



Test Report

Product Name : GSM/GPRS Mobile phone

Model No. : MASS2

FCC ID :RV2MASS2

Applicant : Ezze Mobile Tech, Inc.
Address : 3F, Bubmusa Bldg., 151-31, Nonhyun-dong, Kangnam-ku, Seoul , Korea
Manufacturer : Ezze Mobile Tech, Inc.
Address : Rm. 204, Anyang Megavalley, 799,Guanyang-dong, Dongan-gu, Anyang-city,
Gyeonggi-do, Korea, 431-767

Date of Receipt : Jan.28,2008

Date of Test : Jan.28,2008-Feb.02,2008

Report No. : 200810-30-02006F

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of SIMT EMC Lab.

Test Report Certification

Accredited by NVLAP

Report No: 200810-30-02006F

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Applicant : Ezze Mobile Tech, Inc.
Address : 3F, Bubmusa Bldg., 151-31, Nonhyun-dong, Kangnam-ku,
Seoul , Korea
Manufacturer : Ezze Mobile Tech, Inc.
Address : Rm. 204, Anyang Megavalley, 799,Guanyang-dong, Dongan-gu,
Anyang-city, Gyunggi-do, Korea, 431-767
Model No. : MASS2
Rated Voltage : DC 3.7V By battery, DC 5V by adaptor
Test Voltage : 120V/60Hz
Trade Name : EZIO
Measurement Standard : TIA/EIA 603C,ANSI C 63.4:2003
Date of Receipt: : Jan.28,2008
Date of Test : Jan.28,2008-Feb.02,2008
Date of Issue : Feb.03, 2008
Test Result : Complied

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of SIMT EMC Lab.

Documented By : Ruby Zhu
(Ruby Zhu)

Tested By : Huang You Gen
(Huang You Gen)

Approved By : Gong Zeng
(Gong Zeng)

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1. General Information

1.1. EUT Description

Product Name	: GSM/GPRS Mobile phone
Trade Name	: EZIO
Model No.	: MASS2
Type of modulation	GMSK
Antenna type	Soldered on PCB
TX Frequency	824MHz~849MHz(GSM 850) 1850MHz ~ 1910MHz(PCS 1900)
Rx Frequency	869MHz~894MHz(GSM 850) 1930MHz ~ 1990MHz(PCS 1900)
Hardware version	V 0.1
GPRS version	Class 8
Type of equipment	Slide Type

1.2. Operational Description

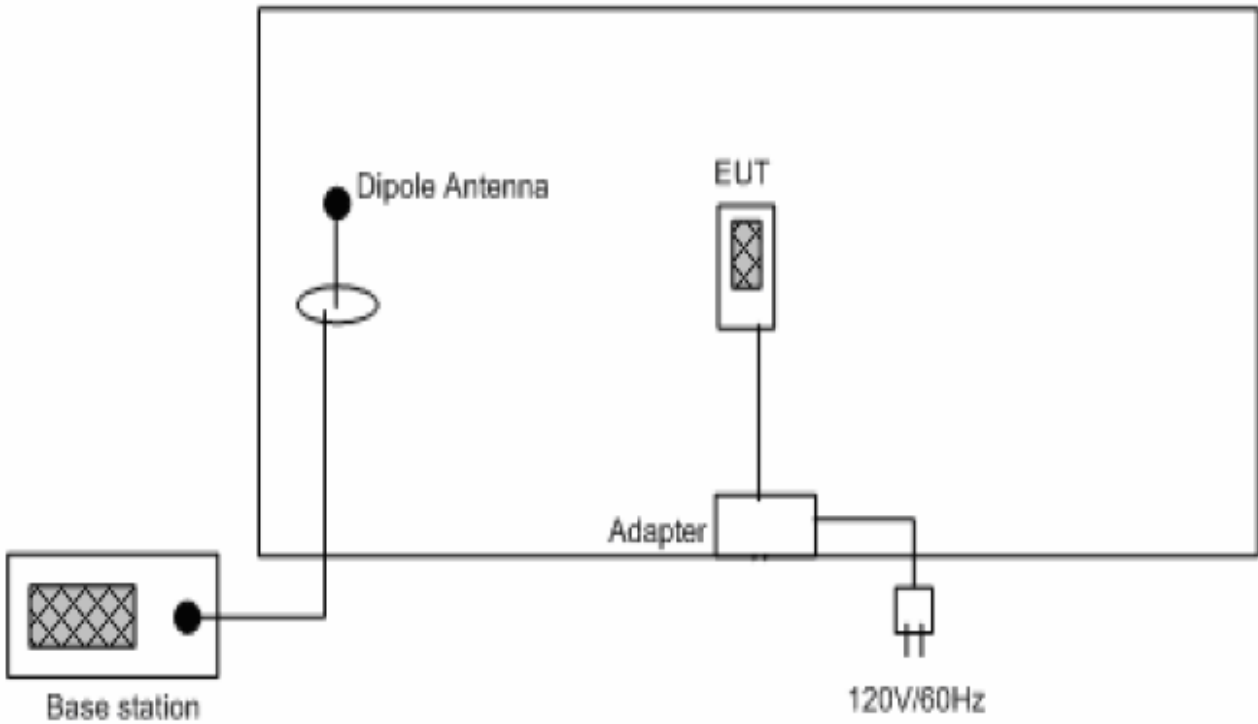
The information contained within this report is intended to show verification of compliance of the 850/1900MHz Mobile Phone to the requirements of 47CFR PART 2, PART 15 Subpart B, PART 22H and PART 24E.

SIMT EMC 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:

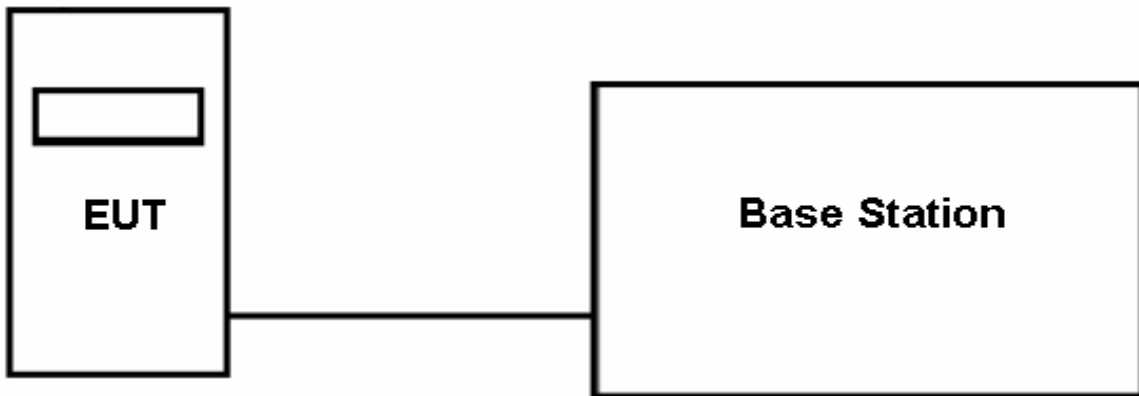
	GSM 850 (keeping the EUT voice communication with CMU200 at 850MHz)
TEST Mode	PCS 1900 (keeping the EUT voice communication with CMU200 at 1900MHz)
	GPRS 850 (keeping the EUT in transmitting and receiving data at 850MHz)
	GPRS 1900 (keeping the EUT in transmitting and receiving data at 1900MHz)

1.3. Configuration of Tested System

(a) Configuration of Radiated measurement



(b) Configuration of Conducted measurement



1.4. Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Serial No.
1.	Base Station	R & S	CMU 200	N/A	108591

1.5. General Information of Test Site

Site Description: June 22, 2001 File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046

Site Name: SIMT EMC Lab.

Site Address: 716 Yi Shan Road. Shanghai. China
TEL: 8621-6470-1390 / FAX : 8621-6451-4252
E-Mail: jcxn@SIMT.com.cn

2. Test Summary

FCC Rule	DESCRIPTION OF TEST	Result	Section
§15.207	Conducted Emission	Passed	3
§15.209	Radiated Emission	Passed	4
§2.1046	RF Output Power	Passed	5
§ 22.913 §24.232	ERP / EIRP	Passed	6
§2.1049, § 22.917,	Occupied Bandwidth & Band Edge Measurement	Passed	7
§2.1051	Conducted Spurious Emission	Passed	8
§2.1053	Field Strength of Spurious Radiation	Passed	9
§2.1055, § 22.355,	Frequency Stability vs. Temperature and voltage variations	Passed	10

3. Conducted Emission

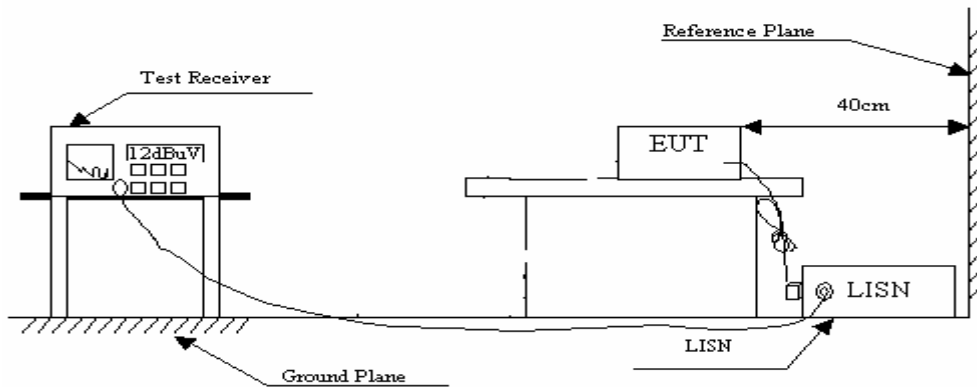
3.1. Test Equipment List

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.
1	EMI Test Receiver	R & S	ESCS 30/100070	May, 2008
2	Artificial Mains Network	R & S	ESH2-Z5/100030	Aug, 2008
3	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

3.2. Test Setup



3.3. Limits

Mains terminal disturbance voltage limits for Class B equipment measured on a test site

Frequency (MHz)	Class B equipment limits dB(uV)	
	Quasi-peak	Average
0.15 – 0.50	66 Decreasing with logarithm of frequency to 56	56 Decreasing with logarithm of frequency to 46
0.50-5.0	56	60
5.0 – 30	56	50

3.4. Test Procedure

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The EUT is connected to LISN and LISN is connected to the reference ground. All other supplemental devices are connected with

EUT through other LISN. The distance between EUT and LISN is 80cm. A radio link is established between EUT and the tester. The output power of the EUT is controlled by the tester and driven to maximum value. An initial pre-scan was performed on the live L line and neutral line with peak detector (9kHz RBW). Both average detector and quasi-peak detector are performed at the frequencies with maximized peak emission.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. EUT Operation

See chapter 1.2 of this test report.

3.6. Test Voltage

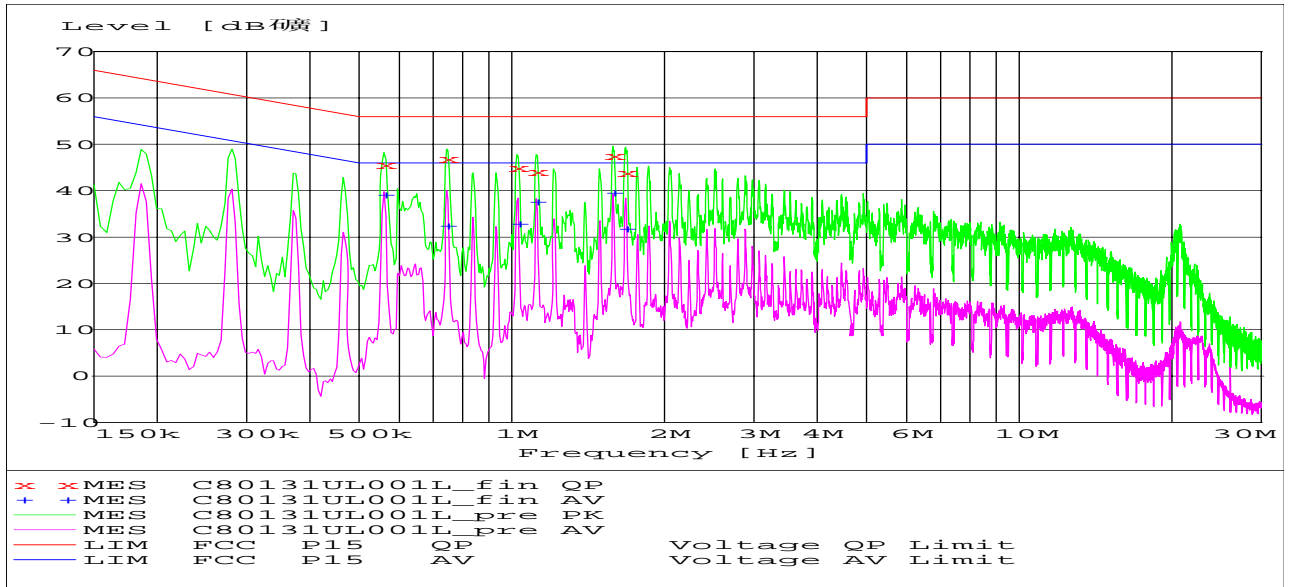
120V/60Hz

3.7. Test Specification

CF 47 FCC Part 15.207

3.8. Test Result

GPRS 850, Live line



MEASUREMENT RESULT: "C80131UL001L_fin QP"

1/31/2008 11:07

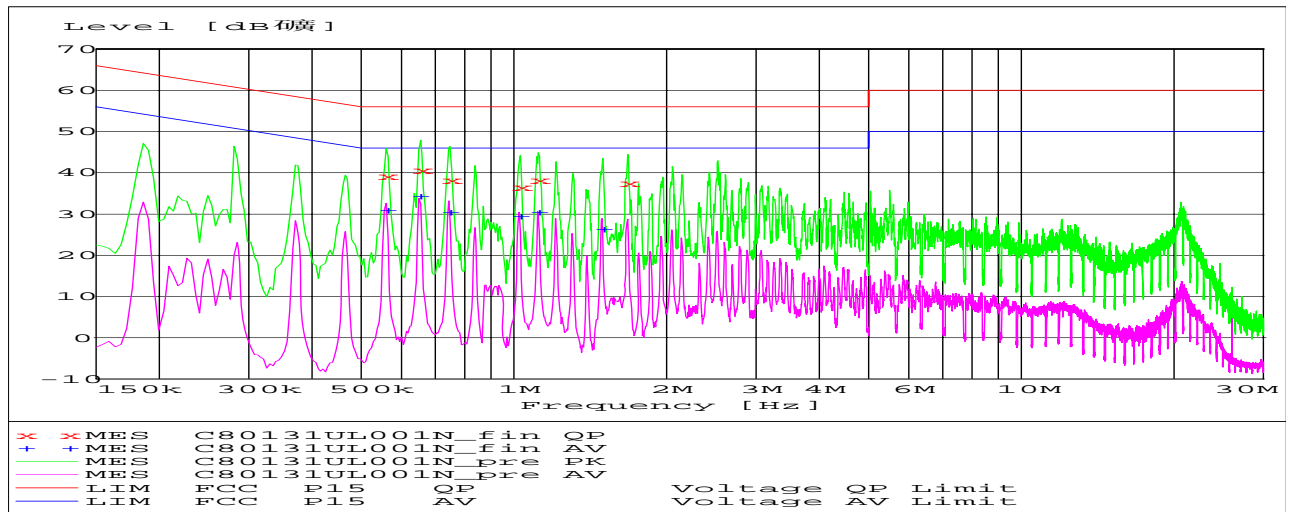
Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV		dB	dBμV	dB	
0.559500	45.50	10.6	56.00	10.50	L1	FLO
0.744000	46.90	10.6	56.00	9.10	L1	FLO
1.023000	45.00	10.6	56.00	11.00	L1	FLO
1.117500	44.20	10.5	56.00	11.80	L1	FLO
1.581000	47.60	10.6	56.00	8.40	L1	FLO
1.675500	44.00	10.6	56.00	12.00	L1	FLO

MEASUREMENT RESULT: "C80131UL001L_fin AV"

1/31/2008 11:07

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV		dB	dBμV	dB	
0.559500	39.10	10.6	46.00	6.90	L1	FLO
0.744000	32.50	10.6	46.00	13.50	L1	FLO
1.027500	32.90	10.6	46.00	13.10	L1	FLO
1.117500	37.60	10.5	46.00	8.40	L1	FLO
1.581000	39.70	10.6	46.00	6.30	L1	FLO
1.675500	31.80	10.6	46.00	14.20	L1	FLO

GPRS 850, Neutral line



MEASUREMENT RESULT: "C80131UL001N_fin QP"

1/31/2008 11:08

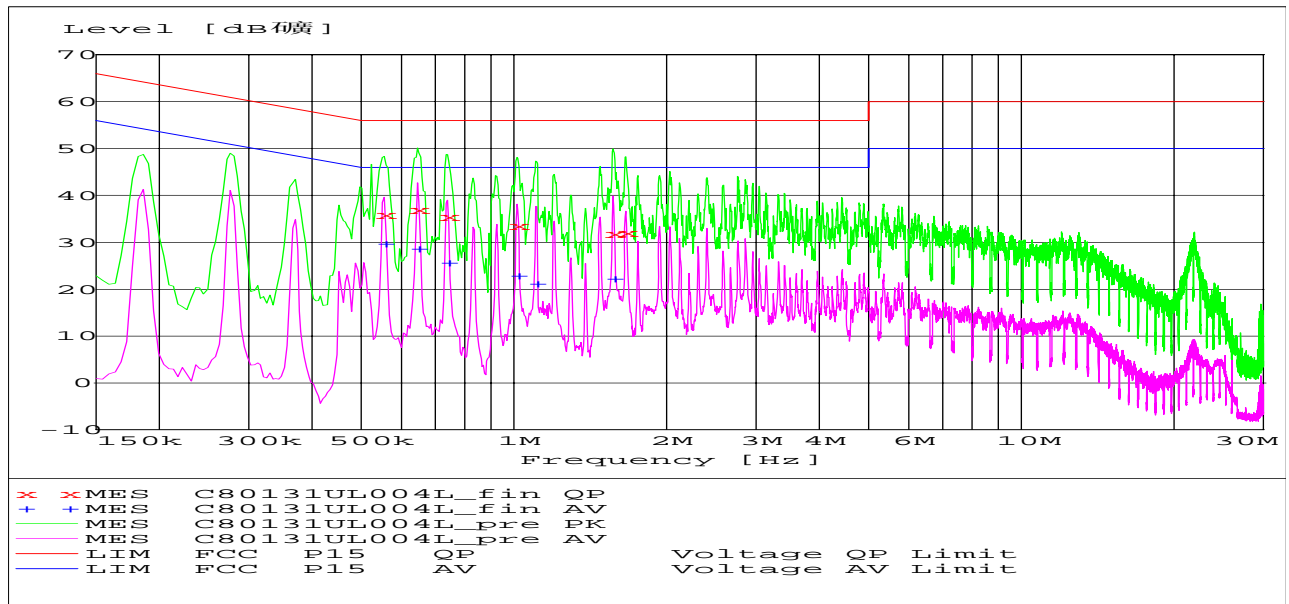
Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV		dB	dBμV	dB	
0.559500	39.20	10.6	56.00	16.80	N	FLO
0.654000	40.60	10.6	56.00	15.40	N	FLO
0.748500	38.10	10.6	56.00	17.90	N	FLO
1.027500	36.40	10.6	56.00	19.60	N	FLO
1.117500	38.10	10.5	56.00	17.90	N	FLO
1.675500	37.40	10.6	56.00	18.60	N	FLO

MEASUREMENT RESULT: "C80131UL001N_fin AV"

1/31/2008 11:08

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV		dB	dBμV	dB	
0.559500	31.00	10.6	46.00	15.00	N	FLO
0.649500	34.40	10.6	46.00	11.60	N	FLO
0.744000	30.50	10.6	46.00	15.50	N	FLO
1.023000	29.50	10.6	46.00	16.50	N	FLO
1.113000	30.50	10.5	46.00	15.50	N	FLO
1.491000	26.20	10.6	46.00	19.80	N	FLO

GPRS 1900, Live line



MEASUREMENT RESULT: "C80131UL004L_fin QP"

1/31/2008 12:44

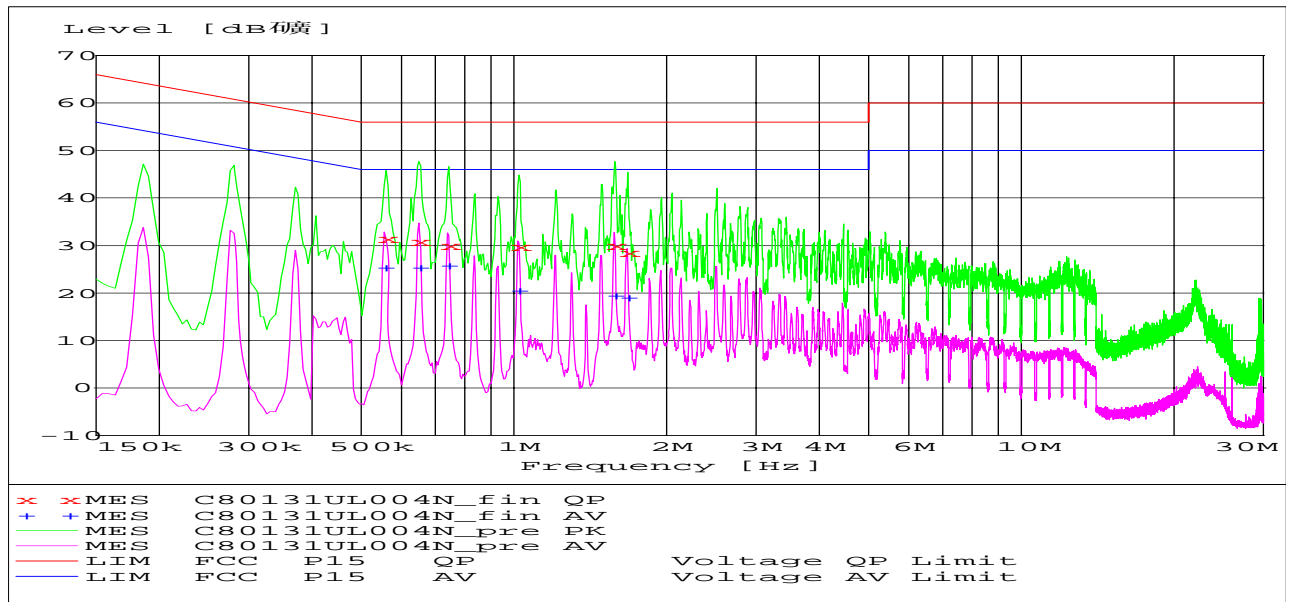
Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.555000	35.90	10.6	56.00	20.10	L1	FLO
0.645000	36.90	10.6	56.00	19.10	L1	FLO
0.739500	35.40	10.6	56.00	20.60	L1	FLO
1.014000	33.60	10.6	56.00	22.40	L1	FLO
1.567500	31.80	10.6	56.00	24.20	L1	FLO
1.662000	32.00	10.6	56.00	24.00	L1	FLO

MEASUREMENT RESULT: "C80131UL004L_fin AV"

1/31/2008 12:46

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.555000	29.60	10.6	46.00	16.40	L1	FLO
0.645000	28.70	10.6	46.00	17.30	L1	FLO
0.739500	25.60	10.6	46.00	20.40	L1	FLO
1.014000	22.90	10.6	46.00	23.10	L1	FLO
1.104000	21.10	10.5	46.00	24.90	L1	FLO
1.567500	22.30	10.6	46.00	23.70	L1	FLO

GPRS 1900, Neutral line



MEASUREMENT RESULT: "C80131UL004N_fin QP"

1/31/2008 13:28

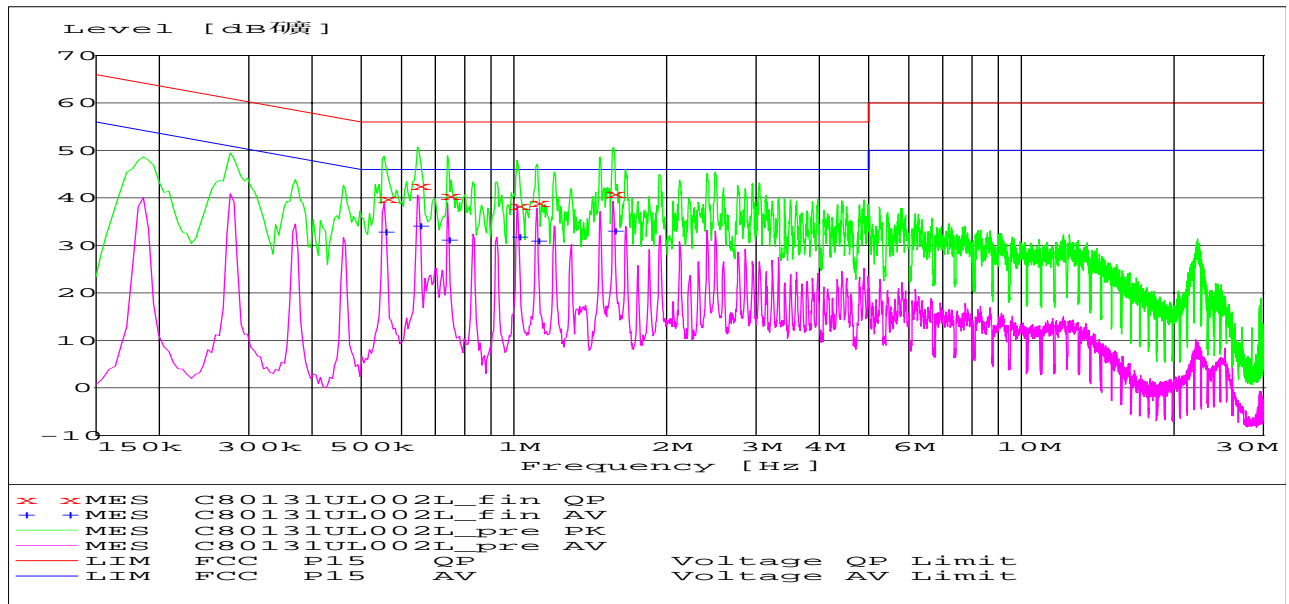
Frequency MHz	Level dB μ V	Transd dB	Limit dB	Margin dB μ V	Line dB	PE
0.559500	31.40	10.6	56.00	24.60	N	FLO
0.649500	30.90	10.6	56.00	25.10	N	FLO
0.744000	30.00	10.6	56.00	25.00	N	FLO
1.023000	29.70	10.6	56.00	26.30	N	FLO
1.581000	29.90	10.6	56.00	26.10	N	FLO
1.675500	28.40	10.6	56.00	27.60	N	FLO

MEASUREMENT RESULT: "C80131UL004N_fin AV"

1/31/2008 13:30

Frequency MHz	Level dB μ V	Transd dB	Limit dB	Margin dB μ V	Line dB	PE
0.555000	25.30	10.6	46.00	20.70	N	FLO
0.649500	25.40	10.6	46.00	20.60	N	FLO
0.739500	25.70	10.6	46.00	20.30	N	FLO
1.018500	20.60	10.6	46.00	25.40	N	FLO
1.576500	19.50	10.6	46.00	26.50	N	FLO
1.671000	19.10	10.6	46.00	26.90	N	FLO

GSM 850, Live line



MEASUREMENT RESULT: "C80131UL002L_fin QP"

1/31/2008 12:20

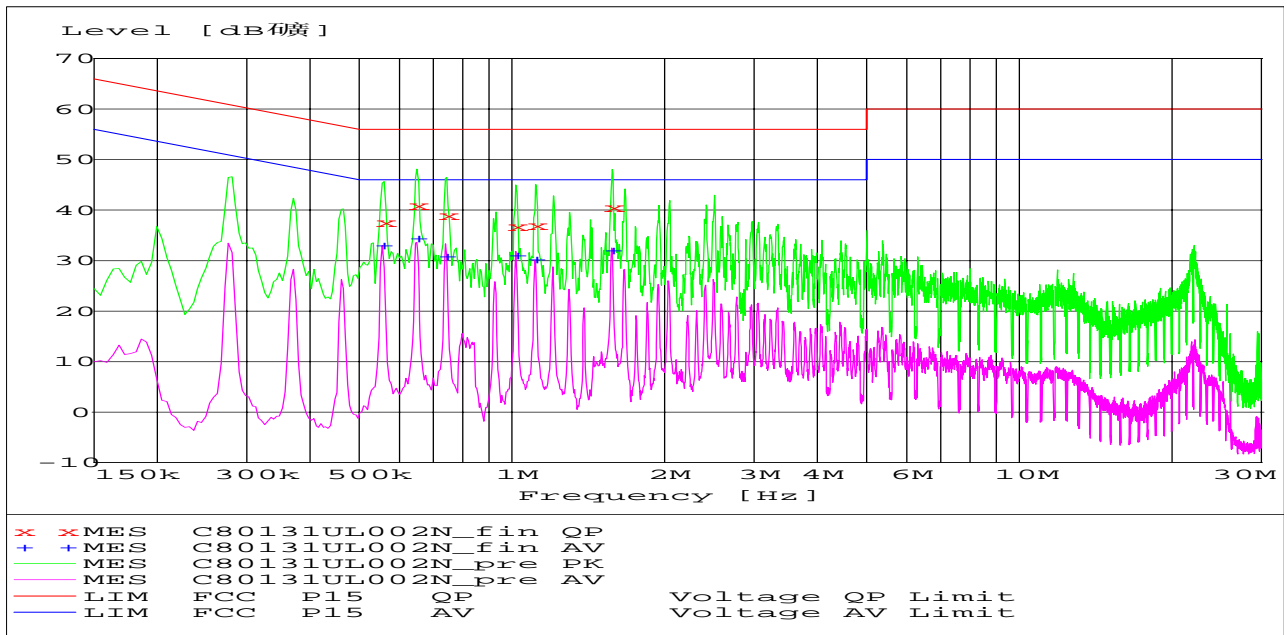
Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dB μ V		dB	dB μ V	dB	
0.559500	39.80	10.6	56.00	16.20	L1	FLO
0.649500	42.50	10.6	56.00	13.50	L1	FLO
0.744000	40.40	10.6	56.00	15.60	L1	FLO
1.018000	38.40	10.6	56.00	17.60	L1	FLO
1.113000	39.00	11.0	56.00	17.00	L1	FLO
1.572000	40.80	11.4	56.00	15.20	L1	FLO

MEASUREMENT RESULT: "C80131UL002L_fin AV"

1/31/2008 12:18

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dB μ V		dB	dB μ V	dB	
0.555000	33.00	10.6	46.00	13.00	L1	FLO
0.649500	34.10	10.6	46.00	11.90	L1	FLO
0.739500	31.20	10.6	46.00	14.80	L1	FLO
1.018500	31.80	10.6	46.00	14.20	L1	FLO
1.108500	30.90	10.5	46.00	15.10	L1	FLO
1.572000	33.10	10.6	46.00	12.90	L1	FLO

GSM 850, Neutral line



MEASUREMENT RESULT: "C80131UL002N_fin QP"

1/31/2008 11:45

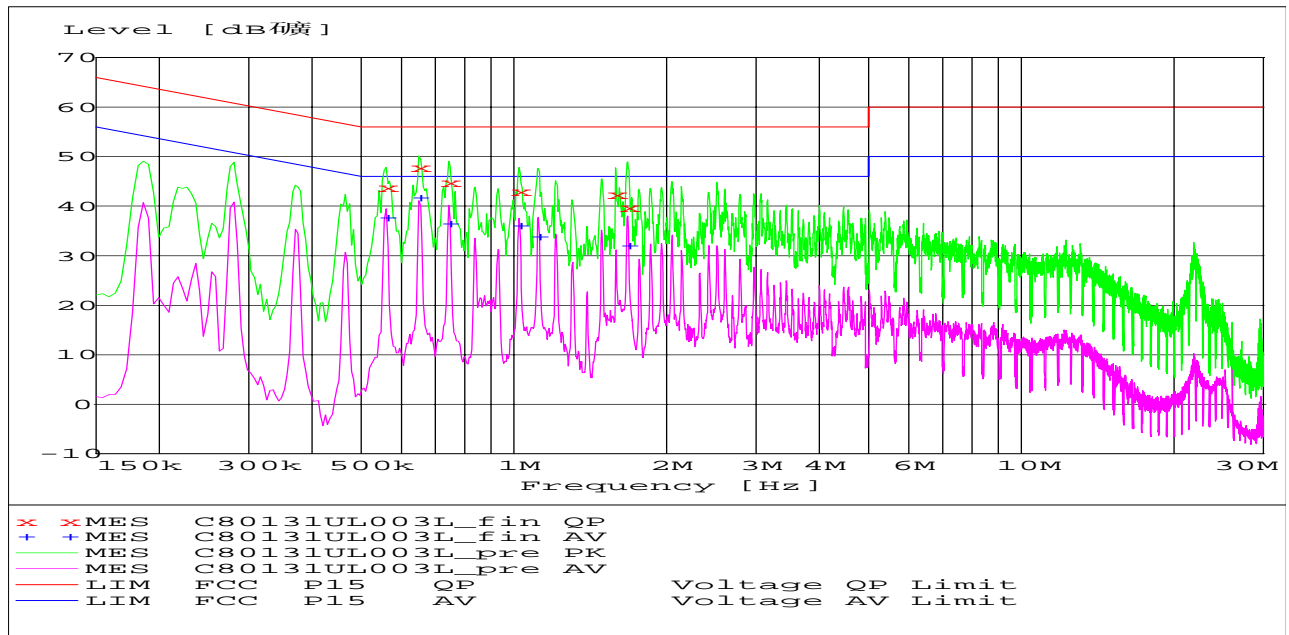
Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.559500	37.50	10.6	56.00	18.50	N	FLO
0.649500	41.00	10.6	56.00	15.00	N	FLO
0.744000	38.90	10.6	56.00	17.10	N	FLO
1.018500	36.80	10.6	56.00	19.20	N	FLO
1.113000	37.10	10.5	56.00	18.90	N	FLO
1.576500	40.60	10.6	56.00	15.40	N	FLO

MEASUREMENT RESULT: "C80131UL002N_fin AV"

1/31/2008 11:45

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.555000	33.10	10.6	46.00	12.90	N	FLO
0.649500	34.30	10.6	46.00	11.70	N	FLO
0.739500	30.80	10.6	46.00	15.20	N	FLO
1.018500	31.00	10.6	46.00	15.00	N	FLO
1.108500	30.30	10.5	46.00	15.70	N	FLO
1.572000	32.10	10.6	46.00	13.90	N	FLO

PCS 1900, Live line



MEASUREMENT RESULT: "C80131UL003L_fin QP"

