FCC/IC Test Report

FOR:

Model Name: P121UNA
FCC ID: O8F-PIXUW
IC ID: 3905A-PIXUW

47 CFR Part 2, 22, 24

RSS-132 Issue 2

RSS-133 Issue 5

TEST REPORT #: EMC_PALMO_070_09001_FCC_22_24
DATE: 2010-01-25

ilac-MRA

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 2135.01

Bluetooth

Bluetooth Qualification Test Facility (BQTF)

CTIA Authorized Test Lab
LAB CODE 20020328-00

FCC listed: A2LA accredited

IC recognized # 3462B-1

***CETECOM* Inc.**
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Board of Directors: Dr. Harald Ansorge, Dr. Klaus Matkey, Hans Peter May

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Table of Contents

1 Assessment

The following is in compliance with the applicable criteria specified in FCC rules Parts 2, 22 and 24 of Title 47 of the Code of Federal Regulations and Industry Canada Standards RSS 132 and RSS 133.

Company	Description	Model #
Palm, Inc	GSM/UMTS Phone with 802.11 b/g and Bluetooth	P121UNA

Responsible for Testing Laboratory:

Date	Section	Name	Signature
2010-01-25	Compliance	Marc Douat (Test Lab Manager)	Marc Douat I am approving this document

Responsible for the Report:

Date	Section	Name	Signature
2010-01-25	Compliance	Josie Sabado (Project Engineer)	Josie Sabado I am the author of this document

The test results of this test report relate exclusively to the test item specified in Section3.
CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM Inc USA.

2 Administrative Data

2.1 Identification of the Testing Laboratory Issuing the EMC Test Report

Company Name:	CETECOM Inc.
Department:	Compliance
Address:	411 Dixon Landing Road Milpitas, CA 95035 U.S.A.
Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
Responsible Test Lab Manager:	Heiko Strehlow
Responsible Project Leader:	Josie Sabado

2.2 Identification of the Client

Applicant's Name:	Palm, Inc.
Street Address:	950 W. Maude Ave
City/Zip Code	Sunnyvale, CA 94085-2801
Country	USA
Contact Person:	Julia Luke
Phone No.	(408) 617-8597
e-mail:	Julia.Luke@palm.com

2.3 Identification of the Manufacturer

Same as above client.

3 Equipment under Test (EUT)

3.1 Specification of the Equipment under Test

Model No:	P121UNA
Product Type:	GSM/UMTS Cellular Phone
Hardware Revision :	DVT2B
Software Revision :	Palm WebOS
FCC-ID:	O8F-PIXUW
IC-ID :	3905A-PIXUW
Frequency:	GSM 850: 824.2-848.8MHz; PCS 1900: 1850.2-1909.8MHz FDD V: 826.4-846.6MHz; FDD II: 1852.4-1907.6MHz
Type(s) of Modulation:	GMSK; 8-PSK; QPSK; 16QAM
Number of channels:	GSM850: 125 and PCS 1900: 300 FDD II: 278/ FDD V: 103
Antenna Type:	Integral

3.2 Identification of the Equipment Under Test (EUT)

EUT #	Serial Number	HW Version	SW Version	Comments
1	PD2BNBR98020	DVT2B	Palm WebOS	Radiated and conducted sample
2	PD2BRBR98123	DVT2B	Palm WebOS	Frequency stability sample

3.3 Identification of Accessory equipment

AE #	Type	Manufacturer	Model	Serial Number	Part Number
1	Battery	Palm	N/A	D298AW18D1BDC090810	157-10119-00
2	Inductive Charging Dock	Palm	N/A	N/A	157-10123-00
3	Inductive Back Cover	Palm	N/A	P29BJ0L4C4A	180-10763-00 (Pink)
4	Headset	Palm	N/A	N/A	180-10632-00
5	AC Adapter #24	Palm	N/A	2B9840MTP2A	157-10124-00
6	AC Adapter #30	Palm	N/A	F298R03TP34	157-10130-00
7	USB Cable	Palm	N/A	N/A	180-10646-00

4 Subject of Investigation

The EUT is a GSM/UMTS Cellular Phone that supports both class 10 and class 12 technologies. UMTS supports HSDPA Release 5.

