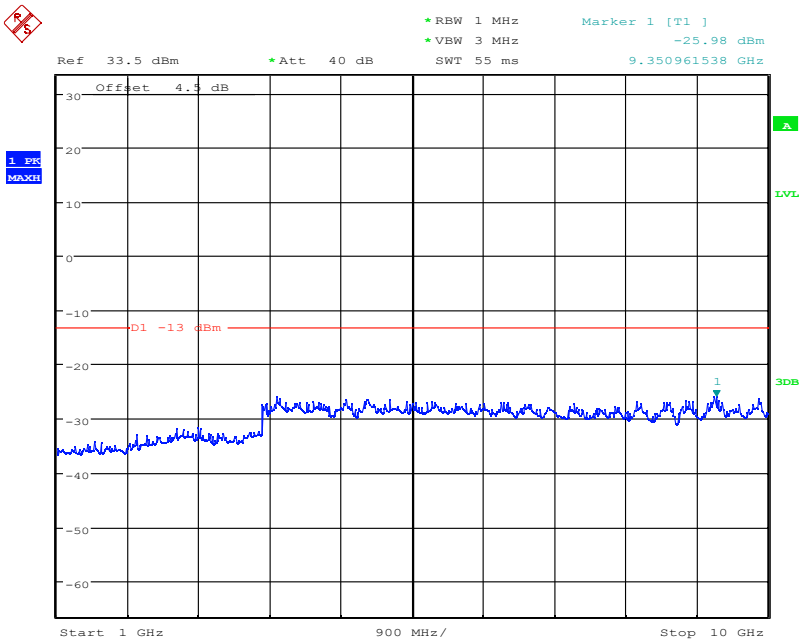
Date: 31.AUG.2021 20:19:40

1.4MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,1GHz to 10GHz

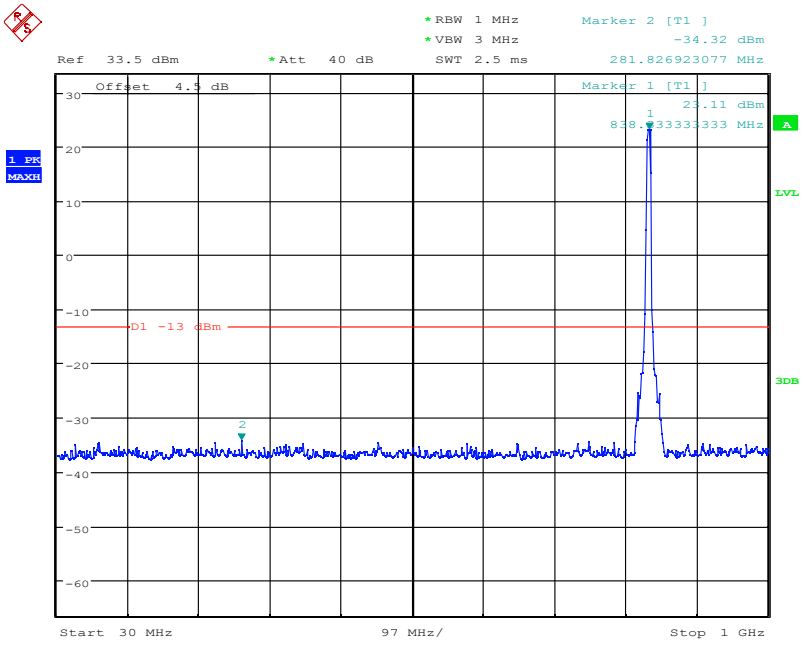


3MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

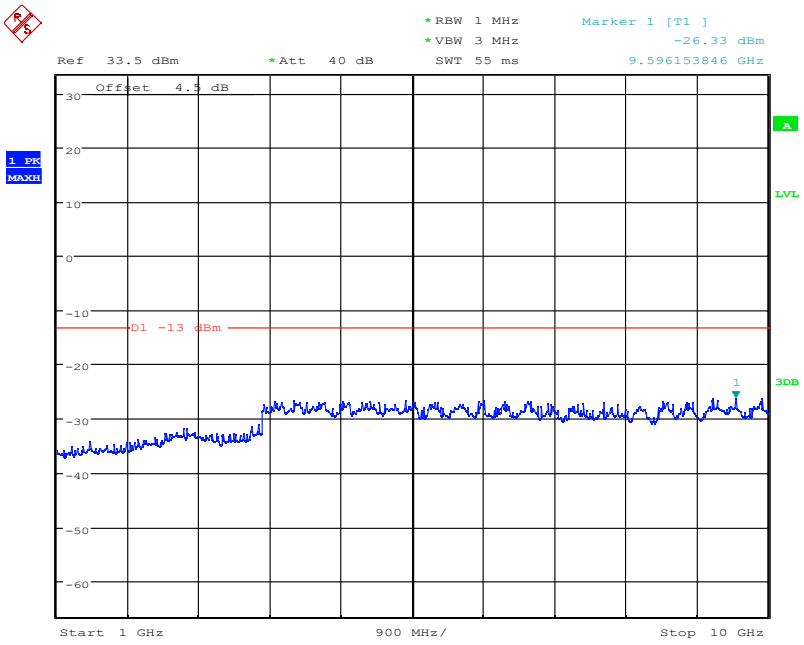


3MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,1GHz to 10GHz

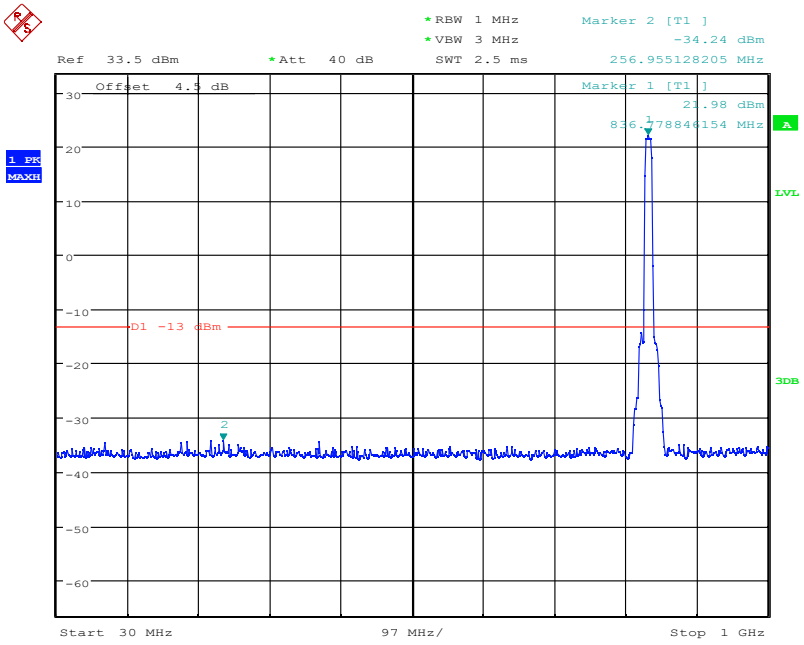


5MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

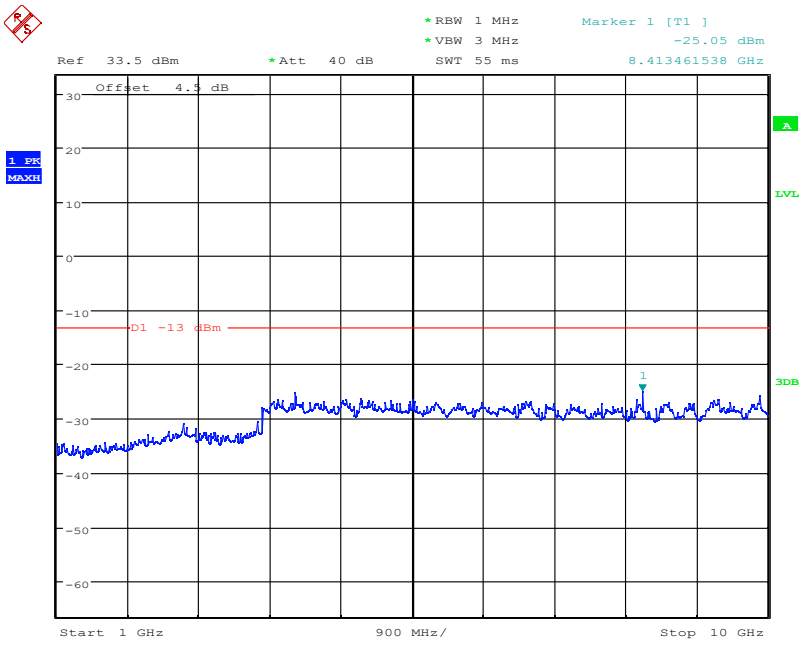


5MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz, 1GHz to 10GHz



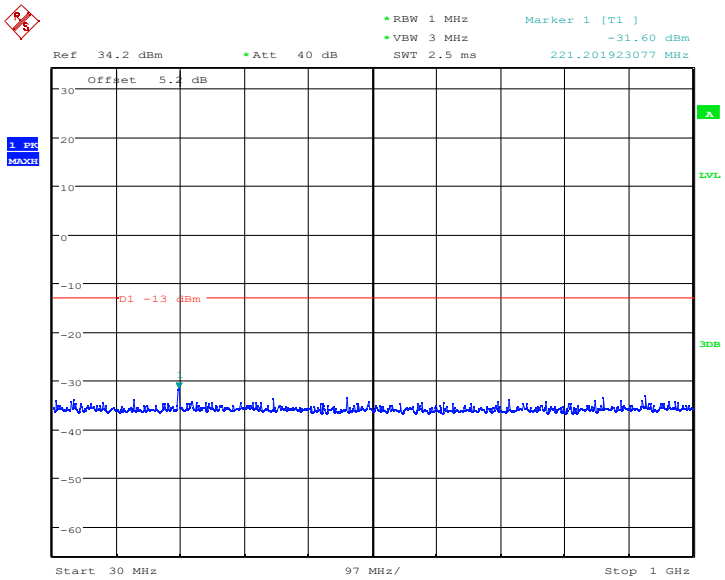
10MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

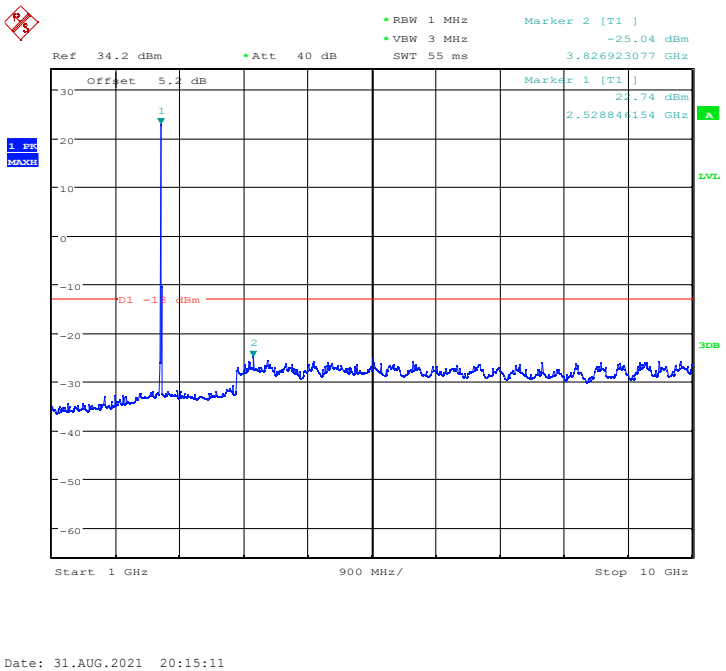


10MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,1GHz to 10GHz

5.3.6 LTE B7 Conducted Spurious Emission Results

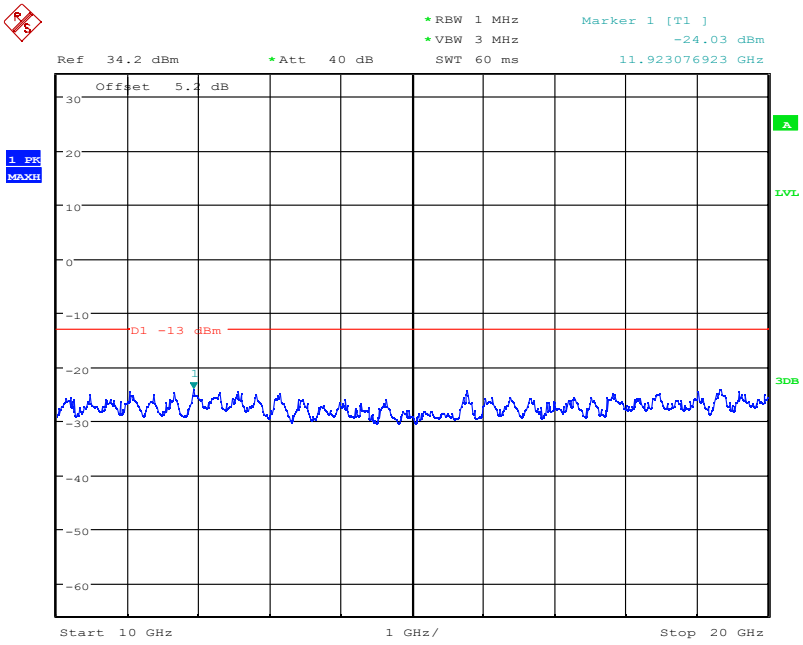


5MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,30MHz to 1GHz

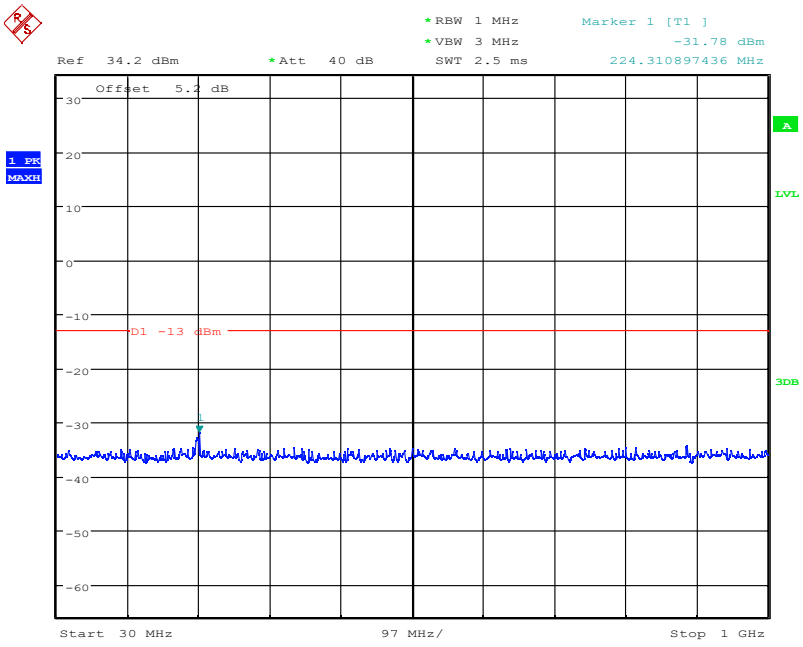


5MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,1GHz to 10GHz

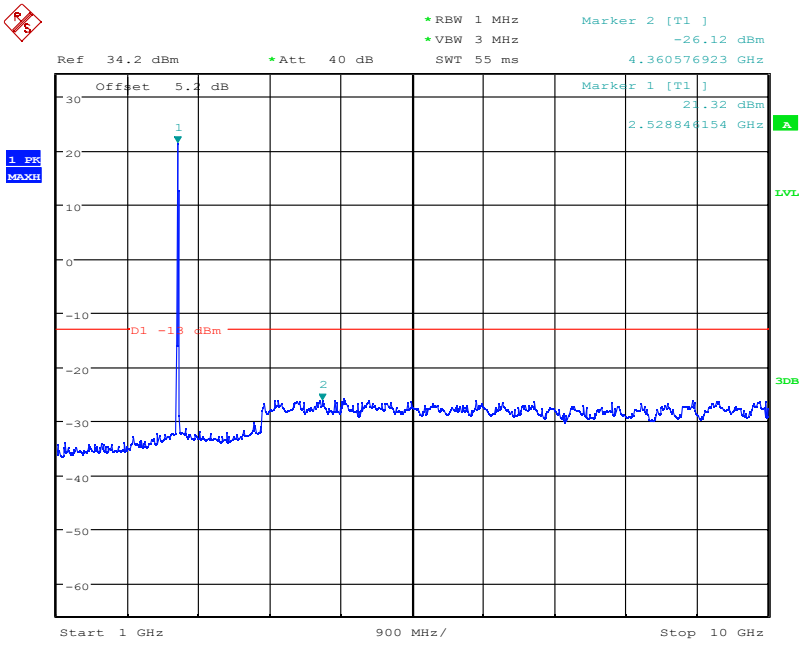
Note: The strong emission shown in each case is the carrier signal.



5MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,10GHz to 20GHz

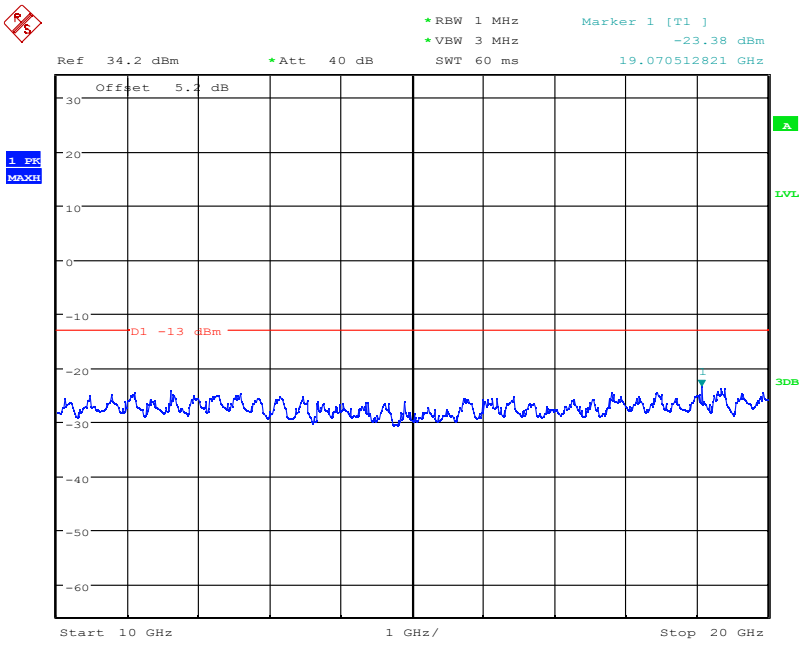


10MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,30MHz to 1GHz

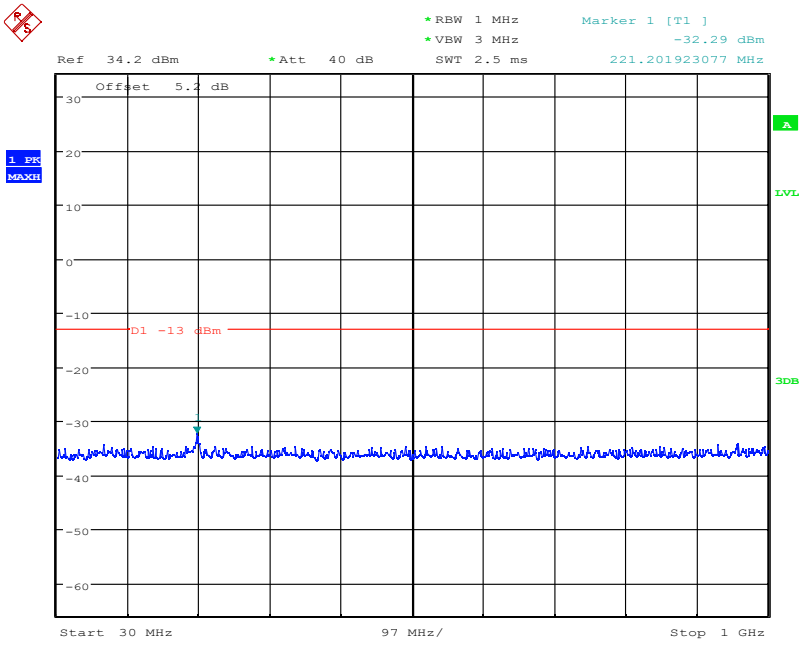


10MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,1GHz to 10GHz

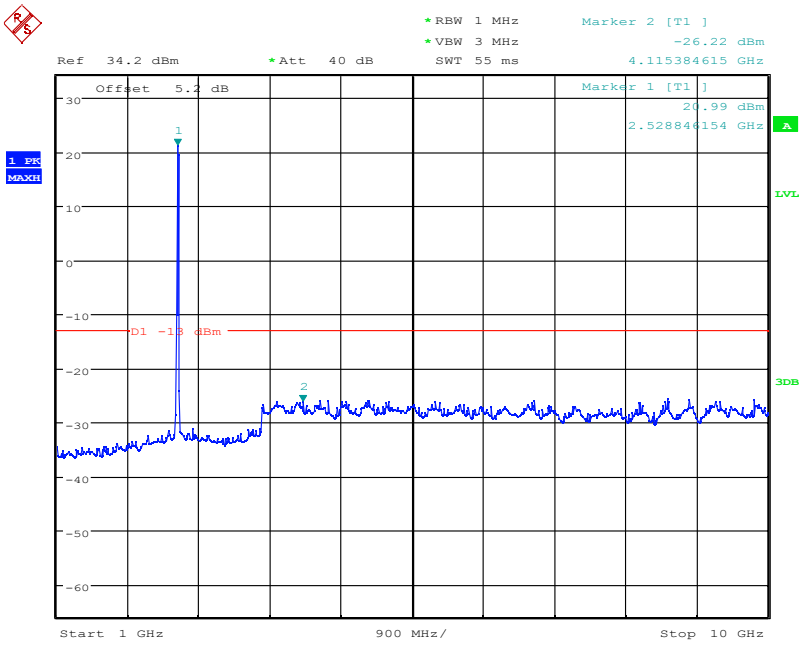
Note: The strong emission shown in each case is the carrier signal.



10MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,10GHz to 20GHz

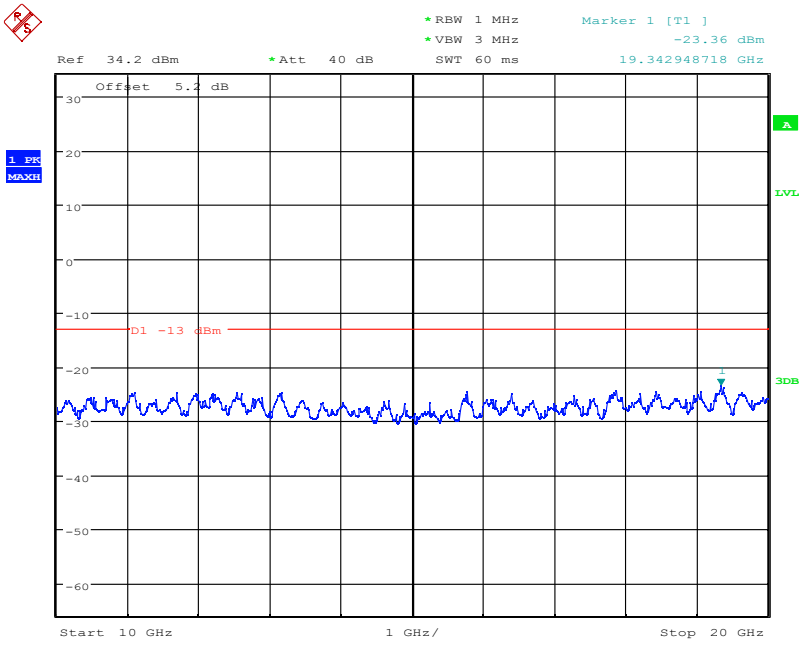


15MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,30MHz to 1GHz

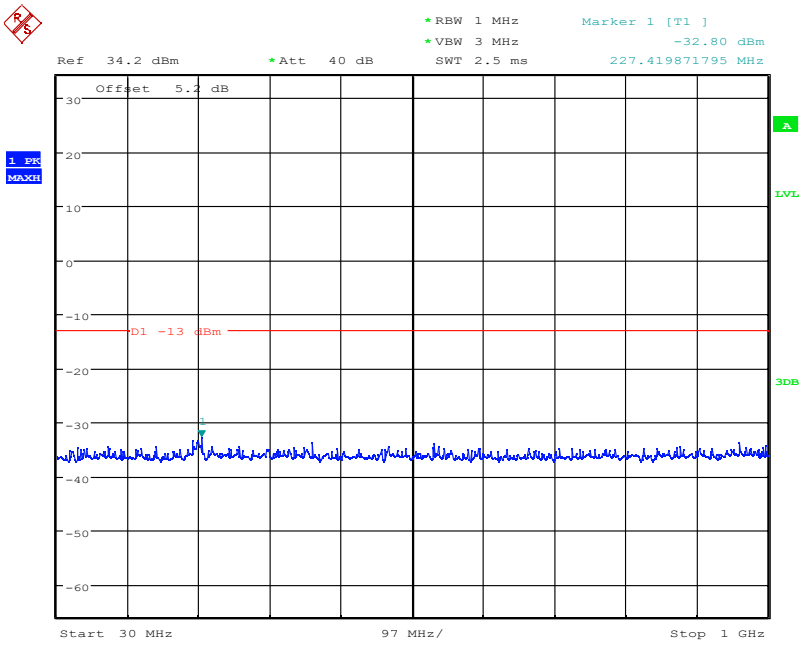


15MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,1GHz to 10GHz

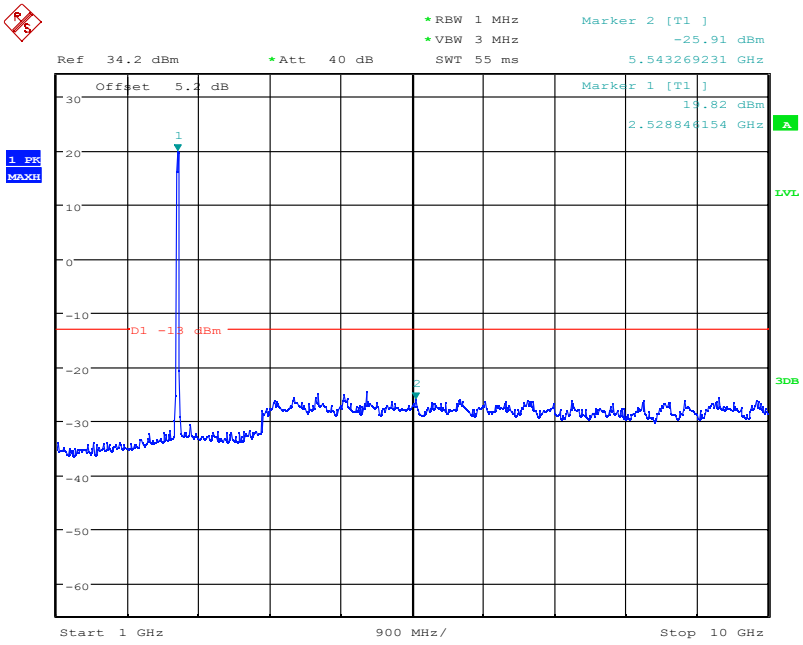
Note: The strong emission shown in each case is the carrier signal.



15MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,10GHz to 20GHz

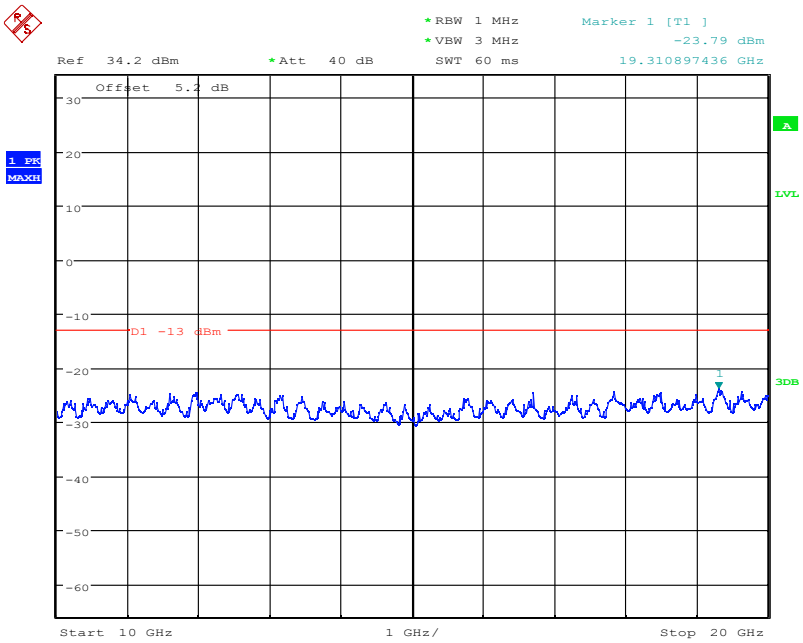


20MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,30MHz to 1GHz



20MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



20MHz bandwidth QPSK Mode Middle Channel, 2535 MHz,10GHz to 20GHz

5.4 Radiated Spurious Emission

Specifications:	FCC Part 2.1051, 24.238, 2.1053, 22.917, 27.53
IMEI Number:	863069057875412
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to Part 24.238 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is: P(dBm)– (43 + 10 log(P)) dB= -13dBm.

According to Part 27.53(h):

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 Bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10(P) dB.

According to Part 27.53(m):

For BRS and EBS stations, the power of any emissions outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts in accordance with the standards below. If a licensee has multiple contiguous channels, out-of-band emissions shall be measured from the upper and lower edges of the contiguous channels:

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)(6) 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.

Limits for Radiated spurious emissions(UE)	
Frequency range	**Limit Level /Resolution Bandwidth**
30 MHz to 20000 MHz	-13dBm/1MHz

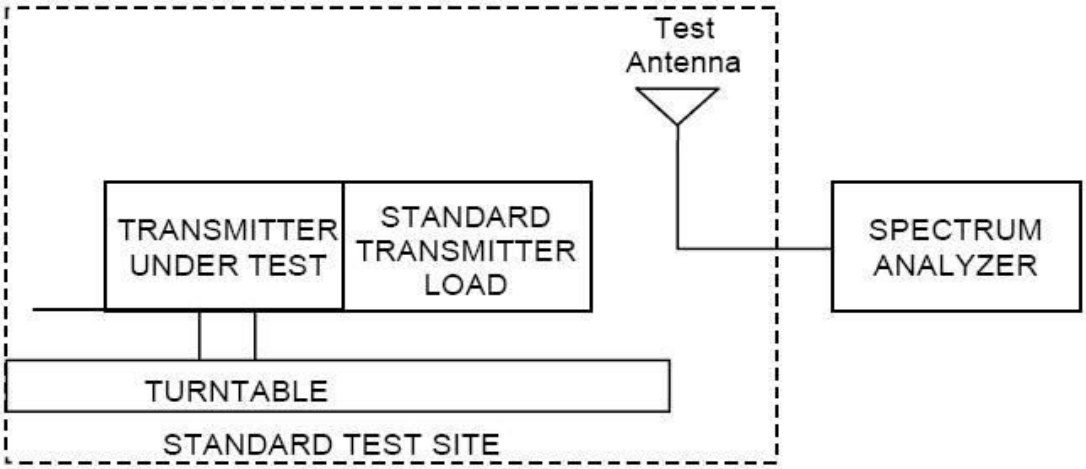
Test Setup:

The EUT was placed in an anechoic chamber. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns.

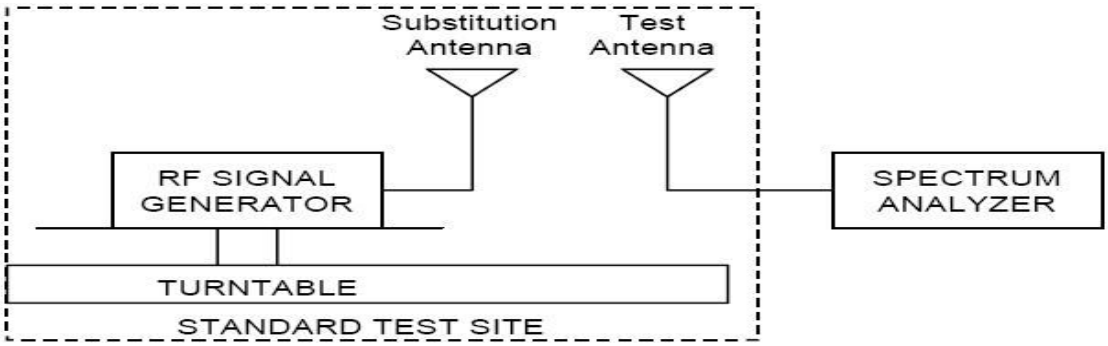
Test Method:

The measurement method is substitution method accordance with section 2.2.12 of ANSI/TIA-603-D: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

(a) Connect the equipment as illustrated and measure the spurious emissions as the method as above. The distance from the device to the antenna is 3 m .



(b) Reconnect the equipment as illustrated.



(c) Remove the transmitter and replace it with a substitution antenna. The center of the substitution antenna should be approximately at the same location as the center of the transmitter.

(d) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized, and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

(e) Repeat step d) with both antennas vertically polarized for each spurious frequency.

(f) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps d) and e) by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

P_d(dBm) = P_g(dBm) – cable loss (dB) + antenna gain (dB)

where:

Pd is the dipole equivalent power and Pg is the generator output power into the substitution antenna.

5.4.1 LTE B2 Radiated Spurious Emission Results

Test Data （1.4MHz bandwidth 18607 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3701.4	-60.3	7.2	8.9	-58.6	V
5552.1	-70.8	2.5	10.5	-62.8	V
7402.8	-63.7	0.9	11.9	-52.7	V
9253.5	-70.1	1.0	11.5	-59.6	V
11104.2	-70.5	0.3	12.1	-58.7	V
12954.9	-70.2	0.4	12.4	-58.2	V

Test Data （1.4MHz bandwidth 18607 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]

3701.4	-61.9	7.2	8.9	-60.2	V
5552.1	-69.9	2.5	10.5	-61.9	V
7402.8	-63.8	0.9	11.9	-52.8	V
9253.5	-70.2	1.0	11.5	-59.7	V
11104.2	-71.2	0.3	12.1	-59.4	V
12954.9	-70.1	0.4	12.4	-58.1	V

Test Data （1.4MHz bandwidth 18900 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-48.2	7.3	8.9	-46.6	V
5640.0	-66.9	1.8	10.5	-58.2	V
7520.0	-55.3	0.9	11.9	-44.3	V
9400.0	-63.4	0.8	11.8	-52.4	V
11280.0	-69.7	0.3	12.1	-57.9	V
13160.0	-70.2	0.4	12.4	-58.2	V

Test Data （1.4MHz bandwidth 18900 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-59.3	7.3	8.9	-57.7	V
5640.0	-71.7	1.8	10.5	-63.0	V
7520.0	-67.3	0.9	11.9	-56.3	V
9400.0	-70.0	0.8	11.8	-59.0	V
11280.0	-70.9	0.3	12.1	-59.1	V
13160.0	-69.8	0.4	12.4	-57.8	V

Test Data （1.4MHz bandwidth 19192 QPSK Mode）

Frequency [MHz]	Generator output power(Pg)	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd)	Antenna Polarization [H/V]

	[dBm]			[dBm]	
3818.4	-52.5	7.4	9.2	-50.7	V
5727.6	-71.8	1.5	10.5	-62.8	V
7636.8	-62.4	1.1	11.9	-51.6	V
9546.0	-70.3	0.9	11.8	-59.4	V
11455.2	-70.8	0.3	12.2	-58.9	V
13364.4	-70.1	0.4	12.4	-58.1	V

Test Data （1.4MHz bandwidth 19192 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3818.4	-51.6	7.4	9.2	-49.8	V
5727.6	-72.5	1.5	10.5	-63.5	V
7636.8	-64.9	1.1	11.9	-54.1	V
9546.0	-69.8	0.9	11.8	-58.9	V
11455.2	-70.7	0.3	12.2	-58.8	V
13364.4	-70.3	0.4	12.4	-58.3	V

Test Data （3MHz bandwidth 18615 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3703.0	-62.2	7.2	8.9	-60.5	V
5554.5	-71.5	2.0	10.5	-63.0	V
7406.0	-65.6	0.9	11.9	-54.6	V
9257.5	-70.0	1.0	11.5	-59.5	V
11109.0	-71.9	0.4	12.1	-60.2	V
12960.5	-70.4	0.4	12.4	-58.4	V

Test Data （3MHz bandwidth 18615 16QAM Mode）

Frequency [MHz]	Generator output	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission	Antenna Polarization

	power(Pg) [dBm]			Power (Pd) [dBm]	[H/V]
3703.0	-62.1	7.2	8.9	-60.4	V
5554.5	-72.0	2.0	10.5	-63.5	V
7406.0	-63.8	0.9	11.9	-52.8	V
9257.5	-70.0	1.0	11.5	-59.5	V
11109.0	-70.8	0.4	12.1	-59.1	V
12960.5	-70.0	0.4	12.4	-58.0	V

Test Data （3MHz bandwidth 18900 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-50.9	7.3	8.9	-49.3	V
5640.0	-69.1	1.8	10.5	-60.4	V
7520.0	-57.1	0.9	11.9	-46.1	V
9400.0	-66.2	0.8	11.8	-55.2	V
11280.0	-70.6	0.3	12.1	-58.8	V
13160.0	-70.0	0.4	12.4	-58.0	V

Test Data （3MHz bandwidth 18900 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-61.3	7.3	8.9	-59.7	V
5640.0	-72.0	1.8	10.5	-63.3	V
7520.0	-68.6	0.9	11.9	-57.6	V
9400.0	-70.5	0.8	11.8	-59.5	V
11280.0	-71.4	0.3	12.1	-59.6	V
13160.0	-70.1	0.4	12.4	-58.1	V

Test Data （3MHz bandwidth 19184 QPSK Mode）

Frequency	Generator	Cable loss	Antenna	Spurious	Antenna

[MHz]	output power(Pg) [dBm]	[dB]	Gain [dB]	Emission Power (Pd) [dBm]	Polarization [H/V]
3816.4	-54.8	7.4	9.2	-53.0	V
5724.8	-72.2	1.4	10.5	-63.1	V
7633.2	-66.0	1.1	11.9	-55.2	V
9541.6	-70.8	0.9	11.8	-59.9	V
11450.0	-70.3	0.8	12.2	-58.9	V
13358.4	-70.0	0.4	12.4	-58.0	V

Test Data （3MHz bandwidth 19184 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3816.4	-55.3	7.4	9.2	-53.5	V
5724.8	-71.9	1.4	10.5	-62.8	V
7633.2	-66.0	1.1	11.9	-55.2	V
9541.6	-70.6	0.9	11.8	-59.7	V
11450.0	-70.3	0.8	12.2	-58.9	V
13358.4	-70.0	0.4	12.4	-58.0	V

Test Data （5MHz bandwidth 18625 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3705.0	-63.4	7.2	8.9	-61.7	V
5557.5	-71.3	2.5	10.5	-63.3	V
7410.0	-66.9	0.9	11.9	-55.9	V
9262.5	-70.5	1.0	11.5	-60.0	V
11115.0	-70.4	0.3	12.1	-58.6	V
12967.5	-70.2	0.4	12.4	-58.2	V

Test Data （5MHz bandwidth 18625 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3705.0	-64.2	7.2	8.9	-62.5	V
5557.5	-71.3	2.5	10.5	-63.3	V
7410.0	-65.1	0.9	11.9	-54.1	V
9262.5	-71.0	1.0	11.5	-60.5	V
11115.0	-70.4	0.3	12.1	-58.6	V
12967.5	-70.0	0.4	12.4	-58.0	V

Test Data （5MHz bandwidth 18900 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-52.2	7.3	8.9	-50.6	V
5640.0	-70.2	1.8	10.5	-61.5	V
7520.0	-58.8	0.9	11.9	-47.8	V
9400.0	-67.6	0.8	11.8	-56.6	V
11280.0	-69.8	0.3	12.1	-58.0	V
13160.0	-70.1	0.4	12.4	-58.1	V

Test Data （5MHz bandwidth 18900 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-62.0	7.3	8.9	-60.4	V
5640.0	-71.6	1.8	10.5	-62.9	V
7520.0	-69.9	0.9	11.9	-58.9	V
9400.0	-70.0	0.8	11.8	-59.0	V
11280.0	-70.3	0.3	12.1	-58.5	V
13160.0	-70.3	0.4	12.4	-58.3	V

Test Data （5MHz bandwidth 19174 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3814.8	-66.5	7.4	9.2	-64.7	V
5722.2	-73.4	1.5	10.5	-64.4	V
7629.6	-71.8	0.8	11.9	-60.7	V
9537.0	-70.9	0.9	11.8	-60.0	V
11444.4	-70.0	0.8	12.2	-58.6	V
13351.8	-70.1	0.4	12.4	-58.1	V

Test Data （5MHz bandwidth 19174 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3814.8	-67.4	7.4	9.2	-65.6	V
5722.2	-72.4	1.5	10.5	-63.4	V
7629.6	-71.4	0.8	11.9	-60.3	V
9537.0	-71.2	0.9	11.8	-60.3	V
11444.4	-70.3	0.8	12.2	-58.9	V
13351.8	-70.3	0.4	12.4	-58.3	V

Test Data （10MHz bandwidth 18650 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3710.0	-67.2	7.2	8.9	-65.5	V
5565.0	-71.7	2.0	10.5	-63.2	V
7420.0	-73.1	0.9	11.9	-62.1	V
9275.0	-70.9	1.0	11.5	-60.4	V
11130.0	-70.2	0.3	12.1	-58.4	V

12985.0	-70.0	0.4	12.4	-58.0	V

Test Data （10MHz bandwidth 18650 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3710.0	-67.5	7.2	8.9	-65.8	V
5565.0	-72.5	2.0	10.5	-64.0	V
7420.0	-72.9	0.9	11.9	-61.9	V
9275.0	-70.8	1.0	11.5	-60.3	V
11130.0	-71.2	0.3	12.1	-59.4	V
12985.0	-70.5	0.4	12.4	-58.5	V

Test Data （10MHz bandwidth 18900 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-66.5	7.3	8.9	-64.9	V
5640.0	-68.4	1.8	10.5	-59.7	V
7520.0	-63.0	0.9	11.9	-52.0	V
9400.0	-70.9	0.8	11.8	-59.9	V
11280.0	-70.5	0.3	12.1	-58.7	V
13160.0	-70.0	0.4	12.4	-58.0	V

Test Data （10MHz bandwidth 18900 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-63.1	7.3	8.9	-61.5	V
5640.0	-71.9	1.8	10.5	-63.2	V
7520.0	-69.8	0.9	11.9	-58.8	V
9400.0	-70.4	0.8	11.8	-59.4	V

11280.0	-70.1	0.3	12.1	-58.3	V
13160.0	-70.1	0.4	12.4	-58.1	V

Test Data （10MHz bandwidth 19149 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3809.8	-65.2	7.4	9.2	-63.4	V
5714.7	-72.5	1.5	10.5	-63.5	V
7619.6	-71.4	1.1	11.9	-60.6	V
9524.5	-70.9	0.9	11.8	-60.0	V
11429.4	-70.4	0.8	12.2	-59.0	V
13343.3	-70.1	0.4	12.4	-58.1	V

Test Data （10MHz bandwidth 19149 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3809.8	-67.1	7.4	9.2	-65.3	V
5714.7	-72.2	1.5	10.5	-63.2	V
7619.6	-72.0	1.1	11.9	-61.2	V
9524.5	-71.0	0.9	11.8	-60.1	V
11429.4	-70.3	0.8	12.2	-58.9	V
13343.3	-70.3	0.4	12.4	-58.3	V

Test Data （15MHz bandwidth 18675 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3715.0	-67.0	7.2	8.9	-65.3	V
5572.5	-72.1	2.0	10.5	-63.6	V
7430.0	-72.9	0.9	11.9	-61.9	V

9287.5	-70.6	1.0	11.5	-60.1	V
11145.0	-71.0	0.3	12.1	-59.2	V
13002.5	-70.5	0.4	12.4	-58.5	V

Test Data （15MHz bandwidth 18675 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3715.0	-67.5	7.2	8.9	-65.8	V
5572.5	-71.8	2.0	10.5	-63.3	V
7430.0	-73.0	0.9	11.9	-62.0	V
9287.5	-71.1	1.0	11.5	-60.6	V
11145.0	-70.4	0.3	12.1	-58.6	V
13002.5	-70.3	0.4	12.4	-58.3	V

