



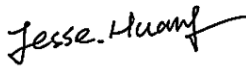
FCC PART 27
FCC PART 22H, PART 24E
TEST REPORT

For

DDM Brands LLC

2323 NW, 82ND Ave. Doral, Florida, U.S.A 33122

FCC ID: A4J5E2LTE

Report Type: Original Report	Product Type: 4G Mobile phone
Report Number: RSZ161014005-00D	
Report Date: 2016-12-26	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp.

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GENERAL INFORMATION

The *DDM Brands LLC's* product, model number: *5E LTE (FCC ID: A4J5E2LTE)* or the "EUT" in this report was a *4G Mobile phone*, which was measured approximately: 14.1 cm (L) × 7.0 cm (W) × 1.0 cm (H), rated with input voltage: DC 3.7 V battery or DC 5.0 V from adapter.

Adapter Information:

Model: C5E2LTE

Input: AC 100-240V, 50-60Hz, 0.2A

Output: DC 5.0V, 1.0 A

Note: The serial models 5E2 LTE, AM5E2L133, AC5E2L133 and 5E LTE, they are identical schematics, and the difference between them is only the name. Model 5E LTE was selected for fully testing. The detail was explained in the attached product similarity declaration letter provided and guaranteed by applicant.

**All measurement and test data in this report was gathered from production sample serial number: 1603440. (Assigned by BACL, Kunshan). The EUT supplied by the applicant was received on 2016-10-14.*

Objective

This test report is prepared on behalf of *DDM Brands LLC* in accordance with Part 2-Subpart J, Part 15-Subparts A, B and C of the Federal Communication Commissions rules.

The objective is to determine the compliance of the EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability and band edge.

Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS & DSS and Part 15B JBP submissions with FCC ID: A4J5E2LTE.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2-Subpart J as well as the following parts:

Part 22 Subpart H - Public Mobile Services

Part 24 Subpart E - Personal Communication Services

Part 27 – Miscellaneous wireless communications services

Applicable Standards: TIA/EIA 603-D, ANSI C63.4-2014.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		± 3.26 dB
RF conducted test with spectrum		± 0.9 dB
RF Output Power with Power meter		± 0.5 dB
Radiated emission	30MHz~1GHz	± 5.91 dB
	Above 1G	± 4.92 dB
Occupied Bandwidth		± 0.5 kHz
Temperature		± 1.0 °C
Humidity		$\pm 6\%$
CMU200		± 0.5 dB
CMW500		± 0.5 dB

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Test site at Bay Area Compliance Laboratories Corp. (Kunshan) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 06, 2014. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 815570. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The EUT was configured for testing according to TIA/EIA-603-D.

The final qualification test was performed with the EUT operating at normal mode.

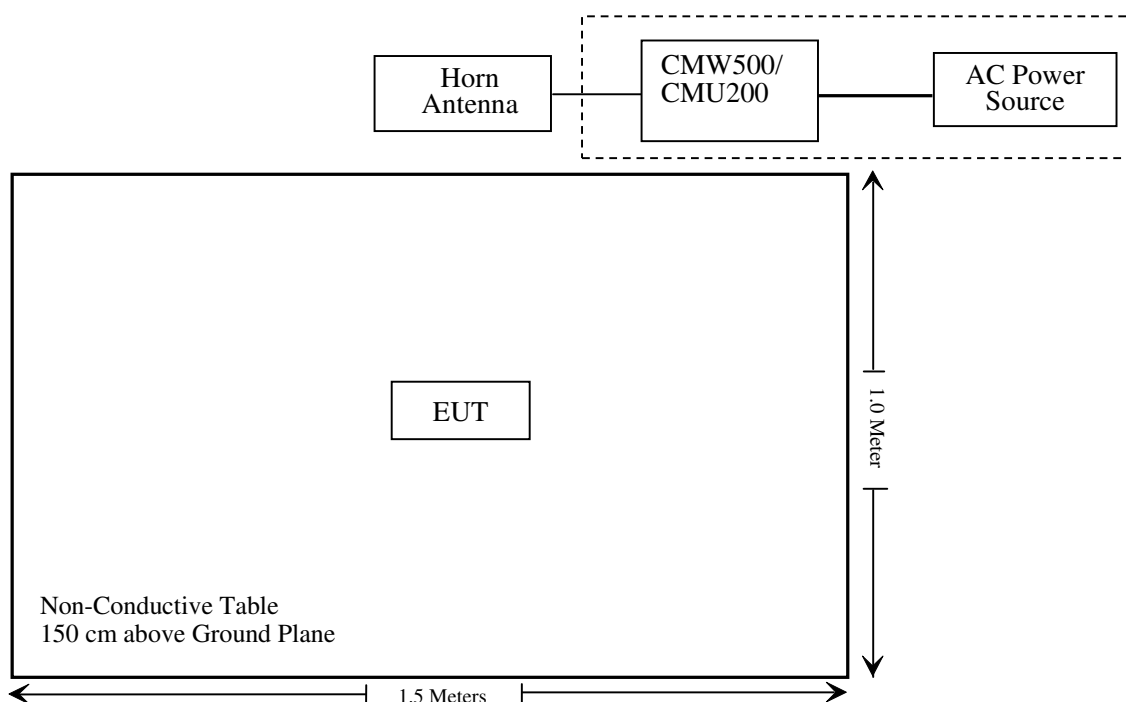
Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.0002K50-116218-UY

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307, §2.1093	RF Exposure (SAR)	Compliance*
§2.1046; § 22.913 (a); § 24.232 (c); §27.50 (c) (d) (h)	RF Output Power	Compliance
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905 § 22.917; § 24.238; §27.53	Bandwidth	Compliance
§ 2.1051, § 22.917 (a); § 24.238 (a) ;§27.53 (h)(m)	Spurious Emissions at Antenna Terminal	Compliance
§ 2.1053 § 22.917 (a); § 24.238 (a); §27.53 (h)(m)	Field Strength of Spurious Radiation	Compliance
§ 22.917 (a); § 24.238 (a); §27.53 (h)(m)	Out of band emission, Band Edge	Compliance
§ 2.1055 § 22.355; § 24.235; §27.54;	Frequency stability vs. temperature Frequency stability vs. voltage	Compliance

Note: * Please refer to SAR report released by BACL, report number: RSZ161014005-20.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Sonoma Instrument	Amplifier	330	171377	2016-10-21	2017-10-21
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2015-11-25	2016-11-25
Sunol Sciences	Broadband Antenna	JB3	A090314-2	2016-01-09	2019-01-08
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2016-01-09	2019-01-08
Narda	Pre-amplifier	AFS42-00101800	2001270	2016-09-08	2017-09-08
EMCO	Horn Antenna	3116	9510-2384	2015-11-07	2018-11-06
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2015-11-25	2016-11-25
ETS	Horn Antenna	3115	6229	2016-01-11	2017-01-10
ETS	Horn Antenna	3115	9311-4159	2016-01-11	2017-01-10
R&S	Auto test Software	EMC32	V 09.10.0	NCR	NCR
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-12-15	2016-12-15
Ducommun technologies	RF Cable	104PEA	218124002	2016-04-22	2017-04-22
HP	Signal Generator	8341B	2624A00116	2016-08-29	2017-08-29
RF Conducted test					
BACL	TS 8997 Cable-01	T-KS-EMC086	T-KS-EMC086	2015-12-10	2016-12-09
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-12-16	2016-12-15
WEINSCHL	3dB Attenuator	5326	N/A	2016-06-18	2017-06-18
Rohde & Schwarz	OSP120 BASE UNIT	OSP120	101247	2016-07-04	2017-07-03
Rohde & Schwarz	Signal Analyzer	FSIQ26	836131/009	2016-09-21	2017-09-21
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605	2015-11-25	2016-11-25
R&S	Wideband Radio Communication tester	CMW500	1201.002K50-116218-UY	2016-10-08	2017-10-07
HONOVA	Power Splitter	ZFRSC-14-S+	019411452	2016-06-12	2017-06-12
WEINSCHL	10dB Attenuator	5328	N/A	2016-06-18	2017-06-18

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1307 & §2.1093 - RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RSZ161014005-20.

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E & 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046, § 22.913 (a) & § 24.232 (c) & §27.50 - RF OUTPUT POWER**Applicable Standard**

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (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.

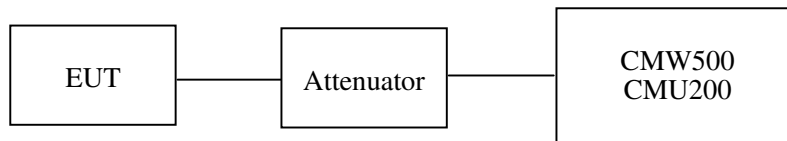
According to §27.50(c), Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1755MHz. The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

According to §27.50(h), the maximum EIRP must not exceed 2Watts (33dBm) for 2500-2570MHz.

Test Procedure*Conducted method:*

The RF output of the transmitter was connected to the CMW500/CMU200 through sufficient attenuation.

*Radiated method:*

TIA 603-D section 2.2.17

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Layne Li on 2016-11-06.

Conducted Power**Cellular Band (Part 22H)**

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)
GSM	128	824.2	31.72	38.45
	190	836.6	32.40	38.45
	251	848.8	31.79	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.2	32.71	31.16	29.54	28.42	38.45
	190	836.6	32.86	31.83	30.31	29.16	38.45
	251	848.8	32.80	31.21	29.48	28.29	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.2	28.15	27.20	25.26	24.13	38.45
	190	836.6	27.80	26.82	24.86	23.73	38.45
	251	848.8	27.64	26.65	24.66	23.57	38.45

Mode	Test Condition	Test Mode	3GPP Sub Test	Average Output Power (dBm)		
				Low Frequency	Middle Frequency	High Frequency
WCDMA (Band 5)	Normal	RMC		22.32	22.51	22.06
		Rel 6 HSDPA	1	21.19	21.46	20.96
			2	21.44	21.60	21.14
			3	21.21	21.44	20.98
			4	21.43	21.58	21.14
		Rel 6 HSUPA	1	21.28	21.48	20.97
			2	21.27	21.44	21.03
			3	21.45	21.57	21.17
			4	21.24	21.44	20.95
			5	21.37	21.58	21.10

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)
GSM	512	1850.2	28.72	33
	661	1880.0	28.72	33
	810	1909.8	28.93	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	28.88	28.44	27.16	26.15	33
	661	1880.0	28.81	28.29	26.88	25.75	33
	810	1909.8	29.00	28.39	26.91	25.77	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	
EGPRS	512	1850.2	26.42	25.66	24.00	22.94	33
	661	1880.0	26.60	25.87	24.24	23.15	33
	810	1909.8	26.97	26.29	24.77	23.77	33

Mode	Test Condition	Test Mode	3GPP Sub Test	Average Output Power (dBm)		
				Low Frequency	Middle Frequency	High Frequency
WCDMA (Band 2)	Normal	RMC		22.14	21.97	21.64
		Rel 6 HSDPA	1	21.07	20.90	20.77
			2	21.26	21.04	20.87
			3	21.06	20.92	20.79
			4	21.23	21.02	20.95
		Rel 6 HSUPA	1	21.09	20.85	20.78
			2	21.25	21.04	20.88
			3	21.04	20.94	20.77
			4	21.26	21.09	20.87
			5	21.20	21.03	20.87

Peak-to-average ratio (PAR)**Cellular Band**

Mode	Channel	PAR (dB)	Limit (dB)
GSM (GMSK)	Low	0.36	13
	Middle	0.34	13
	High	0.35	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS (8PSK)	Low	0.39	13
	Middle	0.42	13
	High	0.37	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	2.76	13
	Middle	3.31	13
	High	3.02	13
HSDPA (16QAM)	Low	2.85	13
	Middle	3.45	13
	High	3.08	13
HSUPA (BPSK)	Low	2.86	13
	Middle	3.52	13
	High	3.33	13

PCS Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM (GMSK)	Low	0.35	13
	Middle	0.38	13
	High	0.34	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS (8PSK)	Low	0.39	13
	Middle	0.42	13
	High	0.41	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.34	13
	Middle	2.46	13
	High	3.11	13
HSDPA (16QAM)	Low	3.51	13
	Middle	2.46	13
	High	3.30	13
HSUPA (BPSK)	Low	3.69	13
	Middle	2.57	13
	High	3.37	13

Radiated Power**GSM Mode:**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	S.G. Level (dBm)	Cable loss (dB)	Antenna Gain (dB)			
ERP, Cellular Band (Part 22H), Middle Channel										
836.6	98.55	226	1.9	H	27.5	0.46	4.75	31.79	38.45	6.66
836.6	93.08	135	1.9	V	22.0	0.46	4.75	26.29	38.45	12.16
EIRP, PCS Band (Part 24E), Middle Channel										
1880.00	79.14	342	2.3	H	18.3	0.31	10.4	28.39	33	4.61
1880.00	76.17	203	1.2	V	11.9	0.31	10.4	21.99	33	11.01

EGRPS Mode:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	S.G. Level (dBm)	Cable loss (dB)	Antenna Gain (dB)			
ERP, Cellular Band (Part 22H), Middle Channel										
836.6	93.15	146	2.1	H	22.1	0.46	4.75	26.39	38.45	12.06
836.6	87.58	156	1.3	V	16.6	0.46	4.75	20.89	38.45	17.56
EIRP, PCS Band (Part 24E), Middle Channel										
1880.00	75.22	7	1.1	H	14.4	0.31	10.4	24.49	33	8.51
1880.00	72.23	206	2.1	V	8.0	0.31	10.4	18.09	33	14.91

WCDMA Mode:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	S.G. Level (dBm)	Cable loss (dB)	Antenna Gain (dB)			
ERP, WCDMA Band V (Part 22H), Middle Channel										
836.6	88.78	313	1.5	H	17.8	0.46	4.75	22.09	38.45	16.36
836.6	79.89	238	1.1	V	8.9	0.46	4.75	13.19	38.45	25.26
EIRP, WCDMA Band II (Part 24E), Middle Channel										
1880.00	72.34	261	2.5	H	11.5	0.31	10.4	21.59	33	11.41
1880.00	69.97	103	1.2	V	5.7	0.31	10.4	15.79	33	17.21

Note:

All above data were tested with no amplifier.

Absolute Level = SG Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

LTE Band 4:**Maximum Output Power**

Bandwidth (MHz)	Modulation	RB size/RB Offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4	QPSK	RB Size=1, RB Offset=0	22.42	22.46	22.53
		RB Size=1, RB Offset=2	22.46	22.53	22.36
		RB Size=1, RB Offset=5	22.39	22.60	22.52
		RB Size=3, RB Offset=0	22.42	22.48	22.52
		RB Size=3, RB Offset=1	22.52	22.54	22.37
		RB Size=3, RB Offset=2	22.41	22.60	22.48
		RB Size=6, RB Offset=0	21.84	21.90	21.67
	16QAM	RB Size=1, RB Offset=0	21.80	21.92	21.76
		RB Size=1, RB Offset=2	21.82	21.93	21.76
		RB Size=1, RB Offset=5	21.71	21.85	21.83
		RB Size=3, RB Offset=0	21.69	21.89	21.67
		RB Size=3, RB Offset=1	21.87	21.90	21.69
		RB Size=3, RB Offset=2	21.71	21.90	21.78
		RB Size=6, RB Offset=0	21.19	21.44	21.27
3.0	QPSK	RB Size=1, RB Offset=0	22.56	22.72	22.55
		RB Size=1, RB Offset=7	22.48	22.54	22.46
		RB Size=1, RB Offset=14	22.47	22.72	22.43
		RB Size=8, RB Offset=0	21.79	21.85	21.90
		RB Size=8, RB Offset=4	21.87	21.93	21.78
		RB Size=8, RB Offset=7	21.85	21.87	21.71
		RB Size=15, RB Offset=0	21.85	21.89	21.77
	16QAM	RB Size=1, RB Offset=0	21.89	21.99	21.72
		RB Size=1, RB Offset=7	21.72	21.96	21.84
		RB Size=1, RB Offset=14	21.84	21.86	21.79
		RB Size=8, RB Offset=0	21.37	21.42	21.22
		RB Size=8, RB Offset=4	21.23	21.42	21.24
		RB Size=8, RB Offset=7	21.33	21.39	21.29
		RB Size=15, RB Offset=0	21.39	21.42	21.20

Bandwidth (MHz)	Modulation	RB size/RB Offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5.0	QPSK	RB Size=1, RB Offset=0	22.57	22.67	22.48
		RB Size=1, RB Offset=12	22.57	22.64	22.45
		RB Size=1, RB Offset=24	22.59	22.76	22.57
		RB Size=12, RB Offset=0	21.89	21.97	21.73
		RB Size=12, RB Offset=6	21.76	22.07	21.70
		RB Size=12, RB Offset=11	21.77	21.98	21.77
		RB Size=25, RB Offset=0	21.86	22.06	21.75
	16QAM	RB Size=1, RB Offset=0	21.91	21.99	21.70
		RB Size=1, RB Offset=12	21.91	21.94	21.87
		RB Size=1, RB Offset=24	21.92	22.04	21.74
		RB Size=12, RB Offset=0	21.24	21.43	21.36
		RB Size=12, RB Offset=6	21.34	21.39	21.31
		RB Size=12, RB Offset=11	21.36	21.51	21.34
		RB Size=25, RB Offset=0	21.25	21.52	21.27
10.0	QPSK	RB Size=1, RB Offset=0	22.47	22.61	22.45
		RB Size=1, RB Offset=24	22.44	22.65	22.48
		RB Size=1, RB Offset=49	22.53	22.69	22.43
		RB Size=25, RB Offset=0	21.87	21.84	21.76
		RB Size=25, RB Offset=12	21.73	21.99	21.83
		RB Size=25, RB Offset=24	21.85	21.99	21.78
		RB Size=50, RB Offset=0	21.75	22.04	21.88
	16QAM	RB Size=1, RB Offset=0	21.76	21.92	21.82
		RB Size=1, RB Offset=24	21.84	21.94	21.82
		RB Size=1, RB Offset=49	21.72	22.03	21.79
		RB Size=25, RB Offset=0	21.21	21.41	21.28
		RB Size=25, RB Offset=12	21.38	21.36	21.23
		RB Size=25, RB Offset=24	21.32	21.40	21.38
		RB Size=50, RB Offset=0	21.33	21.40	21.33

Bandwidth (MHz)	Modulation	RB size/RB Offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15.0	QPSK	RB Size=1, RB Offset=0	22.54	22.66	22.59
		RB Size=1, RB Offset=37	22.47	22.51	22.41
		RB Size=1, RB Offset=74	22.57	22.63	22.44
		RB Size=36, RB Offset=0	21.76	21.81	21.72
		RB Size=36, RB Offset=18	21.86	21.93	21.74
		RB Size=36, RB Offset=37	21.90	21.95	21.76
		RB Size=75, RB Offset=0	21.76	21.91	21.75
	16QAM	RB Size=1, RB Offset=0	21.84	21.98	21.88
		RB Size=1, RB Offset=37	21.71	21.92	21.78
		RB Size=1, RB Offset=74	21.87	21.92	21.76
		RB Size=36, RB Offset=0	21.32	21.38	21.35
		RB Size=36, RB Offset=18	21.36	21.45	21.24
		RB Size=36, RB Offset=37	21.27	21.44	21.32
		RB Size=75, RB Offset=0	21.27	21.49	21.29
20.0	QPSK	RB Size=1, RB Offset=0	22.55	22.59	22.45
		RB Size=1, RB Offset=49	22.43	22.44	22.46
		RB Size=1, RB Offset=99	22.39	22.49	22.56
		RB Size=50, RB Offset=0	21.71	21.87	21.74
		RB Size=50, RB Offset=24	21.73	21.76	21.75
		RB Size=50, RB Offset=49	21.81	21.77	21.89
		RB Size=100, RB Offset=0	21.88	21.88	21.78
	16QAM	RB Size=1, RB Offset=0	21.86	21.78	21.89
		RB Size=1, RB Offset=49	21.82	21.77	21.81
		RB Size=1, RB Offset=99	21.74	21.80	21.91
		RB Size=50, RB Offset=0	21.27	21.28	21.39
		RB Size=50, RB Offset=24	21.29	21.38	21.37
		RB Size=50, RB Offset=49	21.24	21.36	21.35
		RB Size=100, RB Offset=0	21.24	21.40	21.34

Peak-to-average ratio (PAR)

Modulation	Middle Channel (dB)	PAR Limit (dB)	Result
QPSK(1RB Size)	4.11	13	Pass
QPSK (100%RB Size)	4.85	13	Pass
16QAM (1RB Size)	3.78	13	Pass
16QAM (100%RB Size)	5.01	13	Pass

QPSK:

Frequency (MHz)	Receiver Reading (dBμV)	Turn table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		
Middle Channel									
1.4 MHz Bandwidth									
1732.50	75.18	87	2.1	H	12.8	0.30	9.90	22.40	30
1732.50	75.84	297	1.7	V	11.0	0.30	9.90	20.60	30
3 MHz Bandwidth									
1732.50	75.01	112	2.1	H	12.7	0.30	9.90	22.30	30
1732.50	75.68	8	1.3	V	10.8	0.30	9.90	20.40	30
5 MHz Bandwidth									
1732.50	74.90	87	1.5	H	12.6	0.30	9.90	22.20	30
1732.50	75.60	183	1.2	V	10.8	0.30	9.90	20.40	30
10MHz Bandwidth									
1732.50	74.89	222	1.9	H	12.5	0.30	9.90	22.10	30
1732.50	75.45	64	1.6	V	10.6	0.30	9.90	20.20	30
15 MHz Bandwidth									
1732.50	74.67	92	1.4	H	12.3	0.30	9.90	21.90	30
1732.50	75.41	116	1.9	V	10.6	0.30	9.90	20.20	30
20 MHz Bandwidth									
1732.50	74.24	260	1.5	H	11.9	0.30	9.90	21.50	30
1732.50	75.35	302	1.7	V	10.5	0.30	9.90	20.10	30

16QAM:

Frequency (MHz)	Receiver Reading (dBμV)	Turn table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		
Middle Channel									
1.4 MHz Bandwidth									
1732.50	75.25	306	1.1	H	12.9	0.30	9.90	22.50	30
1732.50	74.82	264	2.1	V	10.0	0.30	9.90	19.60	30
3 MHz Bandwidth									
1732.50	75.12	73	1.6	H	12.7	0.30	9.90	22.30	30
1732.50	74.73	279	1.3	V	9.9	0.30	9.90	19.50	30
5 MHz Bandwidth									
1732.50	74.93	69	2.1	H	12.6	0.30	9.90	22.20	30
1732.50	74.47	79	1.0	V	9.7	0.30	9.90	19.30	30
10 MHz Bandwidth									
1732.50	74.83	102	1.2	H	12.5	0.30	9.90	22.10	30
1732.50	74.49	86	2.5	V	9.7	0.30	9.90	19.30	30
15 MHz Bandwidth									
1732.50	74.47	133	2.2	H	12.1	0.30	9.90	21.70	30
1732.50	74.42	186	2.0	V	9.6	0.30	9.90	19.20	30
20 MHz Bandwidth									
1732.50	74.07	352	2.1	H	11.7	0.30	9.90	21.30	30
1732.50	74.25	19	2.4	V	9.4	0.30	9.90	19.00	30

LTE Band 7:**Maximum Output Power**

Bandwidth (MHz)	Modulation	RB size/RB Offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5.0	QPSK	RB Size=1, RB Offset=0	22.70	22.53	22.33
		RB Size=1, RB Offset=12	22.65	22.71	22.26
		RB Size=1, RB Offset=24	22.60	22.68	22.36
		RB Size=12, RB Offset=0	21.90	21.85	21.66
		RB Size=12, RB Offset=6	21.89	22.02	21.65
		RB Size=12, RB Offset=11	21.83	21.99	21.61
		RB Size=25, RB Offset=0	21.85	21.88	21.62
	16QAM	RB Size=1, RB Offset=0	21.96	22.03	21.60
		RB Size=1, RB Offset=12	21.88	22.02	21.58
		RB Size=1, RB Offset=24	21.99	22.01	21.62
		RB Size=12, RB Offset=0	21.47	21.38	21.06
		RB Size=12, RB Offset=6	21.38	21.46	21.12
		RB Size=12, RB Offset=11	21.41	21.40	21.10
		RB Size=25, RB Offset=0	21.41	21.51	21.16
10.0	QPSK	RB Size=1, RB Offset=0	22.59	22.49	22.36
		RB Size=1, RB Offset=24	22.52	22.51	22.19
		RB Size=1, RB Offset=49	22.52	22.49	22.30
		RB Size=25, RB Offset=0	21.92	21.86	21.51
		RB Size=25, RB Offset=12	21.78	21.81	21.53
		RB Size=25, RB Offset=24	21.85	21.69	21.48
		RB Size=50, RB Offset=0	21.92	21.87	21.54
	16QAM	RB Size=1, RB Offset=0	21.77	21.79	21.60
		RB Size=1, RB Offset=24	21.84	21.79	21.62
		RB Size=1, RB Offset=49	21.79	21.77	21.54
		RB Size=25, RB Offset=0	21.28	21.30	21.14
		RB Size=25, RB Offset=12	21.37	21.27	21.04
		RB Size=25, RB Offset=24	21.29	21.33	21.04
		RB Size=50, RB Offset=0	21.42	21.21	21.15

Bandwidth (MHz)	Modulation	RB size/RB Offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15.0	QPSK	RB Size=1, RB Offset=0	22.68	22.17	22.01
		RB Size=1, RB Offset=37	22.55	22.24	22.12
		RB Size=1, RB Offset=74	22.59	22.14	22.15
		RB Size=36, RB Offset=0	21.92	21.58	21.30
		RB Size=36, RB Offset=18	22.01	21.54	21.38
		RB Size=36, RB Offset=37	22.04	21.45	21.43
		RB Size=75, RB Offset=0	22.01	21.49	21.44
	16QAM	RB Size=1, RB Offset=0	21.84	21.46	21.31
		RB Size=1, RB Offset=37	21.91	21.47	21.38
		RB Size=1, RB Offset=74	21.97	21.53	21.40
		RB Size=36, RB Offset=0	21.47	21.09	20.84
		RB Size=36, RB Offset=18	21.37	20.92	20.90
		RB Size=36, RB Offset=37	21.49	20.94	20.77
		RB Size=75, RB Offset=0	21.50	20.91	20.78
20.0	QPSK	RB Size=1, RB Offset=0	22.55	22.25	22.28
		RB Size=1, RB Offset=49	22.64	22.39	22.27
		RB Size=1, RB Offset=99	22.57	22.28	22.23
		RB Size=50, RB Offset=0	21.81	21.67	21.60
		RB Size=50, RB Offset=24	21.86	21.56	21.53
		RB Size=50, RB Offset=49	21.97	21.51	21.49
		RB Size=100, RB Offset=0	21.96	21.63	21.53
	16QAM	RB Size=1, RB Offset=0	21.84	21.63	21.46
		RB Size=1, RB Offset=49	21.97	21.70	21.58
		RB Size=1, RB Offset=99	21.84	21.54	21.45
		RB Size=50, RB Offset=0	21.41	21.09	21.01
		RB Size=50, RB Offset=24	21.47	21.08	20.99
		RB Size=50, RB Offset=49	21.37	21.02	20.95
		RB Size=100, RB Offset=0	21.35	21.18	20.93

Peak-to-average ratio (PAR)

Modulation	Middle Channel (dB)	PAR Limit (dB)	Result
QPSK(1RB Size)	3.99	13	Pass
QPSK (100%RB Size)	4.23	13	Pass
16QAM (1RB Size)	3.73	13	Pass
16QAM (100%RB Size)	4.84	13	Pass

EIRP:**QPSK:**

Frequency (MHz)	Receiver Reading (dBμV)	Turn table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		
Middle Channel									
5 MHz Bandwidth									
2535.00	69.12	314	1.9	H	11.7	0.43	10.60	21.87	33
2535.00	62.42	310	1.8	V	3.3	0.43	10.60	13.47	33
10 MHz Bandwidth									
2535.00	68.93	325	1.9	H	11.5	0.43	10.60	21.67	33
2535.00	62.37	156	2.0	V	3.2	0.43	10.60	13.37	33
15 MHz Bandwidth									
2535.00	68.89	315	1.8	H	11.5	0.43	10.60	21.67	33
2535.00	62.21	188	2.1	V	3.1	0.43	10.60	13.27	33
20 MHz Bandwidth									
2535.00	68.28	294	2.5	H	10.9	0.43	10.60	21.07	33
2535.00	62.16	225	1.8	V	3.0	0.43	10.60	13.17	33

16QAM:

Frequency (MHz)	Receiver Reading (dBμV)	Turn table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		
Middle Channel									
5 MHz Bandwidth									
2535.00	69.89	55	2.3	H	12.4	0.43	10.60	22.57	33
2535.00	62.41	116	2.4	V	3.3	0.43	10.60	13.47	33
10 MHz Bandwidth									
2535.00	69.34	117	1.4	H	11.9	0.43	10.60	22.07	33
2535.00	61.49	186	2.4	V	2.3	0.43	10.60	12.47	33
15 MHz Bandwidth									
2535.00	68.95	83	2.0	H	11.5	0.43	10.60	21.67	33
2535.00	61.37	348	2.1	V	2.2	0.43	10.60	12.37	33
20 MHz Bandwidth									
2535.00	68.77	212	2.2	H	11.3	0.43	10.60	21.47	33
2535.00	61.11	313	2.2	V	2.0	0.43	10.60	12.17	33

LTE Band 17:**Maximum Output Power**

Bandwidth (MHz)	Modulation	RB size/RB Offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5.0	QPSK	RB Size=1, RB Offset=0	23.34	23.25	23.12
		RB Size=1, RB Offset=12	23.35	23.23	23.16
		RB Size=1, RB Offset=24	23.32	23.28	23.09
		RB Size=12, RB Offset=0	22.56	22.56	22.38
		RB Size=12, RB Offset=6	22.71	22.69	22.50
		RB Size=12, RB Offset=11	22.61	22.62	22.35
		RB Size=25, RB Offset=0	22.72	22.53	22.49
	16QAM	RB Size=1, RB Offset=0	22.69	22.60	22.33
		RB Size=1, RB Offset=12	22.67	22.51	22.51
		RB Size=1, RB Offset=24	22.60	22.57	22.51
		RB Size=12, RB Offset=0	22.13	22.08	21.95
		RB Size=12, RB Offset=6	22.06	22.05	22.00
		RB Size=12, RB Offset=11	22.17	22.12	22.00
		RB Size=25, RB Offset=0	22.07	22.06	21.86
10.0	QPSK	RB Size=1, RB Offset=0	23.31	23.28	23.17
		RB Size=1, RB Offset=24	23.29	23.18	23.09
		RB Size=1, RB Offset=49	23.38	23.23	23.22
		RB Size=25, RB Offset=0	22.59	22.59	22.47
		RB Size=25, RB Offset=12	22.55	22.56	22.38
		RB Size=25, RB Offset=24	22.51	22.53	22.43
		RB Size=50, RB Offset=0	22.52	22.48	22.51
	16QAM	RB Size=1, RB Offset=0	22.52	22.64	22.39
		RB Size=1, RB Offset=24	22.59	22.48	22.54
		RB Size=1, RB Offset=49	22.67	22.48	22.46
		RB Size=25, RB Offset=0	22.09	22.09	21.89
		RB Size=25, RB Offset=12	22.19	21.98	21.87
		RB Size=25, RB Offset=24	22.16	22.06	22.02
		RB Size=50, RB Offset=0	22.10	22.11	22.03

Peak-to-average ratio (PAR)

Modulation	Middle Channel (dB)	PAR Limit (dB)	Result
QPSK(1RB Size)	4.32	13	Pass
QPSK (100%RB Size)	5.24	13	Pass
16QAM (1RB Size)	4.21	13	Pass
16QAM (100%RB Size)	5.69	13	Pass

QPSK:

Frequency (MHz)	Receiver Reading (dBμV)	Turn table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		
Middle Channel									
5 MHz Bandwidth									
710	89.62	67	2.3	H	18.6	0.36	4.25	22.49	34.78
710	82.76	284	2.3	V	11.7	0.36	4.25	15.59	34.78
10 MHz Bandwidth									
710	88.94	154	2.2	H	17.9	0.36	4.25	21.79	34.78
710	81.48	229	1.1	V	10.5	0.36	4.25	14.39	34.78

16QAM:

Frequency (MHz)	Receiver Reading (dBμV)	Turn table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		
Middle Channel									
5 MHz Bandwidth									
710	89.56	333	1.7	H	18.5	0.36	4.25	22.39	34.78
710	81.60	193	1.8	V	10.6	0.36	4.25	14.49	34.78
10 MHz Bandwidth									
710	89.07	262	1.2	H	18.0	0.36	4.25	21.89	34.78
710	80.57	286	2.1	V	9.6	0.36	4.25	13.49	34.78

Note:

All above data were tested with no amplifier

Absolute Level = SG Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

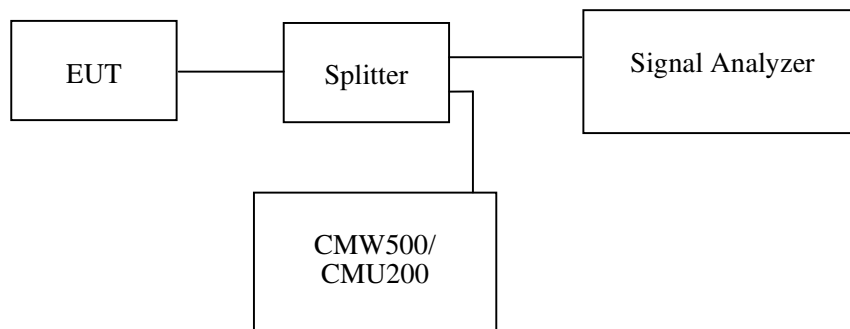
FCC §2.1049, §22.917, §22.905 & §24.238 & §27.53- BANDWIDTH**Applicable Standard**

FCC §2.1049, §22.917, §22.905, §24.238 and §27.53.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 5 kHz (GSM) & 100 kHz (WCDMA) and the 26 dB & 99% bandwidth was recorded.

**Test Data****Environmental Conditions**

Temperature:	20~25℃
Relative Humidity:	50~55%
ATM Pressure:	100.0~101.0 kPa

The testing was performed by Nefertari Xu on 2016-11-07 and 2016-11-21.

EUT operation mode: Transmitting

Test Result: Compliance. Please refer to the following tables and plots.

Cellular Band (Part 22H)

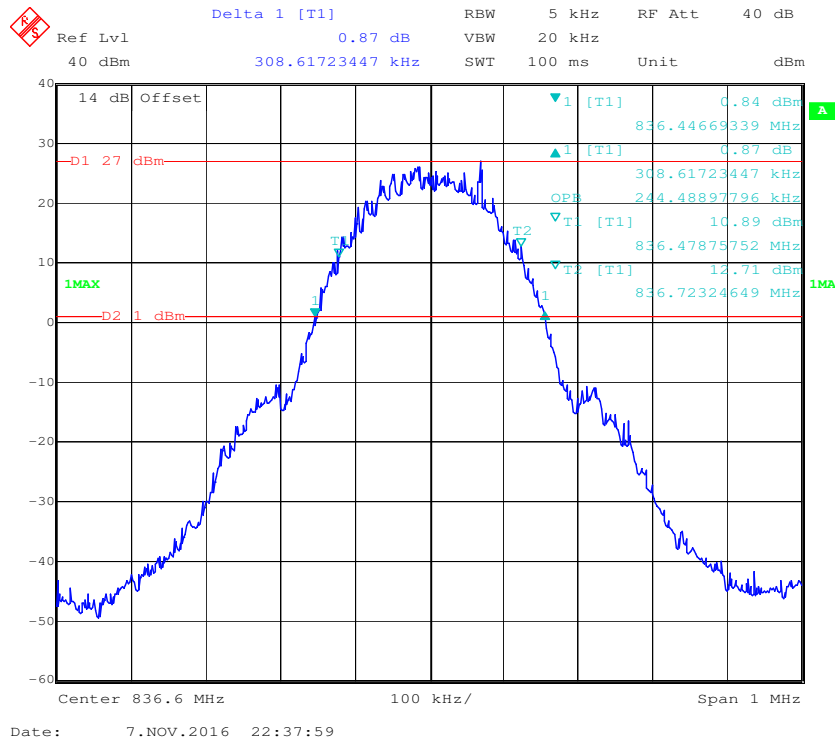
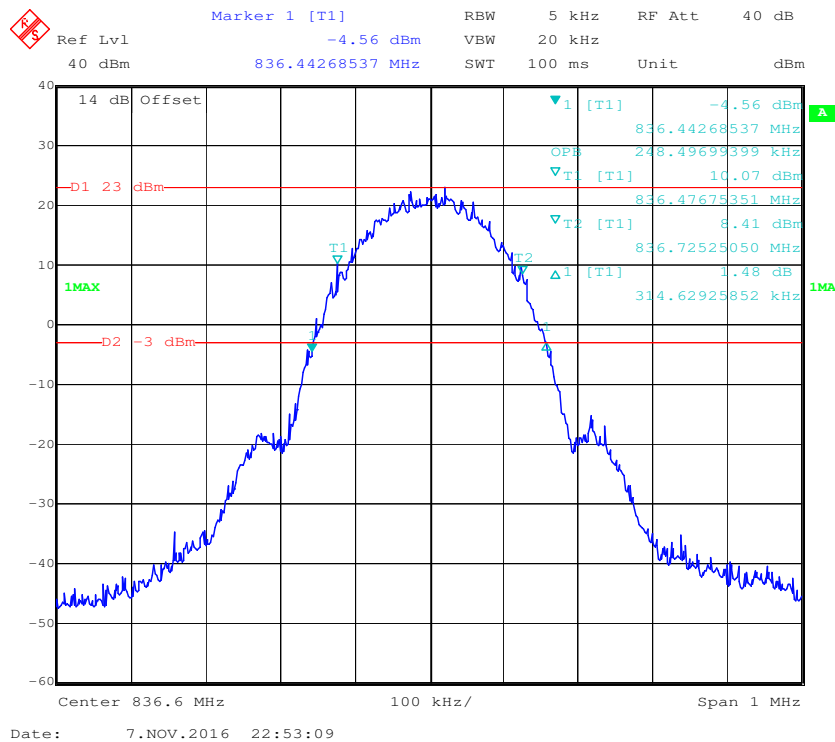
Mode	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	836.6	244.5	308.6
EGPRS(8PSK)	836.6	248.5	314.6

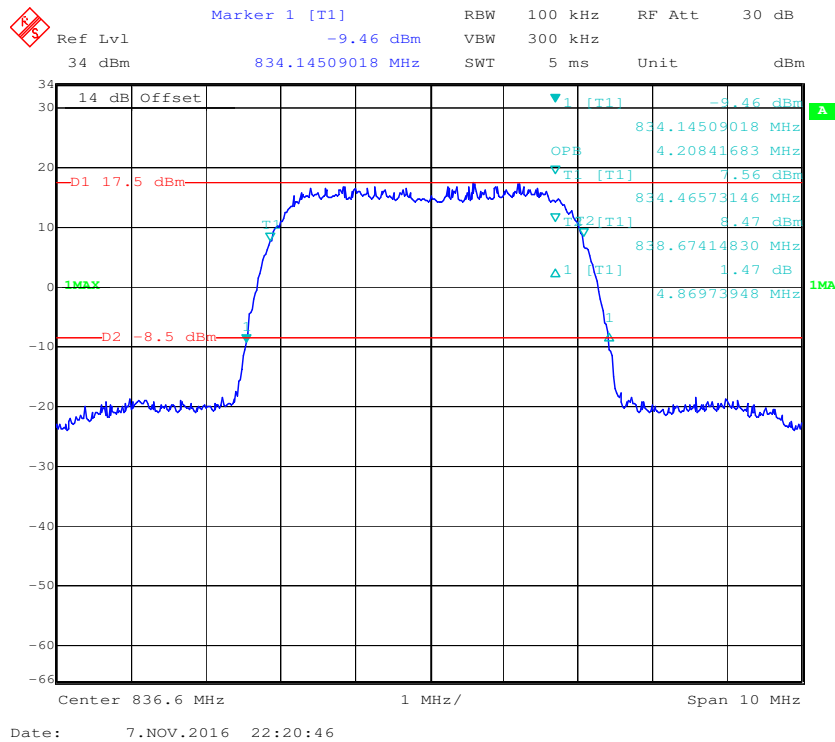
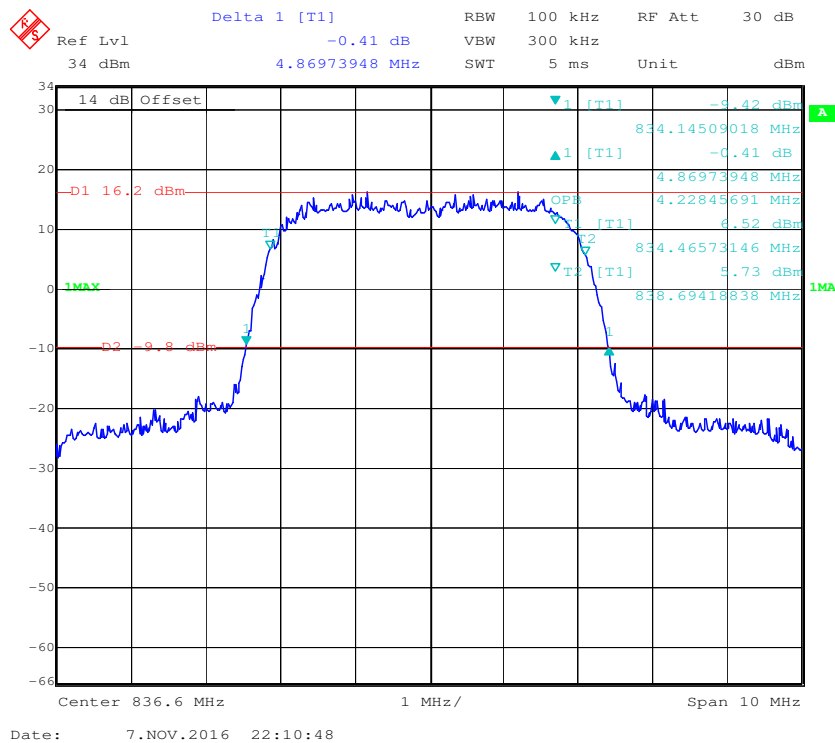
Mode	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
RMC (BPSK)	836.6	4.208	4.870
HSUPA (BPSK)	836.6	4.228	4.870
HSDPA (16QAM)	836.6	4.208	4.910

