

FCC Test Report

Application Purpose : Original grant

Applicant Name: : Sun Cupid Technology (HK) Ltd.

FCC ID : 2ADIN-NUUX5

Equipment Type : LTE mobile phone

Model Name : X5, NUU_X5

Report Number : FCC17030156A-5

Standard(S) : FCC Part 22H&24E&27 Rules

Date Of Receipt : March 13, 2017

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Test By : 
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Registration Number: 588523

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	April 06, 2017	Valid	Original Report

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1 CERTIFICATION

Applicant	Sun Cupid Technology (HK) Ltd.
Address	16/F,CEO Tower,77 Wing Hong Street,Cheung Sha Wan,Hong Kong
Manufacturer	Name:Sun cupid(Shen Zhen) Electronic Ltd
Address	Baolong Industrial City, Longgang District, Shenzhen Hi-Tech Road, Building 1, A 7
Equipment Type	LTE mobile phone
Brand Name	NUU
Test Model	X5, NUU_X5
Hardware version:	MTEK6750
Software version:	X5-AM-02
Series Model	N/A
Difference description	N/A
Deviation	None
Condition of Test Sample	Normal

We hereby certify that:

All measurement facilities used to collect the measurement data are located at QTC Certification & Testing Co., Ltd.

Registration Number: 588523

The data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C 63.4:2014 and TIA/EIA 603(2010). The sample tested as described in this report is in compliance with the FCC Rules Part 22H and 24E and 27.

The test results of this report relate only to the tested sample identified in this report.

2 EUT INFORMATION

Table 2.1.1 General Information

Equipment Type:	LTE mobile phone
Hardware version:	MTEK6750
Software version:	X5-AM-02
Frequency Bands:	<input checked="" type="checkbox"/> GSM 850 <input checked="" type="checkbox"/> PCS 1900 (U.S. Bands) UTRA Bands: <input checked="" type="checkbox"/> UTRA Band 2 <input checked="" type="checkbox"/> UTRA Band 4 <input checked="" type="checkbox"/> UTRA Band 5 E-UTRA Bands: <input checked="" type="checkbox"/> E-UTRA Band 2 <input checked="" type="checkbox"/> E-UTRA Band 4 <input checked="" type="checkbox"/> E-UTRA Band 5 <input type="checkbox"/> E-UTRA Band 7
Antenna Type:	Internal Antenna
Antenna gain:	PCS 1900: 0.39dBi GSM850: -0.61dBi UTRA Band 2: 0.39dBi UTRA Band 4: 0.67dBi UTRA Band 5: -0.61dBi E-UTRA Band 2: 0.67dBi E-UTRA Band 4: 0.36dBi E-UTRA Band 5: -0.65dBi
Battery information:	Li-Polymer Battery : 366282 Voltage: 3.8V Capacity: 2950mAh Limited Charge Voltage: 4.35V
Adapter Information:	Adapter: HNEM050200UE Input: AC 100~240V 50/60Hz 0.35A Output: DC 5.0V---2.0A
Card(S):	Card 1: E-UTRA Card Slot Card 2: GSM Card Slot
Max power:	See Table 2.1.2
Extreme Vol. Limits:	DC 3.45V to 4.35V (Normal: DC 3.8V)
Extreme Temp. Tolerance	-10°C to +55°C

Note 1: The High Voltage DC 4.35V and Low Voltage DC 3.45V were declared by manufacturer, The EUT couldn't be operating normally with higher or lower voltage.

Equipment Type	Trade Name	Test Model	Mode difference
LTE mobile phone	NUU	X5	Model is not the same,
LTE mobile phone	NUU	NUU_X5	The main measurement model X5

Table 2.1.2 The Basic Technical Specification for Working BAND(S).

OPERATION BAND(S)	Power Class	Mod.	Max Average (dBm)	Max Peak Power (dBm)
GSM850	Class 4	GMSK	32.89	33.14
DCS1900	Class 1	GMSK	30.31	30.48
UTRA BAND 2	Class 3	QPSK	21.34	21.91
UTRA BAND 4	Class 3	QPSK	22.44	23.22
UTRA BAND 5	Class 3	QPSK	22.41	23.68
E-UTRA Band 2	Class 3	QPSK	21.91	23.49
E-UTRA Band 2	Class 3	16QAM	21.90	23.50
E-UTRA Band 4	Class 3	QPSK	21.92	23.48
E-UTRA Band 4	Class 3	16QAM	21.91	23.50
E-UTRA Band 5	Class 3	QPSK	21.92	23.50
E-UTRA Band 5	Class 3	16QAM	21.91	23.48

3 TEST DESCRIPTION

3.1 Test Facility

The test site used to collect the radiated data is located at:

QTC Certification & Testing Co., Ltd.

Registration Number: 588523

3.2 EUT System Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

Fig. 3.2-1 Configuration of EUT System



Table 3.2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Mobile phone	X5, NUU_X5	2ADIN-NUUX5	EUT

***Note: All the accessories have been used during the test. The following "EUT" in setup diagram means EUT system.

3.3 Description Of Test Channels And Test Modes

Test channels:

GSM 850			
Test Channel	BW(MHz)	UL Channel	Frequency(MHz)
Low Range	0.2	128	824.2
Mid Range	0.2	190	836.6
High Range	0.2	251	848.8

PCS 1900			
Test Channel	BW(MHz)	UL Channel	Frequency(MHz)
Low Range	0.2	512	1850.2
Mid Range	0.2	661	1880
High Range	0.2	810	1909.8

URTA BAND 2			
Test Channel	BW(MHz)	UL Channel	Frequency(MHz)
Low Range	5	9262	1852.4
Mid Range	5	9400	1880
High Range	5	9538	1907.6

URTA BAND 4			
Test Channel	BW(MHz)	UL Channel	Frequency(MHz)
Low Range	5	1312	1712.4
Mid Range	5	1413	1732.6
High Range	5	1513	1752.6

URTA BAND 5			
Test Channel	BW(MHz)	UL Channel	Frequency(MHz)
Low Range	5	4132	826.4
Mid Range	5	4182	836.4
High Range	5	4233	846.6

LTE BAND 2			
Test Channel	BW(MHz)	UL Channel	Frequency(MHz)
Low Range	1.4	18607	1850.7
	3	18615	1851.5
	5	18625	1852.5
	10	18650	1855
	15	18675	1857.5
	20	18700	1860
Mid Range	1.4/3/5/10 15 /20	18900	1880
High Range	1.4	19193	1909.3
	3	19185	1908.5
	5	19175	1907.5
	10	19150	1905
	15	19125	1902.5
	20	19100	1900

LTE BAND 4			
Test Channel	BW(MHz)	UL Channel	Frequency(MHz)
Low Range	1.4	19957	1710.7
	3	19965	1711.5
	5	19975	1712.5
	10	20000	1715
	15	20025	1717.5
	20	20050	1720
Mid Range	1.4/3/5/10/15/20	20175	1732.5
High Range	1.4	20393	1754.3
	3	20385	1753.5
	5	20375	1752.5
	10	20350	1750
	15	20325	1747.5
	20	20300	1745

LTE BAND 5			
Test Channel	BW(MHz)	UL Channel	Frequency(MHz)
Low Range	1.4	20470	824.7
	3	20415	825.5
	5	20425	826.5
	10	20450	829
Mid Range	1.4/3/5/10	20525	836.5
High Range	1.4	20643	848.3
	3	20635	847.5
	5	20625	846.5
	10	20600	844

Note 1: both QPSK&16QAM modulation has been measured;

Note 2: The worst condition was recorded in the test report if no other modes test data.

3.4 Equipment Modifications

Not available for this EUT intended for grant.

4 SUMMARY OF TEST REQUIREMENTS AND RESULTS

BAND 2(PCS 1900/ E-UTRA Band 2/ UTRA Band 2):

Test Item	FCC Rule No.	Requirements	Judgement
Effective (Isotropic) Radiated Power	§2.1046, §24.232(c)	EIRP ≤ 2W(33dBm)	Pass
Bandwidth	§2.1049 §24.238(a)	OBW: No limit. EBW: No limit.	Pass
Band Edges	§2.1051, §24.238(a)	-13dBm	Pass
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)	-13dBm	Pass
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	-13dBm	Pass
Frequency Stability	§2.1055, §24.235	the fundamental emission stays within the authorized frequency block.	Pass
Peak to average ratio	§24.232(d)	<13dB	Pass

BAND 4(UTRA Band 4/E-UTRA Band 4):

Test Item	FCC Rule No.	Requirements	Judgement
Effective (Isotropic) Radiated Power	§2.1046, §27.50(d)	EIRP ≤ 1W(30dBm)	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Pass
Band Edges	§2.1051, §27.53(h)	-13dBm	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)	-13dBm	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(h)	-13dBm	Pass
Frequency Stability	§2.1055, §27.54	the fundamental emissions stay within the authorized bands of operation. (2.5ppm)	Pass
Peak to average ratio	§27.50(d)	<13dB	Pass

BAND 5(GSM850/ UTRA Band 5/ E-UTRA Band 5):

Test Item	FCC Rule No.	Requirements	Judgement
Effective (Isotropic) Radiated Power	§2.1046, §2.913(a)	EIRP ≤ 7W(38.5dBm)	Pass
Occupied Bandwidth	§2.1049	OBW: No limit.	Pass
Emission Bandwidth	22.917(b)	EBW: No limit.	Pass
Band Edges Compliance	§2.1051, §22.917(a)(b)	KDB 971 168 D02 971168 D02 Misc OOB License Digital Systems v01 &27.53(m) for detail the limit is upon different OBW	Pass
Spurious Emission at Antenna Terminals	§2.1051, §22.917	-13dBm	Pass
Field Strength of Spurious Radiation	§2.1053, §22.917	-13dBm	Pass
Frequency Stability	§2.1055, §22.355	the fundamental emissions stay within the authorized bands of operation. (2.5ppm)	Pass

MEASUREMENT INSTRUMENTS

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibration Due.
EMI Test Receiver	R&S	ESCI	100005	08/19/2016	08/18/2017
LISN	AFJ	LS16	16010222119	08/19/2016	08/18/2017
LISN(EUT)	Mestec	AN3016	04/10040	08/19/2016	08/18/2017
Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	08/19/2016	08/18/2017
Coaxial cable	Megalon	LMR400	N/A	08/12/2016	08/11/2017
GPIB cable	Megalon	GPIB	N/A	08/12/2016	08/11/2017
Spectrum Analyzer	R&S	FSU	100114	08/19/2016	08/18/2017
Pre Amplifier	H.P.	HP8447E	2945A02715	10/13/2016	10/12/2017
Pre-Amplifier	CDSI	PAP-1G18-38	--	10/13/2016	10/12/2017
Loop Antenna	R&S	HFH2-Z2	100296	10/13/2016	10/12/2017
Bi-log Antenna	SUNOL Sciences	JB3	A021907	09/13/2016	09/12/2017
9*6*6 Anechoic	--	--	--	08/21/2016	08/20/2017
Horn Antenna	COMPLIANCE ENGINEERING	CE18000	--	09/13/2016	09/12/2017
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	08/23/2016	08/22/2017
Power meter	Anritsu	ML2487A	6K00003613	08/23/2016	08/22/2017
Power meter	Anritsu	MA2491A	32263	08/23/2016	08/22/2017
Cable	TIME MICROWAVE	LMR-400	N-TYPE04	04/24/2016	04/23/2017
System-Controller	CCS	N/A	N/A	N.C.R	N.C.R
Turn Table	CCS	N/A	N/A	N.C.R	N.C.R
Antenna Tower	CCS	N/A	N/A	N.C.R	N.C.R
RF cable	Murata	MXHQ87WA3000	-	08/21/2016	08/20/2017
Loop Antenna	EMCO	6502	00042960	08/22/2016	08/21/2017
Wideband Radio Communication Tester	R&S	CMW 500	103974	08/19/2016	08/18/2017
Horn Antenna	SCHWARZBECK	BBHA 9170	1123	08/19/2016	08/18/2017
H & T Chamber	Guangzhou gongwen	GDJS-500-40	0329	08/19/2016	08/18/2017

5 EFFECTIVE (ISOTROPIC) RADIATED POWER

Test limit:

According to §22.913, The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to §24.232, 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 (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. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

According to §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.

See section 4.

Test procedure:

1. The setup of EUT is according with per TIA/EIA Standard 603 D:2010 or KDB971168 D01 v02r02.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the 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.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. 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.
5. $\text{ERP/EIRP} = \text{PMes} + \text{GT} - \text{LC}$

where:

ERP/EIRP = effective or equivalent radiated power

PMes = measured transmitter output power from SG

GT = gain of the substitution antenna

LC = cable loss between SG and substitution antenna.

GSM850 BAND:

Mode	Frequency (MHz)	Peak Power	Avg.Burst Power	Tolerance	Duty cycle Factor(dB)	Frame Power(dBm)
GSM850	824.2	33.09	32.86	0.23	-9	23.86
	836.6	33.14	32.89	0.25	-9	23.89
	848.8	33.02	32.84	0.18	-9	23.84
GPRS850	824.2	30.18	29.88	0.30	-9	20.88
	836.6	30.24	29.87	0.37	-9	20.87
	848.8	30.09	29.82	0.27	-9	20.82
EGPRS850	824.2	27.01	26.52	0.49	-9	17.52
	836.6	27.12	26.58	0.54	-9	17.58
	848.8	27.34	26.53	0.81	-9	17.53

PCS1900 BAND:

Mode	Frequency (MHz)	Peak Power	Tolerance	Avg.Burst Power	Duty cycle Factor(dB)	Frame Power(dBm)
GSM1900	1850.2	30.08	29.57	0.51	-9	20.57
	1880	30.12	30.10	0.02	-9	21.10
	1909.8	30.48	30.31	0.17	-9	21.31
GPRS1900	1850.2	27.08	26.81	0.27	-9	17.81
	1880	27.14	26.95	0.19	-9	17.95
	1909.8	27.12	26.92	0.20	-9	17.92
EGPRS1900	1850.2	26.13	25.17	0.96	-9	16.17
	1880	26.12	25.12	1.00	-9	16.12
	1909.8	26.16	25.22	0.94	-9	16.22

UTRA BANDS:**BAND 2:**

Mode	Frequency (MHz)	Peak Power (dBm)	Avg. Burst Power(dBm)	PAPR (dB)
RMC 12.2K	1852.4	21.86	21.33	0.53
	1880	21.91	21.34	0.57
	1907.6	21.77	21.32	0.45
HSDPA SUBTEST 1	1852.4	21.26	21.02	0.24
	1880	21.32	20.01	1.31
	1907.6	21.61	20.02	1.59
HSUPA SUBTEST 1	1852.4	21.82	20.52	1.30
	1880	21.47	20.15	1.32
	1907.6	21.56	20.10	1.46

BAND 4:

Mode	Frequency (MHz)	Peak Power (dBm)	Avg. Burst Power(dBm)	PAPR (dB)
RMC 12.2K	1712.4	23.15	22.09	1.06
	1732.6	23.08	22.13	0.95
	1752.6	23.16	22.14	1.02
HSDPA SUBTEST 1	1712.4	23.05	21.62	1.43
	1732.6	23.06	21.72	1.34
	1752.6	23.14	21.51	1.63
HSUPA SUBTEST 1	1712.4	23.21	22.32	0.89
	1732.6	23.22	22.44	0.78
	1752.6	23.03	22.38	0.65

BAND 5:

Mode	Frequency (MHz)	Peak Power (dBm)	Avg. Burst Power(dBm)	PAPR (dB)
RMC 12.2K	826.4	23.68	22.41	1.27
	836.4	23.26	22.36	0.90
	846.6	23.45	22.32	1.13
HSDPA SUBTEST 1	826.4	22.64	20.54	2.10
	836.4	22.42	20.55	1.87
	846.6	22.15	20.62	1.53
HSUPA SUBTEST 1	826.4	22.24	21.53	0.71
	836.4	22.18	21.22	0.96
	846.6	22.48	21.85	0.63

E-UTRA BANDS:**BAND 2:**

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
1.4	18607	1850.7	QPSK	1	LOW	20.75	22.78	2.03
1.4	18607	1850.7	QPSK	1	MID	21.55	22.89	1.34
1.4	18607	1850.7	QPSK	1	HIGH	21.07	23.08	2.01
1.4	18607	1850.7	QPSK	3	LOW	21.01	22.93	1.92
1.4	18607	1850.7	QPSK	3	MID	20.96	22.83	1.87
1.4	18607	1850.7	QPSK	3	HIGH	20.85	22.54	1.69
1.4	18607	1850.7	QPSK	6	LOW	21.17	22.65	1.48
1.4	18607	1850.7	Q16	1	LOW	21.49	23.11	1.62
1.4	18607	1850.7	Q16	1	MID	20.82	22.73	1.91
1.4	18607	1850.7	Q16	1	HIGH	20.87	22.93	2.06
1.4	18607	1850.7	Q16	3	LOW	20.85	23.32	2.47
1.4	18607	1850.7	Q16	3	MID	21	23.38	2.38
1.4	18607	1850.7	Q16	3	HIGH	21.09	23.38	2.29
1.4	18607	1850.7	Q16	6	LOW	20.9	23.09	2.19
1.4	18900	1880	QPSK	1	LOW	20.77	22.88	2.11
1.4	18900	1880	QPSK	1	MID	20.87	22.83	1.96
1.4	18900	1880	QPSK	1	HIGH	20.94	23.44	2.50
1.4	18900	1880	QPSK	3	LOW	20.72	22.53	1.81
1.4	18900	1880	QPSK	3	MID	20.67	23.29	2.62
1.4	18900	1880	QPSK	3	HIGH	21.01	23.31	2.30
1.4	18900	1880	QPSK	6	LOW	21.12	22.53	1.41
1.4	18900	1880	Q16	1	LOW	21.1	22.96	1.86
1.4	18900	1880	Q16	1	MID	21.29	22.66	1.37
1.4	18900	1880	Q16	1	HIGH	21.41	22.51	1.10
1.4	18900	1880	Q16	3	LOW	21.34	23.07	1.73
1.4	18900	1880	Q16	3	MID	21.27	23.48	2.21
1.4	18900	1880	Q16	3	HIGH	21.57	23.19	1.62
1.4	18900	1880	Q16	6	LOW	21.61	23.41	1.80
1.4	19193	1909.3	QPSK	1	LOW	21.55	23.3	1.75
1.4	19193	1909.3	QPSK	1	MID	21.19	23.3	2.11
1.4	19193	1909.3	QPSK	1	HIGH	20.77	23.27	2.50
1.4	19193	1909.3	QPSK	3	LOW	20.84	23.14	2.30
1.4	19193	1909.3	QPSK	3	MID	21.2	23.36	2.16
1.4	19193	1909.3	QPSK	3	HIGH	21.55	23.29	1.74
1.4	19193	1909.3	QPSK	6	LOW	20.7	22.94	2.24

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
1.4	19193	1909.3	Q16	1	LOW	21.23	23.2	1.97
1.4	19193	1909.3	Q16	1	MID	21.14	23.14	2.00
1.4	19193	1909.3	Q16	1	HIGH	21.26	23.34	2.08
1.4	19193	1909.3	Q16	3	LOW	21.01	22.59	1.58
1.4	19193	1909.3	Q16	3	MID	20.65	22.67	2.02
1.4	19193	1909.3	Q16	3	HIGH	21.6	22.84	1.24
1.4	19193	1909.3	Q16	6	LOW	21.54	22.87	1.33
3	18615	1851.5	QPSK	1	LOW	21.59	23.02	1.43
3	18615	1851.5	QPSK	1	MID	21.25	22.95	1.70
3	18615	1851.5	QPSK	1	HIGH	21.6	22.88	1.28
3	18615	1851.5	QPSK	8	LOW	21.12	23.02	1.90
3	18615	1851.5	QPSK	8	MID	21.08	22.54	1.46
3	18615	1851.5	QPSK	8	HIGH	21.49	23.11	1.62
3	18615	1851.5	QPSK	15	LOW	21.59	23.17	1.58
3	18615	1851.5	Q16	1	LOW	21.43	23.23	1.80
3	18615	1851.5	Q16	1	MID	21.26	23.17	1.91
3	18615	1851.5	Q16	1	HIGH	20.88	23.07	2.19
3	18615	1851.5	Q16	8	LOW	21.12	23.49	2.37
3	18615	1851.5	Q16	8	MID	20.98	22.76	1.78
3	18615	1851.5	Q16	8	HIGH	21.63	23.15	1.52
3	18615	1851.5	Q16	15	LOW	20.97	22.69	1.72
3	18900	1880	QPSK	1	LOW	21.39	22.5	1.11
3	18900	1880	QPSK	1	MID	20.93	23.27	2.34
3	18900	1880	QPSK	1	HIGH	21.45	23.45	2.00
3	18900	1880	QPSK	8	LOW	20.94	23.28	2.34
3	18900	1880	QPSK	8	MID	21.22	22.81	1.59
3	18900	1880	QPSK	8	HIGH	21.04	23.33	2.29
3	18900	1880	QPSK	15	LOW	20.87	23.03	2.16
3	18900	1880	Q16	1	LOW	20.65	23.25	2.60
3	18900	1880	Q16	1	MID	21.39	23.05	1.66
3	18900	1880	Q16	1	HIGH	20.82	22.94	2.12
3	18900	1880	Q16	8	LOW	20.81	22.86	2.05
3	18900	1880	Q16	8	MID	21.29	22.66	1.37
3	18900	1880	Q16	8	HIGH	21.44	23.3	1.86
3	18900	1880	Q16	15	LOW	21.09	23.02	1.93
3	19185	1908.5	QPSK	1	LOW	21.11	22.57	1.46
3	19185	1908.5	QPSK	1	MID	21	22.64	1.64

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
3	19185	1908.5	QPSK	1	HIGH	20.77	22.83	2.06
3	19185	1908.5	QPSK	8	LOW	21.41	23.48	2.07
3	19185	1908.5	QPSK	8	MID	21.3	23.12	1.82
3	19185	1908.5	QPSK	8	HIGH	21.07	22.82	1.75
3	19185	1908.5	QPSK	15	LOW	20.99	22.63	1.64
3	19185	1908.5	Q16	1	LOW	21.28	22.66	1.38
3	19185	1908.5	Q16	1	MID	21.16	22.76	1.60
3	19185	1908.5	Q16	1	HIGH	20.64	23.5	2.86
3	19185	1908.5	Q16	8	LOW	20.67	23.25	2.58
3	19185	1908.5	Q16	8	MID	21.63	22.62	0.99
3	19185	1908.5	Q16	8	HIGH	20.7	23.45	2.75
3	19185	1908.5	Q16	15	LOW	21.21	23.13	1.92
5	18625	1852.5	QPSK	1	LOW	21.36	22.55	1.19
5	18625	1852.5	QPSK	1	MID	21.44	22.7	1.26
5	18625	1852.5	QPSK	1	HIGH	20.99	23.49	2.50
5	18625	1852.5	QPSK	12	LOW	20.81	23.27	2.46
5	18625	1852.5	QPSK	12	MID	21.63	23.44	1.81
5	18625	1852.5	QPSK	12	HIGH	20.95	22.66	1.71
5	18625	1852.5	QPSK	25	LOW	21.08	22.68	1.60
5	18625	1852.5	Q16	1	LOW	20.78	23.49	2.71
5	18625	1852.5	Q16	1	MID	21.06	23.37	2.31
5	18625	1852.5	Q16	1	HIGH	20.73	23.28	2.55
5	18625	1852.5	Q16	12	LOW	21.54	23.46	1.92
5	18625	1852.5	Q16	12	MID	21.38	23.09	1.71
5	18625	1852.5	Q16	12	HIGH	21.11	22.56	1.45
5	18625	1852.5	Q16	25	LOW	21.57	22.85	1.28
5	18900	1880	QPSK	1	LOW	21.38	23.09	1.71
5	18900	1880	QPSK	1	MID	21.59	23.05	1.46
5	18900	1880	QPSK	1	HIGH	21.47	23.13	1.66
5	18900	1880	QPSK	12	LOW	21.39	23.39	2.00
5	18900	1880	QPSK	12	MID	21.39	23.5	2.11
5	18900	1880	QPSK	12	HIGH	20.98	22.85	1.87
5	18900	1880	QPSK	25	LOW	21.6	23.39	1.79
5	18900	1880	Q16	1	LOW	20.7	23.46	2.76
5	18900	1880	Q16	1	MID	21.14	22.53	1.39
5	18900	1880	Q16	1	HIGH	21.63	22.69	1.06
5	18900	1880	Q16	12	LOW	21.08	23.18	2.10

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
5	18900	1880	Q16	12	MID	20.75	22.63	1.88
5	18900	1880	Q16	12	HIGH	21.2	23.48	2.28
5	18900	1880	Q16	25	LOW	21.43	22.84	1.41
5	19175	1907.5	QPSK	1	LOW	21.39	22.97	1.58
5	19175	1907.5	QPSK	1	MID	21.41	22.54	1.13
5	19175	1907.5	QPSK	1	HIGH	21.37	23.22	1.85
5	19175	1907.5	QPSK	12	LOW	21.21	22.59	1.38
5	19175	1907.5	QPSK	12	MID	21.49	22.51	1.02
5	19175	1907.5	QPSK	12	HIGH	21.27	23.27	2.00
5	19175	1907.5	QPSK	25	LOW	21.36	22.73	1.37
5	19175	1907.5	Q16	1	LOW	21.36	23.29	1.93
5	19175	1907.5	Q16	1	MID	21.17	22.9	1.73
5	19175	1907.5	Q16	1	HIGH	21.2	23.39	2.19
5	19175	1907.5	Q16	12	LOW	20.85	23.39	2.54
5	19175	1907.5	Q16	12	MID	21.6	23.34	1.74
5	19175	1907.5	Q16	12	HIGH	21.63	23.11	1.48
5	19175	1907.5	Q16	25	LOW	20.78	23.03	2.25
10	18650	1855	QPSK	1	LOW	20.99	22.55	1.56
10	18650	1855	QPSK	1	MID	21.03	23.46	2.43
10	18650	1855	QPSK	1	HIGH	21.02	23.33	2.31
10	18650	1855	QPSK	25	LOW	20.91	22.58	1.67
10	18650	1855	QPSK	25	MID	21.62	22.84	1.22
10	18650	1855	QPSK	25	HIGH	21.49	22.9	1.41
10	18650	1855	QPSK	50	LOW	20.92	23.13	2.21
10	18650	1855	Q16	1	LOW	21.28	23.33	2.05
10	18650	1855	Q16	1	MID	20.88	23.01	2.13
10	18650	1855	Q16	1	HIGH	21.4	22.57	1.17
10	18650	1855	Q16	25	LOW	21.44	23.22	1.78
10	18650	1855	Q16	25	MID	20.93	22.7	1.77
10	18650	1855	Q16	25	HIGH	21.47	23.07	1.60
10	18650	1855	Q16	50	LOW	21.46	23.32	1.86
10	18900	1880	QPSK	1	LOW	21.61	23.37	1.76
10	18900	1880	QPSK	1	MID	21.89	23.22	1.33
10	18900	1880	QPSK	1	HIGH	21.78	22.53	0.75
10	18900	1880	QPSK	25	LOW	21.4	22.62	1.22
10	18900	1880	QPSK	25	MID	21.14	22.56	1.42
10	18900	1880	QPSK	25	HIGH	21.4	22.98	1.58

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
10	18900	1880	QPSK	50	LOW	21.79	23.24	1.45
10	18900	1880	Q16	1	LOW	21.07	22.72	1.65
10	18900	1880	Q16	1	MID	21.15	22.53	1.38
10	18900	1880	Q16	1	HIGH	21.72	23.13	1.41
10	18900	1880	Q16	25	LOW	21.12	22.76	1.64
10	18900	1880	Q16	25	MID	21.89	22.9	1.01
10	18900	1880	Q16	25	HIGH	20.97	23.02	2.05
10	18900	1880	Q16	50	LOW	21.13	23.45	2.32
10	19150	1905	QPSK	1	LOW	21.27	22.57	1.30
10	19150	1905	QPSK	1	MID	21.36	23.15	1.79
10	19150	1905	QPSK	1	HIGH	21.35	23.06	1.71
10	19150	1905	QPSK	25	LOW	21.03	23.26	2.23
10	19150	1905	QPSK	25	MID	21.18	23.13	1.95
10	19150	1905	QPSK	25	HIGH	21.84	22.51	0.67
10	19150	1905	QPSK	50	LOW	21.79	23.08	1.29
10	19150	1905	Q16	1	LOW	21.91	22.77	0.86
10	19150	1905	Q16	1	MID	20.98	22.65	1.67
10	19150	1905	Q16	1	HIGH	21.11	23.5	2.39
10	19150	1905	Q16	25	LOW	21.91	23.49	1.58
10	19150	1905	Q16	25	MID	21	22.58	1.58
10	19150	1905	Q16	25	HIGH	21.54	22.61	1.07
10	19150	1905	Q16	50	LOW	21.35	23.2	1.85
15	18675	1857.5	QPSK	1	LOW	21.34	22.84	1.50
15	18675	1857.5	QPSK	1	MID	21.74	23.39	1.65
15	18675	1857.5	QPSK	1	HIGH	21.19	23.38	2.19
15	18675	1857.5	QPSK	36	LOW	21.78	22.91	1.13
15	18675	1857.5	QPSK	36	MID	21.42	23.45	2.03
15	18675	1857.5	QPSK	36	HIGH	20.96	22.71	1.75
15	18675	1857.5	QPSK	75	LOW	21.37	22.8	1.43
15	18675	1857.5	Q16	1	LOW	21.16	23.3	2.14
15	18675	1857.5	Q16	1	MID	21.06	22.7	1.64
15	18675	1857.5	Q16	1	HIGH	21.3	22.82	1.52
15	18675	1857.5	Q16	36	LOW	20.97	22.82	1.85
15	18675	1857.5	Q16	36	MID	21.12	22.74	1.62
15	18675	1857.5	Q16	36	HIGH	21.27	22.5	1.23
15	18675	1857.5	Q16	75	LOW	21.57	23.13	1.56
15	18900	1880	QPSK	1	LOW	21.54	22.91	1.37

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
15	18900	1880	QPSK	1	MID	21.24	22.58	1.34
15	18900	1880	QPSK	1	HIGH	21.22	22.65	1.43
15	18900	1880	QPSK	36	LOW	21.21	23.39	2.18
15	18900	1880	QPSK	36	MID	21.22	23.14	1.92
15	18900	1880	QPSK	36	HIGH	21.01	23.35	2.34
15	18900	1880	QPSK	75	LOW	21.47	22.66	1.19
15	18900	1880	Q16	1	LOW	21.65	22.98	1.33
15	18900	1880	Q16	1	MID	21.05	23.12	2.07
15	18900	1880	Q16	1	HIGH	21.06	22.62	1.56
15	18900	1880	Q16	36	LOW	21.79	23.18	1.39
15	18900	1880	Q16	36	MID	21.8	22.66	0.86
15	18900	1880	Q16	36	HIGH	21.52	23.02	1.50
15	18900	1880	Q16	75	LOW	21.08	23.13	2.05
15	19125	1902.5	QPSK	1	LOW	21.15	23.3	2.15
15	19125	1902.5	QPSK	1	MID	20.92	23.26	2.34
15	19125	1902.5	QPSK	1	HIGH	21.16	23.15	1.99
15	19125	1902.5	QPSK	36	LOW	21.55	22.8	1.25
15	19125	1902.5	QPSK	36	MID	21.57	22.85	1.28
15	19125	1902.5	QPSK	36	HIGH	21.26	23.05	1.79
15	19125	1902.5	QPSK	75	LOW	21.12	22.91	1.79
15	19125	1902.5	Q16	1	LOW	21.49	23.46	1.97
15	19125	1902.5	Q16	1	MID	21.06	22.88	1.82
15	19125	1902.5	Q16	1	HIGH	21.28	23.49	2.21
15	19125	1902.5	Q16	36	LOW	21.56	22.71	1.15
15	19125	1902.5	Q16	36	MID	21.64	22.86	1.22
15	19125	1902.5	Q16	36	HIGH	20.96	22.84	1.88
15	19125	1902.5	Q16	75	LOW	21.88	22.58	0.70
20	18700	1860	QPSK	1	LOW	21.84	22.65	0.81
20	18700	1860	QPSK	1	MID	21.4	22.54	1.14
20	18700	1860	QPSK	1	HIGH	21.17	23.16	1.99
20	18700	1860	QPSK	50	LOW	21.2	22.79	1.59
20	18700	1860	QPSK	50	MID	21.16	23.13	1.97
20	18700	1860	QPSK	50	HIGH	21.22	23.09	1.87
20	18700	1860	QPSK	100	LOW	21.3	22.76	1.46
20	18700	1860	Q16	1	LOW	21.38	22.67	1.29
20	18700	1860	Q16	1	MID	21.91	22.55	0.64
20	18700	1860	Q16	1	HIGH	21.79	23.06	1.27

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
20	18700	1860	Q16	50	LOW	21.53	22.73	1.20
20	18700	1860	Q16	50	MID	21.81	22.63	0.82
20	18700	1860	Q16	50	HIGH	21.36	23.5	2.14
20	18700	1860	Q16	100	LOW	21.48	22.51	1.03
20	18900	1880	QPSK	1	LOW	21.85	22.83	0.98
20	18900	1880	QPSK	1	MID	20.96	22.51	1.55
20	18900	1880	QPSK	1	HIGH	21.85	22.54	0.69
20	18900	1880	QPSK	50	LOW	21.53	23.2	1.67
20	18900	1880	QPSK	50	MID	21.6	22.91	1.31
20	18900	1880	QPSK	50	HIGH	21.25	23.44	2.19
20	18900	1880	QPSK	100	LOW	21.55	22.68	1.13
20	18900	1880	Q16	1	LOW	21.88	22.81	0.93
20	18900	1880	Q16	1	MID	21.63	22.88	1.25
20	18900	1880	Q16	1	HIGH	21.13	22.98	1.85
20	18900	1880	Q16	50	LOW	21.06	23.37	2.31
20	18900	1880	Q16	50	MID	21.05	23	1.95
20	18900	1880	Q16	50	HIGH	21.48	22.81	1.33
20	18900	1880	Q16	100	LOW	21.8	23.13	1.33
20	19100	1900	QPSK	1	LOW	21.78	23.12	1.34
20	19100	1900	QPSK	1	MID	21.17	23.28	2.11
20	19100	1900	QPSK	1	HIGH	21.24	23.22	1.98
20	19100	1900	QPSK	50	LOW	21.78	22.72	0.94
20	19100	1900	QPSK	50	MID	21.02	22.57	1.55
20	19100	1900	QPSK	50	HIGH	21.48	22.8	1.32
20	19100	1900	QPSK	100	LOW	21.89	23.17	1.28
20	19100	1900	Q16	1	LOW	21.22	23.15	1.93
20	19100	1900	Q16	1	MID	21.63	22.8	1.17
20	19100	1900	Q16	1	HIGH	21.56	23.08	1.52
20	19100	1900	Q16	50	LOW	21.71	23.37	1.66
20	19100	1900	Q16	50	MID	21.55	22.76	1.21
20	19100	1900	Q16	50	HIGH	21.76	22.96	1.20
20	19100	1900	Q16	100	LOW	21.76	23.3	1.54

BAND 4:

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
1.4	19957	1710.7	QPSK	1	LOW	20.77	22.82	2.05
1.4	19957	1710.7	QPSK	1	MID	20.9	22.66	1.76
1.4	19957	1710.7	QPSK	1	HIGH	20.97	23.48	2.51
1.4	19957	1710.7	QPSK	3	LOW	21.25	23.46	2.21
1.4	19957	1710.7	QPSK	3	MID	21.48	22.79	1.31
1.4	19957	1710.7	QPSK	3	HIGH	20.93	23.39	2.46
1.4	19957	1710.7	QPSK	6	LOW	21.31	22.66	1.35
1.4	19957	1710.7	Q16	1	LOW	20.71	23.14	2.43
1.4	19957	1710.7	Q16	1	MID	21.5	22.99	1.49
1.4	19957	1710.7	Q16	1	HIGH	21.09	22.54	1.45
1.4	19957	1710.7	Q16	3	LOW	20.7	23.43	2.73
1.4	19957	1710.7	Q16	3	MID	21.43	23.36	1.93
1.4	19957	1710.7	Q16	3	HIGH	21.18	22.93	1.75
1.4	19957	1710.7	Q16	6	LOW	21.14	23.12	1.98
1.4	20393	1754.3	QPSK	1	LOW	21.62	23.37	1.75
1.4	20393	1754.3	QPSK	1	MID	20.71	22.59	1.88
1.4	20393	1754.3	QPSK	1	HIGH	20.72	23.45	2.73
1.4	20393	1754.3	QPSK	3	LOW	21.6	23	1.40
1.4	20393	1754.3	QPSK	3	MID	21.3	23.01	1.71
1.4	20393	1754.3	QPSK	3	HIGH	21.42	22.77	1.35
1.4	20393	1754.3	QPSK	6	LOW	21.13	22.65	1.52
1.4	20393	1754.3	Q16	1	LOW	21.2	23.41	2.21
1.4	20393	1754.3	Q16	1	MID	21.21	22.63	1.42
1.4	20393	1754.3	Q16	1	HIGH	21.12	22.95	1.83
1.4	20393	1754.3	Q16	3	LOW	21.36	22.71	1.35
1.4	20393	1754.3	Q16	3	MID	21.27	22.56	1.29
1.4	20393	1754.3	Q16	3	HIGH	21.47	22.82	1.35
1.4	20393	1754.3	Q16	6	LOW	21.1	23.05	1.95
1.4	20175	1732.5	QPSK	1	LOW	21.11	22.66	1.55
1.4	20175	1732.5	QPSK	1	MID	21.22	22.55	1.33
1.4	20175	1732.5	QPSK	1	HIGH	21.21	23.41	2.20
1.4	20175	1732.5	QPSK	3	LOW	21.53	23.41	1.88
1.4	20175	1732.5	QPSK	3	MID	21.46	22.77	1.31
1.4	20175	1732.5	QPSK	3	HIGH	21.06	22.84	1.78
1.4	20175	1732.5	QPSK	6	LOW	21.28	23.15	1.87
1.4	20175	1732.5	Q16	1	LOW	21.09	23.02	1.93

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
1.4	20175	1732.5	Q16	1	MID	21.43	22.98	1.55
1.4	20175	1732.5	Q16	1	HIGH	21.09	22.95	1.86
1.4	20175	1732.5	Q16	3	LOW	21.18	22.87	1.69
1.4	20175	1732.5	Q16	3	MID	20.97	22.79	1.82
1.4	20175	1732.5	Q16	3	HIGH	21.62	23.23	1.61
1.4	20175	1732.5	Q16	6	LOW	20.8	23.22	2.42
3	19965	1711.5	QPSK	1	LOW	20.89	23.18	2.29
3	19965	1711.5	QPSK	1	MID	21.29	23.14	1.85
3	19965	1711.5	QPSK	1	HIGH	20.95	23.31	2.36
3	19965	1711.5	QPSK	8	LOW	21.38	23.06	1.68
3	19965	1711.5	QPSK	8	MID	20.93	23.21	2.28
3	19965	1711.5	QPSK	8	HIGH	21.55	23.43	1.88
3	19965	1711.5	QPSK	15	LOW	20.74	22.58	1.84
3	19965	1711.5	Q16	1	LOW	21.01	22.73	1.72
3	19965	1711.5	Q16	1	MID	21.4	22.88	1.48
3	19965	1711.5	Q16	1	HIGH	21.12	22.83	1.71
3	19965	1711.5	Q16	8	LOW	20.83	23.32	2.49
3	19965	1711.5	Q16	8	MID	21.29	22.6	1.31
3	19965	1711.5	Q16	8	HIGH	21.32	22.84	1.52
3	19965	1711.5	Q16	15	LOW	21.15	23.17	2.02
3	20385	1753.5	QPSK	1	LOW	20.85	22.53	1.68
3	20385	1753.5	QPSK	1	MID	20.76	22.77	2.01
3	20385	1753.5	QPSK	1	HIGH	21.52	22.77	1.25
3	20385	1753.5	QPSK	8	LOW	21.22	22.8	1.58
3	20385	1753.5	QPSK	8	MID	20.96	23.45	2.49
3	20385	1753.5	QPSK	8	HIGH	20.72	23.06	2.34
3	20385	1753.5	QPSK	15	LOW	21.48	23.29	1.81
3	20385	1753.5	Q16	1	LOW	20.89	23.21	2.32
3	20385	1753.5	Q16	1	MID	21.51	23.06	1.55
3	20385	1753.5	Q16	1	HIGH	20.84	22.95	2.11
3	20385	1753.5	Q16	8	LOW	21.59	22.59	1.00
3	20385	1753.5	Q16	8	MID	21.38	23.24	1.86
3	20385	1753.5	Q16	8	HIGH	20.8	23.23	2.43
3	20385	1753.5	Q16	15	LOW	21.44	22.74	1.30
3	20175	1732.5	QPSK	1	LOW	21.07	23.12	2.05
3	20175	1732.5	QPSK	1	MID	21.42	22.95	1.53
3	20175	1732.5	QPSK	1	HIGH	21.46	23.48	2.02

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
3	20175	1732.5	QPSK	8	LOW	21.27	22.67	1.40
3	20175	1732.5	QPSK	8	MID	21.34	23.4	2.06
3	20175	1732.5	QPSK	8	HIGH	21.17	23.26	2.09
3	20175	1732.5	QPSK	15	LOW	20.81	22.61	1.80
3	20175	1732.5	Q16	1	LOW	21.39	23.48	2.09
3	20175	1732.5	Q16	1	MID	21.59	23.06	1.47
3	20175	1732.5	Q16	1	HIGH	20.95	23.14	2.19
3	20175	1732.5	Q16	8	LOW	20.76	22.8	2.04
3	20175	1732.5	Q16	8	MID	21.34	22.74	1.40
3	20175	1732.5	Q16	8	HIGH	20.65	23.02	2.37
3	20175	1732.5	Q16	15	LOW	20.75	22.8	2.05
5	19975	1712.5	QPSK	1	LOW	21.01	23.07	2.06
5	19975	1712.5	QPSK	1	MID	20.66	23.13	2.47
5	19975	1712.5	QPSK	1	HIGH	21.15	22.56	1.41
5	19975	1712.5	QPSK	12	LOW	21.36	22.81	1.45
5	19975	1712.5	QPSK	12	MID	20.98	22.62	1.64
5	19975	1712.5	QPSK	12	HIGH	21.55	23.4	1.85
5	19975	1712.5	QPSK	25	LOW	21.44	22.71	1.27
5	19975	1712.5	Q16	1	LOW	21.35	22.79	1.44
5	19975	1712.5	Q16	1	MID	21.32	23.09	1.77
5	19975	1712.5	Q16	1	HIGH	21.28	22.89	1.61
5	19975	1712.5	Q16	12	LOW	20.79	22.76	1.97
5	19975	1712.5	Q16	12	MID	21.35	23.11	1.76
5	19975	1712.5	Q16	12	HIGH	20.79	22.78	1.99
5	19975	1712.5	Q16	25	LOW	20.91	22.6	1.69
5	20375	1752.5	QPSK	1	LOW	21.62	22.56	0.94
5	20375	1752.5	QPSK	1	MID	21.62	23.49	1.87
5	20375	1752.5	QPSK	1	HIGH	21.35	22.71	1.36
5	20375	1752.5	QPSK	12	LOW	21.51	22.78	1.27
5	20375	1752.5	QPSK	12	MID	21	23.1	2.10
5	20375	1752.5	QPSK	12	HIGH	21.02	22.88	1.86
5	20375	1752.5	QPSK	25	LOW	20.91	23.11	2.20
5	20375	1752.5	Q16	1	LOW	21.36	22.76	1.40
5	20375	1752.5	Q16	1	MID	21.4	22.95	1.55
5	20375	1752.5	Q16	1	HIGH	20.73	22.79	2.06
5	20375	1752.5	Q16	12	LOW	21.34	22.88	1.54
5	20375	1752.5	Q16	12	MID	21.59	23.3	1.71

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
5	20375	1752.5	Q16	12	HIGH	21.23	22.88	1.65
5	20375	1752.5	Q16	25	LOW	21.02	23.1	2.08
5	20175	1732.5	QPSK	1	LOW	21.53	23.03	1.50
5	20175	1732.5	QPSK	1	MID	21.13	23.29	2.16
5	20175	1732.5	QPSK	1	HIGH	21.4	23.13	1.73
5	20175	1732.5	QPSK	12	LOW	21.01	23.11	2.10
5	20175	1732.5	QPSK	12	MID	21.44	22.98	1.54
5	20175	1732.5	QPSK	12	HIGH	21.22	23.33	2.11
5	20175	1732.5	QPSK	25	LOW	21.08	23.09	2.01
5	20175	1732.5	Q16	1	LOW	21.45	22.69	1.24
5	20175	1732.5	Q16	1	MID	20.81	23.37	2.56
5	20175	1732.5	Q16	1	HIGH	20.91	22.66	1.75
5	20175	1732.5	Q16	12	LOW	20.88	23.11	2.23
5	20175	1732.5	Q16	12	MID	20.69	22.89	2.20
5	20175	1732.5	Q16	12	HIGH	20.9	22.7	1.80
5	20175	1732.5	Q16	25	LOW	20.97	22.86	1.89
10	20000	1715	QPSK	1	LOW	20.81	23.29	2.48
10	20000	1715	QPSK	1	MID	21.27	22.86	1.59
10	20000	1715	QPSK	1	HIGH	21.4	22.72	1.32
10	20000	1715	QPSK	25	LOW	21.01	22.76	1.75
10	20000	1715	QPSK	25	MID	20.77	23.21	2.44
10	20000	1715	QPSK	25	HIGH	20.98	22.73	1.75
10	20000	1715	QPSK	50	LOW	20.94	22.89	1.95
10	20000	1715	Q16	1	LOW	20.85	23.11	2.26
10	20000	1715	Q16	1	MID	21.48	23.03	1.55
10	20000	1715	Q16	1	HIGH	21.19	22.99	1.80
10	20000	1715	Q16	25	LOW	21.4	23.29	1.89
10	20000	1715	Q16	25	MID	21.66	22.91	1.25
10	20000	1715	Q16	25	HIGH	21.44	23.5	2.06
10	20000	1715	Q16	50	LOW	21.77	22.99	1.22
10	20350	1750	QPSK	1	LOW	20.95	23.16	2.21
10	20350	1750	QPSK	1	MID	21.77	22.81	1.04
10	20350	1750	QPSK	1	HIGH	21.78	23.33	1.55
10	20350	1750	QPSK	25	LOW	21.16	22.75	1.59
10	20350	1750	QPSK	25	MID	21.13	22.88	1.75
10	20350	1750	QPSK	25	HIGH	21.35	22.65	1.30
10	20350	1750	QPSK	50	LOW	21.56	23.15	1.59

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
10	20350	1750	Q16	1	LOW	21.09	23.32	2.23
10	20350	1750	Q16	1	MID	21.67	23.17	1.50
10	20350	1750	Q16	1	HIGH	21.04	22.85	1.81
10	20350	1750	Q16	25	LOW	21	22.55	1.55
10	20350	1750	Q16	25	MID	21.51	22.56	1.05
10	20350	1750	Q16	25	HIGH	21.79	22.85	1.06
10	20350	1750	Q16	50	LOW	21.42	23.09	1.67
10	20175	1732.5	QPSK	1	LOW	21.57	23.07	1.50
10	20175	1732.5	QPSK	1	MID	21.72	22.88	1.16
10	20175	1732.5	QPSK	1	HIGH	21.25	22.66	1.41
10	20175	1732.5	QPSK	25	LOW	21.07	22.61	1.54
10	20175	1732.5	QPSK	25	MID	21.87	22.53	0.66
10	20175	1732.5	QPSK	25	HIGH	21.24	22.84	1.60
10	20175	1732.5	QPSK	50	LOW	21.34	23.36	2.02
10	20175	1732.5	Q16	1	LOW	21.08	22.95	1.87
10	20175	1732.5	Q16	1	MID	21.02	22.62	1.60
10	20175	1732.5	Q16	1	HIGH	21.13	22.73	1.60
10	20175	1732.5	Q16	25	LOW	21.19	22.79	1.60
10	20175	1732.5	Q16	25	MID	21.03	23.31	2.28
10	20175	1732.5	Q16	25	HIGH	21.74	23.42	1.68
10	20175	1732.5	Q16	50	LOW	21.01	23.47	2.46
15	20025	1717.5	QPSK	1	LOW	21.03	23.3	2.27
15	20025	1717.5	QPSK	1	MID	21.04	23.4	2.36
15	20025	1717.5	QPSK	1	HIGH	21.45	23.44	1.99
15	20025	1717.5	QPSK	36	LOW	21.45	22.96	1.51
15	20025	1717.5	QPSK	36	MID	21.04	23.12	2.08
15	20025	1717.5	QPSK	36	HIGH	21.57	23.44	1.87
15	20025	1717.5	QPSK	75	LOW	21.16	23.41	2.25
15	20025	1717.5	Q16	1	LOW	20.97	22.9	1.93
15	20025	1717.5	Q16	1	MID	21.32	22.95	1.63
15	20025	1717.5	Q16	1	HIGH	21.23	22.9	1.67
15	20025	1717.5	Q16	36	LOW	21.37	23.47	2.10
15	20025	1717.5	Q16	36	MID	21.24	23.42	2.18
15	20025	1717.5	Q16	36	HIGH	21.38	22.87	1.49
15	20025	1717.5	Q16	75	LOW	21.81	23.14	1.33
15	20325	1747.5	QPSK	1	LOW	21.05	22.87	1.82
15	20325	1747.5	QPSK	1	MID	21.76	22.75	0.99

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
15	20325	1747.5	QPSK	1	HIGH	21.2	23.06	1.86
15	20325	1747.5	QPSK	36	LOW	21.12	22.7	1.58
15	20325	1747.5	QPSK	36	MID	21.5	22.96	1.46
15	20325	1747.5	QPSK	36	HIGH	21.45	23.27	1.82
15	20325	1747.5	QPSK	75	LOW	21.5	22.81	1.31
15	20325	1747.5	Q16	1	LOW	21.48	23.14	1.66
15	20325	1747.5	Q16	1	MID	21.79	23.15	1.36
15	20325	1747.5	Q16	1	HIGH	21.2	22.65	1.45
15	20325	1747.5	Q16	36	LOW	21.07	23.37	2.30
15	20325	1747.5	Q16	36	MID	21.47	22.6	1.13
15	20325	1747.5	Q16	36	HIGH	21.2	22.75	1.55
15	20325	1747.5	Q16	75	LOW	21.3	22.89	1.59
15	20175	1732.5	QPSK	1	LOW	21.25	22.73	1.48
15	20175	1732.5	QPSK	1	MID	21.74	22.92	1.18
15	20175	1732.5	QPSK	1	HIGH	21.71	23.3	1.59
15	20175	1732.5	QPSK	36	LOW	21.53	22.97	1.44
15	20175	1732.5	QPSK	36	MID	21.15	22.77	1.62
15	20175	1732.5	QPSK	36	HIGH	21.02	23.32	2.30
15	20175	1732.5	QPSK	75	LOW	21.44	22.56	1.12
15	20175	1732.5	Q16	1	LOW	21.71	23.21	1.50
15	20175	1732.5	Q16	1	MID	21.39	22.73	1.34
15	20175	1732.5	Q16	1	HIGH	21.88	23.5	1.62
15	20175	1732.5	Q16	36	LOW	21.91	23.27	1.36
15	20175	1732.5	Q16	36	MID	21.2	23.2	2.00
15	20175	1732.5	Q16	36	HIGH	21.53	23.05	1.52
15	20175	1732.5	Q16	75	LOW	21.07	23.02	1.95
20	20050	1720	QPSK	1	LOW	21.84	23.04	1.20
20	20050	1720	QPSK	1	MID	21.06	22.73	1.67
20	20050	1720	QPSK	1	HIGH	21.14	22.71	1.57
20	20050	1720	QPSK	50	LOW	21.41	22.65	1.24
20	20050	1720	QPSK	50	MID	20.95	23.4	2.45
20	20050	1720	QPSK	50	HIGH	21.36	23.33	1.97
20	20050	1720	QPSK	100	LOW	21.83	23.2	1.37
20	20050	1720	Q16	1	LOW	21.85	22.61	0.76
20	20050	1720	Q16	1	MID	21.43	23.08	1.65
20	20050	1720	Q16	1	HIGH	21.47	23.27	1.80
20	20050	1720	Q16	50	LOW	21.3	22.56	1.26

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
20	20050	1720	Q16	50	MID	21.36	22.9	1.54
20	20050	1720	Q16	50	HIGH	21.35	22.69	1.34
20	20050	1720	Q16	100	LOW	21.22	23.01	1.79
20	20300	1745	QPSK	1	LOW	21.49	22.75	1.26
20	20300	1745	QPSK	1	MID	21.12	23.22	2.10
20	20300	1745	QPSK	1	HIGH	21.32	23.25	1.93
20	20300	1745	QPSK	50	LOW	21.47	23.09	1.62
20	20300	1745	QPSK	50	MID	21.61	22.9	1.29
20	20300	1745	QPSK	50	HIGH	21.37	22.87	1.50
20	20300	1745	QPSK	100	LOW	21.77	23.41	1.64
20	20300	1745	Q16	1	LOW	21.12	23.18	2.06
20	20300	1745	Q16	1	MID	21.84	23.11	1.27
20	20300	1745	Q16	1	HIGH	21.64	22.79	1.15
20	20300	1745	Q16	50	LOW	21.49	23.48	1.99
20	20300	1745	Q16	50	MID	21.34	22.82	1.48
20	20300	1745	Q16	50	HIGH	21.34	22.57	1.23
20	20300	1745	Q16	100	LOW	21.35	23.09	1.74
20	20175	1732.5	QPSK	1	LOW	21.54	22.84	1.30
20	20175	1732.5	QPSK	1	MID	21.71	23.1	1.39
20	20175	1732.5	QPSK	1	HIGH	21.81	23.45	1.64
20	20175	1732.5	QPSK	50	LOW	21.18	23.44	2.26
20	20175	1732.5	QPSK	50	MID	21.78	22.62	0.84
20	20175	1732.5	QPSK	50	HIGH	21.34	23.45	2.11
20	20175	1732.5	QPSK	100	LOW	21.14	22.54	1.40
20	20175	1732.5	Q16	1	LOW	21.05	23.26	2.21
20	20175	1732.5	Q16	1	MID	21.92	22.86	0.94
20	20175	1732.5	Q16	1	HIGH	21.56	23.4	1.84
20	20175	1732.5	Q16	50	LOW	21.7	23.5	1.80
20	20175	1732.5	Q16	50	MID	21.57	23.49	1.92
20	20175	1732.5	Q16	50	HIGH	21.63	22.98	1.35
20	20175	1732.5	Q16	100	LOW	20.98	22.74	1.76

BAND 5:

