RF Test Report

Applicant	:	Shenzhen Tuge Information Limited Inc
Product Type	:	TGT WiFi
Trade Name	:	TGT WiFi
Model Number	:	T2C
Applicable Standard	:	FCC 47 CFR PART 22H FCC 47 CFR PART 24E ANSI/TIA-603-D
Receive Date	:	May 04, 2016
Test Period	:	May 13 ~ Jun. 07, 2016
Issue Date	:	Jul. 06, 2016

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
Taoyuan City 33465, Taiwan (R.O.C)
Tel：+886-3-2710188 / Fax：+886-3-2710190

Taiwan Accreditation Foundation accreditation number: 1330

Revision History

Rev.	Issue Date	Revisions	Revised By
00	Jun. 17, 2016	Initial Issue	Snow Wang
01	Jun. 24, 2016	Revised report information.	Snow Wang
02	Jul. 06, 2016	Revised report information.	Peggy Chang

Verification of Compliance

Issued Date: Jul. 06, 2016

Applicant	:	Shenzhen Tuge Information Limited Inc
Product Type	:	TGT WiFi
Trade Name	:	TGT WiFi
Model Number	:	T2C
FCC ID	:	2AIC4-T2C
EUT Rated Voltage	:	DC 5V, 1A
Test Voltage	:	120 Vac / 60 Hz
Applicable Standard	:	FCC 47 CFR PART 22H FCC 47 CFR PART 24E ANSI/TIA-603-D
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C) Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By	:	Fly Lu	Reviewed By	:	Eric Ou Yang
(Manager)		(Fly Lu)	(Testing Engineer)		(Eric Ou Yang)

TABLE OF CONTENTS

1 General Information

1.1. Summary of Test Result

FCC Rules	Description	Verdict	Remark
§2.1046	RF Output Power	Pass	-----
§22.913(a)(2)	Effective Radiated Power	Pass	-----
§24.232(c)	Equivalent Isotropic Radiated Power	Pass	-----
§24.232(d)	Peak to average ratio	Pass	-----
§2.1049(h)(i) §22.917(b) §24.238(b)	Emission Bandwidth & Occupied Bandwidth	Pass	-----
§2.1055 §22.355 §24.235	Frequency Stability for Temperature & Voltage	Pass	-----
§2.1051 §22.917(a) §24.238(a)	Band Edge Measurement	Pass	-----
§2.1053 §22.917(a) §24.238(a)	Radiated Spurious Emissions	Pass	-----
§2.1051 §22.917(a) §24.238(a)	Conducted Spurious Emission	Pass	-----

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2. Testing Location

Site Name: A Test Lab Techno Corp.
http://www.atl-lab.com.tw/e-index.htm
Site Address: No. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C)
Tel：+886-3-2710188
Fax：+886-3-2710190

1.3. Measurement Uncertainty

Test Item			Uncertainty
Peak Output Power (Conducted)			+0.27 dB/-0.28 dB
Occupied Bandwidth (Conducted)			4.96%
Emission Bandwidth (Conducted)			4.96%
Frequency Stability			+ 2.212 x 10^{-7}% / - 2.170 x 10^{-7}
e.r.p. / e.i.r.p.	Horizontal		±4.898 dB
	Vertical		±4.867 dB
Radiated Spurious Emission	Horizontal	30 ~ 167 MHz	4.22 dB
		167 ~ 500 MHz	3.44 dB
		500 ~ 1000 Hz	3.39 dB
		1 ~ 18 GHz	4.05 dB
		18 ~ 40 GHz	4.05 dB
	Vertical	30 ~ 167 MHz	3.37 dB
		167 ~ 500 MHz	3.19 dB
		500 ~ 1000 Hz	3.19 dB
		1 ~ 18 GHz	4.08 dB
		18 ~ 40 GHz	4.04 dB
Radiated Emission	Horizontal	30MHz~1000MHz	5.442 dB
	Vertical	30MHz~1000MHz	5.478 dB
	1GHz~18GHz		5.474 dB
	18GHz~26.5GHz		5.630 dB
	26.5GHz~40GHz		5.054 dB
Note: The Vertical and Horizontal measurement uncertainty of 1GHz to 4GHz is evaluated and choose which polarity is worst value.			

1.4. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

2 EUT Description

Applicant		Shenzhen Tuge Information Limited Inc Room 406,25 Building ,Nanshan Science Park west industrial area, Shenzhen City, Guangdong Province, China			
Manufacturer		Shenzhen Tuge Information Limited Inc Room 406,25 Building ,Nanshan Science Park west industrial area, Shenzhen City, Guangdong Province, China			
Product Type		TGT WiFi			
Trade Name		TGT WiFi			
Model Number		T2C			
IMEI No.		IMEI1 :869666020000012, IMEI2:869666020000020			
FCC ID		2AIC4-T2C			
Hardware Version		P613-V00			
Software Version		T2_M2_P613GT-V00_02			
Radio Hardware Version		P613-V00			
Radio Software Version		T2_M2_P613GT-V00_02			
Operate Band	GPRS/EGPRS	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		850	824.2 ~ 848.8	869.2 ~ 893.8	GMSK/8PSK
		1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8	GMSK/8PSK
		*GPRS/EGPRS Multi Class 12.			
	WCDMA (RMC12.2K)/ HSDPA/ HSUPA	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		II	1852.4 ~ 1907.6	1932.4 ~ 1987.6	QPSK
		V	826.4 ~ 846.6	871.4 ~ 891.6	QPSK
Channel Control		Auto			
Antenna Type		Internal Antenna			
Antenna Gain (dBi)		GPRS/EGPRS 850 : 1.0 dBi GPRS/EGPRS 1900 : 1.2 dBi WCDMA/ HSDPA/ HSUPA Band II : 1.1 dBi WCDMA/ HSDPA/ HSUPA Band V : 1.0 dBi			
Extreme temp. Tolerance		0°C to 40°C			

Operate Band	Max. RF Output power (W)	Max. ERP/EIRP (W)	Emission Designator
GPRS 850	1.476	1.21	248KG1W
EGPRS 850	0.617	0.37	247KG1W
GPRS 1900	0.984	0.94	246KG1W
EGPRS 1900	0.466	0.31	249KG1W
WCDMA/ HSDPA/ HSUPA Band II	0.200	0.19	4M17F1W
WCDMA/ HSDPA/ HSUPA Band V	0.238	0.20	4M18F1W

3 Test Methodology

3.1. Mode of Operation

ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

- GPRS 850 link mode
- GPRS 1900 link mode
- EGPRS 850 link mode
- EGPRS 1900 link mode
- WCDMA Band II link mode
- WCDMA Band V link mode

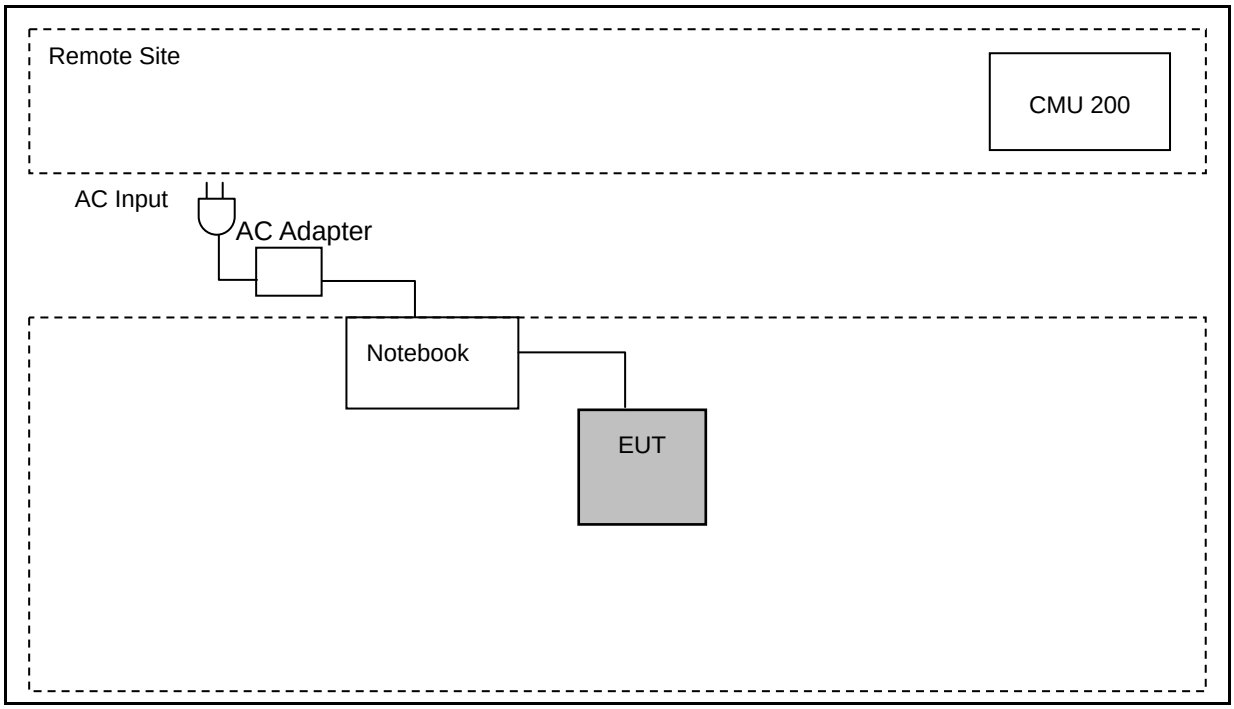
By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that “X axis” position was the worst, then the final test was executed the worst condition and test data were recorded in this report.
Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
Software used to control the EUT for staying in continuous transmitting mode was programmed.

3.2. EUT Exercise Software

1	Setup the EUT and Base Station (CMU200) as shown on 3.3.
2	Turn on the power of all equipment.

Measurement Software	
1	EZ-EMC Ver. ATL-03A1-1

3.3. Configuration of Test System Details



3.4. Test Instruments

Conducted test system					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Universal Radio Communication Tester	R & S	CMU200	112387	02/25/2016	1 year
Spectrum Analyzer	R&S	FSU26	201118	11/02/2015	1 year
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/18/2016	1 year
Conducted Test Site	ATL	TE05	TE05	N.C.R.	-----

Radiated Emission test system					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
RF Pre-selector	Agilent	N9039A	MY46520256	01/08/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/08/2016	1 year
Signal Generator	Signal Generator	E8257D	MY44320425	02/26/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/07/2015	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/11/2016	1 year
Pre Amplifier	EMCI	EMC012645SE	980289	01/14/2016	1 year
Trilog-Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	419	10/28/2015	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	08/11/2015	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/12/2015	1 year
Horn Antenna (1~18GHz)	ETS	3117	00152321	08/14/2015	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/06/2015	1 year
Horn Antenna (18~40GHz)	ETS	3116	00086467	09/01/2015	1 year
Sleeve Dipole(CF880) (780-980MHz)	ETS	3126-880	00064344	10/06/2014	2 years
Sleeve Dipole(CF1845) (1695-1995MHz)	ETS	3126-1845	00083335	10/06/2014	2 years
3 Meter Chamber Test Site	ATL	TE01	888001	08/27/2015	1 year

Note: N.C.R. = No Calibration Request.

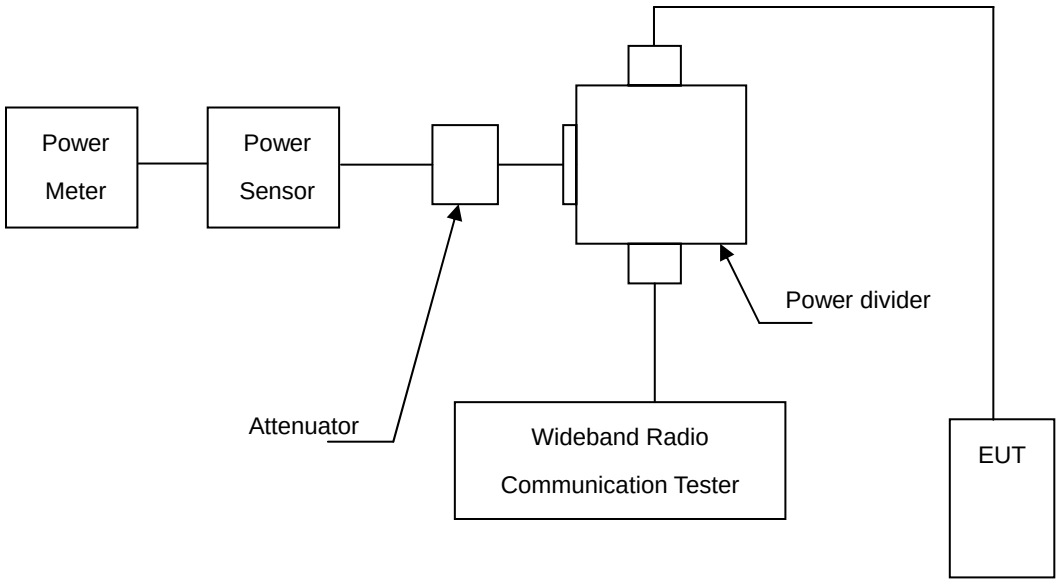
3.5. Reference Testing Standards

Standard	Description	Version
FCC 47 CFR PART 22H	Public Mobile Services	Oct. 2015
FCC 47 CFR PART 24E	Personal Communications Services	Oct. 2015
ANSI/TIA-603-D	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2010
FCC KDB 971168 D01	Power Meas License Digital Systems	v02r02

4 Test Results

4.1. RF Output Power

■ **Test Setup**



■ **Test Procedure**

The EUT was set up for the maximum power with simulator.

Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

The measurement is made according to FCC KDB 971168 D01 as below:

1. The transmitter output was connected to power meter and base station through Power Divider.
2. The EUT was set up for the max output power with pseudo random data modulation.
   -Set base station for EUT at GSM 850: PCL=5 and PCS 1900: PCL=0.
   -Set base station for EUT at WCDMA Band V and WCDMA Band II, power level was set to maximum.
3. Select lowest, middle, and highest channels for each band.
4. In all cases, output power is within the specified limits.

■ Test Results

RF Power setting in Test Software	Test Software Version
Default	T2_M2_P613GT-V00_02

Operate Band	Power Step	Nominal Peak Output Power (dBm)
GPRS 850	3	33dBm(2W)
EGPRS 850	6	27dBm(0.5W)
GPRS 1900	3	30dBm(1W)
EGPRS 1900	5	26dBm(0.4W)

Operate Band	Modulation Type	Power Step	Time Slots	Frequency (MHz)	Output Power (dBm)	
					SIM 1	SIM 2
GPRS 850	GMSK	3	1Slot	824.2	31.61	31.59
				836.6	31.67	31.59
				848.8	31.69	31.56
EGPRS 850	8PSK	6	1Slot	824.2	27.84	27.44
				836.6	27.85	27.40
				848.8	27.90	27.43

Operate Band	Modulation Type	Power Step	Time Slots	Frequency (MHz)	Output Power (dBm)	
					SIM 1	SIM 2
GPRS 1900	GMSK	3	1Slot	1850.20	29.45	28.76
				1880.00	29.93	29.23
				1909.80	29.86	29.25
EGPRS 1900	8PSK	5	1Slot	1850.20	26.00	25.53
				1880.00	26.68	26.30
				1909.80	26.67	26.45

Operate Band	Modulation Type	Frequency (MHz)	Output Power (dBm)	
			SIM 1	SIM 2
WCDMA Band II	QPSK	1852.4	22.85	22.66
		1880.0	22.66	22.54
		1907.6	23.00	22.60
WCDMA Band V	QPSK	826.4	23.56	23.42
		836.6	23.64	23.54
		846.6	23.77	23.66

4.2. Effective Radiated Power / Equivalent Isotropic Radiated Power

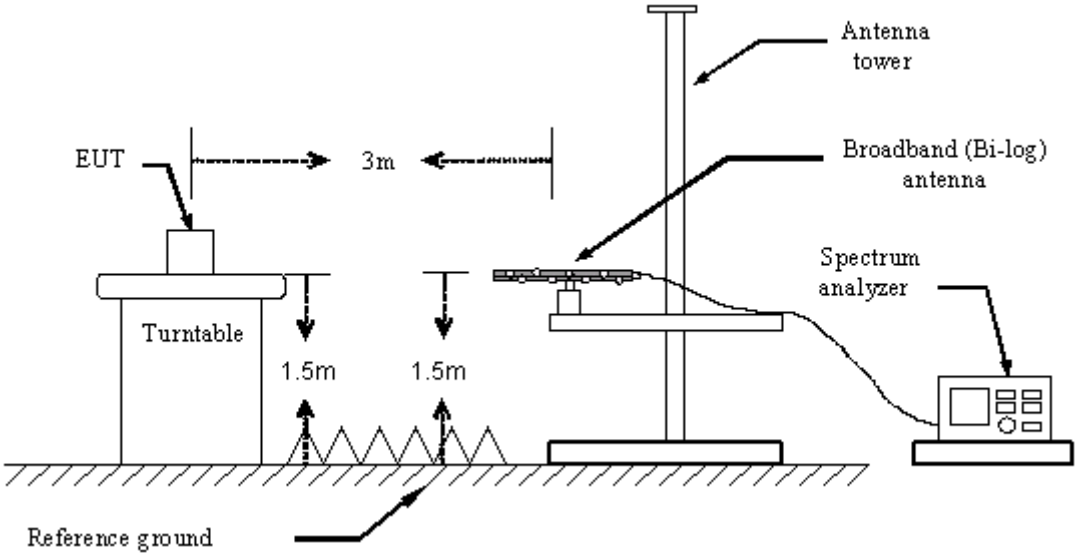
■ Limit

For FCC Part 22.913(a)(2): The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts .

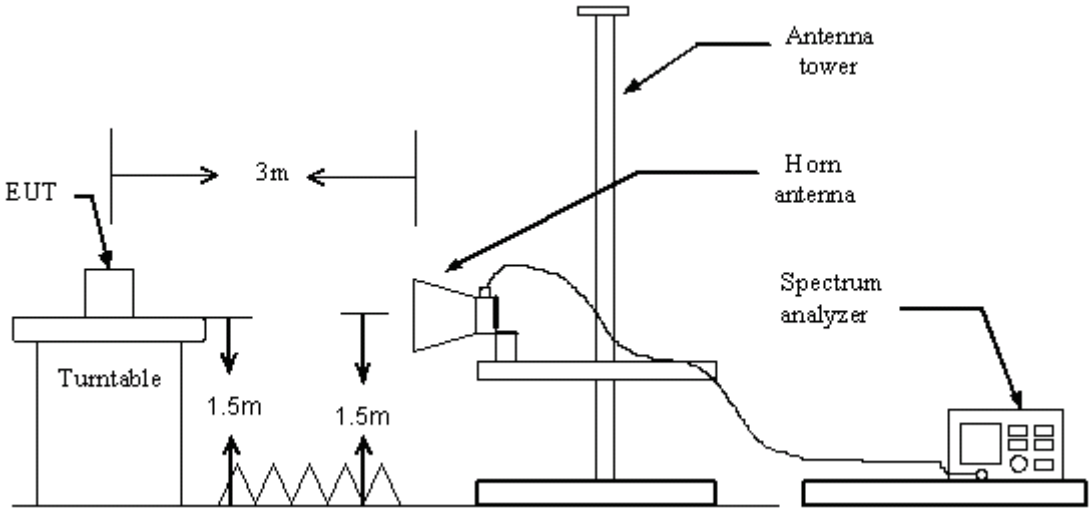
For FCC Part 24.232(c): The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

■ Test Setup

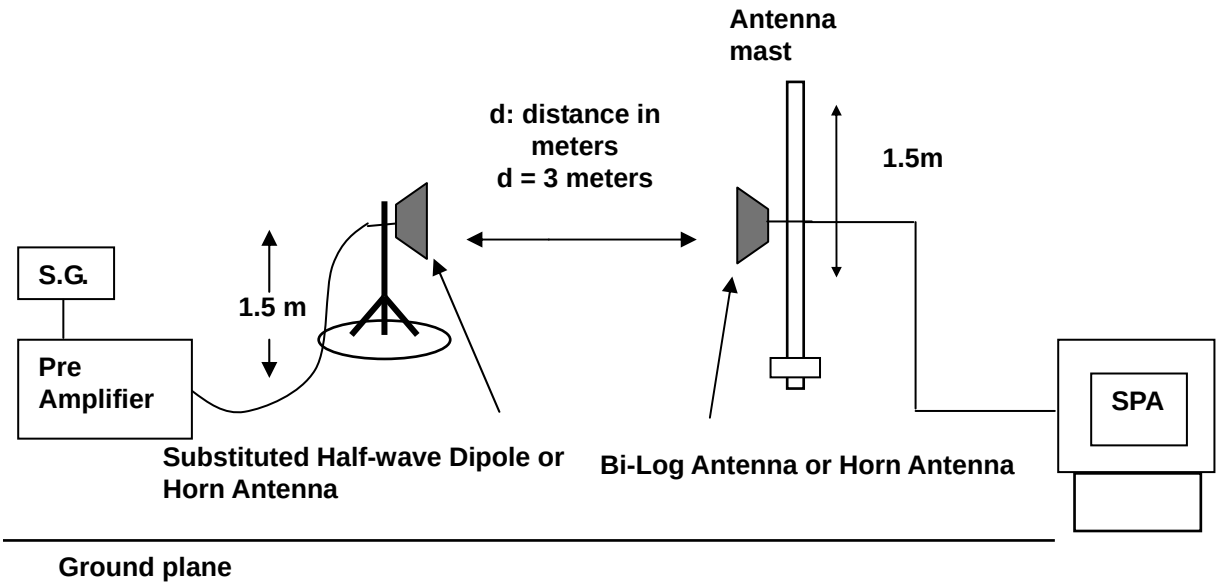
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



■ Test Procedure

1. The EUT was set up for the maximum power. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range).
2. Radiation Emission measurement. In the semi-anechoic chamber, EUT placed on the 1.5m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
3. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “previously recorded (Pr)” of step a. Record the power level of S.G.
   Below 1 GHz substituted method test used sleeve dipole antenna to Bi-Log antenna
   Above 1 GHz substituted method test used horn antenna to horn antenna
   E.I.R.P. = Output power level of S.G (P_{Mea}) + Amplifier Gain (P_{Ag}) - TX cable loss (P_{cl}) + Antenna gain of substitution horn (G_a)
   E.R.P. = E.I.R.P- 2.15 dB

■ Test Result

Both of Vertical and Horizontal polarizations are evaluated, but only the worst case is recorded in this report.

Peak EIRP (dBm) = PM_{ea} - P_{cl} + P_{Ag} + G_a

Peak ERP(dBm) = PM_{ea} - P_{cl} + P_{Ag} + G_a - 2.15dB

SIM 1									
Operate Band: GPRS 850					Modulation Type: GMSK				
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP		Limit
							(dBm)	(W)	
824.2	H	-14.95	2.77	48	1.02	2.15	29.15	0.82	< 7
	V	-13.58	2.77	48	1.02	2.15	30.52	1.13	< 7
836.6	H	-14.84	2.78	48.04	1.06	2.15	29.33	0.86	< 7
	V	-13.47	2.78	48.04	1.06	2.15	**30.70**	**1.17**	< 7
848.8	H	-15.32	2.79	48.08	1.10	2.15	28.92	0.78	< 7
	V	-14.13	2.79	48.08	1.10	2.15	30.11	1.03	< 7

SIM 1									
Operate Band: EGPRS 850					Modulation Type: 8PSK				
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP		Limit
							(dBm)	(W)	
824.2	H	-21.48	2.77	48	1.02	2.15	22.62	0.18	< 7
	V	-18.70	2.77	48	1.02	2.15	25.40	0.35	< 7
836.6	H	-20.25	2.78	48.04	1.06	2.15	23.92	0.25	< 7
	V	-18.71	2.78	48.04	1.06	2.15	25.46	0.35	< 7
848.8	H	-20.49	2.79	48.08	1.10	2.15	23.75	0.24	< 7
	V	-18.70	2.79	48.08	1.10	2.15	**25.54**	**0.36**	< 7

SIM 1								
Operate Band: GPRS 1900					Modulation Type: GMSK			
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	EIRP		Limit (W)
						(dBm)	(W)	
1850.2	H	-18.51	4.02	46.49	4.89	28.85	0.77	< 2
	V	-17.65	4.02	46.49	4.89	**29.71**	**0.94**	< 2
1880.0	H	-18.78	4.05	46.52	4.81	28.50	0.71	< 2
	V	-18.23	4.05	46.52	4.81	29.05	0.80	< 2
1909.8	H	-18.77	4.09	46.56	4.73	28.43	0.70	< 2
	V	-17.72	4.09	46.56	4.73	29.48	0.89	< 2

SIM 1								
Operate Band: EGPRS 1900					Modulation Type: 8PSK			
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	EIRP		Limit (W)
						(dBm)	(W)	
1850.2	H	-24.56	4.02	46.49	4.89	22.80	0.19	< 2
	V	-22.43	4.02	46.49	4.89	**24.93**	**0.31**	< 2
1880.0	H	-24.57	4.05	46.52	4.81	22.71	0.19	< 2
	V	-22.42	4.05	46.52	4.81	24.86	0.31	< 2
1909.8	H	-25.01	4.09	46.56	4.73	22.19	0.17	< 2
	V	-23.22	4.09	46.56	4.73	23.98	0.25	< 2

SIM 1								
Operate Band: WCDMA Band II				Modulation Type: QPSK				
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	EIRP		Limit (W)
						(dBm)	(W)	
1852.4	H	-27.09	4.02	46.49	4.89	20.27	0.11	< 2
	V	-25.21	4.02	46.49	4.89	22.15	0.16	< 2
1880.0	H	-25.11	4.05	46.52	4.81	22.17	0.16	< 2
	V	-24.50	4.05	46.52	4.81	**22.78**	**0.19**	< 2
1907.6	H	-25.48	4.09	46.56	4.73	21.72	0.15	< 2
	V	-24.60	4.09	46.56	4.73	22.60	0.18	< 2

SIM 1									
Operate Band: WCDMA Band V					Modulation Type: QPSK				
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP		Limit (W)
							(dBm)	(W)	
826.4	H	-23.96	2.78	48.01	1.03	2.15	20.15	0.10	< 7
	V	-22.05	2.78	48.01	1.03	2.15	22.06	0.16	< 7
836.6	H	-23.45	2.78	48.04	1.06	2.15	20.72	0.12	< 7
	V	-21.21	2.78	48.04	1.06	2.15	**22.96**	**0.20**	< 7
846.6	H	-23.84	2.79	48.07	1.09	2.15	20.38	0.11	< 7
	V	-21.84	2.79	48.07	1.09	2.15	22.38	0.17	< 7

SIM 2									
Operate Band: GPRS 850					Modulation Type: GMSK				
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP		Limit
							(dBm)	(W)	
824.2	H	-15.31	2.77	48	1.02	2.15	28.79	0.76	< 7
	V	-14.01	2.77	48	1.02	2.15	30.09	1.02	< 7
836.6	H	-15.02	2.78	48.04	1.06	2.15	29.15	0.82	< 7
	V	-13.36	2.78	48.04	1.06	2.15	**30.81**	**1.21**	< 7
848.8	H	-15.58	2.79	48.08	1.10	2.15	28.66	0.73	< 7
	V	-14.30	2.79	48.08	1.10	2.15	29.94	0.99	< 7

SIM 2									
Operate Band: EGPRS 850					Modulation Type: 8PSK				
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP		Limit
							(dBm)	(W)	
824.2	H	-21.68	2.77	48	1.02	2.15	22.42	0.17	< 7
	V	-18.39	2.77	48	1.02	2.15	**25.71**	**0.37**	< 7
836.6	H	-20.49	2.78	48.04	1.06	2.15	23.68	0.23	< 7
	V	-18.67	2.78	48.04	1.06	2.15	25.50	0.35	< 7
848.8	H	-20.99	2.79	48.08	1.10	2.15	23.25	0.21	< 7
	V	-19.01	2.79	48.08	1.10	2.15	25.23	0.33	< 7

SIM 2								
Operate Band: GPRS 1900					Modulation Type: GMSK			
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	EIRP		Limit (W)
						(dBm)	(W)	
1850.2	H	-19.39	4.02	46.49	4.89	27.97	0.63	< 2
	V	-17.93	4.02	46.49	4.89	29.43	0.88	< 2
1880.0	H	-18.51	4.05	46.52	4.81	28.77	0.75	< 2
	V	-17.62	4.05	46.52	4.81	**29.66**	**0.92**	< 2
1909.8	H	-19.22	4.09	46.56	4.73	27.98	0.63	< 2
	V	-19.22	4.09	46.56	4.73	27.98	0.63	< 2

SIM 2								
Operate Band: EGPRS 1900					Modulation Type: 8PSK			
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	EIRP		Limit (W)
						(dBm)	(W)	
1850.2	H	-24.78	4.02	46.49	4.89	22.58	0.18	< 2
	V	-22.81	4.02	46.49	4.89	**24.55**	**0.29**	< 2
1880.0	H	-24.82	4.05	46.52	4.81	22.46	0.18	< 2
	V	-23.81	4.05	46.52	4.81	23.47	0.22	< 2
1909.8	H	-25.15	4.09	46.56	4.73	22.05	0.16	< 2
	V	-23.64	4.09	46.56	4.73	23.56	0.23	< 2

SIM 2								
Operate Band: WCDMA Band II					Modulation Type: QPSK			
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	EIRP		Limit (W)
						(dBm)	(W)	
1852.4	H	-27.23	4.02	46.49	4.89	20.13	0.10	< 2
	V	-25.08	4.02	46.49	4.89	22.28	0.17	< 2
1880.0	H	-26.50	4.05	46.52	4.81	20.78	0.12	< 2
	V	-24.39	4.05	46.52	4.81	**22.89**	**0.19**	< 2
1907.6	H	-24.98	4.09	46.56	4.73	22.22	0.17	< 2
	V	-24.79	4.09	46.56	4.73	22.41	0.17	< 2

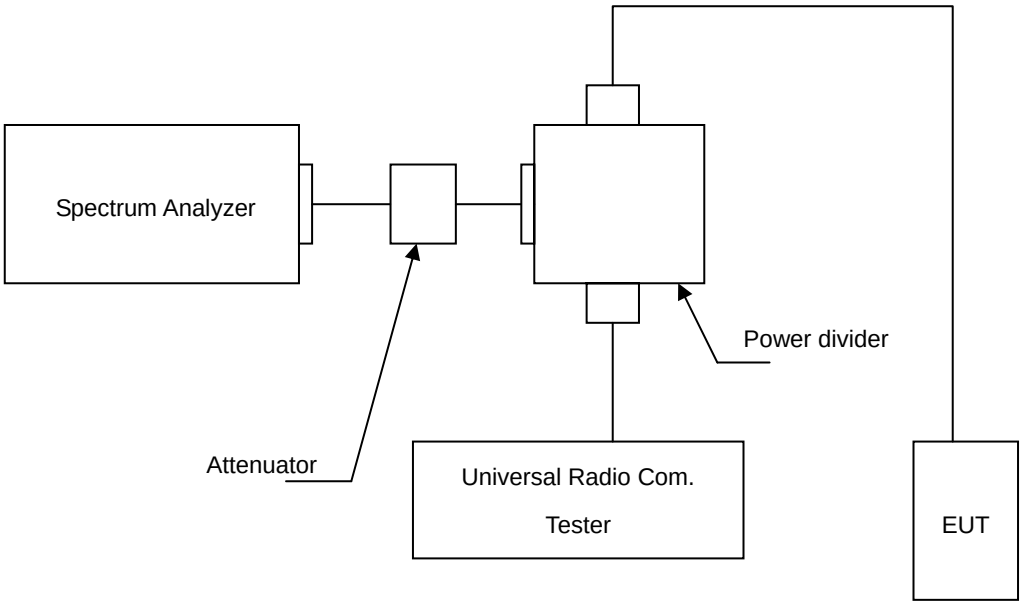
SIM 2									
Operate Band: WCDMA Band V					Modulation Type: QPSK				
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP		Limit (W)
							(dBm)	(W)	
826.4	H	-24.19	2.78	48.01	1.03	2.15	19.92	0.10	< 7
	V	-22.40	2.78	48.01	1.03	2.15	21.71	0.15	< 7
836.6	H	-23.72	2.78	48.04	1.06	2.15	20.45	0.11	< 7
	V	-21.21	2.78	48.04	1.06	2.15	**22.96**	**0.20**	< 7
846.6	H	-24.03	2.79	48.07	1.09	2.15	20.19	0.10	< 7
	V	-21.84	2.79	48.07	1.09	2.15	22.38	0.17	< 7

4.3. Peak to Average Ratio

■ Limit

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

■ Setup



■ Test Procedure

a. Set resolution/measurement bandwidth signal's occupied bandwidth;
b. Set the number of counts to a value that stabilizes the measured CCDF curve;
c. Record the maximum PAPR level associated with a probability of 0.1%.

■ **Test Result**

SIM1		
Operate Band: GPRS 850		Modulation Type: GMSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
824.2	7.660	< 13
836.6	7.660	< 13
848.8	7.660	< 13

SIM1		
Operate Band: EGPRS 850		Modulation Type: 8PSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
824.2	7.596	< 13
836.6	7.596	< 13
848.8	7.628	< 13

SIM1		
Operate Band: GPRS 1900		Modulation Type: GMSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
1850.20	7.660	< 13
1880.00	7.628	< 13
1909.80	7.660	< 13

SIM1		
Operate Band: EGPRS 1900		Modulation Type: 8PSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
1850.20	7.628	< 13
1880.00	7.628	< 13
1909.80	7.628	< 13

SIM1		
Operate Band: WCDMA Band II		Modulation Type: QPSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
1852.4	3.429	< 13
1880.0	3.526	< 13
1907.6	3.526	< 13

SIM1		
Operate Band: WCDMA Band V		Modulation Type: QPSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
826.4	3.494	< 13
836.6	3.205	< 13
846.6	3.462	< 13

SIM2		
Operate Band:	GPRS 850	Modulation Type: GMSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
824.2	7.628	< 13
836.6	7.660	< 13
848.8	7.660	< 13

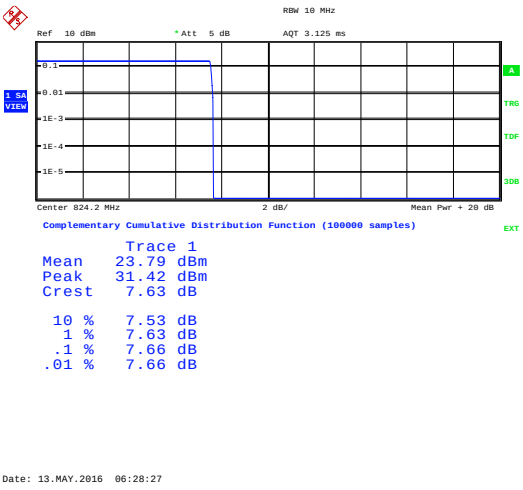
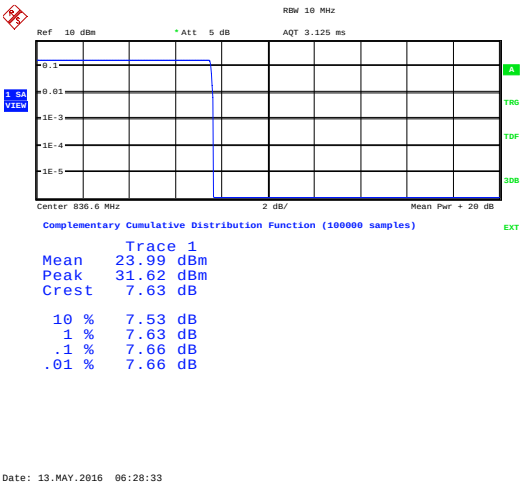
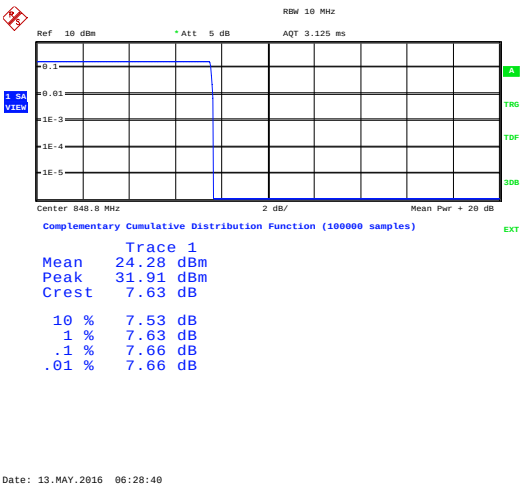
SIM2		
Operate Band:	EGPRS 850	Modulation Type: 8PSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
824.2	7.596	< 13
836.6	7.628	< 13
848.8	7.628	< 13

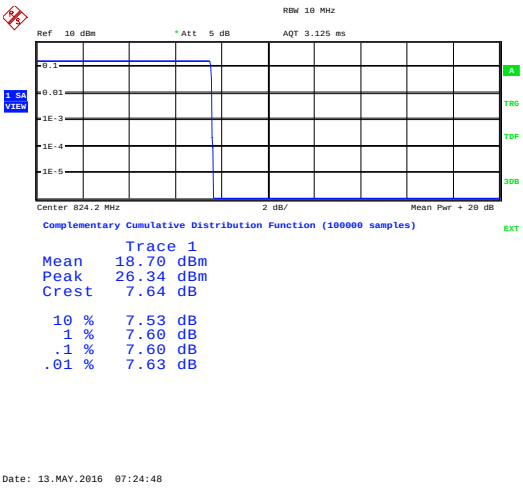
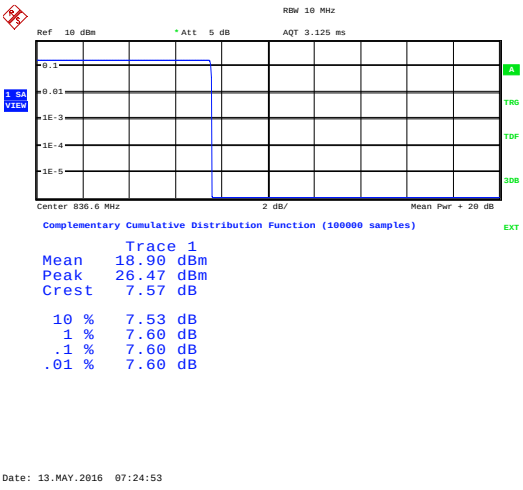
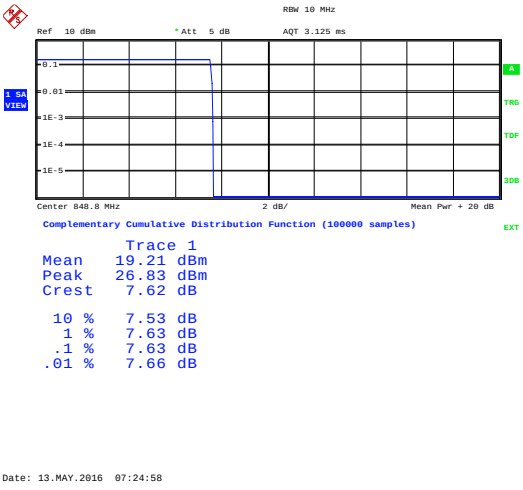
SIM2		
Operate Band:	GPRS 1900	Modulation Type: GMSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
1850.20	7.660	< 13
1880.00	7.660	< 13
1909.80	7.660	< 13

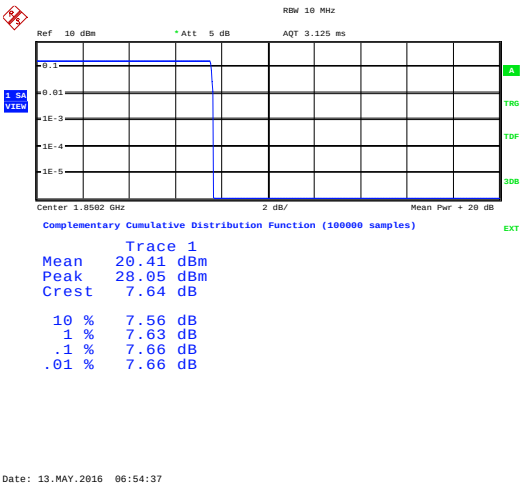
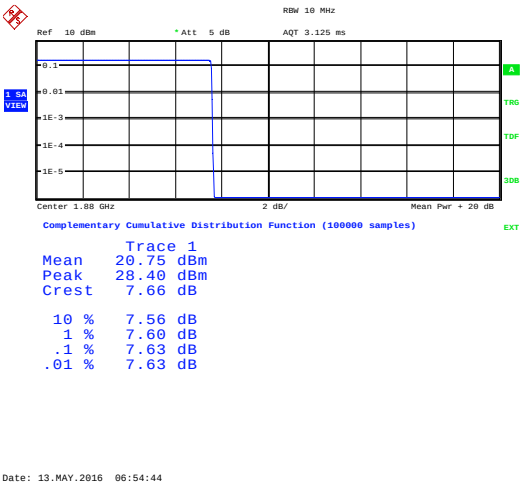
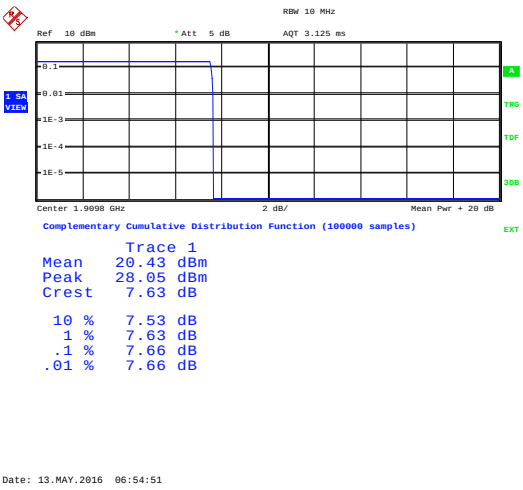
SIM2		
Operate Band:	EGPRS 1900	Modulation Type: 8PSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
1850.20	7.628	< 13
1880.00	7.660	< 13
1909.80	7.628	< 13

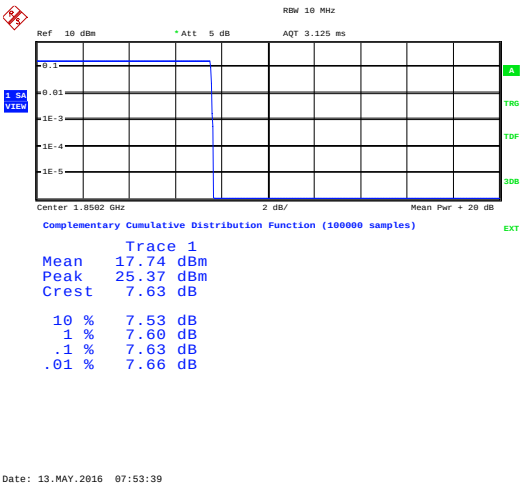
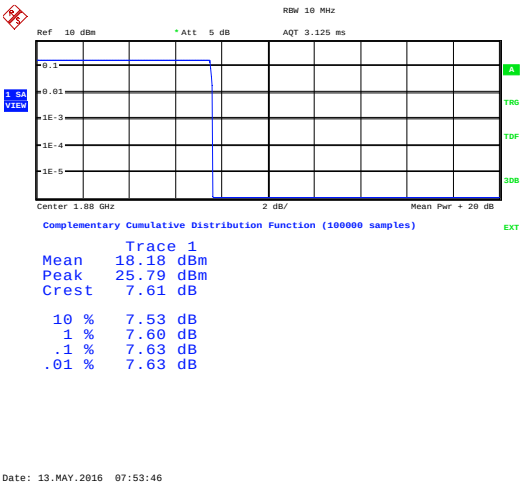
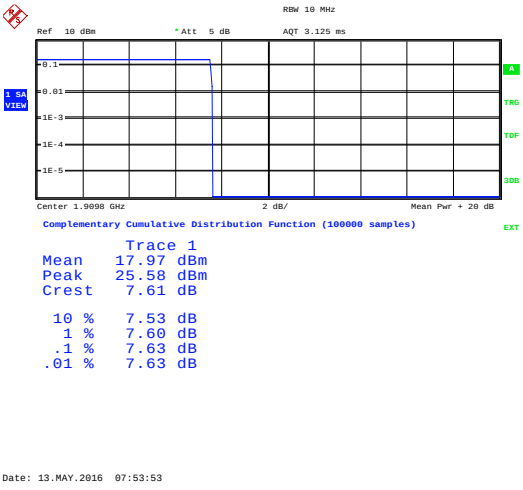
SIM2		
Operate Band:	WCDMA Band II	Modulation Type: QPSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
1852.4	3.333	< 13
1880.0	3.301	< 13
1907.6	3.301	< 13

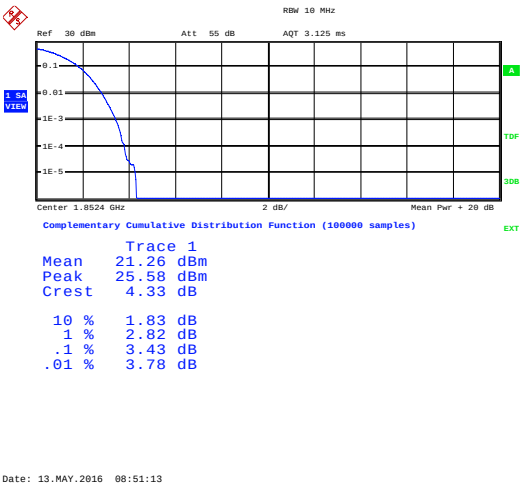
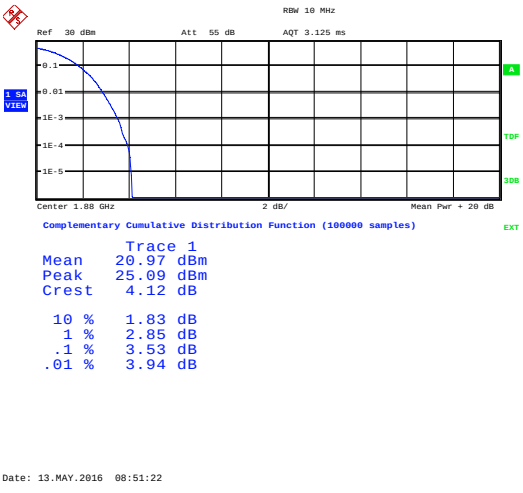
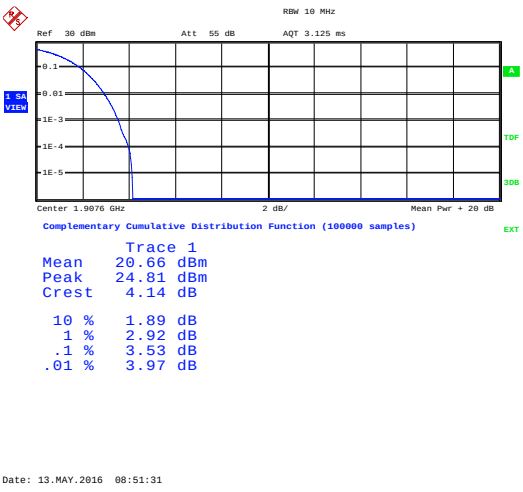
SIM2		
Operate Band:	WCDMA Band V	Modulation Type: QPSK
Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
826.4	3.494	< 13
836.6	3.333	< 13
846.6	3.494	< 13

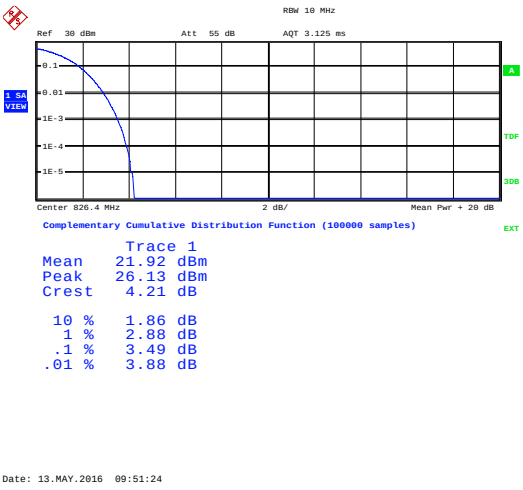
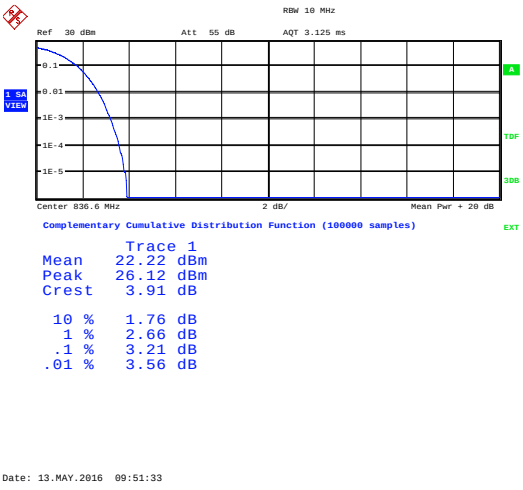
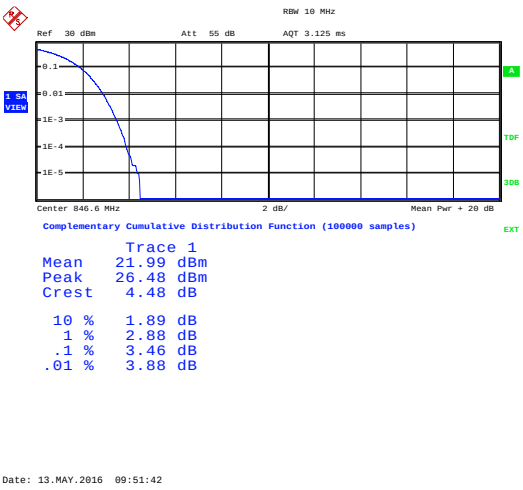
SIM 1	
Operate Band: GPRS 850	
824.2 MHz	
836.6 MHz	
848.8 MHz	

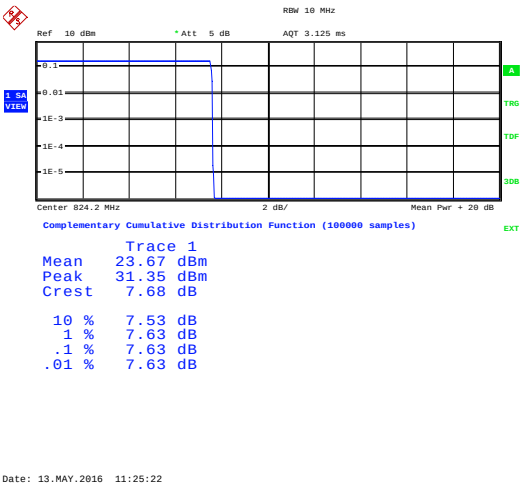
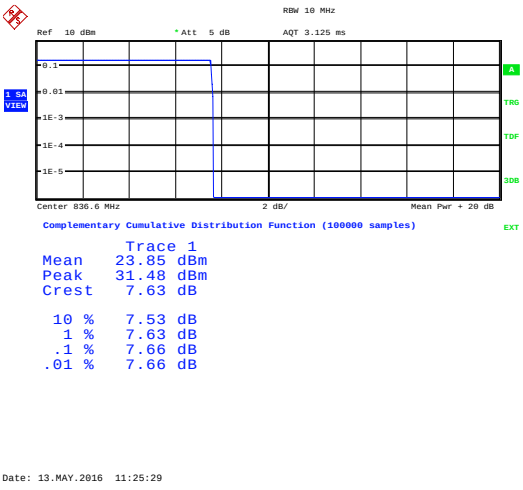
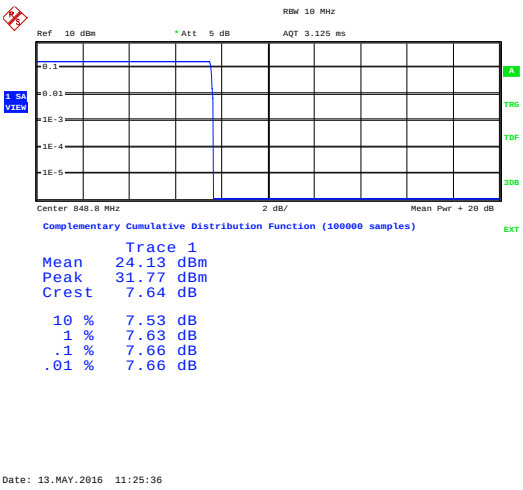
SIM 1	
Operate Band: EGPRS 850	
824.2 MHz	
836.6 MHz	
848.8 MHz	

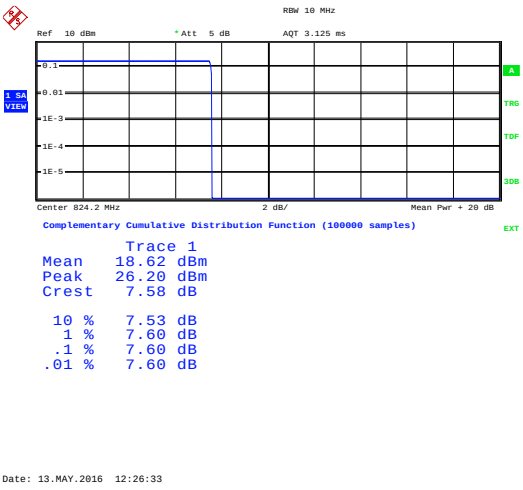
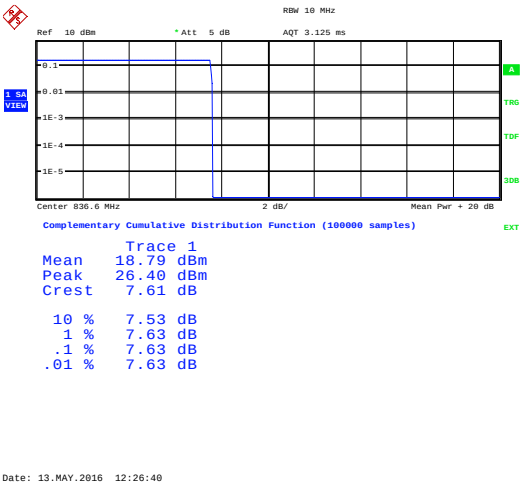
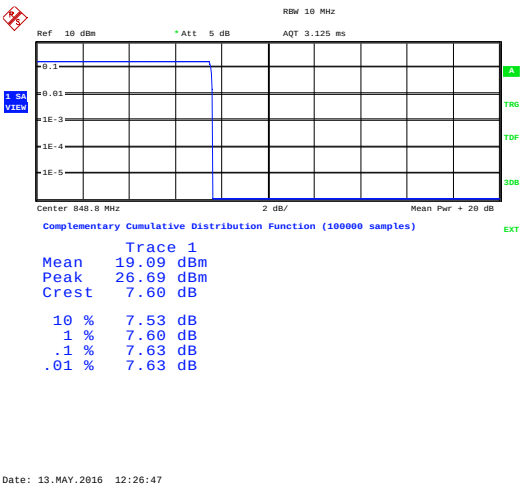
SIM 1	
Operate Band: GPRS 1900	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

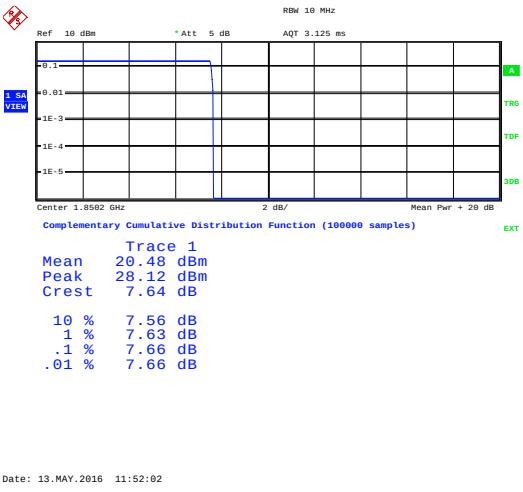
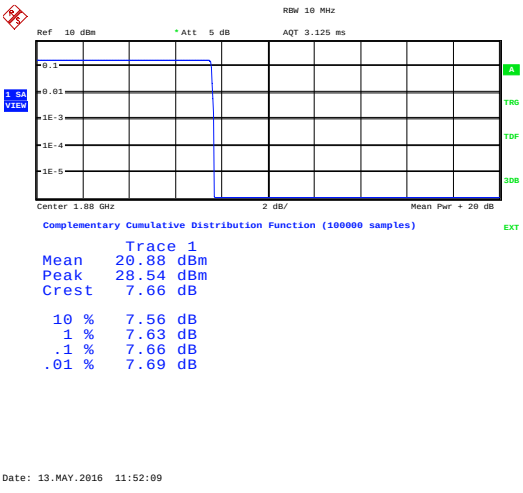
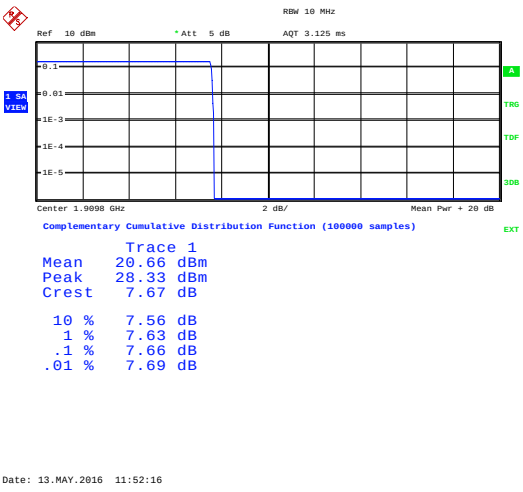
SIM 1	
Operate Band: EGPRS 1900	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

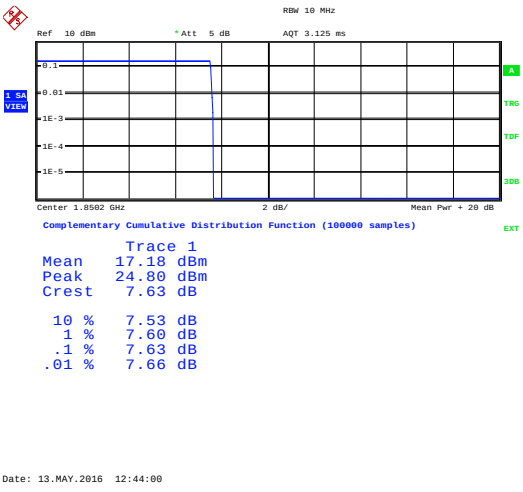
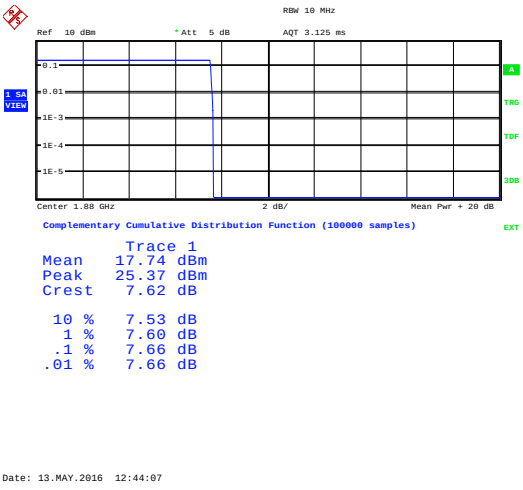
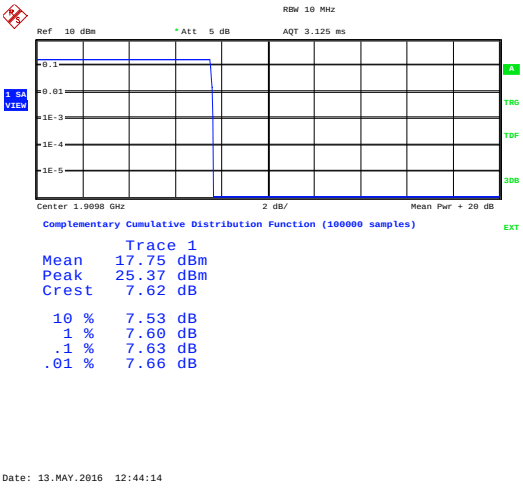
SIM 1	
Operate Band: WCDMA Band II	
1852.4 MHz	
1880.0 MHz	
1907.6 MHz	

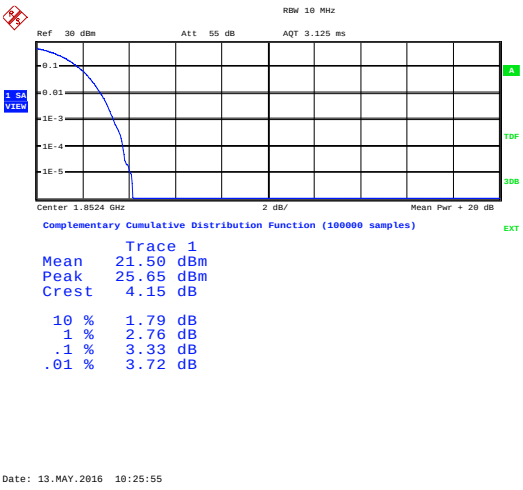
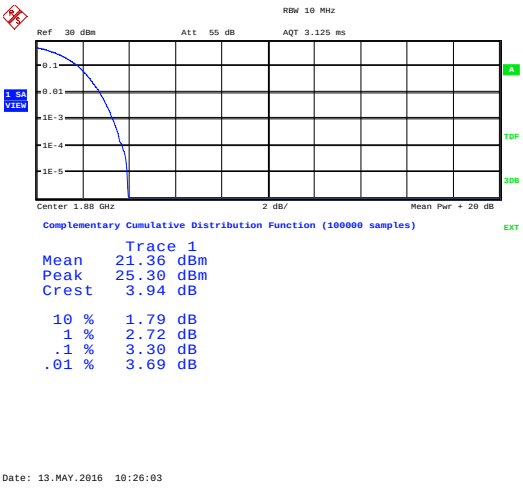
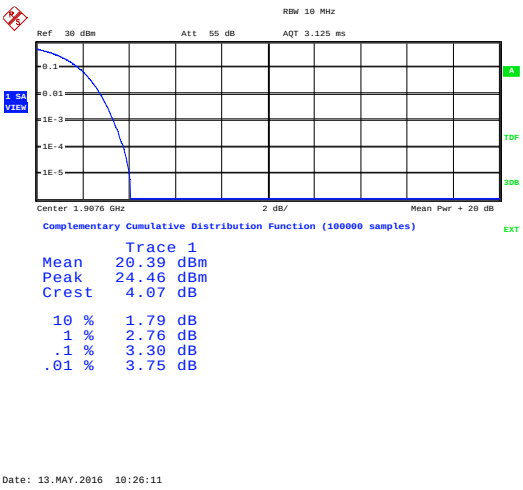
SIM 1	
Operate Band: WCDMA Band V	
826.4 MHz	
836.6 MHz	
846.6 MHz	

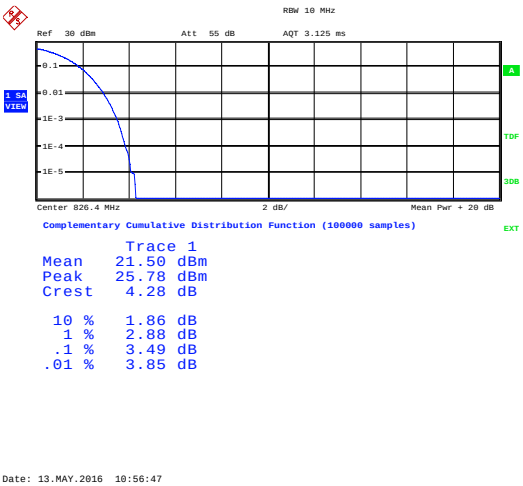
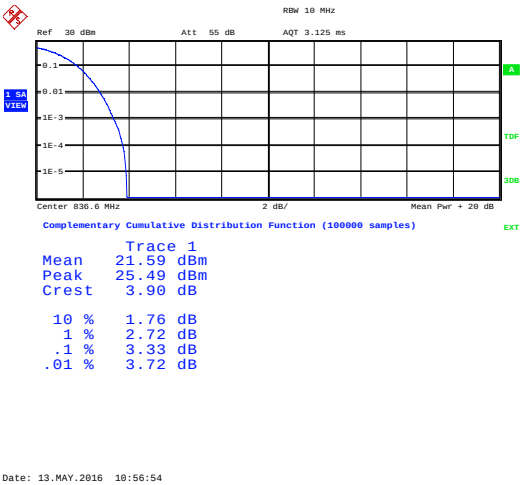
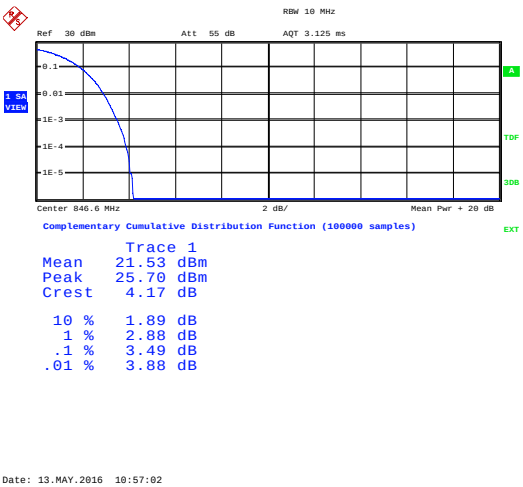
SIM 2	
Operate Band: GPRS 850	
824.2 MHz	
836.6 MHz	
848.8 MHz	

SIM 2	
Operate Band: EGPRS 850	
824.2 MHz	
836.6 MHz	
848.8 MHz	

SIM 2	
Operate Band: GPRS 1900	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

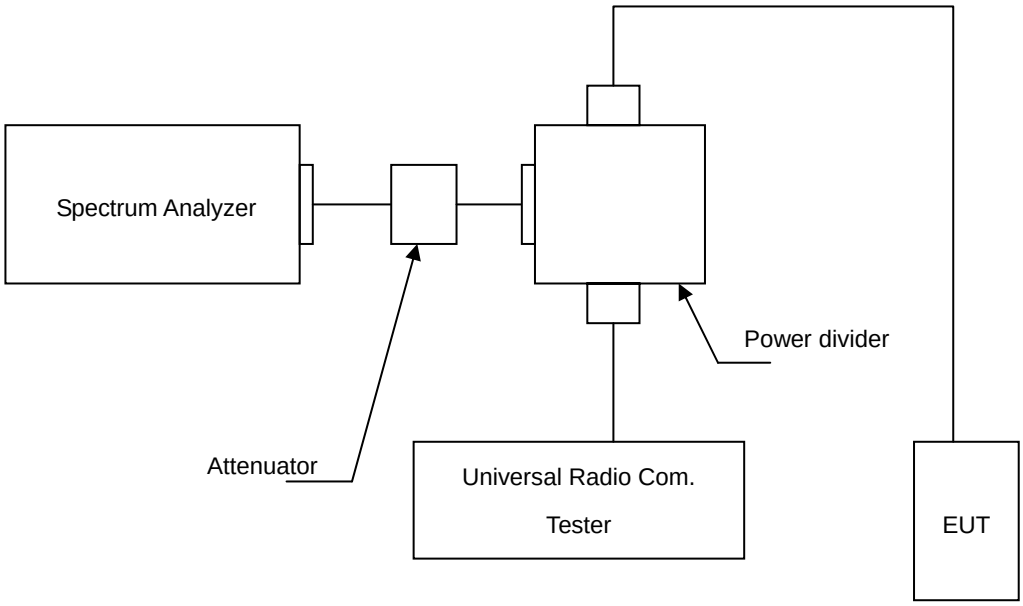
SIM 2	
Operate Band: EGPRS 1900	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

SIM 2	
Operate Band: WCDMA Band II	
1852.4 MHz	
1880.0 MHz	
1907.6 MHz	

SIM 2	
Operate Band: WCDMA Band V	
826.4 MHz	
836.6 MHz	
846.6 MHz	

4.4. Emission Bandwidth & Occupied Bandwidth

■ Setup



■ Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The occupied bandwidth of Low、middle and High channel for the highest RF powers was measured.