1/31/2008 11:30

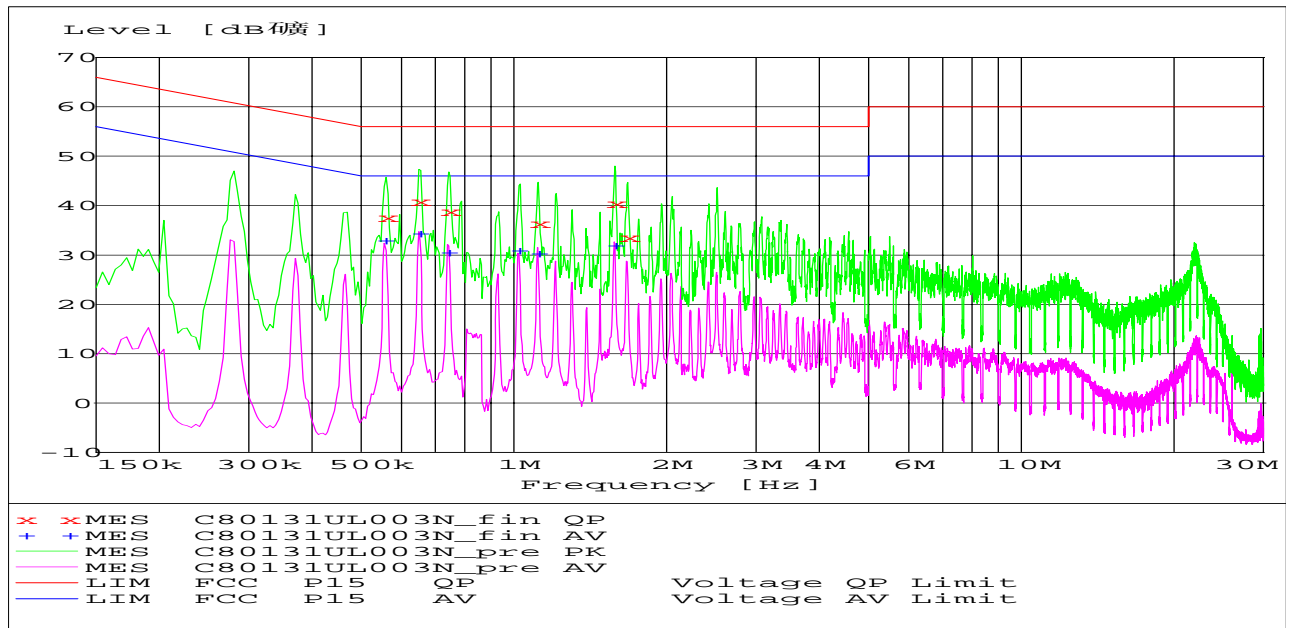
Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.559500	43.70	10.6	56.00	12.30	L1	FLO
0.649500	47.80	10.6	56.00	8.20	L1	FLO
0.744000	44.80	10.6	56.00	11.20	L1	FLO
1.023000	42.90	10.6	56.00	13.10	L1	FLO
1.585500	42.30	10.6	56.00	13.70	L1	FLO
1.675500	39.70	10.6	56.00	16.30	L1	FLO

MEASUREMENT RESULT: "C80131UL003L_fin AV"

1/31/2008 11:30

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.559500	37.70	10.6	46.00	8.30	L1	FLO
0.649500	41.70	10.6	46.00	4.30	L1	FLO
0.744000	36.60	10.6	46.00	9.40	L1	FLO
1.023000	36.10	10.6	46.00	9.90	L1	FLO
1.117500	34.00	10.5	46.00	12.00	L1	FLO
1.675500	32.10	10.6	46.00	13.90	L1	FLO

PCS 1900, Neutral line



MEASUREMENT RESULT: "C80131UL003N_fin QP"

1/31/2008 11:36

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV		dB	dBμV	dB	
0.559500	37.70	10.6	56.00	18.30	N	FLO
0.649500	40.90	10.6	56.00	15.10	N	FLO
0.744000	38.90	10.6	56.00	17.10	N	FLO
1.117500	36.40	10.5	56.00	19.60	N	FLO
1.581000	40.50	10.6	56.00	15.50	N	FLO
1.675500	33.50	10.6	56.00	22.50	N	FLO

MEASUREMENT RESULT: "C80131UL003N_fin AV"

1/31/2008 11:36

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV		dB	dBμV	dB	
0.555000	33.00	10.6	46.00	13.00	N	FLO
0.649500	34.40	10.6	46.00	11.60	N	FLO
0.739500	30.60	10.6	46.00	15.40	N	FLO
1.018500	31.00	10.6	46.00	15.00	N	FLO
1.113000	30.30	10.5	46.00	15.70	N	FLO
1.576500	31.90	10.6	46.00	14.10	N	FLO

4. Radiated Emission

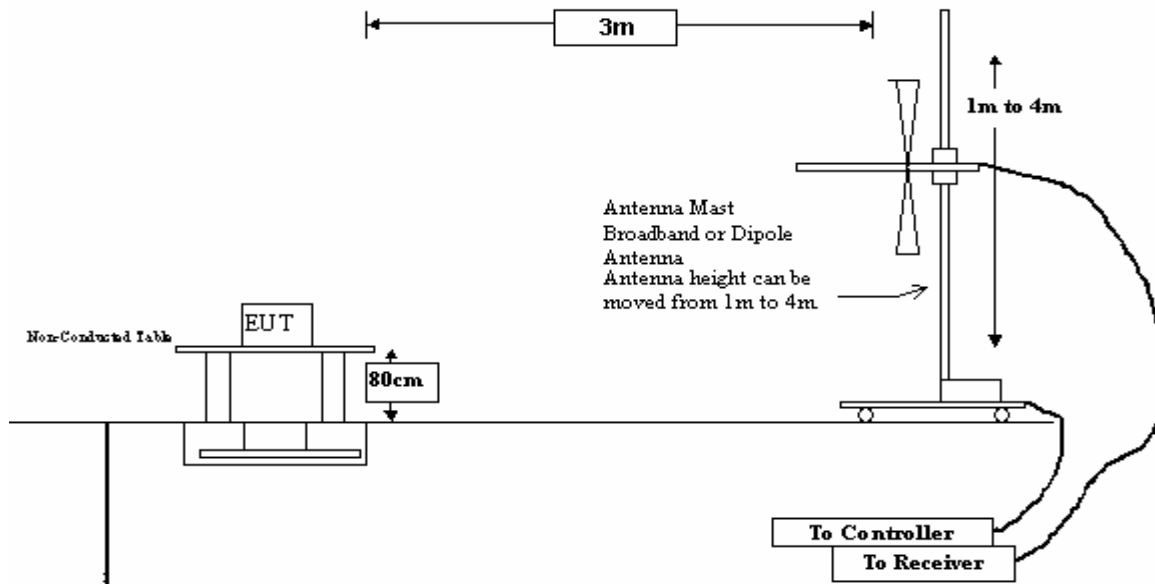
4.1. Test Equipment

The following test equipment are used during the radiated emission test:

Item	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.
1	EMI Test Receiver	R & S	ESI 26/838786/011	Dec, 2008
2	Ultra Broadband Antenna	R & S	HL 562/100019	May, 2008
3	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup



4.3. Limits

Frequency (MHz)	Limits (dB uV/m)	Measured distance (m)
30~88	40	3
88~216	43.5	
216-960	46	
960-1000	54	

4.4. Test Procedure

The EUT and receive antenna shall be placed to SAC (semi anechoic chamber) upon a non-metallic turn table, which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. Radiated emissions were investigated over the frequency range from 30MHz to 1GHz using a receiver bandwidth of 120kHz. Radiated was performed at an antenna to EUT distance of 3 meters.

4.5. Test Specification

CF 47 FCC Part 15.207

4.6. Test Voltage

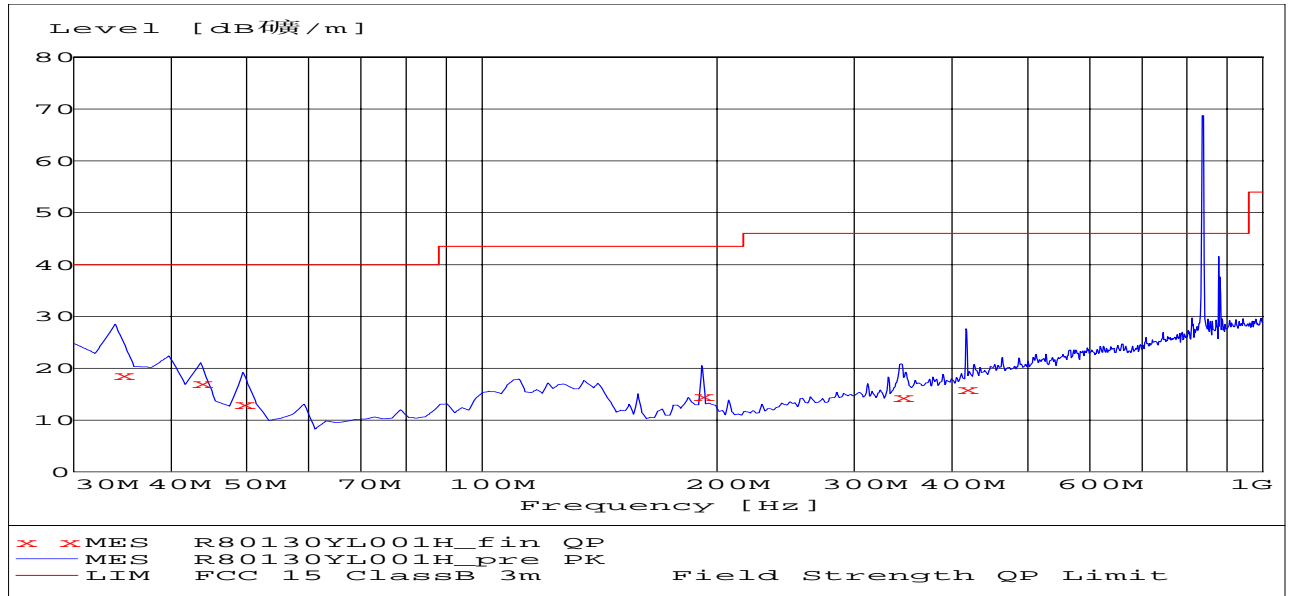
120V/60Hz

4.7. EUT Operation

See chapter 1.2 of this test report.

4.8. Test Results

GPRS 850, Antenna Horizontal

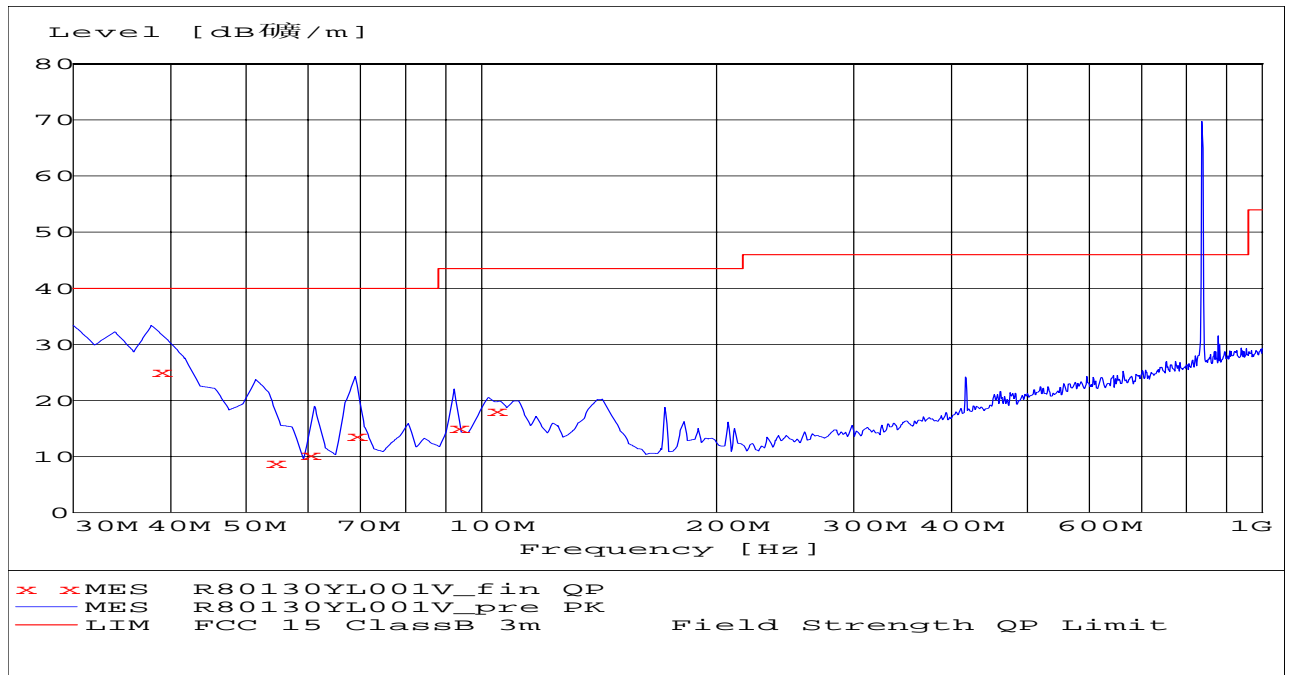


MEASUREMENT RESULT: "R80130YL001H_fin QP"

1/31/2008 4:14

Frequency	Level	Height	Azimuth	Polarisation	Limit	Margin
MHz	dBµV/m	cm	deg		dBµV/m	dB
34.636094	18.68	100.0	45.00	HORIZONTAL	40.00	21.32
43.607214	17.06	220.0	10.00	HORIZONTAL	40.00	22.94
49.438878	12.98	380.0	160.00	HORIZONTAL	40.00	27.02
191.342685	14.64	120.0	90.00	HORIZONTAL	43.50	28.86
344.909820	14.38	300.0	270.00	HORIZONTAL	46.00	31.62
416.833667	16.03	100.0	90.00	HORIZONTAL	46.00	29.97

GPRS 850, Antenna Vertical

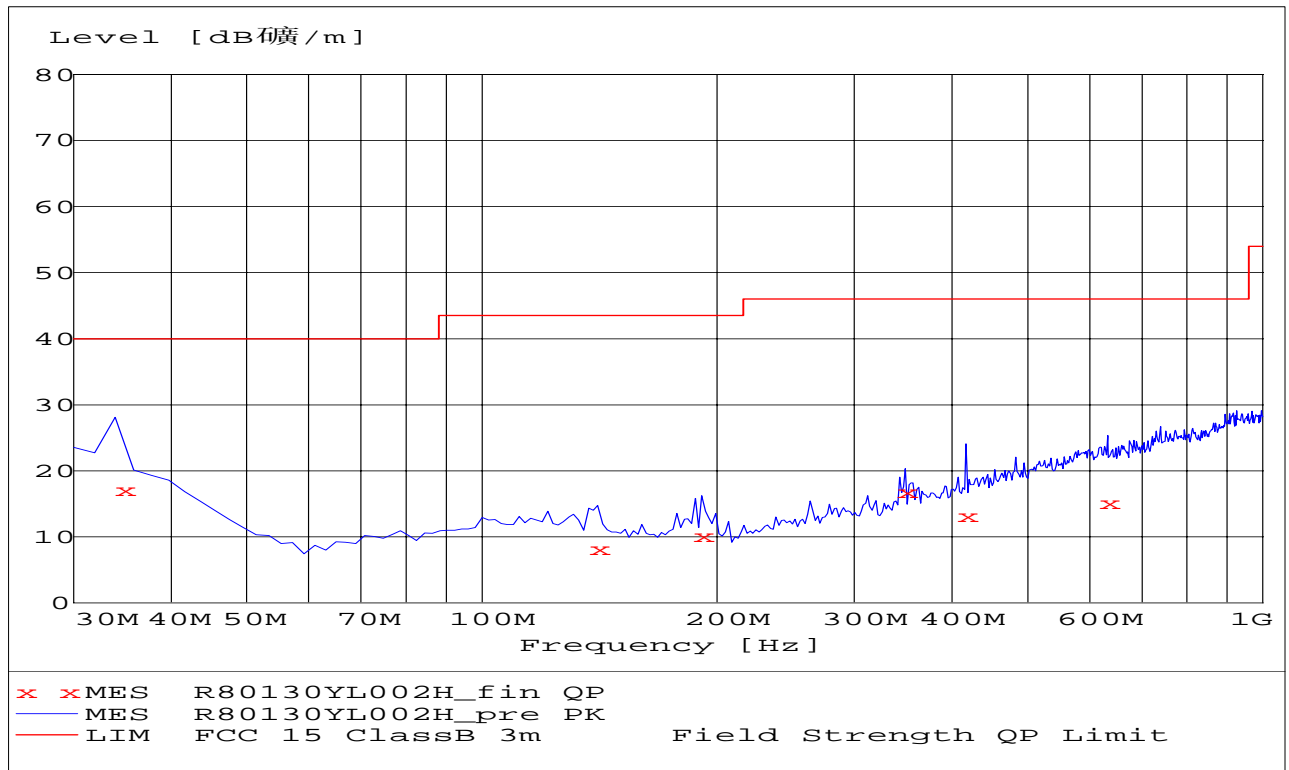


MEASUREMENT RESULT: "R80130YL001V_fin QP"

1/31/2008 4:05

Frequency	Level	Height	Azimuth	Polarisation	Limit	Margin
MHz	dBµV/m	cm	deg		dBµV/m	dB
38.771543	25.08	100.0	200.00	VERTICAL	40.00	14.92
54.280561	8.92	200.0	90.00	VERTICAL	40.00	31.08
60.102204	10.23	200.0	90.00	VERTICAL	40.00	29.77
68.877756	13.68	180.0	100.00	VERTICAL	40.00	26.32
93.204409	15.18	200.0	175.00	VERTICAL	43.50	28.32
104.058116	18.25	100.0	0.00	VERTICAL	43.50	25.25

GPRS 1900, Antenna Horizontal

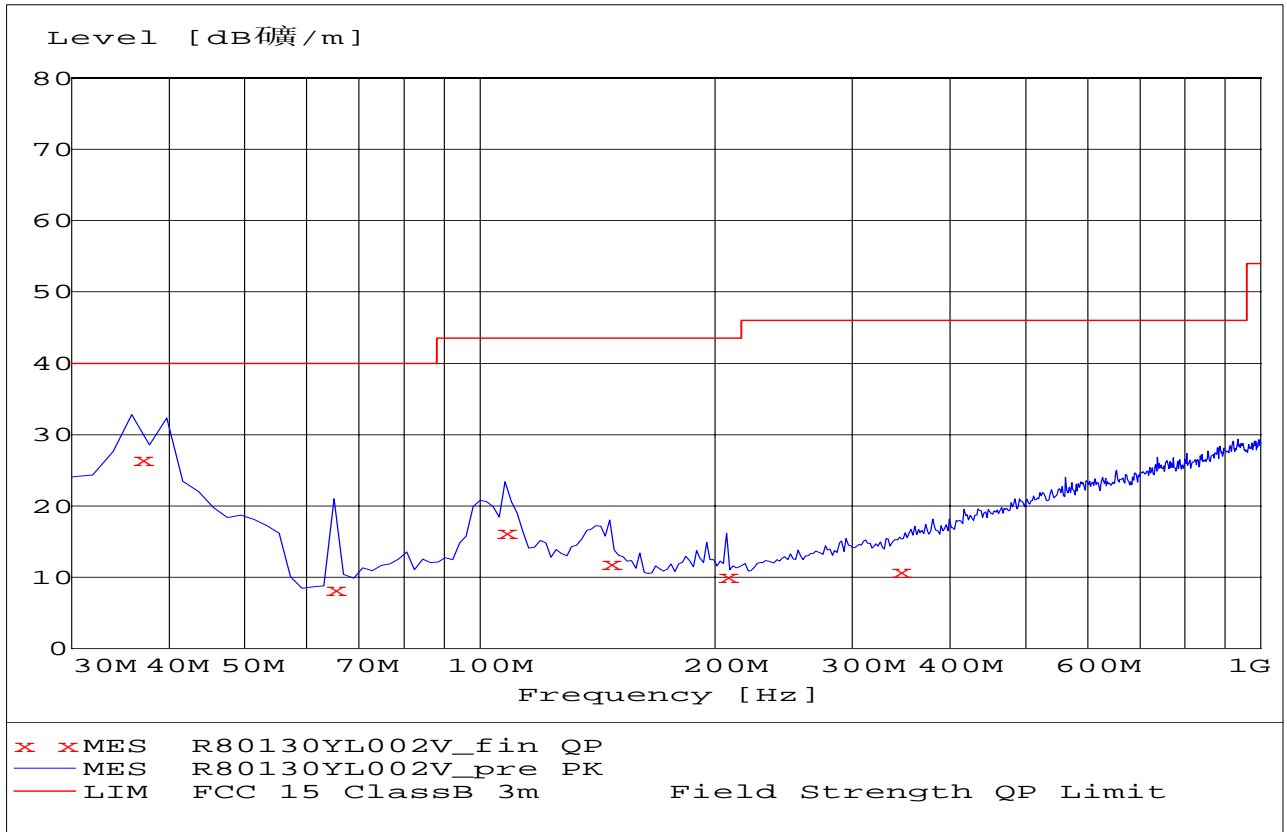


MEASUREMENT RESULT: "R80130YL002H_fin QP"

1/31/2008 4:52

Frequency MHz	Level dBμV/m	Height cm	Azimuth deg	Polarisation	Limit dBμV/m	Margin dB
34.755307	17.16	100.0	180.00	HORIZONTAL	40.00	22.84
140.801603	8.12	400.0	180.00	HORIZONTAL	43.50	35.38
191.342685	10.10	300.0	90.00	HORIZONTAL	43.50	33.40
348.797595	16.82	200.0	270.00	HORIZONTAL	46.00	29.18
416.833667	13.13	200.0	90.00	HORIZONTAL	46.00	22.87
632.605210	15.08	200.0	90.00	HORIZONTAL	46.00	20.92

GPRS 1900, Antenna Vertical

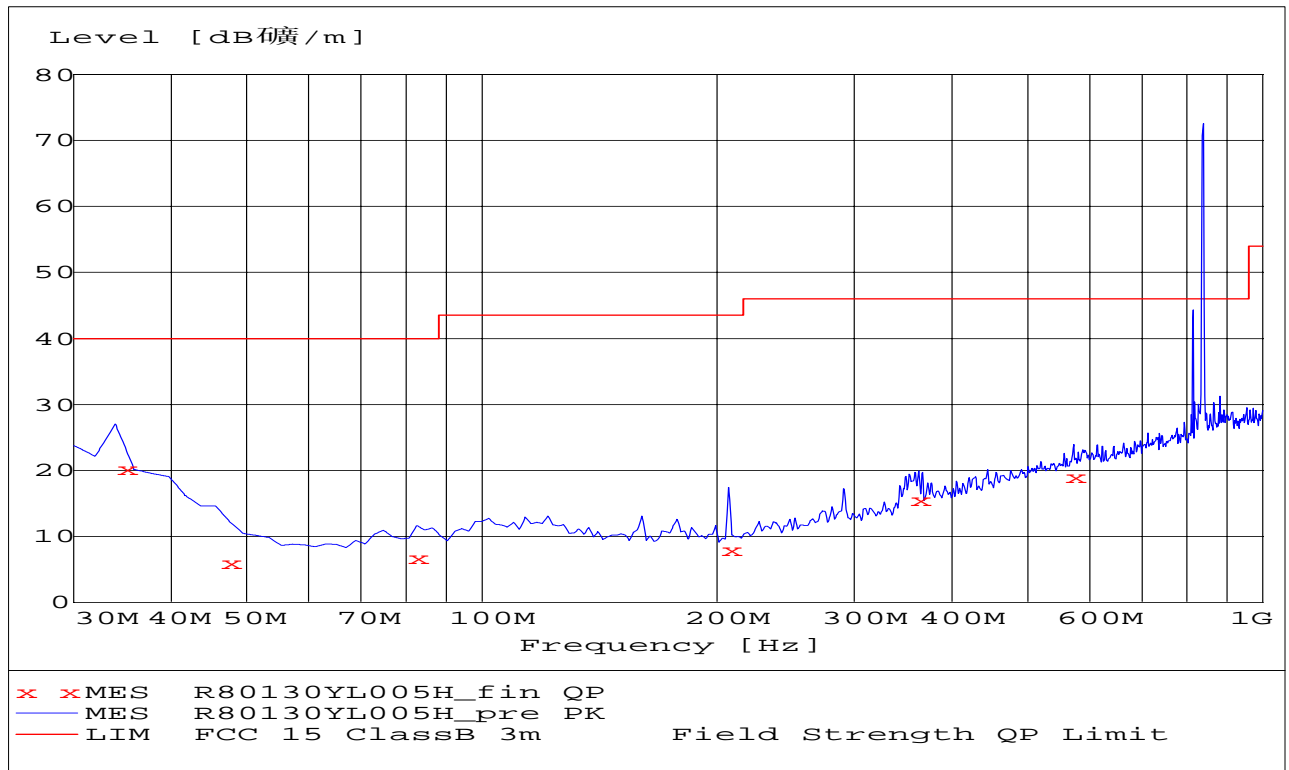


MEASUREMENT RESULT: "R80130YL002V_fin QP"

1/31/2008 4:48

Frequency MHz	Level dBμV/m	Height cm	Azimuth deg	Polarisation	Limit dBμV/m	Margin dB
36.845450	26.54	400.0	0.00	VERTICAL	40.00	13.46
64.989980	8.33	400.0	0.00	VERTICAL	40.00	31.67
107.755511	16.23	400.0	0.00	VERTICAL	43.50	21.27
146.633267	11.93	300.0	270.00	VERTICAL	43.50	31.57
206.893788	10.05	400.0	270.00	VERTICAL	43.50	33.45
344.909820	10.79	300.0	90.00	VERTICAL	46.00	35.21

GSM 850, Antenna Horizontal

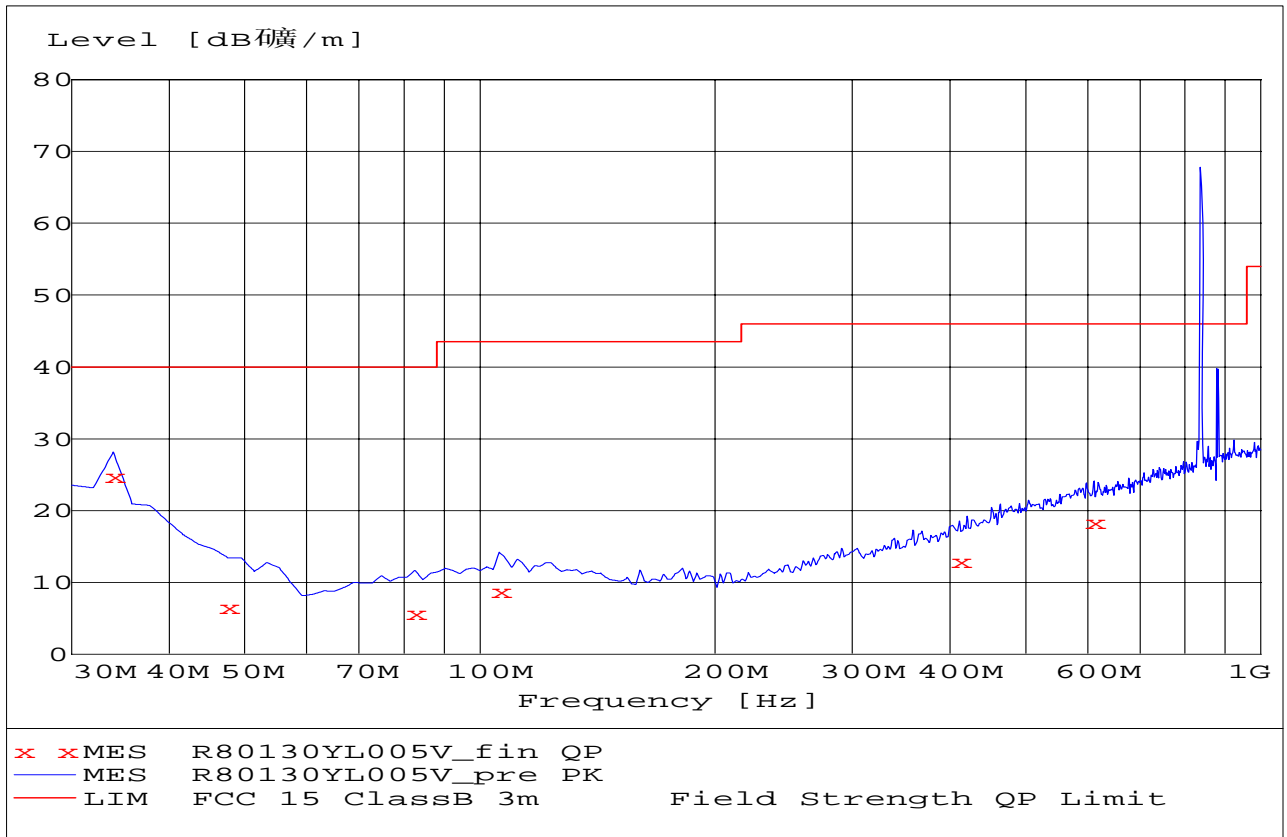


MEASUREMENT RESULT: "R80130YL005H_fin QP"

1/31/2008 5:40

Frequency	Level	Height	Azimuth	Polarisation	Limit	Margin
MHz	dBμV/m	cm	deg		dBμV/m	dB
34.922205	20.18	100.0	270.00	HORIZONTAL	40.00	19.82
47.494990	6.03	200.0	180.00	HORIZONTAL	40.00	33.97
82.484970	6.80	200.0	270.00	HORIZONTAL	40.00	33.20
207.893788	7.88	300.0	0.00	HORIZONTAL	43.50	35.62
362.404810	15.49	300.0	180.00	HORIZONTAL	46.00	30.51
572.344689	19.07	100.0	180.00	HORIZONTAL	46.00	26.93

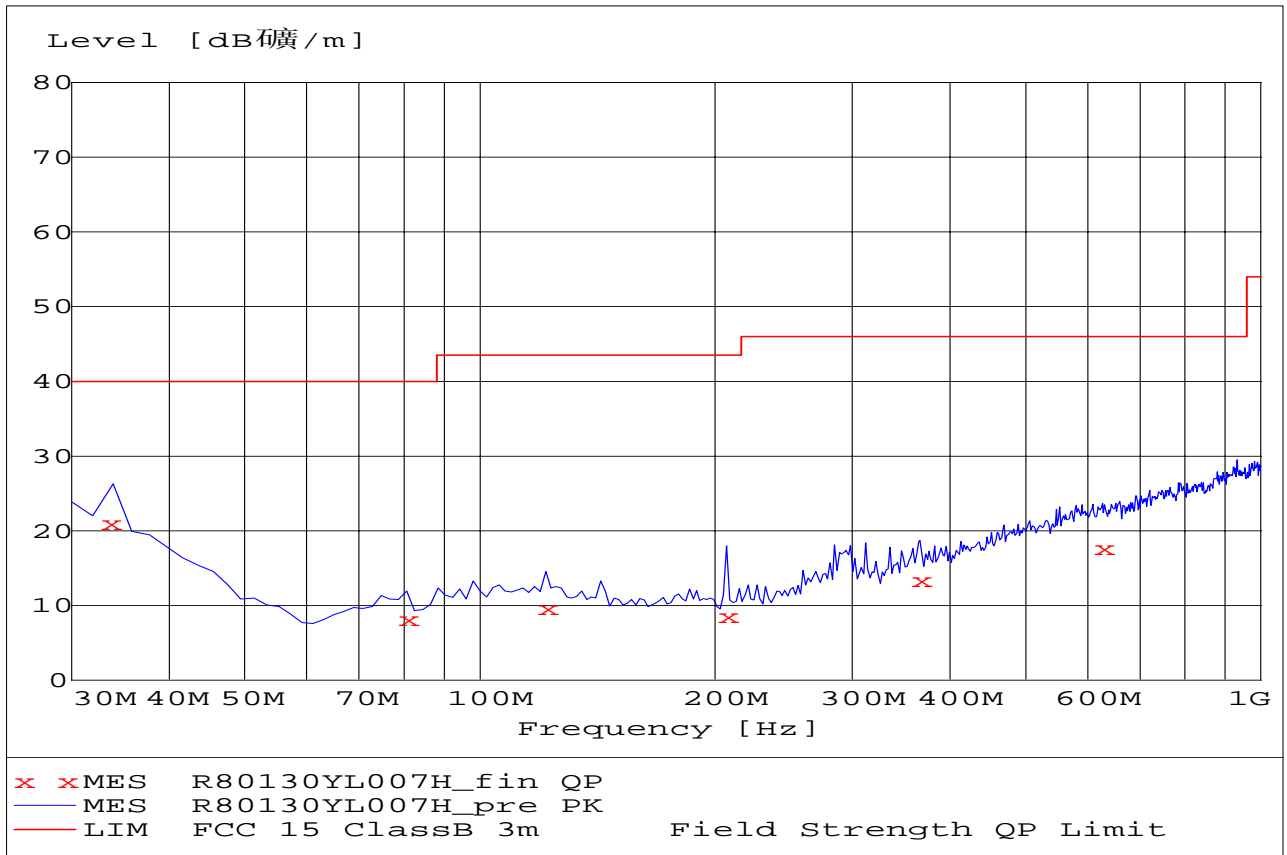
GSM 850, Antenna Vertical



MEASUREMENT RESULT: "R80130YL005V_fin QP"

1/31/2008 5:36

Frequency	Level	Height	Azimuth	Polarisation	Limit	Margin
MHz	dB μ V/m	cm	deg		dB μ V/m	dB
33.890046	24.83	100.0	180.00	VERTICAL	40.00	15.17
47.494990	6.55	300.0	0.00	VERTICAL	40.00	33.45
82.484970	5.74	400.0	180.00	VERTICAL	40.00	34.26
105.811623	8.71	300.0	90.00	VERTICAL	43.50	34.79
411.002004	12.95	300.0	270.00	VERTICAL	46.00	33.05
611.222445	18.37	200.0	180.00	VERTICAL	46.00	27.63