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
1.4	20470	824.7	QPSK	1	LOW	21.1	23.21	2.11
1.4	20470	824.7	QPSK	1	MID	21.63	23.35	1.72
1.4	20470	824.7	QPSK	1	HIGH	20.77	22.98	2.21
1.4	20470	824.7	QPSK	3	LOW	21.57	22.93	1.36
1.4	20470	824.7	QPSK	3	MID	20.85	22.99	2.14
1.4	20470	824.7	QPSK	3	HIGH	21.21	22.75	1.54
1.4	20470	824.7	QPSK	6	LOW	21.4	23	1.60
1.4	20470	824.7	Q16	1	LOW	21.61	22.53	0.92
1.4	20470	824.7	Q16	1	MID	21.53	23.03	1.50
1.4	20470	824.7	Q16	1	HIGH	21.14	23.16	2.02
1.4	20470	824.7	Q16	3	LOW	21.05	23.42	2.37
1.4	20470	824.7	Q16	3	MID	21.31	22.93	1.62
1.4	20470	824.7	Q16	3	HIGH	20.65	22.78	2.13
1.4	20470	824.7	Q16	6	LOW	21.44	23.05	1.61
1.4	20525	836.5	QPSK	1	LOW	20.72	23.14	2.42
1.4	20525	836.5	QPSK	1	MID	21	23.45	2.45
1.4	20525	836.5	QPSK	1	HIGH	20.82	22.84	2.02
1.4	20525	836.5	QPSK	3	LOW	21.27	23.36	2.09
1.4	20525	836.5	QPSK	3	MID	21.58	22.78	1.20
1.4	20525	836.5	QPSK	3	HIGH	20.83	22.51	1.68
1.4	20525	836.5	QPSK	6	LOW	21.1	23.02	1.92
1.4	20525	836.5	Q16	1	LOW	21.46	23.49	2.03
1.4	20525	836.5	Q16	1	MID	21.55	22.6	1.05
1.4	20525	836.5	Q16	1	HIGH	21.63	23.15	1.52
1.4	20525	836.5	Q16	3	LOW	21.13	22.88	1.75
1.4	20525	836.5	Q16	3	MID	20.92	23.06	2.14
1.4	20525	836.5	Q16	3	HIGH	20.91	23.08	2.17
1.4	20525	836.5	Q16	6	LOW	20.93	22.53	1.60
1.4	20643	848.3	QPSK	1	LOW	21.34	22.89	1.55
1.4	20643	848.3	QPSK	1	MID	20.79	22.67	1.88
1.4	20643	848.3	QPSK	1	HIGH	21.21	22.99	1.78
1.4	20643	848.3	QPSK	3	LOW	21.29	23.37	2.08
1.4	20643	848.3	QPSK	3	MID	20.91	23.42	2.51
1.4	20643	848.3	QPSK	3	HIGH	21.42	22.74	1.32
1.4	20643	848.3	QPSK	6	LOW	21.14	22.82	1.68
1.4	20643	848.3	Q16	1	LOW	20.79	22.54	1.75

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
1.4	20643	848.3	Q16	1	MID	20.65	23.26	2.61
1.4	20643	848.3	Q16	1	HIGH	21.44	23.19	1.75
1.4	20643	848.3	Q16	3	LOW	20.8	22.97	2.17
1.4	20643	848.3	Q16	3	MID	21.45	23.27	1.82
1.4	20643	848.3	Q16	3	HIGH	20.69	23.03	2.34
1.4	20643	848.3	Q16	6	LOW	20.8	23.09	2.29
3	20415	825.5	QPSK	1	LOW	21.09	22.64	1.55
3	20415	825.5	QPSK	1	MID	21.31	22.83	1.52
3	20415	825.5	QPSK	1	HIGH	20.72	23.43	2.71
3	20415	825.5	QPSK	8	LOW	21.57	23.47	1.90
3	20415	825.5	QPSK	8	MID	20.98	23.23	2.25
3	20415	825.5	QPSK	8	HIGH	21	23.01	2.01
3	20415	825.5	QPSK	15	LOW	21.05	22.53	1.48
3	20415	825.5	Q16	1	LOW	21.33	23.22	1.89
3	20415	825.5	Q16	1	MID	20.79	23.01	2.22
3	20415	825.5	Q16	1	HIGH	21.1	23.25	2.15
3	20415	825.5	Q16	8	LOW	21.55	22.5	0.95
3	20415	825.5	Q16	8	MID	20.8	22.98	2.18
3	20415	825.5	Q16	8	HIGH	21.3	22.72	1.42
3	20415	825.5	Q16	15	LOW	20.69	22.73	2.04
3	20525	836.5	QPSK	1	LOW	21.13	23.31	2.18
3	20525	836.5	QPSK	1	MID	21.14	22.85	1.71
3	20525	836.5	QPSK	1	HIGH	21.29	22.61	1.32
3	20525	836.5	QPSK	8	LOW	21.35	23.38	2.03
3	20525	836.5	QPSK	8	MID	20.77	22.78	2.01
3	20525	836.5	QPSK	8	HIGH	21.49	22.78	1.29
3	20525	836.5	QPSK	15	LOW	21.24	23.36	2.12
3	20525	836.5	Q16	1	LOW	21.32	22.59	1.27
3	20525	836.5	Q16	1	MID	21.22	23.27	2.05
3	20525	836.5	Q16	1	HIGH	20.96	22.76	1.80
3	20525	836.5	Q16	8	LOW	21.16	23.08	1.92
3	20525	836.5	Q16	8	MID	21.25	23.49	2.24
3	20525	836.5	Q16	8	HIGH	21.31	22.88	1.57
3	20525	836.5	Q16	15	LOW	21.05	22.55	1.50
3	20635	847.5	QPSK	1	LOW	21.62	22.81	1.19
3	20635	847.5	QPSK	1	MID	20.76	22.75	1.99
3	20635	847.5	QPSK	1	HIGH	21.02	22.59	1.57

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
3	20635	847.5	QPSK	8	LOW	20.76	23.23	2.47
3	20635	847.5	QPSK	8	MID	20.82	23.2	2.38
3	20635	847.5	QPSK	8	HIGH	21.48	22.95	1.47
3	20635	847.5	QPSK	15	LOW	21.01	23.26	2.25
3	20635	847.5	Q16	1	LOW	20.98	23.33	2.35
3	20635	847.5	Q16	1	MID	21.49	22.87	1.38
3	20635	847.5	Q16	1	HIGH	20.93	22.72	1.79
3	20635	847.5	Q16	8	LOW	21.49	22.59	1.10
3	20635	847.5	Q16	8	MID	21.6	22.54	0.94
3	20635	847.5	Q16	8	HIGH	20.92	22.56	1.64
3	20635	847.5	Q16	15	LOW	20.89	22.65	1.76
5	20425	826.5	QPSK	1	LOW	20.87	23.41	2.54
5	20425	826.5	QPSK	1	MID	21.13	23.34	2.21
5	20425	826.5	QPSK	1	HIGH	21.05	22.92	1.87
5	20425	826.5	QPSK	12	LOW	20.98	23.04	2.06
5	20425	826.5	QPSK	12	MID	20.74	22.59	1.85
5	20425	826.5	QPSK	12	HIGH	21.02	23.26	2.24
5	20425	826.5	QPSK	25	LOW	21.58	23.14	1.56
5	20425	826.5	Q16	1	LOW	21.15	22.76	1.61
5	20425	826.5	Q16	1	MID	21.06	23.21	2.15
5	20425	826.5	Q16	1	HIGH	21.47	22.83	1.36
5	20425	826.5	Q16	12	LOW	21.05	23.22	2.17
5	20425	826.5	Q16	12	MID	21.22	22.85	1.63
5	20425	826.5	Q16	12	HIGH	21.04	23.31	2.27
5	20425	826.5	Q16	25	LOW	20.85	22.91	2.06
5	20525	836.5	QPSK	1	LOW	21.33	23.44	2.11
5	20525	836.5	QPSK	1	MID	21.6	23.12	1.52
5	20525	836.5	QPSK	1	HIGH	21.42	23.33	1.91
5	20525	836.5	QPSK	12	LOW	21.08	22.5	1.42
5	20525	836.5	QPSK	12	MID	21.55	22.96	1.41
5	20525	836.5	QPSK	12	HIGH	21.5	23.39	1.89
5	20525	836.5	QPSK	25	LOW	21.21	22.92	1.71
5	20525	836.5	Q16	1	LOW	21.04	23.29	2.25
5	20525	836.5	Q16	1	MID	20.93	23.36	2.43
5	20525	836.5	Q16	1	HIGH	20.8	23.15	2.35
5	20525	836.5	Q16	12	LOW	21.15	23.06	1.91
5	20525	836.5	Q16	12	MID	21.34	22.64	1.30

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
5	20525	836.5	Q16	12	HIGH	21.28	22.66	1.38
5	20525	836.5	Q16	25	LOW	21.2	23.33	2.13
5	20625	846.5	QPSK	1	LOW	21.12	22.65	1.53
5	20625	846.5	QPSK	1	MID	21	22.56	1.56
5	20625	846.5	QPSK	1	HIGH	21	22.85	1.85
5	20625	846.5	QPSK	12	LOW	21.42	22.9	1.48
5	20625	846.5	QPSK	12	MID	21.61	22.65	1.04
5	20625	846.5	QPSK	12	HIGH	21.19	23.28	2.09
5	20625	846.5	QPSK	25	LOW	21.48	22.89	1.41
5	20625	846.5	Q16	1	LOW	21.02	22.78	1.76
5	20625	846.5	Q16	1	MID	21.17	23.24	2.07
5	20625	846.5	Q16	1	HIGH	21.54	23.41	1.87
5	20625	846.5	Q16	12	LOW	21.37	23.1	1.73
5	20625	846.5	Q16	12	MID	21.26	22.56	1.30
5	20625	846.5	Q16	12	HIGH	21.12	22.68	1.56
5	20625	846.5	Q16	25	LOW	20.72	22.56	1.84
10	20450	829	QPSK	1	LOW	21.38	23.09	1.71
10	20450	829	QPSK	1	MID	21.55	22.72	1.17
10	20450	829	QPSK	1	HIGH	20.98	22.65	1.67
10	20450	829	QPSK	25	LOW	21.05	23.08	2.03
10	20450	829	QPSK	25	MID	21.51	23.43	1.92
10	20450	829	QPSK	25	HIGH	21.52	22.91	1.39
10	20450	829	QPSK	50	LOW	21.47	23.48	2.01
10	20450	829	Q16	1	LOW	21	23.17	2.17
10	20450	829	Q16	1	MID	21.51	23.5	1.99
10	20450	829	Q16	1	HIGH	21.31	23.13	1.82
10	20450	829	Q16	25	LOW	21.65	22.71	1.06
10	20450	829	Q16	25	MID	21.85	23.06	1.21
10	20450	829	Q16	25	HIGH	21.16	23.2	2.04
10	20450	829	Q16	50	LOW	21	22.73	1.73
10	20525	836.5	QPSK	1	LOW	21.59	22.89	1.30
10	20525	836.5	QPSK	1	MID	21.21	22.79	1.58
10	20525	836.5	QPSK	1	HIGH	21.52	23.17	1.65
10	20525	836.5	QPSK	25	LOW	21.02	23.34	2.32
10	20525	836.5	QPSK	25	MID	21.4	22.81	1.41
10	20525	836.5	QPSK	25	HIGH	21.25	22.89	1.64
10	20525	836.5	QPSK	50	LOW	21.66	23.31	1.65

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Average	Peak	PAPR (dB)
				Size	Offset	(dBm)	(dBm)	
10	20525	836.5	Q16	1	LOW	21.13	23.23	2.10
10	20525	836.5	Q16	1	MID	21.26	23.05	1.79
10	20525	836.5	Q16	1	HIGH	21.08	23.47	2.39
10	20525	836.5	Q16	25	LOW	21.81	23.24	1.43
10	20525	836.5	Q16	25	MID	21.24	23	1.76
10	20525	836.5	Q16	25	HIGH	21.04	22.54	1.50
10	20525	836.5	Q16	50	LOW	21.37	23.39	2.02
10	20600	844	QPSK	1	LOW	21.27	23.08	1.81
10	20600	836.5	QPSK	1	MID	21.01	22.84	1.83
10	20600	836.5	QPSK	1	HIGH	21.34	22.78	1.44
10	20600	836.5	QPSK	25	LOW	21.92	23.11	1.19
10	20600	836.5	QPSK	25	MID	21.32	22.75	1.43
10	20600	836.5	QPSK	25	HIGH	21.83	22.94	1.11
10	20600	836.5	QPSK	50	LOW	21.43	22.61	1.18
10	20600	836.5	Q16	1	LOW	21.12	23.4	2.28
10	20600	836.5	Q16	1	MID	21.49	22.65	1.16
10	20600	836.5	Q16	1	HIGH	20.92	22.79	1.87
10	20600	836.5	Q16	25	LOW	21.54	23.04	1.50
10	20600	836.5	Q16	25	MID	21.67	22.7	1.03
10	20600	836.5	Q16	25	HIGH	21.9	22.94	1.04
10	20600	836.5	Q16	50	LOW	21.44	23.28	1.84

6 SPURIOUS EMISSION (Conducted and Radiated)

6.1 Measurement Result (Pre-measurement)

GSM850:

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	0.2	128	824.2	Pass
Middle Range	0.2	190	836.6	Pass
High Range	0.2	251	848.8	Pass

PCS 1900:

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	0.2	512	1850.2	Pass
Middle Range	0.2	661	1880.0	Pass
High Range	0.2	810	1909.8	Pass

UTRA BANDS**BAND 2:**

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	5	9262	1852.4	Pass
Middle Range	5	9400	1880.0	Pass
High Range	5	9538	1907.6	Pass

BAND 4:

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	5	1312	1712.4	Pass
Middle Range	5	1413	1732.6	Pass
High Range	5	1513	1752.6	Pass

BAND 5:

Test Channel	BW(MHz)	UL Channel	Frequency(MHz)	Judgment
Low Range	5	4132	826.4	Pass
Middle Range	5	4182	836.4	Pass
High Range	5	4233	846.6	Pass

E-UTRA BANDS**BAND 2:**

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgement
1.4	18607	1850.7	QPSK	6	LOW	Pass
1.4	18607	1850.7	Q16	6	LOW	Pass
1.4	18900	1880	QPSK	6	LOW	Pass
1.4	18900	1880	Q16	6	LOW	Pass
1.4	19193	1909.3	QPSK	6	LOW	Pass
1.4	19193	1909.3	Q16	6	LOW	Pass
3	18615	1851.5	QPSK	15	LOW	Pass
3	18615	1851.5	Q16	15	LOW	Pass
3	18900	1880	QPSK	15	LOW	Pass
3	18900	1880	Q16	15	LOW	Pass
3	19185	1908.5	QPSK	15	LOW	Pass
3	19185	1908.5	Q16	15	LOW	Pass
5	18625	1852.5	QPSK	25	LOW	Pass
5	18625	1852.5	Q16	25	LOW	Pass
5	18900	1880	QPSK	25	LOW	Pass
5	18900	1880	Q16	25	LOW	Pass
5	19175	1907.5	QPSK	25	LOW	Pass
5	19175	1907.5	Q16	25	LOW	Pass
10	18650	1855	QPSK	50	LOW	Pass
10	18650	1855	Q16	50	LOW	Pass
10	18900	1880	QPSK	50	LOW	Pass
10	18900	1880	Q16	50	LOW	Pass
10	19150	1905	QPSK	50	LOW	Pass
10	19150	1905	Q16	50	LOW	Pass
15	18675	1857.5	QPSK	75	LOW	Pass
15	18675	1857.5	Q16	75	LOW	Pass
15	18900	1880	QPSK	75	LOW	Pass
15	18900	1880	Q16	75	LOW	Pass
15	19125	1902.5	QPSK	75	LOW	Pass
15	19125	1902.5	Q16	75	LOW	Pass
20	18700	1860	QPSK	100	LOW	Pass
20	18700	1860	Q16	100	LOW	Pass
20	18900	1880	QPSK	100	LOW	Pass
20	18900	1880	Q16	100	LOW	Pass
20	19100	1900	QPSK	100	LOW	Pass

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgement
20	19100	1900	Q16	100	LOW	Pass

BAND 4:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgement
1.4	19957	1710.7	QPSK	6	LOW	Pass
1.4	19957	1710.7	Q16	6	LOW	Pass
1.4	20393	1754.3	QPSK	6	LOW	Pass
1.4	20393	1754.3	Q16	6	LOW	Pass
1.4	20175	1732.5	QPSK	6	LOW	Pass
1.4	20175	1732.5	Q16	6	LOW	Pass
3	19965	1711.5	QPSK	15	LOW	Pass
3	19965	1711.5	Q16	15	LOW	Pass
3	20385	1753.5	QPSK	15	LOW	Pass
3	20385	1753.5	Q16	15	LOW	Pass
3	20175	1732.5	QPSK	15	LOW	Pass
3	20175	1732.5	Q16	15	LOW	Pass
5	19975	1712.5	QPSK	25	LOW	Pass
5	19975	1712.5	Q16	25	LOW	Pass
5	20375	1752.5	QPSK	25	LOW	Pass
5	20375	1752.5	Q16	25	LOW	Pass
5	20175	1732.5	QPSK	25	LOW	Pass
5	20175	1732.5	Q16	25	LOW	Pass
10	20000	1715	QPSK	50	LOW	Pass
10	20000	1715	Q16	50	LOW	Pass
10	20350	1750	QPSK	50	LOW	Pass
10	20350	1750	Q16	50	LOW	Pass
10	20175	1732.5	QPSK	50	LOW	Pass
10	20175	1732.5	Q16	50	LOW	Pass
15	20025	1717.5	QPSK	75	LOW	Pass
15	20025	1717.5	Q16	75	LOW	Pass
15	20325	1747.5	QPSK	75	LOW	Pass
15	20325	1747.5	Q16	75	LOW	Pass
15	20175	1732.5	QPSK	75	LOW	Pass
15	20175	1732.5	Q16	75	LOW	Pass
20	20050	1720	QPSK	100	LOW	Pass
20	20050	1720	Q16	100	LOW	Pass
20	20300	1745	QPSK	100	LOW	Pass

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgement
20	20300	1745	Q16	100	LOW	Pass
20	20175	1732.5	QPSK	100	LOW	Pass
20	20175	1732.5	Q16	100	LOW	Pass

BAND 5:

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgement
1.4	20470	824.7	QPSK	6	LOW	Pass
1.4	20470	824.7	Q16	6	LOW	Pass
1.4	20525	836.5	QPSK	6	LOW	Pass
1.4	20525	836.5	Q16	6	LOW	Pass
1.4	20643	848.3	QPSK	6	LOW	Pass
1.4	20643	848.3	Q16	6	LOW	Pass
3	20415	825.5	QPSK	15	LOW	Pass
3	20415	825.5	Q16	15	LOW	Pass
3	20525	836.5	QPSK	15	LOW	Pass
3	20525	836.5	Q16	15	LOW	Pass
3	20635	847.5	QPSK	15	LOW	Pass
3	20635	847.5	Q16	15	LOW	Pass
5	20425	826.5	QPSK	25	LOW	Pass
5	20425	826.5	Q16	25	LOW	Pass
5	20525	836.5	QPSK	25	LOW	Pass
5	20525	836.5	Q16	25	LOW	Pass
5	20625	846.5	QPSK	25	LOW	Pass
5	20625	846.5	Q16	25	LOW	Pass
10	20450	829	QPSK	50	LOW	Pass
10	20450	829	Q16	50	LOW	Pass
10	20525	836.5	QPSK	50	LOW	Pass
10	20525	836.5	Q16	50	LOW	Pass
10	20600	844	QPSK	50	LOW	Pass
10	20600	844	Q16	50	LOW	Pass

Test Plot(s)

6.1.1 Conducted method

Test limit:

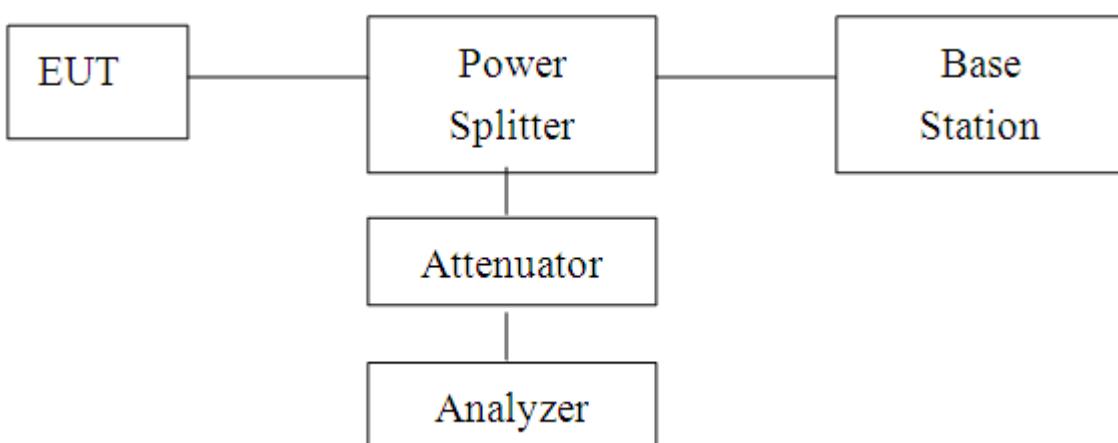
The spurious (unwanted) emission limits specified in the individual FCC rule parts applicable to licensed digital transmitters (typically referred to under the heading 'emission limits') normally apply to any and all emissions that are present outside of the authorized frequency band/block and apply to emissions in both the out-of-band and spurious domains. In some rule parts, the unwanted emission limits are specified by an emission mask that defines the applicable limit as a function of the frequency range relative to the authorized frequency block.

Typically, unwanted emissions are required by the licensed rule parts to be attenuated below the transmitter power by a factor of at least $X + 10\log(P)$ dB, where P represents the transmitter power expressed in watts and X is a specified scalar value (e.g., 43). This specification can be interpreted in one of two equivalent ways. First, the required attenuation can be construed to be relative to the mean carrier power, with the resultant of the equation $X + 10\log(P)$ being expressed in dBc (dB relative to the maximum carrier power). Alternatively, the specification can be interpreted as an absolute limit when the specified attenuation is actually subtracted from the maximum permissible transmitter power [i.e., $10\log(P) - (X + 10\log(P))$], resulting in an absolute level of $-X$ dBW [or $(-X + 30)$ dBm]. See section 4.

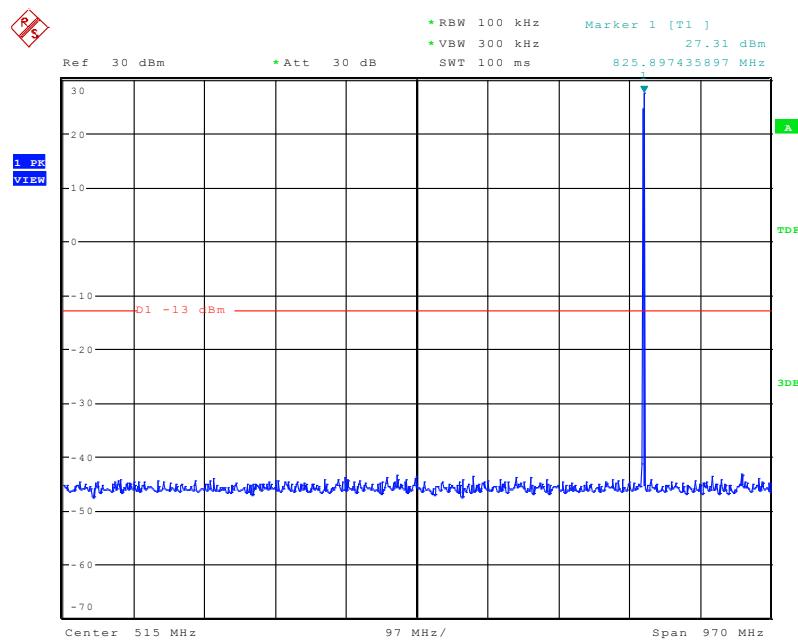
Test procedure:

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 100 kHz below 1 GHz and 1 MHz above 1 GHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonics.

Conducted Emission Test-Up:

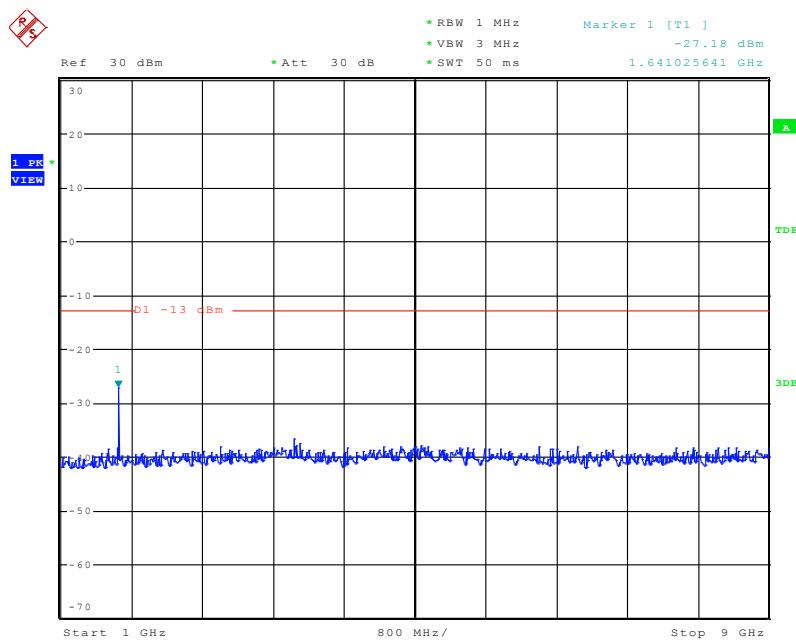


CONDUCTED EMISSION IN GSM850 BAND
Conducted Emission Transmitting Mode CH 128 30MHz – 1GHz

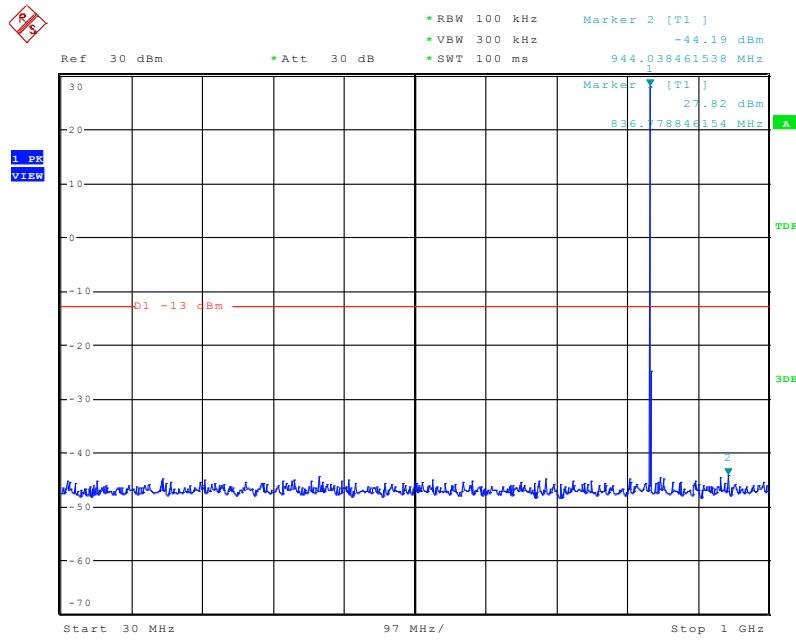


Date: 28.MAR.2017 09:14:07

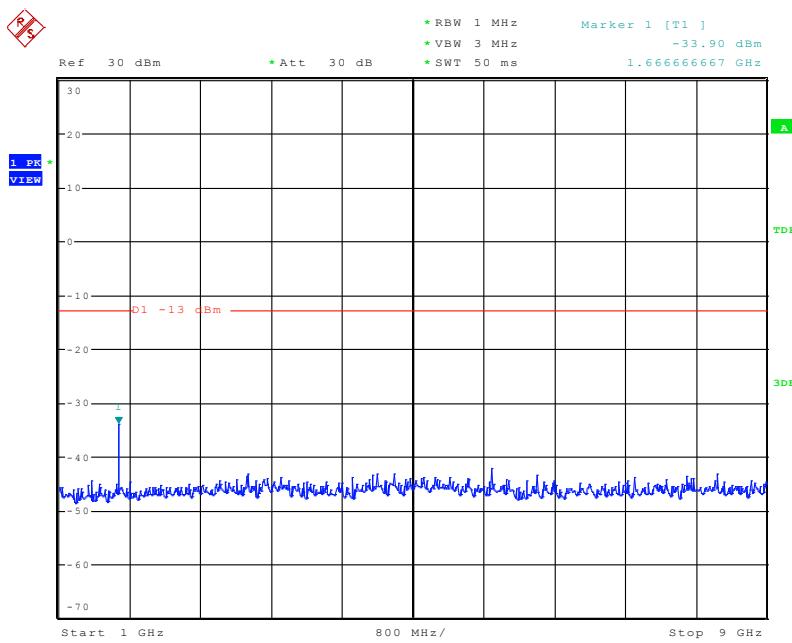
Conducted Emission Transmitting Mode CH 128 1GHz – 9GHz



Conducted Emission Transmitting Mode CH 190 30MHz – 1GHz

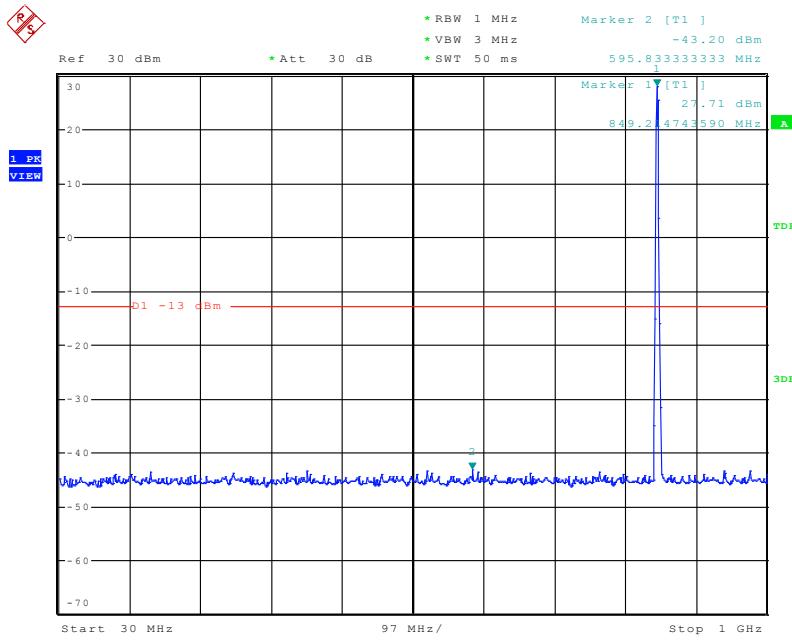


Conducted Emission Transmitting Mode CH 190 1GHz – 9GHz



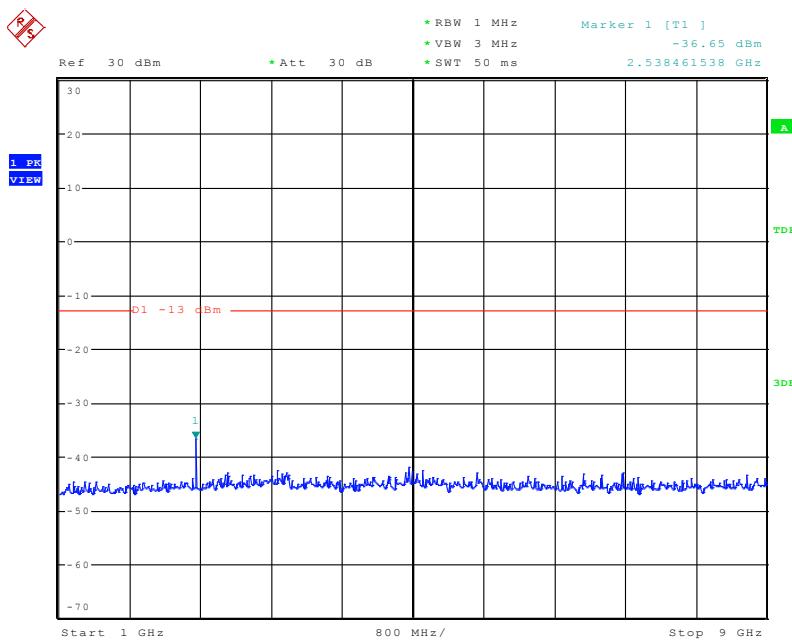
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Conducted Emission Transmitting Mode CH 251 30MHz – 1GHz



Date: 28.MAR.2017 09:28:31

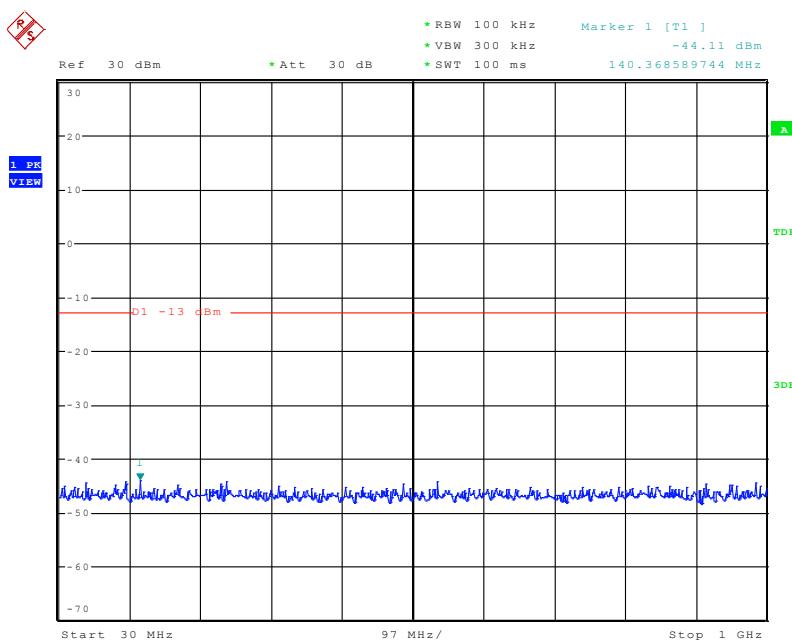
Conducted Emission Transmitting Mode CH 251 1GHz – 9GHz



Date: 28.MAR.2017 09:29:41

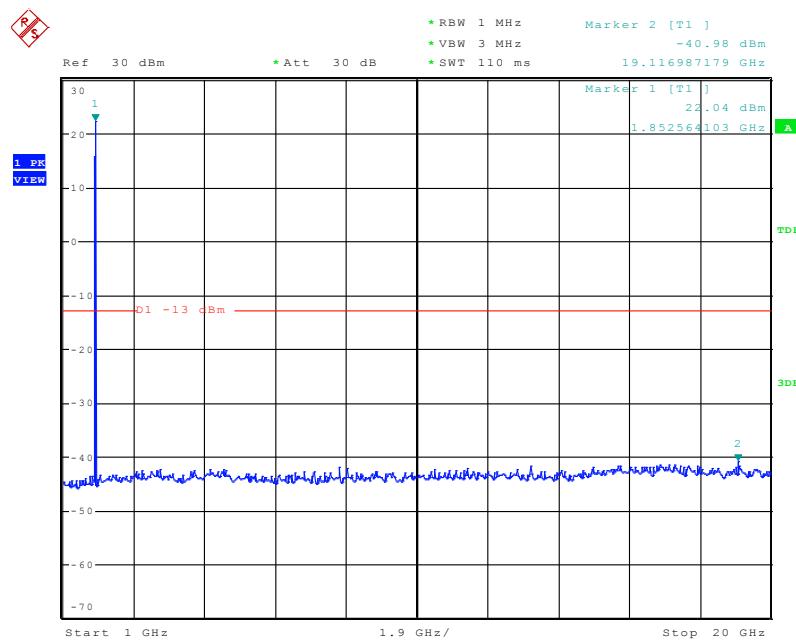
CONDUCTED EMISSION IN PCS1900 BAND

Conducted Emission Transmitting Mode CH 512 30MHz – 1GHz



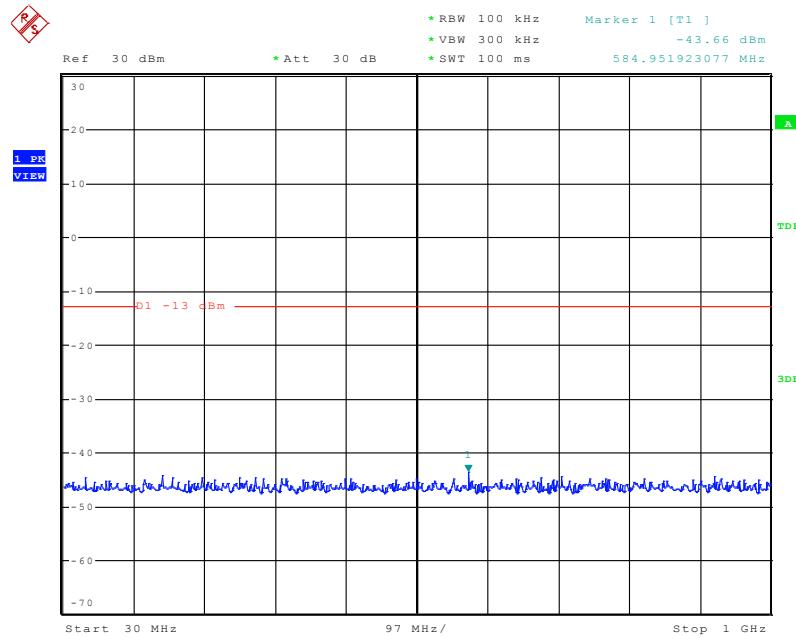
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Conducted Emission Transmitting Mode CH 512 1GHz – 20GHz



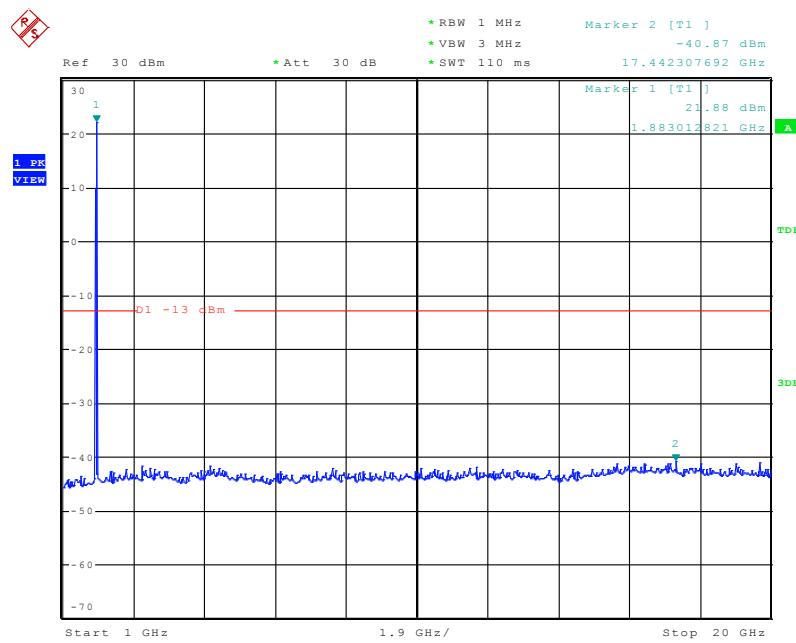
Date: 28.MAR.2017 09:34:08

Conducted Emission Transmitting Mode CH 661 30MHz – 1GHz



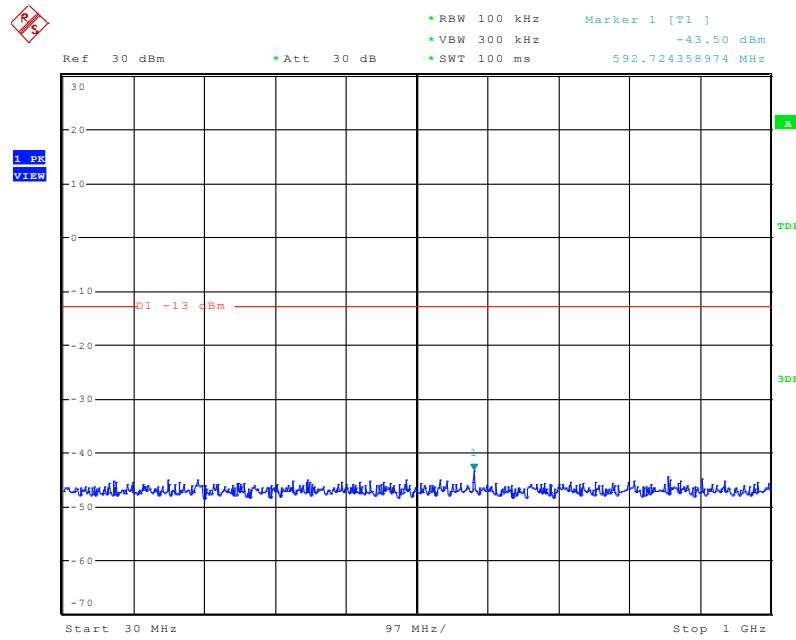
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Conducted Emission Transmitting Mode CH 661 1GHz – 20GHz



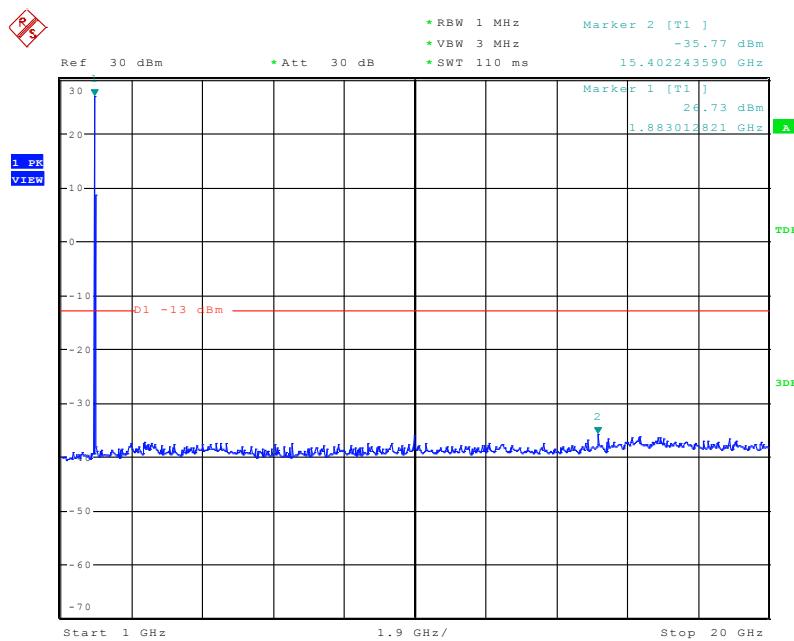
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Conducted Emission Transmitting Mode CH 810 30MHz – 1GHz

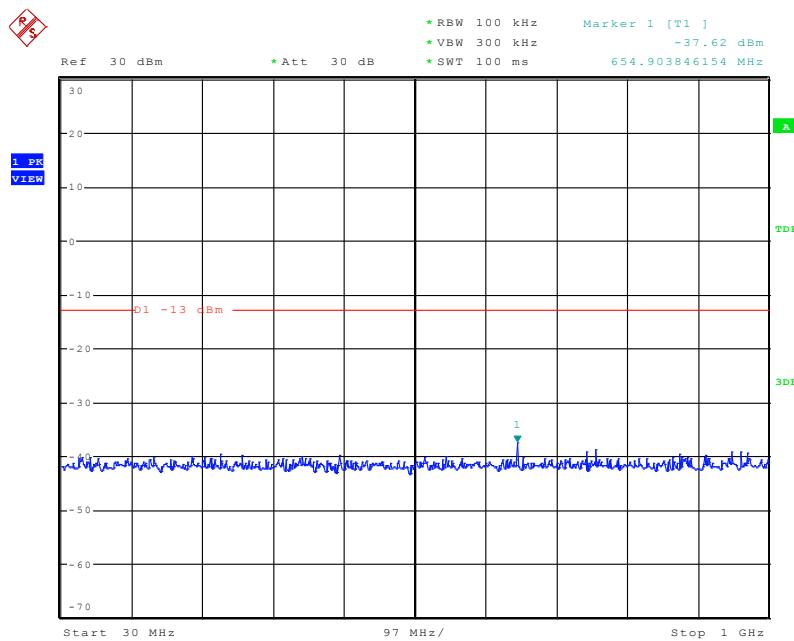


Date: 28.MAR.2017 09:40:47

Conducted Emission Transmitting Mode CH 810 1GHz – 20GHz

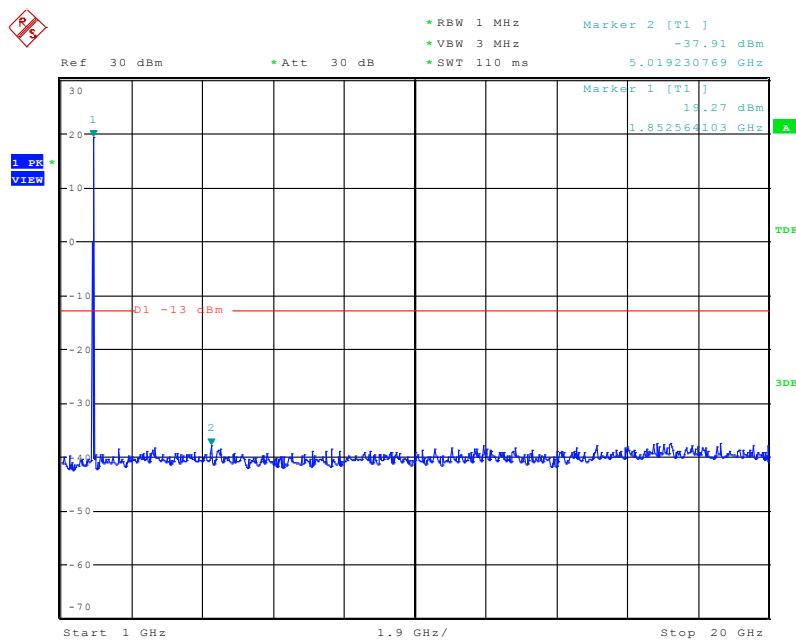


Date: 28.MAR.2017 09:43:08

CONDUCTED EMISSION IN WCDMA Band II
Conducted Emission Transmitting Mode CH 9262 30MHz – 1GHz

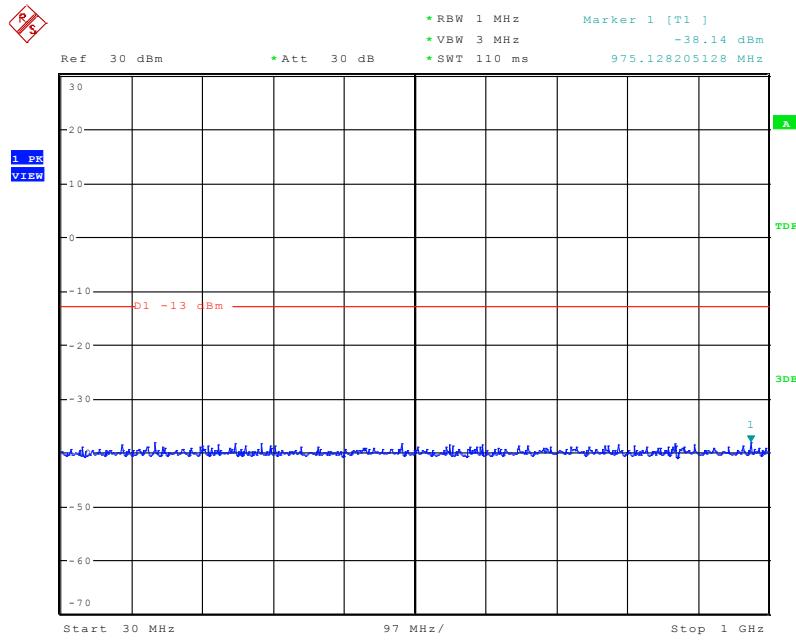
Date: 28.MAR.2017 09:46:47

Conducted Emission Transmitting Mode CH 9262 1GHz – 20GHz



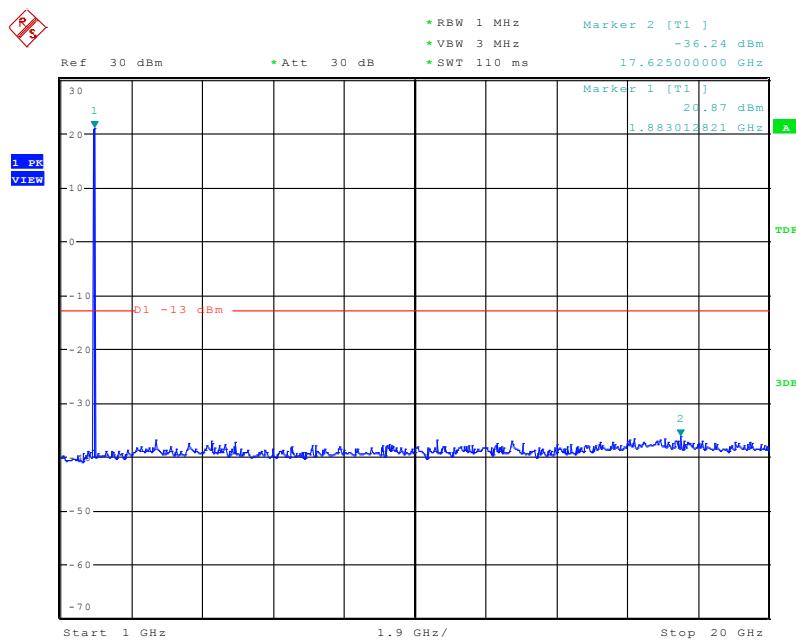
Date: 28.MAR.2017 09:48:55

Conducted Emission Transmitting Mode CH 9400 30MHz – 1GHz



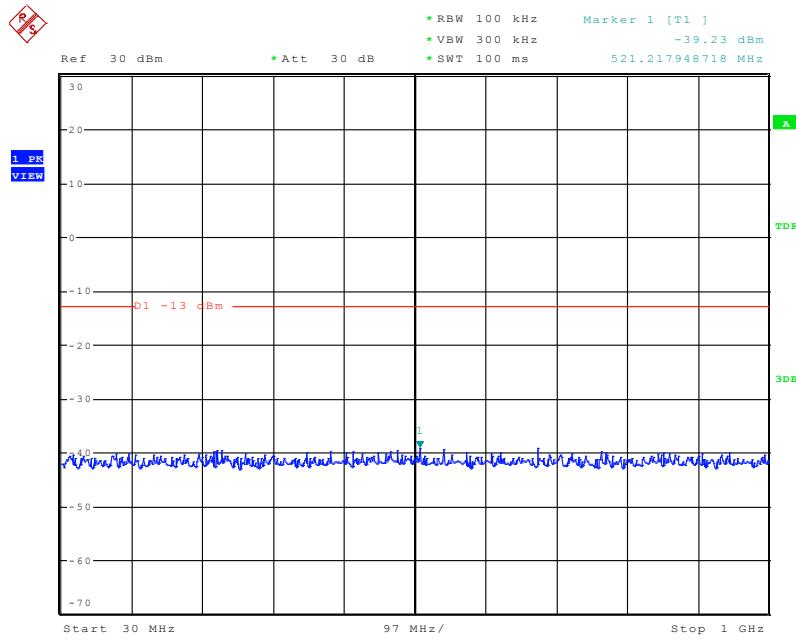
Date: 28.MAR.2017 09:50:14

Conducted Emission Transmitting Mode CH 9400 1GHz – 20GHz



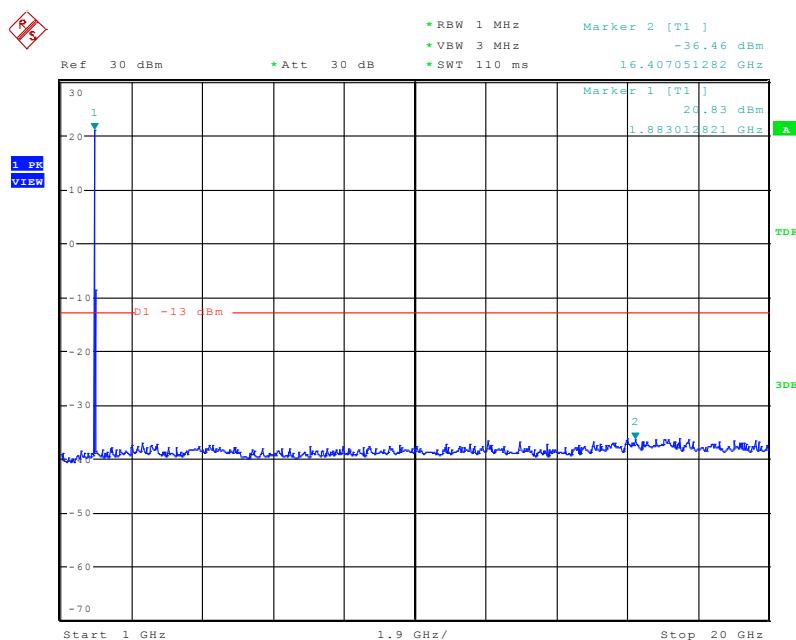
Date: 28.MAR.2017 09:52:03

Conducted Emission Transmitting Mode CH 9538 30MHz – 1GHz



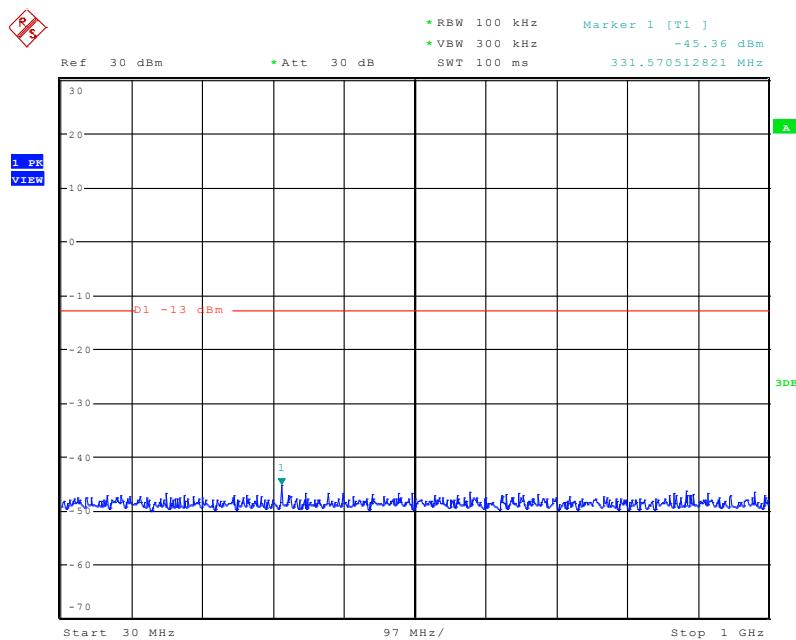
Date: 28.MAR.2017 09:53:32

Conducted Emission Transmitting Mode CH 9538 1GHz – 20GHz



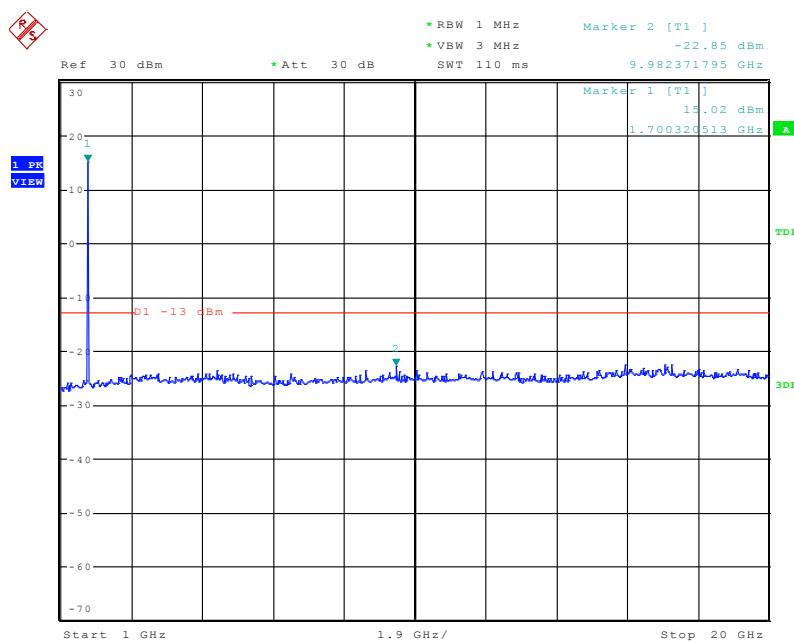
Date: 28.MAR.2017 09:55:20

CONDUCTED EMISSION IN WCDMA Band IV Conducted Emission Transmitting Mode CH 1312 30MHz – 1GHz