Test Data （15MHz bandwidth 18900 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-56.3	7.3	8.9	-54.7	V
5640.0	-70.8	1.8	10.5	-62.1	V
7520.0	-59.7	0.9	11.9	-48.7	V
9400.0	-68.7	0.8	11.8	-57.7	V
11280.0	-70.3	0.3	12.1	-58.5	V
13160.0	-70.1	0.4	12.4	-58.1	V

Test Data （15MHz bandwidth 18900 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-67.0	7.3	8.9	-65.4	V
5640.0	-72.5	1.8	10.5	-63.8	V

7520.0	-72.1	0.9	11.9	-61.1	V
9400.0	-70.2	0.8	11.8	-59.2	V
11280.0	-70.6	0.3	12.1	-58.8	V
13160.0	-70.1	0.4	12.4	-58.1	V

Test Data （15MHz bandwidth 19124 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3804.8	-64.8	7.4	9.2	-63.0	V
5707.2	-72.6	1.5	10.5	-63.6	V
7609.6	-72.3	1.1	11.9	-61.5	V
9512.0	-69.7	0.9	11.8	-58.8	V
11414.4	-70.2	0.8	12.2	-58.8	V
13316.8	-70.4	0.4	12.4	-58.4	V

Test Data （15MHz bandwidth 19124 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3804.8	-66.7	7.4	9.2	-64.9	V
5707.2	-72.5	1.5	10.5	-63.5	V
7609.6	-72.5	1.1	11.9	-61.7	V
9512.0	-70.4	0.9	11.8	-59.5	V
11414.4	-70.3	0.8	12.2	-58.9	V
13316.8	-70.3	0.4	12.4	-58.3	V

Test Data （20MHz bandwidth 18700 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3720.0	-67.0	7.3	9.2	-65.1	V

5580.0	-71.8	2.0	10.5	-63.3	V
7440.0	-72.6	0.9	11.9	-61.6	V
9300.0	-71.4	0.7	11.8	-60.3	V
11160.0	-71.0	0.3	12.2	-59.1	V
13020.0	-70.1	0.4	12.4	-58.1	V

Test Data （20MHz bandwidth 18700 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3720.0	-67.4	7.3	9.2	-65.5	V
5580.0	-71.8	2.0	10.5	-63.3	V
7440.0	-72.8	0.9	11.9	-61.8	V
9300.0	-71.1	0.7	11.8	-60.0	V
11160.0	-71.1	0.3	12.2	-59.2	V
13020.0	-70.5	0.4	12.4	-58.5	V

Test Data （20MHz bandwidth 18900 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-56.7	7.3	8.9	-55.1	V
5640.0	-71.9	1.8	10.5	-63.2	V
7520.0	-59.7	0.9	11.9	-48.7	V
9400.0	-69.0	0.8	11.8	-58.0	V
11280.0	-70.4	0.3	12.1	-58.6	V
13160.0	-70.2	0.4	12.4	-58.2	V

Test Data （20MHz bandwidth 18900 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]

3760.0	-66.4	7.3	8.9	-64.8	V
5640.0	-72.5	1.8	10.5	-63.8	V
7520.0	-72.1	0.9	11.9	-61.1	V
9400.0	-70.5	0.8	11.8	-59.5	V
11280.0	-70.2	0.3	12.1	-58.4	V
13160.0	-70.0	0.4	12.4	-58.0	V

Test Data （20MHz bandwidth 19099 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3799.8	-66.8	7.4	9.2	-65.0	V
5699.7	-72.4	1.7	10.5	-63.6	V
7599.6	-72.0	0.8	11.9	-60.9	V
9499.5	-71.1	0.8	11.8	-60.1	V
11399.4	-70.5	0.8	12.2	-59.1	V
13299.3	-70.1	0.4	12.4	-58.1	V

Test Data （20MHz bandwidth 19099 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3799.8	-64.5	7.4	9.2	-62.7	V
5699.7	-72.4	1.7	10.5	-63.6	V
7599.6	-72.7	0.8	11.9	-61.6	V
9499.5	-70.4	0.8	11.8	-59.4	V
11399.4	-70.2	0.8	12.2	-58.8	V
13299.3	-70.1	0.4	12.4	-58.1	V

5.4.2 LTE B4 Radiated Spurious Emission Results

Test Data （1.4MHz bandwidth 19957 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3421.4	-68.5	6.9	8.9	-66.5	V
5132.1	-67.2	6.3	9.9	-63.6	V
6842.8	-73.5	0.8	11.9	-62.4	V
8553.5	-71.5	0.9	11.2	-61.2	V
10264.2	-72.6	0.5	12.0	-61.1	V
11974.9	-69.6	0.4	12.2	-57.8	V

Test Data （1.4MHz bandwidth 19957 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3421.4	-69.7	6.9	8.9	-67.7	V
5132.1	-67.7	6.3	9.9	-64.1	V
6842.8	-73.0	0.8	11.9	-61.9	V
8553.5	-70.8	0.9	11.2	-60.5	V
10264.2	-70.9	0.5	12.0	-59.4	V
11974.9	-69.7	0.4	12.2	-57.9	V

Test Data （1.4MHz bandwidth 20175 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-63.0	6.9	8.9	-61.0	V
5197.5	-67.9	5.8	9.9	-63.8	V
6930.0	-64.7	0.9	11.9	-53.7	V
8662.5	-70.5	0.9	11.2	-60.2	V
10395.0	-72.3	0.7	12.2	-60.8	V
12127.5	-70.2	0.6	12.2	-58.6	V

Test Data （1.4MHz bandwidth 20175 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-63.8	6.9	8.9	-61.8	V
5197.5	-69.0	5.8	9.9	-64.9	V
6930.0	-65.1	0.9	11.9	-54.1	V
8662.5	-70.4	0.9	11.2	-60.1	V
10395.0	-71.9	0.7	12.2	-60.4	V
12127.5	-70.0	0.6	12.2	-58.4	V

Test Data （1.4MHz bandwidth 20392 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3508.4	-68.1	7.0	8.9	-66.2	V
5262.5	-69.4	4.7	9.9	-64.2	V
7016.8	-72.4	1.2	11.9	-61.7	V
8771.0	-70.0	1.1	11.2	-59.9	V
10525.2	-71.1	0.6	12.2	-59.5	V
12279.4	-70.3	0.3	12.2	-58.4	V

Test Data （1.4MHz bandwidth 20392 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3508.4	-68.5	7.0	8.9	-66.6	V
5262.5	-69.1	4.7	9.9	-63.9	V
7016.8	-71.9	1.2	11.9	-61.2	V
8771.0	-69.9	1.1	11.2	-59.8	V
10525.2	-70.8	0.6	12.2	-59.2	V

12279.4	-70.1	0.3	12.2	-58.2	V

Test Data （3MHz bandwidth 19965 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3423.0	-69.0	6.9	8.9	-67.0	V
5134.5	-67.7	6.3	9.9	-64.1	V
6846.0	-73.3	0.8	11.9	-62.2	V
8557.5	-70.7	0.9	11.2	-60.4	V
10269.0	-71.9	0.5	12.0	-60.4	V
11980.5	-69.5	0.4	12.2	-57.7	V

Test Data （3MHz bandwidth 19965 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3423.0	-68.3	6.9	8.9	-66.3	V
5134.5	-68.2	6.3	9.9	-64.6	V
6846.0	-73.1	0.8	11.9	-62.0	V
8557.5	-70.0	0.9	11.2	-59.7	V
10269.0	-71.6	0.5	12.0	-60.1	V
11980.5	-69.8	0.4	12.2	-58.0	V

Test Data （3MHz bandwidth 20175 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-65.7	6.9	8.9	-63.7	V
5197.5	-67.6	5.8	9.9	-63.5	V
6930.0	-65.5	0.9	11.9	-54.5	V
8662.5	-69.5	0.9	11.2	-59.2	V

10395.0	-71.2	0.7	12.2	-59.7	V
12127.5	-70.4	0.6	12.2	-58.8	V

Test Data （3MHz bandwidth 20175 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-65.7	6.9	8.9	-63.7	V
5197.5	-67.7	5.8	9.9	-63.6	V
6930.0	-67.3	0.9	11.9	-56.3	V
8662.5	-70.5	0.9	11.2	-60.2	V
10395.0	-71.7	0.7	12.2	-60.2	V
12127.5	-69.4	0.6	12.2	-57.8	V

Test Data （3MHz bandwidth 20384 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3506.8	-68.9	7.0	8.9	-67.0	V
5260.2	-68.9	5.0	9.9	-64.0	V
7013.6	-72.4	1.2	11.9	-61.7	V
8767.0	-70.1	1.2	11.2	-60.1	V
10520.4	-71.1	0.6	12.2	-59.5	V
12273.8	-71.3	0.3	12.2	-59.4	V

Test Data （3MHz bandwidth 20384 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3506.8	-68.1	7.0	8.9	-66.2	V
5260.2	-68.7	5.0	9.9	-63.8	V
7013.6	-72.4	1.2	11.9	-61.7	V

8767.0	-70.7	1.2	11.2	-60.7	V
10520.4	-70.9	0.6	12.2	-59.3	V
12273.8	-70.3	0.3	12.2	-58.4	V

Test Data （5MHz bandwidth 19975 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3425.0	-68.8	6.9	8.9	-66.8	V
5137.5	-67.0	6.3	9.9	-63.4	V
6850.0	-73.1	0.8	11.9	-62.0	V
8562.5	-70.6	0.9	11.2	-60.3	V
10275.0	-71.7	0.5	12.0	-60.2	V
11987.5	-70.2	0.4	12.2	-58.4	V

Test Data （5MHz bandwidth 19975 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3425.0	-69.2	6.9	8.9	-67.2	V
5137.5	-67.2	6.3	9.9	-63.6	V
6850.0	-73.2	0.8	11.9	-62.1	V
8562.5	-70.9	0.9	11.2	-60.6	V
10275.0	-71.4	0.5	12.0	-59.9	V
11987.5	-70.1	0.4	12.2	-58.3	V

Test Data （5MHz bandwidth 20175 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-66.5	6.9	8.9	-64.5	V
5197.5	-67.7	5.8	9.9	-63.6	V

6930.0	-67.6	0.9	11.9	-56.6	V
8662.5	-69.5	0.9	11.2	-59.2	V
10395.0	-71.5	0.7	12.2	-60.0	V
12127.5	-69.8	0.6	12.2	-58.2	V

Test Data （5MHz bandwidth 20175 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-66.1	6.9	8.9	-64.1	V
5197.5	-68.3	5.8	9.9	-64.2	V
6930.0	-70.2	0.9	11.9	-59.2	V
8662.5	-70.5	0.9	11.2	-60.2	V
10395.0	-71.7	0.7	12.2	-60.2	V
12127.5	-69.7	0.6	12.2	-58.1	V

Test Data （5MHz bandwidth 20374 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3504.8	-68.6	7.0	8.9	-66.7	V
5257.2	-69.2	5.0	9.9	-64.3	V
7009.6	-72.6	1.2	11.9	-61.9	V
8762.0	-70.5	1.2	11.2	-60.5	V
10514.4	-71.7	0.6	12.2	-60.1	V
12266.8	-70.5	0.4	12.2	-58.7	V

Test Data （5MHz bandwidth 20374 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3504.8	-68.1	7.0	8.9	-66.2	V

5257.2	-69.5	5.0	9.9	-64.6	V
7009.6	-72.4	1.2	11.9	-61.7	V
8762.0	-70.5	1.2	11.2	-60.5	V
10514.4	-72.0	0.6	12.2	-60.4	V
12266.8	-70.4	0.4	12.2	-58.6	V

Test Data （10MHz bandwidth 20000 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3430.0	-68.5	6.9	8.9	-66.5	V
5145.0	-67.6	6.3	9.9	-64.0	V
6860.0	-73.3	0.8	11.9	-62.2	V
8575.0	-70.5	0.9	11.2	-60.2	V
10290.0	-71.2	0.5	12.0	-59.7	V
12005.0	-70.3	0.4	12.2	-58.5	V

Test Data （10MHz bandwidth 20000 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3430.0	-68.9	6.9	8.9	-66.9	V
5145.0	-67.3	6.3	9.9	-63.7	V
6860.0	-73.0	0.8	11.9	-61.9	V
8575.0	-70.5	0.9	11.2	-60.2	V
10290.0	-71.6	0.5	12.0	-60.1	V
12005.0	-69.9	0.4	12.2	-58.1	V

Test Data （10MHz bandwidth 20175 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]

3465.0	-67.8	6.9	8.9	-65.8	V
5197.5	-64.5	5.8	9.9	-60.4	V
6930.0	-65.5	0.9	11.9	-54.5	V
8662.5	-70.0	0.9	11.2	-59.7	V
10395.0	-72.0	0.7	12.2	-60.5	V
12127.5	-69.7	0.6	12.2	-58.1	V

Test Data （10MHz bandwidth 20175 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-67.3	6.9	8.9	-65.3	V
5197.5	-68.2	5.8	9.9	-64.1	V
6930.0	-69.9	0.9	11.9	-58.9	V
8662.5	-70.1	0.9	11.2	-59.8	V
10395.0	-71.5	0.7	12.2	-60.0	V
12127.5	-70.0	0.6	12.2	-58.4	V

Test Data （10MHz bandwidth 20349 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3499.8	-68.4	7.0	8.9	-66.5	V
5249.7	-68.3	5.0	9.9	-63.4	V
6999.6	-73.4	0.9	11.9	-62.4	V
8749.5	-70.4	1.2	11.2	-60.4	V
10499.4	-71.6	0.6	12.2	-60.0	V
12249.3	-70.5	0.3	12.2	-58.6	V

Test Data （10MHz bandwidth 20349 16QAM Mode）

Frequency [MHz]	Generator output power(Pg)	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd)	Antenna Polarization [H/V]

	[dBm]			[dBm]	
3499.8	-68.4	7.0	8.9	-66.5	V
5249.7	-68.9	5.0	9.9	-64.0	V
6999.6	-73.3	0.9	11.9	-62.3	V
8749.5	-69.6	1.2	11.2	-59.6	V
10499.4	-71.5	0.6	12.2	-59.9	V
12249.3	-70.0	0.3	12.2	-58.1	V

Test Data （15MHz bandwidth 20025 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3435.0	-68.6	6.9	8.9	-66.6	V
5152.5	-67.7	6.3	9.9	-64.1	V
6870.0	-72.9	0.8	11.9	-61.8	V
8587.5	-70.4	0.9	11.2	-60.1	V
10305.0	-72.6	0.7	12.2	-61.1	V
12022.5	-69.7	0.6	12.2	-58.1	V

Test Data （15MHz bandwidth 20025 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3435.0	-69.1	6.9	8.9	-67.1	V
5152.5	-67.9	6.3	9.9	-64.3	V
6870.0	-73.0	0.8	11.9	-61.9	V
8587.5	-70.7	0.9	11.2	-60.4	V
10305.0	-71.4	0.7	12.2	-59.9	V
12022.5	-69.9	0.6	12.2	-58.3	V

Test Data （15MHz bandwidth 20175 QPSK Mode）

Frequency [MHz]	Generator output	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission	Antenna Polarization

	power(Pg) [dBm]			Power (Pd) [dBm]	[H/V]
3465.0	-67.3	6.9	8.9	-65.3	V
5197.5	-67.2	6.3	9.9	-63.6	V
6930.0	-68.6	0.8	11.9	-57.5	V
8662.5	-70.4	0.9	11.2	-60.1	V
10395.0	-71.4	0.7	12.2	-59.9	V
12127.5	-70.1	0.6	12.2	-58.5	V

Test Data （15MHz bandwidth 20175 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-68.7	6.9	8.9	-66.7	V
5197.5	-68.1	5.8	9.9	-64.0	V
6930.0	-73.4	0.9	11.9	-62.4	V
8662.5	-70.0	0.9	11.2	-59.7	V
10395.0	-71.6	0.7	12.2	-60.1	V
12127.5	-69.7	0.6	12.2	-58.1	V

Test Data （15MHz bandwidth 20324 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3494.8	-69.4	7.0	8.9	-67.5	V
5242.2	-69.6	5.0	9.9	-64.7	V
6989.6	-73.3	1.2	11.9	-62.6	V
8737.0	-69.6	1.2	11.2	-59.6	V
10484.4	-73.5	0.3	12.2	-61.6	V
12231.8	-70.2	0.3	12.2	-58.3	V

Test Data （15MHz bandwidth 20324 16QAM Mode）

Frequency	Generator	Cable loss	Antenna	Spurious	Antenna

[MHz]	output power(Pg) [dBm]	[dB]	Gain [dB]	Emission Power (Pd) [dBm]	Polarization [H/V]
3494.8	-68.6	7.0	8.9	-66.7	V
5242.2	-68.9	5.0	9.9	-64.0	V
6989.6	-73.5	1.2	11.9	-62.8	V
8737.0	-70.0	1.2	11.2	-60.0	V
10484.4	-72.3	0.3	12.2	-60.4	V
12231.8	-70.5	0.3	12.2	-58.6	V

Test Data （20MHz bandwidth 20050 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3440.0	-68.5	6.9	8.9	-66.5	V
5160.0	-67.7	6.3	9.9	-64.1	V
6880.0	-72.4	0.8	11.9	-61.3	V
8600.0	-70.0	0.9	11.2	-59.7	V
10320.0	-71.6	0.7	12.2	-60.1	V
12040.0	-69.8	0.6	12.2	-58.2	V

Test Data （20MHz bandwidth 20050 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3440.0	-69.0	6.9	8.9	-67.0	V
5160.0	-66.7	6.3	9.9	-63.1	V
6880.0	-72.9	0.8	11.9	-61.8	V
8600.0	-70.3	0.9	11.2	-60.0	V
10320.0	-71.1	0.7	12.2	-59.6	V
12040.0	-69.5	0.6	12.2	-57.9	V

Test Data （20MHz bandwidth 20175 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.3	6.9	8.9	-67.3	V
5197.5	-68.3	5.8	9.9	-64.2	V
6930.0	-70.5	0.9	11.9	-59.5	V
8662.5	-70.9	0.9	11.2	-60.6	V
10395.0	-71.7	0.7	12.2	-60.2	V
12127.5	-70.1	0.6	12.2	-58.5	V

Test Data （20MHz bandwidth 20175 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.0	6.9	8.9	-67.0	V
5197.5	-68.4	5.8	9.9	-64.3	V
6930.0	-73.2	0.9	11.9	-62.2	V
8662.5	-70.0	0.9	11.2	-59.7	V
10395.0	-71.9	0.7	12.2	-60.4	V
12127.5	-69.9	0.6	12.2	-58.3	V

Test Data （20MHz bandwidth 20299 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3489.8	-69.5	7.0	8.9	-67.6	V
5234.7	-68.1	5.0	9.9	-63.2	V
6979.6	-73.0	0.9	11.9	-62.0	V
8724.5	-70.1	1.2	11.2	-60.1	V
10469.4	-72.5	0.3	12.2	-60.6	V
12214.3	-70.1	0.3	12.2	-58.2	V

Test Data （20MHz bandwidth 20299 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3489.8	-68.6	7.0	8.9	-66.7	V
5234.7	-69.0	5.0	9.9	-64.1	V
6979.6	-73.0	0.9	11.9	-62.0	V
8724.5	-70.1	1.2	11.2	-60.1	V
10469.4	-72.2	0.3	12.2	-60.3	V
12214.3	-70.5	0.3	12.2	-58.6	V

5.4.3 LTE B5 Radiated Spurious Emission Results

Test Data （1.4MHz bandwidth 20407 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1649.4	-68.3	4.7	7.3	-65.7	H
2474.1	-60.6	6.0	6.8	-59.8	V
3298.8	-67.0	6.7	8.9	-64.8	V
4123.5	-65.8	7.6	9.2	-64.2	V
4948.2	-65.4	7.7	9.9	-63.2	V
5772.9	-73.0	1.4	10.5	-63.9	V

Test Data （1.4MHz bandwidth 20407 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1649.4	-68.4	4.7	7.3	-65.8	H
2474.1	-60.6	6.0	6.8	-59.8	V
3298.8	-66.9	6.7	8.9	-64.7	V

4123.5	-66.6	7.6	9.2	-65.0	V
4948.2	-65.4	7.7	9.9	-63.2	V
5772.9	-72.8	1.4	10.5	-63.7	V

Test Data （1.4MHz bandwidth 20525 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-48.9	4.7	7.3	-46.3	V
2509.5	-56.3	5.9	6.7	-55.5	H
3346.0	-67.1	6.8	8.9	-65.0	V
4182.5	-66.1	7.8	9.2	-64.7	V
5019.0	-66.5	7.5	9.9	-64.1	V
5855.5	-72.7	1.1	10.5	-63.3	V

Test Data （1.4MHz bandwidth 20525 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-50.0	4.7	7.3	-47.4	V
2509.5	-56.9	5.9	6.7	-56.1	H
3346.0	-69.3	6.8	8.9	-67.2	V
4182.5	-66.6	7.8	9.2	-65.2	V
5019.0	-65.9	7.5	9.9	-63.5	V
5855.5	-73.6	1.1	10.5	-64.2	V

Test Data （1.4MHz bandwidth 20642 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1696.4	-68.3	4.8	7.9	-65.2	H
2544.6	-59.7	5.9	6.9	-58.7	V

3392.8	-67.8	6.9	8.9	-65.8	V
4241.0	-65.9	7.8	9.2	-64.5	V
5089.2	-67.2	6.8	9.9	-64.1	V
5937.4	-72.6	1.4	10.9	-63.1	V

Test Data （1.4MHz bandwidth 20642 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1696.4	-67.5	4.8	7.9	-64.4	V
2544.6	-59.7	5.9	6.9	-58.7	H
3392.8	-68.8	6.9	8.9	-66.8	V
4241.0	-66.2	7.8	9.2	-64.8	V
5089.2	-66.9	6.8	9.9	-63.8	V
5937.4	-72.8	1.4	10.9	-63.3	V