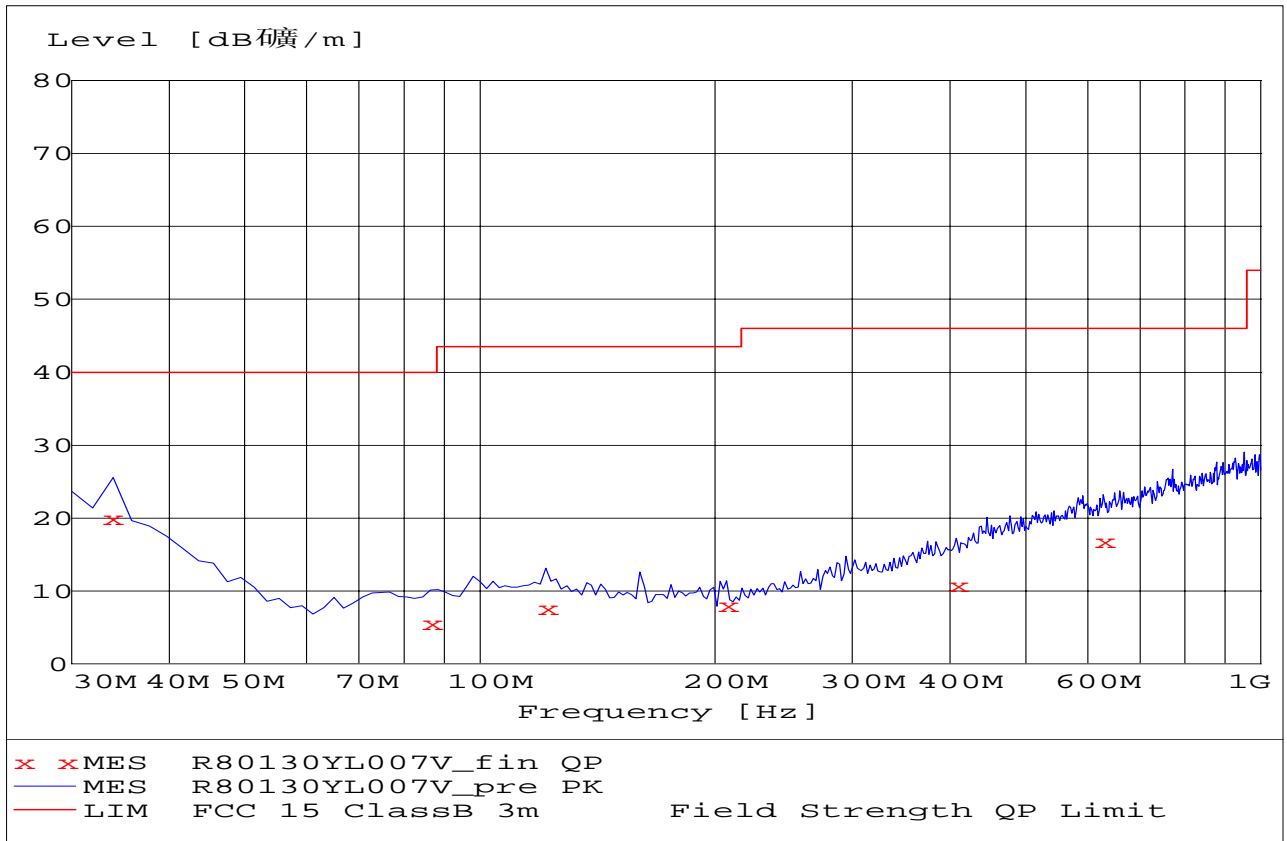


MEASUREMENT RESULT: "R80130YL007H_fin QP"

1/31/2008 6:05

Frequency	Level	Height	Azimuth	Polarisation	Limit	Margin
MHz	dBµV/m	cm	deg		dBµV/m	dB
33.537867	20.99	100.0	0.00	HORIZONTAL	40.00	19.01
80.541082	8.17	100.0	90.00	HORIZONTAL	40.00	31.83
121.362725	9.67	400.0	0.00	HORIZONTAL	43.50	33.83
206.893788	8.60	200.0	180.00	HORIZONTAL	43.50	34.90
366.292585	13.43	300.0	90.00	HORIZONTAL	46.00	32.57
626.773547	17.67	300.0	0.00	HORIZONTAL	46.00	28.33
348.797595	13.21	400.0	90.00	HORIZONTAL	46.00	32.79
416.833667	15.69	100.0	270.00	HORIZONTAL	46.00	30.31

PCS 1900, Antenna Vertical



MEASUREMENT RESULT: "R80130YL007V_fin QP"

1/31/2008 6:02

Frequency	Level	Height	Azimuth	Polarisation	Limit	Margin
MHz	dBμV/m	cm	deg		dBμV/m	dB
33.726811	19.96	100.0	180.00	VERTICAL	40.00	20.04
86.372745	5.62	100.0	90.00	VERTICAL	40.00	34.38
121.362725	7.63	100.0	90.00	VERTICAL	43.50	35.87
206.893788	8.08	100.0	0.00	VERTICAL	43.50	35.42
407.114228	10.85	400.0	90.00	VERTICAL	46.00	35.15
628.717435	16.93	100.0	0.00	VERTICAL	46.00	29.07

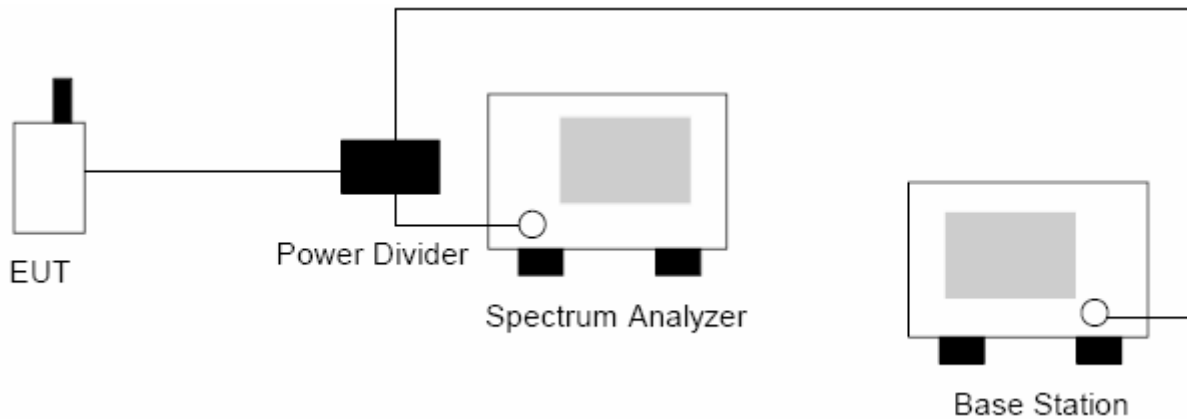
5. RF Output Power

5.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

5.2. Test Setup



5.3. Limits

Limits	<33dBm
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5.4. Test Procedure

After a radio link has been established between EUT and Base station, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. Then the test data can be read at the tester screen. The loss between RF output port of the EUT and the input port of the tester will be taken into consideration.

The measurement will be conducted at three channels Bottom, middle and top channels.

5.5. Test Specification

CF 47 FCC Part 2.1046, 22.913, 24.232

5.6. EUT Operation

See chapter 1.2 of this test report.

5.7. Test Result**5.7.1 GPRS 850**

Test channel	Fundamental Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power	Limit (dBm)	Pass/Fail
128	824.2	25.24	0.2	25.44	33	Pass
189	836.4	25.10	0.2	25.30		Pass
251	848.8	25.06	0.2	25.26		Pass

5.7.2 GPRS 1900

Test channel	Fundamental Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power	Limit (dBm)	Pass/Fail
512	1850.2	21.77	0.4	22.17	33	Pass
661	1880.0	21.59	0.4	21.99		Pass
810	1909.8	21.32	0.4	21.72		Pass

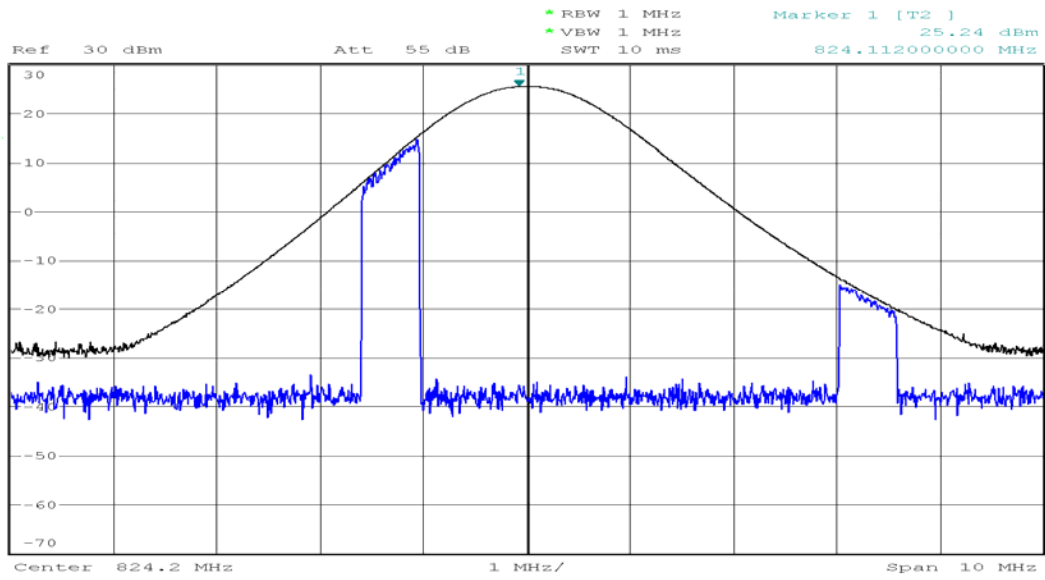
5.7.3 GSM 850

Test channel	Fundamental Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power	Limit (dBm)	Pass/Fail
128	824.2	25.48	0.2	25.68	33	Pass
189	836.4	25.26	0.2	25.46		Pass
251	848.8	25.20	0.2	25.40		Pass

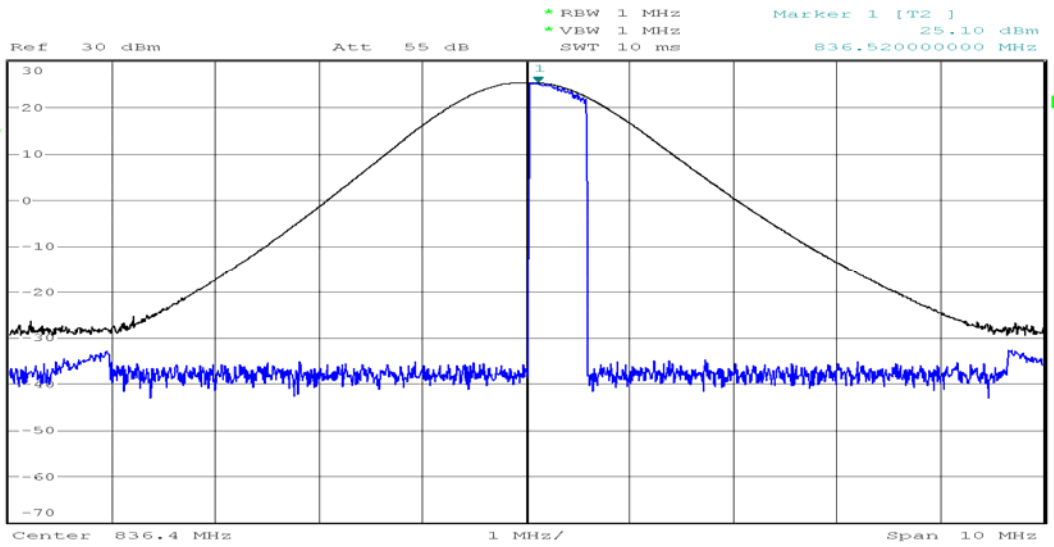
5.7.4 PCS 1900

Test channel	Fundamental Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power	Limit (dBm)	Pass/Fail
512	1850.2	21.54	0.4	21.94	33	Pass
661	1880.0	21.43	0.4	21.83		Pass
810	1909.8	21.40	0.4	21.80		Pass

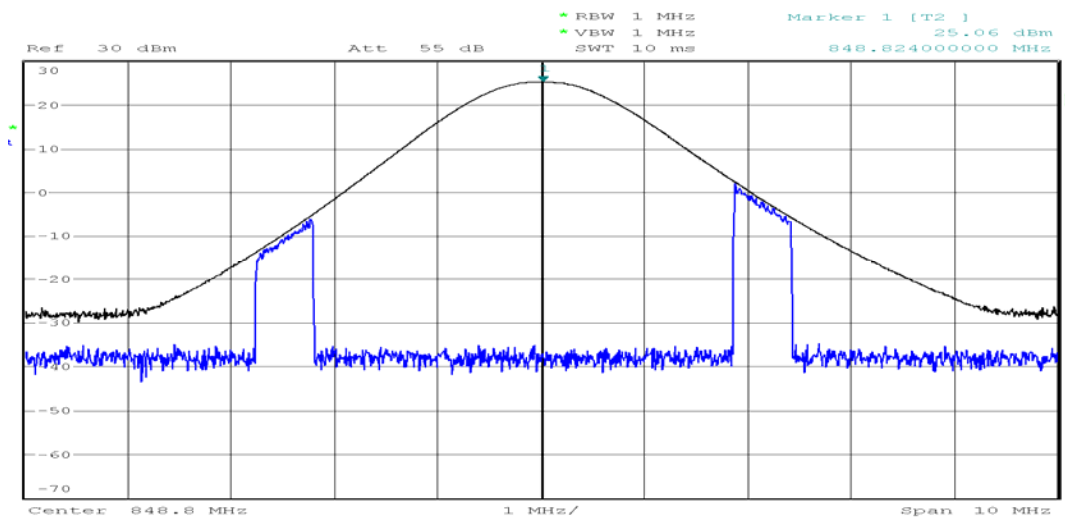
GPRS 850 CH 128



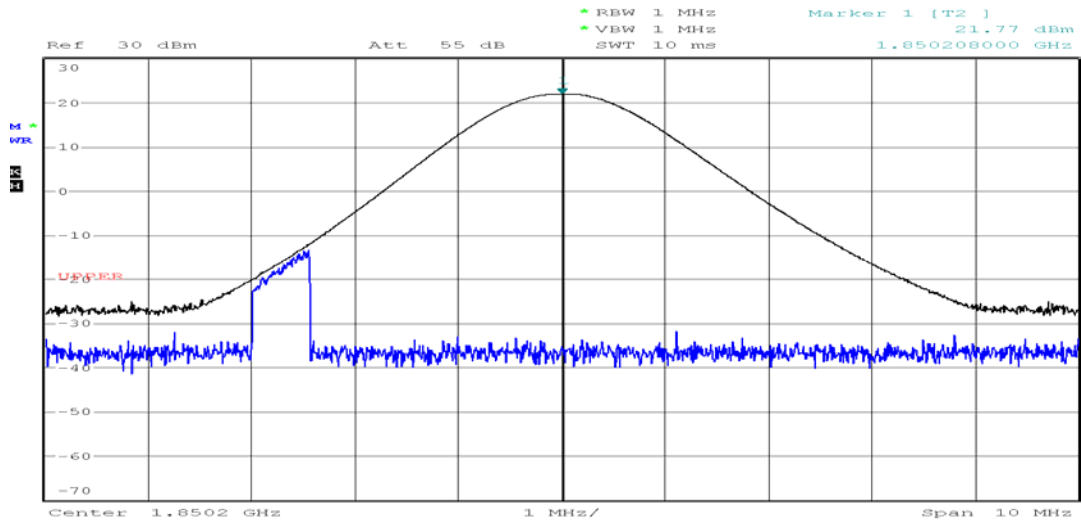
GPRS 850 CH 189



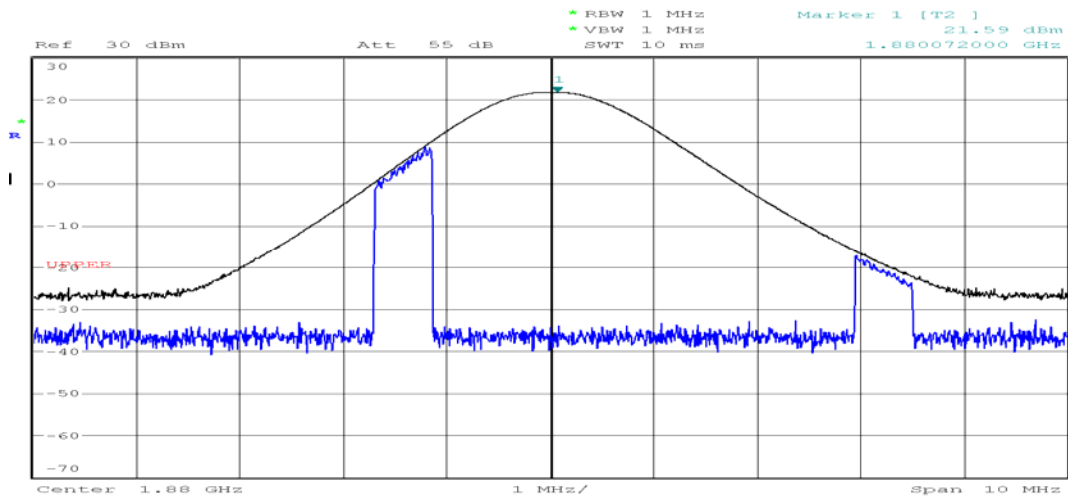
GPRS 850 CH 251



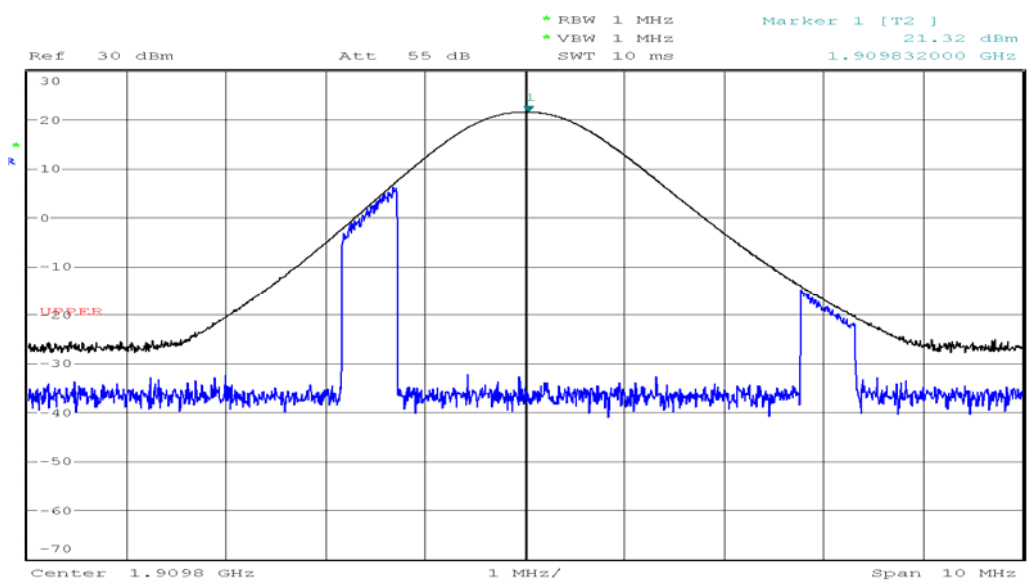
GPRS 1900 CH 512



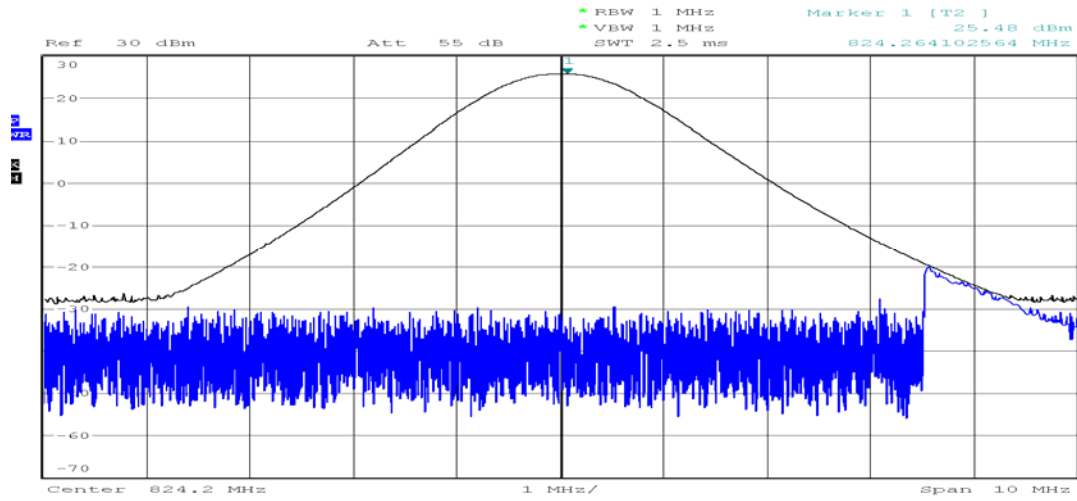
GPRS 1900 CH 661



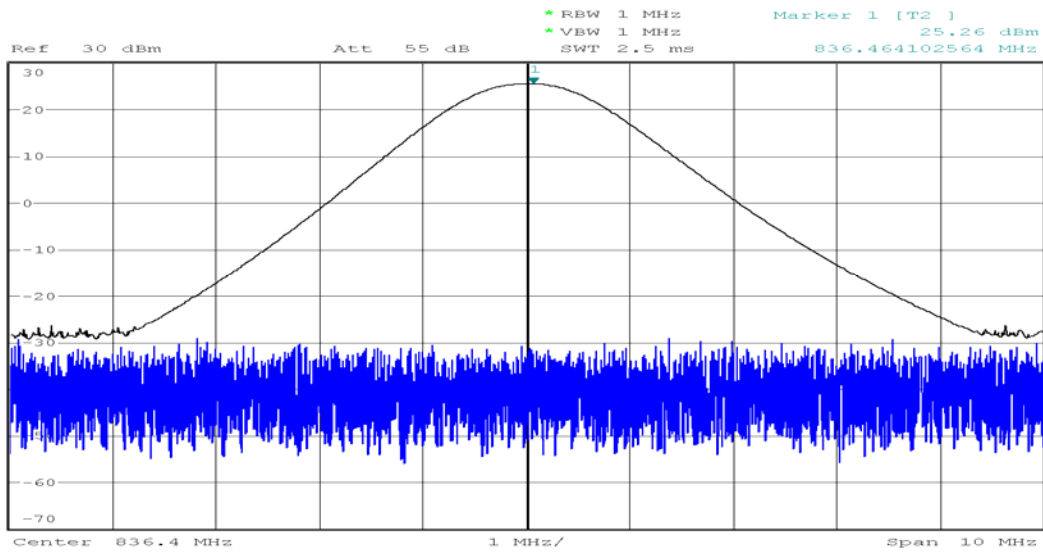
GPRS 1900 CH 810



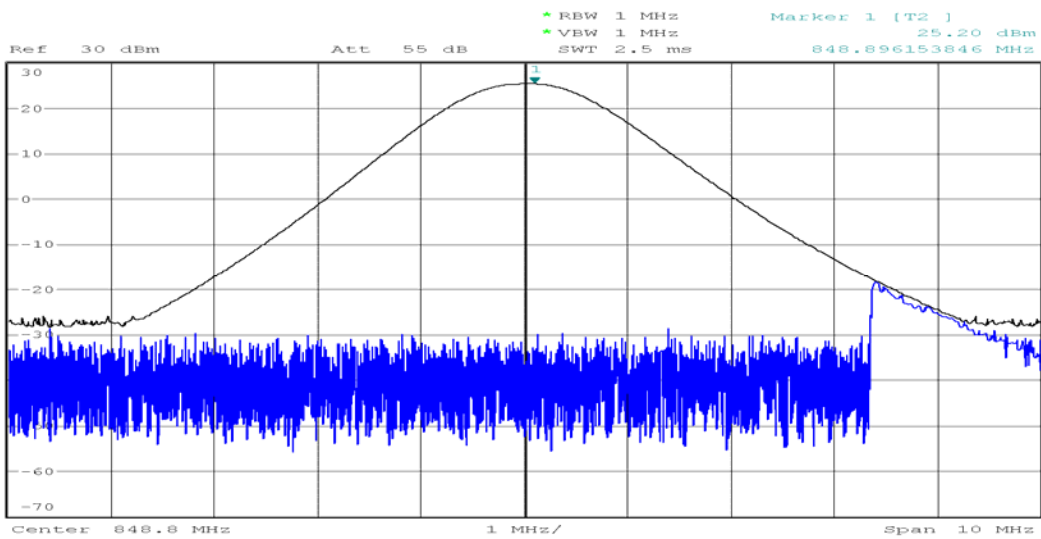
GSM 850 CH 128



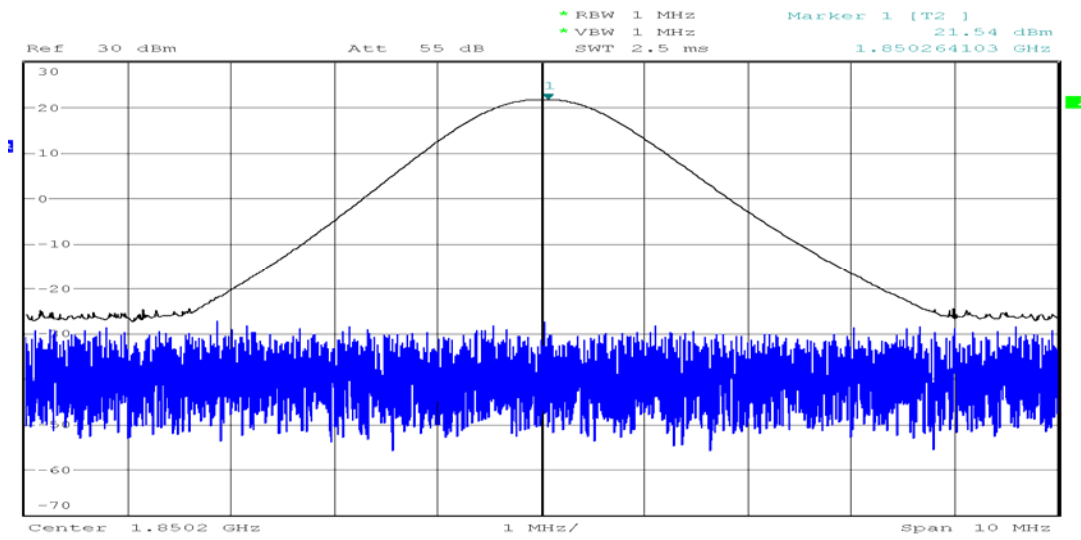
GSM 850 CH 189



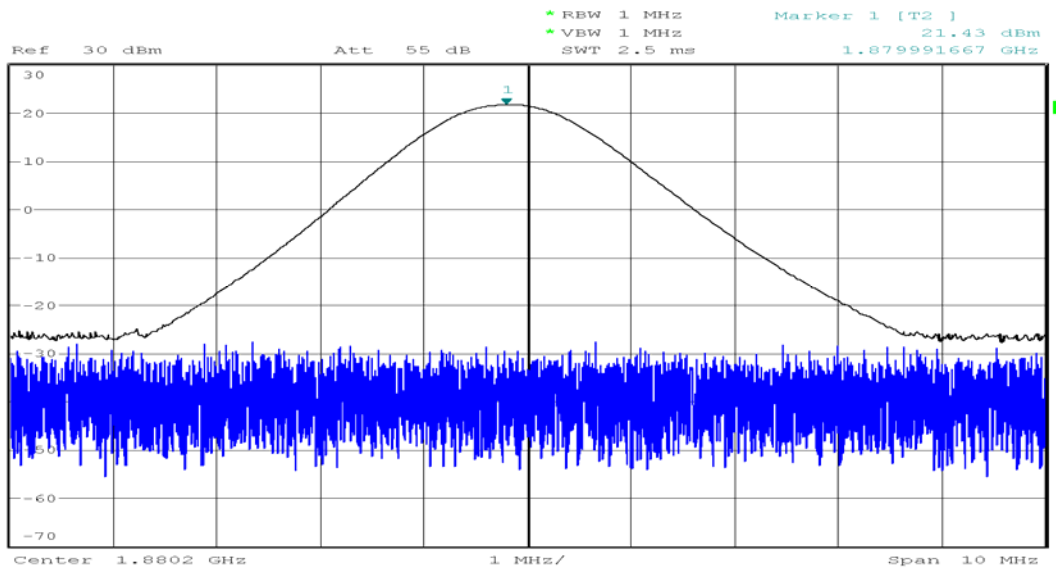
GSM 850 CH 251



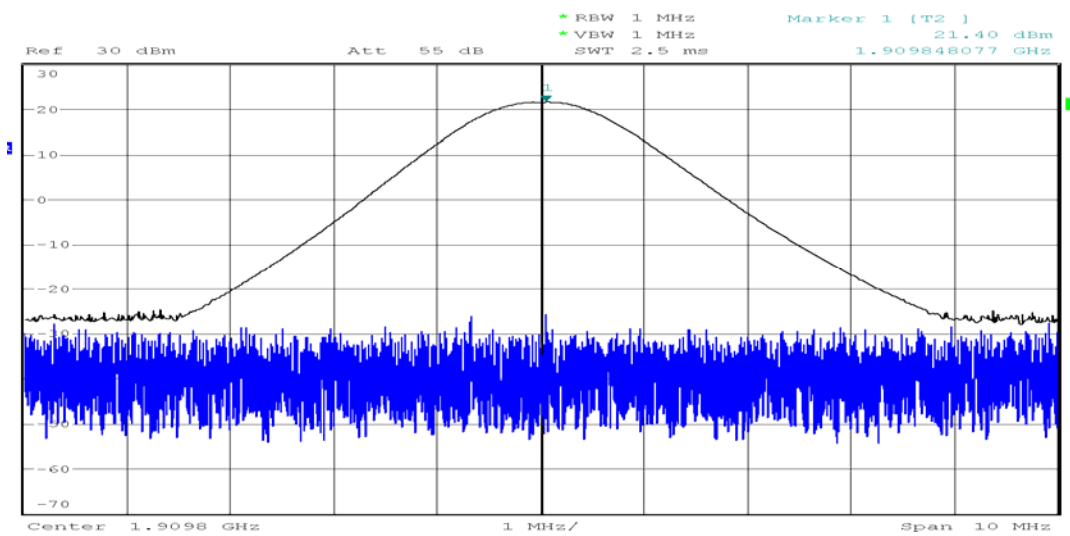
PCS 1900 CH512



PCS 1900 CH661



PCS 1900 CH810



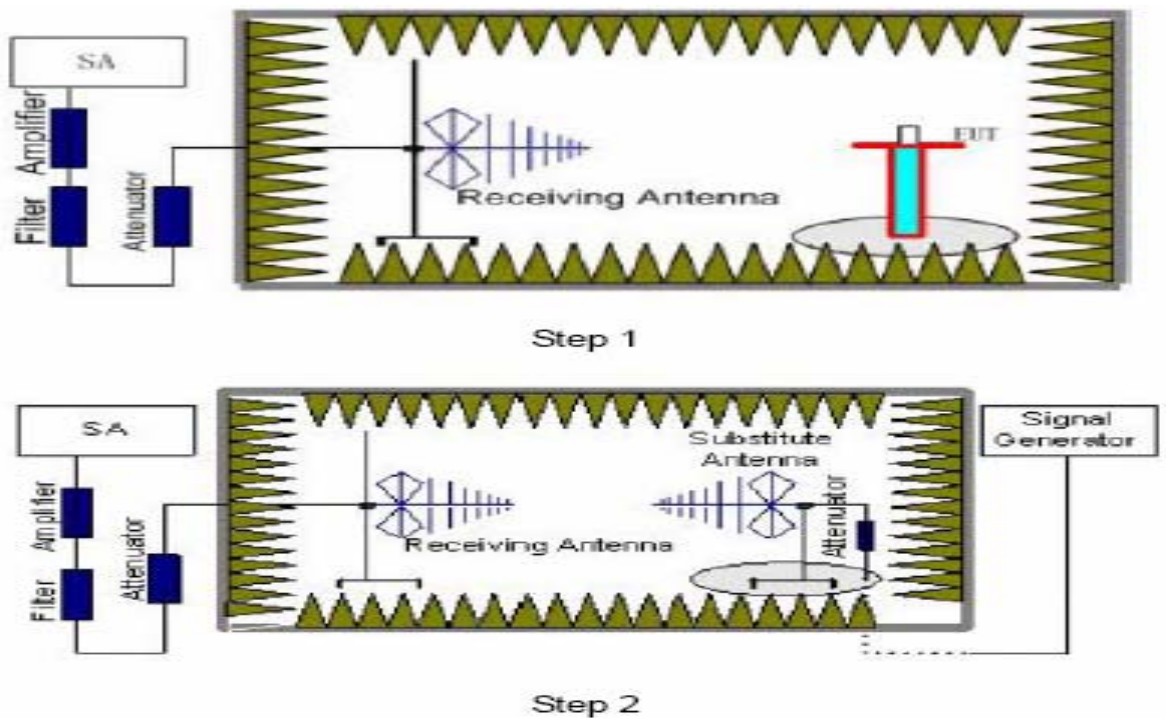
6. ERP / EIRP

6.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Ultra Broadband Antenna	R & S	HL 562/100019	May, 2008
3	VHA 9103 without telescopic rods for use with biconical broad-band elements BBA 9106	SCHWARZBEC K	BBA 9106 + VHA 9103/2358	May, 2008
4	Logarithmic Periodic Broadband Antenna	SCHWARZBEC K	UHALP 9108 A/ 696	May, 2008
5	Double-Ridged Waveguide Horn Antenna	R & S	HF 906/100023	May, 2008
6	Broad-band Horn Antenna	SCHWARZBEC K	BBHA 9120D/ 249	May, 2008
7	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

6.2. Test Setup



6.3. Limits

Limits	<38.5dBm
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6.4. Test Procedure

Step 1:

EUT was placed on a 1.5 meters high non-conductive table in a fully anechoic chamber. A receiving antenna was placed on the antenna mast 3 meters from the EUT. The height of receiving antenna is 1.5m. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reach a maximum value. A RMS detector is used and RBW is set to 3MHz. Then turn table rotation is adjusted from 0 degree to 360 degree until the maximum power value is founded on spectrum analyzer or receiver.

Step 2: A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The EIRP or ERP of the EUT can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading value of the spectrum analyzer or receiver.

Step 3: Calculaton

$$\text{ERP/EIRP} = \text{Ps} + \text{Et} - \text{Es} + \text{Gs} = \text{Ps} + \text{Rt} - \text{Rs} + \text{Gs}$$

Ps (dBm): Input power to substitution antenna.

$$\text{Ps} = \text{Po} + \text{Lc}$$

Po (dBm): Reading value of the Spectrum Analyzer

Lc(dB) : Loss of the cable from Spectrum analyzer to antenna

Gs (dBi or dBd): Substitution antenna Gain.

$$\text{Et} = \text{Rt} + \text{AF}$$

$$\text{Es} = \text{Rs} + \text{AF}$$

AF (dB/m): Receive antenna factor

Rt: The highest received signal in Spectrum Analyzer for EUT.

Rs: The highest received signal in spectrum analyzer for substitution antenna. According to the Step 1 and Step 2, $\text{Rt} = \text{Rs}$ $\text{ERP/EIRP} = \text{Po} + \text{Lc} + \text{Gs}$

6.5. Test Specification

CF 47 FCC Part 22.913, 24.232

6.6. EUT Operation

See chapter 1.2 of this test report.