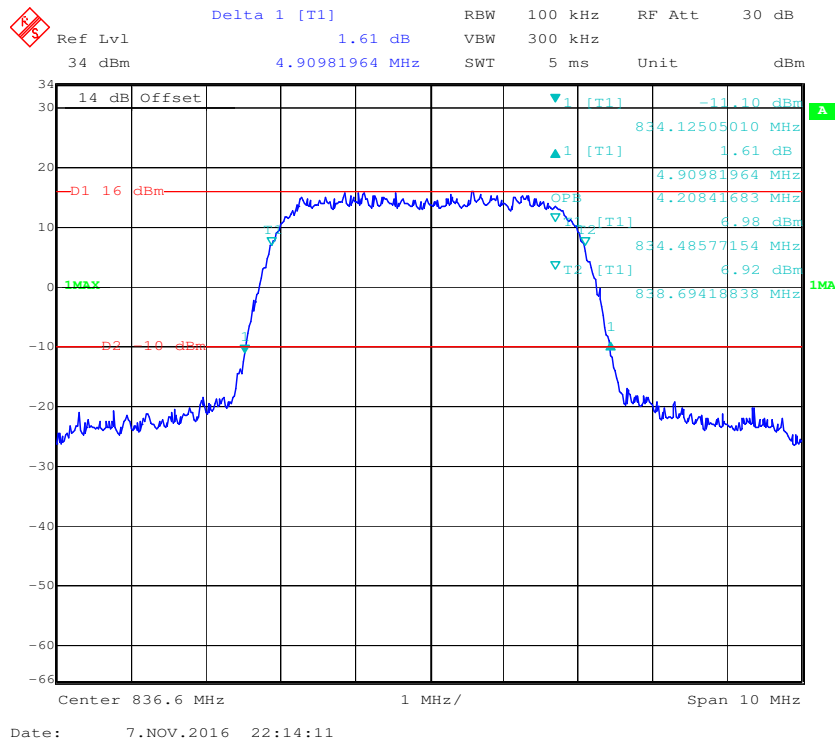
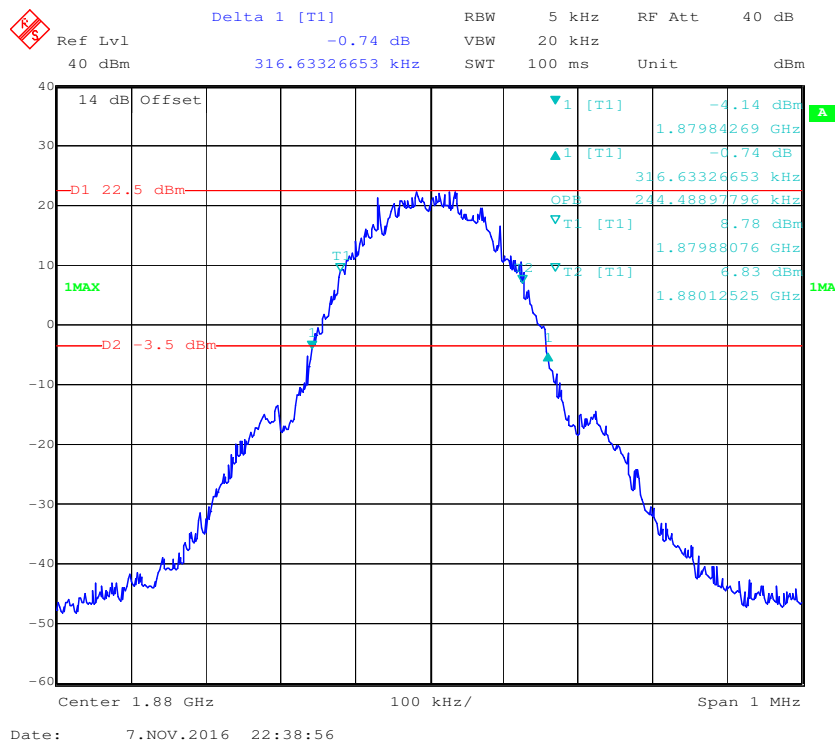
PCS Band (Part 24E)

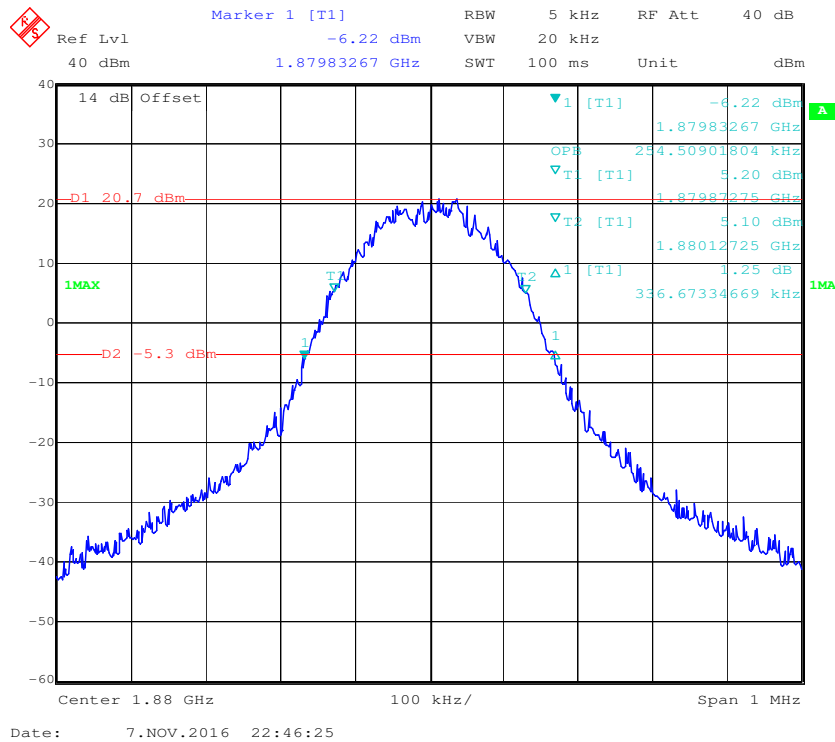
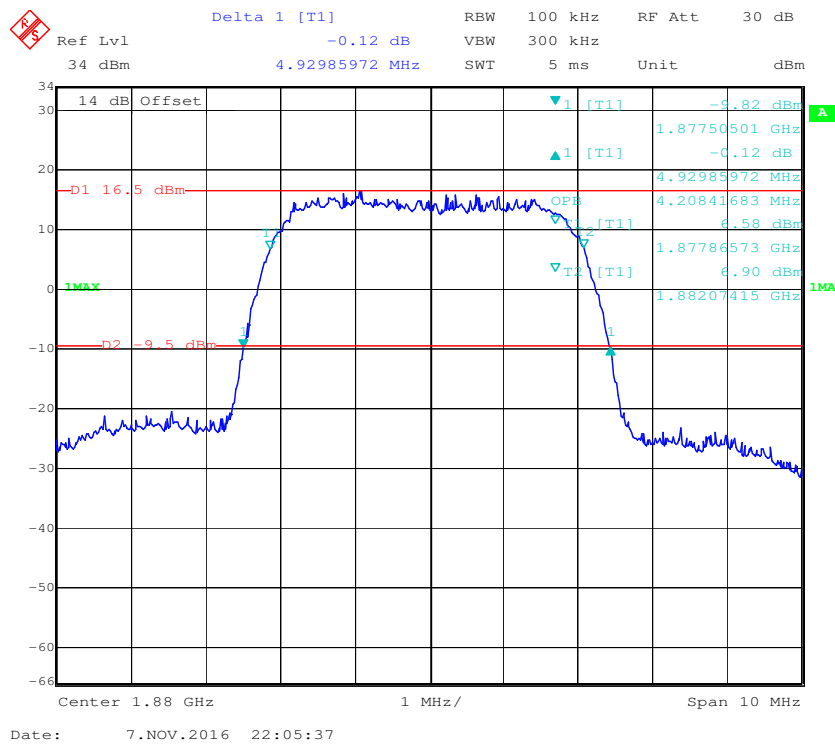
Mode	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	1880.0	244.5	316.6
EGPRS(8PSK)	1880.0	254.5	336.7

Mode	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
RMC (BPSK)	1880.0	4.208	4.930
HSUPA (BPSK)	1880.0	4.208	4.910
HSDPA (16QAM)	1880.0	4.208	4.950

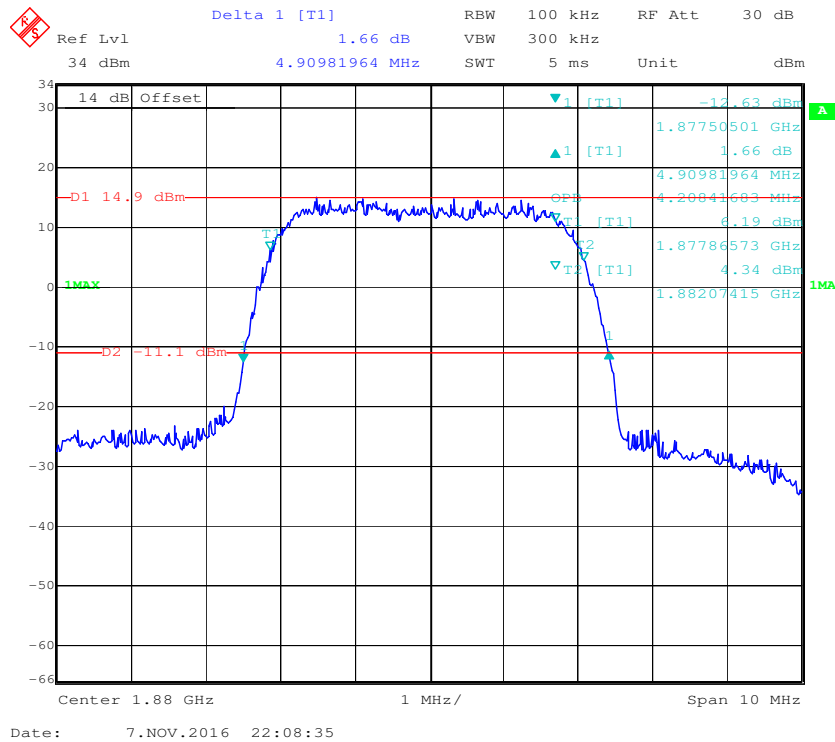
Cellular Band (Part 22H)**26 dB Emissions Bandwidth & 99% Occupied Bandwidth for GSM (GMSK) Mode****26 dB Emissions Bandwidth & 99% Occupied Bandwidth for EGPRS (8PSK) Mode**

26 dB Emissions Bandwidth & 99% Occupied Bandwidth for RMC (BPSK) Mode**26 dB Emissions Bandwidth & 99% Occupied Bandwidth for HSUPA (BPSK) Mode**

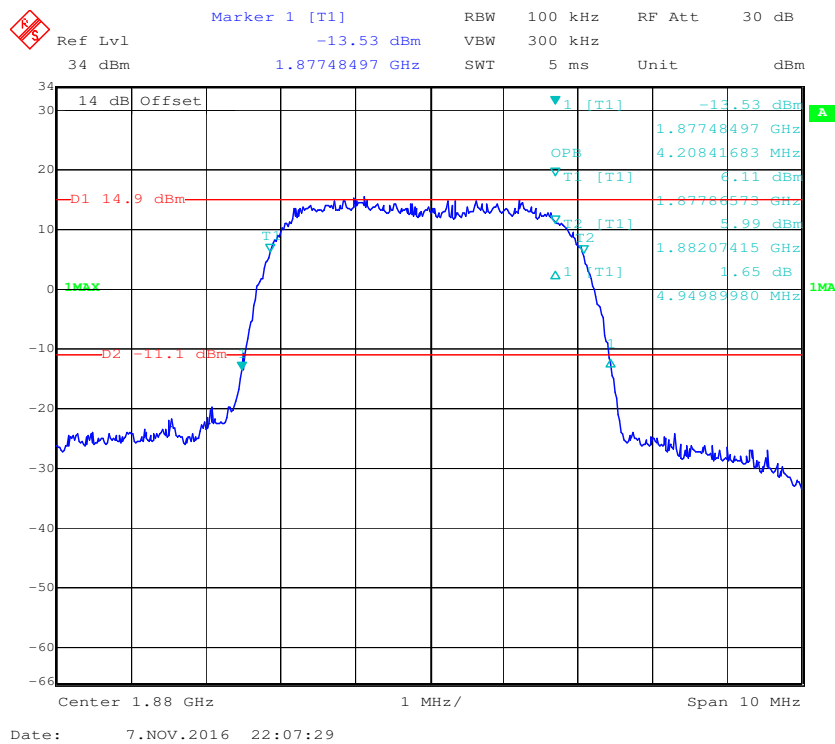
26 dB Emissions Bandwidth & 99% Occupied Bandwidth for HSDPA (16QAM) Mode**PCS Band (Part 24E)****26 dB Emissions Bandwidth & 99% Occupied Bandwidth for GSM (GMSK) Mode**

26 dB Emissions Bandwidth & 99% Occupied Bandwidth for EGPRS (8PSK) Mode**26 dB Emissions Bandwidth & 99% Occupied Bandwidth for RMC (BPSK) Mode**

26 dB Emissions Bandwidth & 99% Occupied Bandwidth for HSUPA (BPSK) Mode

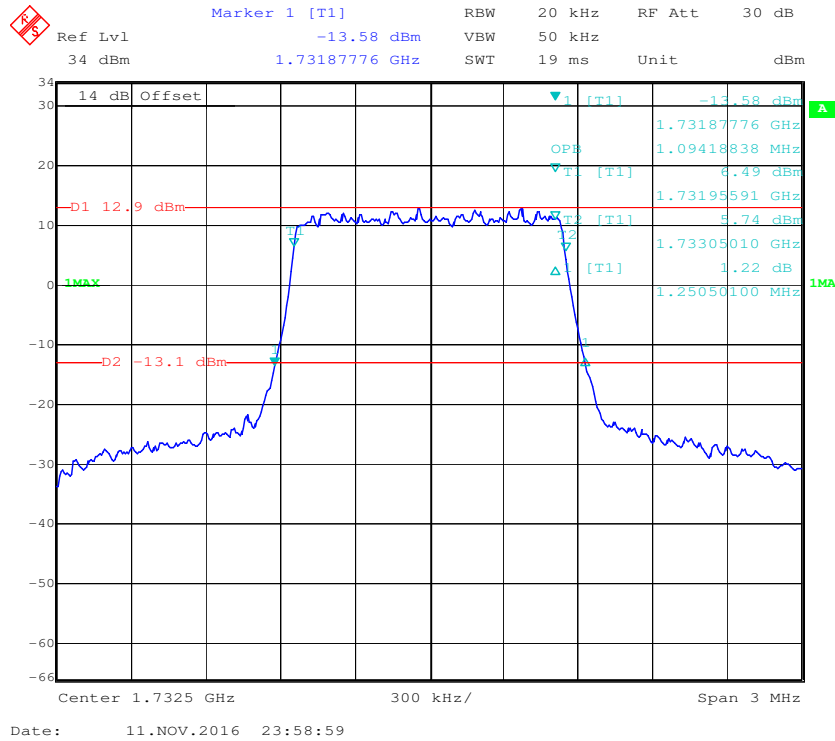
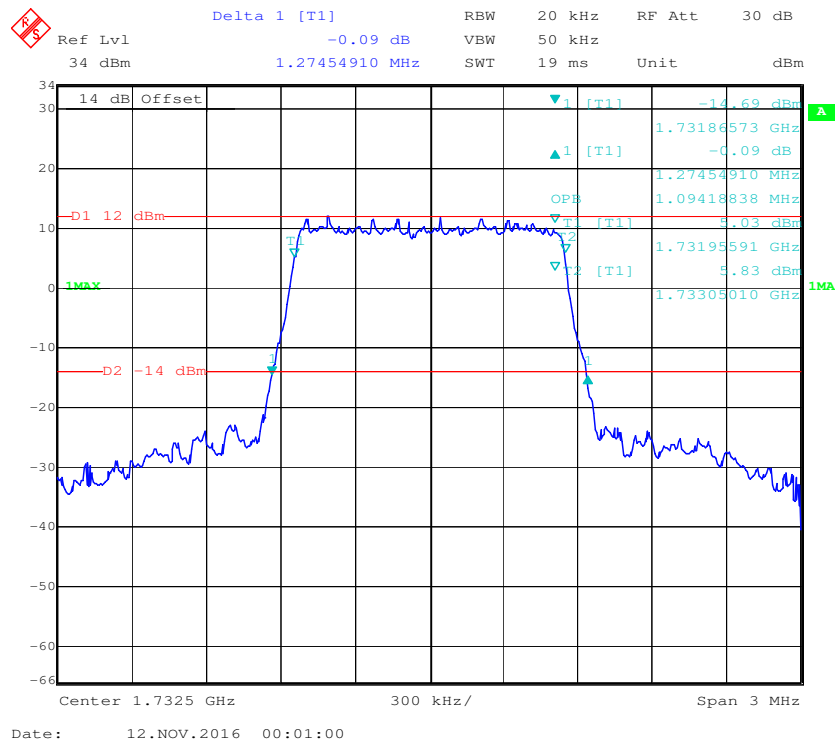


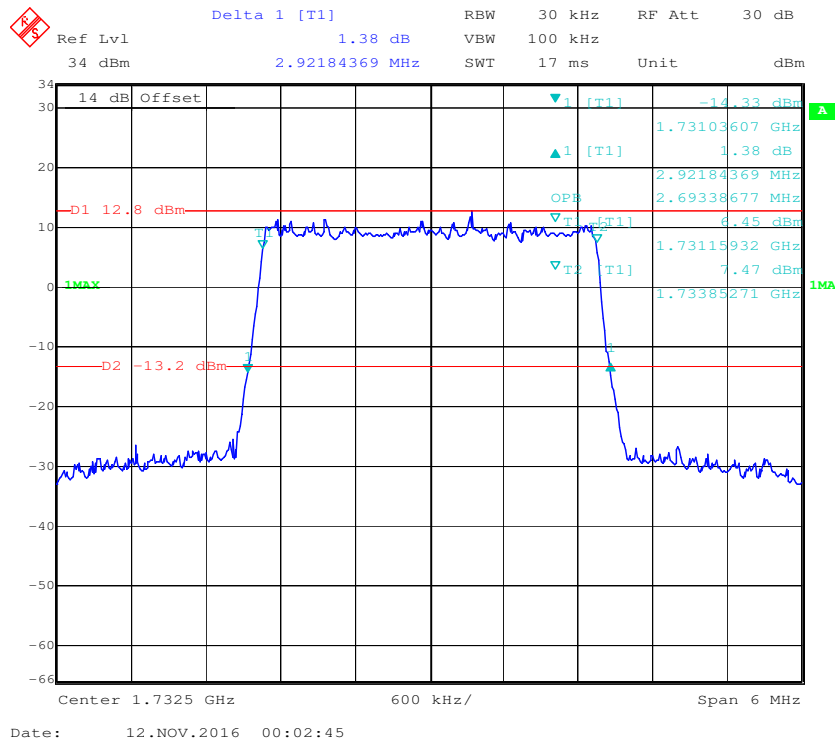
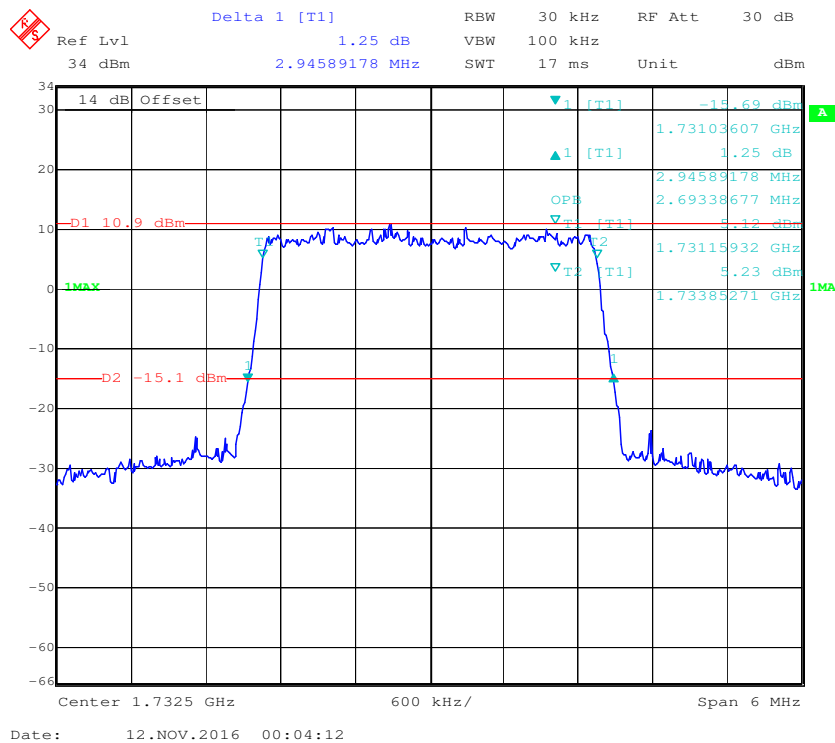
26 dB Emissions Bandwidth & 99% Occupied Bandwidth for HSDPA (16QAM) Mode



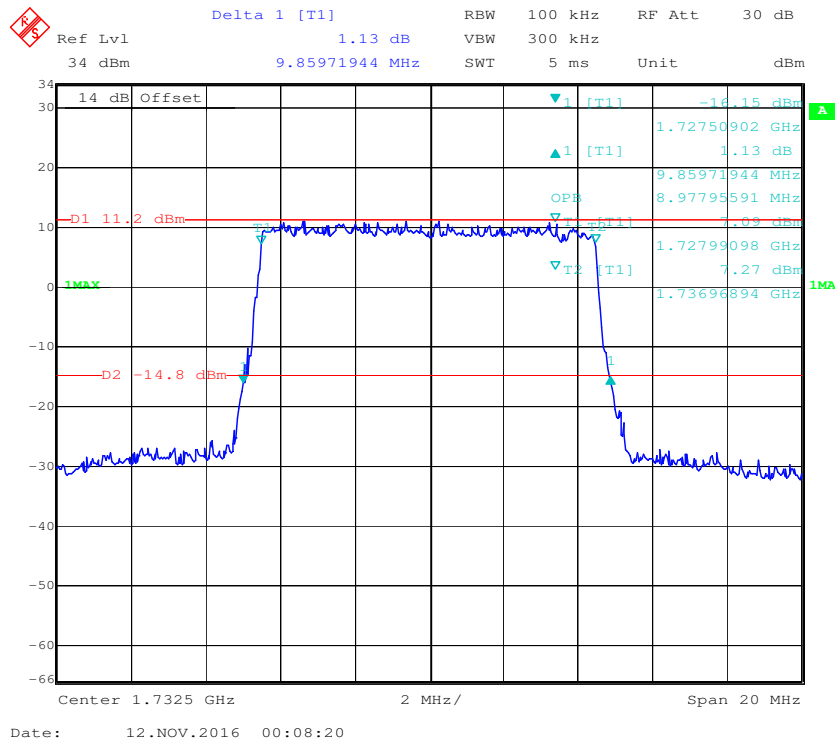
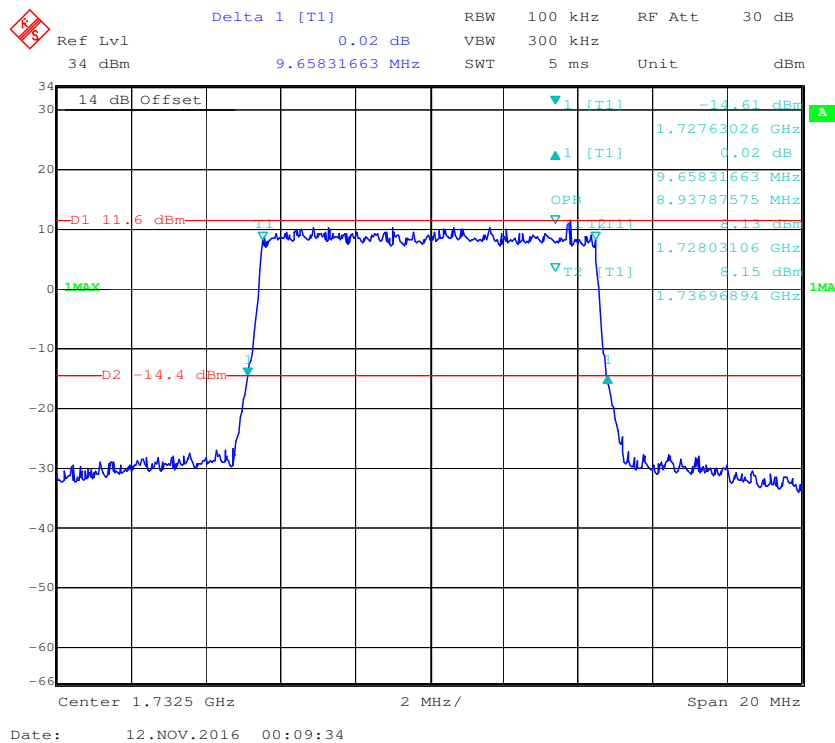
LTE Band 4: (Middle Channel)

Bandwidth (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	1.094	1.251
	16QAM	1.094	1.275
3.0	QPSK	2.693	2.922
	16QAM	2.693	2.946
5.0	QPSK	4.509	4.970
	16QAM	4.509	4.970
10.0	QPSK	8.978	9.860
	16QAM	8.938	9.658
15.0	QPSK	13.527	14.829
	16QAM	13.467	14.648
20.0	QPSK	17.876	19.217
	16QAM	17.956	19.217

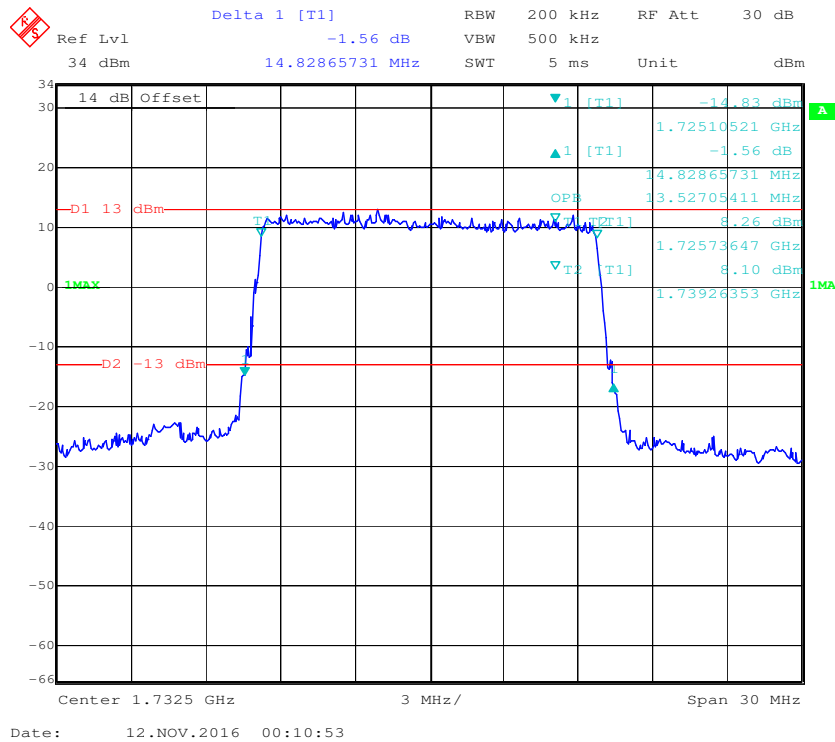
QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

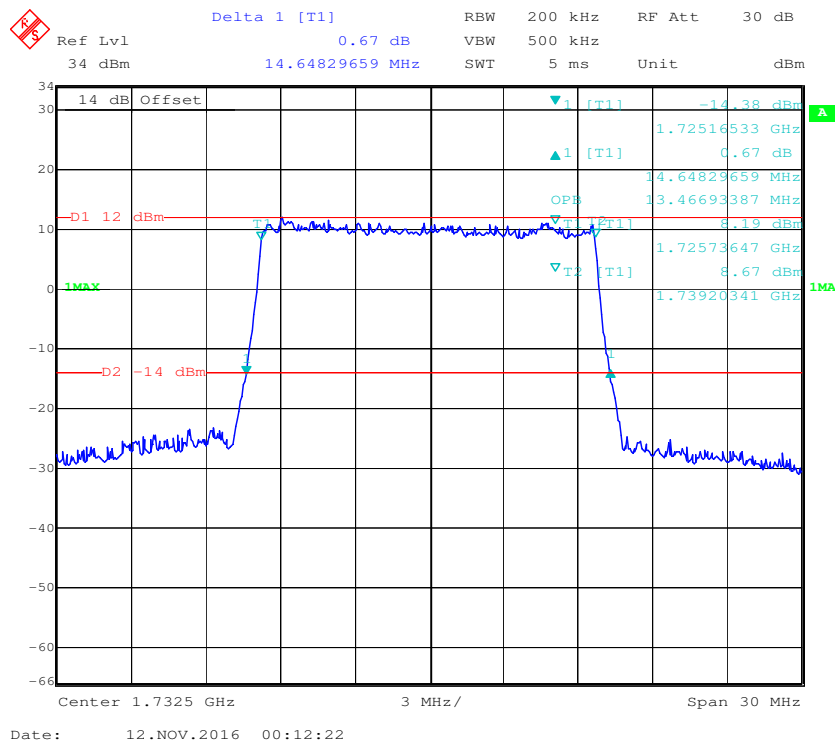
[illegible][illegible]

QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

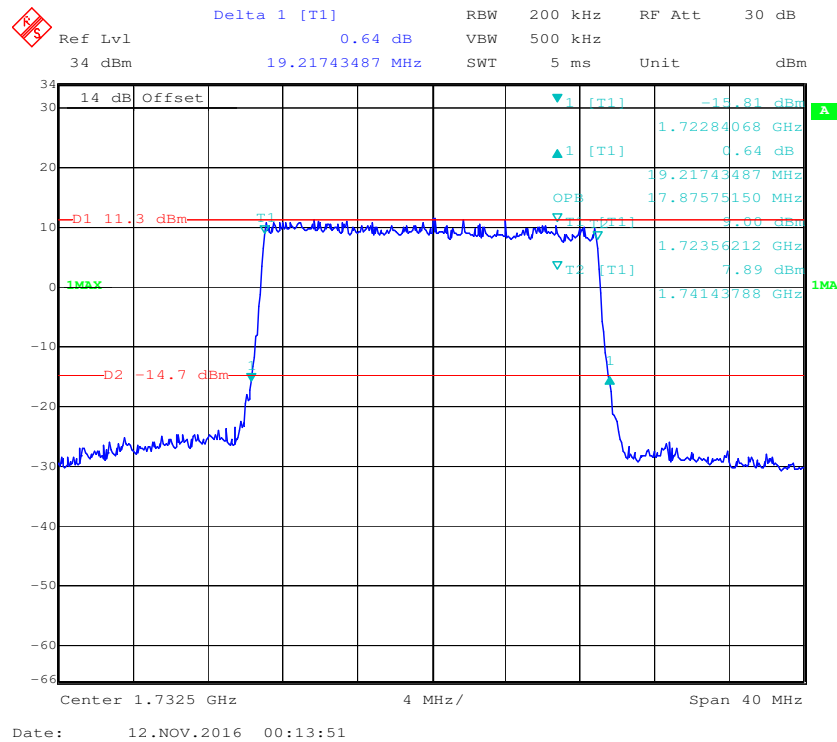
QPSK (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



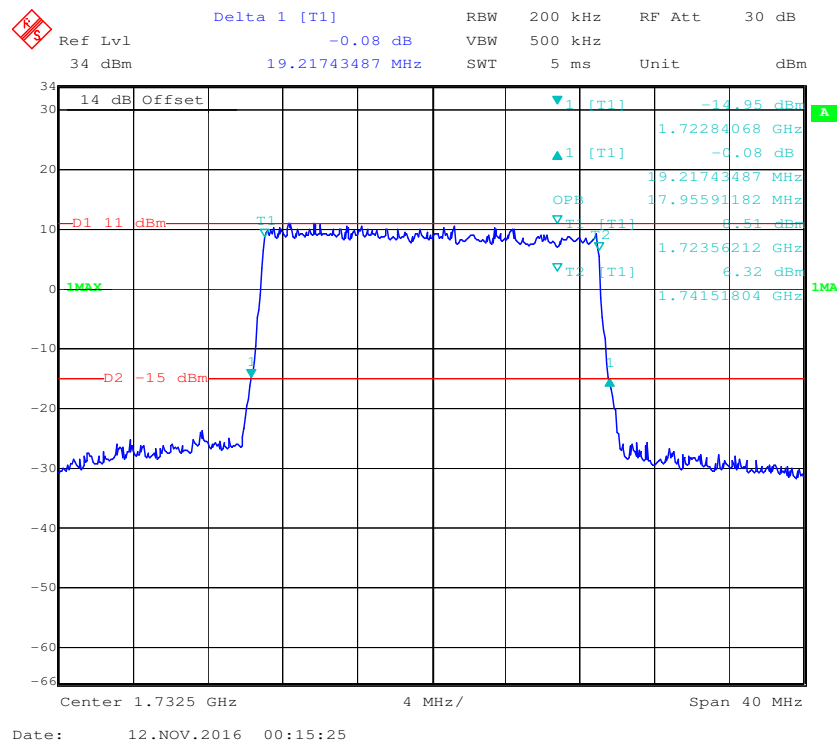
16-QAM (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



QPSK (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel

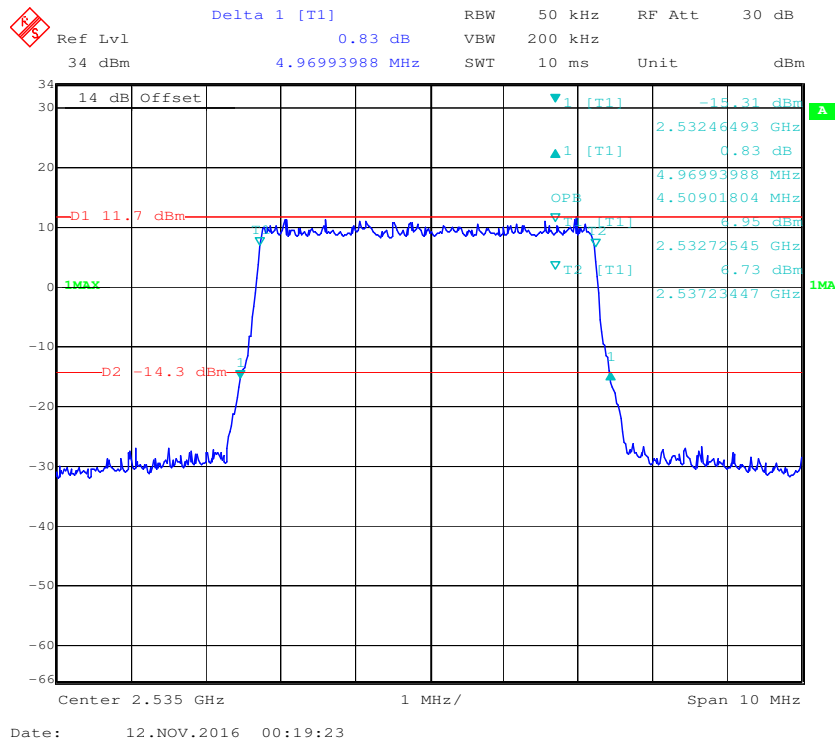
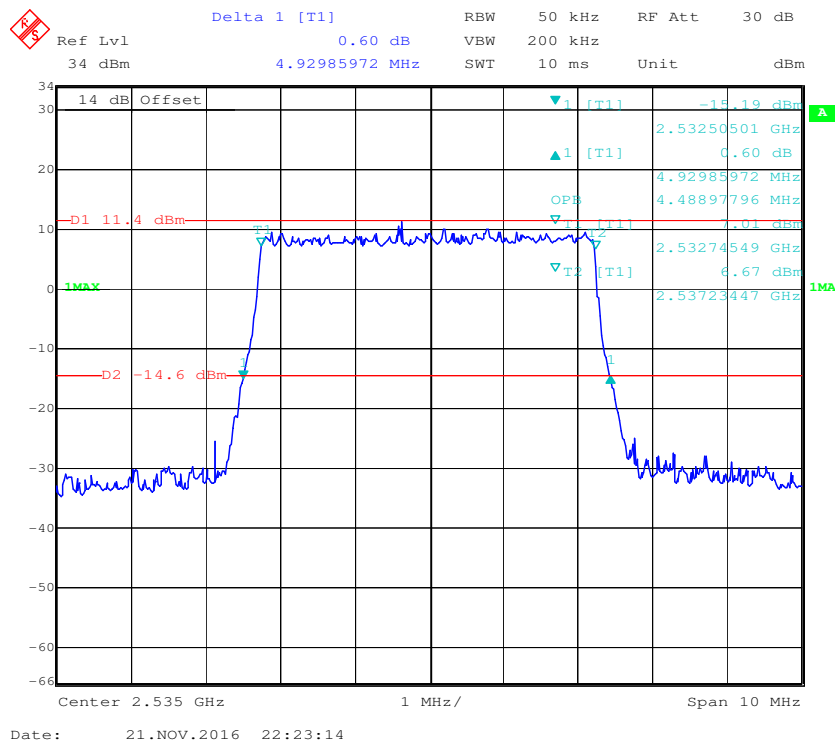


16-QAM (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel

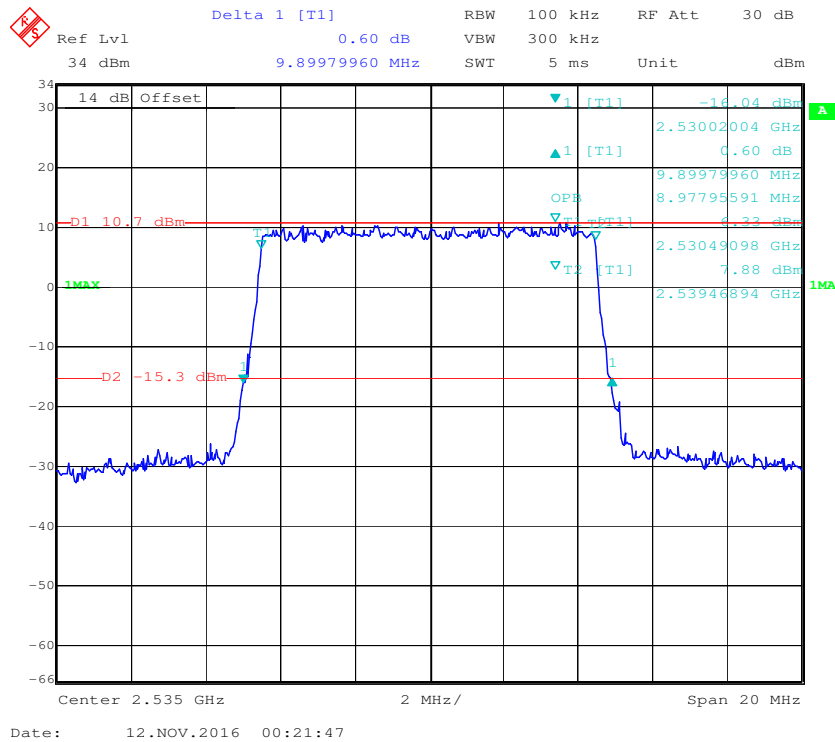


LTE Band 7: (Middle Channel)

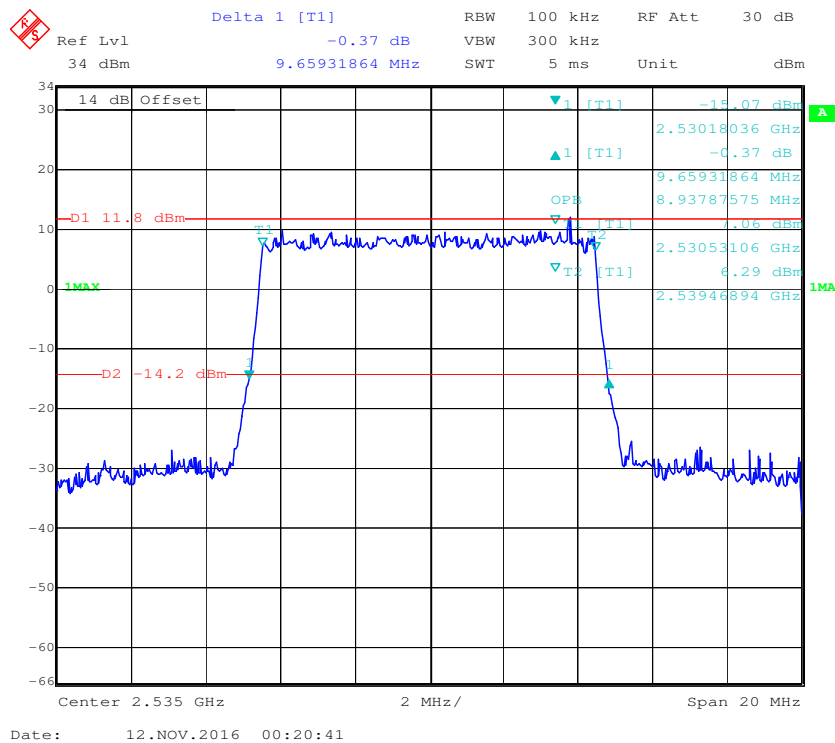
Bandwidth (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5.0	QPSK	4.509	4.970
	16QAM	4.489	4.930
10.0	QPSK	8.978	9.900
	16QAM	8.938	9.660
15.0	QPSK	13.527	14.830
	16QAM	13.527	14.770
20.0	QPSK	18.036	19.319
	16QAM	17.956	19.319