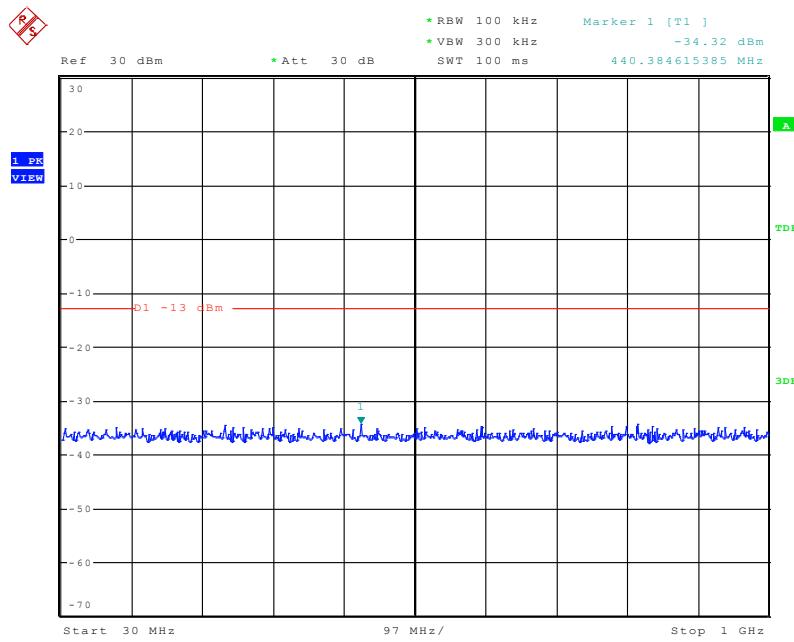
Date: 31.MAR.2017 09:19:45

Conducted Emission Transmitting Mode CH 1312 1GHz – 20GHz



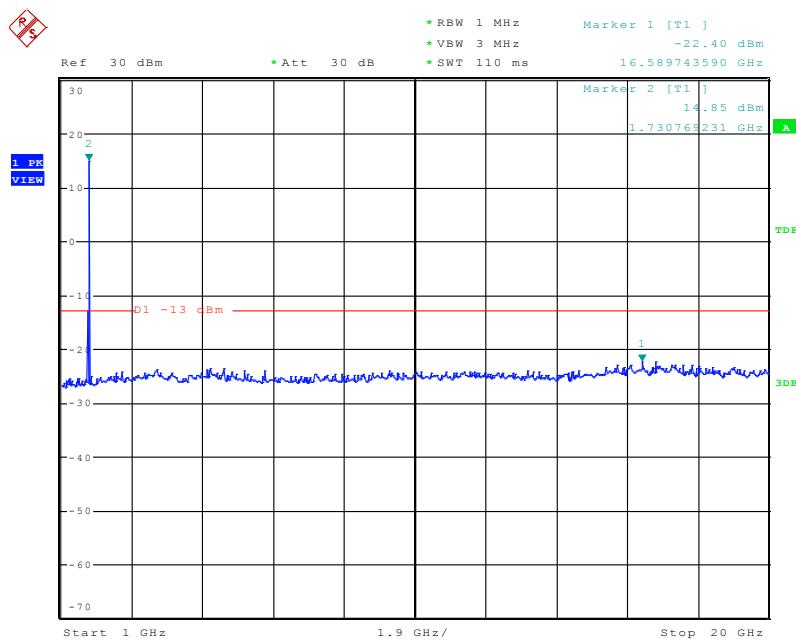
Date: 31.MAR.2017 09:27:26

Conducted Emission Transmitting Mode CH 1413 30MHz – 1GHz



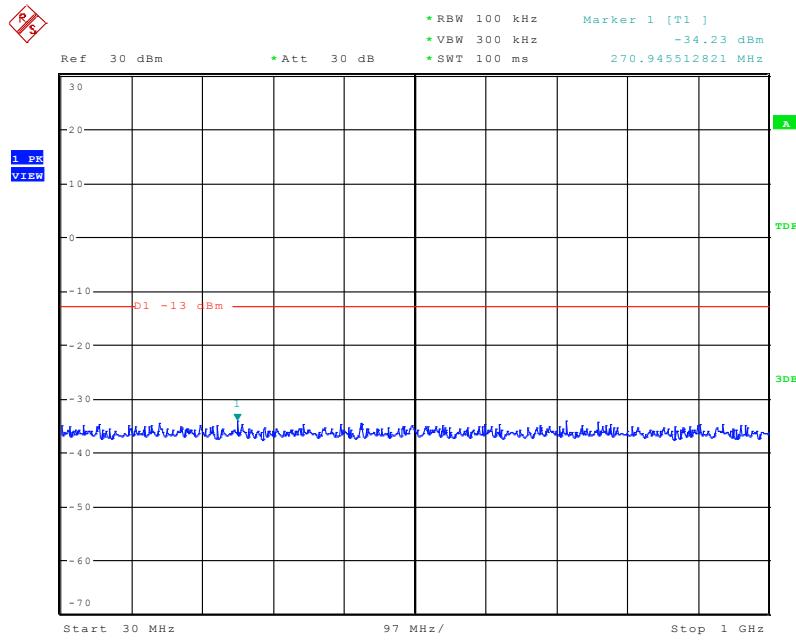
Date: 31.MAR.2017 09:29:05

Conducted Emission Transmitting Mode CH 1413 1GHz – 20GHz



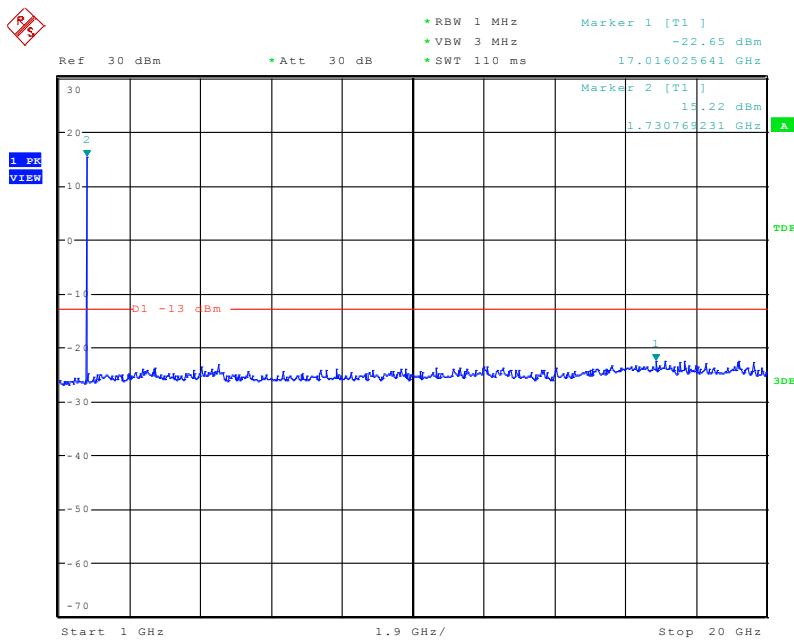
Date: 31.MAR.2017 09:32:48

Conducted Emission Transmitting Mode CH 1513 30MHz – 1GHz



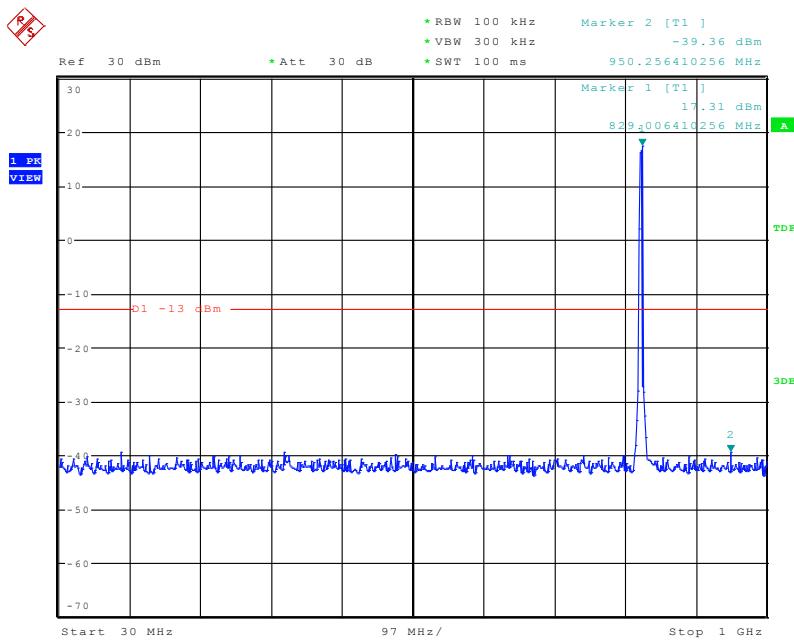
Date: 31.MAR.2017 09:34:41

Conducted Emission Transmitting Mode CH 1513 1GHz – 20GHz



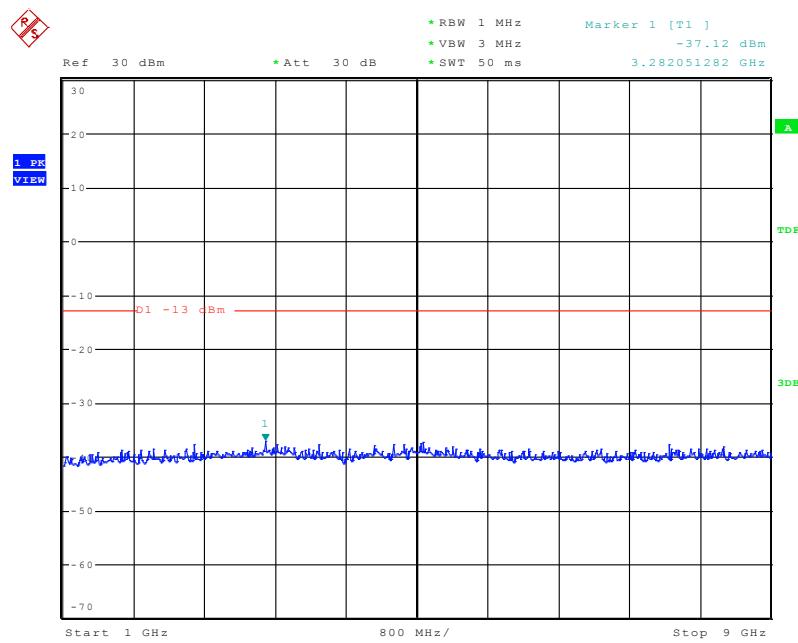
Date: 31.MAR.2017 09:37:24

CONDUCTED EMISSION IN WCDMA Band V Conducted Emission Transmitting Mode CH 4132 30MHz – 1GHz



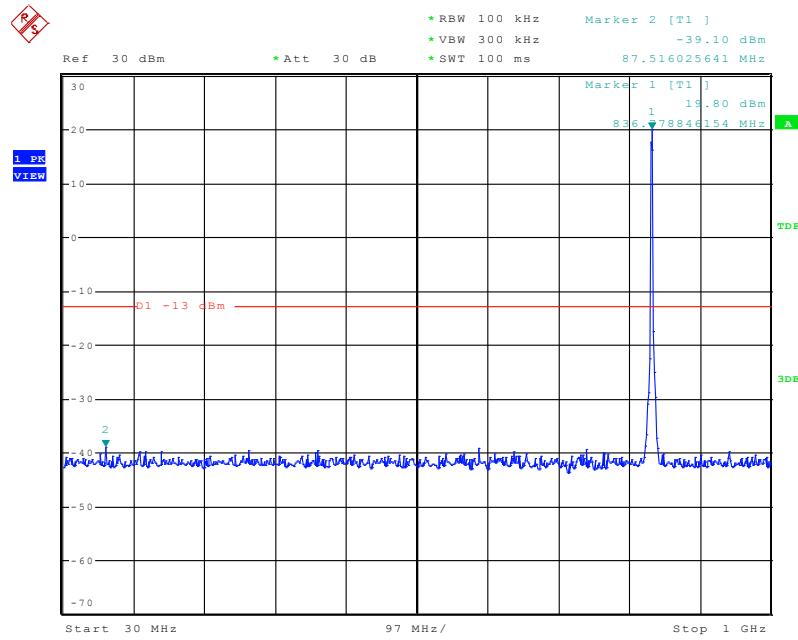
Date: 28.MAR.2017 09:58:41

Conducted Emission Transmitting Mode CH 4132 1GHz – 9GHz



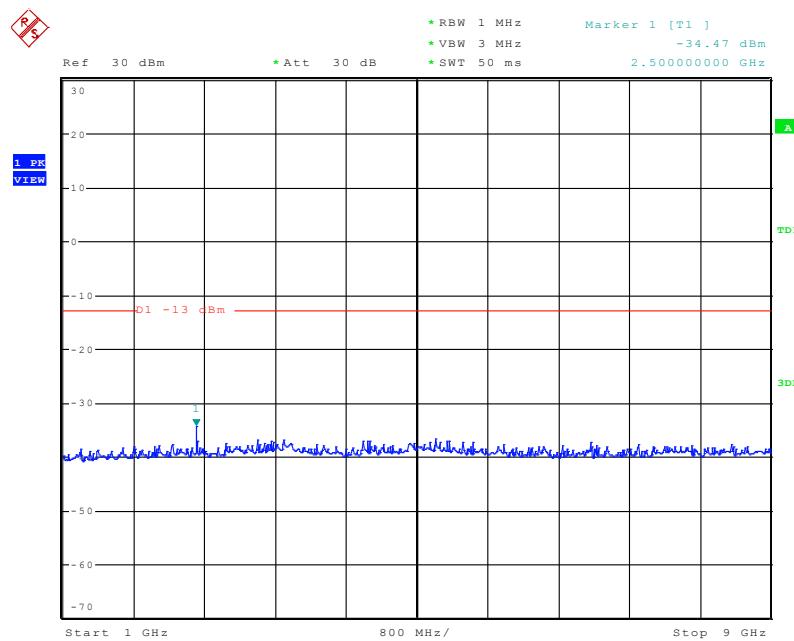
Date: 28.MAR.2017 10:00:01

Conducted Emission Transmitting Mode CH 4182 30MHz – 1GHz



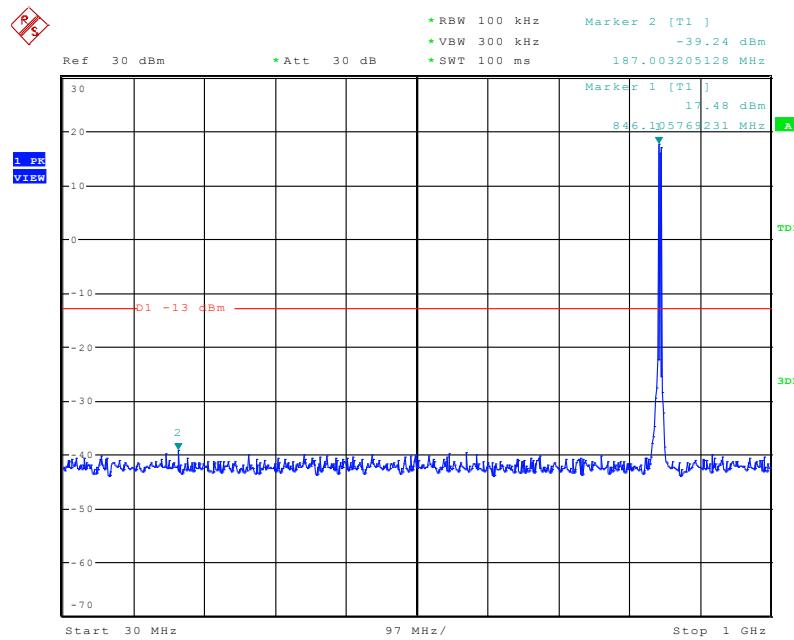
Date: 28.MAR.2017 10:02:51

Conducted Emission Transmitting Mode CH 4182 1GHz – 9GHz



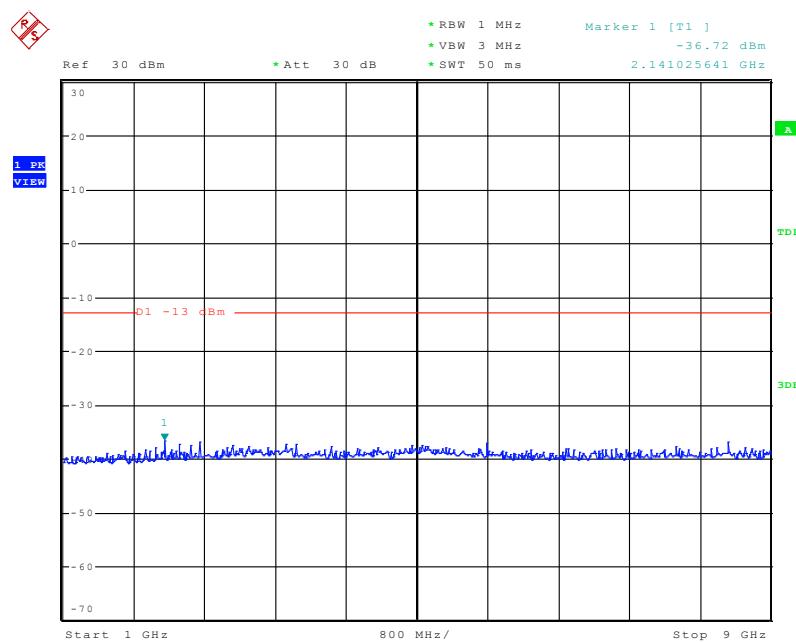
Date: 28.MAR.2017 10:04:38

Conducted Emission Transmitting Mode CH 4233 30MHz – 1GHz



Date: 28.MAR.2017 10:07:19

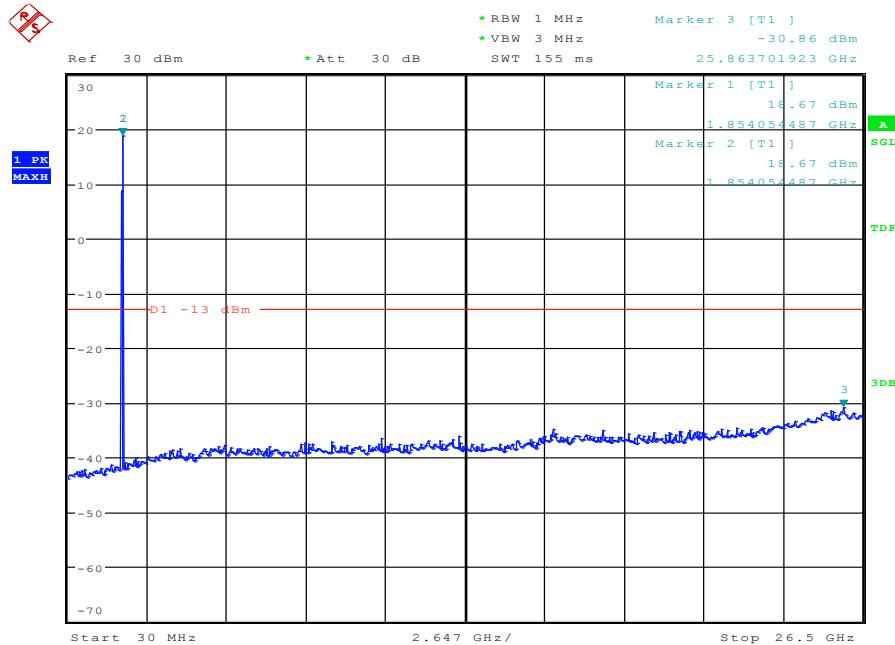
Conducted Emission Transmitting Mode CH 4233 1GHz – 9GHz



Date: 28.MAR.2017 10:08:29

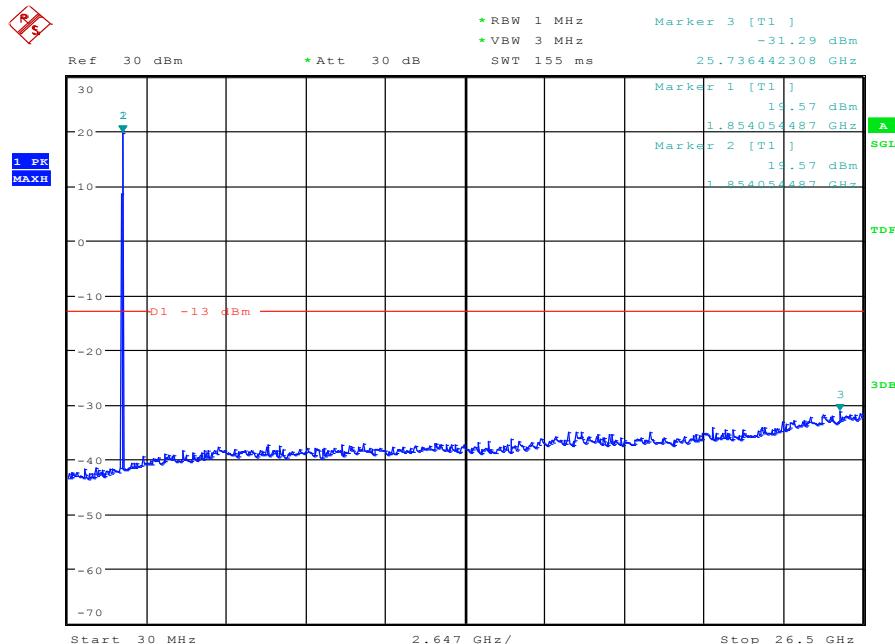
BAND 2@Conducted Spurious Emission

BW1.4MHz-1850.7MHz,Q16-6RB_LOW@Pass

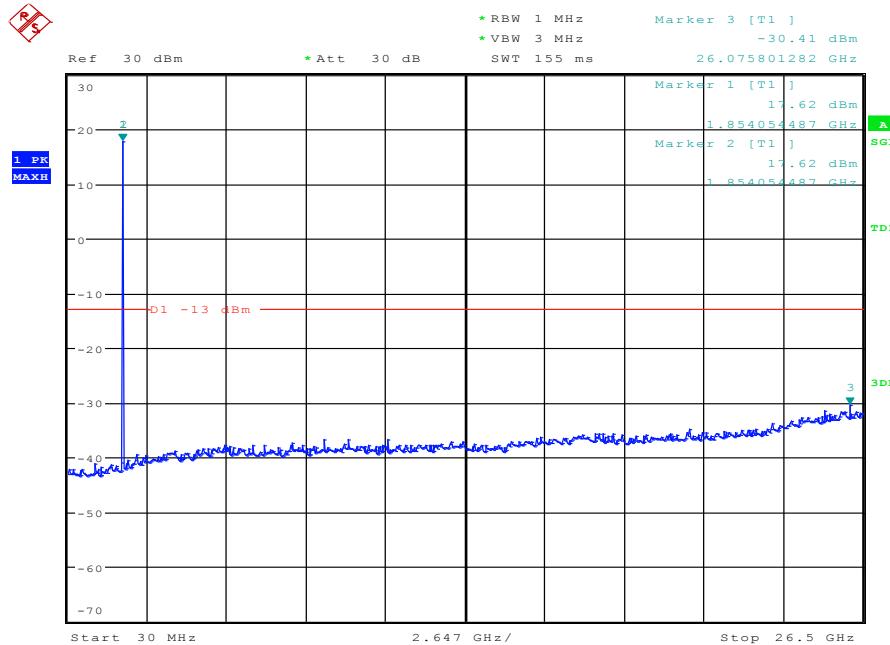


Date: 30.MAR.2017 19:54:26

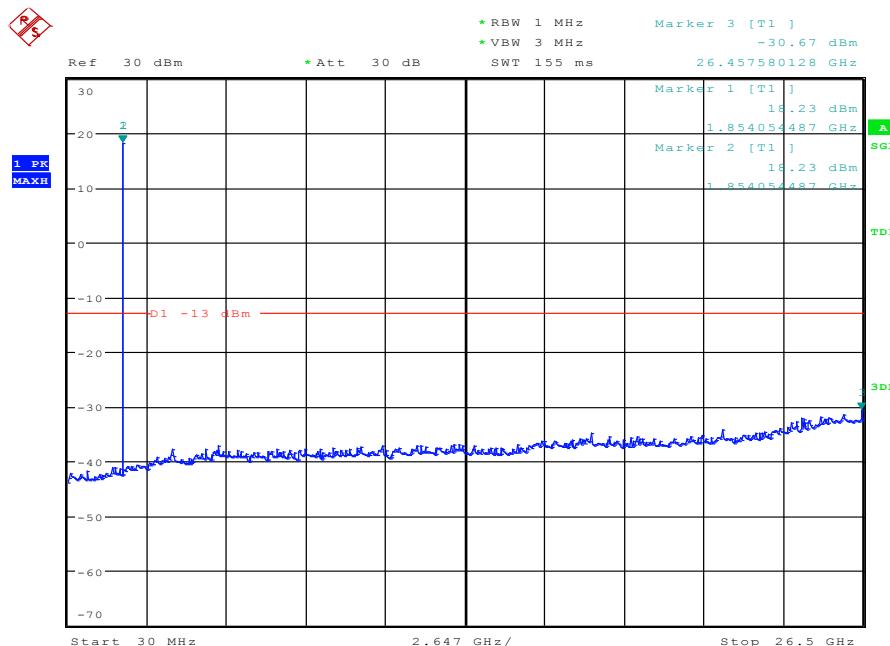
BW1.4MHz-1850.7MHz,QPSK-6RB_LOW@Pass



Date: 30.MAR.2017 19:54:10

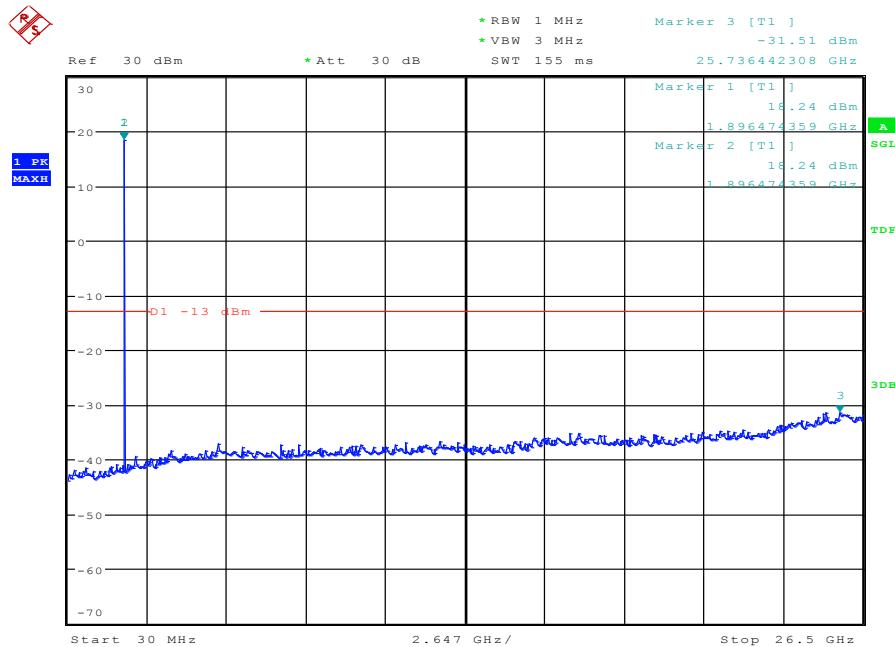
BW1.4MHz-1880MHz,Q16-6RB_LOW@Pass

Date: 30.MAR.2017 19:55:34

BW1.4MHz-1880MHz,QPSK-6RB_LOW@Pass

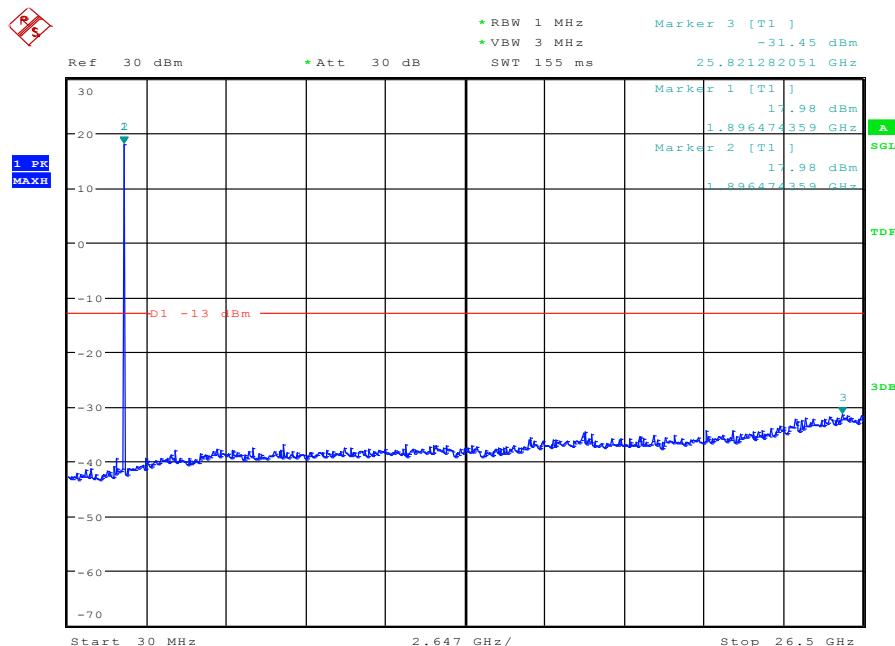
Date: 30.MAR.2017 19:55:18

BW1.4MHz-1909.3MHz,Q16-6RB_LOW@Pass



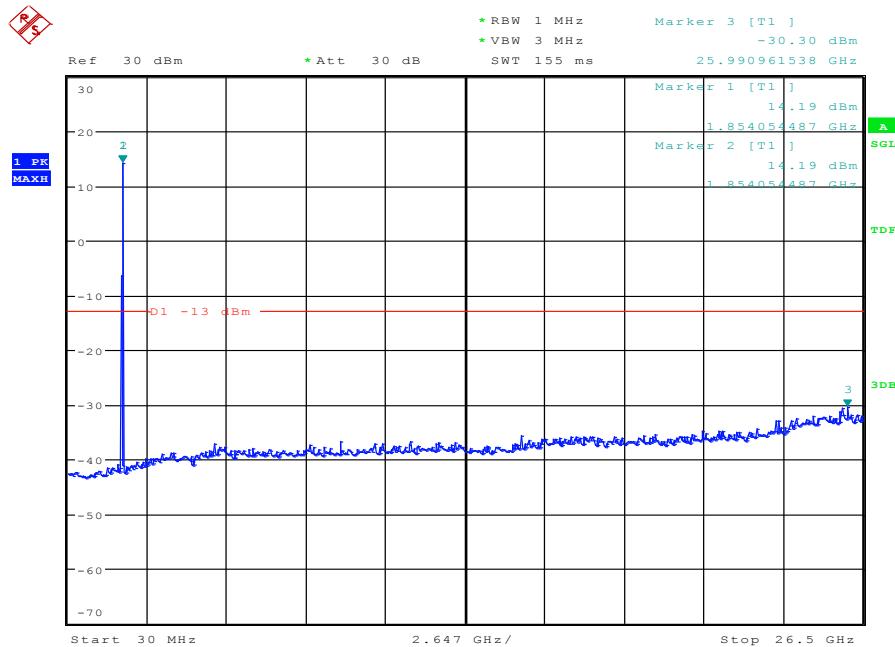
Date: 30.MAR.2017 19:55:00

BW1.4MHz-1909.3MHz,QPSK-6RB_LOW@Pass



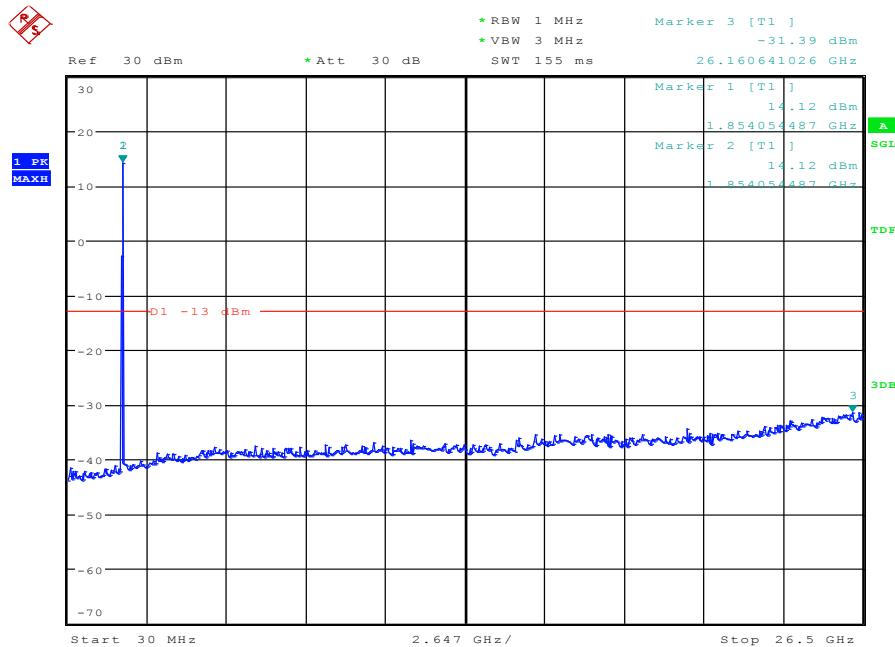
Date: 30.MAR.2017 19:54:44

BW10MHz-1855MHz,Q16-50RB_LOW@Pass



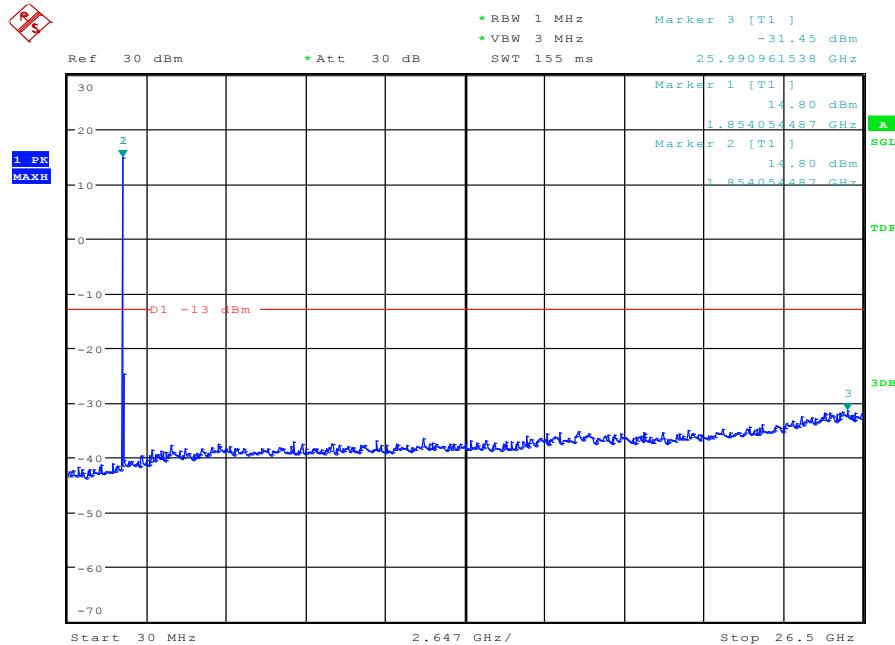
Date: 30.MAR.2017 19:59:28

BW10MHz-1855MHz,QPSK-50RB_LOW@Pass



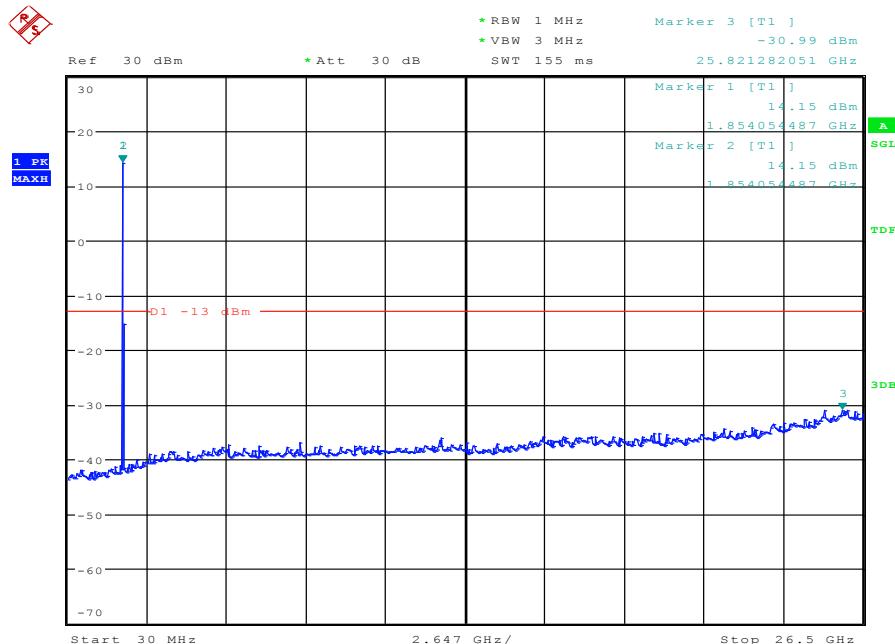
Date: 30.MAR.2017 19:59:12

BW10MHz-1880MHz,Q16-50RB_LOW@Pass



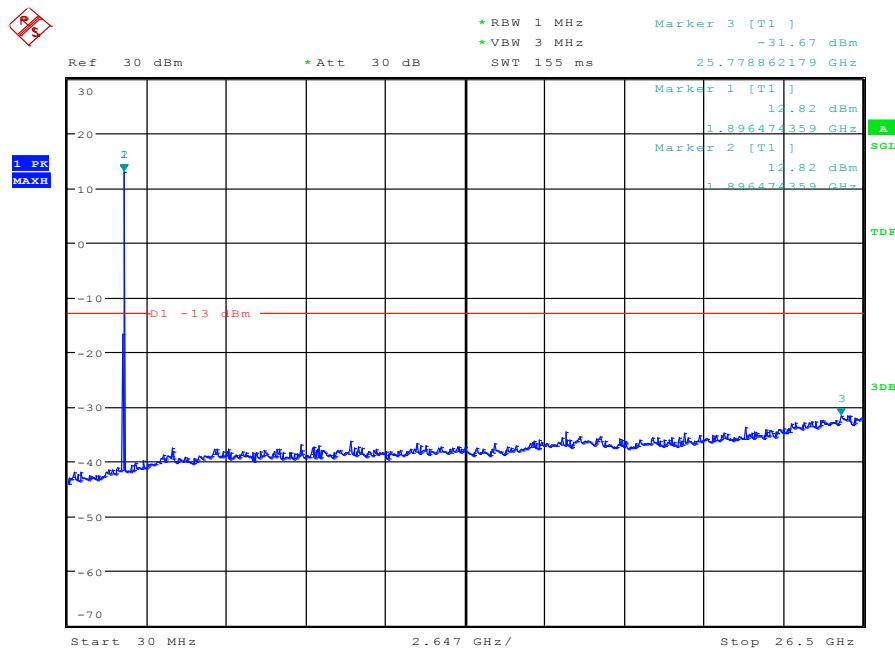
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BW10MHz-1880MHz,QPSK-50RB_LOW@Pass