6.7. Test Result**6.7.1 GPRS 850**

Test channel	Fundamental Frequency (MHz)	Po. (dBm)	Lc (dBm)	Gs (dBd)	E.R.P (dBm)	Pass/Fail
128	824.2	-14.79	32.70	5.25	23.16	Pass
189	836.4	-19.37	37.60	4.85	23.08	Pass
251	848.8	-15.55	33.90	4.65	23.00	Pass

6.7.2 GPRS 1900

Test channel	Fundamental Frequency (MHz)	Po. (dBm)	Lc (dBm)	Gs (dBi)	E.I.R.P (dBm)	Pass/Fail
512	1850.2	-23.49	33.1	10.2	19.81	Pass
661	1880.0	-25.47	34.1	10.1	18.73	Pass
810	1909.8	-27.66	36.6	10.0	18.94	Pass

6.7.3 GSM 850

Test channel	Fundamental Frequency (MHz)	Po. (dBm)	Lc (dBm)	Gs (dBd)	E.R.P (dBm)	Pass/Fail
128	824.2	-14.31	32.70	5.25	23.64	Pass
189	836.4	-18.84	37.60	4.85	23.61	Pass
251	848.8	-15.36	33.90	4.65	23.19	Pass

6.7.4 GSM 1900

Test channel	Fundamental Frequency (MHz)	Po. (dBm)	Lc (dBm)	Gs (dBi)	E.I.R.P (dBm)	Pass/Fail
512	1850.2	-24.58	33.1	10.2	19.81	Pass
661	1880.0	-24.52	34.1	10.1	18.73	Pass
810	1909.8	-28.23	36.6	10.0	18.94	Pass

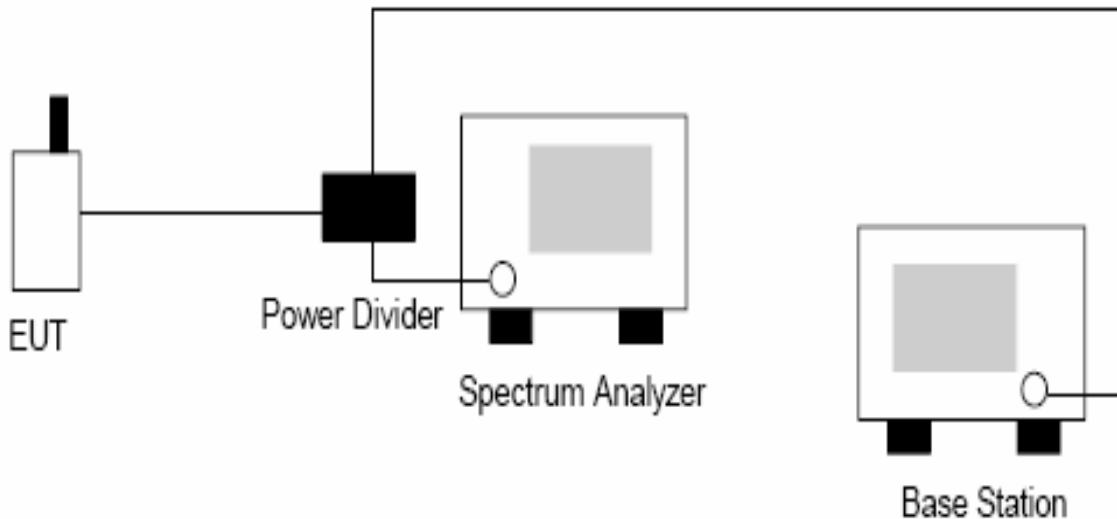
7. Occupied Bandwidth & Band Edge Measurement

7.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

7.2. Test Setup



7.3. Limits

No specific occupied bandwidth requirements in part 2.1049

7.4. Test Procedure

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The occupied bandwidth is measured using spectrum analyzer. RBW is set to 3kHz on spectrum analyzer. The bandwidth of 99% power can be read on spectrum analyzer. The measurement will be conducted at Bottom, middle and top three channels

7.5. EUT Operation

See chapter 1.2 of this test report.

7.6. Test Specification

CF 47 FCC Part 2.1049, 22.917, 24.238

7.7. Test Result

7.7.1 GPRS 850

Test channel	Fundamental Frequency (MHz)	Bandwidth of 99% Power (kHz)
128	824.2	248.8
189	836.4	249.6
251	848.8	248.0

7.7.2 GPRS 1900

Test channel	Fundamental Frequency (MHz)	Bandwidth of 99% Power (kHz)
512	1850.2	247.2
661	1880.0	249.6
810	1909.8	244.8

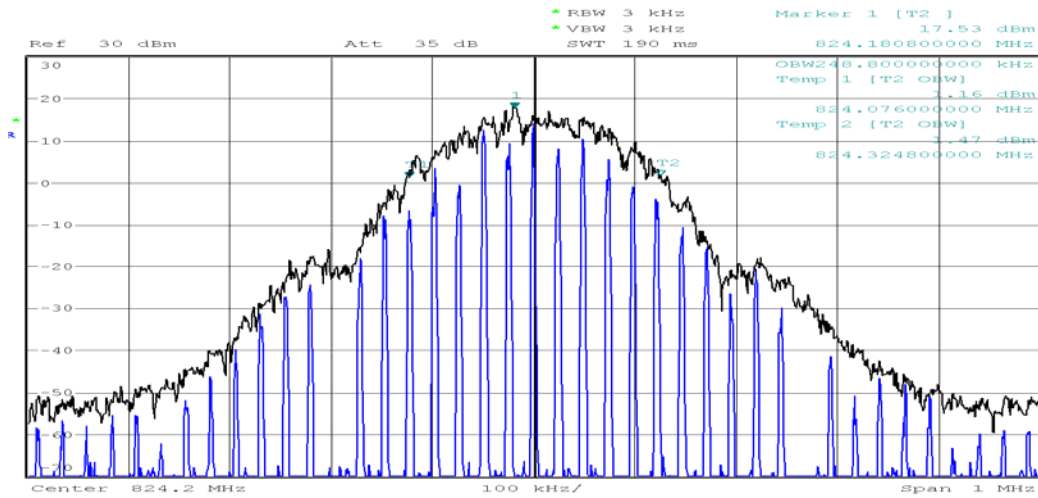
7.7.3 GSM 850

Test channel	Fundamental Frequency (MHz)	Bandwidth of 99% Power (kHz)
128	824.2	253.6
189	836.4	250.0
251	848.8	249.6

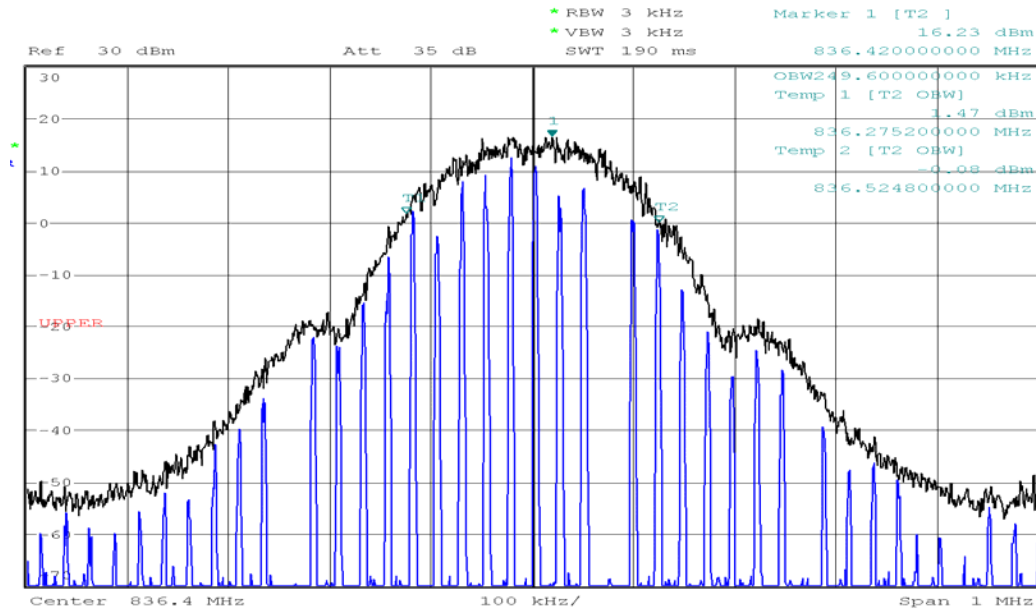
7.7.3 GSM 1900

Test channel	Fundamental Frequency (MHz)	Bandwidth of 99% Power (kHz)
512	1850.2	247.2
661	1880.0	248.8
810	1909.8	251.2