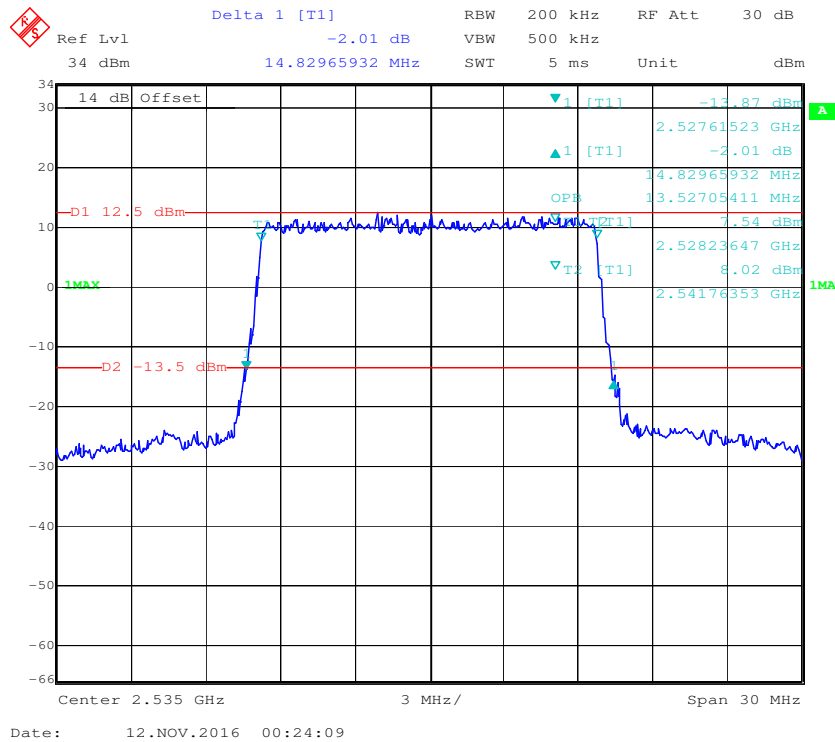
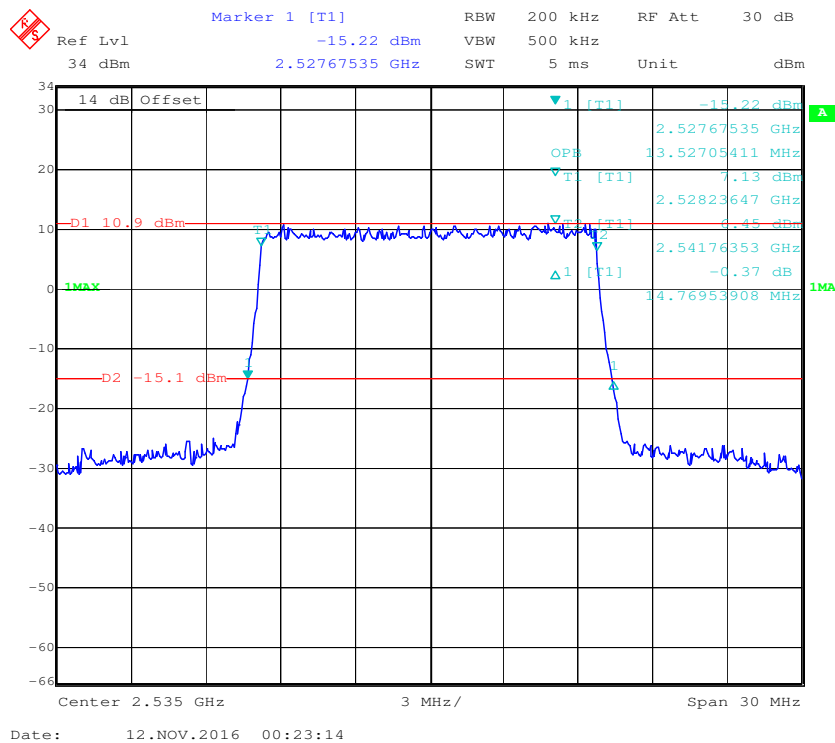
QPSK (5.0 MHz) - 99% Occupied& 26 dB Emissions Bandwidth, Middle channel**16-QAM (5.0 MHz) - 99% Occupied& 26 dB Emissions Bandwidth, Middle channel**

QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel

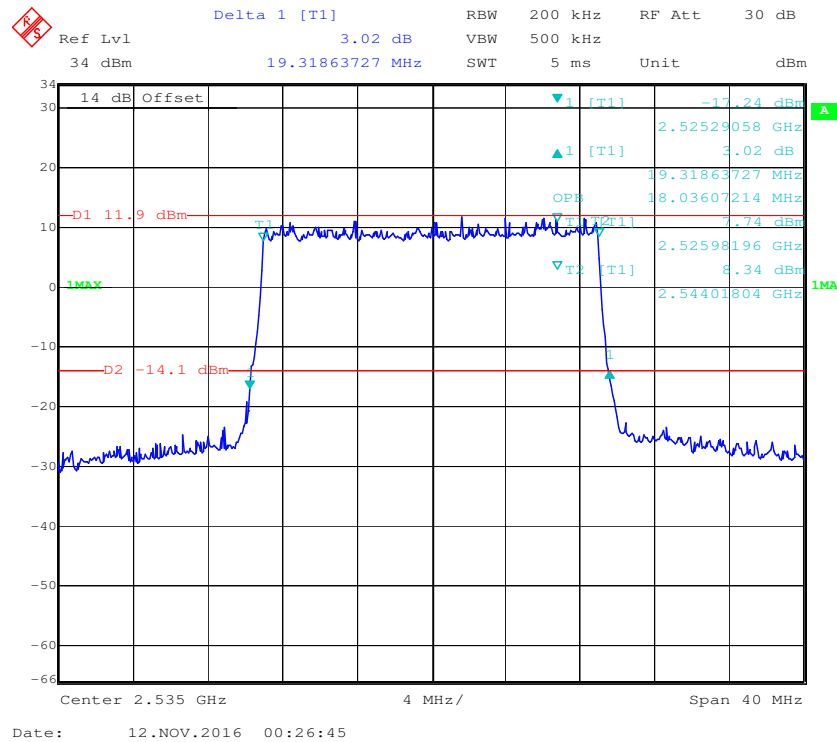


16-QAM (10.0MHz) - 99% Occupied& 26 dB Emissions Bandwidth, Middle channel

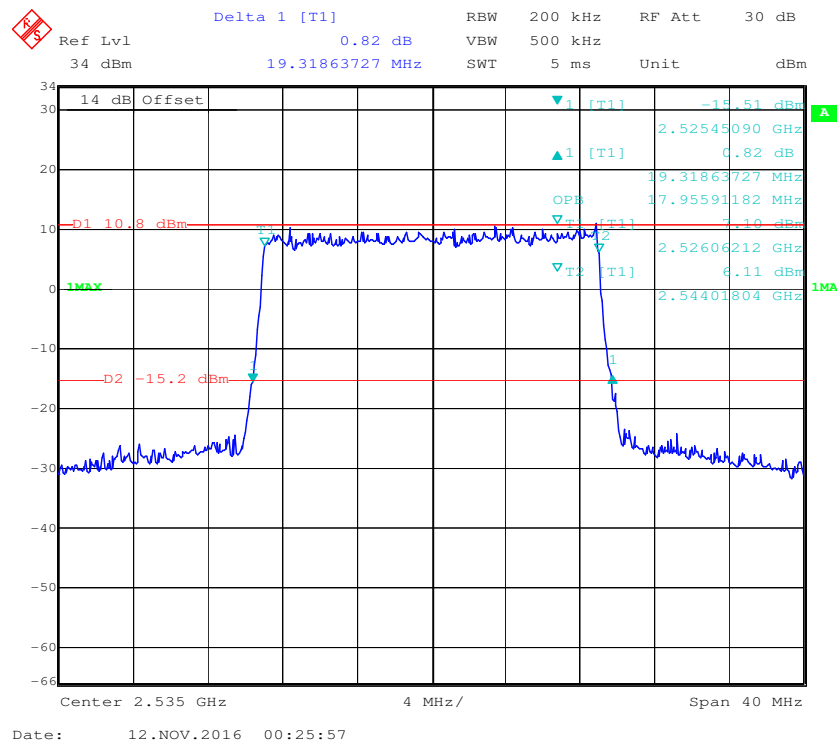


QPSK (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**16-QAM (15.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

QPSK (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel

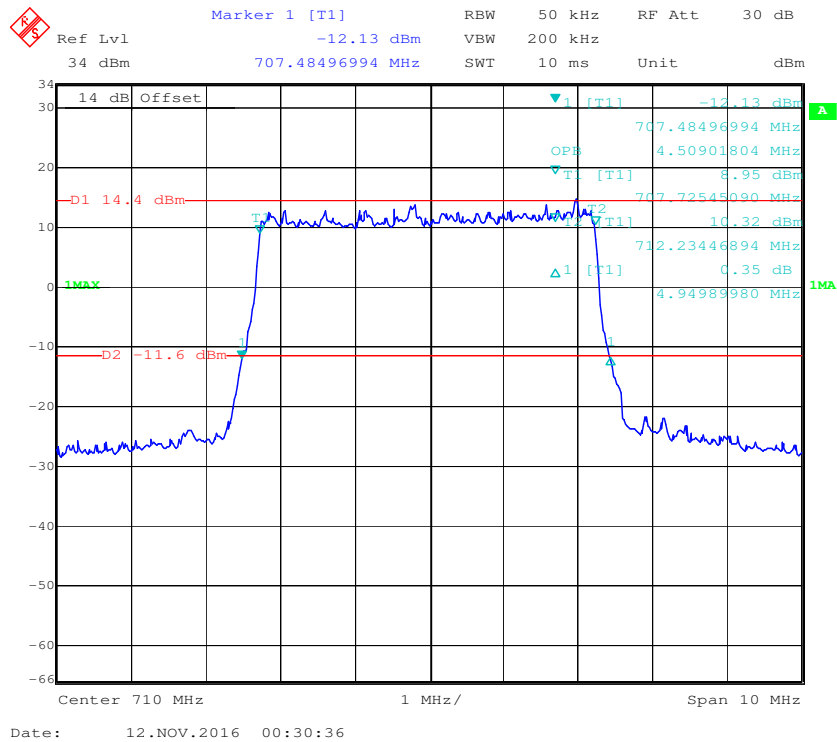
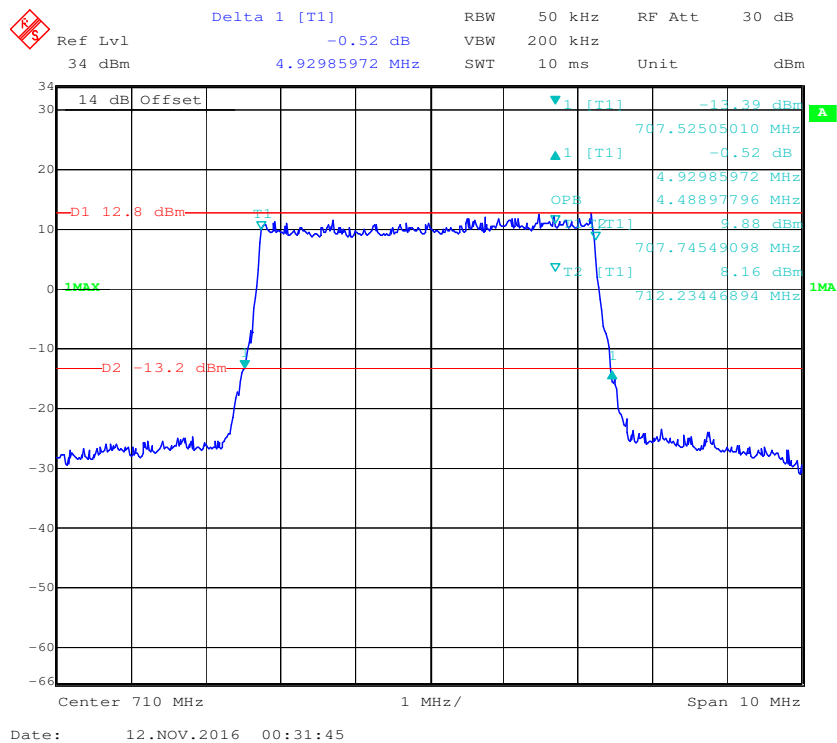


16-QAM (20.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel



LTE Band 17: (Middle Channel)

Bandwidth (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5.0	QPSK	4.509	4.950
	16QAM	4.890	4.930
10.0	QPSK	9.018	9.820
	16QAM	8.978	9.820

QPSK (5.0 MHz) - 99% Occupied& 26 dB Emissions, Middle channel**16-QAM (5.0 MHz) - 99% Occupied& 26 dB Emissions, Middle channel**

Delta 1 [T1] 1.48 dB

RBW 100 kHz VBW 300 kHz RF Att 30 dB

Ref Lvl 34 dBm 9.81963928 MHz SWT 5 ms Unit dBm

14 dB Offset

D1 13 dBm

14 dB

30 dB

20 dB

10 dB

0 dB

-10 dB

-20 dB

-30 dB

-40 dB

-50 dB

-60 dB

-66 dB

Center 710 MHz 2 MHz/ Span 20 MHz

T1 [T1] -15.12 dBm

705.04008016 MHz

9.81963928 MHz

9.01803607 MHz

8.25 dBm

705.49098196 MHz

8.26 dBm

714.50901804 MHz

T2 [T1]

1MA

Delta 1 [T1] -0.49 dB

Ref Lvl 34 dBm

RBW 100 kHz

VBW 300 kHz

SWT 5 ms

RF Att 30 dB

Unit dBm

14 dB Offset

D1 12.4 dBm

D2 -13.6 dBm

Center 710 MHz

2 MHz/

Span 20 MHz

Date: 12.NOV.2016 00:34:04

FCC §2.1051, §22.917(a) & §24.238(a) & §27.53 (h) (m) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

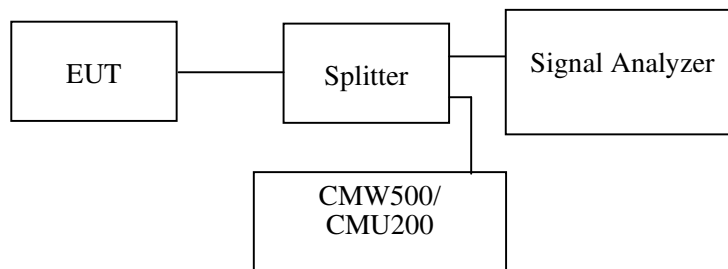
Applicable Standard

FCC §2.1051, §22.917(a) , §24.238(a) and §27.53(h) (m).

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Data

Environmental Conditions

Temperature:	23~25°C
Relative Humidity:	53~55 %
ATM Pressure:	101.0 kPa

The testing was performed by Nefertari Xu on 2016-11-07 and 2016-11-14.

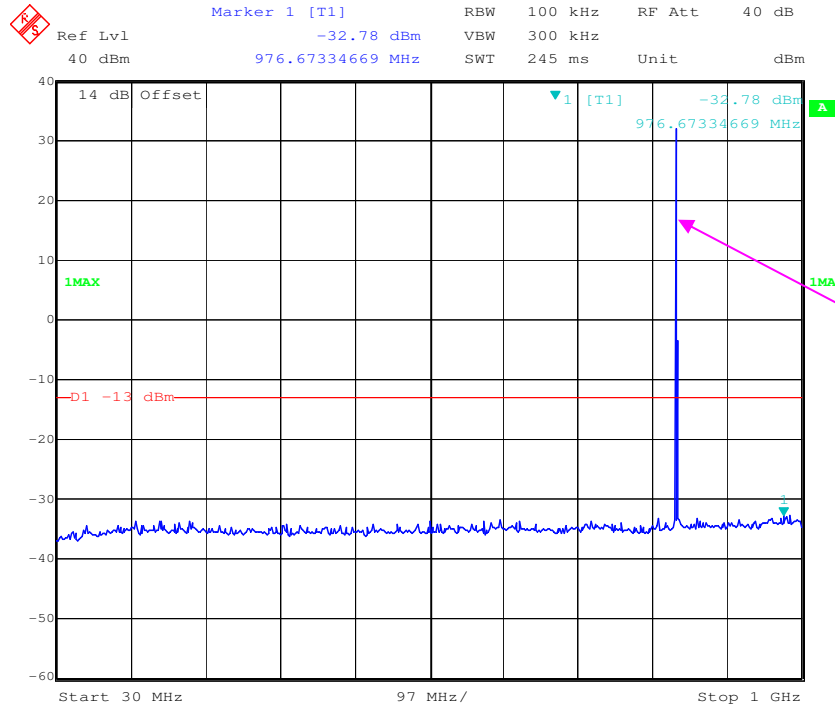
Test result: Compliance,

EUT operation mode: Transmitting

Please refer to the following plots.

Cellular Band (Part 22H)

30 MHz – 1 GHz (GSM Mode)



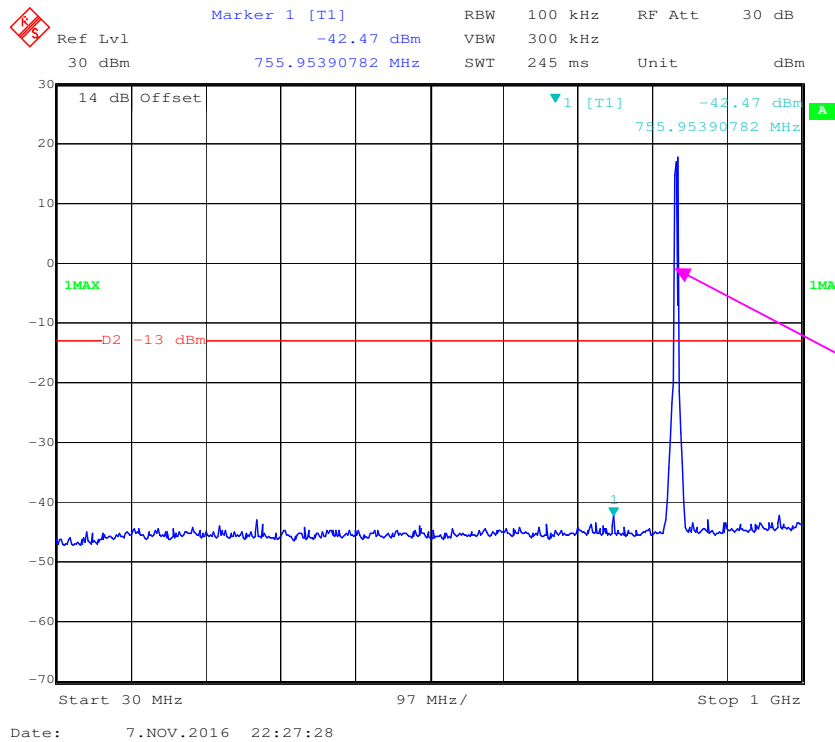
Date: 7.NOV.2016 22:31:47

1 GHz – 10 GHz (GSM Mode)

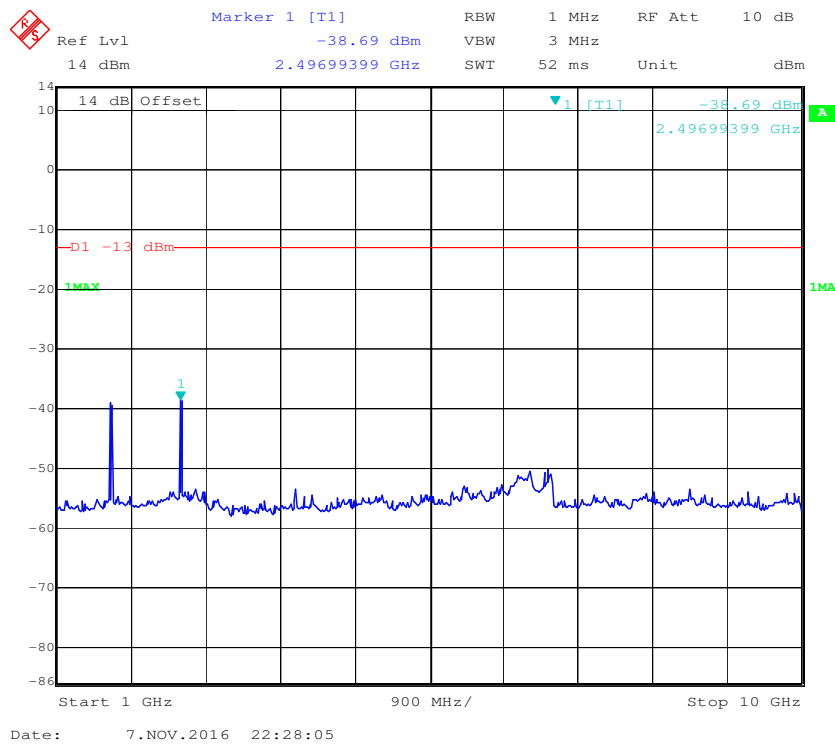


Date: 7.NOV.2016 22:33:06

30 MHz – 1 GHz (WCDMA Mode)

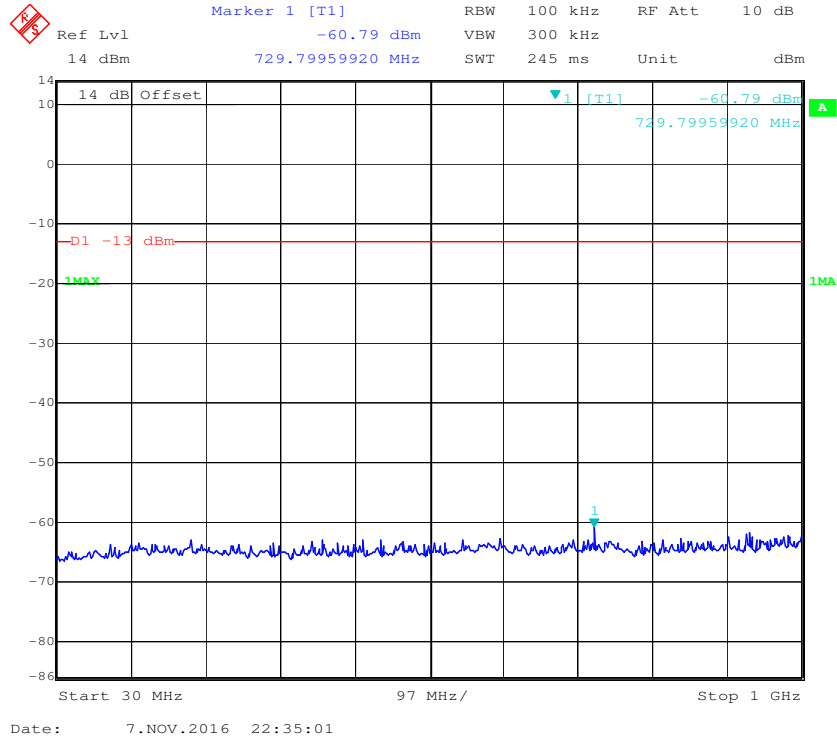


1 GHz – 10 GHz (WCDMA Mode)

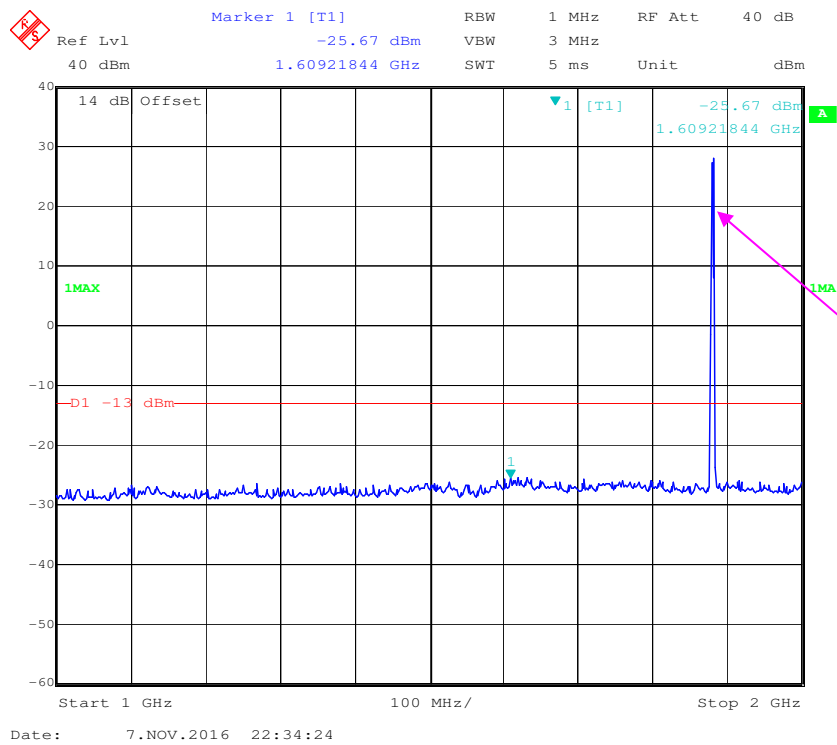


PCS Band (Part 24E)

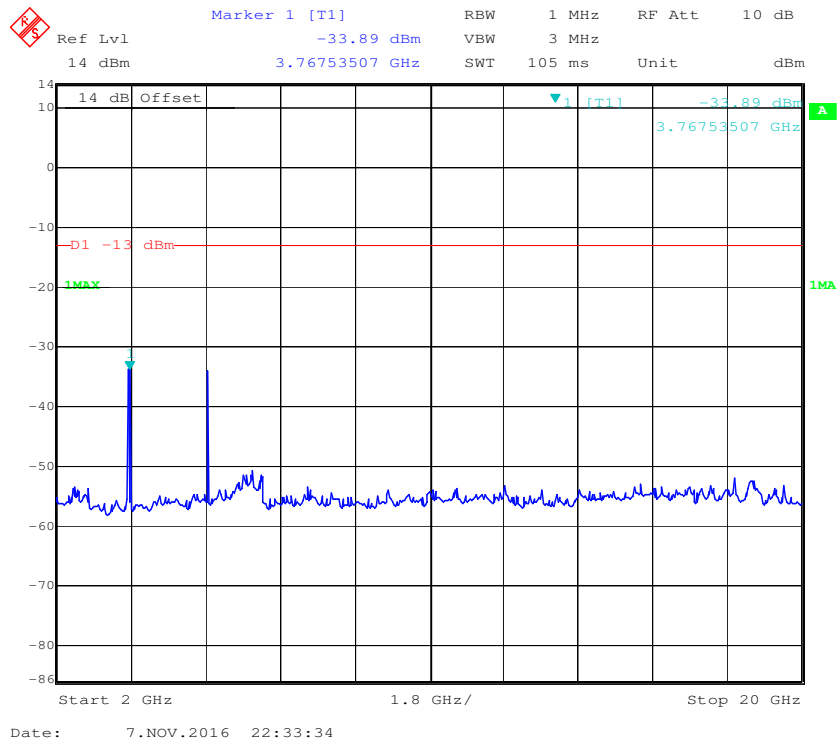
30 MHz – 1 GHz (GSM Mode)



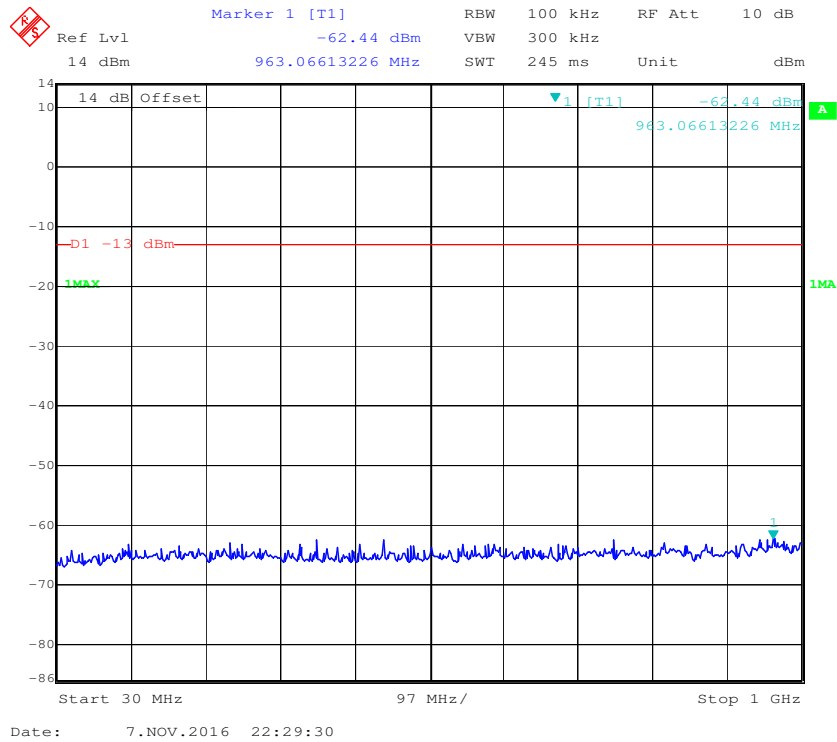
1 GHz – 2 GHz (GSM Mode)



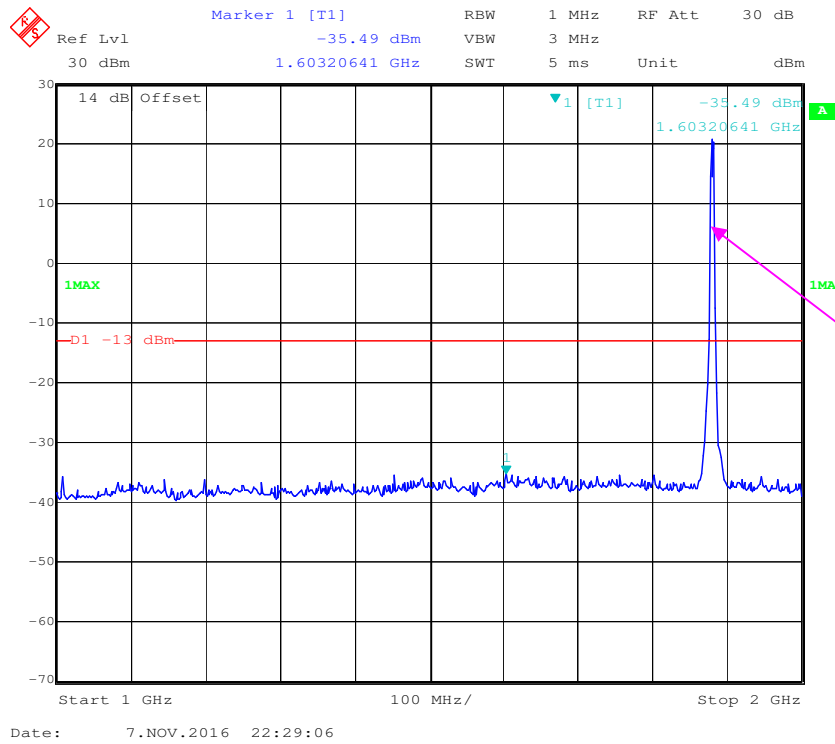
2 GHz – 20 GHz (GSM Mode)



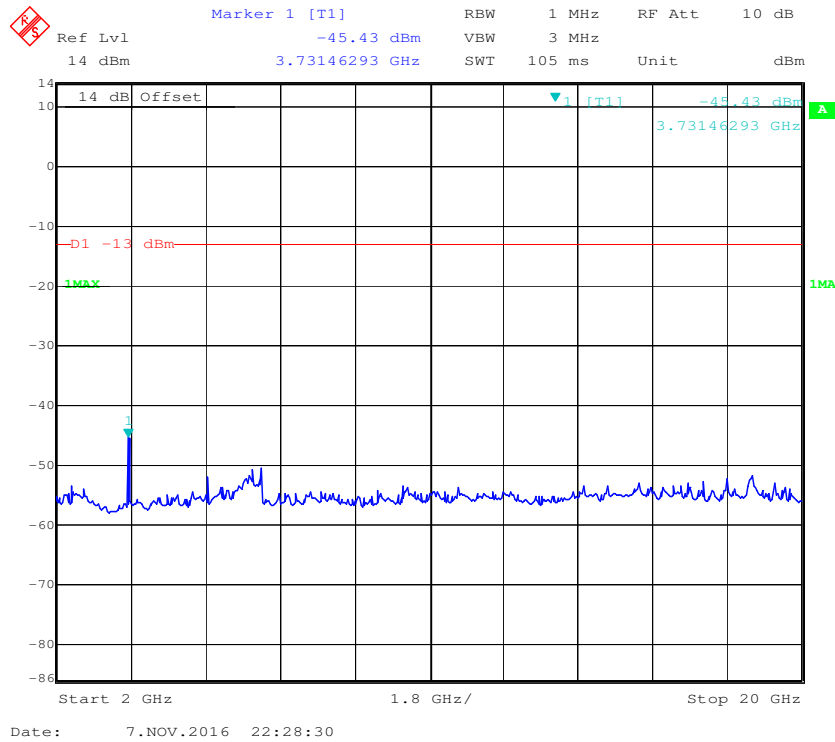
30 MHz – 1 GHz (WCDMA Mode)



1 GHz – 2 GHz (WCDMA Mode)

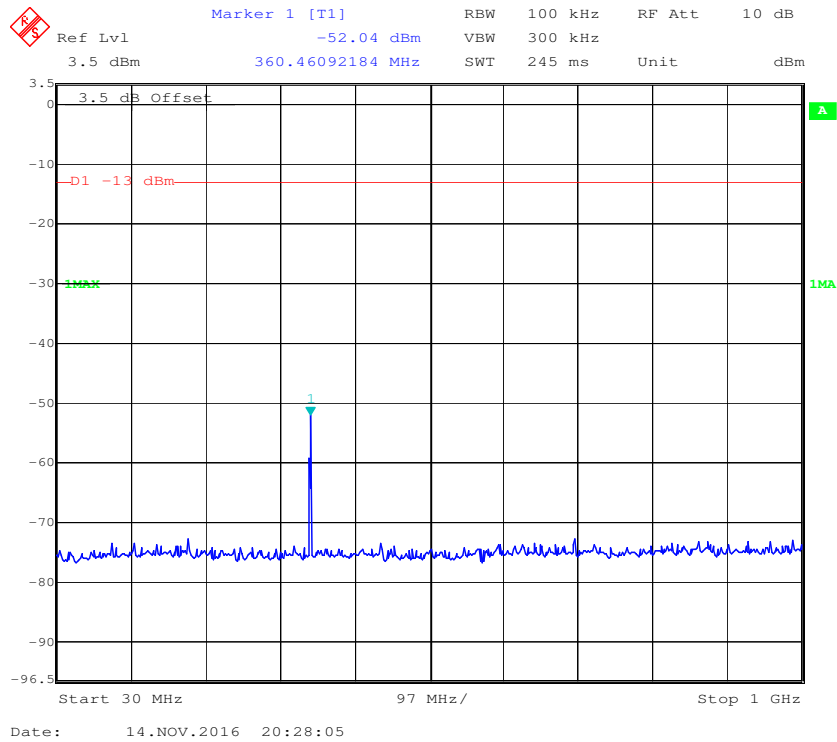


2 GHz – 20 GHz (WCDMA Mode)

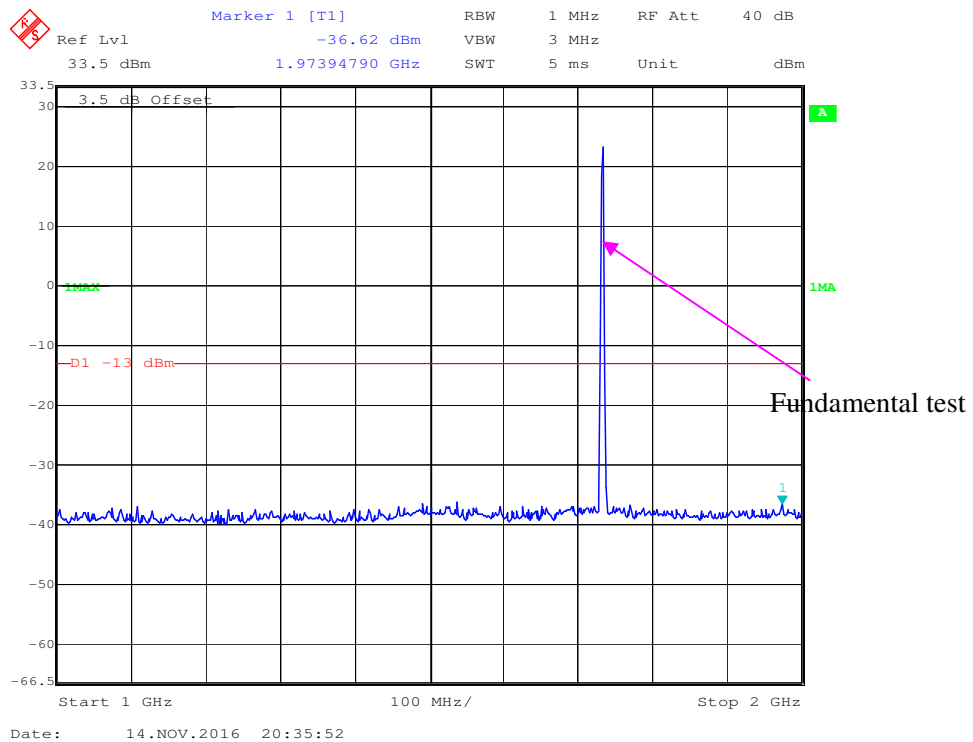


LTE Band 4:

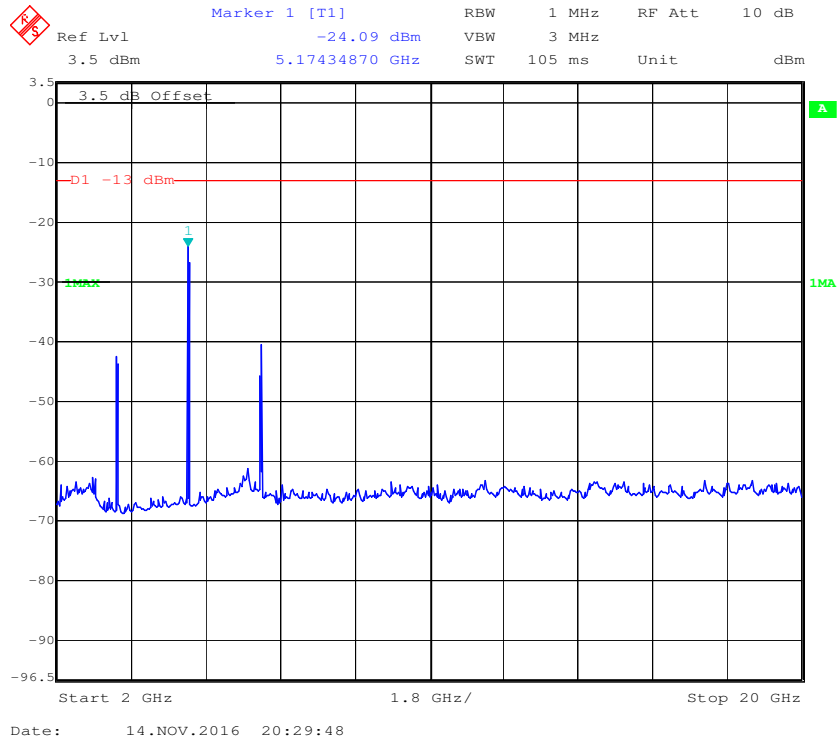
30 MHz - 1 GHz (1.4 MHz, Middle Channel)



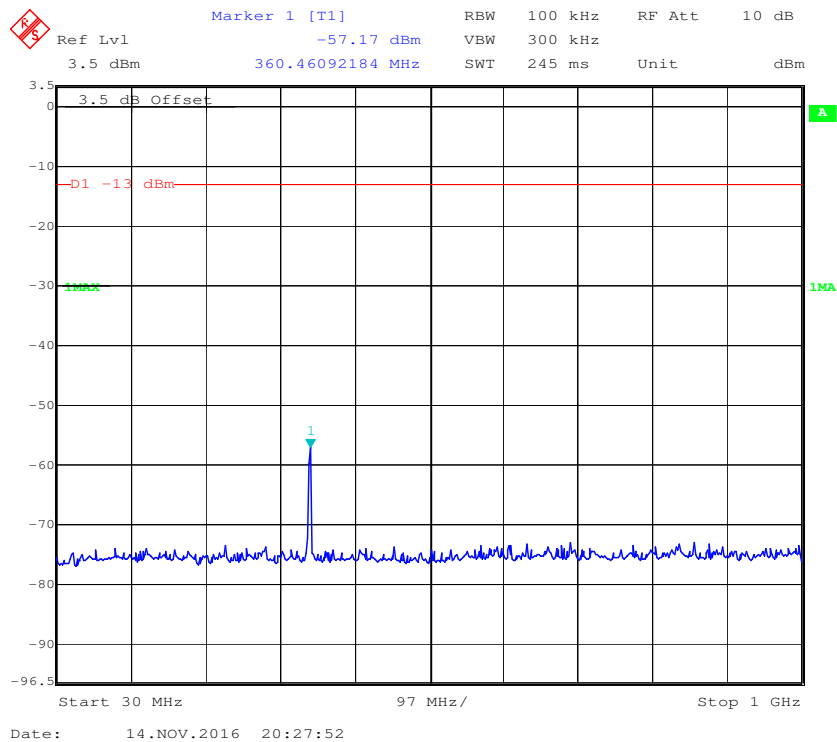
1 GHz - 2 GHz (1.4 MHz, Middle Channel)