■ **Test Result**

SIM 1		
Operate Band: GPRS 850		Modulation Type: GMSK
Frequency (MHz)	Emission Bandwidth (100%) (kHz)	99% Bandwidth (kHz)
824.2	309.295	244.391
836.6	306.891	245.994
848.8	308.494	242.788

SIM 1		
Operate Band: EGPRS 850		Modulation Type: 8PSK
Frequency (MHz)	Emission Bandwidth (100%) (kHz)	99% Bandwidth (kHz)
824.2	307.692	246.795
836.6	307.692	246.795
848.8	307.692	243.590

The cell band analyzer settings: RBW =5 kHz; VBW = 20 kHz.

SIM 1		
Operate Band: GPRS 1900		Modulation Type: GMSK
Frequency (MHz)	Emission Bandwidth (100%) (kHz)	99% Bandwidth (kHz)
1850.20	307.692	244.391
1880.00	306.891	244.391
1909.80	306.090	244.391

SIM 1		
Operate Band: EGPRS 1900		Modulation Type: 8PSK
Frequency (MHz)	Emission Bandwidth (100%) (kHz)	99% Bandwidth (kHz)
1850.20	307.692	245.192
1880.00	306.891	244.391
1909.80	307.692	245.994

The pcs band analyzer settings: RBW =5 kHz; VBW = 20 kHz.

SIM 1		
Operate Band:	WCDMA Band II	Modulation Type: QPSK
Frequency (MHz)	Emission Bandwidth (100%) (MHz)	99% Bandwidth (MHz)
1852.4	4.503	4.167
1880.0	4.519	4.167
1907.6	4.503	4.167

The WCDMA Band II analyzer settings: RBW =50 kHz; VBW = 200 kHz

SIM 1		
Operate Band:	WCDMA Band V	Modulation Type: QPSK
Frequency (MHz)	Emission Bandwidth (100%) (MHz)	99% Bandwidth (MHz)
826.4	4.487	4.183
836.6	4.471	4.151
846.6	4.487	4.167

The WCDMA Band V analyzer settings: RBW =50 kHz; VBW = 200 kHz

SIM 2		
Operate Band: GPRS 850		Modulation Type: GMSK
Frequency (MHz)	Emission Bandwidth (100%) (kHz)	99% Bandwidth (kHz)
824.2	306.090	247.596
836.6	306.891	246.795
848.8	305.288	245.192

SIM 2		
Operate Band: EGPRS 850		Modulation Type: 8PSK
Frequency (MHz)	Emission Bandwidth (100%) (kHz)	99% Bandwidth (kHz)
824.2	306.891	244.391
836.6	307.692	242.788
848.8	306.891	245.994

The cell band analyzer settings: RBW =5 kHz; VBW = 20 kHz.

SIM 2		
Operate Band: GPRS 1900		Modulation Type: GMSK
Frequency (MHz)	Emission Bandwidth (100%) (kHz)	99% Bandwidth (kHz)
1850.20	306.891	245.994
1880.00	306.891	244.391
1909.80	306.891	245.994

SIM 2		
Operate Band: EGPRS 1900		Modulation Type: 8PSK
Frequency (MHz)	Emission Bandwidth (100%) (kHz)	99% Bandwidth (kHz)
1850.20	306.090	249.199
1880.00	308.494	241.987
1909.80	307.692	245.192

The pcs band analyzer settings: RBW =5 kHz; VBW = 20 kHz.

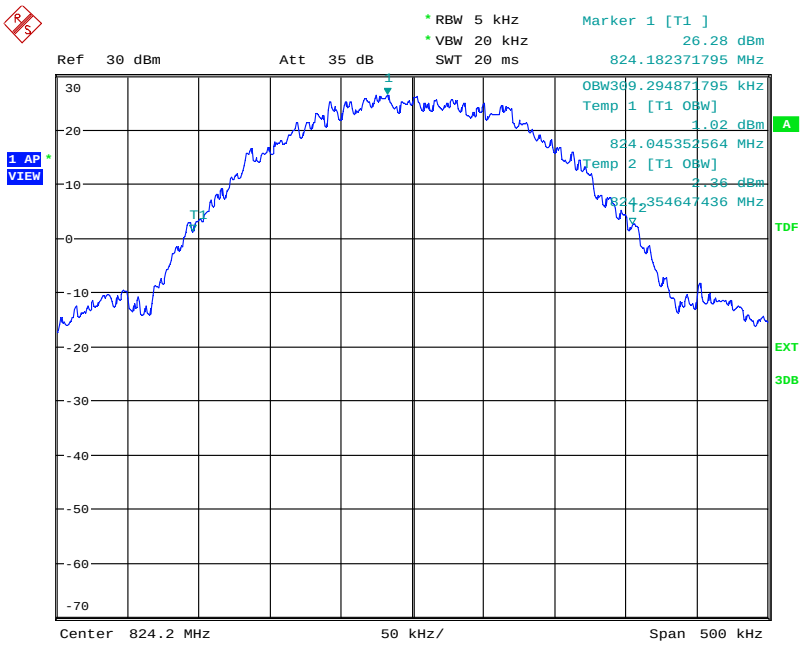
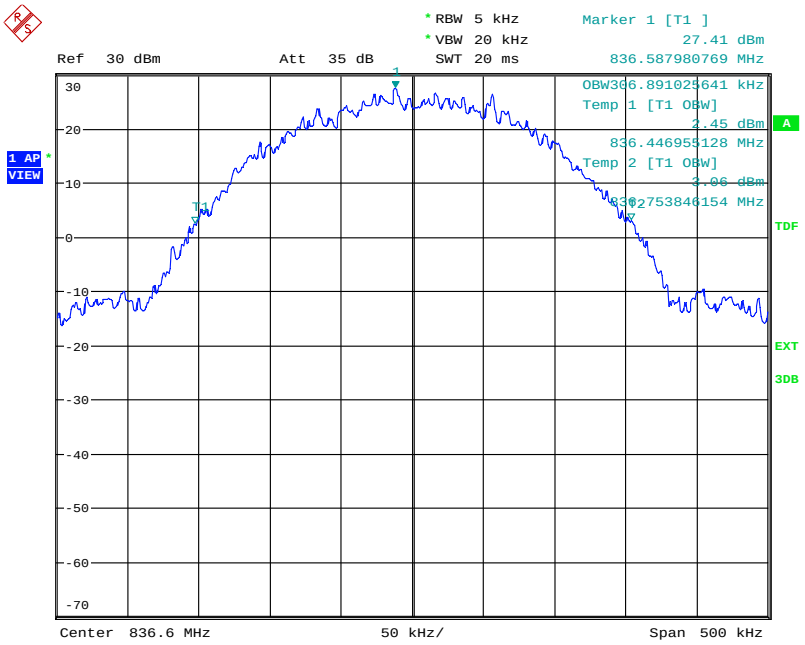
SIM 2		
Operate Band:	WCDMA Band II	Modulation Type: QPSK
Frequency (MHz)	Emission Bandwidth (100%) (MHz)	99% Bandwidth (MHz)
1852.4	4.471	4.151
1880.0	4.487	4.151
1907.6	4.487	4.151

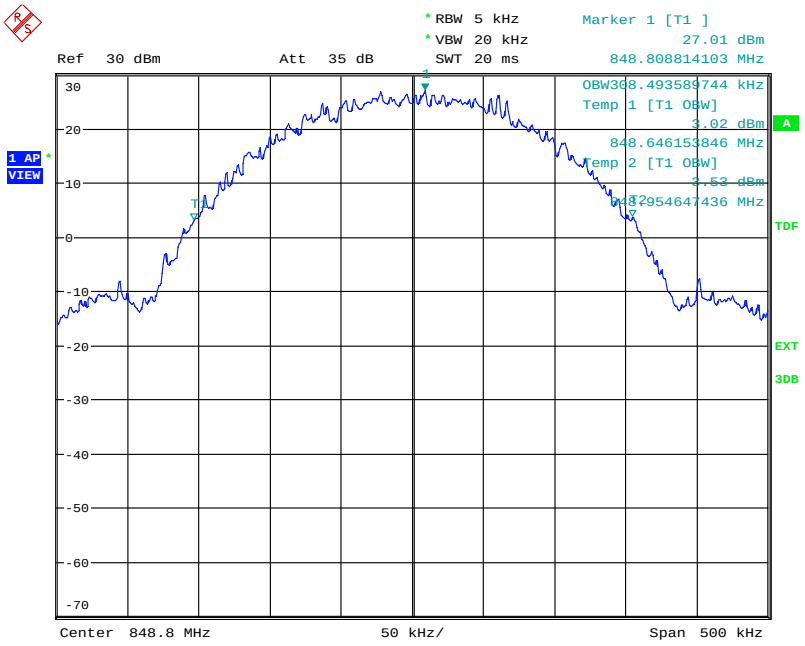
The WCDMA Band II analyzer settings: RBW =50 kHz; VBW = 200 kHz

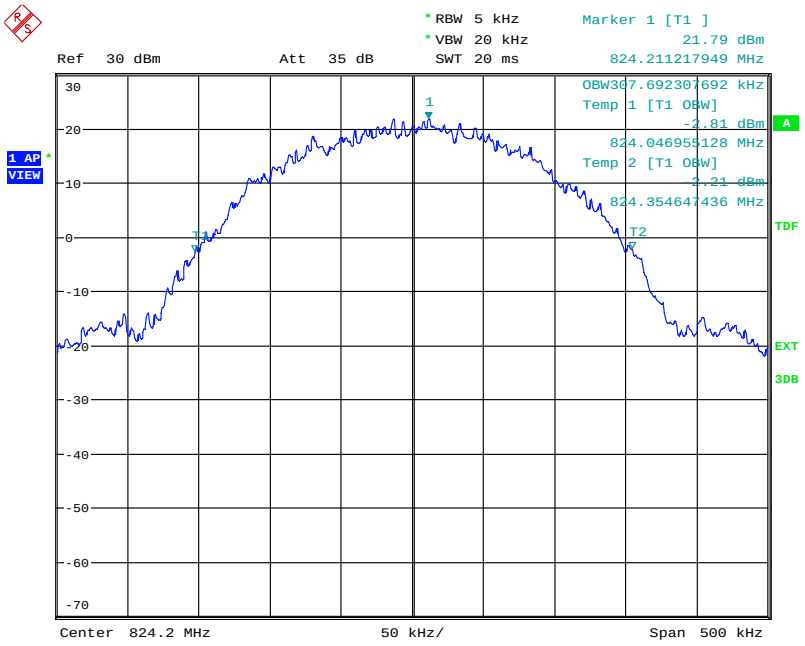
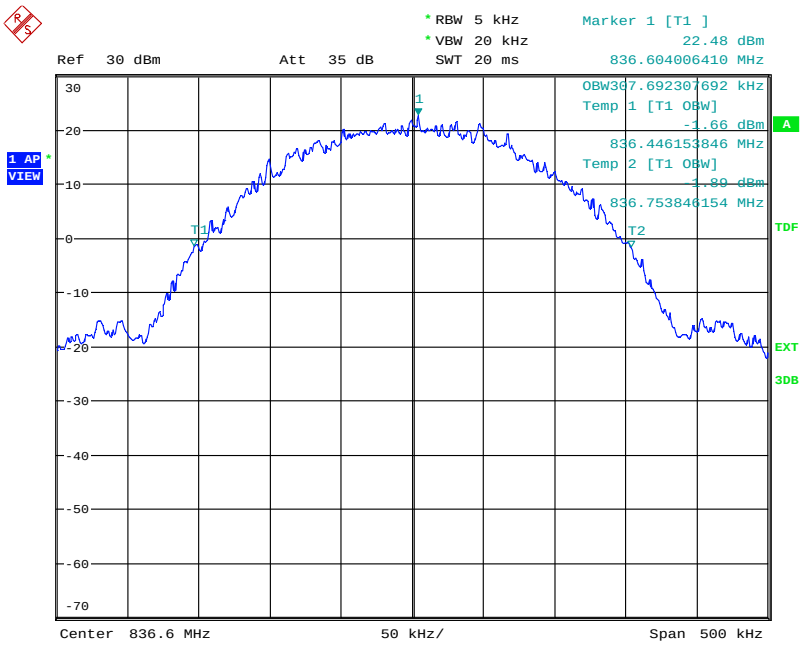
SIM 2		
Operate Band:	WCDMA Band V	Modulation Type: QPSK
Frequency (MHz)	Emission Bandwidth (100%) (MHz)	99% Bandwidth (MHz)
826.4	4.487	4.167
836.6	4.471	4.151
846.6	4.471	4.167

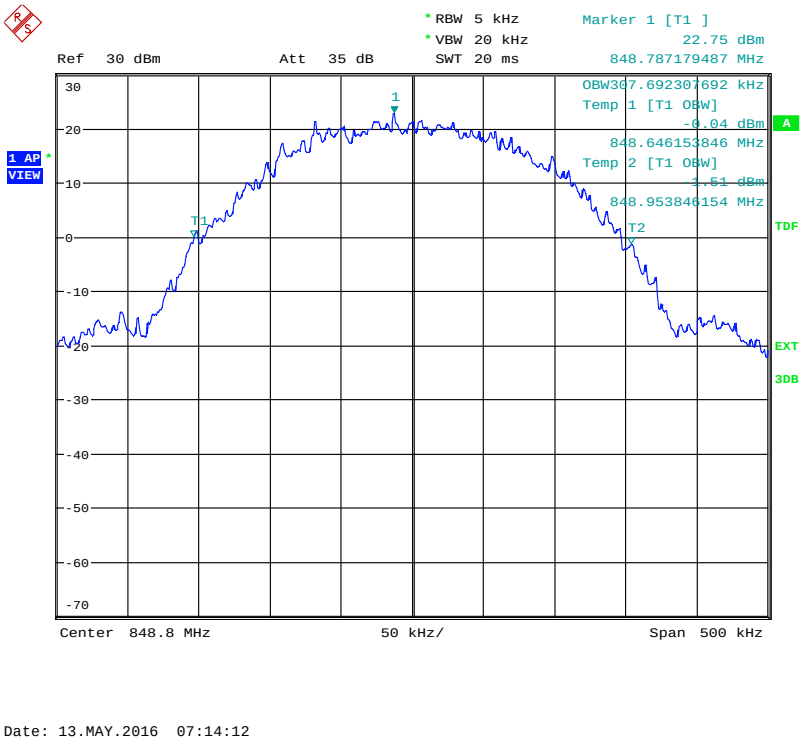
The WCDMA Band V analyzer settings: RBW =50 kHz; VBW = 200 kHz

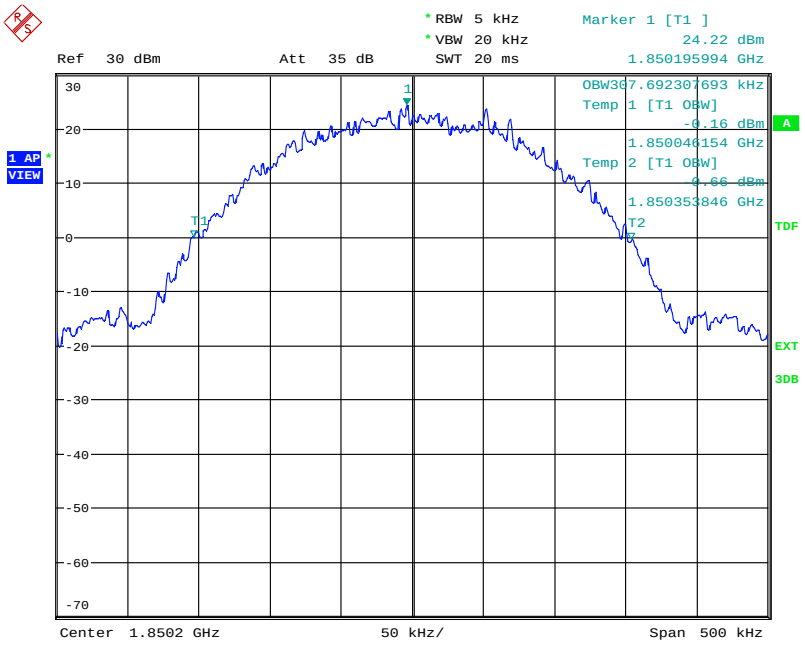
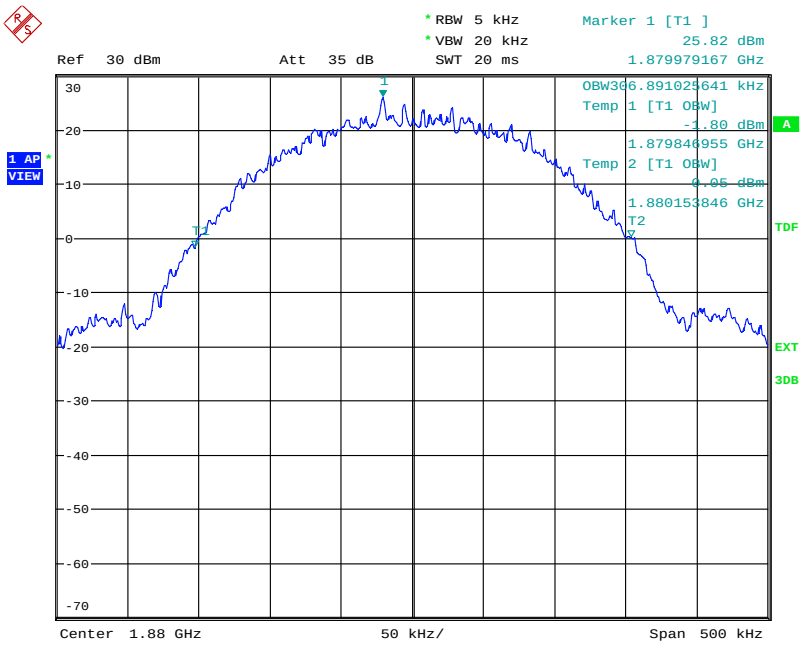
■ Emission Bandwidth (100%) Test Graphs

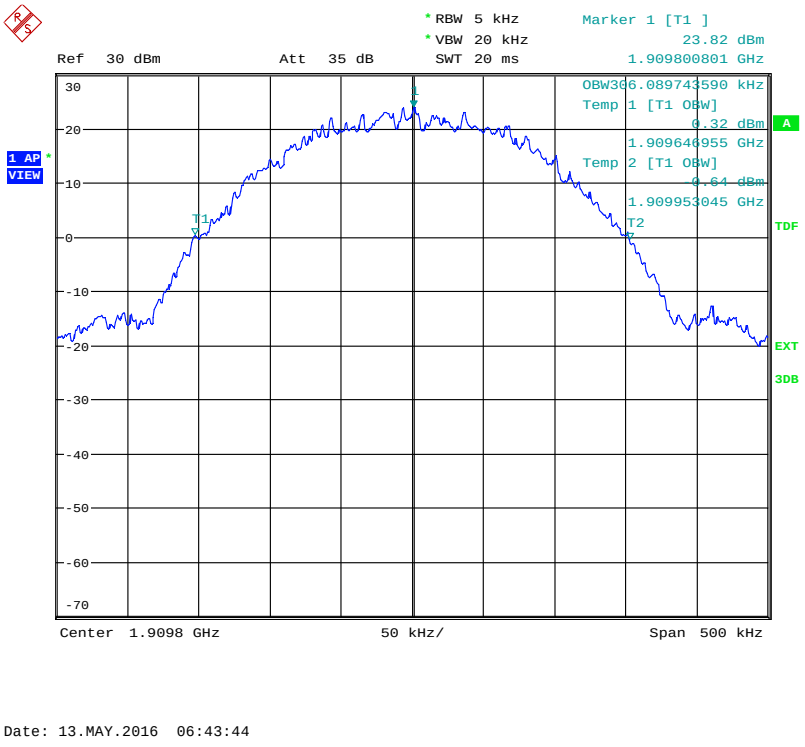
SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
824.2 MHz	
836.6 MHz	

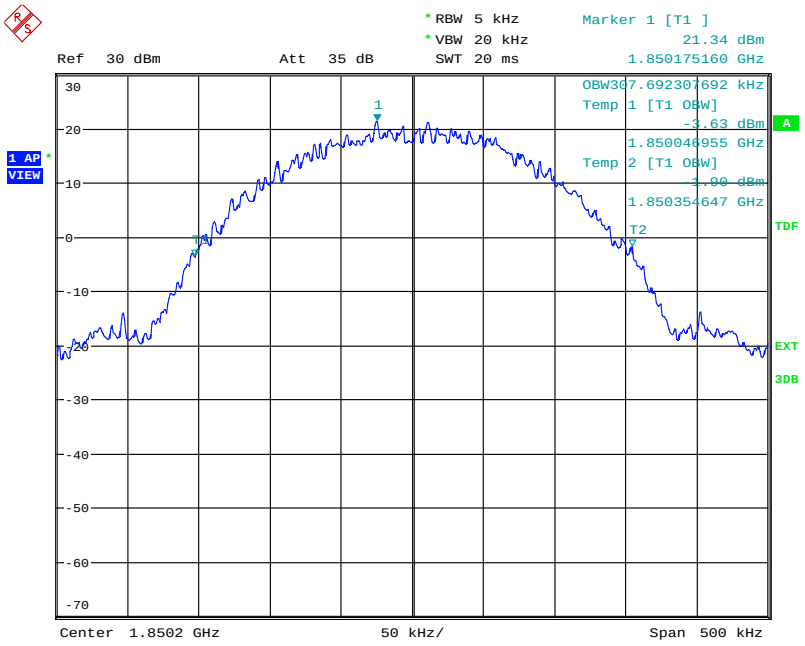
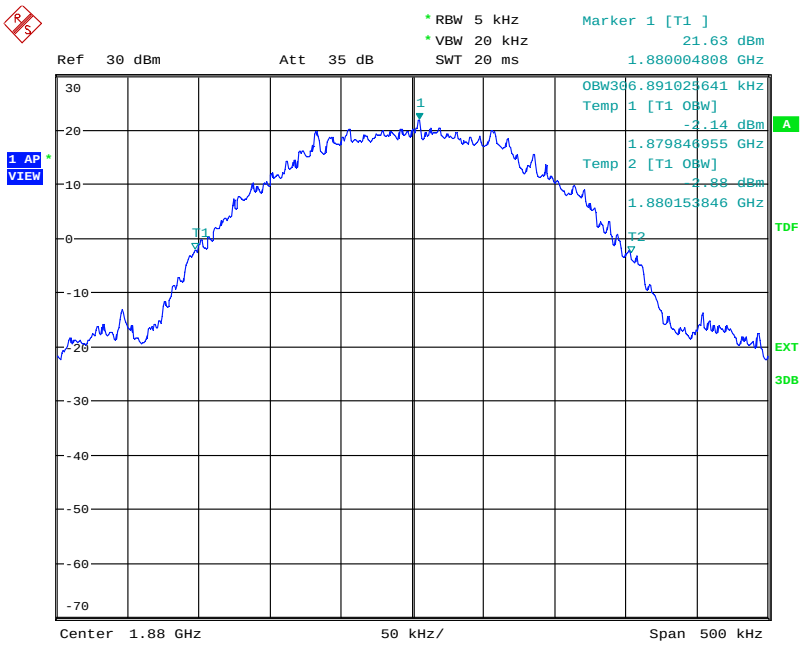
SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
848.8 MHz	

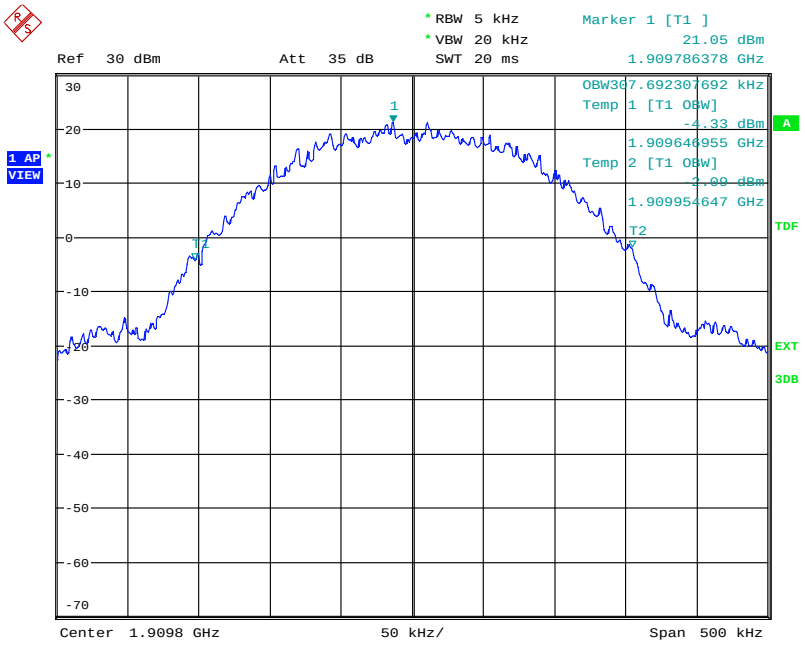
SIM 1	
Operate Band: EGPRS 850	Modulation Type: 8PSK
824.2 MHz	
836.6 MHz	

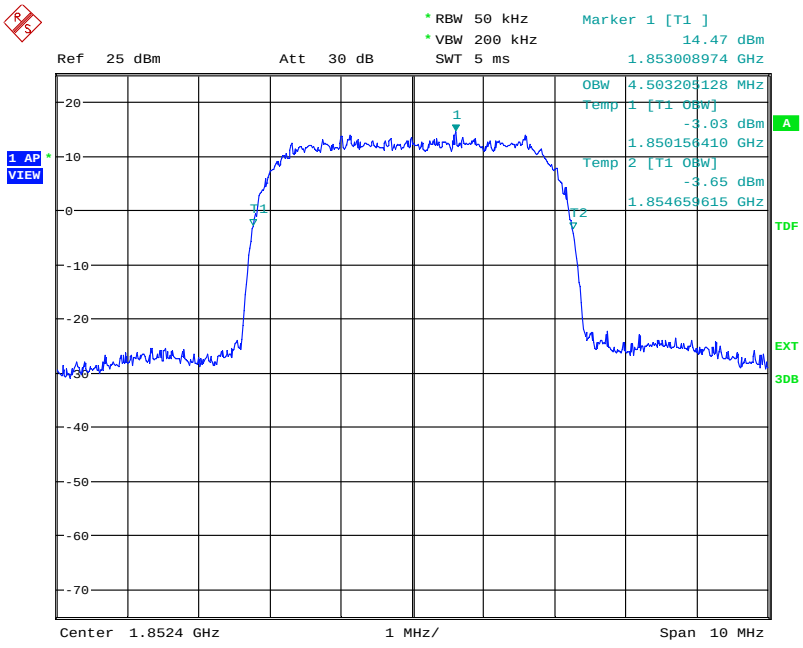
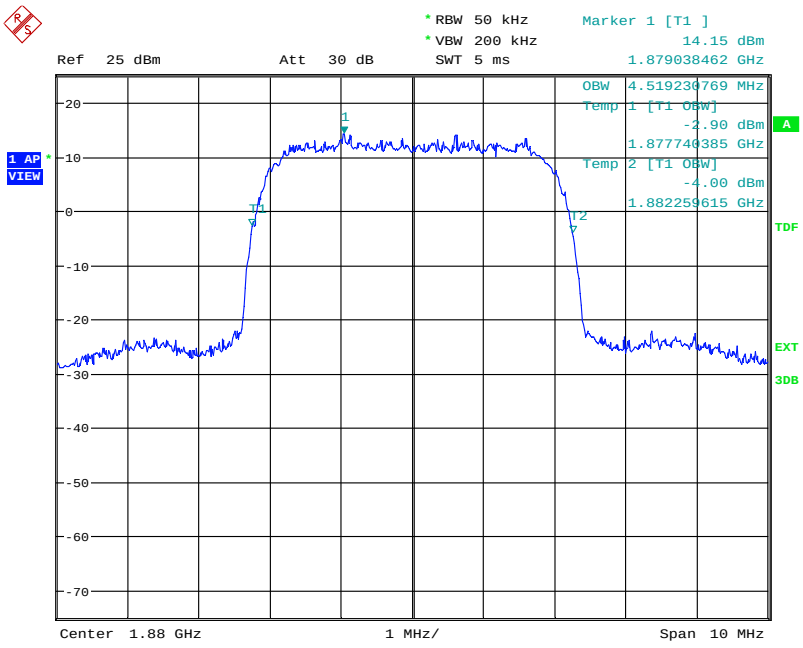
SIM 1	
Operate Band: EGPRS 850	Modulation Type: 8PSK
848.8 MHz	

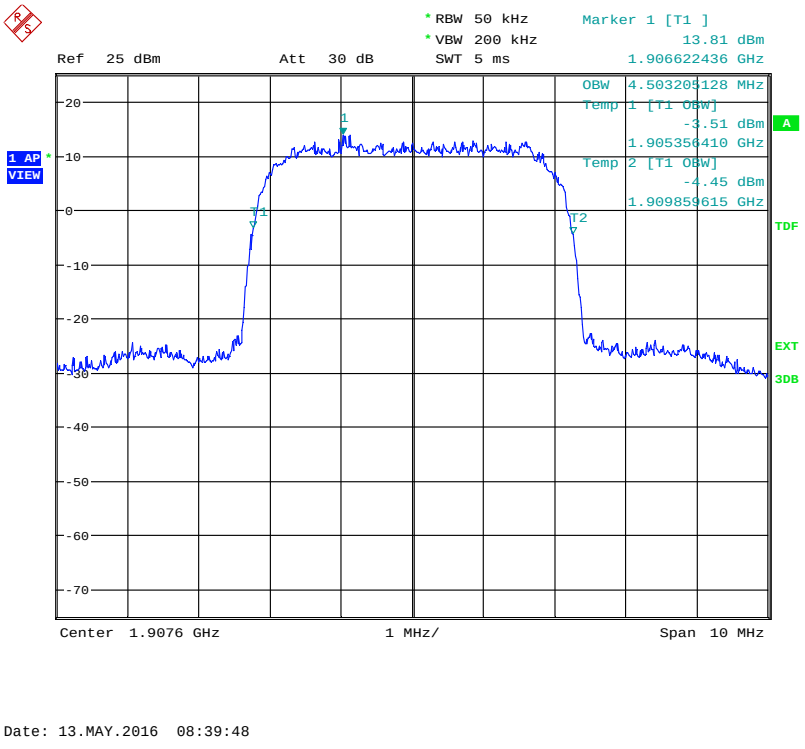
SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
1850.20 MHz	 Date: 13.MAY.2016 06:42:40
1880.00 MHz	 Date: 13.MAY.2016 06:43:12

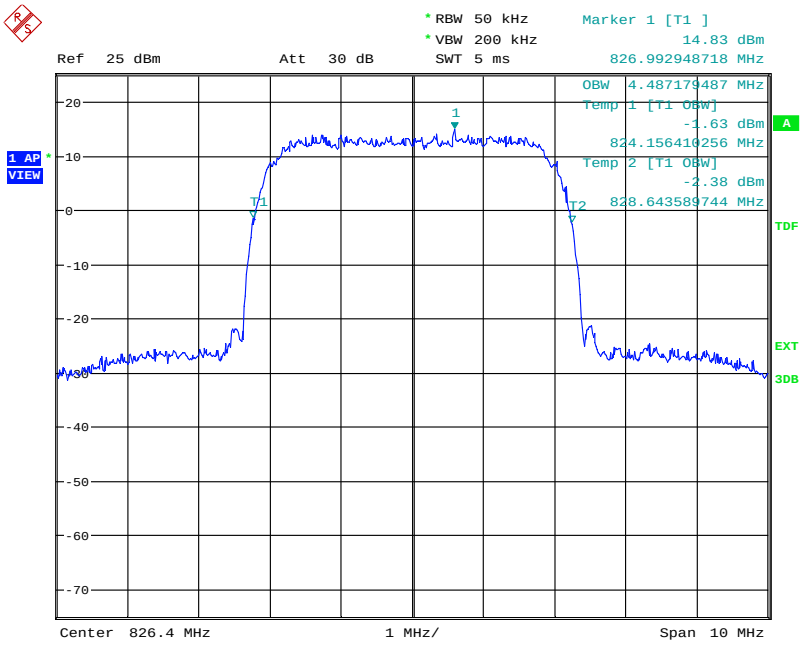
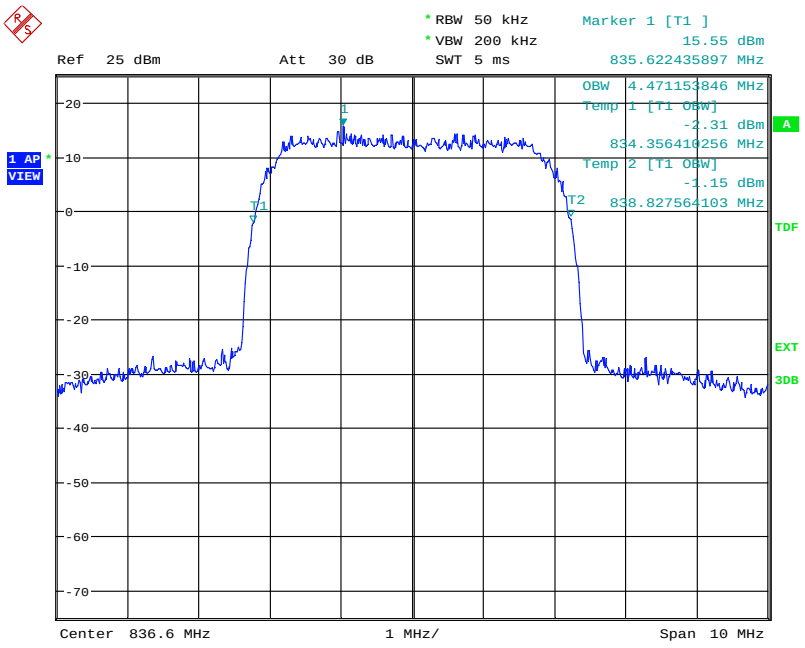
SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
1909.80 MHz	

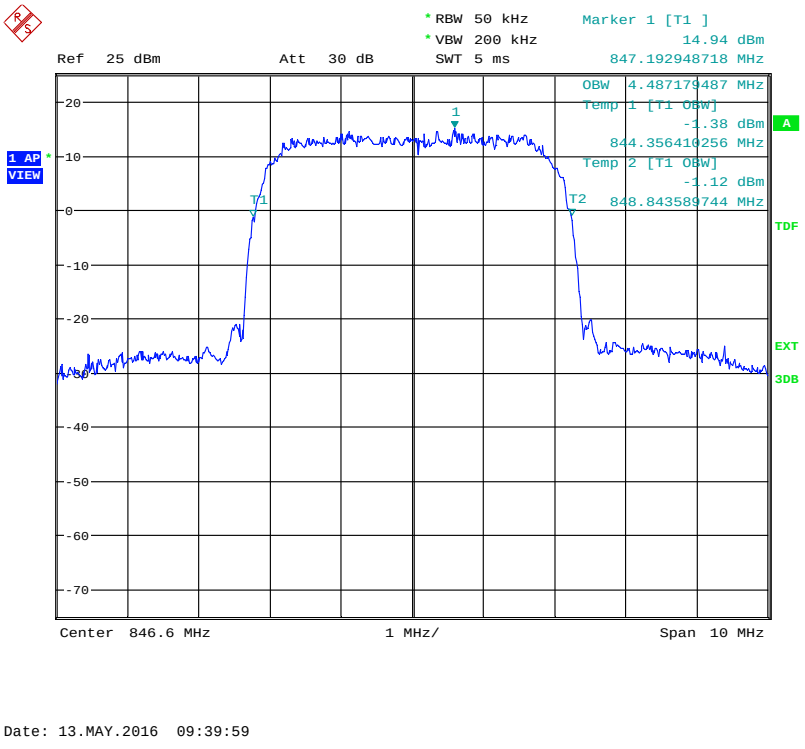
SIM 1	
Operate Band: EGPRS 1900	Modulation Type: 8PSK
1850.20 MHz	
1880.00 MHz	

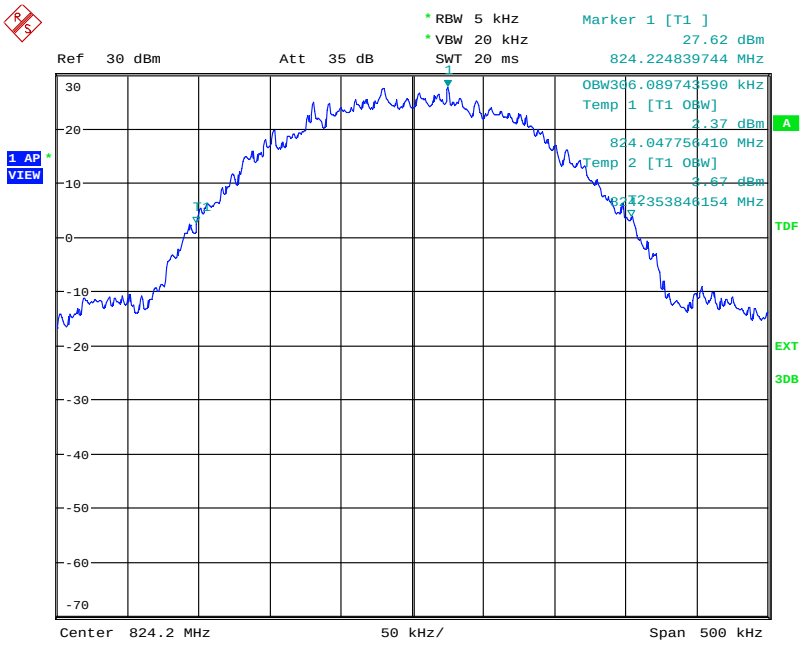
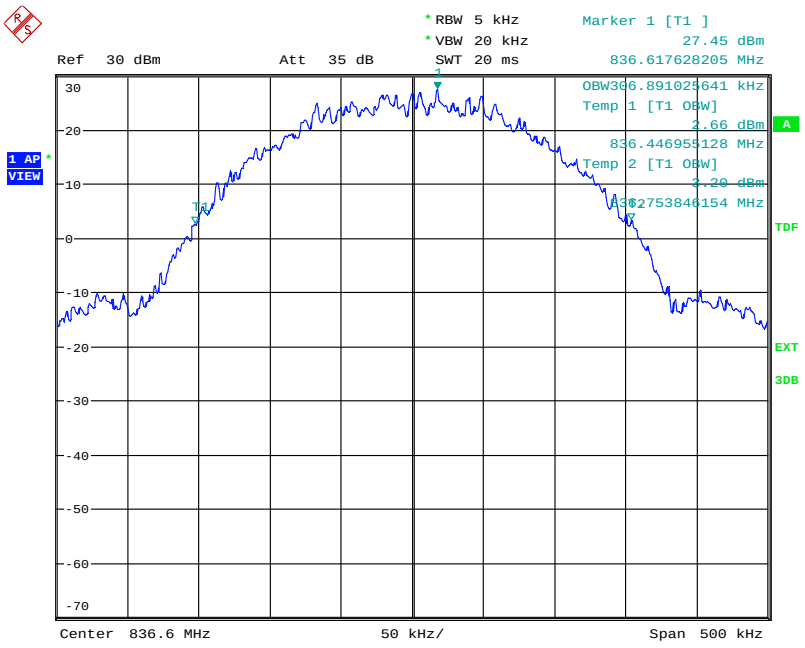
SIM 1	
Operate Band: EGPRS 1900	Modulation Type: 8PSK
1909.80 MHz	

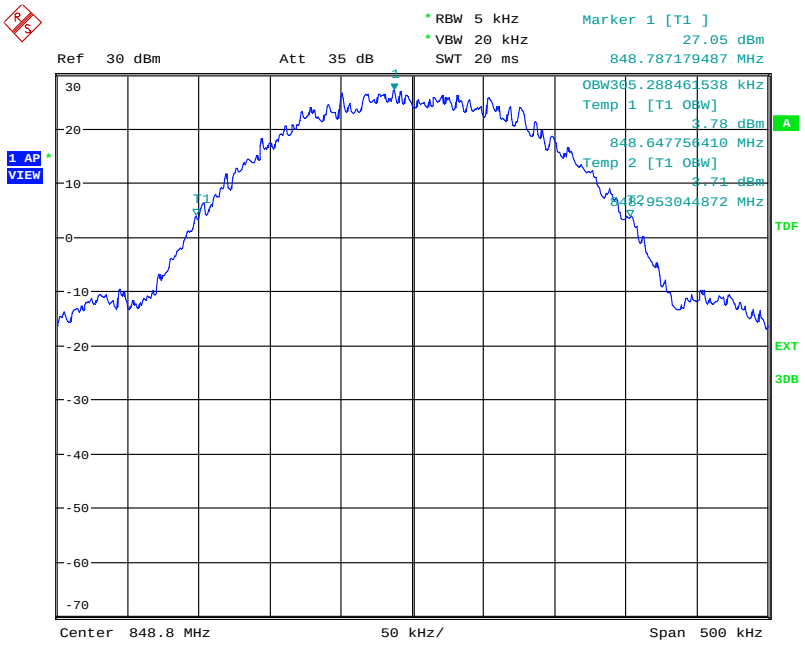
SIM 1	
Operate Band: WCDMA Band II	Modulation Type: QPSK
1852.40 MHz	
1880.00 MHz	

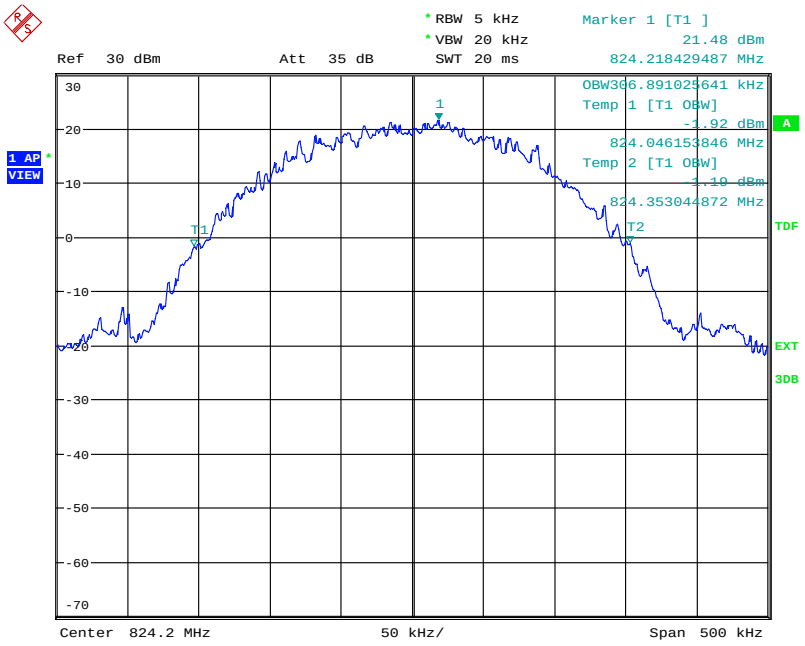
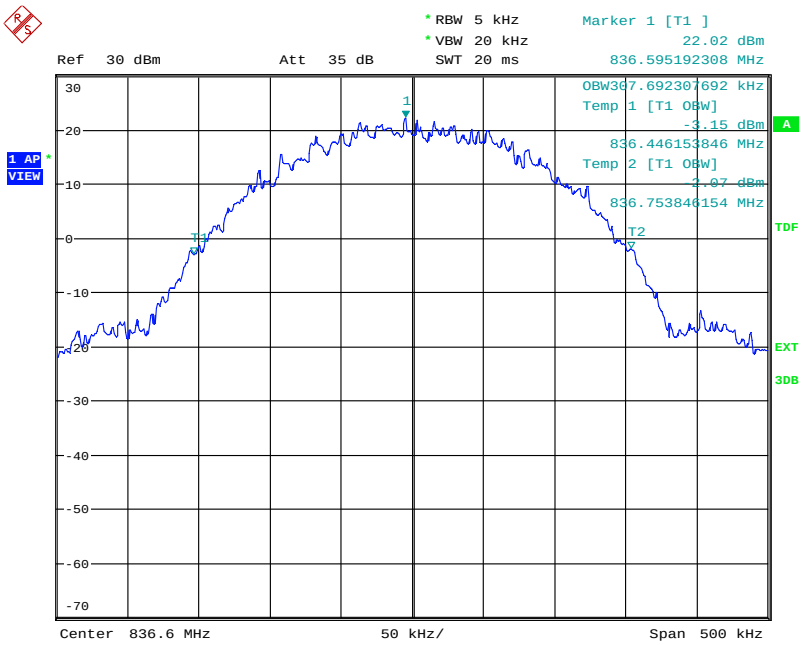
SIM 1	
Operate Band: WCDMA Band II	Modulation Type: QPSK
1907.60 MHz	

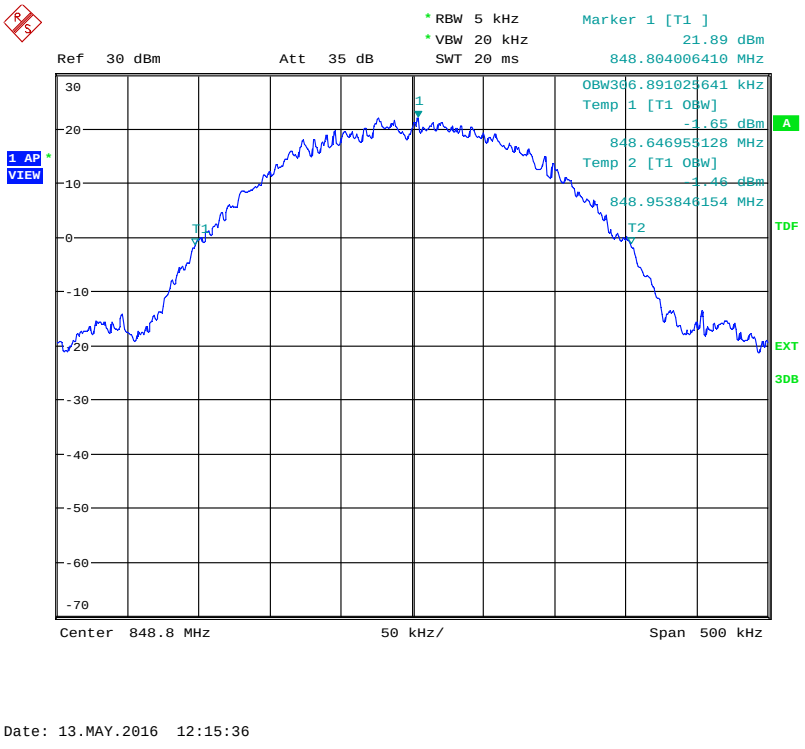
SIM 1	
Operate Band: WCDMA Band V	Modulation Type: QPSK
826.4 MHz	
836.6 MHz	

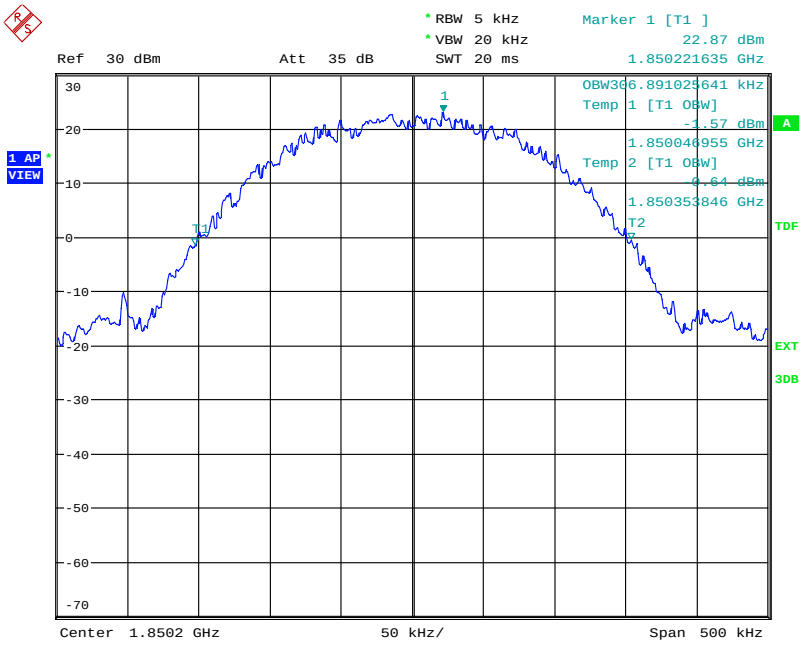
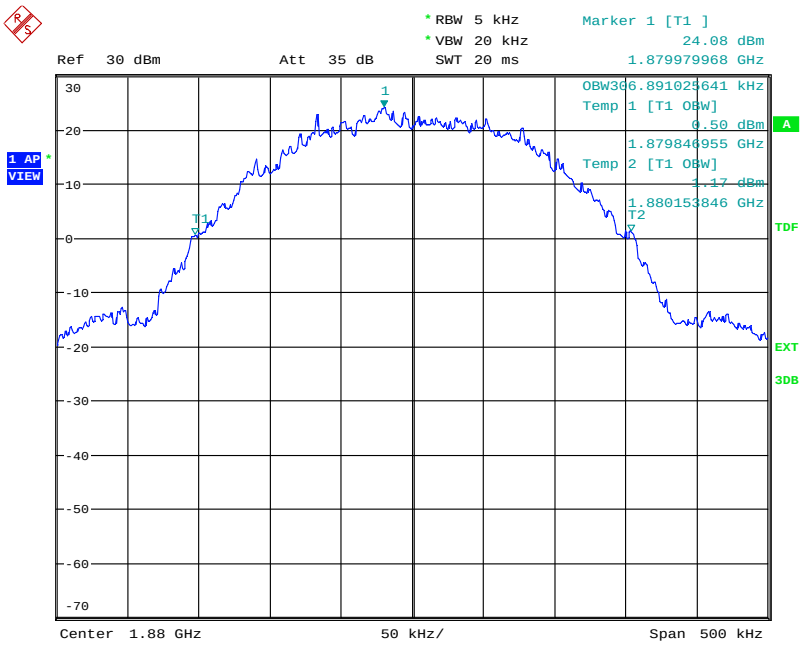
SIM 1	
Operate Band: WCDMA Band V	Modulation Type: QPSK
846.6 MHz	

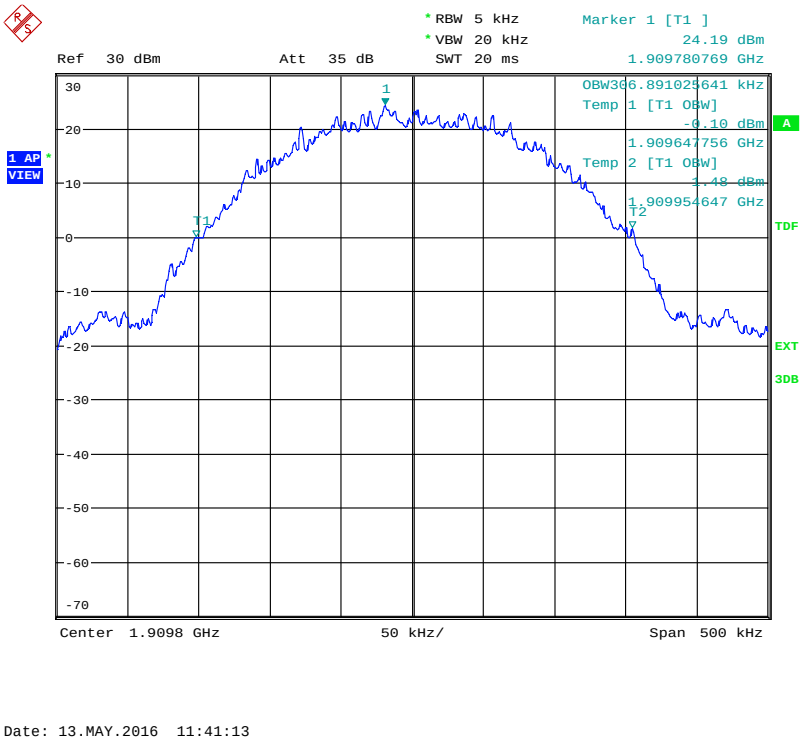
SIM 2	
Operate Band: GPRS 850	Modulation Type: GMSK
824.2 MHz	
836.6 MHz	