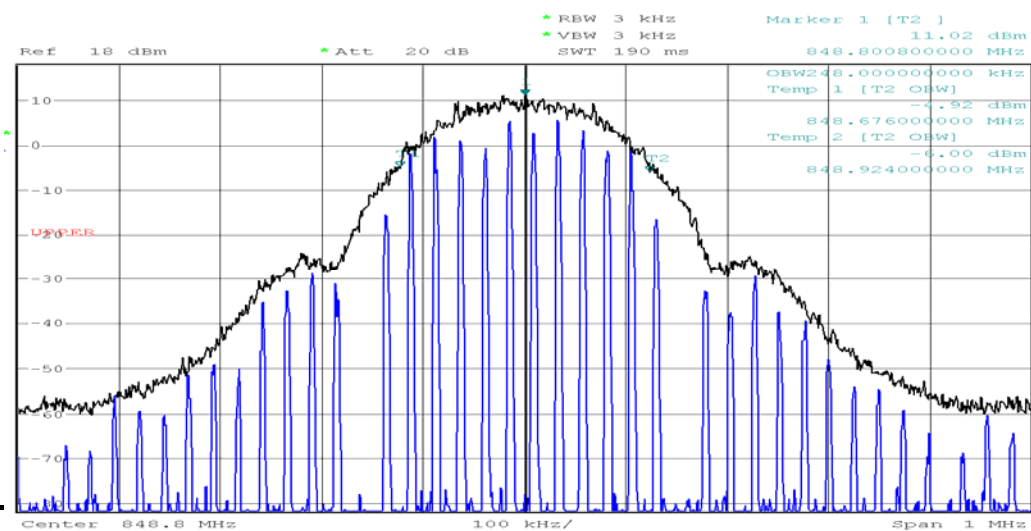
GPRS 850 99% Bandwidth for CH 128



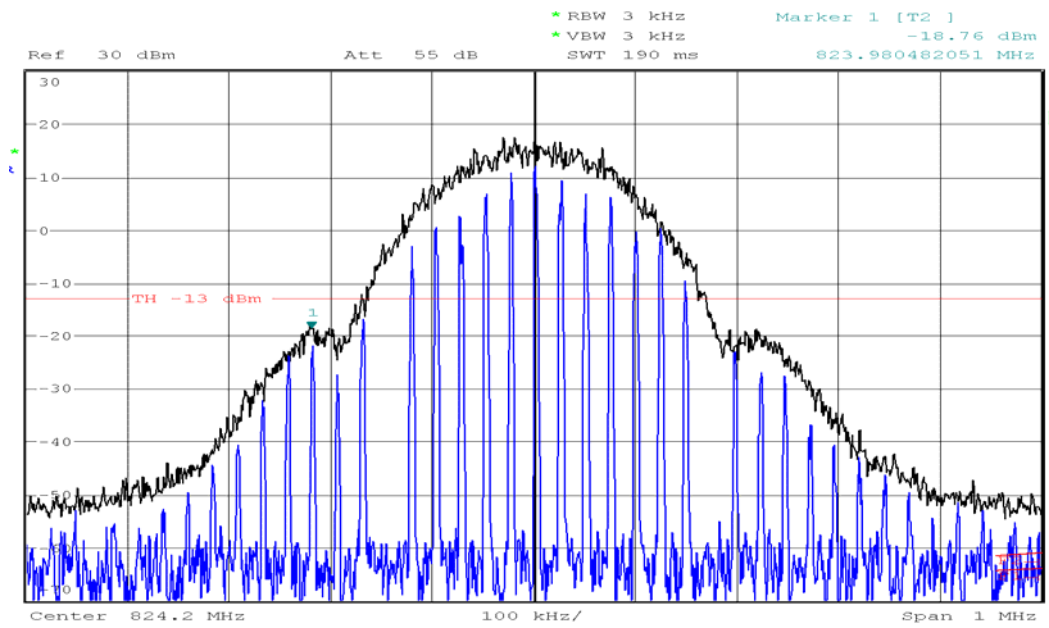
GPRS 850 99% Bandwidth for CH 189



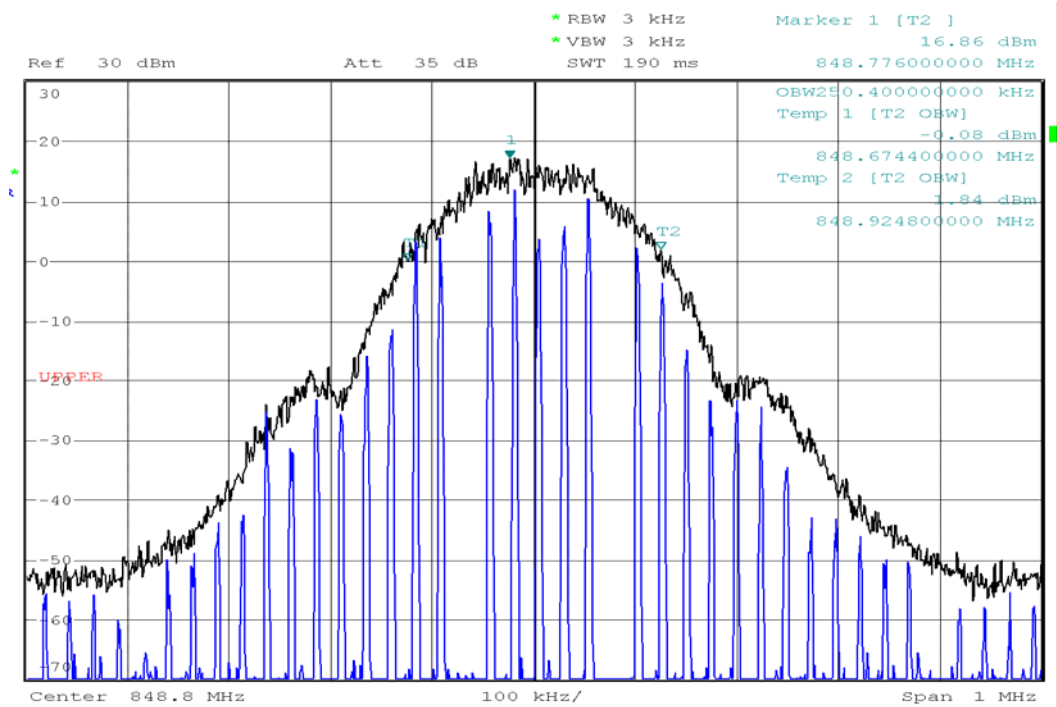
GPRS 850 99% Bandwidth for CH 251



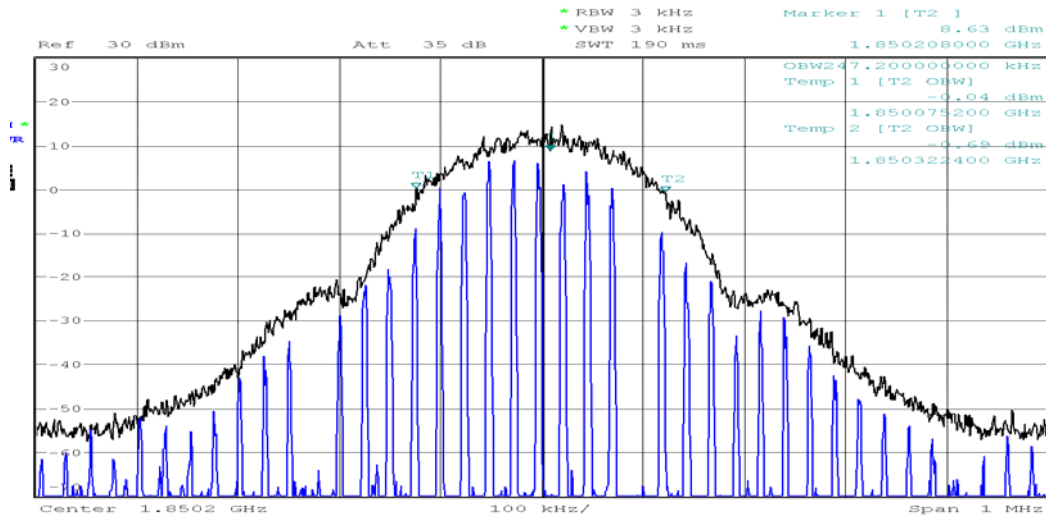
GPRS 850 Band Edge for CH 128



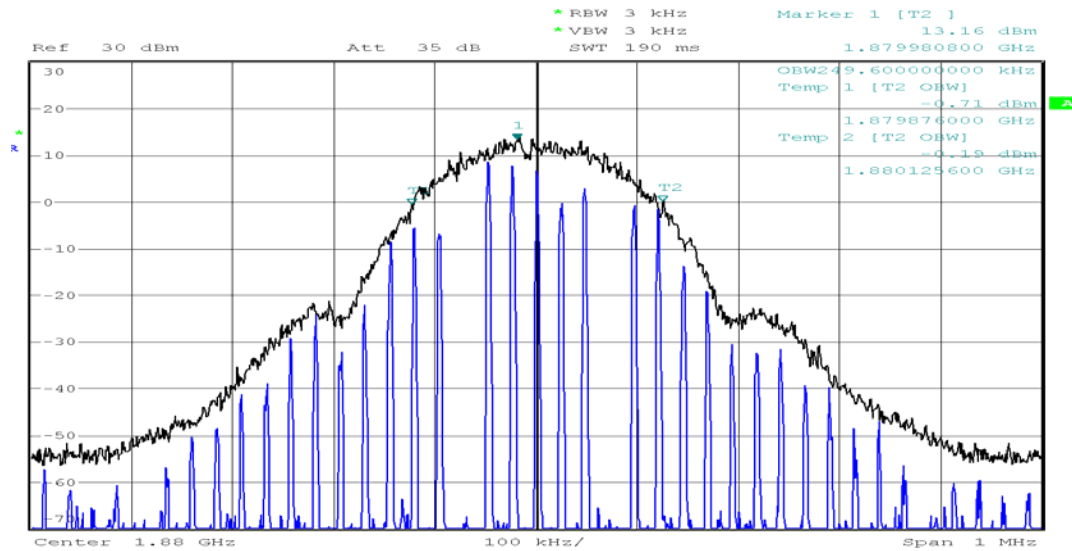
GPRS 850 Band Edge for CH 251



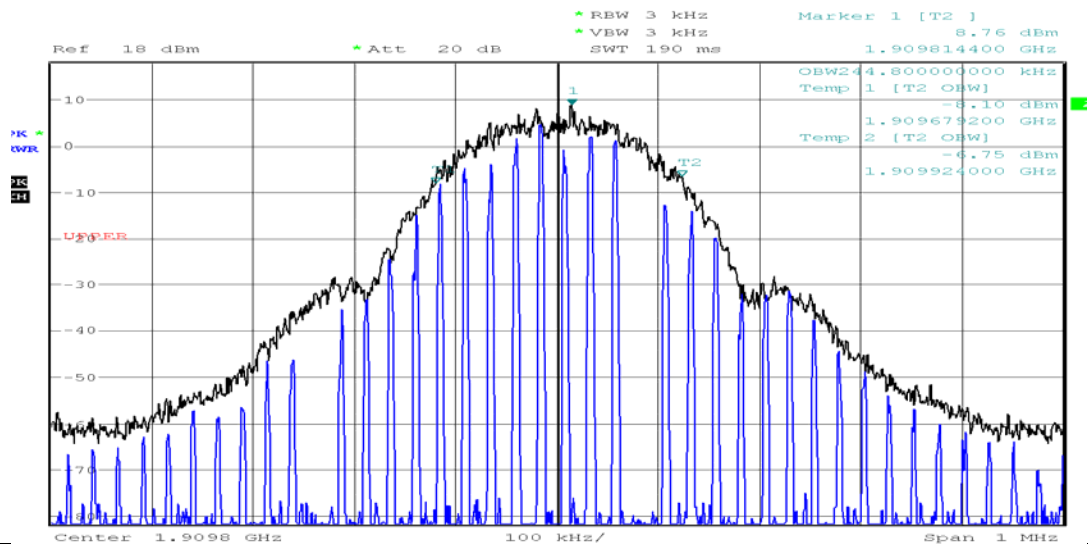
GPRS 1900 99% Bandwidth for CH 512



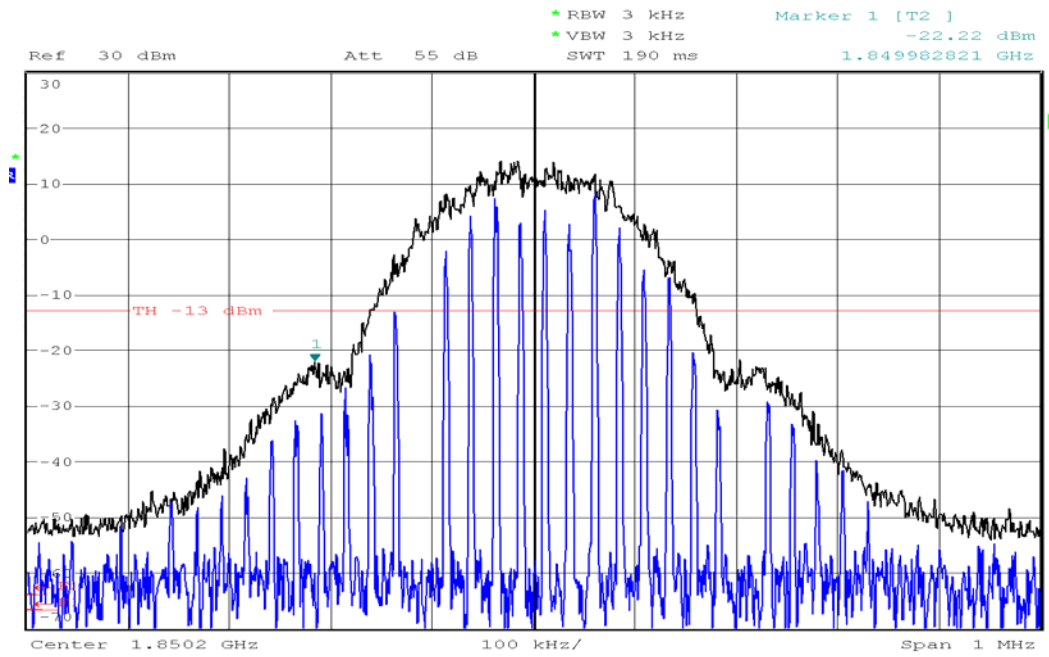
GPRS 1900 99% Bandwidth for CH 661



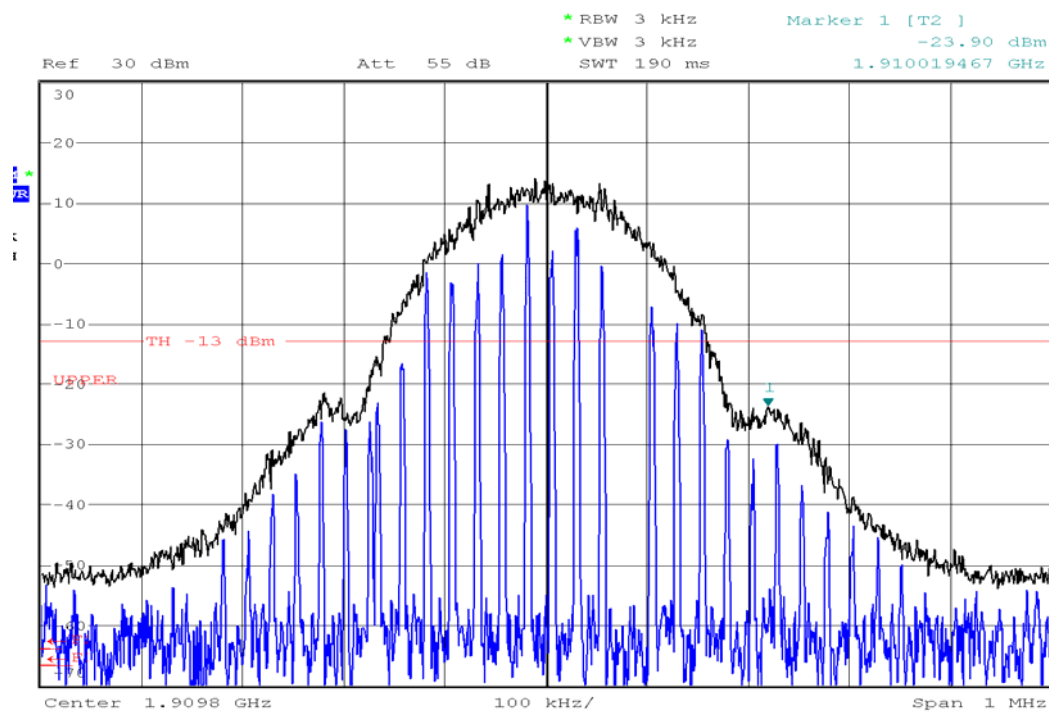
GPRS 1900 99% Bandwidth for CH 810



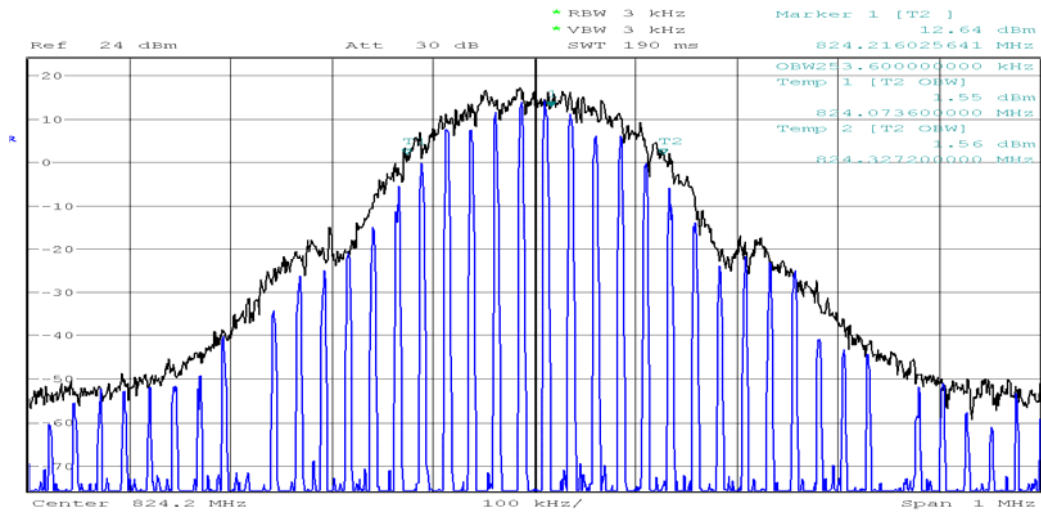
GPRS 1900 Band Edge for CH 512



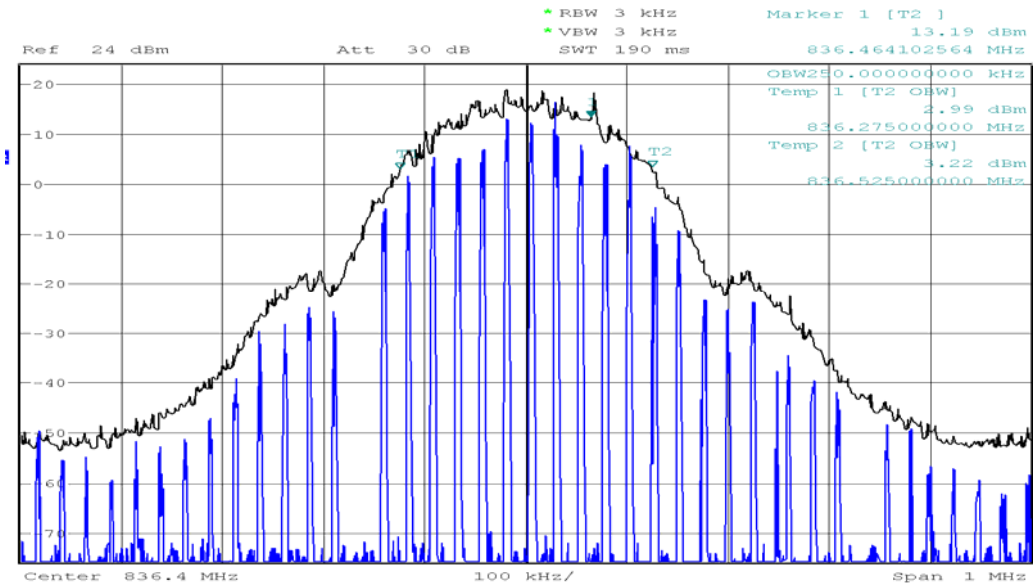
GPRS 1900 Band Edge for CH 810



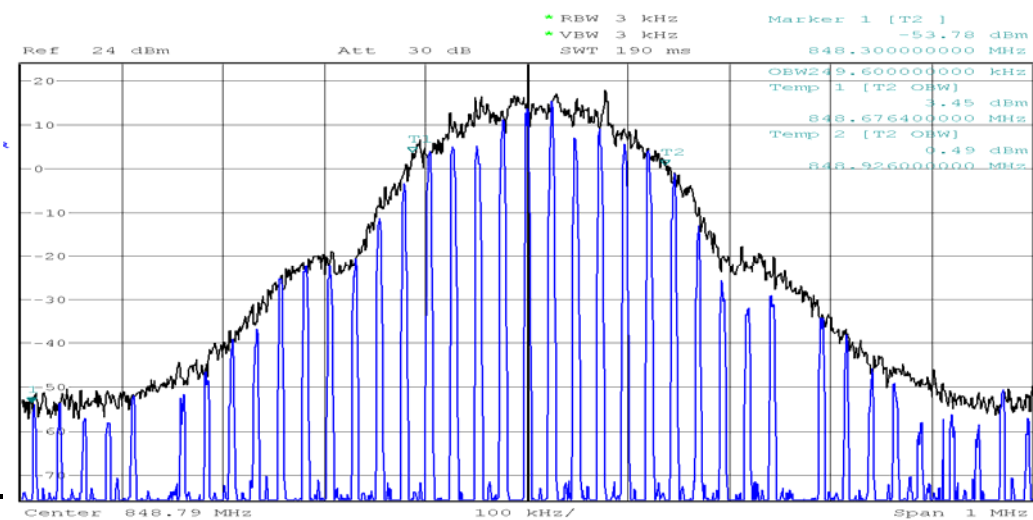
GSM 850 99% Bandwidth for CH 128



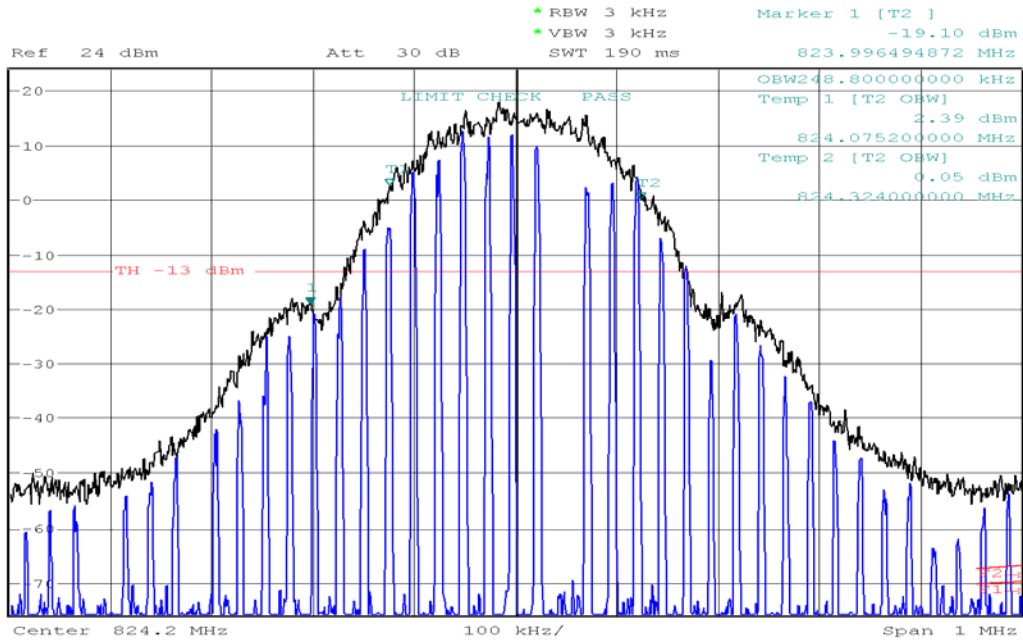
GSM 850 99% Bandwidth for CH 189



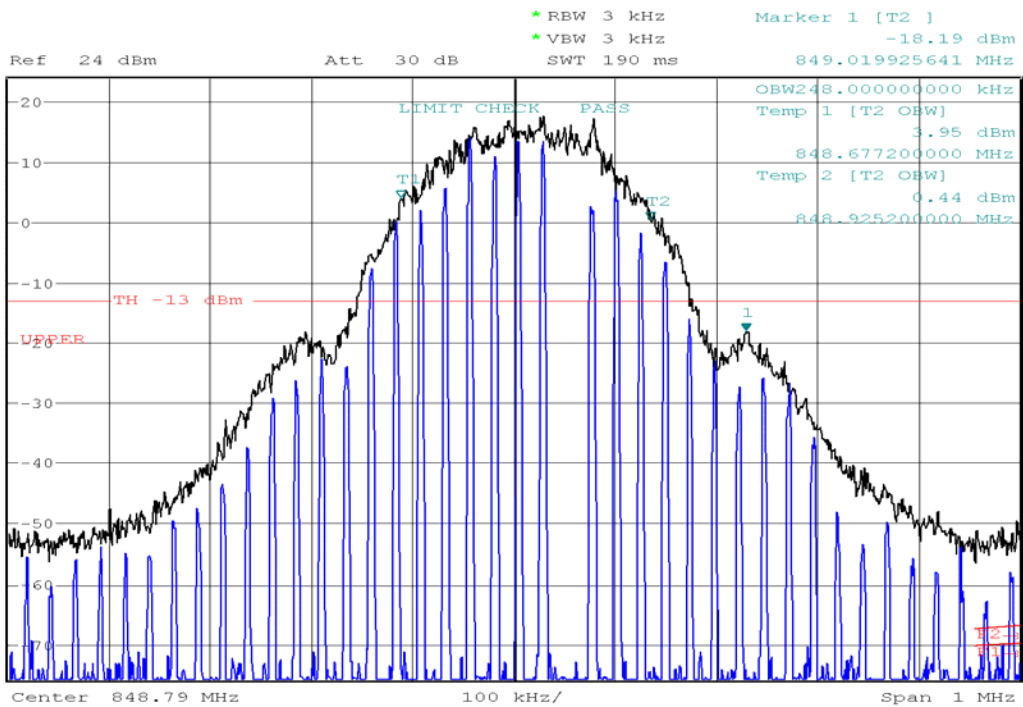
GSM 850 99% Bandwidth for CH 251



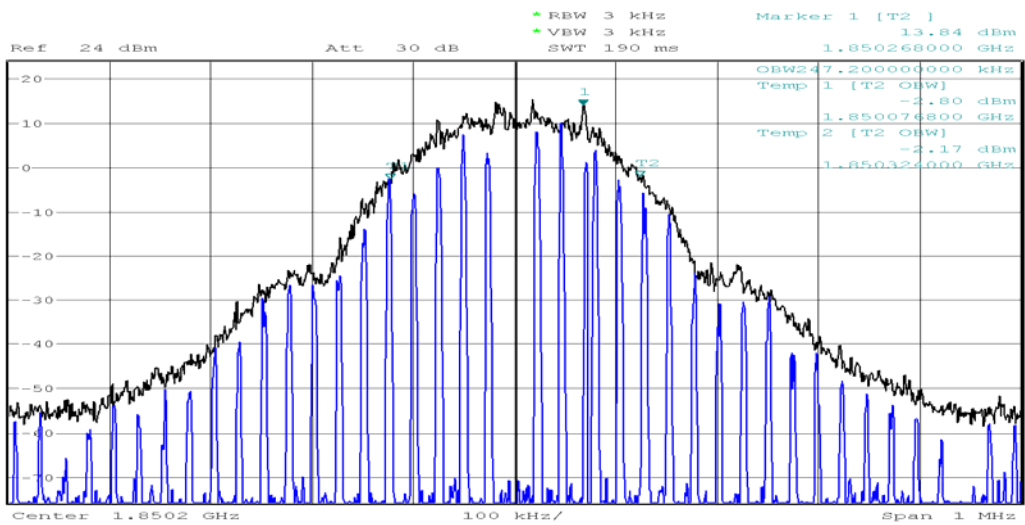
GSM 850 Band Edge for CH 128



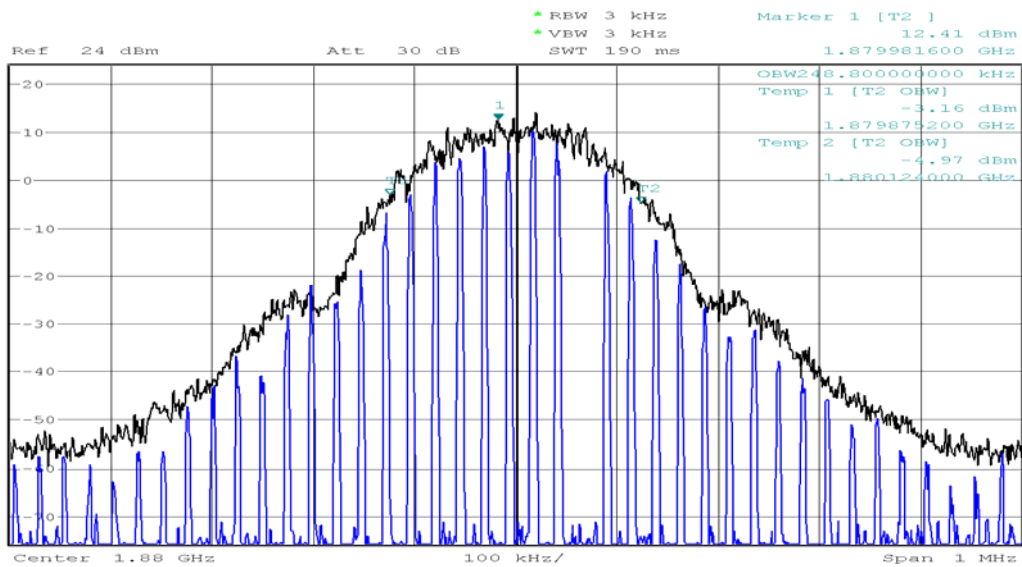
GSM 850 Band Edge for CH 251



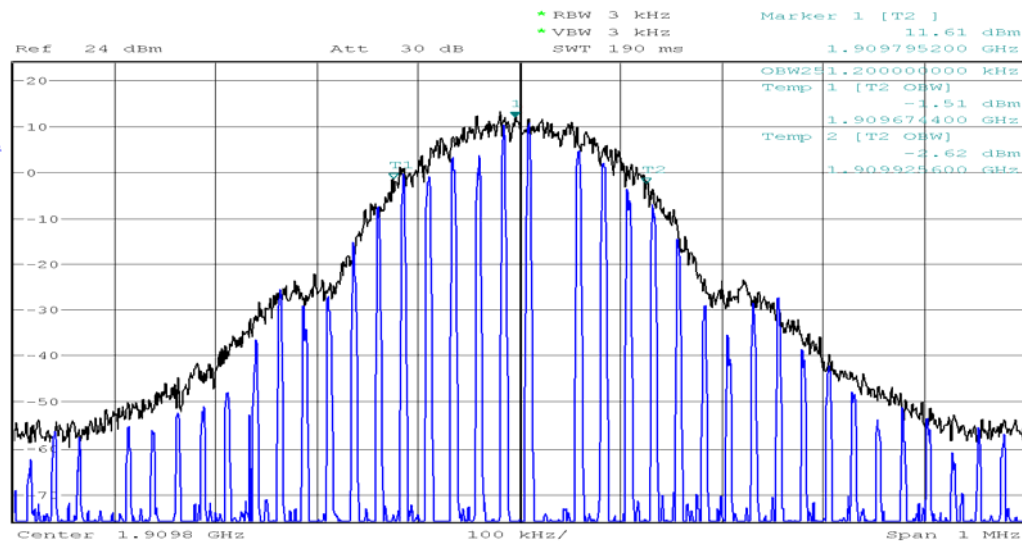
PCS 1900 99% Bandwidth for CH 512



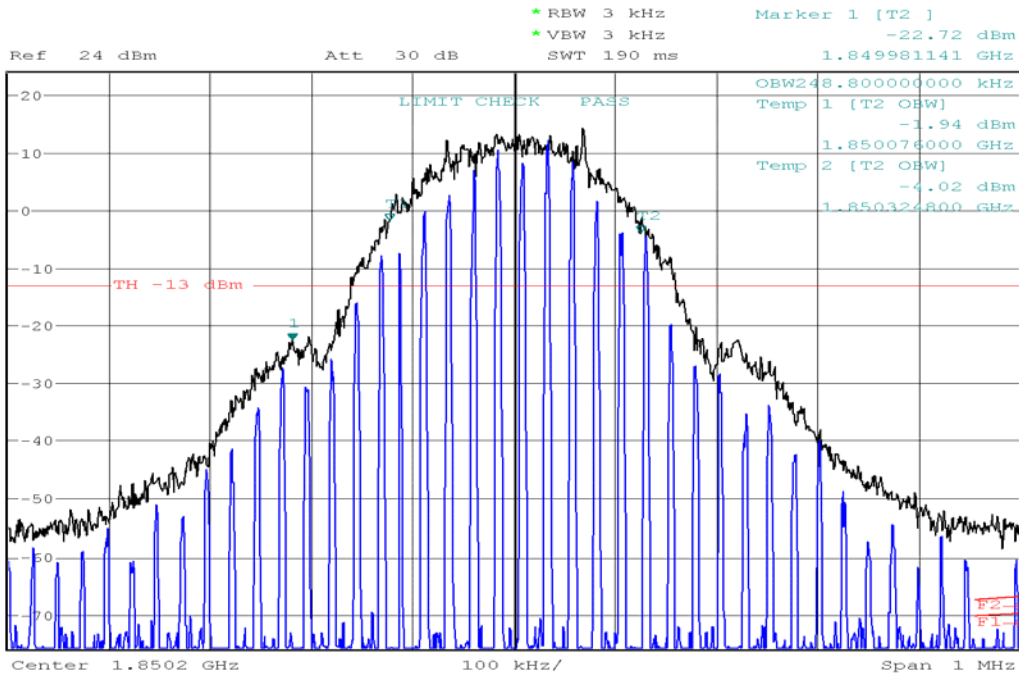
PCS 1900 99% Bandwidth for CH 661



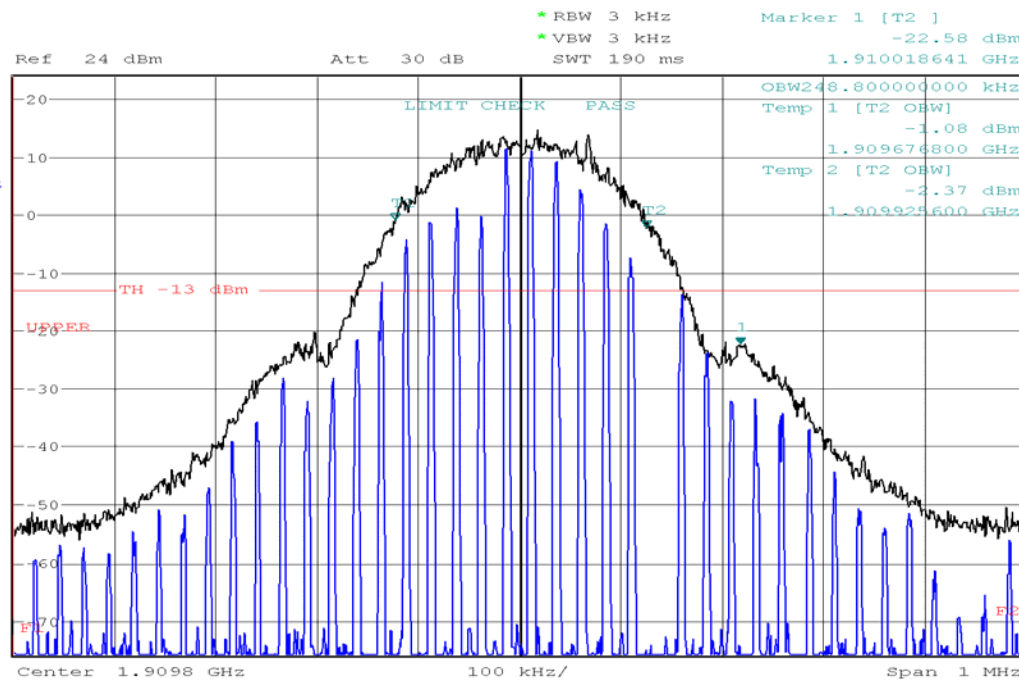
PCS 1900 99% Bandwidth for CH 810



PCS 1900 Band Edge for CH 512



PCS 1900 Band Edge for CH 810



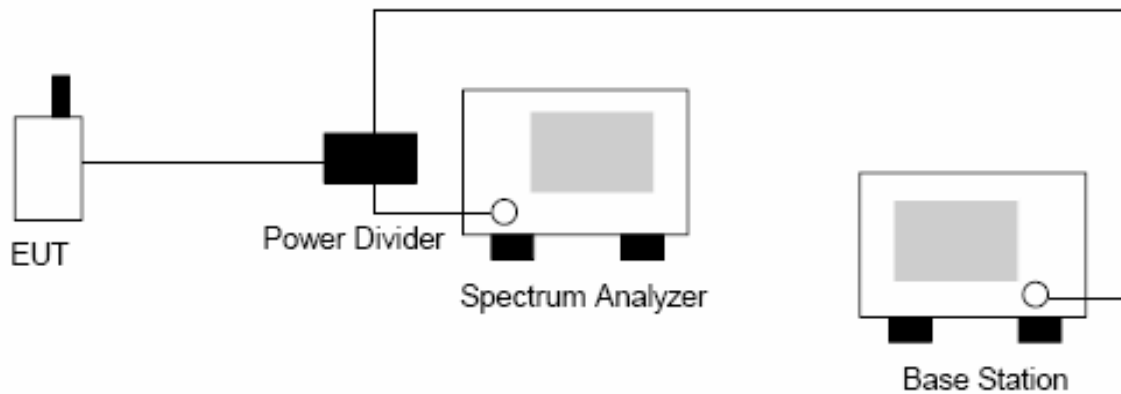
8. Conducted Spurious Emission

8.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

8.2. Test Setup



8.3. Limits

Limits	<-13dBm
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8.4. 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.

8.5. Test Specification

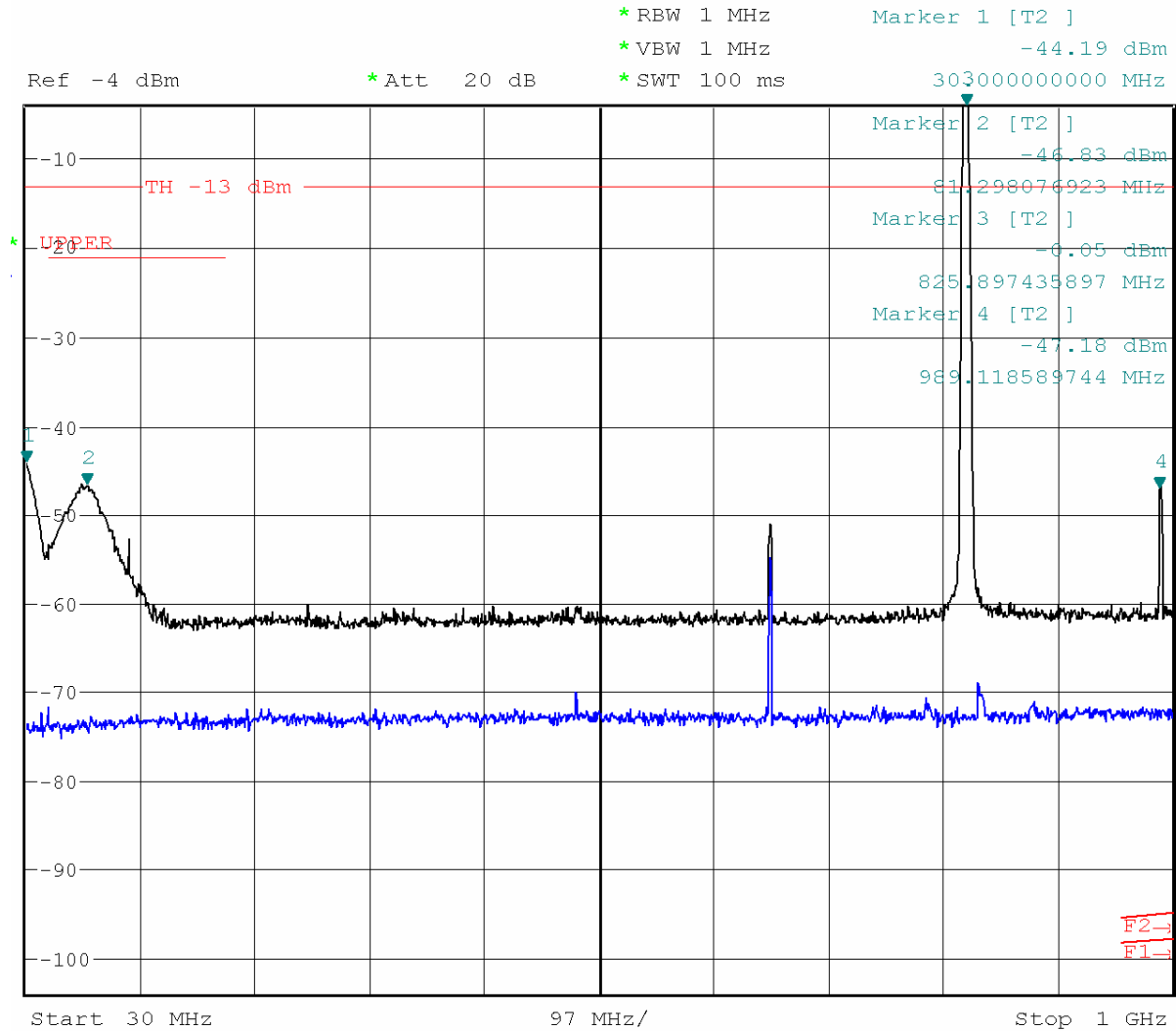
CF 47 FCC Part 2.1051, Part 22.917, Part 24.238

8.6. EUT Operation

See chapter 1.2 of this test report

8.7. Test Result

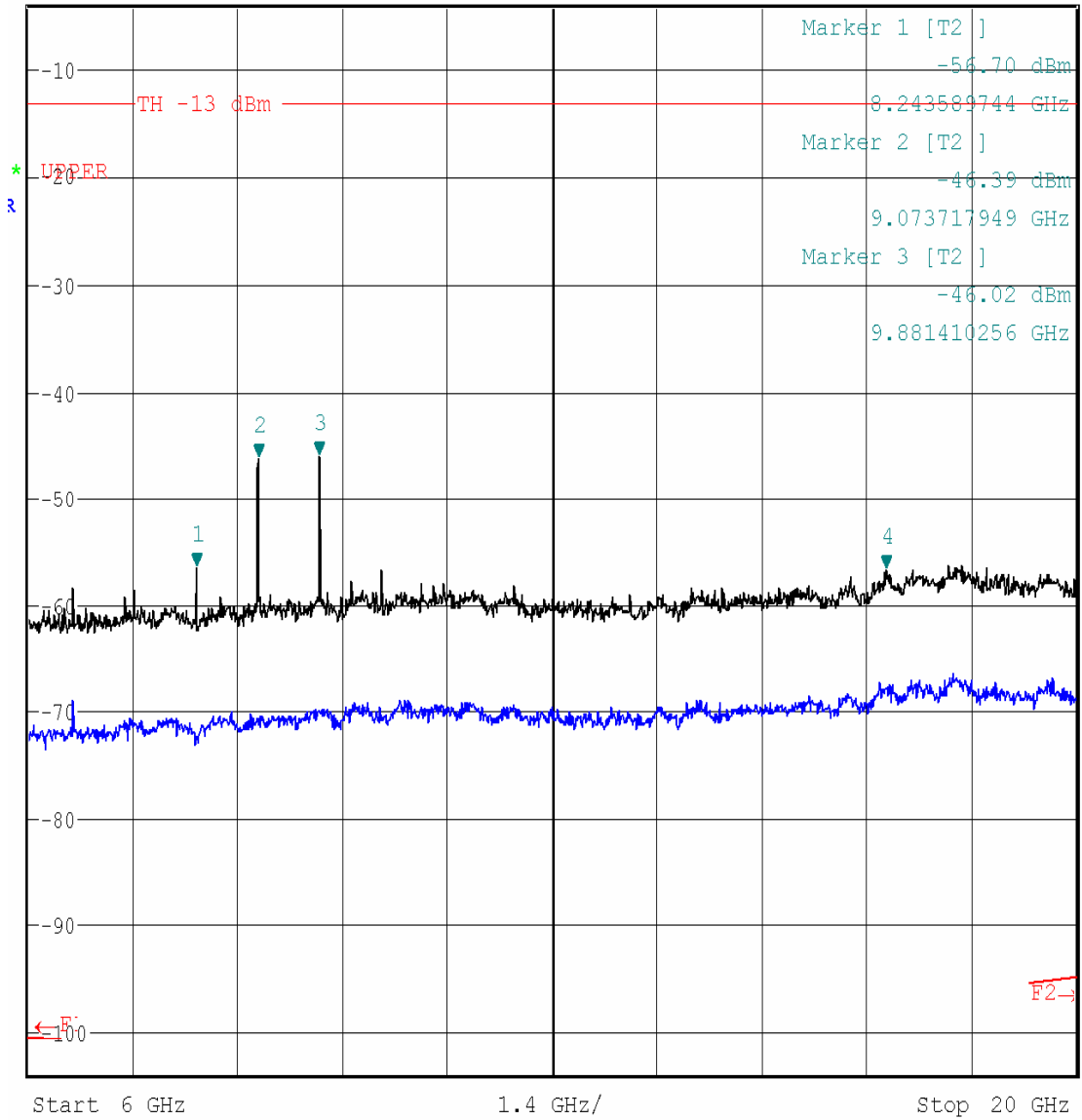
Test Mode : GPRS 850 CH 128 Frequency Range : 30M-1G



Note: The signal beyond the limit is carrier.

Test Mode : GPRS 850 CH 128 Frequency Range : 6G-20G

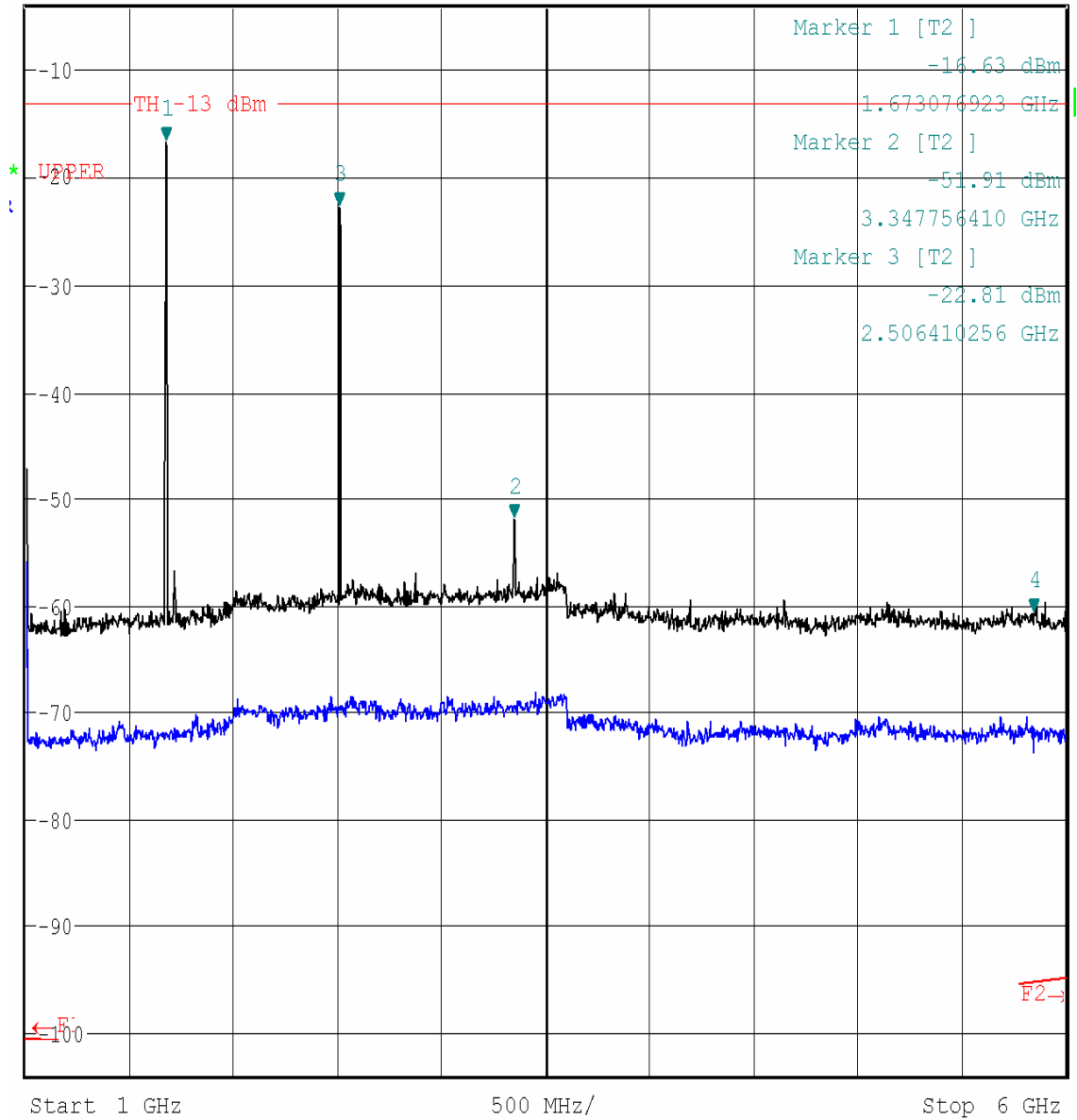
* RBW 1 MHz Marker 4 [T2]
 * VBW 1 MHz -56.80 dBm
 Ref -4 dBm * Att 20 dB * SWT 100 ms 17.464743590 GHz



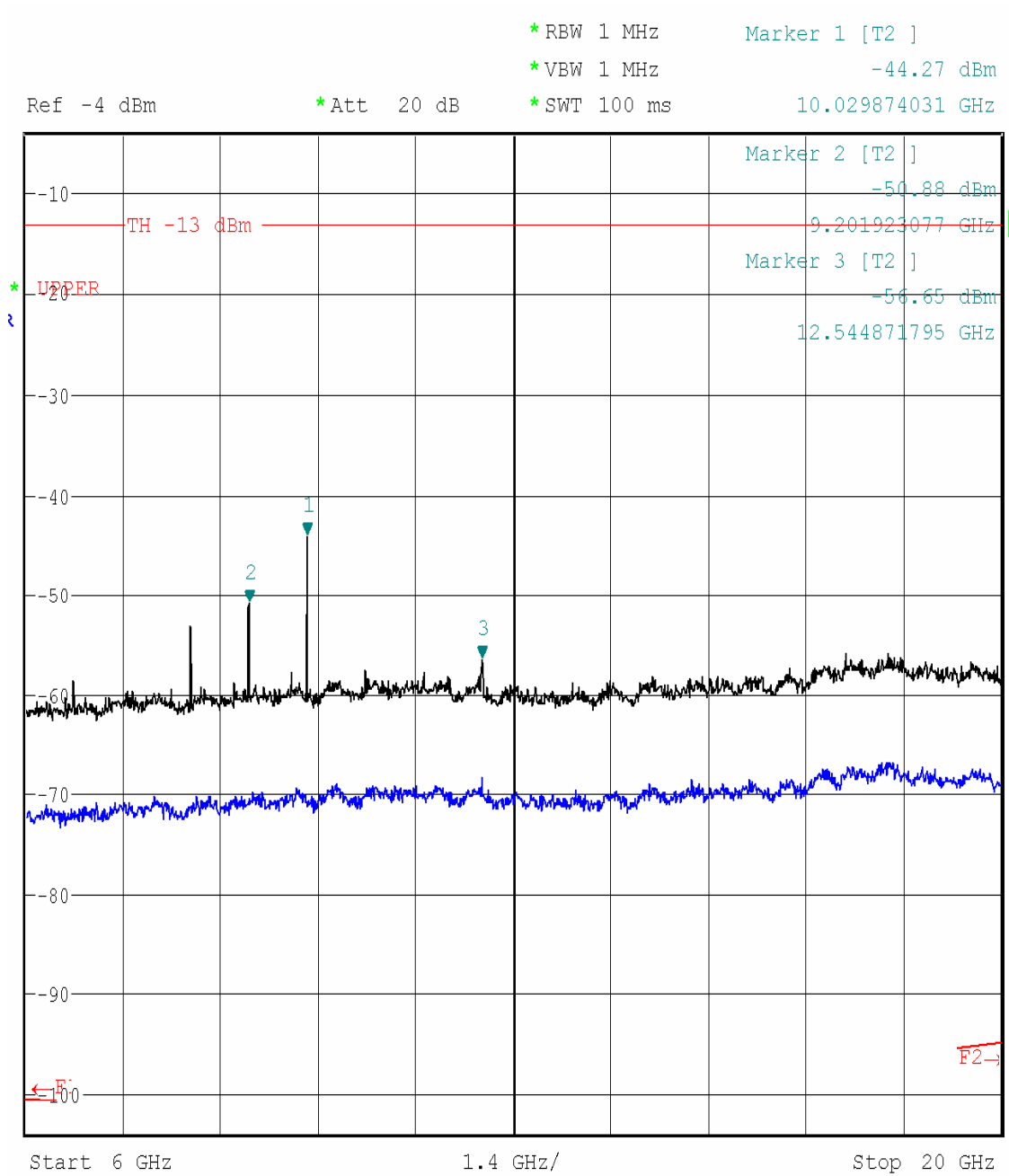
Test Mode : GPRS 850 CH 189 Frequency Range : 1G-6G

Ref -4 dBm *Att 20 dB *RBW 1 MHz *VBW 1 MHz *SWT 100 ms

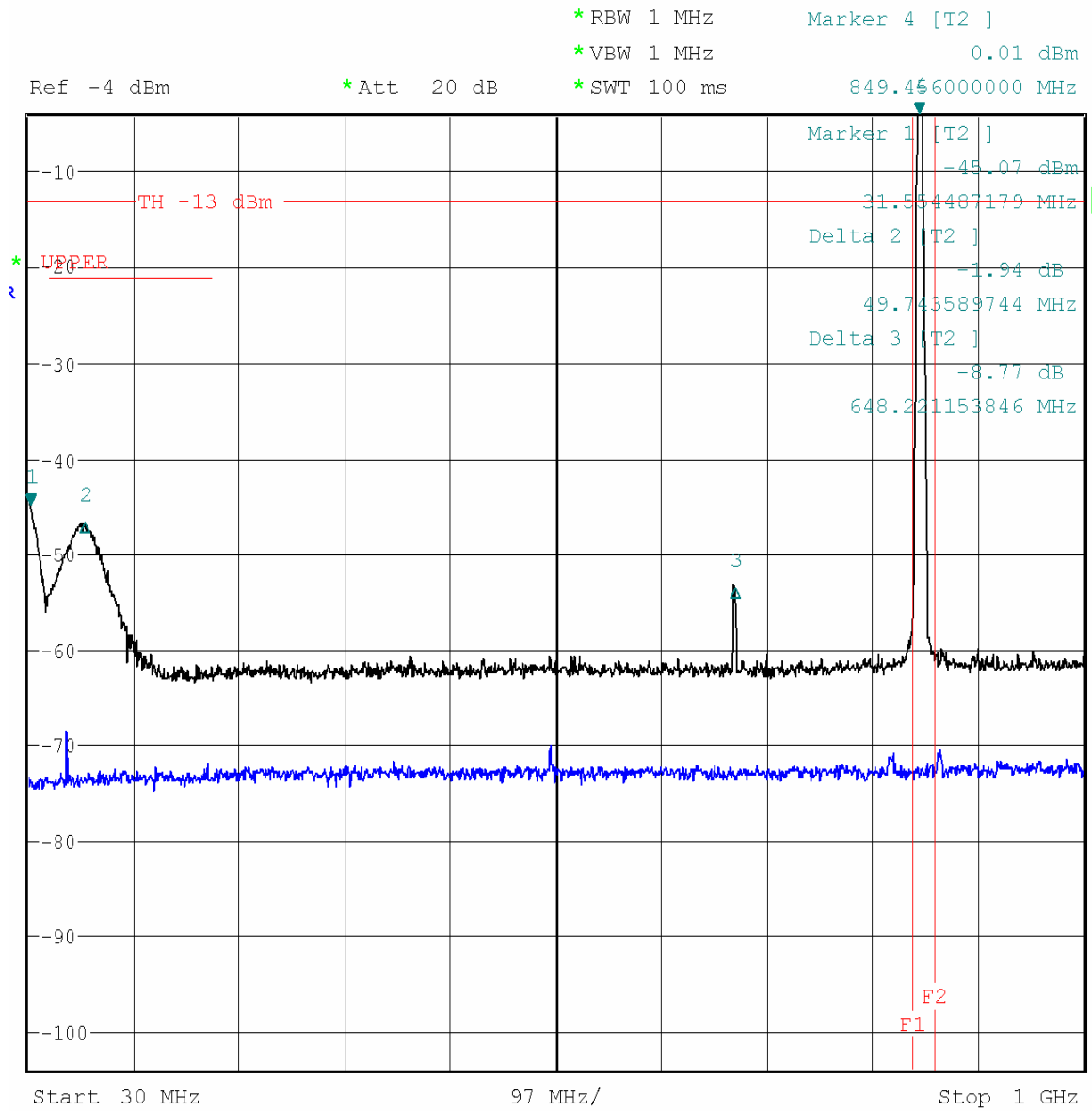
Marker 4 [T2] -60.88 dBm 5.847756410 GHz



Test Mode : GPRS 850 CH 189 Frequency Range : 6G-20G



Test Mode : GPRS 850 CH 251 Frequency Range : 30M-1G

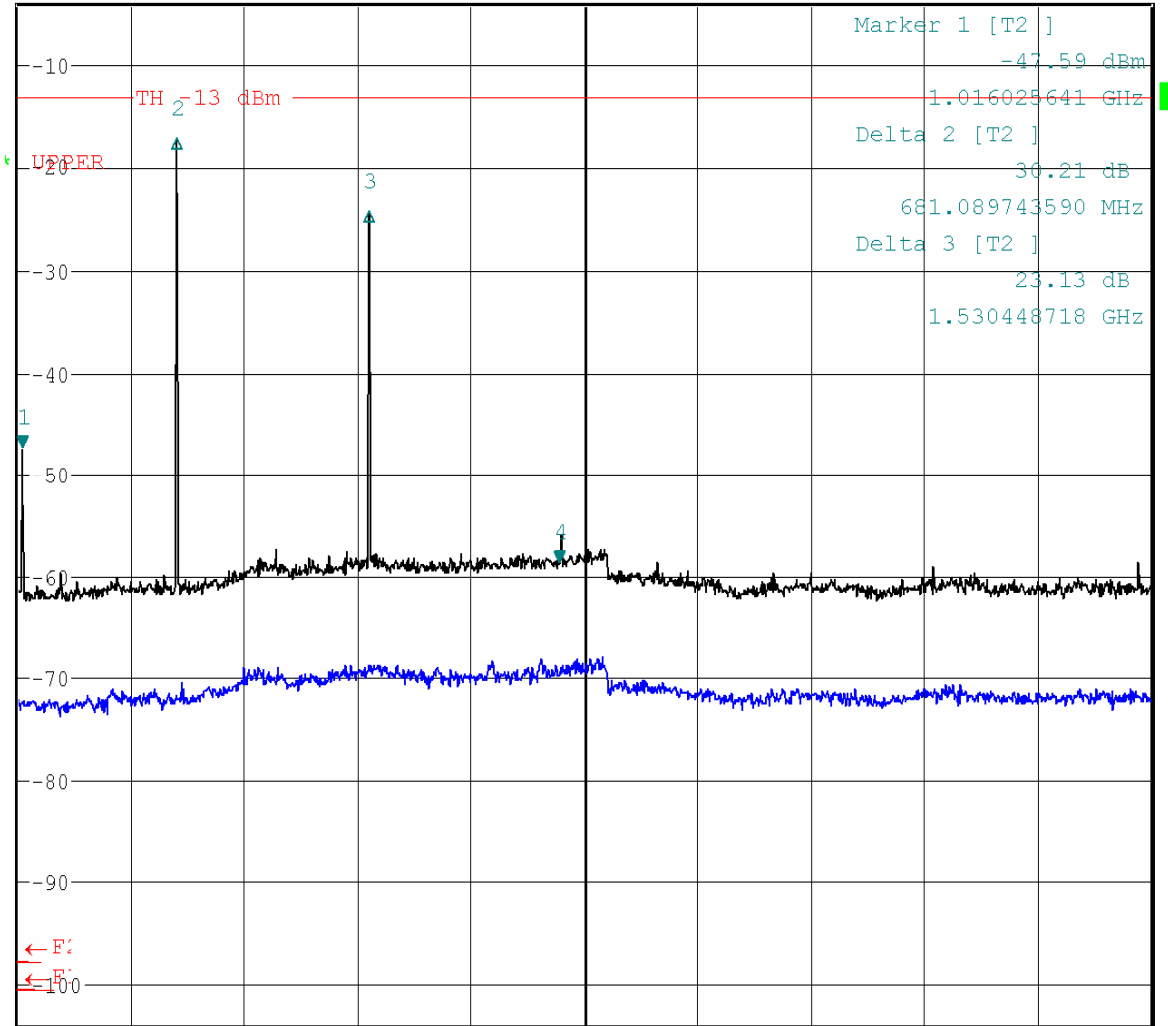


Note: The signal beyond the limit is carrier

Test Mode : GPRS 850 CH 251 Frequency Range : 1G-6G

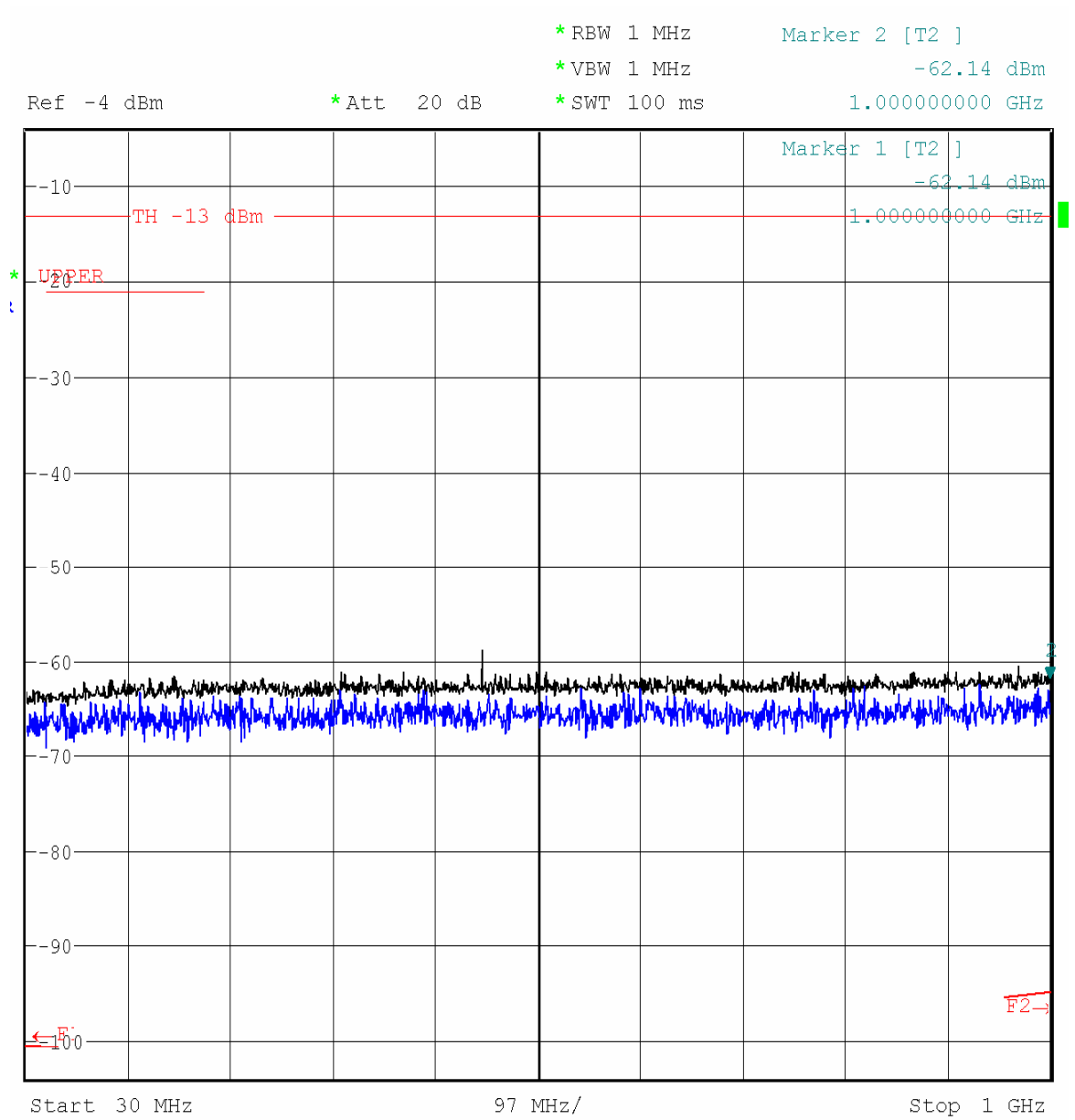
Ref -4 dBm *Att 20 dB *RBW 1 MHz *VBW 1 MHz *SWT 100 ms