The objective of the measurements done by Cetecom Inc. was to measure the performance of the EUT as specified by requirements listed in the following test standards:

- 47 CFR Part 2: Title 47 of the Code of Federal Regulations: Chapter I-Federal Communications Commission Frequency allocations and radio treaty matters; general rules and regulations.
- 47 CFR Part 22: Title 47 of the Code of Federal Regulations: Chapter I-Federal Communications Commission subchapter B- common carrier services; Part 22- Public mobile services
- 47 CFR Part 24: Title 47 of the Code of Federal Regulations: Chapter I-Federal Communications Commission subchapter B- common carrier services; Part 24- Personal communication services
- RSS 132- Issue 2: Spectrum management and telecommunication policy- Radio Standards Specifications Cellular telephones employing new technologies operating in the bands 824-849MHz and 869-894MHz
- RSS 133- Issue 5: Spectrum management and telecommunication policy- Radio Standards Specifications- 2GHz personal communication services

5 Measurements

5.1 RF Power Output

5.1.1 References

FCC: CFR Part 2.1046, CFR Part 22.913, CFR Part 24.232
IC: RSS 132 Section 4.4 and 6.4; RSS 133 Section 4.3

5.1.2 FCC 2.1046 Measurements required: RF power output.

Power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on circuit elements as specified. The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

5.1.3 Limits:

5.1.3.1 FCC 22.913 (a) Effective radiated power limits.

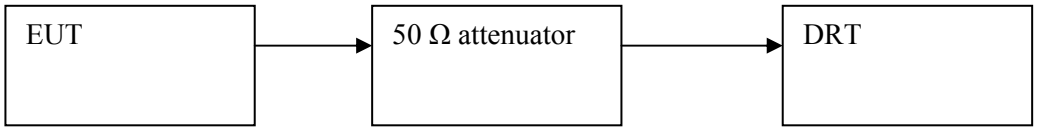
The effective radiated power (ERP) of mobile transmitters must not exceed 7 Watts.

5.1.3.2 FCC 24.232 (b)(c) Power limits.

(c) Mobile/portable stations are limited to 2 Watts effective isotropic radiated power (EIRP).
(d) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms equivalent voltage. The measurement results shall be properly adjusted for any limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement over the full bandwidth of the channel.

5.1.4 Conducted Output Power Measurement procedure

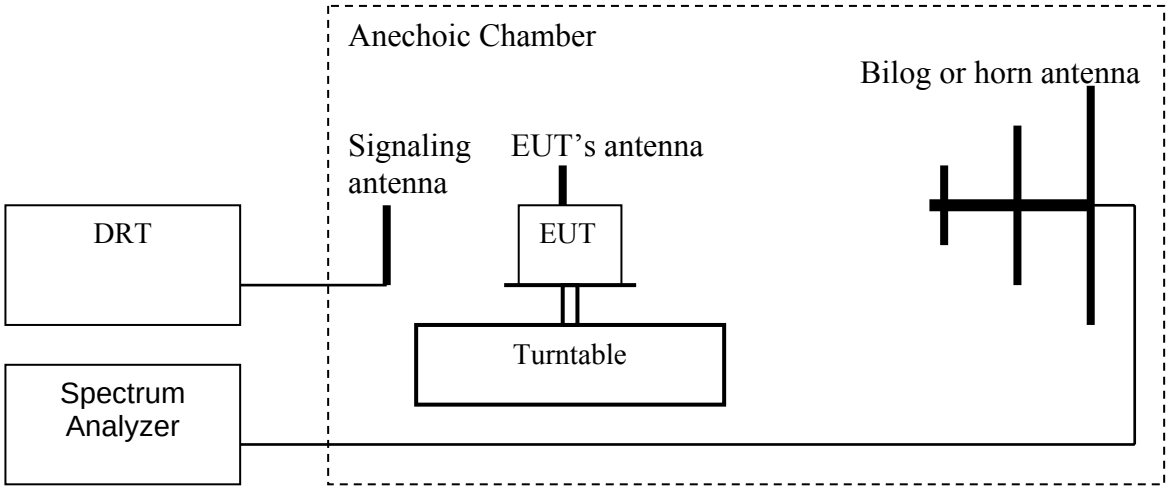
Ref: TIA-603C 2004 2.2.1 Conducted Carrier Output Power Rating



1. Connect the equipment as shown in the above diagram. A Digital RadioCommunication Tester (DRT) is used to enable the EUT to transmit and to measure the output power.
2. Adjust the settings of the DRT to set the EUT to its maximum power at the required channel.
3. Record the output power level measured by the DRT.
4. Correct the measured level for all losses in the RF path.
5. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.