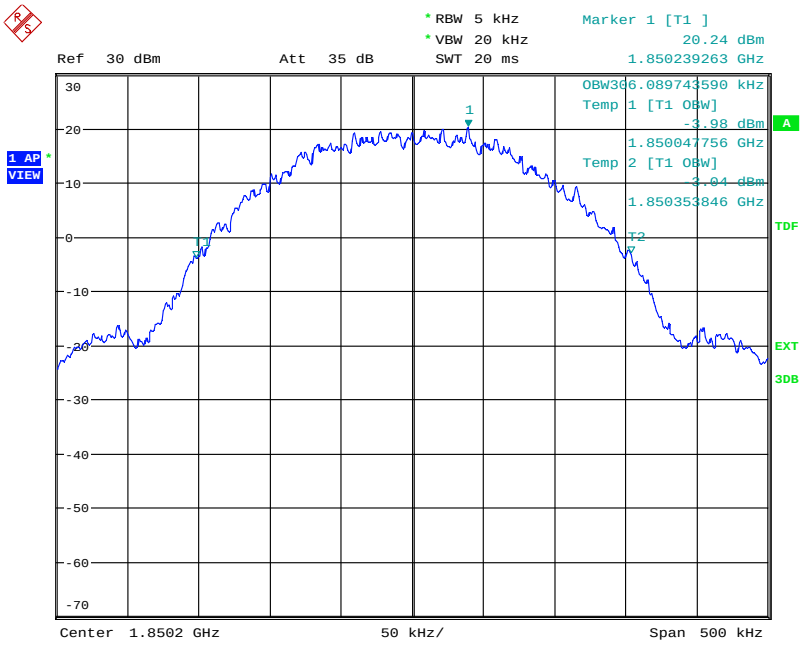
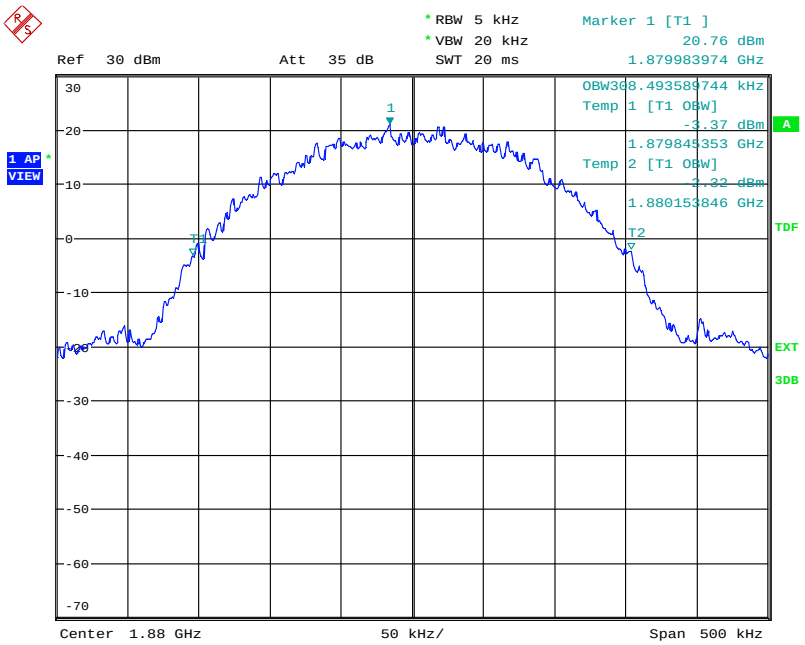
SIM 2	
Operate Band: GPRS 850	Modulation Type: GMSK
848.8 MHz	

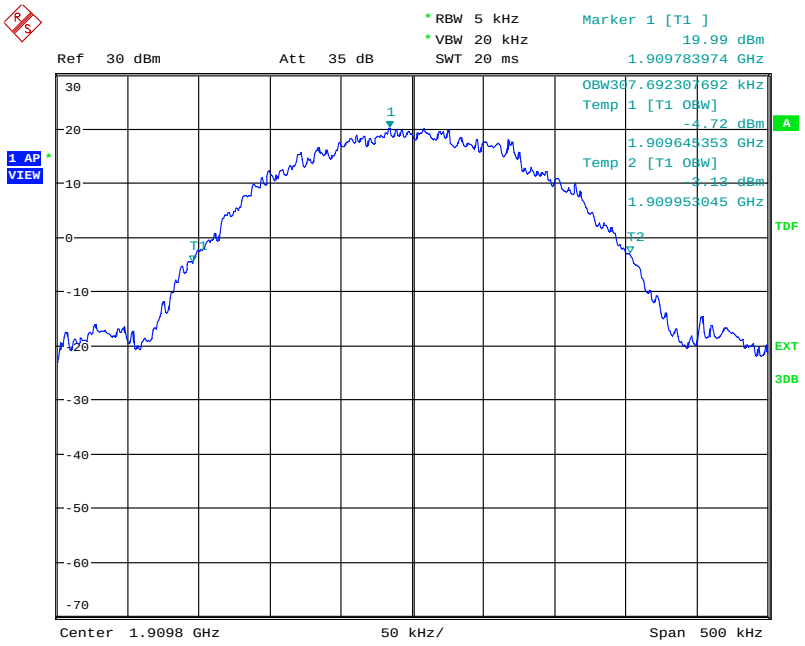
SIM 2	
Operate Band: EGPRS 850	Modulation Type: 8PSK
824.2 MHz	
836.6 MHz	

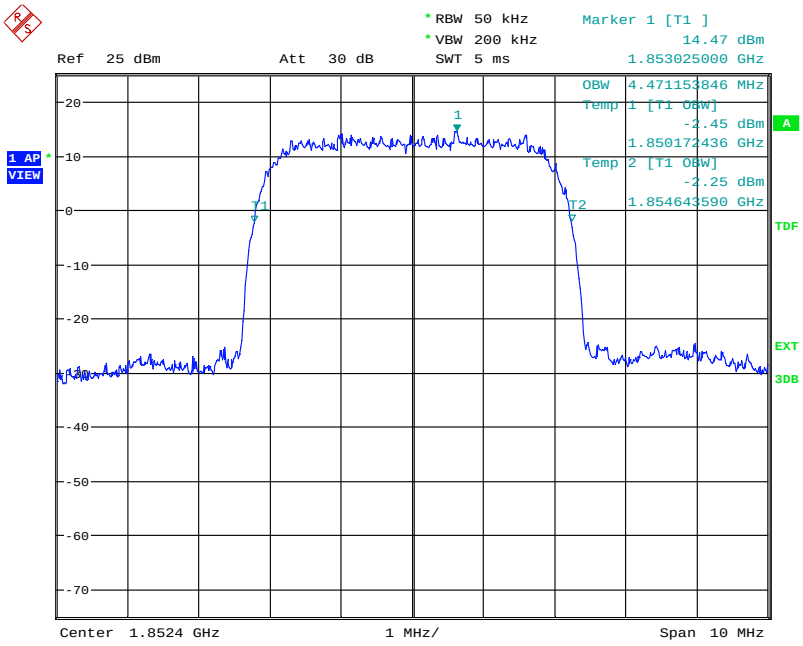
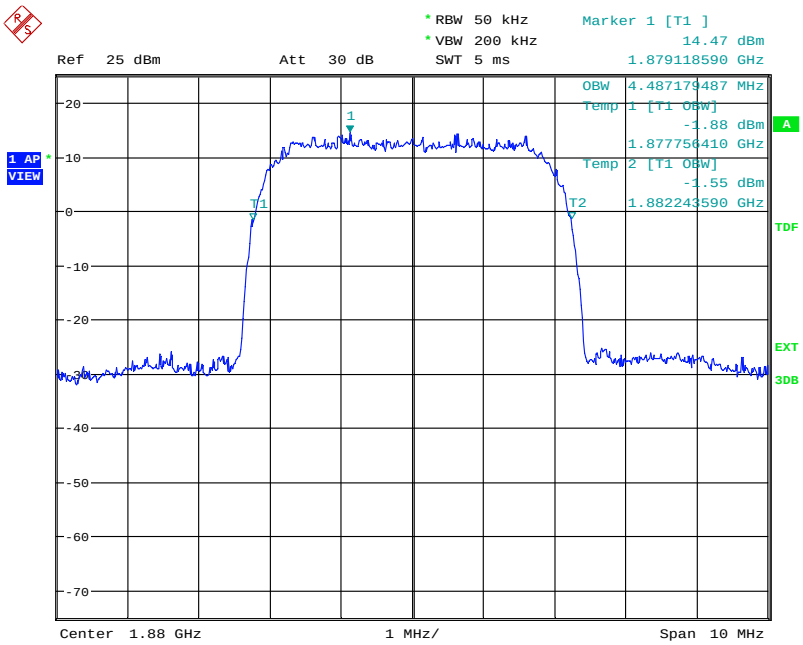
SIM 2	
Operate Band: EGPRS 850	Modulation Type: 8PSK
848.8 MHz	

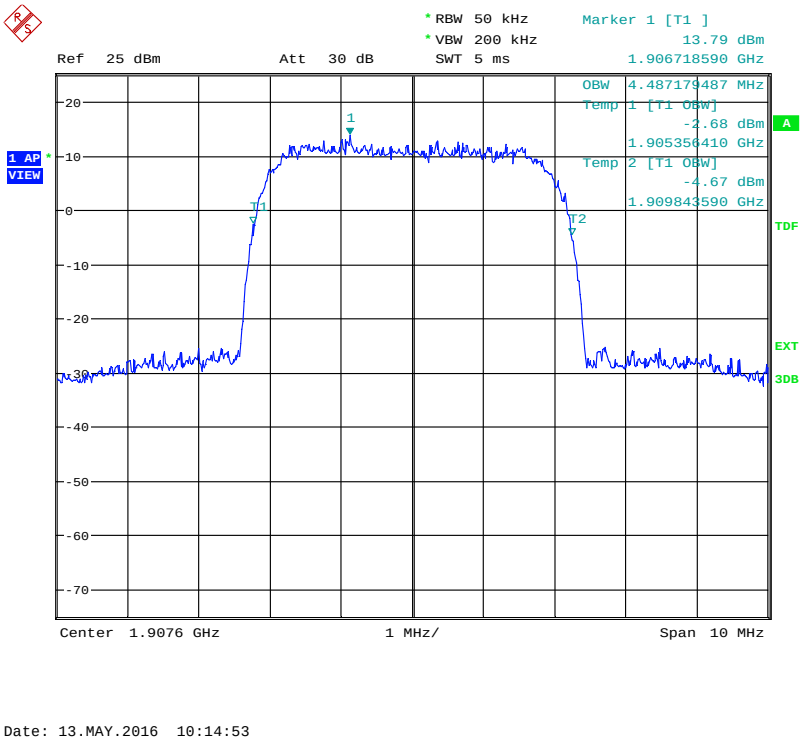
SIM 2	
Operate Band: GPRS 1900	Modulation Type: GMSK
1850.20 MHz	
1880.00 MHz	

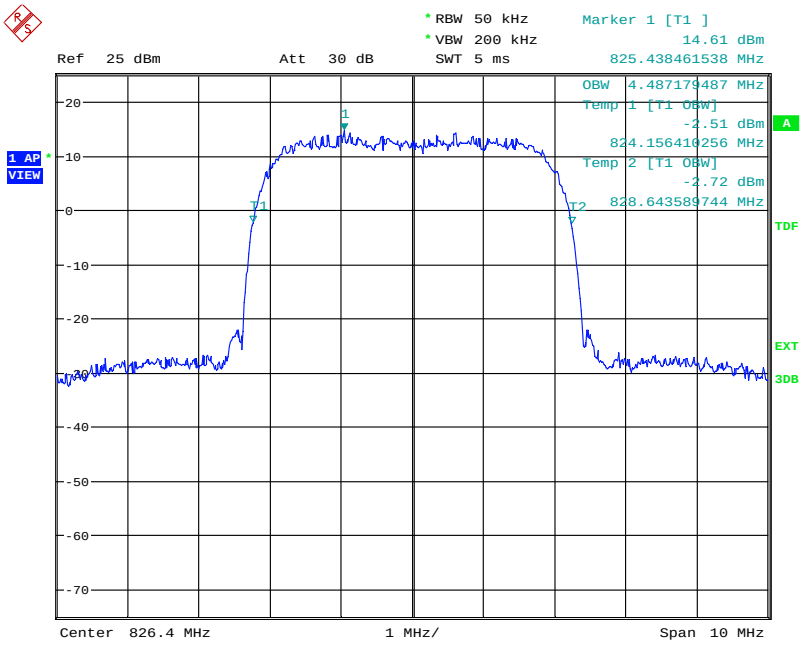
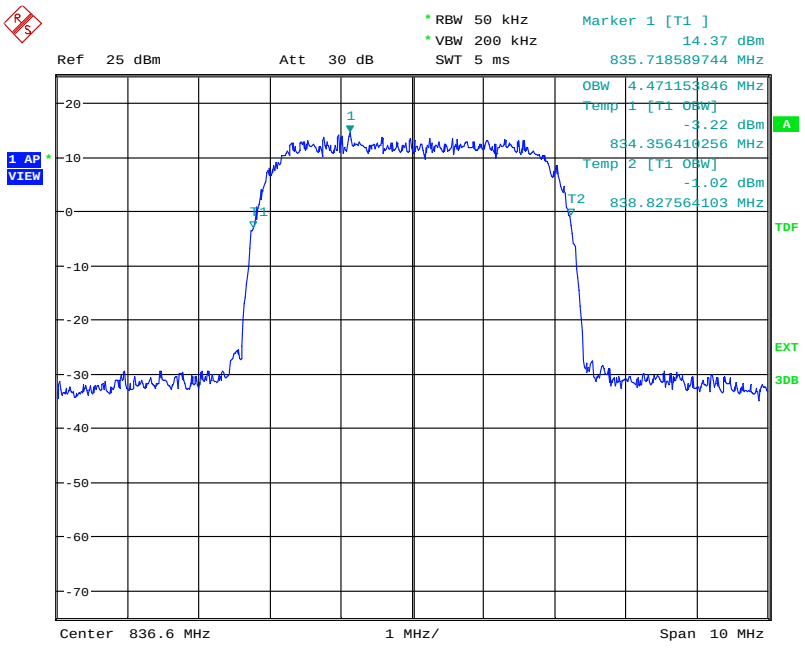
SIM 2	
Operate Band: GPRS 1900	Modulation Type: GMSK
1909.80 MHz	

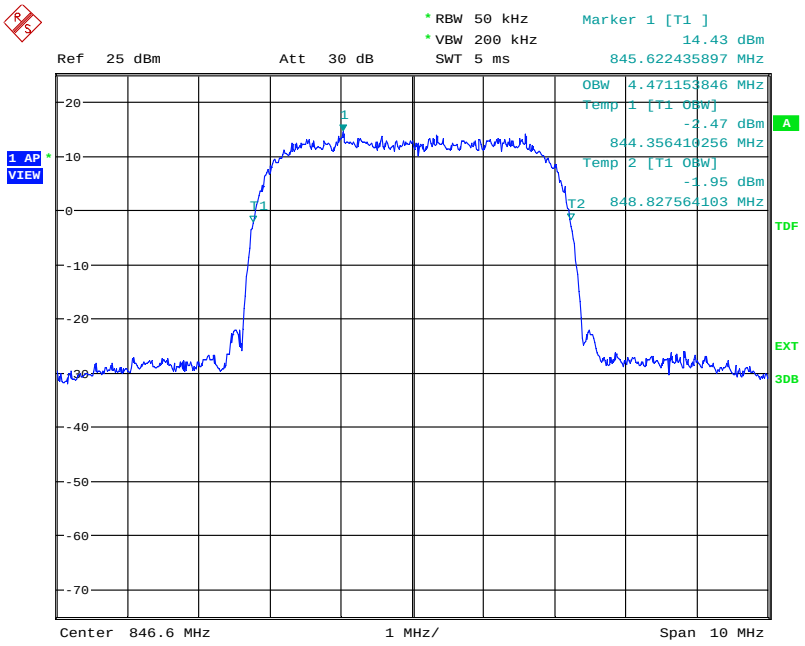
SIM 2	
Operate Band: EGPRS 1900	Modulation Type: 8PSK
1850.20 MHz	
1880.00 MHz	

SIM 2	
Operate Band: EGPRS 1900	Modulation Type: 8PSK
1909.80 MHz	

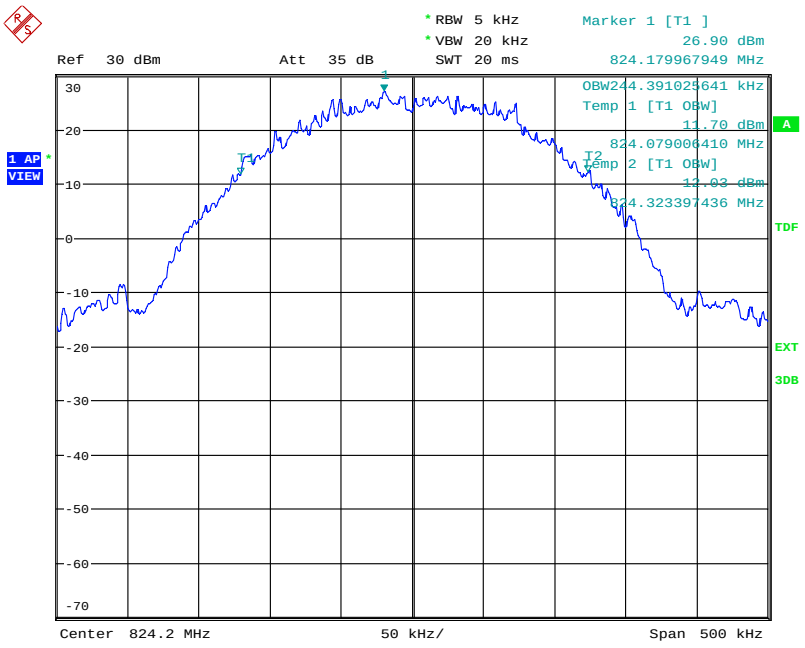
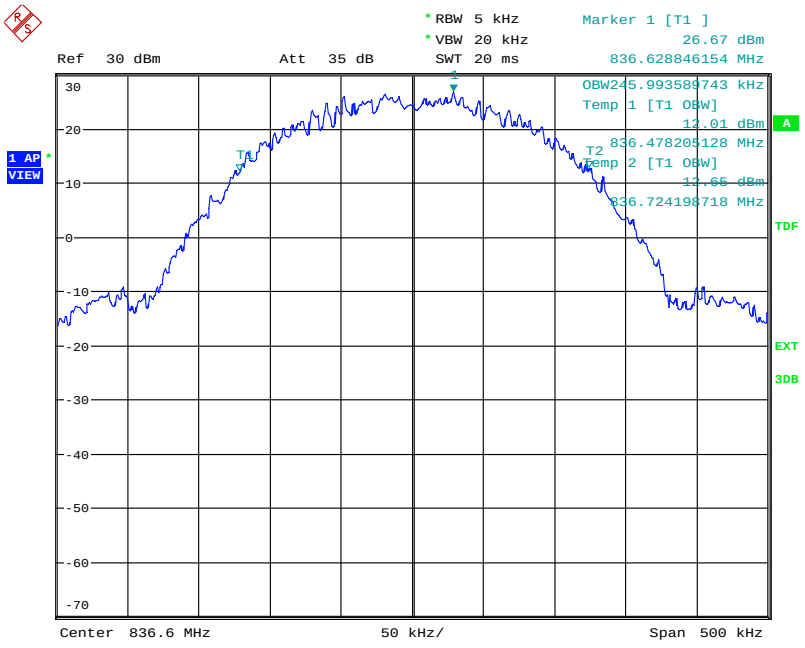
SIM 2	
Operate Band: WCDMA Band II	Modulation Type: QPSK
1852.40 MHz	
1880.00 MHz	

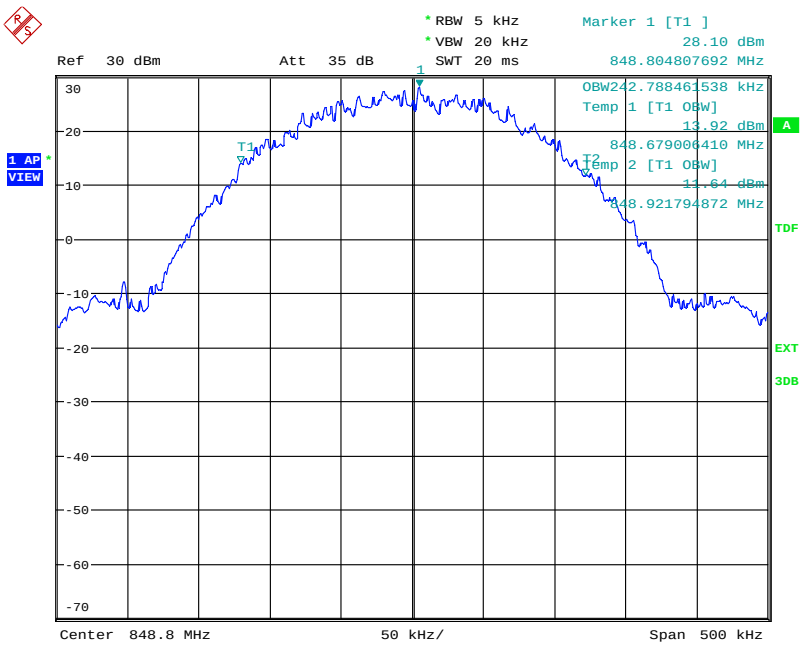
SIM 2	
Operate Band: WCDMA Band II	Modulation Type: QPSK
1907.60 MHz	

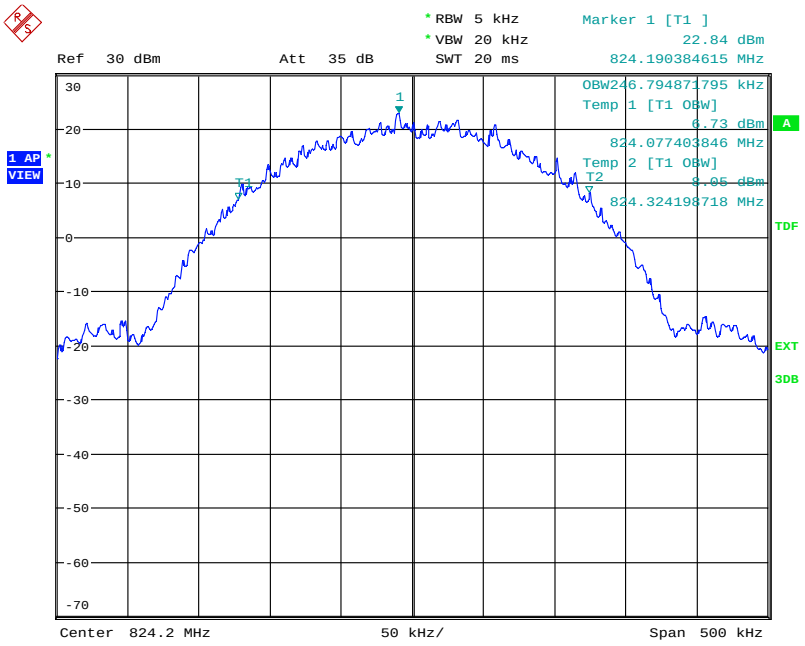
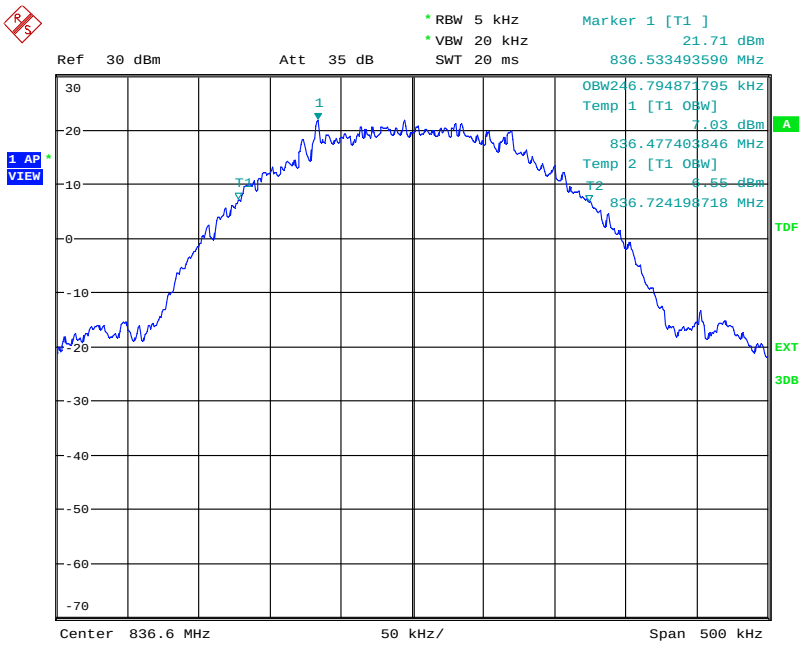
SIM 2	
Operate Band: WCDMA Band V	Modulation Type: QPSK
826.4 MHz	
836.6 MHz	

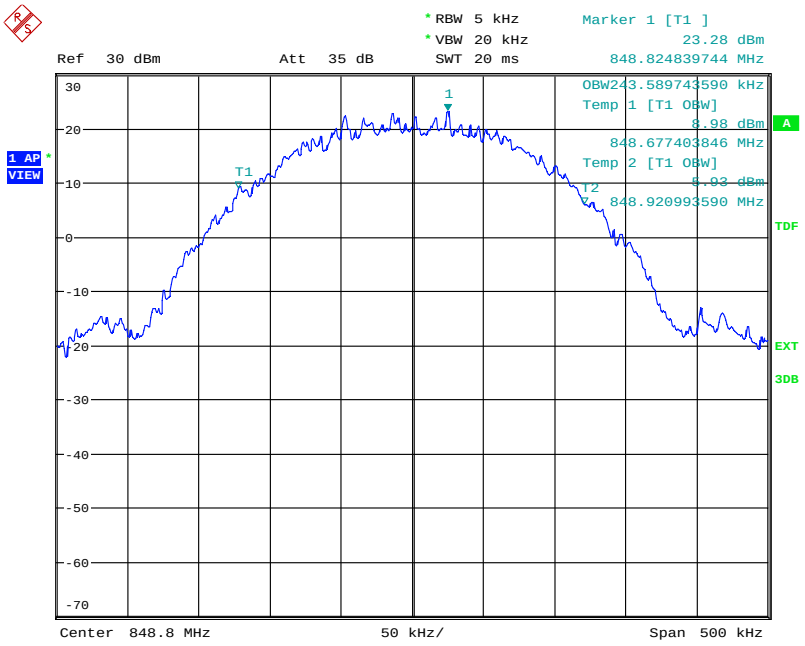
SIM 2	
Operate Band: WCDMA Band V	Modulation Type: QPSK
846.6 MHz	

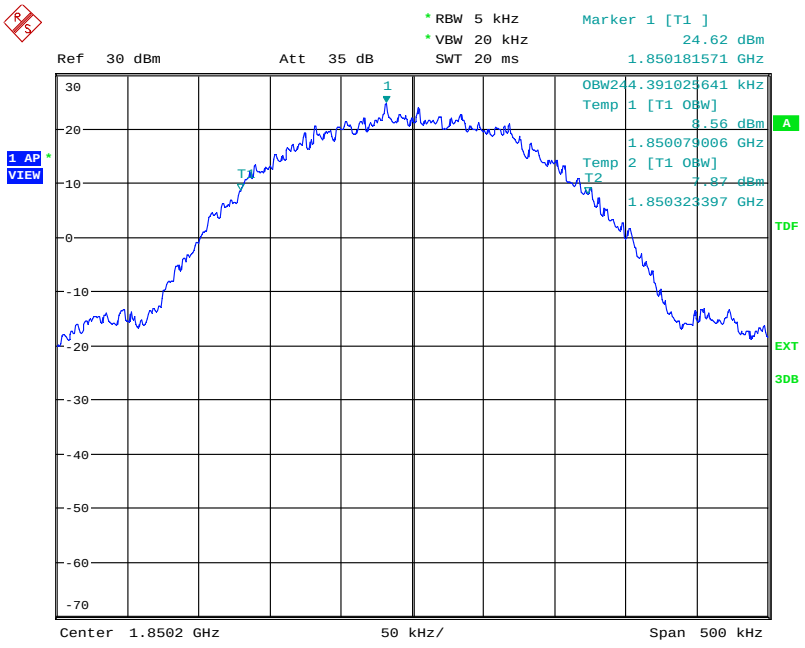
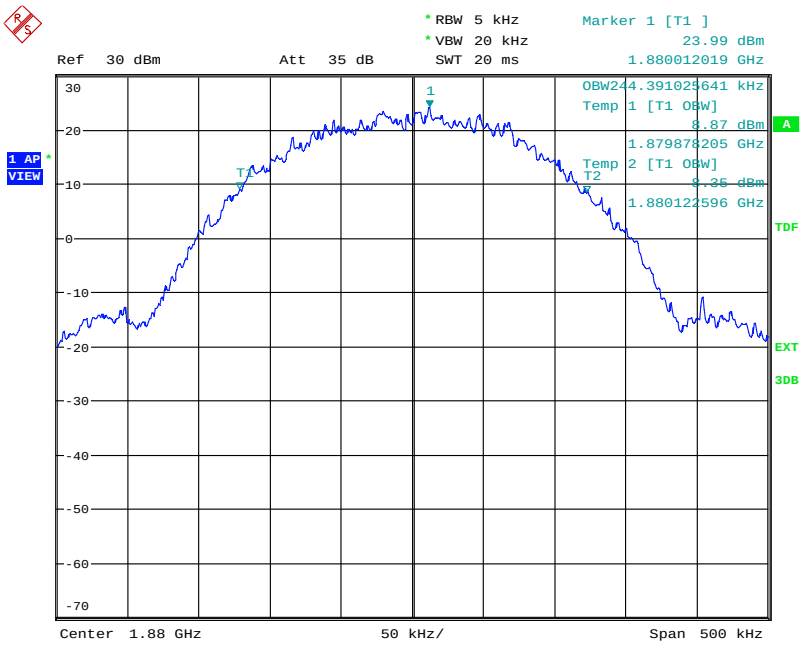
■ 99% Bandwidth Test Graphs

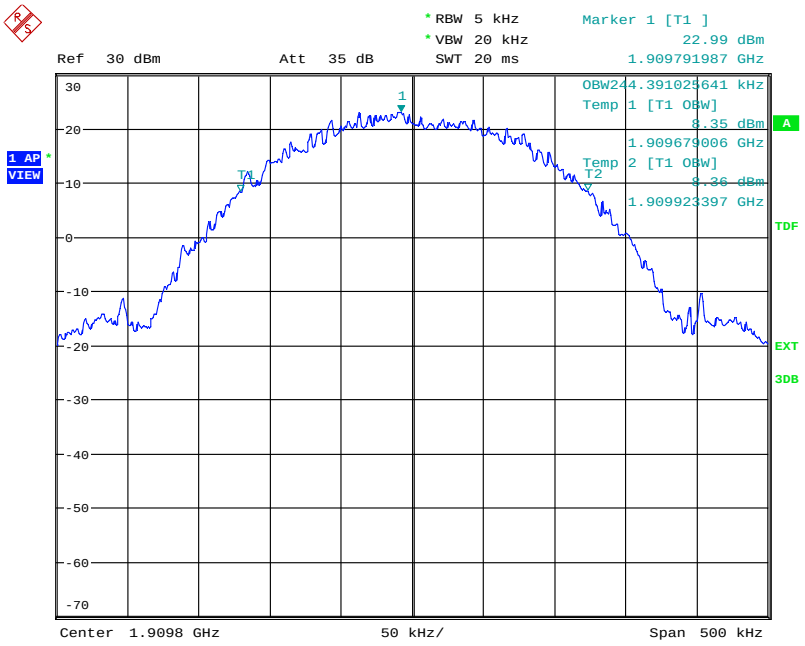
SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
824.2 MHz	
836.6 MHz	

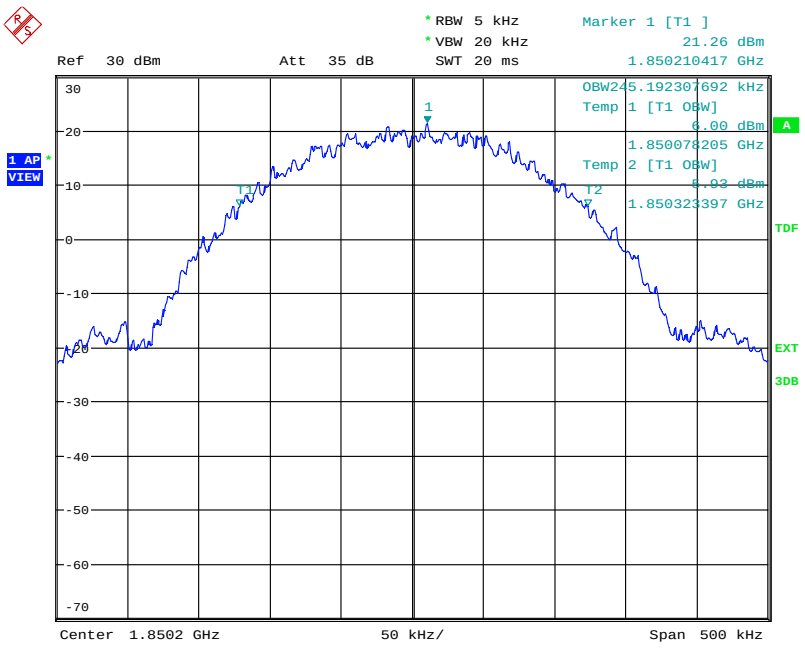
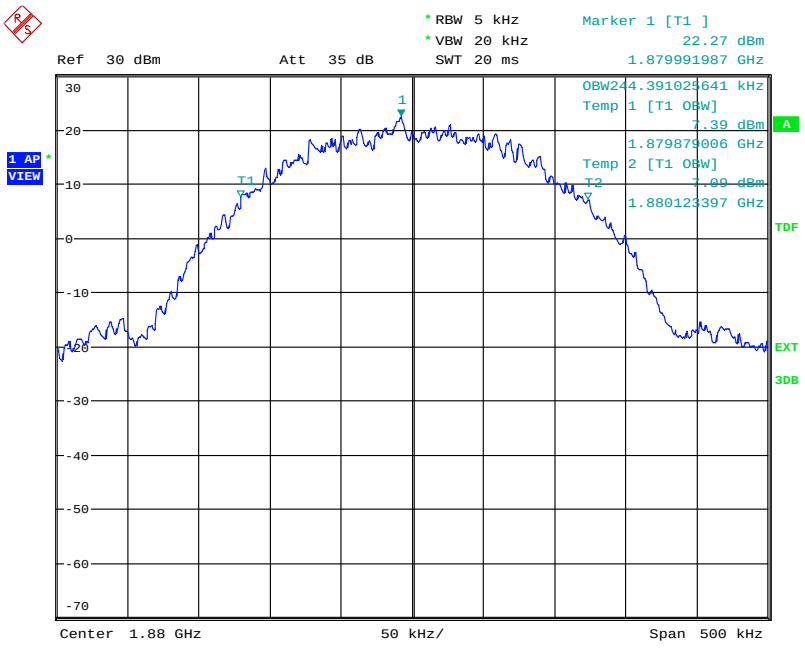
SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
848.8 MHz	

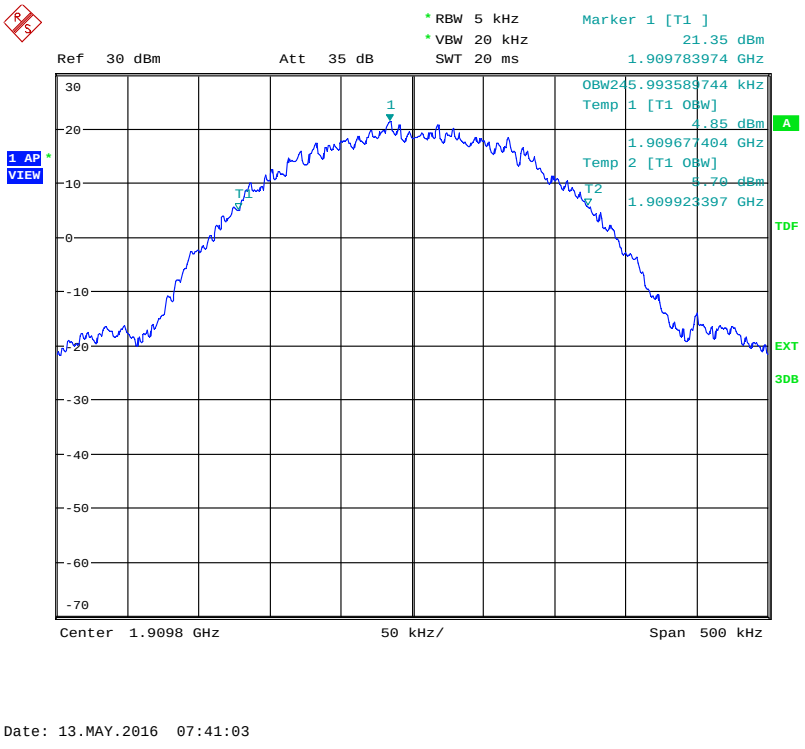
SIM 1	
Operate Band: EGPRS 850	Modulation Type: 8PSK
824.2 MHz	 Date: 13.MAY.2016 07:11:33
836.6 MHz	 Date: 13.MAY.2016 07:12:04

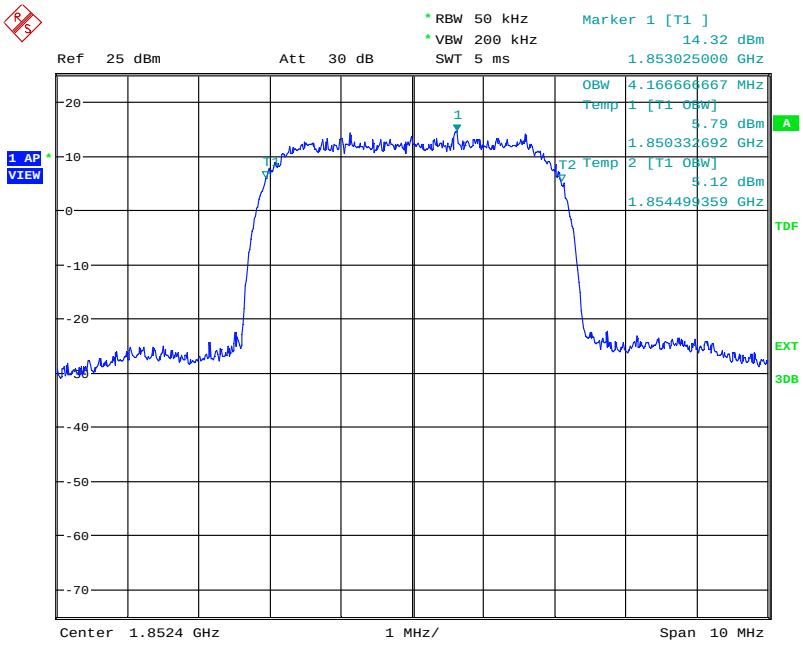
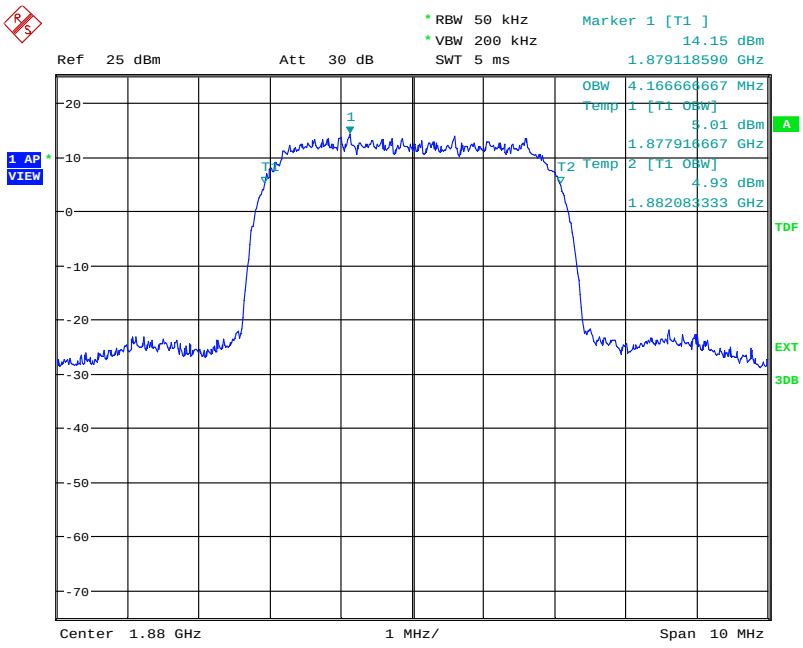
SIM 1	
Operate Band: EGPRS 850	Modulation Type: 8PSK
848.8 MHz	

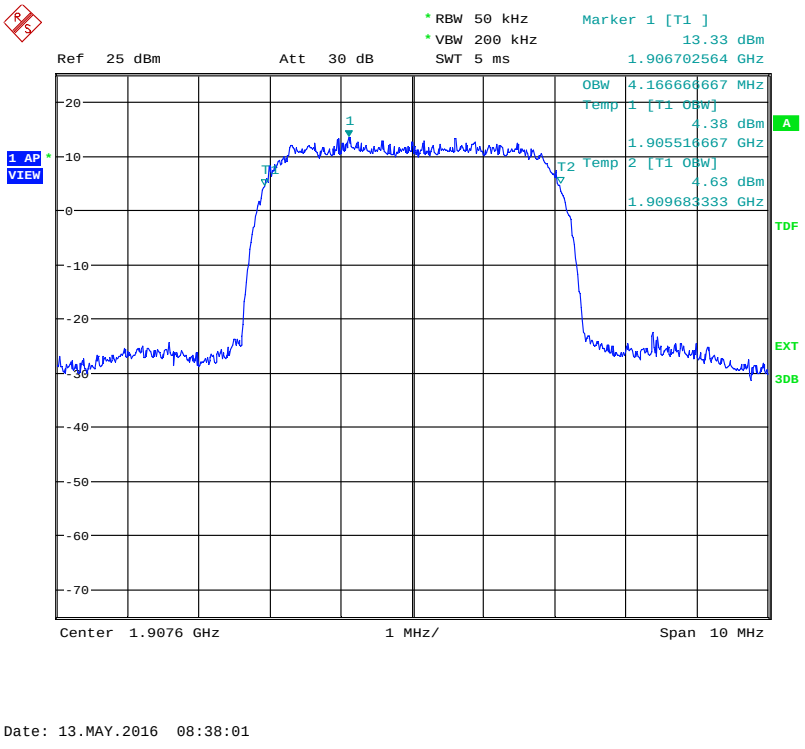
SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
1850.20 MHz	
1880.00 MHz	

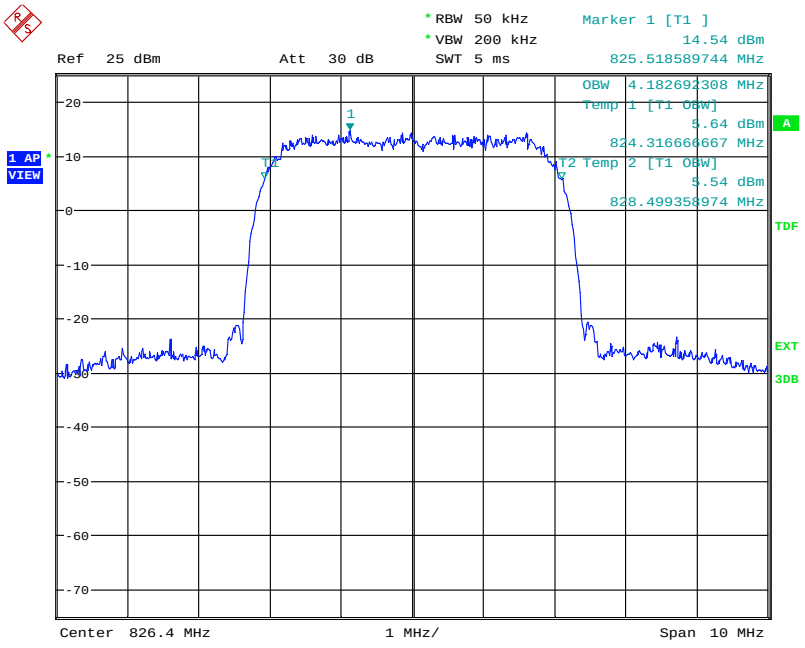
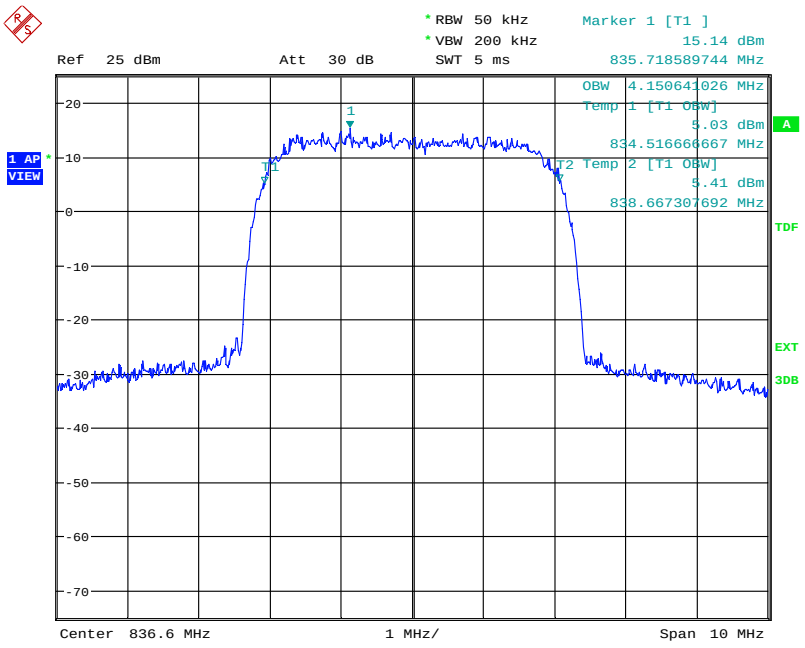
SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
1909.80 MHz	

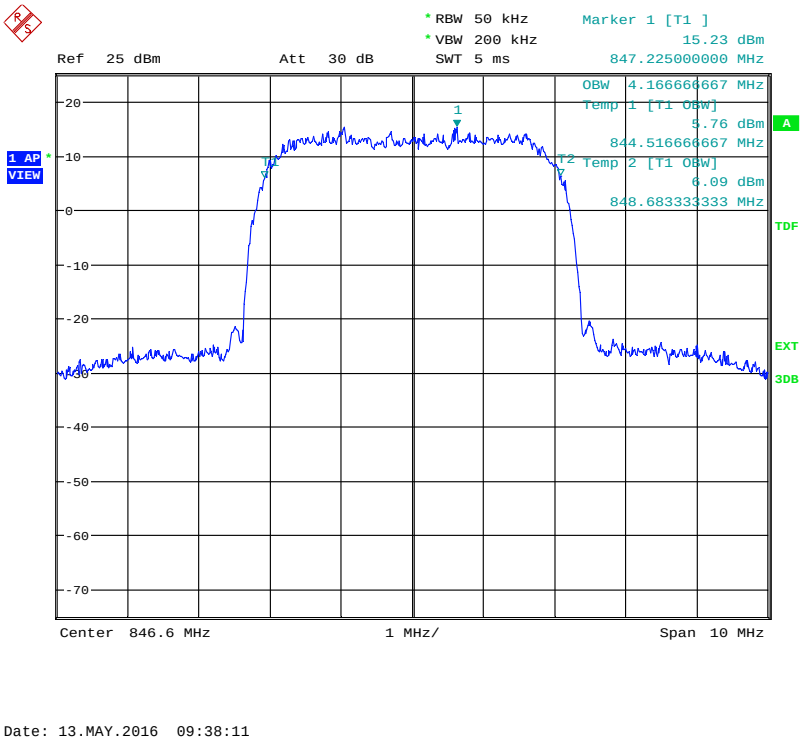
SIM 1	
Operate Band: EGPRS 1900	Modulation Type: 8PSK
1850.20 MHz	
1880.00 MHz	

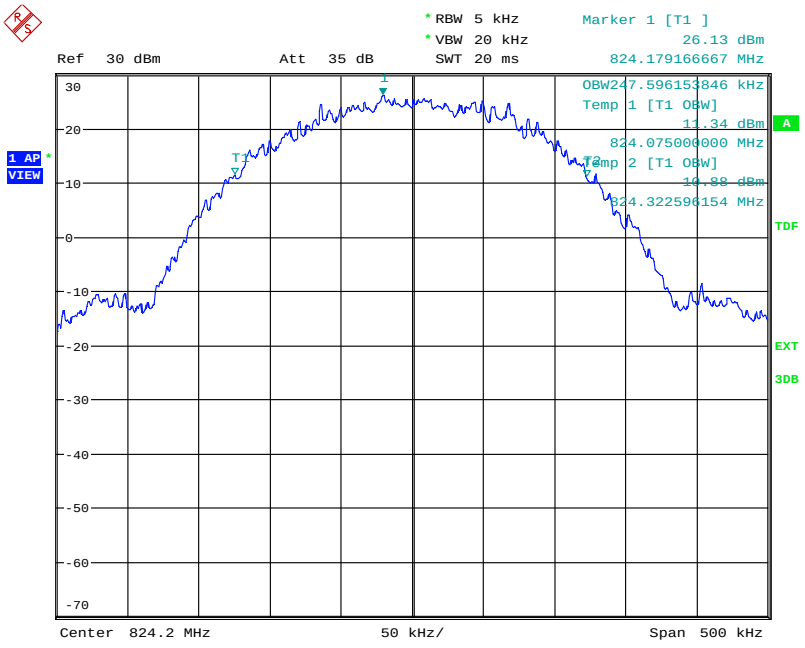
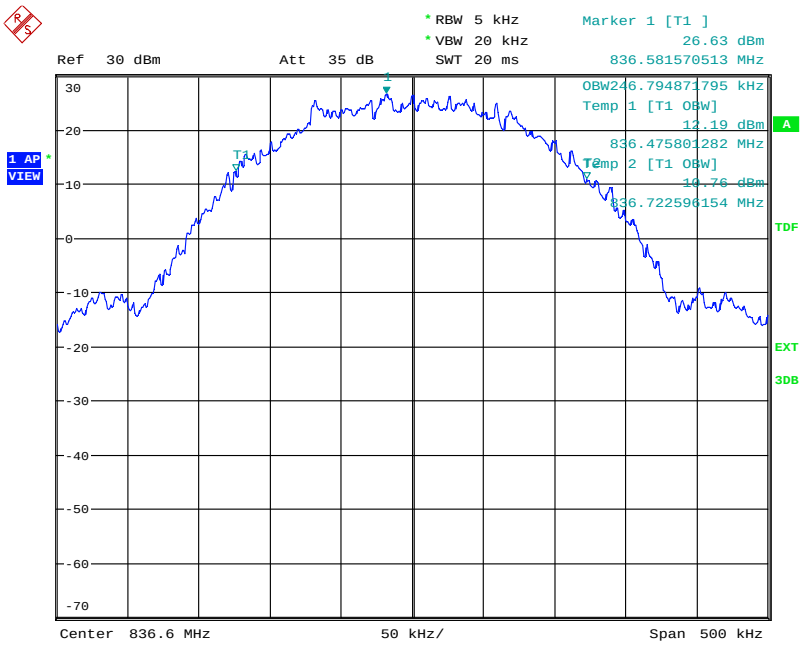
SIM 1	
Operate Band: EGPRS 1900	Modulation Type: 8PSK
1909.80 MHz	

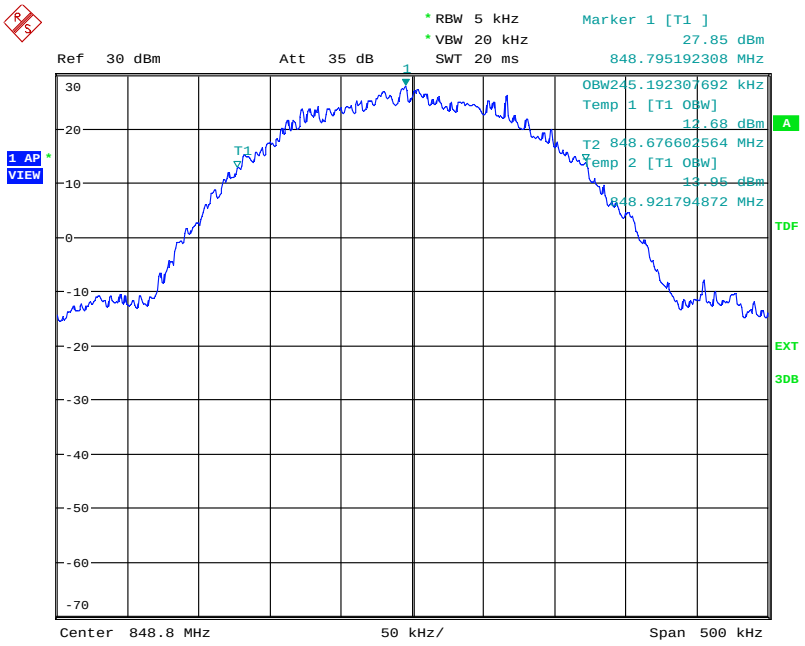
SIM 1	
Operate Band: WCDMA Band II	Modulation Type: QPSK
1852.40 MHz	 Date: 13.MAY.2016 08:36:51
1880.00 MHz	 Date: 13.MAY.2016 08:37:26

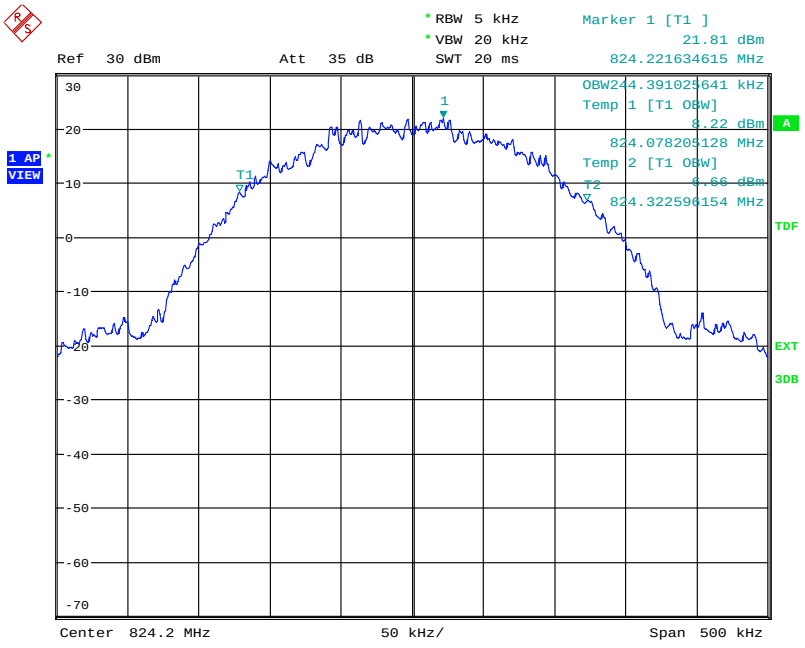
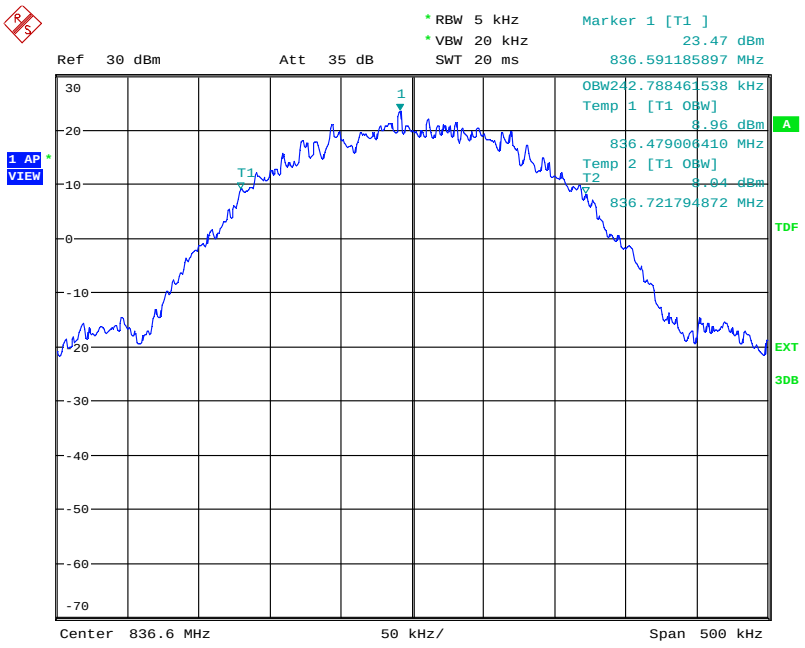
SIM 1	
Operate Band: WCDMA Band II	Modulation Type: QPSK
1907.60 MHz	

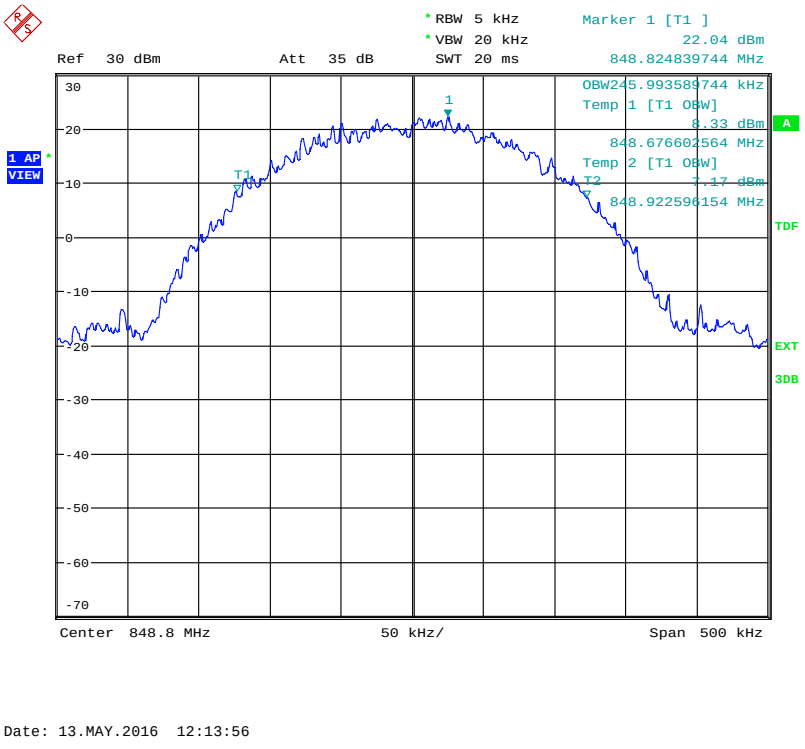
SIM 1	
Operate Band: WCDMA Band V	Modulation Type: QPSK
826.4 MHz	
836.6 MHz	