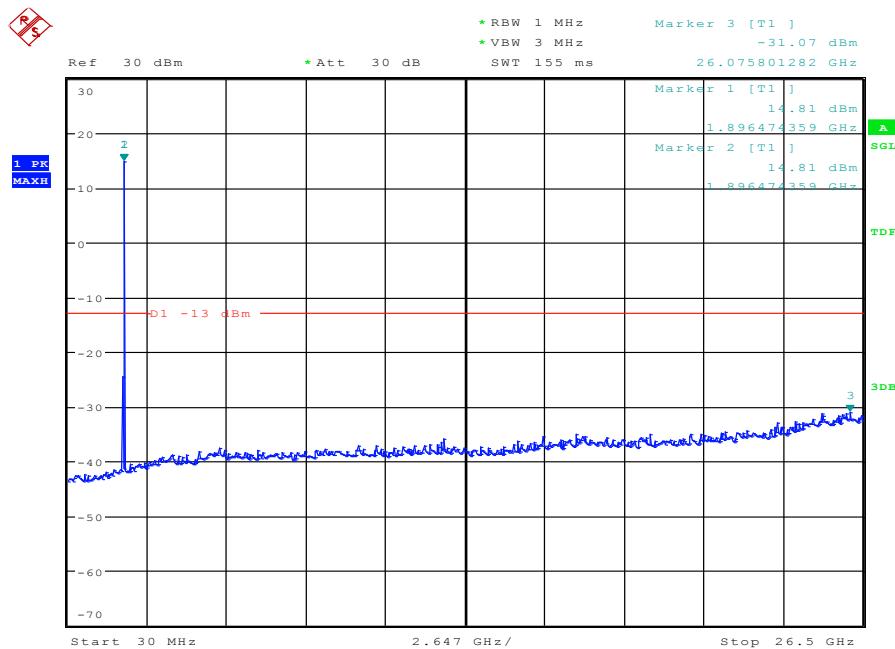
Date: 30.MAR.2017 20:00:19

BW10MHz-1905MHz,Q16-50RB_LOW@Pass

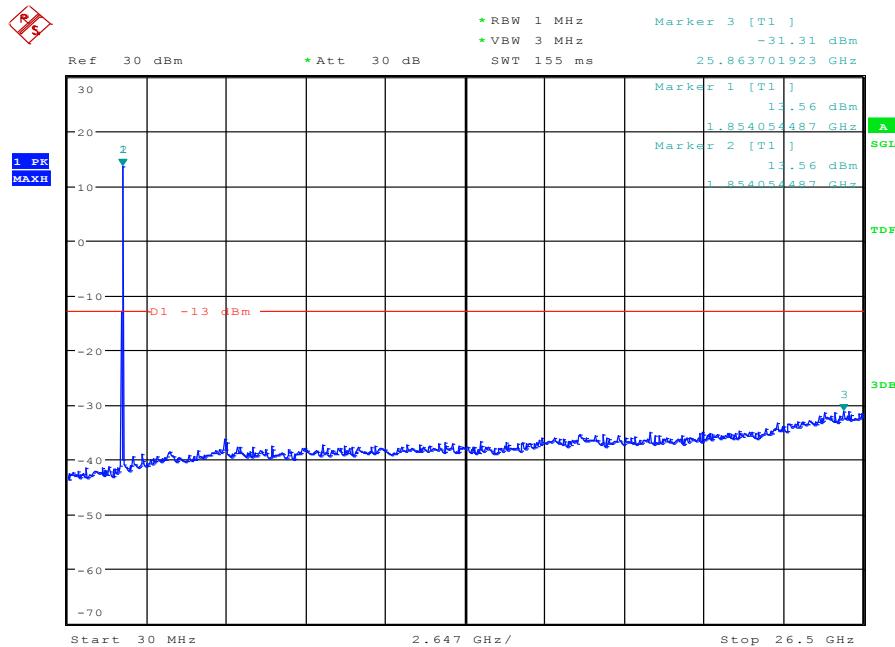


Date: 30.MAR.2017 20:00:02

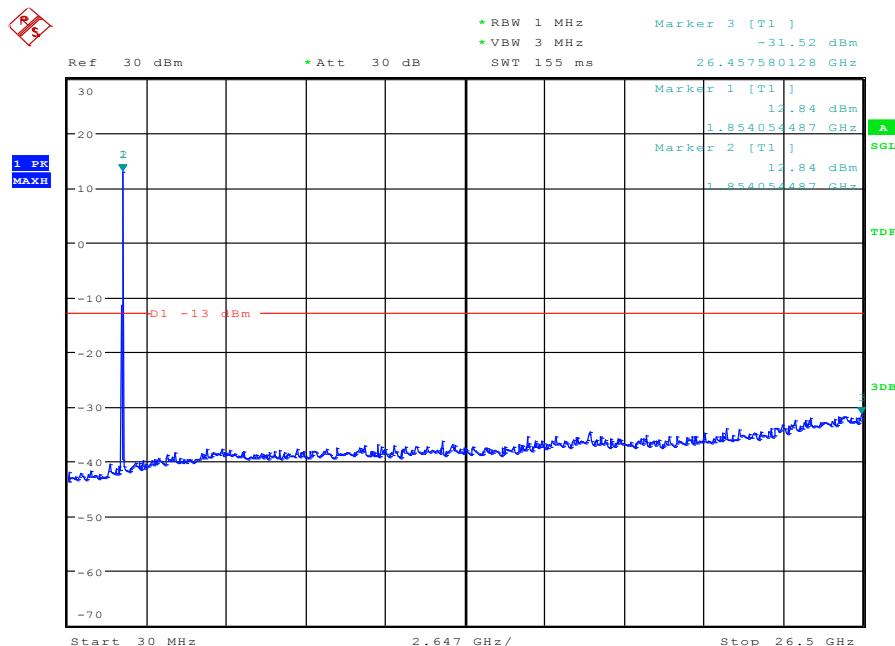
BW10MHz-1905MHz,QPSK-50RB_LOW@Pass



Date: 30.MAR.2017 19:59:46

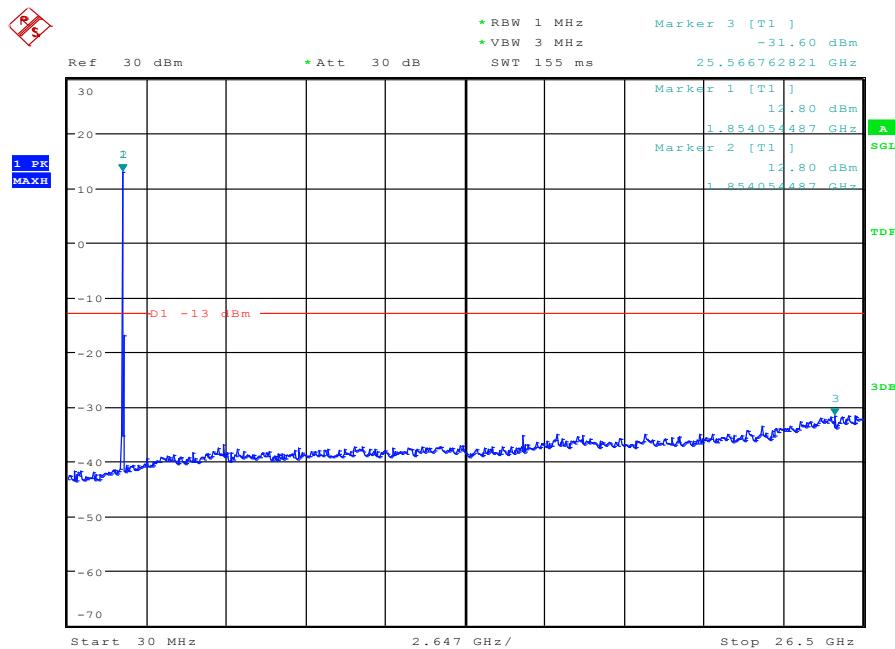
BW15MHz-1857.5MHz,Q16-75RB_LOW@Pass

Date: 30.MAR.2017 20:01:16

BW15MHz-1857.5MHz,QPSK-75RB_LOW@Pass

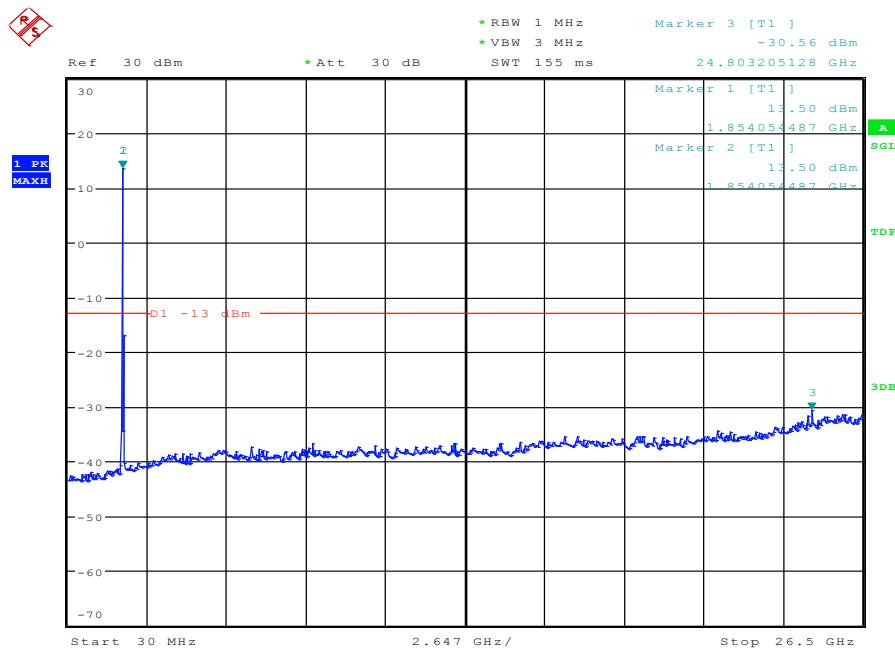
Date: 30.MAR.2017 20:00:57

BW15MHz-1880MHz,Q16-75RB_LOW@Pass

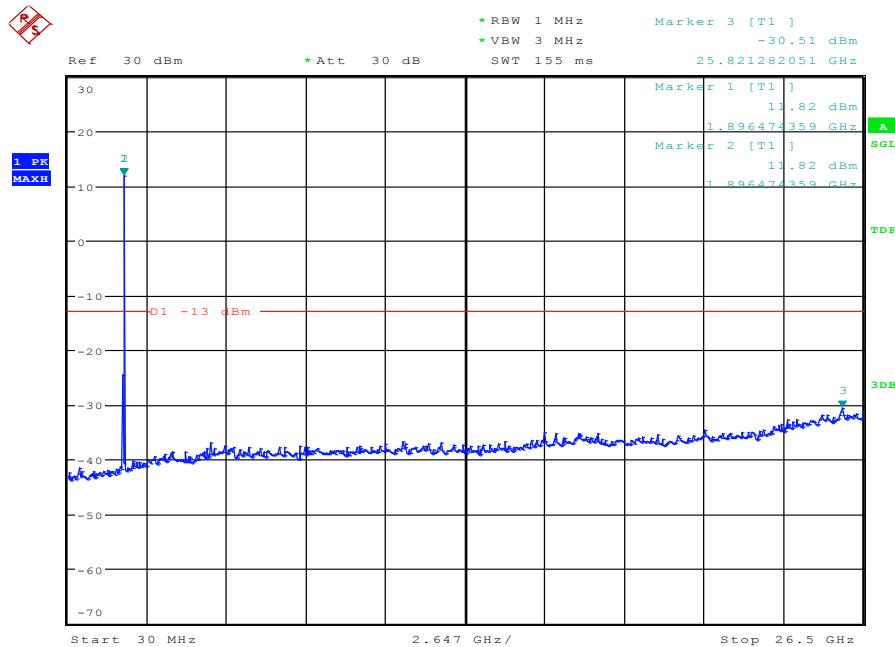


Date: 30.MAR.2017 20:02:32

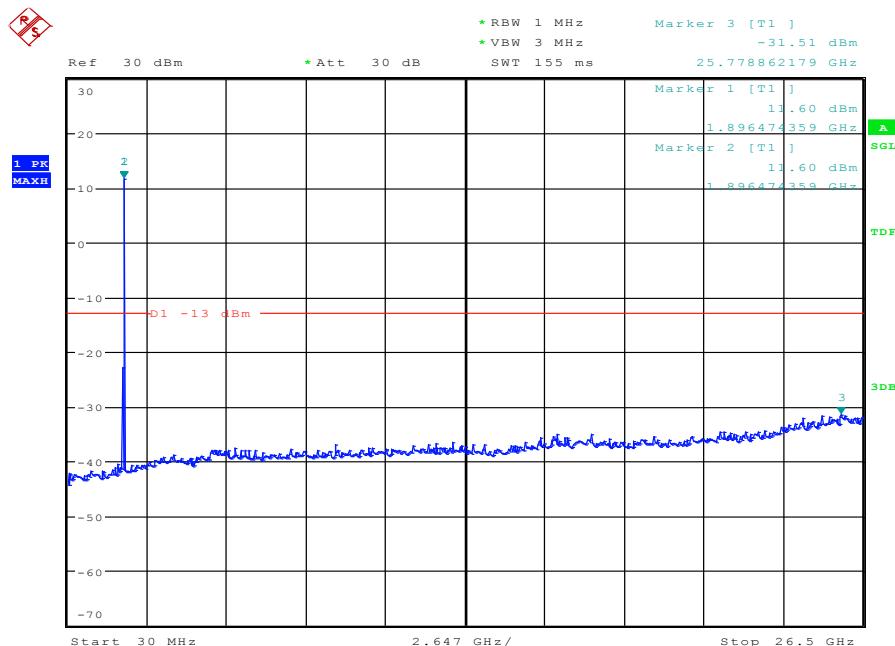
BW15MHz-1880MHz,QPSK-75RB_LOW@Pass



Date: 30.MAR.2017 20:02:14

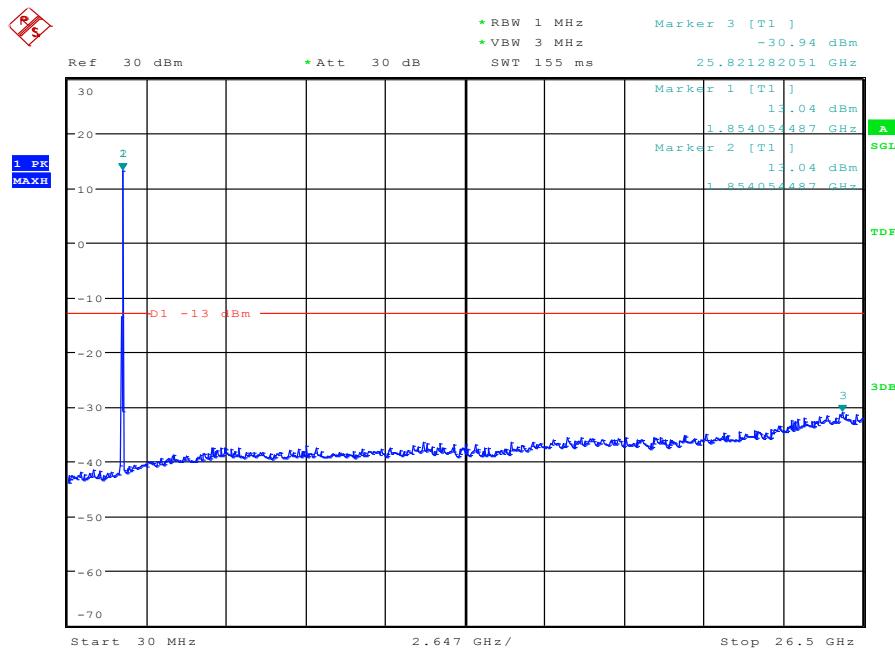
BW15MHz-1902.5MHz,Q16-75RB_LOW@Pass

Date: 30.MAR.2017 20:01:54

BW15MHz-1902.5MHz,QPSK-75RB_LOW@Pass

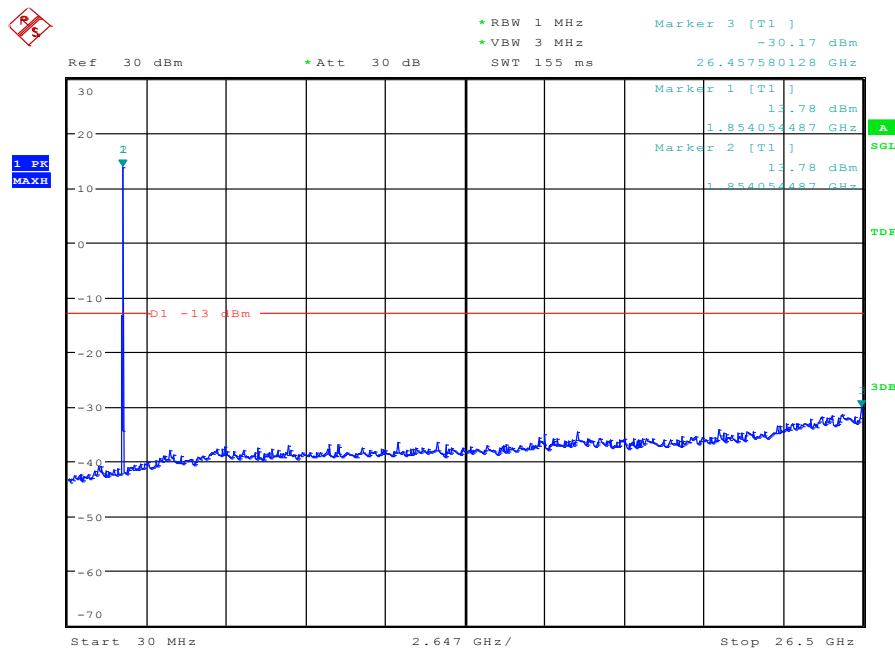
Date: 30.MAR.2017 20:01:35

BW20MHz-1860MHz,Q16-100RB_LOW@Pass



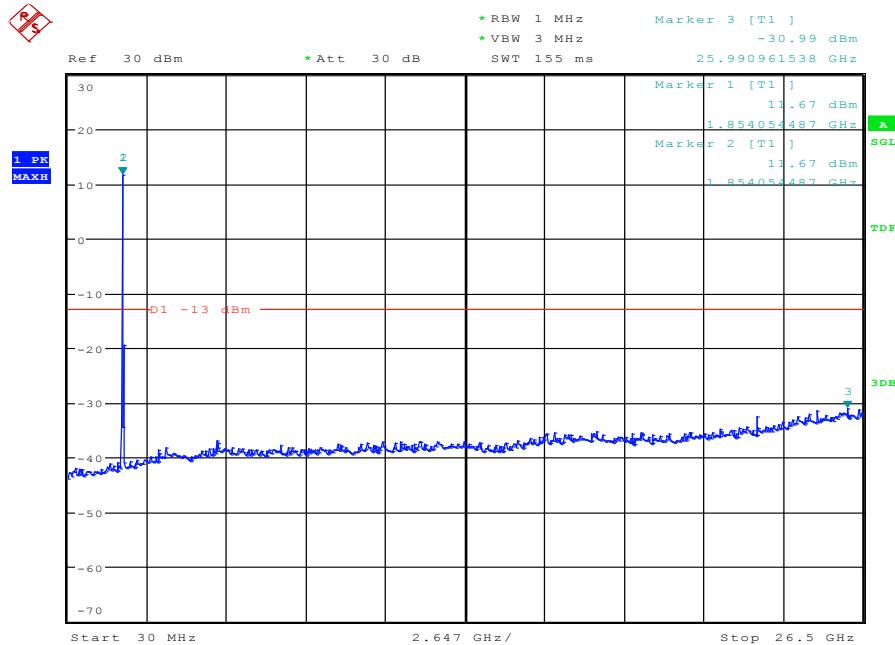
Date: 30.MAR.2017 20:03:13

BW20MHz-1860MHz,QPSK-100RB_LOW@Pass



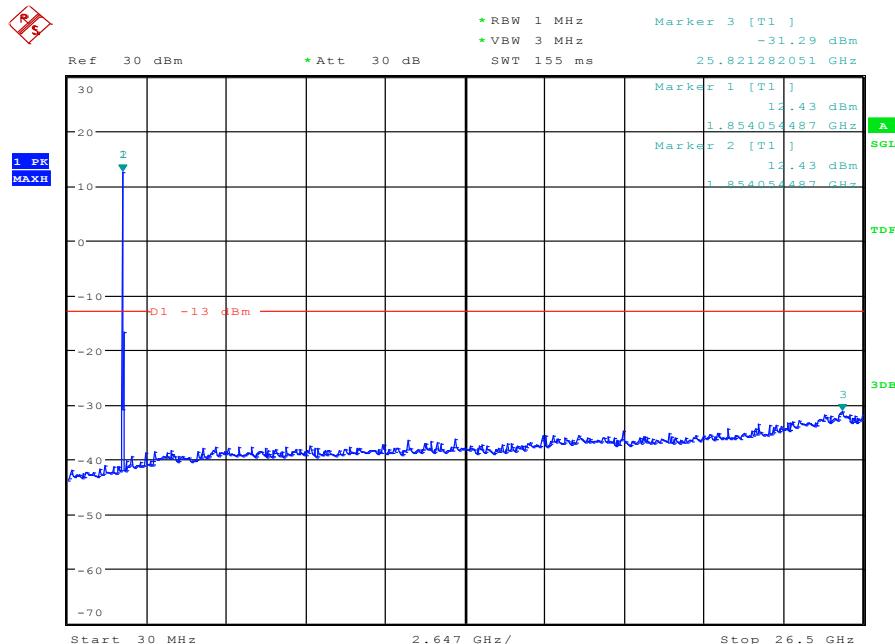
Date: 30.MAR.2017 20:02:54

BW20MHz-1880MHz,Q16-100RB_LOW@Pass



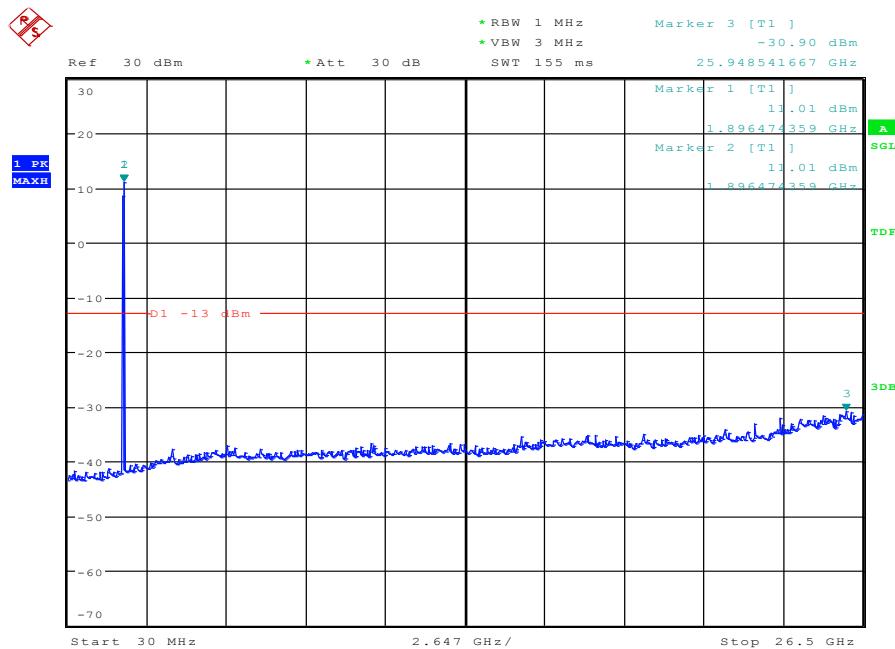
Date: 30.MAR.2017 20:04:31

BW20MHz-1880MHz,QPSK-100RB_LOW@Pass



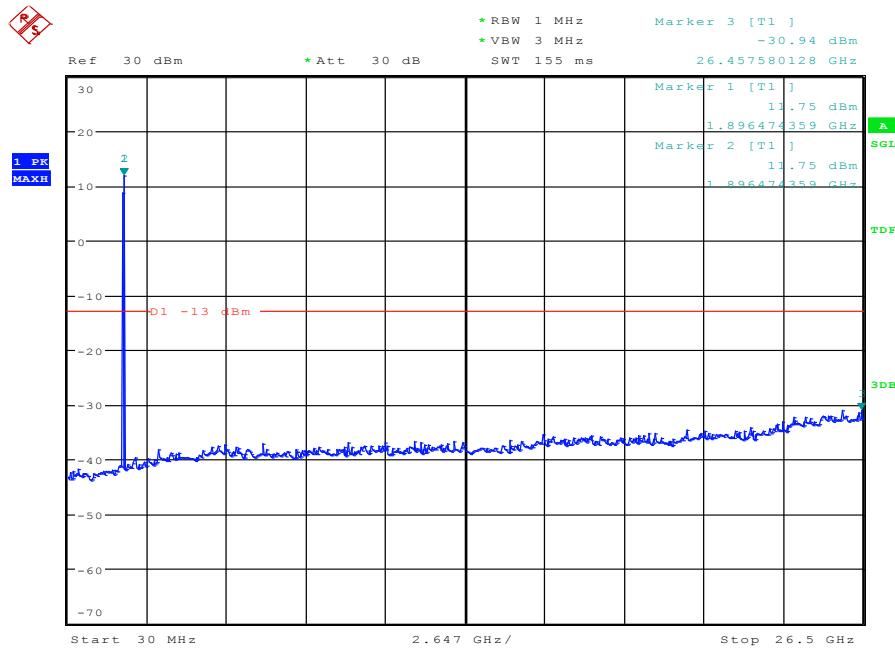
Date: 30.MAR.2017 20:04:12

BW20MHz-1900MHz,Q16-100RB_LOW@Pass



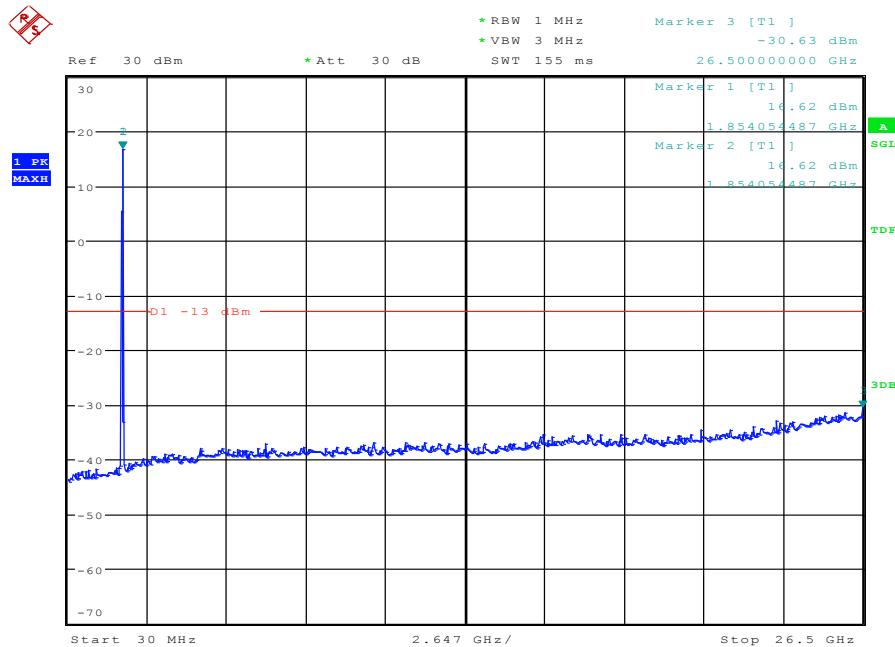
Date: 30.MAR.2017 20:03:52

BW20MHz-1900MHz,QPSK-100RB_LOW@Pass



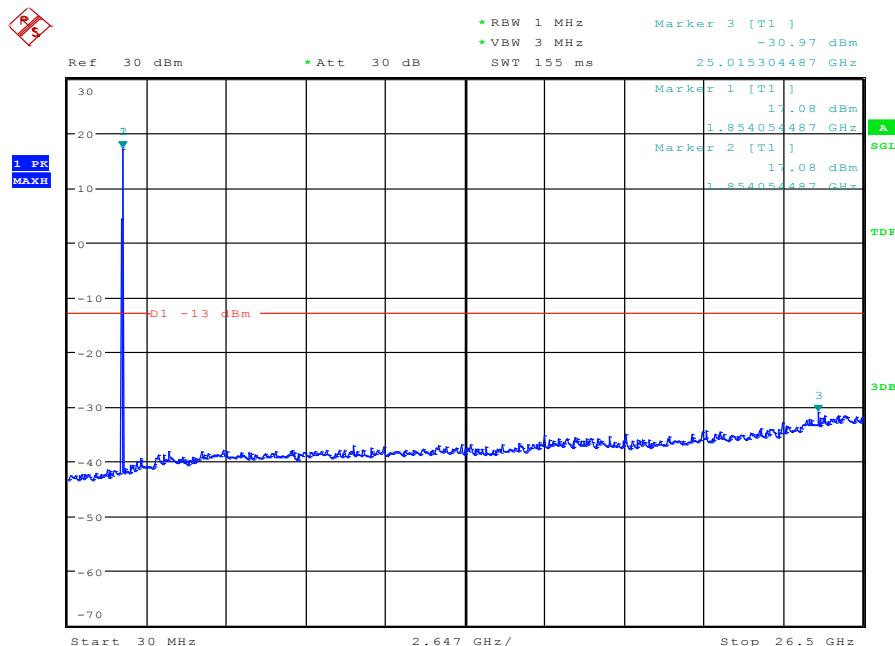
Date: 30.MAR.2017 20:03:32

BW3MHz-1851.5MHz,Q16-15RB_LOW@Pass



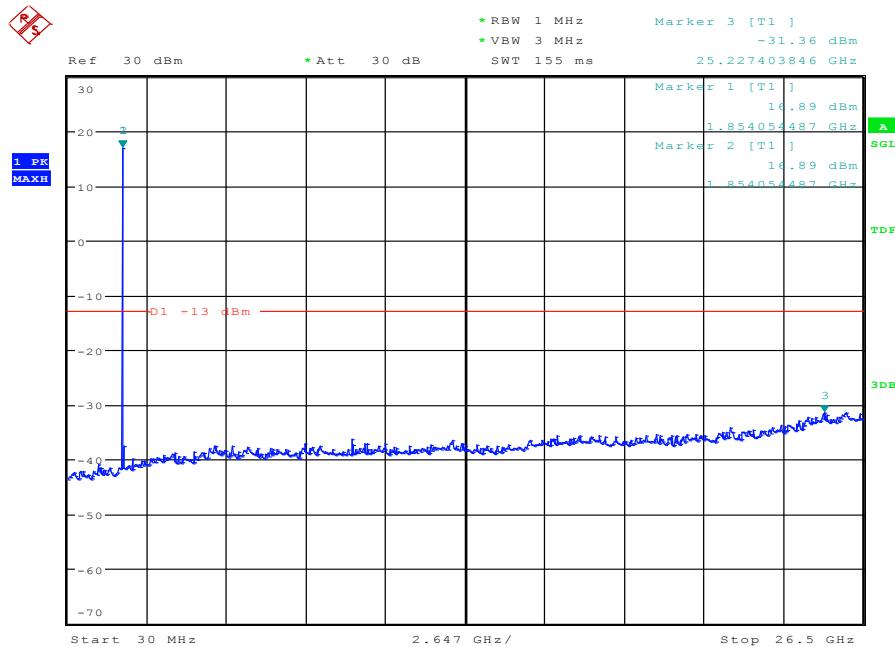
Date: 30.MAR.2017 19:56:08

BW3MHz-1851.5MHz,QPSK-15RB_LOW@Pass



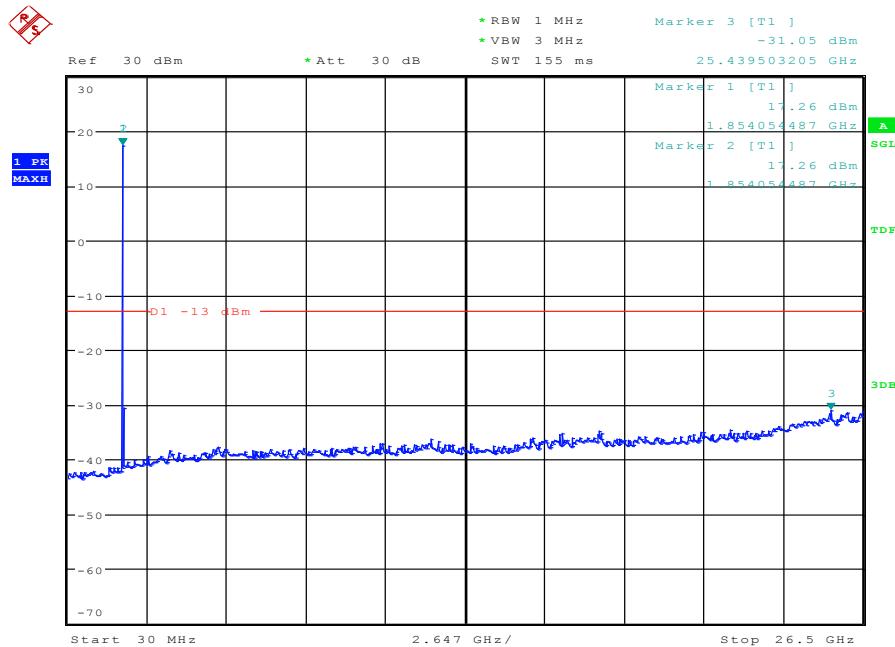
Date: 30.MAR.2017 19:55:53

BW3MHz-1880MHz,Q16-15RB_LOW@Pass



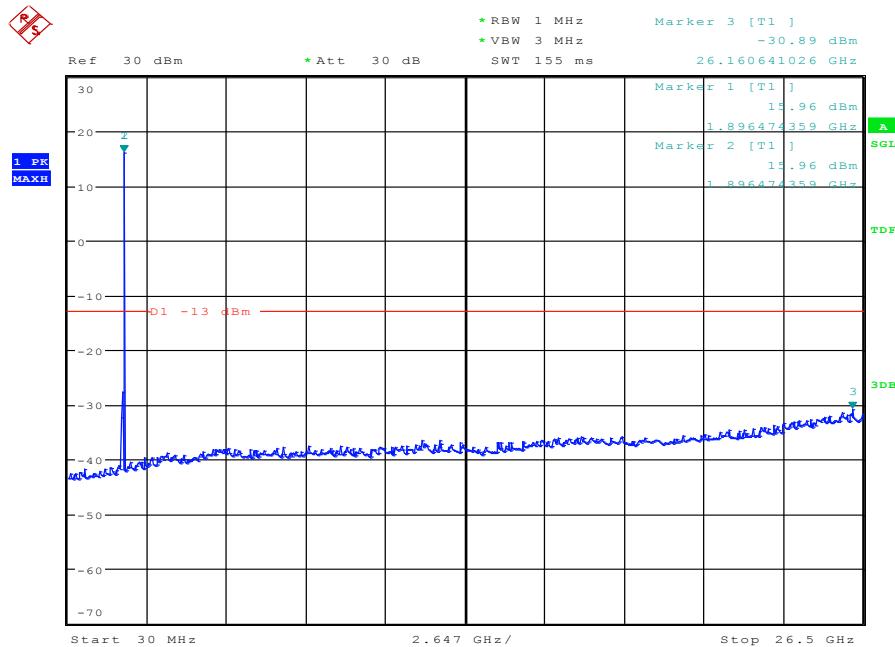
Date: 30.MAR.2017 19:57:12

BW3MHz-1880MHz,QPSK-15RB_LOW@Pass



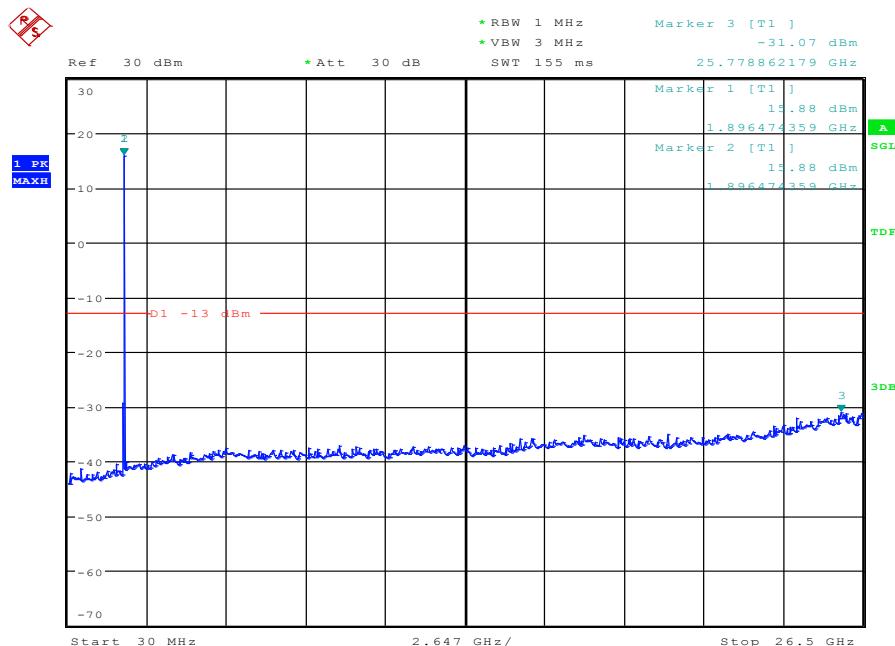
Date: 30.MAR.2017 19:56:56

BW3MHz-1908.5MHz,Q16-15RB_LOW@Pass



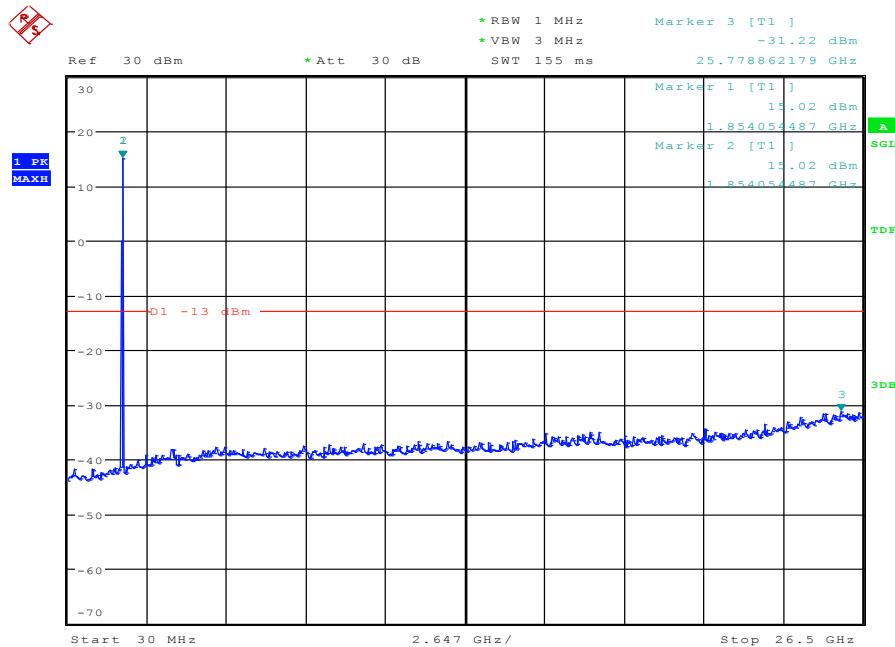
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BW3MHz-1908.5MHz,QPSK-15RB_LOW@Pass