Test Data （3MHz bandwidth 20415 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1651.0	-68.1	4.8	7.9	-65.0	H
2476.5	-60.3	5.9	6.9	-59.3	H
3302.0	-68.1	6.9	8.9	-66.1	V
4127.5	-66.0	7.8	9.2	-64.6	V
4953.0	-66.5	6.8	9.9	-63.4	V
5778.5	-73.0	1.4	10.9	-63.5	V

Test Data （3MHz bandwidth 20415 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1651.0	-68.2	4.8	7.9	-65.1	V

2476.5	-60.4	5.9	6.9	-59.4	H
3302.0	-67.3	6.9	8.9	-65.3	V
4127.5	-66.3	7.8	9.2	-64.9	V
4953.0	-66.1	6.8	9.9	-63.0	V
5778.5	-73.3	1.4	10.9	-63.8	V

Test Data （3MHz bandwidth 20525 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-51.9	4.7	7.3	-49.3	H
2509.5	-58.4	5.9	6.7	-57.6	H
3346.0	-67.5	6.8	8.9	-65.4	V
4182.5	-65.2	7.8	9.2	-63.8	V
5019.0	-65.2	7.5	9.9	-62.8	V
5855.5	-73.3	1.1	10.5	-63.9	V

Test Data （3MHz bandwidth 20525 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-51.7	4.7	7.3	-49.1	V
2509.5	-58.3	5.9	6.7	-57.5	H
3346.0	-69.0	6.8	8.9	-66.9	V
4182.5	-66.8	7.8	9.2	-65.4	V
5019.0	-66.0	7.5	9.9	-63.6	V
5855.5	-73.7	1.1	10.5	-64.3	V

Test Data （3MHz bandwidth 20634 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]

1694.8	-68.1	4.8	8.0	-64.9	H
2542.2	-60.6	5.9	6.9	-59.6	V
3389.6	-69.1	6.9	8.9	-67.1	V
4237.0	-66.5	7.8	9.2	-65.1	V
5084.4	-67.0	6.8	9.9	-63.9	V
5931.8	-72.8	1.4	10.9	-63.3	V

Test Data （3MHz bandwidth 20634 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1694.8	-68.7	4.8	8.0	-65.5	H
2542.2	-60.5	5.9	6.9	-59.5	H
3389.6	-69.5	6.9	8.9	-67.5	V
4237.0	-66.6	7.8	9.2	-65.2	V
5084.4	-67.1	6.8	9.9	-64.0	V
5931.8	-73.0	1.4	10.9	-63.5	V

Test Data （5MHz bandwidth 20425 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1653.0	-68.4	4.8	7.3	-65.9	H
2479.5	-59.8	5.9	6.6	-59.1	H
3306.0	-66.7	6.8	8.9	-64.6	V
4132.5	-66.4	7.6	9.2	-64.8	V
4959.0	-65.6	7.5	9.9	-63.2	V
5785.5	-73.0	1.4	10.5	-63.9	V

Test Data （5MHz bandwidth 20425 16QAM Mode）

Frequency [MHz]	Generator output power(Pg)	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd)	Antenna Polarization [H/V]

	[dBm]			[dBm]	
1653.0	-68.2	4.8	7.3	-65.7	V
2479.5	-59.9	5.9	6.6	-59.2	H
3306.0	-66.7	6.8	8.9	-64.6	V
4132.5	-66.9	7.6	9.2	-65.3	V
4959.0	-65.5	7.5	9.9	-63.1	V
5785.5	-72.4	1.4	10.5	-63.3	V

Test Data （5MHz bandwidth 20525 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-53.2	4.7	7.3	-50.6	H
2509.5	-58.9	5.9	6.7	-58.1	V
3346.0	-66.5	6.8	8.9	-64.4	V
4182.5	-66.2	7.8	9.2	-64.8	V
5019.0	-66.0	7.5	9.9	-63.6	V
5855.5	-72.8	1.1	10.5	-63.4	V

Test Data （5MHz bandwidth 20525 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-53.6	4.7	7.3	-51.0	H
2509.5	-58.7	5.9	6.7	-57.9	H
3346.0	-68.9	6.8	8.9	-66.8	V
4182.5	-66.2	7.8	9.2	-64.8	V
5019.0	-65.4	7.5	9.9	-63.0	V
5855.5	-73.2	1.1	10.5	-63.8	V

Test Data （5MHz bandwidth 20624 QPSK Mode）

Frequency [MHz]	Generator output	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission	Antenna Polarization

	power(Pg) [dBm]			Power (Pd) [dBm]	[H/V]
1692.8	-68.6	4.8	8.0	-65.4	H
2539.2	-60.5	5.9	6.9	-59.5	V
3385.6	-68.9	6.9	8.9	-66.9	V
4232.0	-66.1	7.8	9.2	-64.7	V
5078.4	-66.8	6.8	9.9	-63.7	V
5924.8	-72.9	1.4	10.9	-63.4	V

Test Data （5MHz bandwidth 20624 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1692.8	-68.6	4.8	8.0	-65.4	V
2539.2	-60.3	5.9	6.9	-59.3	H
3385.6	-68.8	6.9	8.9	-66.8	V
4232.0	-66.0	7.8	9.2	-64.6	V
5078.4	-66.6	6.8	9.9	-63.5	V
5924.8	-72.9	1.4	10.9	-63.4	V

Test Data （10MHz bandwidth 20450 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1658.0	-68.1	4.8	7.6	-65.3	H
2487.0	-60.4	5.9	6.6	-59.7	V
3316.0	-67.0	6.8	8.9	-64.9	V
4145.0	-66.0	7.6	9.2	-64.4	V
4974.0	-65.1	7.5	9.9	-62.7	V
5803.0	-73.2	1.4	10.9	-63.7	V

Test Data （10MHz bandwidth 20450 16QAM Mode）

Frequency	Generator	Cable loss	Antenna	Spurious	Antenna

[MHz]	output power(Pg) [dBm]	[dB]	Gain [dB]	Emission Power (Pd) [dBm]	Polarization [H/V]
1658.0	-68.0	4.8	7.6	-65.2	V
2487.0	-51.6	5.9	6.6	-50.9	H
3316.0	-67.1	6.8	8.9	-65.0	V
4145.0	-66.1	7.6	9.2	-64.5	V
4974.0	-65.9	7.5	9.9	-63.5	V
5803.0	-73.2	1.4	10.9	-63.7	V

Test Data （10MHz bandwidth 20525 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-48.3	4.7	7.3	-45.7	H
2509.5	-52.3	5.9	6.7	-51.5	V
3346.0	-68.0	6.8	8.9	-65.9	V
4182.5	-66.1	7.8	9.2	-64.7	V
5019.0	-65.4	7.5	9.9	-63.0	V
5855.5	-72.8	1.1	10.5	-63.4	V

Test Data （10MHz bandwidth 20525 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-54.0	4.7	7.3	-51.4	V
2509.5	-60.0	5.9	6.7	-59.2	H
3346.0	-67.3	6.8	8.9	-65.2	V
4182.5	-67.1	7.8	9.2	-65.7	V
5019.0	-66.3	7.5	9.9	-63.9	V
5855.5	-72.6	1.1	10.5	-63.2	V

Test Data （10MHz bandwidth 20599 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1687.8	-68.3	4.8	8.1	-65.0	H
2531.7	-60.4	5.9	6.9	-59.4	H
3375.6	-67.2	6.8	8.9	-65.1	V
4219.5	-66.3	7.8	9.2	-64.9	V
5063.4	-66.5	7.1	9.9	-63.7	V
5907.3	-72.7	1.4	10.9	-63.2	V

Test Data （10MHz bandwidth 20599 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1687.8	-68.9	4.8	8.1	-65.6	V
2531.7	-50.2	5.9	6.9	-49.2	H
3375.6	-67.0	6.8	8.9	-64.9	V
4219.5	-65.3	7.8	9.2	-63.9	V
5063.4	-66.5	7.1	9.9	-63.7	V
5907.3	-72.9	1.4	10.9	-63.4	V

5.4.4 LTE B7 Radiated Spurious Emission Results

Test Data （5MHz bandwidth 20775 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5505.0	-64.5	2.5	10.3	-56.7	V
7507.5	-71.6	0.9	11.7	-60.8	V
10010.0	-72.3	0.3	12.8	-59.8	V
12512.5	-72.0	0.5	14.1	-58.4	V

15015.0	-65.7	0.4	12.4	-53.7	V
17517.5	-62.6	0.3	12.0	-50.9	V

Test Data （5MHz bandwidth 20775 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5505.0	-71.5	2.5	10.3	-63.7	V
7507.5	-71.0	0.9	11.7	-60.2	V
10010.0	-71.7	0.3	12.8	-59.2	V
12512.5	-72.2	0.5	14.1	-58.6	V
15015.0	-66.1	0.4	12.4	-54.1	V
17517.5	-62.5	0.3	12.0	-50.8	V

Test Data （5MHz bandwidth 21100 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5070.0	-54.7	6.8	9.8	-51.7	V
7605.0	-54.1	1.1	11.7	-43.5	V
10140.0	-66.3	0.4	12.8	-53.9	V
12675.0	-67.3	0.5	14.1	-53.7	V
15210.0	-65.9	0.4	12.4	-53.9	V
17745.0	-61.5	0.3	12.0	-49.8	V

Test Data （5MHz bandwidth 21100 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5070.0	-55.8	6.8	9.8	-52.8	V
7605.0	-55.4	1.1	11.7	-44.8	V
10140.0	-68.2	0.4	12.8	-55.8	V

12675.0	-67.0	0.5	14.1	-53.4	V
15210.0	-65.5	0.4	12.4	-53.5	V
17745.0	-61.1	0.3	12.0	-49.4	V

Test Data （5MHz bandwidth 21424 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5134.8	-64.3	6.3	9.8	-60.8	V
7702.2	-72.0	0.9	11.7	-61.2	V
10269.3	-72.2	0.7	13.2	-59.7	V
12837.0	-72.1	0.4	14.1	-58.4	V
15404.4	-66.2	0.5	12.4	-54.3	V
17971.8	-60.8	0.3	11.0	-50.1	V

Test Data （5MHz bandwidth 21424 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5134.8	-63.4	6.3	9.8	-59.9	V
7702.2	-72.1	0.9	11.7	-61.3	V
10269.3	-73.2	0.7	13.2	-60.7	V
12837.0	-72.5	0.4	14.1	-58.8	V
15404.4	-66.7	0.5	12.4	-54.8	V
17971.8	-60.5	0.3	11.0	-49.8	V

Test Data （10MHz bandwidth 20800 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5010.0	-65.1	7.1	9.8	-62.4	V
7515.0	-72.3	0.9	11.7	-61.5	V

10020.0	-71.0	0.3	12.8	-58.5	V
12525.0	-72.1	0.5	14.1	-58.5	V
15030.0	-65.2	0.4	12.4	-53.2	V
17535.0	-60.7	0.5	12.0	-49.2	V

Test Data （10MHz bandwidth 20800 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5010.0	-65.0	7.1	9.8	-62.3	V
7515.0	-72.6	0.9	11.7	-61.8	V
10020.0	-72.6	0.3	12.8	-60.1	V
12525.0	-71.9	0.5	14.1	-58.3	V
15030.0	-65.4	0.4	12.4	-53.4	V
17535.0	-60.7	0.5	12.0	-49.2	V

Test Data （10MHz bandwidth 21100 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5070.0	-64.8	6.8	9.8	-61.8	V
7605.0	-72.7	1.1	11.7	-62.1	V
10140.0	-71.7	0.4	12.8	-59.3	V
12675.0	-72.0	0.5	14.1	-58.4	V
15210.0	-65.1	0.4	12.4	-53.1	V
17745.0	-61.1	0.3	12.0	-49.4	V

Test Data （10MHz bandwidth 21100 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5070.0	-57.5	6.8	9.8	-54.5	V

7605.0	-57.8	1.1	11.7	-47.2	V
10140.0	-69.8	0.4	12.8	-57.4	V
12675.0	-69.0	0.5	14.1	-55.4	V
15210.0	-65.6	0.4	12.4	-53.6	V
17745.0	-61.4	0.3	12.0	-49.7	V

Test Data （10MHz bandwidth 21399 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5129.8	-64.1	6.3	9.8	-60.6	V
7694.7	-72.8	0.9	11.7	-62.0	V
10259.6	-71.5	0.5	12.8	-59.2	V
12824.5	-72.4	0.4	14.1	-58.7	V
15389.4	-66.5	0.5	12.4	-54.6	V
17954.3	-61.1	0.4	11.0	-50.5	V

Test Data （10MHz bandwidth 21399 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5129.8	-64.5	6.3	9.8	-61.0	V
7694.7	-72.7	0.9	11.7	-61.9	V
10259.6	-72.4	0.5	12.8	-60.1	V
12824.5	-72.1	0.4	14.1	-58.4	V
15389.4	-65.4	0.5	12.4	-53.5	V
17954.3	-59.7	0.4	11.0	-49.1	V

Test Data （15MHz bandwidth 20825 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]

5015.0	-65.1	7.1	9.8	-62.4	V
7522.5	-72.2	0.9	11.7	-61.4	V
10030.0	-72.1	0.4	13.2	-59.3	V
12537.5	-71.9	0.5	14.1	-58.3	V
15045.0	-65.8	0.4	12.4	-53.8	V
17552.5	-61.0	0.5	12.0	-49.5	V

Test Data （15MHz bandwidth 20825 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5015.0	-64.9	7.1	9.8	-62.2	V
7522.5	-71.6	0.9	11.7	-60.8	V
10030.0	-71.8	0.4	13.2	-59.0	V
12537.5	-71.6	0.5	14.1	-58.0	V
15045.0	-65.9	0.4	12.4	-53.9	V
17552.5	-61.3	0.5	12.0	-49.8	V

Test Data （15MHz bandwidth 21100 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5070.0	-65.6	6.8	9.8	-62.6	V
7605.0	-72.0	1.1	11.7	-61.4	V
10140.0	-72.4	0.4	12.8	-60.0	V
12675.0	-72.0	0.5	14.1	-58.4	V
15210.0	-65.4	0.4	12.4	-53.4	V
17745.0	-61.5	0.3	12.0	-49.8	V

Test Data （15MHz bandwidth 21100 16QAM Mode）

Frequency [MHz]	Generator output power(Pg)	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd)	Antenna Polarization [H/V]

	[dBm]			[dBm]	
5070.0	-65.0	6.8	9.8	-62.0	V
7605.0	-77.7	1.1	11.7	-67.1	V
10140.0	-71.3	0.4	12.8	-58.9	V
12675.0	-72.2	0.5	14.1	-58.6	V
15210.0	-65.1	0.4	12.4	-53.1	V
17745.0	-61.1	0.3	12.0	-49.4	V

Test Data （15MHz bandwidth 21374 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5124.8	-64.6	6.3	9.8	-61.1	V
7687.2	-72.0	1.1	11.7	-61.4	V
10249.6	-71.2	0.5	12.8	-58.9	V
12812.0	-72.0	0.4	14.1	-58.3	V
15374.4	-65.7	0.5	12.4	-53.8	V
17936.8	-60.7	0.4	11.0	-50.1	V

Test Data （15MHz bandwidth 21374 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5124.8	-64.7	6.3	9.8	-61.2	V
7687.2	-72.2	1.1	11.7	-61.6	V
10249.6	-72.5	0.5	12.8	-60.2	V
12812.0	-72.4	0.4	14.1	-58.7	V
15374.4	-65.0	0.5	12.4	-53.1	V
17936.8	-59.7	0.4	11.0	-49.1	V

Test Data （20MHz bandwidth 20850 QPSK Mode）

Frequency [MHz]	Generator output	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission	Antenna Polarization

	power(Pg) [dBm]			Power (Pd) [dBm]	[H/V]
5020.0	-64.5	7.1	9.8	-61.8	V
7530.0	-71.7	0.9	11.7	-60.9	V
10040.0	-72.1	0.4	13.2	-59.3	V
12550.0	-71.9	0.5	14.1	-58.3	V
15060.0	-65.9	0.4	12.4	-53.9	V
17570.0	-61.4	0.3	12.0	-49.7	V

Test Data （20MHz bandwidth 20850 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5020.0	-64.3	7.1	9.8	-61.6	V
7530.0	-72.7	0.9	11.7	-61.9	V
10040.0	-71.5	0.4	13.2	-58.7	V
12550.0	-71.9	0.5	14.1	-58.3	V
15060.0	-65.8	0.4	12.4	-53.8	V
17570.0	-61.9	0.3	12.0	-50.2	V

Test Data （20MHz bandwidth 21100 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5070.0	-64.4	6.8	9.8	-61.4	V
7605.0	-71.9	1.1	11.7	-61.3	V
10140.0	-71.7	0.4	12.8	-59.3	V
12675.0	-71.8	0.5	14.1	-58.2	V
15210.0	-65.5	0.4	12.4	-53.5	V
17745.0	-61.6	0.3	12.0	-49.9	V

Test Data （20MHz bandwidth 21100 16QAM Mode）

Frequency	Generator	Cable loss	Antenna	Spurious	Antenna

[MHz]	output power(Pg) [dBm]	[dB]	Gain [dB]	Emission Power (Pd) [dBm]	Polarization [H/V]
5070.0	-65.2	6.8	9.8	-62.2	V
7605.0	-71.4	1.1	11.7	-60.8	V
10140.0	-71.0	0.4	12.8	-58.6	V
12675.0	-71.6	0.5	14.1	-58.0	V
15210.0	-65.1	0.4	12.4	-53.1	V
17745.0	-61.5	0.3	12.0	-49.8	V

Test Data （20MHz bandwidth 21349 QPSK Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5119.8	-62.9	6.8	9.8	-59.9	V
7679.7	-71.8	1.1	11.7	-61.2	V
10239.6	-72.8	0.5	12.8	-60.5	V
12799.5	-71.6	0.4	14.1	-57.9	V
15359.4	-65.2	0.5	12.4	-53.3	V
17919.3	-59.7	0.4	11.0	-49.1	V

Test Data （20MHz bandwidth 21349 16QAM Mode）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
5119.8	-63.3	6.8	9.8	-60.3	V
7679.7	-71.9	1.1	11.7	-61.3	V
10239.6	-71.4	0.5	12.8	-59.1	V
12799.5	-71.8	0.4	14.1	-58.1	V
15359.4	-65.4	0.5	12.4	-53.5	V
17919.3	-60.0	0.4	11.0	-49.4	V

5.4.5 GSM850 GMSK Radiated Spurious Emission Results

Test Data （GMSK Mode channel 128）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1648.4	-56.5	4.8	7.3	-54.0	V
2472.6	-49.6	6.0	6.8	-48.8	V
3296.8	-53.5	6.7	8.9	-51.3	V
4121.0	-51.6	7.6	9.2	-50.0	V
4945.2	-50.0	7.7	9.9	-47.8	V
5769.4	-56.6	1.5	10.5	-47.6	V

Test Data （GMSK Mode channel 190）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1672.8	-57.6	4.7	7.3	-55.0	V
2509.2	-50.0	5.9	6.7	-49.2	V
3345.6	-53.6	6.8	8.9	-51.5	V
4182.0	-50.9	7.8	9.2	-49.5	V
5018.4	-50.5	7.5	9.9	-48.1	V
5854.8	-57.1	1.1	10.5	-47.7	V

Test Data （GMSK Mode channel 251）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1697.6	-58.6	4.8	8.0	-55.4	V
2546.4	-49.7	5.9	6.9	-48.7	V
3395.2	-54.2	6.9	8.9	-52.2	V
4244.0	-51.4	7.8	9.2	-50.0	V

5092.8	-52.1	6.8	9.9	-49.0	V
5941.6	-57.3	1.4	10.9	-47.8	V

5.4.6 PCS1900 GMSK Radiated Spurious Emission Results

Test Data （GMSK Mode channel 512）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3700.4	-54.1	7.2	8.9	-52.4	H
5550.6	-59.2	2.0	10.5	-50.7	V
7400.8	-57.5	0.9	11.9	-46.5	H
9251.0	-54.2	1.0	11.5	-43.7	V
11101.2	-53.8	0.3	12.1	-42.0	V
12951.4	-52.8	0.4	12.4	-40.8	V

Test Data （GMSK Mode channel 661）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3760.0	-54.0	7.3	8.9	-52.4	H
5640.0	-58.7	1.8	10.5	-50.0	H
7520.0	-58.5	0.9	11.9	-47.5	H
9400.0	-55.3	0.8	11.8	-44.3	V
11280.0	-53.0	0.3	12.1	-41.2	V
13160.0	-52.1	0.4	12.4	-40.1	V

Test Data （GMSK Mode channel 810）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3819.6	-55.2	7.4	9.2	-53.4	H

5729.4	-59.3	1.5	10.5	-50.3	V
7639.2	-57.6	1.1	11.9	-46.8	H
9549.0	-55.6	0.9	11.8	-44.7	V
11458.8	-53.1	0.8	12.2	-41.7	V
13368.6	-53.0	0.4	12.4	-41.0	V

5.5 Band Edge

Specifications:	FCC Part 2.1051, 24.238, 2.1053, 22.917, 27.53
IMEI Number:	863069057875503
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to Part 24.238 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is: P(dBm)– (43 + 10 log(P)) dB= -13dBm.

According to Part 27.53(h):

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 Bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10(P) dB.

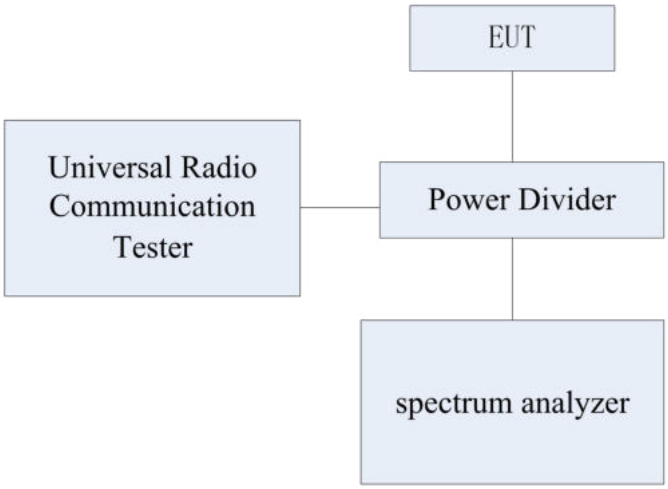
According to Part 27.53(m):

For BRS and EBS stations, the power of any emissions outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts in accordance with the standards below. If a licensee has multiple contiguous channels, out-of-band emissions shall be measured from the upper and lower edges of the contiguous channels:

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)(6) 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.