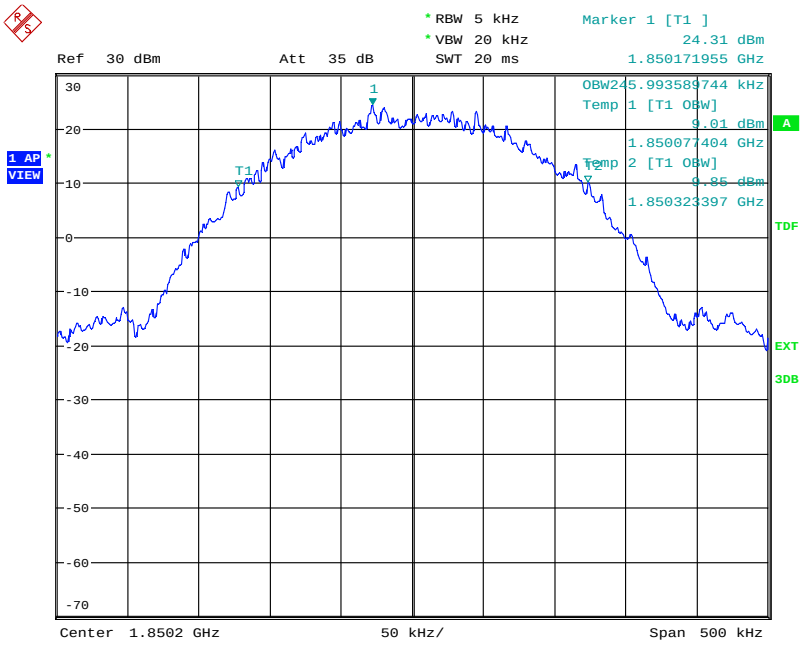
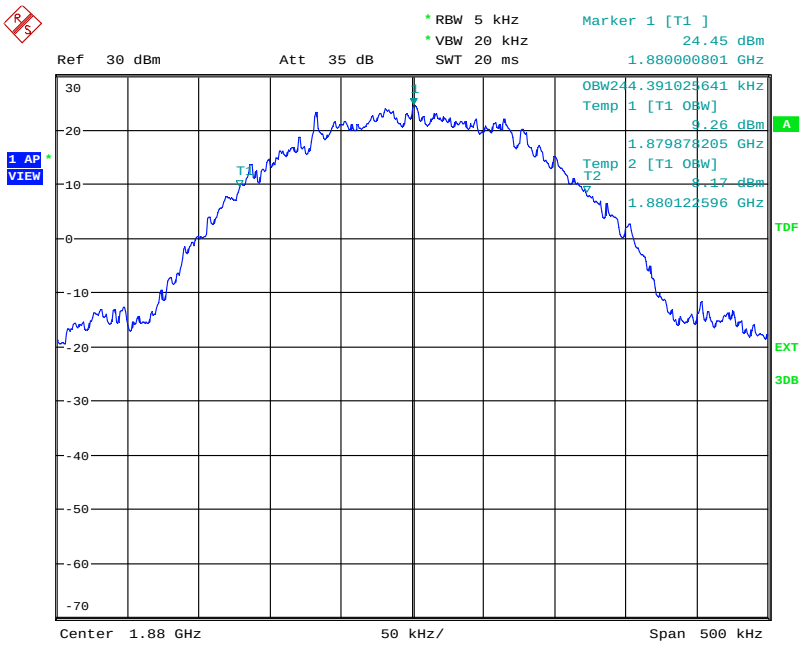
SIM 1	
Operate Band: WCDMA Band V	Modulation Type: QPSK
846.6 MHz	

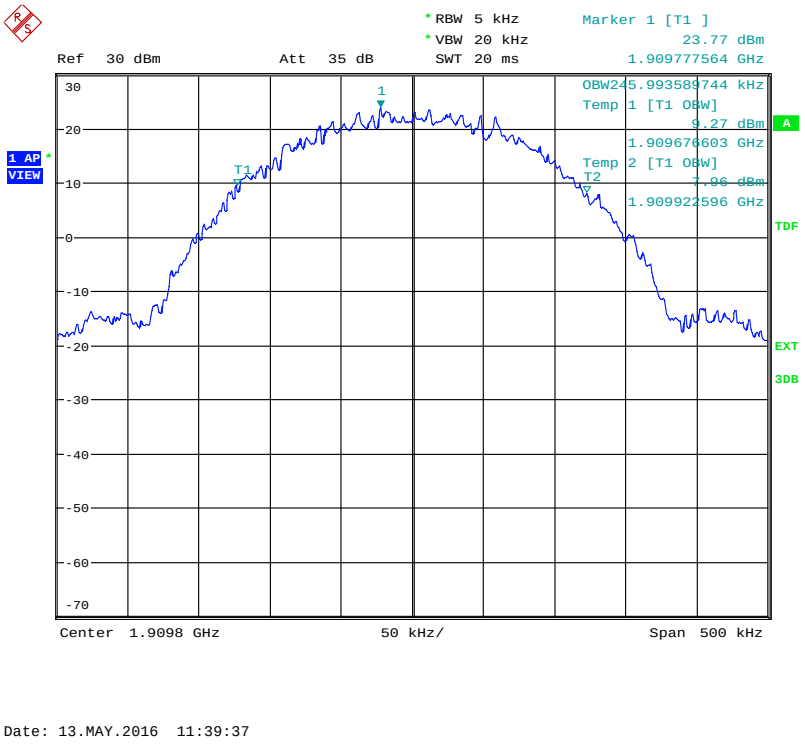
SIM 2	
Operate Band: GPRS 850	Modulation Type: GMSK
824.2 MHz	
836.6 MHz	

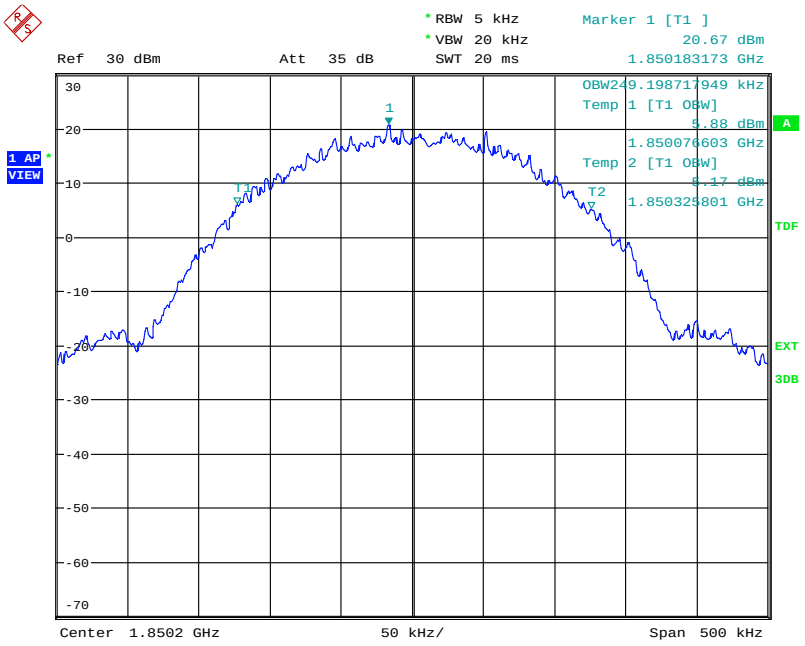
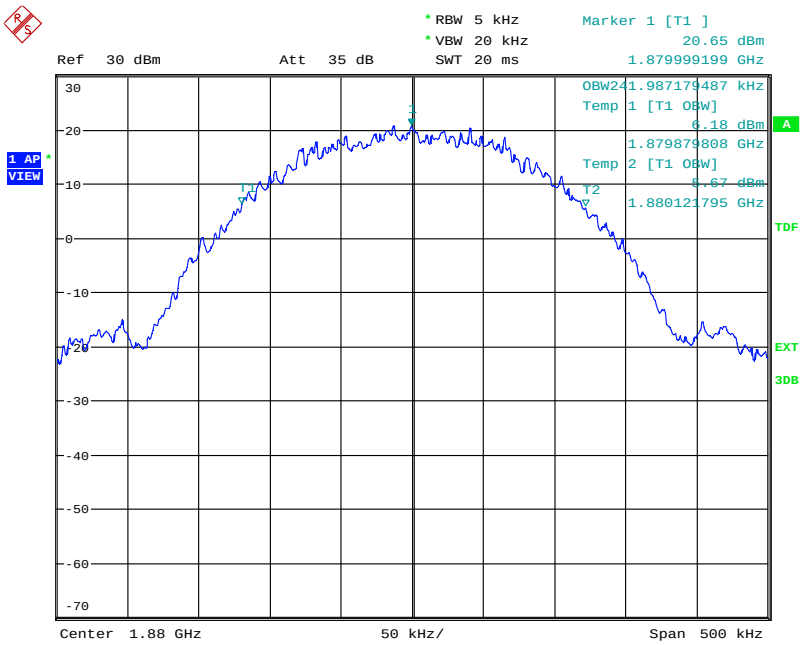
SIM 2	
Operate Band: GPRS 850	Modulation Type: GMSK
848.8 MHz	

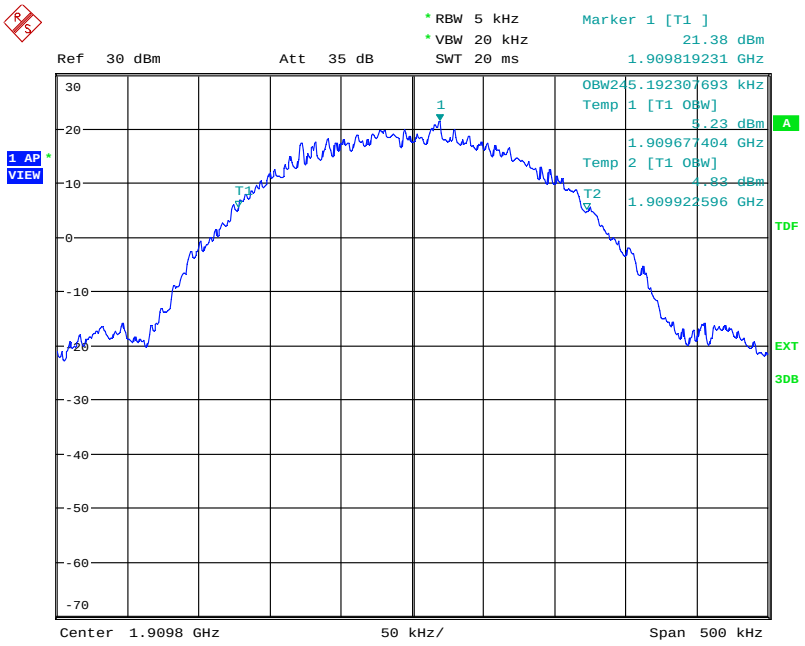
SIM 2	
Operate Band: EGPRS 850	Modulation Type: 8PSK
824.2 MHz	
836.6 MHz	

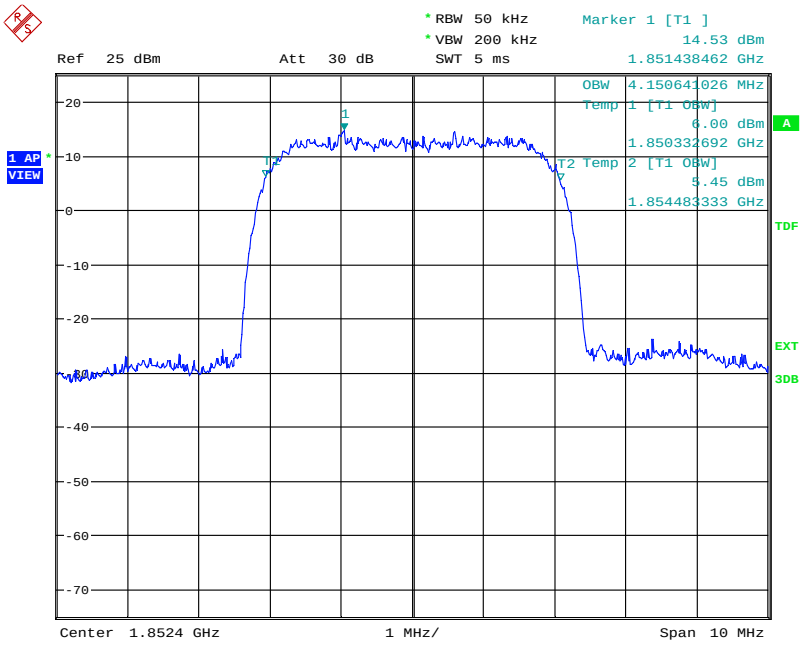
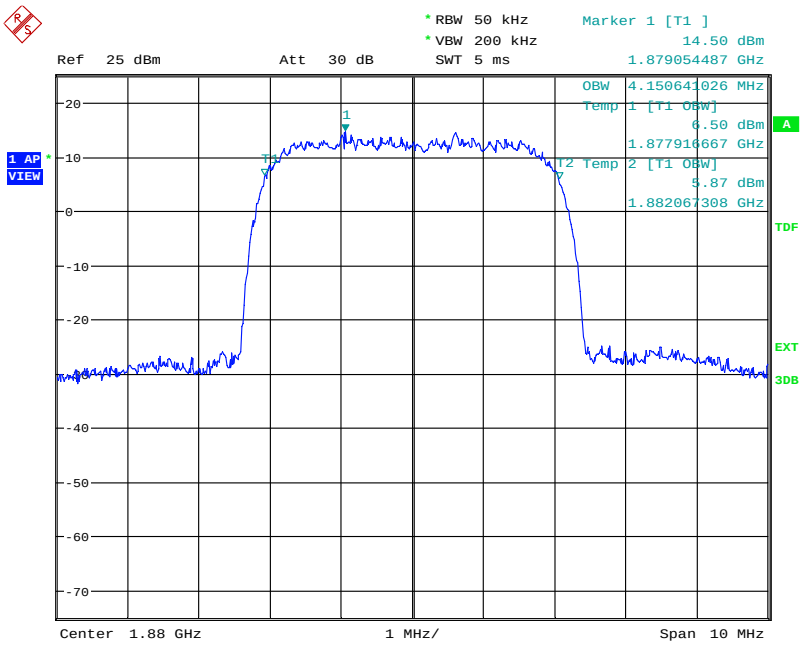
SIM 2	
Operate Band: EGPRS 850	Modulation Type: 8PSK
848.8 MHz	

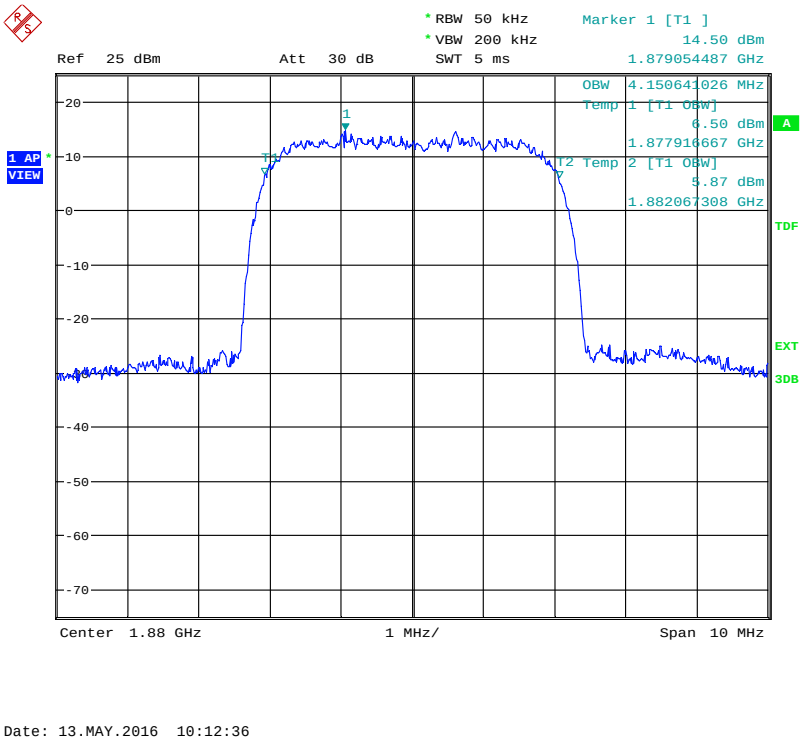
SIM 2	
Operate Band: GPRS 1900	Modulation Type: GMSK
1850.20 MHz	
1880.00 MHz	

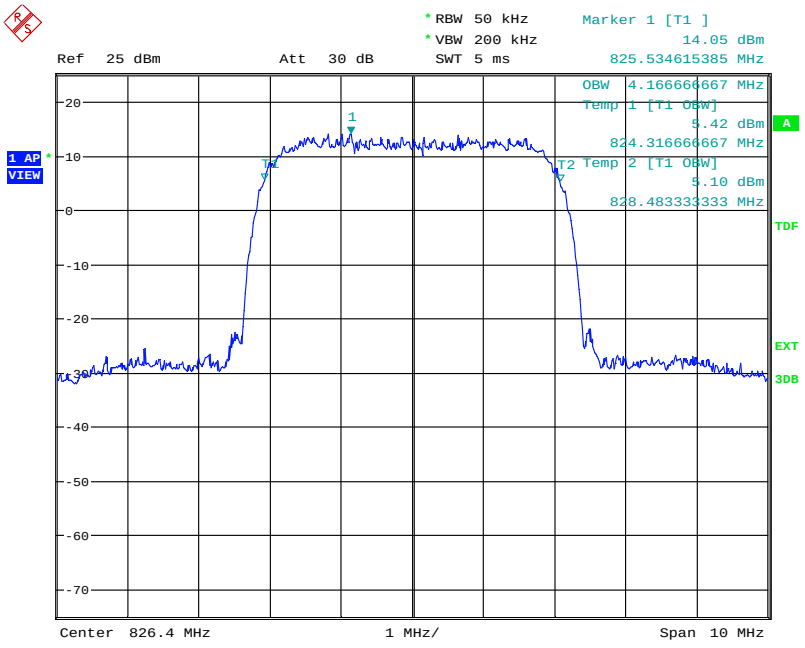
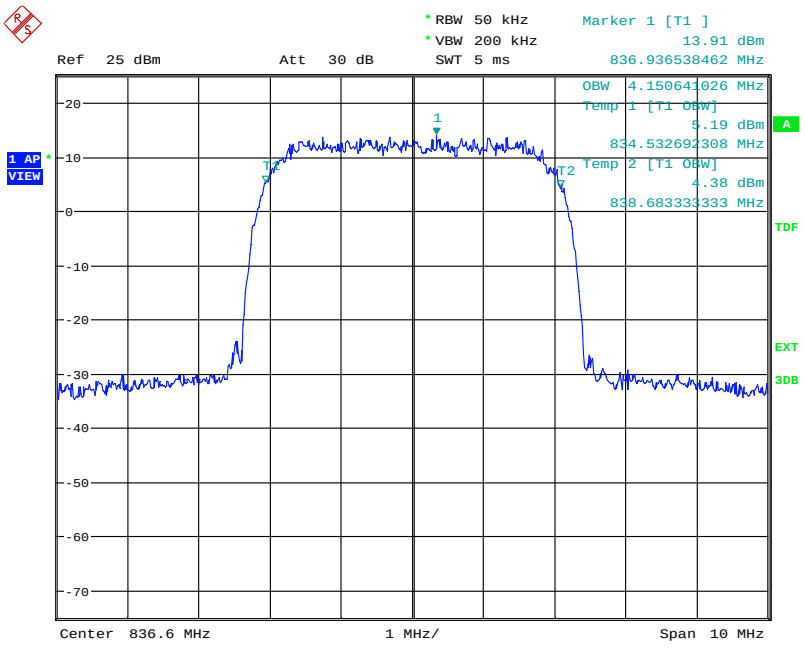
SIM 2	
Operate Band: GPRS 1900	Modulation Type: GMSK
1909.80 MHz	

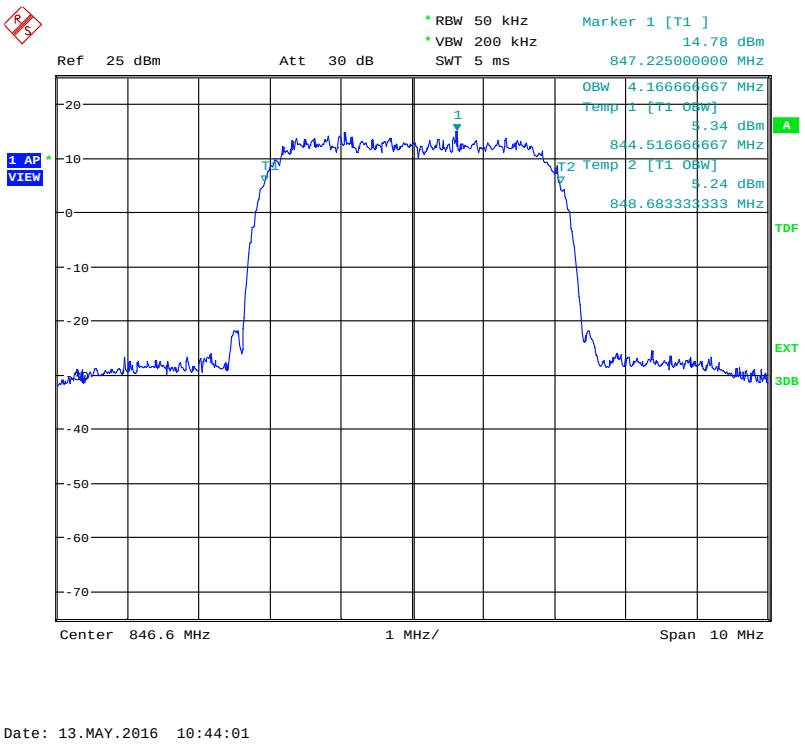
SIM 2	
Operate Band: EGPRS 1900	Modulation Type: 8PSK
1850.20 MHz	 Date: 13.MAY.2016 12:30:16
1880.00 MHz	 Date: 13.MAY.2016 12:30:49

SIM 2	
Operate Band: EGPRS 1900	Modulation Type: 8PSK
1909.80 MHz	

SIM 2	
Operate Band: WCDMA Band II	Modulation Type: QPSK
1852.40 MHz	
1880.00 MHz	

SIM 2	
Operate Band: WCDMA Band II	Modulation Type: QPSK
1907.60 MHz	

SIM 2	
Operate Band: WCDMA Band V	Modulation Type: QPSK
826.4 MHz	
836.6 MHz	

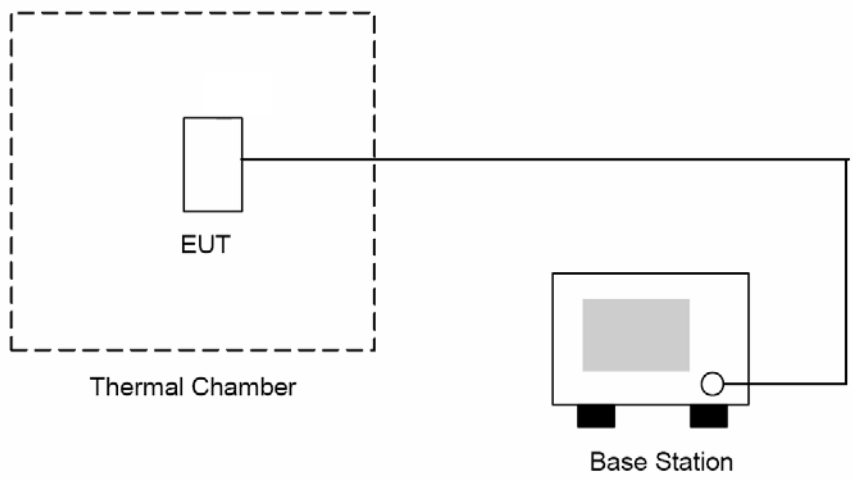
SIM 2	
Operate Band: WCDMA Band V	Modulation Type: QPSK
846.6 MHz	

4.5. Frequency Stability

■ Limit

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

■ Setup



■ Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT and test equipment were set up as shown on the following section.
2. With all power removed, the temperature was decreased to -30℃ and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was note within one minute.
3. With power OFF, the temperature was raised in 10℃ steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The EUT was placed in a temperature chamber at 25±5 ℃ and connected as the following section.
5. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
6. The temperature tests were performed for the worst case.
7. Test data was recorded.

■ **Test Result**

SIM 1					
Operate Band: GPRS 850		Modulation Type: GMSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
836.6	4.20	20	-11	0.013	± 2.5
	3.80	20	-17	0.020	± 2.5
	3.50	20	-8	0.010	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
836.6	3.80	0	-11	0.013	± 2.5
	3.80	10	-9	0.011	± 2.5
	3.80	20	-19	0.023	± 2.5
	3.80	30	-10	0.012	± 2.5
	3.80	40	-14	0.017	± 2.5

SIM 1					
Operate Band: EGPRS 850		Modulation Type: 8PSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
836.6	4.20	20	-49	0.059	± 2.5
	3.80	20	-50	0.060	± 2.5
	3.50	20	-47	0.057	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
836.6	3.80	0	-52	0.062	± 2.5
	3.80	10	-45	0.054	± 2.5
	3.80	20	-67	0.080	± 2.5
	3.80	30	-46	0.055	± 2.5
	3.80	40	-50	0.060	± 2.5

SIM 1					
Operate Band: GPRS 1900		Modulation Type: GMSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
1880.0	4.20	20	-24	0.013	± 2.5
	3.80	20	-15	0.008	± 2.5
	3.50	20	-19	0.010	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
1880.0	3.80	0	-19	0.010	± 2.5
	3.80	10	-22	0.012	± 2.5
	3.80	20	-8	0.004	± 2.5
	3.80	30	-3	0.002	± 2.5
	3.80	40	-21	0.011	± 2.5

SIM 1					
Operate Band: EGPRS 1900		Modulation Type: 8PSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
1880.0	4.20	20	-47.41	0.025	± 2.5
	3.80	20	-46.24	0.025	± 2.5
	3.50	20	-47.22	0.025	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
1880.0	3.80	0	-51.4	0.027	± 2.5
	3.80	10	-47.80	0.025	± 2.5
	3.80	20	-50.62	0.027	± 2.5
	3.80	30	-58.81	0.031	± 2.5
	3.80	40	-56.02	0.030	± 2.5

SIM 1					
Operate Band: WCDMA Band II		Modulation Type: QPSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
1880.0	4.20	20	-6	0.003	± 2.5
	3.80	20	-6	0.003	± 2.5
	3.50	20	-5	0.003	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
1880.0	3.80	0	8	0.004	± 2.5
	3.80	10	5	0.003	± 2.5
	3.80	20	-2	0.001	± 2.5
	3.80	30	8	0.004	± 2.5
	3.80	40	5	0.002	± 2.5

SIM 1					
Operate Band: WCDMA Band V		Modulation Type: QPSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
836.6	4.20	20	-10	0.012	± 2.5
	3.80	20	-9	0.010	± 2.5
	3.50	20	-6	0.007	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
836.6	3.80	0	-5	0.006	± 2.5
	3.80	10	-4	0.005	± 2.5
	3.80	20	-5	0.006	± 2.5
	3.80	30	-5	0.006	± 2.5
	3.80	40	-6	0.008	± 2.5

SIM 2					
Operate Band: GPRS 850		Modulation Type: GMSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
836.6	4.20	20	-3	0.004	± 2.5
	3.80	20	-7	0.008	± 2.5
	3.50	20	-16	0.019	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
836.6	3.80	0	-17	0.020	± 2.5
	3.80	10	-5	0.006	± 2.5
	3.80	20	-10	0.012	± 2.5
	3.80	30	-7	0.008	± 2.5
	3.80	40	-18	0.022	± 2.5

SIM 2					
Operate Band: EGPRS 850		Modulation Type: 8PSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
836.6	4.20	20	-46	0.055	± 2.5
	3.80	20	-51	0.061	± 2.5
	3.50	20	-43	0.051	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
836.6	3.80	0	-50	0.060	± 2.5
	3.80	10	-42	0.050	± 2.5
	3.80	20	-53	0.063	± 2.5
	3.80	30	-61	0.073	± 2.5
	3.80	40	-58	0.069	± 2.5

SIM 2					
Operate Band: GPRS 1900		Modulation Type: GMSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
1880.0	4.20	20	-21	0.011	± 2.5
	3.80	20	-16	0.009	± 2.5
	3.50	20	-11	0.006	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
1880.0	3.80	0	-25	0.013	± 2.5
	3.80	10	-7	0.004	± 2.5
	3.80	20	-18	0.010	± 2.5
	3.80	30	-14	0.007	± 2.5
	3.80	40	-27	0.014	± 2.5

SIM 2					
Operate Band: EGPRS 1900		Modulation Type: 8PSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
1880.0	4.20	20	-48	0.026	± 2.5
	3.80	20	-43	0.023	± 2.5
	3.50	20	-48	0.026	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
1880.0	3.80	0	-48	0.026	± 2.5
	3.80	10	-52	0.028	± 2.5
	3.80	20	-50	0.027	± 2.5
	3.80	30	-52	0.028	± 2.5
	3.80	40	-54	0.029	± 2.5

SIM 2					
Operate Band: WCDMA Band II		Modulation Type: QPSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
1880.0	4.20	20	-6	0.003	± 2.5
	3.80	20	6	0.003	± 2.5
	3.50	20	-8	0.004	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
1880.0	3.80	0	-4	0.002	± 2.5
	3.80	10	-6	0.003	± 2.5
	3.80	20	-4	0.002	± 2.5
	3.80	30	-3	0.002	± 2.5
	3.80	40	-6	0.003	± 2.5

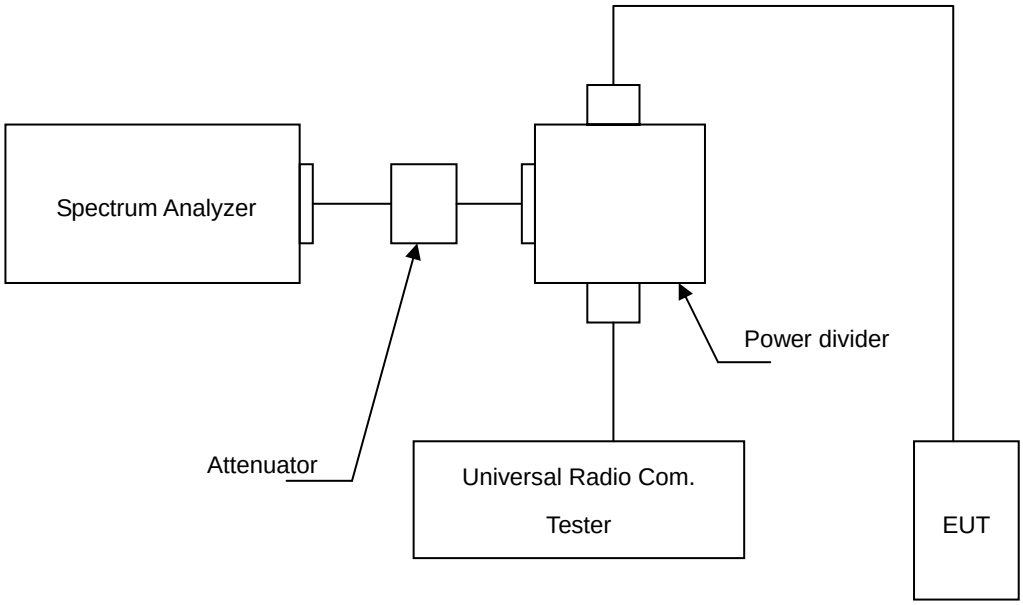
SIM 2					
Operate Band: WCDMA Band V		Modulation Type: QPSK			
Voltage					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Frequency Error		Limit (ppm)
			(Hz)	(ppm)	
836.6	4.20	20	-2	0.003	± 2.5
	3.80	20	-3	0.004	± 2.5
	3.50	20	-4	0.004	± 2.5
Temperature					
Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
836.6	3.80	0	3	0.004	± 2.5
	3.80	10	-2	0.003	± 2.5
	3.80	20	3	0.004	± 2.5
	3.80	30	-3	0.003	± 2.5
	3.80	40	-3	0.004	± 2.5

4.6. Band Edge

■ Limit

On any frequency outside frequency band of the US Cellular/PCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log (P) dB.

■ Setup



■ Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The band edge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.
3. The band edge setting:

   For GSM 850 and PCS 1900, RB=5 kHz; VB=20 kHz.

   For WCDMA Band V and WCDMA Band II, RB=50 kHz; VB=200 kHz.

■ **Test Result**

SIM 1			
Operate Band: GPRS 850			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	128	-15.17	< -13
Higher Band Edge	251	-13.77	< -13

SIM 1			
Operate Band: EGPRS 850			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	128	-21.1	< -13
Higher Band Edge	251	-18.28	< -13

SIM 1			
Operate Band: GPRS 1900			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	512	-18.73	< -13
Higher Band Edge	810	-17.17	< -13

SIM 1			
Operate Band: EGPRS 1900			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	512	-21.96	< -13
Higher Band Edge	810	-19.65	< -13

SIM 1			
Operate Band: WCDMA Band II			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	9262	-32.10	< -13
Higher Band Edge	9538	-30.95	< -13

SIM 1			
Operate Band: WCDMA Band V			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	4132	-29.49	< -13
Higher Band Edge	4233	-28.91	< -13

SIM 2			
Operate Band: GPRS 850			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	128	-14.40	< -13
Higher Band Edge	251	-13.09	< -13

SIM 2			
Operate Band: EGPRS 850			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	128	-20.96	< -13
Higher Band Edge	251	-18.41	< -13

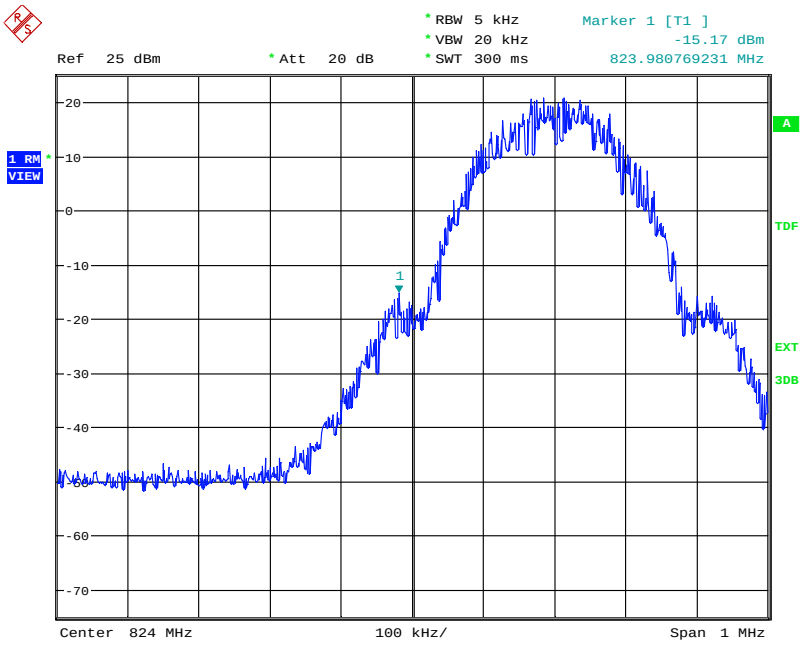
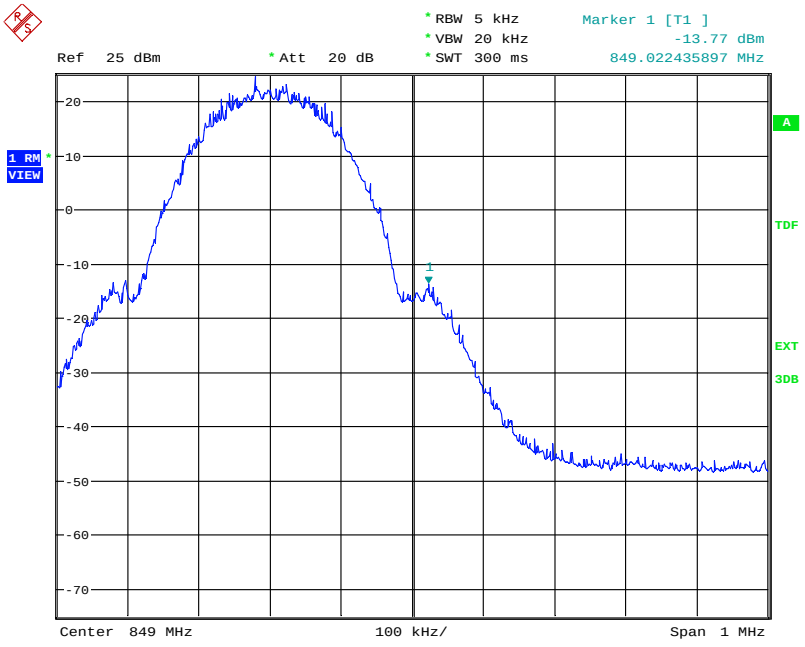
SIM 2			
Operate Band: GPRS 1900			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	512	-18.82	< -13
Higher Band Edge	810	-17.3	< -13

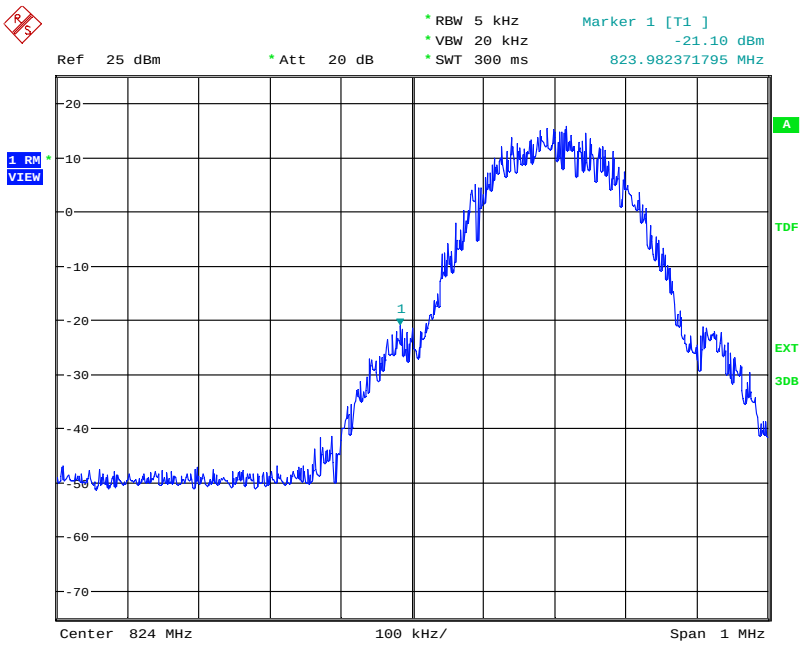
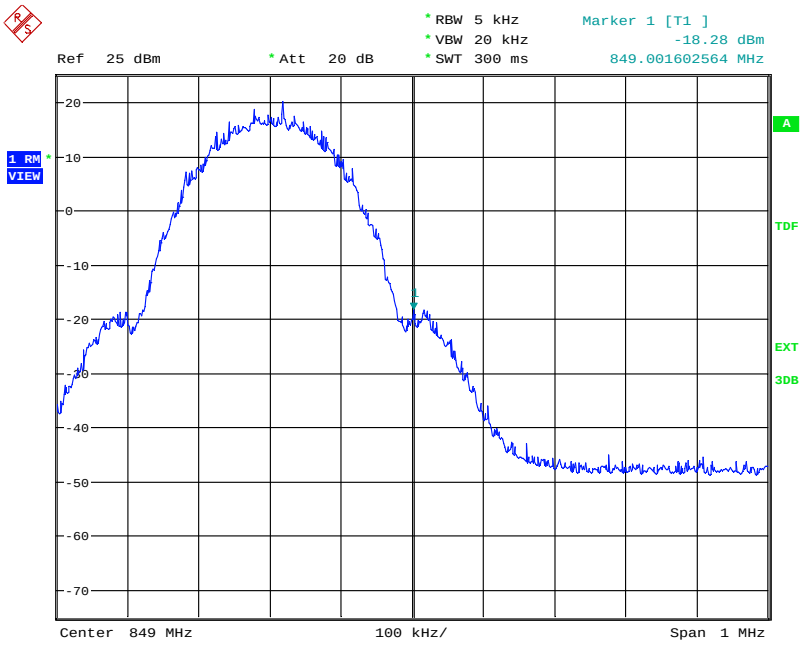
SIM 2			
Operate Band: EGPRS 1900			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	512	-20.63	< -13
Higher Band Edge	810	-20.37	< -13

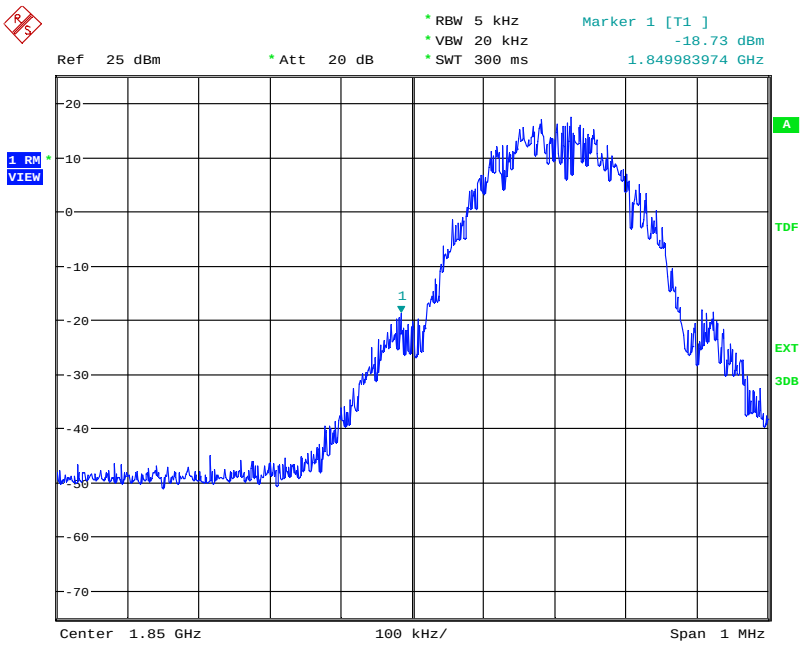
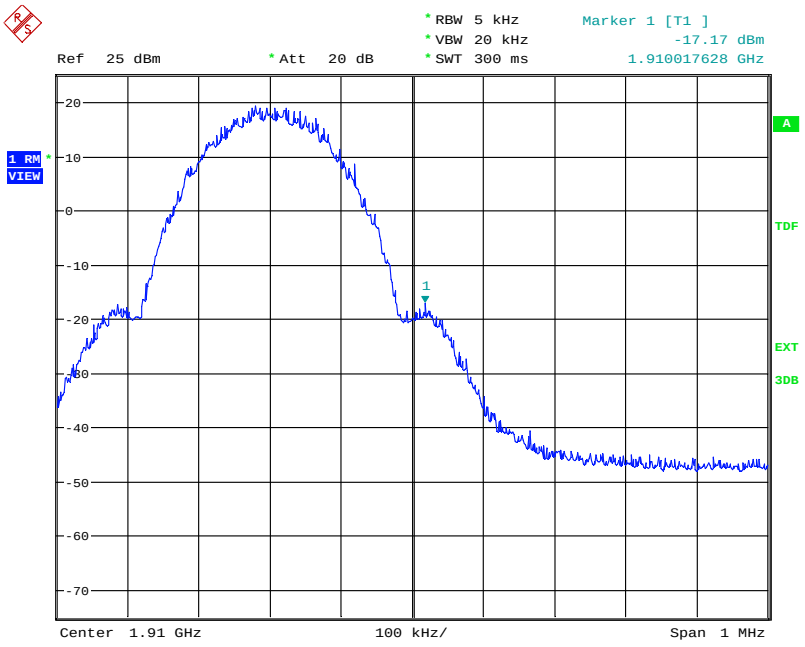
SIM 2			
Operate Band: WCDMA Band II			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	9262	-31.55	< -13
Higher Band Edge	9538	-29.67	< -13

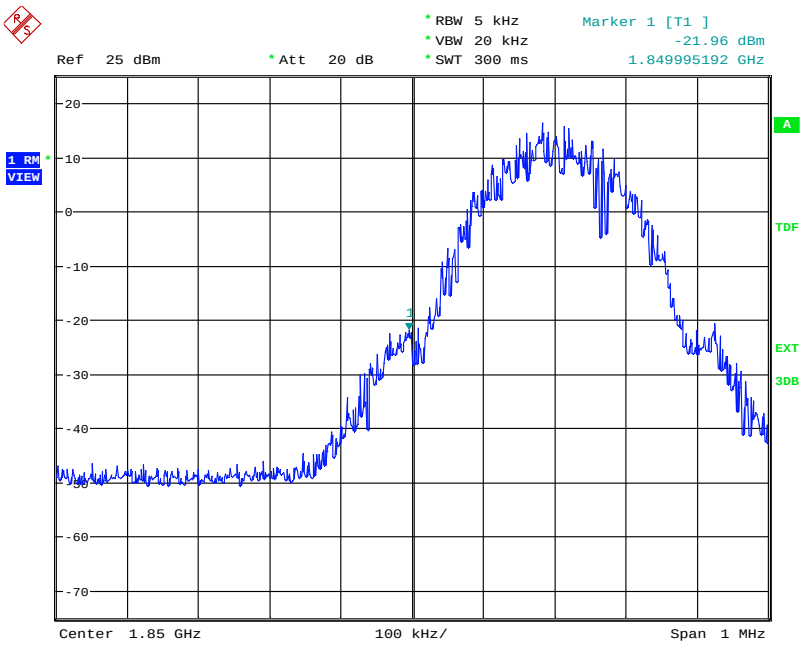
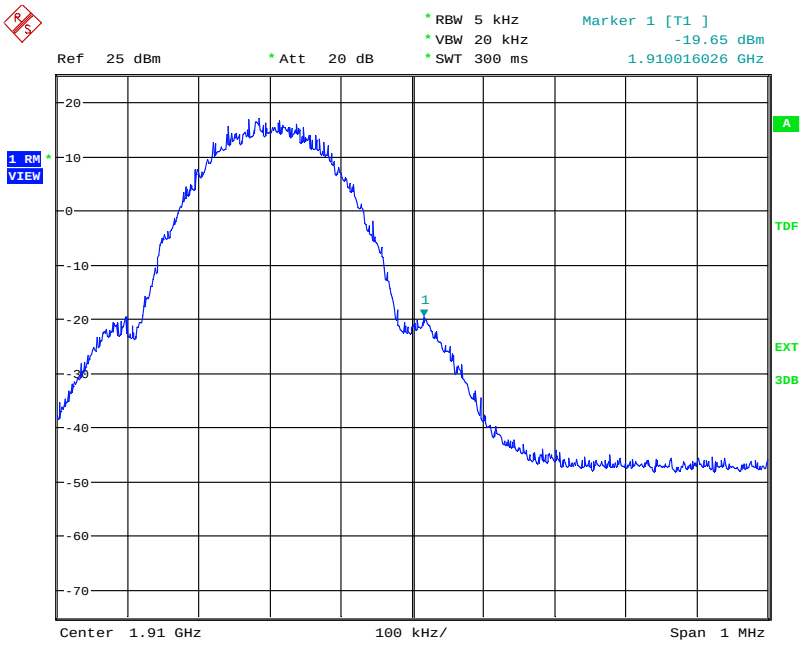
SIM 2			
Operate Band: WCDMA Band V			
Band Edge	Channel	Results (dBm)	Limit (dBm)
Lower Band Edge	4132	-30.55	< -13
Higher Band Edge	4233	-30.11	< -13

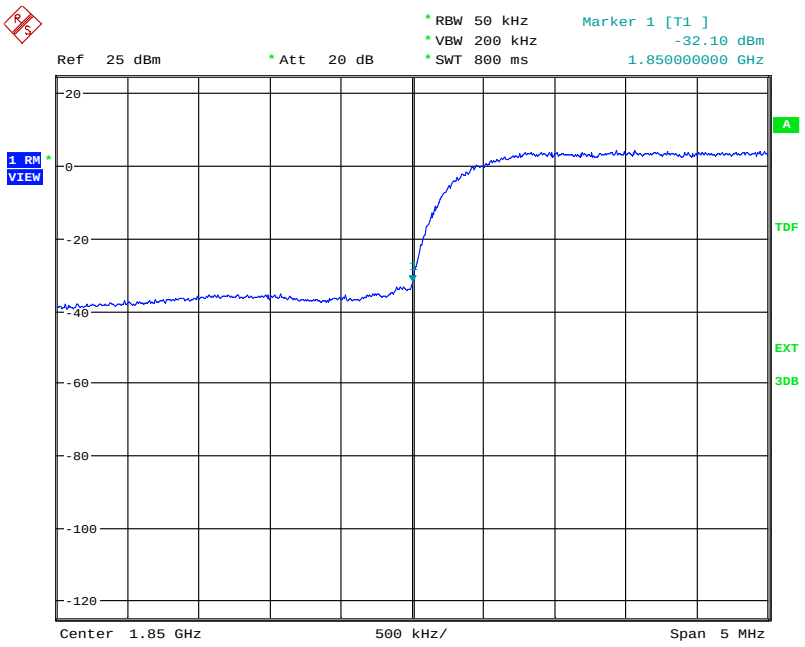
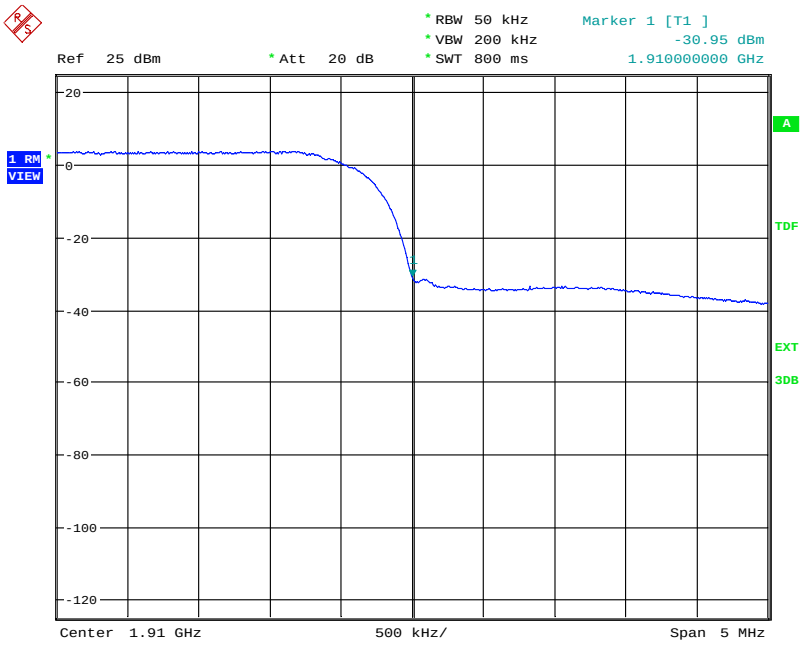
■ Test Graphs

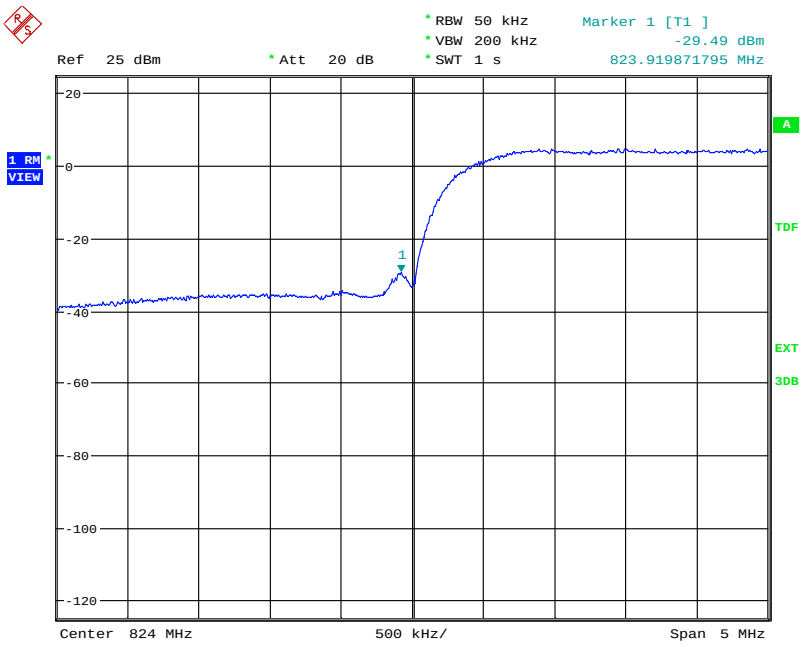
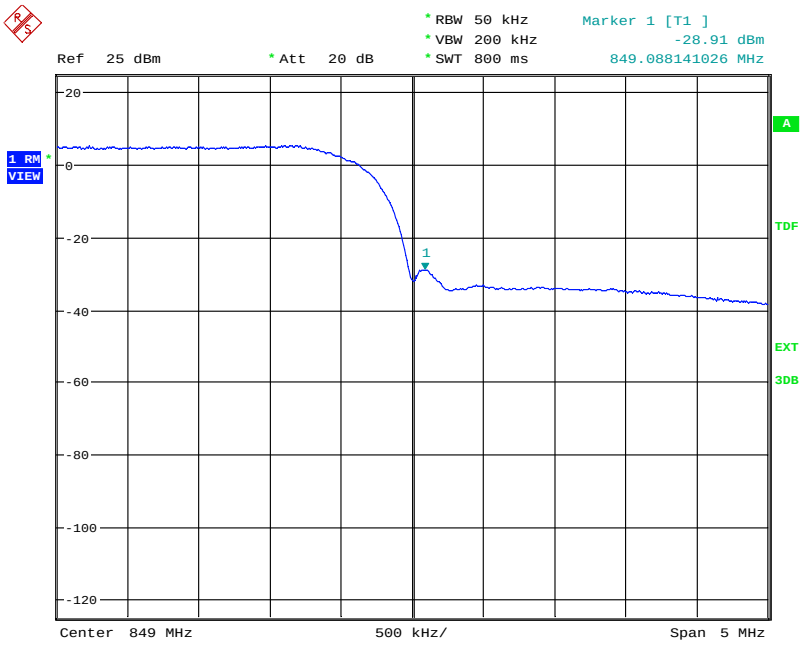
SIM 1	
Operate Band: GPRS 850	
Lower Band	 Date: 13.MAY.2016 06:24:35
Higher Band	 Date: 13.MAY.2016 06:26:39

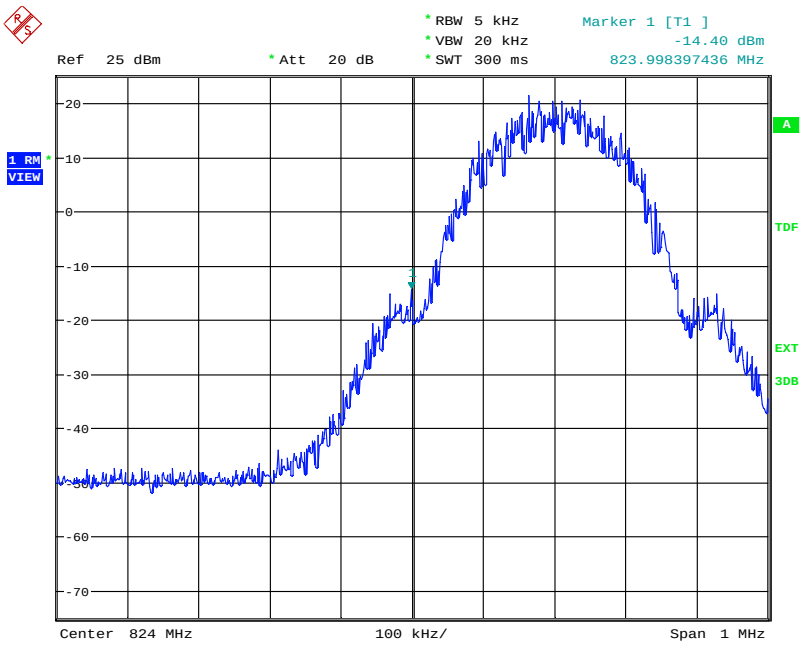
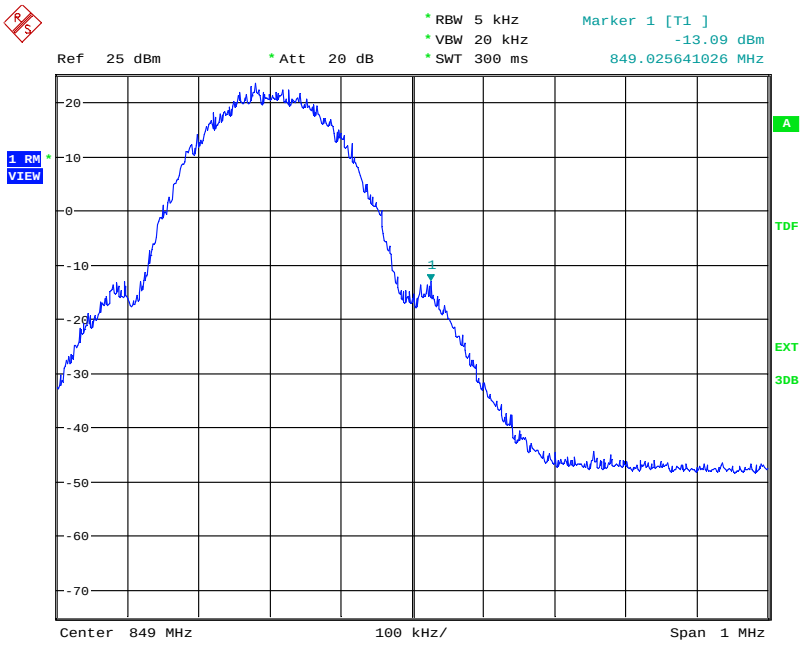
SIM 1	
Operate Band: EGPRS 850	
Lower Band	 Date: 13.MAY.2016 07:21:03
Higher Band	 Date: 13.MAY.2016 07:23:06

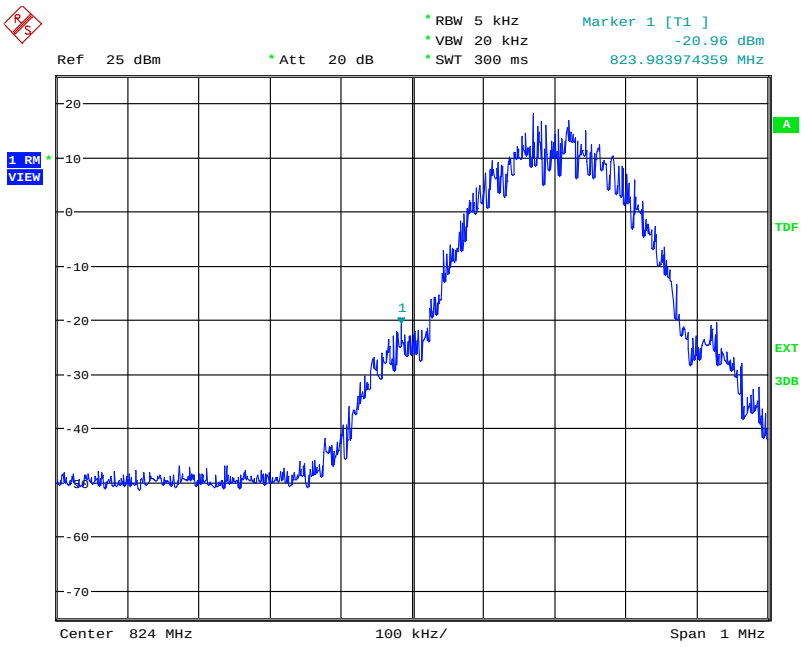
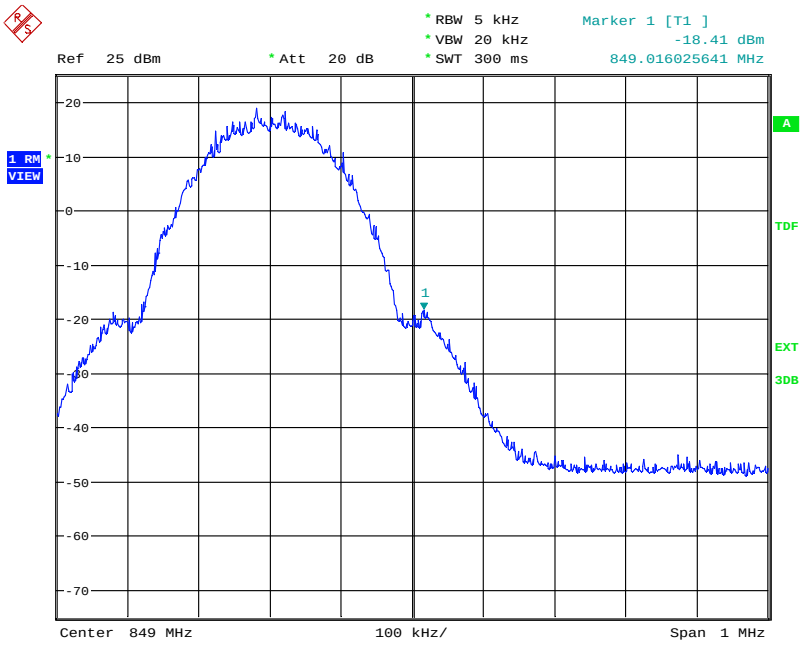
SIM 1	
Operate Band: GPRS 1900	
Lower Band	 Date: 13.MAY.2016 06:50:44
Higher Band	 Date: 13.MAY.2016 06:52:50