5.1.5 Radiated Output Power Measurement procedure

Ref: TIA-603C 2004 -2.2.17.2 Effective Radiated Power (ERP) or Effective Isotropic Radiated Power (EIRP)



1. Connect the equipment as shown in the above diagram with the EUT's antenna in a vertical orientation.
2. Adjust the settings of the Digital RadioCommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
3. Set the spectrum analyzer to the channel frequency. Set the analyzer to measure peak hold with the required settings.
4. Rotate the EUT 360°. Record the peak level in dBm (**LVL**).
5. Replace the EUT with a vertically polarized half wave dipole or known gain antenna. The center of the antenna should be at the same location as the center of the EUT's antenna.
6. Connect the antenna to a signal generator with known output power and record the path loss in dB (**LOSS)**. **LOSS** = Generator Output Power (dBm) – Analyzer reading (dBm).
7. Determine the ERP using the following equation:
   ERP (dBm) = **LVL** (dBm) + **LOSS** (dB)
8. Determine the EIRP using the following equation:
   EIRP (dBm) = **ERP** (dBm) + 2.14 (dB)
9. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.

Spectrum analyzer settings: RBW=VBW=3MHz

(**Note:** Steps 5 and 6 above are performed prior to testing and **LOSS** is recorded by test software. Steps 3, 4, 7 and 8 above are performed with test software.)

5.1.6 RF Power Output 850MHz band

Limit: Nominal Peak Output Power < 38.45 dBm (7W)
Measurement Uncertainty: ±0.5 dB
Average power is reported here as reference.

GSM 850: GMSK Mode			
Frequency (MHz)	**Conducted Power**		**Radiated Power**
	Peak Power (dBm)	**Av Power (dBm)**	**ERP (dBm)**
824.2	32.1	31.9	30.495
836.4	31.9	31.7	30.391
848.8	31.8	31.7	29.847

EGPRS 850: 8PSK Mode			
Frequency (MHz)	**Conducted Power**		**Radiated Power**
	Peak Power (dBm)	**Av Power (dBm)**	**ERP (dBm)**
824.2	28.3	25.2	26.763
836.4	28.1	25.0	26.532
848.8	28.1	25.0	25.904

FDD V: UMTS Mode			
Frequency (MHz)	**Conducted Power**		**Radiated Power**
	Peak Power (dBm)	**Av Power (dBm)**	**ERP (dBm)**
826.4	27.52	23.01	24.823
836.0	28.27	23.12	25.585
846.6	27.35	23.05	25.334

5.1.7 RF Power Output 1900MHz band

Limit: Nominal Peak Output Power < 33 dBm (2W)
Measurement Uncertainty: ±0.5 dB
Average power is reported here as reference.

GSM 1900: GMSK Mode			
Frequency (MHz)	**Conducted Power**		**Radiated Power**
	Peak Power (dBm)	**Av Power (dBm)**	**EIRP (dBm)**
1850.2	29.1	29.0	31.278
1880.0	29.0	28.8	30.207
1909.8	29.2	29.1	29.897

EGPRS 1900: 8PSK Mode			
Frequency (MHz)	**Conducted Power**		**Radiated Power**
	Peak Power (dBm)	**Av Power (dBm)**	**EIRP (dBm)**
1850.2	28.9	25.7	31.741
1880.0	28.8	25.5	29.710
1909.8	29.0	25.8	29.503

FDD II: UMTS Mode			
Frequency (MHz)	**Conducted Power**		**Radiated Power**
	Peak Power (dBm)	**Av Power (dBm)**	**EIRP (dBm)**
1852.4	26.93	21.7	25.660
1880.0	26.55	21.91	24.567
1907.6	26.88	21.96	23.179

5.1.8 Results

EIRP (GSM 850) CHANNEL 128 §22.913(a)