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method:

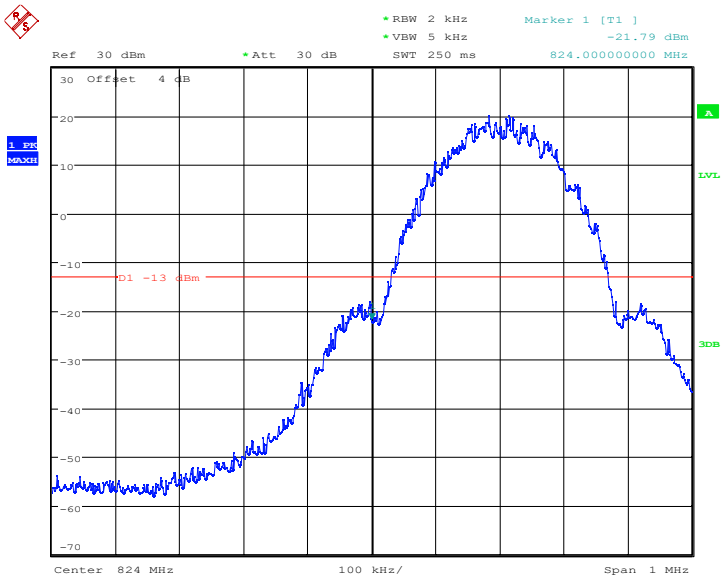
1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a power divider. The lost of the cables the test system is calibrated to correct the readings.

2) The spectrum analyzer was set to Average Detector function and Maximum hold mode.

3) The resolution Bandwidth of the spectrum analyzer was a little greater than 1% of the 26dB emission Bandwidth.

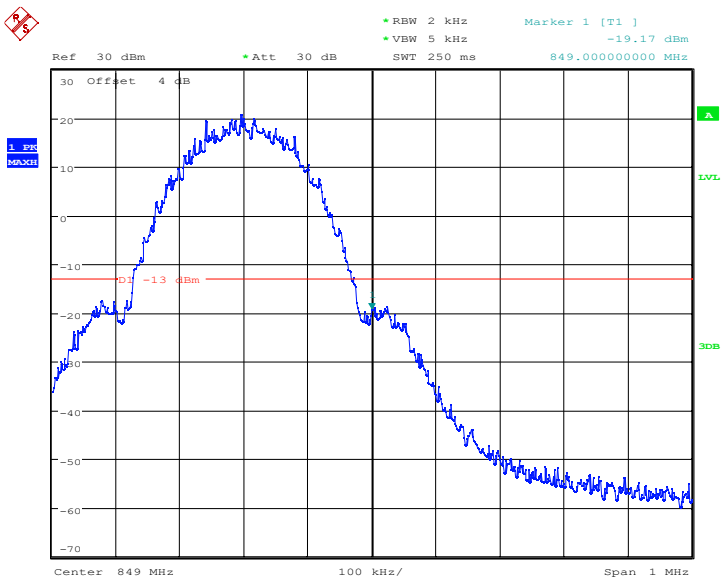
Note: In the graphical result description (X, Y), X represents the number of RB, Y represents the RB offset.

5.5.1 GSM850 Band Edge Results



Date: 2.SEP.2021 21:56:40

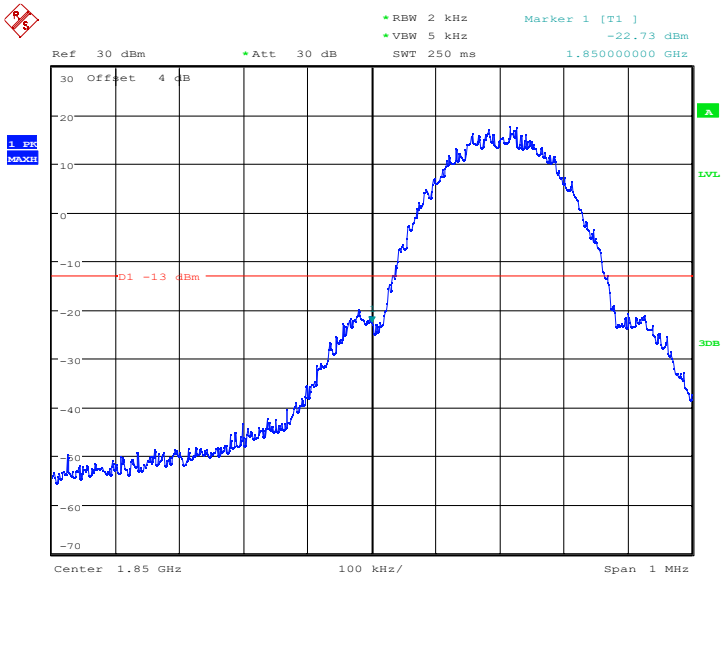
GMSK; Cellular low channel, below 824 MHz



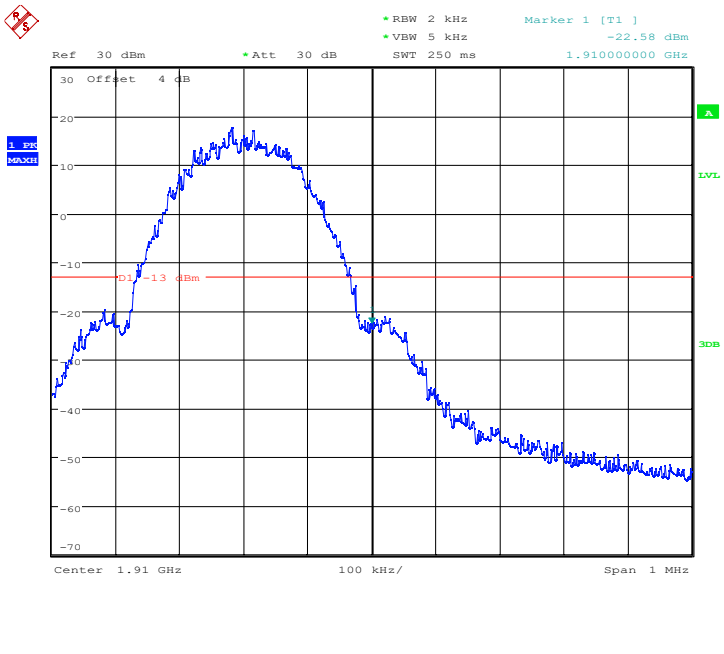
Date: 2.SEP.2021 21:57:28

GMSK; Cellular high channel, above 849 MHz

5.5.2 PCS1900 Band Edge Results

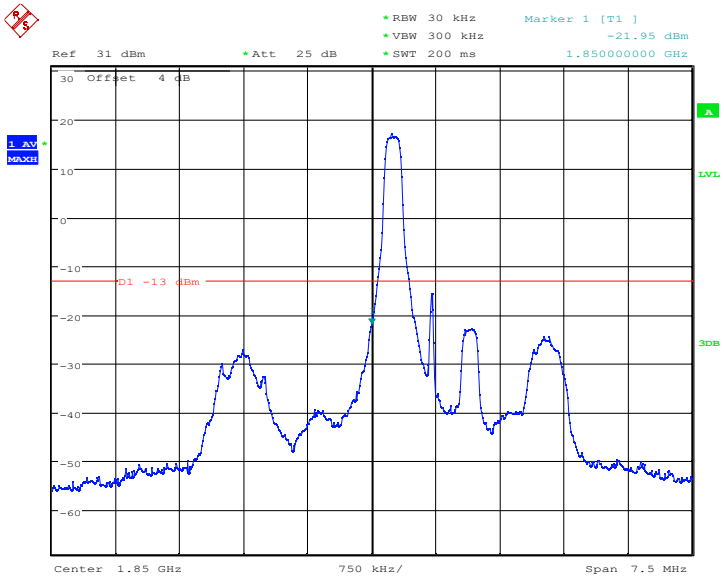


GMSK; PCS low channel, below 1850 MHz



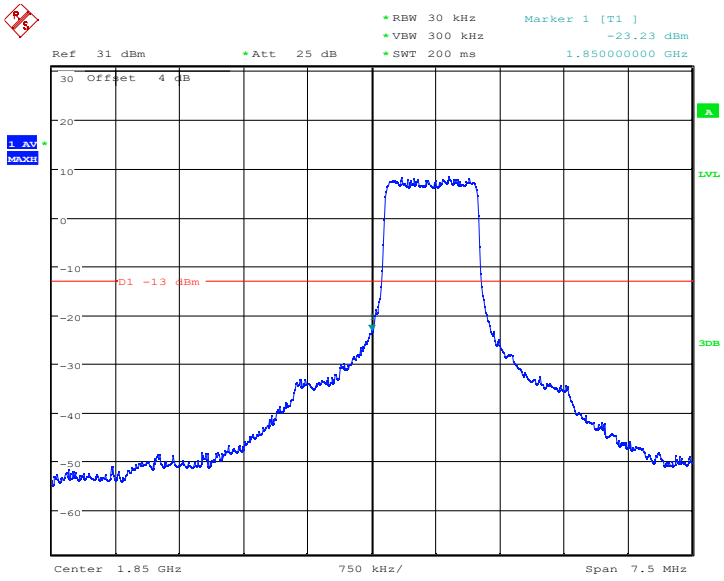
GMSK; PCS high channel, above 1910 MHz

5.5.3 LTE B2 Band Edge Results



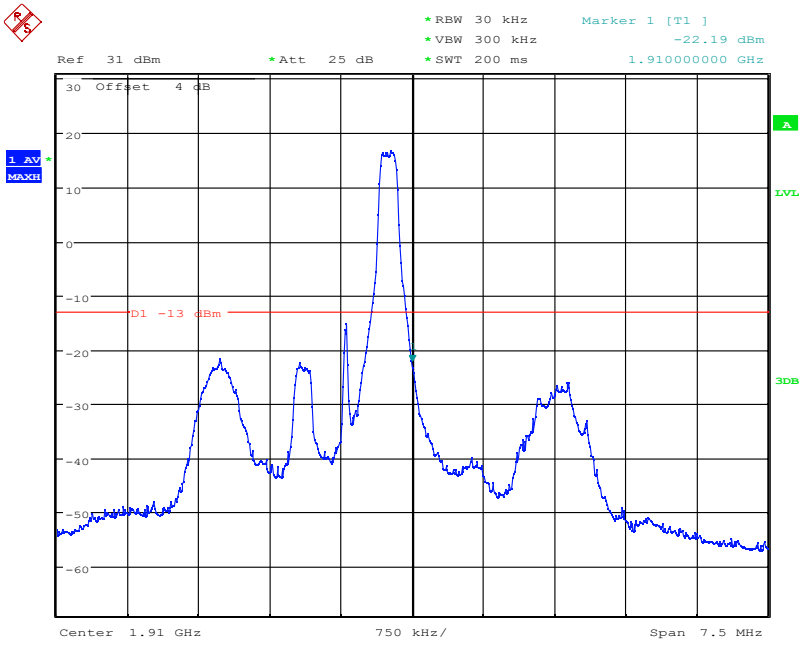
Date: 2.SEP.2021 10:42:22

LTE Band2, 1.4MHz bandwidth, QPSK,(1,0) Mode , Below 1850MHz

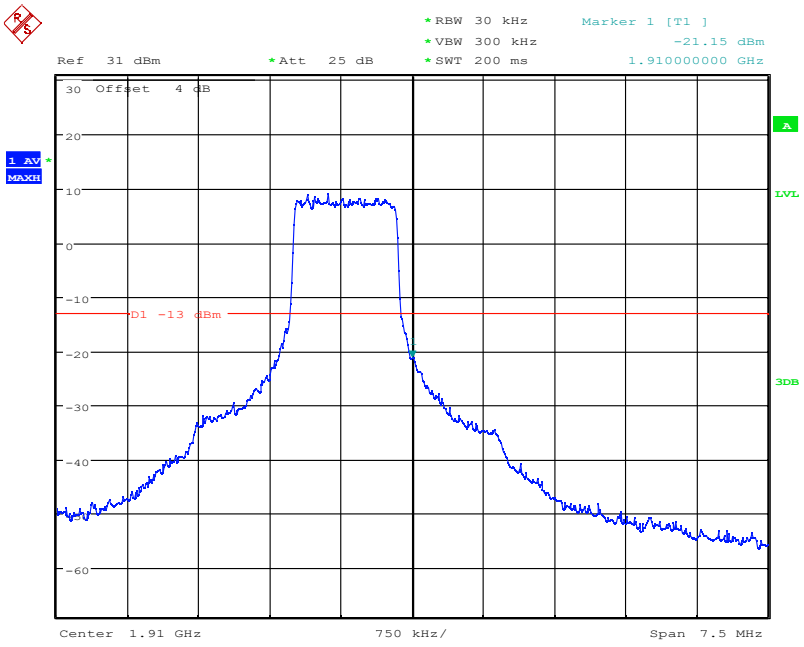


Date: 2.SEP.2021 10:42:38

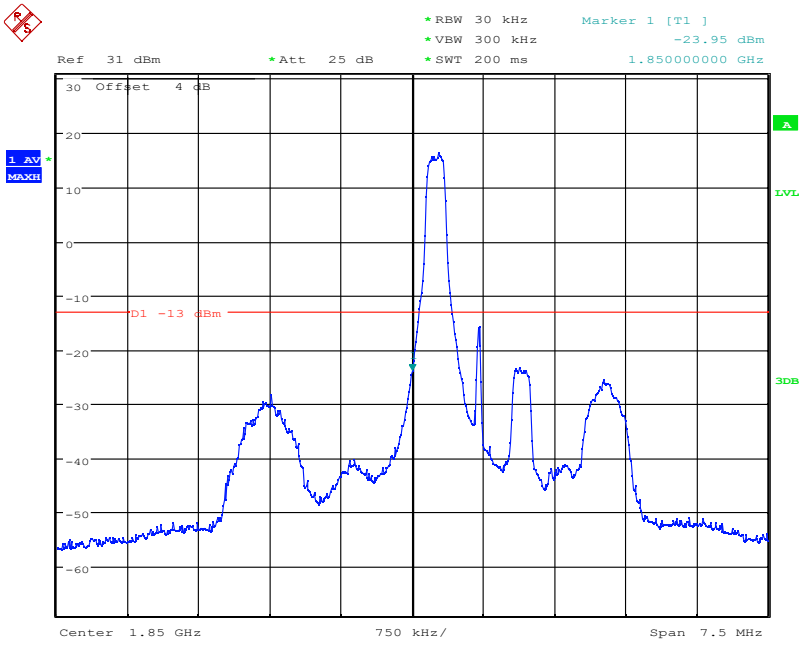
LTE Band2, 1.4MHz bandwidth, QPSK,(6,0) Mode , Below 1850MHz



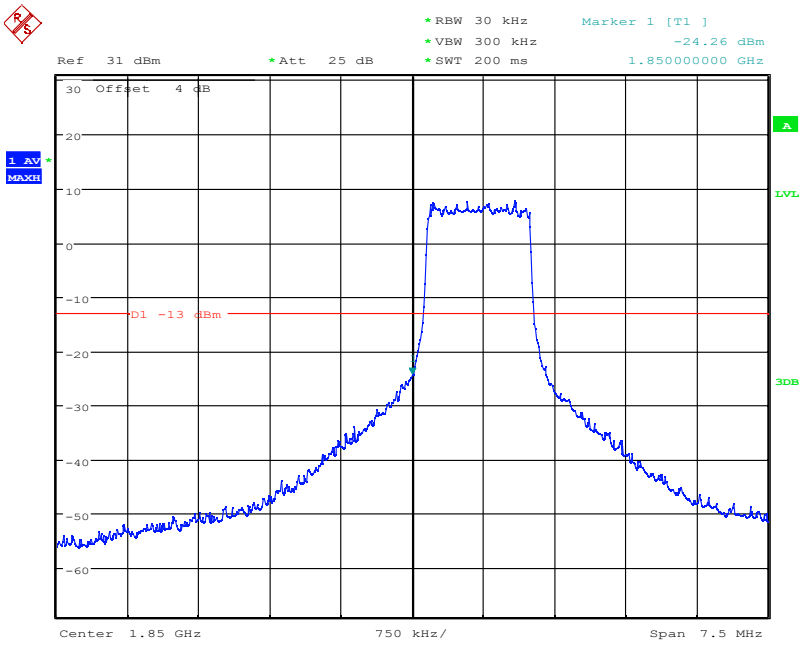
LTE Band2, 1.4MHz bandwidth, QPSK,(1,6) Mode, Above 1910MHz



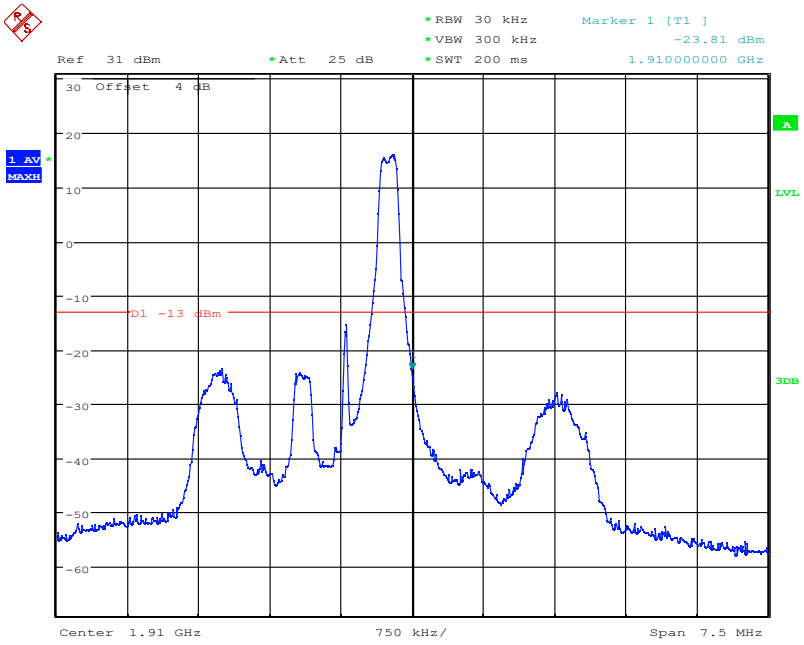
LTE Band2, 1.4MHz bandwidth, QPSK,(6,0) Mode, Above 1910MHz



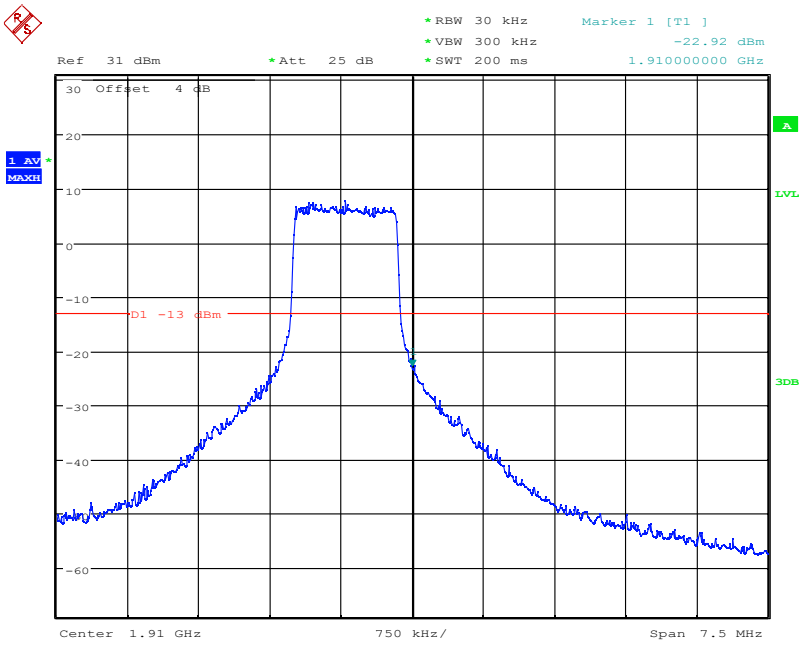
LTE Band2, 1.4MHz bandwidth, 16QAM,(1,0) Mode , Below 1850MHz



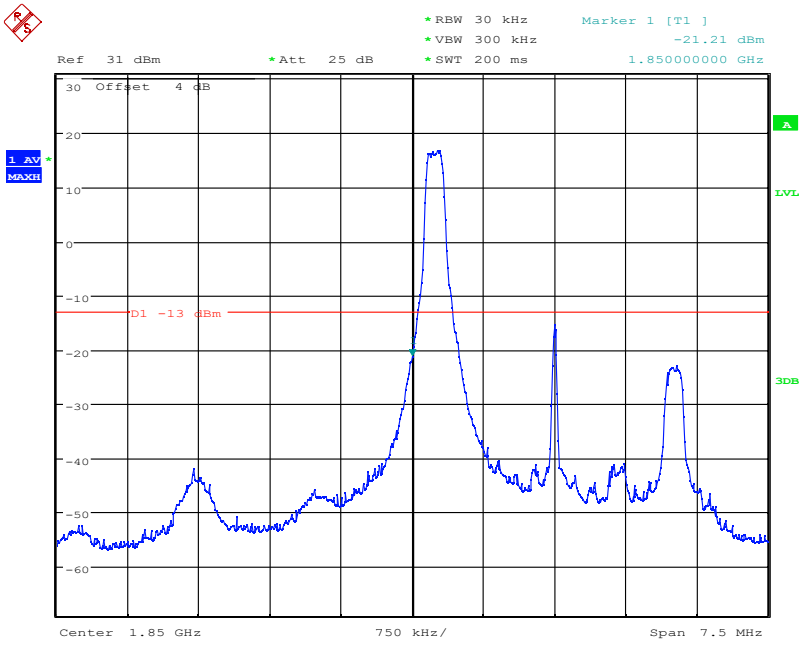
LTE Band2, 1.4MHz bandwidth, 16QAM,(6,0) Mode , Below 1850MHz