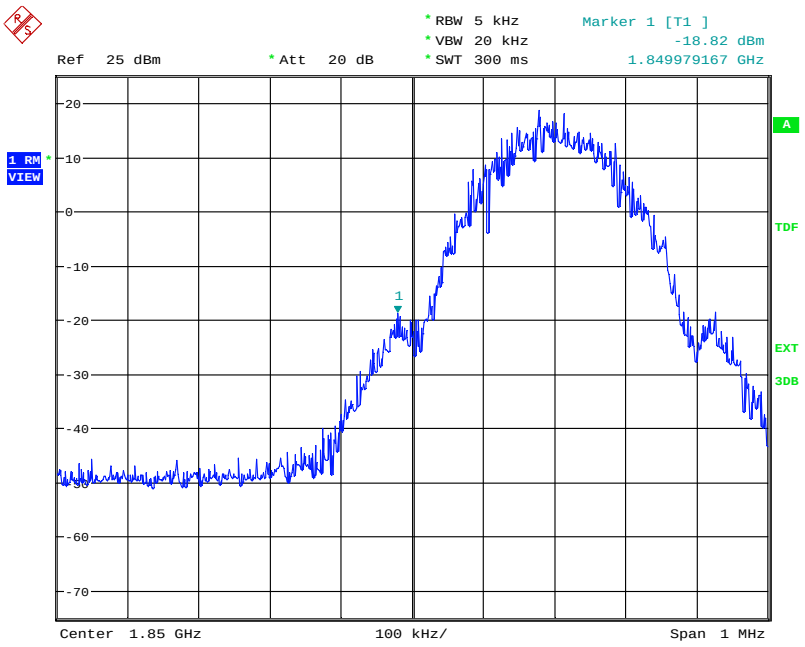
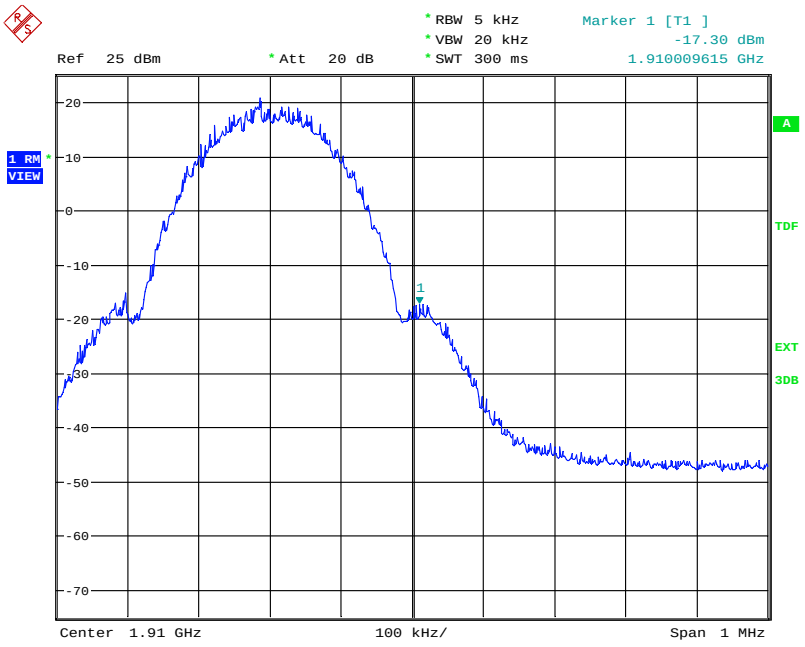
SIM 1	
Operate Band: EGPRS 1900	
Lower Band	 Date: 13.MAY.2016 07:49:46
Higher Band	 Date: 13.MAY.2016 07:51:52

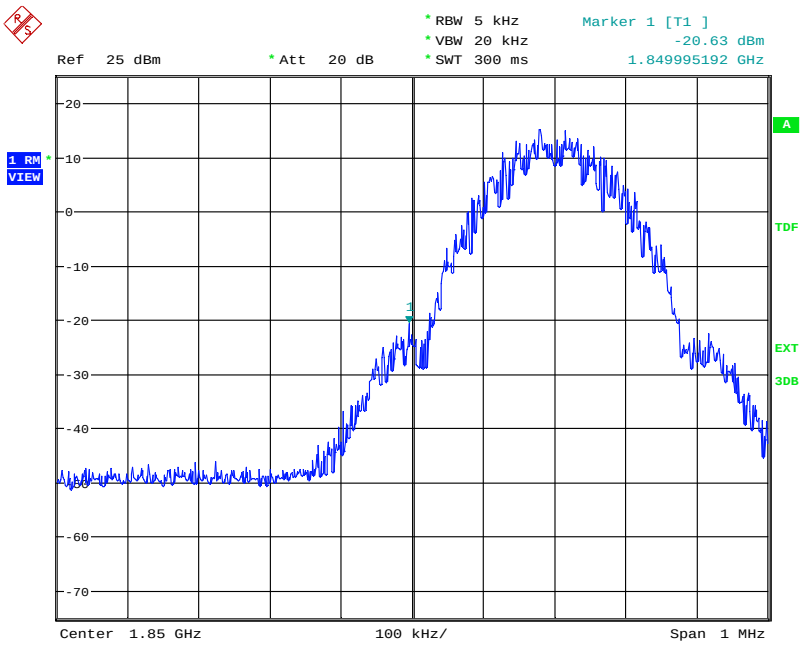
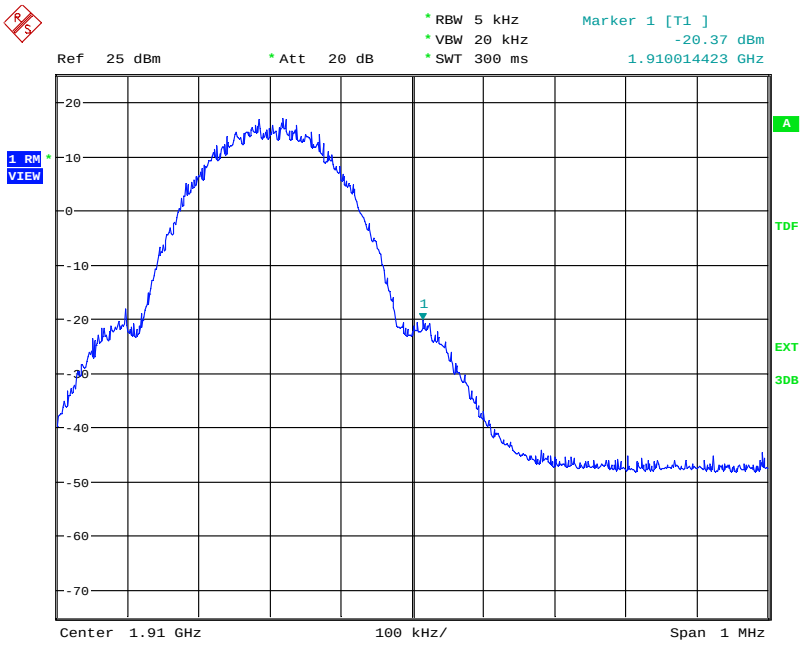
SIM 1	
Operate Band: WCDMA Band II	
Lower Band	 Date: 13.MAY.2016 08:47:08
Higher Band	 Date: 13.MAY.2016 08:49:16

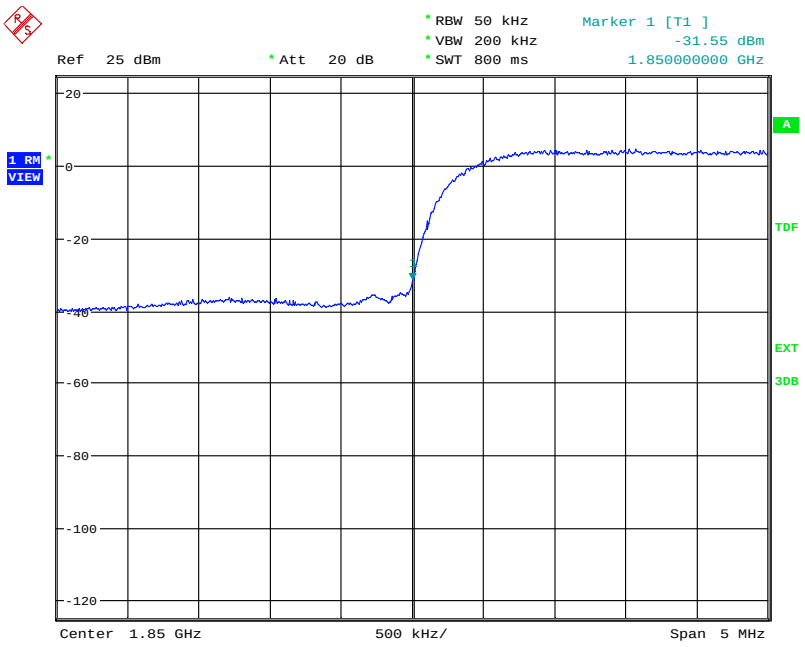
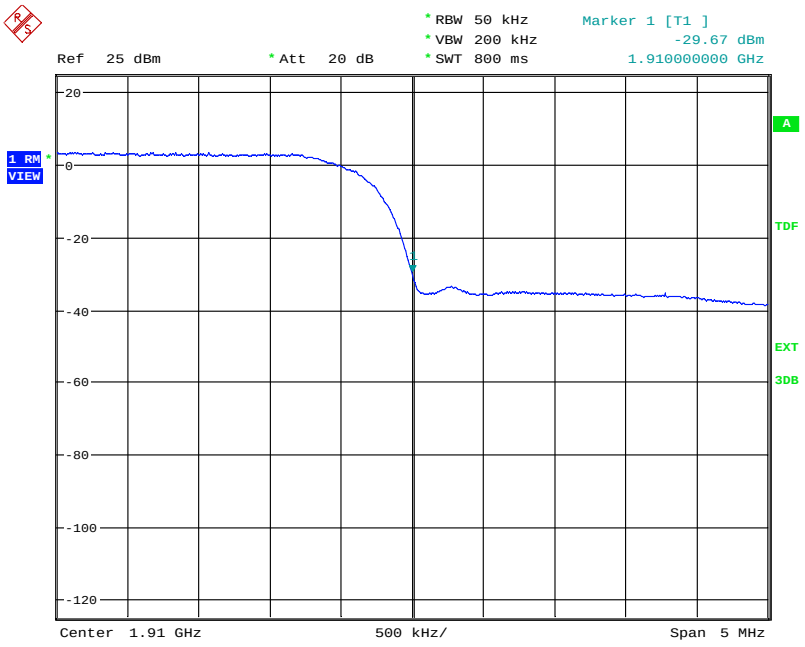
SIM 1	
Operate Band: WCDMA Band V	
Lower Band	
Higher Band	

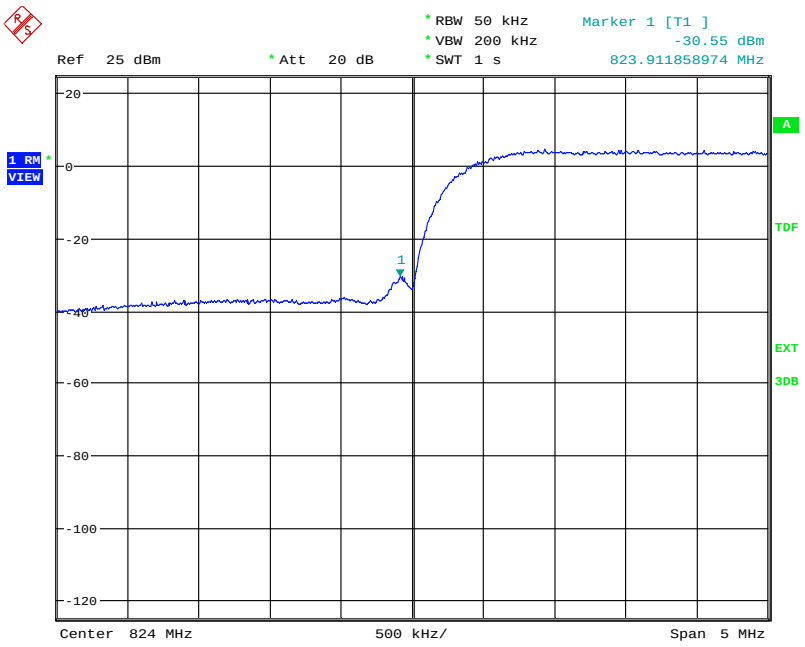
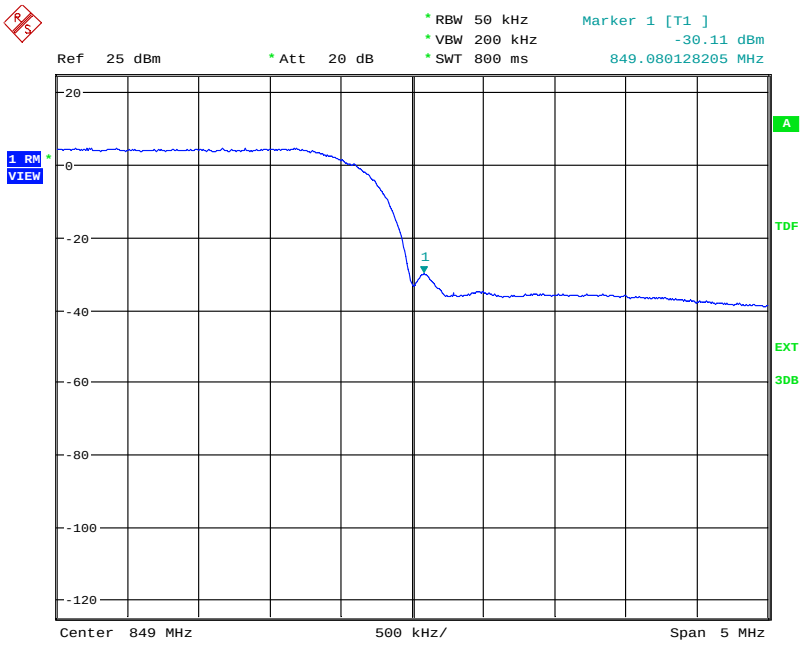
SIM 2	
Operate Band: GPRS 850	
Lower Band	 Date: 13.MAY.2016 11:21:28
Higher Band	 Date: 13.MAY.2016 11:23:34

SIM 2	
Operate Band: EGPRS 850	
Lower Band	 Date: 13.MAY.2016 12:22:40
Higher Band	 Date: 13.MAY.2016 12:24:46

SIM 2	
Operate Band: GPRS 1900	
Lower Band	 Date: 13.MAY.2016 11:48:09
Higher Band	 Date: 13.MAY.2016 11:50:14

SIM 2	
Operate Band: EGPRS 1900	
Lower Band	 Date: 13.MAY.2016 12:40:06
Higher Band	 Date: 13.MAY.2016 12:42:12

SIM 2	
Operate Band: WCDMA Band II	
Lower Band	 Date: 13.MAY.2016 10:22:00
Higher Band	 Date: 13.MAY.2016 10:24:05

SIM 2	
Operate Band: WCDMA Band V	
Lower Band	
Higher Band	

4.7. Radiated Spurious Emissions

■ Limit

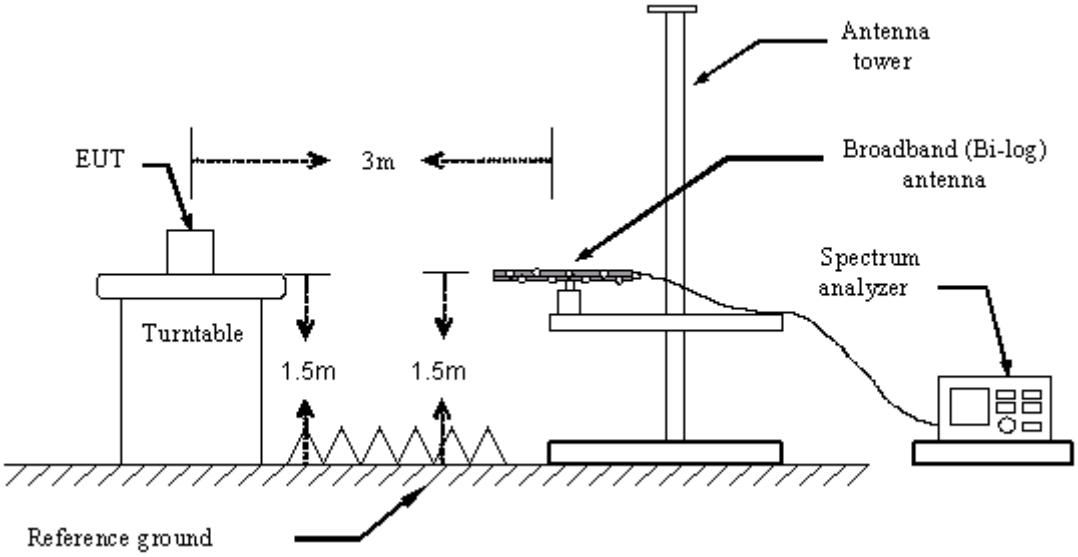
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

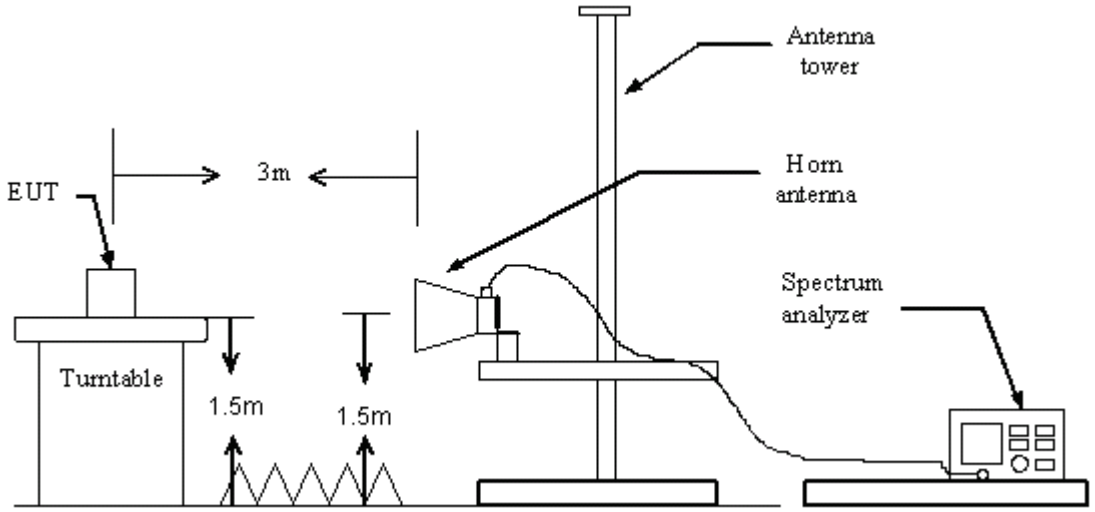
■ Setup

Below 1GHz

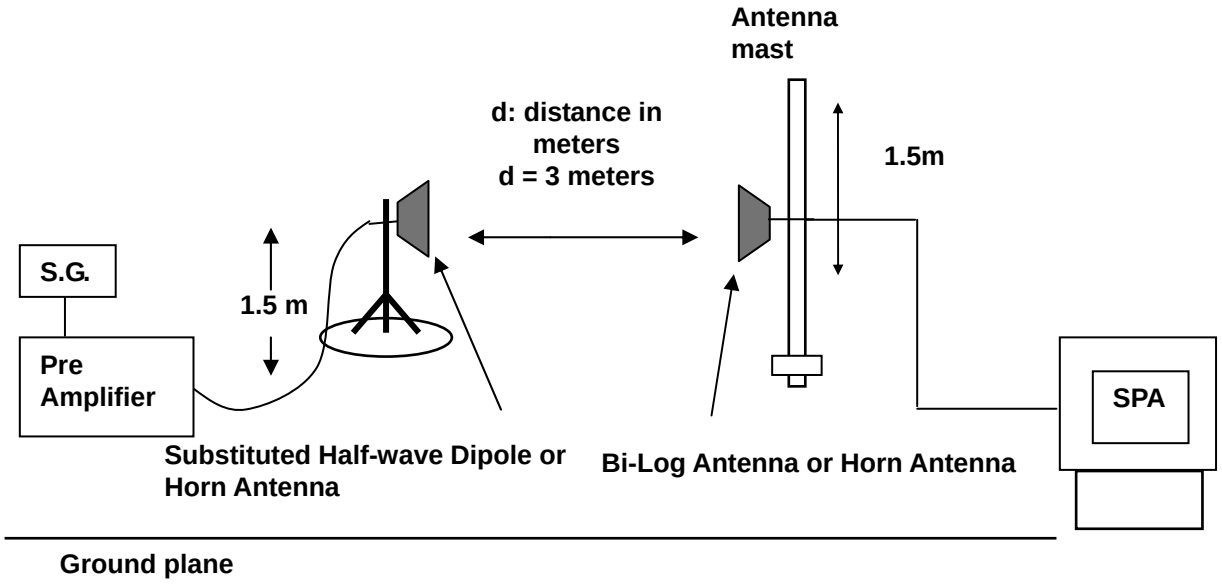
Below 1 GHz



Above 1GHz



For Substituted Method Test Set-UP



■ Test Procedure

1. The EUT was set up for the maximum power. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range).
2. Radiation Emission measurement. In the semi-anechoic chamber, EUT placed on the 1.5m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
3. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “previously recorded (Pr)” of step a. Record the power level of S.G.
   Below 1 GHz substituted method test used sleeve dipole antenna to Bi-Log antenna
   Above 1 GHz substituted method test used horn antenna to horn antenna
   E.I.R.P. = Output power level of S.G (PMea) - TX cable loss (Pcl) + Antenna gain of substitution horn (Ga)
   E.R.P. = E.I.R.P- 2.15 dB

■ **Test Result**

SIM 1							
Operate Band: GPRS 850				Modulation Type: GMSK			
Frequency: 824.2 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1648.4	H	-57.64	3.78	5.41	2.15	-58.16	< -13
1648.4	V	-59.07	3.78	5.41	2.15	-59.59	< -13

SIM 1							
Operate Band: GPRS 850				Modulation Type: GMSK			
Frequency: 836.6 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1672.0	H	-59.23	3.81	5.36	2.15	-59.83	< -13
1673.2	V	-59.55	3.81	5.36	2.15	-60.15	< -13

SIM 1							
Operate Band: GPRS 850				Modulation Type: GMSK			
Frequency: 848.8 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1697.6	H	-58.5	3.84	5.28	2.15	-59.21	< -13
1697.6	V	-57.42	3.84	5.28	2.15	-58.13	< -13

SIM 1						
Operate Band: GPRS 1900				Modulation Type: GMSK		
Frequency: 1850.2 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3700.4	H	-50.19	5.85	8.6	-47.44	< -13
3700.4	V	-48.1	5.85	8.6	-45.35	< -13

SIM 1						
Operate Band: GPRS 1900				Modulation Type: GMSK		
Frequency: 1880.0 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3760.0	H	-51.67	5.91	8.66	-48.92	< -13
3760.0	V	-47.93	5.91	8.66	-45.18	< -13

SIM 1						
Operate Band: GPRS 1900				Modulation Type: GMSK		
Frequency: 1909.8 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3819.6	H	-50.44	5.95	8.72	-47.67	< -13
3819.6	V	-46.8	5.95	8.72	-44.03	< -13

SIM 1						
Operate Band: WCDMA Band II				Modulation Type: QPSK		
Frequency: 1852.4 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3700.0	H	-51.86	5.85	8.6	-49.11	< -13
3704.8	V	-51.03	5.86	8.61	-48.28	< -13

SIM 1						
Operate Band: WCDMA Band II				Modulation Type: QPSK		
Frequency: 1880.0 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3760.0	H	-53.7	5.9	8.66	-50.94	< -13
3760.0	V	-50.86	5.9	8.66	-48.1	< -13

SIM 1						
Operate Band: WCDMA Band II				Modulation Type: QPSK		
Frequency: 1907.6 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3815.2	H	-52.53	5.95	8.72	-49.76	< -13
3815.2	V	-50.20	5.95	8.72	-47.43	< -13

SIM 1							
Operate Band: WCDMA Band V				Modulation Type: QPSK			
Frequency: 826.4 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1652.8	H	-59.66	3.78	5.41	2.15	-60.18	< -13
1652.8	V	-59.8	3.78	5.41	2.15	-60.32	< -13

SIM 1							
Operate Band: WCDMA Band V				Modulation Type: QPSK			
Frequency: 836.6 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1673.2	H	-59.45	3.81	5.36	2.15	-60.05	< -13
1673.2	V	-58.18	3.81	5.36	2.15	-58.78	< -13

SIM 1							
Operate Band: WCDMA Band V				Modulation Type: QPSK			
Frequency: 846.6 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1692.8	H	-58.91	3.84	5.28	2.15	-59.62	< -13
1692.8	V	-60.15	3.84	5.28	2.15	-60.86	< -13

SIM 2							
Operate Band: GPRS 850				Modulation Type: GMSK			
Frequency: 824.2 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1648.4	H	-58.58	3.78	5.41	2.15	-59.1	< -13
1648.4	V	-58.55	3.78	5.41	2.15	-59.07	< -13

SIM 2							
Operate Band: GPRS 850				Modulation Type: GMSK			
Frequency: 836.6 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1672.0	H	-59.61	3.81	5.36	2.15	-60.21	< -13
1673.2	V	-59.73	3.81	5.35	2.15	-60.34	< -13

SIM 2							
Operate Band: GPRS 850				Modulation Type: GMSK			
Frequency: 848.8 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1697.6	H	-59.34	3.84	5.28	2.15	-60.05	< -13
1697.6	V	-58.85	3.84	5.28	2.15	-59.56	< -13

SIM 2						
Operate Band: GPRS 1900				Modulation Type: GMSK		
Frequency: 1850.2 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3700.4	H	-48.77	5.85	8.6	-46.02	< -13
3700.4	V	-47.69	5.85	8.6	-44.94	< -13

SIM 2						
Operate Band: GPRS 1900				Modulation Type: GMSK		
Frequency: 1880.0 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3760.0	H	-52.14	5.91	8.66	-49.39	< -13
3760.0	V	-48.66	5.91	8.66	-45.91	< -13

SIM 2						
Operate Band: GPRS 1900				Modulation Type: GMSK		
Frequency: 1909.8 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3819.6	H	-50.93	5.95	8.72	-48.16	< -13
3819.6	V	-47.64	5.95	8.72	-44.87	< -13

SIM 2						
Operate Band: WCDMA Band II				Modulation Type: QPSK		
Frequency: 1852.4 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3704.8	H	-53.42	5.85	8.6	-50.67	< -13
3704.8	V	-51.71	5.86	8.61	-48.96	< -13

SIM 2						
Operate Band: WCDMA Band II				Modulation Type: QPSK		
Frequency: 1880.0 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3760.0	H	-54.09	5.9	8.66	-51.33	< -13
3760.0	V	-51.5	5.9	8.66	-48.74	< -13

SIM 2						
Operate Band: WCDMA Band II				Modulation Type: QPSK		
Frequency: 1907.6 MHz						
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	EIRP (dBm)	Limit (dBm)
3815.2	H	-53.75	5.95	8.72	-50.98	< -13
3815.2	V	-50.89	5.95	8.72	-48.12	< -13

SIM 2							
Operate Band: WCDMA Band V				Modulation Type: QPSK			
Frequency: 826.4 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1652.8	H	-60.12	3.78	5.41	2.15	-60.64	< -13
1652.8	V	-58.78	3.78	5.41	2.15	-59.3	< -13

SIM 2							
Operate Band: WCDMA Band V				Modulation Type: QPSK			
Frequency: 836.6 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1673.2	H	-59.97	3.81	5.36	2.15	-60.57	< -13
1673.2	V	-58.59	3.81	5.36	2.15	-59.19	< -13

SIM 2							
Operate Band: WCDMA Band V				Modulation Type: QPSK			
Frequency: 846.6 MHz							
Frequency (MHz)	Ant. Polar.	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain (dB)	Correction (dB)	ERP (dBm)	Limit (dBm)
1692.8	H	-59.37	3.84	5.28	2.15	-60.08	< -13
1692.8	V	-59.6	3.84	5.28	2.15	-60.31	< -13

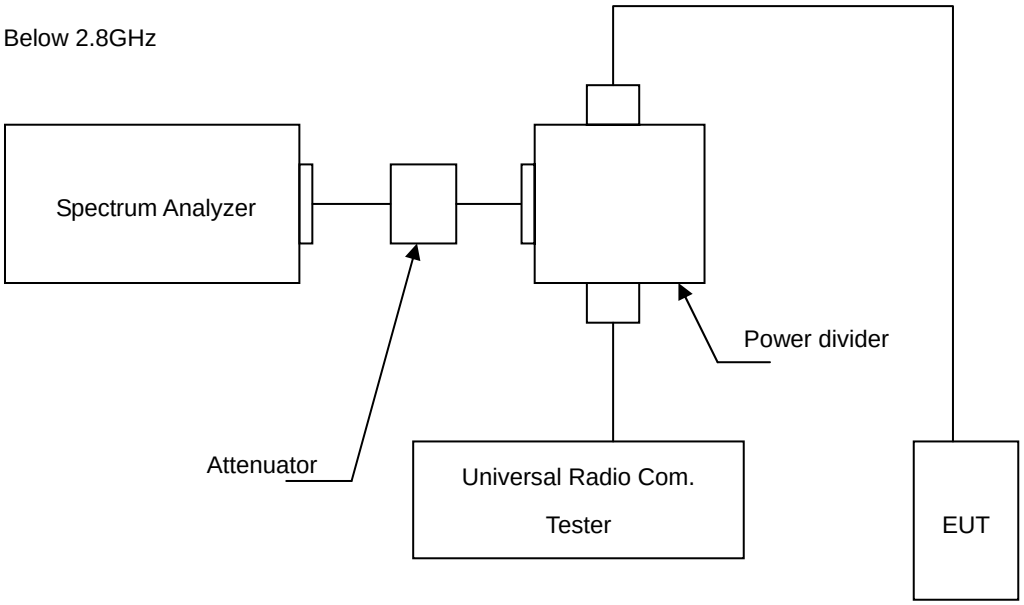
4.8. Conducted Spurious Emission

■ Limit

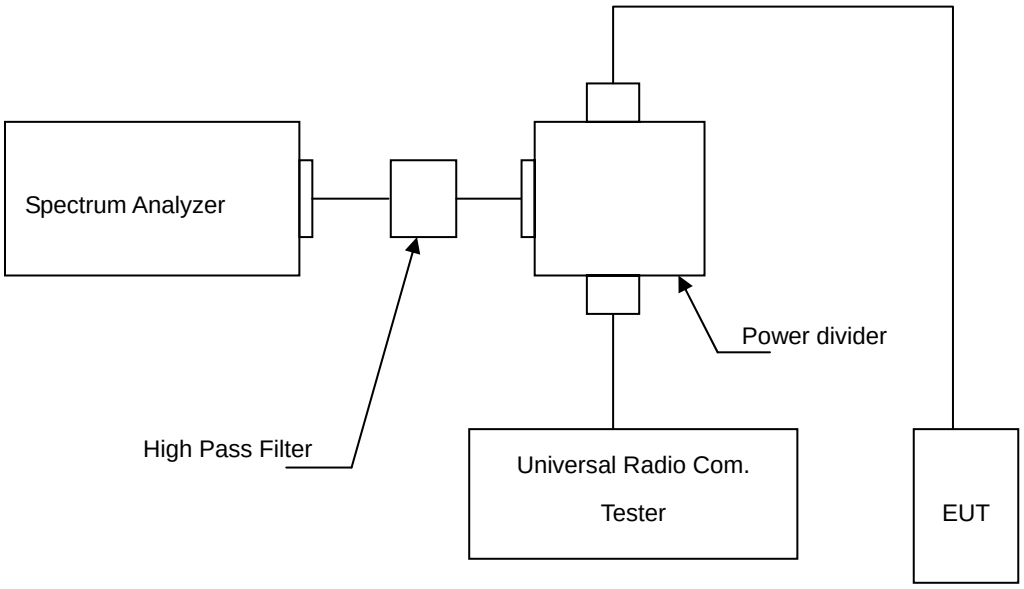
Part 24.238 and Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

■ Setup

Below 2.8GHz



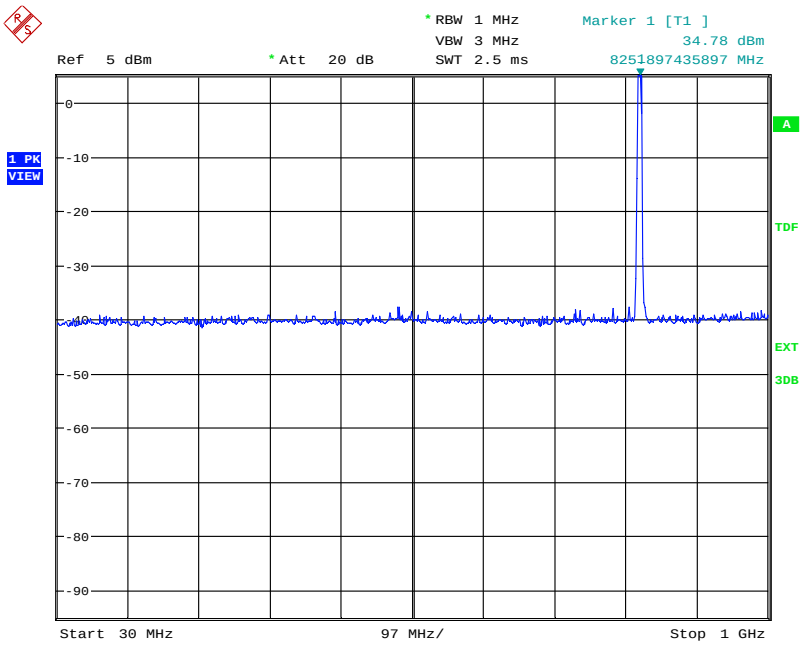
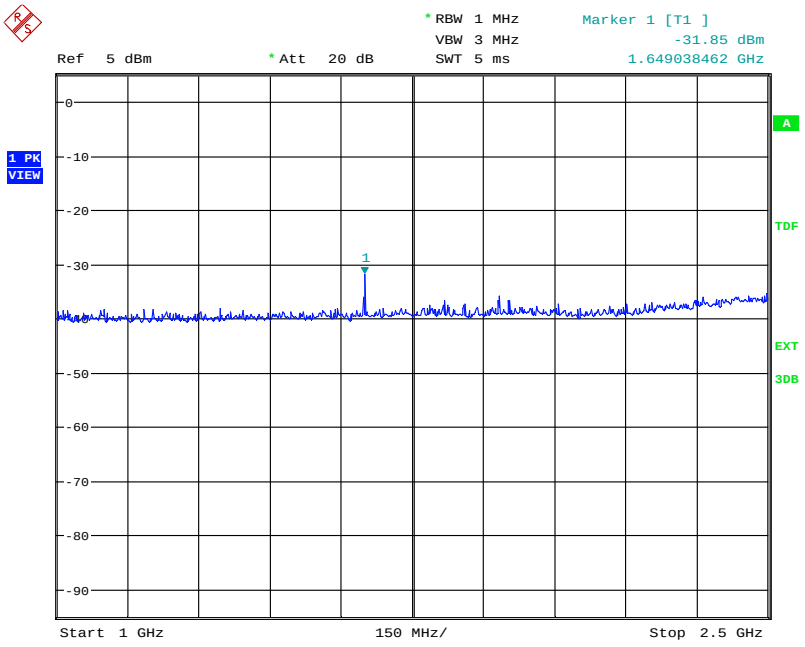
Above 2.8GHz

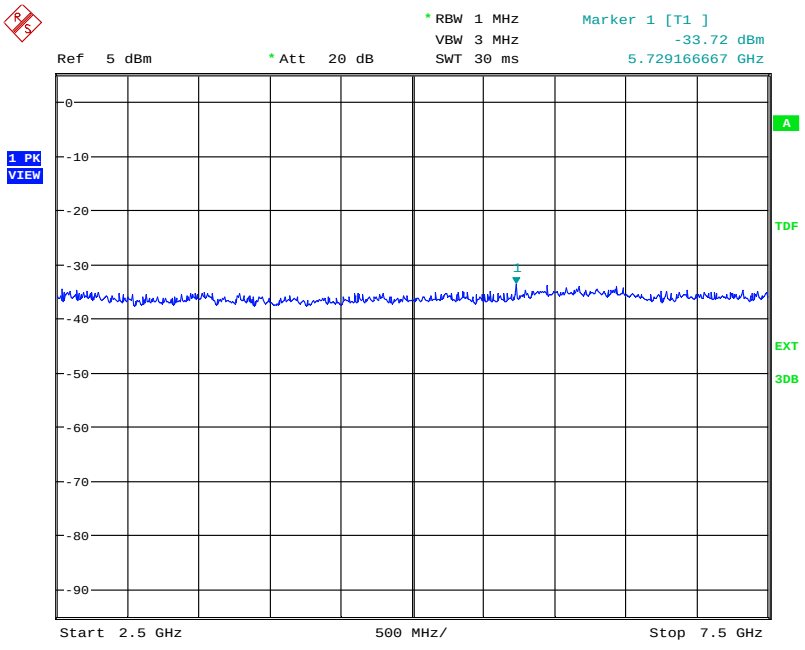
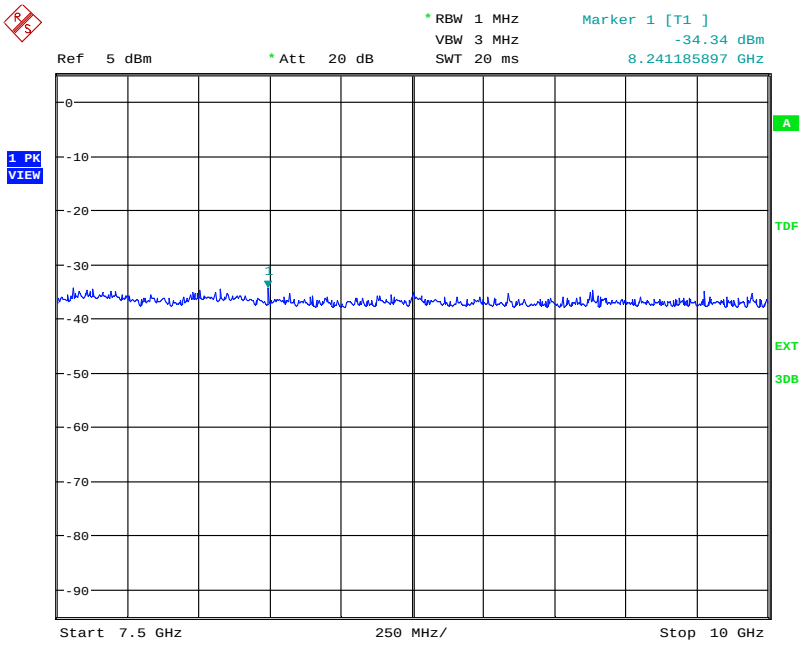


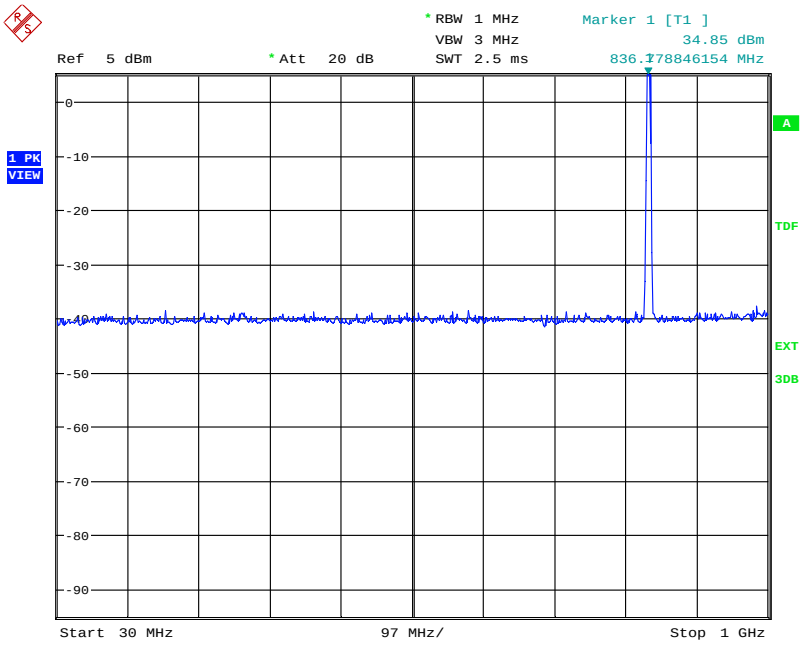
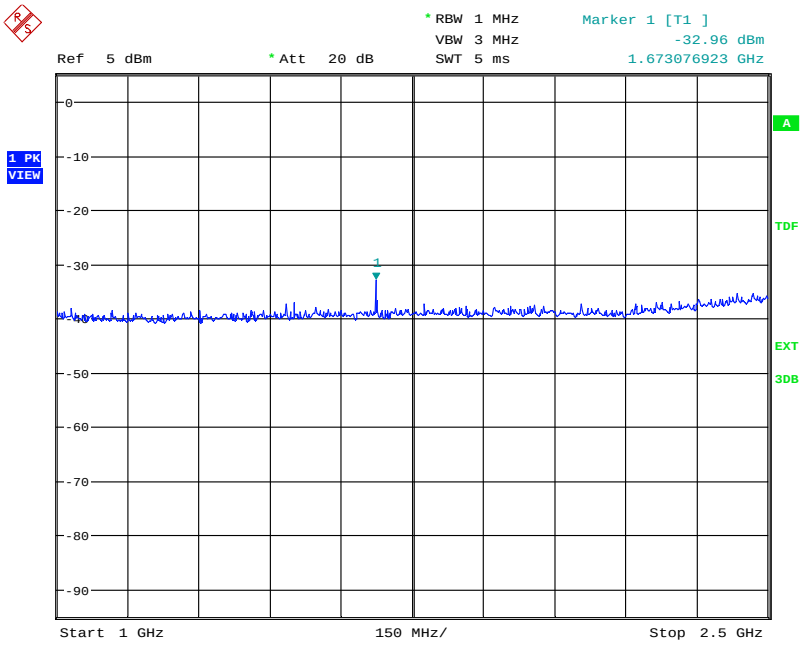
■ Test Procedure

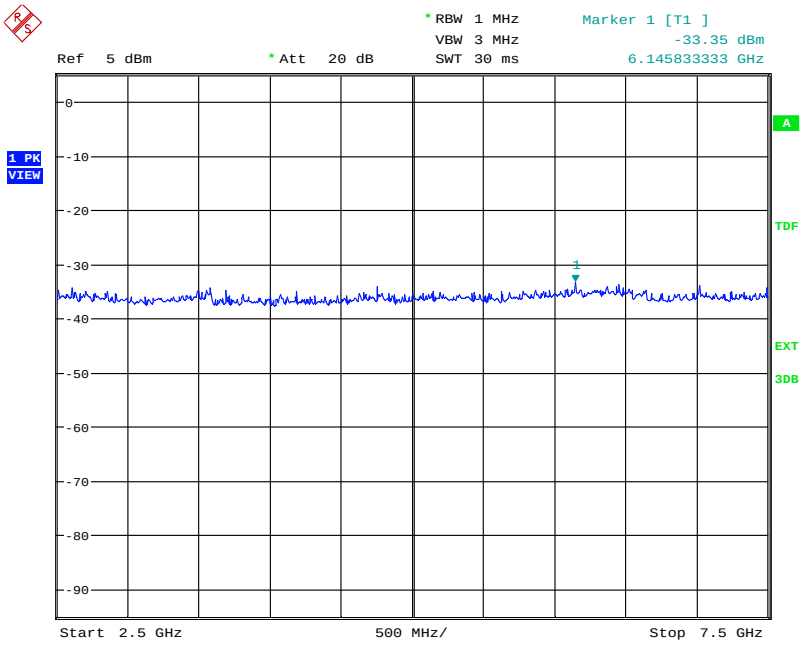
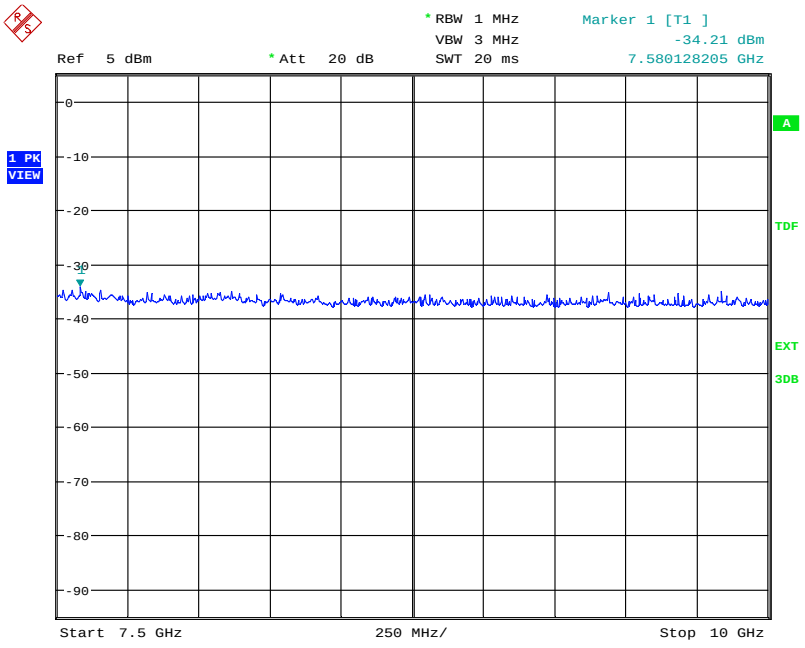
1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.

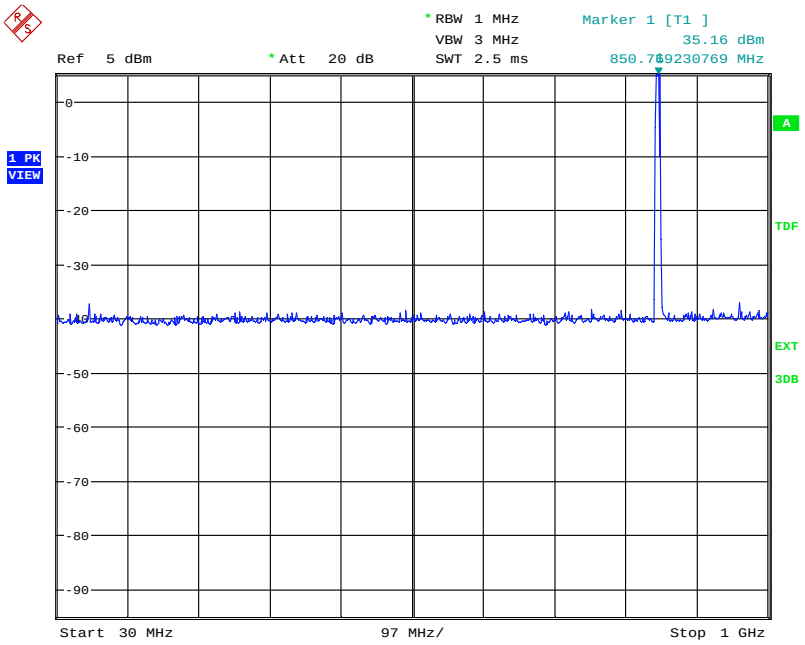
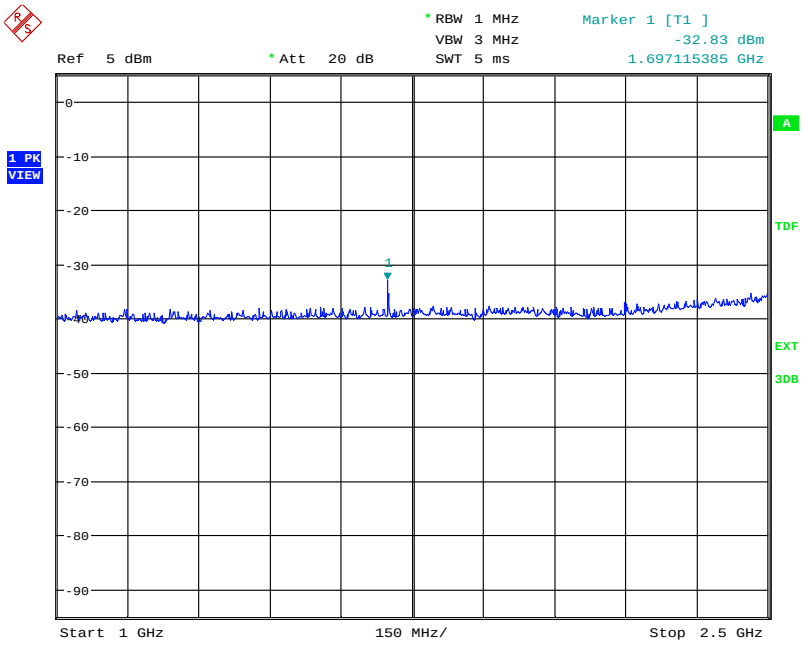
■ Test Graphs

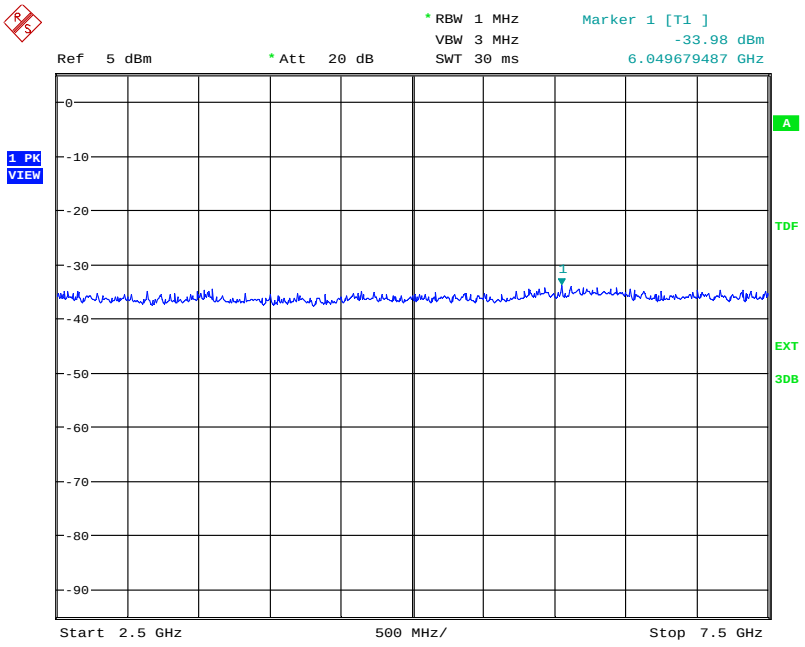
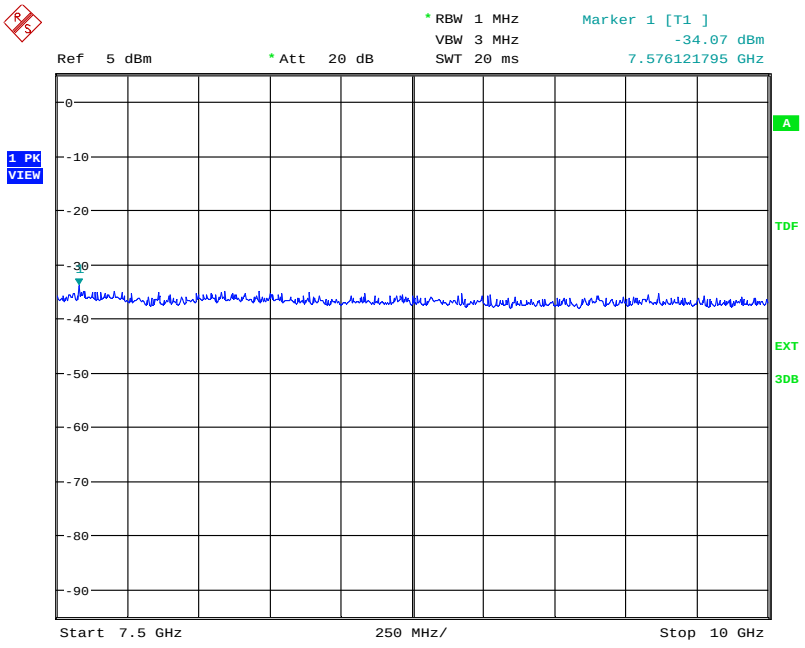
SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 824.2 MHz	
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

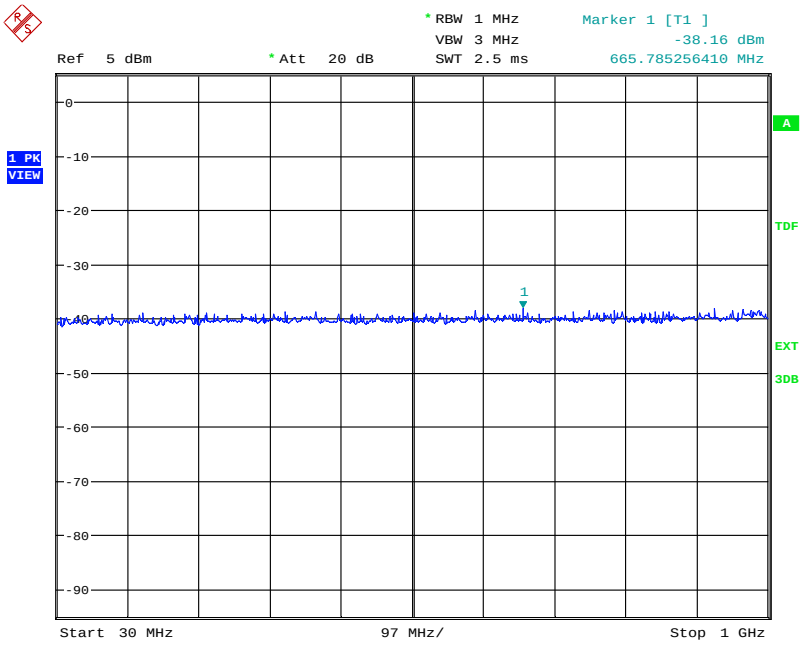
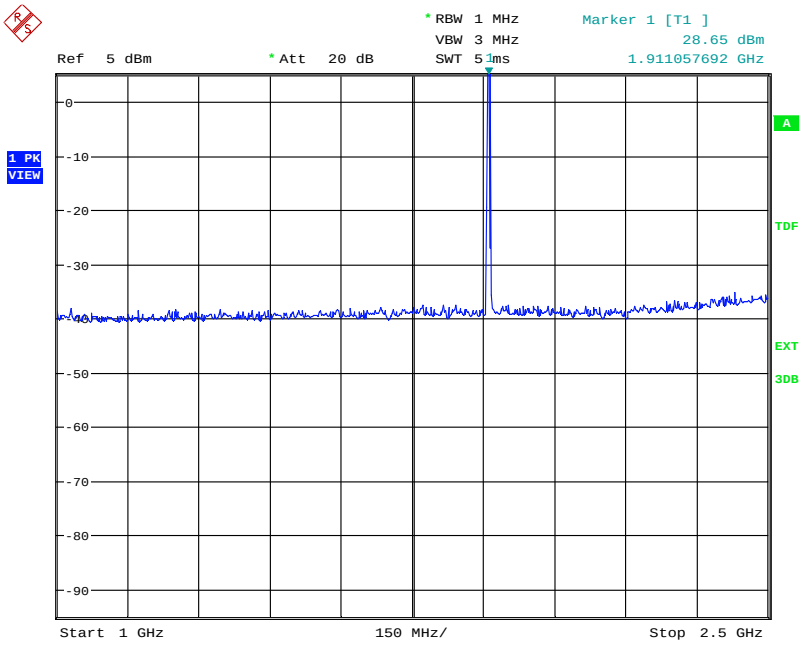
SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 824.2 MHz	
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

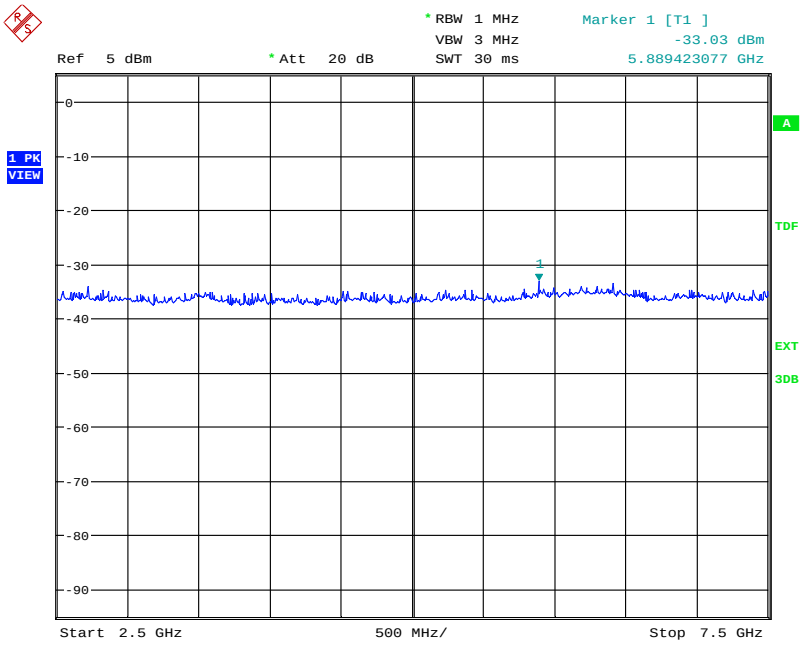
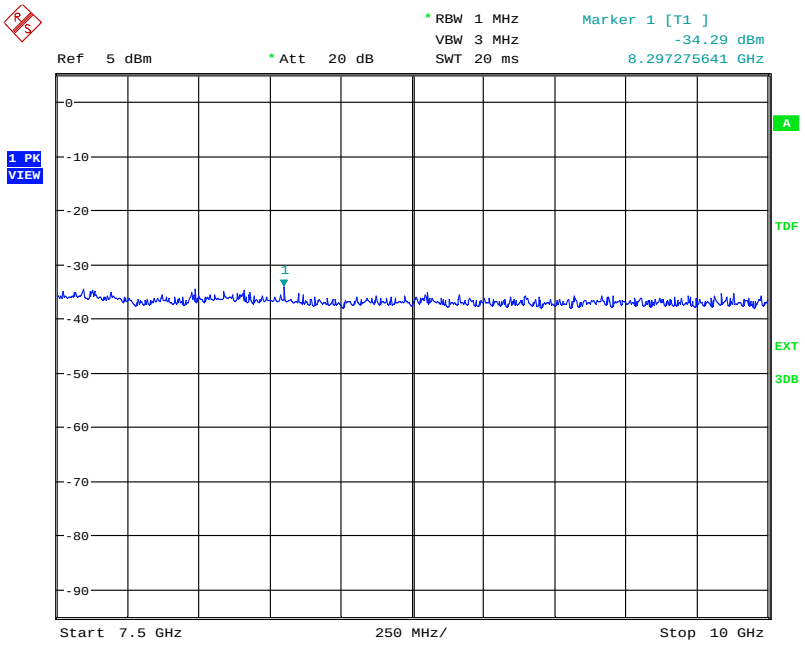
SIM 1	
Operate Band: GPRS 850 Modulation Type: GMSK Frequency: 836.6 MHz	
30 MHz ~ 1 GHz	 Date: 13.MAY.2016 06:31:08
1 GHz ~ 2.5 GHz	 Date: 13.MAY.2016 06:31:37