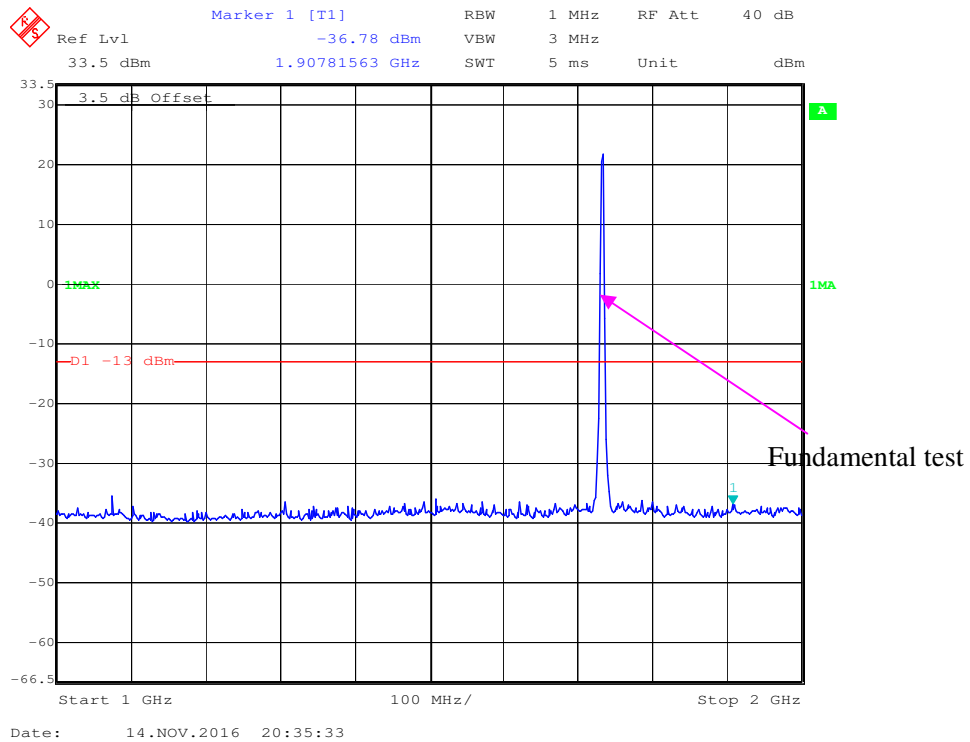
2 GHz – 20 GHz (1.4 MHz, Middle Channel)



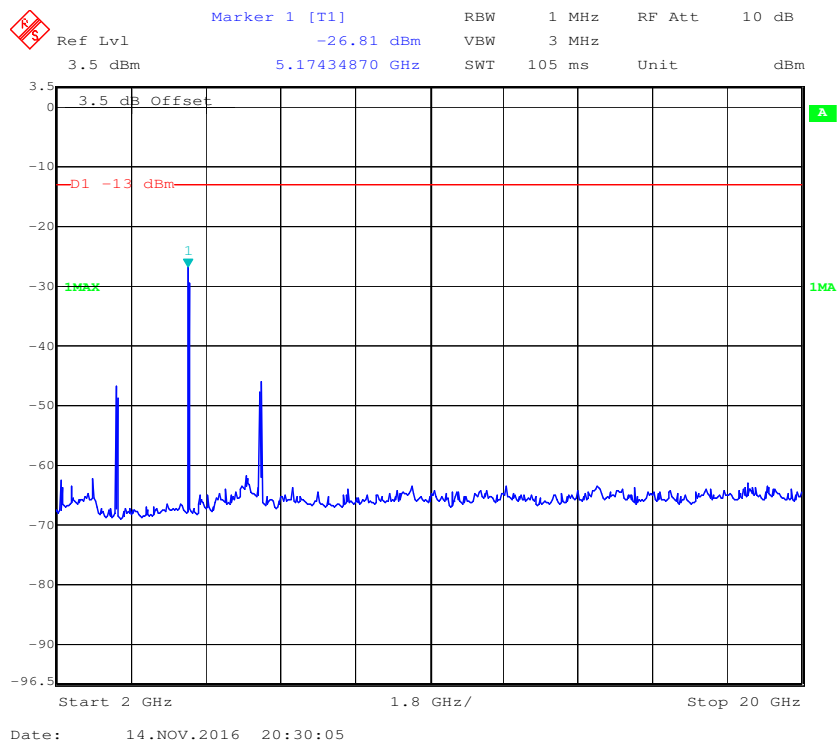
30 MHz - 1 GHz (3.0 MHz, Middle Channel)



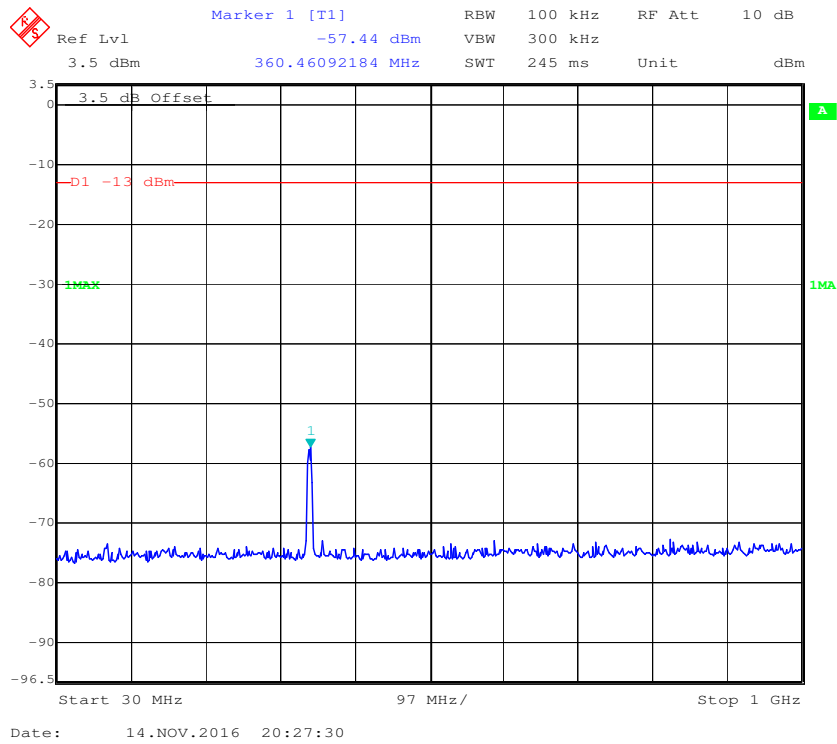
1 GHz – 2 GHz (3.0 MHz, Middle Channel)



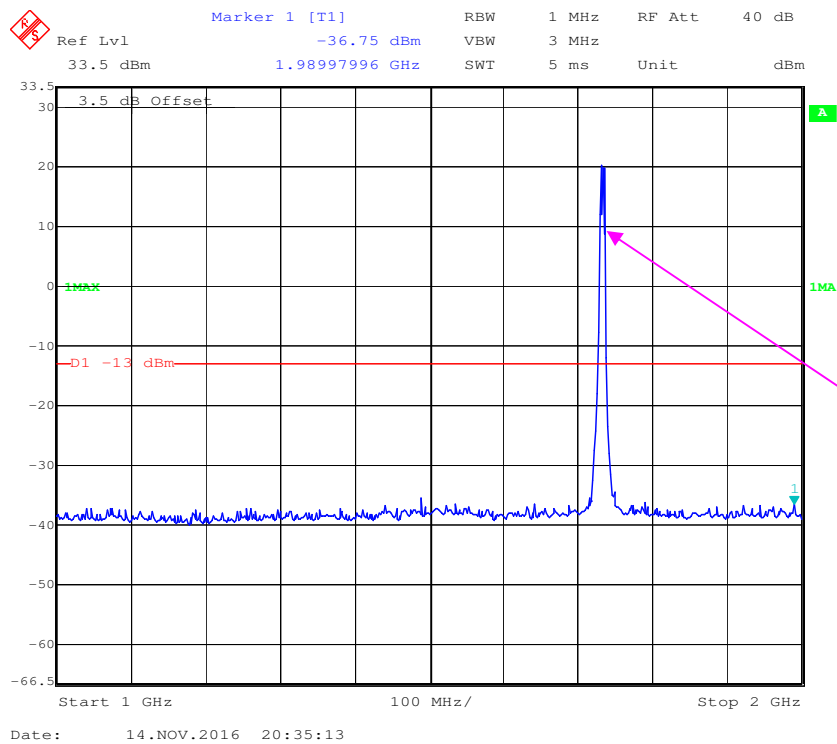
2 GHz – 20 GHz (3.0 MHz, Middle Channel)



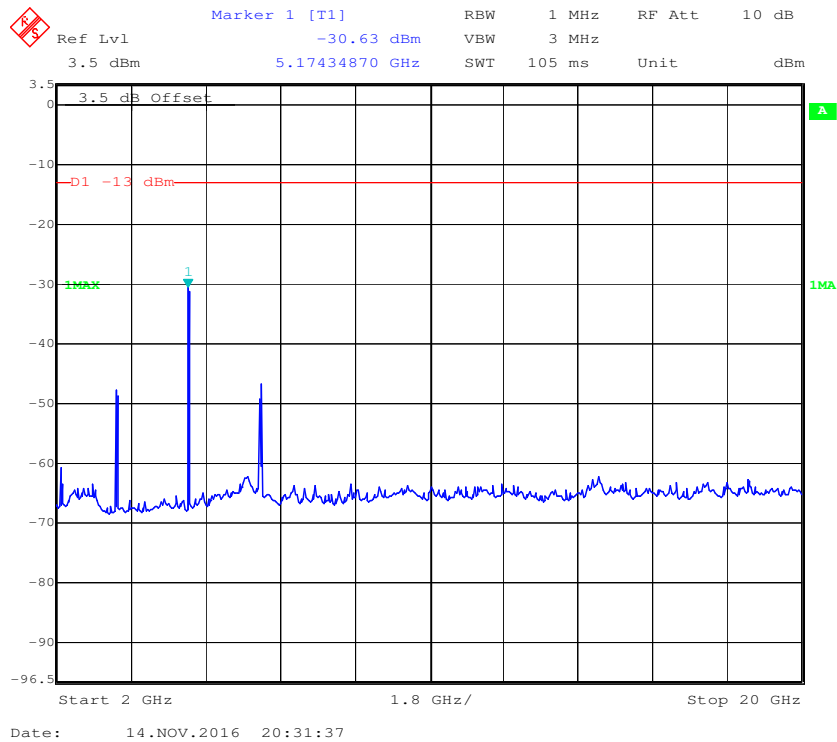
30 MHz - 1 GHz (5.0 MHz, Middle Channel)



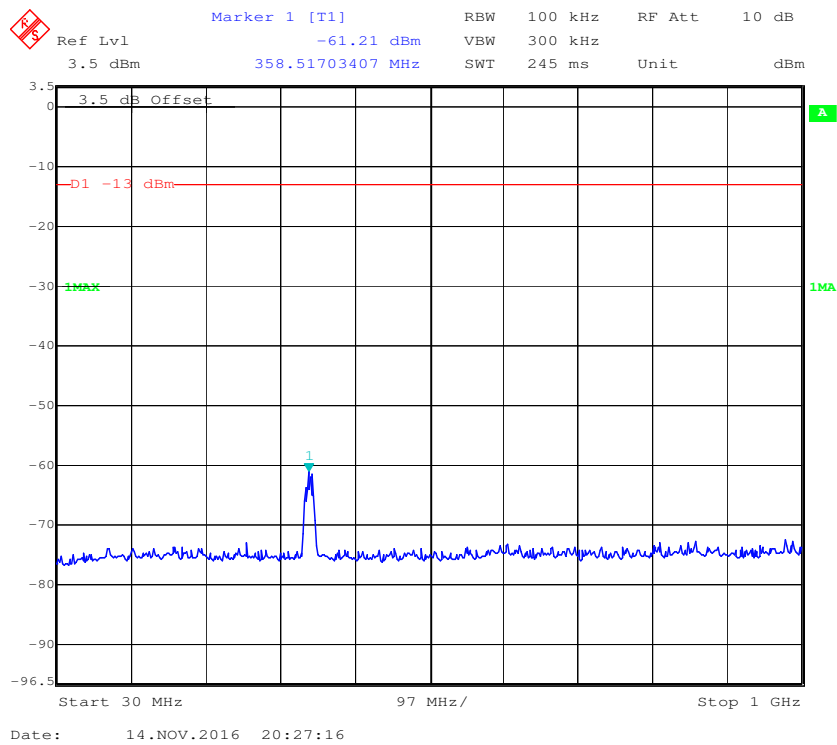
1 GHz - 2 GHz (5.0 MHz, Middle Channel)



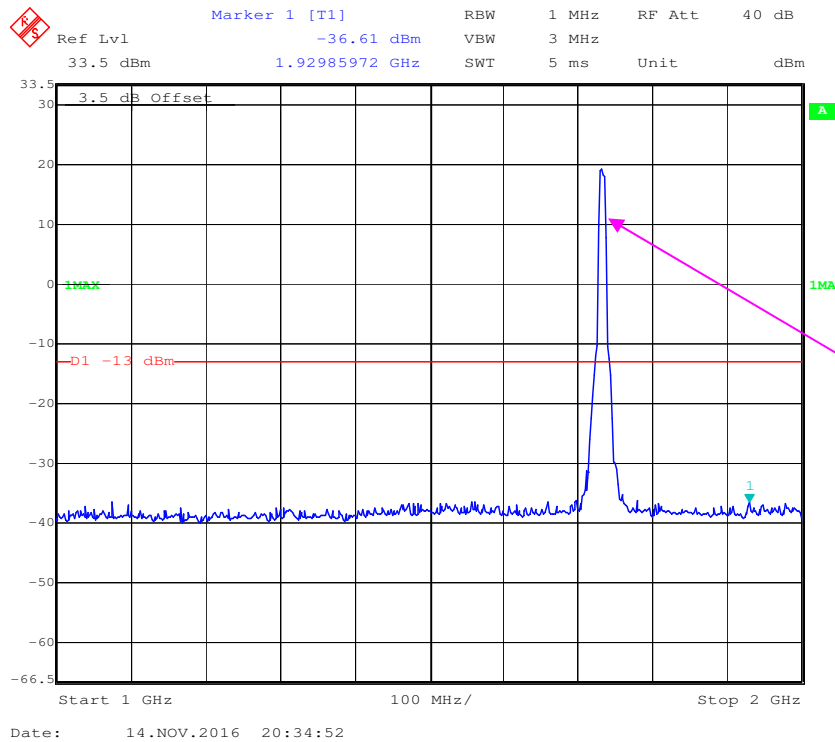
2 GHz – 20 GHz (5.0 MHz, Middle Channel)



30 MHz - 1 GHz (10.0 MHz, Middle Channel)

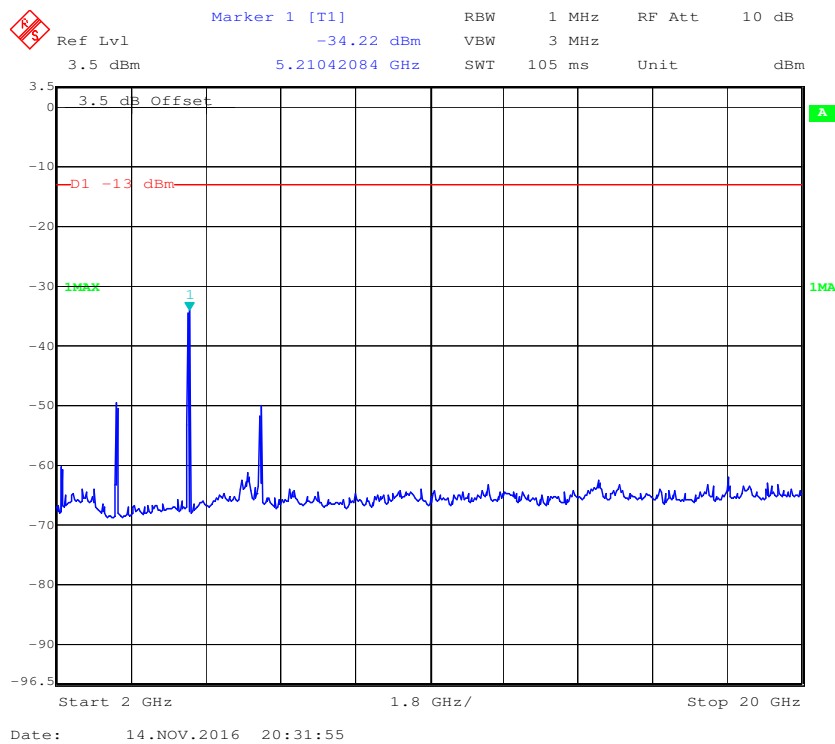


1 GHz – 2 GHz (10.0 MHz, Middle Channel)

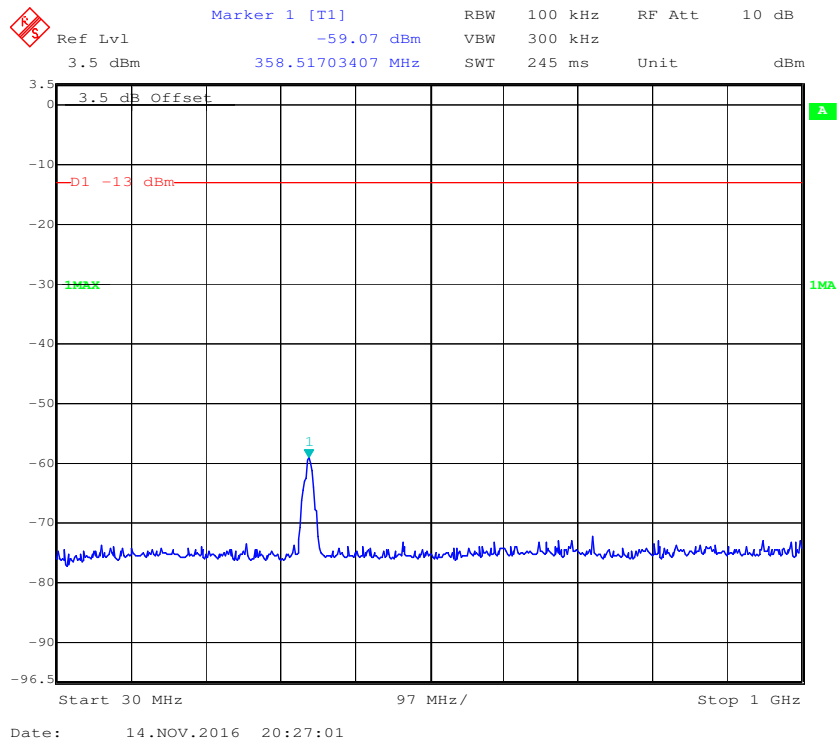


Fundamental test

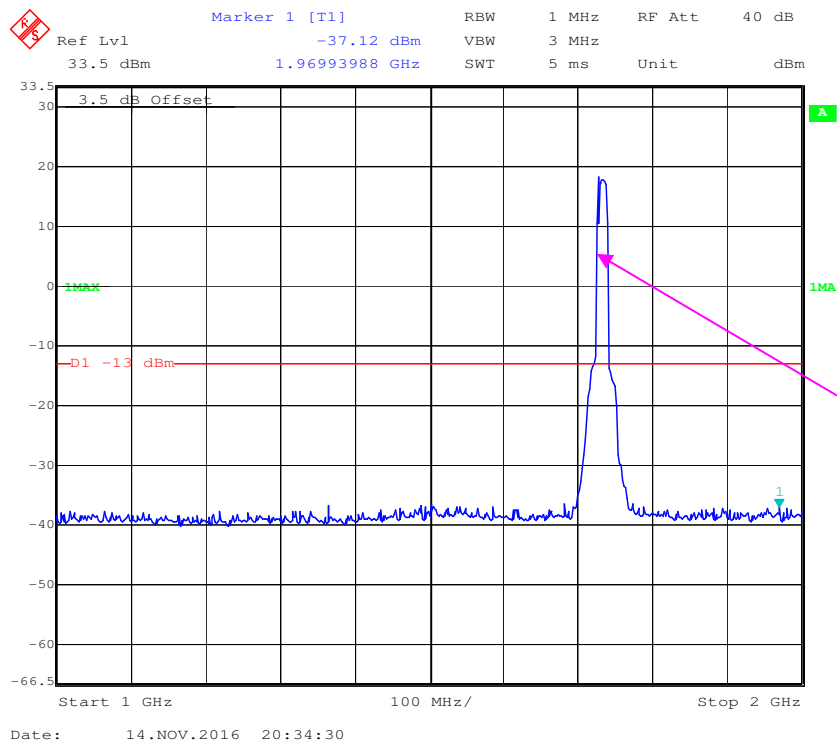
2 GHz – 20 GHz (10.0 MHz, Middle Channel)



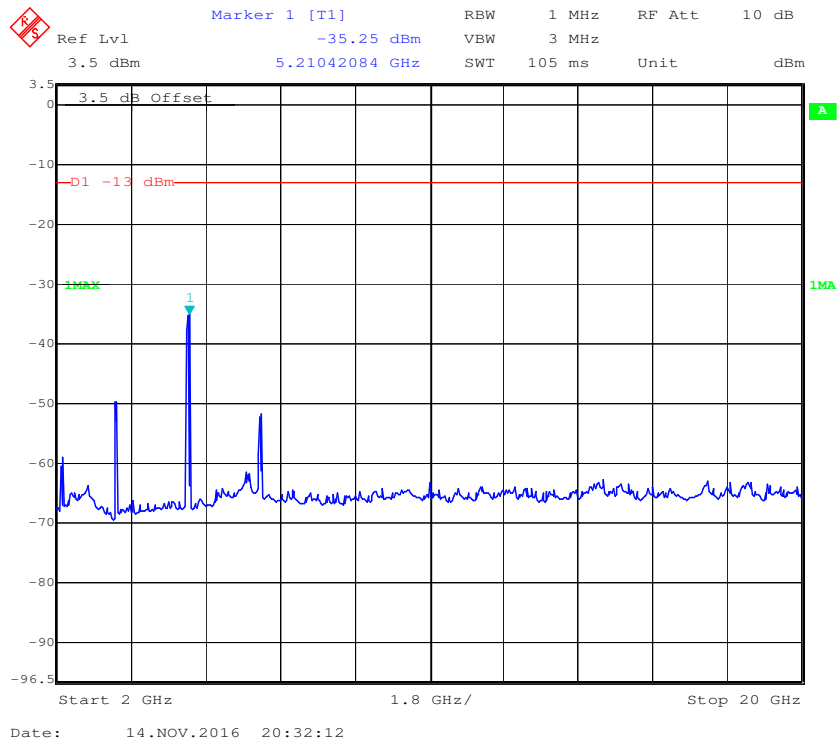
30 MHz - 1 GHz (15.0 MHz, Middle Channel)



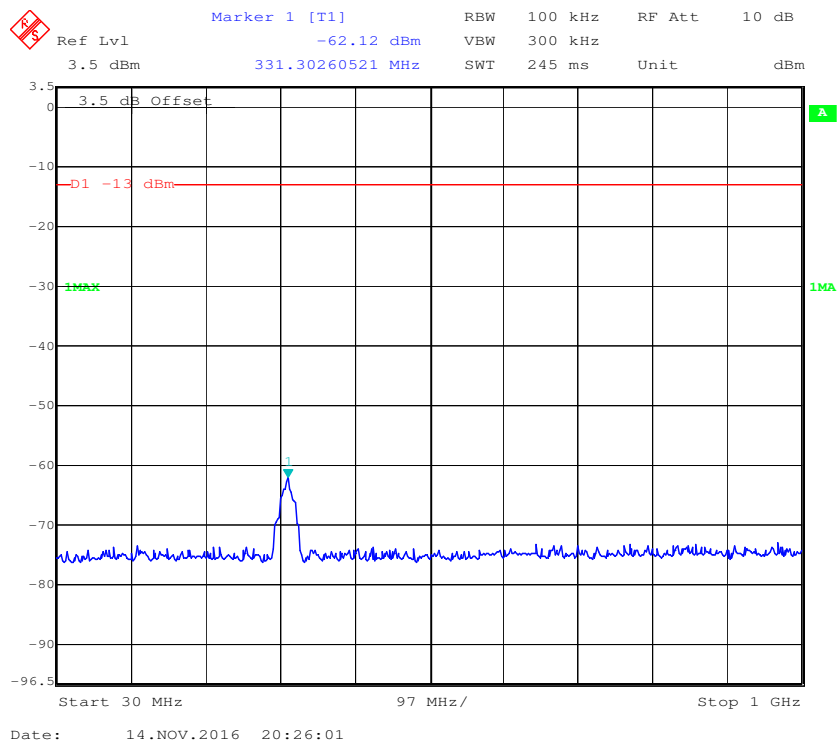
1 GHz - 2 GHz (15.0 MHz, Middle Channel)



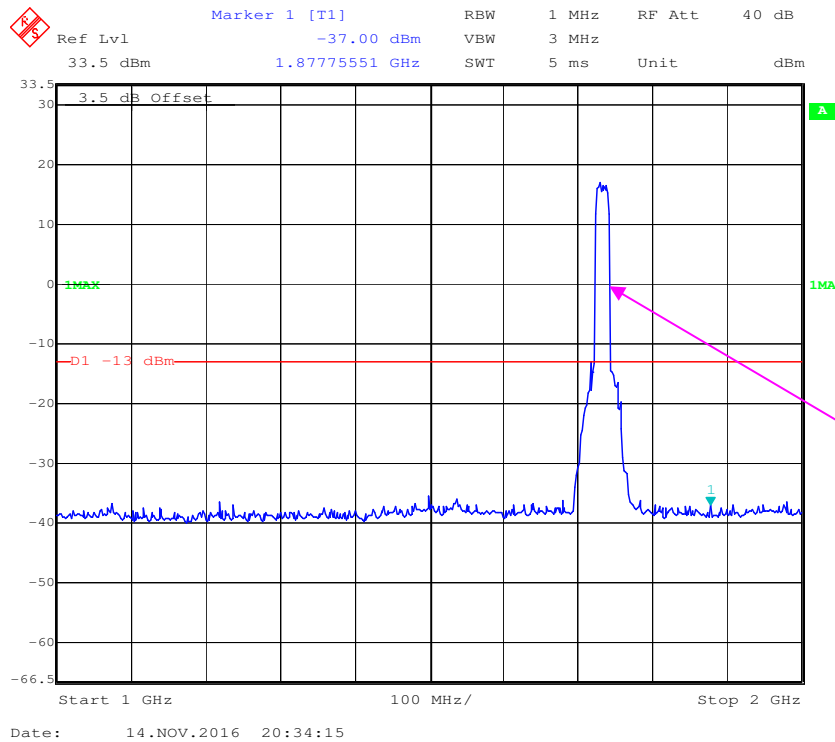
2 GHz –20 GHz (15.0 MHz, Middle Channel)



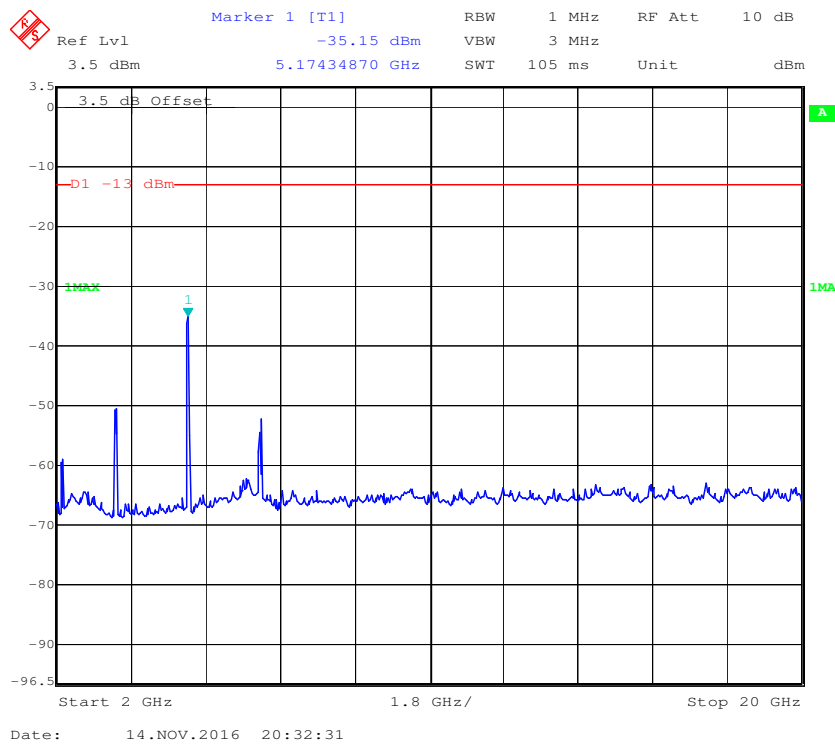
30 MHz - 1 GHz (20.0 MHz, Middle Channel)



1 GHz –2 GHz (20.0 MHz, Middle Channel)

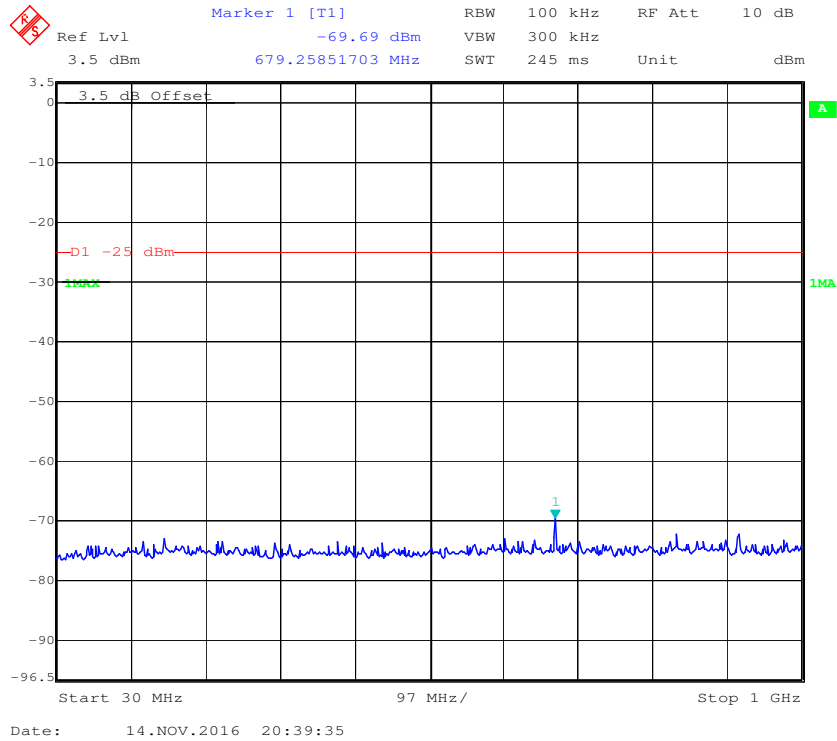


2 GHz –20 GHz (20.0 MHz, Middle Channel)

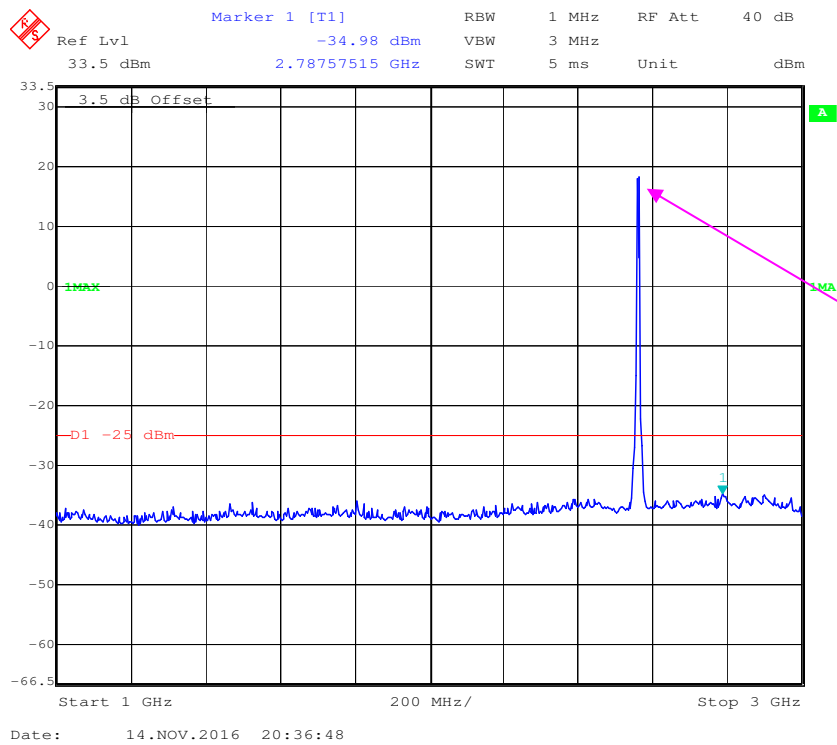


LTE Band 7:

30 MHz - 1 GHz (5.0 MHz, Middle Channel)

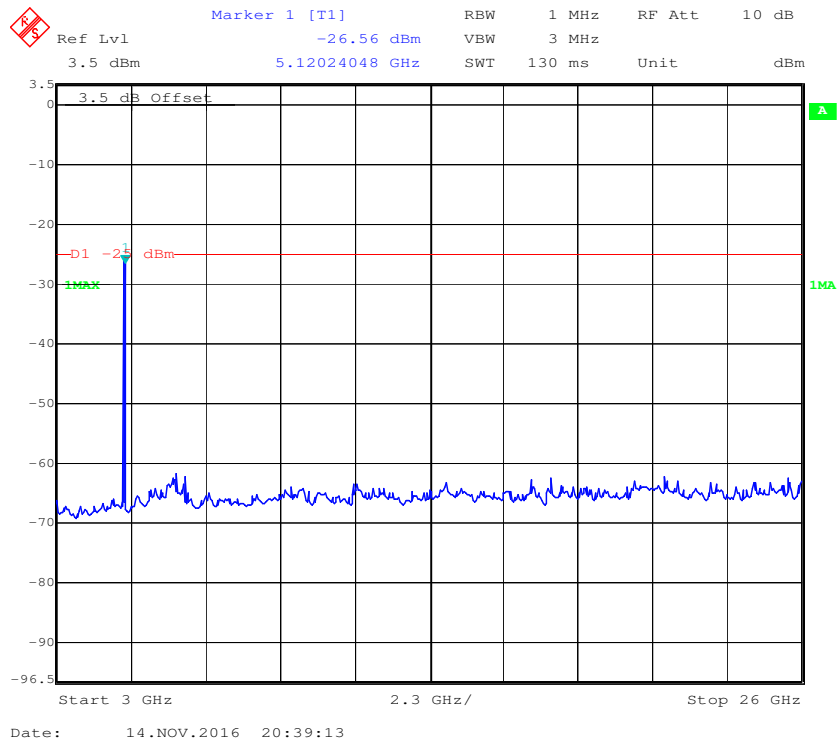


1 GHz - 3 GHz (5.0 MHz, Middle Channel)

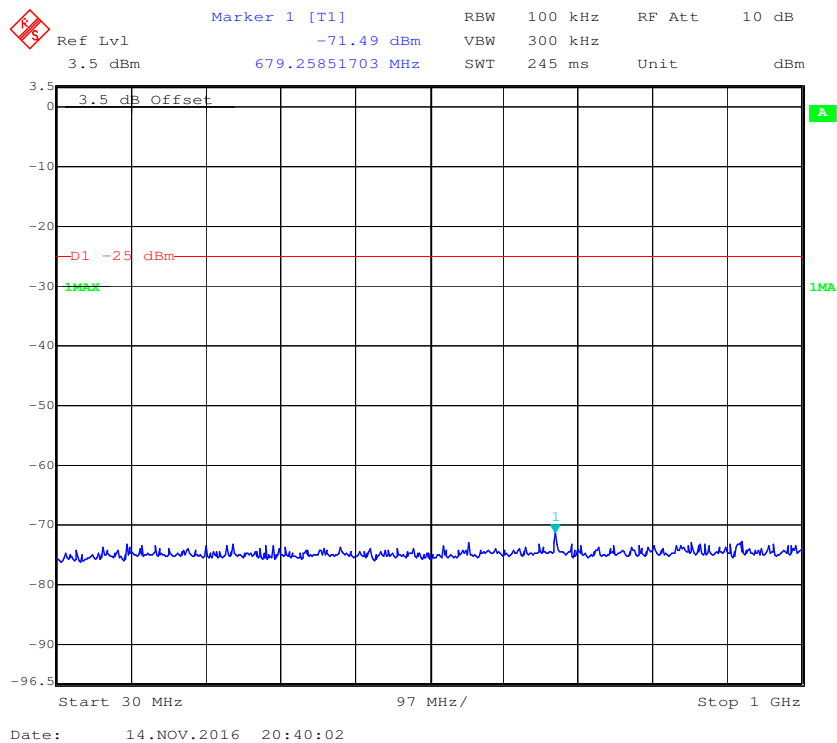


Fundamental test

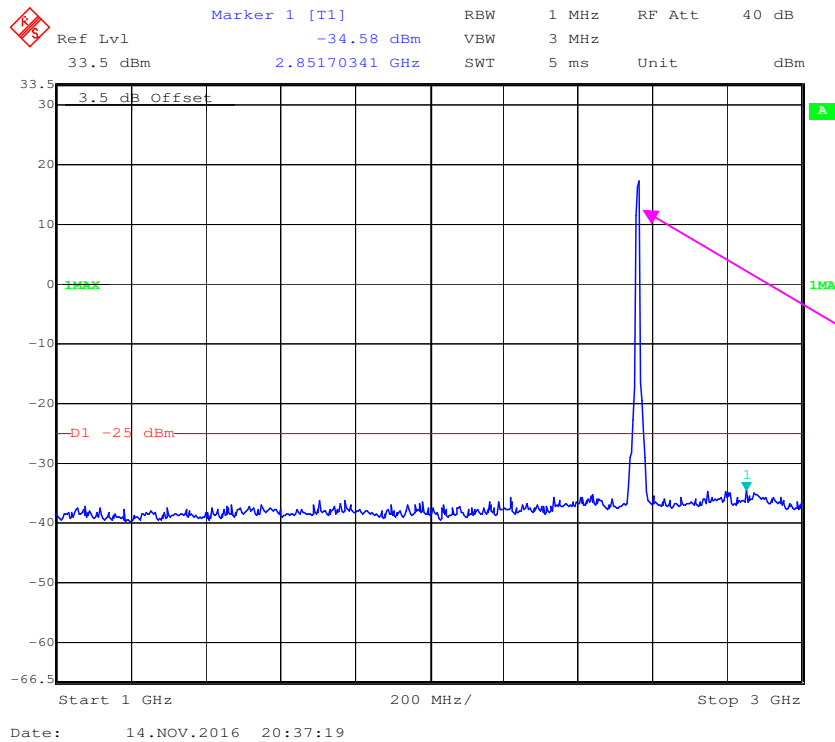
3 GHz – 26 GHz (5.0 MHz, Middle Channel)



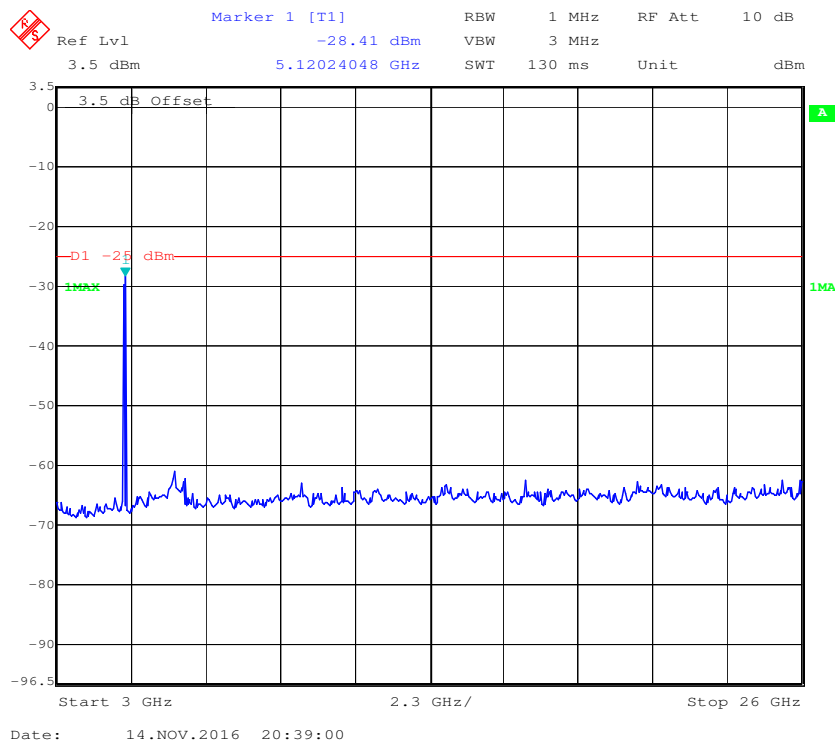
30 MHz - 1 GHz (10.0 MHz, Middle Channel)



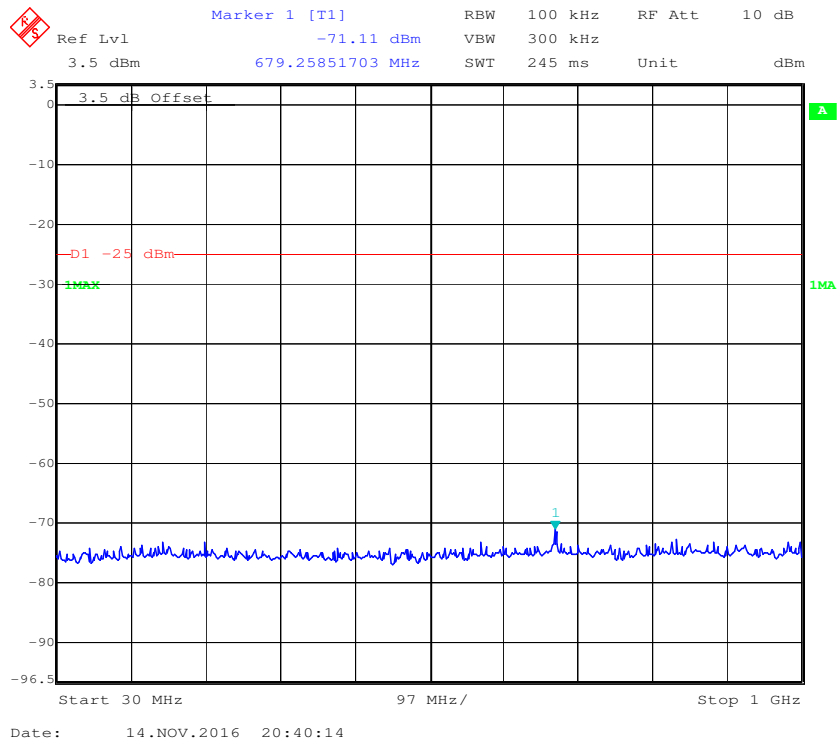
1 GHz – 3 GHz (10.0 MHz, Middle Channel)