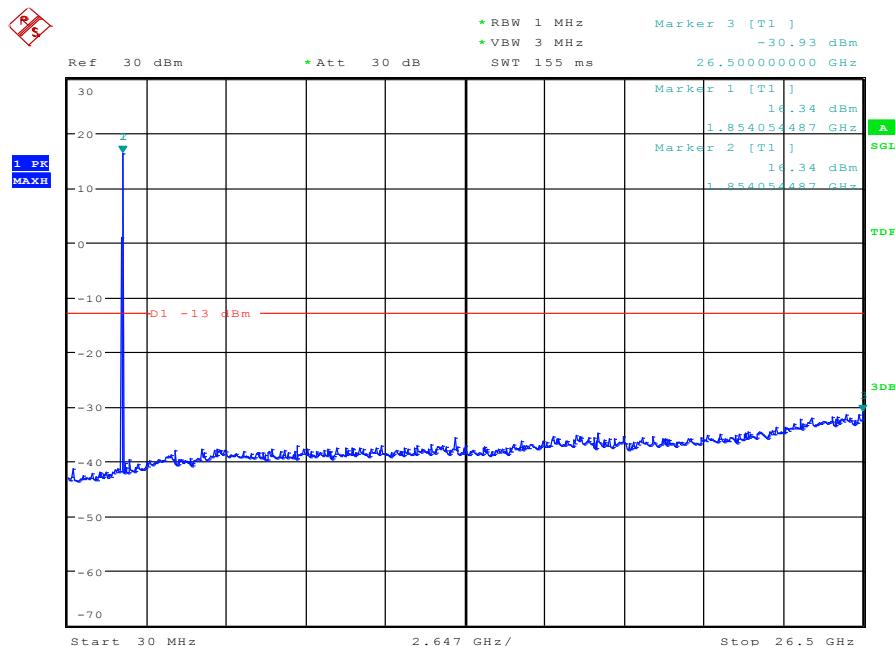
Date: 30.MAR.2017 19:56:25

BW5MHz-1852.5MHz,Q16-25RB_LOW@Pass



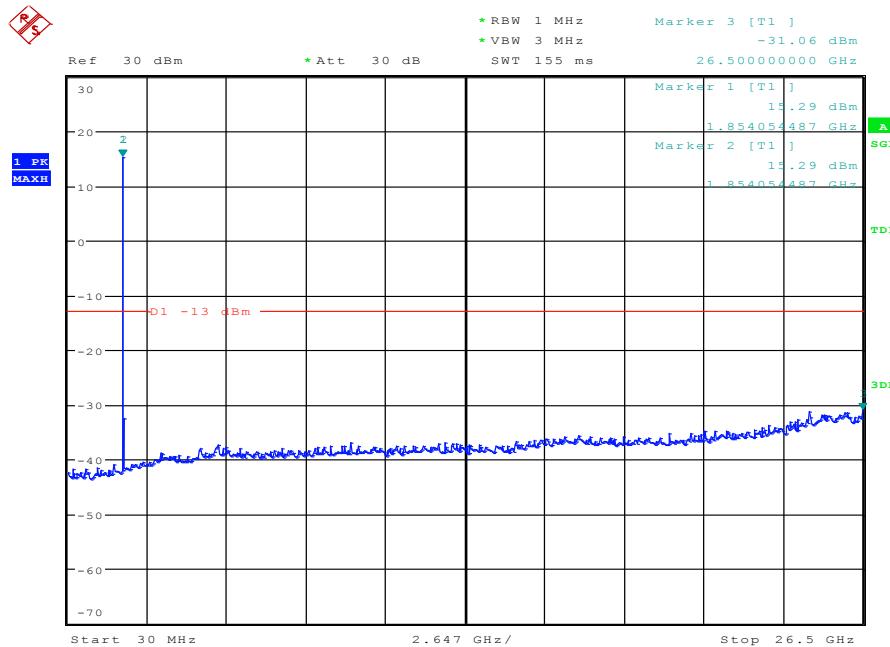
Date: 30.MAR.2017 19:57:47

BW5MHz-1852.5MHz,QPSK-25RB_LOW@Pass



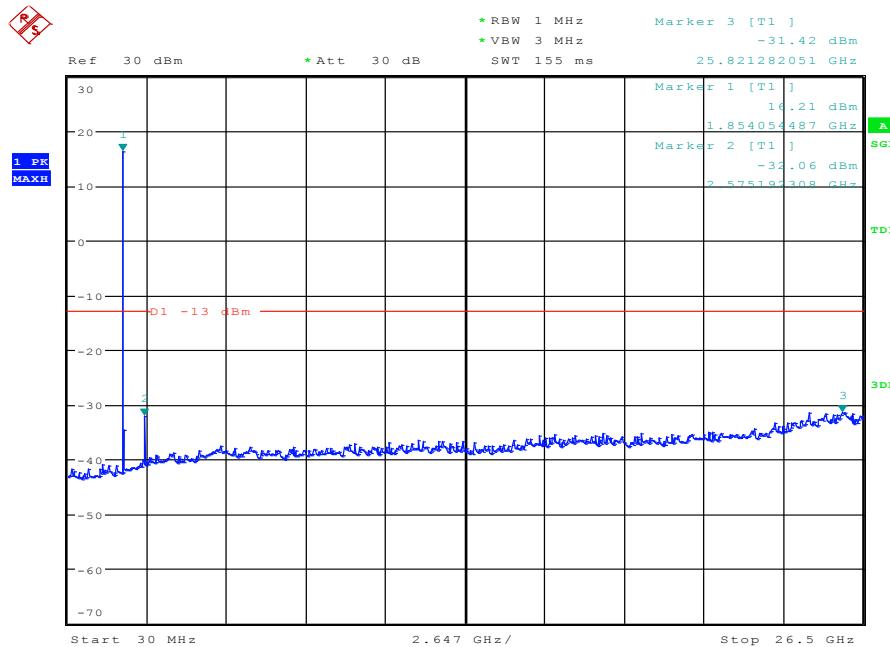
Date: 30.MAR.2017 19:57:31

BW5MHz-1880MHz,Q16-25RB_LOW@Pass



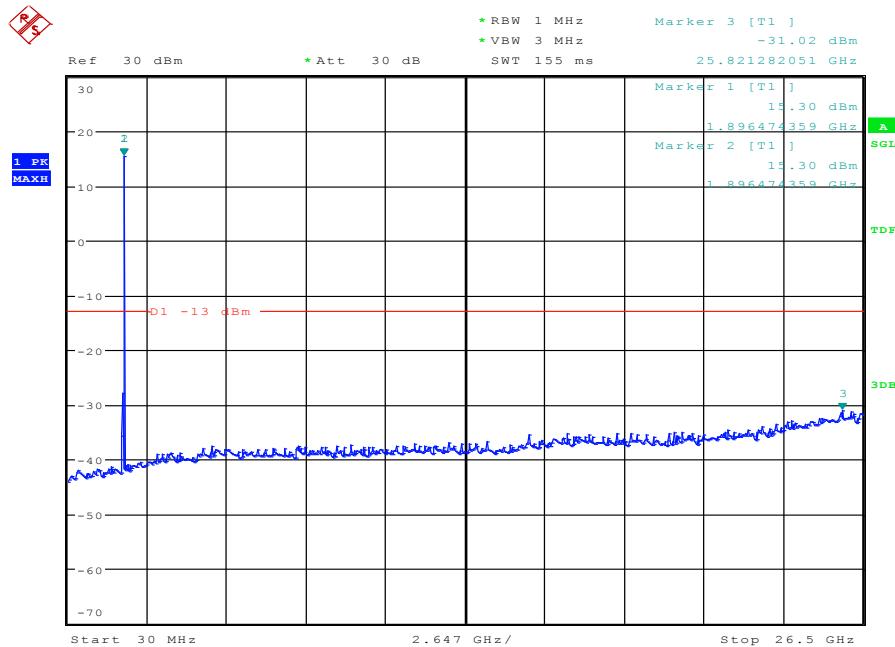
Date: 30.MAR.2017 19:58:53

BW5MHz-1880MHz,QPSK-25RB_LOW@Pass



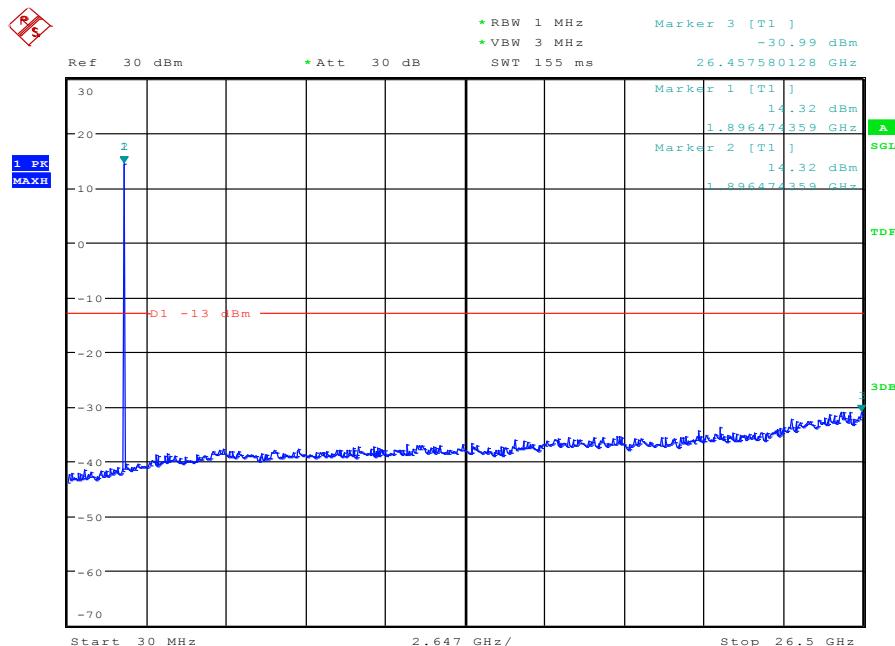
Date: 30.MAR.2017 19:58:36

BW5MHz-1907.5MHz,Q16-25RB_LOW@Pass



Date: 30.MAR.2017 19:58:20

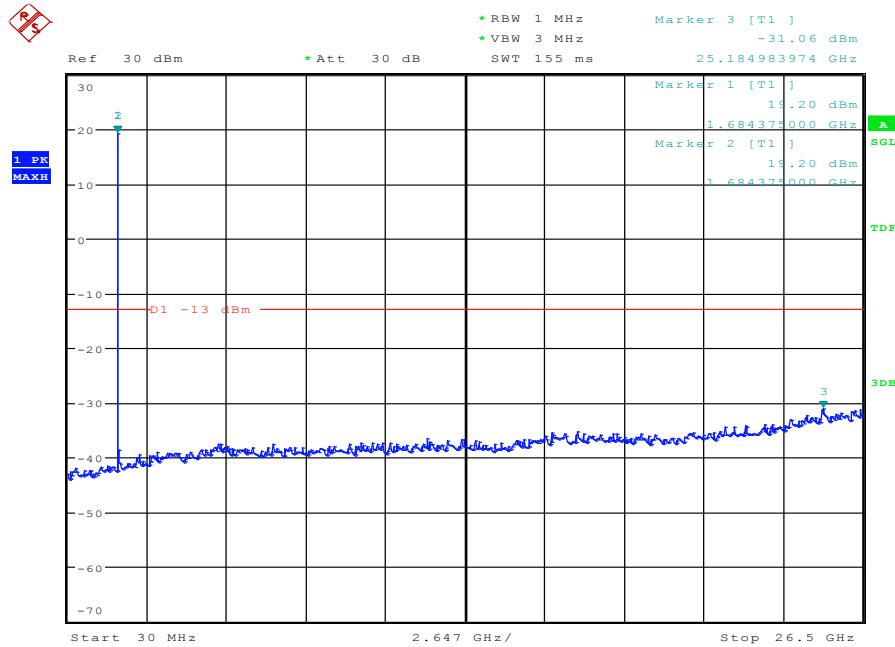
BW5MHz-1907.5MHz,QPSK-25RB_LOW@Pass



Date: 30.MAR.2017 19:58:03

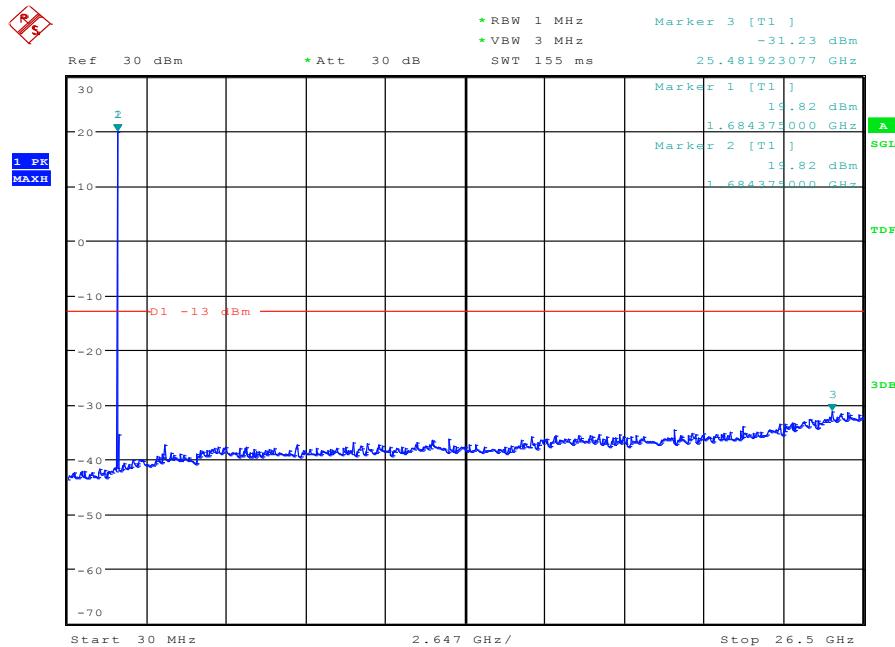
BAND 4@Conducted Spurious Emission

BW1.4MHz-1710.7MHz,Q16-6RB_LOW@Pass



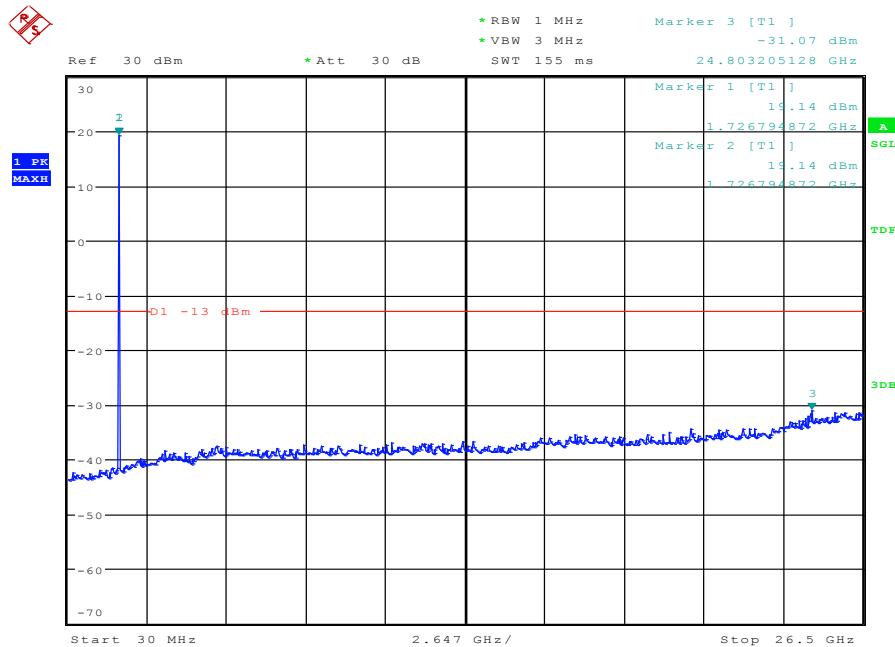
Date: 30.MAR.2017 21:09:19

BW1.4MHz-1710.7MHz,QPSK-6RB_LOW@Pass



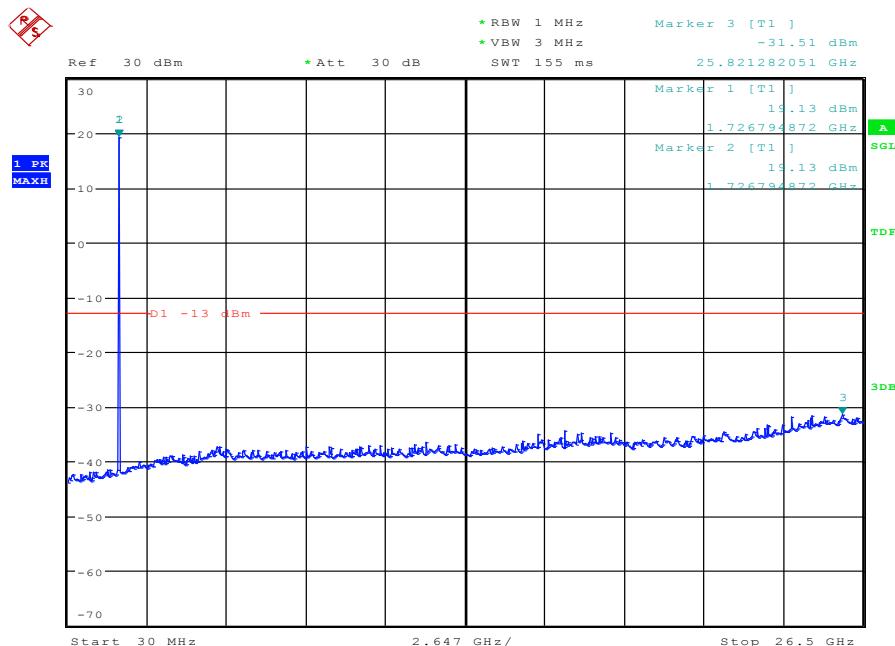
Date: 30.MAR.2017 21:09:02

BW1.4MHz-1732.5MHz,Q16-6RB_LOW@Pass



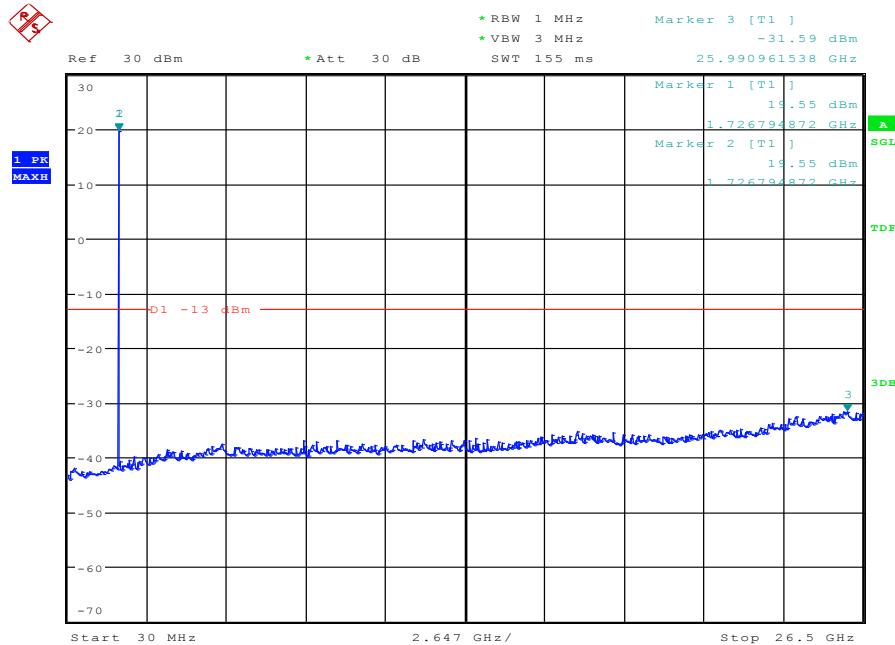
Date: 30.MAR.2017 21:10:28

BW1.4MHz-1732.5MHz,QPSK-6RB_LOW@Pass



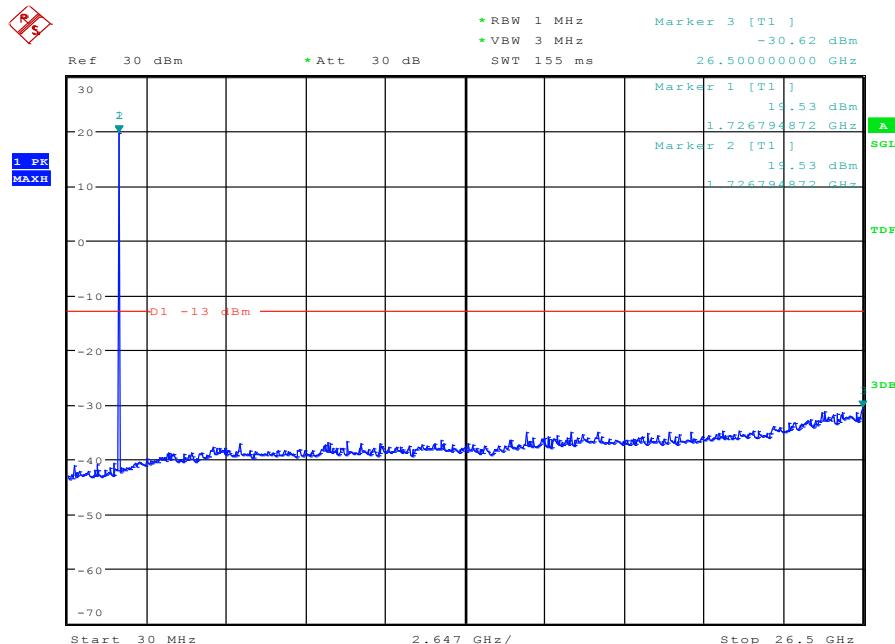
Date: 30.MAR.2017 21:10:11

BW1.4MHz-1754.3MHz,Q16-6RB_LOW@Pass



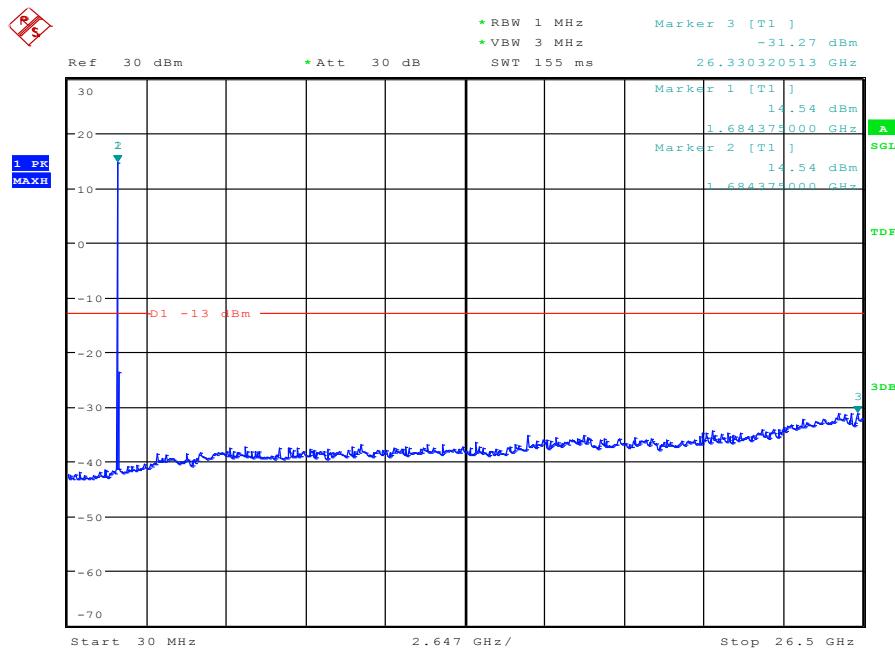
Date: 30.MAR.2017 21:09:53

BW1.4MHz-1754.3MHz,QPSK-6RB_LOW@Pass



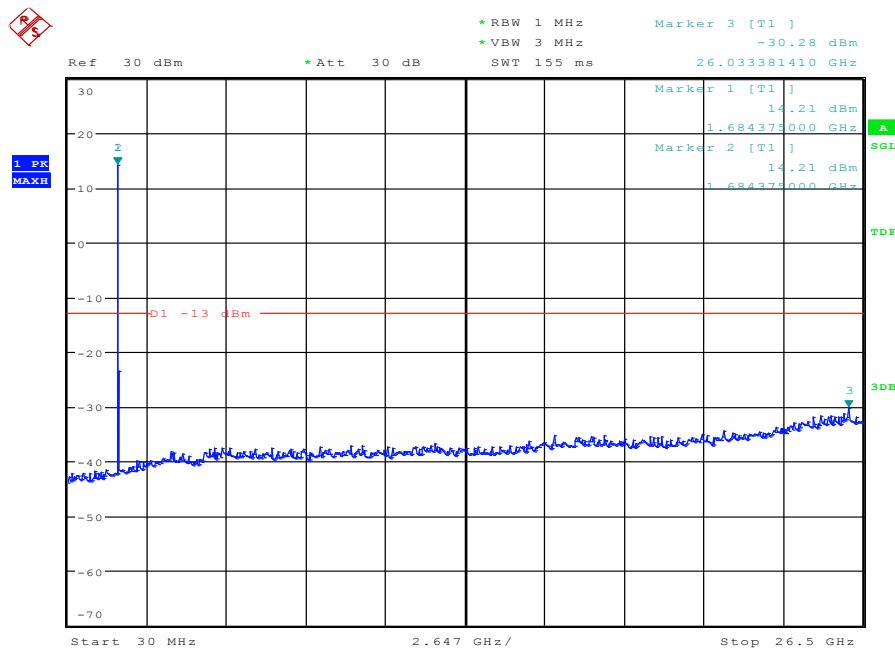
Date: 30.MAR.2017 21:09:36

BW10MHz-1715MHz,Q16-50RB_LOW@Pass

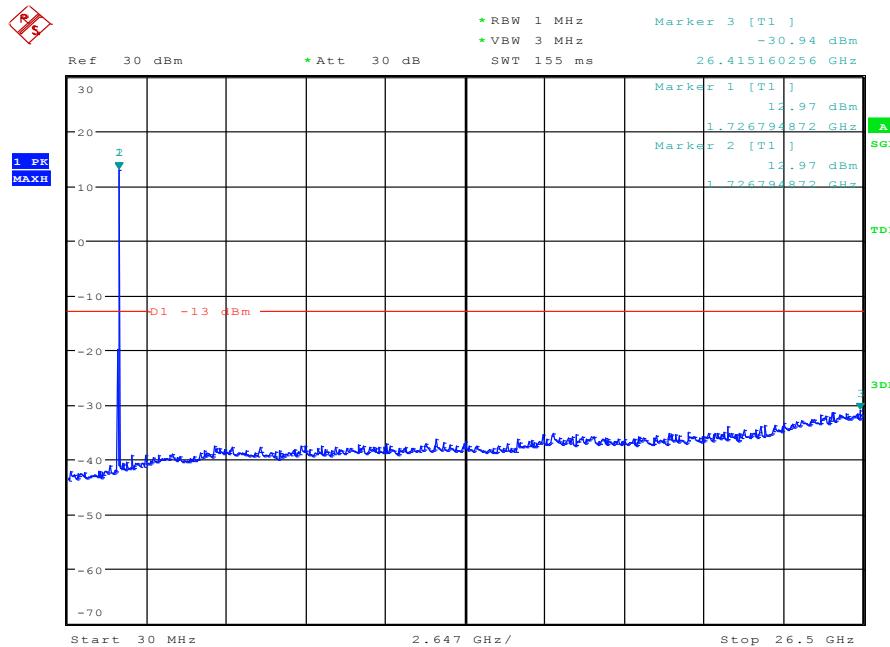


Date: 30.MAR.2017 21:14:37

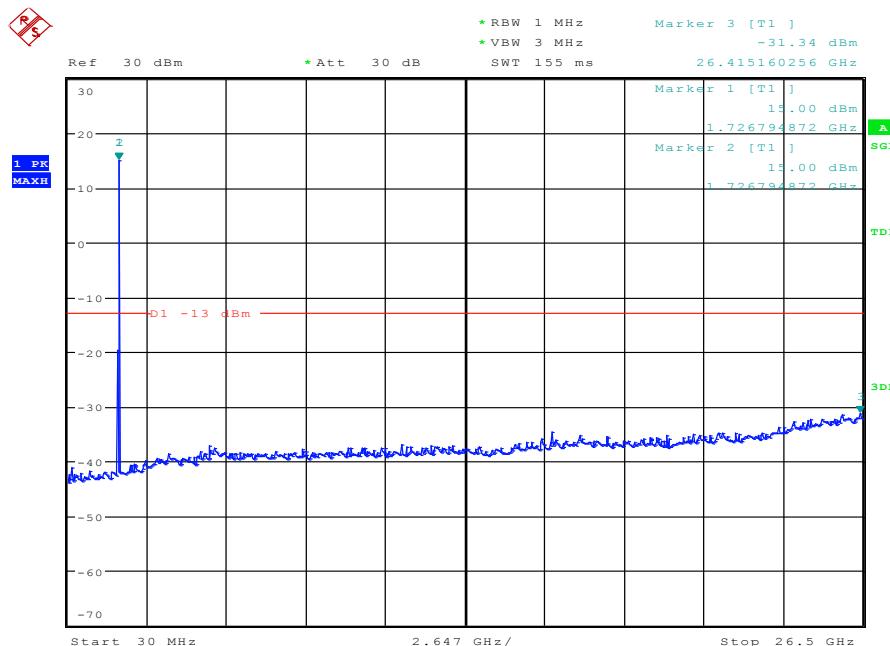
BW10MHz-1715MHz,QPSK-50RB_LOW@Pass



Date: 30.MAR.2017 21:14:19

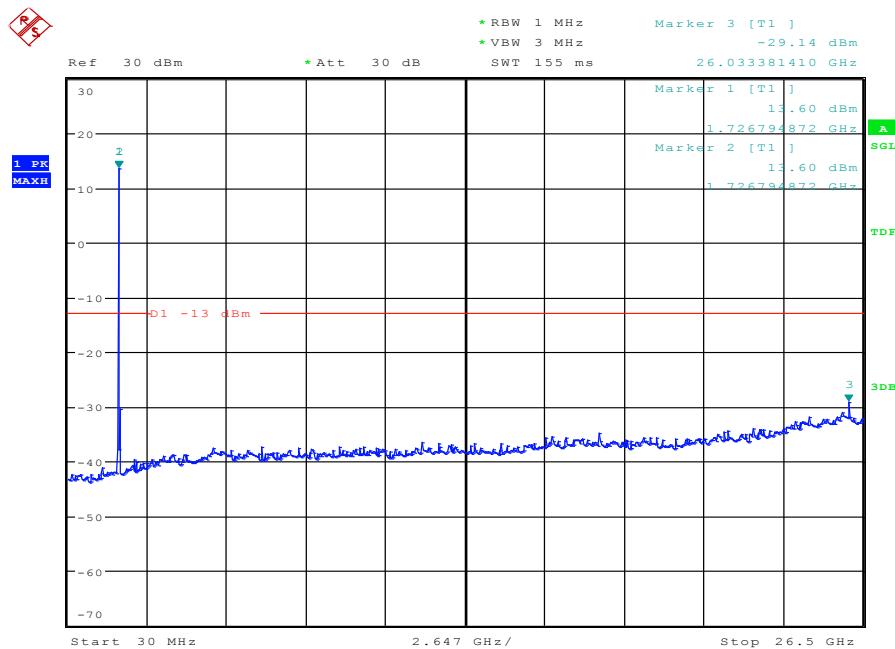
BW10MHz-1732.5MHz,Q16-50RB_LOW@Pass

Date: 30.MAR.2017 21:15:48

BW10MHz-1732.5MHz,QPSK-50RB_LOW@Pass

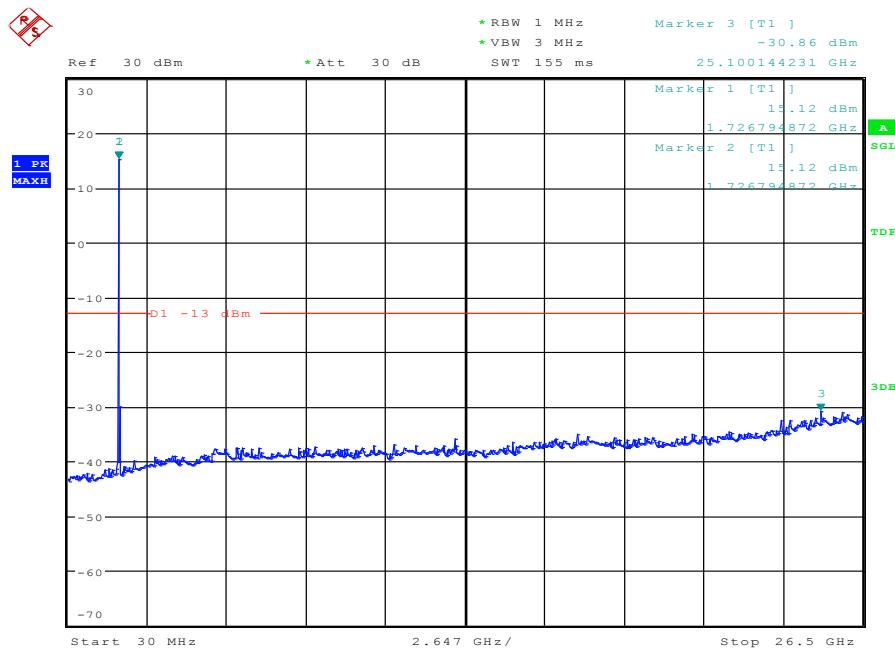
Date: 30.MAR.2017 21:15:31

BW10MHz-1750MHz,Q16-50RB_LOW@Pass

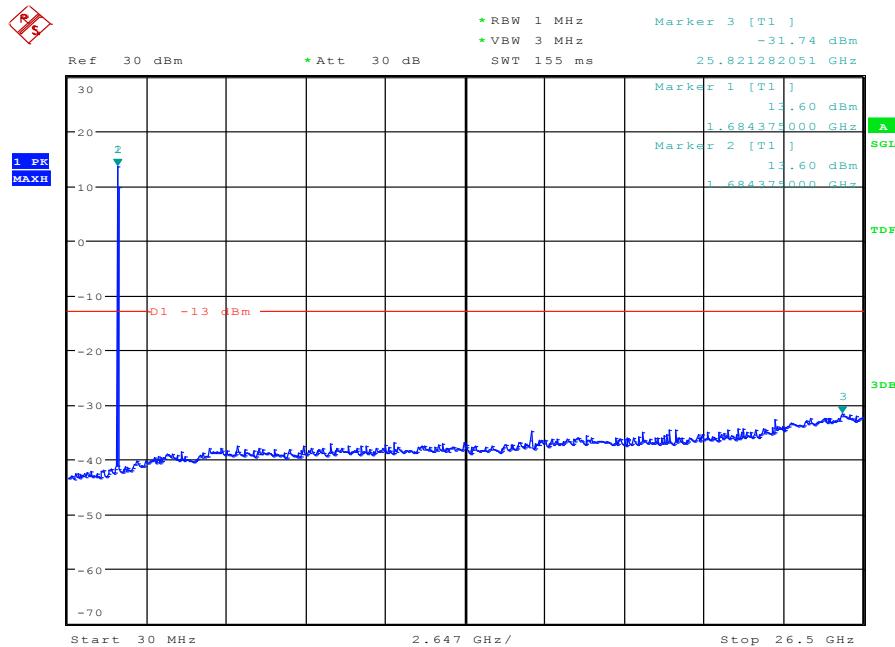


Date: 30.MAR.2017 21:15:13

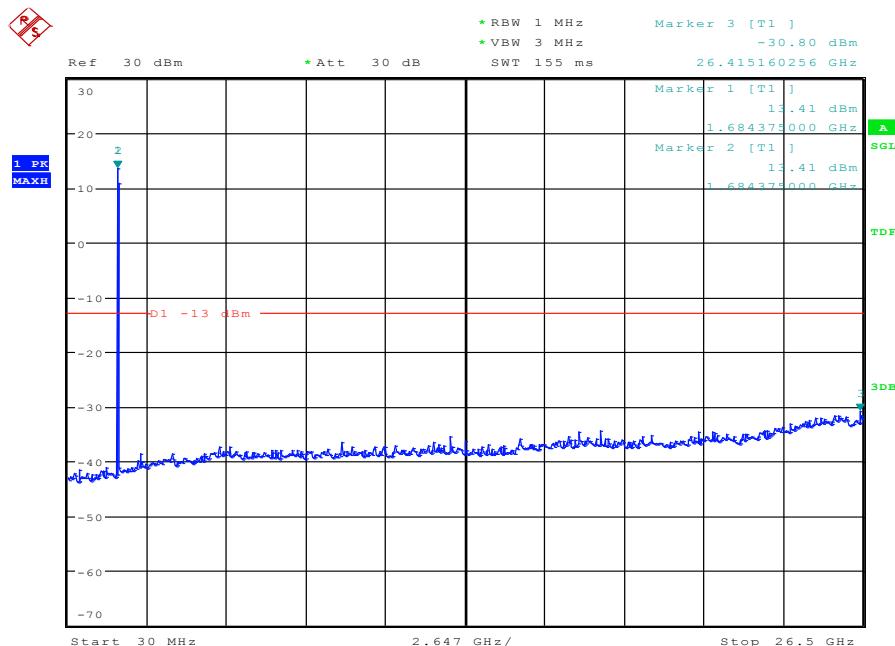
BW10MHz-1750MHz,QPSK-50RB_LOW@Pass



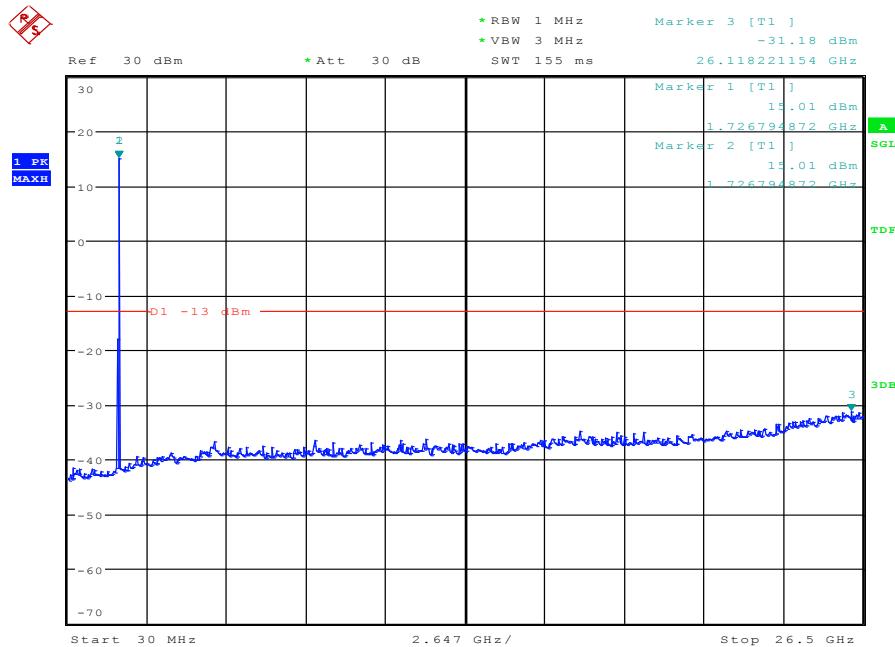
Date: 30.MAR.2017 21:14:55

BW15MHz-1717.5MHz,Q16-75RB_LOW@Pass

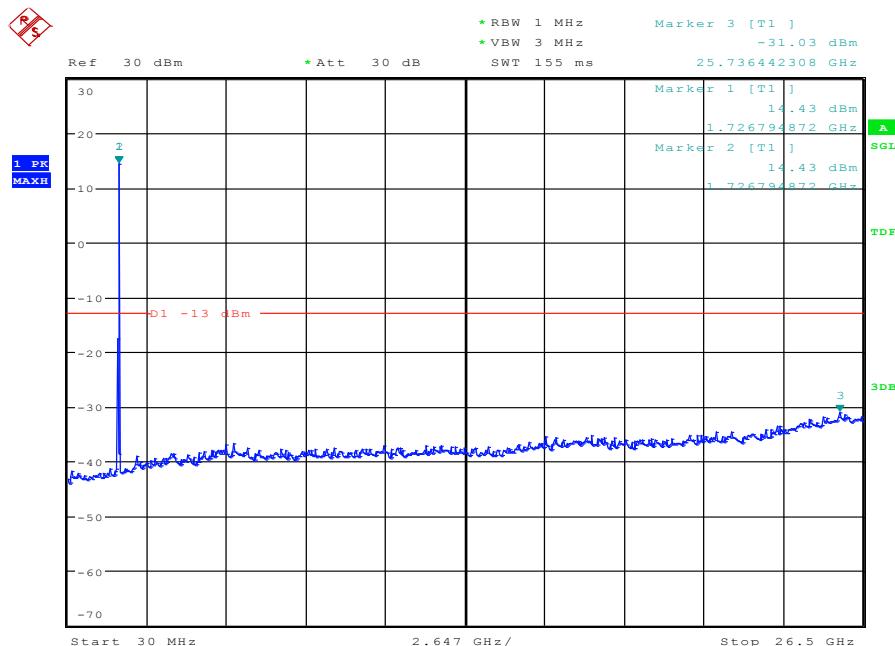
Date: 30.MAR.2017 21:16:30

BW15MHz-1717.5MHz,QPSK-75RB_LOW@Pass

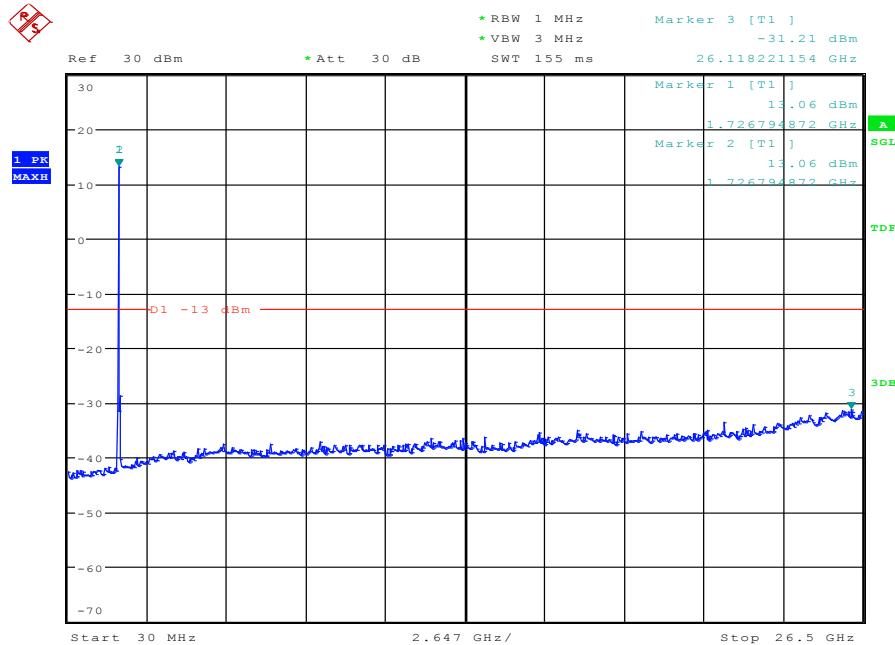
Date: 30.MAR.2017 21:16:11

BW15MHz-1732.5MHz,Q16-75RB_LOW@Pass

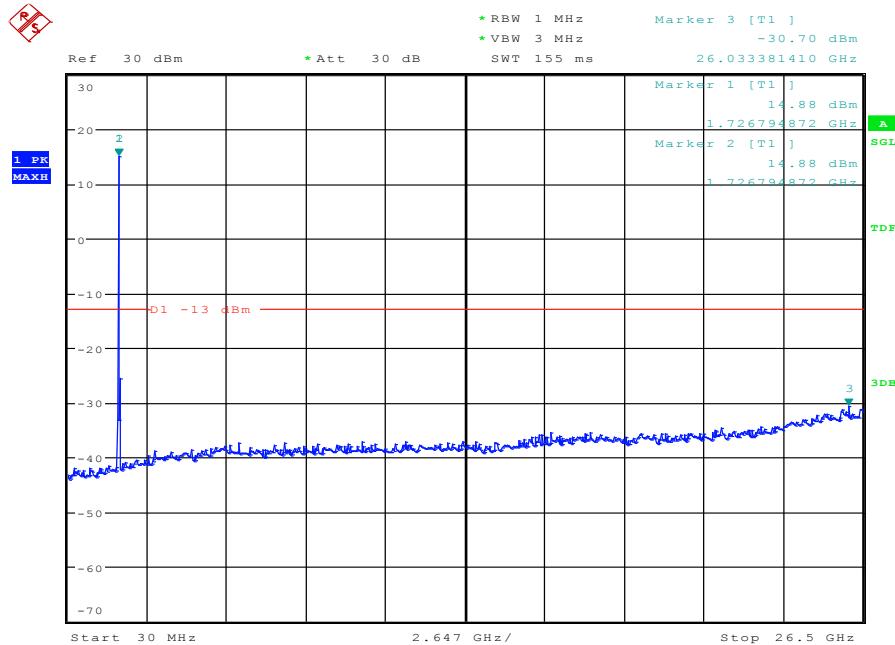
Date: 30.MAR.2017 21:17:50

BW15MHz-1732.5MHz,QPSK-75RB_LOW@Pass

Date: 30.MAR.2017 21:17:31

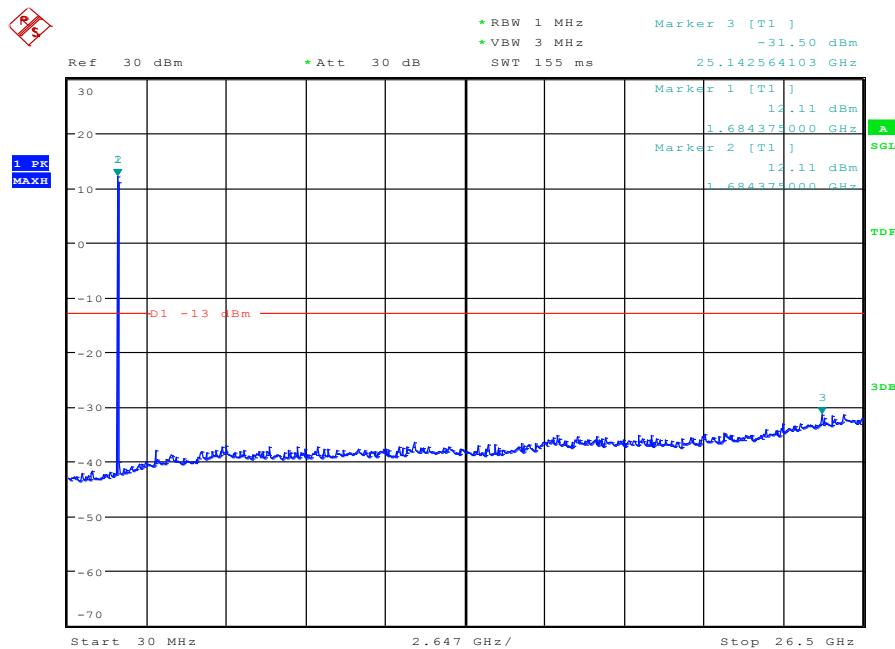
BW15MHz-1747.5MHz,Q16-75RB_LOW@Pass

Date: 30.MAR.2017 21:17:10

BW15MHz-1747.5MHz,QPSK-75RB_LOW@Pass

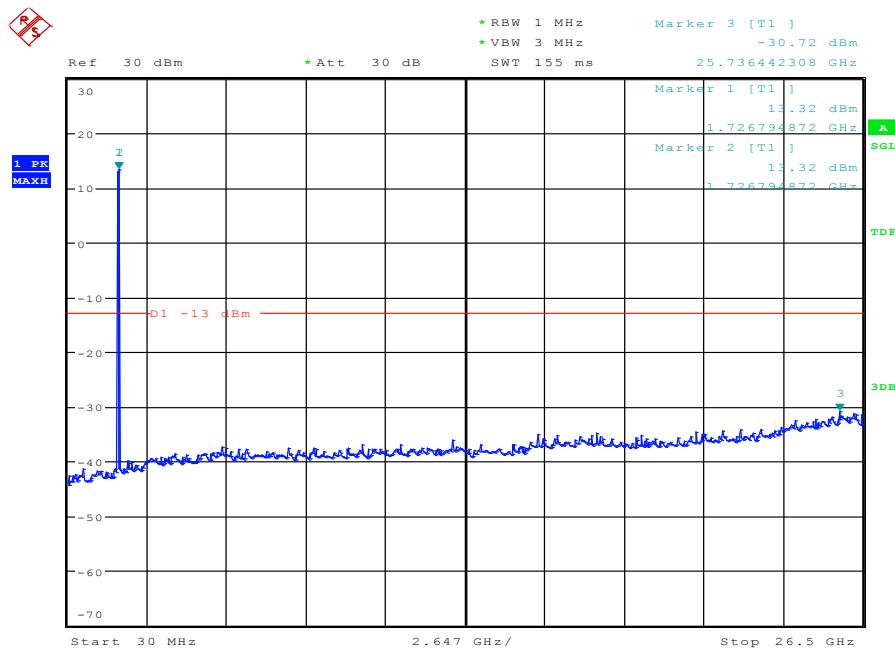
Date: 30.MAR.2017 21:16:51

BW20MHz-1720MHz,Q16-100RB_LOW@Pass

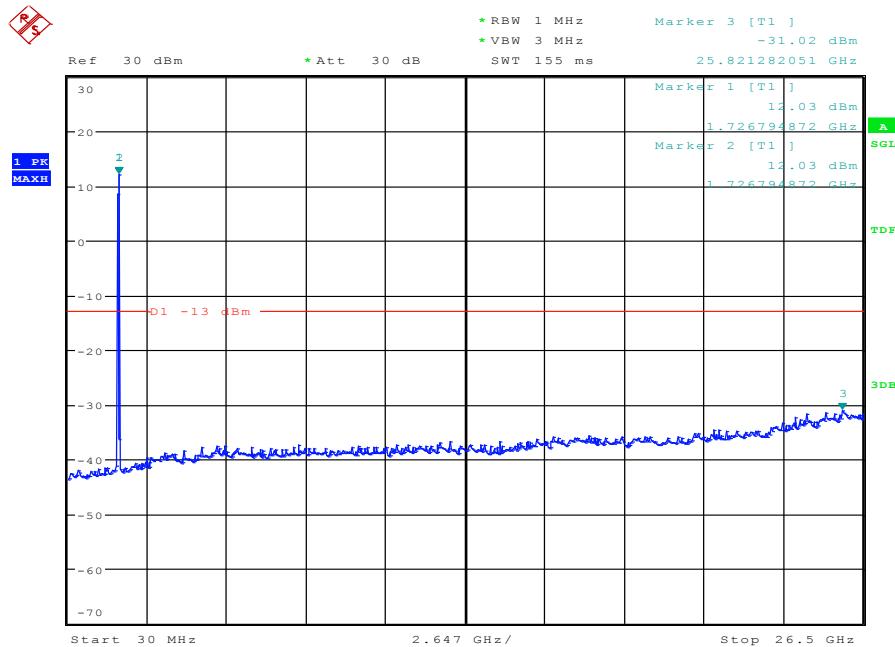
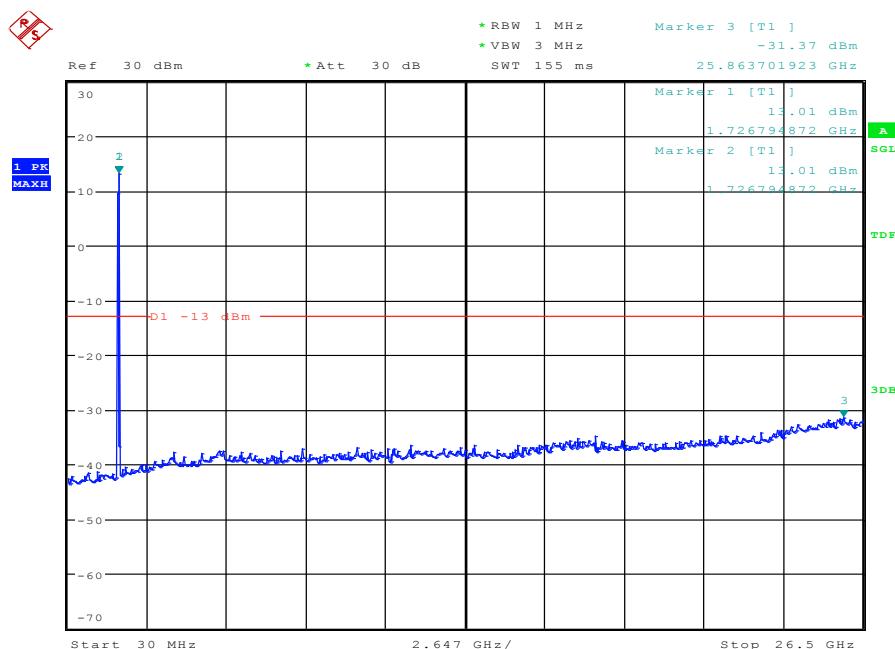


Date: 30.MAR.2017 21:18:32

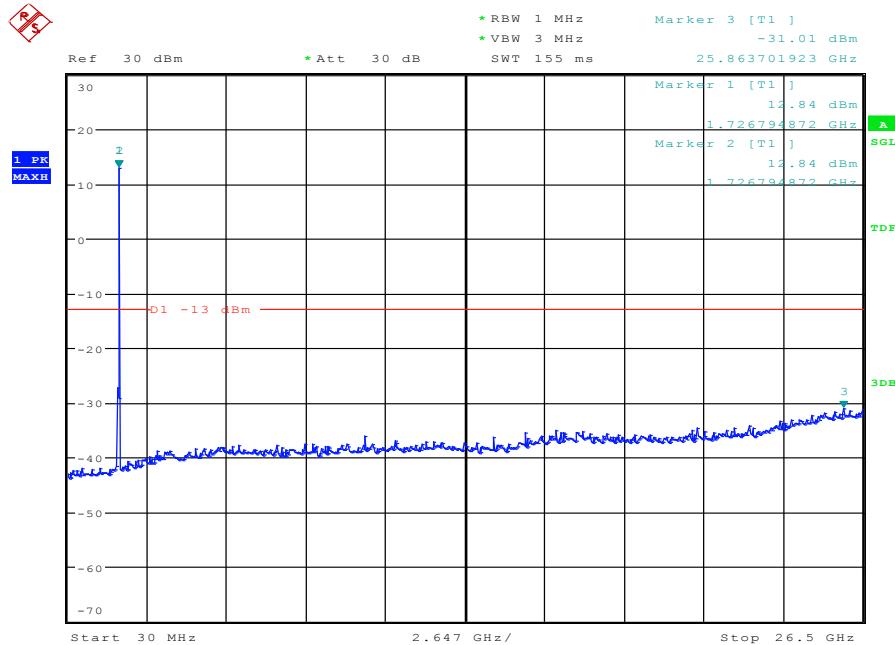
BW20MHz-1720MHz,QPSK-100RB_LOW@Pass



Date: 30.MAR.2017 21:18:13

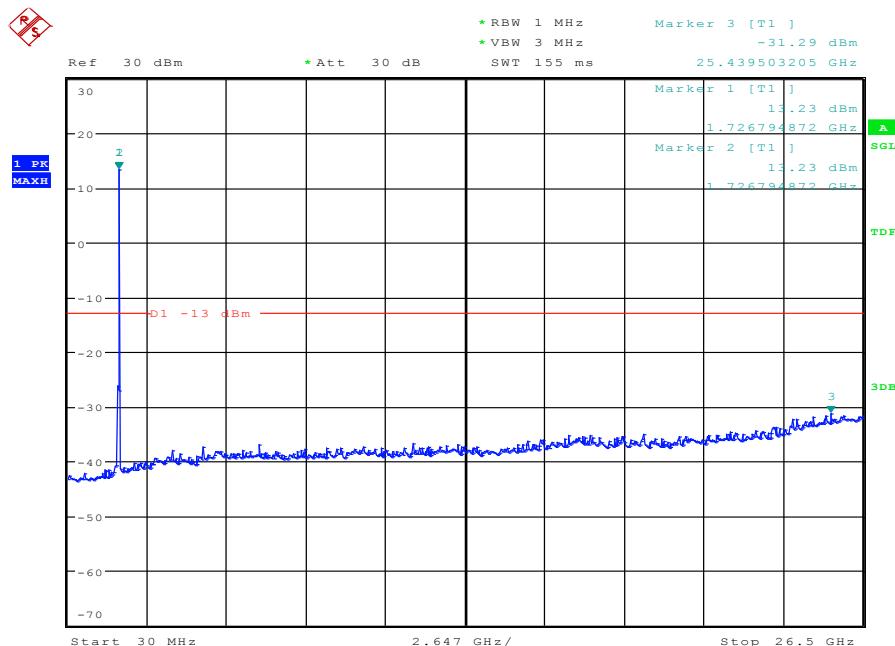
BW20MHz-1732.5MHz,Q16-100RB_LOW@Pass**BW20MHz-1732.5MHz,QPSK-100RB_LOW@Pass**