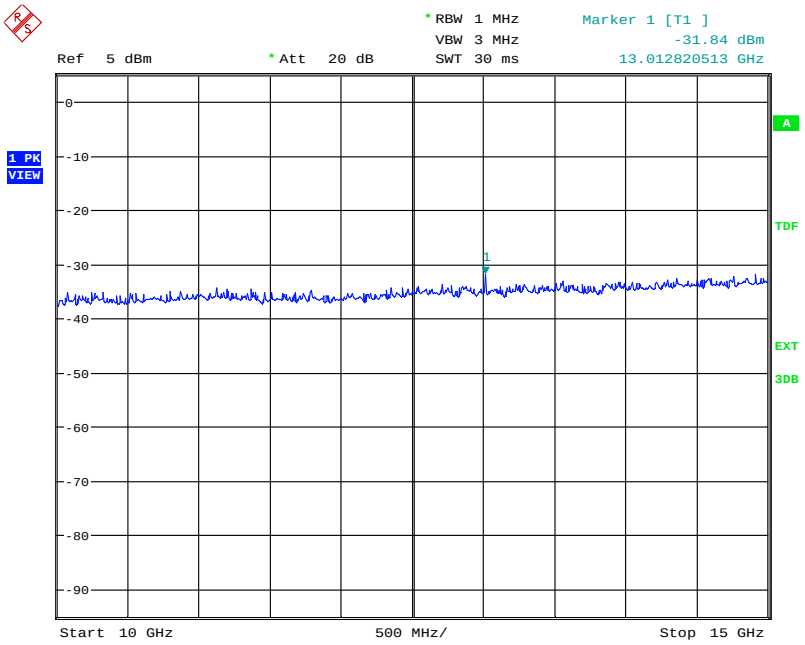
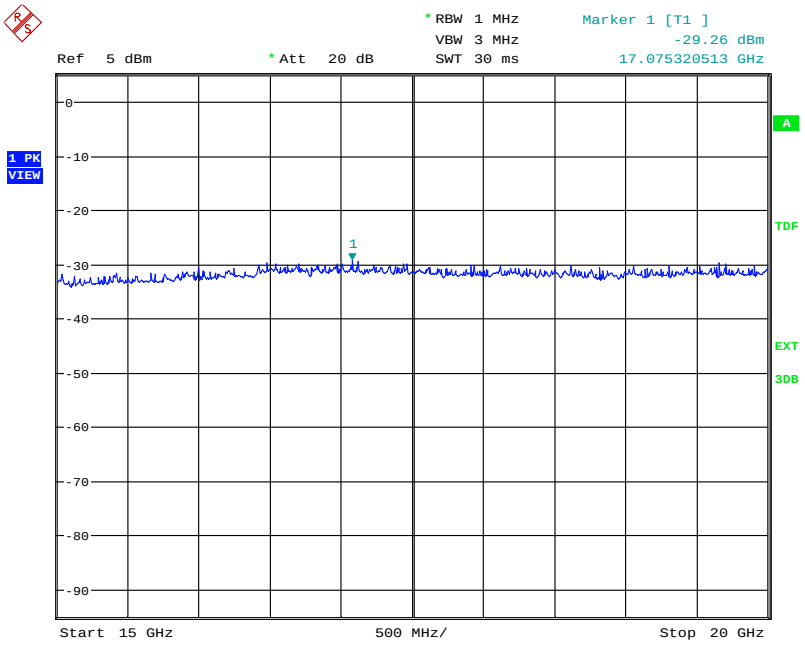
SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 836.6 MHz	
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

SIM 1	
Operate Band: GPRS 850 Modulation Type: GMSK Frequency: 848.8 MHz	
30 MHz ~ 1 GHz	 Date: 13.MAY.2016 06:33:06
1 GHz ~ 2.5 GHz	 Date: 13.MAY.2016 06:33:35

SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 848.8 MHz	
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

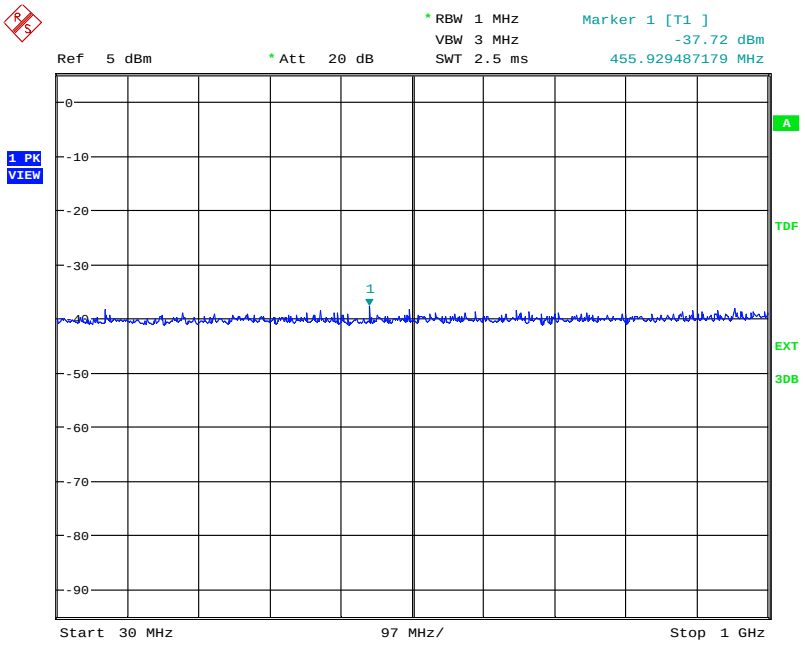
SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1850.2 MHz	
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 848.8 MHz	
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

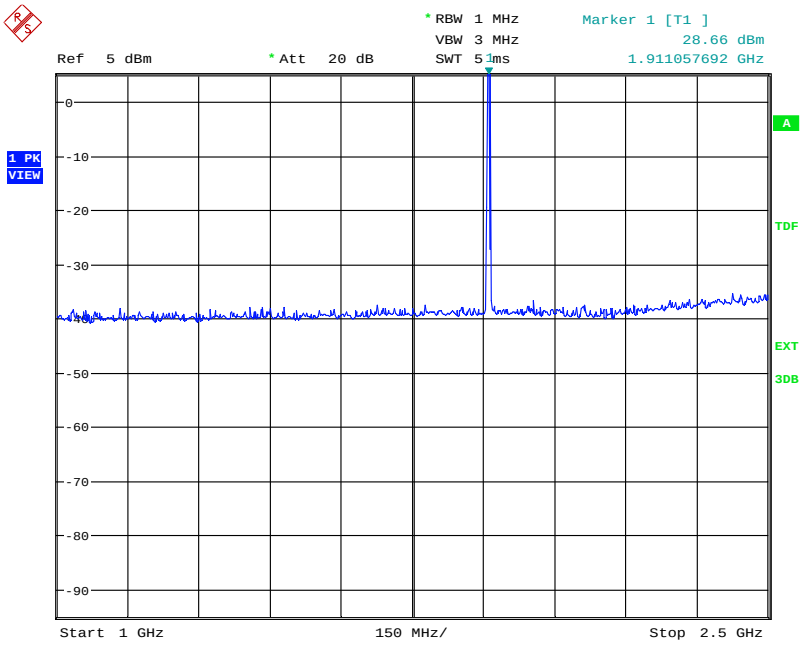
SIM 1	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 848.8 MHz	
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

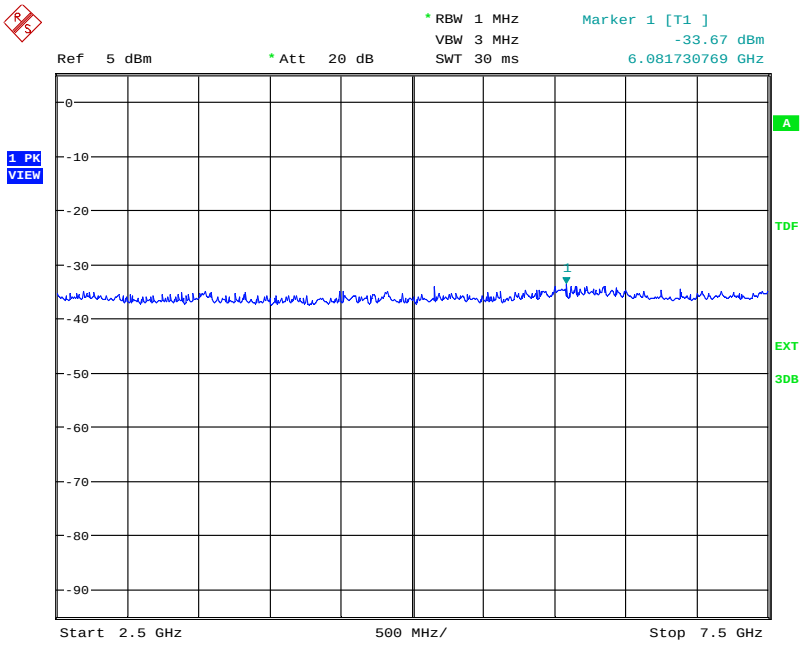
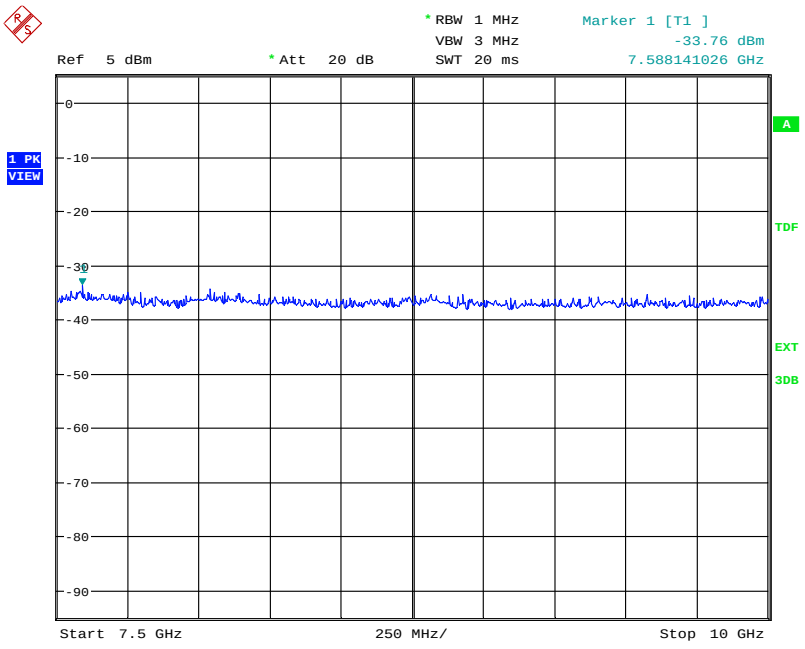
SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1880.0 MHz	

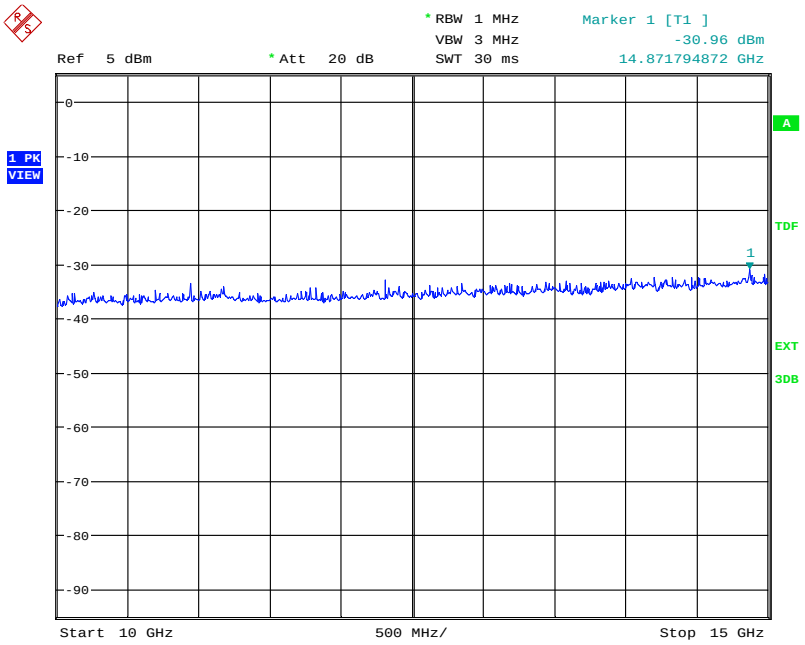
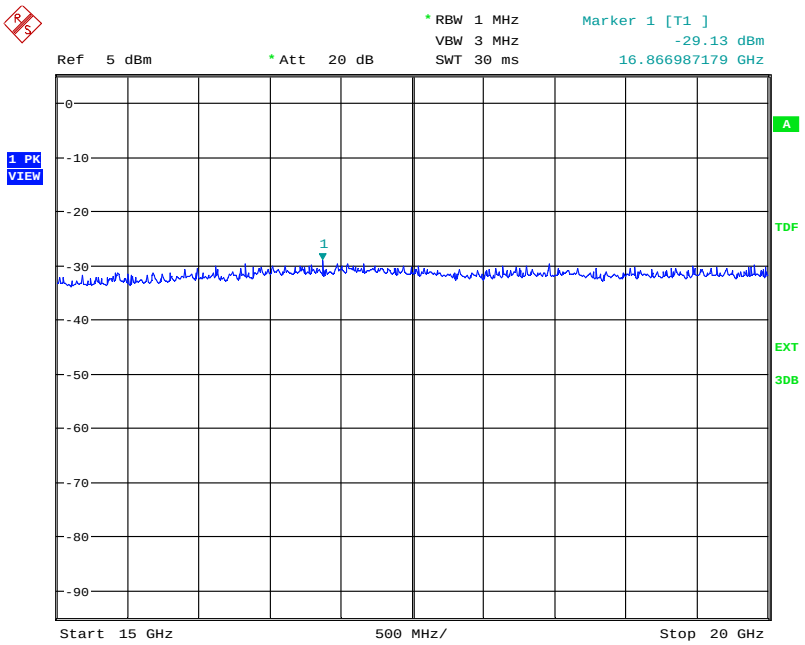
30 MHz ~ 1 GHz

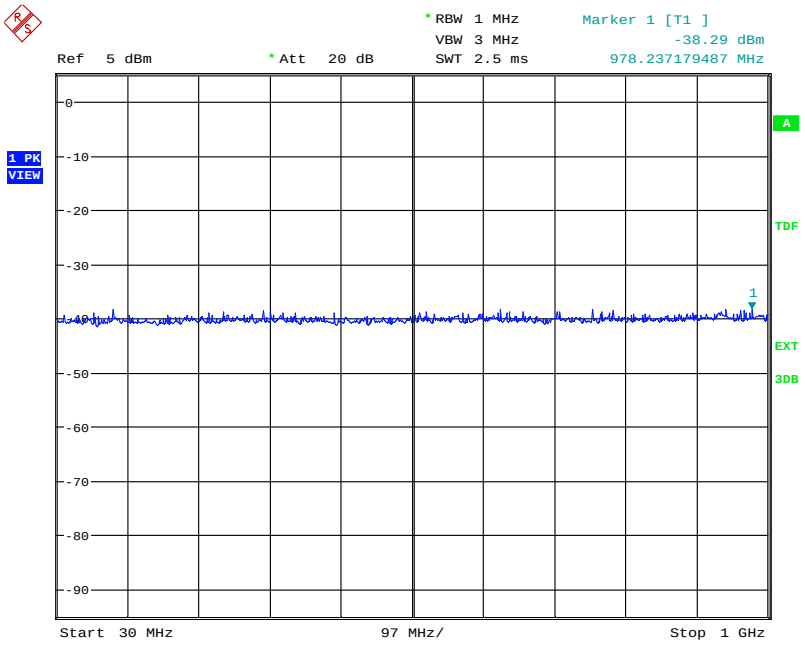
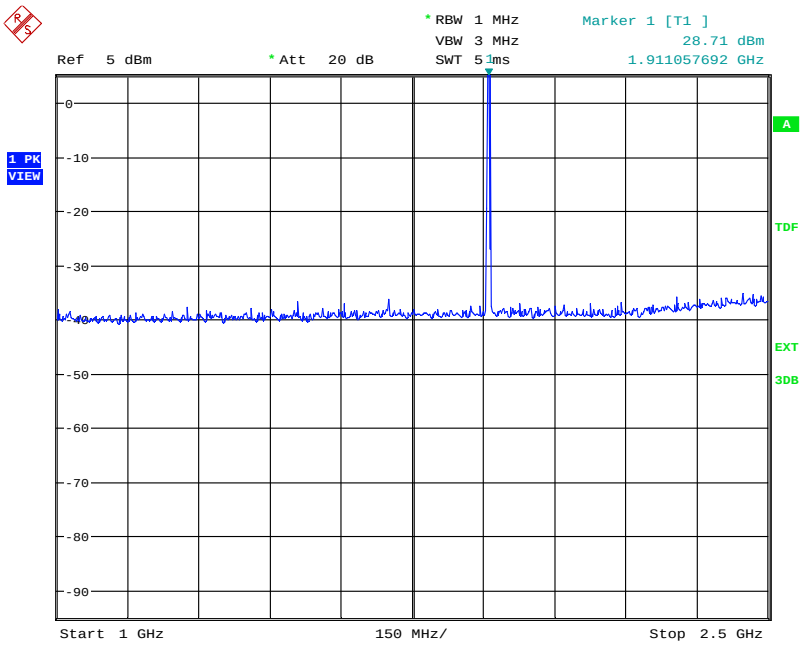


1 GHz ~ 2.5 GHz



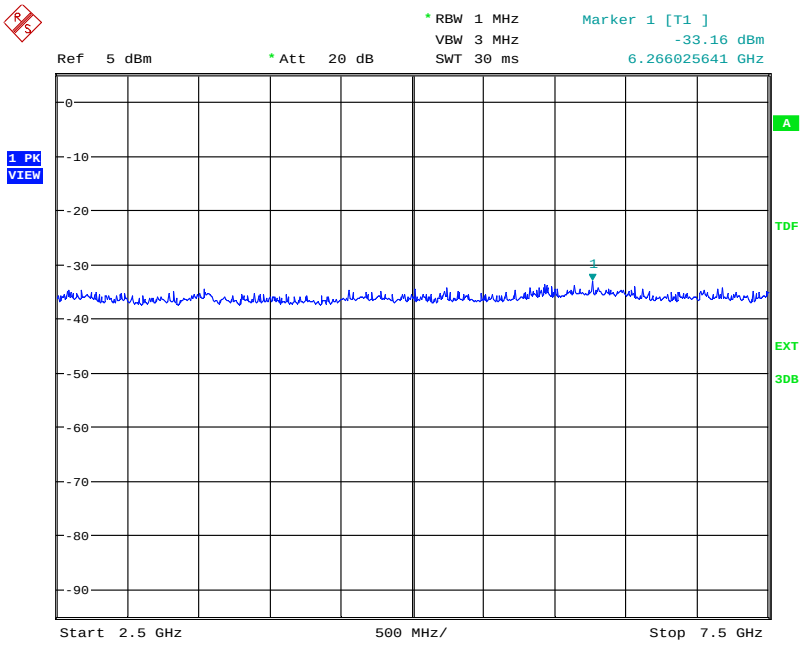
SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1880.0 MHz	
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1880.0 MHz	
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1909.8 MHz	
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

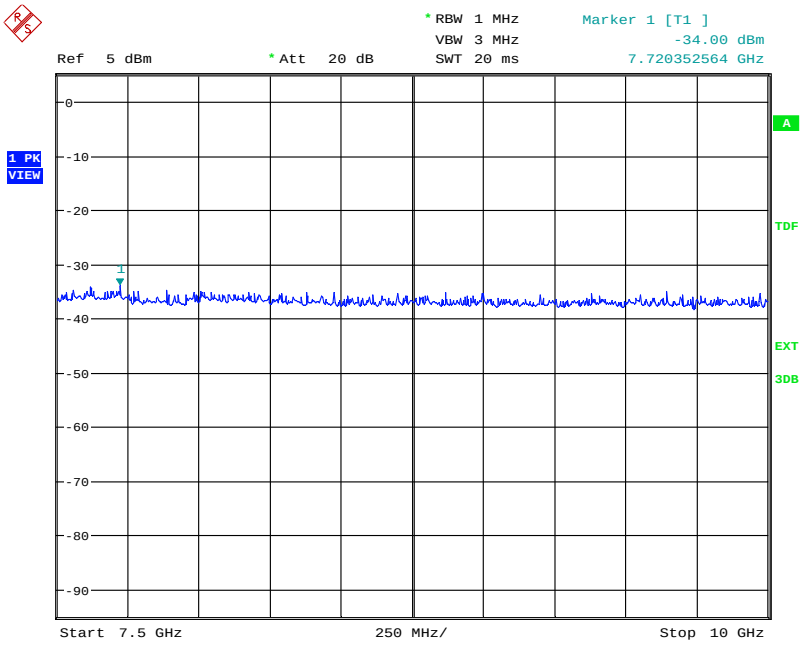
SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1909.8 MHz	

2.5 GHz ~ 7.5 GHz

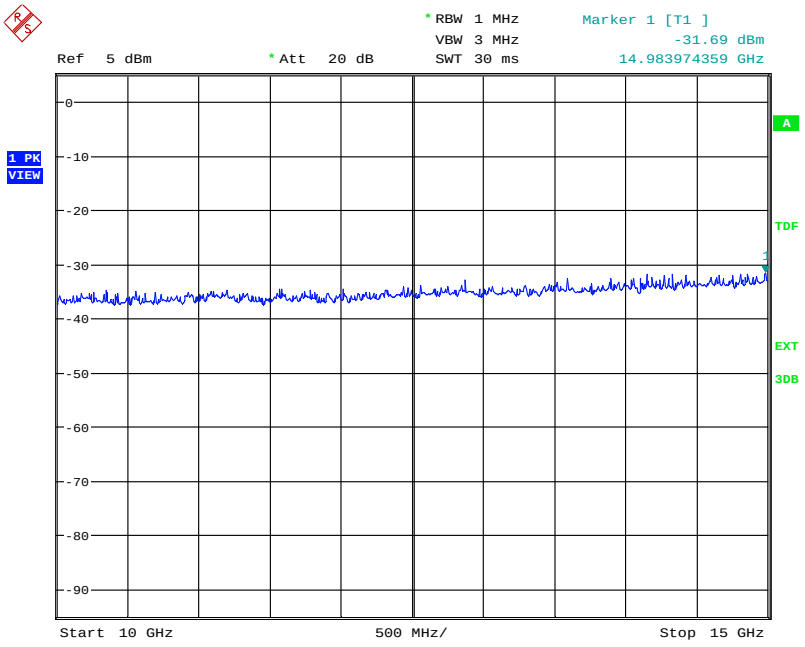
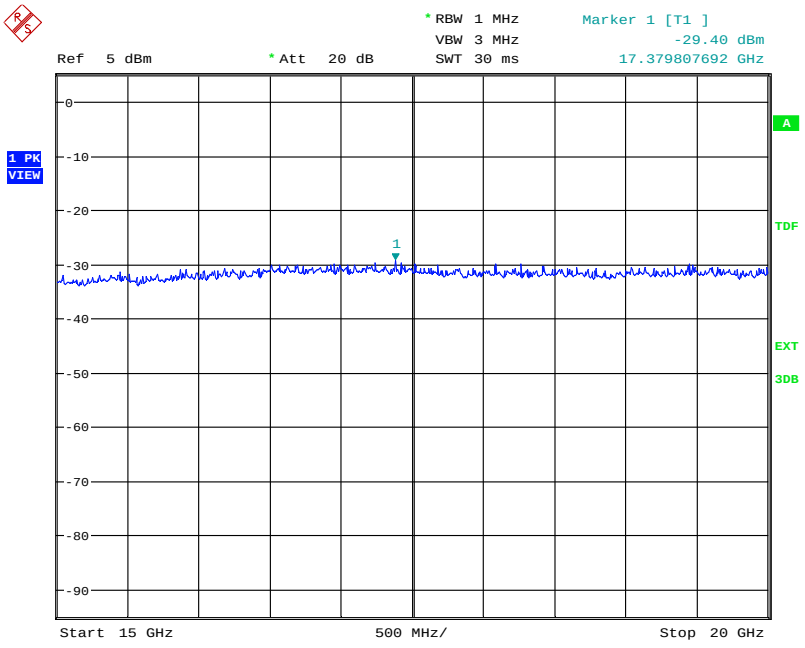


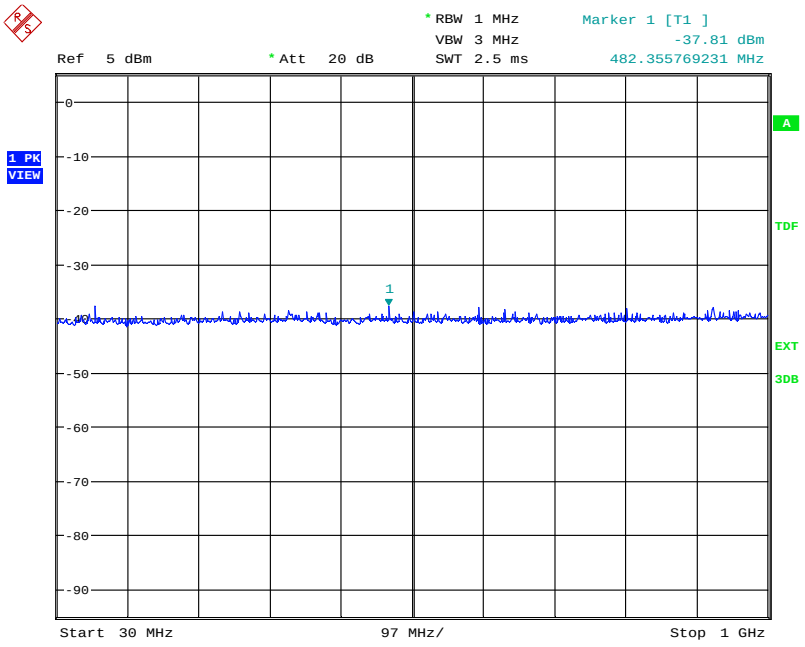
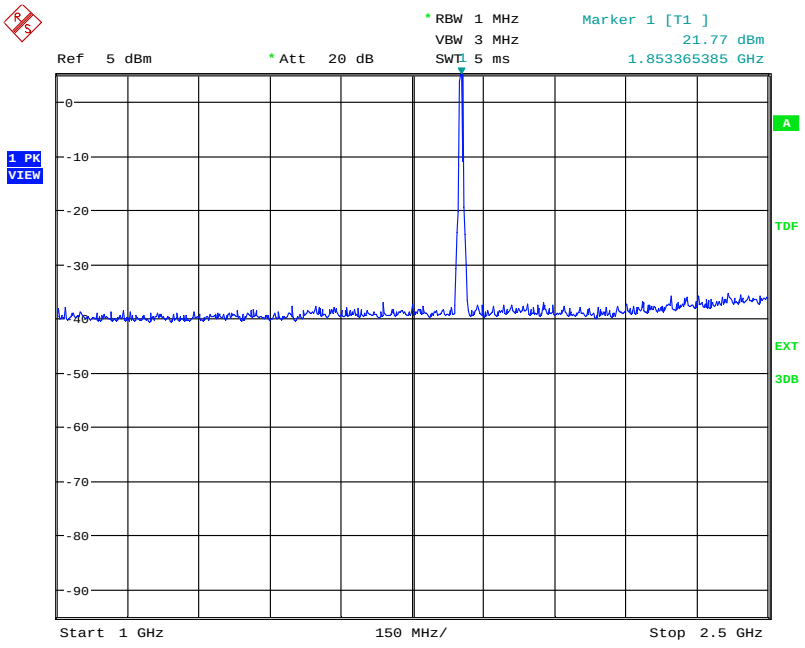
Date: 13.MAY.2016 07:02:12

7.5 GHz ~ 10 GHz



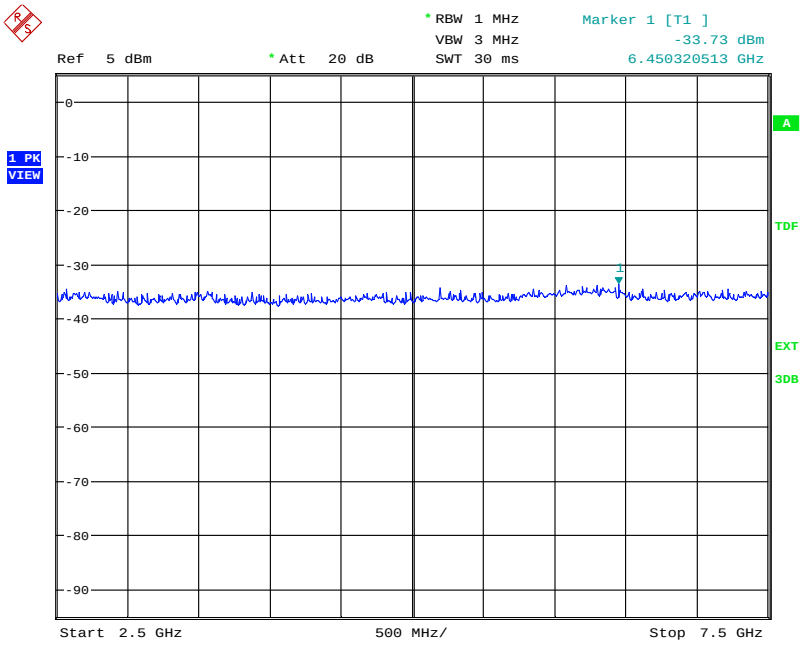
Date: 13.MAY.2016 07:02:41

SIM 1	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1909.8 MHz	
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

SIM 1	
Operate Band: WCDMA Band II Frequency: 1852.4 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	 Date: 13.MAY.2016 08:52:04
1 GHz ~ 2.5 GHz	 Date: 13.MAY.2016 08:52:33

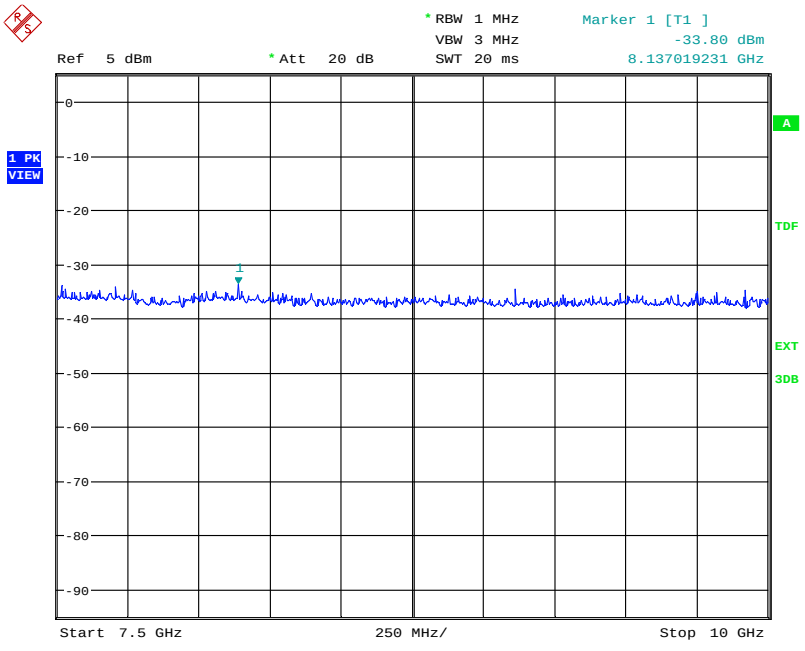
SIM 1			
Operate Band:	WCDMA Band II	Modulation Type:	QPSK
Frequency:	1852.4 MHz		

2.5 GHz ~ 7.5 GHz

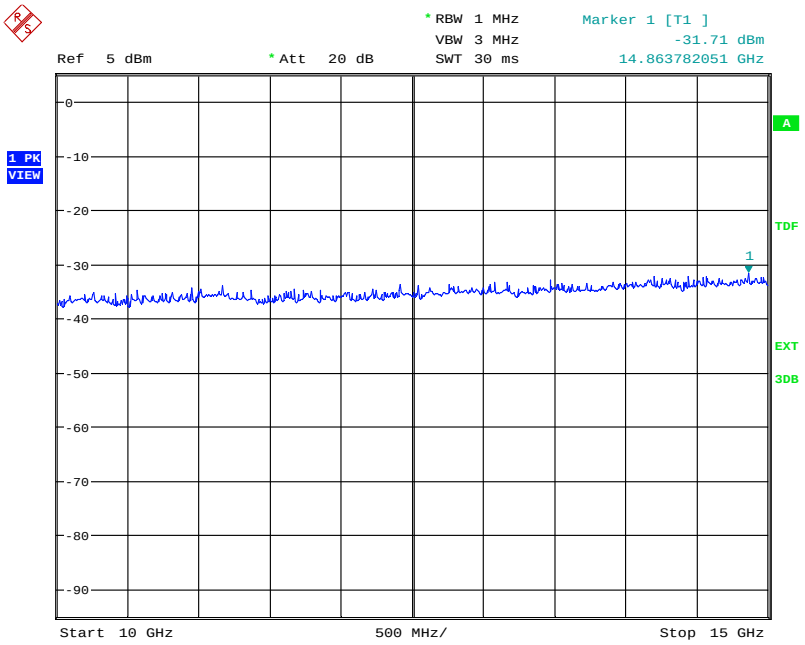
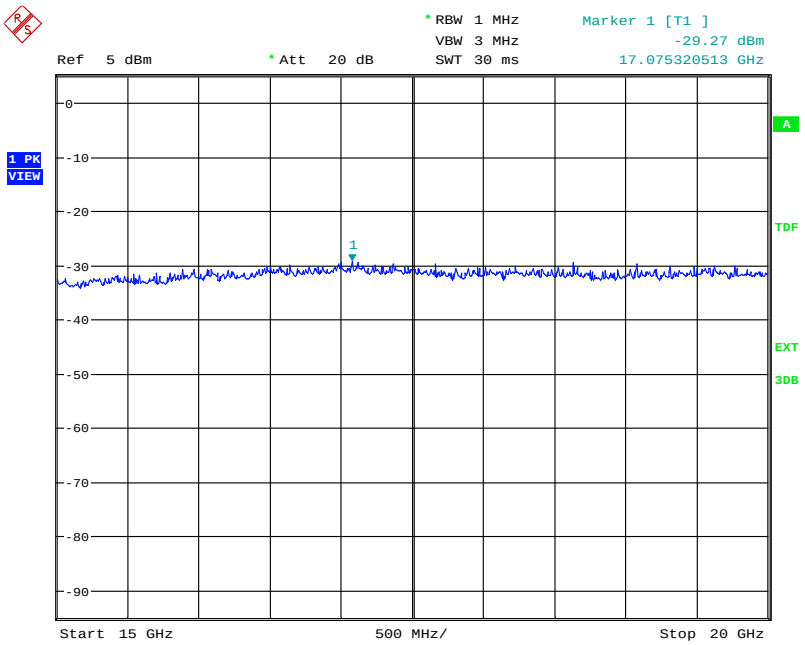


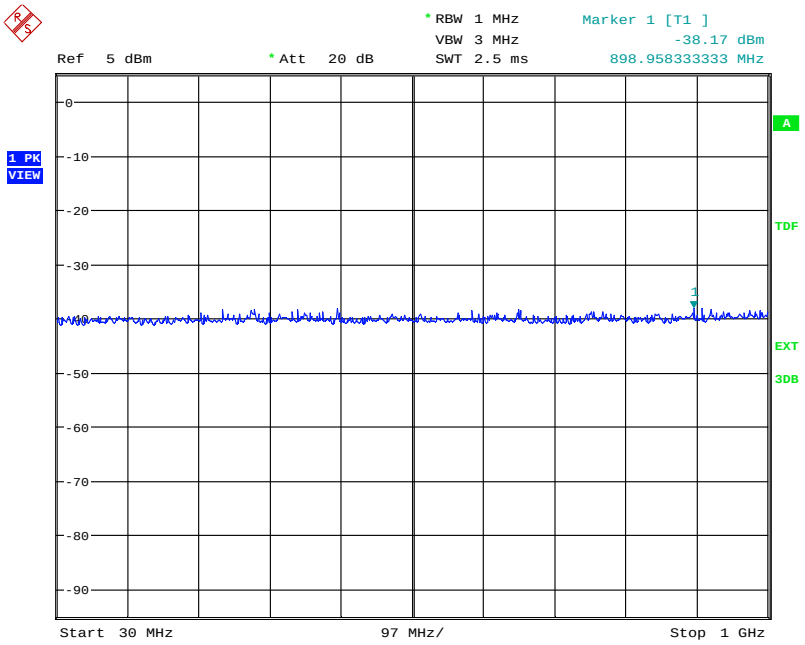
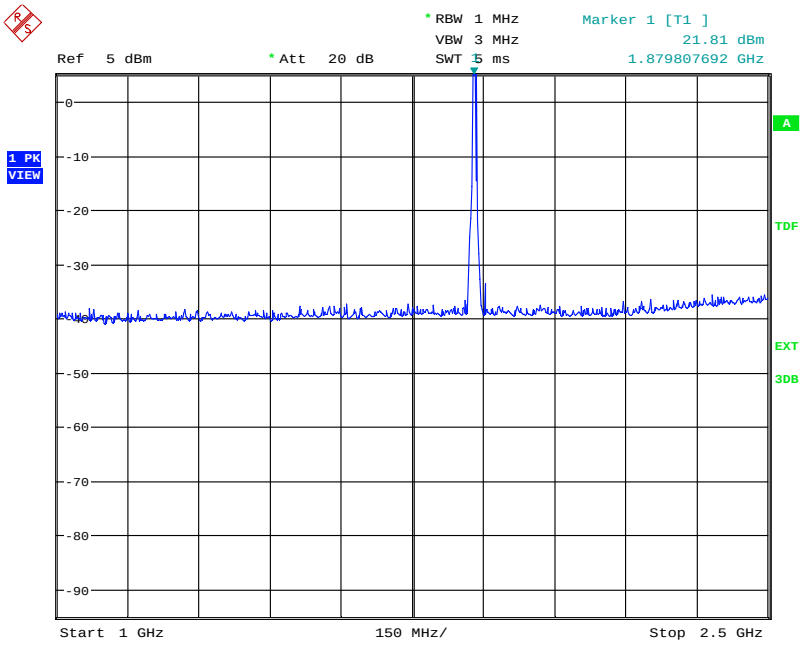
Date: 13.MAY.2016 08:53:02

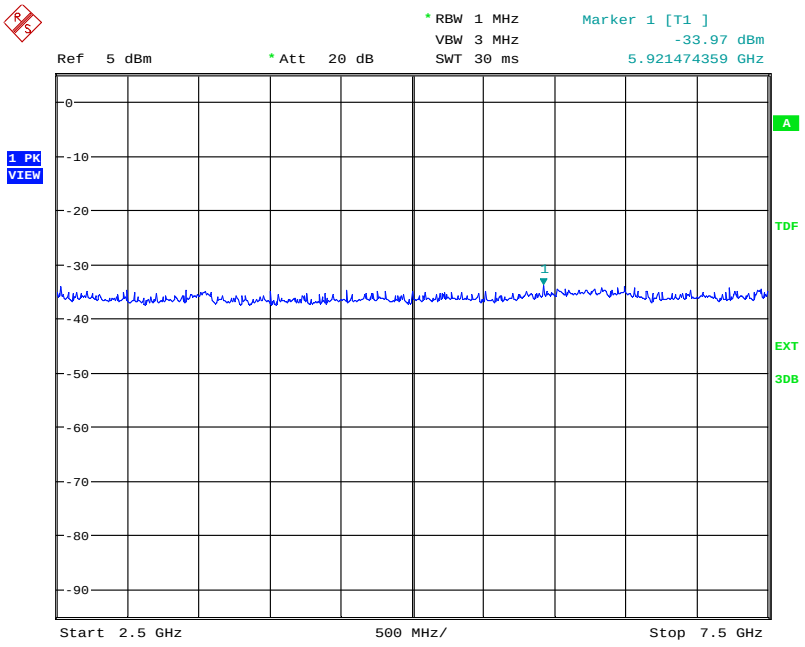
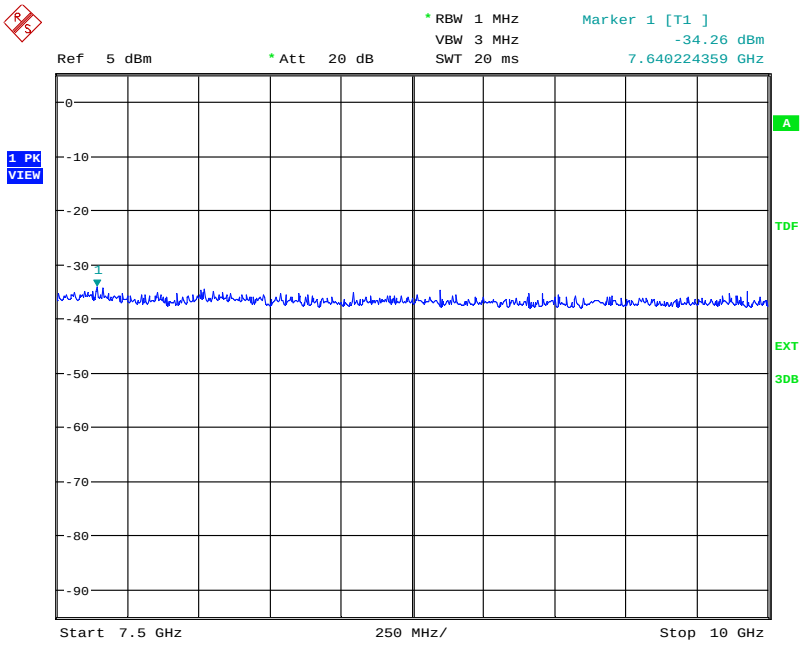
7.5 GHz ~ 10 GHz

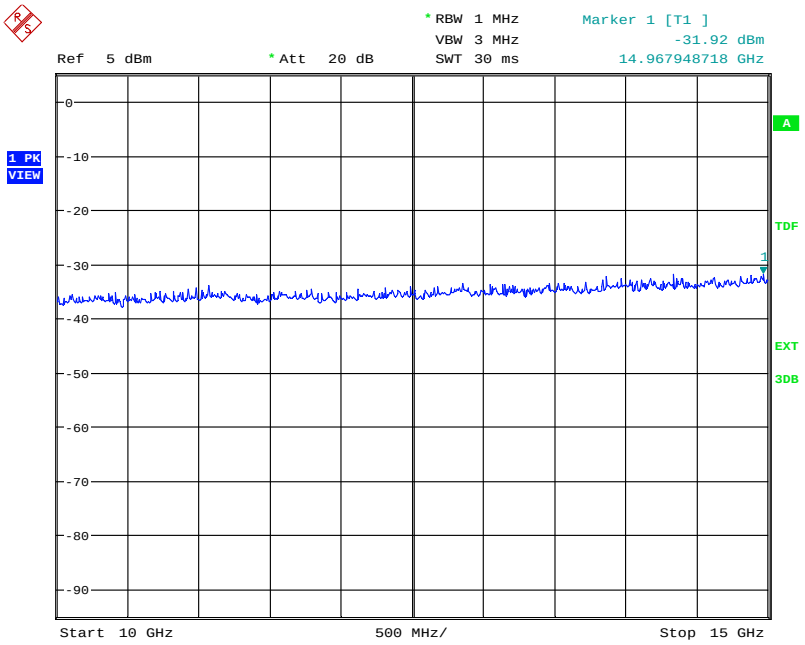
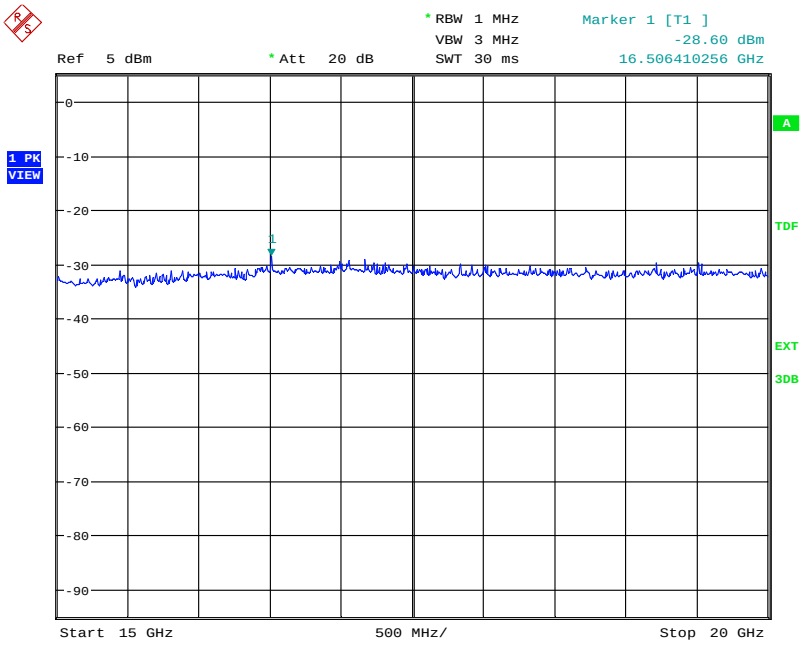


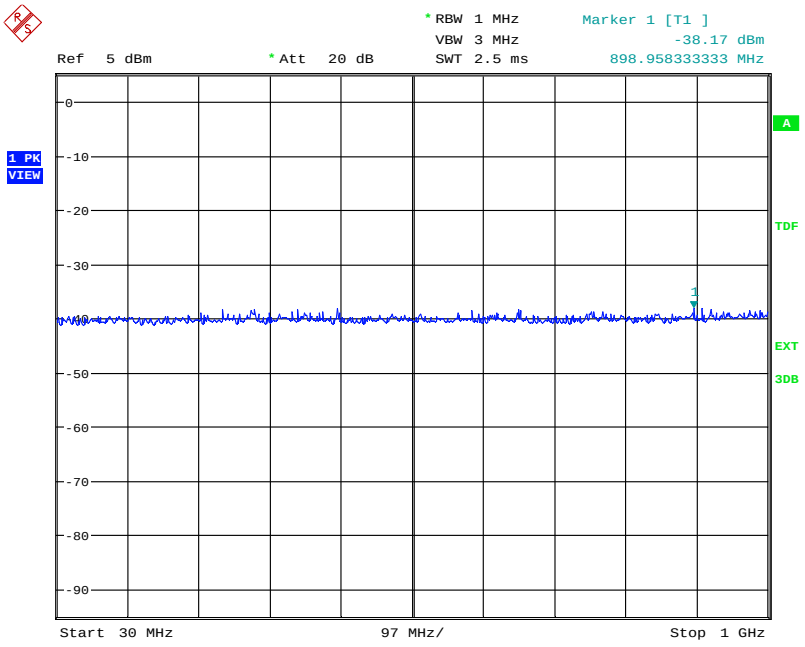
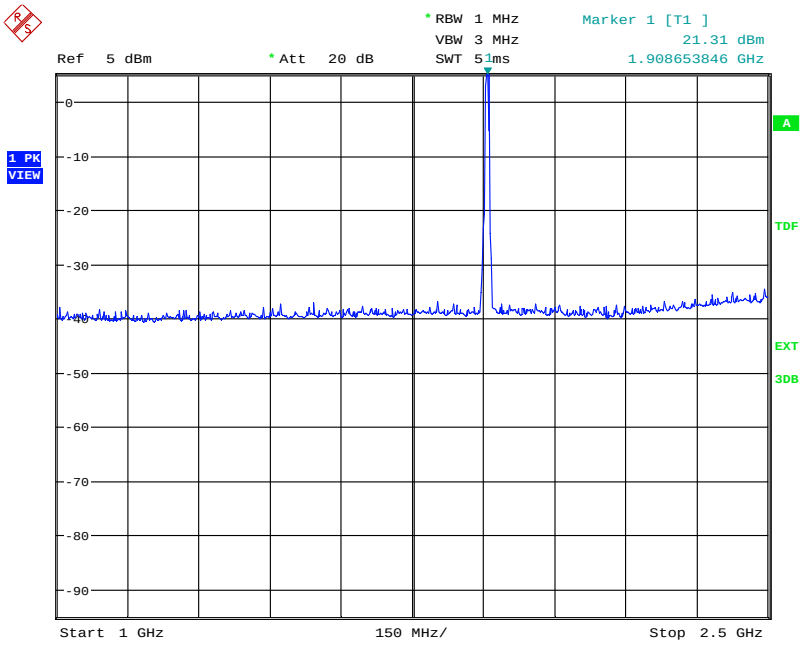
Date: 13.MAY.2016 08:53:32

SIM 1	
Operate Band: WCDMA Band II Frequency: 1852.4 MHz	Modulation Type: QPSK
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

SIM 1	
Operate Band: WCDMA Band II Frequency: 1880.0 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	 Date: 13.MAY.2016 08:55:02
1 GHz ~ 2.5 GHz	 Date: 13.MAY.2016 08:55:32

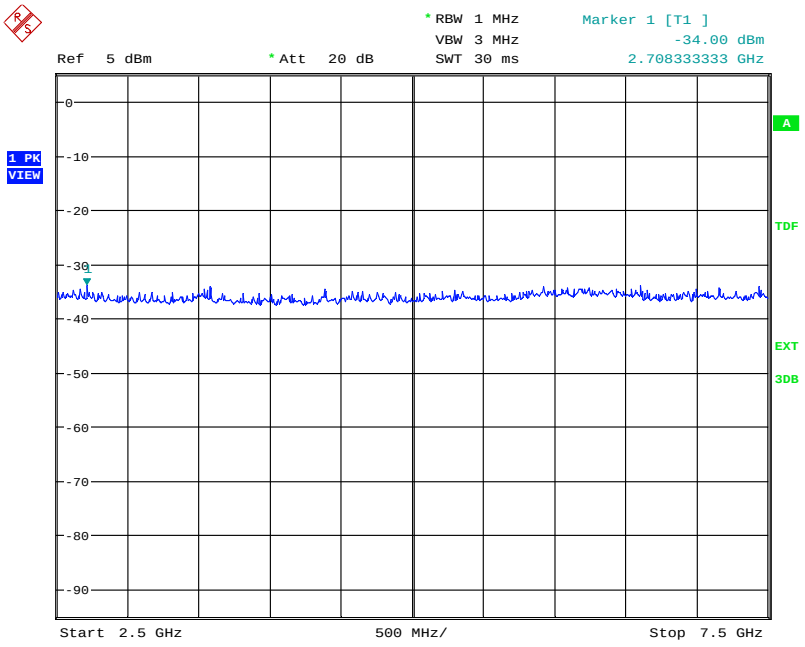
SIM 1	
Operate Band: WCDMA Band II Frequency: 1880.0 MHz	Modulation Type: QPSK
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

SIM 1	
Operate Band: WCDMA Band II Frequency: 1880.0 MHz	Modulation Type: QPSK
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

SIM 1	
Operate Band: WCDMA Band II Frequency: 1907.6 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	 Date: 13.MAY.2016 08:55:02
1 GHz ~ 2.5 GHz	 Date: 13.MAY.2016 08:58:30

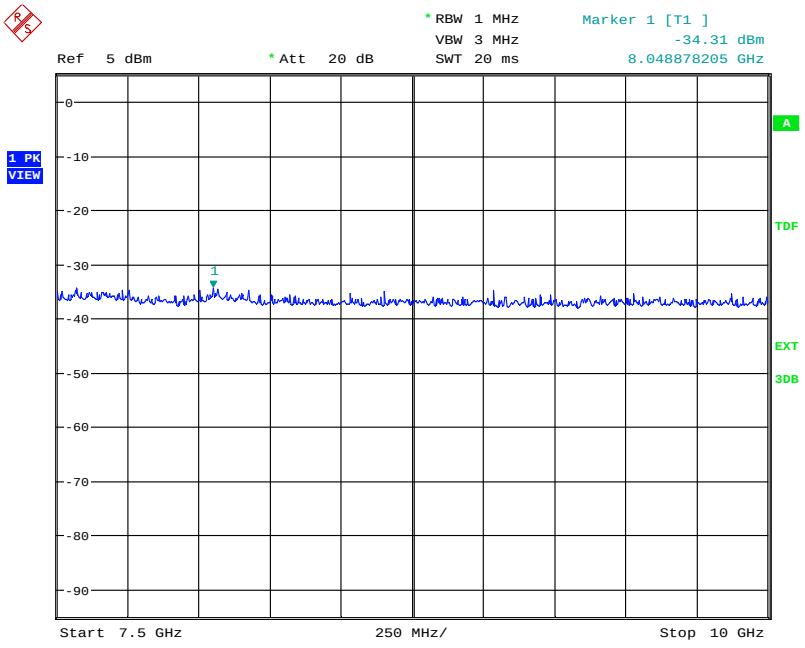
SIM 1			
Operate Band:	WCDMA Band II	Modulation Type:	QPSK
Frequency:	1907.6 MHz		

2.5 GHz ~ 7.5 GHz

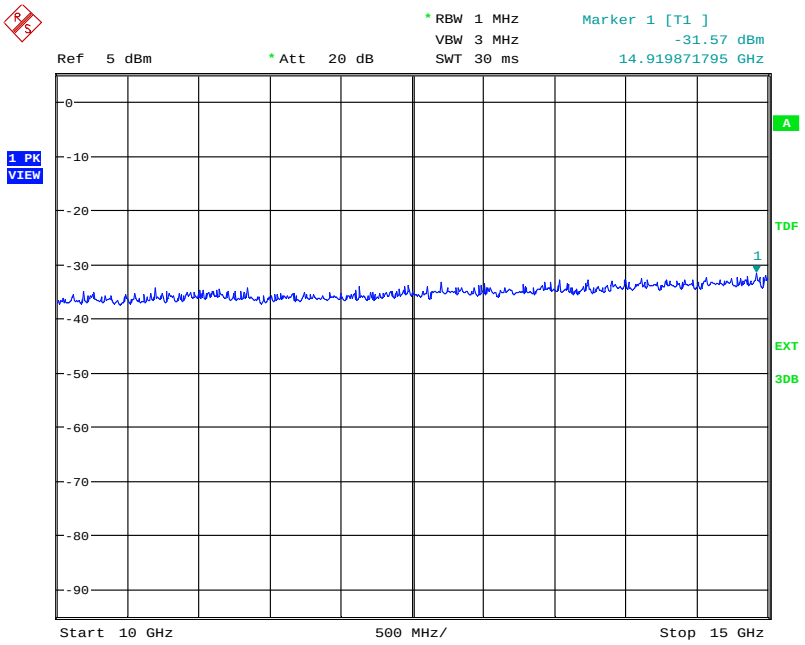
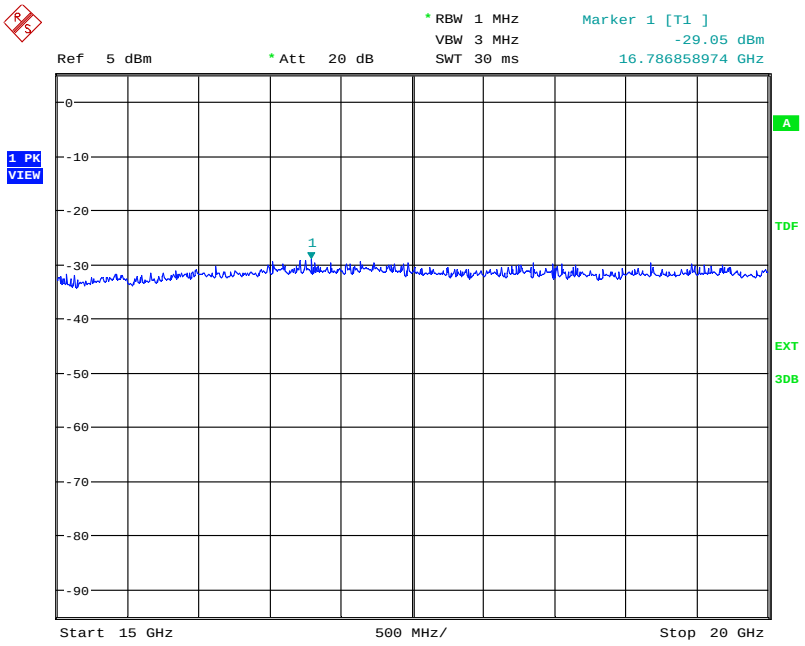


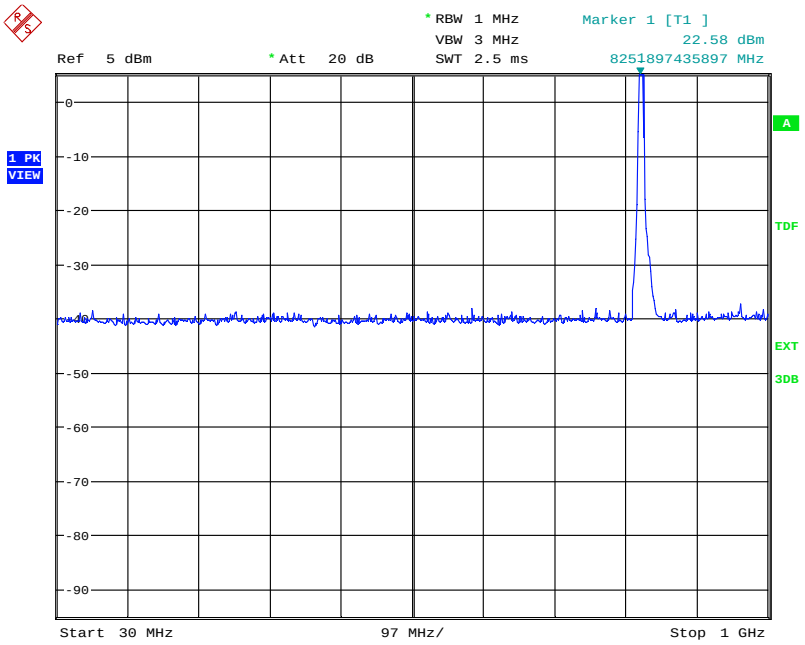
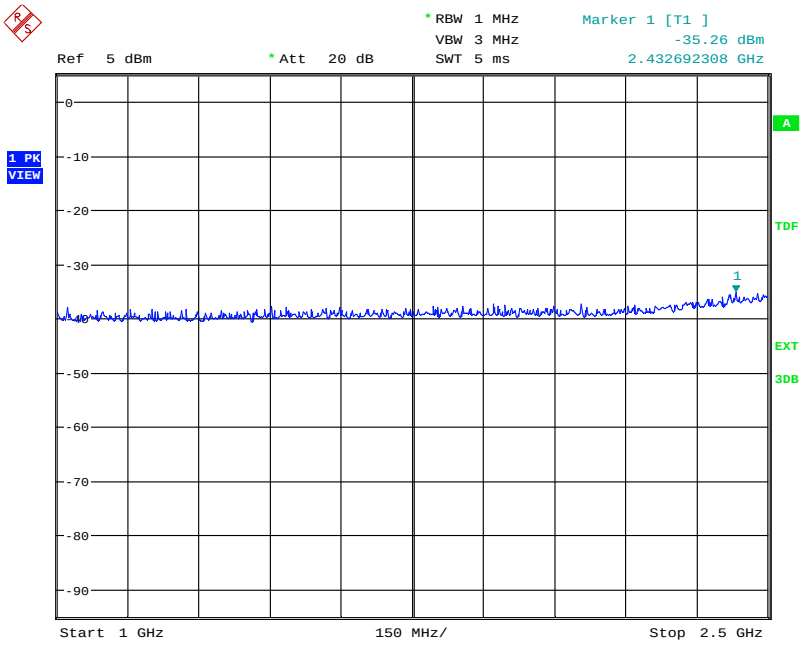
Date: 13.MAY.2016 08:58:59

7.5 GHz ~ 10 GHz



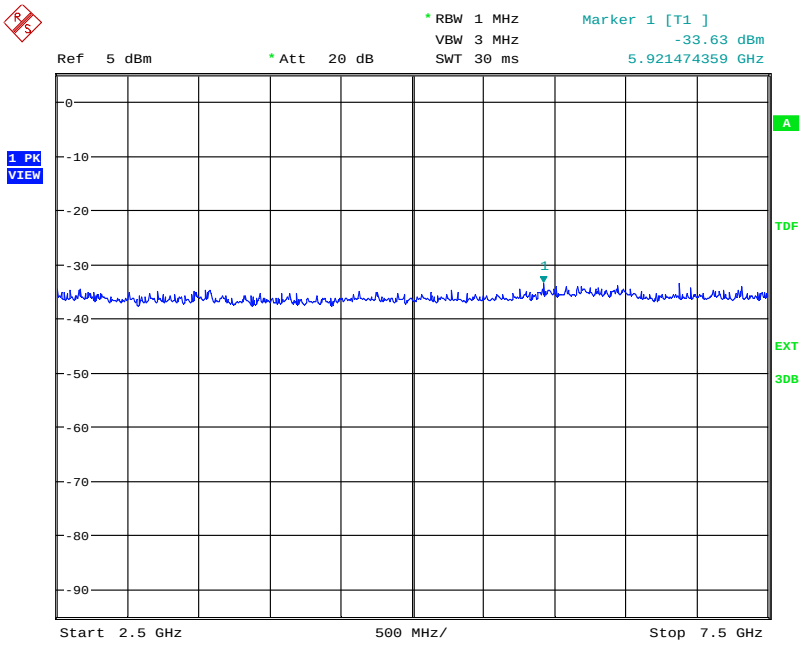
Date: 13.MAY.2016 08:59:29

SIM 1	
Operate Band: WCDMA Band II Frequency: 1907.6 MHz	Modulation Type: QPSK
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