EMI Sweep(1) 1 / 1

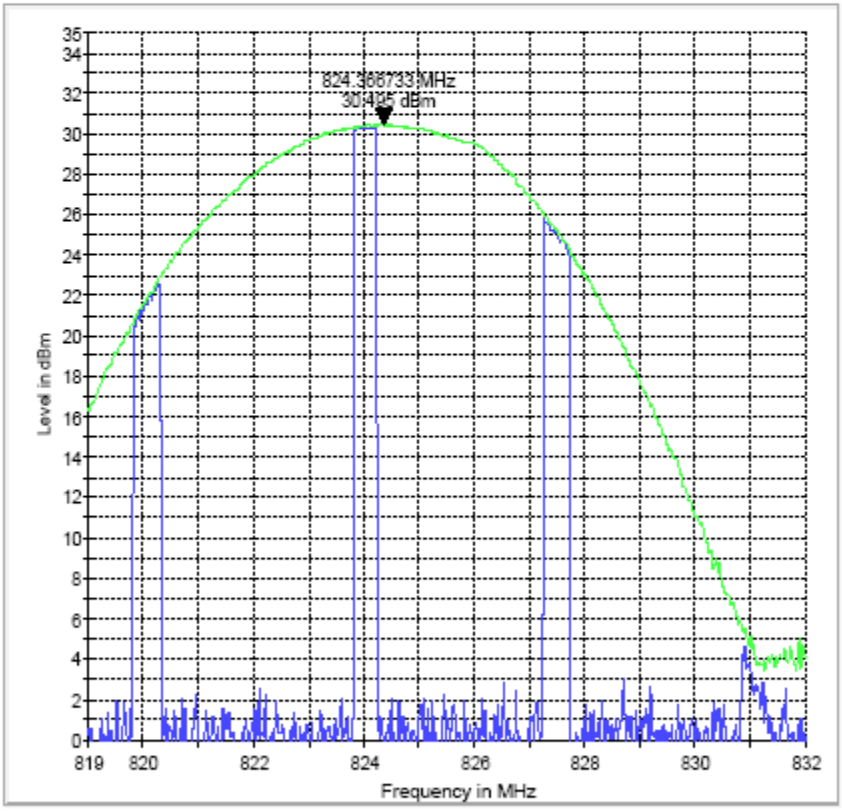
EMI Sweep(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

ERP 850 L



12/22/2009 knavares EMC32 V8.10.10 6:42:18

EIRP (GSM 850) CHANNEL 190 §22.913(a)

EMI Sweep(1) 1 / 1

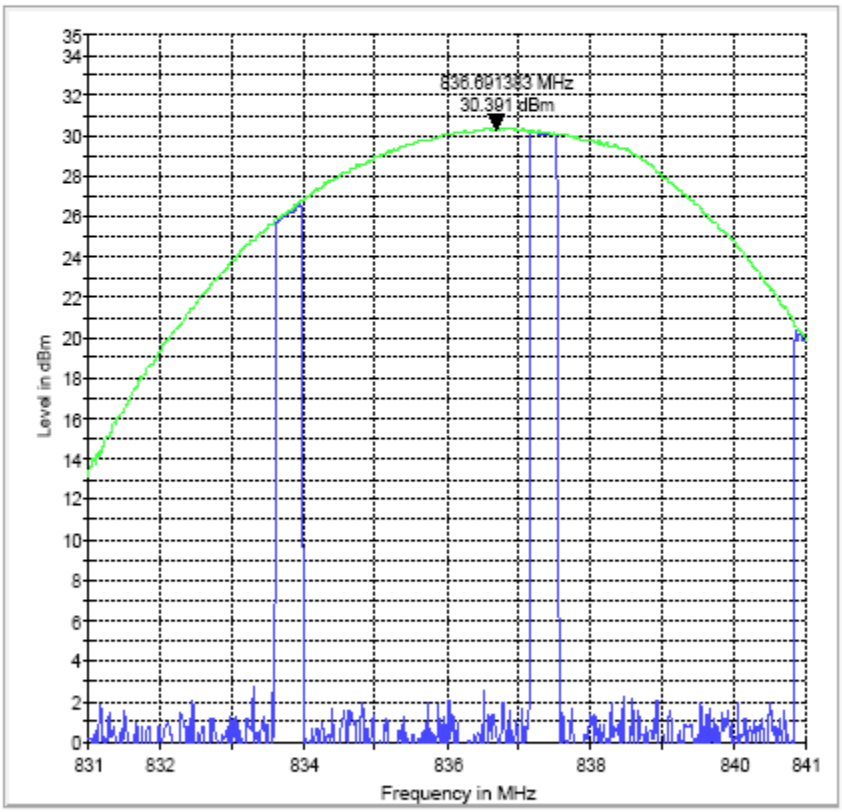
EMI Sweep(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