Marker 4 [T2] -58.94 dBm 3.387820513 GHz

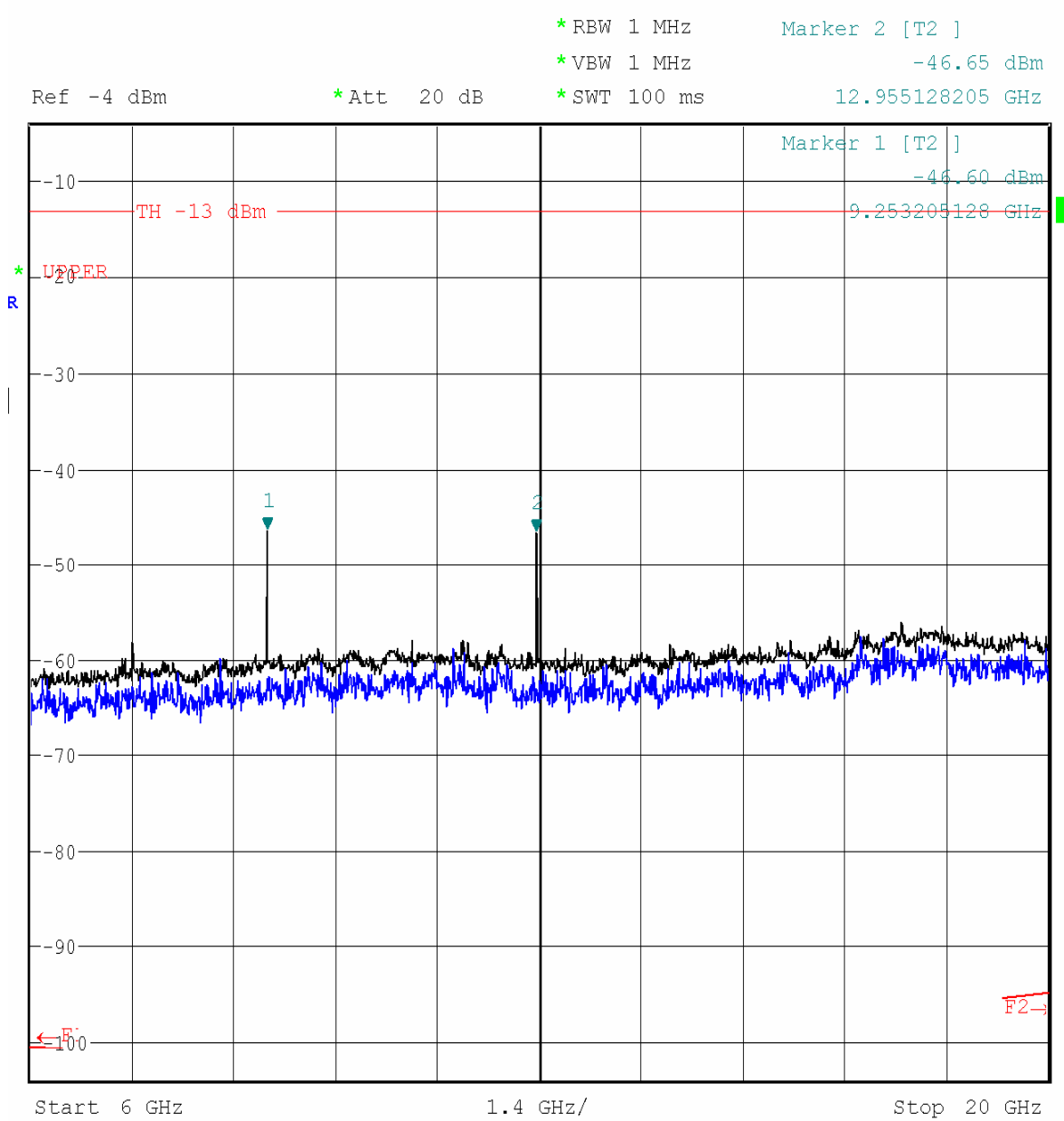


Start 1 GHz 500 MHz/ Stop 6 GHz

Test Mode : GPRS 1900 CH 512 Frequency Range : 30M-1G

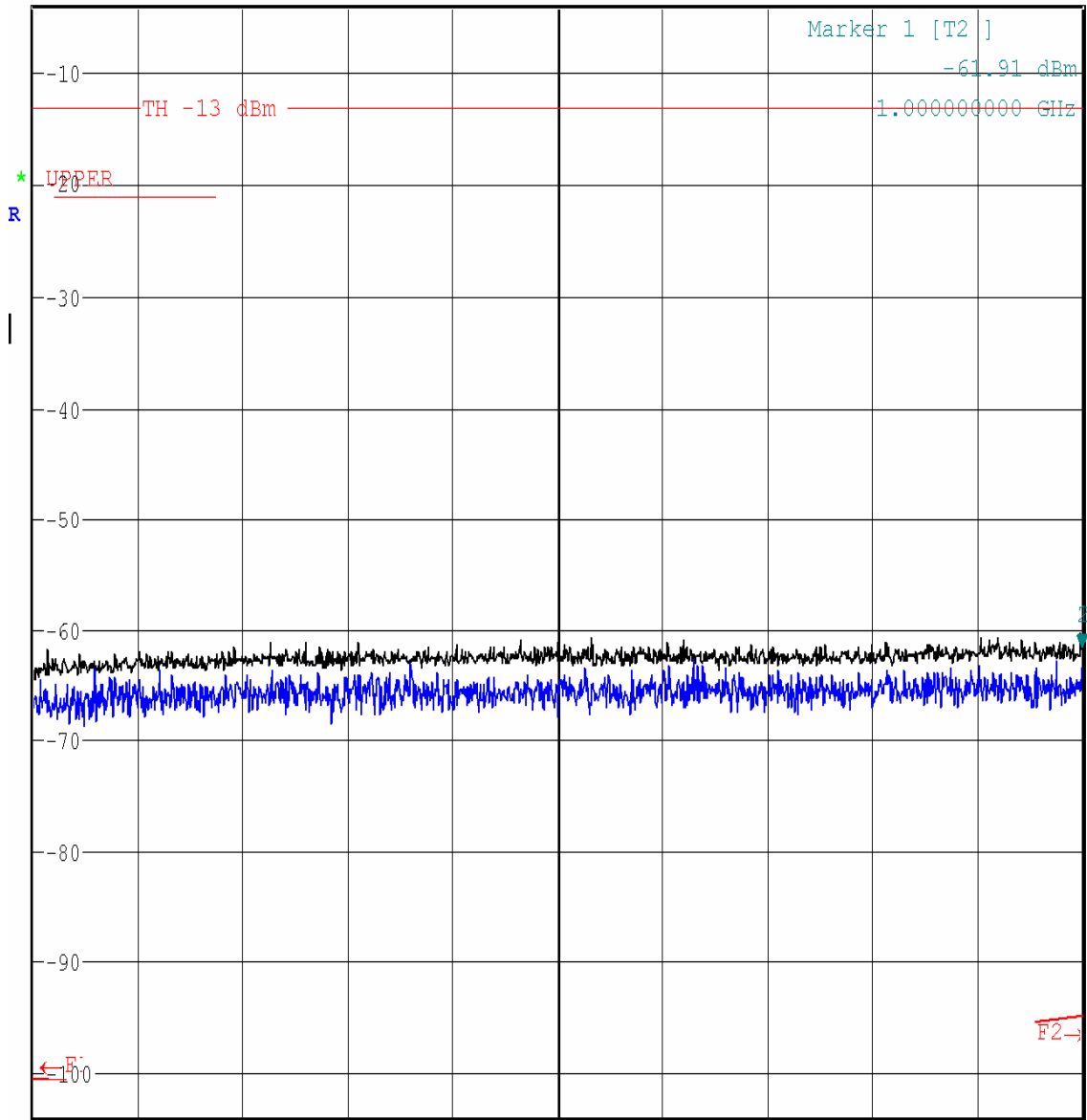


Test Mode : GPRS 1900 CH 512 Frequency Range : 6G-20G



Test Mode : GPRS 1900 CH 661 Frequency Range : 30M-1G

Ref -4 dBm *Att 20 dB *RBW 1 MHz Marker 2 [T2]
*VBW 1 MHz -61.91 dBm
*SWT 100 ms 1.000000000 GHz

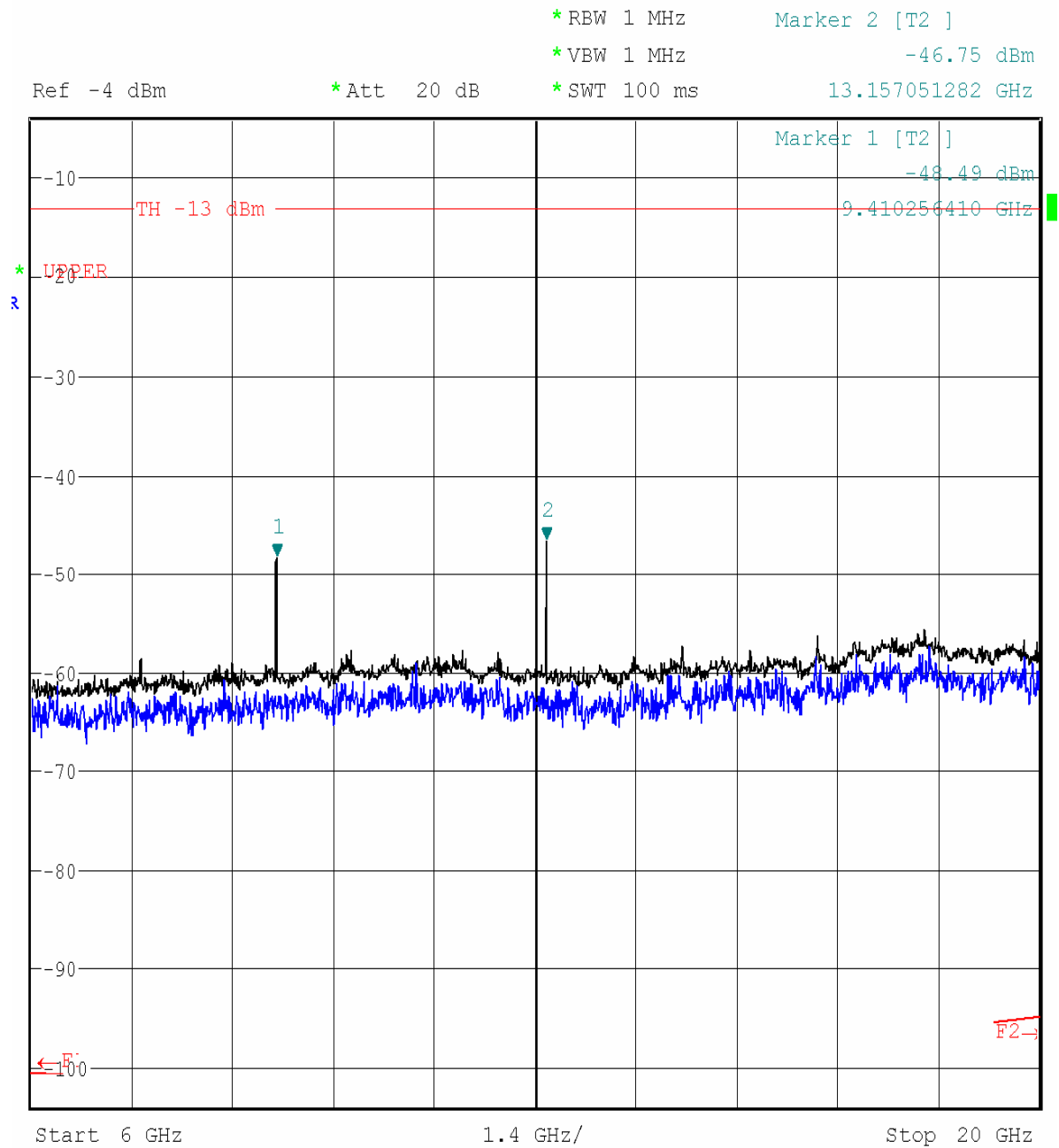


Start 30 MHz

97 MHz/

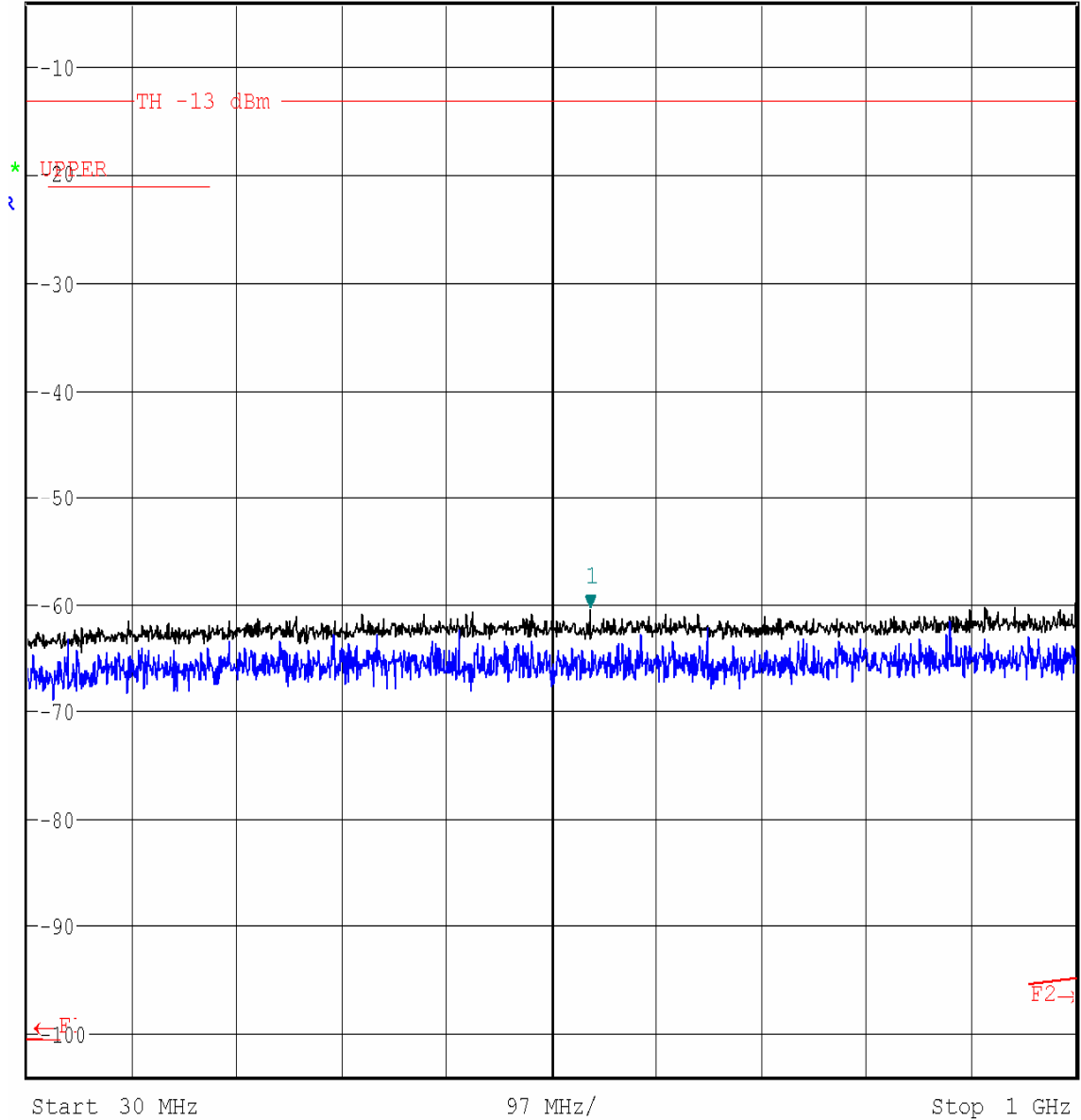
Stop 1 GHz

Test Mode : GPRS 1900 CH 661 Frequency Range : 6G-20G



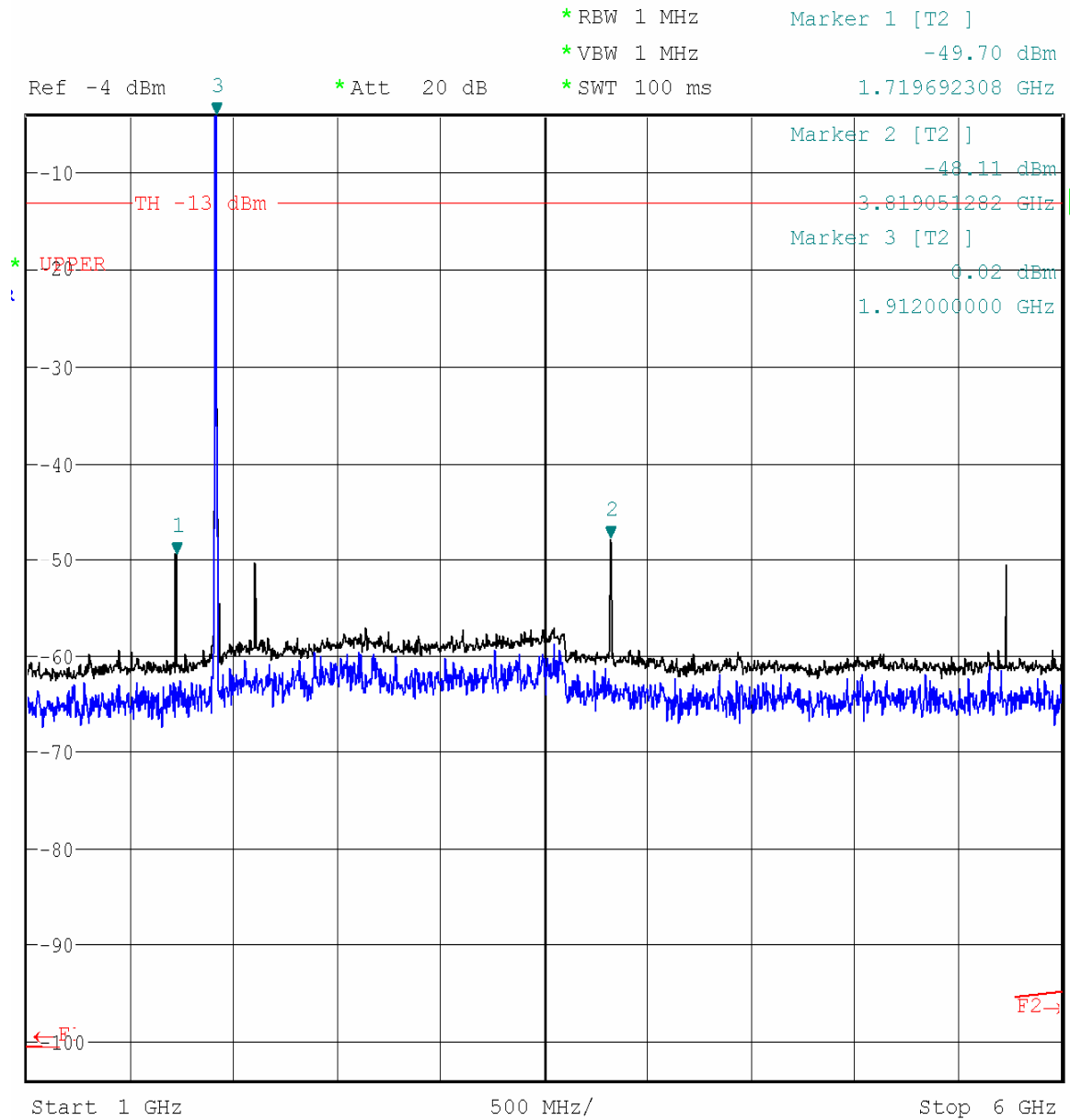
Test Mode : GPRS 1900 CH 810 Frequency Range : 30M-1G

Ref -4 dBm *Att 20 dB *RBW 1 MHz Marker 1 [T2]
*VBW 1 MHz -60.55 dBm
*SWT 100 ms 550.753205128 MHz



Start 30 MHz 97 MHz/ Stop 1 GHz

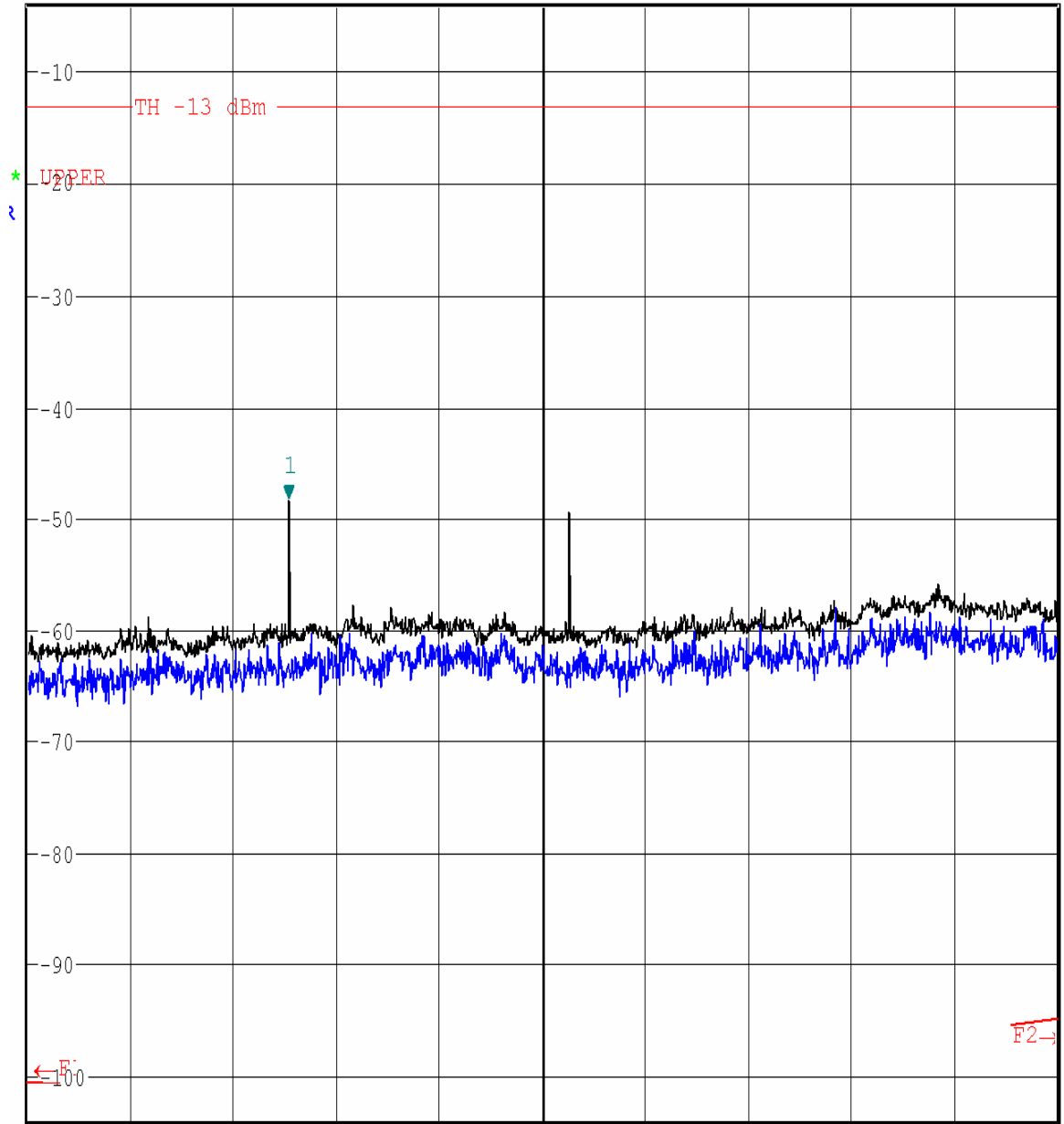
Test Mode : GPRS 1900 CH 810 Frequency Range : 1G-6G



Note: The signal beyond the limit is carrier

Test Mode : GPRS 1900 CH 810 Frequency Range : 6G-20G

*RBW 1 MHz Marker 1 [T2]
*VBW 1 MHz -48.43 dBm
Ref -4 dBm *Att 20 dB *SWT 100 ms 9.544871795 GHz

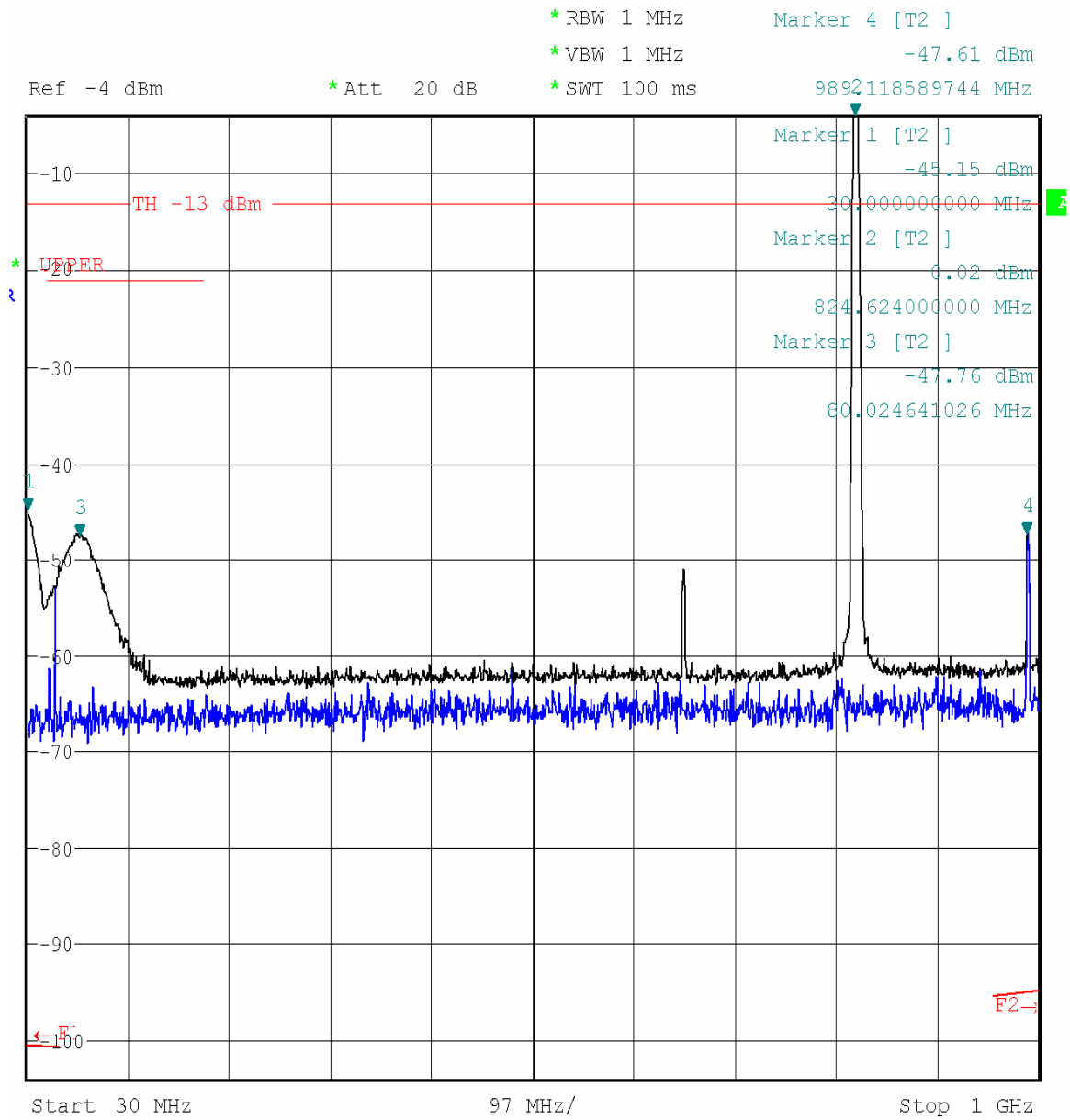


Start 6 GHz

1.4 GHz/

Stop 20 GHz

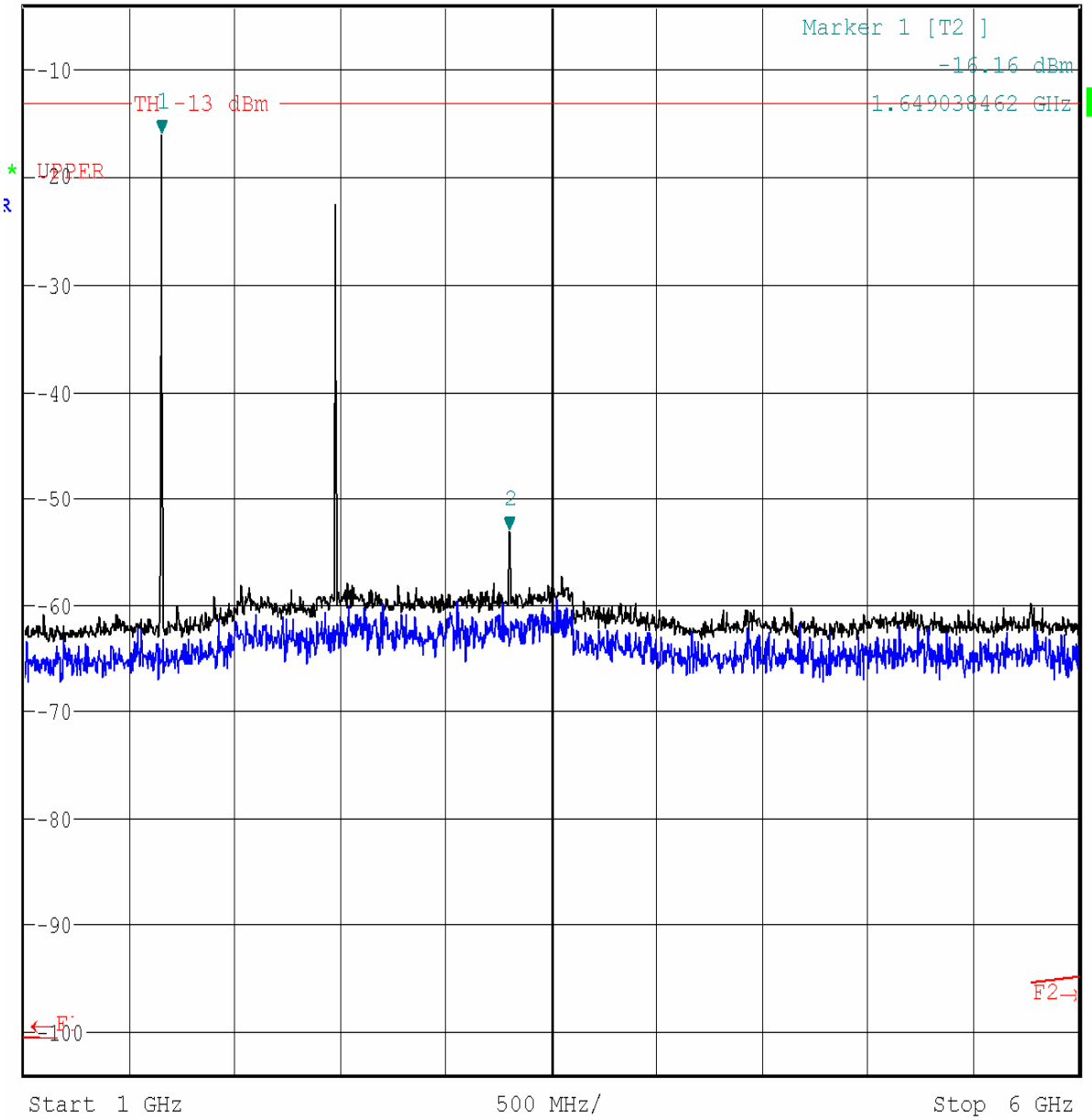
Test Mode : GSM 850 CH 128 Frequency Range : 30M-1G