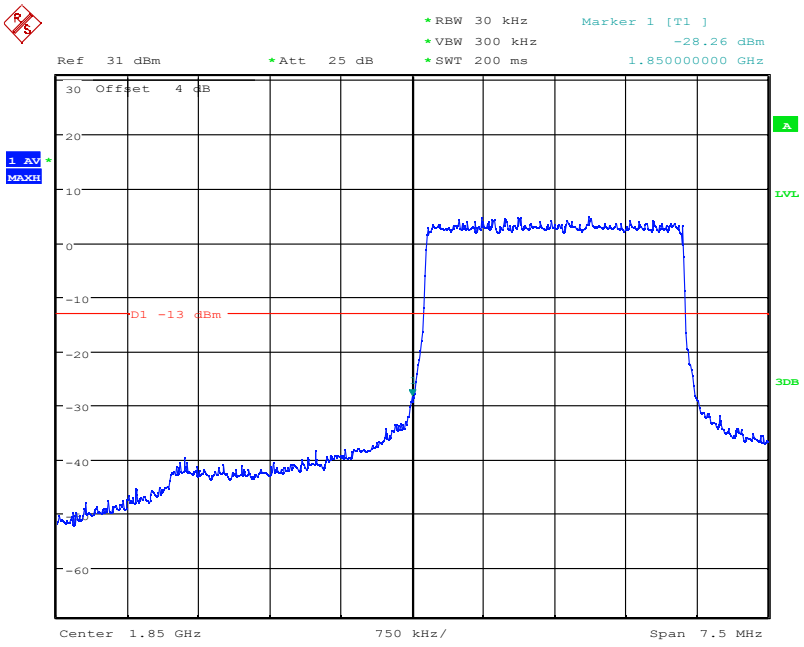
LTE Band2, 1.4MHz bandwidth, 16QAM,(1,6) Mode, Above 1910MHz



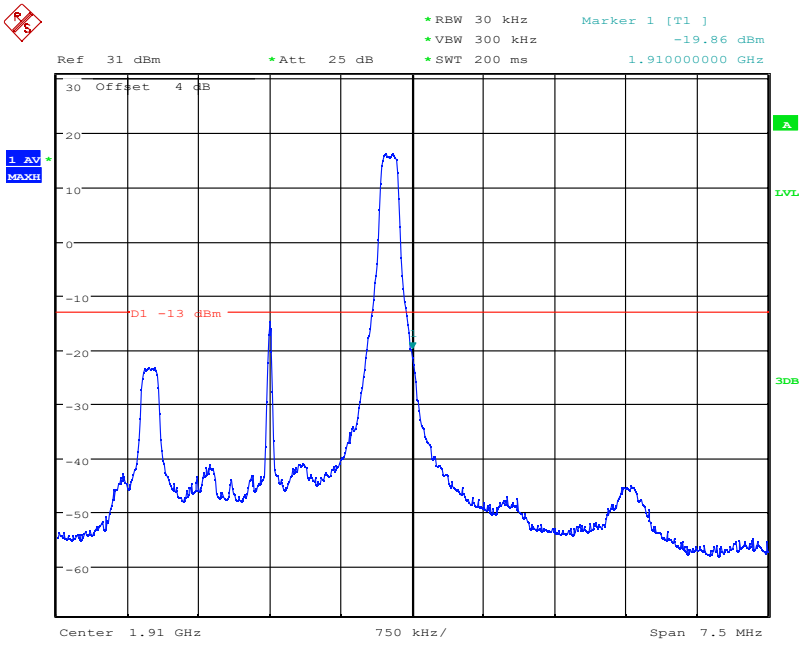
LTE Band2, 1.4MHz bandwidth, 16QAM,(6,0) Mode, Above 1910MHz



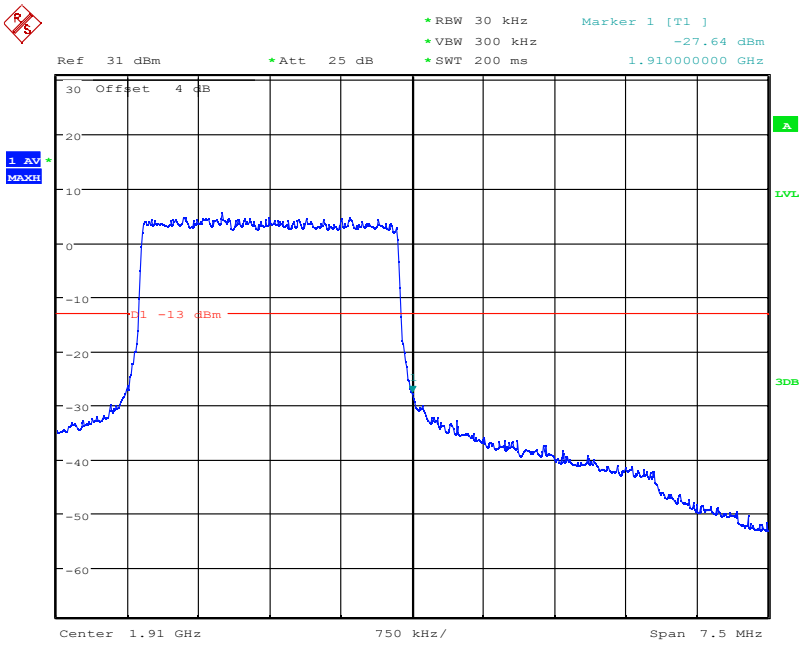
LTE Band2, 3MHz bandwidth, QPSK,(1,0) Mode , Below 1850MHz



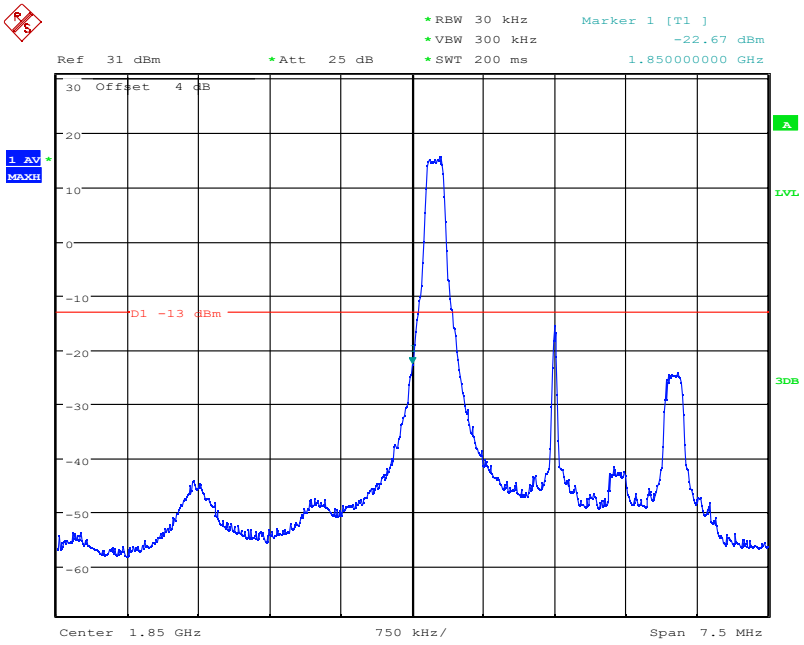
LTE Band2, 3MHz bandwidth, QPSK,(15,0) Mode , Below 1850MHz



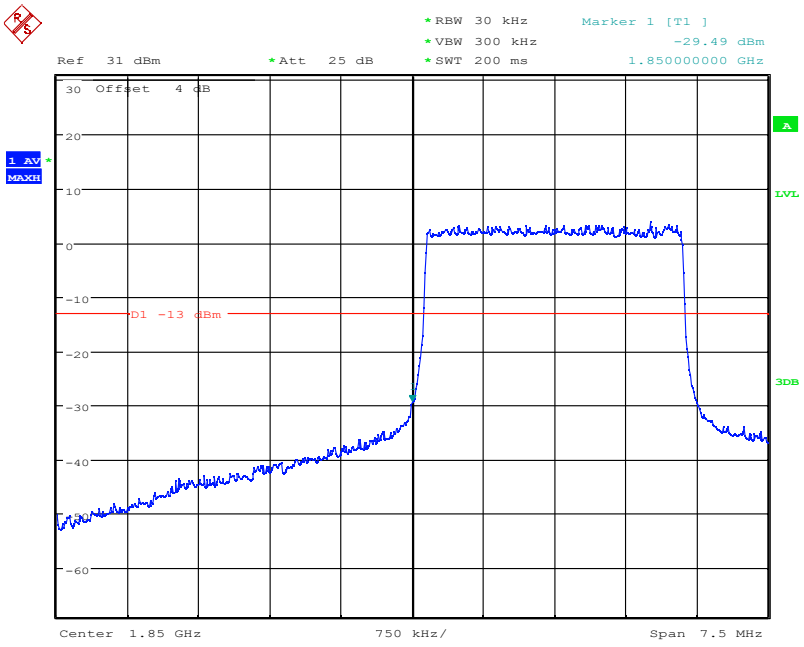
LTE Band2, 3MHz bandwidth, QPSK,(1,15) Mode, Above 1910MHz



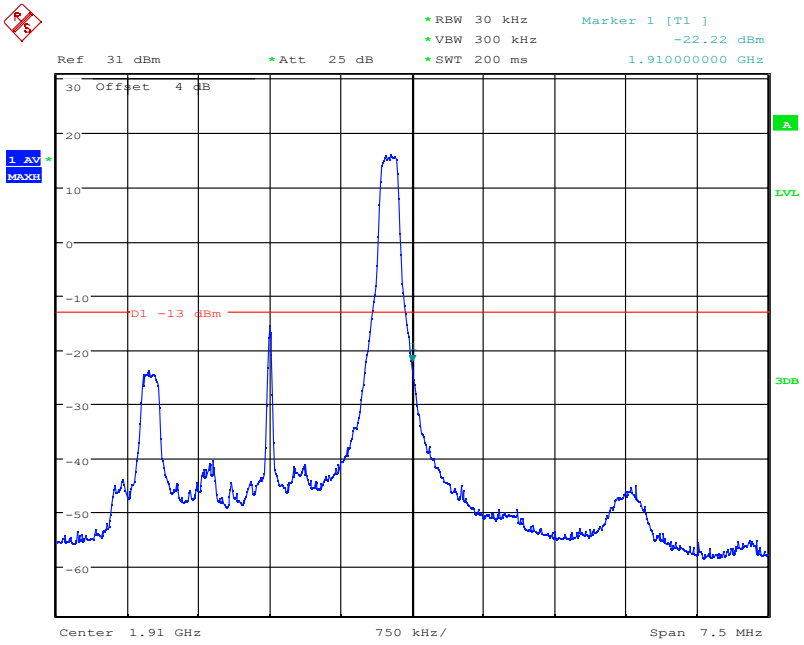
LTE Band2, 3MHz bandwidth, QPSK,(15,0) Mode, Above 1910MHz



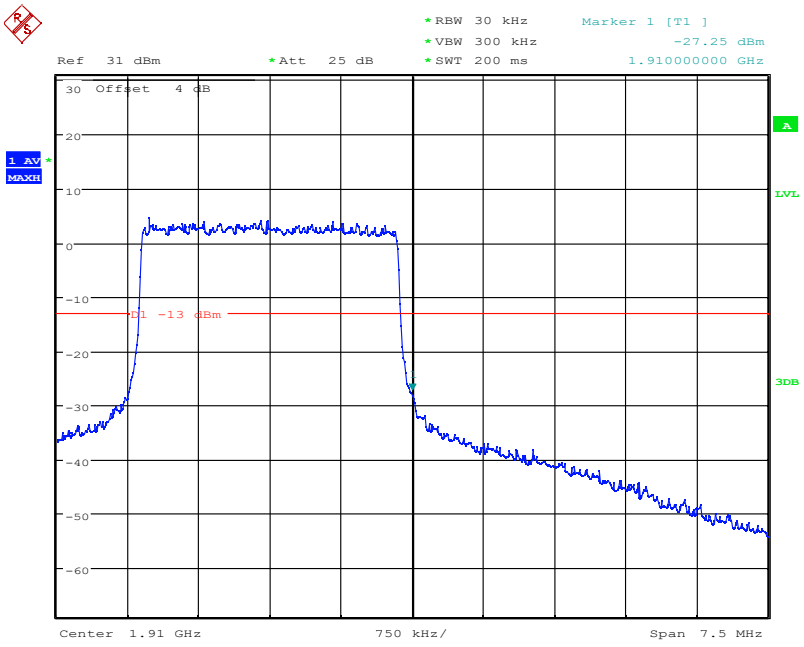
LTE Band2, 3MHz bandwidth, 16QAM,(1,0) Mode , Below 1850MHz



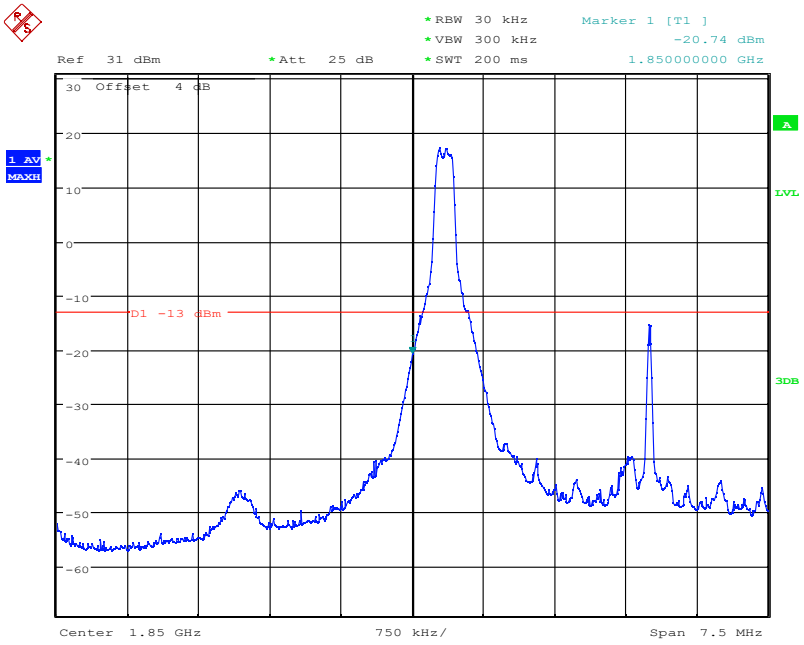
LTE Band2, 3MHz bandwidth, 16QAM,(15,0) Mode , Below 1850MHz



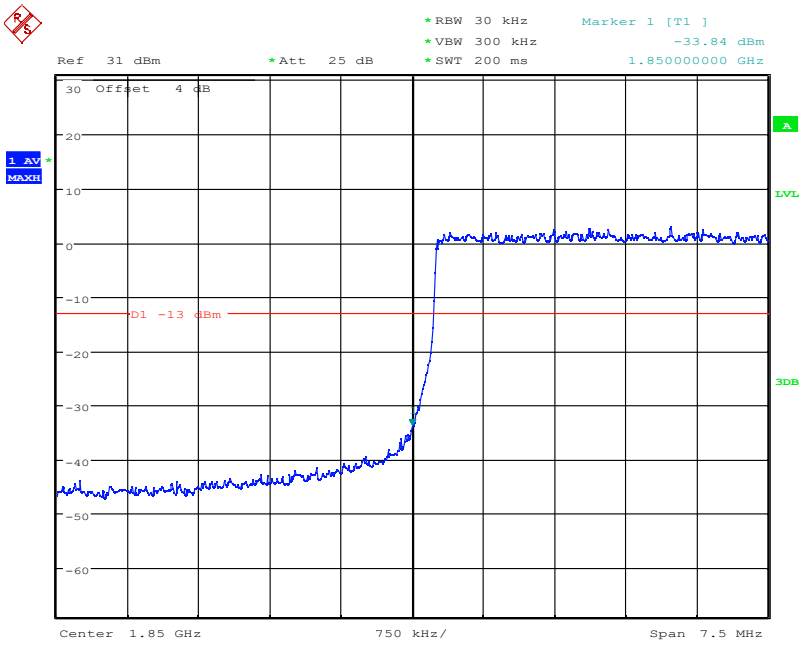
LTE Band2, 3MHz bandwidth, 16QAM,(1,15) Mode, Above 1910MHz



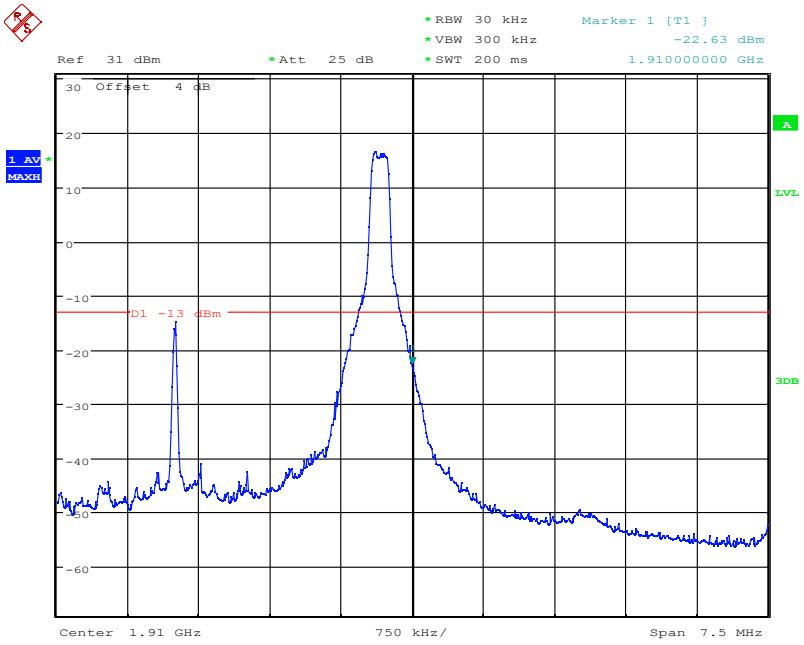
LTE Band2, 3MHz bandwidth, 16QAM,(15,0) Mode, Above 1910MHz



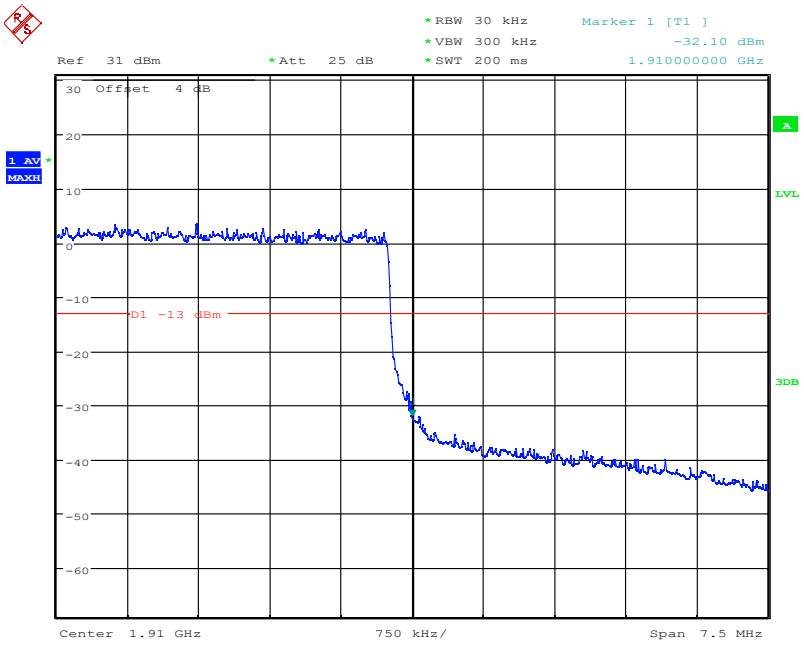
LTE Band2, 5MHz bandwidth, QPSK,(1,0) Mode , Below 1850MHz



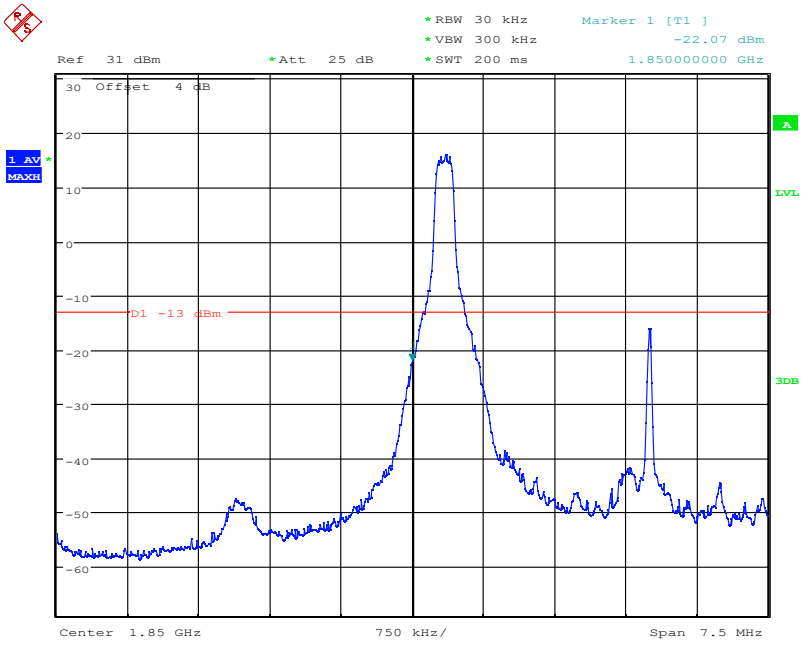
LTE Band2, 5MHz bandwidth, QPSK,(25,0) Mode , Below 1850MHz



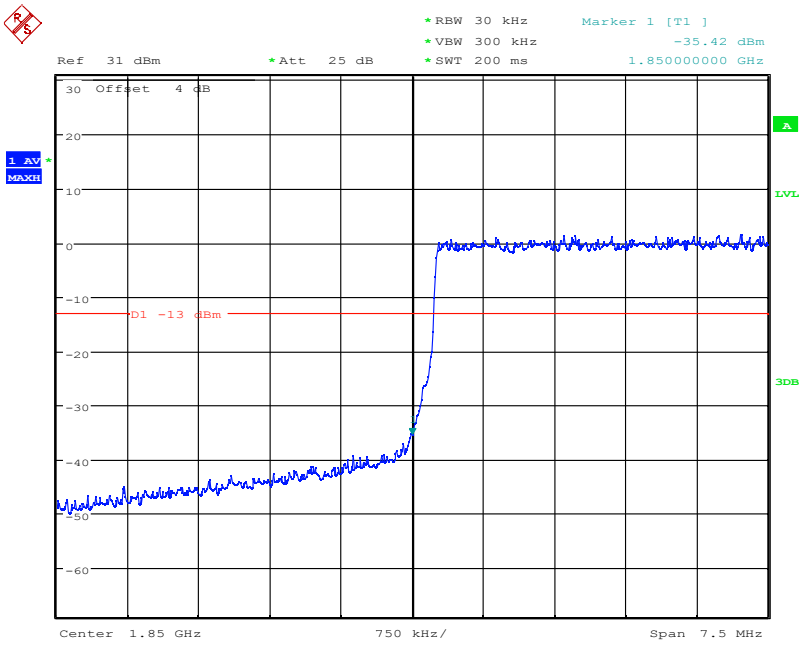
LTE Band2, 5MHz bandwidth, QPSK,(1,25) Mode, Above 1910MHz