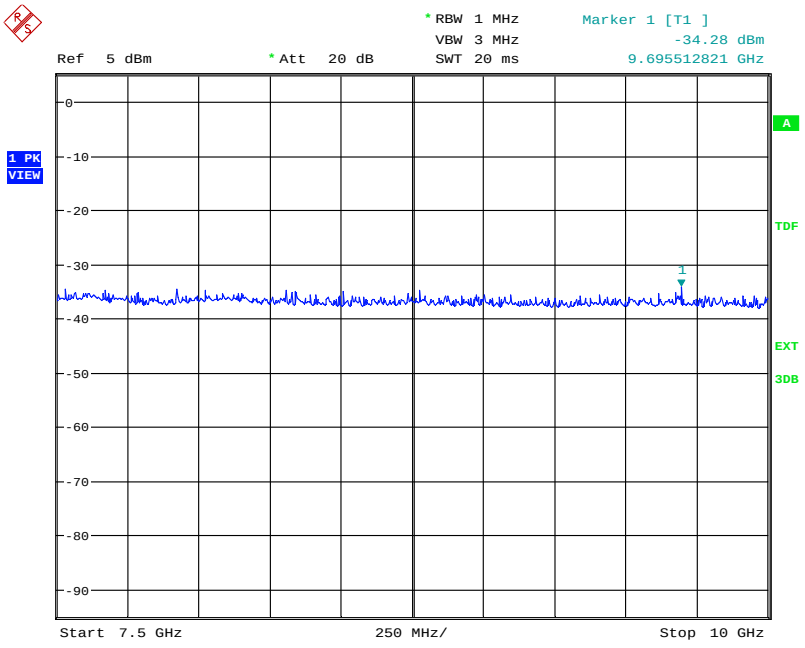
SIM 1	
Operate Band: WCDMA Band V Frequency: 826.4 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

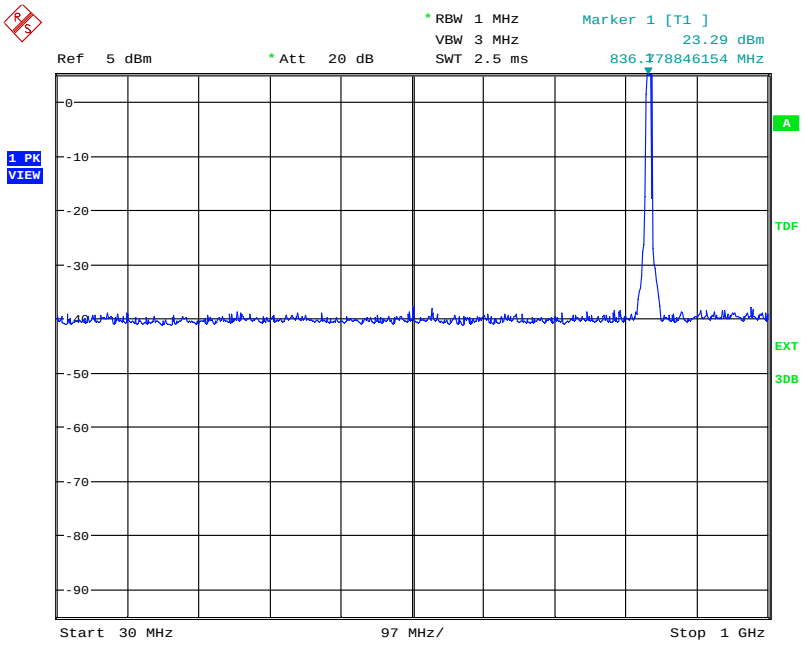
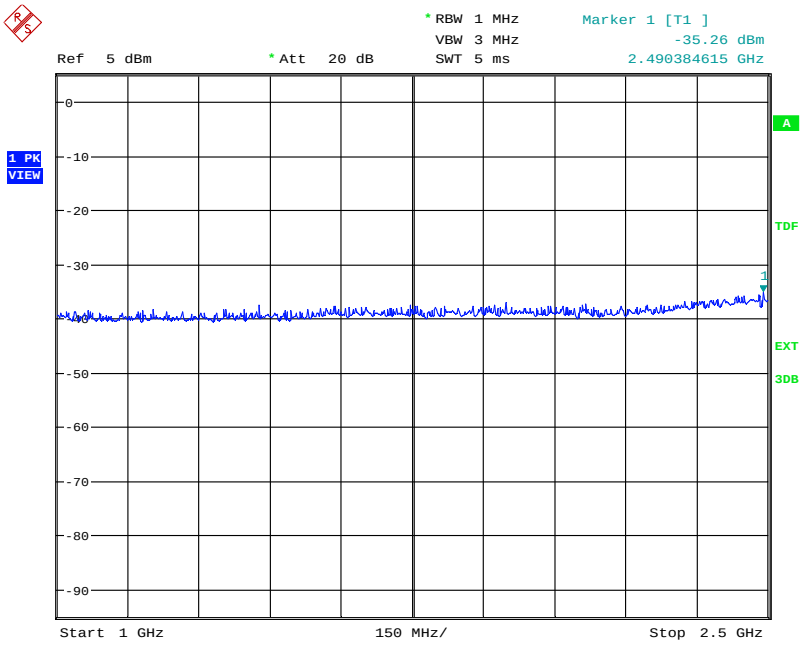
SIM 1			
Operate Band:	WCDMA Band V	Modulation Type:	QPSK
Frequency:	826.4 MHz		

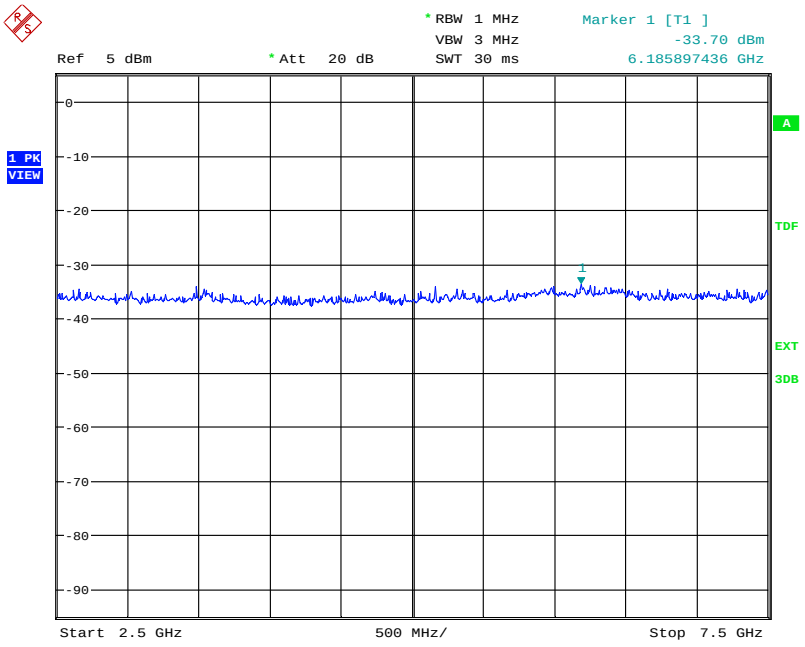
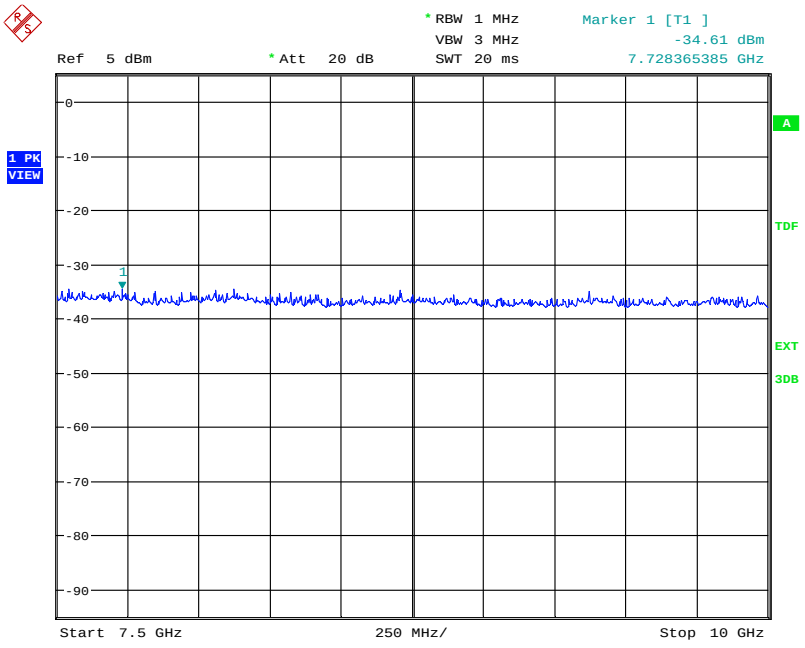
2.5 GHz ~ 7.5 GHz

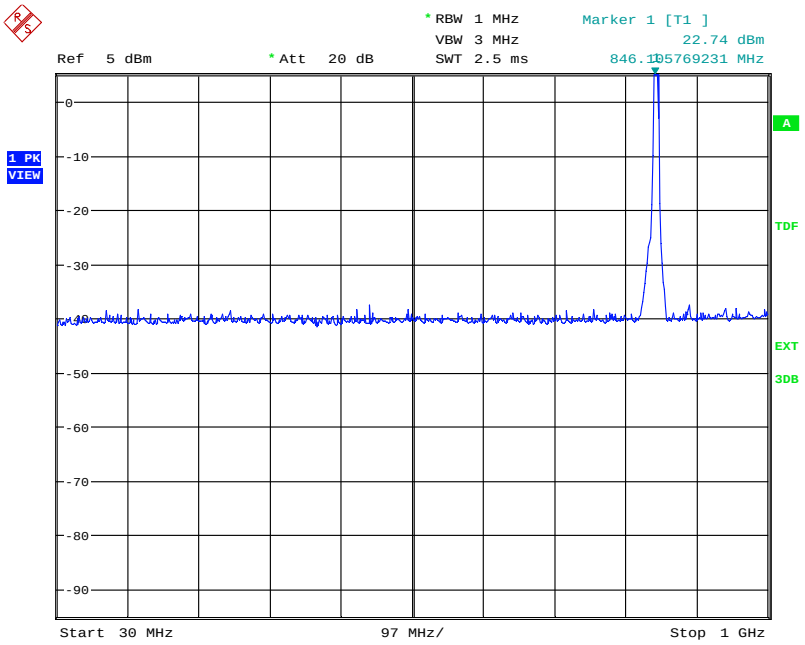
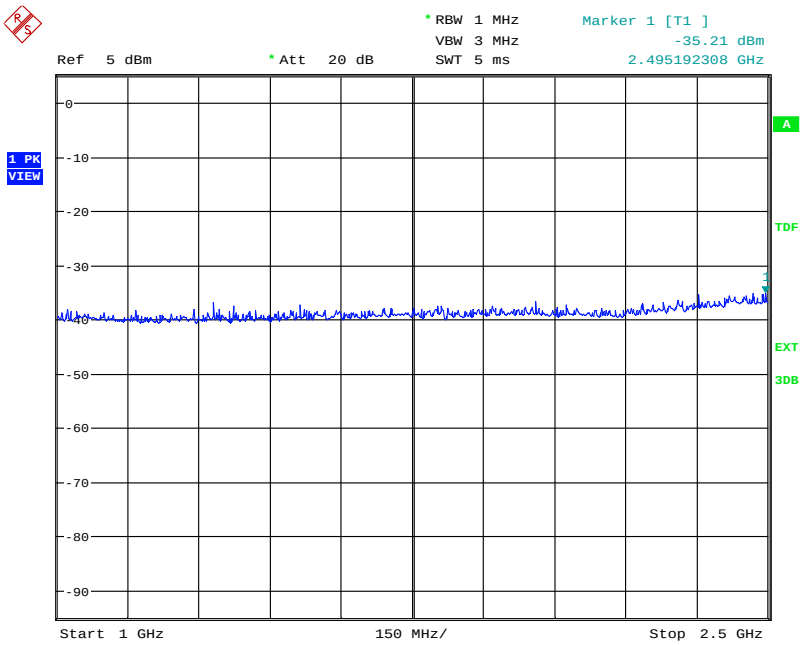


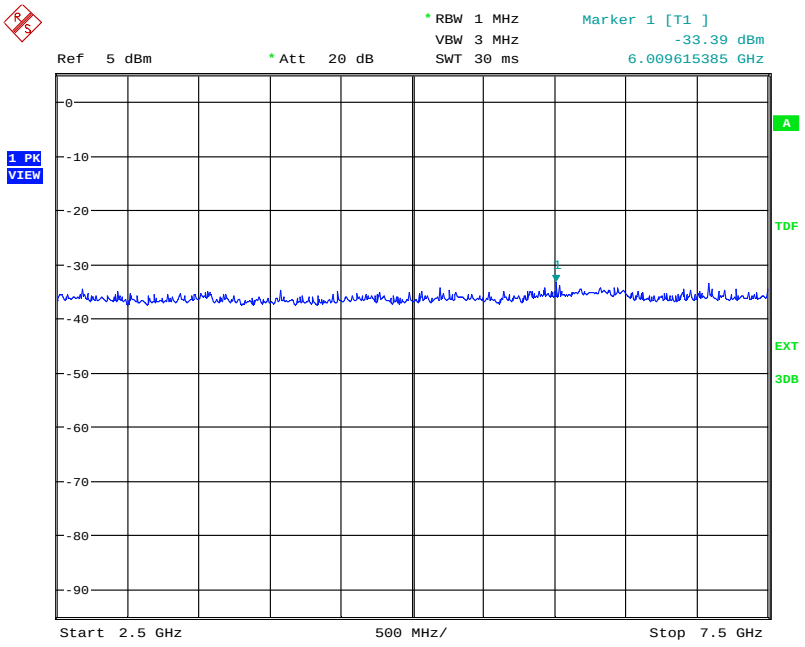
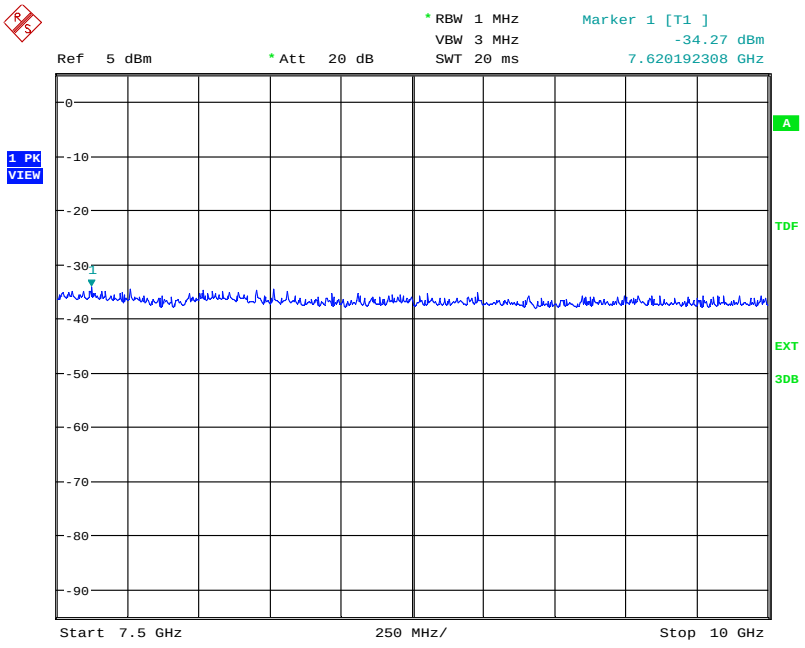
7.5 GHz ~ 10 GHz

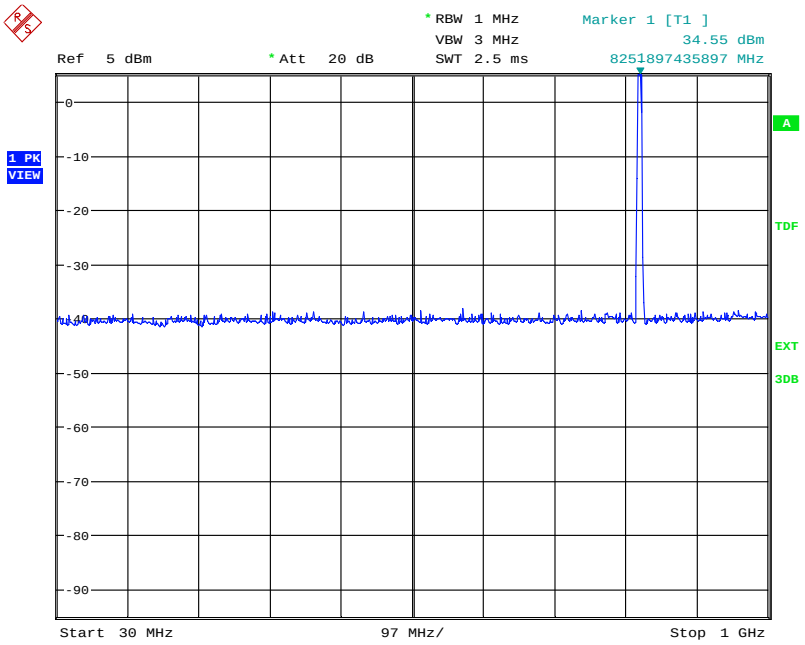
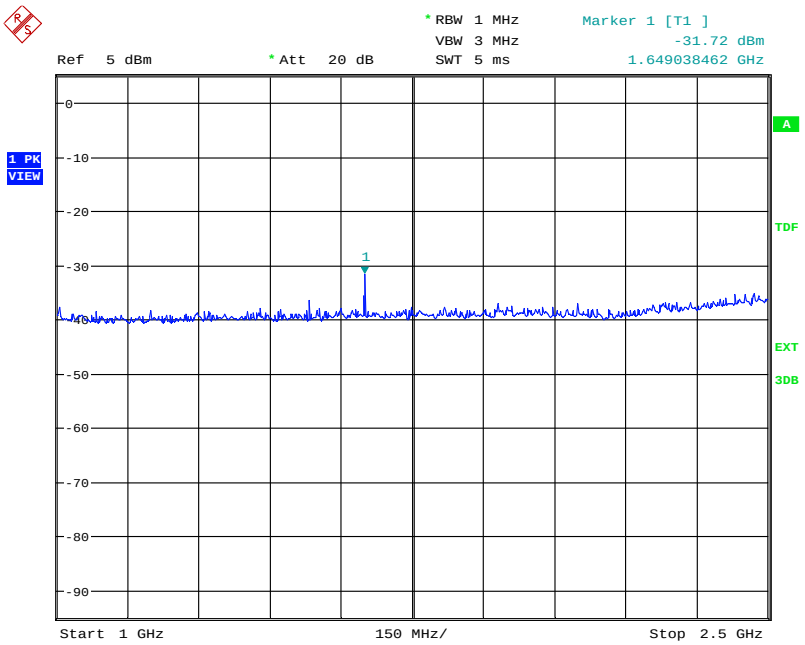


SIM 1	
Operate Band: WCDMA Band V Frequency: 836.6 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

SIM 1	
Operate Band: WCDMA Band V Frequency: 836.6 MHz	Modulation Type: QPSK
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

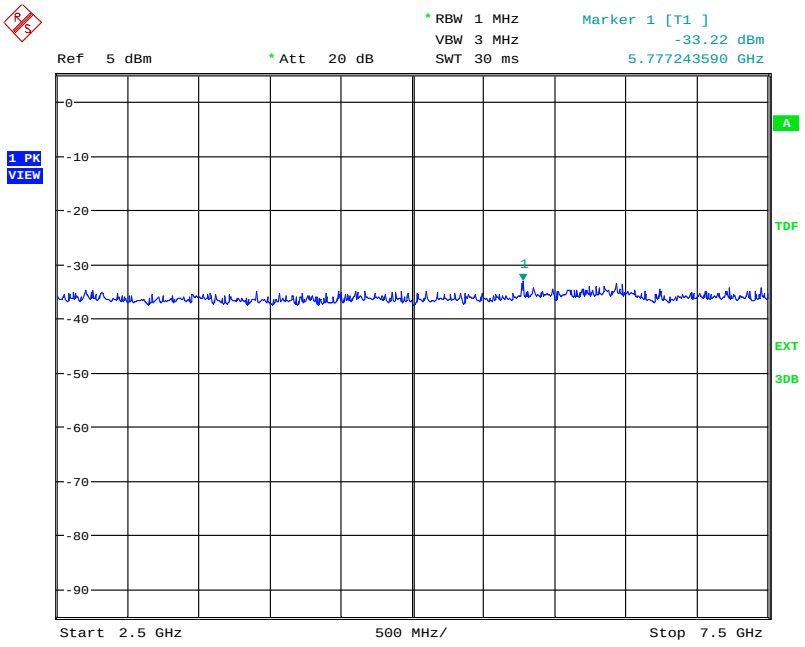
SIM 1	
Operate Band: WCDMA Band V Frequency: 846.6 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

SIM 1	
Operate Band: WCDMA Band V Frequency: 846.6 MHz	Modulation Type: QPSK
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

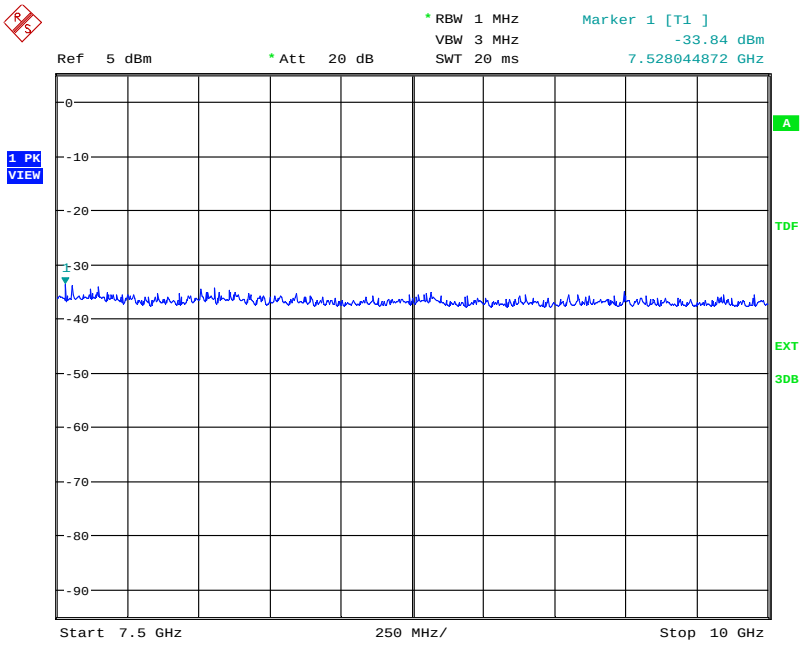
SIM 2	
Operate Band: GPRS 850 Frequency: 824.2 MHz	Modulation Type: GMSK
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

SIM 2			
Operate Band:	GPRS 850	Modulation Type:	GMSK
Frequency:	824.2 MHz		

2.5 GHz ~ 7.5 GHz

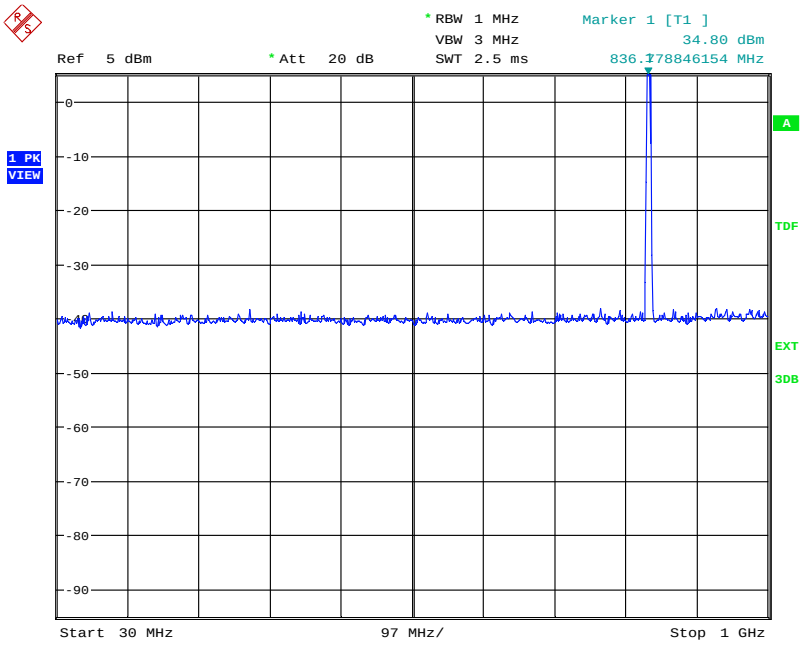


7.5 GHz ~ 10 GHz

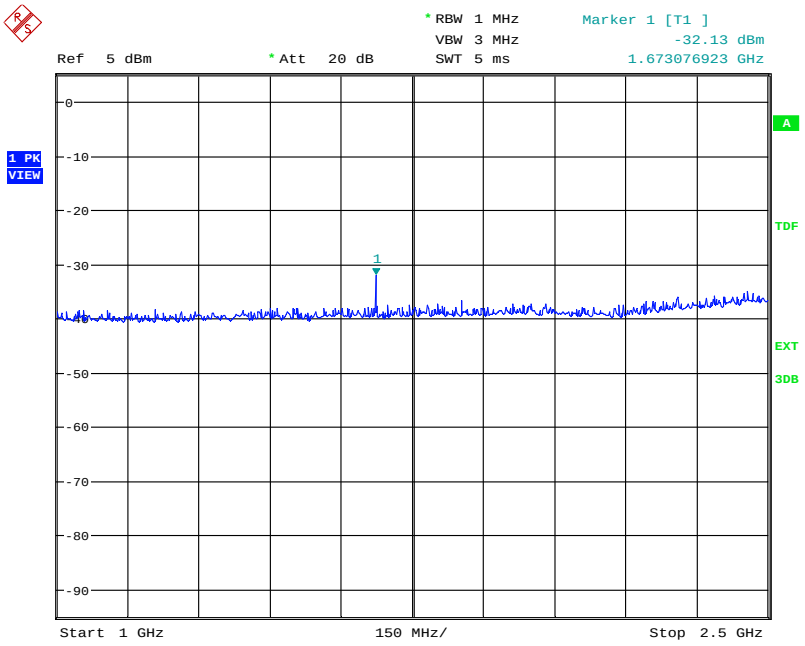


SIM 2			
Operate Band:	GPRS 850	Modulation Type:	GMSK
Frequency:	836.6 MHz		

30 MHz ~ 1 GHz

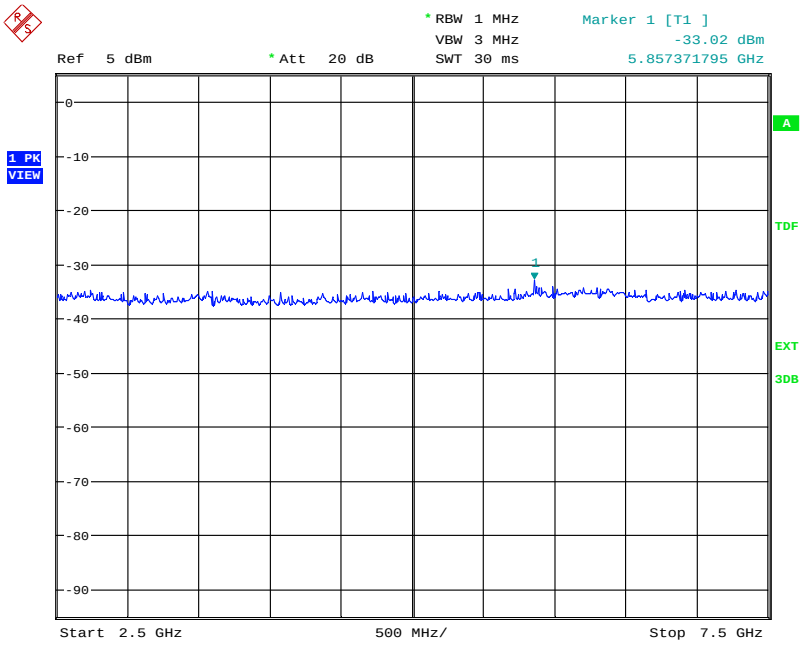


1 GHz ~ 2.5 GHz



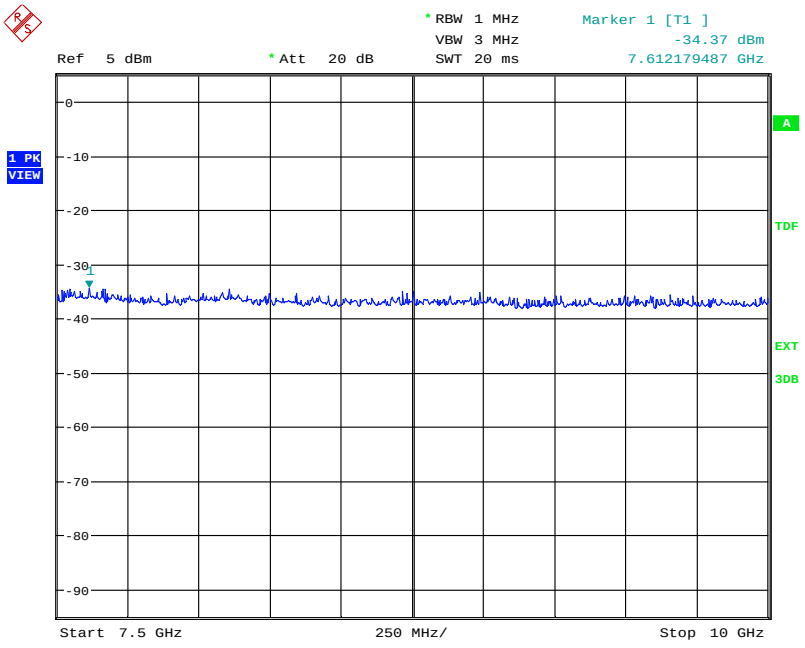
SIM 2			
Operate Band:	GPRS 850	Modulation Type:	GMSK
Frequency:	836.6 MHz		

2.5 GHz ~ 7.5 GHz

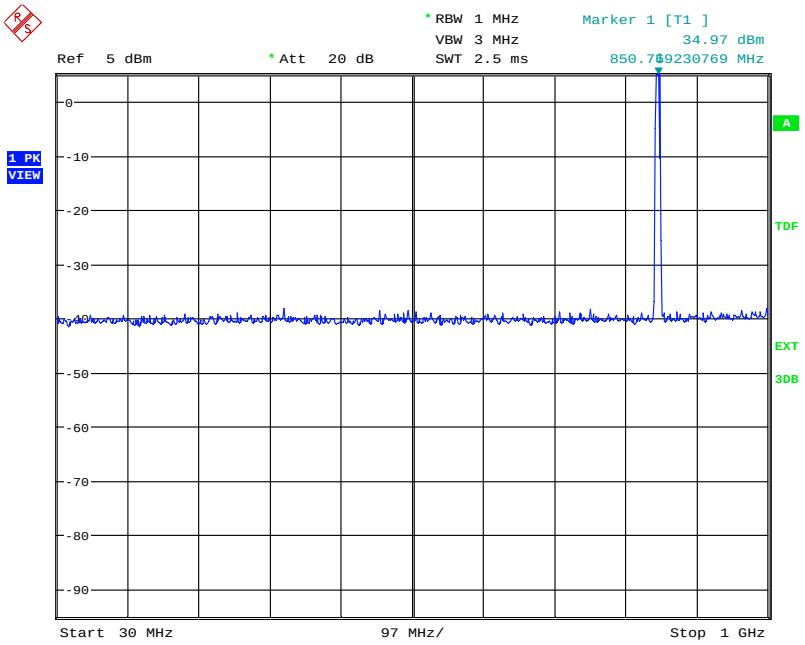
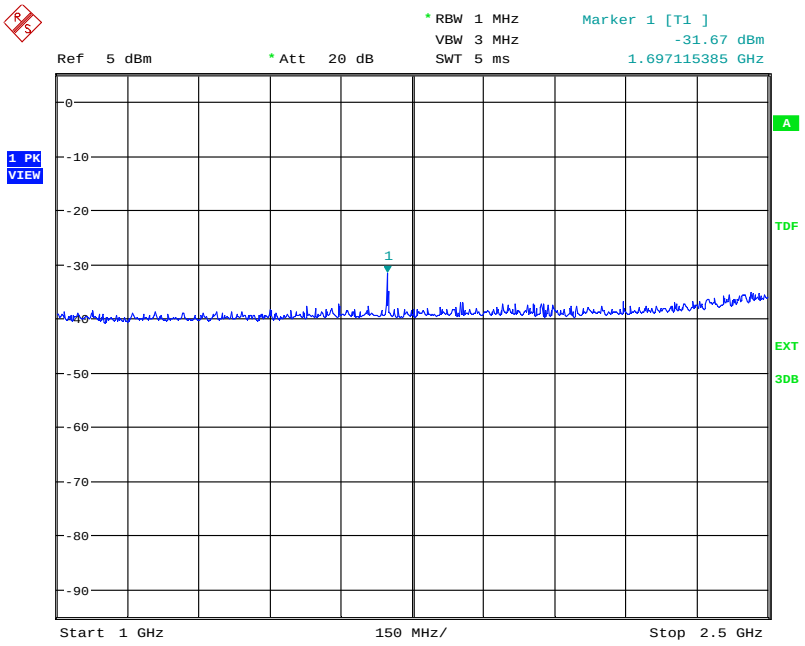


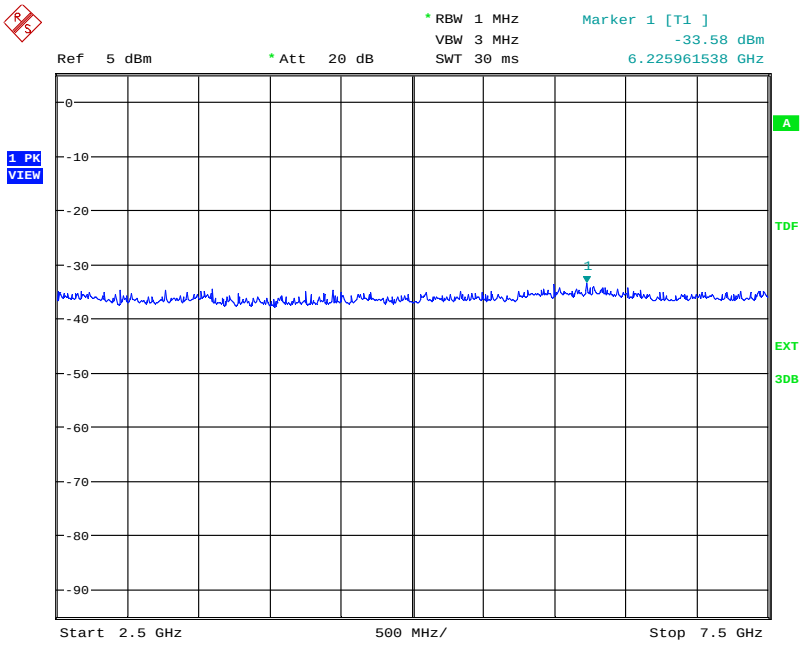
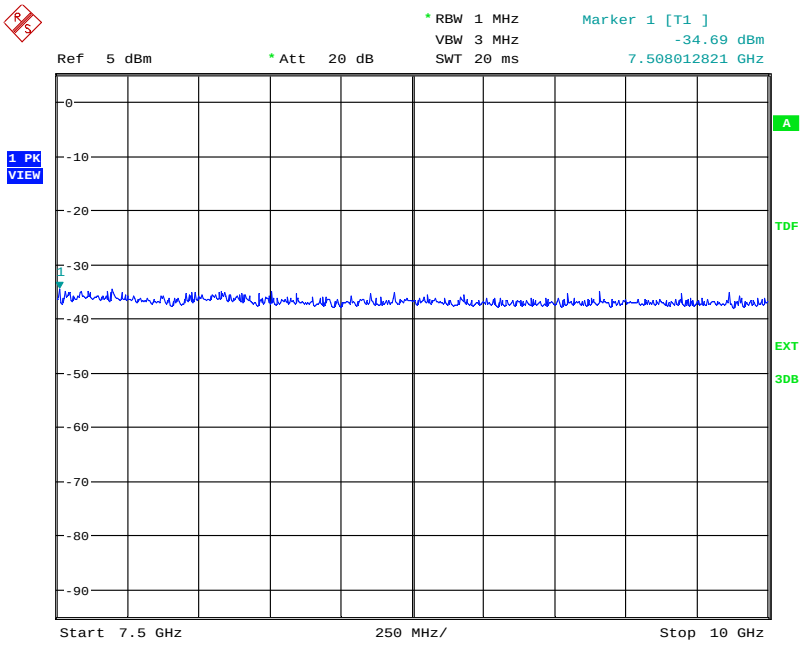
Date: 13.MAY.2016 11:29:02

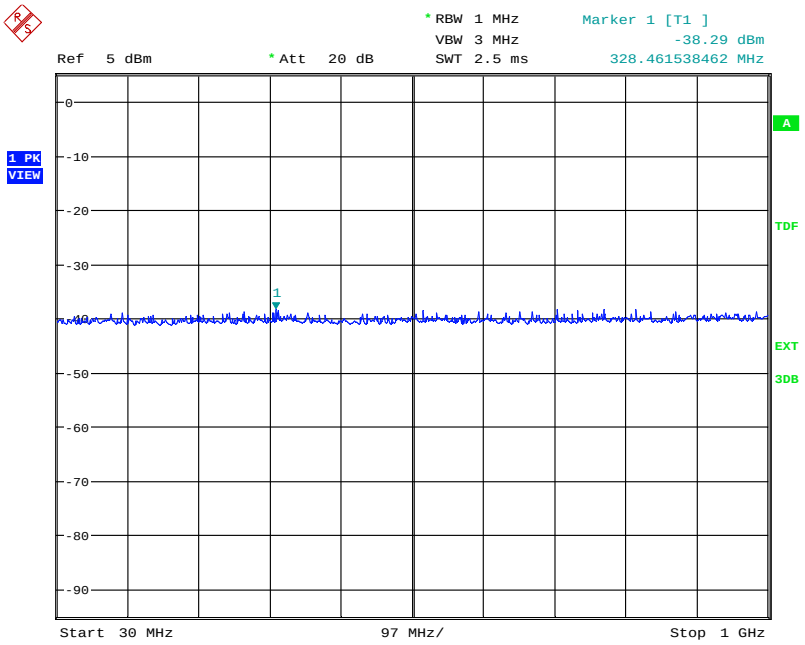
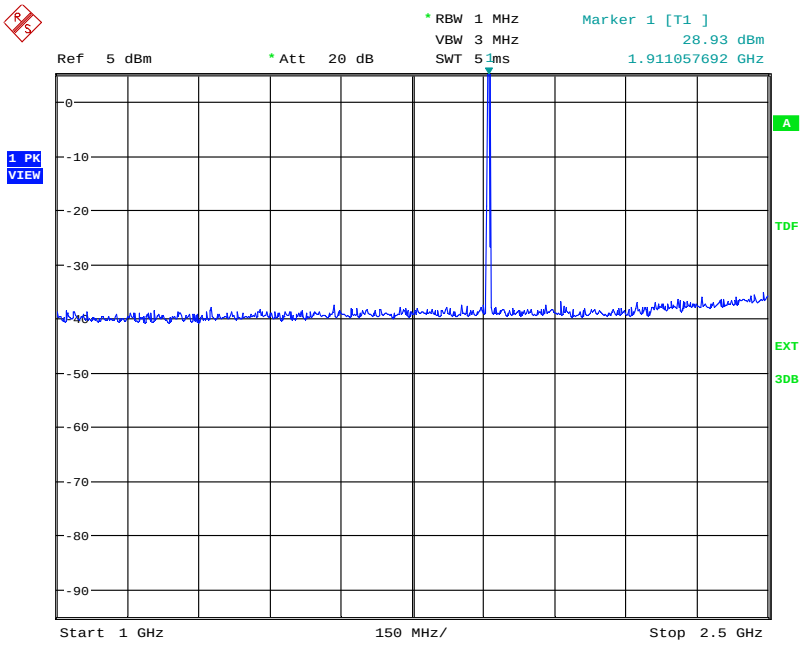
7.5 GHz ~ 10 GHz

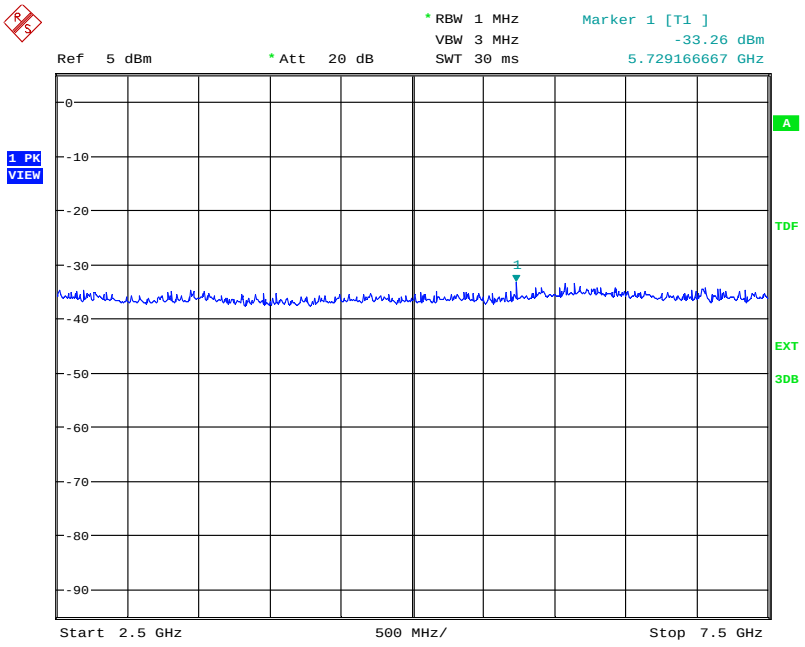
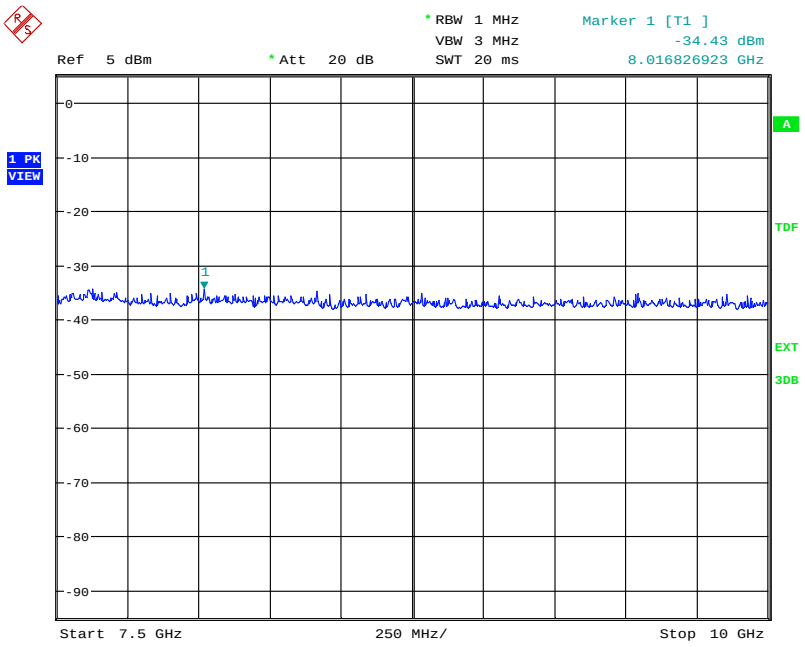


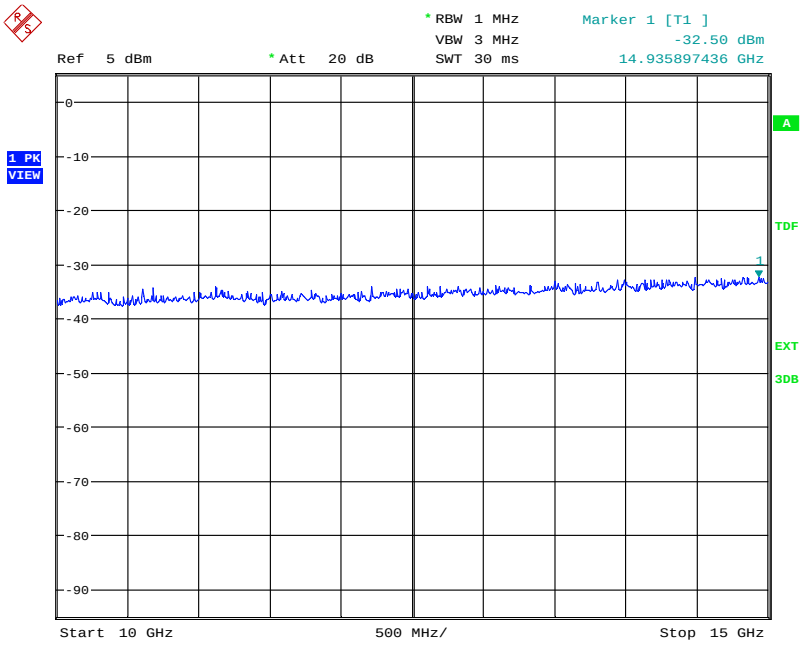
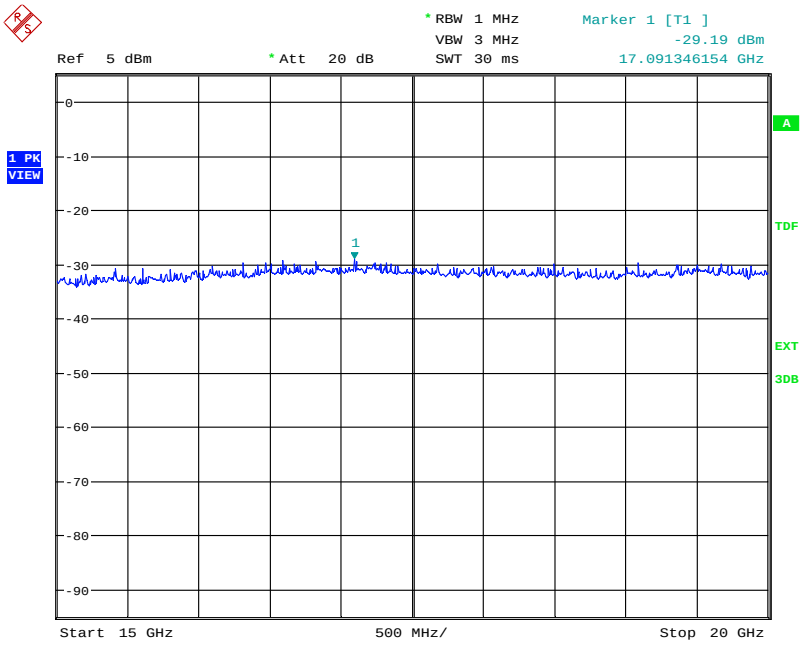
Date: 13.MAY.2016 11:29:32

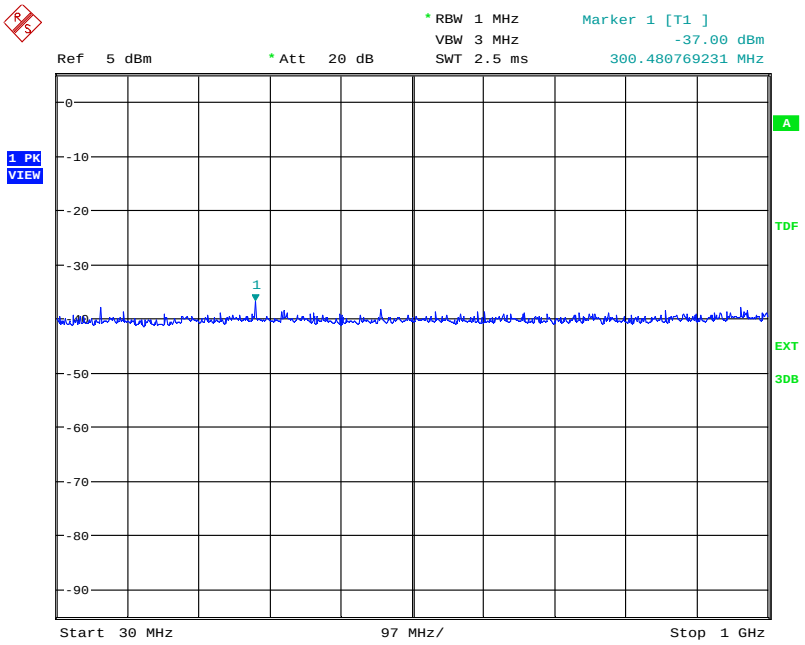
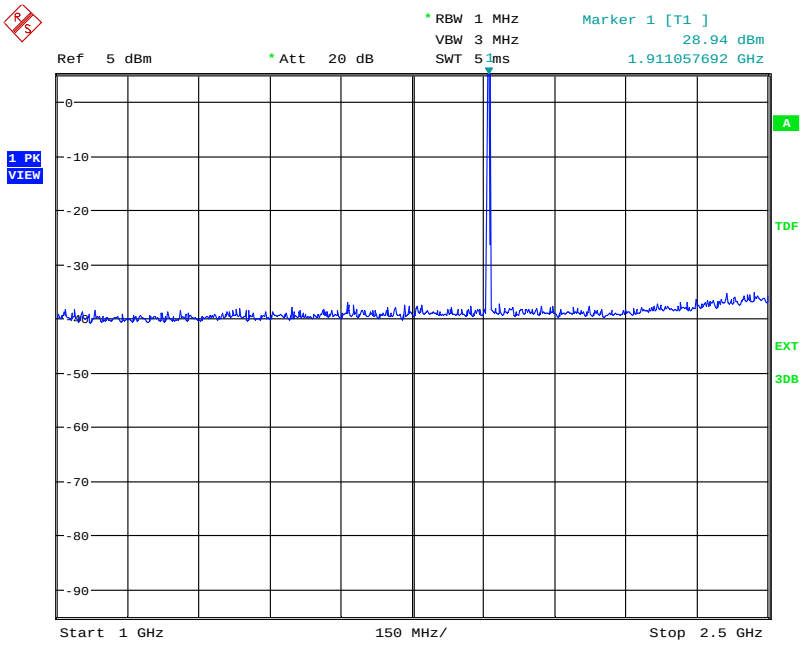
SIM 2	
Operate Band: GPRS 850 Modulation Type: GMSK Frequency: 848.8 MHz	
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

SIM 2	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 848.8 MHz	
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

SIM 2	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1850.2 MHz	
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

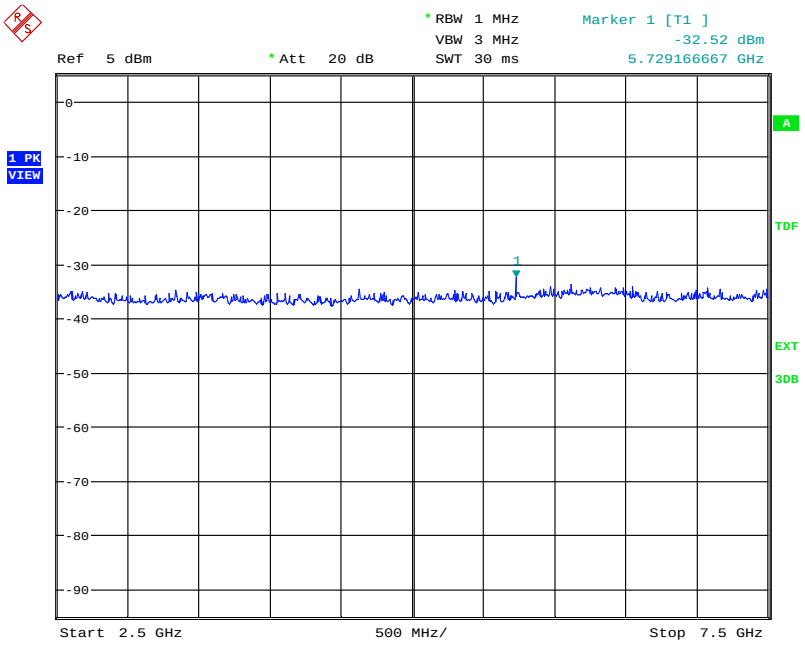
SIM 2	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 848.8 MHz	
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

SIM 2	
Operate Band: GPRS 850	Modulation Type: GMSK
Frequency: 848.8 MHz	
10 GHz ~ 15 GHz	 Date: 13.MAY.2016 11:54:43
15 GHz ~ 20 GHz	 Date: 13.MAY.2016 11:55:12

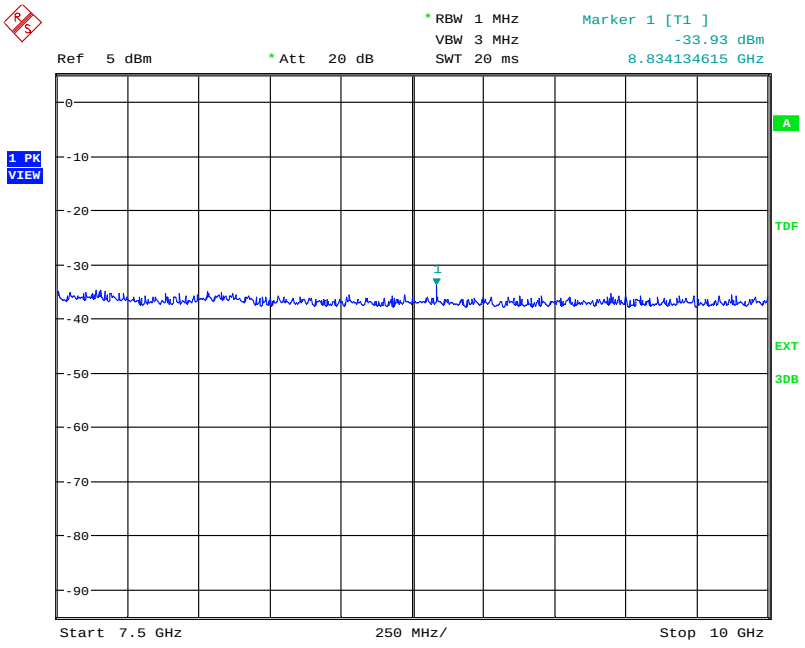
SIM 2	
Operate Band: GPRS 1900 Modulation Type: GMSK Frequency: 1880.0 MHz	
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

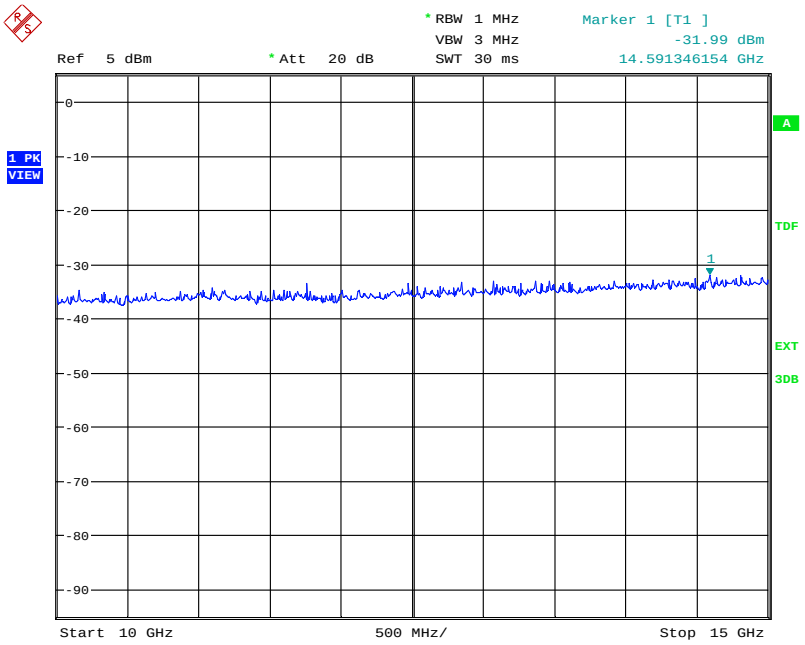
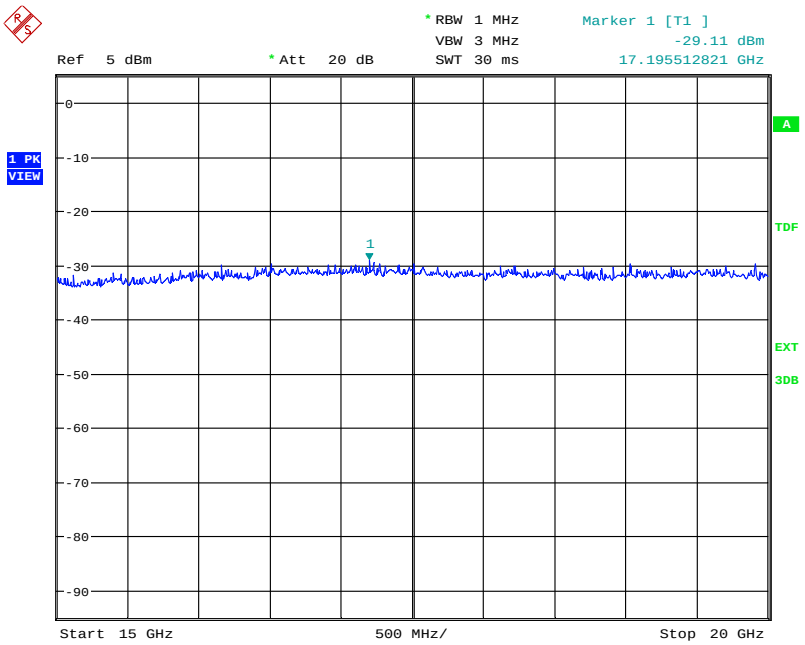
SIM 2			
Operate Band:	GPRS 1900	Modulation Type:	GMSK
Frequency:	1880.0 MHz		

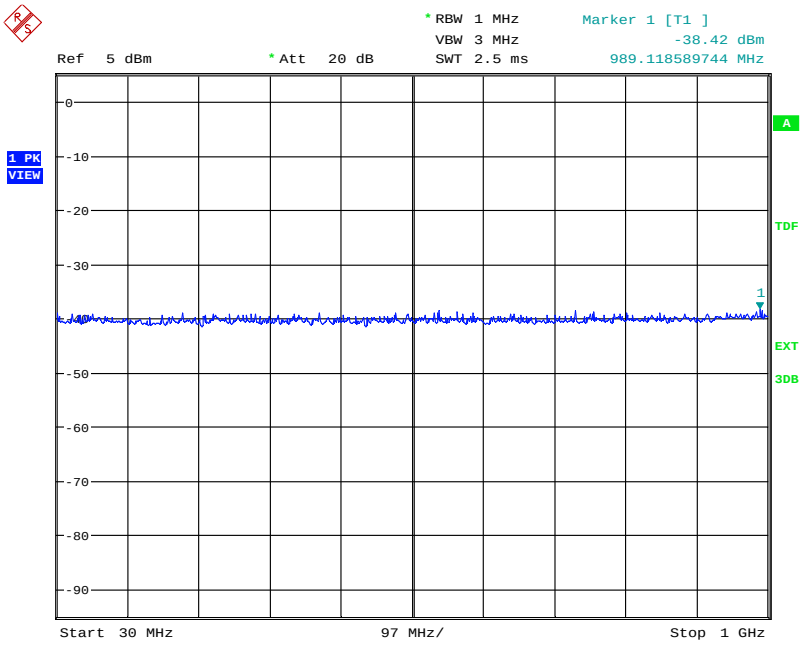
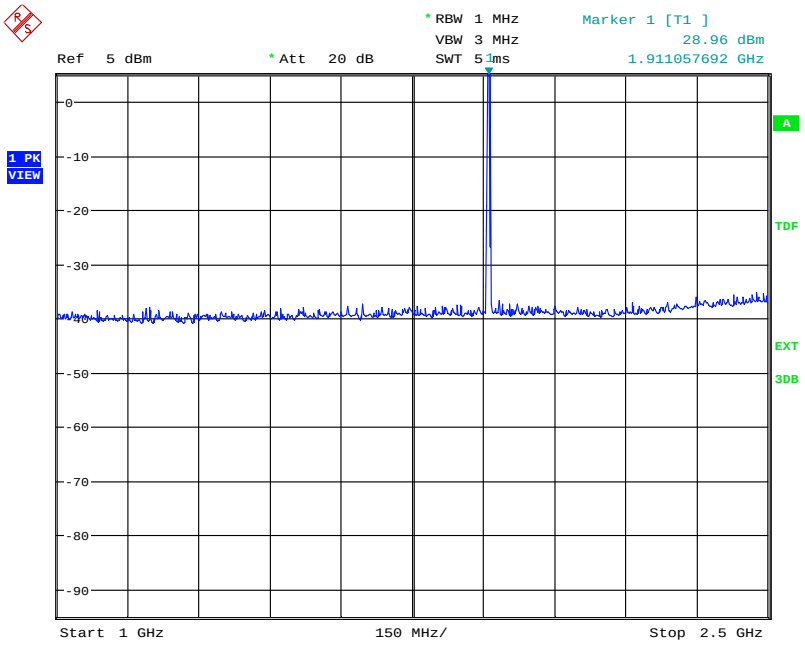
2.5 GHz ~ 7.5 GHz