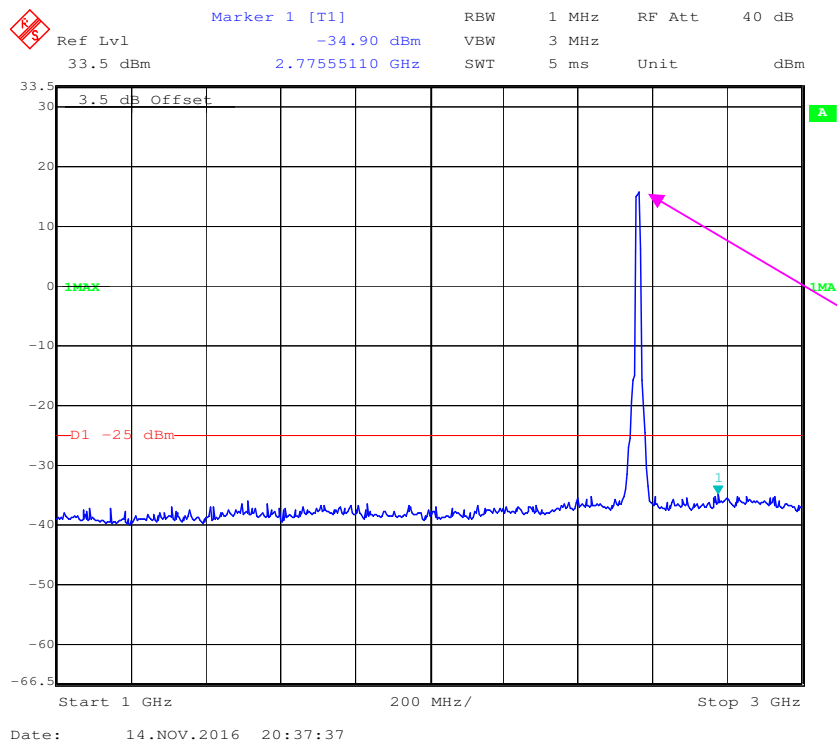
3 GHz – 26 GHz (10.0 MHz, Middle Channel)



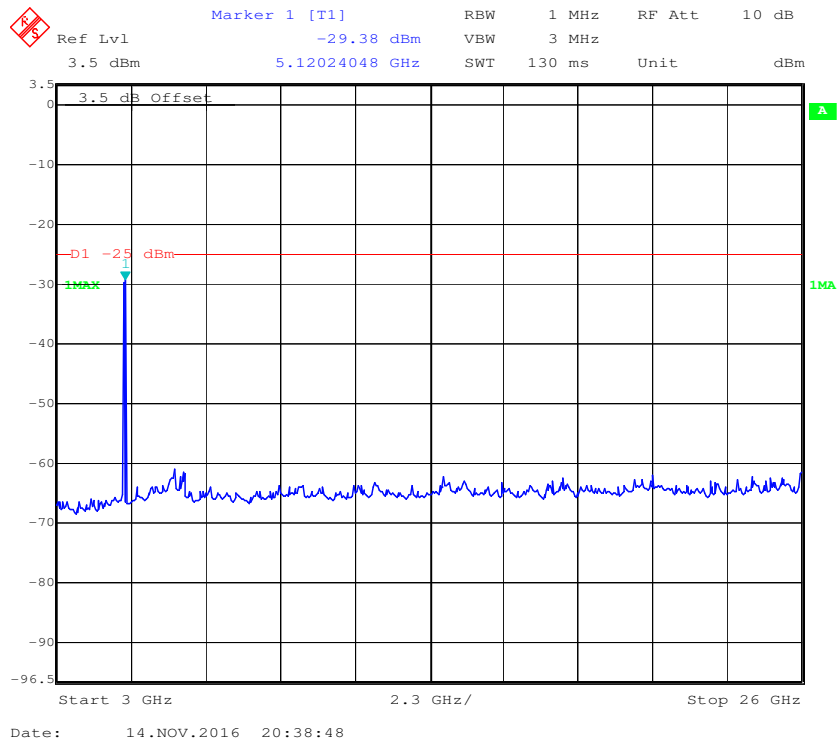
30 MHz - 1 GHz (15.0 MHz, Middle Channel)



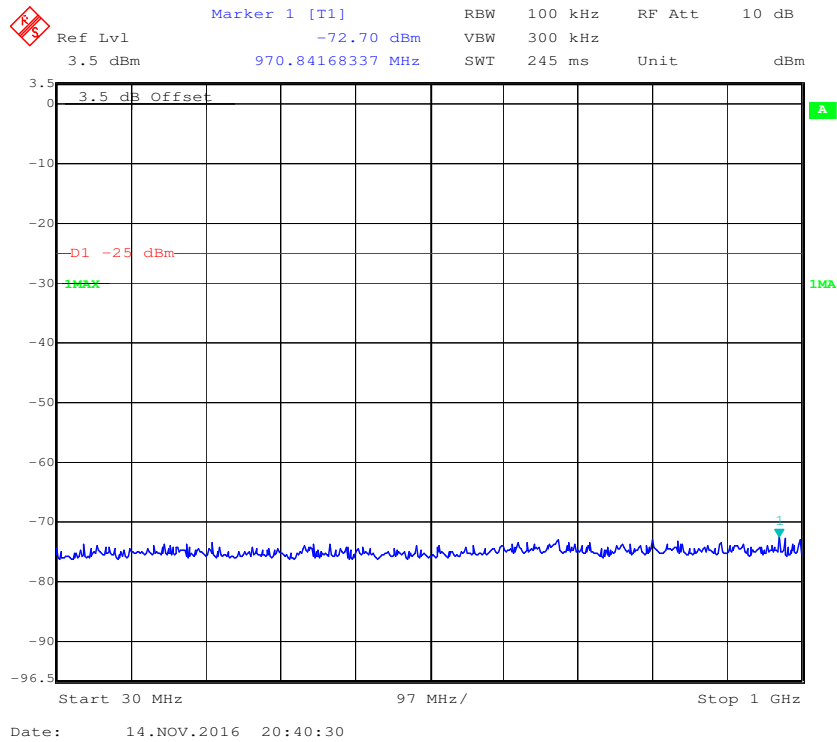
1 GHz - 3 GHz (15.0 MHz, Middle Channel)



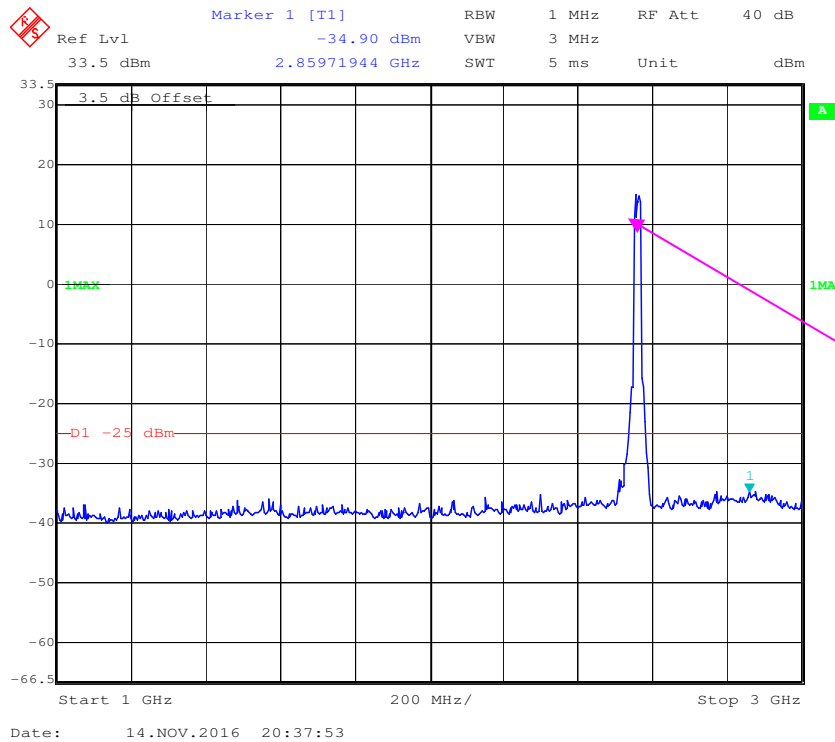
3 GHz –26 GHz (15.0 MHz, Middle Channel)



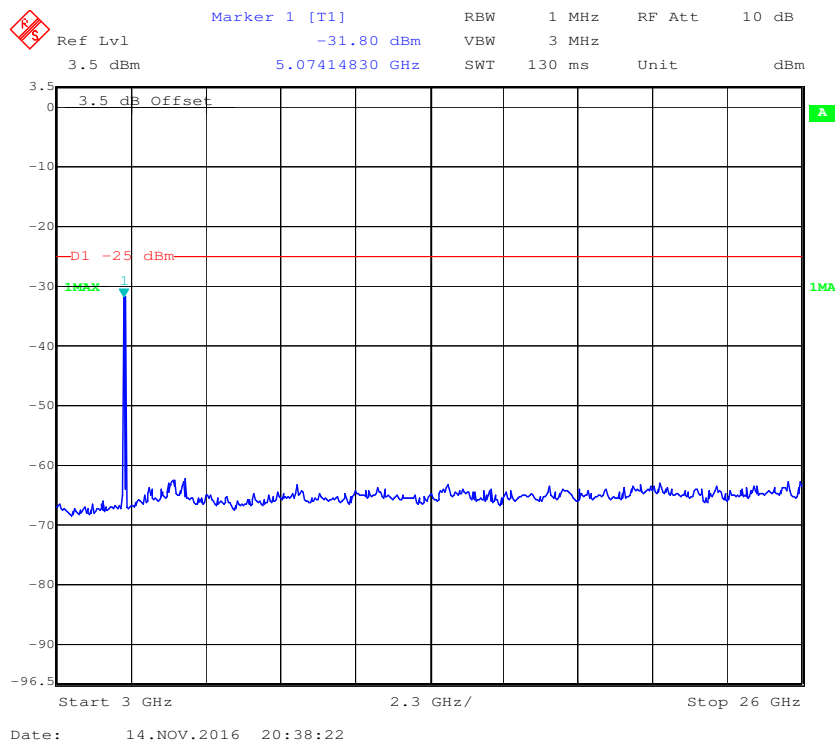
30 MHz - 1 GHz (20.0 MHz, Middle Channel)



1 GHz –3 GHz (20.0 MHz, Middle Channel)

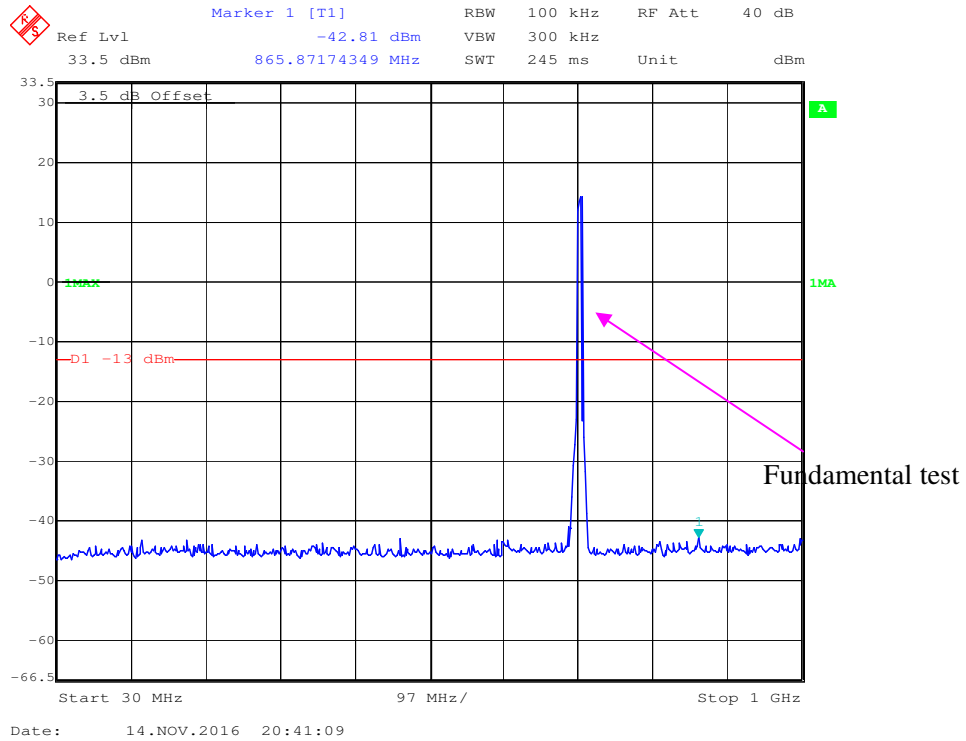


3 GHz –26 GHz (20.0 MHz, Middle Channel)

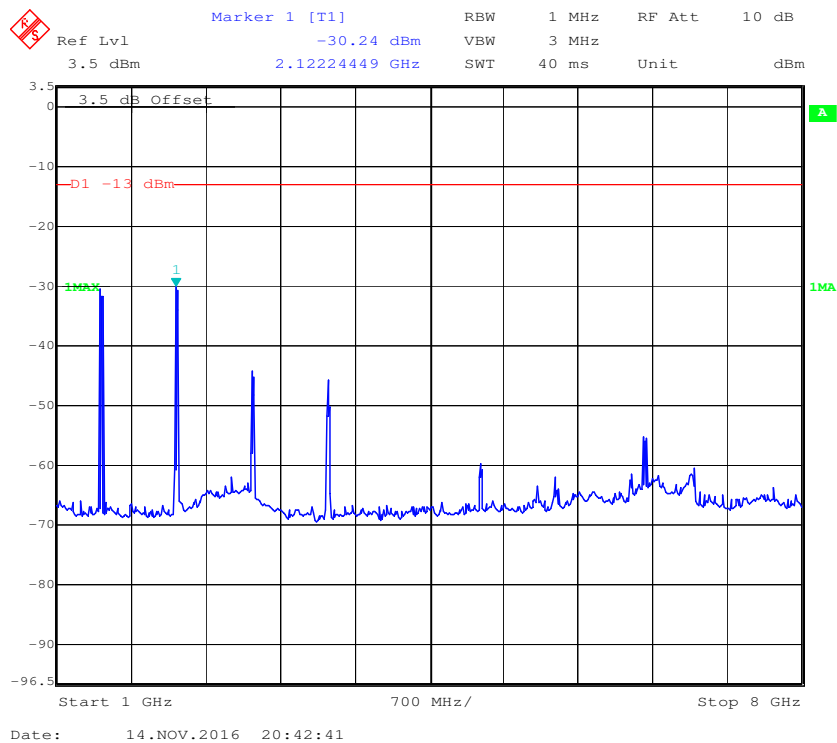


LTE Band 17:

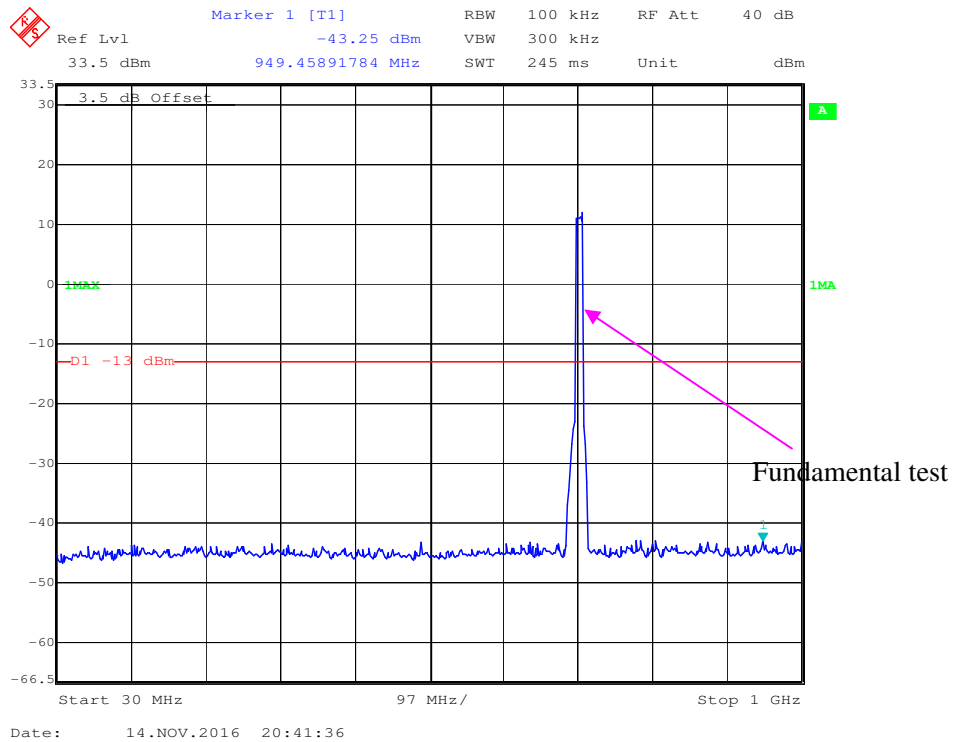
30 MHz – 1 GHz (5.0 MHz, Middle Channel)



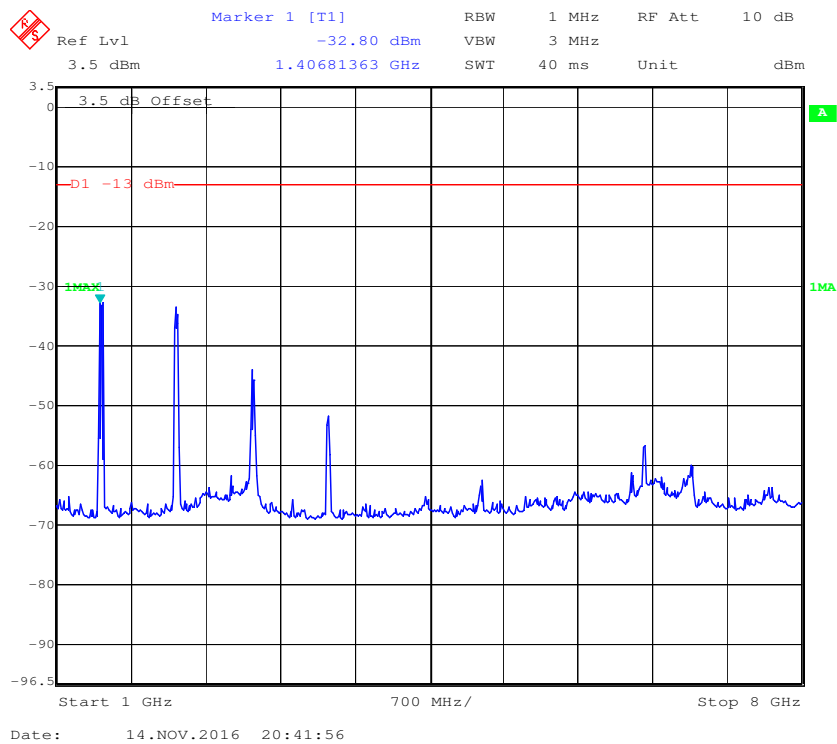
1 GHz – 8 GHz (5.0 MHz, Middle Channel)



30 MHz – 1 GHz (10.0 MHz, Middle Channel)



1 GHz – 8 GHz (10.0 MHz, Middle Channel)



FCC §2.1053, §22.917 & §24.238 & §27.53 (h) (m)- SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §22.917(a) and § 24.238(a) and § 27.53(h)(m)

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 than $43 + 10 \log (P)$ 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 Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = $10 \lg (\text{TXpwr in Watts}/0.001)$ – the absolute level

Spurious attenuation limit in dB = $43 + 10 \text{Log}_{10} (\text{power out in Watts})$

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Layne Li on 2016-11-15.

EUT operation mode: Transmitting

Pre-scan with Low, Middle and High channel, the worst case as below:

30 MHz ~ 10 GHz:

Cellular Band (Part 22H)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)			
GSM 850 Mode										
719.58	31.89	82	1.2	H	-65.1	0.42	4.25	-61.27	-13	48.27
719.58	31.30	168	1.5	V	-65.7	0.42	4.25	-61.87	-13	48.87
1673.20	45.93	302	2.3	H	-58.0	0.30	9.40	-48.90	-13	35.90
1673.20	43.72	352	1.2	V	-61.7	0.30	9.40	-52.60	-13	39.60
WCDMA 850 Mode										
719.58	30.84	14	1.3	H	-66.2	0.42	4.25	-62.37	-13	49.37
719.58	30.63	35	2.1	V	-66.4	0.42	4.25	-62.57	-13	49.57
1673.20	45.83	167	2.4	H	-58.1	0.30	9.40	-49.00	-13	36.00
1673.20	45.92	145	1.6	V	-59.5	0.30	9.40	-50.40	-13	37.40

30 MHz ~ 20 GHz:

PCS Band (Part 24E)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)			
GSM 1900 Mode										
719.58	31.16	170	2.2	H	-65.8	0.42	4.25	-61.97	-13	48.97
719.58	31.33	360	2.4	V	-65.7	0.42	4.25	-61.87	-13	48.87
3760.00	39.03	345	1.3	H	-54.7	2.42	12.60	-44.52	-13	31.52
3760.00	39.33	277	1.1	V	-53.4	2.42	12.60	-43.22	-13	30.22
WCDMA 1900 Mode										
719.58	30.75	90	2.1	H	-66.2	0.42	4.25	-62.37	-13	49.37
719.58	31.52	48	1.3	V	-65.5	0.42	4.25	-61.67	-13	48.67
3760.00	39.83	42	1.2	H	-53.9	2.42	12.60	-43.72	-13	30.72
3760.00	38.03	337	2.4	V	-54.7	2.42	12.60	-44.52	-13	31.52

Test mode: Transmitting (Pre-scan with all the bandwidth, and worse case as below)

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)			
Band 4 (5MHz)										
Test frequency range:30 MHz ~ 18 GHz										
719.58	31.33	331	1.6	H	-65.7	0.42	4.25	-66.32	-13	53.32
719.58	30.65	311	1.1	V	-66.3	0.42	4.25	-66.92	-13	53.92
3465.00	43.17	343	2.4	H	-51.4	2.34	12.40	-41.34	-13	28.34
3465.00	39.81	212	1.1	V	-52.7	2.34	12.40	-42.64	-13	29.64
Band 7 (5MHz)										
Test frequency range:30 MHz ~ 26 GHz										
719.58	31.89	39	1.6	H	-65.1	0.42	4.25	-65.72	-25	40.72
719.58	31.85	231	2.0	V	-65.1	0.42	4.25	-65.72	-25	40.72
5070.00	36.66	178	2.3	H	-52.0	2.57	12.70	-41.87	-25	16.87
5070.00	37.57	54	1.5	V	-51.9	2.57	12.70	-41.77	-25	16.77
Band 17 (5MHz)										
Test frequency range:30 MHz ~ 8 GHz										
210.2	30.03	23	1.2	H	-67.0	0.31	2.05	-65.26	-13	52.26
210.2	30.10	306	1.5	V	-66.9	0.31	2.05	-65.16	-13	52.16
1420.00	41.96	98	2.0	H	-60.8	0.28	8.00	-53.08	-13	40.08
1420.00	46.52	70	1.3	V	-60.3	0.28	8.00	-52.58	-13	39.58

Note:

- 1) Absolute Level = SG Level - Cable loss + Antenna Gain
- 2) Margin = Limit- Absolute Level

FCC §22.917(a) & §24.238(a) & §27.53 (h)(m)- BAND EDGES

Applicable Standard

According to § 22.917(a), the power of any emissions 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 §24.238(a), the power of any emissions 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.

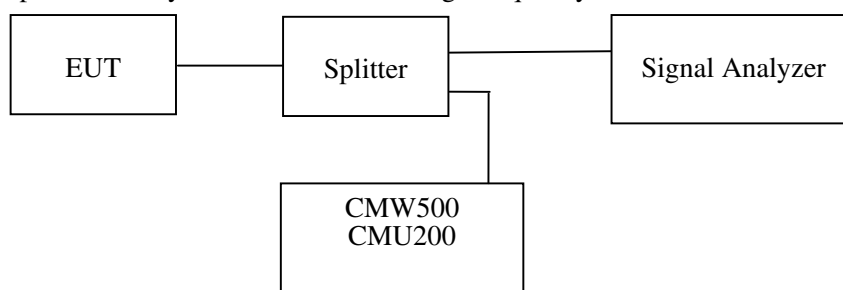
According to FCC §27.53 (h)(m), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

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 than $43 + 10 \log(P)$ 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 Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency



Test Data

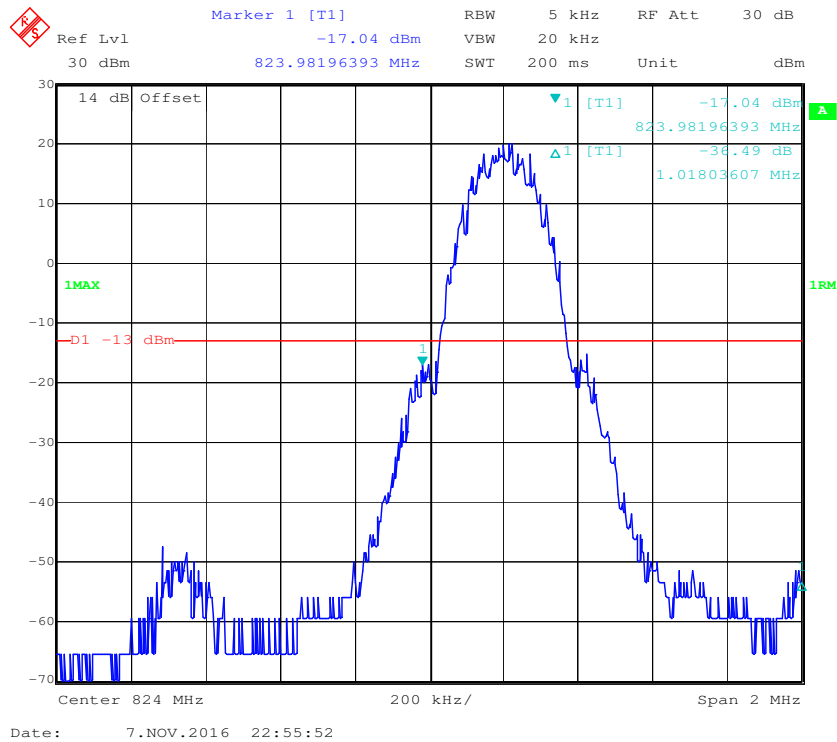
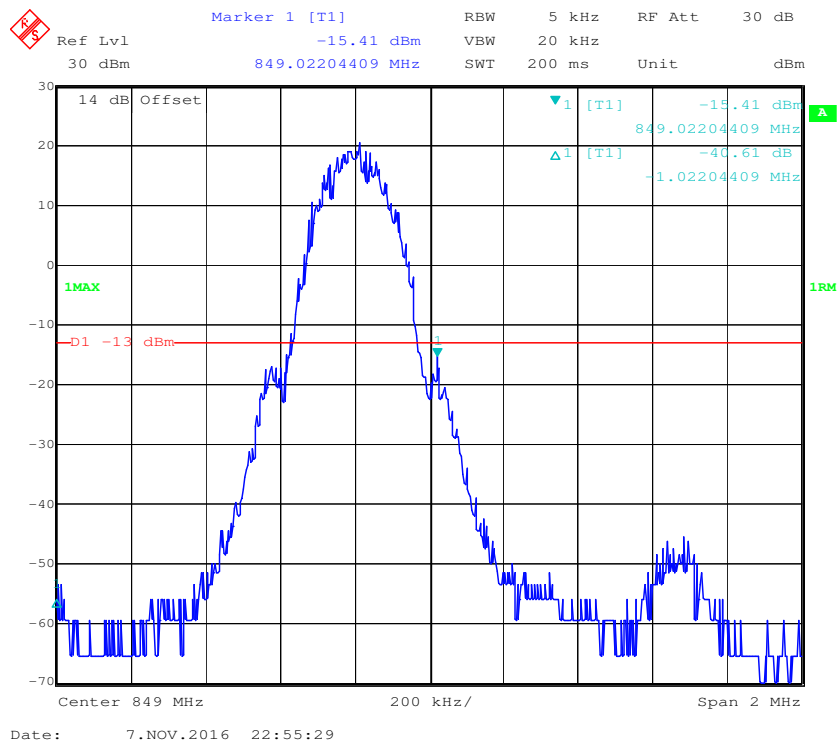
Environmental Conditions

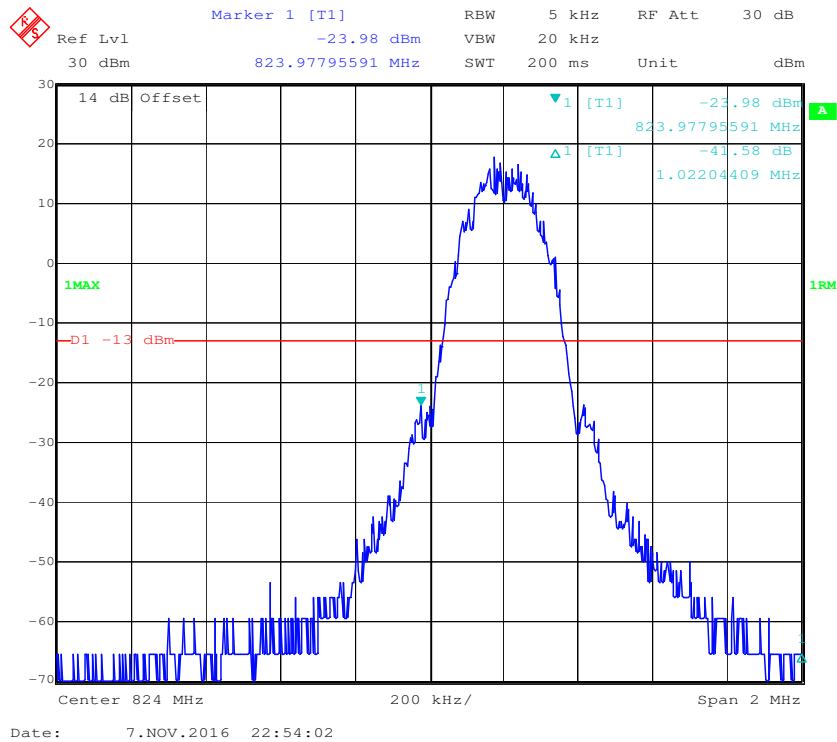
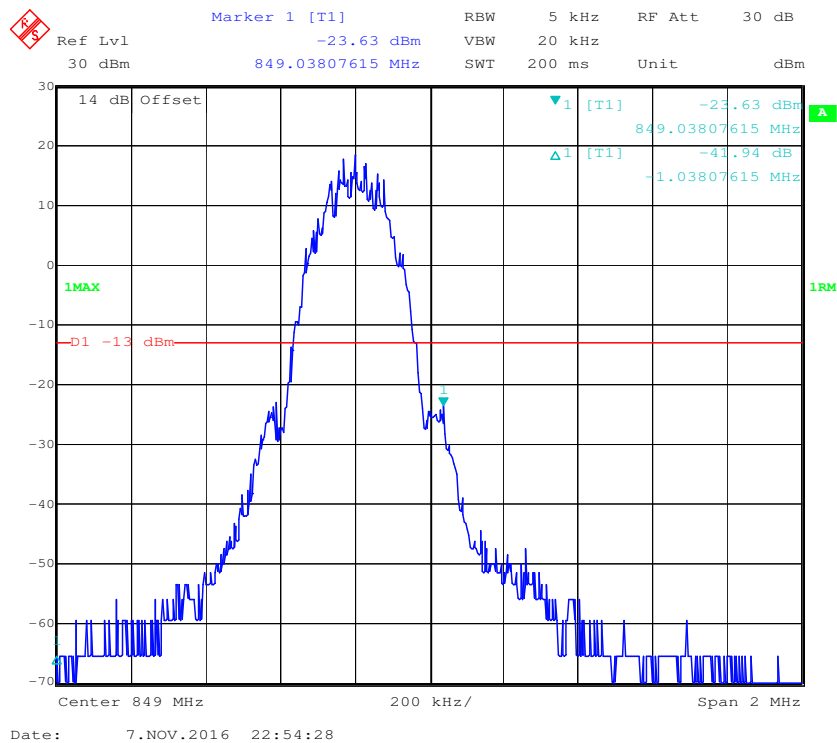
Temperature:	20~25°C
Relative Humidity:	50~55 %
ATM Pressure:	100.0~101.0 kPa

The testing was performed by Nefertari Xu on 2016-11-07 and 2016-11-14.

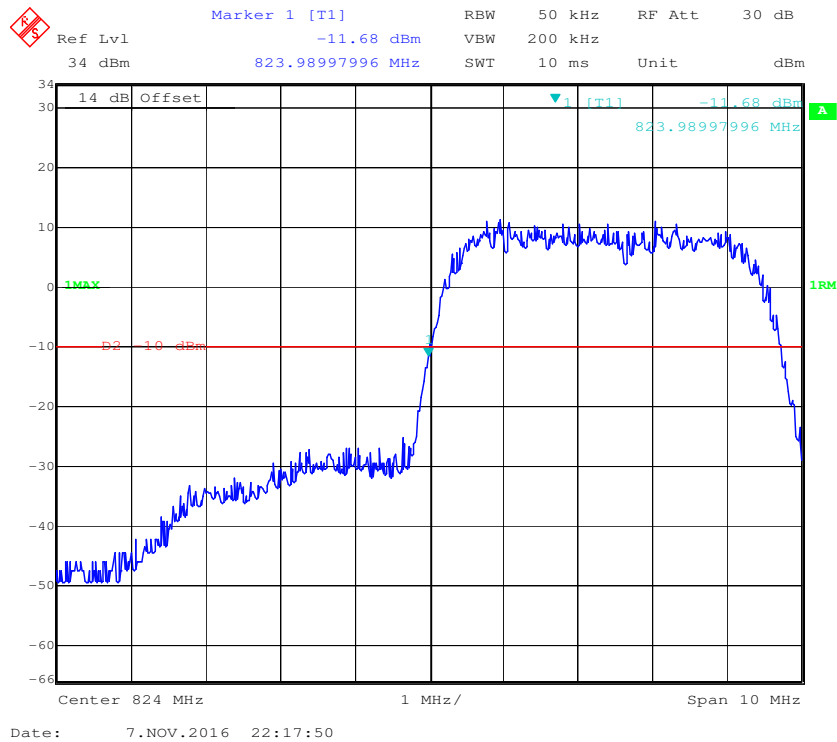
EUT operation mode: Transmitting

Test Result: Compliance. Please refer to the following plots.

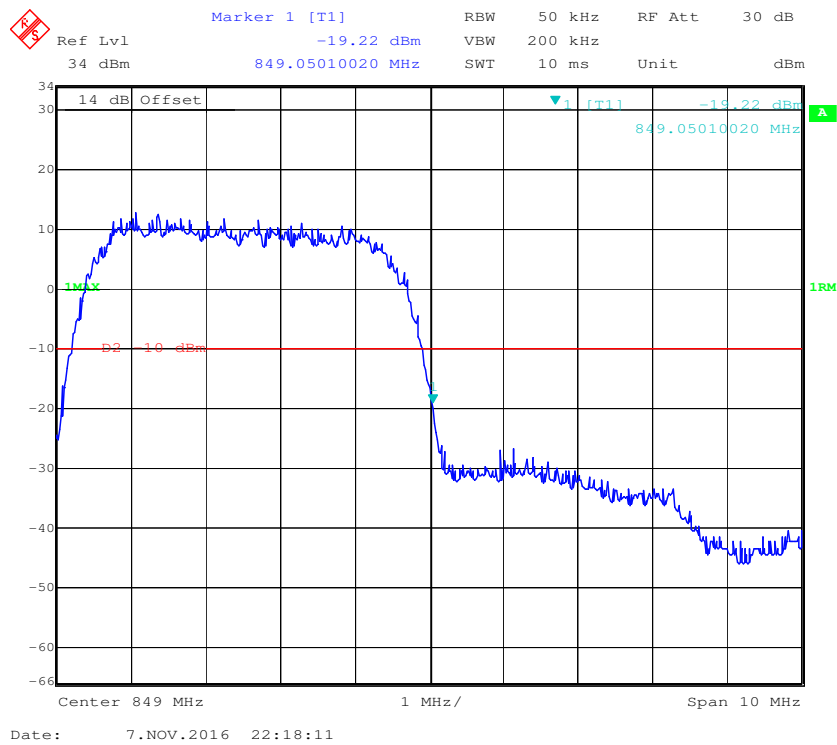
Cellular Band, Left Band Edge for GSM (GMSK) Mode**Cellular Band, Right Band Edge for GSM (GMSK) Mode**

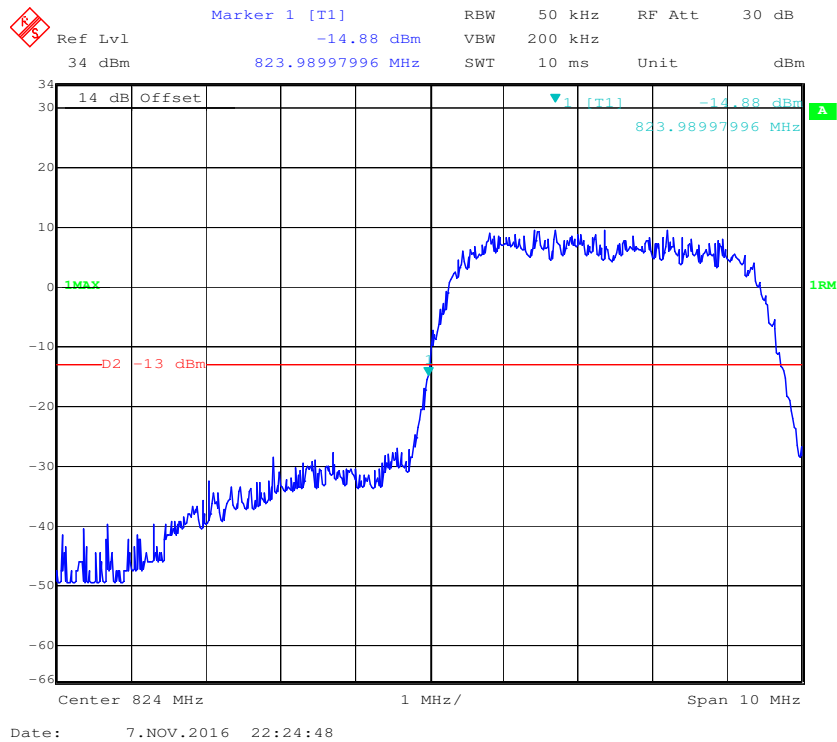
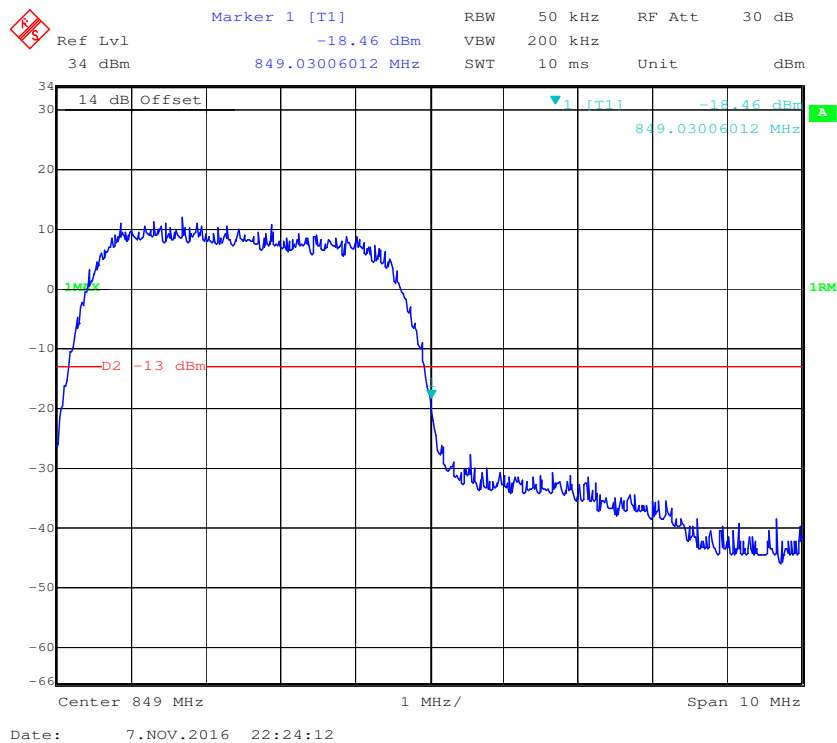
Cellular Band, Left Band Edge for EGPRS (8PSK) Mode**Cellular Band, Right Band Edge for EGPRS(8PSK) Mode**