ERP 850 M



12/22/2009 knavares EMC32 V8.10.10 6:49:19

EIRP (GSM 850) CHANNEL 251 §22.913(a)

EMI Sweep(1) 1 / 1

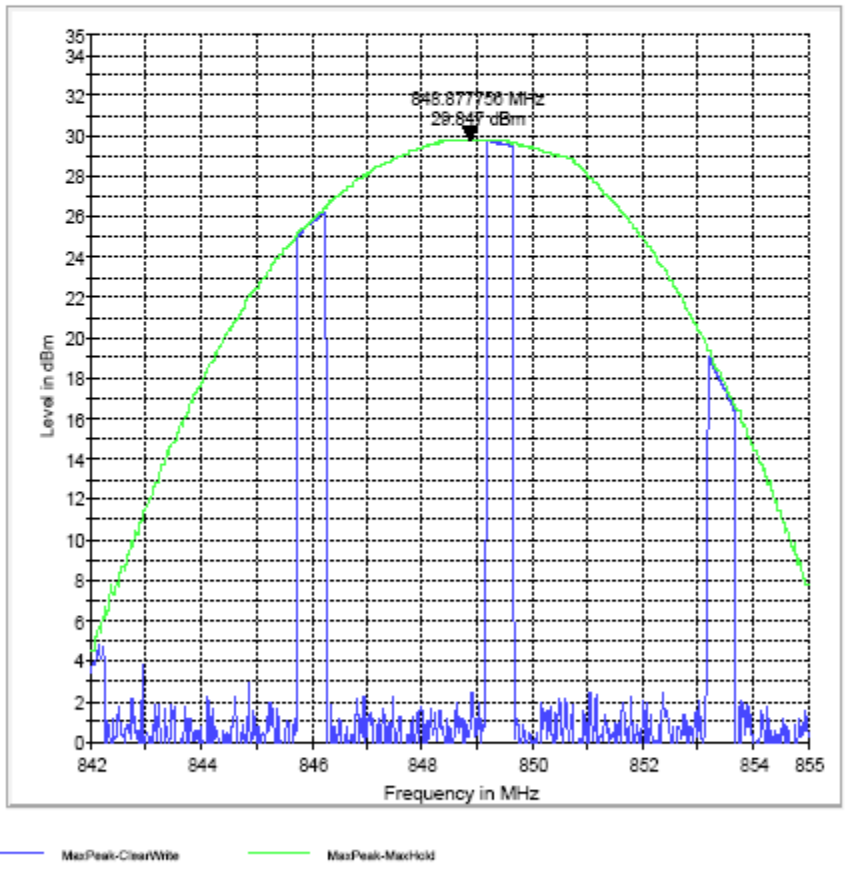
EMI Sweep(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

ERP 850 H



12/22/2009 knavares EMC32 V8.10.10 6:51:11

EIRP (EGPRS 850) CHANNEL 128 §22.913(a)