7.5 GHz ~ 10 GHz

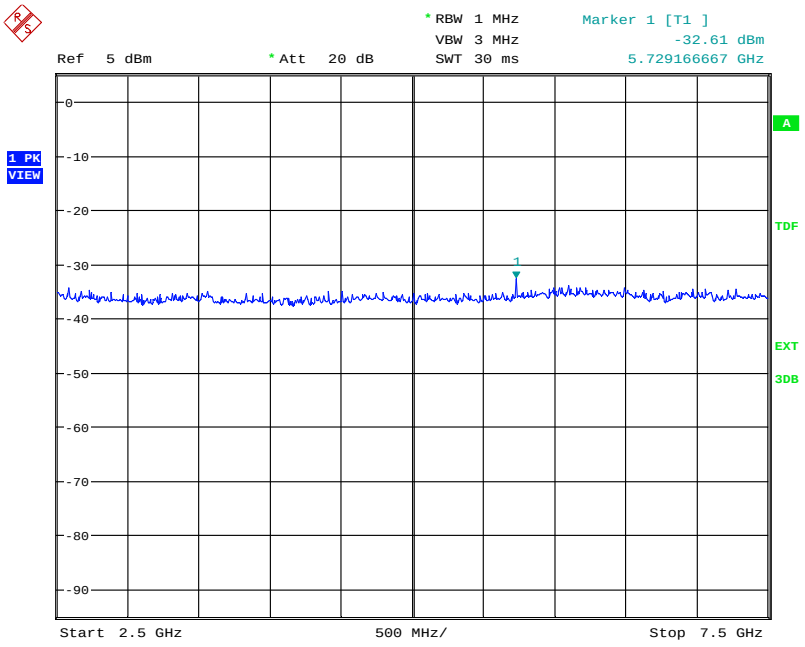


SIM 2	
Operate Band: GPRS 1900	Modulation Type: GMSK
Frequency: 1880.0 MHz	
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

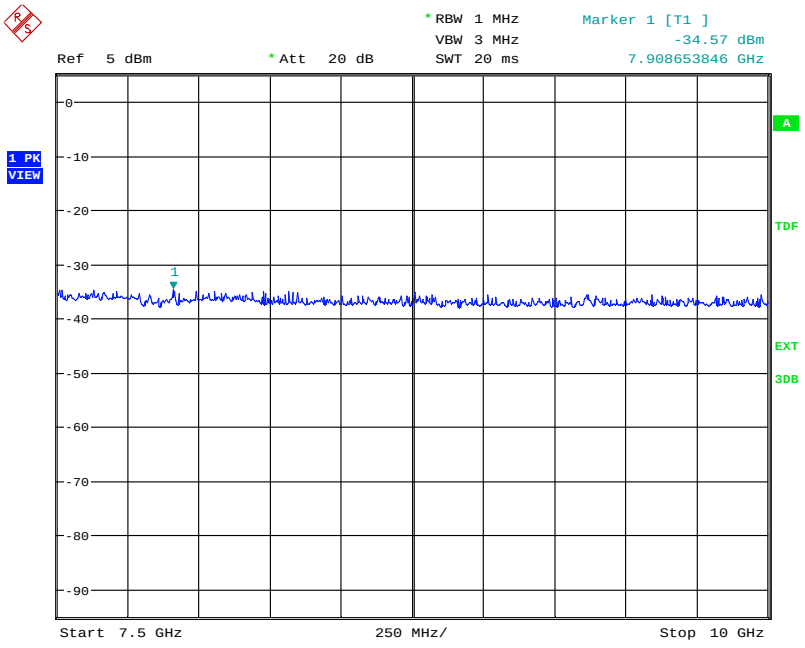
SIM 2	
Operate Band: GPRS 1900 Modulation Type: GMSK Frequency: 1909.8 MHz	
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

SIM 2			
Operate Band:	GPRS 1900	Modulation Type:	GMSK
Frequency:	1909.8 MHz		

2.5 GHz ~ 7.5 GHz

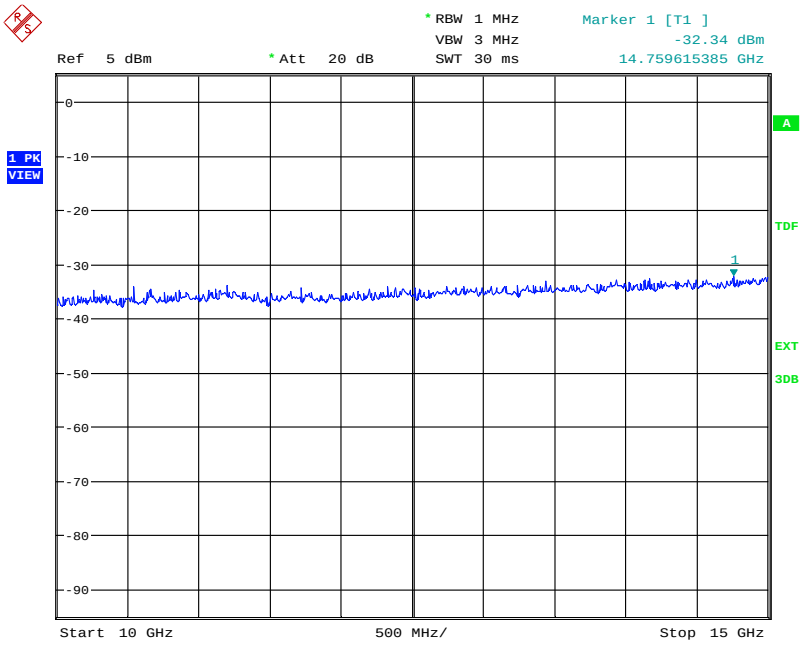


7.5 GHz ~ 10 GHz

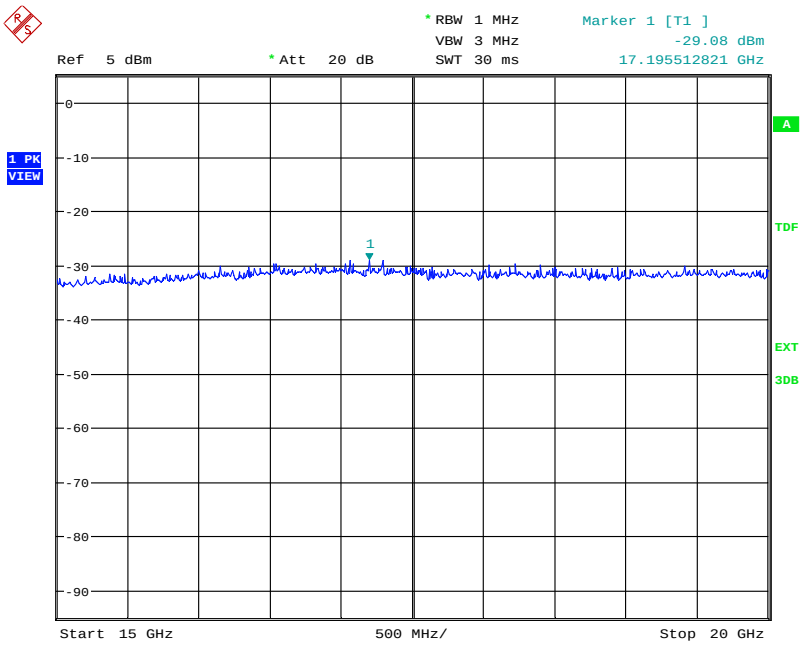


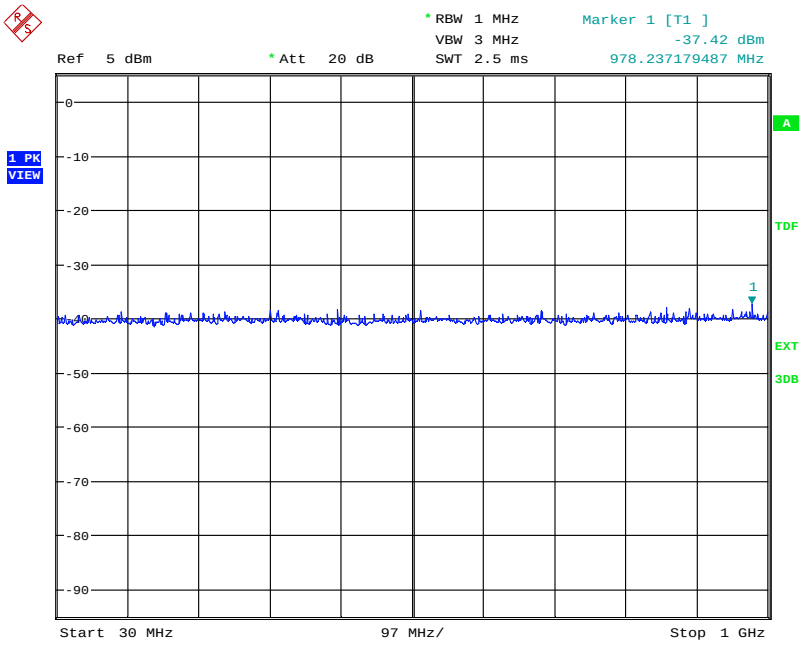
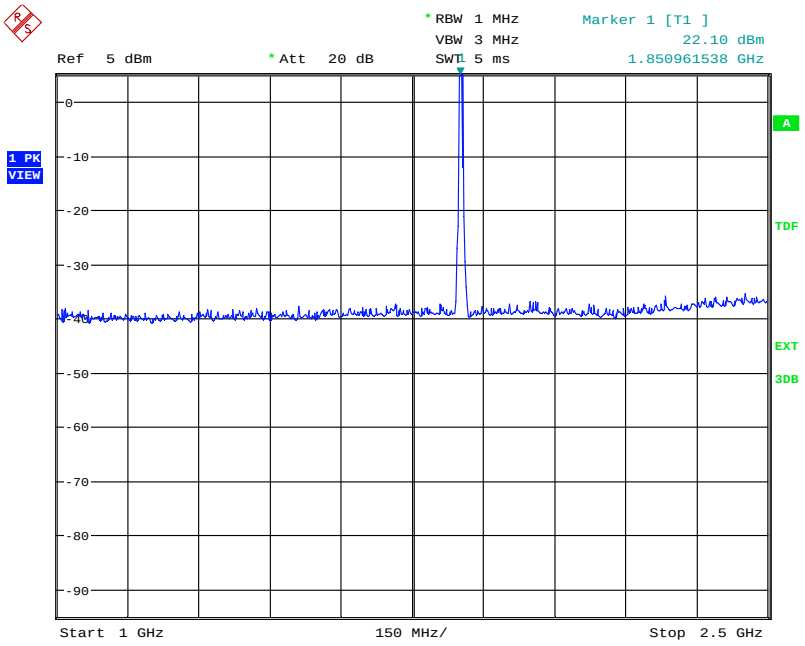
SIM 2			
Operate Band:	GPRS 1900	Modulation Type:	GMSK
Frequency:	1909.8 MHz		

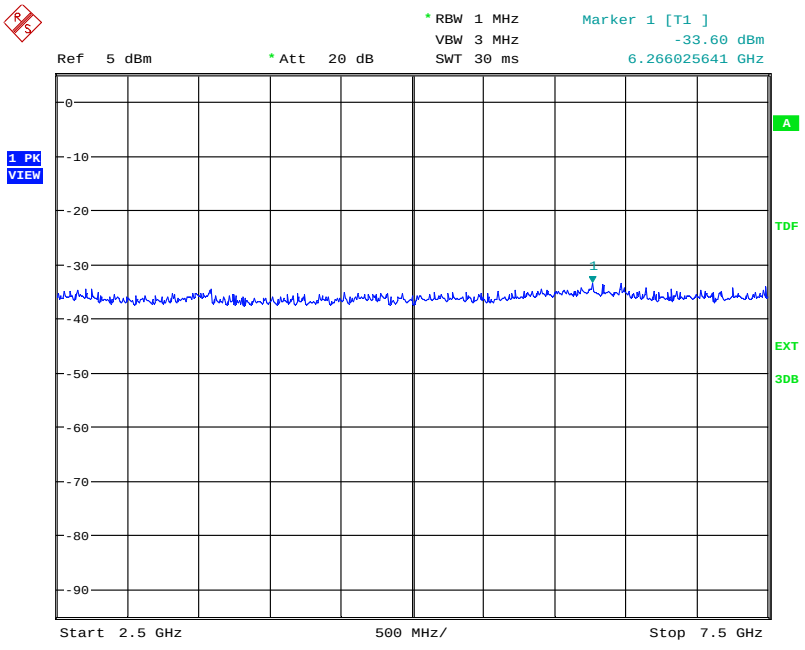
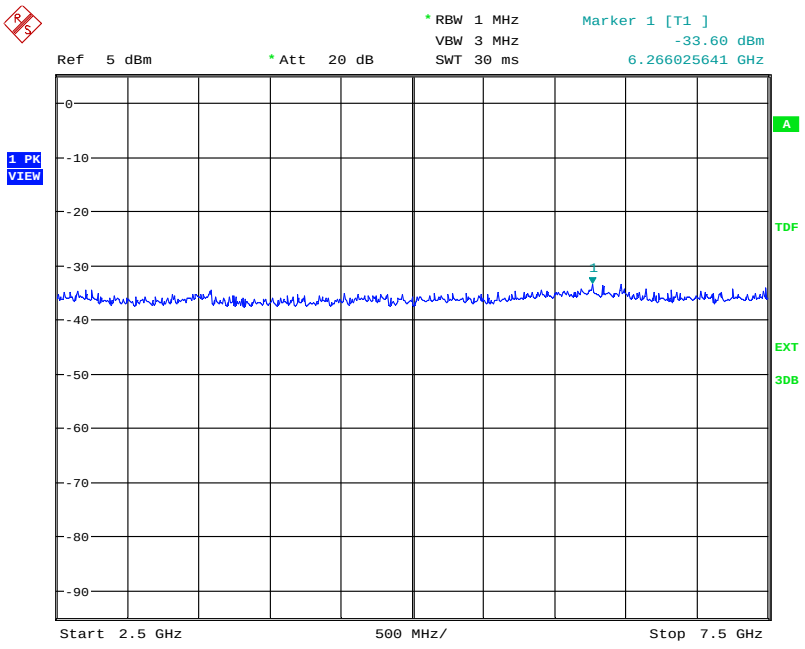
10 GHz ~ 15 GHz

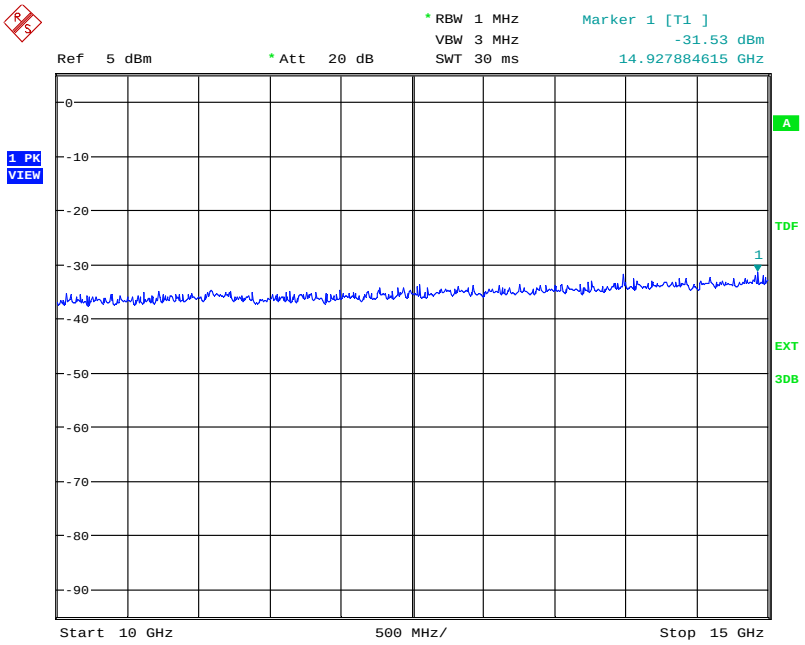
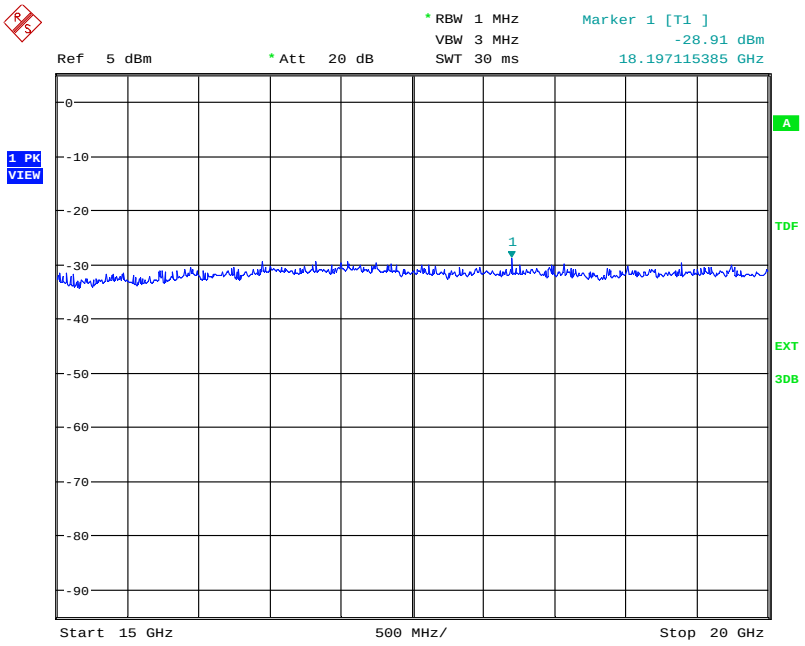


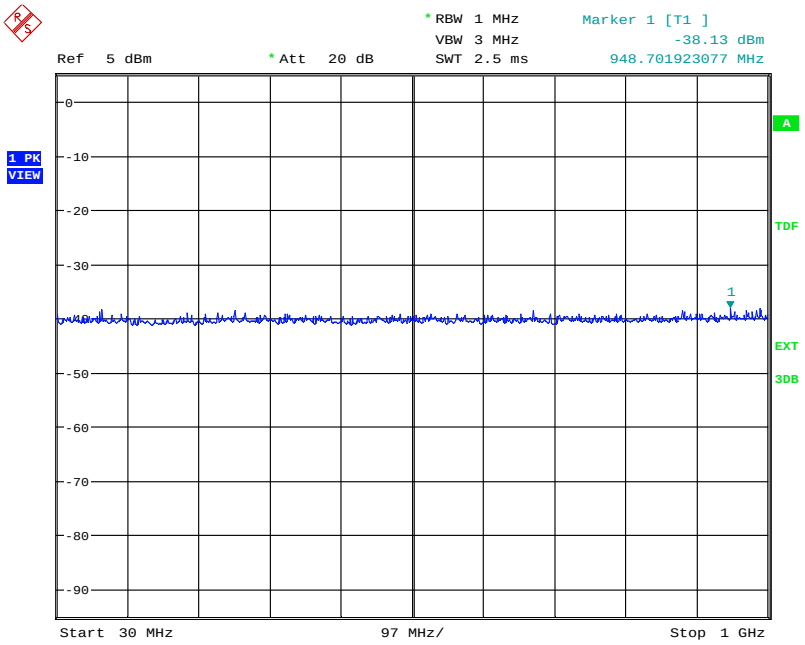
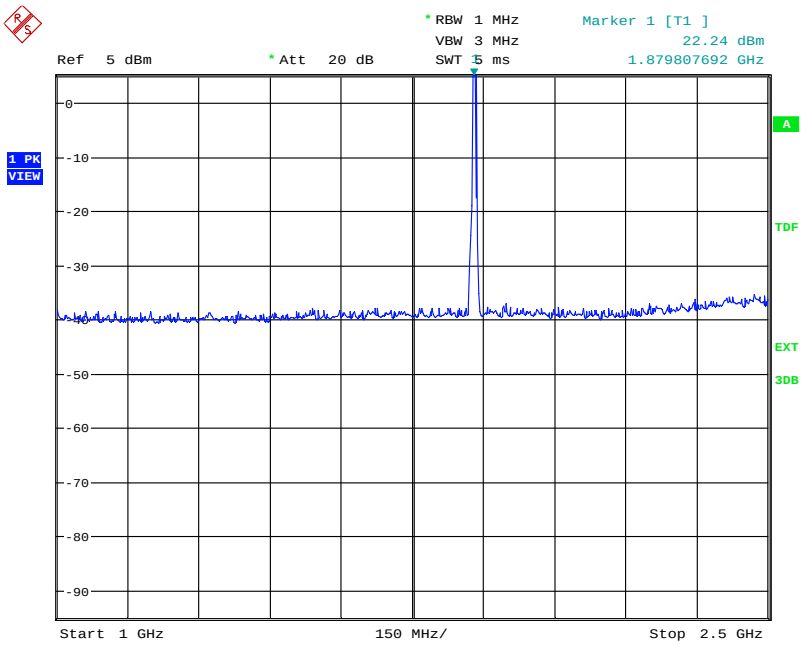
15 GHz ~ 20 GHz



SIM 2	
Operate Band: WCDMA Band II Frequency: 1852.4 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	 Date: 13.MAY.2016 10:26:41
1 GHz ~ 2.5 GHz	 Date: 13.MAY.2016 10:27:08

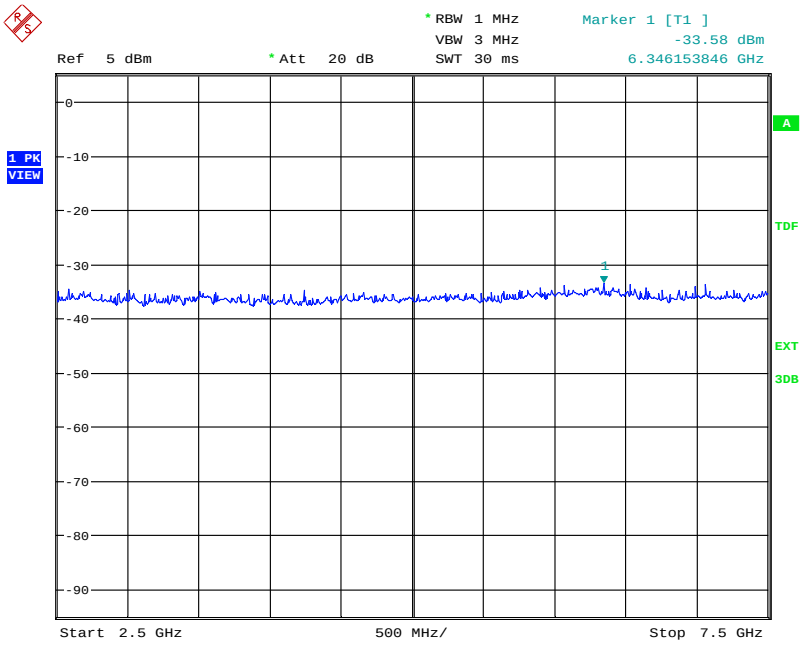
SIM 2	
Operate Band: WCDMA Band II Frequency: 1852.4 MHz	Modulation Type: QPSK
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz	

SIM 2	
Operate Band: WCDMA Band II Frequency: 1852.4 MHz	Modulation Type: QPSK
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

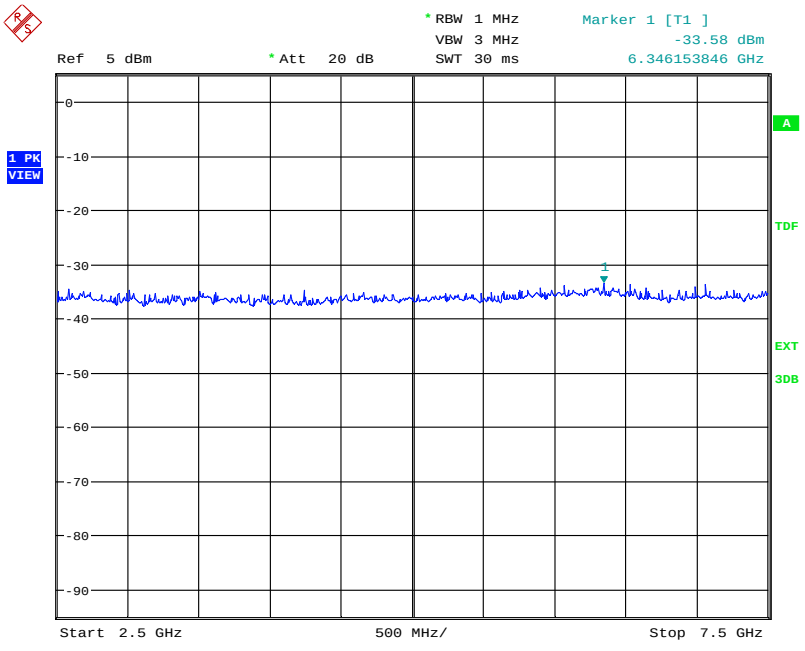
SIM 2	
Operate Band: WCDMA Band II Frequency: 1880.0 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

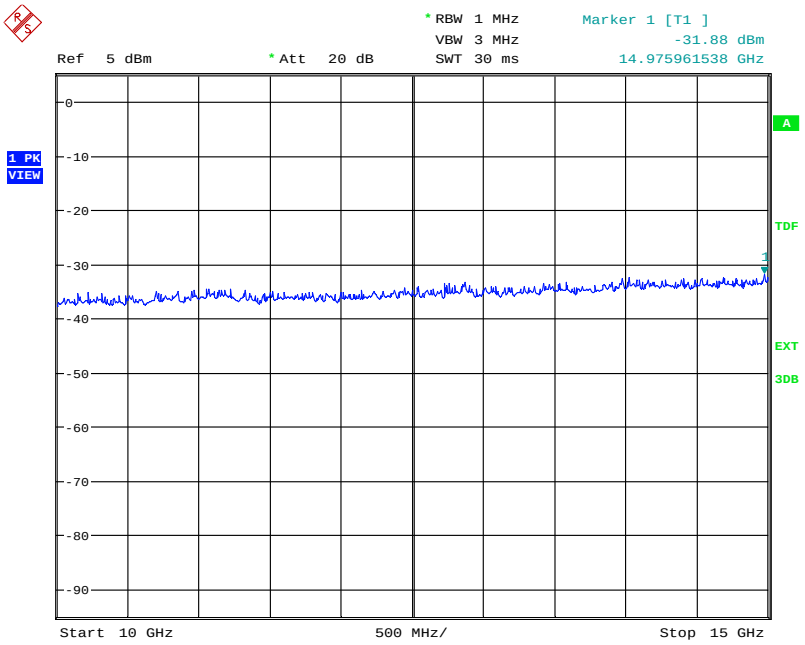
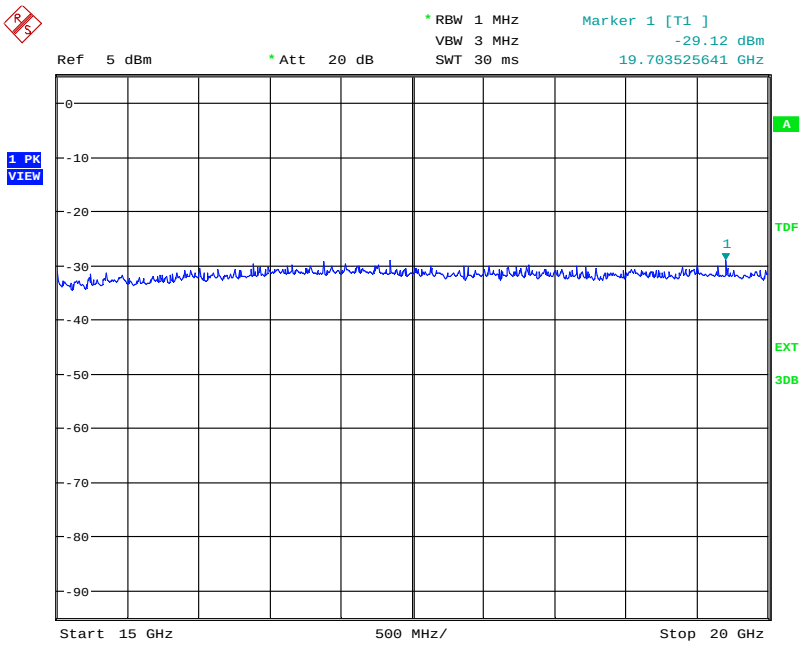
SIM 2			
Operate Band:	WCDMA Band II	Modulation Type:	QPSK
Frequency:	1880.0 MHz		

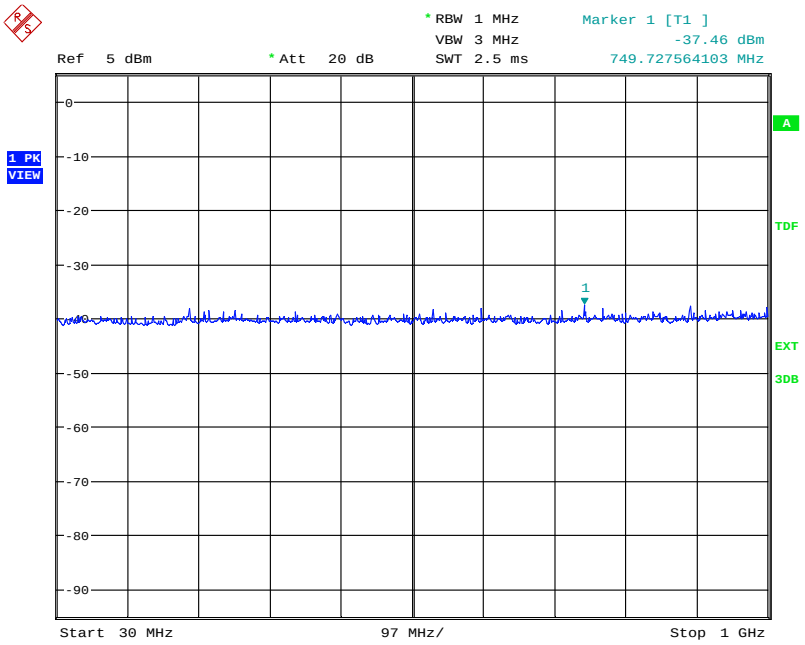
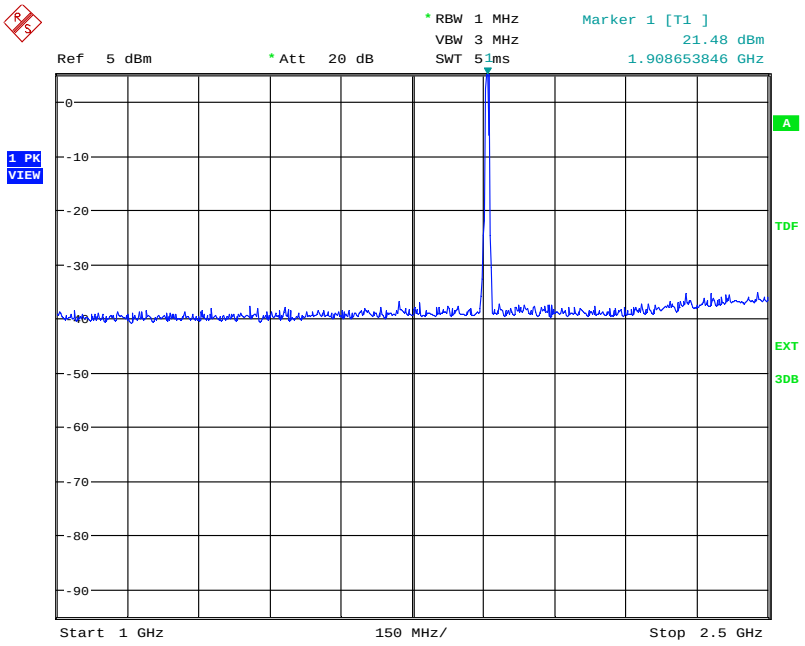
2.5 GHz ~ 7.5 GHz



7.5 GHz ~ 10 GHz

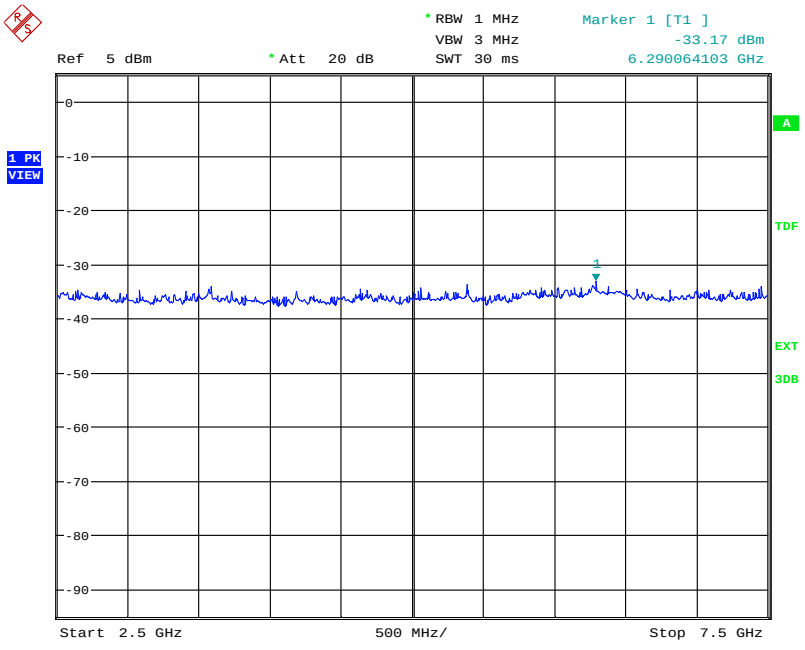


SIM 2	
Operate Band: WCDMA Band II Frequency: 1880.0 MHz	Modulation Type: QPSK
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

SIM 2	
Operate Band: WCDMA Band II Frequency: 1907.6 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	 Date: 13.MAY.2016 10:32:36
1 GHz ~ 2.5 GHz	 Date: 13.MAY.2016 10:33:06

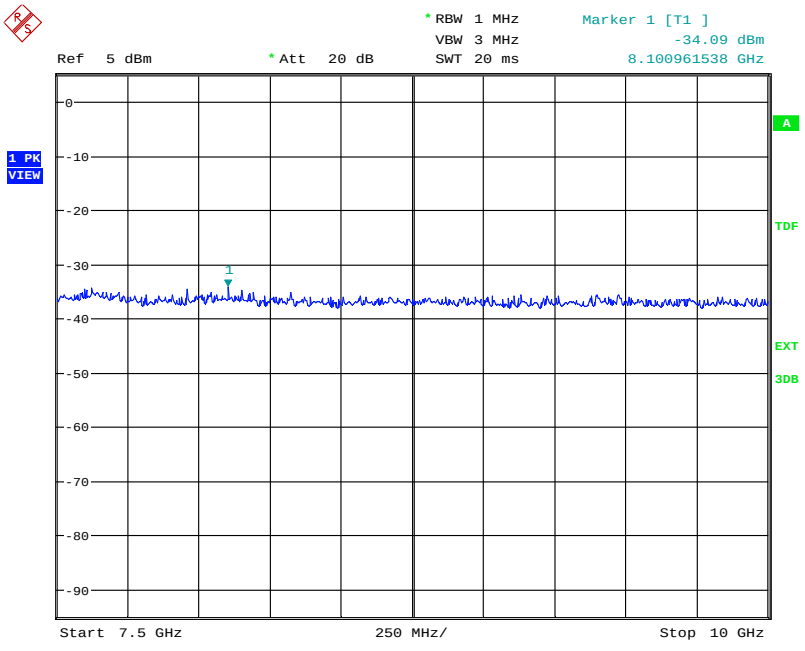
SIM 2			
Operate Band:	WCDMA Band II	Modulation Type:	QPSK
Frequency:	1907.6 MHz		

2.5 GHz ~ 7.5 GHz

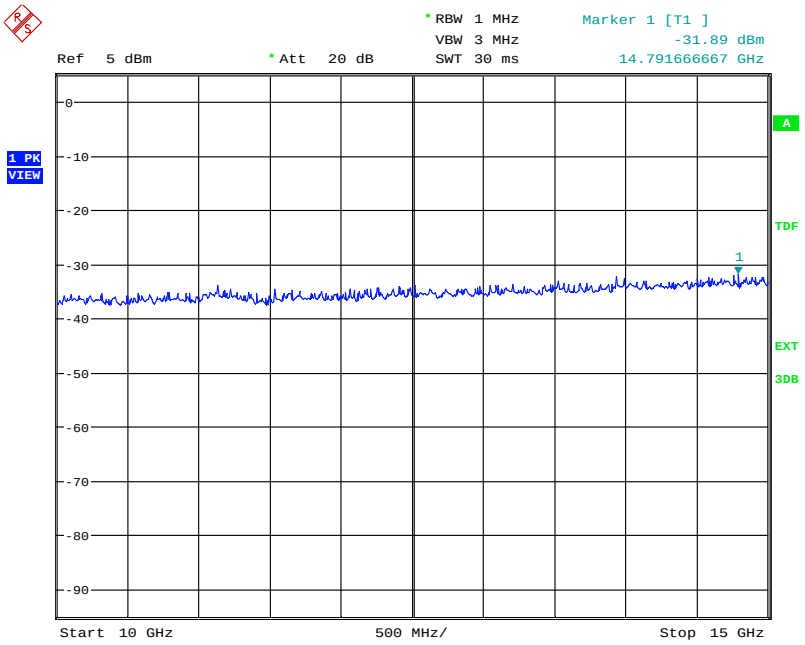
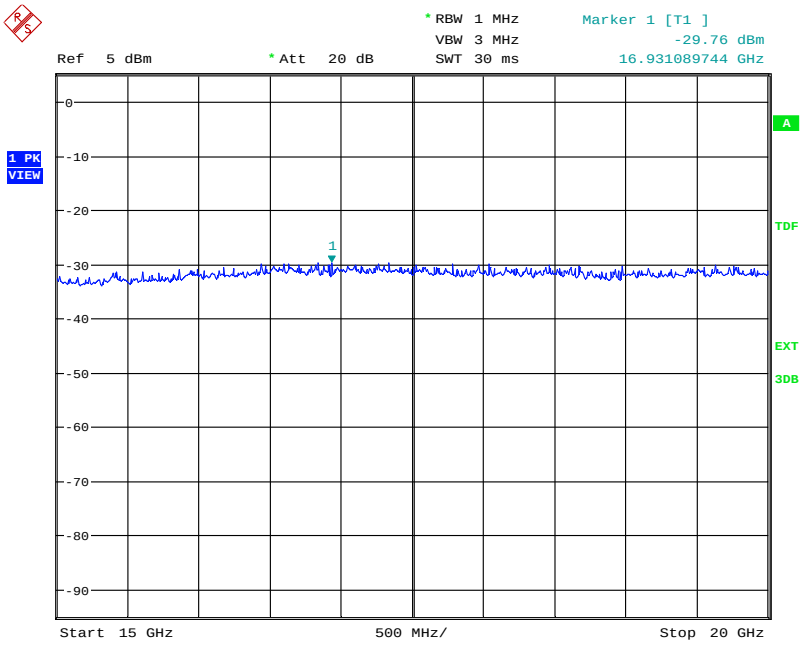


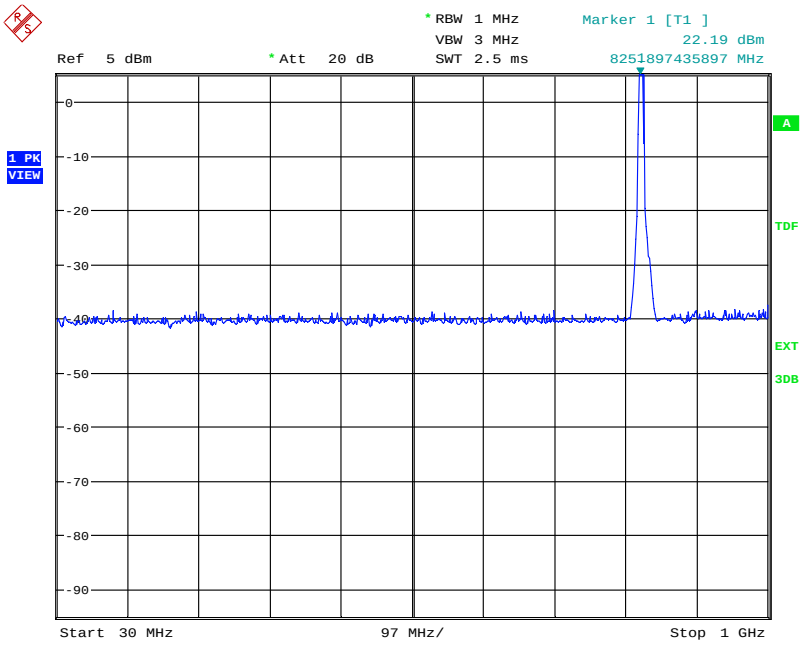
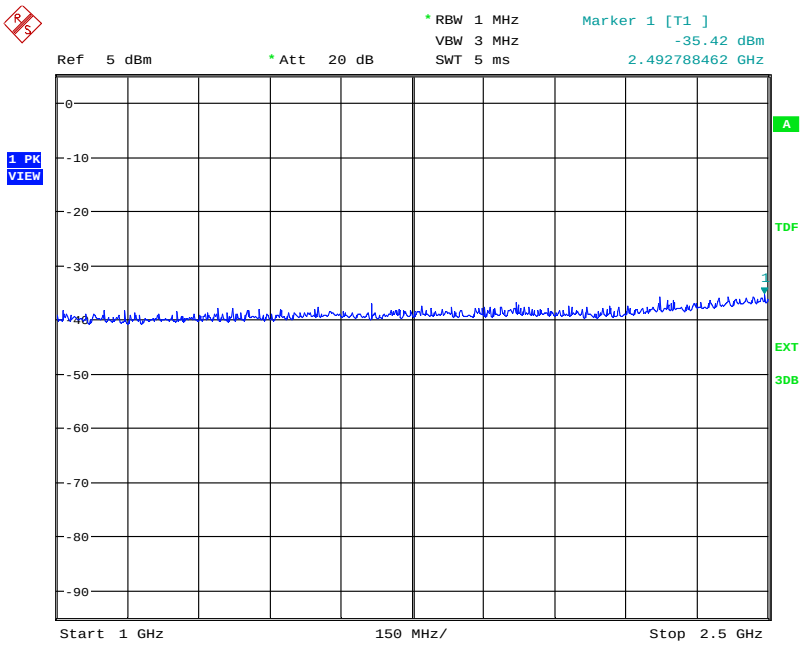
Date: 13.MAY.2016 10:33:35

7.5 GHz ~ 10 GHz



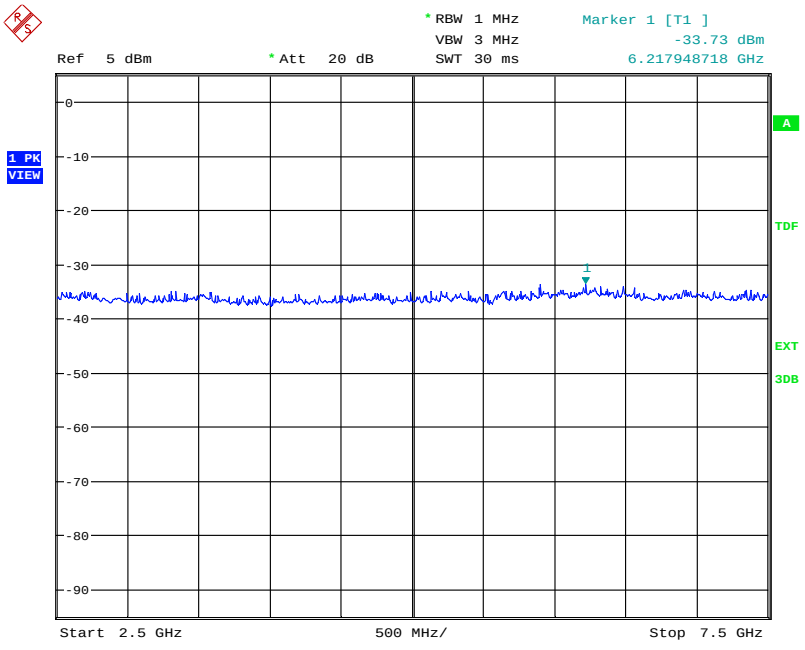
Date: 13.MAY.2016 10:34:04

SIM 2	
Operate Band: WCDMA Band II Frequency: 1907.6 MHz	Modulation Type: QPSK
10 GHz ~ 15 GHz	
15 GHz ~ 20 GHz	

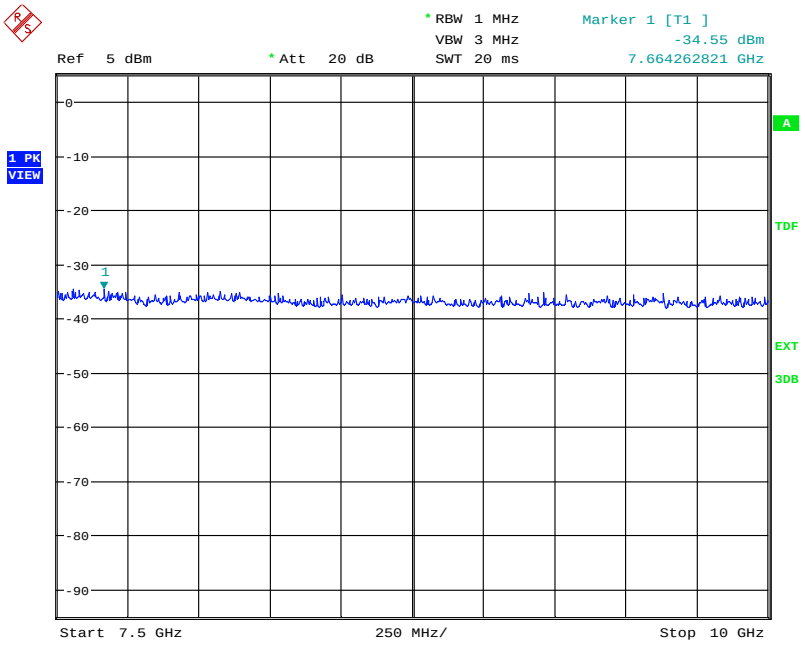
SIM 2	
Operate Band: WCDMA Band V Frequency: 826.4 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

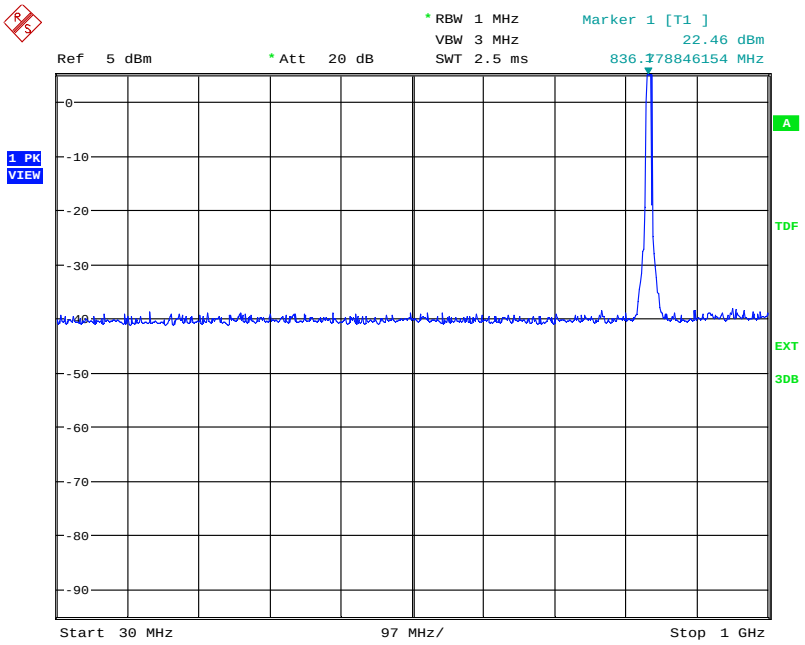
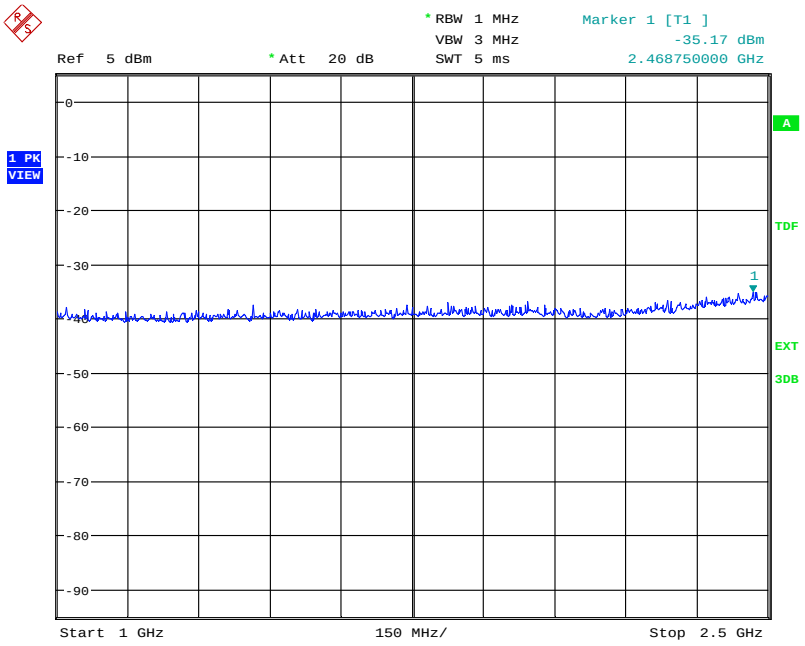
SIM 2			
Operate Band:	WCDMA Band V	Modulation Type:	QPSK
Frequency:	826.4 MHz		

2.5 GHz ~ 7.5 GHz



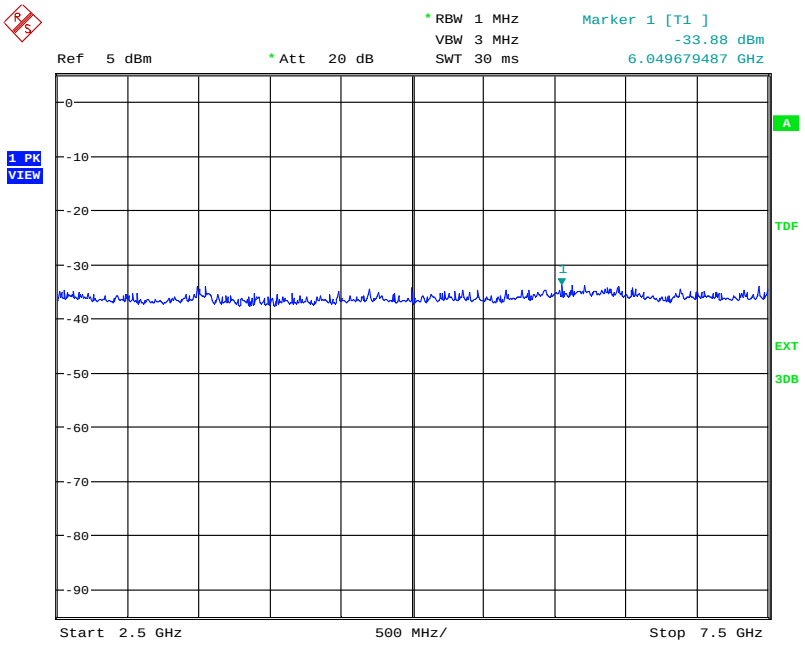
7.5 GHz ~ 10 GHz



SIM 2	
Operate Band: WCDMA Band V Frequency: 836.6 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

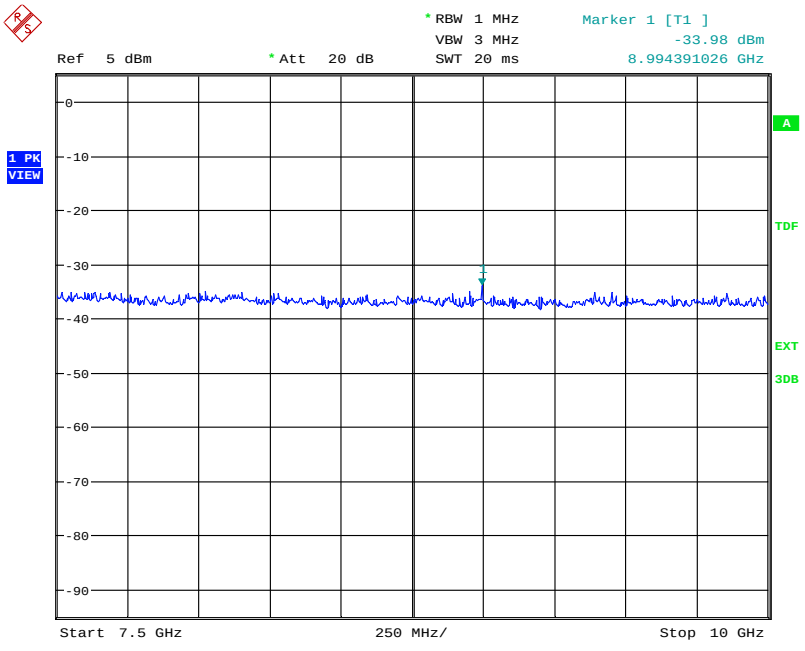
SIM 2			
Operate Band:	WCDMA Band V	Modulation Type:	QPSK
Frequency:	836.6 MHz		

2.5 GHz ~ 7.5 GHz

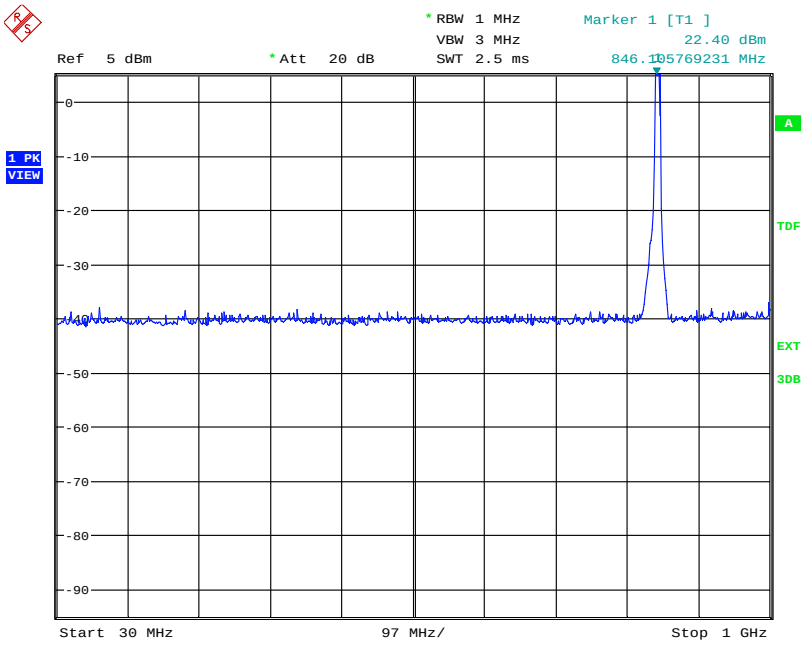
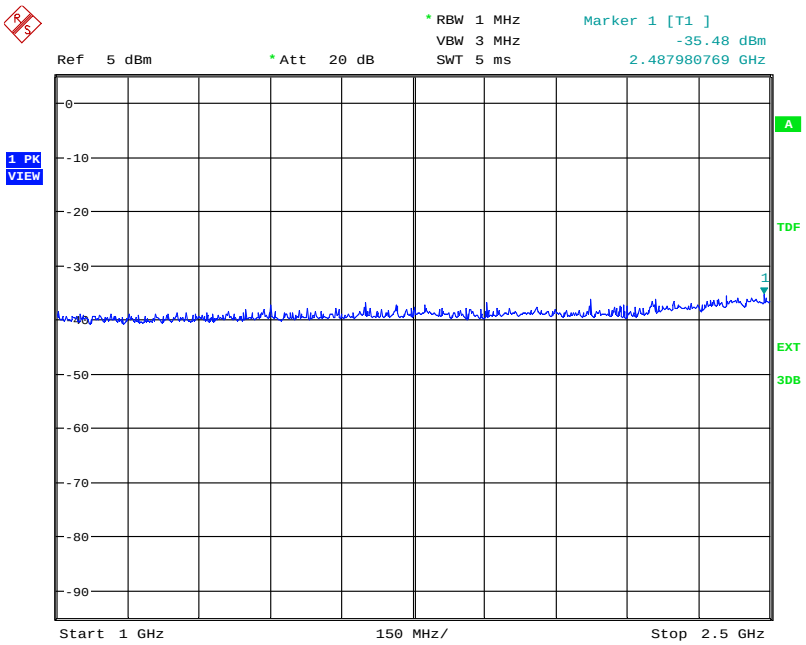


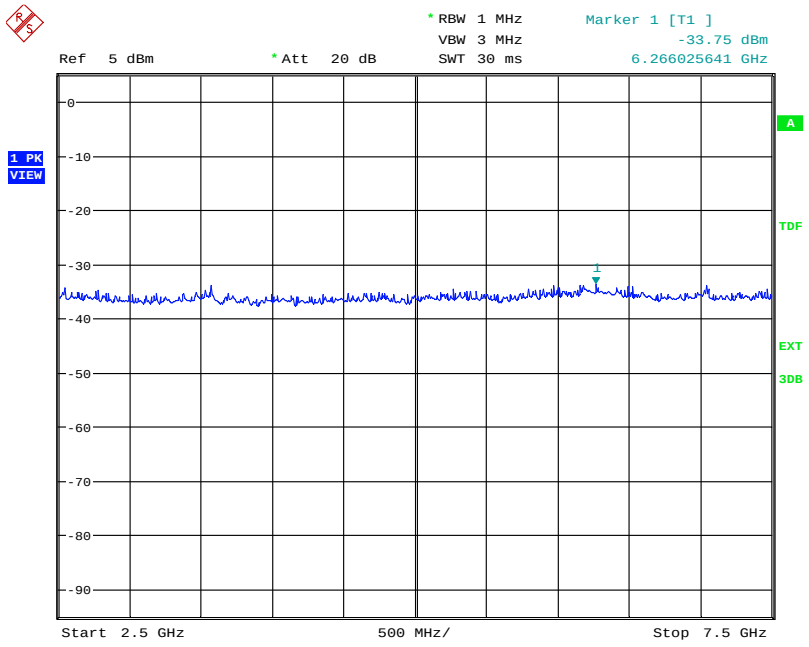
Date: 13.MAY.2016 11:00:18

7.5 GHz ~ 10 GHz



Date: 13.MAY.2016 11:00:46

SIM 2	
Operate Band: WCDMA Band V Frequency: 846.6 MHz	Modulation Type: QPSK
30 MHz ~ 1 GHz	
1 GHz ~ 2.5 GHz	

SIM 2	
Operate Band: WCDMA Band V Frequency: 846.6 MHz	Modulation Type: QPSK
2.5 GHz ~ 7.5 GHz	
7.5 GHz ~ 10 GHz