Cellular Band, Left Band Edge for RMC (BPSK) Mode

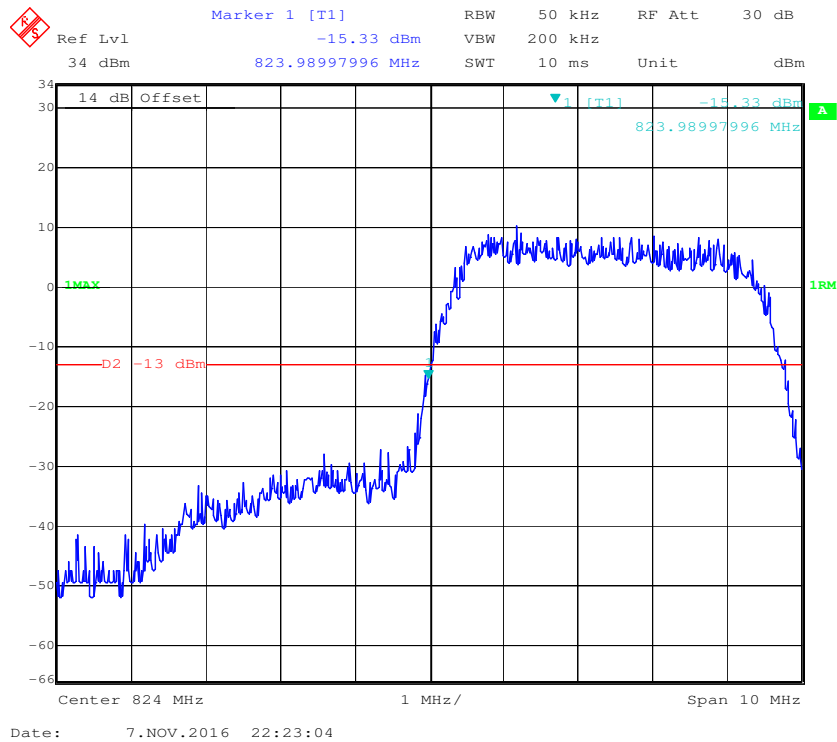


Cellular Band, Right Band Edge for RMC (BPSK) Mode

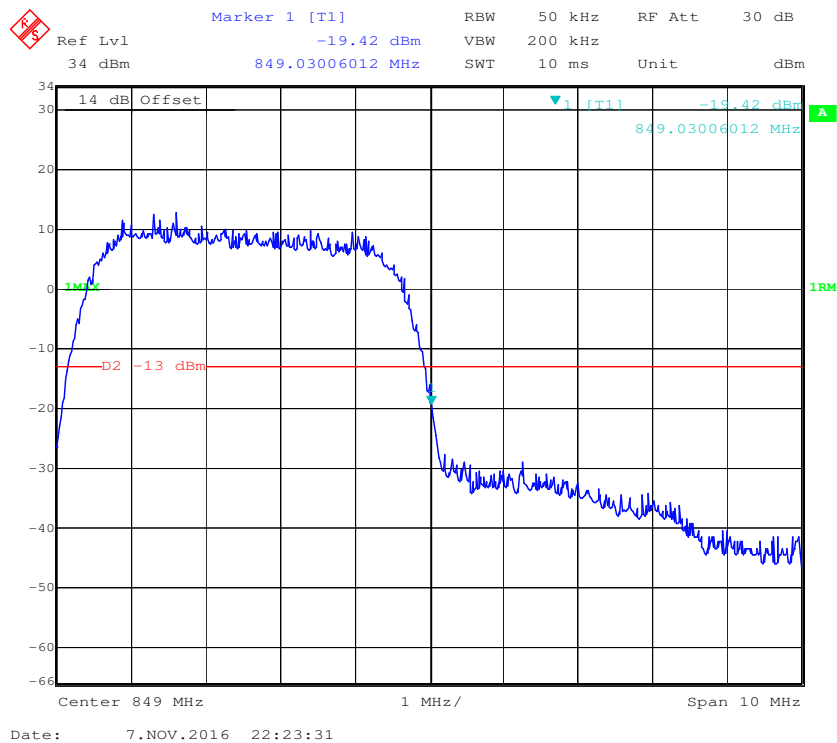


Cellular Band, Left Band Edge for HSDPA (16QAM) Mode**Cellular Band, Right Band Edge for HSDPA (16QAM) Mode**

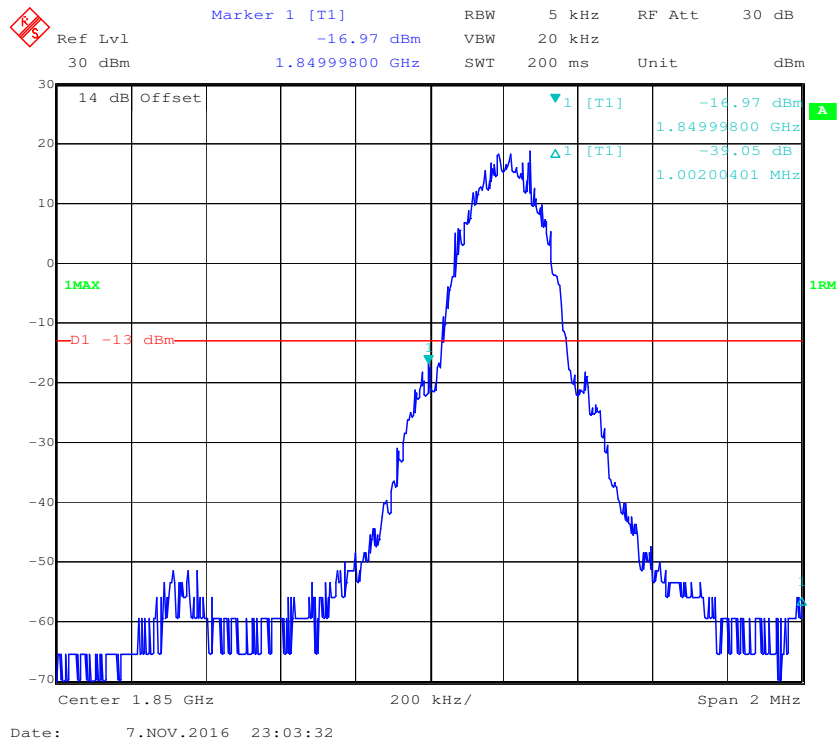
Cellular Band, Left Band Edge for HSUPA (BPSK) Mode



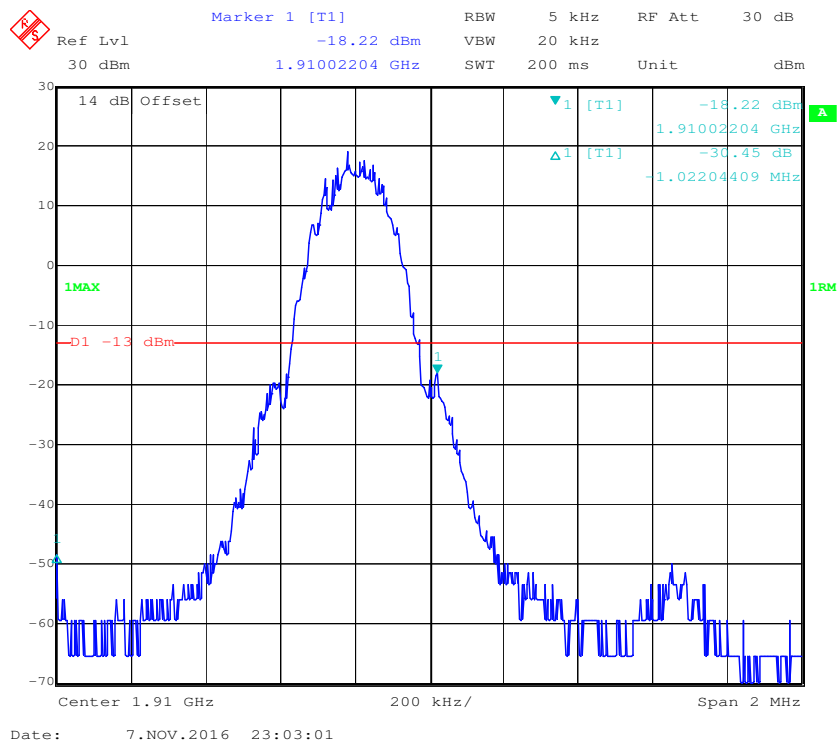
Cellular Band, Right Band Edge for HSUPA (BPSK) Mode



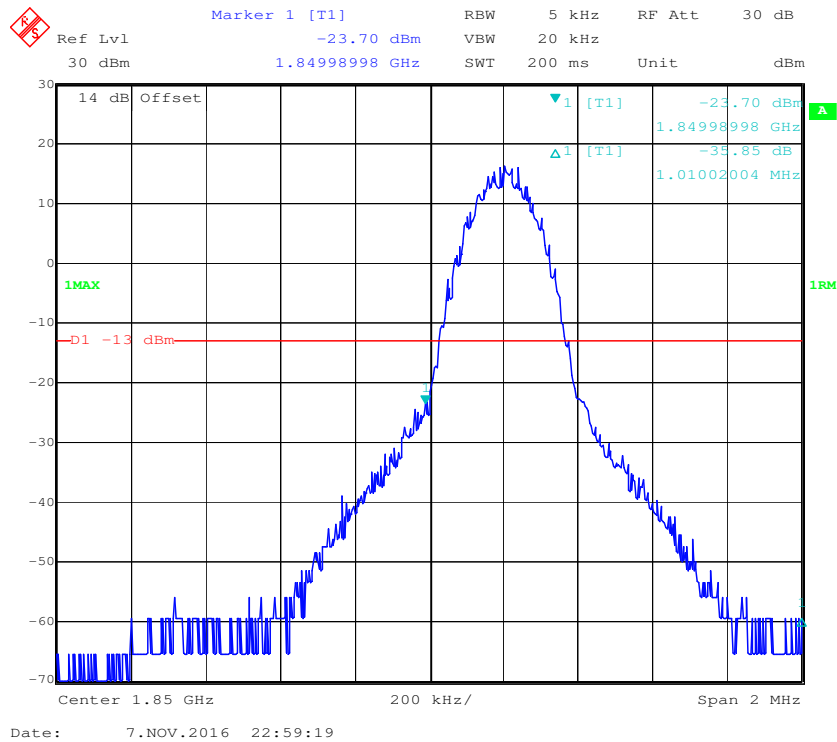
PCS Band, Left Band Edge for GSM (GMSK) Mode



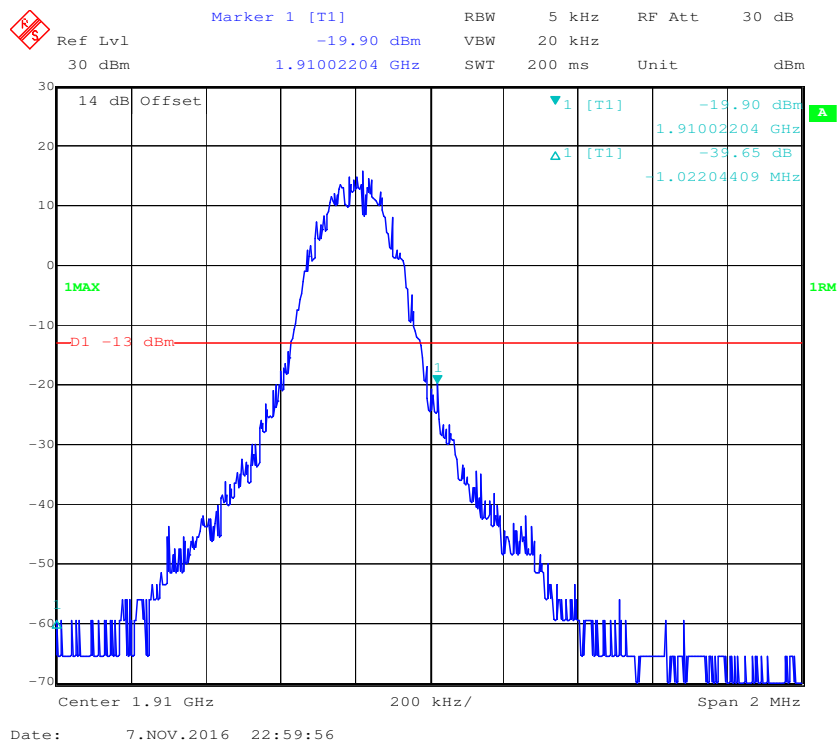
PCS Band, Right Band Edge for GSM (GMSK) Mode



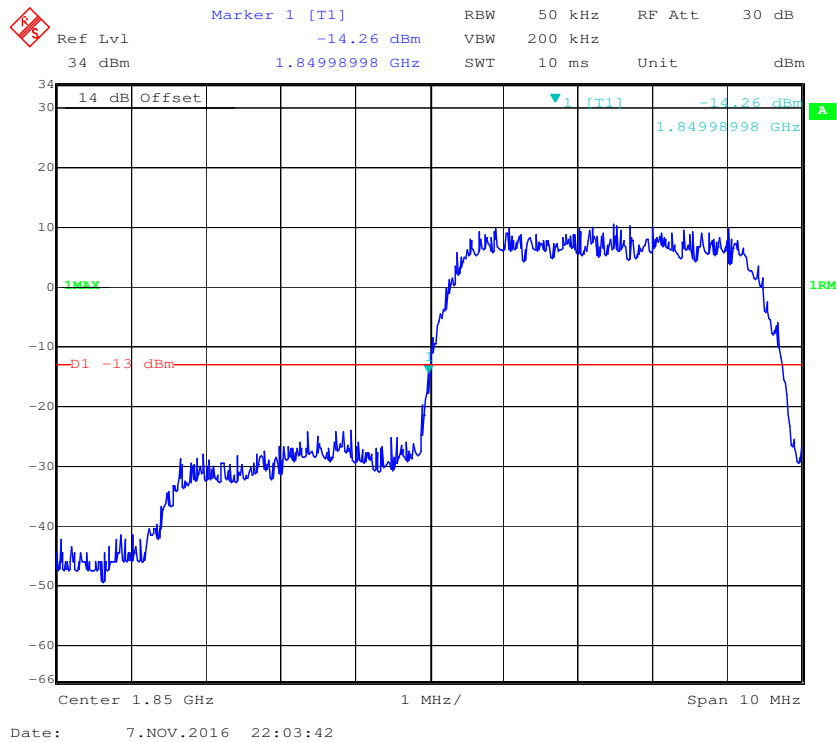
PCS Band, Left Band Edge for EGPRS (8PSK) Mode



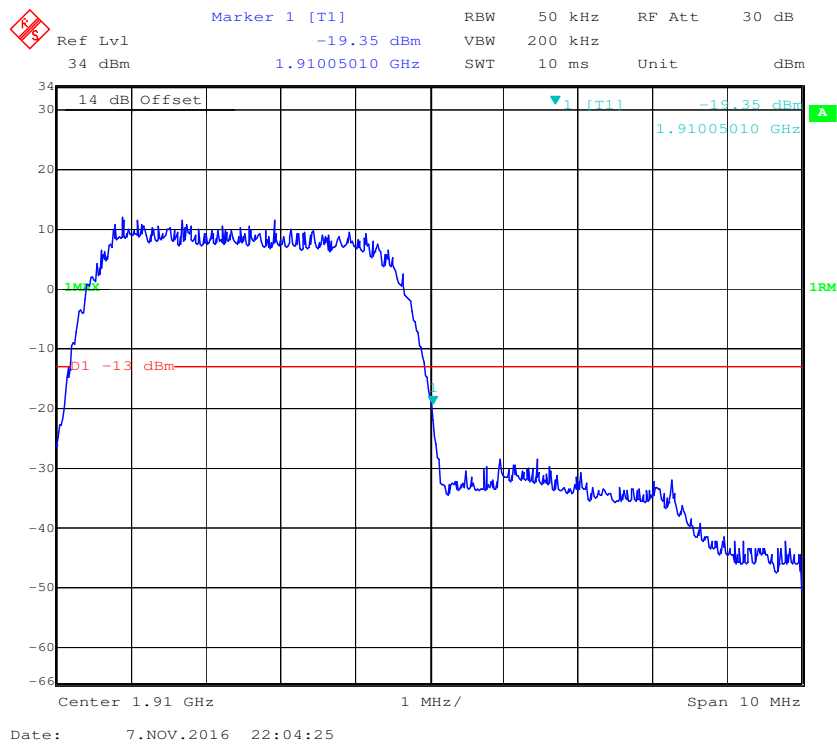
PCS Band, Right Band Edge for EGPRS (8PSK) Mode



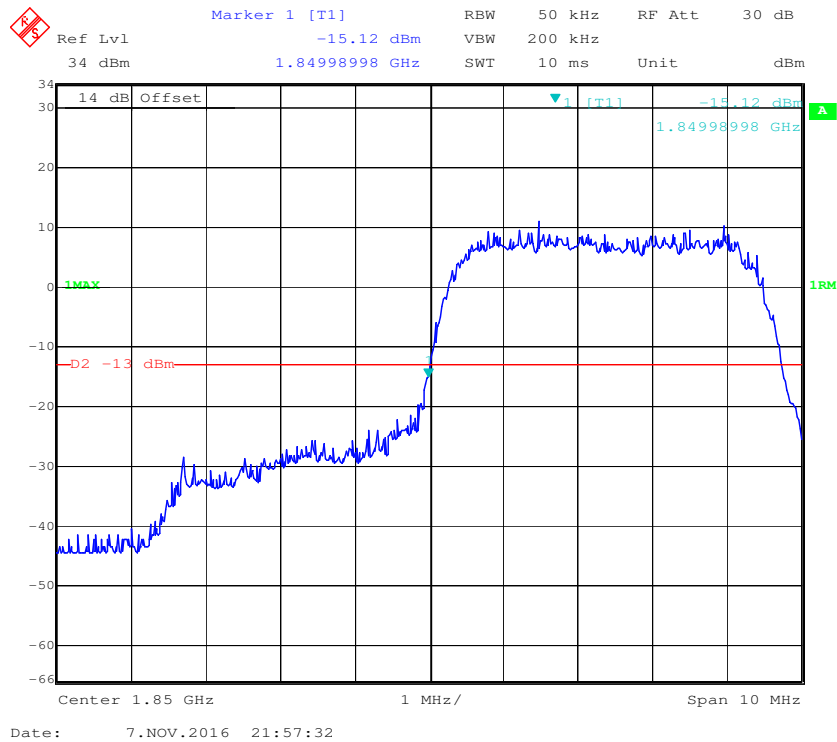
PCS Band, Left Band Edge for RMC (BPSK) Mode



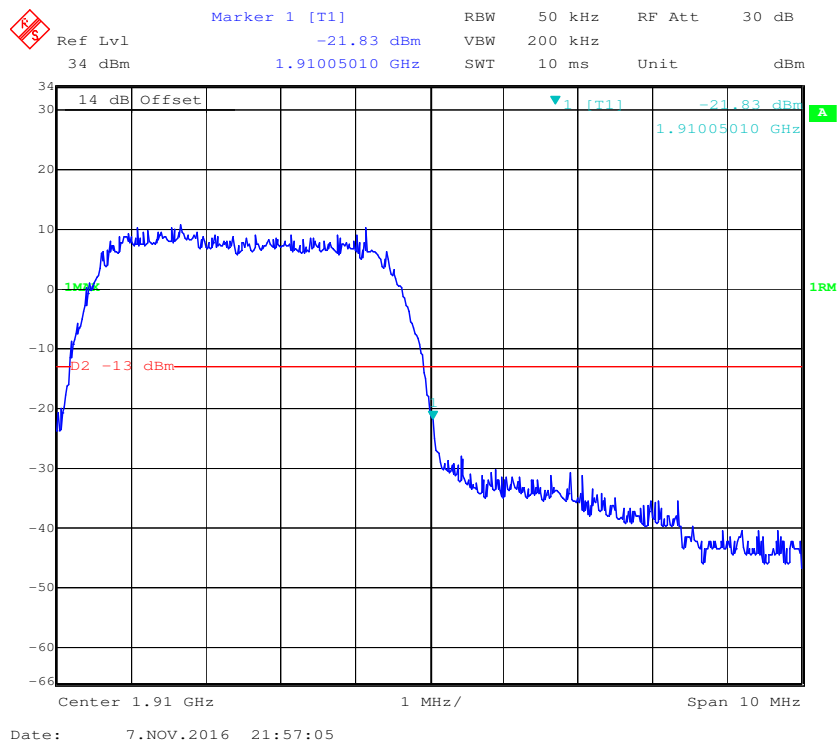
PCS Band, Right Band Edge for RMC (BPSK) Mode



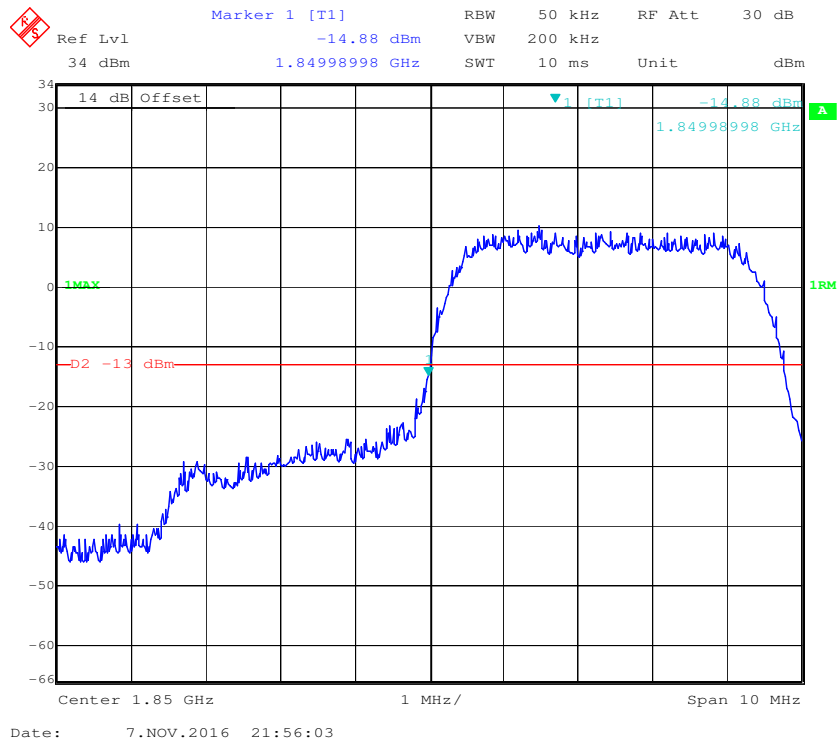
PCS Band, Left Band Edge for HSDPA (16QAM) Mode



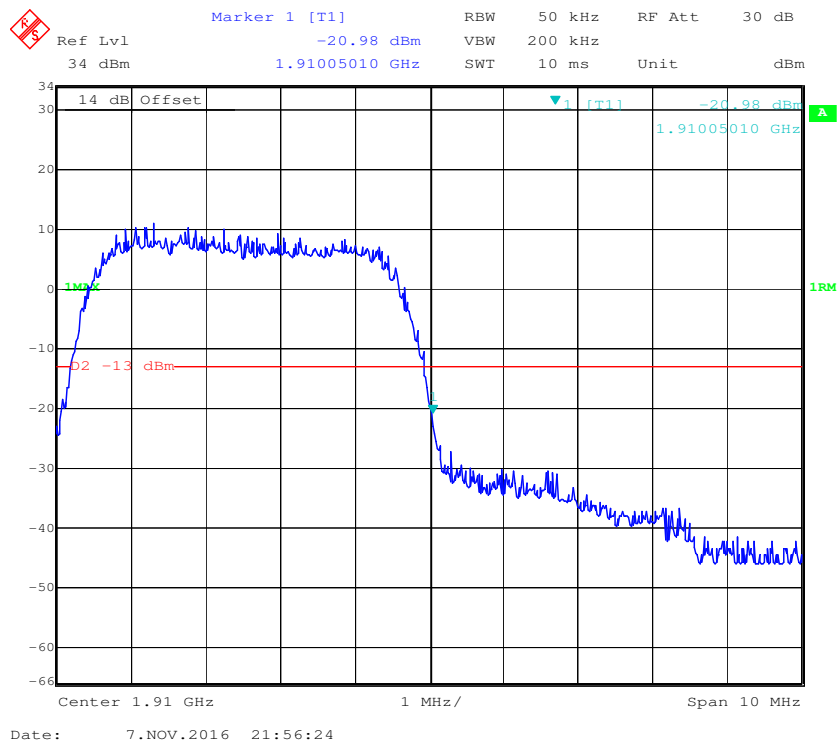
PCS Band, Right Band Edge for HSDPA (16QAM) Mode



PCS Band, Left Band Edge for HSUPA (BPSK) Mode

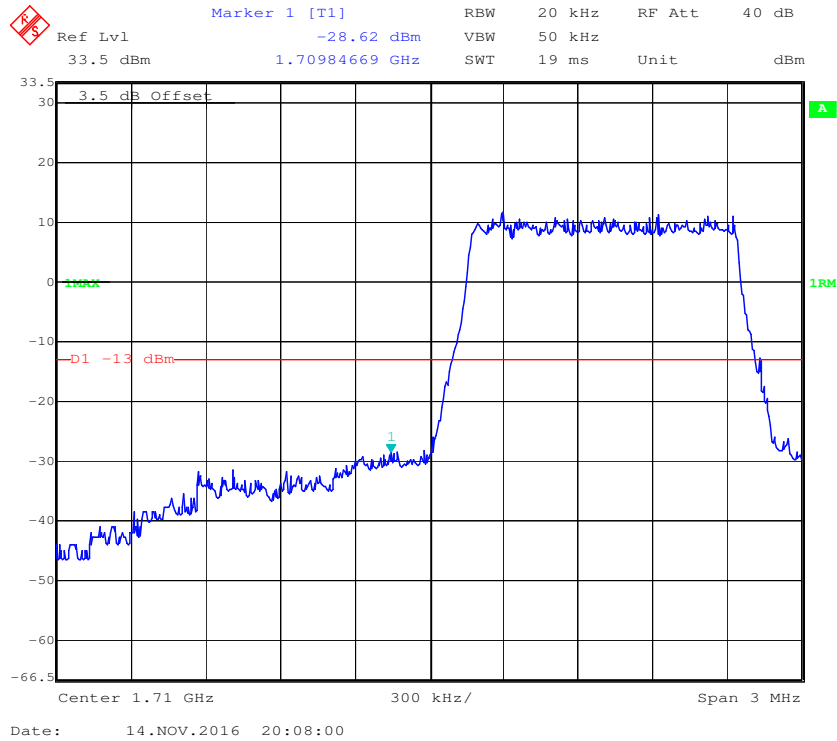


PCS Band, Right Band Edge for HSUPA (BPSK) Mode

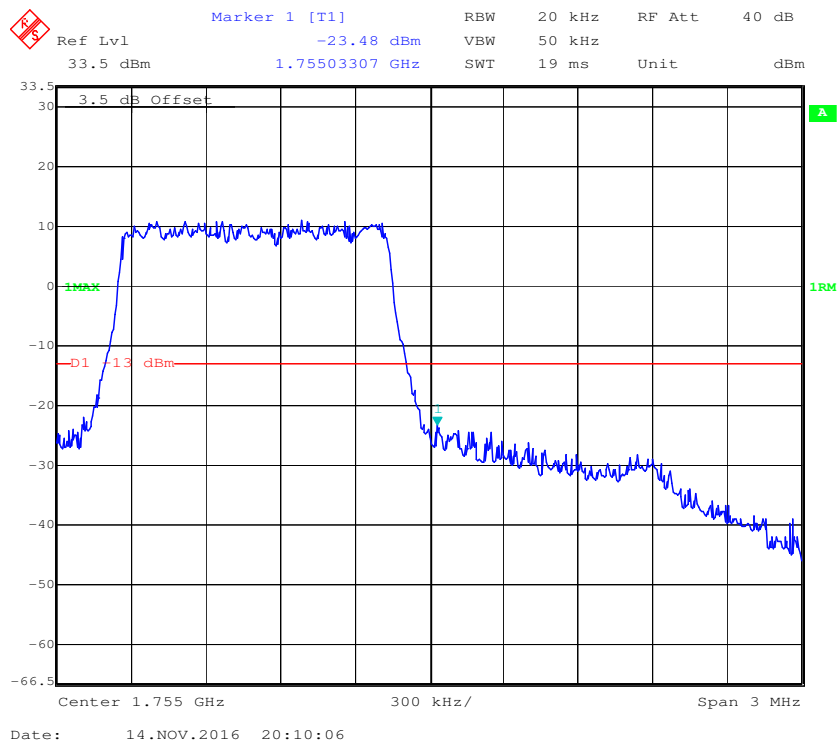


Band 4:

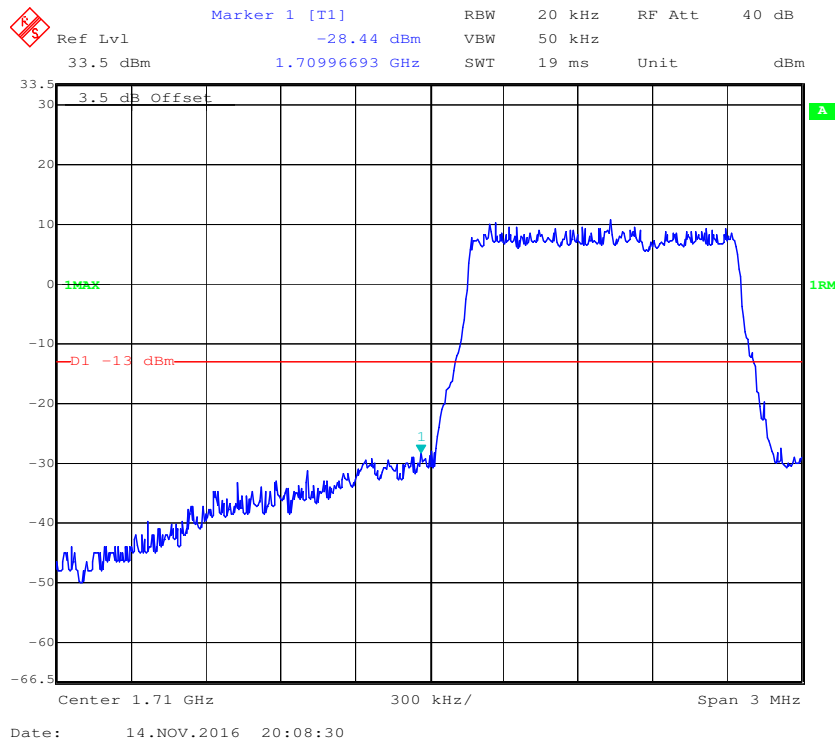
QPSK (1.4 MHz, FULL RB) - Left Band Edge



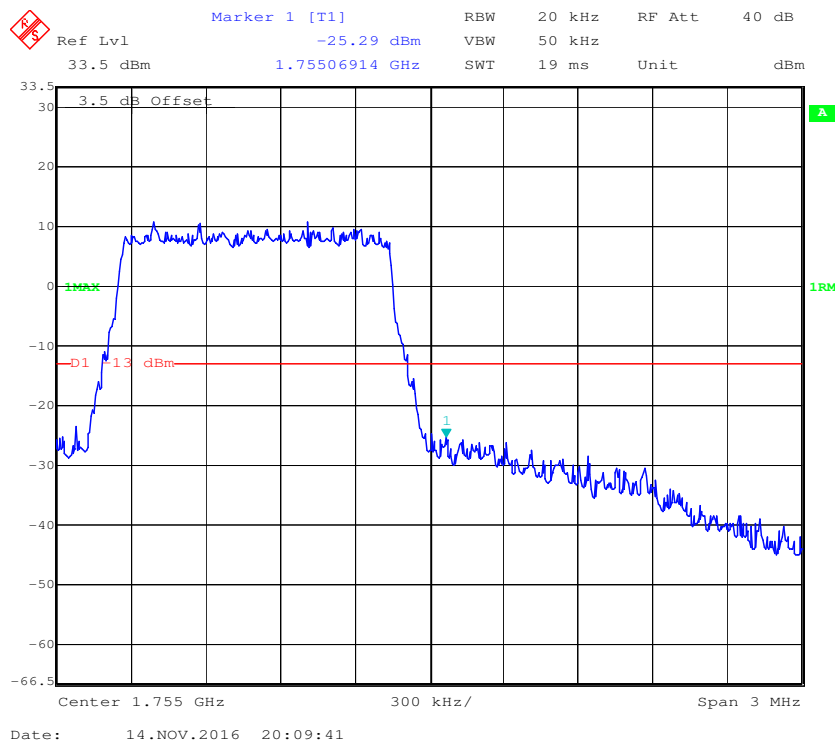
QPSK (1.4 MHz, FULL RB) - Right Band Edge



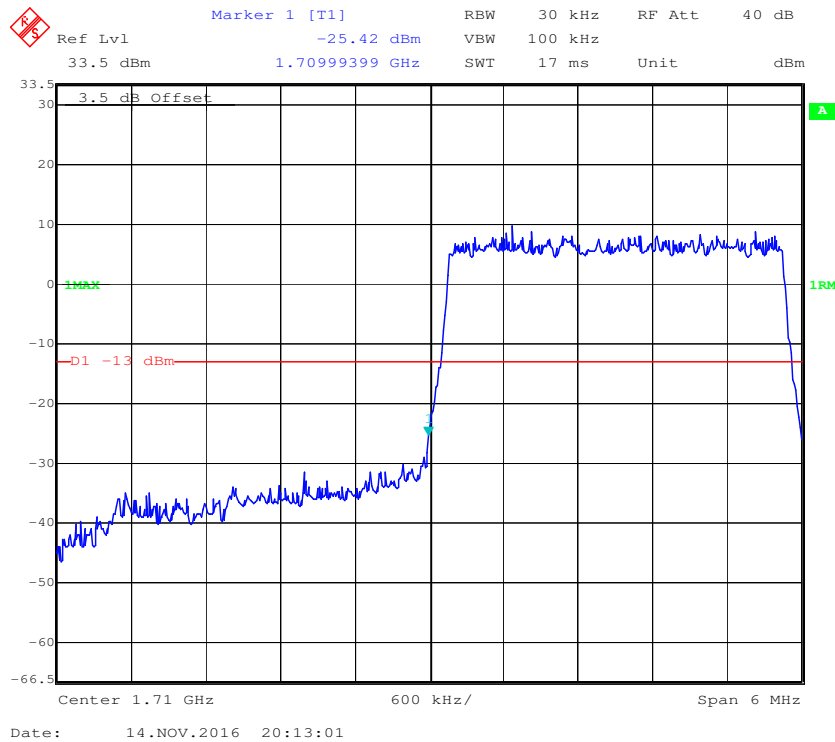
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



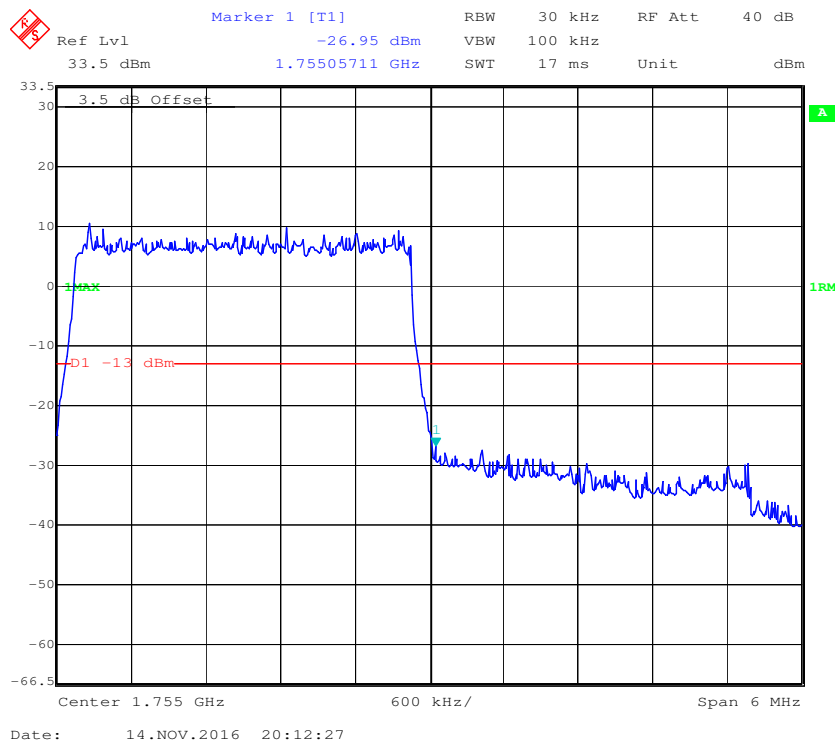
16-QAM (1.4 MHz, FULL RB) - Right Band Edge



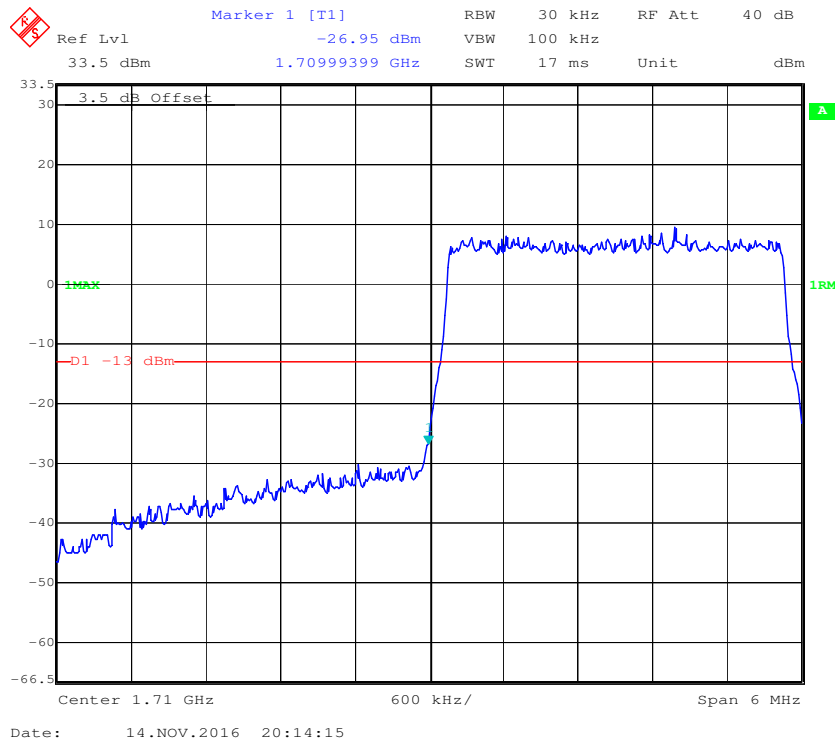
QPSK (3.0 MHz, FULL RB) - Left Band Edge



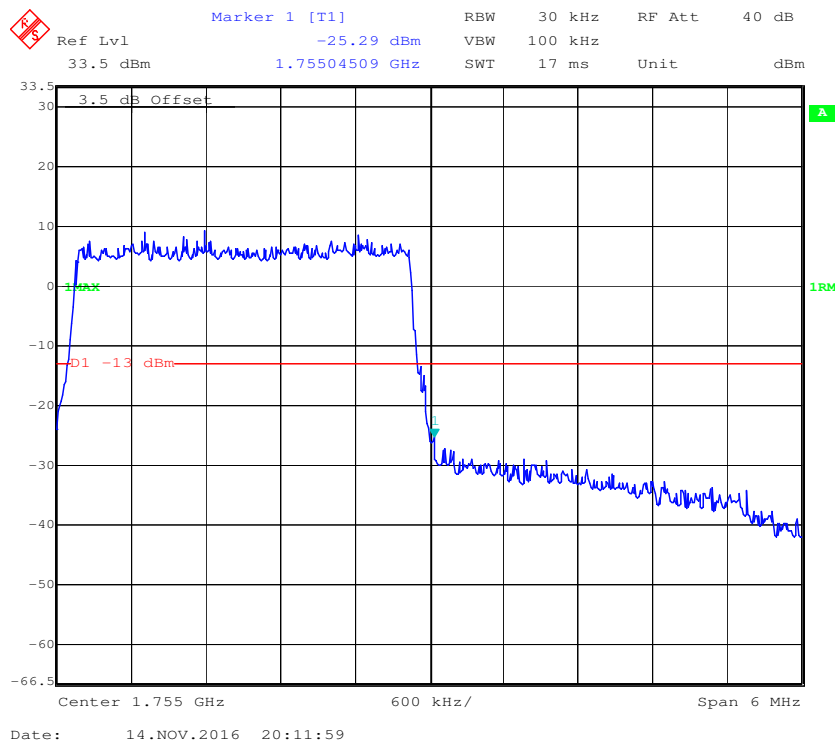
QPSK (3.0 MHz, FULL RB) - Right Band Edge



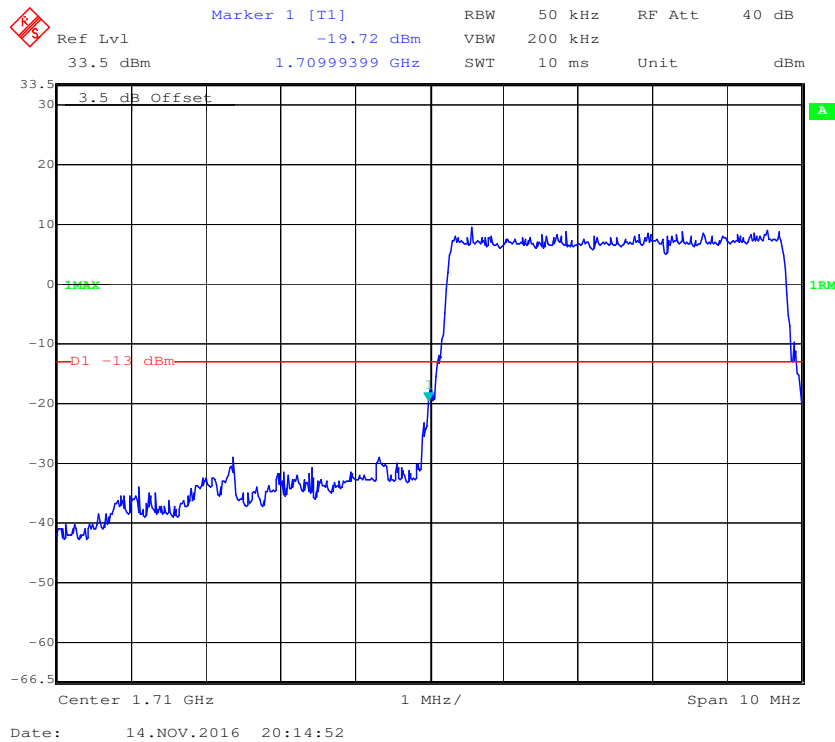
16-QAM (3.0 MHz, FULL RB) - Left Band Edge