BW20MHz-1745MHz,Q16-100RB_LOW@Pass



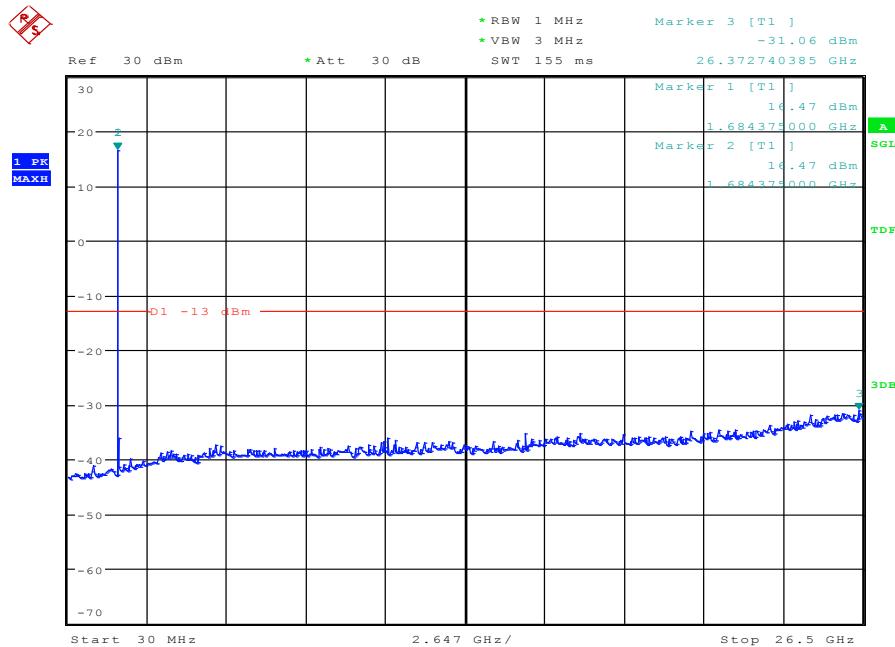
Date: 30.MAR.2017 21:19:13

BW20MHz-1745MHz,QPSK-100RB_LOW@Pass



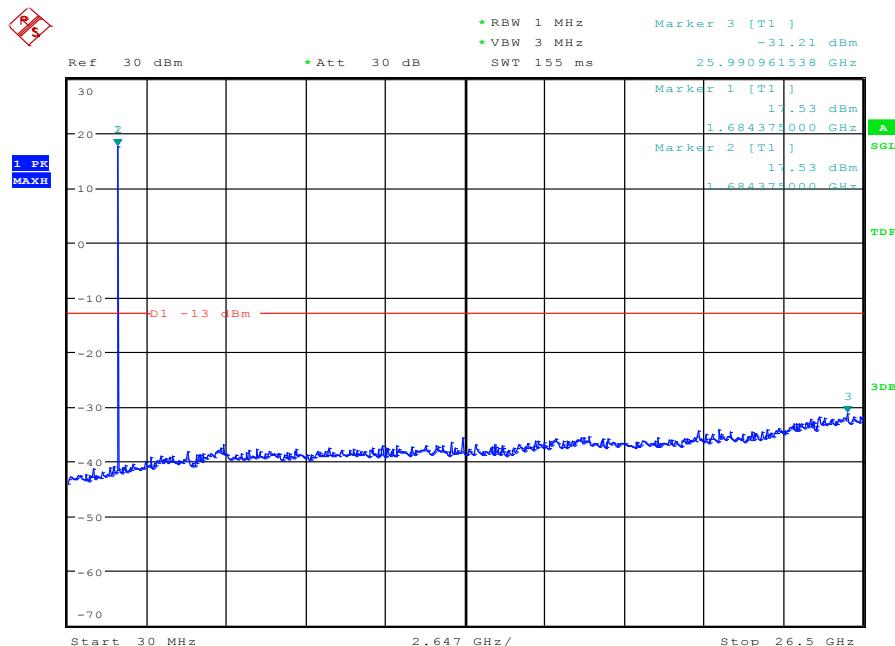
Date: 30.MAR.2017 21:18:53

BW3MHz-1711.5MHz,Q16-15RB_LOW@Pass



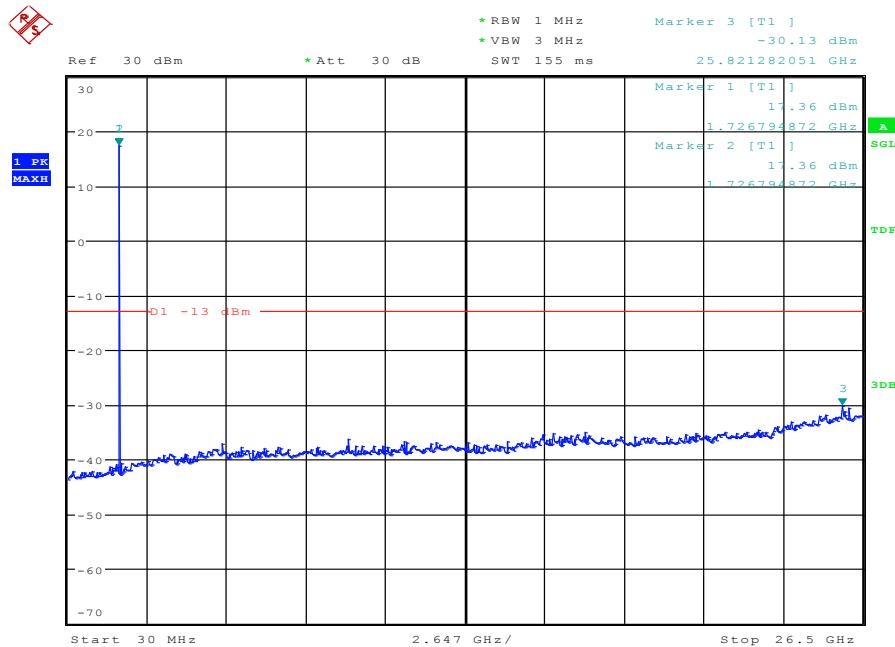
Date: 30.MAR.2017 21:11:04

BW3MHz-1711.5MHz,QPSK-15RB_LOW@Pass



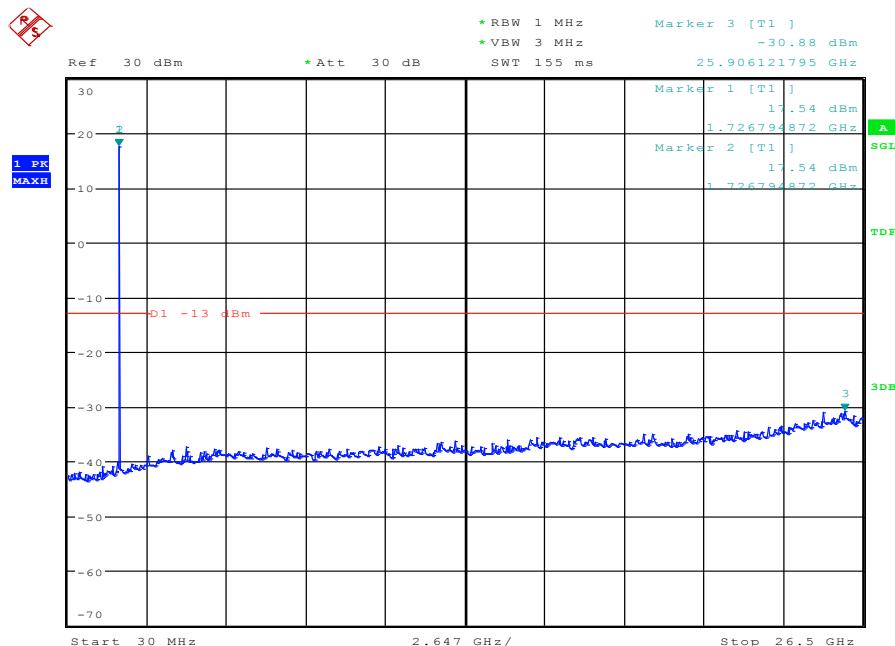
Date: 30.MAR.2017 21:10:47

BW3MHz-1732.5MHz,Q16-15RB_LOW@Pass



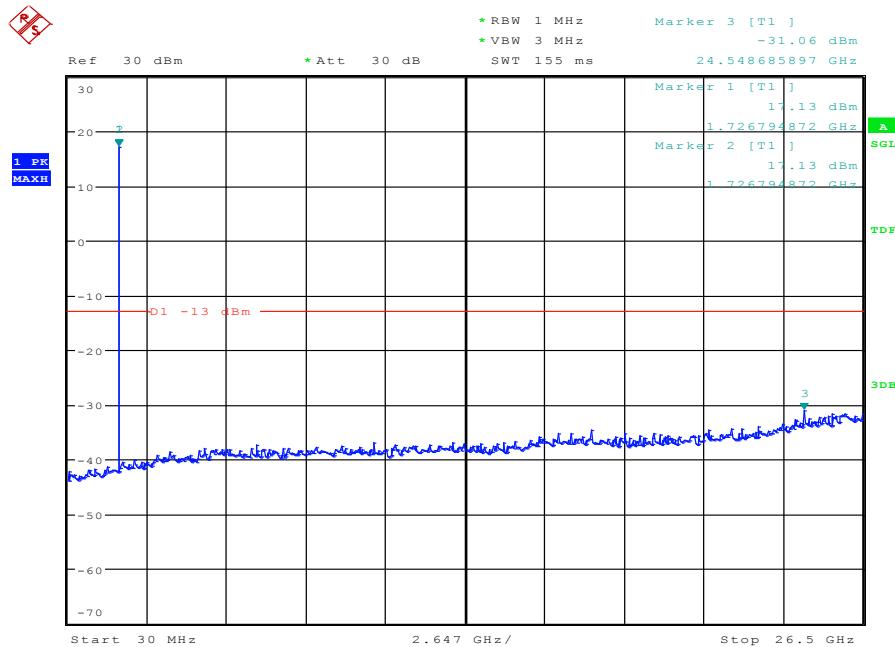
Date: 30.MAR.2017 21:12:12

BW3MHz-1732.5MHz,QPSK-15RB_LOW@Pass



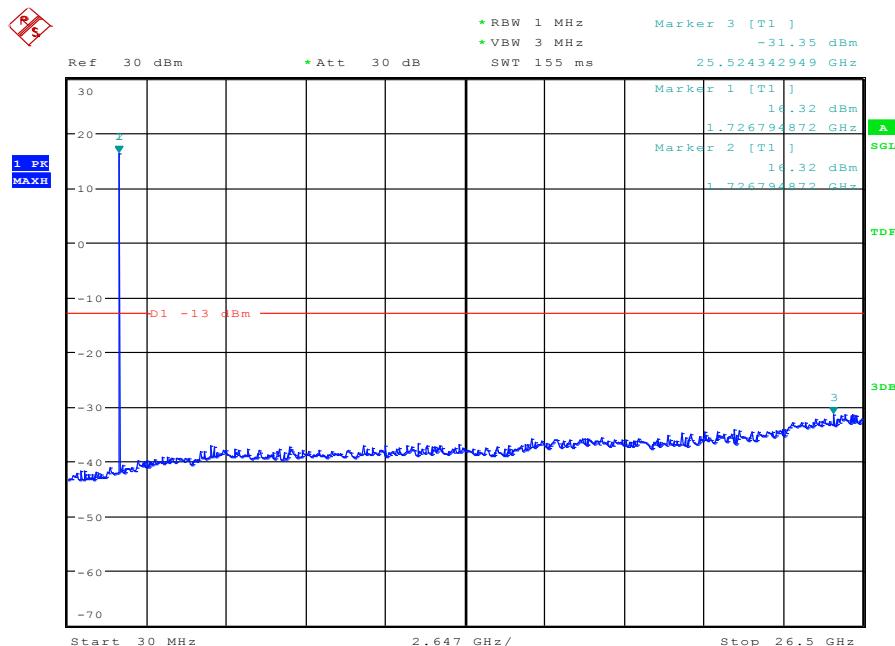
Date: 30.MAR.2017 21:11:55

BW3MHz-1753.5MHz,Q16-15RB_LOW@Pass



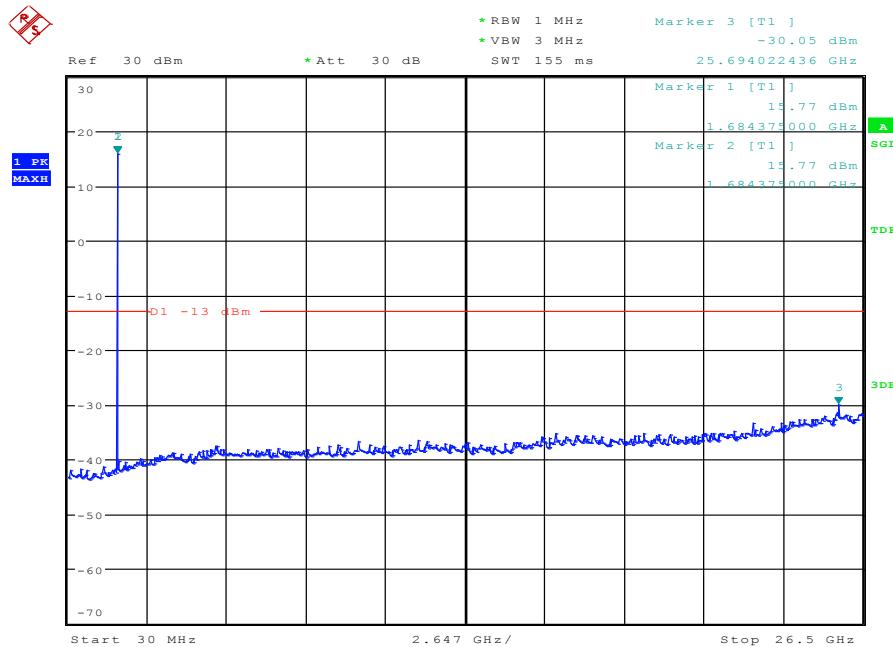
Date: 30.MAR.2017 21:11:38

BW3MHz-1753.5MHz,QPSK-15RB_LOW@Pass



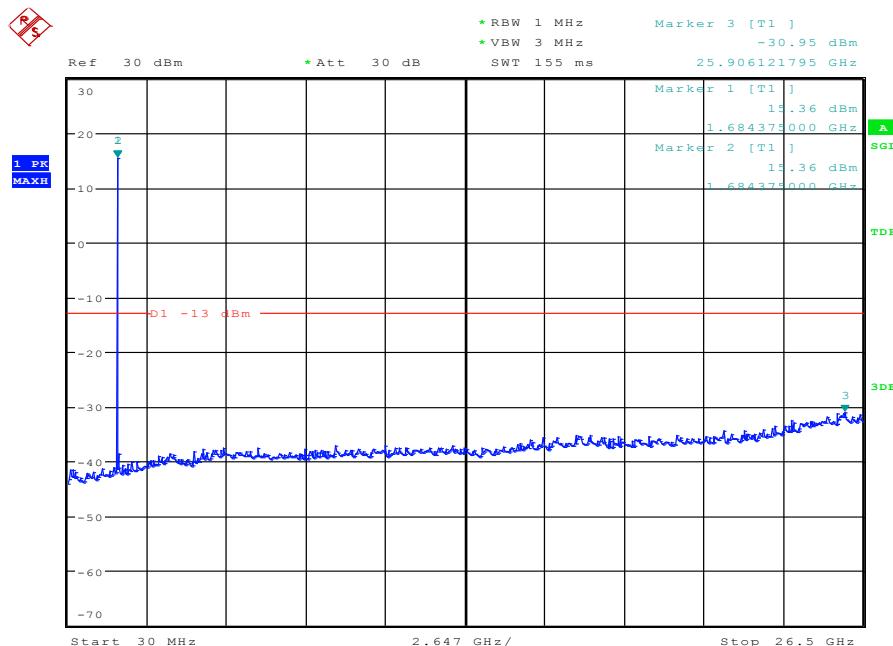
Date: 30.MAR.2017 21:11:21

BW5MHz-1712.5MHz,Q16-25RB_LOW@Pass



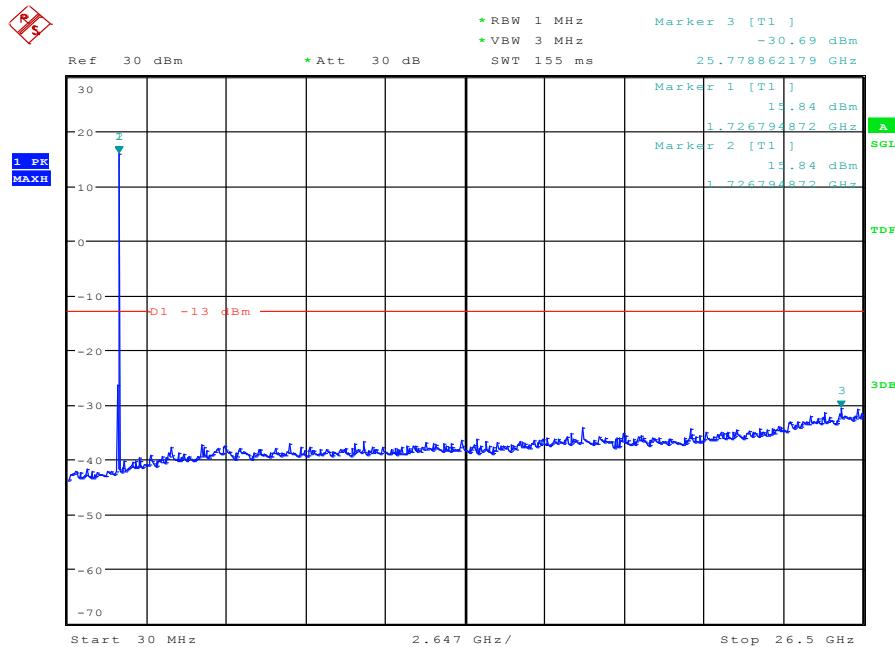
Date: 30.MAR.2017 21:12:49

BW5MHz-1712.5MHz,QPSK-25RB_LOW@Pass



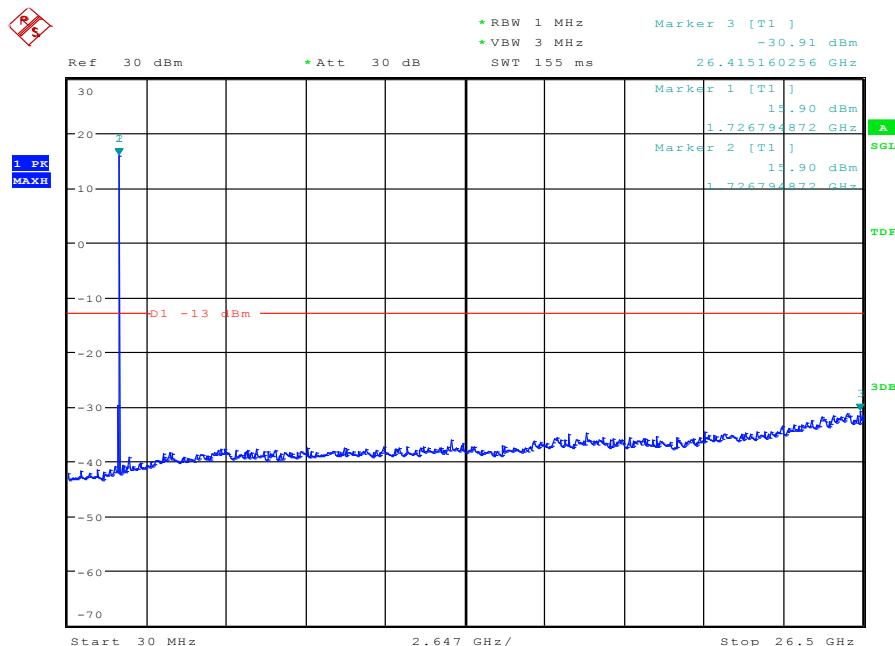
Date: 30.MAR.2017 21:12:32

BW5MHz-1732.5MHz,Q16-25RB_LOW@Pass



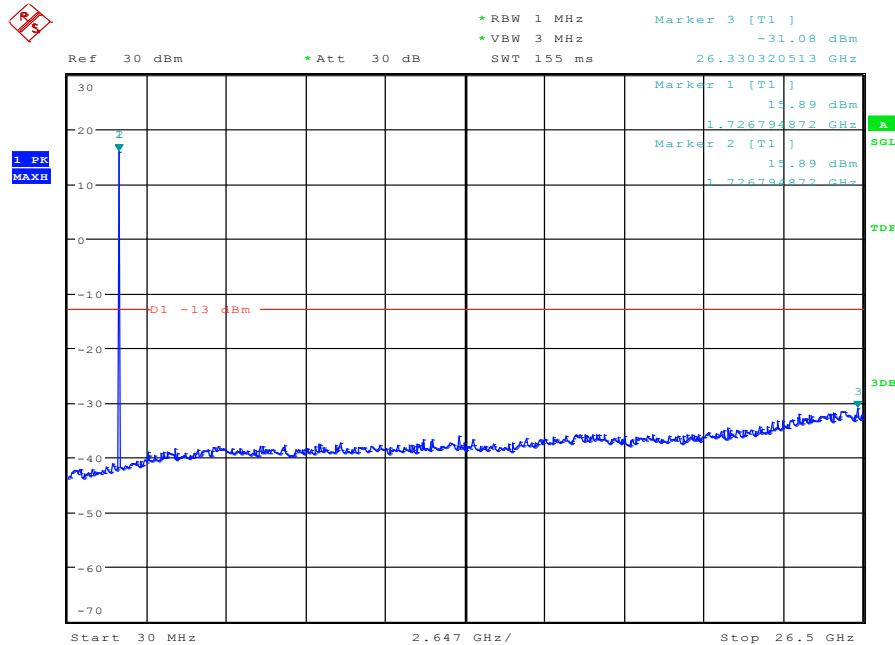
Date: 30.MAR.2017 21:13:59

BW5MHz-1732.5MHz,QPSK-25RB_LOW@Pass



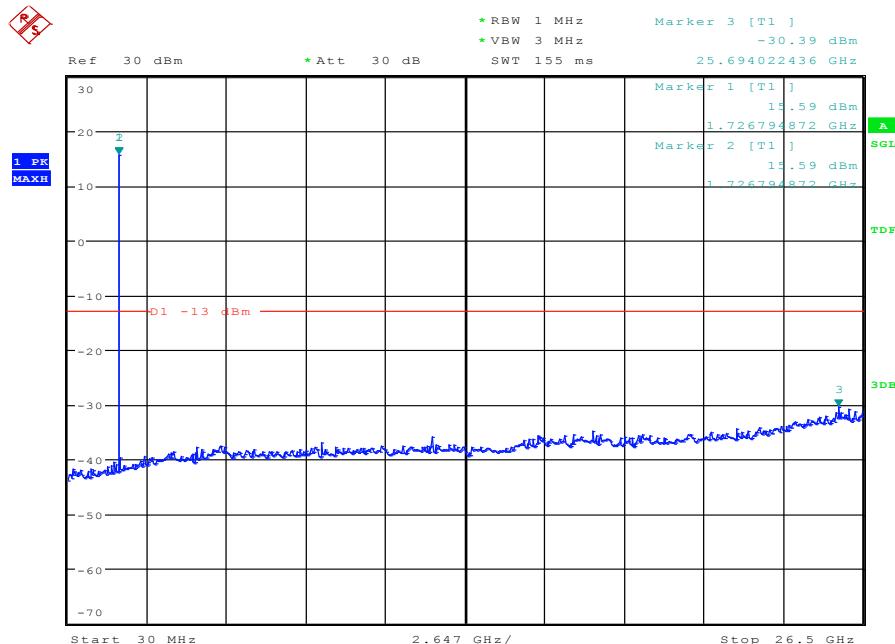
Date: 30.MAR.2017 21:13:42

BW5MHz-1752.5MHz,Q16-25RB_LOW@Pass



Date: 30.MAR.2017 21:13:24

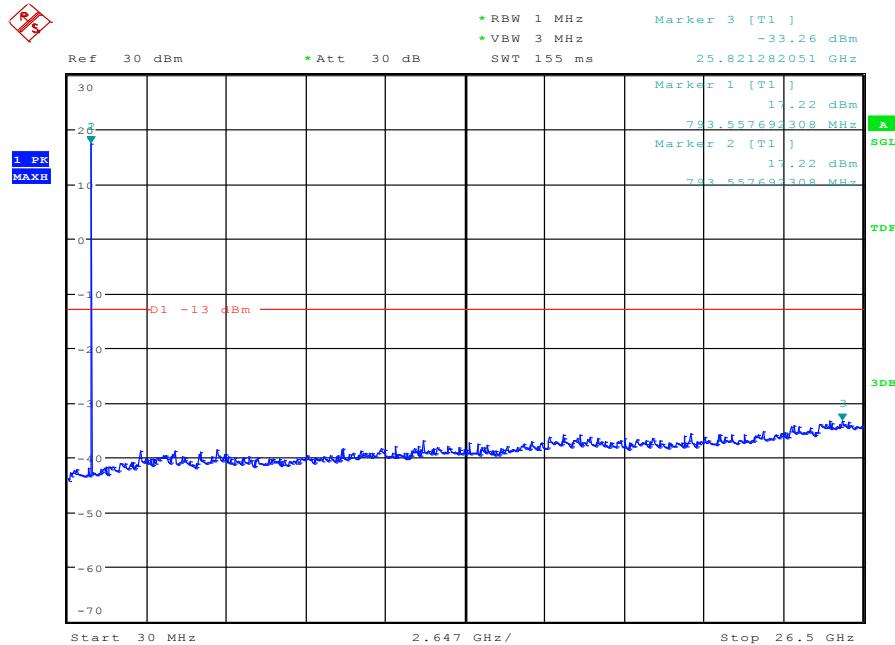
BW5MHz-1752.5MHz,QPSK-25RB_LOW@Pass



Date: 30.MAR.2017 21:13:07

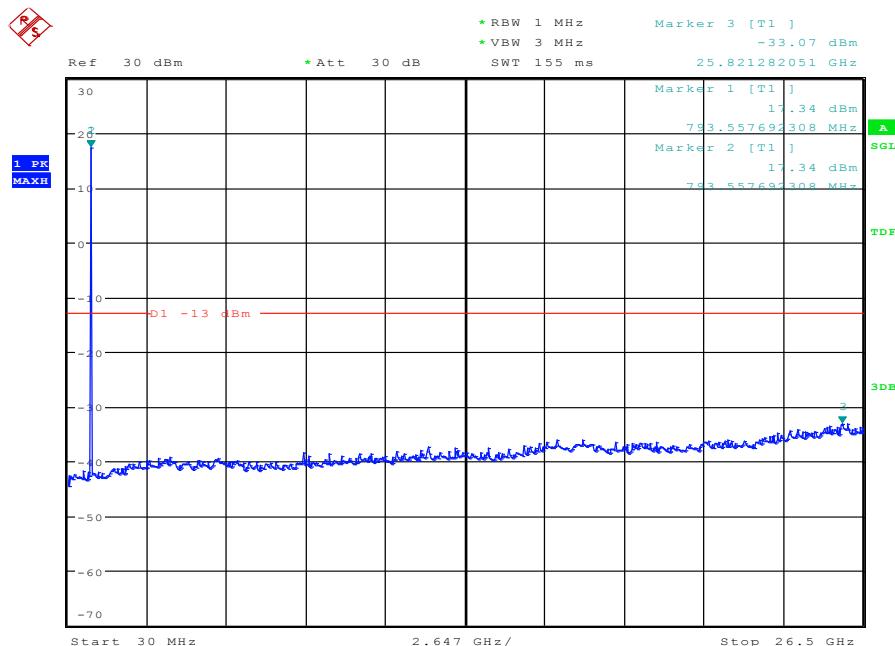
BAND 5@Conducted Spurious Emission

BW1.4MHz-824.7MHz,Q16-6RB_LOW@Pass



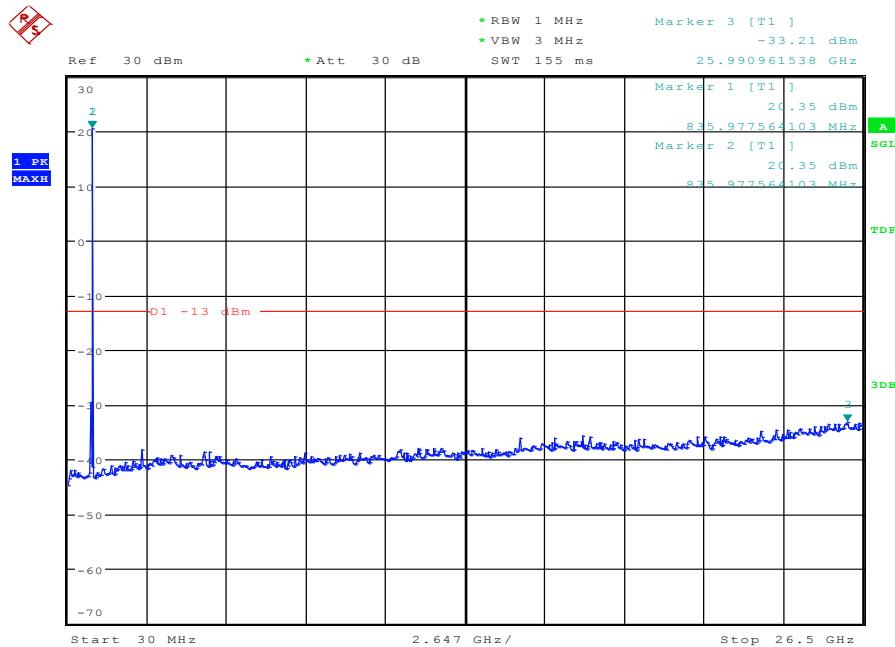
Date: 29.MAR.2017 16:29:22

BW1.4MHz-824.7MHz,QPSK-6RB_LOW@Pass



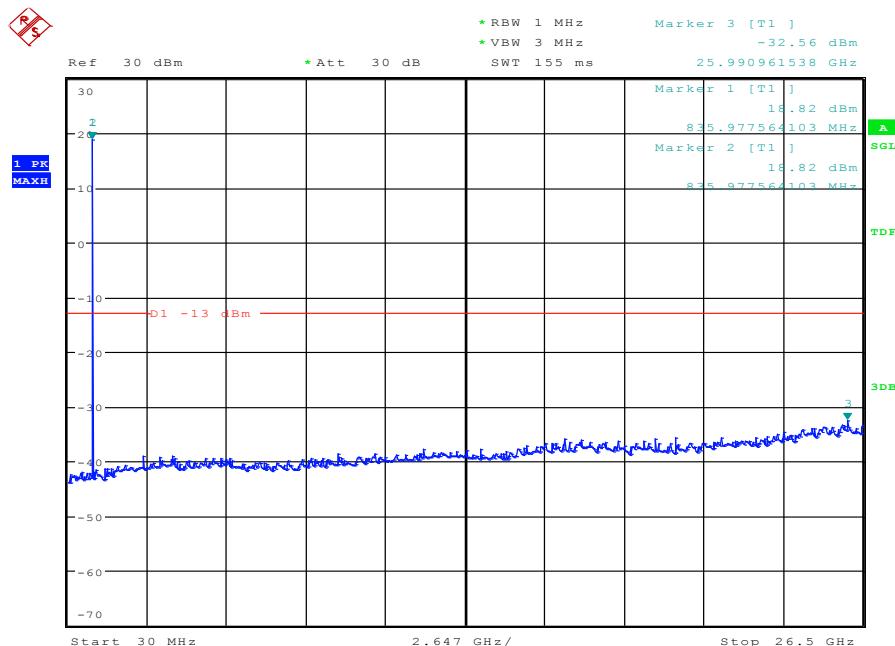
Date: 29.MAR.2017 16:29:05

BW1.4MHz-836.5MHz,QPSK-6RB_LOW@Pass

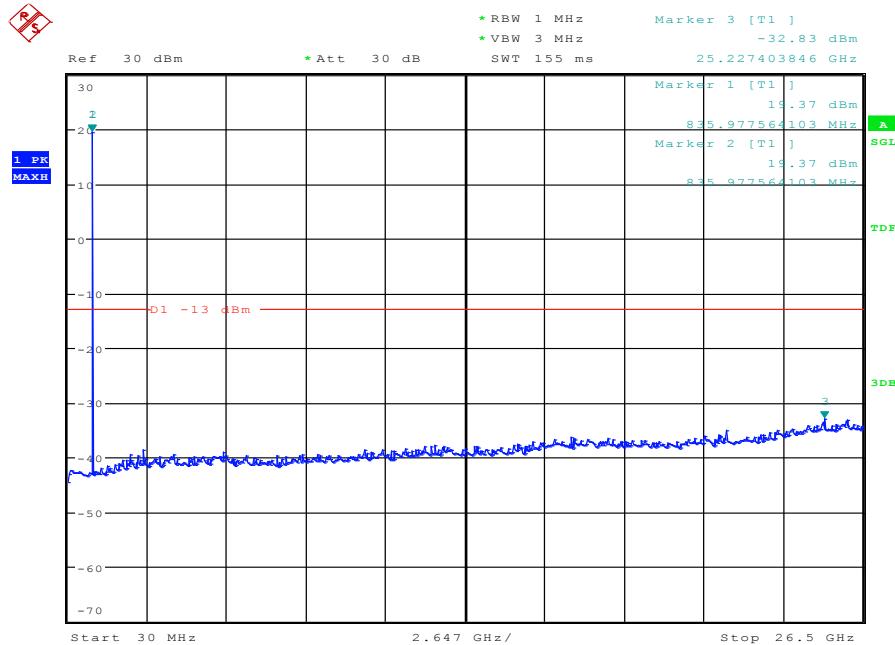


Date: 29.MAR.2017 16:30:28

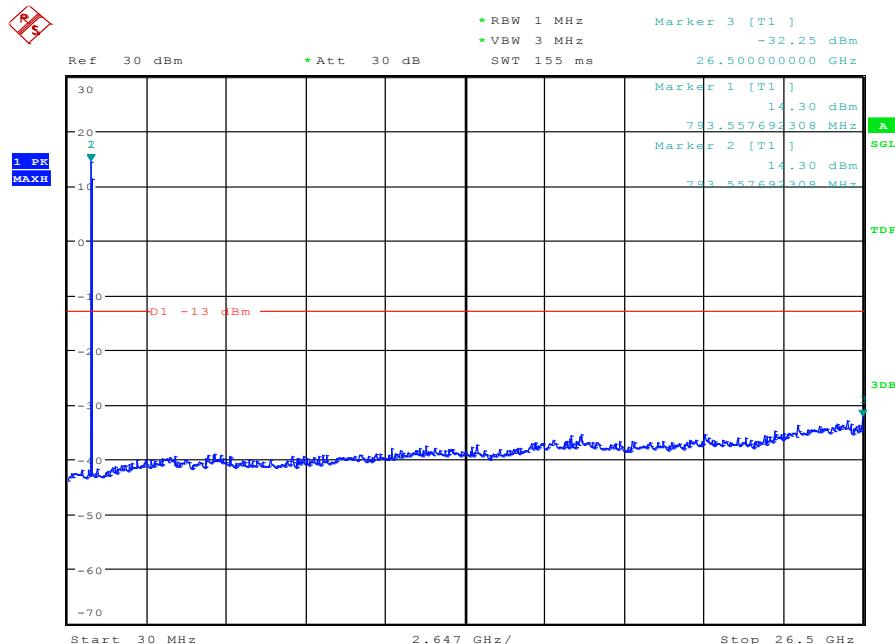
BW1.4MHz-848.3MHz,Q16-6RB_LOW@Pass



Date: 29.MAR.2017 16:29:56

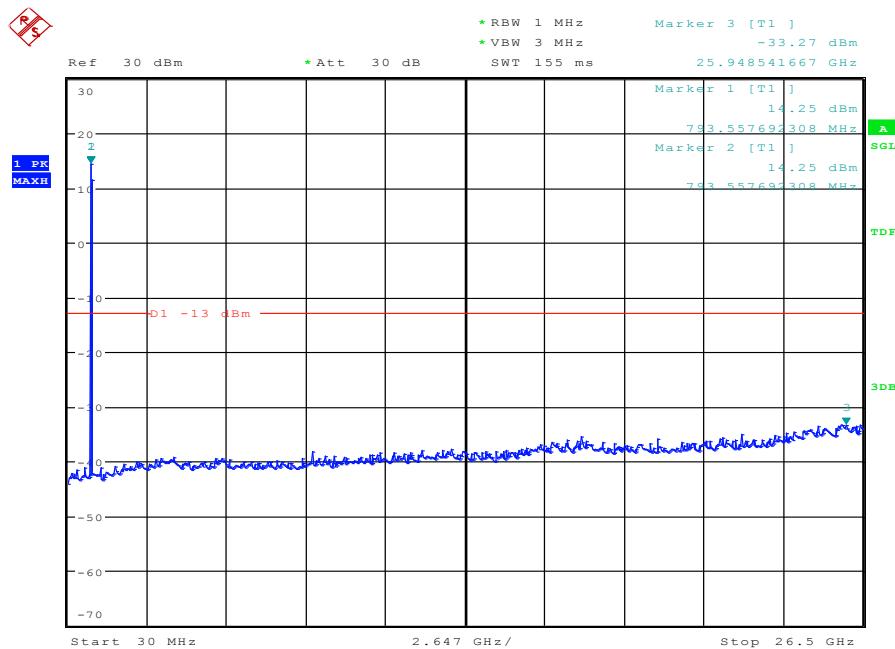
BW1.4MHz-848.3MHz,QPSK-6RB_LOW@Pass

Date: 29.MAR.2017 16:29:39

BW10MHz-829MHz,Q16-50RB_LOW@Pass

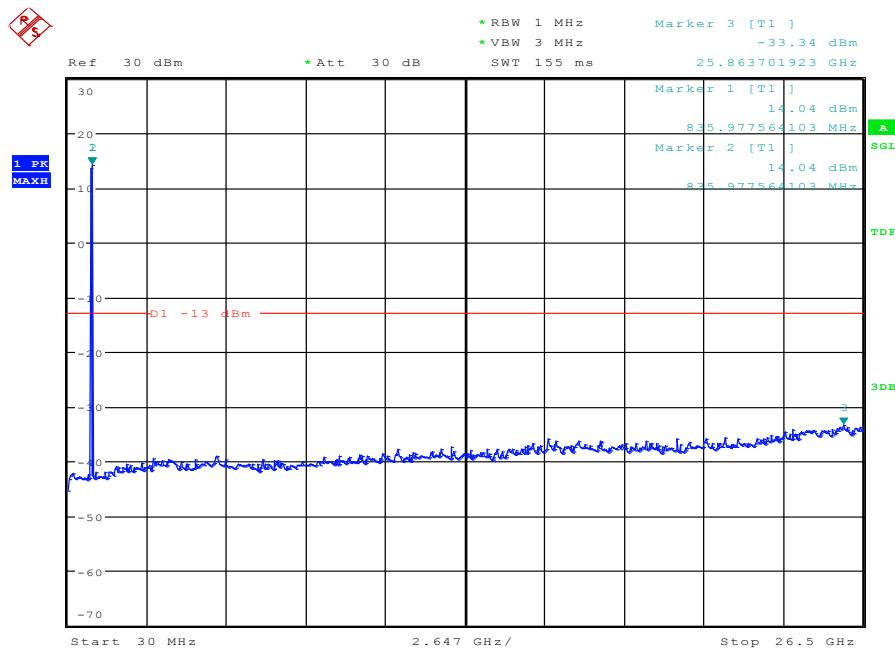
Date: 29.MAR.2017 16:34:22

BW10MHz-829MHz,QPSK-50RB_LOW@Pass

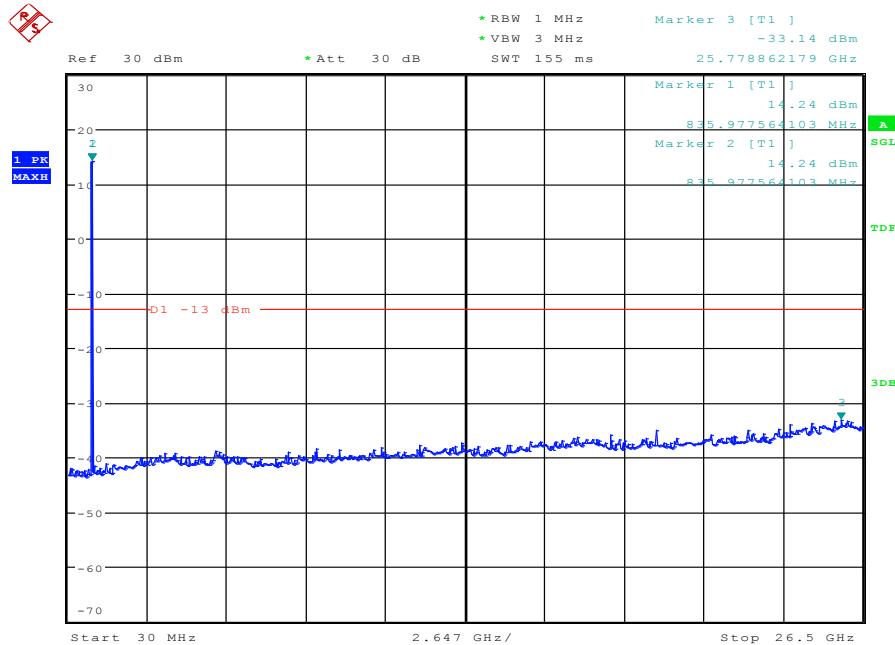


Date: 29.MAR.2017 16:34:06

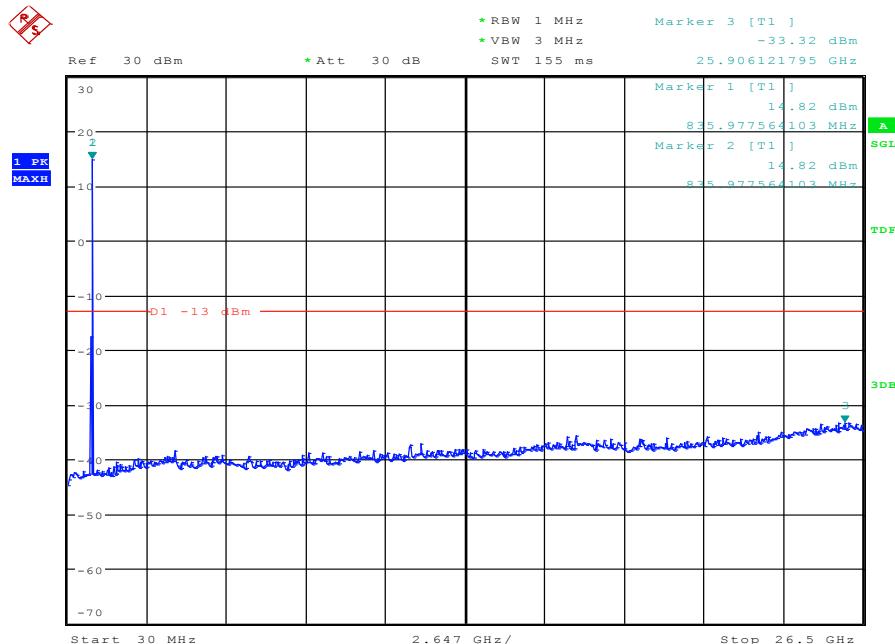
BW10MHz-836.5MHz,Q16-50RB_LOW@Pass



Date: 29.MAR.2017 16:35:30

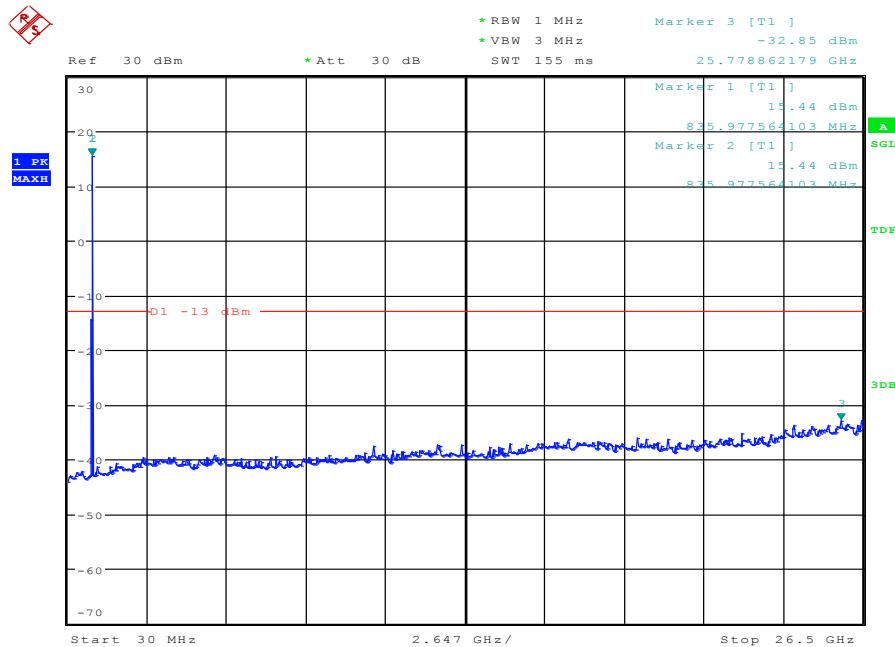
BW10MHz-836.5MHz,QPSK-50RB_LOW@Pass

Date: 29.MAR.2017 16:35:13

BW10MHz-844MHz,Q16-50RB_LOW@Pass

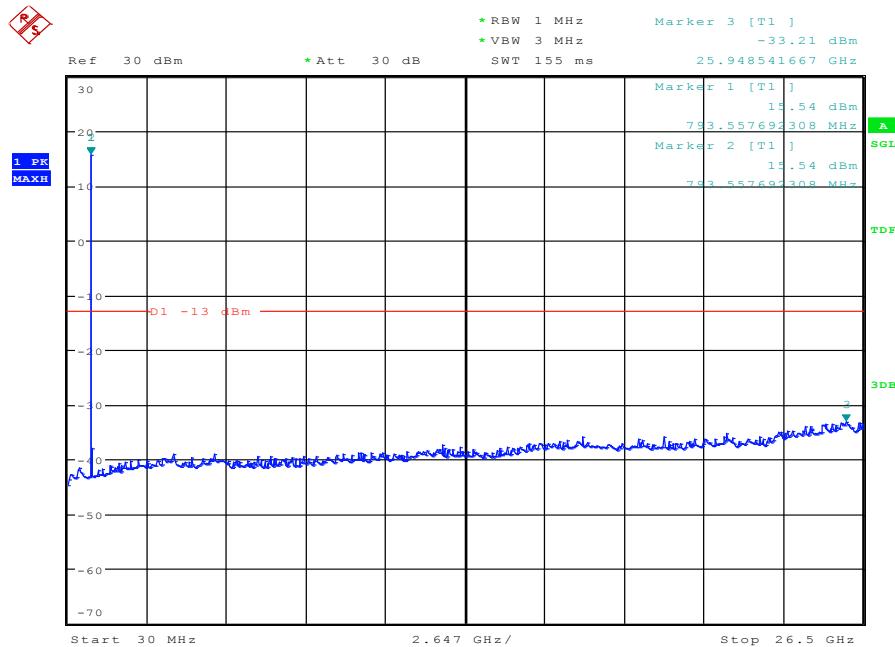
Date: 29.MAR.2017 16:34:56

BW10MHz-844MHz,QPSK-50RB_LOW@Pass



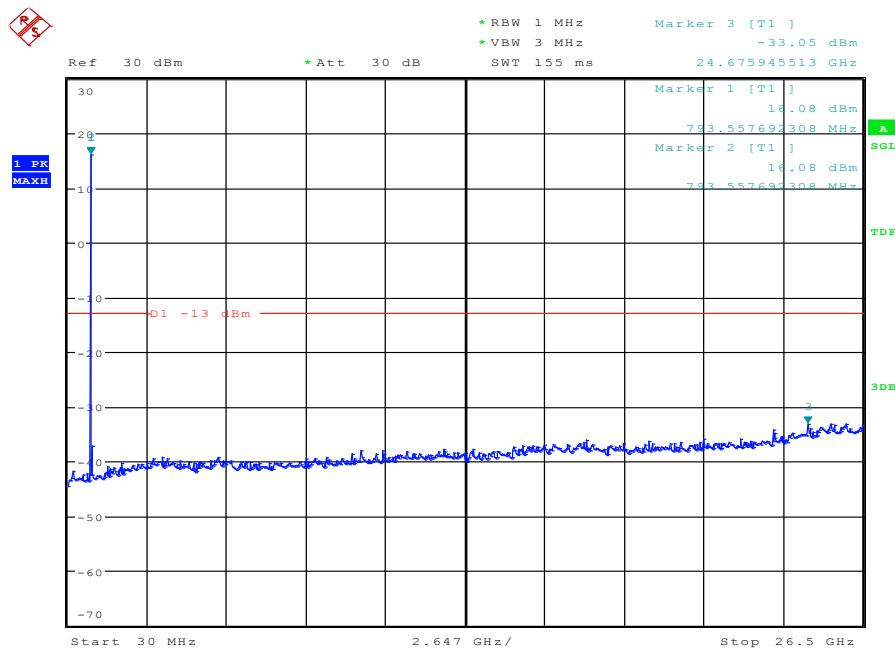
Date: 29.MAR.2017 16:34:40

BW3MHz-825.5MHz,Q16-15RB_LOW@Pass



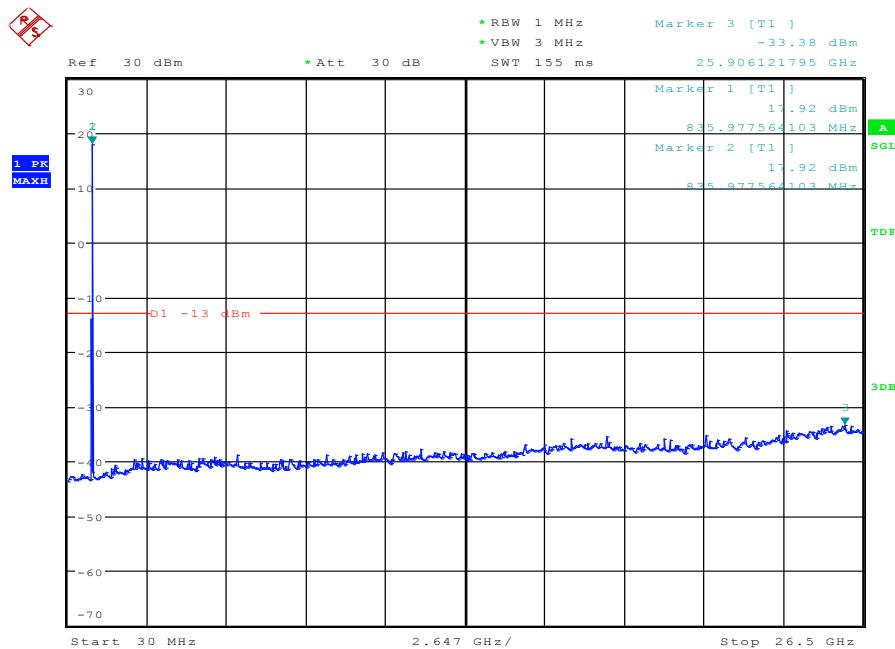
Date: 29.MAR.2017 16:31:02

BW3MHz-825.5MHz,QPSK-15RB_LOW@Pass

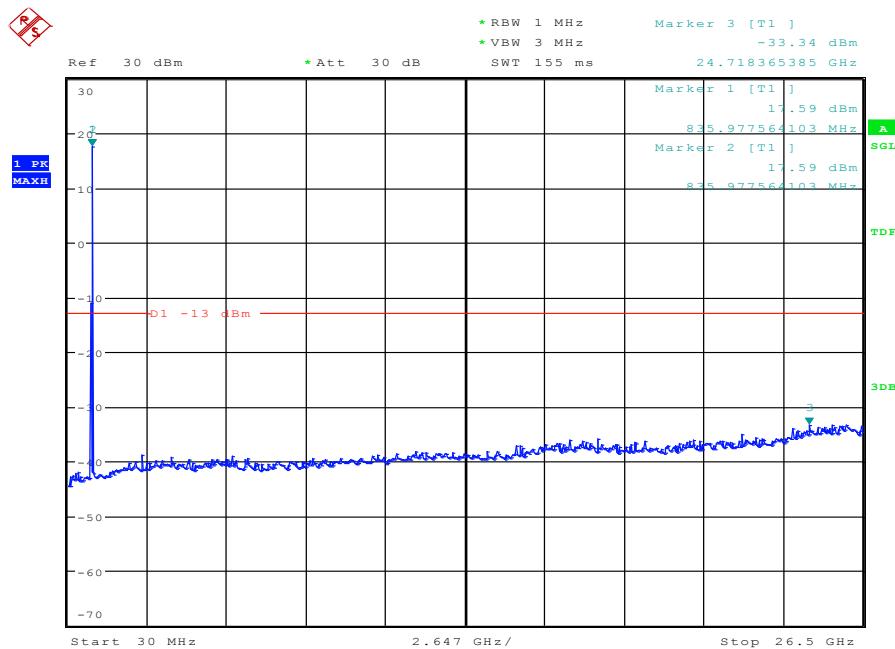


Date: 29.MAR.2017 16:30:47

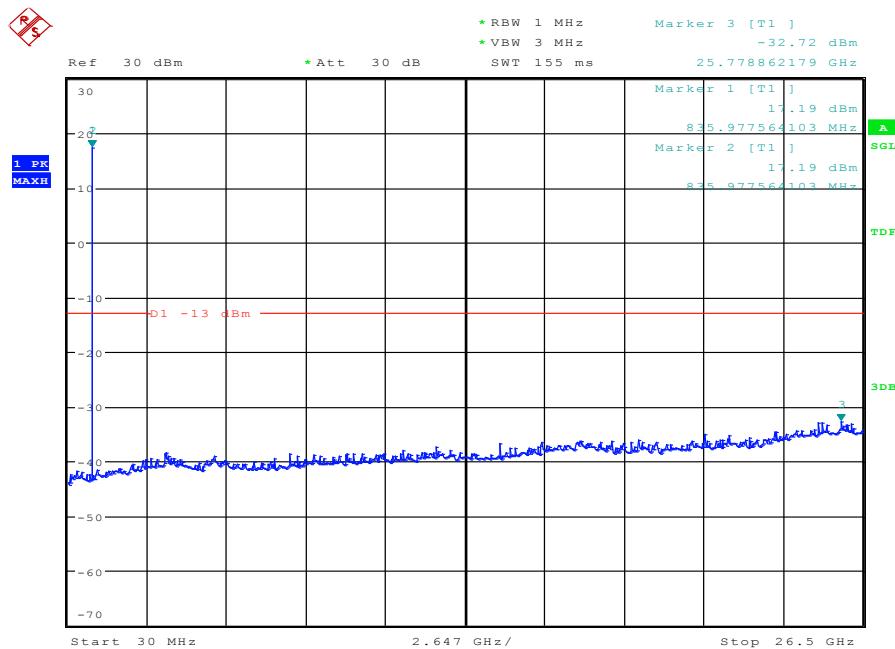
BW3MHz-836.5MHz,Q16-15RB_LOW@Pass



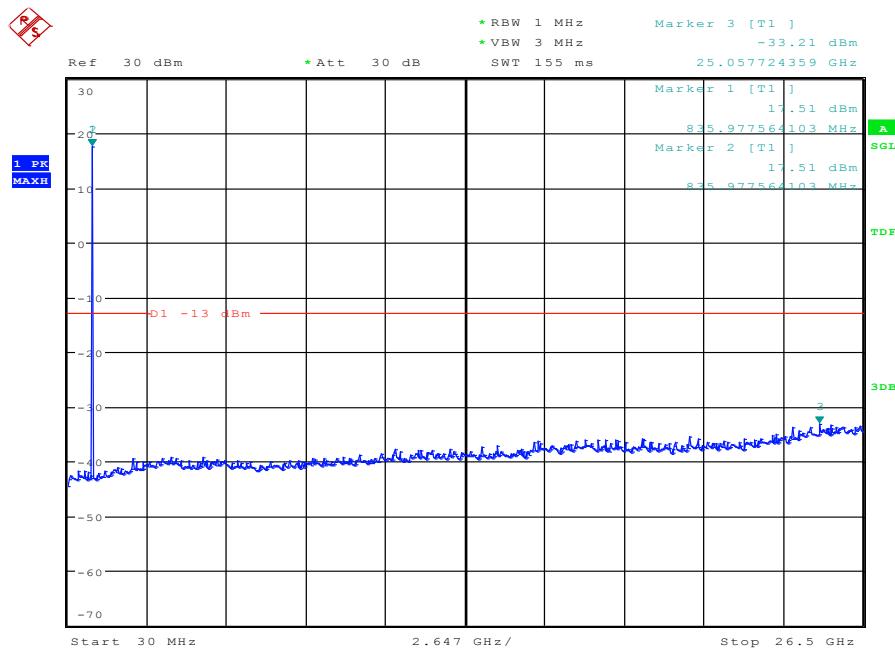
Date: 29.MAR.2017 16:32:07

BW3MHz-836.5MHz,QPSK-15RB_LOW@Pass

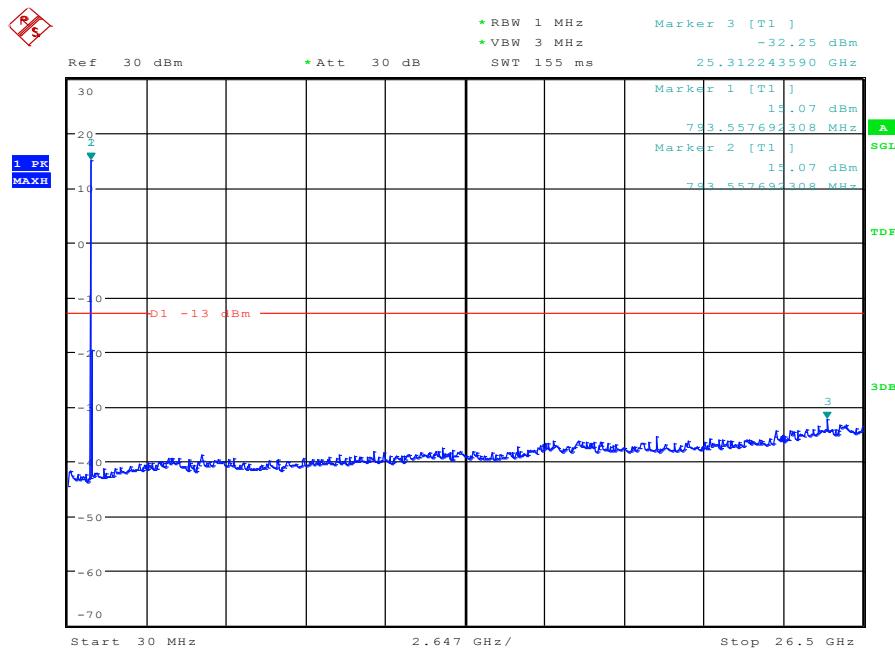
Date: 29.MAR.2017 16:31:51

BW3MHz-847.5MHz,Q16-15RB_LOW@Pass

Date: 29.MAR.2017 16:31:34

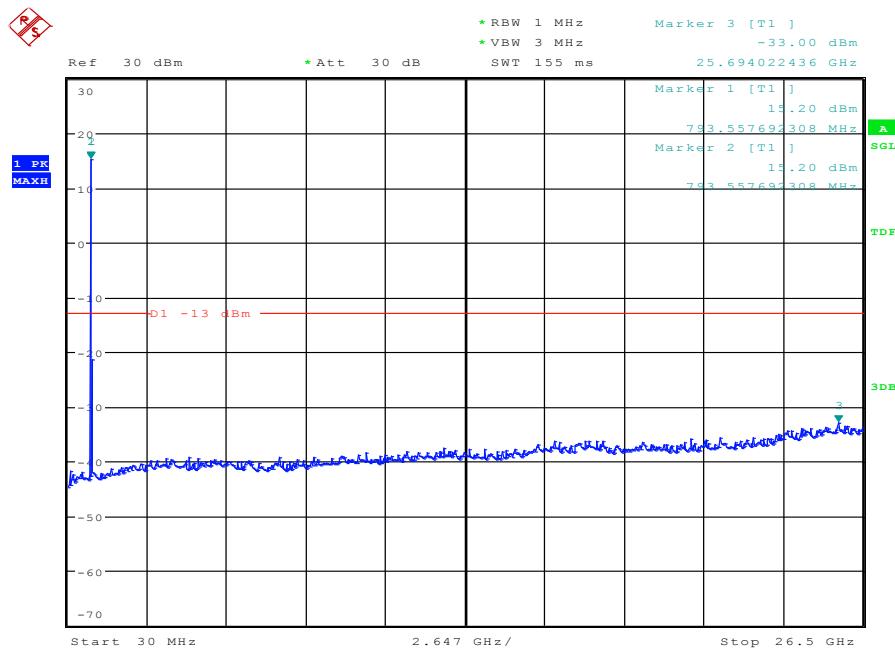
BW3MHz-847.5MHz,QPSK-15RB_LOW@Pass

Date: 29.MAR.2017 16:31:19

BW5MHz-826.5MHz,Q16-25RB_LOW@Pass

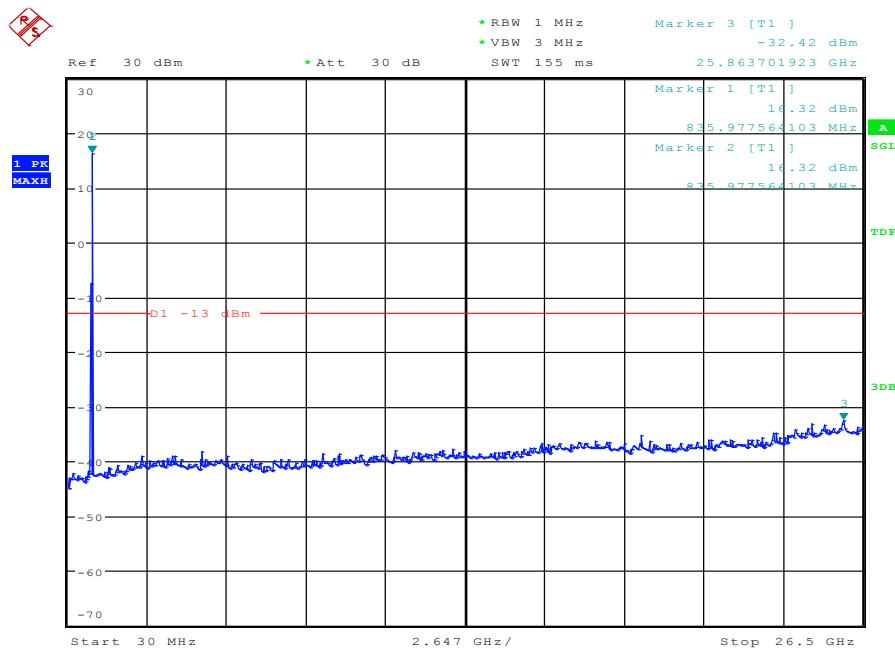
Date: 29.MAR.2017 16:32:41

BW5MHz-826.5MHz,QPSK-25RB_LOW@Pass

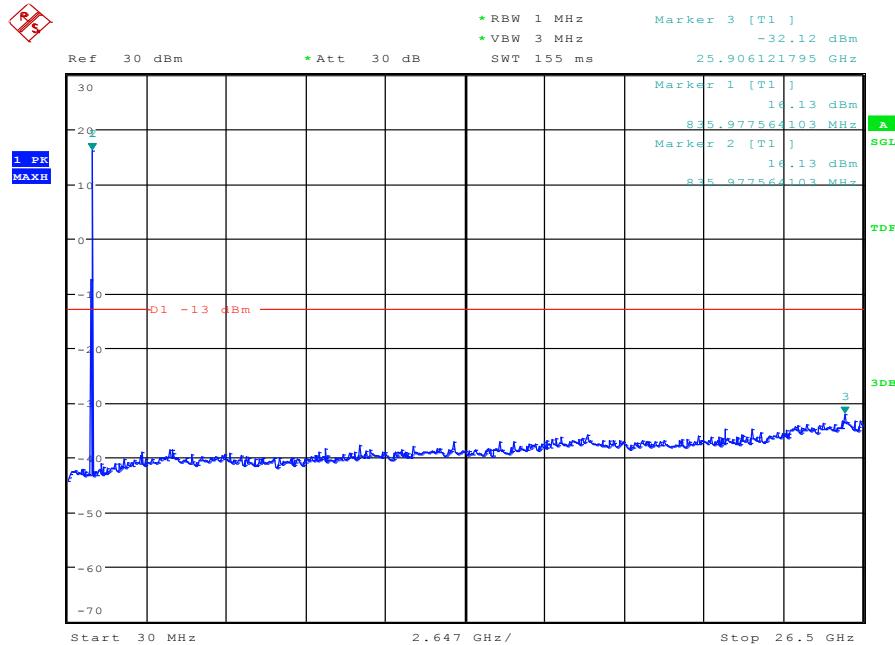


Date: 29.MAR.2017 16:32:25

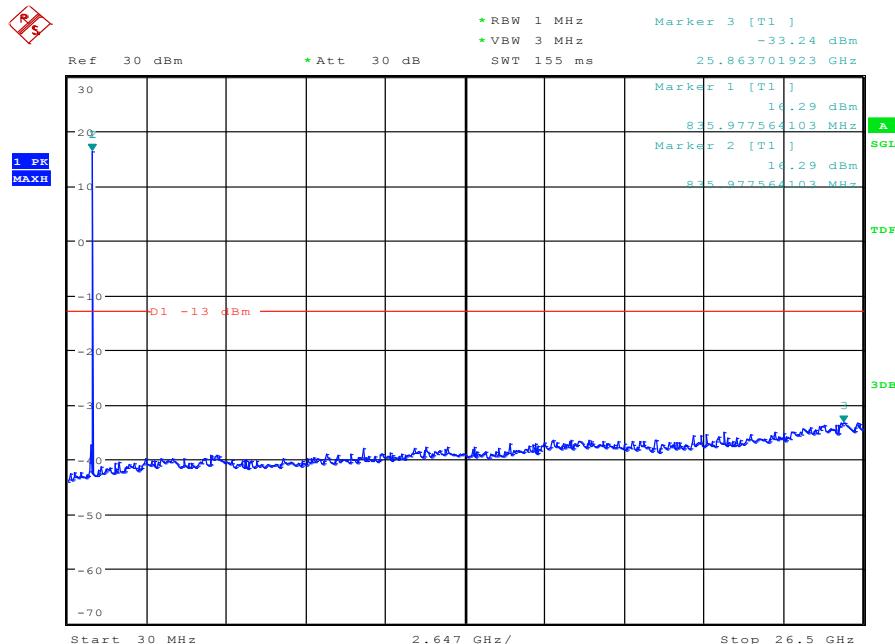
BW5MHz-836.5MHz,Q16-25RB_LOW@Pass



Date: 29.MAR.2017 16:33:47

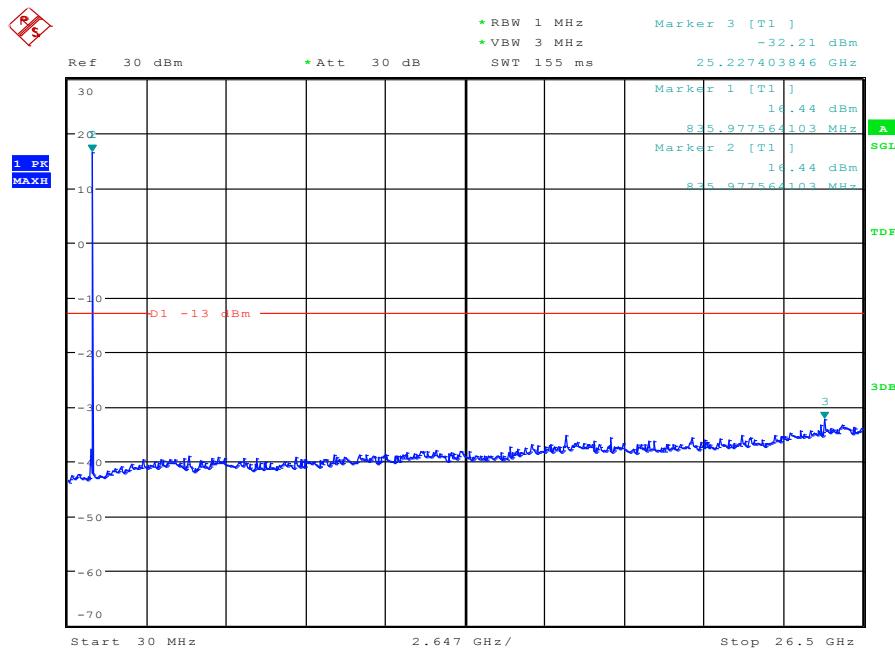
BW5MHz-836.5MHz,QPSK-25RB_LOW@Pass

Date: 29.MAR.2017 16:33:31

BW5MHz-846.5MHz,Q16-25RB_LOW@Pass

Date: 29.MAR.2017 16:33:14

BW5MHz-846.5MHz,QPSK-25RB_LOW@Pass



Date: 29.MAR.2017 16:32:58

6.1.1 Radiated method

Test limit:

The spurious (unwanted) emission limits specified in the individual FCC rule parts applicable to licensed digital transmitters (typically referred to under the heading 'emission limits') normally apply to any and all emissions that are present outside of the authorized frequency band/block and apply to emissions in both the out-of-band and spurious domains. In some rule parts, the unwanted emission limits are specified by an emission mask that defines the applicable limit as a function of the frequency range relative to the authorized frequency block.

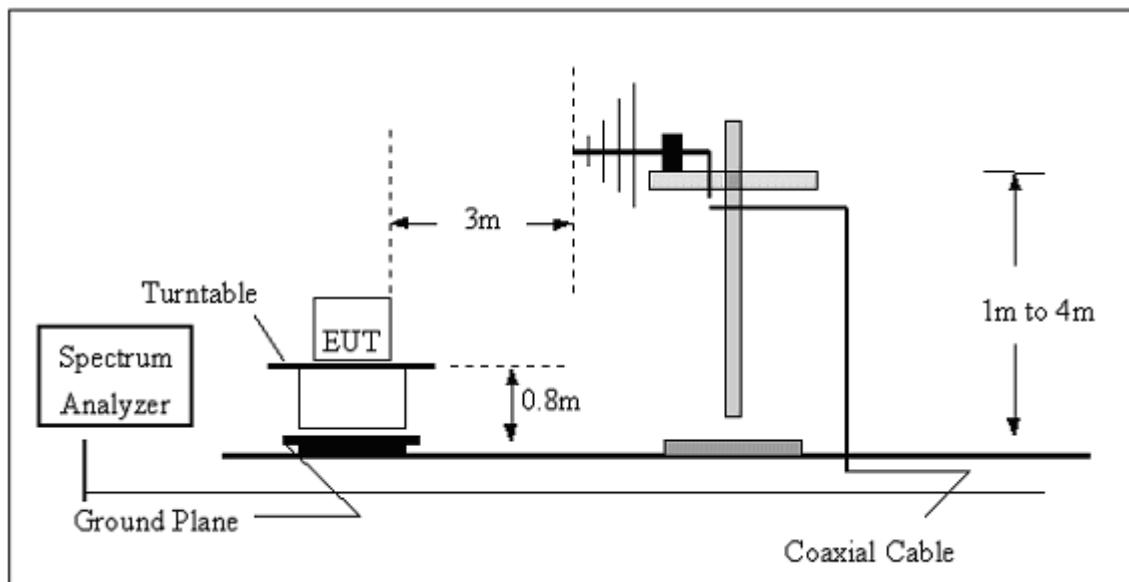
Typically, unwanted emissions are required by the licensed rule parts to be attenuated below the transmitter power by a factor of at least $X + 10\log(P)$ dB, where P represents the transmitter power expressed in watts and X is a specified scalar value (e.g., 43). This specification can be interpreted in one of two equivalent ways. First, the required attenuation can be construed to be relative to the mean carrier power, with the resultant of the equation $X + 10\log(P)$ being expressed in dBc (dB relative to the maximum carrier power). Alternatively, the specification can be interpreted as an absolute limit when the specified attenuation is actually subtracted from the maximum permissible transmitter power [i.e., $10\log(P) - \{X + 10\log(P)\}$], resulting in an absolute level of $-X$ dBW [or $(-X + 30)$ dBm]. See section 4.

Test procedure:

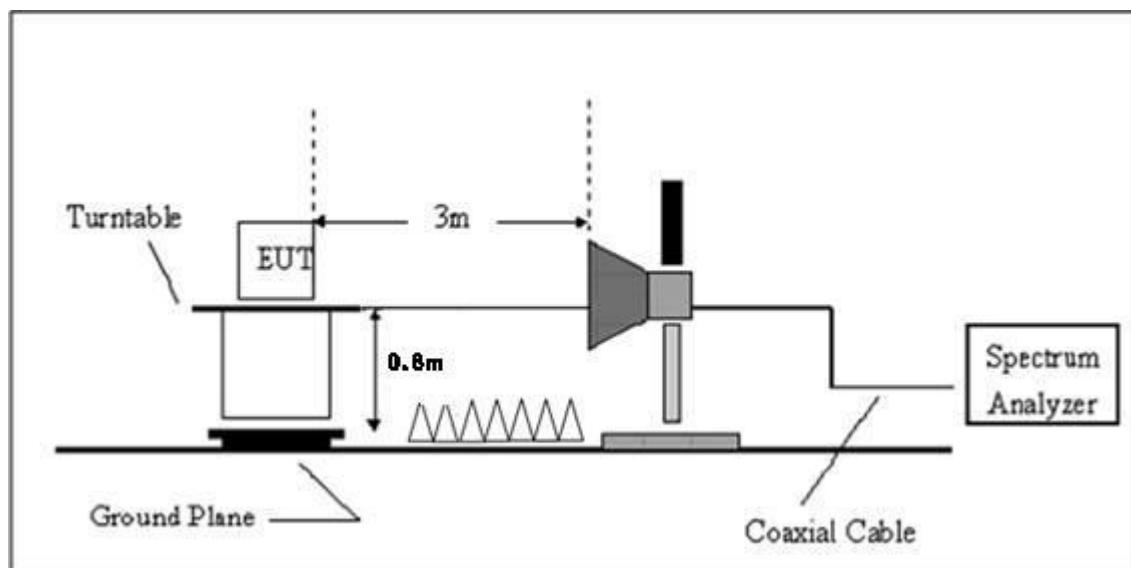
The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site. The resolution bandwidth of the spectrum analyzer was set at 100 kHz below 1 GHz and 1 MHz above 1 GHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonics.

Test setup:

(A) Radiated Emission Test-Up Frequency 30MHz~1GHz



(B) Radiated Emission Test-Up Frequency Above 1GHz

**Note:**

- 1, Below 30MHz no Spurious found.
- 2, UE is positioned at 3 axis at the pre-scan stage, and only the measurement of the worst case(bandwidth:20MHz /Full RB /QPSK) is reported in this part.

List of final test modes:**GSM850:**

Mode	UL Channel	Frequency	Judgement
1	128	824.2	Pass
2	190	836.6	Pass
3	251	848.8	Pass

PCS1900

Mode	UL Channel	Frequency	Judgement
1	512	1850.2	Pass
2	661	1880	Pass
3	810	1909.8	Pass

UTRA BANDS**BAND 2:**

Mode	UL Channel	Frequency	Judgement
1	9262	1852.4	Pass
2	9400	1880	Pass
3	9538	1907.6	Pass

BAND 4::

Mode	UL Channel	Frequency	Judgement
1	1312	1712.4	Pass
2	1413	1732.6	Pass
3	1513	1752.6	Pass

BAND 5:

Mode	UL Channel	Frequency	Judgement
1	4132	826.4	Pass
2	4182	836.4	Pass
3	4233	846.6	Pass

E-UTRA BANDS**BAND 2:**

Mode	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgement
1	20	18700	1860	QPSK	100	LOW	Pass
2	20	18900	1880	QPSK	100	LOW	Pass
3	20	19100	1900	QPSK	100	LOW	Pass

BAND 4:

Mode	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgement
1	20	20050	1720	Q16	100	LOW	Pass
2	20	20300	1745	Q16	100	LOW	Pass
3	20	20175	1732.5	Q16	100	LOW	Pass

BAND 5:

Mode	Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Judgement
1	10	20450	829	QPSK	100	LOW	Pass
2	10	20525	836.5	QPSK	100	LOW	Pass
3	10	20600	844	QPSK	100	LOW	Pass

Test record:

GSM850:

Mode 1					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1648.4	-33.80	1.42	-35.22	-13	Horizontal
1648.4	-34.00	-2.48	-31.52	-13	Vertical
2472.6	-35.41	3.26	-38.67	-13	Horizontal
2472.6	-28.20	6.68	-34.88	-13	Vertical

Mode 2					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1673.2	-36.95	1.42	-38.37	-13	Horizontal
1673.2	-37.95	-2.48	-35.47	-13	Vertical
2509.8	-29.47	3.26	-32.73	-13	Horizontal
2509.8	-33.39	6.68	-40.07	-13	Vertical

Mode 3					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1697.6	-37.85	1.42	-39.27	-13	Horizontal
1697.6	-36.56	-2.48	-34.08	-13	Vertical
2546.4	-33.06	3.26	-36.32	-13	Horizontal
2546.4	-35.95	6.68	-42.63	-13	Vertical

PCS1900:

Mode 1					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3700.4	-32.77	-1.98	-30.79	-13	Horizontal
3700.4	-37.10	-1.61	-35.49	-13	Vertical
5550.6	-37.65	1.97	-39.62	-13	Horizontal
5550.6	-31.54	-2.26	-29.28	-13	Vertical

Mode 2					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3760	-35.66	-1.98	-33.68	-13	Horizontal
3760	-32.73	-1.61	-31.12	-13	Vertical
5640	-33.16	1.97	-35.13	-13	Horizontal
5640	-33.78	-2.26	-31.52	-13	Vertical

Mode 3					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3819.6	-35.49	-1.98	-33.51	-13	Horizontal
3819.6	-33.66	-1.61	-32.05	-13	Vertical
5729.4	-32.35	1.97	-34.32	-13	Horizontal
5729.4	-34.52	-2.26	-32.26	-13	Vertical

UTRA BANDS**BAND 2:**

Mode 1					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3704.8	-62.49	10.34	-52.16	-13	Horizontal
3704.8	-63.25	10.51	-52.74	-13	Vertical
5557.2	-64.49	11.82	-52.67	-13	Horizontal
5557.2	-64.98	11.87	-53.11	-13	Vertical

Mode 2					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3760	-62.78	10.39	-52.39	-13	Horizontal
3760	-63.01	10.97	-52.04	-13	Vertical
5640	-63.76	12.34	-51.42	-13	Horizontal
5640	-65.49	11.80	-53.69	-13	Vertical

Mode 3					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3815.2	-62.47	10.72	-51.75	-13	Horizontal
3815.2	-63.45	10.33	-53.12	-13	Vertical
5722.8	-64.13	12.16	-51.97	-13	Horizontal
5722.8	-65.05	12.30	-52.74	-13	Vertical

BAND 4:

Mode 1					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3424.8	-62.55	10.63	-51.92	-13	Horizontal
3424.8	-63.17	10.24	-52.93	-13	Vertical
5137.2	-63.98	12.23	-51.75	-13	Horizontal
5137.2	-64.92	11.51	-53.41	-13	Vertical

Mode 2					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3465.2	-62.46	10.53	-51.93	-13	Horizontal
3465.2	-62.57	10.18	-52.39	-13	Vertical
5197.8	-64.12	12.35	-51.77	-13	Horizontal
5197.8	-65.41	12.37	-53.03	-13	Vertical

Mode 3					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3505.2	-62.73	10.90	-51.83	-13	Horizontal
3505.2	-63.01	10.65	-52.36	-13	Vertical
5257.8	-63.53	11.56	-51.98	-13	Horizontal
5257.8	-64.87	12.13	-52.74	-13	Vertical

BAND 5:

Mode 1					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1652.8	-63.19	10.32	-52.87	-13	Horizontal
1652.8	-63.36	10.35	-53.01	-13	Vertical
2479.2	-64.29	12.42	-51.87	-13	Horizontal
2479.2	-65.09	12.26	-52.83	-13	Vertical

Mode 2					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1673.2	-62.56	10.25	-52.30	-13	Horizontal
1673.2	-62.66	10.94	-51.72	-13	Vertical
2509.8	-63.78	11.92	-51.86	-13	Horizontal
2509.8	-64.88	12.20	-52.68	-13	Vertical

Mode 3					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1693.2	-62.67	10.28	-52.39	-13	Horizontal
1693.2	-63.21	10.16	-53.05	-13	Vertical
2539.8	-63.61	12.47	-51.14	-13	Horizontal
2539.8	-64.85	12.28	-52.56	-13	Vertical

E-UTRA BANDS**BAND 2:**

Mode 1					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3720	-62.36	10.74	-51.62	-13	Horizontal
3720	-62.95	10.14	-52.80	-13	Vertical
5580	-64.35	12.00	-52.34	-13	Horizontal
5580	-64.92	11.82	-53.11	-13	Vertical

Mode 2					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3760	-62.56	10.97	-51.59	-13	Horizontal
3760	-63.11	10.65	-52.46	-13	Vertical
5640	-63.55	12.46	-51.08	-13	Horizontal
5640	-64.61	11.86	-52.75	-13	Vertical

Mode 3					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3800	-62.31	10.03	-52.28	-13	Horizontal
3800	-62.87	10.61	-52.26	-13	Vertical
5700	-64.14	12.32	-51.82	-13	Horizontal
5700	-65.21	12.23	-52.98	-13	Vertical

BAND 4:

Mode 1					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3440	-62.23	10.41	-51.82	-13	Horizontal
3440	-62.90	10.95	-51.95	-13	Vertical
5160	-64.08	11.55	-52.53	-13	Horizontal
5160	-64.58	11.78	-52.81	-13	Vertical

Mode 2					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3490	-62.77	10.76	-52.01	-13	Horizontal
3490	-62.88	10.99	-51.89	-13	Vertical
5235	-64.39	12.11	-52.28	-13	Horizontal
5235	-64.87	11.85	-53.02	-13	Vertical

Mode 3					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
3465	-62.45	10.18	-52.26	-13	Horizontal
3465	-63.45	10.25	-53.20	-13	Vertical
5197.5	-64.50	12.38	-52.12	-13	Horizontal
5197.5	-64.68	11.96	-52.71	-13	Vertical

BAND 5:

Mode 1					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1679	-62.35	10.35	-52.00	-13	Horizontal
1679	-63.37	10.89	-52.48	-13	Vertical
2518.5	-64.14	12.47	-51.67	-13	Horizontal
2518.5	-65.40	11.74	-53.65	-13	Vertical

Mode 2					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1680	-62.28	10.39	-51.88	-13	Horizontal
1680	-62.58	10.05	-52.54	-13	Vertical
2520	-63.73	12.44	-51.29	-13	Horizontal
2520	-64.68	11.54	-53.14	-13	Vertical

Mode 3					
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
1683	-62.66	10.99	-51.67	-13	Horizontal
1683	-63.20	10.14	-53.06	-13	Vertical
2524.5	-64.26	12.24	-52.02	-13	Horizontal
2524.5	-65.38	12.37	-53.01	-13	Vertical

7 FREQUENCY STABILITY

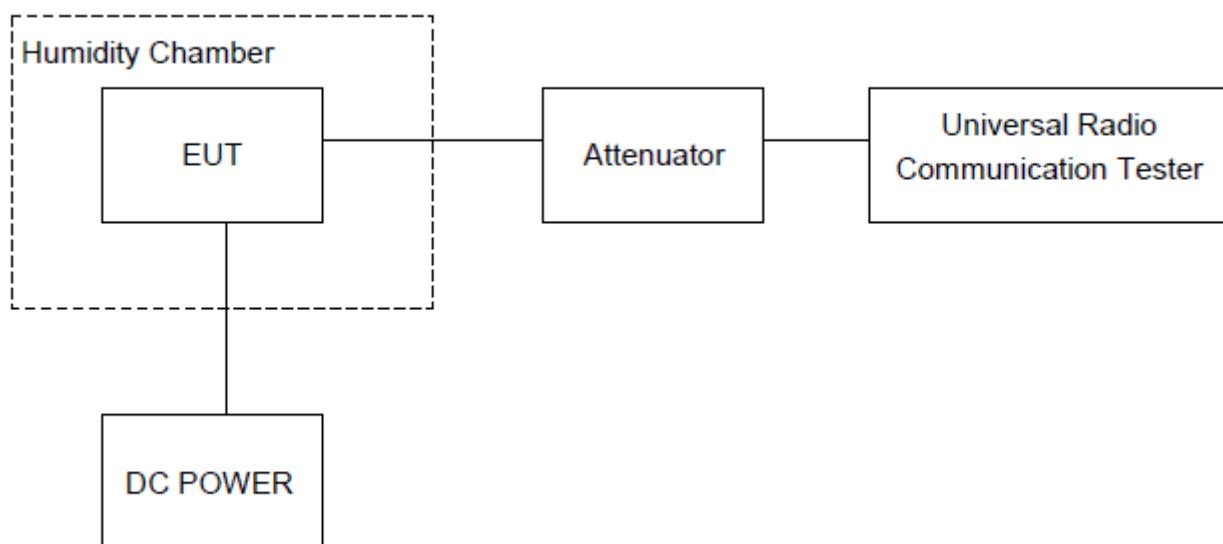
Test limit:

The frequency stability of the transmitter shall be measured while varying the ambient temperatures and supply voltages over the ranges specified in §2.1055. The specific frequency stability limits are provided in the relevant rules section(s). see section 4.