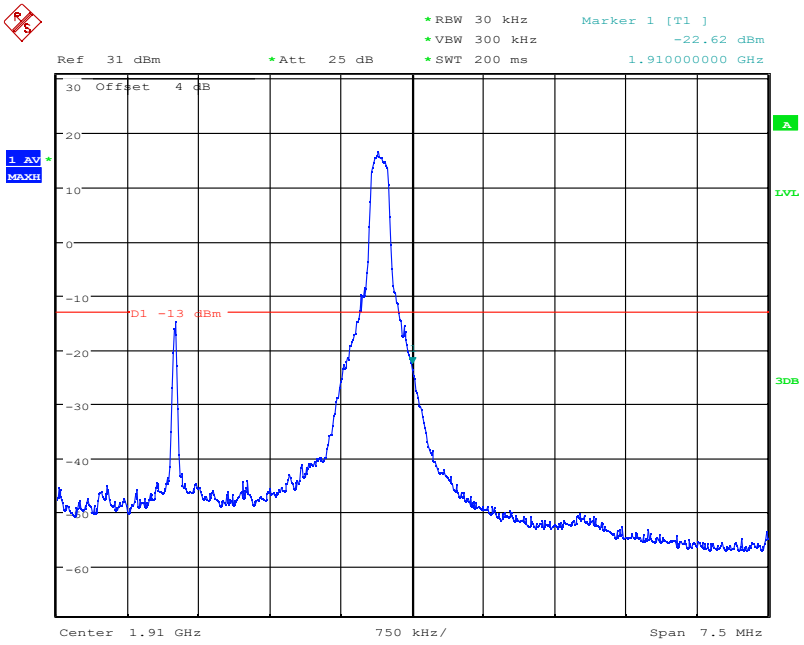
LTE Band2, 5MHz bandwidth, QPSK,(25,0) Mode, Above 1910MHz



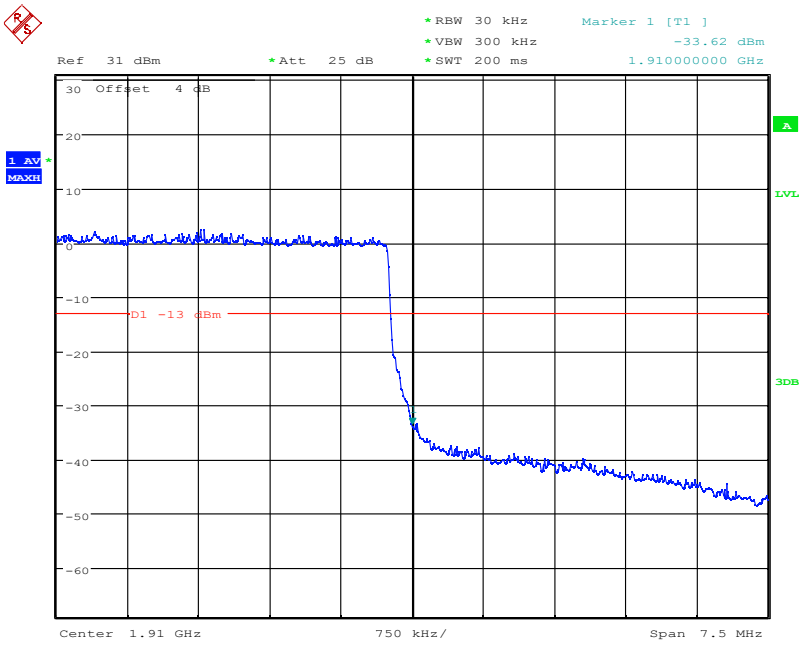
LTE Band2, 5MHz bandwidth, 16QAM,(1,0) Mode , Below 1850MHz



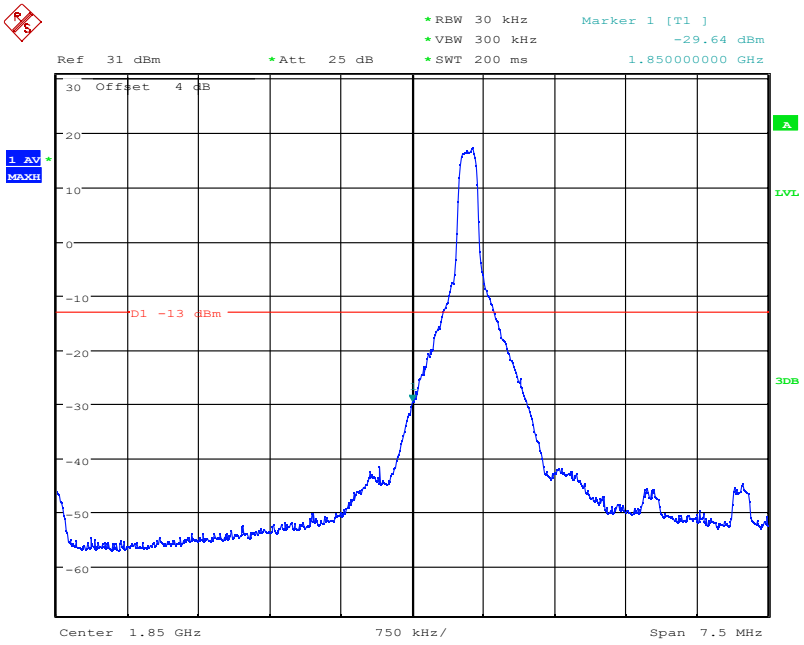
LTE Band2, 5MHz bandwidth, 16QAM,(25,0) Mode , Below 1850MHz



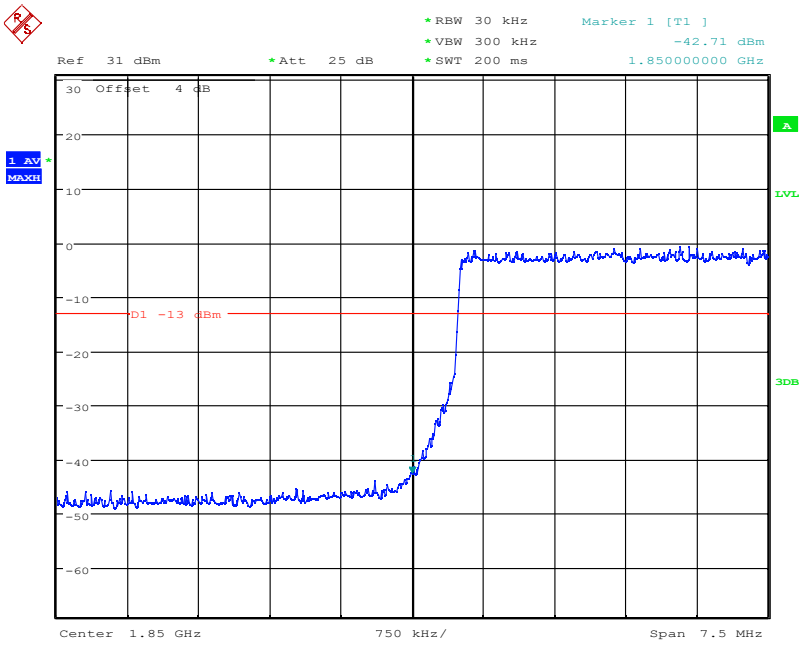
LTE Band2, 5MHz bandwidth, 16QAM,(1,25) Mode, Above 1910MHz



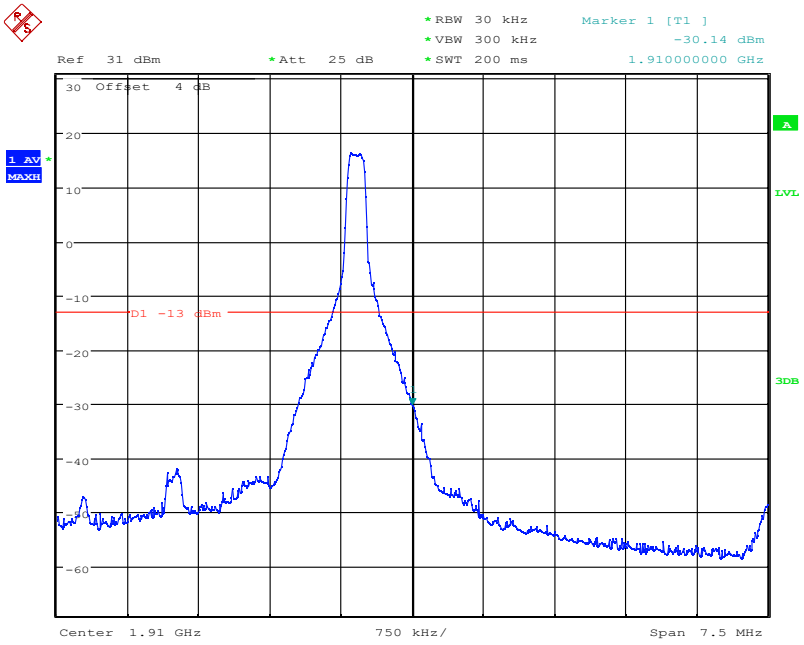
LTE Band2, 5MHz bandwidth, 16QAM,(25,0) Mode, Above 1910MHz



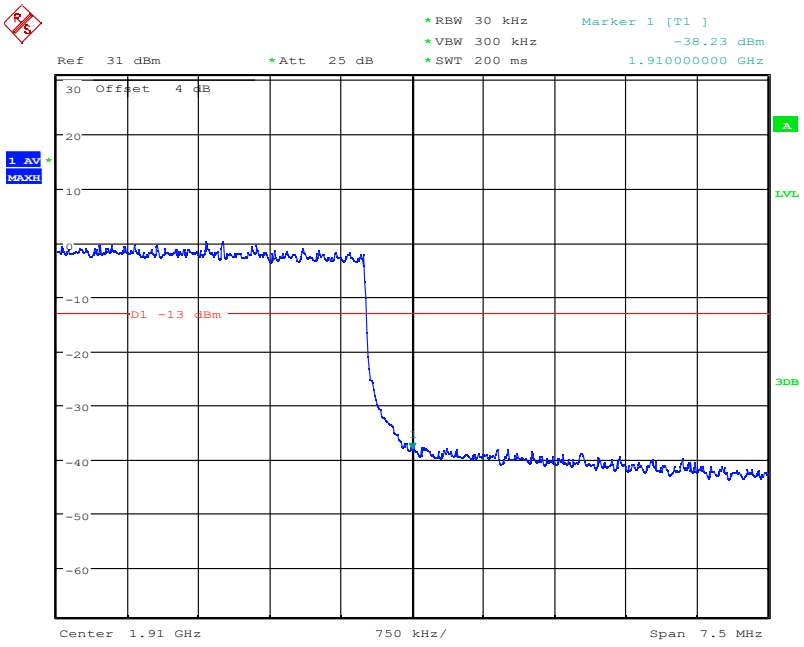
LTE Band2, 10MHz bandwidth, QPSK,(1,0) Mode , Below 1850MHz



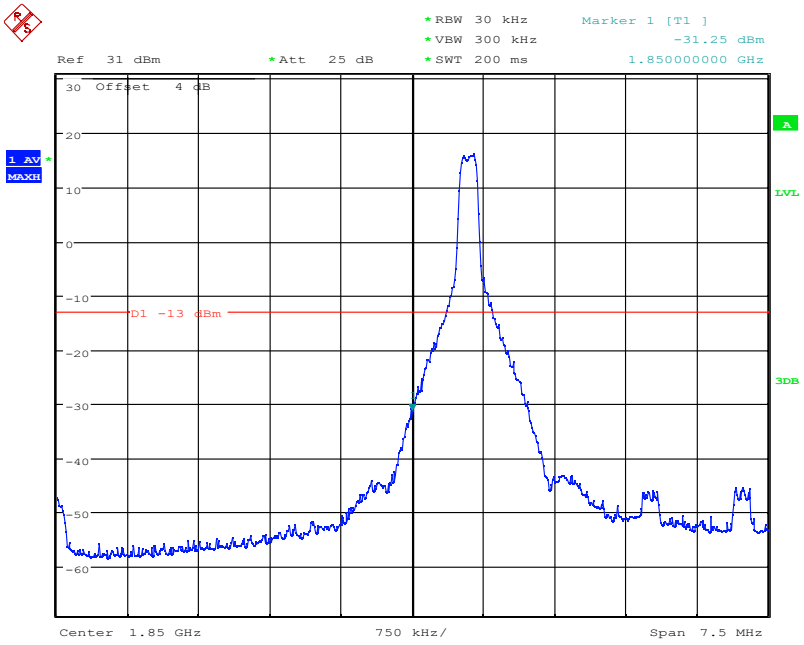
LTE Band2, 10MHz bandwidth, QPSK,(50,0) Mode , Below 1850MHz



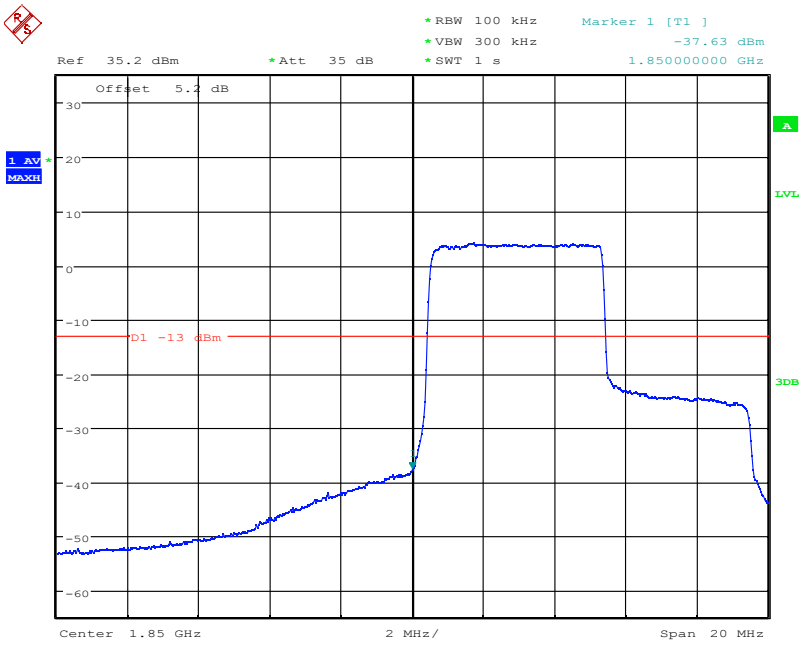
LTE Band2, 10MHz bandwidth, QPSK,(1,50) Mode, Above 1910MHz



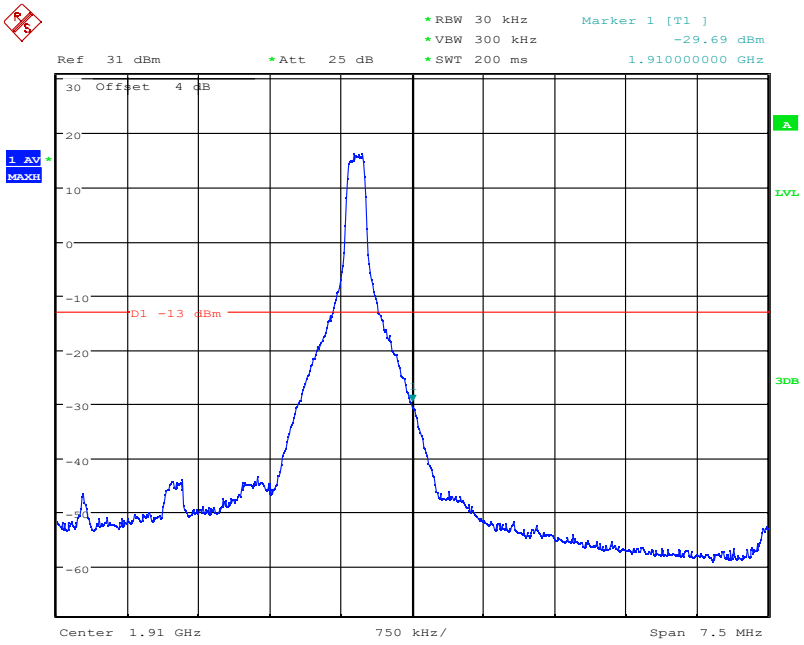
LTE Band2, 10MHz bandwidth, QPSK,(50,0) Mode, Above 1910MHz



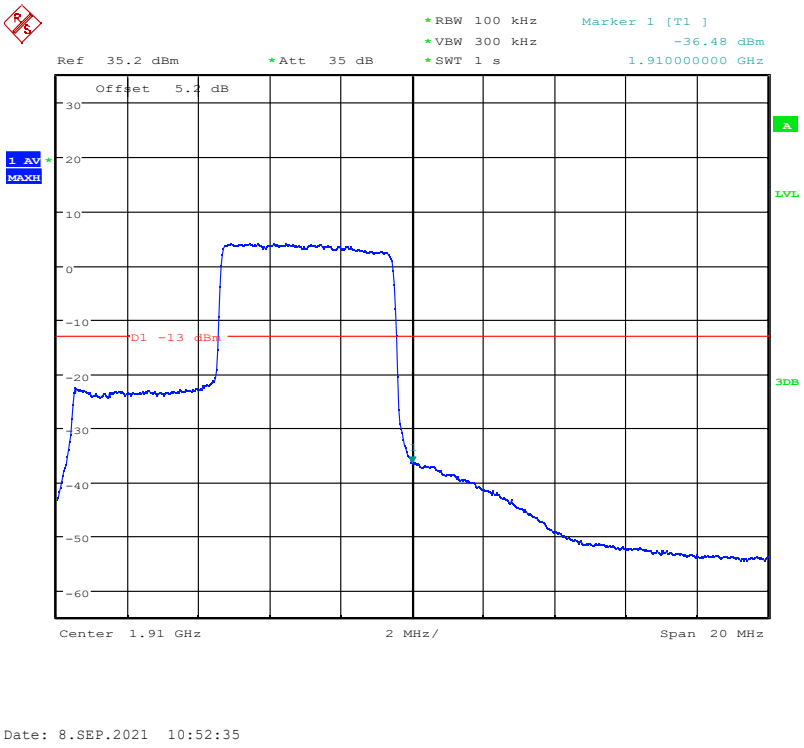
LTE Band2, 10MHz bandwidth, 16QAM,(1,0) Mode , Below 1850MHz



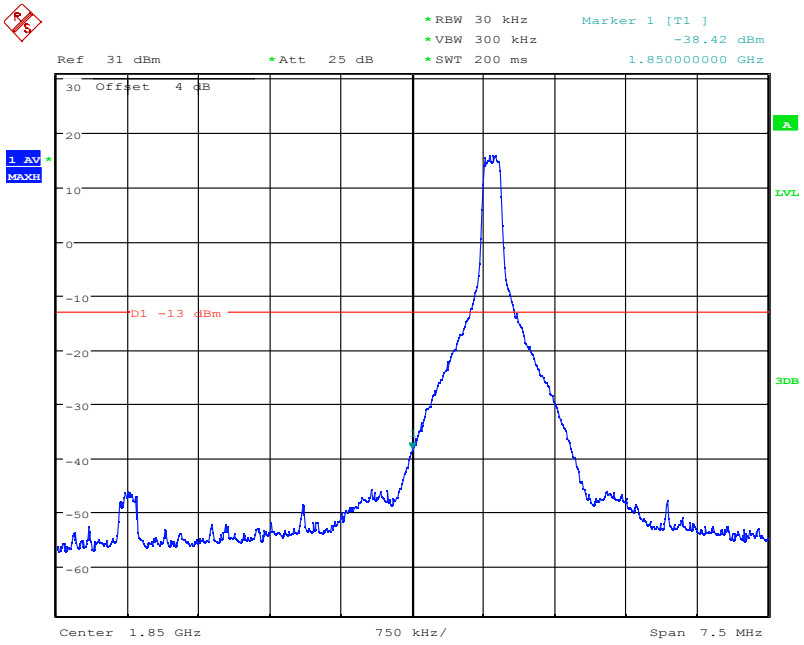
LTE Band2, 10MHz bandwidth, 16QAM,(27,0) Mode , Below 1850MHz



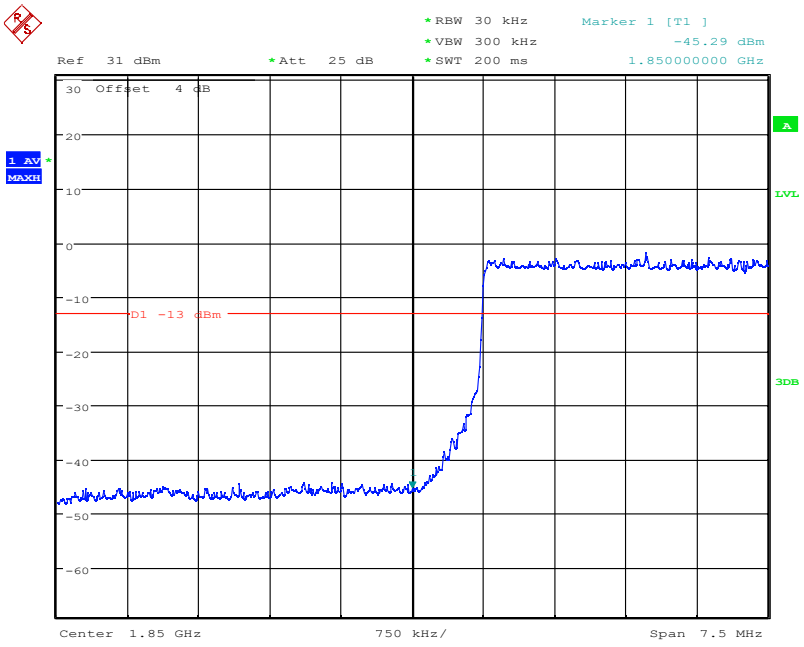
LTE Band2, 10MHz bandwidth, 16QAM,(1,50) Mode, Above 1910MHz