Note: The signal beyond the limit is carrier

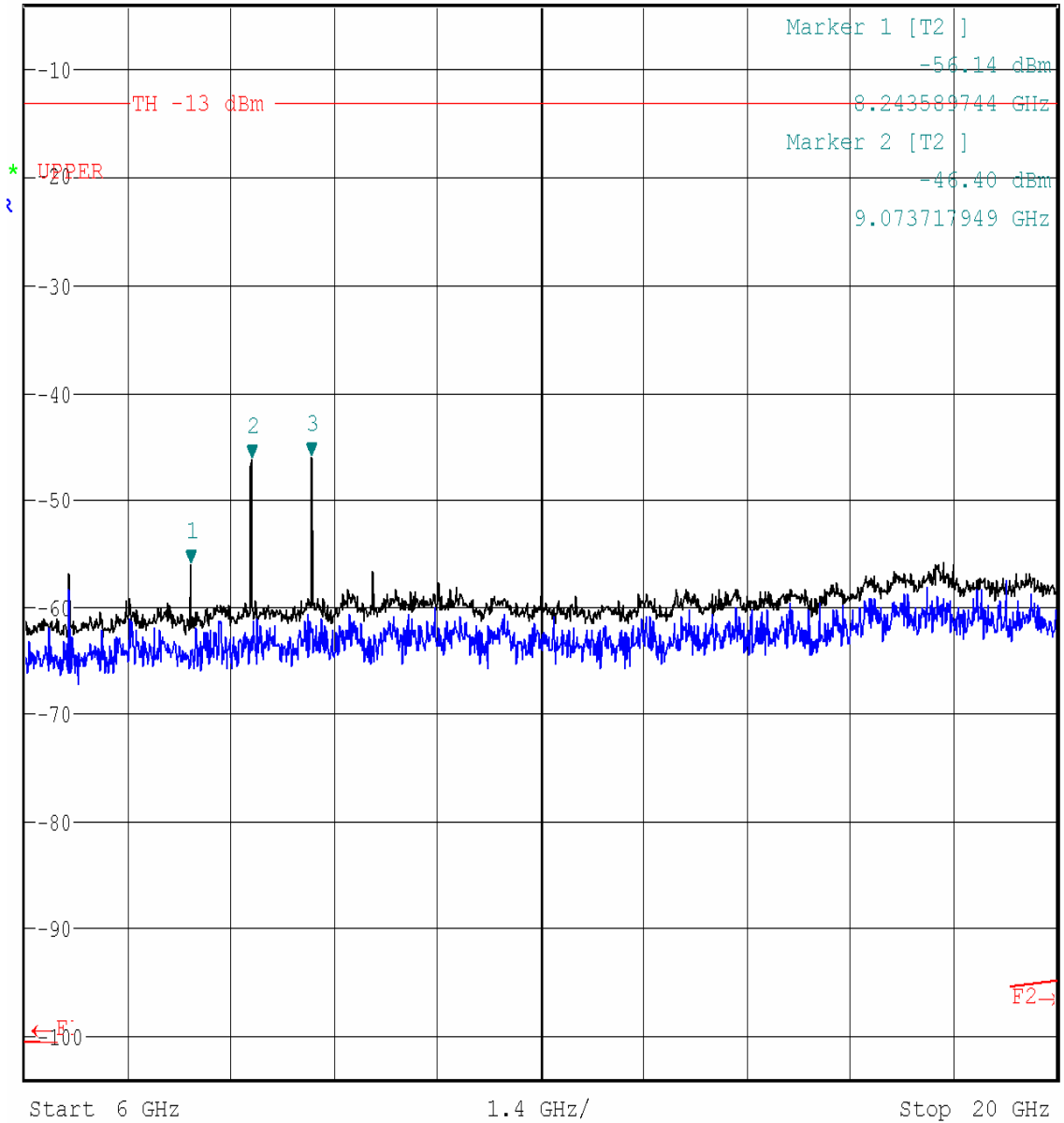
Test Mode : GSM 850 CH 128 Frequency Range : 1G-6G

Ref -4 dBm *Att 20 dB *RBW 1 MHz Marker 2 [T2]
*VBW 1 MHz -53.29 dBm
*SWT 100 ms 3.299679487 GHz

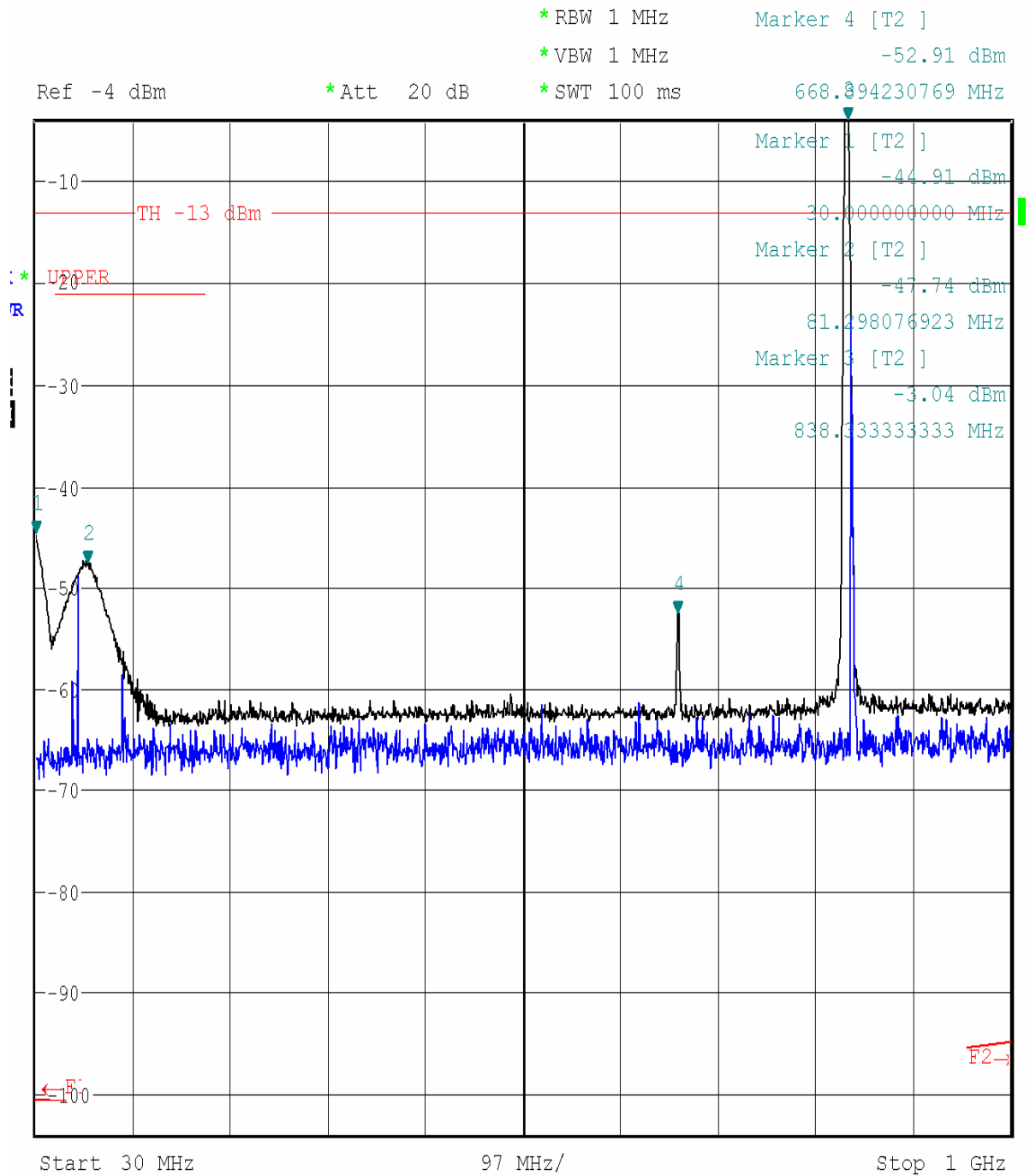


Test Mode : GSM 850 CH 128 Frequency Range : 6G-20G

Ref -4 dBm *Att 20 dB *RBW 1 MHz *VBW 1 MHz *SWT 100 ms



Test Mode : GSM 850 CH 189 Frequency Range : 30M-1G

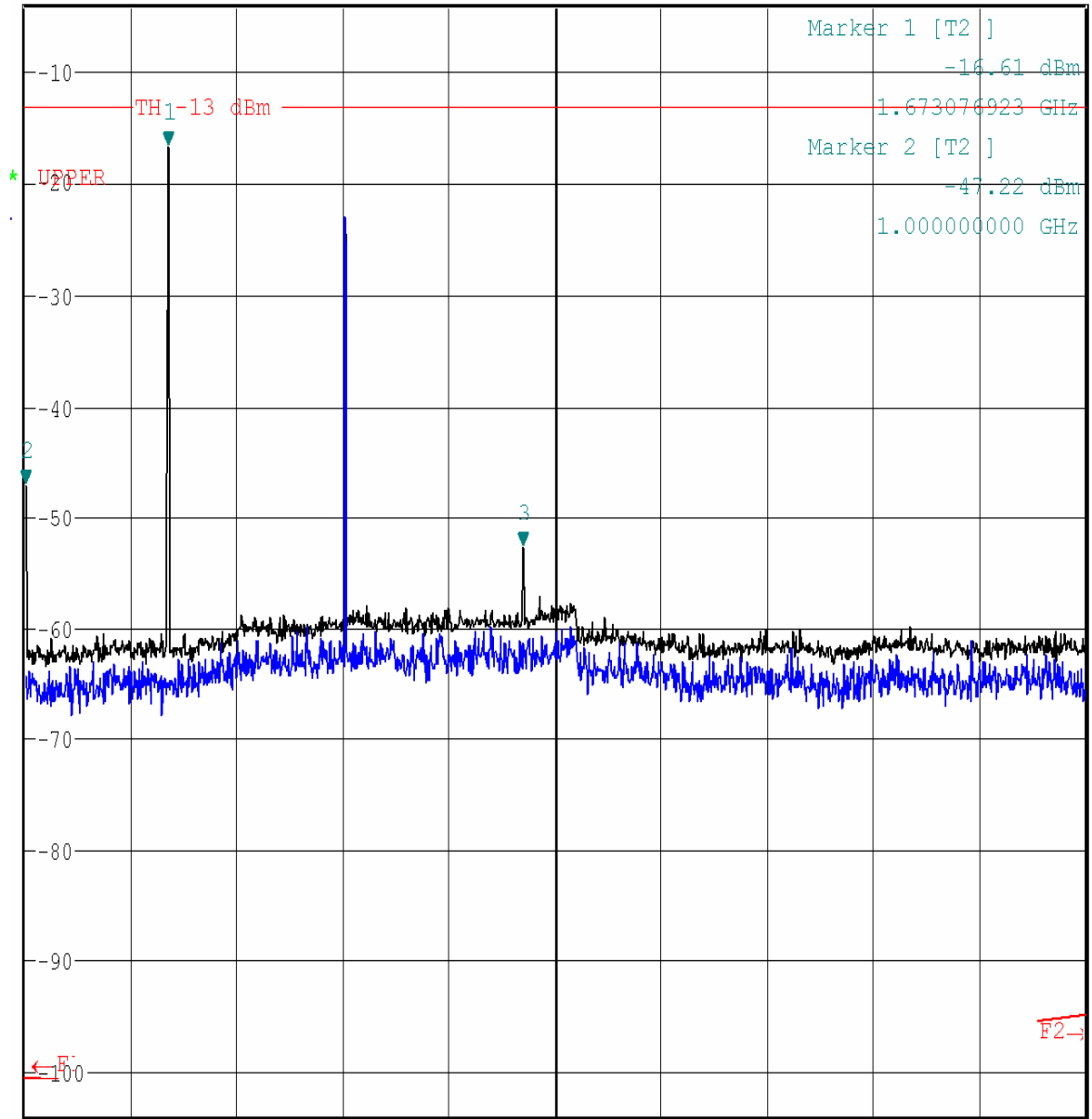


Note: The signal beyond the limit is carrier

Test Mode : GSM 850 CH 189 Frequency Range : 1G-6G

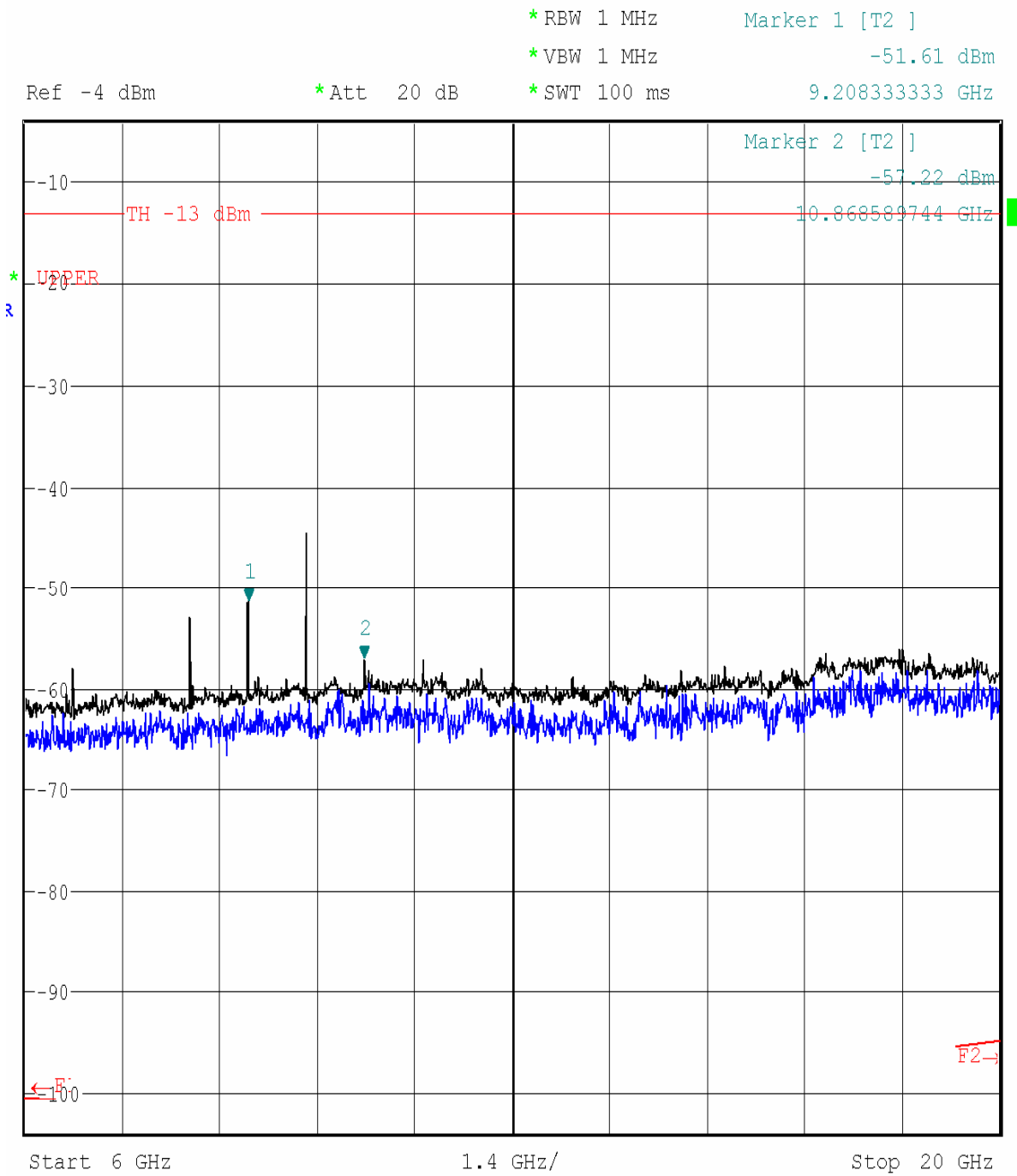
Ref -4 dBm *Att 20 dB *RBW 1 MHz *VBW 1 MHz *SWT 100 ms