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.

Test setup:



7.1 Measurement Result (Worst)

Frequency Error against Voltage for GSM 850 band (Mid channel)

Voltage(V)	Frequency error(Hz)	Frequency error (ppm)
3.45	40	0.048
3.8	38	0.045
4.35	30	0.036

Frequency Error against Temperature for GSM 850 band (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	38	0.046
0	29	0.034
10	39	0.046
20	40	0.048
30	39	0.047
40	32	0.038
50	29	0.035

Frequency Error against Voltage for PCS 1900 band (Mid channel)

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.45	34	0.018
3.8	34	0.018
4.35	30	0.016

Frequency Error against Temperature for PCS 1900 band (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	29	0.015
0	40	0.021
10	39	0.021
20	34	0.018
30	35	0.019
40	36	0.019
50	33	0.017

Frequency Error against Voltage for GPRS 850 band (Mid channel)

Voltage(V)	Frequency error(Hz)	Frequency error (ppm)
3.45	32	0.038
3.8	37	0.045
4.35	29	0.034

Frequency Error against Temperature for GPRS 850 band (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	34	0.041
0	40	0.048
10	36	0.043
20	37	0.044
30	30	0.036
40	40	0.047
50	30	0.036

Frequency Error against Voltage for GPRS 1900 band (Mid channel)

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.45	38	0.020
3.8	35	0.019
4.35	38	0.020

Frequency Error against Temperature for GPRS 1900 band (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	40	0.022
0	31	0.017
10	32	0.017
20	40	0.021
30	38	0.020
40	32	0.017
50	35	0.019

Frequency Error against Voltage for EGPRS 850 band (Mid channel)

Voltage(V)	Frequency error(Hz)	Frequency error (ppm)
3.45	31	0.037
3.8	39	0.047
4.35	29	0.035

Frequency Error against Temperature for EGPRS 850 band (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	35	0.041
0	28	0.034
10	34	0.040
20	41	0.049
30	32	0.039
40	34	0.041
50	29	0.035

Frequency Error against Voltage for EGPRS 1900 band (Mid channel)

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.45	31	0.016
3.8	30	0.016
4.35	33	0.017

Frequency Error against Temperature for EGPRS 1900 band (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	36	0.019
0	39	0.020
10	32	0.017
20	35	0.019
30	31	0.016
40	30	0.016
50	40	0.021

UTRA BANDS**Frequency Error against Voltage for WCDMA BAND 2 (Mid channel)**

Voltage(V)	Frequency error(Hz)	Frequency error (ppm)
3.45	32	0.017
3.8	28	0.015
4.35	36	0.019

Frequency Error against Temperature for WCDMA BAND 2 (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	28	0.015
0	33	0.018
10	33	0.018
20	33	0.018
30	39	0.021
40	31	0.017
50	33	0.018

Frequency Error against Voltage for WCDMA BAND 4 (Mid channel)

Voltage(V)	Frequency error(Hz)	Frequency error (ppm)
3.45	29	0.017
3.8	37	0.021
4.35	37	0.021

Frequency Error against Temperature for WCDMA BAND 4 (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	35	0.020
0	30	0.017
10	40	0.023
20	40	0.023
30	36	0.021
40	39	0.022
50	30	0.017

Frequency Error against Voltage for WCDMA BAND 5 (Mid channel)

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.45	34	0.041
3.8	37	0.044
4.35	37	0.045

Frequency Error against Temperature for WCDMA BAND 5 (Mid channel)

Temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-10	35	0.042
0	31	0.037
10	39	0.046
20	30	0.036
30	29	0.034
40	32	0.039
50	29	0.034

E-UTRA**BAND 2:**

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
1.4	18607	1850.7	QPSK	1	LOW	-2.3	-0.00273
1.4	18607	1850.7	QPSK	1	MID	-1.41	-0.00167
1.4	18607	1850.7	QPSK	1	HIGH	1.12	0.001327
1.4	18607	1850.7	QPSK	3	LOW	-3.15	-0.00373
1.4	18607	1850.7	QPSK	3	MID	3.27	0.003874
1.4	18607	1850.7	QPSK	3	HIGH	0.11	0.00013
1.4	18607	1850.7	QPSK	6	LOW	4.68	0.005545
1.4	18607	1850.7	Q16	1	LOW	-2.94	-0.00348
1.4	18607	1850.7	Q16	1	MID	1.58	0.001872
1.4	18607	1850.7	Q16	1	HIGH	-1.86	-0.0022
1.4	18607	1850.7	Q16	3	LOW	1.74	0.002062
1.4	18607	1850.7	Q16	3	MID	3.86	0.004573
1.4	18607	1850.7	Q16	3	HIGH	0.19	0.000225
1.4	18607	1850.7	Q16	6	LOW	-4.31	-0.00511
1.4	18900	1880	QPSK	1	LOW	2.64	0.003128
1.4	18900	1880	QPSK	1	MID	4.31	0.005107
1.4	18900	1880	QPSK	1	HIGH	1.59	0.001884
1.4	18900	1880	QPSK	3	LOW	3.61	0.004277
1.4	18900	1880	QPSK	3	MID	1.12	0.001327
1.4	18900	1880	QPSK	3	HIGH	-0.41	-0.00049
1.4	18900	1880	QPSK	6	LOW	-1.75	-0.00207
1.4	18900	1880	Q16	1	LOW	5	0.005924
1.4	18900	1880	Q16	1	MID	-1.51	-0.00179
1.4	18900	1880	Q16	1	HIGH	3.67	0.004348
1.4	18900	1880	Q16	3	LOW	0.42	0.000498
1.4	18900	1880	Q16	3	MID	4.19	0.004964
1.4	18900	1880	Q16	3	HIGH	0.61	0.000723
1.4	18900	1880	Q16	6	LOW	2.99	0.003543
1.4	19193	1909.3	QPSK	1	LOW	1.76	0.002085
1.4	19193	1909.3	QPSK	1	MID	-0.46	-0.00055
1.4	19193	1909.3	QPSK	1	HIGH	-0.46	-0.00055
1.4	19193	1909.3	QPSK	3	LOW	1.2	0.001422
1.4	19193	1909.3	QPSK	3	MID	4.29	0.005083
1.4	19193	1909.3	QPSK	3	HIGH	3.05	0.003614

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
1.4	19193	1909.3	QPSK	6	LOW	1.25	0.001481
1.4	19193	1909.3	Q16	1	LOW	2.64	0.003128
1.4	19193	1909.3	Q16	1	MID	4.28	0.005071
1.4	19193	1909.3	Q16	1	HIGH	0.84	0.000995
1.4	19193	1909.3	Q16	3	LOW	-0.29	-0.00034
1.4	19193	1909.3	Q16	3	MID	-1.28	-0.00152
1.4	19193	1909.3	Q16	3	HIGH	3.69	0.004372
1.4	19193	1909.3	Q16	6	LOW	2.18	0.002583
3	18615	1851.5	QPSK	1	LOW	-1.87	-0.00222
3	18615	1851.5	QPSK	1	MID	3.15	0.003732
3	18615	1851.5	QPSK	1	HIGH	-2.54	-0.00301
3	18615	1851.5	QPSK	8	LOW	1.04	0.001232
3	18615	1851.5	QPSK	8	MID	3.74	0.004431
3	18615	1851.5	QPSK	8	HIGH	-1.35	-0.0016
3	18615	1851.5	QPSK	15	LOW	4.1	0.004858
3	18615	1851.5	Q16	1	LOW	-0.97	-0.00115
3	18615	1851.5	Q16	1	MID	1.57	0.00186
3	18615	1851.5	Q16	1	HIGH	-1.96	-0.00232
3	18615	1851.5	Q16	8	LOW	0.42	0.000498
3	18615	1851.5	Q16	8	MID	3.58	0.004242
3	18615	1851.5	Q16	8	HIGH	4.42	0.005237
3	18615	1851.5	Q16	15	LOW	0.38	0.00045
3	18900	1880	QPSK	1	LOW	0.5	0.000592
3	18900	1880	QPSK	1	MID	-2.14	-0.00254
3	18900	1880	QPSK	1	HIGH	-0.05	-5.9E-05
3	18900	1880	QPSK	8	LOW	-1.54	-0.00182
3	18900	1880	QPSK	8	MID	3.8	0.004502
3	18900	1880	QPSK	8	HIGH	-0.49	-0.00058
3	18900	1880	QPSK	15	LOW	1.16	0.001374
3	18900	1880	Q16	1	LOW	0.64	0.000758
3	18900	1880	Q16	1	MID	-2.32	-0.00275
3	18900	1880	Q16	1	HIGH	-4.02	-0.00476
3	18900	1880	Q16	8	LOW	4.35	0.005154
3	18900	1880	Q16	8	MID	3.29	0.003898
3	18900	1880	Q16	8	HIGH	-1.48	-0.00175
3	18900	1880	Q16	15	LOW	-1.24	-0.00147

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
3	19185	1908.5	QPSK	1	LOW	3.05	0.003614
3	19185	1908.5	QPSK	1	MID	0.37	0.000438
3	19185	1908.5	QPSK	1	HIGH	1.5	0.001777
3	19185	1908.5	QPSK	8	LOW	-2.09	-0.00248
3	19185	1908.5	QPSK	8	MID	-3.14	-0.00372
3	19185	1908.5	QPSK	8	HIGH	2.9	0.003436
3	19185	1908.5	QPSK	15	LOW	-4.37	-0.00518
3	19185	1908.5	Q16	1	LOW	-4.94	-0.00585
3	19185	1908.5	Q16	1	MID	1.65	0.001955
3	19185	1908.5	Q16	1	HIGH	-4.85	-0.00575
3	19185	1908.5	Q16	8	LOW	-3.44	-0.00408
3	19185	1908.5	Q16	8	MID	-4.6	-0.00545
3	19185	1908.5	Q16	8	HIGH	-1.82	-0.00216
3	19185	1908.5	Q16	15	LOW	-3.46	-0.0041
5	18625	1852.5	QPSK	1	LOW	-1.28	-0.00152
5	18625	1852.5	QPSK	1	MID	2.32	0.002749
5	18625	1852.5	QPSK	1	HIGH	3.43	0.004064
5	18625	1852.5	QPSK	12	LOW	-1.92	-0.00227
5	18625	1852.5	QPSK	12	MID	-0.87	-0.00103
5	18625	1852.5	QPSK	12	HIGH	-2.71	-0.00321
5	18625	1852.5	QPSK	25	LOW	3.04	0.003602
5	18625	1852.5	Q16	1	LOW	1.69	0.002002
5	18625	1852.5	Q16	1	MID	-2.97	-0.00352
5	18625	1852.5	Q16	1	HIGH	-3.62	-0.00429
5	18625	1852.5	Q16	12	LOW	-0.42	-0.0005
5	18625	1852.5	Q16	12	MID	-1.32	-0.00156
5	18625	1852.5	Q16	12	HIGH	-1.88	-0.00223
5	18625	1852.5	Q16	25	LOW	0.68	0.000806
5	18900	1880	QPSK	1	LOW	2.46	0.002915
5	18900	1880	QPSK	1	MID	0.03	3.55E-05
5	18900	1880	QPSK	1	HIGH	-3	-0.00355
5	18900	1880	QPSK	12	LOW	3.31	0.003922
5	18900	1880	QPSK	12	MID	-2.48	-0.00294
5	18900	1880	QPSK	12	HIGH	3.41	0.00404
5	18900	1880	QPSK	25	LOW	1.24	0.001469
5	18900	1880	Q16	1	LOW	1.21	0.001434

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
5	18900	1880	Q16	1	MID	-4.05	-0.0048
5	18900	1880	Q16	1	HIGH	1.47	0.001742
5	18900	1880	Q16	12	LOW	0.93	0.001102
5	18900	1880	Q16	12	MID	1.28	0.001517
5	18900	1880	Q16	12	HIGH	-0.81	-0.00096
5	18900	1880	Q16	25	LOW	1.6	0.001896
5	19175	1907.5	QPSK	1	LOW	2.16	0.002559
5	19175	1907.5	QPSK	1	MID	-3.53	-0.00418
5	19175	1907.5	QPSK	1	HIGH	1.04	0.001232
5	19175	1907.5	QPSK	12	LOW	1.75	0.002073
5	19175	1907.5	QPSK	12	MID	4.85	0.005746
5	19175	1907.5	QPSK	12	HIGH	-2.93	-0.00347
5	19175	1907.5	QPSK	25	LOW	-3.37	-0.00399
5	19175	1907.5	Q16	1	LOW	3.1	0.003673
5	19175	1907.5	Q16	1	MID	-3.94	-0.00467
5	19175	1907.5	Q16	1	HIGH	-4.92	-0.00583
5	19175	1907.5	Q16	12	LOW	0.35	0.000415
5	19175	1907.5	Q16	12	MID	-2.77	-0.00328
5	19175	1907.5	Q16	12	HIGH	-0.53	-0.00063
5	19175	1907.5	Q16	25	LOW	-0.01	-1.2E-05
10	18650	1855	QPSK	1	LOW	-1.75	-0.00207
10	18650	1855	QPSK	1	MID	-4.08	-0.00483
10	18650	1855	QPSK	1	HIGH	-0.06	-7.1E-05
10	18650	1855	QPSK	25	LOW	-4.79	-0.00568
10	18650	1855	QPSK	25	MID	-1.41	-0.00167
10	18650	1855	QPSK	25	HIGH	3.24	0.003839
10	18650	1855	QPSK	50	LOW	4.26	0.005047
10	18650	1855	Q16	1	LOW	-2.32	-0.00275
10	18650	1855	Q16	1	MID	2.8	0.003318
10	18650	1855	Q16	1	HIGH	3.16	0.003744
10	18650	1855	Q16	25	LOW	-2.18	-0.00258
10	18650	1855	Q16	25	MID	-2.2	-0.00261
10	18650	1855	Q16	25	HIGH	1.32	0.001564
10	18650	1855	Q16	50	LOW	-0.79	-0.00094
10	18900	1880	QPSK	1	LOW	-4.74	-0.00562
10	18900	1880	QPSK	1	MID	3.67	0.004348

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
10	18900	1880	QPSK	1	HIGH	3.12	0.003697
10	18900	1880	QPSK	25	LOW	-3.84	-0.00455
10	18900	1880	QPSK	25	MID	-3.44	-0.00408
10	18900	1880	QPSK	25	HIGH	4.6	0.00545
10	18900	1880	QPSK	50	LOW	-0.92	-0.00109
10	18900	1880	Q16	1	LOW	-3.39	-0.00402
10	18900	1880	Q16	1	MID	4.3	0.005095
10	18900	1880	Q16	1	HIGH	-1.3	-0.00154
10	18900	1880	Q16	25	LOW	-3.91	-0.00463
10	18900	1880	Q16	25	MID	-1.95	-0.00231
10	18900	1880	Q16	25	HIGH	-3.56	-0.00422
10	18900	1880	Q16	50	LOW	-3.46	-0.0041
10	19150	1905	QPSK	1	LOW	-3.64	-0.00431
10	19150	1905	QPSK	1	MID	-3.73	-0.00442
10	19150	1905	QPSK	1	HIGH	0.55	0.000652
10	19150	1905	QPSK	25	LOW	-2.16	-0.00256
10	19150	1905	QPSK	25	MID	0.39	0.000462
10	19150	1905	QPSK	25	HIGH	3.49	0.004135
10	19150	1905	QPSK	50	LOW	-3.44	-0.00408
10	19150	1905	Q16	1	LOW	-2.11	-0.0025
10	19150	1905	Q16	1	MID	0.08	9.48E-05
10	19150	1905	Q16	1	HIGH	-0.52	-0.00062
10	19150	1905	Q16	25	LOW	3.15	0.003732
10	19150	1905	Q16	25	MID	0.34	0.000403
10	19150	1905	Q16	25	HIGH	2.27	0.00269
10	19150	1905	Q16	50	LOW	4.85	0.005746
15	18675	1857.5	QPSK	1	LOW	1.78	0.002109
15	18675	1857.5	QPSK	1	MID	1.49	0.001765
15	18675	1857.5	QPSK	1	HIGH	3.77	0.004467
15	18675	1857.5	QPSK	36	LOW	0.76	0.0009
15	18675	1857.5	QPSK	36	MID	3.26	0.003863
15	18675	1857.5	QPSK	36	HIGH	-4.88	-0.00578
15	18675	1857.5	QPSK	75	LOW	0.35	0.000415
15	18675	1857.5	Q16	1	LOW	-1.19	-0.00141
15	18675	1857.5	Q16	1	MID	-1.13	-0.00134
15	18675	1857.5	Q16	1	HIGH	-3.14	-0.00372

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
15	18675	1857.5	Q16	36	LOW	4.55	0.005391
15	18675	1857.5	Q16	36	MID	1.5	0.001777
15	18675	1857.5	Q16	36	HIGH	-1.39	-0.00165
15	18675	1857.5	Q16	75	LOW	-3.77	-0.00447
15	18900	1880	QPSK	1	LOW	1.81	0.002145
15	18900	1880	QPSK	1	MID	-0.66	-0.00078
15	18900	1880	QPSK	1	HIGH	-2.08	-0.00246
15	18900	1880	QPSK	36	LOW	-3.75	-0.00444
15	18900	1880	QPSK	36	MID	-4.9	-0.00581
15	18900	1880	QPSK	36	HIGH	-1.55	-0.00184
15	18900	1880	QPSK	75	LOW	-3.71	-0.0044
15	18900	1880	Q16	1	LOW	-0.76	-0.0009
15	18900	1880	Q16	1	MID	-4.17	-0.00494
15	18900	1880	Q16	1	HIGH	2.35	0.002784
15	18900	1880	Q16	36	LOW	-4.61	-0.00546
15	18900	1880	Q16	36	MID	-0.46	-0.00055
15	18900	1880	Q16	36	HIGH	-4.23	-0.00501
15	18900	1880	Q16	75	LOW	4.18	0.004953
15	19125	1902.5	QPSK	1	LOW	-4.92	-0.00583
15	19125	1902.5	QPSK	1	MID	-0.08	-9.5E-05
15	19125	1902.5	QPSK	1	HIGH	1.75	0.002073
15	19125	1902.5	QPSK	36	LOW	4.78	0.005664
15	19125	1902.5	QPSK	36	MID	3.53	0.004182
15	19125	1902.5	QPSK	36	HIGH	-2.69	-0.00319
15	19125	1902.5	QPSK	75	LOW	4.68	0.005545
15	19125	1902.5	Q16	1	LOW	2.5	0.002962
15	19125	1902.5	Q16	1	MID	1.11	0.001315
15	19125	1902.5	Q16	1	HIGH	-3.06	-0.00363
15	19125	1902.5	Q16	36	LOW	4.48	0.005308
15	19125	1902.5	Q16	36	MID	-1.14	-0.00135
15	19125	1902.5	Q16	36	HIGH	2.54	0.003009
15	19125	1902.5	Q16	75	LOW	3.61	0.004277
20	18700	1860	QPSK	1	LOW	-1.19	-0.00141
20	18700	1860	QPSK	1	MID	-0.59	-0.0007
20	18700	1860	QPSK	1	HIGH	3.22	0.003815
20	18700	1860	QPSK	50	LOW	4.38	0.00519

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
20	18700	1860	QPSK	50	MID	-0.25	-0.0003
20	18700	1860	QPSK	50	HIGH	-3.19	-0.00378
20	18700	1860	QPSK	100	LOW	1.53	0.001813
20	18700	1860	Q16	1	LOW	2.75	0.003258
20	18700	1860	Q16	1	MID	-3.5	-0.00415
20	18700	1860	Q16	1	HIGH	0.01	1.18E-05
20	18700	1860	Q16	50	LOW	4.58	0.005427
20	18700	1860	Q16	50	MID	3.82	0.004526
20	18700	1860	Q16	50	HIGH	0.95	0.001126
20	18700	1860	Q16	100	LOW	-0.47	-0.00056
20	18900	1880	QPSK	1	LOW	4.3	0.005095
20	18900	1880	QPSK	1	MID	-2.42	-0.00287
20	18900	1880	QPSK	1	HIGH	1.89	0.002239
20	18900	1880	QPSK	50	LOW	2.4	0.002844
20	18900	1880	QPSK	50	MID	3.53	0.004182
20	18900	1880	QPSK	50	HIGH	1	0.001185
20	18900	1880	QPSK	100	LOW	-2.23	-0.00264
20	18900	1880	Q16	1	LOW	-1.88	-0.00223
20	18900	1880	Q16	1	MID	0.7	0.000829
20	18900	1880	Q16	1	HIGH	-0.73	-0.00086
20	18900	1880	Q16	50	LOW	-0.98	-0.00116
20	18900	1880	Q16	50	MID	-1.08	-0.00128
20	18900	1880	Q16	50	HIGH	2.77	0.003282
20	18900	1880	Q16	100	LOW	0.55	0.000652
20	19100	1900	QPSK	1	LOW	-3.25	-0.00385
20	19100	1900	QPSK	1	MID	-1.72	-0.00204
20	19100	1900	QPSK	1	HIGH	2.84	0.003365
20	19100	1900	QPSK	50	LOW	0.92	0.00109
20	19100	1900	QPSK	50	MID	-4.83	-0.00572
20	19100	1900	QPSK	50	HIGH	-3.73	-0.00442
20	19100	1900	QPSK	100	LOW	-2.17	-0.00257
20	19100	1900	Q16	1	LOW	4.1	0.004858
20	19100	1900	Q16	1	MID	1.15	0.001363
20	19100	1900	Q16	1	HIGH	-0.29	-0.00034
20	19100	1900	Q16	50	LOW	0.73	0.000865
20	19100	1900	Q16	50	MID	-2.78	-0.00329

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
20	19100	1900	Q16	50	HIGH	-1.21	-0.00143
20	19100	1900	Q16	100	LOW	3.85	0.004562

BAND 4:

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
1.4	19957	1710.7	QPSK	1	LOW	3.22	0.003815
1.4	19957	1710.7	QPSK	1	MID	-2.65	-0.00314
1.4	19957	1710.7	QPSK	1	HIGH	2.76	0.00327
1.4	19957	1710.7	QPSK	3	LOW	2.38	0.00282
1.4	19957	1710.7	QPSK	3	MID	2.06	0.002441
1.4	19957	1710.7	QPSK	3	HIGH	3.24	0.003839
1.4	19957	1710.7	QPSK	6	LOW	-0.29	-0.00034
1.4	19957	1710.7	Q16	1	LOW	1.86	0.002204
1.4	19957	1710.7	Q16	1	MID	3.99	0.004727
1.4	19957	1710.7	Q16	1	HIGH	-4.34	-0.00514
1.4	19957	1710.7	Q16	3	LOW	0.68	0.000806
1.4	19957	1710.7	Q16	3	MID	2.06	0.002441
1.4	19957	1710.7	Q16	3	HIGH	-4.76	-0.00564
1.4	19957	1710.7	Q16	6	LOW	-4.09	-0.00485
1.4	20393	1754.3	QPSK	1	LOW	1.12	0.001327
1.4	20393	1754.3	QPSK	1	MID	4.35	0.005154
1.4	20393	1754.3	QPSK	1	HIGH	-3.69	-0.00437
1.4	20393	1754.3	QPSK	3	LOW	3.49	0.004135
1.4	20393	1754.3	QPSK	3	MID	3.52	0.004171
1.4	20393	1754.3	QPSK	3	HIGH	-5	-0.00592
1.4	20393	1754.3	QPSK	6	LOW	1.32	0.001564
1.4	20393	1754.3	Q16	1	LOW	-2.79	-0.00331
1.4	20393	1754.3	Q16	1	MID	0.11	0.00013
1.4	20393	1754.3	Q16	1	HIGH	-0.71	-0.00084
1.4	20393	1754.3	Q16	3	LOW	-2.73	-0.00323
1.4	20393	1754.3	Q16	3	MID	-2.09	-0.00248
1.4	20393	1754.3	Q16	3	HIGH	-0.18	-0.00021
1.4	20393	1754.3	Q16	6	LOW	0.09	0.000107
1.4	20175	1732.5	QPSK	1	LOW	4.16	0.004929
1.4	20175	1732.5	QPSK	1	MID	2.78	0.003294
1.4	20175	1732.5	QPSK	1	HIGH	-0.51	-0.0006
1.4	20175	1732.5	QPSK	3	LOW	3.77	0.004467
1.4	20175	1732.5	QPSK	3	MID	-4.34	-0.00514
1.4	20175	1732.5	QPSK	3	HIGH	-1.85	-0.00219

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
1.4	20175	1732.5	QPSK	6	LOW	3.94	0.004668
1.4	20175	1732.5	Q16	1	LOW	-3.66	-0.00434
1.4	20175	1732.5	Q16	1	MID	1.58	0.001872
1.4	20175	1732.5	Q16	1	HIGH	-3.42	-0.00405
1.4	20175	1732.5	Q16	3	LOW	-2.16	-0.00256
1.4	20175	1732.5	Q16	3	MID	0.32	0.000379
1.4	20175	1732.5	Q16	3	HIGH	-1.28	-0.00152
1.4	20175	1732.5	Q16	6	LOW	-3.97	-0.0047
3	19965	1711.5	QPSK	1	LOW	-1.71	-0.00203
3	19965	1711.5	QPSK	1	MID	-1.26	-0.00149
3	19965	1711.5	QPSK	1	HIGH	4.42	0.005237
3	19965	1711.5	QPSK	8	LOW	-4.21	-0.00499
3	19965	1711.5	QPSK	8	MID	3.16	0.003744
3	19965	1711.5	QPSK	8	HIGH	-1.89	-0.00224
3	19965	1711.5	QPSK	15	LOW	5	0.005924
3	19965	1711.5	Q16	1	LOW	1.94	0.002299
3	19965	1711.5	Q16	1	MID	4.06	0.00481
3	19965	1711.5	Q16	1	HIGH	3.6	0.004265
3	19965	1711.5	Q16	8	LOW	3.52	0.004171
3	19965	1711.5	Q16	8	MID	0.64	0.000758
3	19965	1711.5	Q16	8	HIGH	-1.2	-0.00142
3	19965	1711.5	Q16	15	LOW	-4.5	-0.00533
3	20385	1753.5	QPSK	1	LOW	0.55	0.000652
3	20385	1753.5	QPSK	1	MID	2.1	0.002488
3	20385	1753.5	QPSK	1	HIGH	-1.21	-0.00143
3	20385	1753.5	QPSK	8	LOW	3.43	0.004064
3	20385	1753.5	QPSK	8	MID	3.92	0.004645
3	20385	1753.5	QPSK	8	HIGH	1.36	0.001611
3	20385	1753.5	QPSK	15	LOW	3.76	0.004455
3	20385	1753.5	Q16	1	LOW	4.93	0.005841
3	20385	1753.5	Q16	1	MID	0.56	0.000664
3	20385	1753.5	Q16	1	HIGH	2.06	0.002441
3	20385	1753.5	Q16	8	LOW	-2.07	-0.00245
3	20385	1753.5	Q16	8	MID	0.28	0.000332
3	20385	1753.5	Q16	8	HIGH	-0.41	-0.00049
3	20385	1753.5	Q16	15	LOW	-3.4	-0.00403

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
3	20175	1732.5	QPSK	1	LOW	4.54	0.005379
3	20175	1732.5	QPSK	1	MID	-1	-0.00118
3	20175	1732.5	QPSK	1	HIGH	4.35	0.005154
3	20175	1732.5	QPSK	8	LOW	-3.27	-0.00387
3	20175	1732.5	QPSK	8	MID	-0.22	-0.00026
3	20175	1732.5	QPSK	8	HIGH	4.79	0.005675
3	20175	1732.5	QPSK	15	LOW	0.74	0.000877
3	20175	1732.5	Q16	1	LOW	2.58	0.003057
3	20175	1732.5	Q16	1	MID	1.29	0.001528
3	20175	1732.5	Q16	1	HIGH	3.06	0.003626
3	20175	1732.5	Q16	8	LOW	0.55	0.000652
3	20175	1732.5	Q16	8	MID	0.3	0.000355
3	20175	1732.5	Q16	8	HIGH	-0.71	-0.00084
3	20175	1732.5	Q16	15	LOW	1.71	0.002026
5	19975	1712.5	QPSK	1	LOW	2.58	0.003057
5	19975	1712.5	QPSK	1	MID	-4.6	-0.00545
5	19975	1712.5	QPSK	1	HIGH	2.33	0.002761
5	19975	1712.5	QPSK	12	LOW	2.44	0.002891
5	19975	1712.5	QPSK	12	MID	-0.37	-0.00044
5	19975	1712.5	QPSK	12	HIGH	3.1	0.003673
5	19975	1712.5	QPSK	25	LOW	-4.67	-0.00553
5	19975	1712.5	Q16	1	LOW	3.51	0.004159
5	19975	1712.5	Q16	1	MID	2.25	0.002666
5	19975	1712.5	Q16	1	HIGH	3.75	0.004443
5	19975	1712.5	Q16	12	LOW	3.61	0.004277
5	19975	1712.5	Q16	12	MID	-3.39	-0.00402
5	19975	1712.5	Q16	12	HIGH	1.27	0.001505
5	19975	1712.5	Q16	25	LOW	-3.33	-0.00395
5	20375	1752.5	QPSK	1	LOW	2.77	0.003282
5	20375	1752.5	QPSK	1	MID	-1.73	-0.00205
5	20375	1752.5	QPSK	1	HIGH	0.33	0.000391
5	20375	1752.5	QPSK	12	LOW	1.16	0.001374
5	20375	1752.5	QPSK	12	MID	-1.82	-0.00216
5	20375	1752.5	QPSK	12	HIGH	1.63	0.001931
5	20375	1752.5	QPSK	25	LOW	-5	-0.00592
5	20375	1752.5	Q16	1	LOW	-1.09	-0.00129

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
5	20375	1752.5	Q16	1	MID	0.62	0.000735
5	20375	1752.5	Q16	1	HIGH	3.7	0.004384
5	20375	1752.5	Q16	12	LOW	3.19	0.00378
5	20375	1752.5	Q16	12	MID	-2.78	-0.00329
5	20375	1752.5	Q16	12	HIGH	-2.6	-0.00308
5	20375	1752.5	Q16	25	LOW	-2.34	-0.00277
5	20175	1732.5	QPSK	1	LOW	-0.64	-0.00076
5	20175	1732.5	QPSK	1	MID	4.21	0.004988
5	20175	1732.5	QPSK	1	HIGH	-1.96	-0.00232
5	20175	1732.5	QPSK	12	LOW	-0.86	-0.00102
5	20175	1732.5	QPSK	12	MID	4.62	0.005474
5	20175	1732.5	QPSK	12	HIGH	2.77	0.003282
5	20175	1732.5	QPSK	25	LOW	-0.03	-3.6E-05
5	20175	1732.5	Q16	1	LOW	-3.86	-0.00457
5	20175	1732.5	Q16	1	MID	0.15	0.000178
5	20175	1732.5	Q16	1	HIGH	-2.72	-0.00322
5	20175	1732.5	Q16	12	LOW	-4.67	-0.00553
5	20175	1732.5	Q16	12	MID	-4.09	-0.00485
5	20175	1732.5	Q16	12	HIGH	-3.92	-0.00464
5	20175	1732.5	Q16	25	LOW	2.53	0.002998
10	20000	1715	QPSK	1	LOW	-3.02	-0.00358
10	20000	1715	QPSK	1	MID	1.17	0.001386
10	20000	1715	QPSK	1	HIGH	-2.71	-0.00321
10	20000	1715	QPSK	25	LOW	-2.29	-0.00271
10	20000	1715	QPSK	25	MID	-0.76	-0.0009
10	20000	1715	QPSK	25	HIGH	1.14	0.001351
10	20000	1715	QPSK	50	LOW	-2.95	-0.0035
10	20000	1715	Q16	1	LOW	-4.86	-0.00576
10	20000	1715	Q16	1	MID	-3.67	-0.00435
10	20000	1715	Q16	1	HIGH	0.96	0.001137
10	20000	1715	Q16	25	LOW	0.06	7.11E-05
10	20000	1715	Q16	25	MID	-3.59	-0.00425
10	20000	1715	Q16	25	HIGH	-1.46	-0.00173
10	20000	1715	Q16	50	LOW	4.58	0.005427
10	20350	1750	QPSK	1	LOW	-1.52	-0.0018
10	20350	1750	QPSK	1	MID	-0.34	-0.0004

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
10	20350	1750	QPSK	1	HIGH	-4.93	-0.00584
10	20350	1750	QPSK	25	LOW	-2.74	-0.00325
10	20350	1750	QPSK	25	MID	3.32	0.003934
10	20350	1750	QPSK	25	HIGH	4.4	0.005213
10	20350	1750	QPSK	50	LOW	-2.21	-0.00262
10	20350	1750	Q16	1	LOW	4.75	0.005628
10	20350	1750	Q16	1	MID	4.66	0.005521
10	20350	1750	Q16	1	HIGH	2.87	0.0034
10	20350	1750	Q16	25	LOW	0.23	0.000273
10	20350	1750	Q16	25	MID	-4.73	-0.0056
10	20350	1750	Q16	25	HIGH	-1.53	-0.00181
10	20350	1750	Q16	50	LOW	2.78	0.003294
10	20175	1732.5	QPSK	1	LOW	-0.61	-0.00072
10	20175	1732.5	QPSK	1	MID	0.56	0.000664
10	20175	1732.5	QPSK	1	HIGH	1.84	0.00218
10	20175	1732.5	QPSK	25	LOW	2.4	0.002844
10	20175	1732.5	QPSK	25	MID	-4.11	-0.00487
10	20175	1732.5	QPSK	25	HIGH	-4.51	-0.00534
10	20175	1732.5	QPSK	50	LOW	-1.09	-0.00129
10	20175	1732.5	Q16	1	LOW	2.95	0.003495
10	20175	1732.5	Q16	1	MID	2.98	0.003531
10	20175	1732.5	Q16	1	HIGH	2.44	0.002891
10	20175	1732.5	Q16	25	LOW	-2.87	-0.0034
10	20175	1732.5	Q16	25	MID	2.88	0.003412
10	20175	1732.5	Q16	25	HIGH	-1.19	-0.00141
10	20175	1732.5	Q16	50	LOW	-3.17	-0.00376
15	20025	1717.5	QPSK	1	LOW	-0.65	-0.00077
15	20025	1717.5	QPSK	1	MID	0.62	0.000735
15	20025	1717.5	QPSK	1	HIGH	4.09	0.004846
15	20025	1717.5	QPSK	36	LOW	2.5	0.002962
15	20025	1717.5	QPSK	36	MID	1.12	0.001327
15	20025	1717.5	QPSK	36	HIGH	3.25	0.003851
15	20025	1717.5	QPSK	75	LOW	3.16	0.003744
15	20025	1717.5	Q16	1	LOW	-1.92	-0.00227
15	20025	1717.5	Q16	1	MID	2.92	0.00346
15	20025	1717.5	Q16	1	HIGH	1.85	0.002192

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
15	20025	1717.5	Q16	36	LOW	-0.9	-0.00107
15	20025	1717.5	Q16	36	MID	-1.33	-0.00158
15	20025	1717.5	Q16	36	HIGH	-3.14	-0.00372
15	20025	1717.5	Q16	75	LOW	-0.3	-0.00036
15	20325	1747.5	QPSK	1	LOW	2.97	0.003519
15	20325	1747.5	QPSK	1	MID	-4.9	-0.00581
15	20325	1747.5	QPSK	1	HIGH	-0.75	-0.00089
15	20325	1747.5	QPSK	36	LOW	2.38	0.00282
15	20325	1747.5	QPSK	36	MID	-0.74	-0.00088
15	20325	1747.5	QPSK	36	HIGH	4.31	0.005107
15	20325	1747.5	QPSK	75	LOW	-2.9	-0.00344
15	20325	1747.5	Q16	1	LOW	3.52	0.004171
15	20325	1747.5	Q16	1	MID	-2.89	-0.00342
15	20325	1747.5	Q16	1	HIGH	3.98	0.004716
15	20325	1747.5	Q16	36	LOW	-2.21	-0.00262
15	20325	1747.5	Q16	36	MID	-3.71	-0.0044
15	20325	1747.5	Q16	36	HIGH	4.53	0.005367
15	20325	1747.5	Q16	75	LOW	-0.15	-0.00018
15	20175	1732.5	QPSK	1	LOW	-3.03	-0.00359
15	20175	1732.5	QPSK	1	MID	0.66	0.000782
15	20175	1732.5	QPSK	1	HIGH	-4.82	-0.00571
15	20175	1732.5	QPSK	36	LOW	-2.97	-0.00352
15	20175	1732.5	QPSK	36	MID	-1.89	-0.00224
15	20175	1732.5	QPSK	36	HIGH	0.24	0.000284
15	20175	1732.5	QPSK	75	LOW	-4.47	-0.0053
15	20175	1732.5	Q16	1	LOW	-0.07	-8.3E-05
15	20175	1732.5	Q16	1	MID	2.39	0.002832
15	20175	1732.5	Q16	1	HIGH	-4.7	-0.00557
15	20175	1732.5	Q16	36	LOW	1.58	0.001872
15	20175	1732.5	Q16	36	MID	-2.93	-0.00347
15	20175	1732.5	Q16	36	HIGH	3.6	0.004265
15	20175	1732.5	Q16	75	LOW	-4.23	-0.00501
20	20050	1720	QPSK	1	LOW	2.38	0.00282
20	20050	1720	QPSK	1	MID	3.68	0.00436
20	20050	1720	QPSK	1	HIGH	-0.36	-0.00043
20	20050	1720	QPSK	50	LOW	4.11	0.00487

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
20	20050	1720	QPSK	50	MID	-0.64	-0.00076
20	20050	1720	QPSK	50	HIGH	3.18	0.003768
20	20050	1720	QPSK	100	LOW	0.83	0.000983
20	20050	1720	Q16	1	LOW	1.42	0.001682
20	20050	1720	Q16	1	MID	-0.69	-0.00082
20	20050	1720	Q16	1	HIGH	0.22	0.000261
20	20050	1720	Q16	50	LOW	2.69	0.003187
20	20050	1720	Q16	50	MID	4.39	0.005201
20	20050	1720	Q16	50	HIGH	-3.29	-0.0039
20	20050	1720	Q16	100	LOW	2.82	0.003341
20	20300	1745	QPSK	1	LOW	2.76	0.00327
20	20300	1745	QPSK	1	MID	0.07	8.29E-05
20	20300	1745	QPSK	1	HIGH	-0.32	-0.00038
20	20300	1745	QPSK	50	LOW	0.64	0.000758
20	20300	1745	QPSK	50	MID	0.15	0.000178
20	20300	1745	QPSK	50	HIGH	-0.97	-0.00115
20	20300	1745	QPSK	100	LOW	1.51	0.001789
20	20300	1745	Q16	1	LOW	4.45	0.005273
20	20300	1745	Q16	1	MID	-3.47	-0.00411
20	20300	1745	Q16	1	HIGH	-3.35	-0.00397
20	20300	1745	Q16	50	LOW	-0.08	-9.5E-05
20	20300	1745	Q16	50	MID	-1.28	-0.00152
20	20300	1745	Q16	50	HIGH	0.48	0.000569
20	20300	1745	Q16	100	LOW	4.05	0.004799
20	20175	1732.5	QPSK	1	LOW	2.69	0.003187
20	20175	1732.5	QPSK	1	MID	0.64	0.000758
20	20175	1732.5	QPSK	1	HIGH	-0.15	-0.00018
20	20175	1732.5	QPSK	50	LOW	3.26	0.003863
20	20175	1732.5	QPSK	50	MID	-4.54	-0.00538
20	20175	1732.5	QPSK	50	HIGH	4.6	0.00545
20	20175	1732.5	QPSK	100	LOW	1.28	0.001517
20	20175	1732.5	Q16	1	LOW	-3.18	-0.00377
20	20175	1732.5	Q16	1	MID	-3.97	-0.0047
20	20175	1732.5	Q16	1	HIGH	0.47	0.000557
20	20175	1732.5	Q16	50	LOW	1.45	0.001718
20	20175	1732.5	Q16	50	MID	-1.83	-0.00217

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
20	20175	1732.5	Q16	50	HIGH	-2.12	-0.00251
20	20175	1732.5	Q16	100	LOW	3.93	0.004656

BAND 5:

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
1.4	20470	824.7	QPSK	1	LOW	-2.78	-0.00329
1.4	20470	824.7	QPSK	1	MID	4.55	0.005391
1.4	20470	824.7	QPSK	1	HIGH	-4.02	-0.00476
1.4	20470	824.7	QPSK	3	LOW	4.19	0.004964
1.4	20470	824.7	QPSK	3	MID	-3.82	-0.00453
1.4	20470	824.7	QPSK	3	HIGH	-4.53	-0.00537
1.4	20470	824.7	QPSK	6	LOW	0.65	0.00077
1.4	20470	824.7	Q16	1	LOW	-2.58	-0.00306
1.4	20470	824.7	Q16	1	MID	-0.98	-0.00116
1.4	20470	824.7	Q16	1	HIGH	-4.99	-0.00591
1.4	20470	824.7	Q16	3	LOW	-2.68	-0.00318
1.4	20470	824.7	Q16	3	MID	-1.75	-0.00207
1.4	20470	824.7	Q16	3	HIGH	3.26	0.003863
1.4	20470	824.7	Q16	6	LOW	-0.12	-0.00014
1.4	20525	836.5	QPSK	1	LOW	2.96	0.003507
1.4	20525	836.5	QPSK	1	MID	2.08	0.002464
1.4	20525	836.5	QPSK	1	HIGH	-0.42	-0.0005
1.4	20525	836.5	QPSK	3	LOW	-0.49	-0.00058
1.4	20525	836.5	QPSK	3	MID	4.74	0.005616
1.4	20525	836.5	QPSK	3	HIGH	-1.5	-0.00178
1.4	20525	836.5	QPSK	6	LOW	-3.58	-0.00424
1.4	20525	836.5	Q16	1	LOW	-2.98	-0.00353
1.4	20525	836.5	Q16	1	MID	-1.81	-0.00214
1.4	20525	836.5	Q16	1	HIGH	-4.08	-0.00483
1.4	20525	836.5	Q16	3	LOW	3.39	0.004017
1.4	20525	836.5	Q16	3	MID	-2.13	-0.00252
1.4	20525	836.5	Q16	3	HIGH	-2.89	-0.00342
1.4	20525	836.5	Q16	6	LOW	-4.33	-0.00513
1.4	20643	848.3	QPSK	1	LOW	1.78	0.002109
1.4	20643	848.3	QPSK	1	MID	-0.17	-0.0002
1.4	20643	848.3	QPSK	1	HIGH	4.7	0.005569
1.4	20643	848.3	QPSK	3	LOW	-0.6	-0.00071
1.4	20643	848.3	QPSK	3	MID	4.82	0.005711
1.4	20643	848.3	QPSK	3	HIGH	-4.65	-0.00551
1.4	20643	848.3	QPSK	6	LOW	1.65	0.001955

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
1.4	20643	848.3	Q16	1	LOW	1.13	0.001339
1.4	20643	848.3	Q16	1	MID	4.25	0.005036
1.4	20643	848.3	Q16	1	HIGH	2.55	0.003021
1.4	20643	848.3	Q16	3	LOW	-3.5	-0.00415
1.4	20643	848.3	Q16	3	MID	-0.4	-0.00047
1.4	20643	848.3	Q16	3	HIGH	0.52	0.000616
1.4	20643	848.3	Q16	6	LOW	-3.05	-0.00361
3	20415	825.5	QPSK	1	LOW	0.27	0.00032
3	20415	825.5	QPSK	1	MID	2.35	0.002784
3	20415	825.5	QPSK	1	HIGH	1.85	0.002192
3	20415	825.5	QPSK	8	LOW	3.33	0.003945
3	20415	825.5	QPSK	8	MID	-4	-0.00474
3	20415	825.5	QPSK	8	HIGH	4.18	0.004953
3	20415	825.5	QPSK	15	LOW	-3.95	-0.00468
3	20415	825.5	Q16	1	LOW	-4.36	-0.00517
3	20415	825.5	Q16	1	MID	-0.37	-0.00044
3	20415	825.5	Q16	1	HIGH	-2.86	-0.00339
3	20415	825.5	Q16	8	LOW	-4.83	-0.00572
3	20415	825.5	Q16	8	MID	2.1	0.002488
3	20415	825.5	Q16	8	HIGH	-2.52	-0.00299
3	20415	825.5	Q16	15	LOW	-1.24	-0.00147
3	20525	836.5	QPSK	1	LOW	-2.15	-0.00255
3	20525	836.5	QPSK	1	MID	3.44	0.004076
3	20525	836.5	QPSK	1	HIGH	4.31	0.005107
3	20525	836.5	QPSK	8	LOW	0.15	0.000178
3	20525	836.5	QPSK	8	MID	3.4	0.004028
3	20525	836.5	QPSK	8	HIGH	-3.84	-0.00455
3	20525	836.5	QPSK	15	LOW	-3.87	-0.00459
3	20525	836.5	Q16	1	LOW	3.78	0.004479
3	20525	836.5	Q16	1	MID	2.04	0.002417
3	20525	836.5	Q16	1	HIGH	4.63	0.005486
3	20525	836.5	Q16	8	LOW	-3.33	-0.00395
3	20525	836.5	Q16	8	MID	0.44	0.000521
3	20525	836.5	Q16	8	HIGH	-4.94	-0.00585
3	20525	836.5	Q16	15	LOW	-2.95	-0.0035
3	20635	847.5	QPSK	1	LOW	-3.15	-0.00373

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
3	20635	847.5	QPSK	1	MID	4.25	0.005036
3	20635	847.5	QPSK	1	HIGH	2.17	0.002571
3	20635	847.5	QPSK	8	LOW	-1.97	-0.00233
3	20635	847.5	QPSK	8	MID	4.91	0.005818
3	20635	847.5	QPSK	8	HIGH	-1.96	-0.00232
3	20635	847.5	QPSK	15	LOW	1.75	0.002073
3	20635	847.5	Q16	1	LOW	1.76	0.002085
3	20635	847.5	Q16	1	MID	-3.05	-0.00361
3	20635	847.5	Q16	1	HIGH	1.16	0.001374
3	20635	847.5	Q16	8	LOW	3.53	0.004182
3	20635	847.5	Q16	8	MID	1.75	0.002073
3	20635	847.5	Q16	8	HIGH	-2.36	-0.0028
3	20635	847.5	Q16	15	LOW	2.84	0.003365
5	20425	826.5	QPSK	1	LOW	-1.44	-0.00171
5	20425	826.5	QPSK	1	MID	-3.26	-0.00386
5	20425	826.5	QPSK	1	HIGH	-2.92	-0.00346
5	20425	826.5	QPSK	12	LOW	1.43	0.001694
5	20425	826.5	QPSK	12	MID	-3.16	-0.00374
5	20425	826.5	QPSK	12	HIGH	-3.13	-0.00371
5	20425	826.5	QPSK	25	LOW	0.09	0.000107
5	20425	826.5	Q16	1	LOW	-1.78	-0.00211
5	20425	826.5	Q16	1	MID	2.11	0.0025
5	20425	826.5	Q16	1	HIGH	-1.09	-0.00129
5	20425	826.5	Q16	12	LOW	4.77	0.005652
5	20425	826.5	Q16	12	MID	2.05	0.002429
5	20425	826.5	Q16	12	HIGH	-1.79	-0.00212
5	20425	826.5	Q16	25	LOW	0.43	0.000509
5	20525	836.5	QPSK	1	LOW	-0.57	-0.00068
5	20525	836.5	QPSK	1	MID	-4.34	-0.00514
5	20525	836.5	QPSK	1	HIGH	-0.3	-0.00036
5	20525	836.5	QPSK	12	LOW	4.38	0.00519
5	20525	836.5	QPSK	12	MID	-1.41	-0.00167
5	20525	836.5	QPSK	12	HIGH	4.6	0.00545
5	20525	836.5	QPSK	25	LOW	-4.83	-0.00572
5	20525	836.5	Q16	1	LOW	-1.46	-0.00173
5	20525	836.5	Q16	1	MID	-0.67	-0.00079

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
5	20525	836.5	Q16	1	HIGH	-4.25	-0.00504
5	20525	836.5	Q16	12	LOW	-2.17	-0.00257
5	20525	836.5	Q16	12	MID	2.77	0.003282
5	20525	836.5	Q16	12	HIGH	-0.47	-0.00056
5	20525	836.5	Q16	25	LOW	4.6	0.00545
5	20625	846.5	QPSK	1	LOW	-1.21	-0.00143
5	20625	846.5	QPSK	1	MID	-4.06	-0.00481
5	20625	846.5	QPSK	1	HIGH	4.05	0.004799
5	20625	846.5	QPSK	12	LOW	-1.97	-0.00233
5	20625	846.5	QPSK	12	MID	4.48	0.005308
5	20625	846.5	QPSK	12	HIGH	3.28	0.003886
5	20625	846.5	QPSK	25	LOW	-4.28	-0.00507
5	20625	846.5	Q16	1	LOW	-1.46	-0.00173
5	20625	846.5	Q16	1	MID	3.61	0.004277
5	20625	846.5	Q16	1	HIGH	-0.92	-0.00109
5	20625	846.5	Q16	12	LOW	-3.27	-0.00387
5	20625	846.5	Q16	12	MID	-4.47	-0.0053
5	20625	846.5	Q16	12	HIGH	-0.03	-3.6E-05
5	20625	846.5	Q16	25	LOW	-4.47	-0.0053
10	20450	829	QPSK	1	LOW	1.19	0.00141
10	20450	829	QPSK	1	MID	2.98	0.003531
10	20450	829	QPSK	1	HIGH	-3.32	-0.00393
10	20450	829	QPSK	25	LOW	-3.48	-0.00412
10	20450	829	QPSK	25	MID	-4.22	-0.005
10	20450	829	QPSK	25	HIGH	-4.42	-0.00524
10	20450	829	QPSK	50	LOW	4.17	0.004941
10	20450	829	Q16	1	LOW	2.65	0.00314
10	20450	829	Q16	1	MID	1.35	0.0016
10	20450	829	Q16	1	HIGH	-1.83	-0.00217
10	20450	829	Q16	25	LOW	3.2	0.003791
10	20450	829	Q16	25	MID	3.8	0.004502
10	20450	829	Q16	25	HIGH	0.18	0.000213
10	20450	829	Q16	50	LOW	0.51	0.000604
10	20525	836.5	QPSK	1	LOW	0.8	0.000948
10	20525	836.5	QPSK	1	MID	3.47	0.004111
10	20525	836.5	QPSK	1	HIGH	-1.06	-0.00126

Bandwidth	UL Channel	Frequency	Modulation	RB	RB	Frequency Error	Frequency Error
				Size	Offset	(Hz)	(ppm)
10	20525	836.5	QPSK	25	LOW	-4.03	-0.00477
10	20525	836.5	QPSK	25	MID	4.07	0.004822
10	20525	836.5	QPSK	25	HIGH	-4.49	-0.00532
10	20525	836.5	QPSK	50	LOW	-2.95	-0.0035
10	20525	836.5	Q16	1	LOW	-1.74	-0.00206
10	20525	836.5	Q16	1	MID	-2.39	-0.00283
10	20525	836.5	Q16	1	HIGH	-0.31	-0.00037
10	20525	836.5	Q16	25	LOW	-1.74	-0.00206
10	20525	836.5	Q16	25	MID	4.97	0.005889
10	20525	836.5	Q16	25	HIGH	4.49	0.00532
10	20525	836.5	Q16	50	LOW	3.68	0.00436
10	20600	844	QPSK	1	LOW	-0.34	-0.0004
10	20600	844	QPSK	1	MID	-0.02	-2.4E-05
10	20600	844	QPSK	1	HIGH	-4.33	-0.00513
10	20600	844	QPSK	25	LOW	-3.71	-0.0044
10	20600	844	QPSK	25	MID	-0.79	-0.00094
10	20600	844	QPSK	25	HIGH	3.22	0.003815
10	20600	844	QPSK	50	LOW	1.71	0.002026
10	20600	844	Q16	1	LOW	0.22	0.000261
10	20600	844	Q16	1	MID	-4	-0.00474
10	20600	844	Q16	1	HIGH	1.04	0.001232
10	20600	844	Q16	25	LOW	-1.72	-0.00204
10	20600	844	Q16	25	MID	-1.44	-0.00171
10	20600	844	Q16	25	HIGH	-0.19	-0.00023
10	20600	844	Q16	50	LOW	-0.36	-0.00043

8 OCCUPIED BANDWIDTH & Emission Bandwidth

Test limit:

The occupied bandwidth (OBW), that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission, shall be measured when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated. The signal shall be applied through any filter networks, pseudo-random generators or other devices required in normal service. Additionally, the occupied bandwidth shall be shown for operation with any devices used for modifying the spectrum when such devices are optional at the discretion of the user. [ii2.1049(h)]

Many of the individual rule parts specify a relative OBW in lieu of the 99% OBW. In such cases, the OBW is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated by at least X dB below the transmitter power, where the value of X is typically specified as 26.