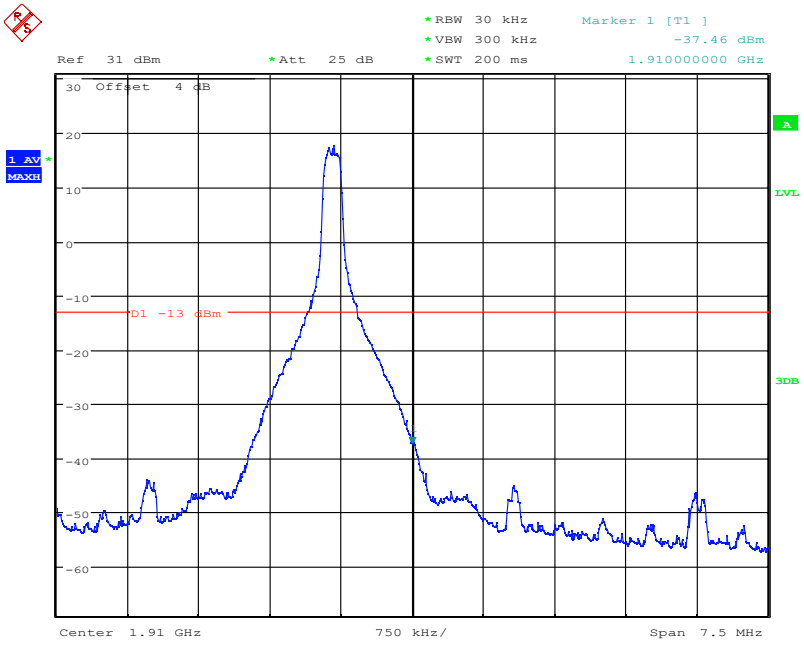
LTE Band2, 10MHz bandwidth, 16QAM,(27,0) Mode, Above 1910MHz



LTE Band2, 15MHz bandwidth, QPSK,(1,0) Mode , Below 1850MHz

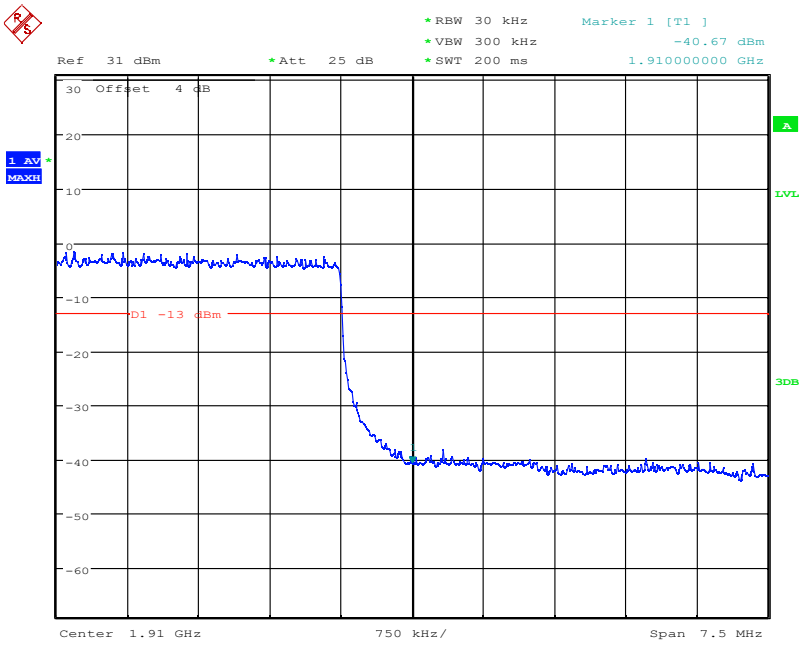


LTE Band2, 15MHz bandwidth, QPSK,(75,0) Mode , Below 1850MHz



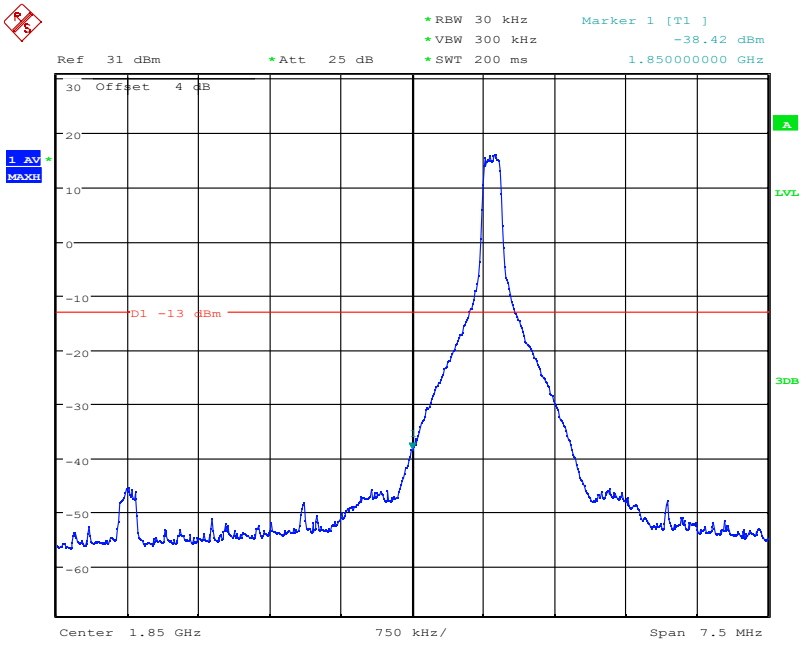
Date: 2.SEP.2021 11:00:02

LTE Band2, 15MHz bandwidth, QPSK,(1,75) Mode, Above 1910MHz

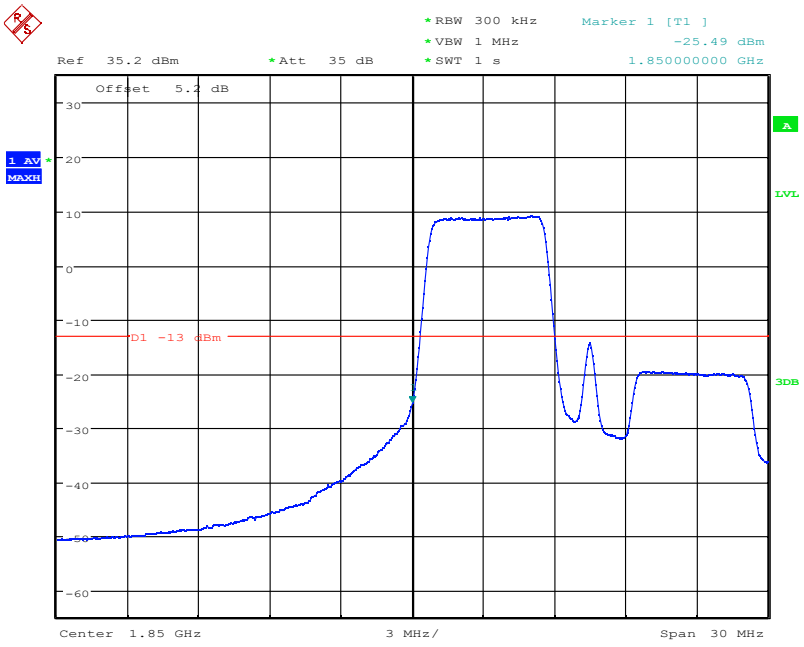


Date: 2.SEP.2021 11:00:19

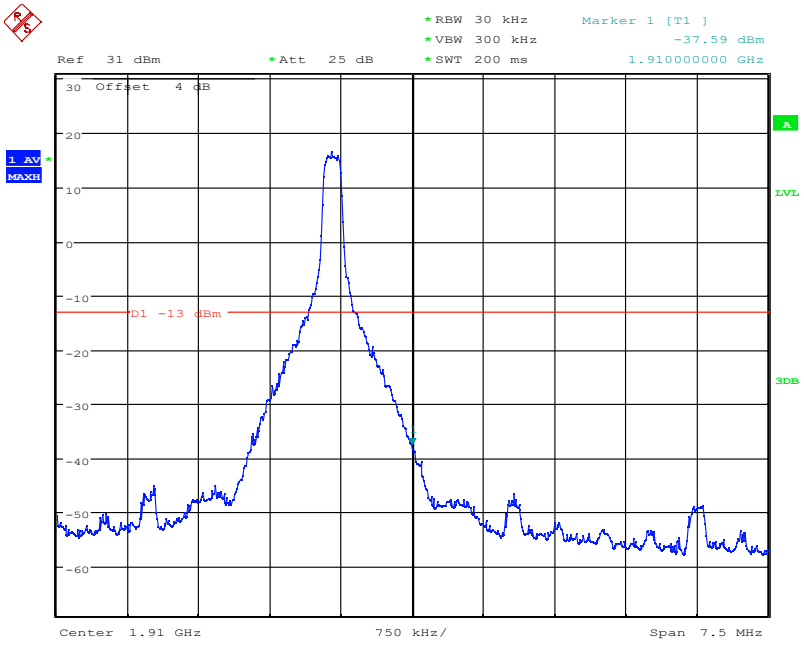
LTE Band2, 15MHz bandwidth, QPSK,(75,0) Mode, Above 1910MHz



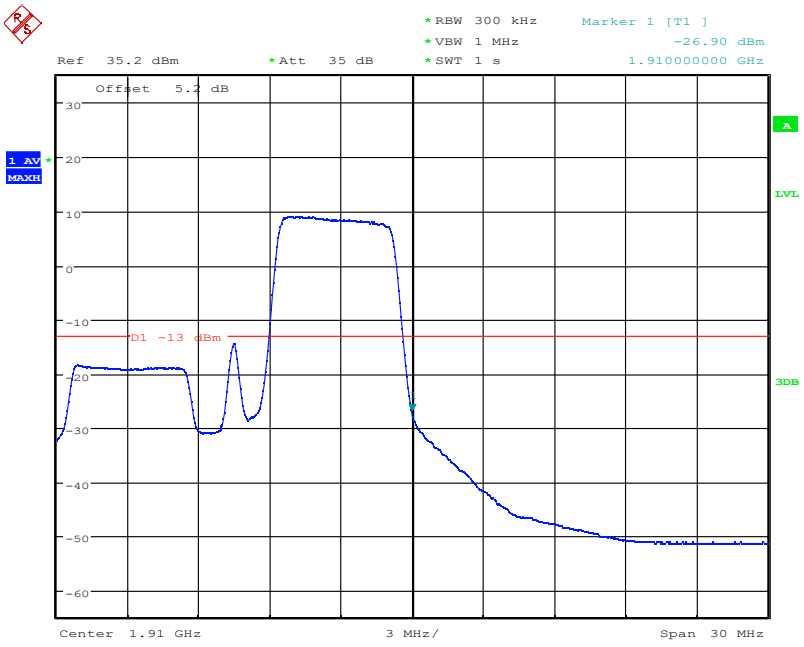
LTE Band2, 15MHz bandwidth, 16QAM,(1,0) Mode , Below 1850MHz



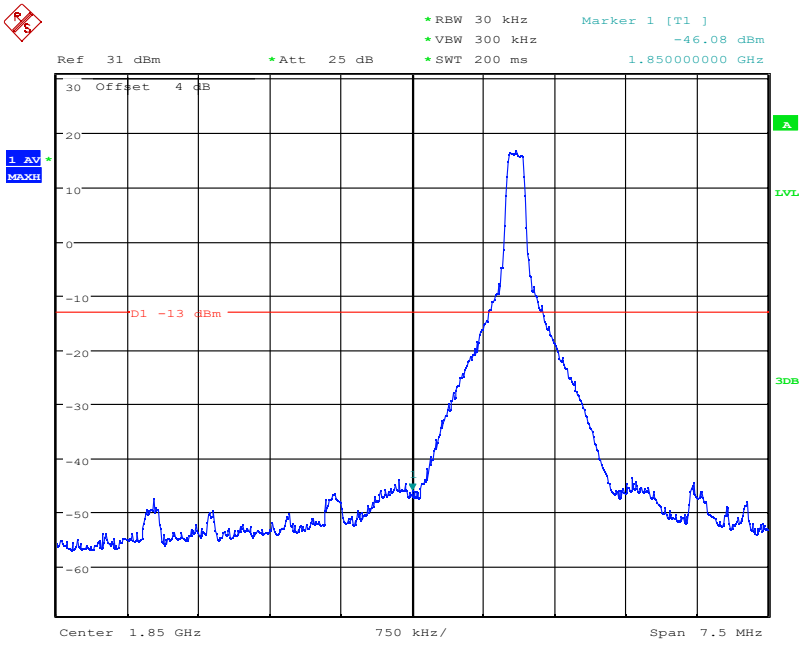
LTE Band2, 15MHz bandwidth, 16QAM,(27,0) Mode , Below 1850MHz



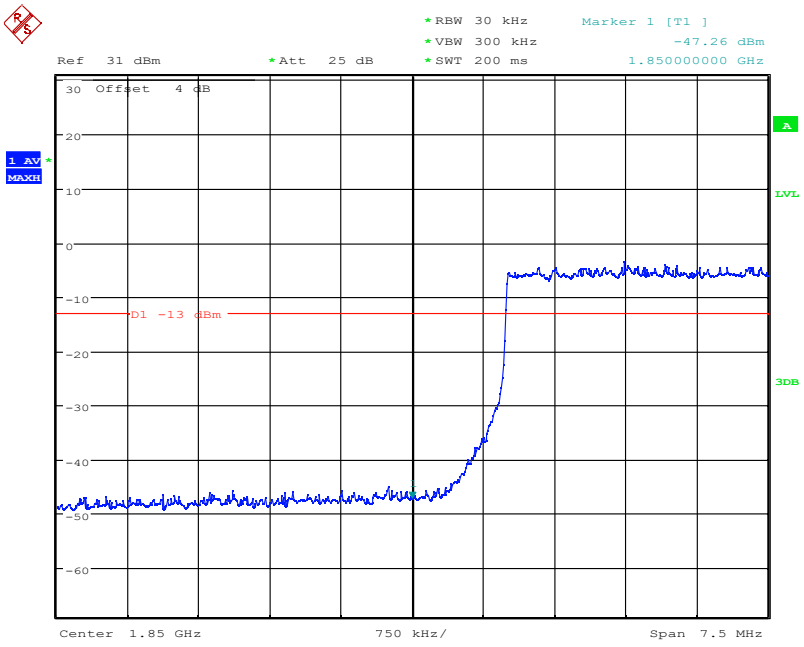
LTE Band2, 15MHz bandwidth, 16QAM,(1,75) Mode, Above 1910MHz



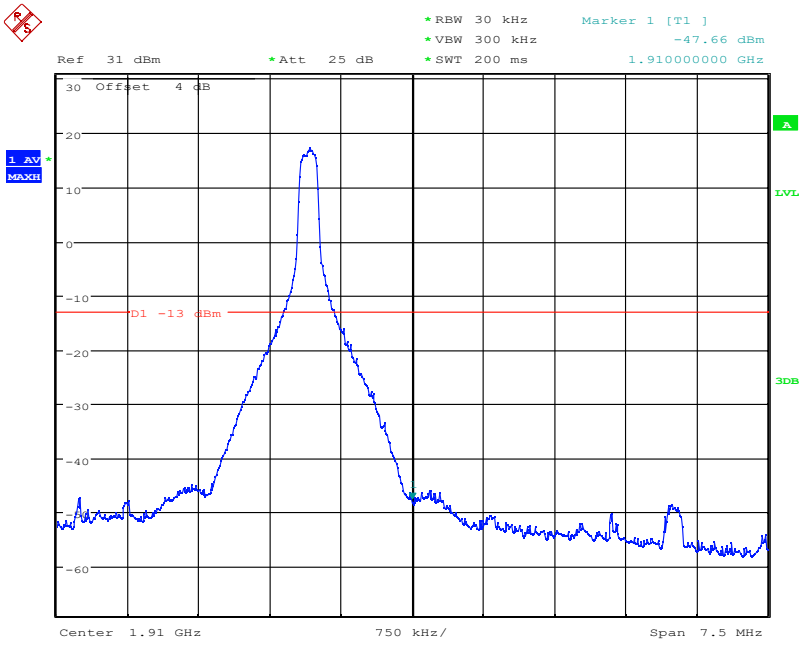
LTE Band2, 15MHz bandwidth, 16QAM,(27,0) Mode, Above 1910MHz



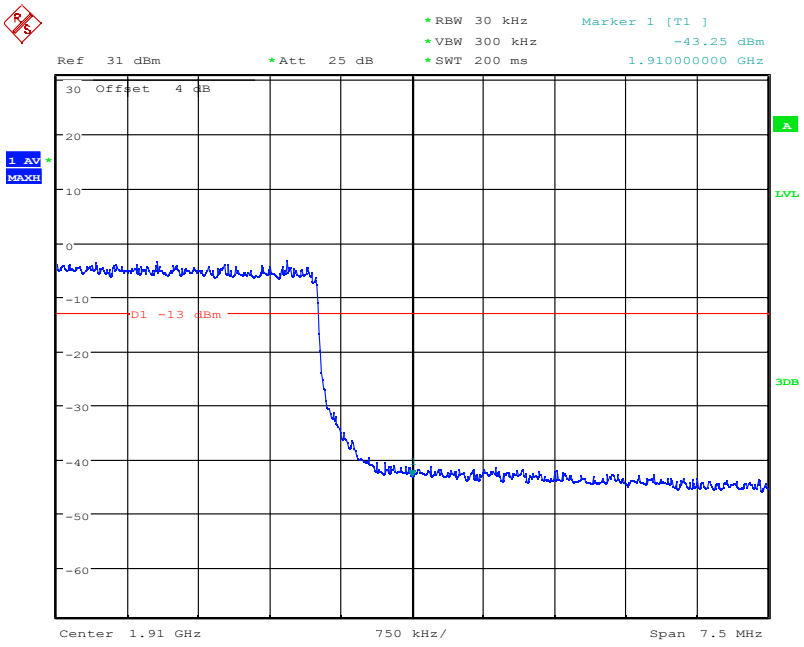
LTE Band2, 20MHz bandwidth, QPSK,(1,0) Mode , Below 1850MHz



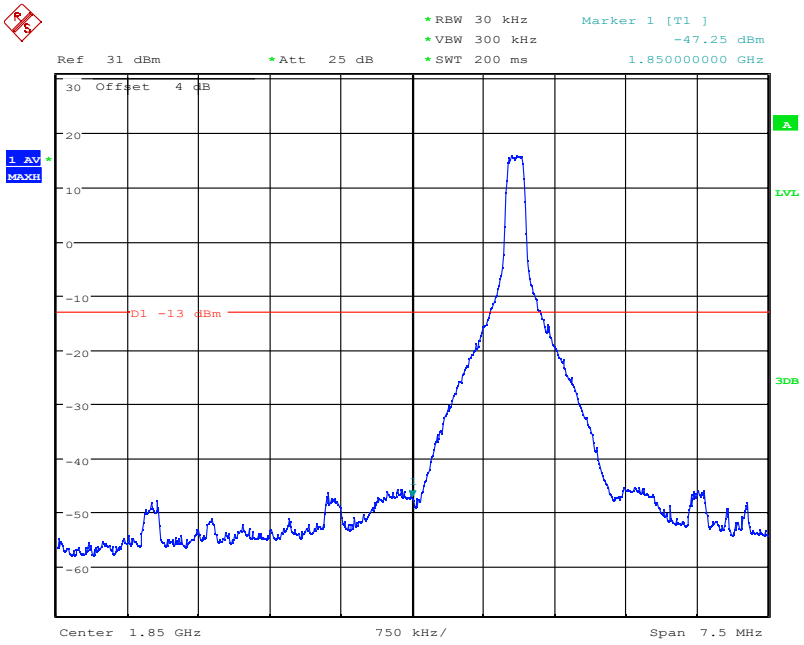
LTE Band2, 20MHz bandwidth, QPSK,(100,0) Mode , Below 1850MHz



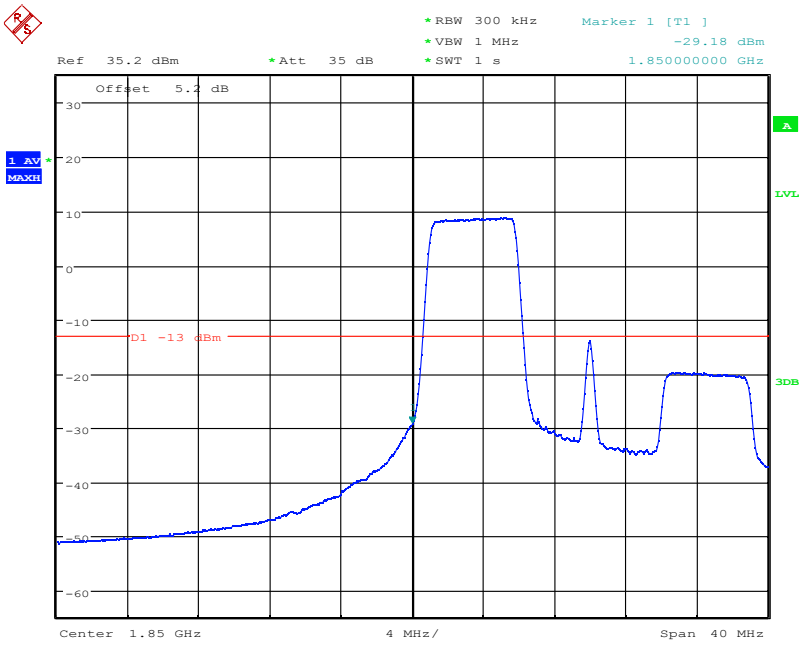
LTE Band2, 20MHz bandwidth, QPSK,(1,100) Mode, Above 1910MHz



LTE Band2, 20MHz bandwidth, QPSK,(100,0) Mode, Above 1910MHz



LTE Band2, 20MHz bandwidth, 16QAM,(1,0) Mode , Below 1850MHz



LTE Band2, 20MHz bandwidth, 16QAM,(27,0) Mode , Below 1850MHz