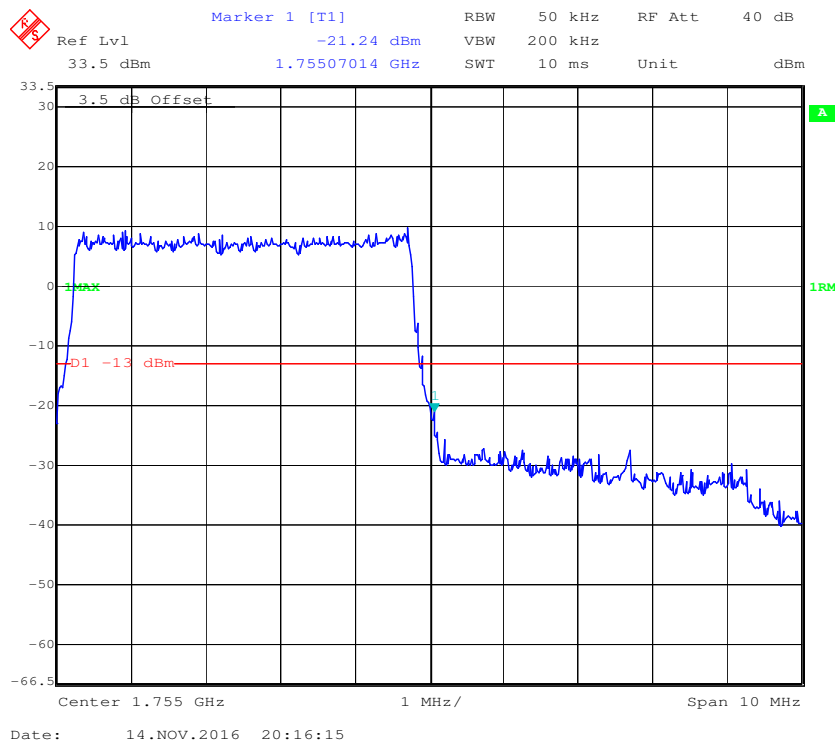
16-QAM (3.0 MHz, FULL RB) - Right Band Edge



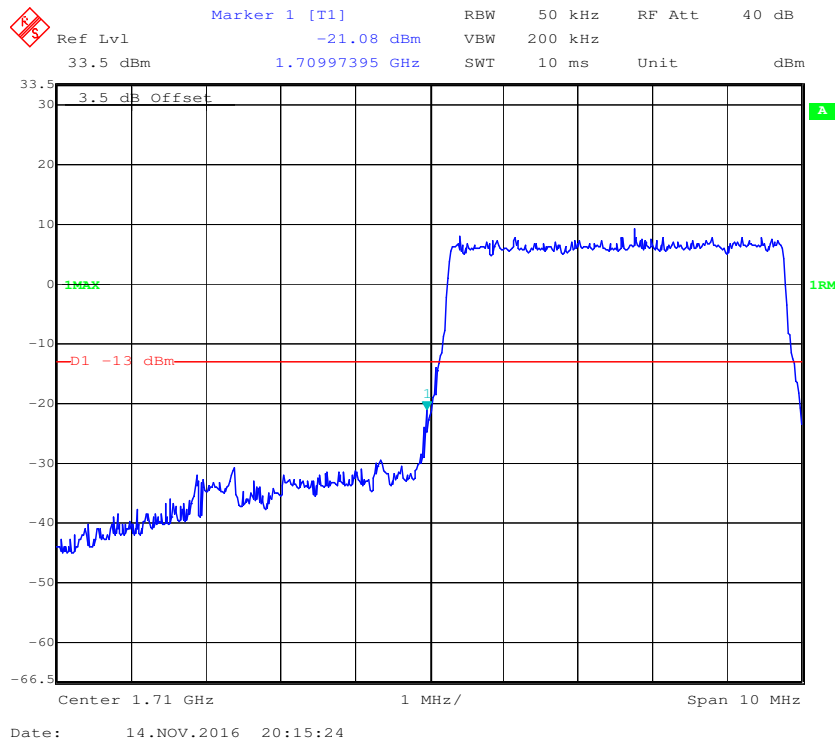
QPSK (5.0 MHz, FULL RB) - Left Band Edge



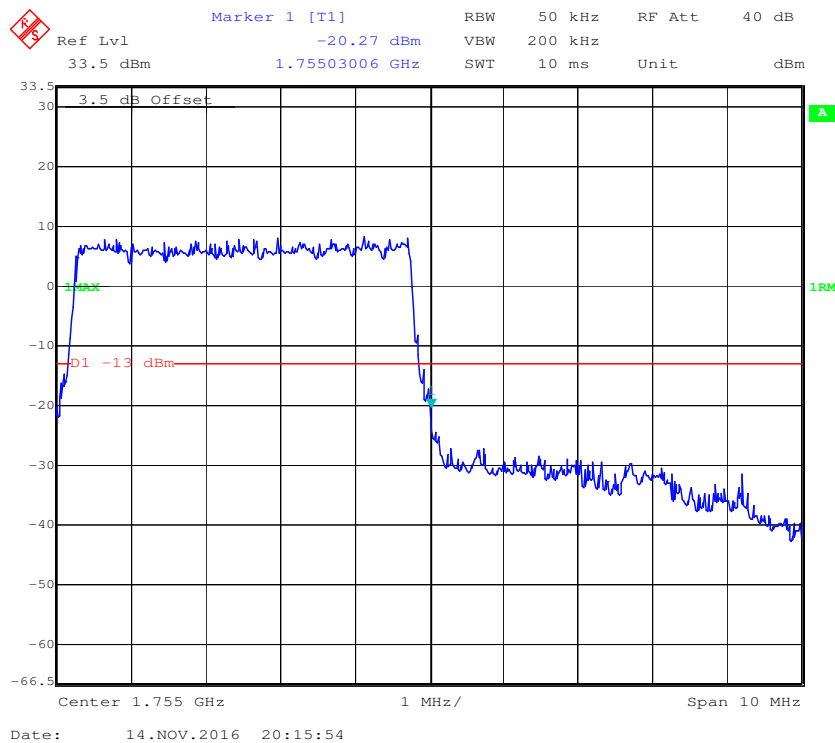
QPSK (5.0 MHz, FULL RB) - Right Band Edge



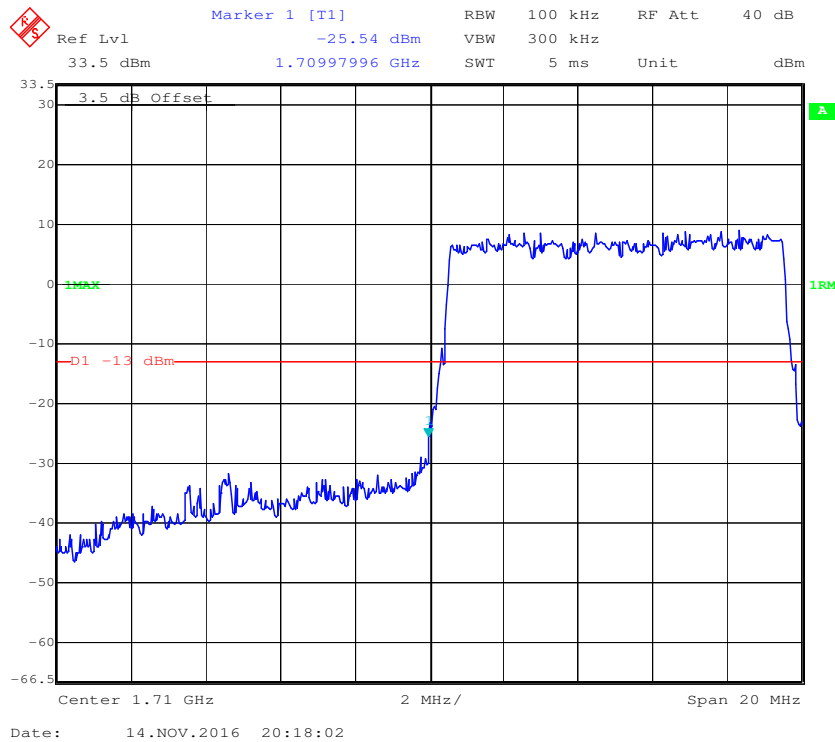
16-QAM (5.0 MHz, FULL RB) - Left Band Edge



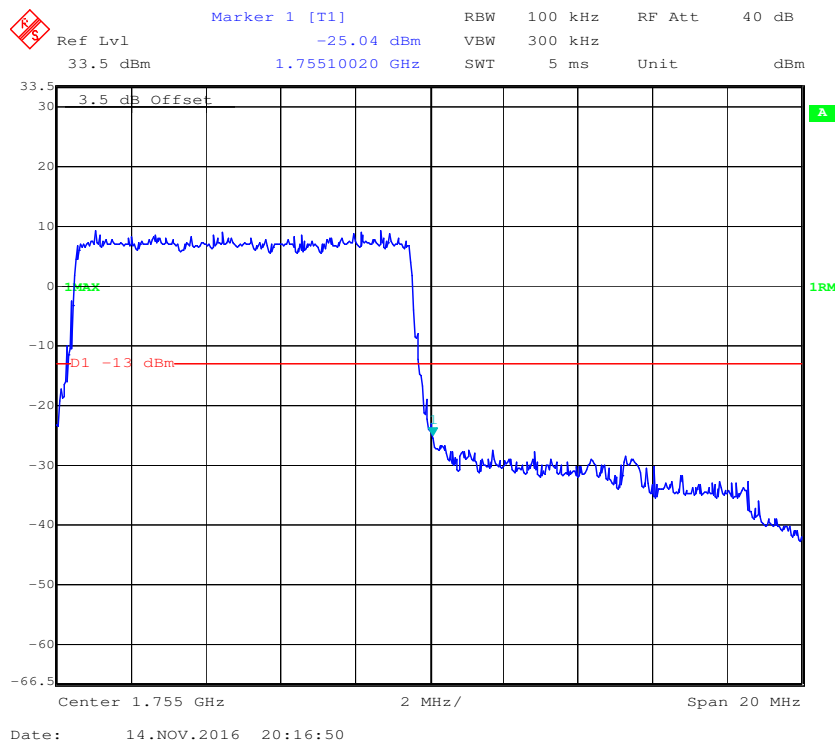
16-QAM (5.0 MHz, FULL RB) - Right Band Edge



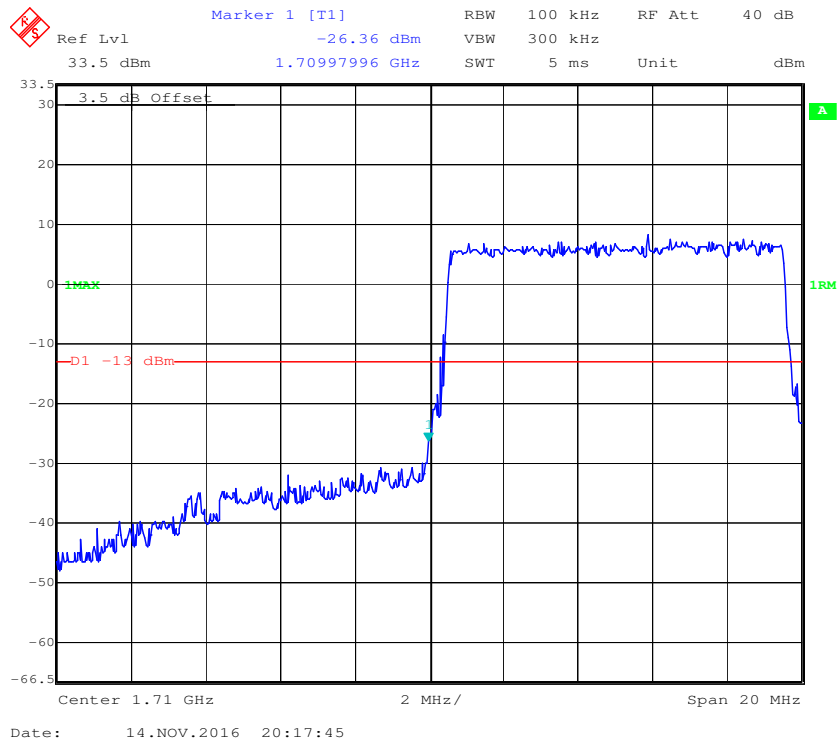
QPSK (10.0 MHz, FULL RB) - Left Band Edge



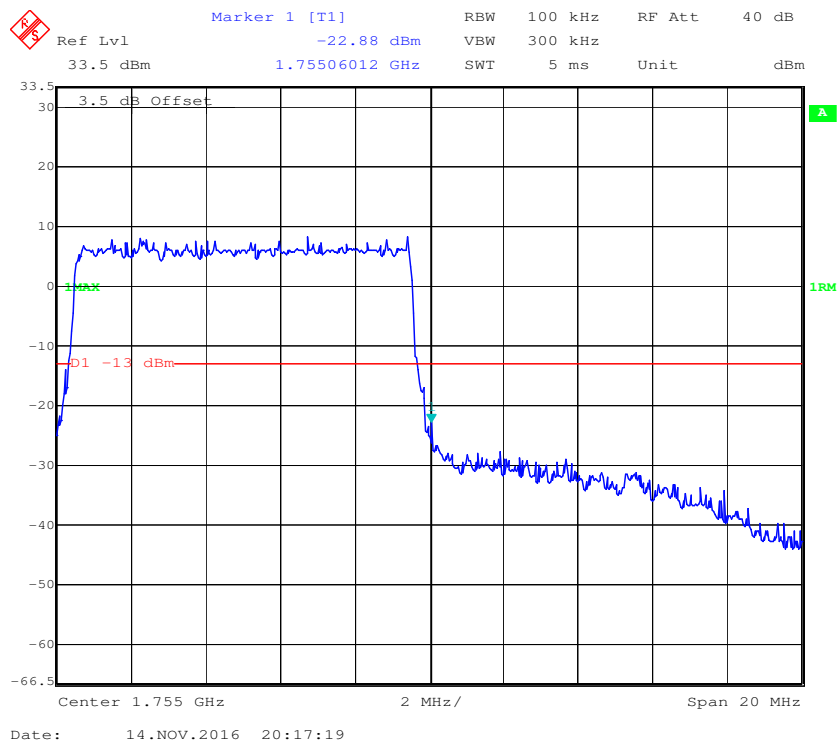
QPSK (10.0 MHz, FULL RB) - Right Band Edge



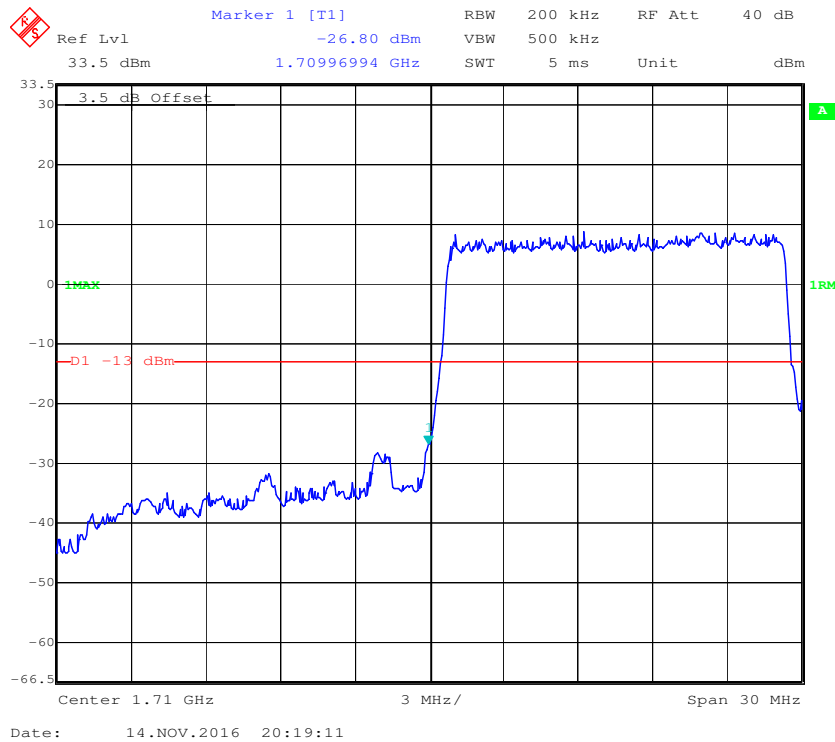
16-QAM (10.0 MHz, FULL RB) - Left Band Edge



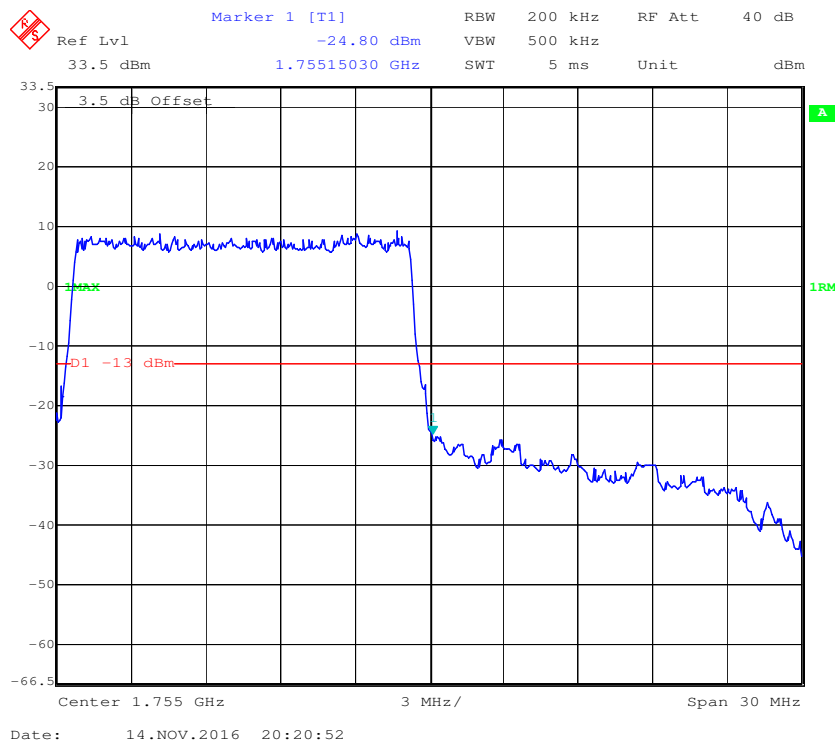
16-QAM (10.0 MHz, FULL RB) - Right Band Edge



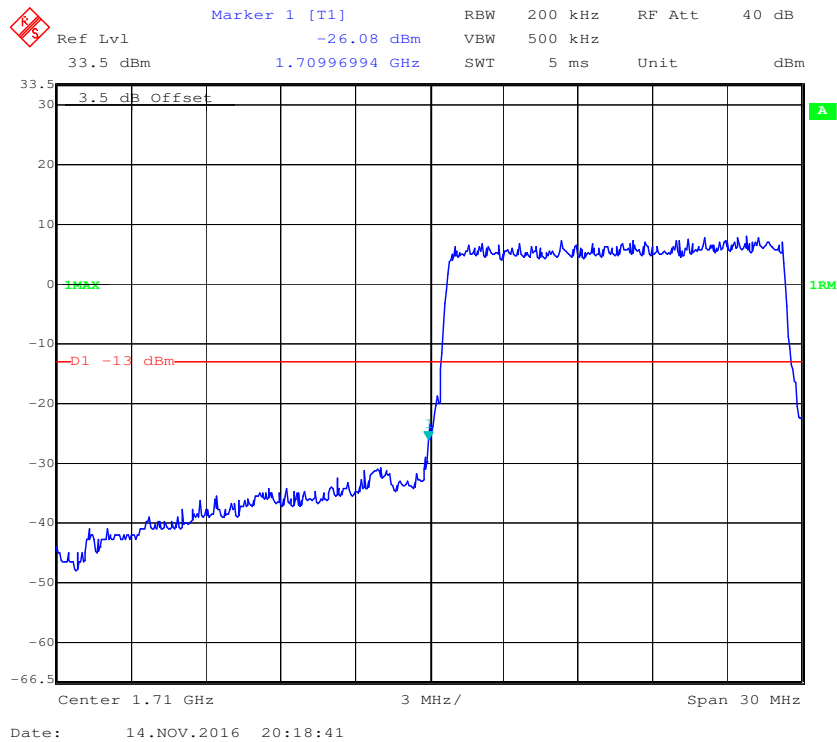
QPSK (15.0 MHz, FULL RB) - Left Band Edge



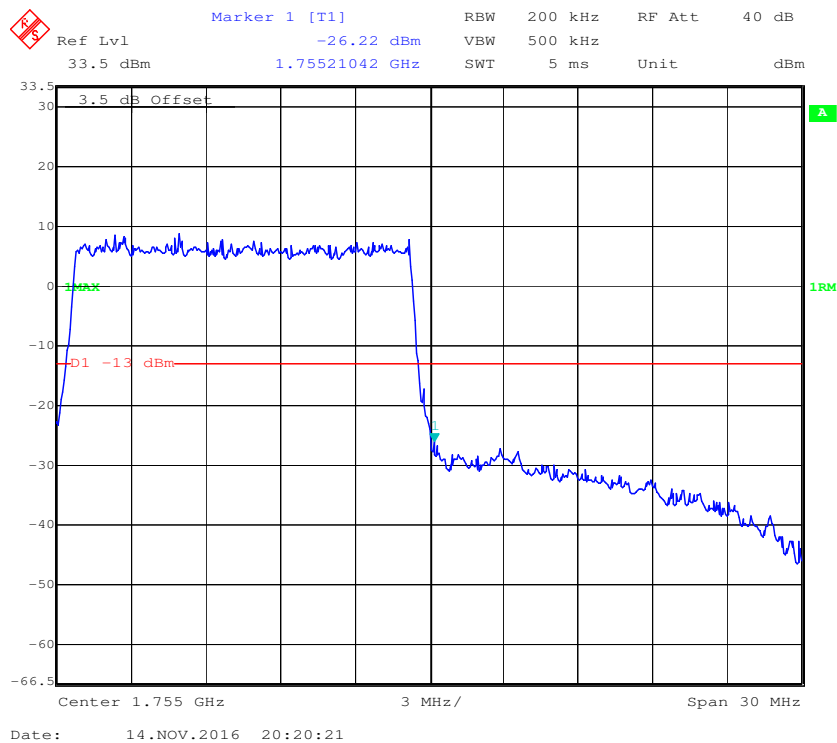
QPSK (15.0 MHz, FULL RB) - Right Band Edge



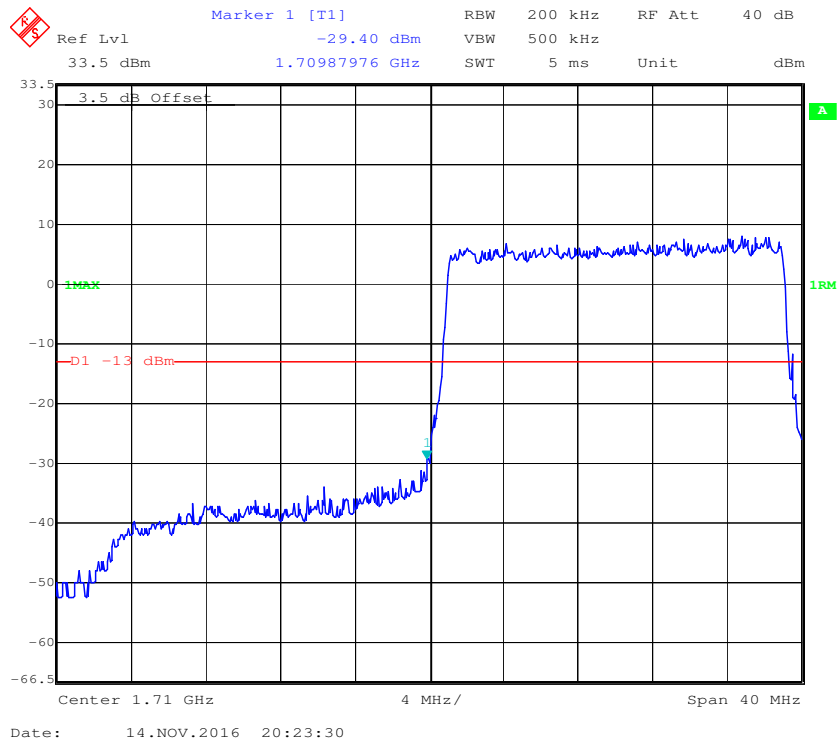
16-QAM (15.0 MHz, FULL RB) - Left Band Edge



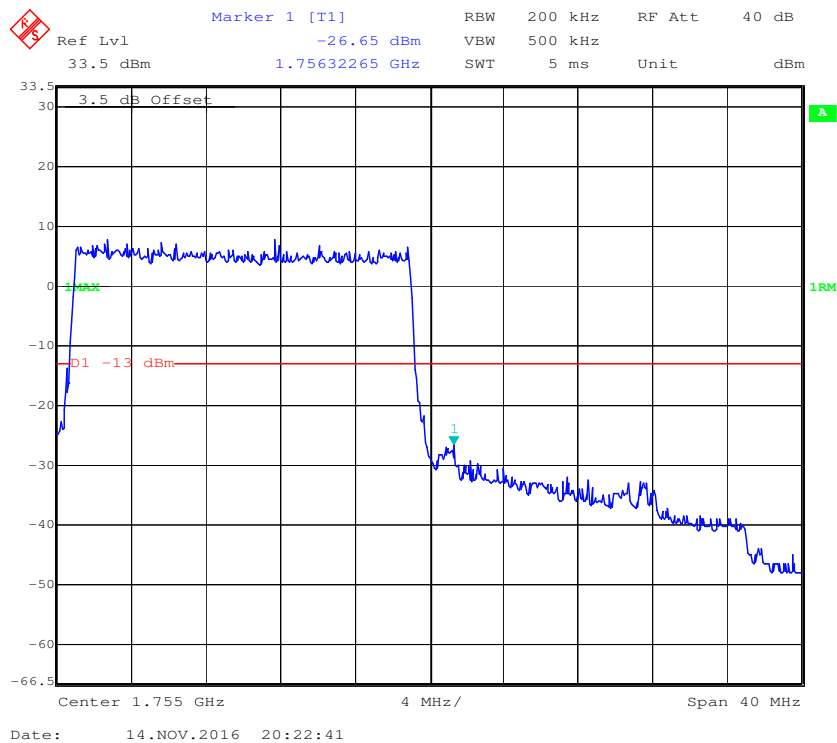
16-QAM (15.0 MHz, FULL RB) - Right Band Edge



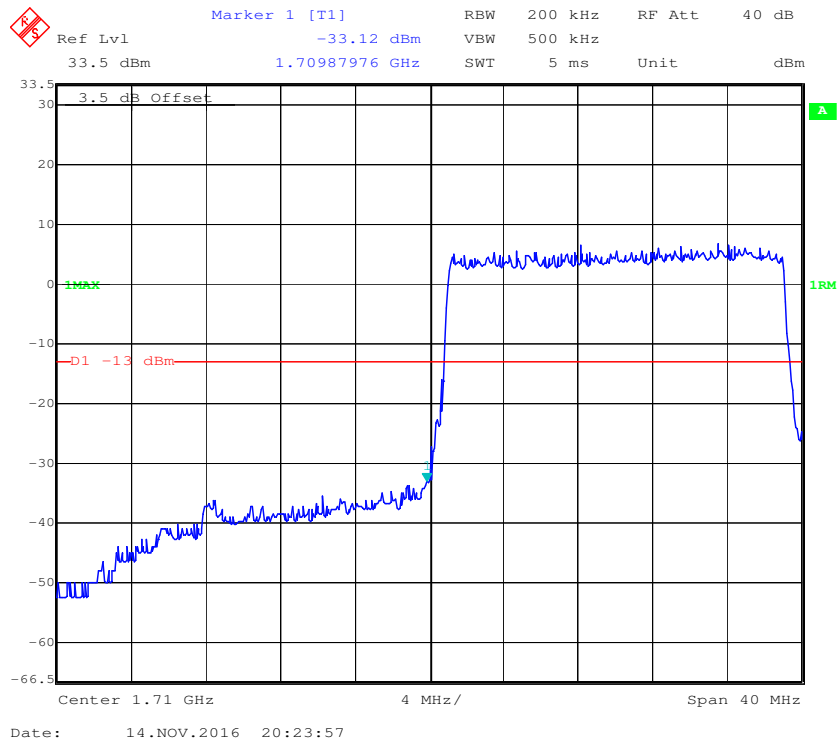
QPSK (20.0 MHz, FULL RB) - Left Band Edge



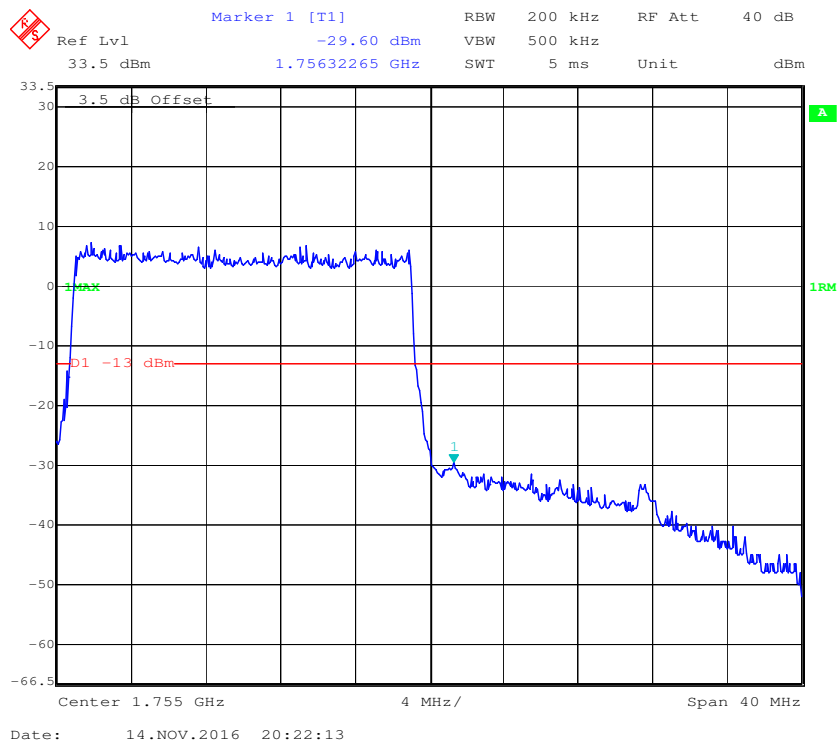
QPSK (20.0 MHz, FULL RB) - Right Band Edge



16-QAM (20.0 MHz, FULL RB) - Left Band Edge

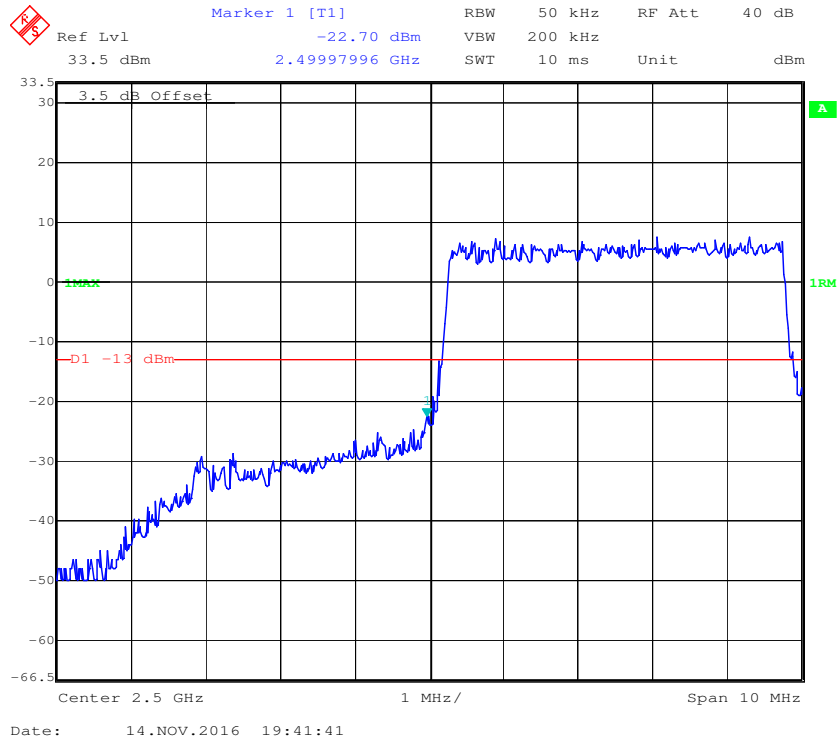


16-QAM (20.0 MHz, FULL RB) - Right Band Edge

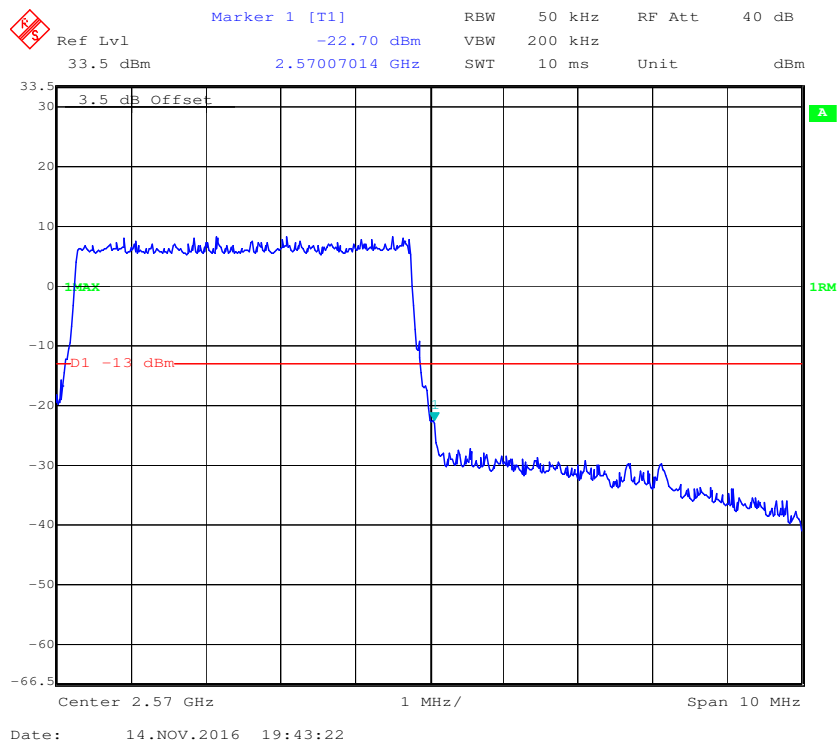


Band 7:

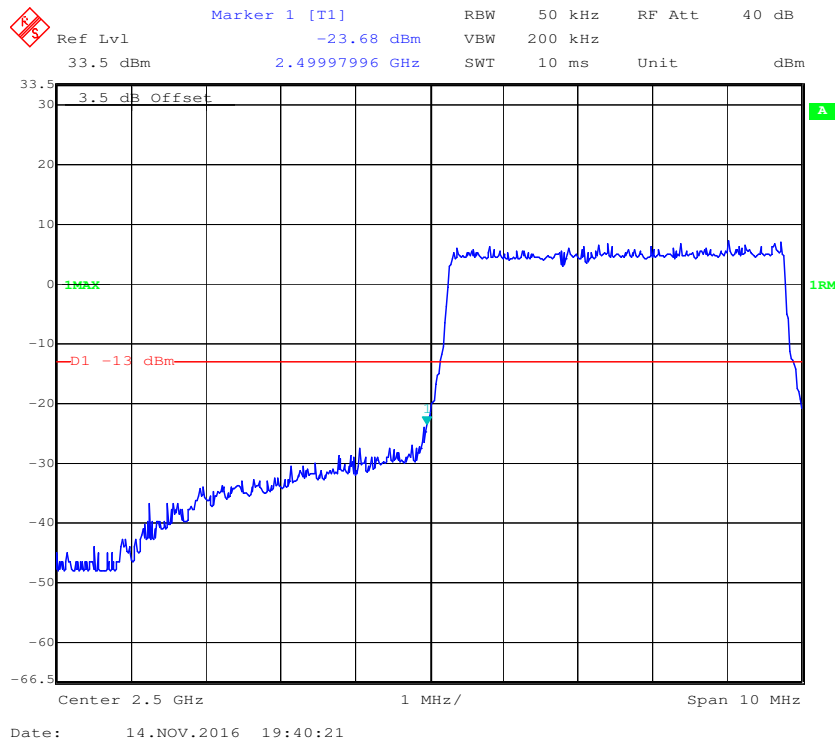
QPSK (5.0 MHz, FULL RB) - Left Band Edge



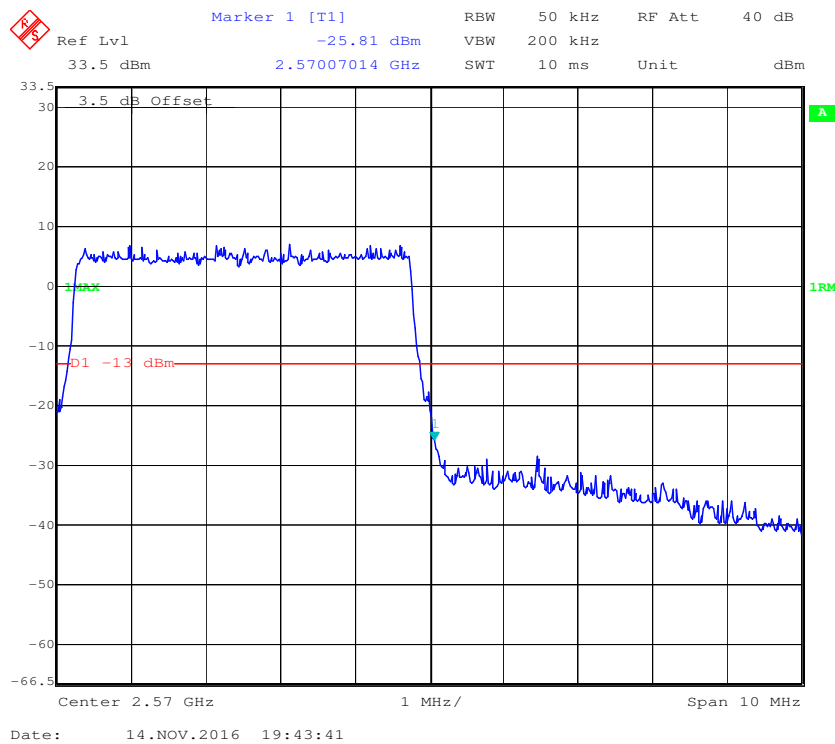
QPSK (5.0 MHz, FULL RB) - Right Band Edge



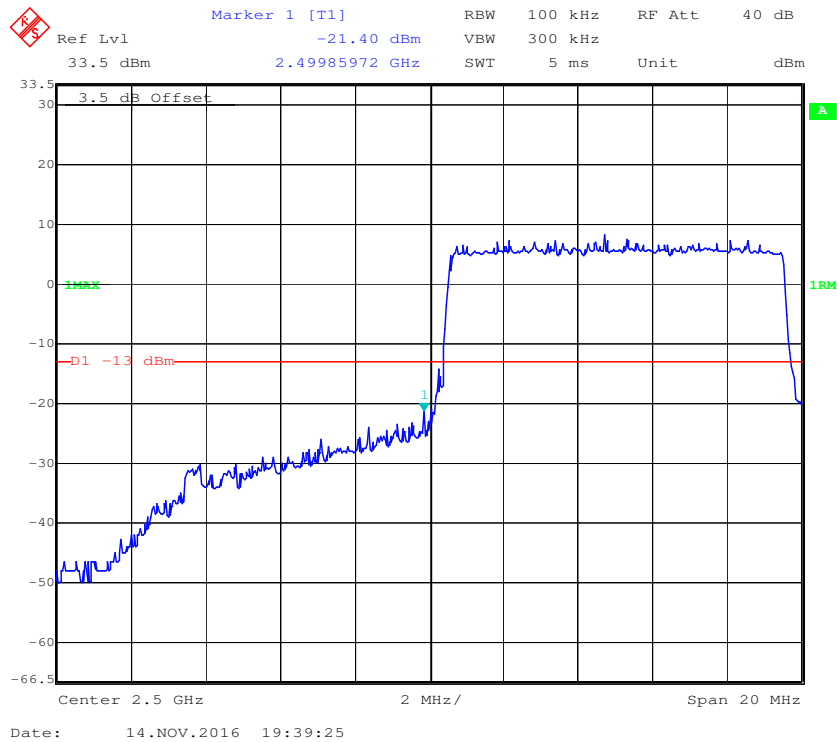
16-QAM (5.0 MHz, FULL RB) - Left Band Edge



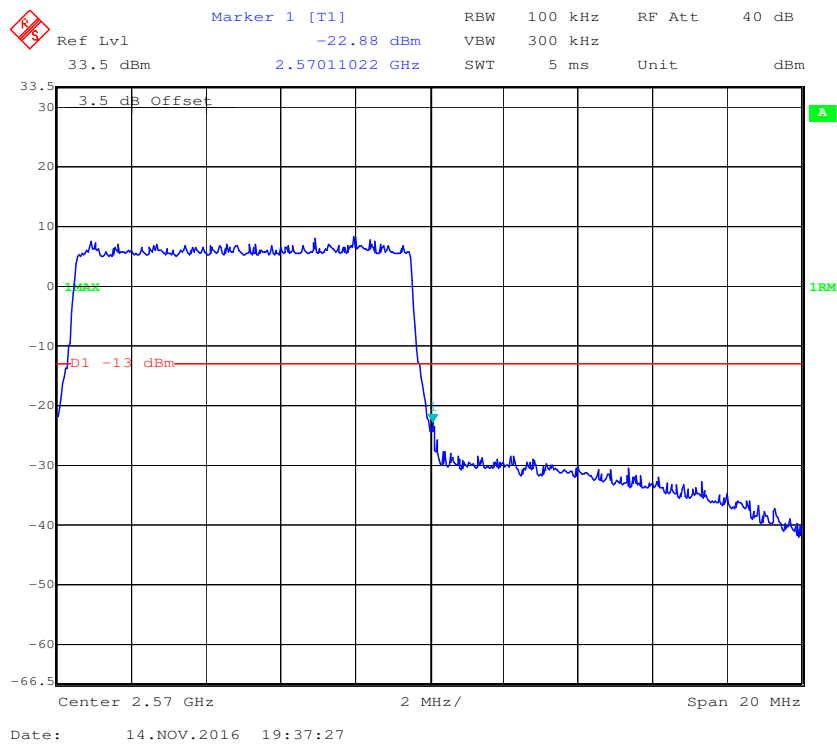
16-QAM (5.0 MHz, FULL RB) - Right Band Edge