The relative OBW must be measured and reported when it is specified in the applicable rule part; otherwise, the 99% OBW shall be measured and reported. The test report shall specify which OBW is reported.

A spectrum/signal analyzer or other instrument providing a spectral display is recommended for these measurements and the video bandwidth shall be set to a value at least three times greater than the IF/resolution bandwidth to avoid any amplitude smoothing. Video filtering shall not be used during occupied bandwidth tests.

The OBW shall be measured for all operating conditions that will affect the bandwidth results (e.g. variable modulations, coding, or channel bandwidth settings). See section 4.

Test procedure:

Occupied bandwidth – relative measurement procedure

The reference value is the highest level of the spectral envelope of the modulated signal.

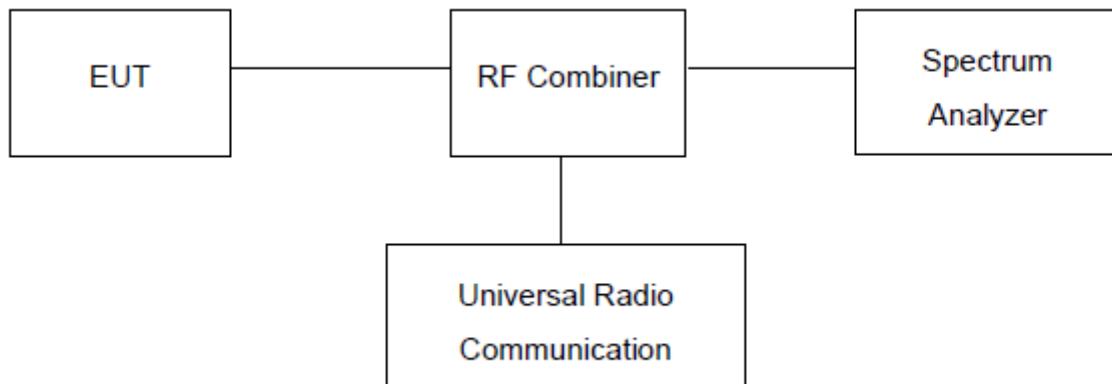
- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
- b) The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
- c) Set the reference level of the instrument as required to prevent the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least $10\log(\text{OBW} / \text{RBW})$ dB below the reference level.
- d) NOTE—Steps a) through c) may require iteration to adjust within the specified tolerances.
- e) The dynamic range of the spectrum analyzer at the selected RBW shall be at least 10 dB below the target “-X dB down” requirement (i.e., if the requirement calls for measuring the -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference value).
- f) Set the detection mode to peak, and the trace mode to max hold.
- g) Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
- h) Determine the “-X dB down amplitude” as equal to (Reference Value – X). Alternatively, this calculation can be performed by the analyzer by using the marker-delta function.
- i) Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step g). If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
- j) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display. The frequency and amplitude axes and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Occupied bandwidth – power bandwidth (99%) measurement procedure

The following procedure shall be used for measuring (99 %) power bandwidth

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
- c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least $10\log(\text{OBW} / \text{RBW})$ below the reference level.
- d) NOTE—Steps a) through c) may require iteration to adjust within the specified tolerances.
- e) Set the detection mode to peak, and the trace mode to max hold..
- f) Use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99 % power bandwidth function, the trace data points are to be recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % power bandwidth is the difference between these two frequencies.
- h) The OBW shall be reported by providing plot(s) of the measuring instrument display. The frequency and amplitude axes and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Test setup:



8.1 Measurement Result

GSM850:

Frequency	OBW(99%)	26dB BW
824.2	245.19KHz	310.90KHz
836.6	243.59KHz	309.29KHz
848.8	243.59KHz	309.29KHz

PCS1900:

Frequency	OBW(99%)	26dB BW
1850.2	245.19KHz	312.50KHz
1880	246.79KHz	310.90KHz
1909.8	246.79KHz	315.71KHz

GPRS850:

Frequency	OBW(99%)	26dB BW
824.2	245.19KHz	317.31KHz
836.6	245.19KHz	314.10KHz
848.8	245.19KHz	315.71KHz

GPRS 1900:

Frequency	OBW(99%)	26dB BW
1850.2	245.19KHz	309.29KHz
1880	243.59KHz	310.90KHz
1909.8	243.59KHz	317.31KHz

EGPRS 850:

Frequency	OBW(99%)	26dB BW
824.2	243.59KHz	310.90KHz
836.6	245.19KHz	296.47KHz
848.8	245.19KHz	294.87KHz

EGPRS 1900:

Frequency	OBW(99%)	26dB BW
1850.2	243.59KHz	296.47KHz
1880	245.19KHz	315.71KHz
1909.8	243.59KHz	314.10KHz

UTRA BANDS**BAND 2:**

Frequency	OBW(99%)	26dB BW
1852.4	4.167MHz	4.699MHz
1880	4.167MHz	4.712MHz
1907.6	4.135MHz	4.696MHz

BAND 4:

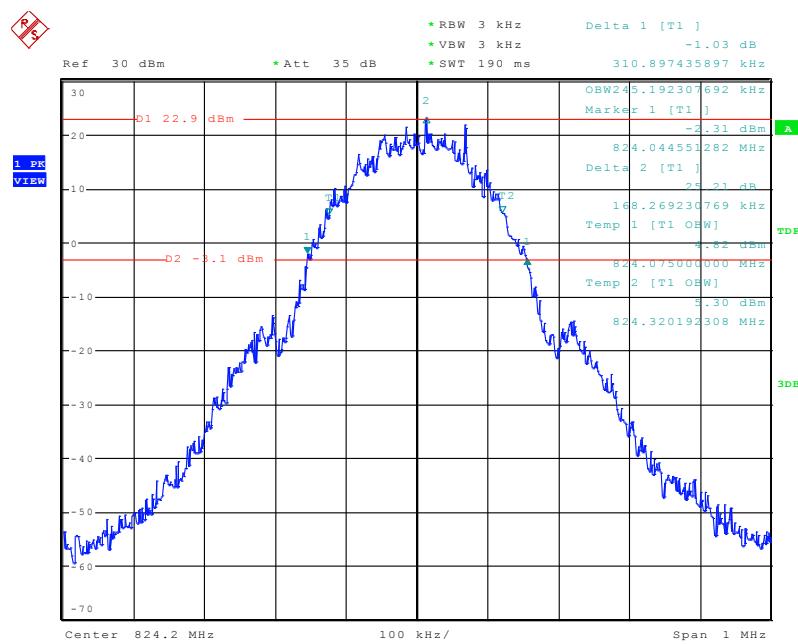
Frequency	OBW(99%)	26dB BW
1712.4	4.167MHz	4.696MHz
1732.6	4.167MHz	4.696MHz
1752.6	4.167MHz	4.680MHz

BAND 5:

Frequency	OBW(99%)	26dB BW
826.4	4.167MHz	4.649MHz
836.4	4.515MHz	4.647MHz
846.6	4.167MHz	4.679MHz

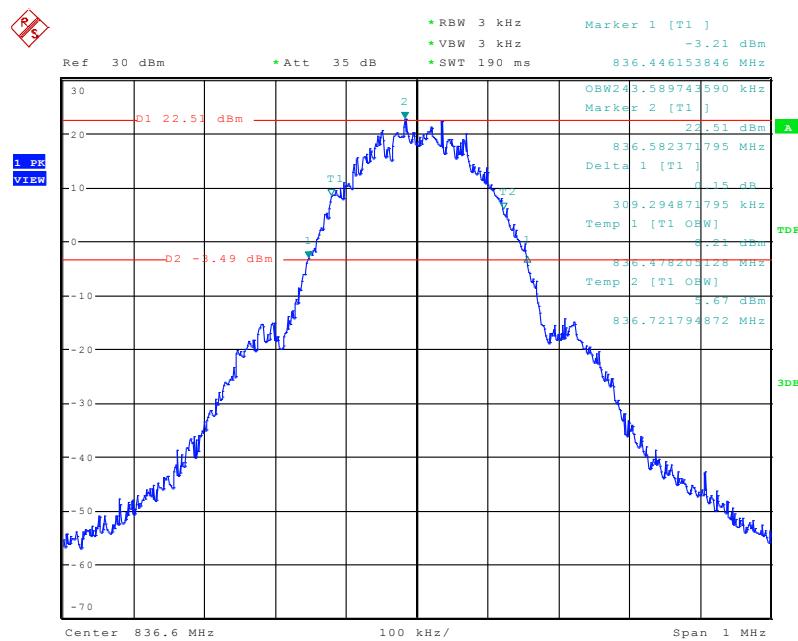
8.2 Test Plot(s)

Occupied Bandwidth (99% and -26dBc) GSM 850 BAND CH 128



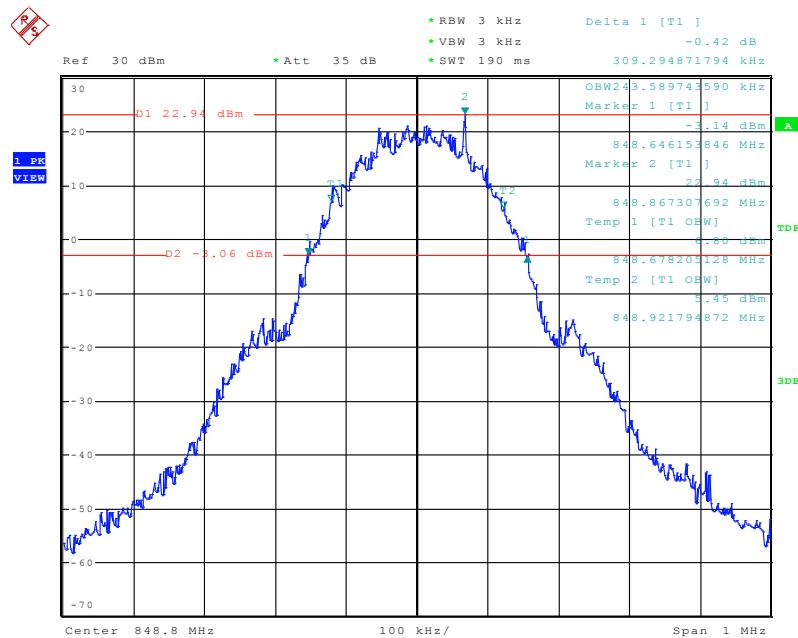
Date: 28.MAR.2017 10:24:46

Occupied Bandwidth (99% and -26dBc) GSM 850 BAND CH 190



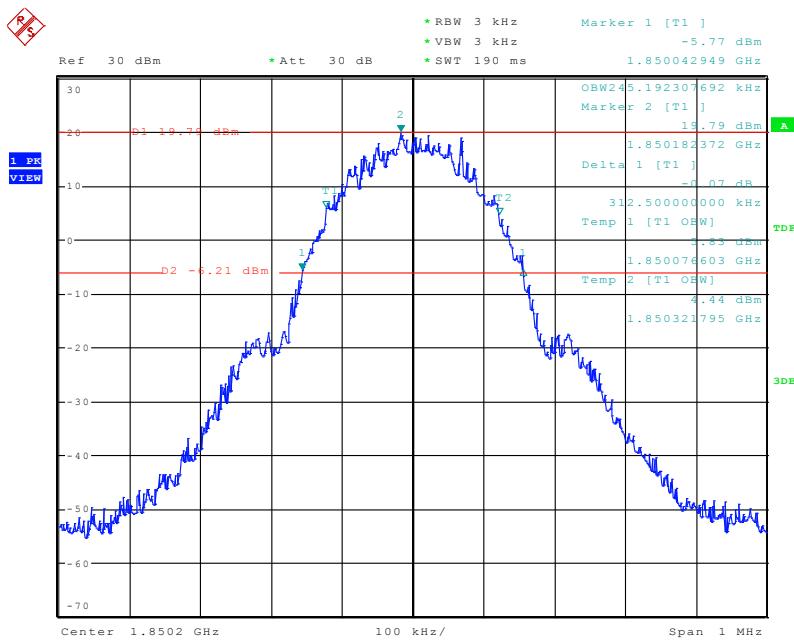
Date: 28.MAR.2017 10:29:01

Occupied Bandwidth (99% and -26dBc) GSM 850 BAND CH 251



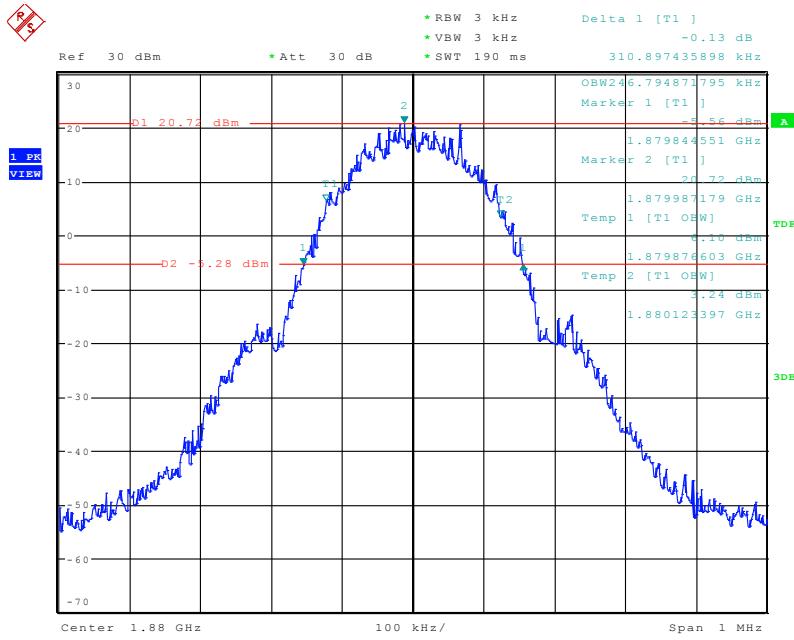
Date: 28.MAR.2017 10:32:18

Occupied Bandwidth (99% and -26dBc) GSM 1900 BAND CH 512



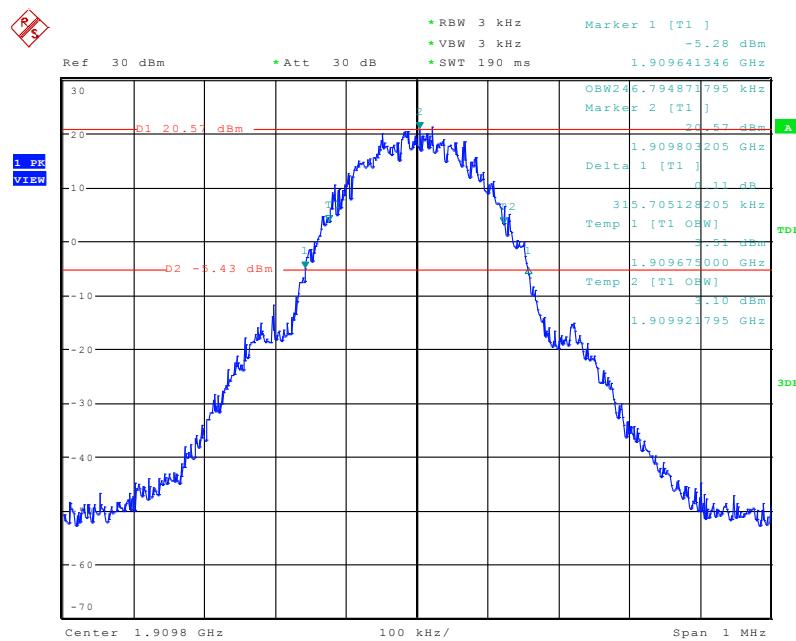
Date: 28.MAR.2017 10:38:26

Occupied Bandwidth (99% and -26dBc) PCS 1900 BAND CH 661



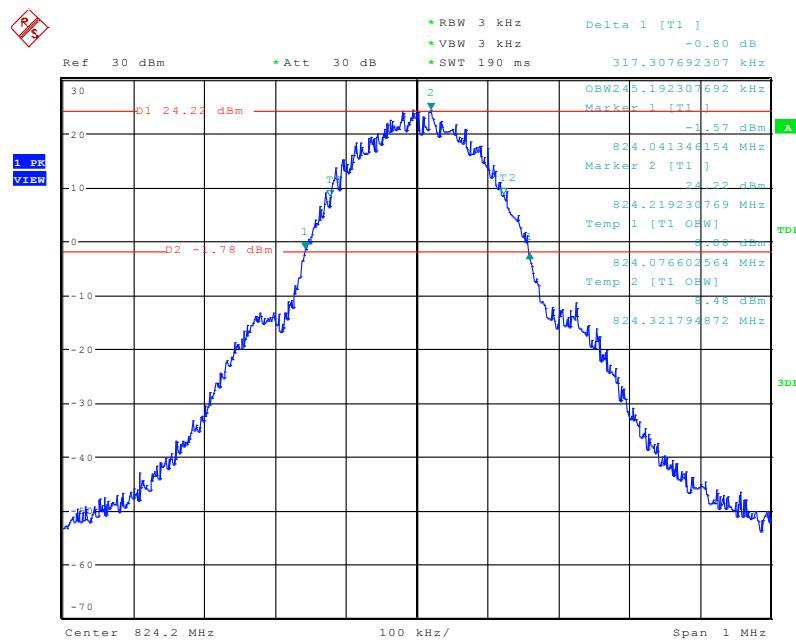
Date: 28.MAR.2017 10:40:54

Occupied Bandwidth (99% and -26dBc) PCS 1900 BAND CH 810



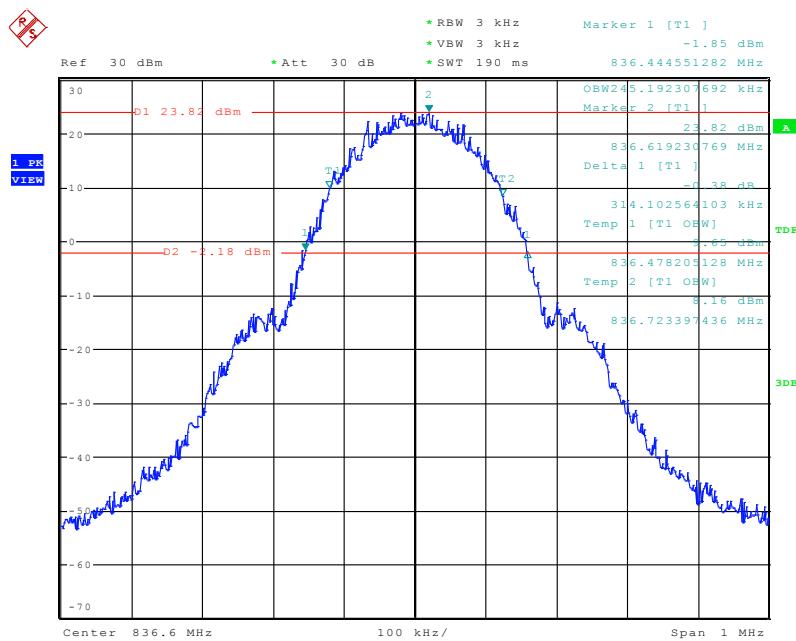
Date: 28.MAR.2017 10:43:10

Occupied Bandwidth (99% and -26dBc) GPRS 850 BAND CH 128



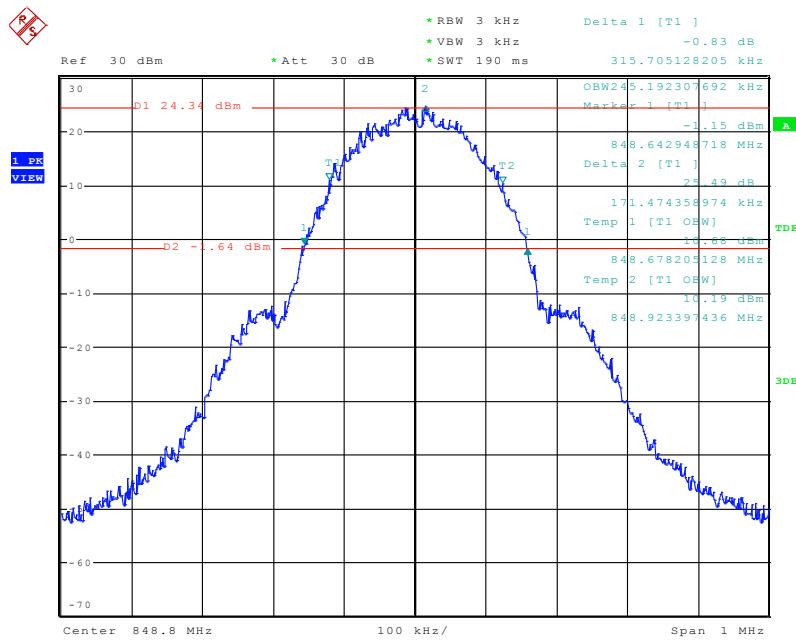
Date: 28.MAR.2017 10:49:13

Occupied Bandwidth (99% and -26dBc) GPRS 850 BAND CH 190



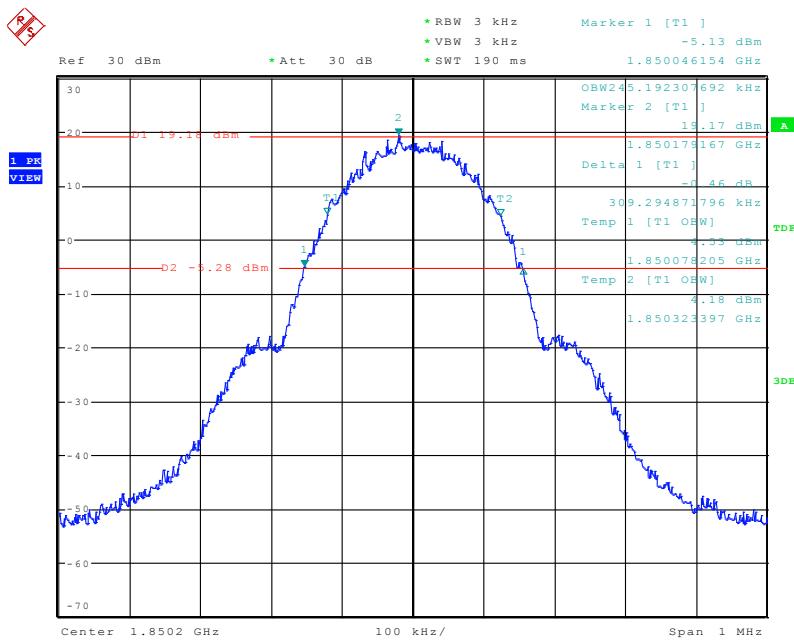
Date: 28.MAR.2017 10:51:47

Occupied Bandwidth (99% and -26dBc) GPRS 850 BAND CH 251



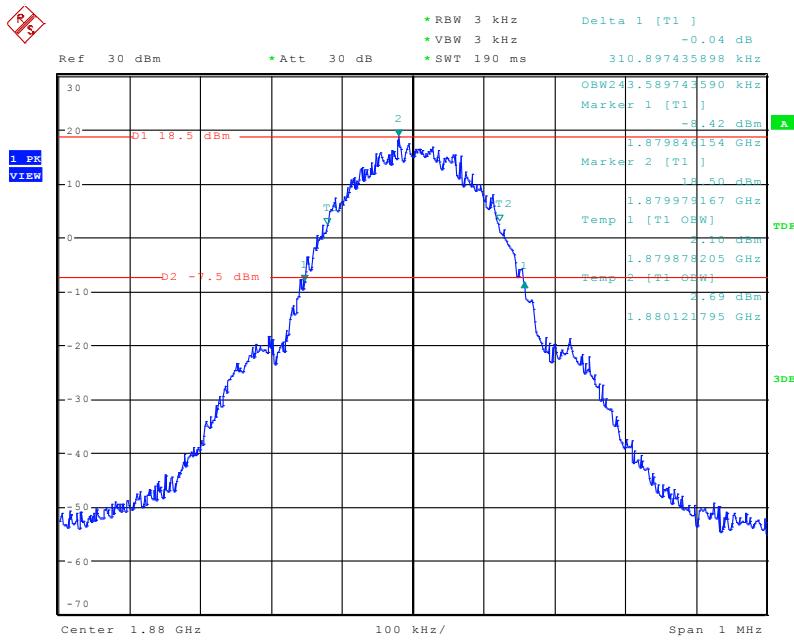
Date: 28.MAR.2017 10:53:49

Occupied Bandwidth (99% and -26dBc) GPRS 1900 BAND CH 512



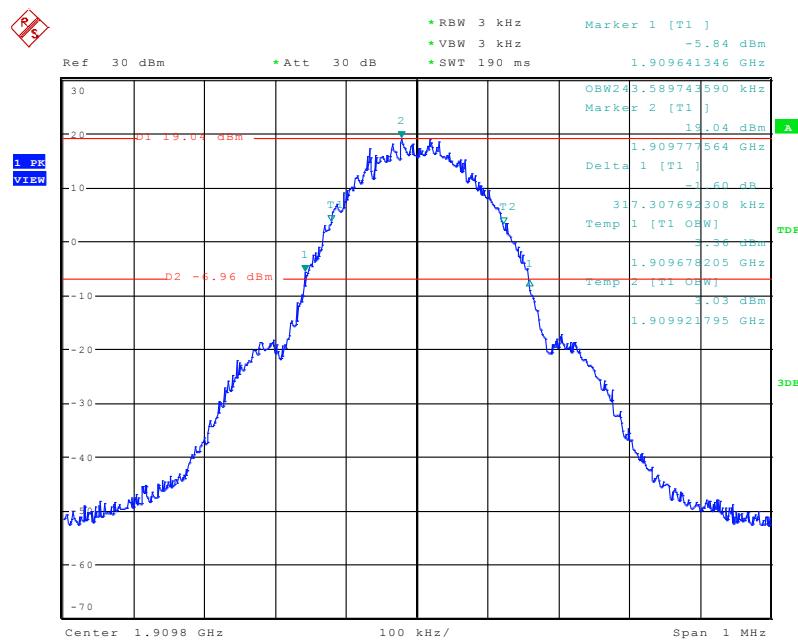
Date: 28.MAR.2017 10:59:32

Occupied Bandwidth (99% and -26dBc) GPRS 1900 BAND CH 661



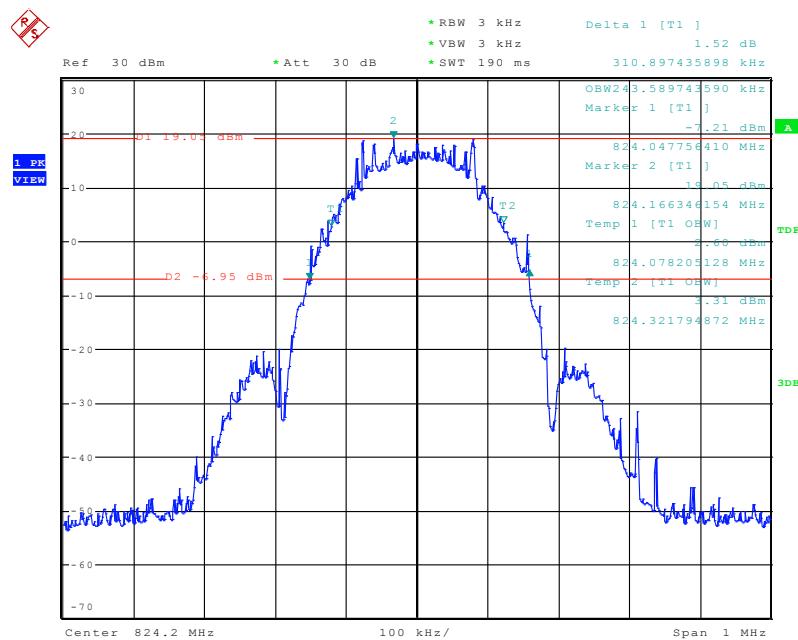
Date: 28.MAR.2017 11:01:49

Occupied Bandwidth (99% and -26dBc) GPRS 1900 BAND CH 810



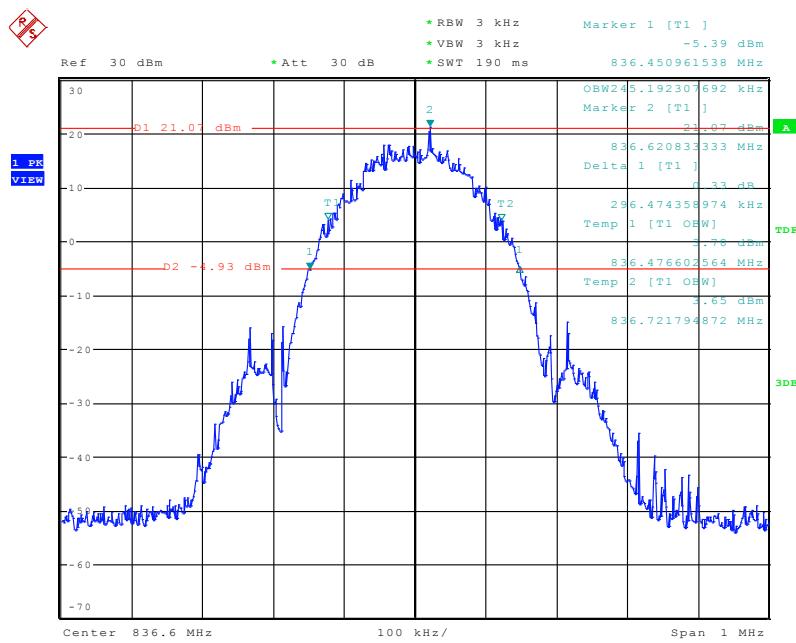
Date: 28.MAR.2017 11:06:36

Occupied Bandwidth (99% and -26dBc) EGPRS 850 BAND CH 128



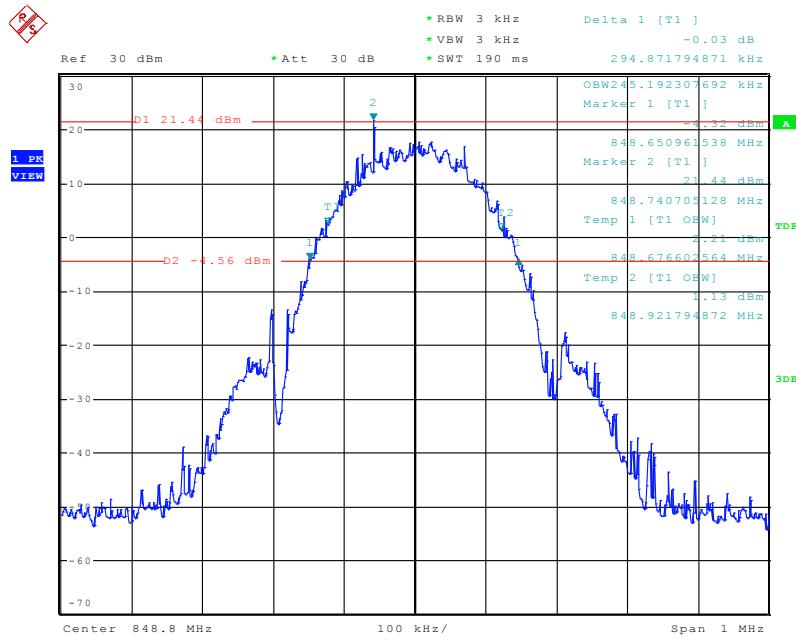
Date: 28.MAR.2017 11:13:19

Occupied Bandwidth (99% and -26dBc) EGPRS 850 BAND CH 190



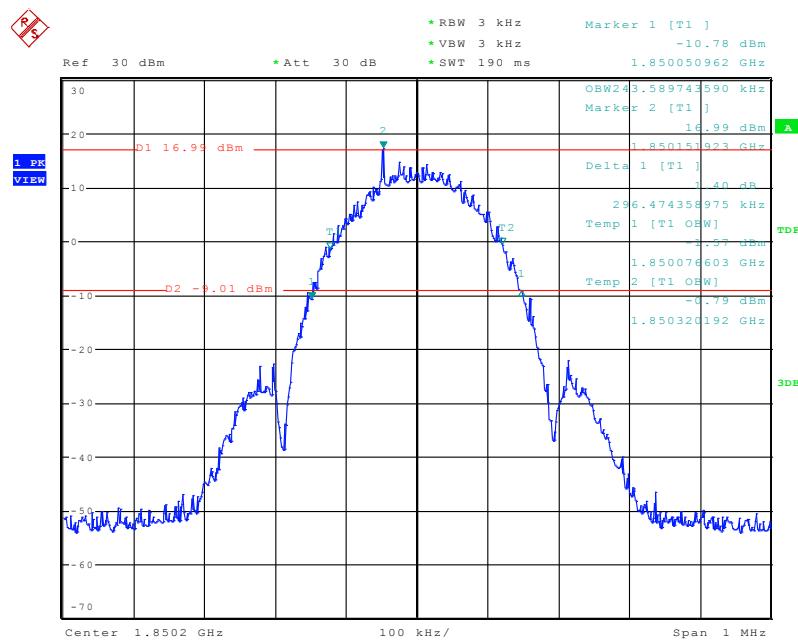
Date: 28.MAR.2017 11:15:11

Occupied Bandwidth (99% and -26dBc) EGPRS 850 BAND CH 251



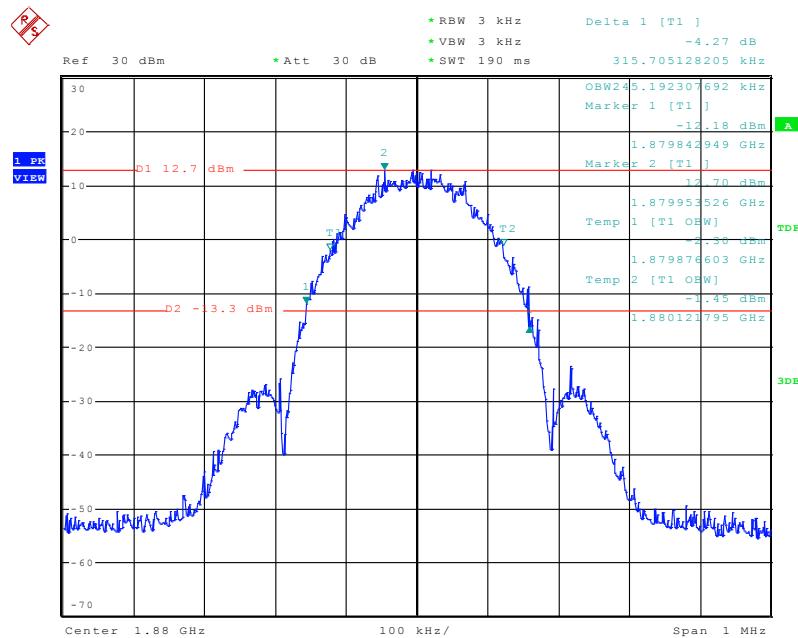
Date: 28.MAR.2017 11:17:34

Occupied Bandwidth (99% and -26dBc) EGPRS 1900 BAND CH 512



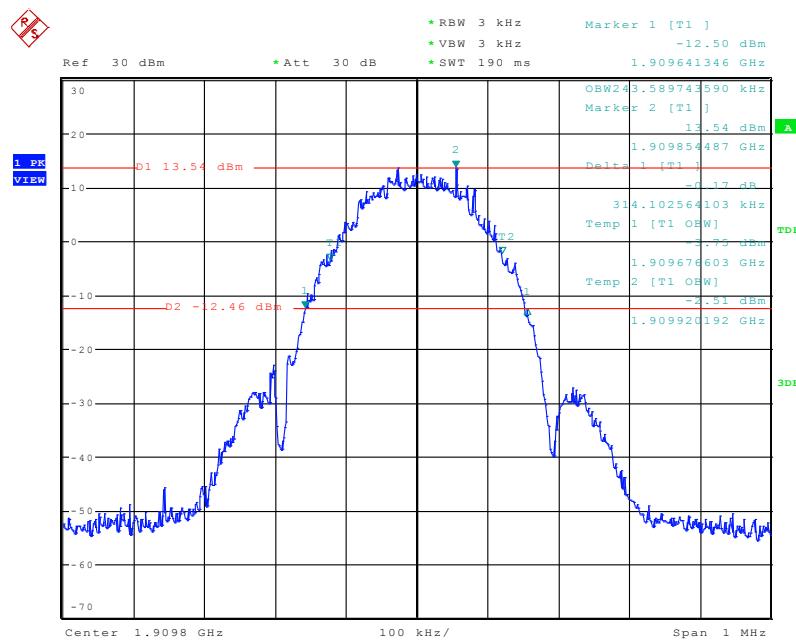
Date: 28.MAR.2017 11:24:52

Occupied Bandwidth (99% and -26dBc) EGPRS 1900 BAND CH 661



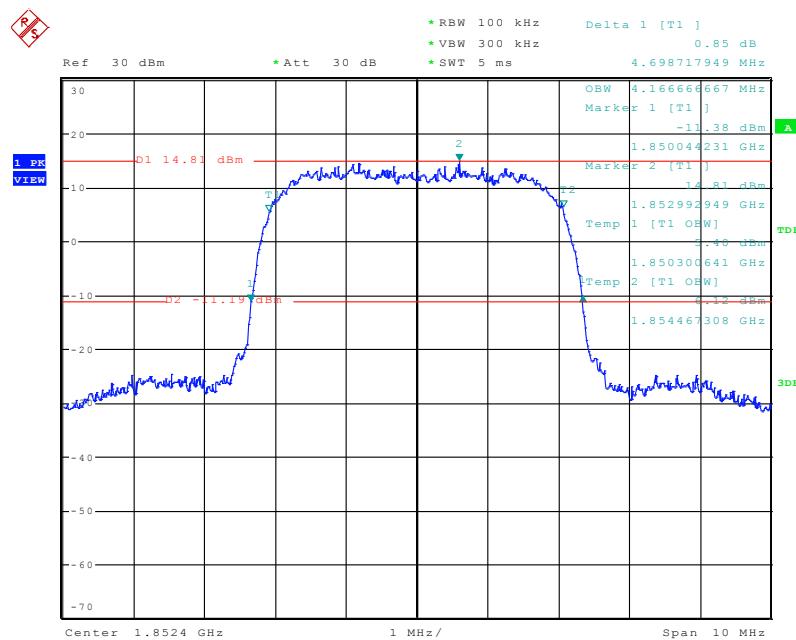
Date: 28.MAR.2017 11:27:07

Occupied Bandwidth (99% and -26dBc) EGPRS 1900 BAND CH 810



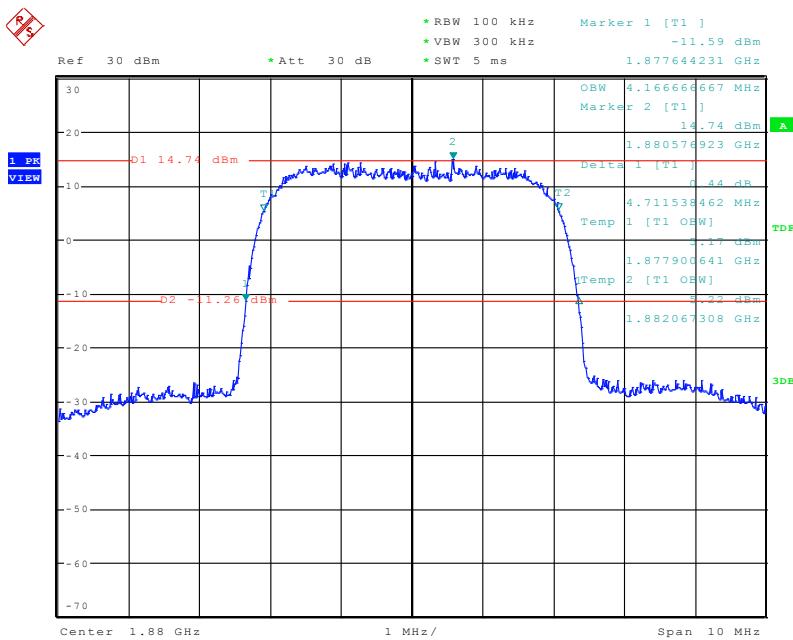
Date: 28.MAR.2017 11:28:58

UTRA BANDS Occupied Bandwidth (99% and -26dBc) WCDMA BAND II CH 9262

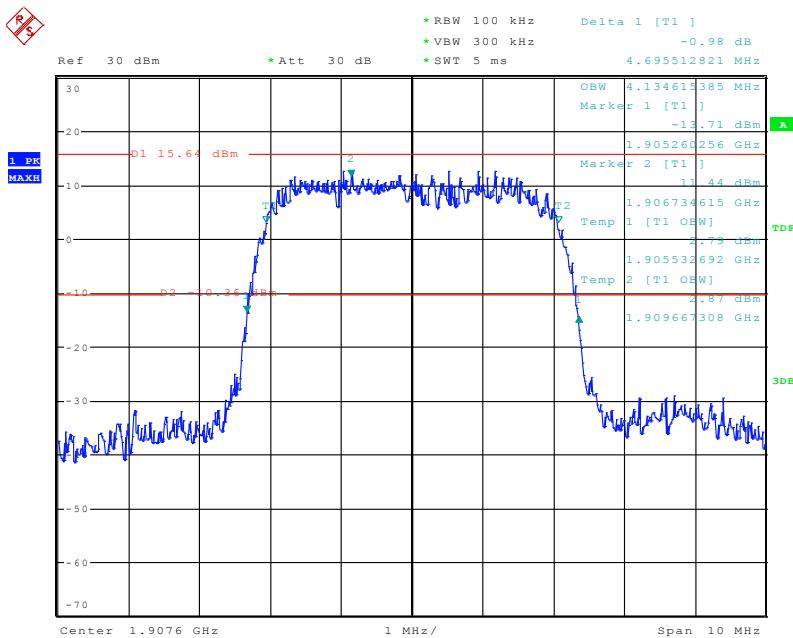


Date: 28.MAR.2017 11:32:50

Occupied Bandwidth (99%and-26dBc) WCDMA BAND II CH 9400

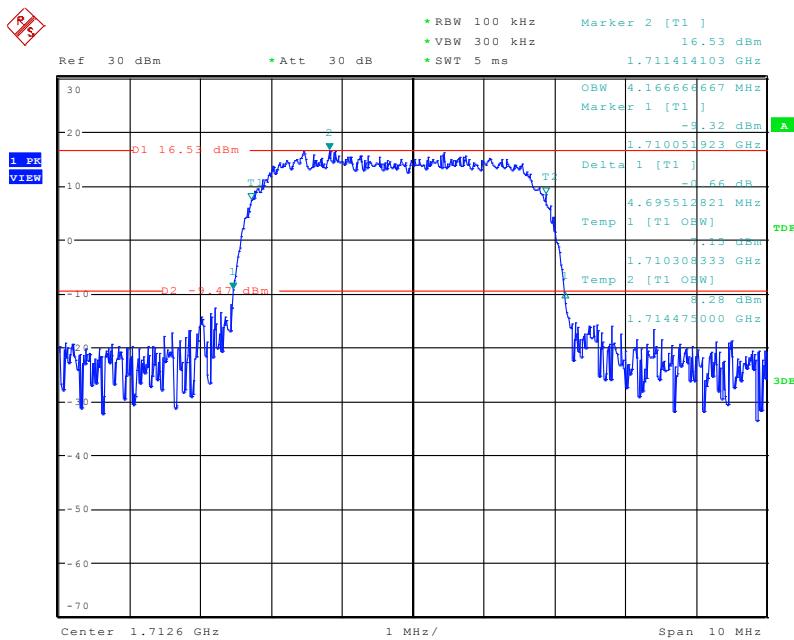


Occupied Bandwidth (99%and-26dBc) WCDMA BAND II CH 9538



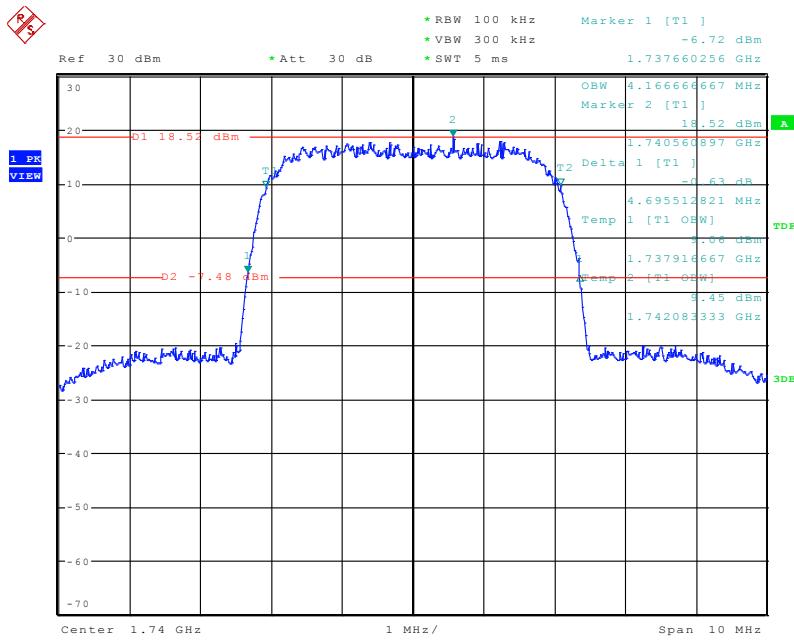
Date: 28.MAR.2017 11:36:55

Occupied Bandwidth (99% and -26dBc) WCDMA BAND IV CH 1312



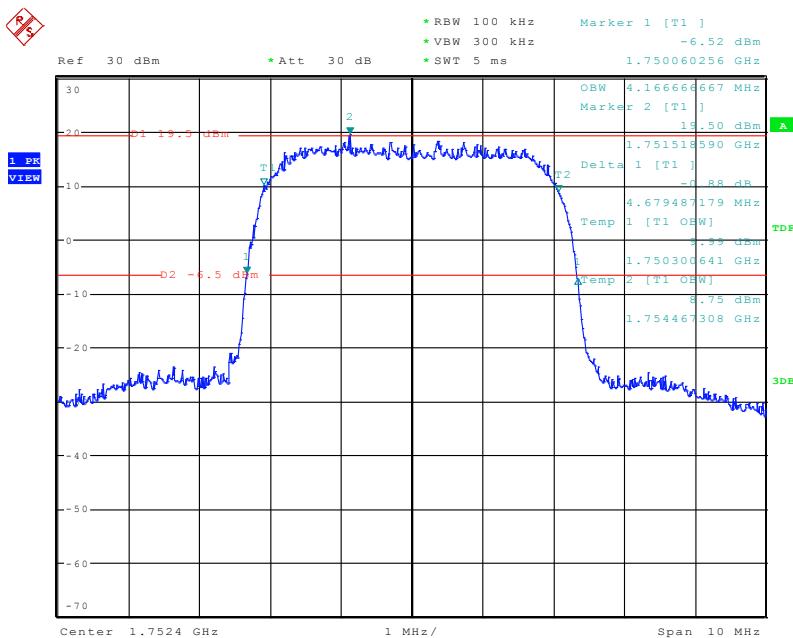
Date: 5.APR.2017 16:33:39

Occupied Bandwidth (99% and -26dBc) WCDMA BAND IV CH 1413



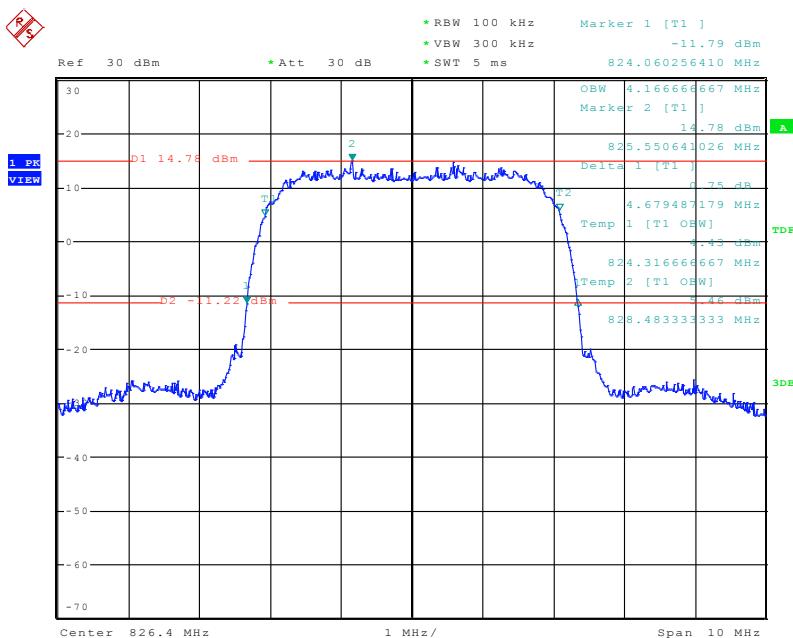
Date: 5.APR.2017 16:42:20

Occupied Bandwidth (99% and -26dBc) WCDMA BAND IV CH 1513



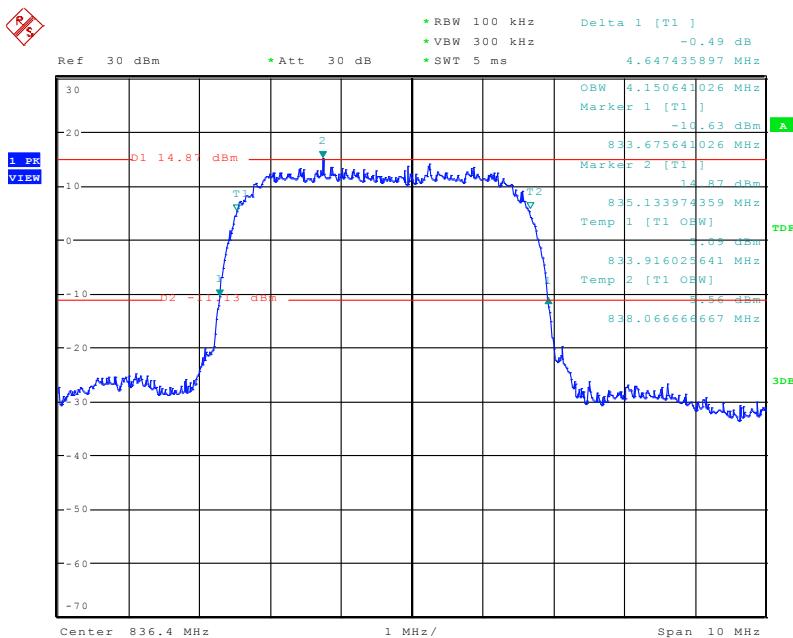
Date: 5.APR.2017 16:44:57

Occupied Bandwidth (99%and-26dBc) WCDMA BAND V CH 4132



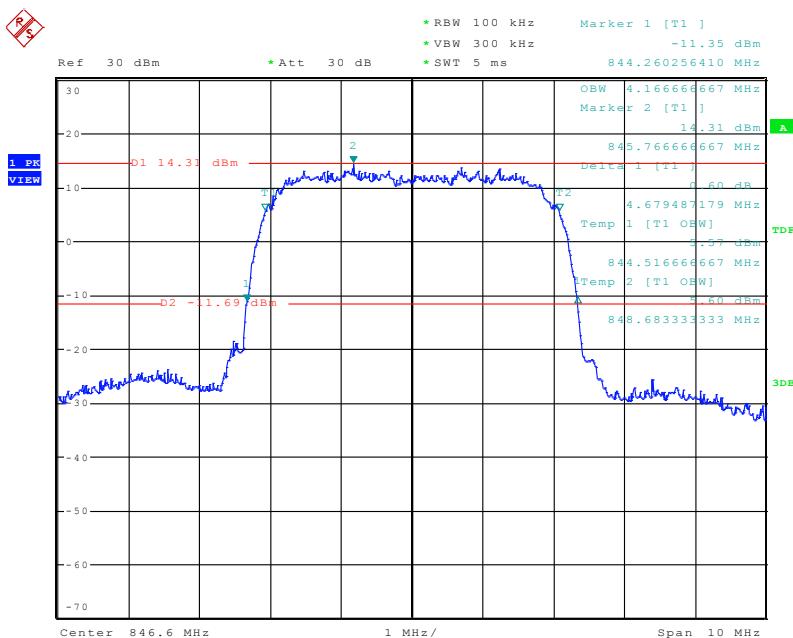
Date: 28.MAR.2017 11:39:30

Occupied Bandwidth (99%and-26dBc) WCDMA BAND V CH 4182



Date: 28.MAR.2017 11:41:26

Occupied Bandwidth (99%and-26dBc) WCDMA BAND V CH 4233



Date: 28.MAR.2017 11:43:25