Marker 3 [T2] -52.91 dBm 3.347756410 GHz

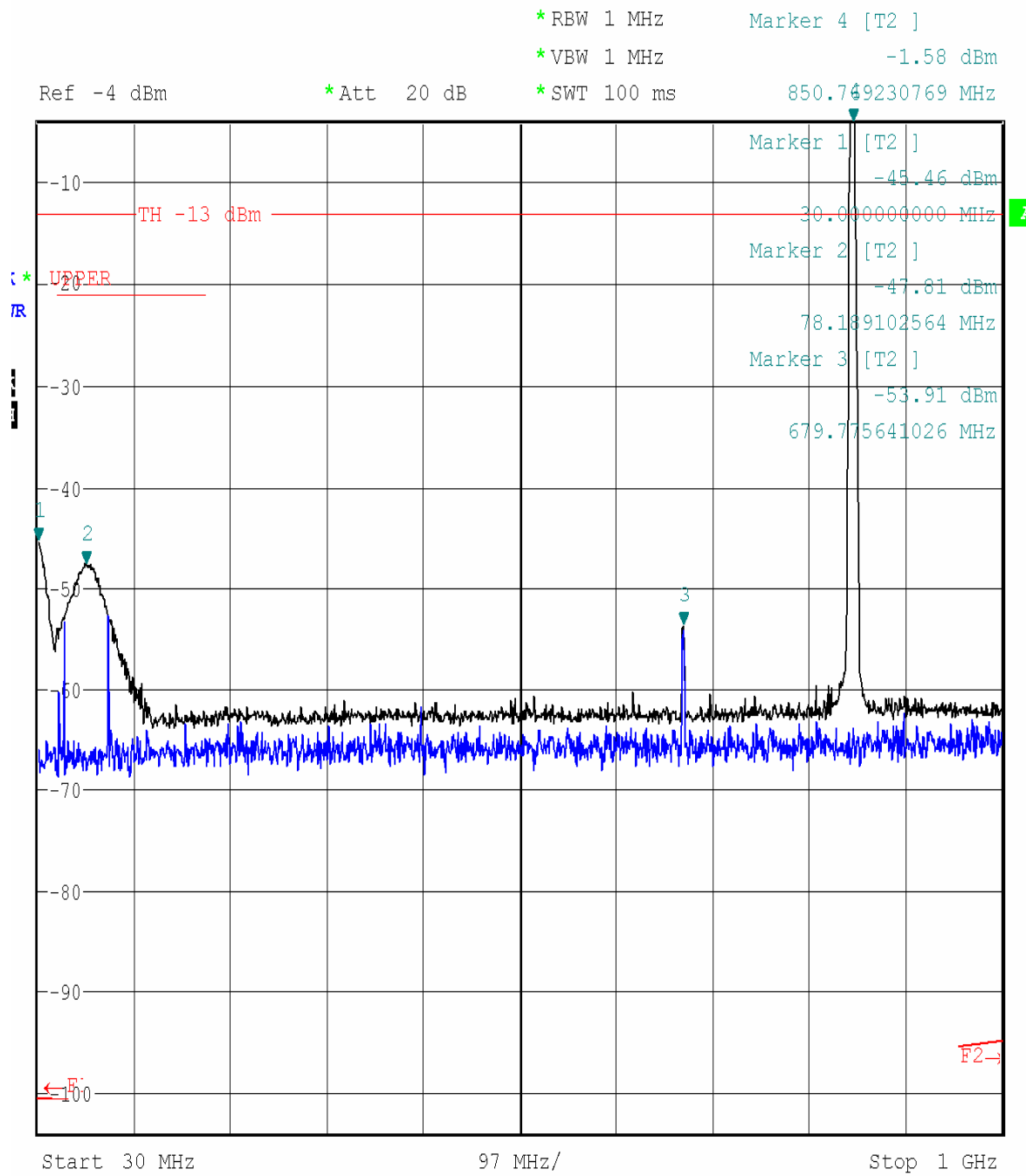


Start 1 GHz 500 MHz/ Stop 6 GHz

Test Mode : GSM 850 CH 189 Frequency Range : 6G-20G

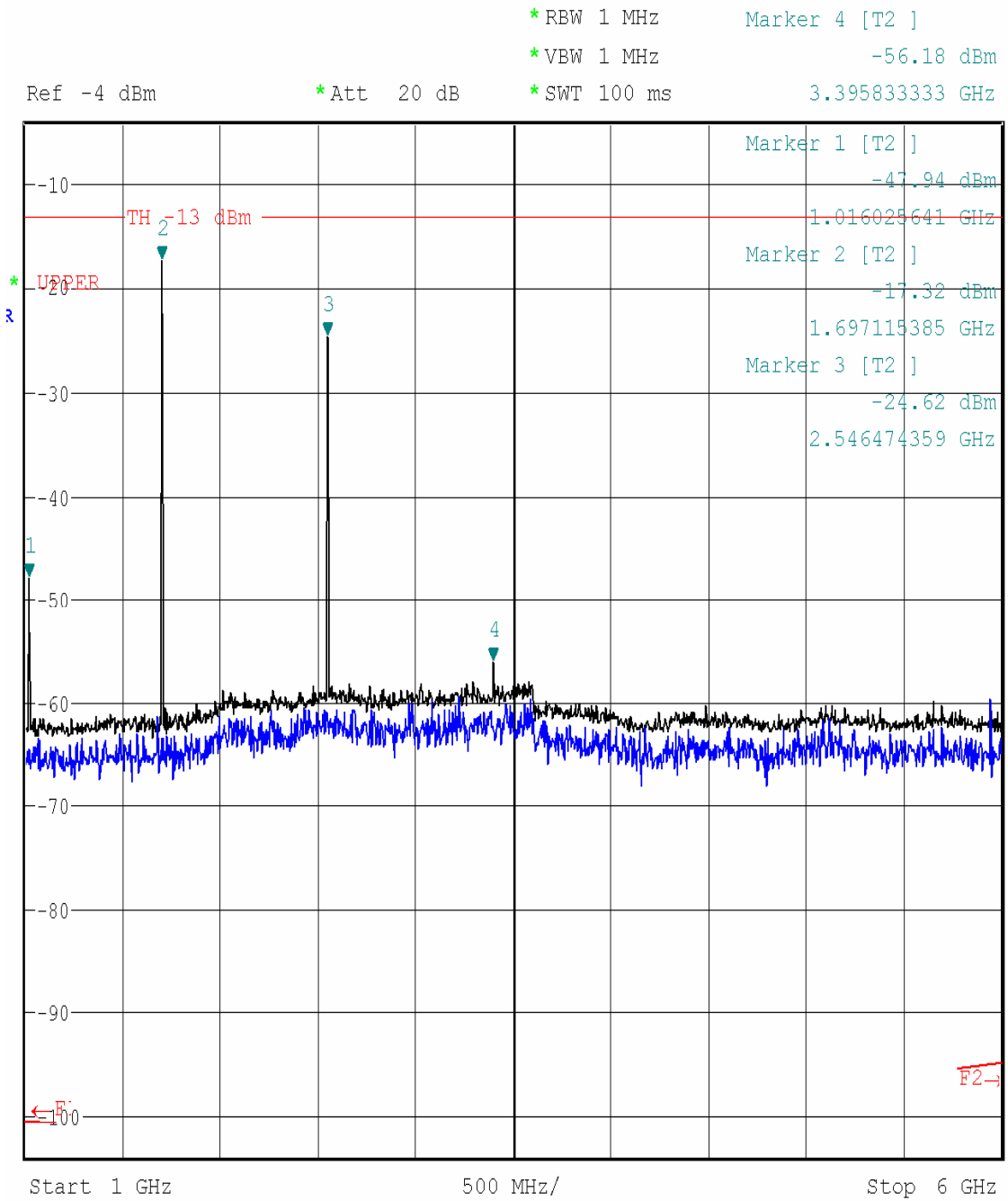


Test Mode : GSM 850 CH 251 Frequency Range : 30M-1G

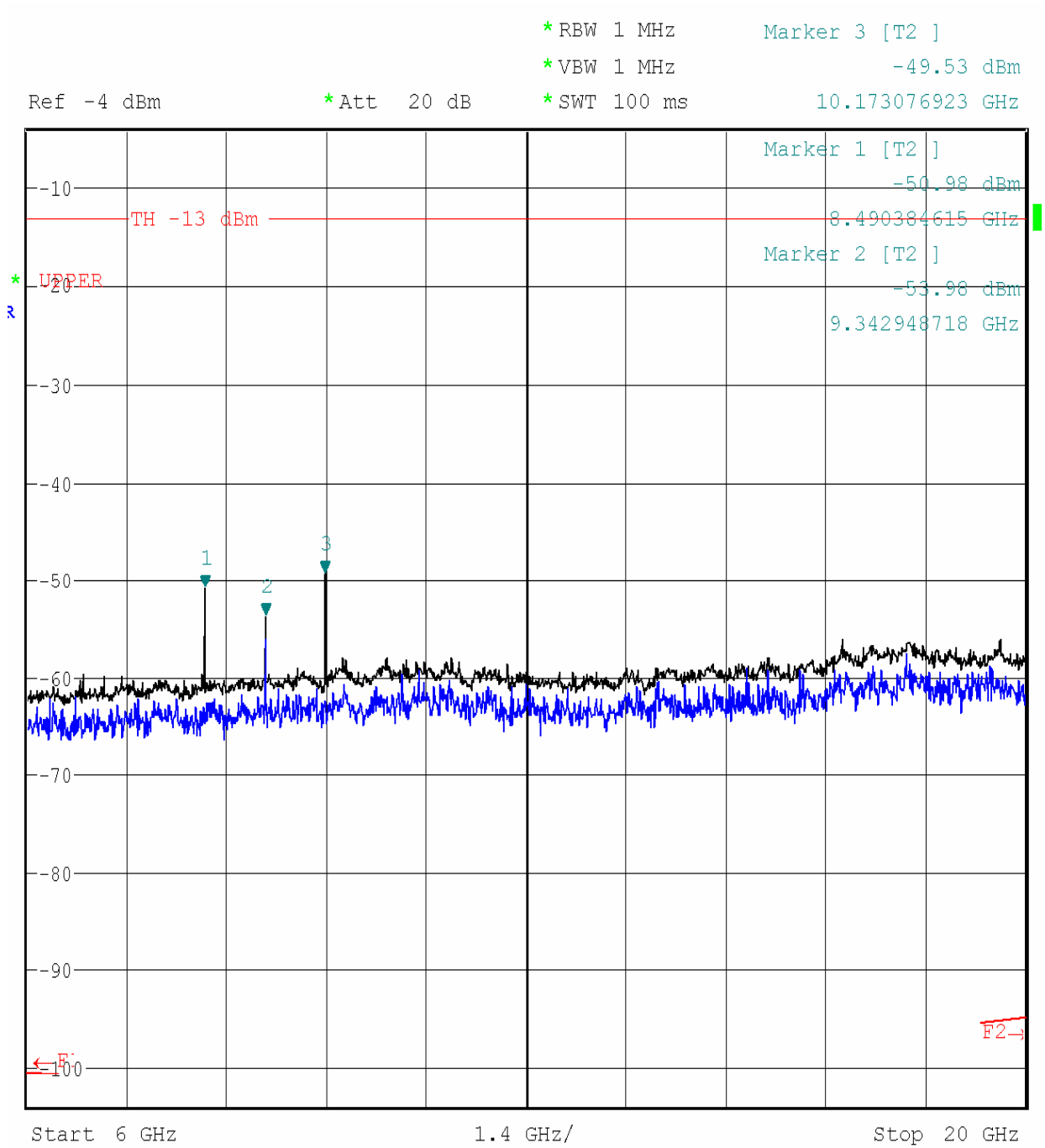


Note: The signal beyond the limit is carrier

Test Mode : GSM 850 CH 251 Frequency Range : 1G-6G



Test Mode : GSM 850 CH 251 Frequency Range : 6G-20G



Test Mode : PCS 1900 CH 512 Frequency Range : 30M-1G

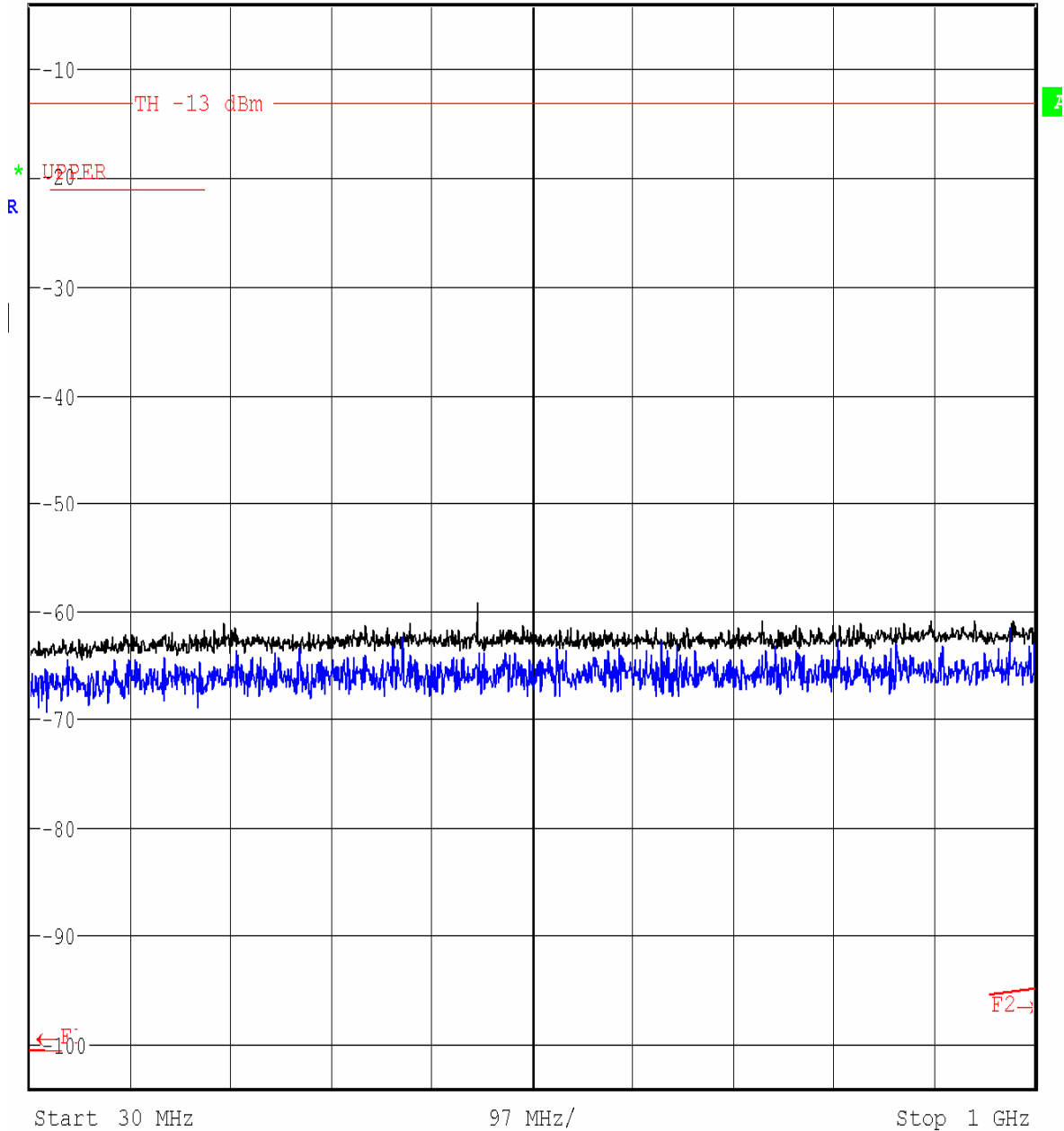
* RBW 1 MHz

* VBW 1 MHz

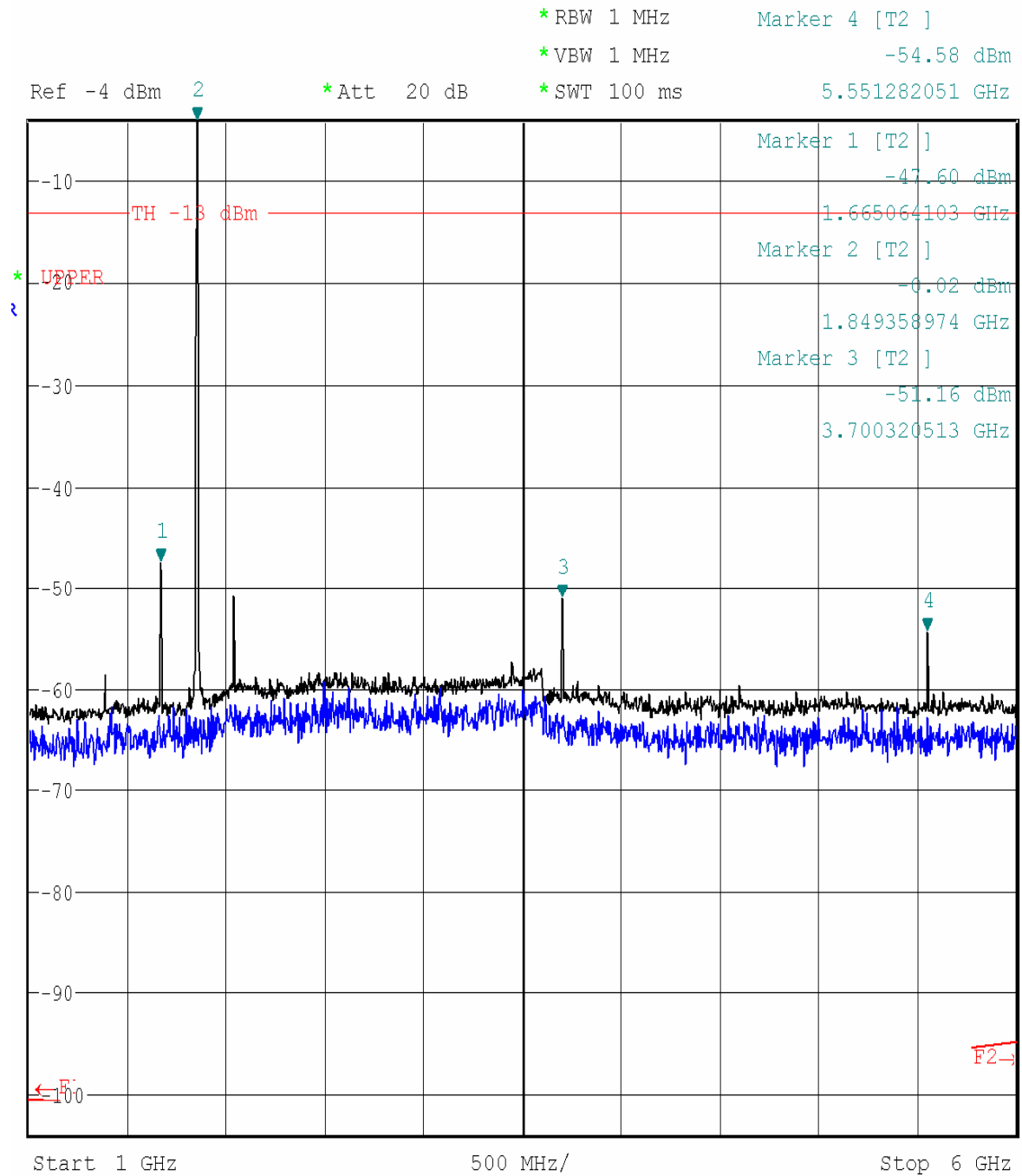
Ref -4 dBm

* Att 20 dB

* SWT 100 ms

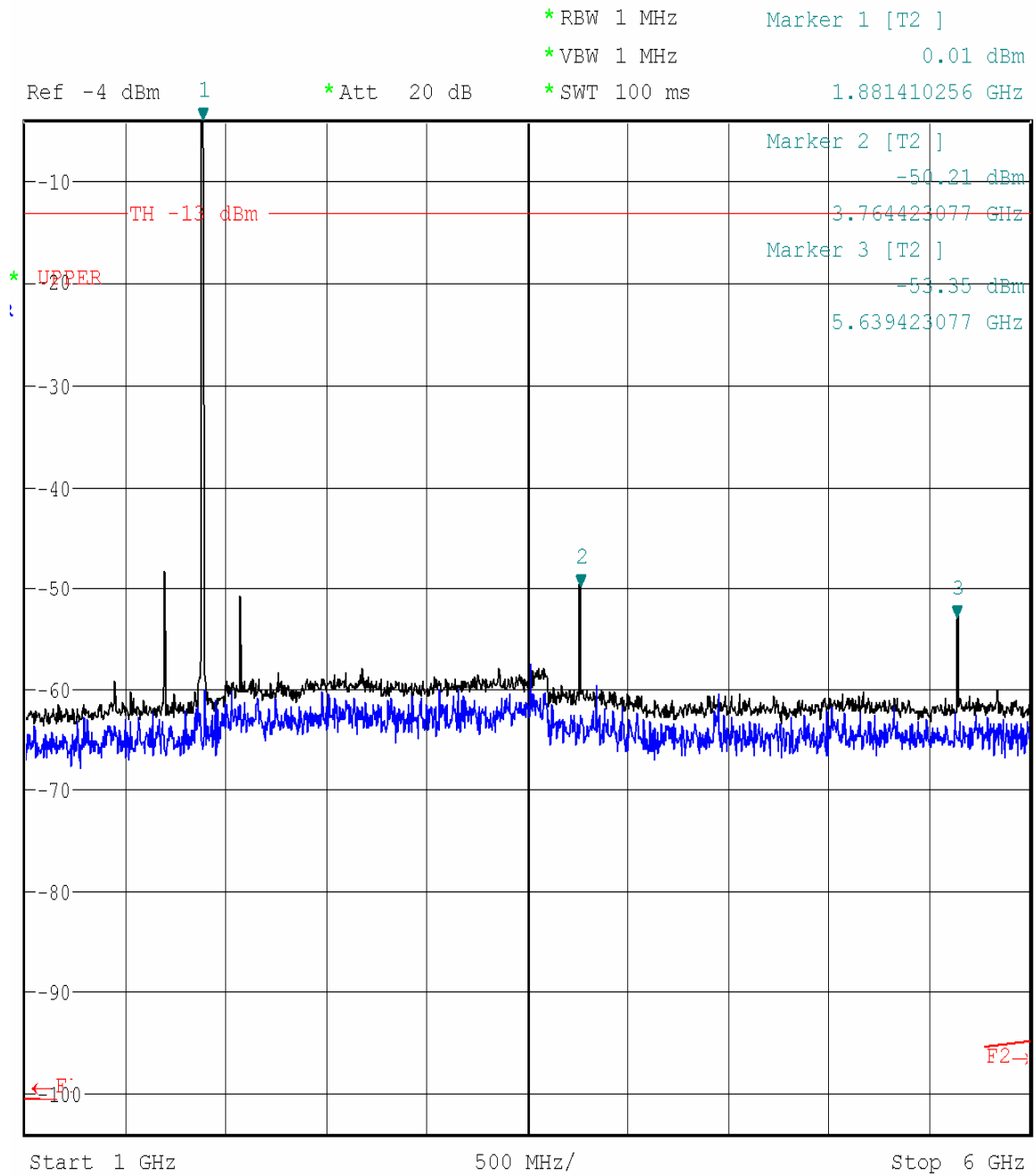


Test Mode : PCS 1900 CH 512 Frequency Range : 1G-6G



Note: The signal beyond the limit is carrier

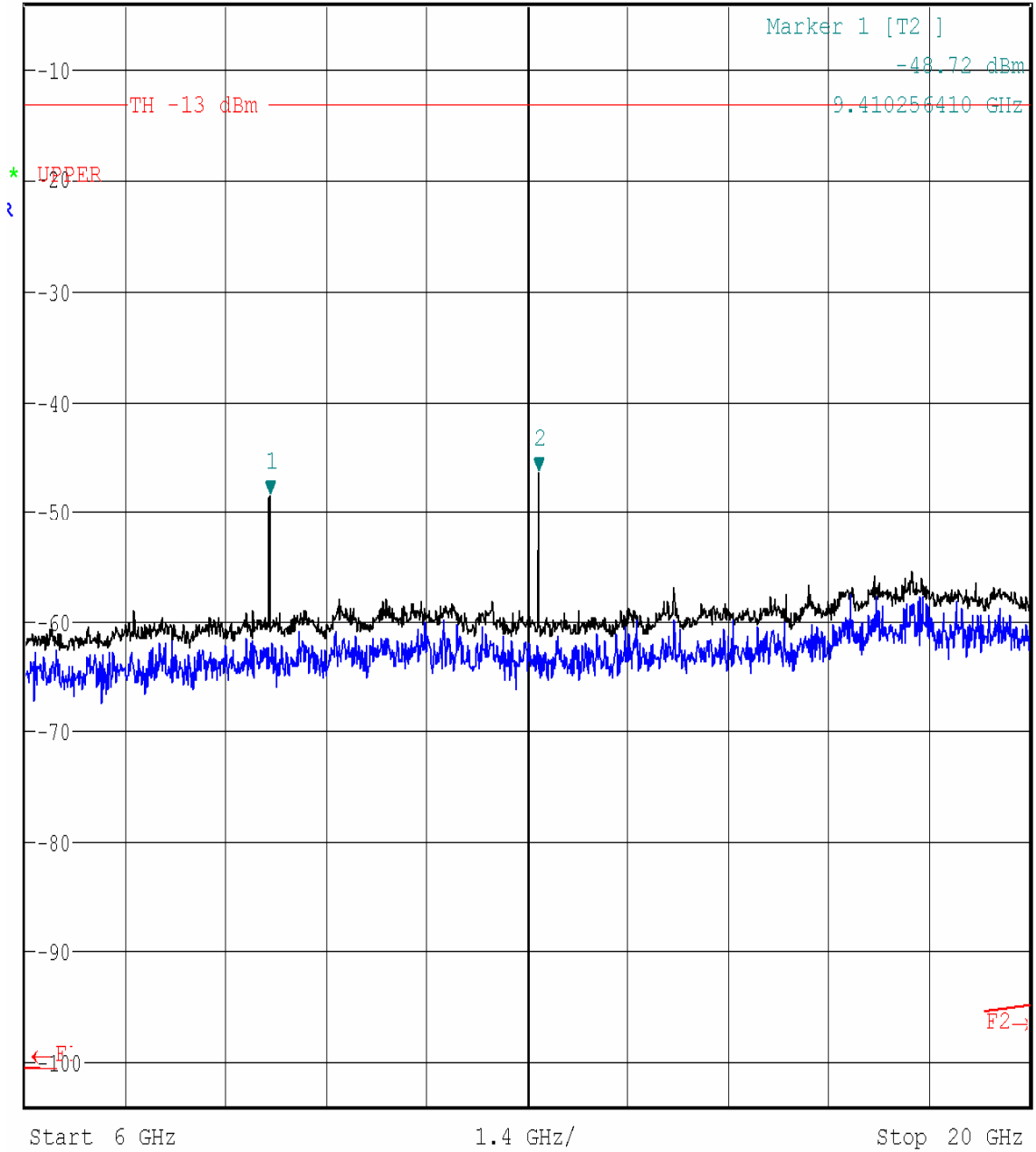
Test Mode : PCS 1900 CH 661 Frequency Range : 1G-6G



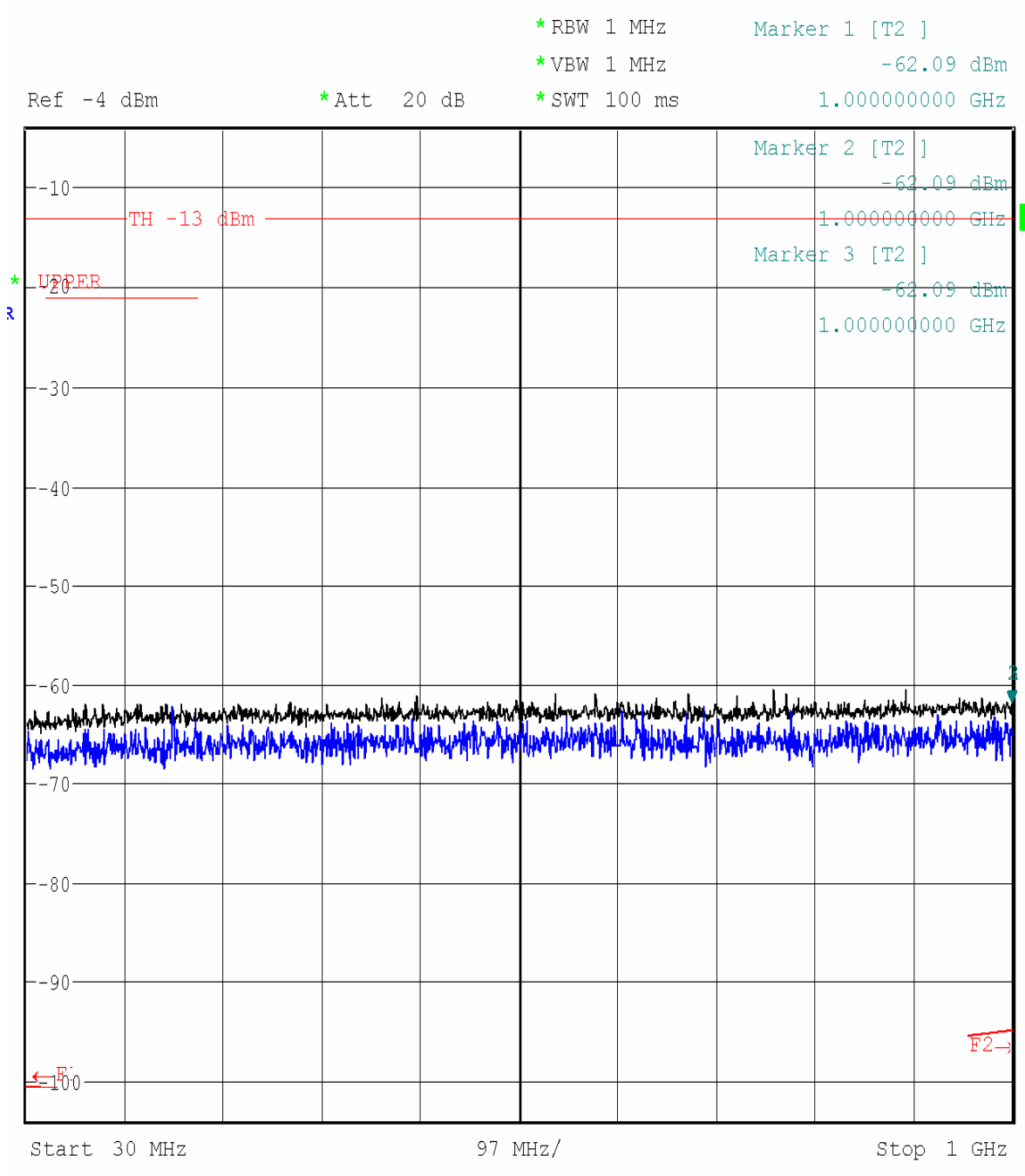
Note: The signal beyond the limit is carrier

Test Mode : PCS 1900 CH 661 Frequency Range : 6G-20G

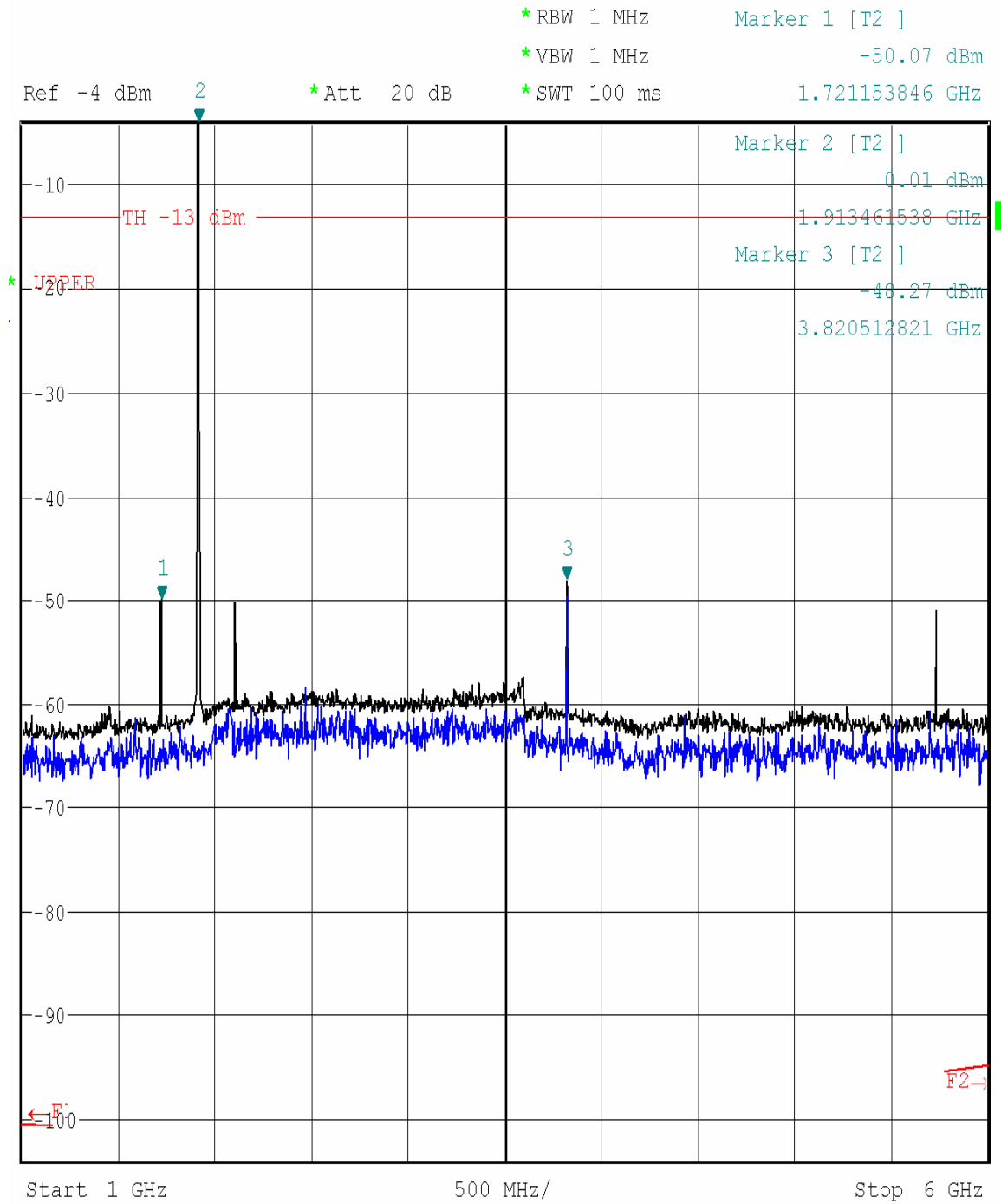
*RBW 1 MHz Marker 2 [T2]
*VBW 1 MHz -46.49 dBm
Ref -4 dBm *Att 20 dB *SWT 100 ms 13.157051282 GHz



Test Mode : PCS 1900 CH 810 Frequency Range : 30M-1G

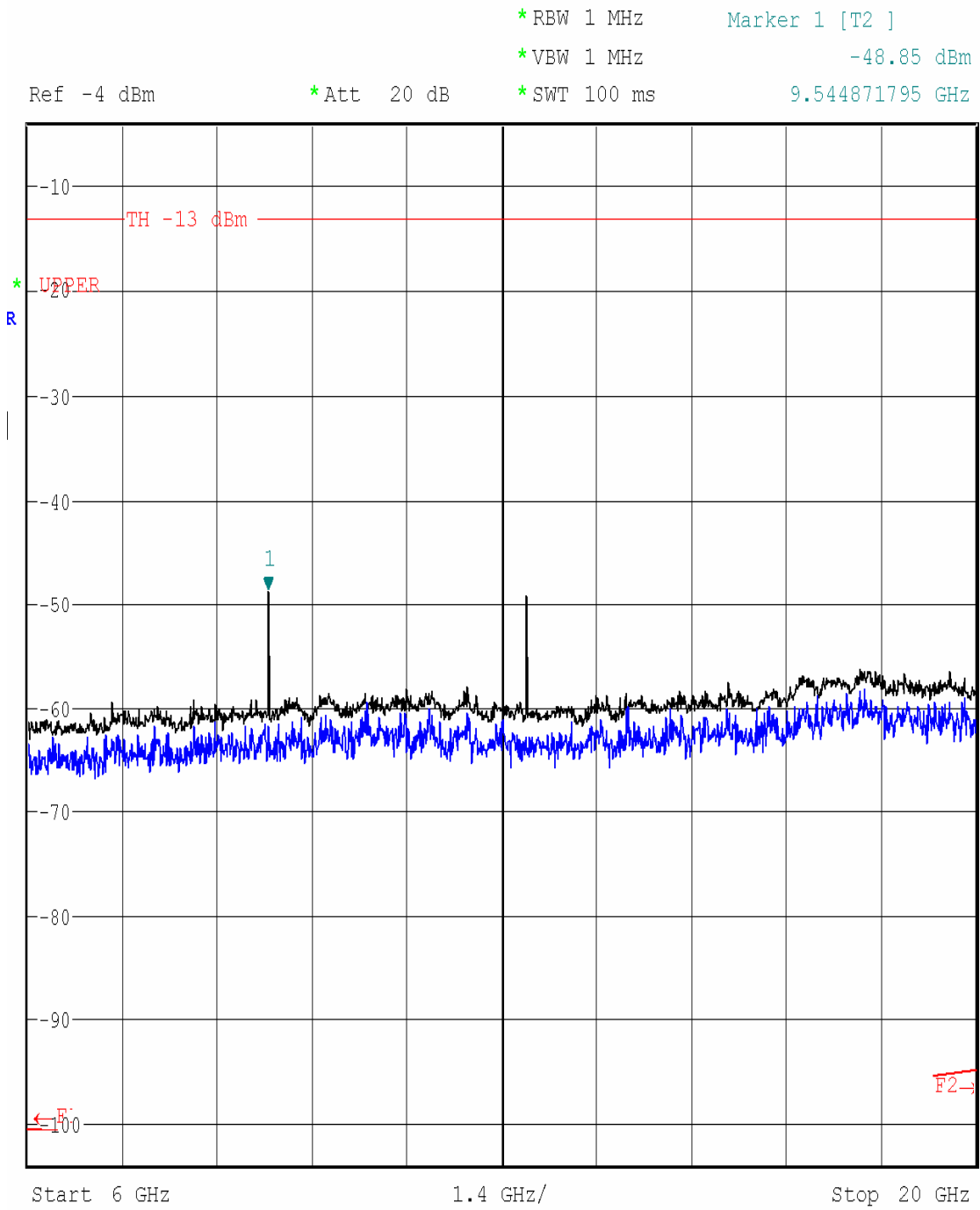


Test Mode : PCS 1900 CH 810 Frequency Range : 1G-6G



Note: The signal beyond the limit is carrier

Test Mode : PCS 1900 CH 810 Frequency Range : 6G-20G



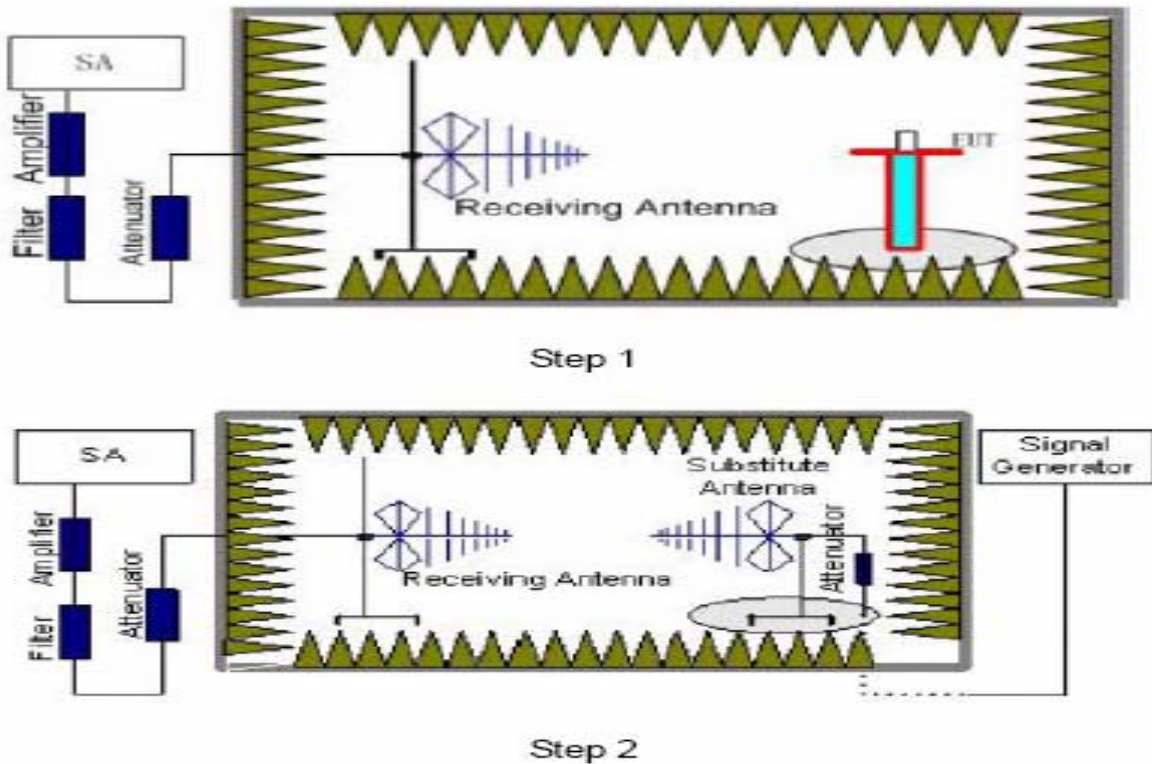
9. Field Strength of Spurious Radiation

9.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Ultra Broadband Antenna	R & S	HL 562/100019	May, 2008
3	VHA 9103 without telescopic rods for use with biconical broad-band elements BBA 9106	SCHWARZBECK	BBA 9106 + VHA 9103/2358	May, 2008
4	Logarithmic Periodic Broadband Antenna	SCHWARZBECK	UHALP 9108 A/ 696	May, 2008
5	Double-Ridged Waveguide Horn Antenna	R & S	HF 906/100023	May, 2008
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120D/ 249	May, 2008
7	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

9.2. Test Setup



9.3. Limits

Limits	<-13dBm
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9.4. Test Procedure

Test procedure: Step 1:

EUT was placed on a 1.5 meter high non-conductive table at a 3 meter test distance from the test receive antenna. The height of receiving antenna is 1.5m. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reaching a maximum value. The measurement is carried out using a spectrum analyzer or receiver. The spectrum analyzer scans from 30MHz to 20GHz (higher than the 10th harmonic of the carrier). The peak detector is used and RBW is set to 1MHz on spectrum analyzer. Then the antenna height and turn table rotation is adjusted until the maximum power value is founded on spectrum analyzer or receiver. A notch filter is necessary in the band near to the carrier frequency. A high pass filter is needed to avoid the distortion of the testing equipment in the band above the carrier frequency.

Step 2:

A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.

Step 3:

Repeat step 1 and step 2 for receiving antenna another polarization.

Step 4:

Repeat step 1, step 2 and step 3 for EUT another two orientation.

9.5. Test Specification

CF 47 FCC Part 2.1051, Part 2.1053, Part 22.917, Part 24.238

9.6. EUT Operation

See chapter 1.2 of this test report.

9.7. Test Result

9.7.1 GPRS 850

EUT Axis	Receiving antenna polarization	Frequency (GHz)	Value (dBm)	Correction (dB)	Limit (dBm)	Result
X	H	3.7620	-60.64	3.04	-13	pass
		5.6400	-56.19	5.89	-13	pass
		9.4020	-47.34	8.12	-13	pass
	V	4.1820	-53.21	3.22	-13	pass
		1.0380	-50.44	1.71	-13	pass
Y	H	3.3480	-62.30	3.63	-13	pass
		4.1820	-54.26	5.44	-13	pass
		5.0160	-60.98	6.79	-13	pass
		9.2040	-55.33	11.35	-13	pass
		10.0380	-45.19	12.30	-13	pass
	V	3.3480	-62.20	2.56	-13	pass
		4.1820	-59.12	3.17	-13	pass
		10.0380	-47.48	11.60	-13	pass
Z	H	10.0380	-52.36	12.30	-13	pass
	V	3.3480	-62.59	2.69	-13	pass
		10.0380	-50.98	11.13	-13	pass

9.7.2 GPRS 1900

EUT Axis	Receiving antenna polarization	Frequency (GHz)	Value (dBm)	Correction (dB)	Limit (dBm)	Result
X	H	3.762	-48.25	2.52	-13	pass
		5.64	-51.71	3.84	-13	pass
		7.518	-57.55	6.07	-13	pass
		9.402	-46.03	8.08	-13	pass
		11.286	-52.35	10.97	-13	pass
		13.164	-45.89	12.89	-13	pass
		15.042	-45.91	14.88	-13	pass
		16.926	-47.86	15.26	-13	pass
	V	3.762	-54.73	2.98	-13	pass
		5.64	-53.73	3.49	-13	pass
		7.518	-58.24	6.38	-13	pass
		9.402	-46.13	8.96	-13	pass
		11.286	-51.22	10.17	-13	pass
		13.164	-44.73	12.63	-13	pass
		15.042	-45.08	14.17	-13	pass
		16.926	-46.72	15.45	-13	pass
Y	H	3.762	-48.72	2.41	-13	pass
		5.64	-50.33	3.72	-13	pass
		7.518	-57.33	6.01	-13	pass
		9.402	-45.66	8.43	-13	pass
		11.286	-52.06	10.77	-13	pass
		13.164	-44.49	12.24	-13	pass
		15.042	-46.00	14.35	-13	pass
		16.926	-47.20	15.51	-13	pass
	V	3.762	-51.74	2.63	-13	pass
		5.64	-54.07	3.33	-13	pass
		9.402	-47.22	8.19	-13	pass
		11.286	-52.47	10.58	-13	pass
		13.164	-42.85	12.06	-13	pass
		15.042	-42.07	14.14	-13	pass
		16.926	-45.33	15.42	-13	pass

(To be continued)

9.7.2 GPRS 1900 (Continued)

EUT Axis	Receiving antenna polarization	Frequency (GHz)	Value (dBm)	Correction (dB)	Limit (dBm)	Result
Z	H	3.762	-59.16	2.83	-13	pass
		5.64	-54.85	3.20	-13	pass
		9.402	-43.08	8.58	-13	pass
		11.286	-54.97	10.64	-13	pass
		13.164	-42.53	12.97	-13	pass
		15.042	-44.67	14.07	-13	pass
		16.926	-44.83	15.57	-13	pass
	V	3.762	-51.94	2.71	-13	pass
		5.64	-50.03	3.44	-13	pass
		7.518	-57.69	6.59	-13	pass
		9.402	-5.30	8.64	-13	pass
		11.286	-51.89	10.47	-13	pass
		13.164	-46.97	12.60	-13	pass
		15.042	-49.46	14.76	-13	pass
	16.926	-48.42	15.48	-13	pass	

9.7.3 GSM 850

EUT Axis	Receiving antenna polarization	Frequency (GHz)	Value (dBm)	Correction (dB)	Limit (dBm)	Result
X	H	1.6732	-40.77	1.26	-13	pass
		2.5096	-38.98	2.73	-13	pass
		3.4800	-62.27	3.87	-13	pass
		4.1820	-57.19	3.07	-13	pass
		10.0380	-51.09	7.74	-13	pass
	V	1.6728	-53.61	1.25	-13	pass
		2.5092	-50.31	2.90	-13	pass
		4.1820	-54.88	3.87	-13	pass
		5.0160	-61.55	3.81	-13	pass
		9.2040	-54.59	7.05	-13	pass
Y	H	1.6732	-42.40	1.79	-13	pass
		2.5092	-46.36	2.27	-13	pass
		3.3480	-60.55	3.37	-13	pass
		4.1820	-53.87	3.37	-13	pass
		10.0380	-46.68	7.97	-13	pass
	V	1.6732	-43.17	1.85	-13	pass
		2.5096	-43.54	2.06	-13	pass
		3.3480	-61.07	3.58	-13	pass
		4.1820	-55.74	3.90	-13	pass
		9.2040	-55.62	7.59	-13	pass
Z	H	1.6728	-53.32	1.40	-13	pass
		2.5092	-53.10	2.37	-13	pass
	V	1.6732	-44.59	1.03	-13	pass
		2.5096	-43.98	2.64	-13	pass

9.7.4 PCS 1900

EUT Axis	Receiving antenna polarization	Frequency (GHz)	Value (dBm)	Correction (dB)	Limit (dBm)	Result
X	H	3.7620	-49.10	2.47	-13	pass
		5.6400	-51.44	4.19	-13	pass
		9.4020	-44.73	6.22	-13	pass
		11.2850	-54.03	7.44	-13	pass
		13.1640	-44.14	12.24	-13	pass
		15.0420	-47.39	13.26	-13	pass
	V	3.7620	-52.77	2.12	-13	pass
		5.6400	-51.34	4.29	-13	pass
		9.4020	-43.97	6.09	-13	pass
		13.1640	-44.80	12.31	-13	pass
		15.0420	-43.46	13.32	-13	pass
		16.9260	-45.56	15.55	-13	pass
Y	H	3.7620	-51.92	2.72	-13	pass
		5.6400	-51.76	4.33	-13	pass
		9.4020	-41.95	6.15	-13	pass
		11.2860	-53.77	7.05	-13	pass
		13.1640	-42.81	12.51	-13	pass
		15.0420	-43.19	13.91	-13	pass
	V	16.9260	-47.23	15.92	-13	pass
		3.7620	-53.27	2.87	-13	pass
		5.6400	-54.87	4.35	-13	pass
		9.4020	-44.62	6.69	-13	pass
		13.1640	-42.58	12.90	-13	pass
		15.0420	-43.36	13.47	-13	pass
		16.9260	-45.81	15.06	-13	pass

9.7.4 PCS 1900(Continued)

EUT Axis	Receiving antenna polarization	Frequency (GHz)	Value (dBm)	Correction (dB)	Limit (dBm)	Result
Z	H	3.7620	-56.21	2.91	-13	pass
		5.6400	-53.64	4.41	-13	pass
		9.4020	-45.21	6.10	-13	pass
		11.2860	-54.58	7.67	-13	pass
		13.1640	-46.48	12.24	-13	pass
		15.0420	-49.25	13.26	-13	pass
		16.9260	-47.04	15.67	-13	pass
	V	3.7620	-49.13	2.40	-13	pass
		5.6400	-54.25	4.57	-13	pass
		9.4020	-42.00	6.95	-13	pass
		11.2860	-51.50	7.27	-13	pass
		13.1640	-45.52	12.70	-13	pass
		15.0420	-50.05	13.74	-13	pass
		16.9260	-47.30	15.41	-13	pass

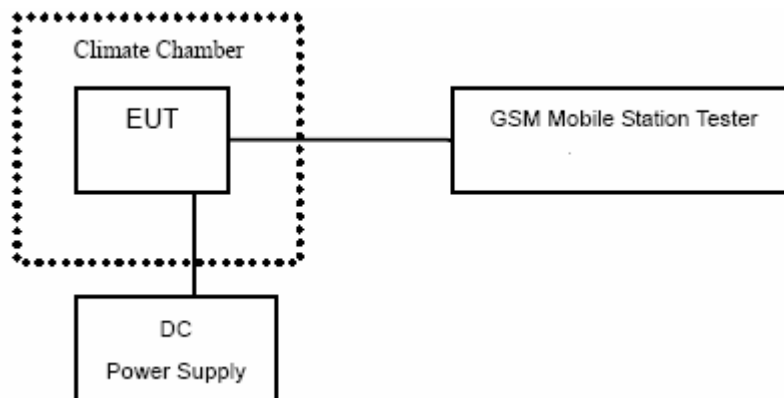
10. Frequency Stability vs. Temperature and voltage variations

10.1. Test Equipment

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008
4	Climatic Chamber	WEISS	DU/20/40/5822601734 0050	June, 2008
5	DC Power Supply	SAKO	SK1730SL20A/04030 16	N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

10.2. Test Setup



10.3. Limits

According to part 22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances 2.5ppm.

10.4. Test Procedure

Step 1: Frequency Stability vs. Temperature variations

The EUT and test equipment were set up as shown on the following section. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours.

Power was applied and the maximum change in frequency was note within one minute. With power OFF, the temperature was raised in 10°C 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. The temperature tests were performed for the worst case.

Step 2: Frequency Stability vs. voltage variations

The EUT was placed in a temperature chamber at 25 ± 5 °C and connected as the following section. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT. The variation in frequency was measured for the worst case.

10.5. EUT Operation

See chapter 1.2 of this test report.

10.6. Test Specification

CF 47 FCC Part 2.1055, 22.355, 24.235

10.7. Test Result

GSM 850

Temperature(° C)	Test Result (Hz)		
	Channel 128	Channel 189	Channel 251
-30	0.045	0.037	0.029
-20	0.034	0.022	0.022
-10	0.017	0.012	0.016
0	0.006	0.007	0.005
+10	0.010	0.006	0.011
+20	0.012	0.014	0.004
+30	0.006	0.002	0.016
+40	0.009	0.013	0.007
+50	0.017	0.014	0.018

Voltage (V)	Test Result (Hz)		
	Channel 128	Channel 189	Channel 251
3.3	0.004	0.018	0.004
4.2	0.018	0.013	0.039

PCS 1900

Temperature(° C)	Test Result (Hz)		
	Channel 512	Channel 661	Channel 810
-30	0.011	0.014	0.010
-20	0.008	0.010	0.006
-10	0.011	0.014	0.008
0	0.006	0.001	0.016
+10	0.004	0.012	0.003
+20	0.007	0.017	0.014
+30	0.004	0.004	0.005
+40	0.016	0.015	0.011
+50	0.011	0.010	0.015

Voltage (V)	Test Result (Hz)		
	Channel 512	Channel 661	Channel 810
3.3	0.008	0.009	0.010
4.2	0.003	0.010	0.004

11. Test Setup Photo

11.1 Radiation Emission Setup Photo

11.2 ERP/EIRP Test Setup Photo

11.3 Conduction Emission test setup Photo

11.4 EUT Axis of Setup Photo

X Axis

Y Axis

Z Axis

12 External Photo

13 Internal Photo