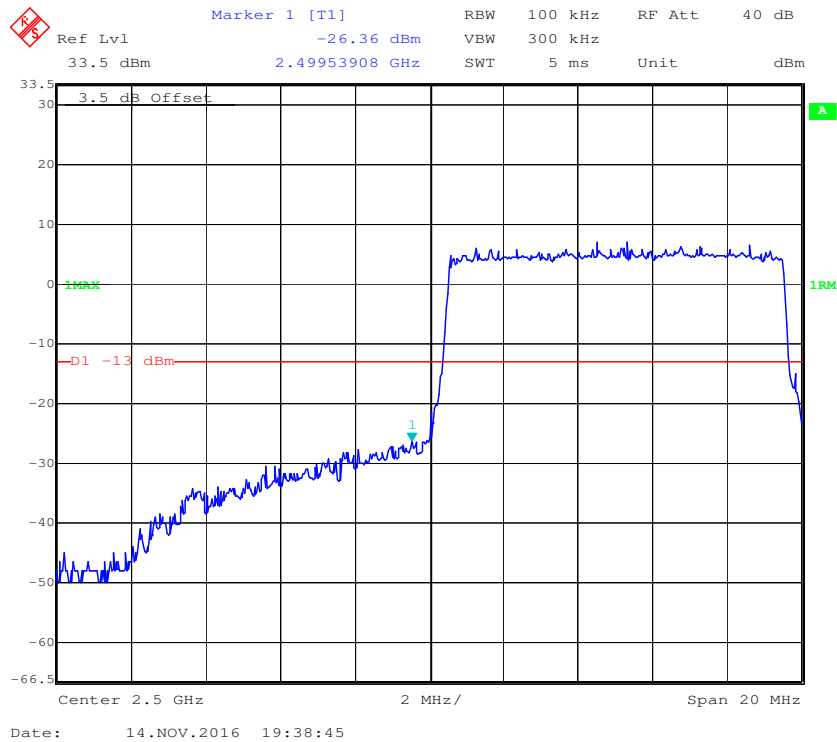
QPSK (10.0 MHz, FULL RB) - Left Band Edge



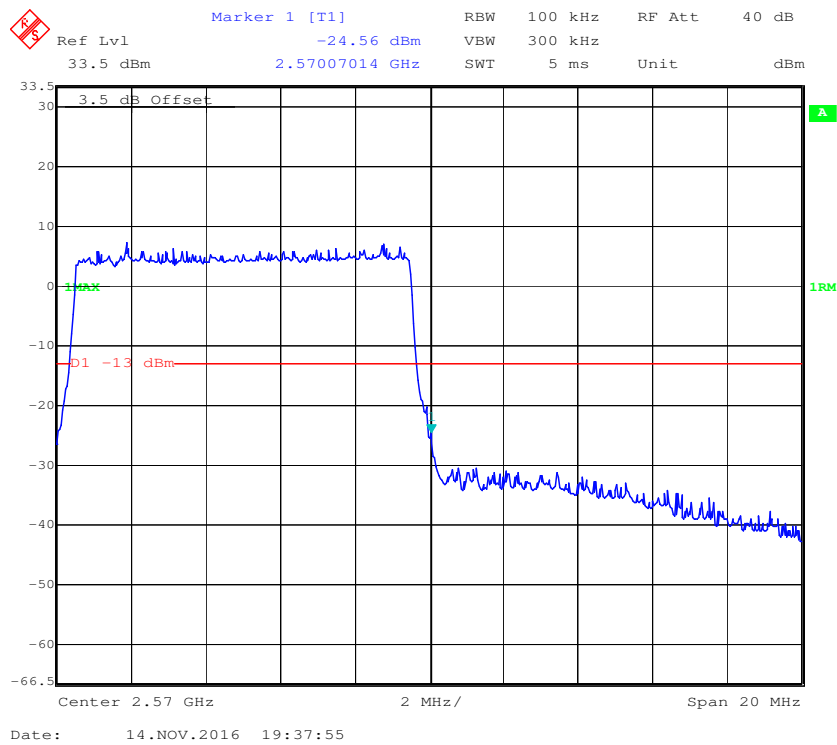
QPSK (10.0 MHz, FULL RB) - Right Band Edge

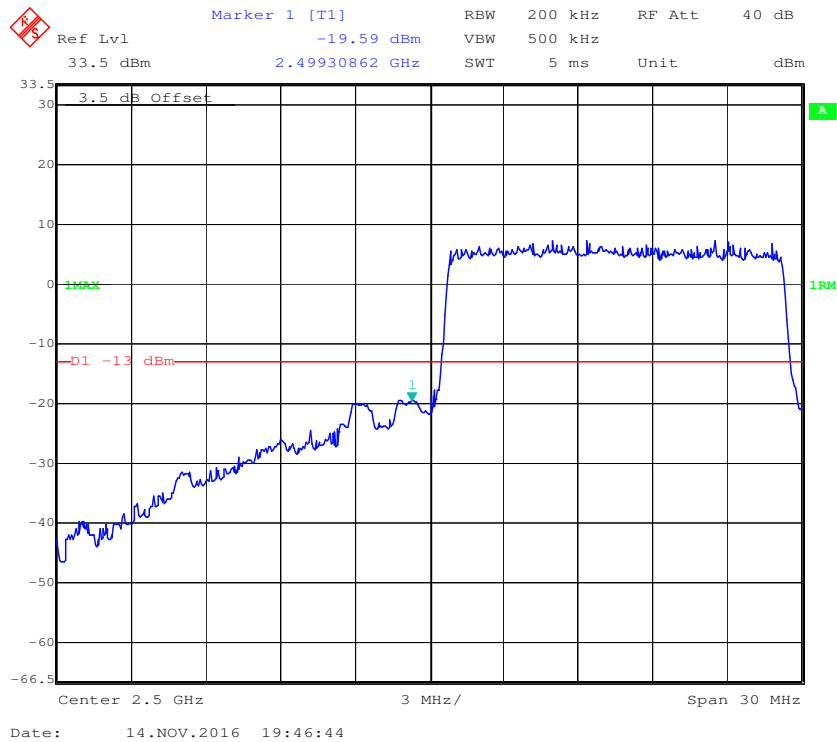
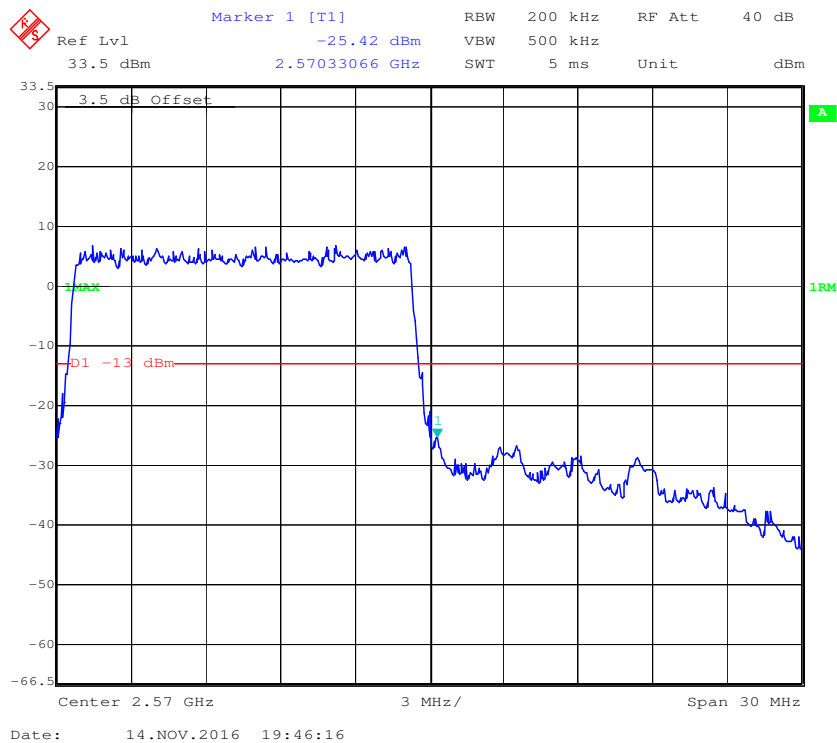


16-QAM (10.0 MHz, FULL RB) - Left Band Edge

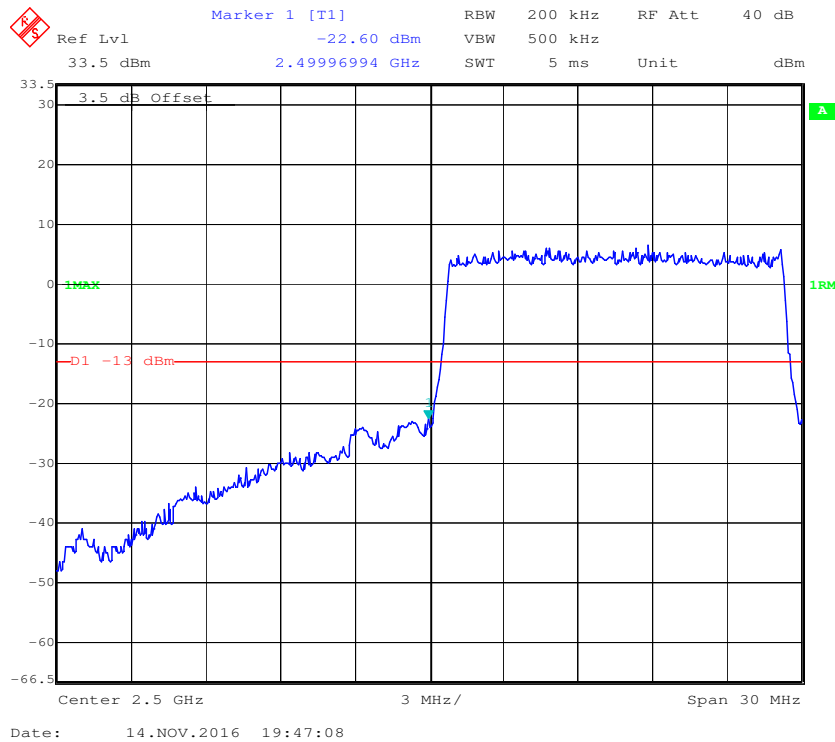


16-QAM (10.0 MHz, FULL RB) - Right Band Edge

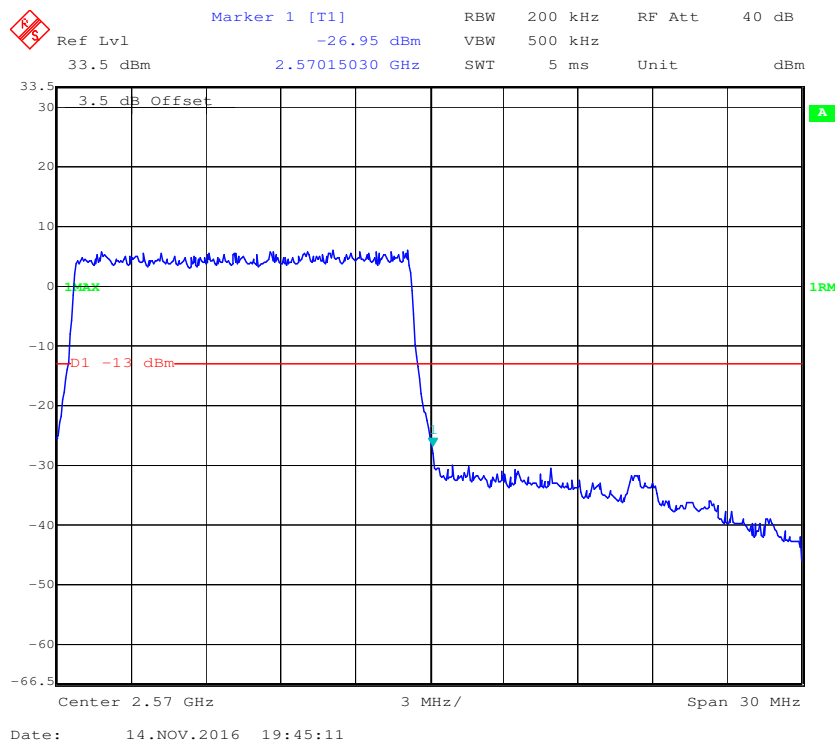


QPSK (15 MHz, FULL RB) - Left Band Edge**QPSK (15 MHz, FULL RB) - Right Band Edge**

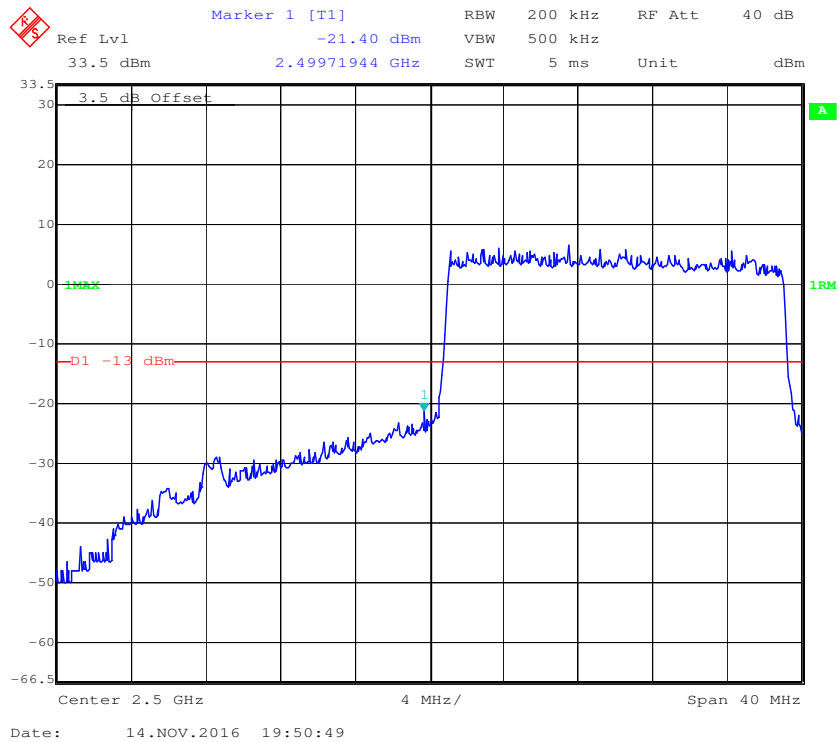
16-QAM (15 MHz, FULL RB) - Left Band Edge



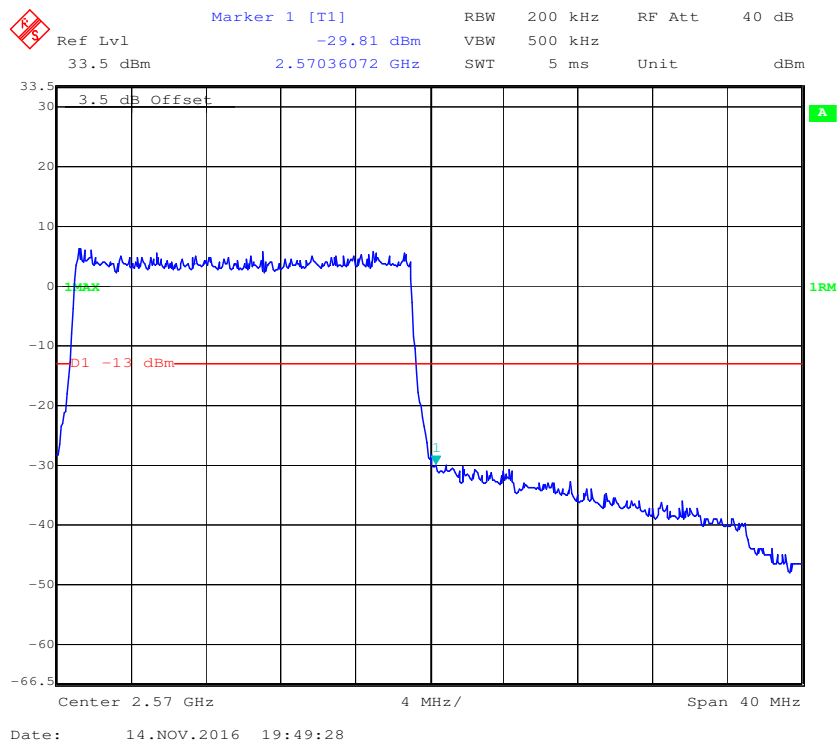
16-QAM (15 MHz, FULL RB) - Right Band Edge

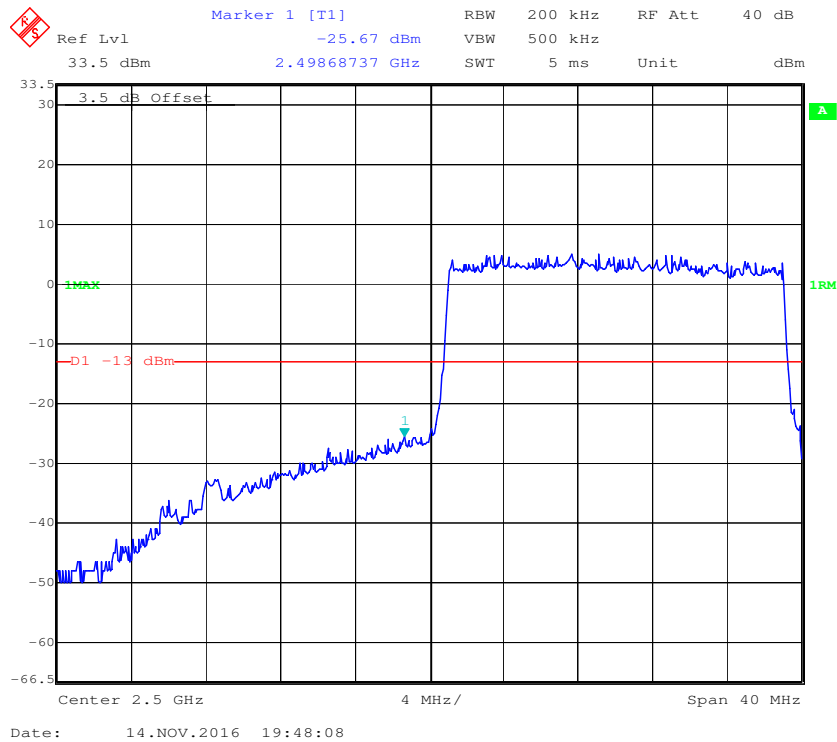
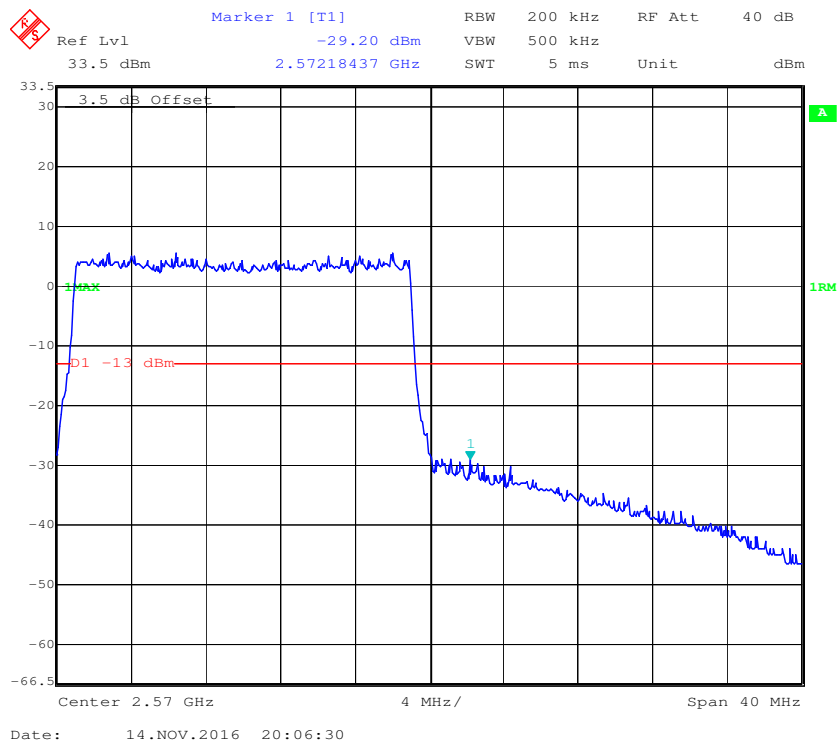


QPSK (20 MHz, FULL RB) - Left Band Edge



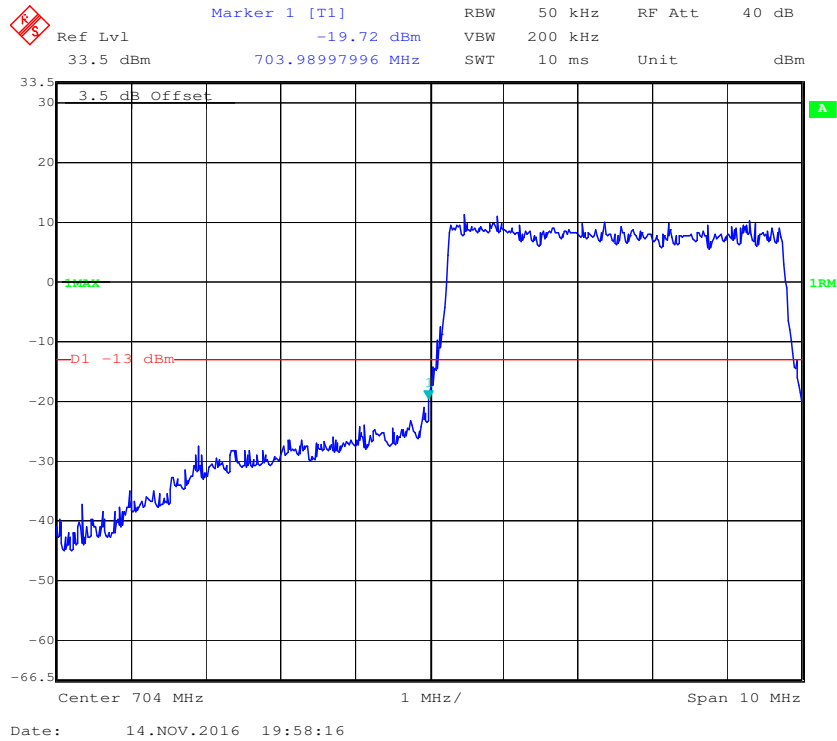
QPSK (20 MHz, FULL RB) - Right Band Edge



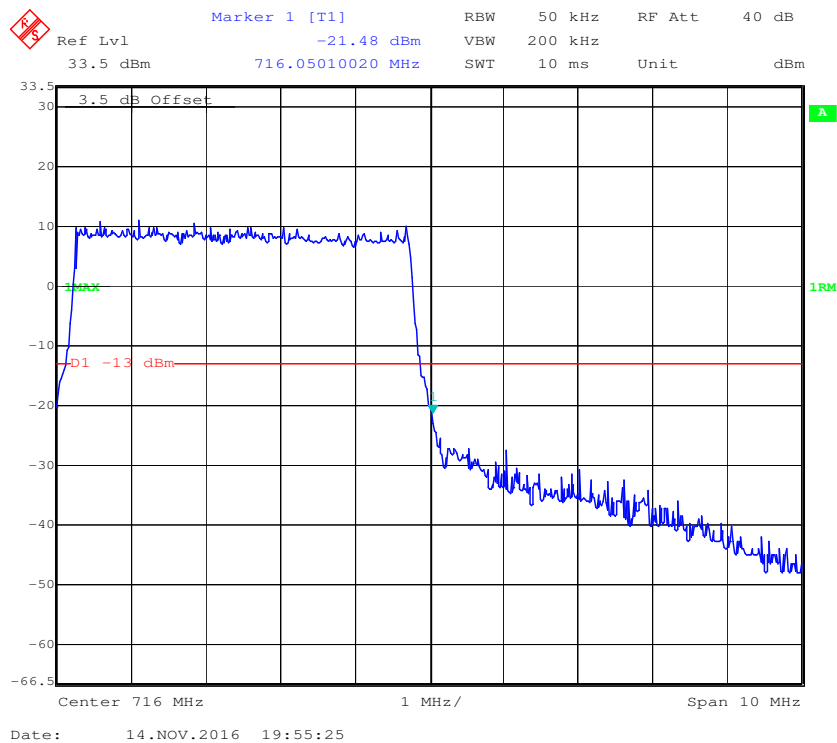
16-QAM (20 MHz, FULL RB) - Left Band Edge**16-QAM (20 MHz, FULL RB) - Right Band Edge**

Band 17:

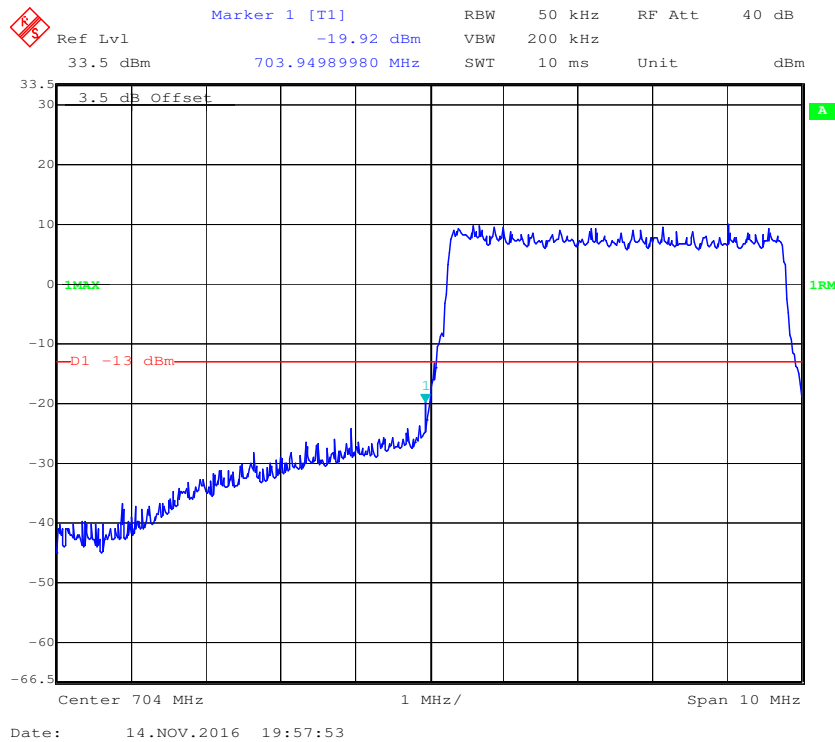
QPSK (5.0 MHz, FULL RB) - Left Band Edge



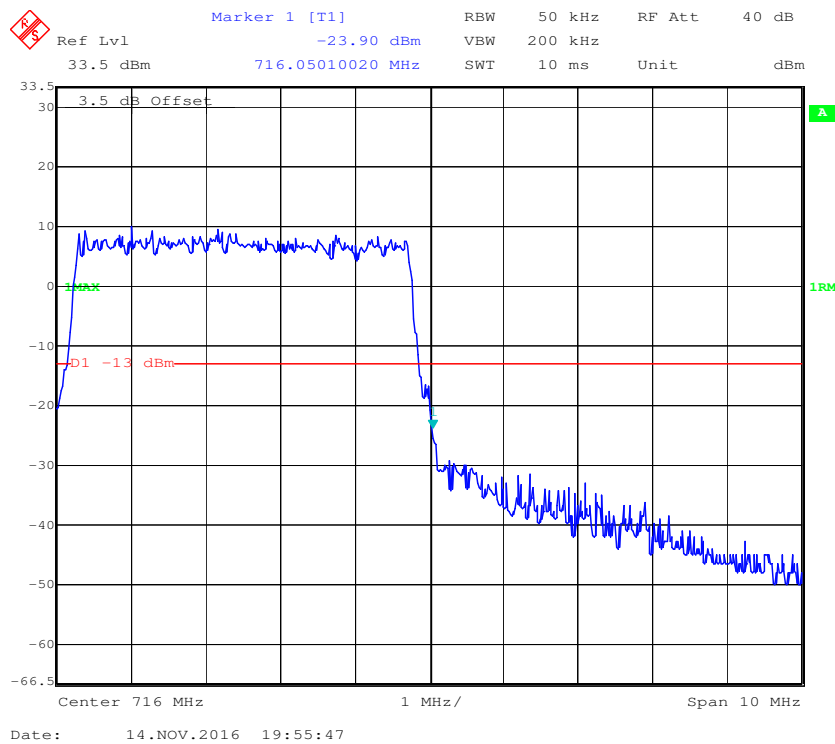
QPSK (5.0 MHz, FULL RB) - Right Band Edge



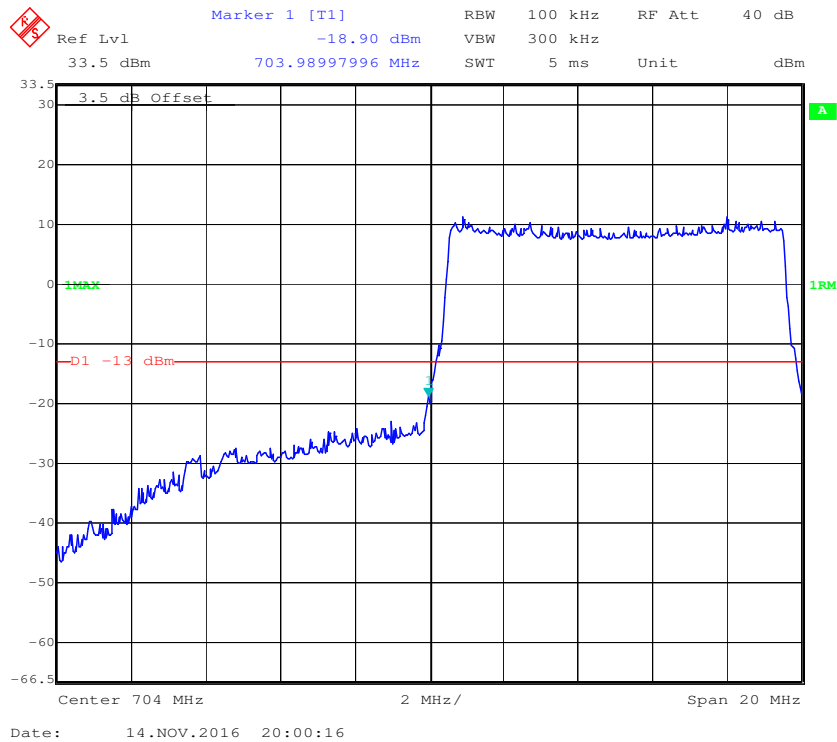
16-QAM (5.0 MHz, FULL RB) - Left Band Edge



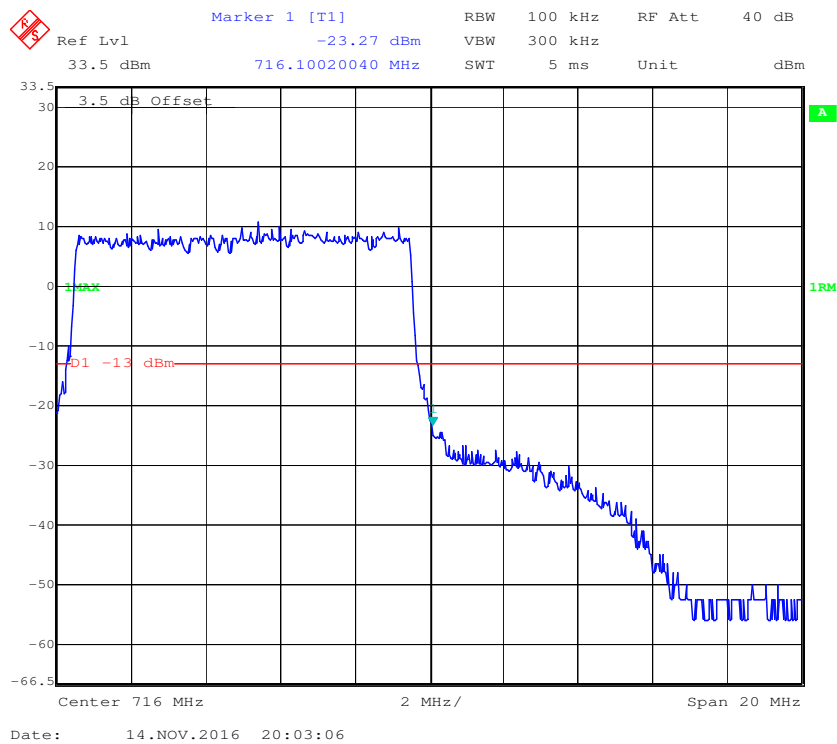
16-QAM (5.0 MHz, FULL RB) - Right Band Edge



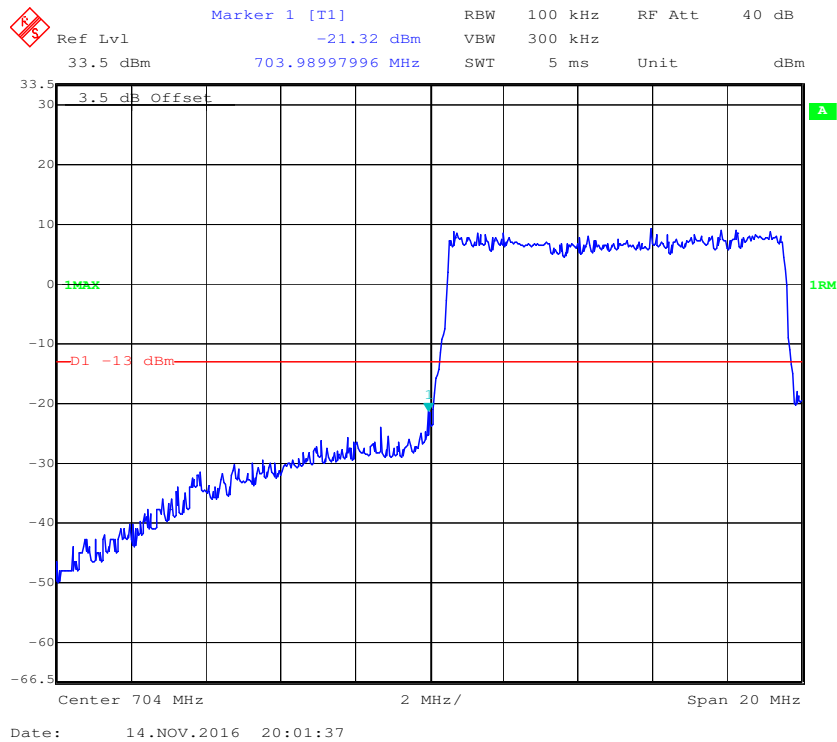
QPSK (10.0 MHz, FULL RB) - Left Band Edge



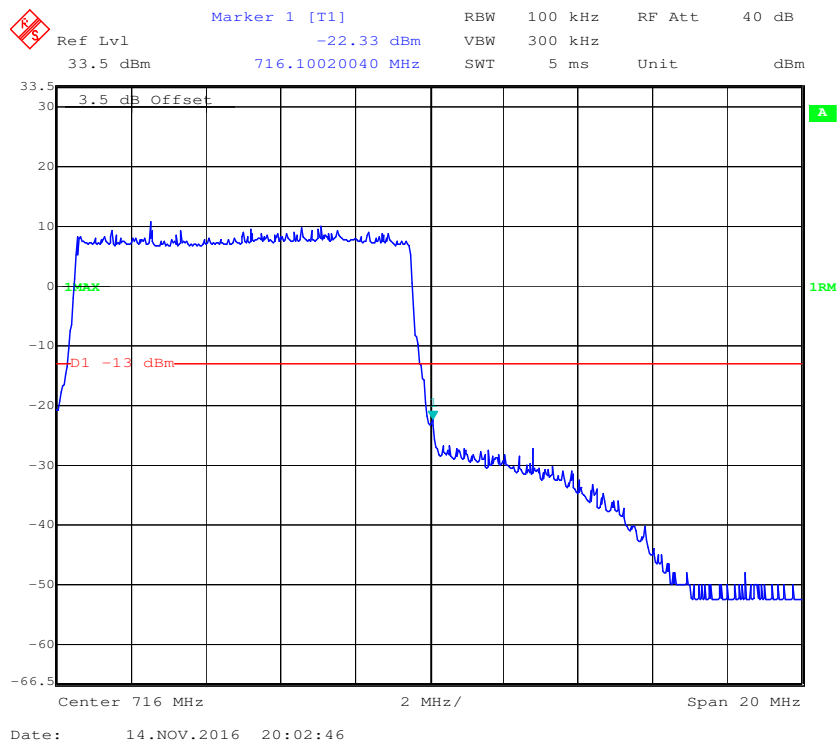
QPSK (10.0 MHz, FULL RB) - Right Band Edge



16-QAM (10.0 MHz, FULL RB) - Left Band Edge



16-QAM (10.0 MHz, FULL RB) - Right Band Edge



FCC §2.1055, §22.355 & §24.235 & §27.54;- FREQUENCY STABILITY**Applicable Standard**

FCC § 2.1055, §22.355, §24.235 & §27.54.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile > 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

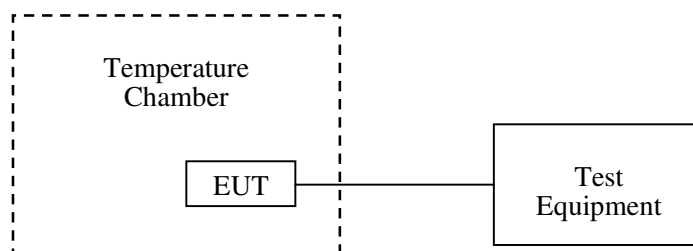
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Nefertari Xu on 2016-11-09.

EUT operation mode: Transmitting

Test Result: Compliance. Please refer to the following tables.

Cellular Band (Part 22H)**GSM Mode**

Middle Channel, $f_0 = 836.6$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.7	-2	-0.002391	2.5
-20		1	0.001195	2.5
-10		3	0.003586	2.5
0		-1	-0.001195	2.5
10		-2	-0.002391	2.5
20		1	0.001195	2.5
30		2	0.002391	2.5
40		-3	-0.003586	2.5
50		-5	-0.005977	2.5
20	V min.= 3.5	-8	-0.009563	2.5
	V max.= 4.2	-11	-0.013148	2.5

EDGE Mode

Middle Channel, $f_0 = 836.6$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.7	1	0.001195	2.5
-20		-1	-0.001195	2.5
-10		2	0.002391	2.5
0		1	0.001195	2.5
10		-2	-0.002391	2.5
20		1	0.001195	2.5
30		4	0.004781	2.5
40		-2	-0.002391	2.5
50		5	0.005977	2.5
20	V min.= 3.5	3	0.003586	2.5
	V max.= 4.2	8	0.009563	2.5

WCDMA Mode

Middle Channel, $f_0 = 836.6$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.7	12	0.01434	2.5
-20		2	0.00239	2.5
-10		1	0.00120	2.5
0		6	0.00717	2.5
10		2	0.00239	2.5
20		2	0.00239	2.5
30		6	0.00717	2.5
40		8	0.00956	2.5
50		12	0.01434	2.5
20	V min.= 3.5	15	0.01793	2.5
	V max.= 4.2	16	0.01913	2.5

PCS Band (Part 24E)**GSM Mode**

Middle Channel, f_0 = 1880.0 MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.7	-4	-0.002128	pass
-20		3	0.001596	pass
-10		-2	-0.001064	pass
0		1	0.000532	pass
10		0	0.000000	pass
20		-1	-0.000532	pass
30		4	0.002128	pass
40		2	0.001064	pass
50		7	0.003723	pass
20	V min. = 3.5	12	0.006383	pass
	V max. = 4.2	14	0.007447	pass

EDGE Mode

Middle Channel, f_0 = 1880.0 MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.7	5	0.002660	pass
-20		2	0.001064	pass
-10		-1	-0.000532	pass
0		0	0.000000	pass
10		3	0.001596	pass
20		2	0.001064	pass
30		-1	-0.000532	pass
40		5	0.002660	pass
50		3	0.001596	pass
20	V min. = 3.5	9	0.004787	pass
	V max. = 4.2	14	0.007447	pass

WCDMA Mode

Middle Channel, $f_0 = 1880.0$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.7	11	0.00585	pass
-20		6	0.00319	pass
-10		2	0.00106	pass
0		4	0.00213	pass
10		2	0.00106	pass
20		1	0.00053	pass
30		11	0.00585	pass
40		8	0.00426	pass
50		4	0.00213	pass
20	V min.= 3.5	6	0.00319	pass
	V max.= 4.2	14	0.00745	pass

Band 4:

20.0 MHz Middle Channel, $f_0 = 1732.5$ MHz (QPSK)				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.7	32	0.018	pass
-20		29	0.017	pass
-10		25	0.014	pass
0		24	0.014	pass
10		27	0.016	pass
20		23	0.013	pass
30		22	0.013	pass
40		27	0.016	pass
50		28	0.016	pass
25	V min.= 3.5	24	0.014	pass
25	V max.= 4.2	30	0.017	pass

Band 7:

20.0 MHz Middle Channel, $f_o = 2535$ MHz (QPSK)				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.7	42	0.017	pass
-20		38	0.015	pass
-10		38	0.015	pass
0		32	0.013	pass
10		41	0.016	pass
20		41	0.016	pass
30		39	0.015	pass
40		38	0.015	pass
50		40	0.016	pass
25	V min.= 3.5	36	0.014	pass
25	V max.= 4.2	43	0.017	pass

Band 17:

20.0 MHz Middle Channel, $f_o = 710$ MHz (QPSK)				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.7	-5	-0.007	pass
-20		-8	-0.011	pass
-10		-2	-0.003	pass
0		-3	-0.004	pass
10		-6	-0.008	pass
20		-2	-0.003	pass
30		-1	-0.001	pass
40		-6	-0.008	pass
50		-3	-0.004	pass
25	V min.= 3.5	-4	-0.006	pass
25	V max.= 4.2	-3	-0.004	pass

***** END OF REPORT *****