ERP-L 1 / 1

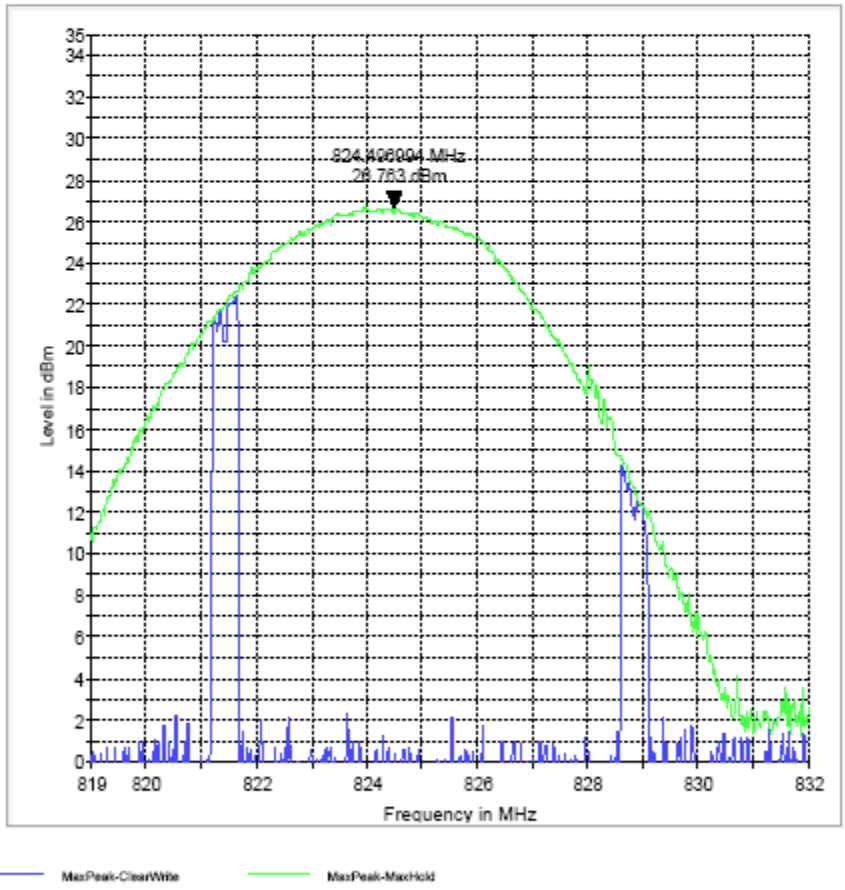
ERP-L

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

ERP 850 L



1/6/2010 smoon EMC32 V8.10.10 11:15:43

EIRP (EGPRS 850) CHANNEL 190 §22.913(a)

ERP-M 1 / 1

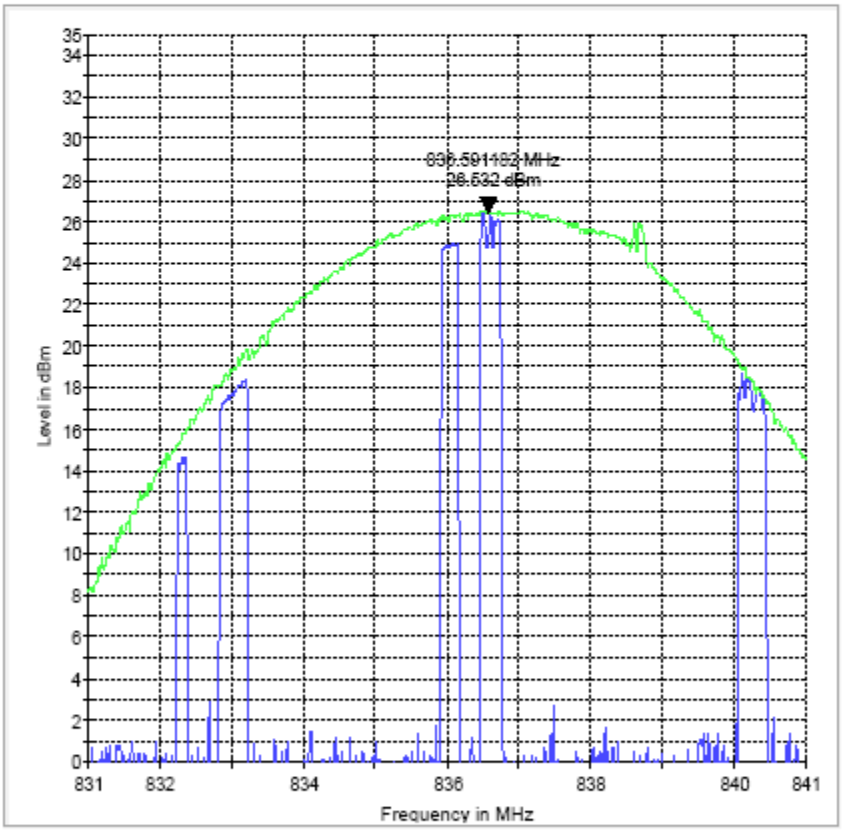
ERP-M

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

ERP 850 M



1/6/2010 smoon EMC32 V8.10.10 11:13:15

EIRP (EGPRS 850) CHANNEL 251 §22.913(a)

ERP-H 1 / 1

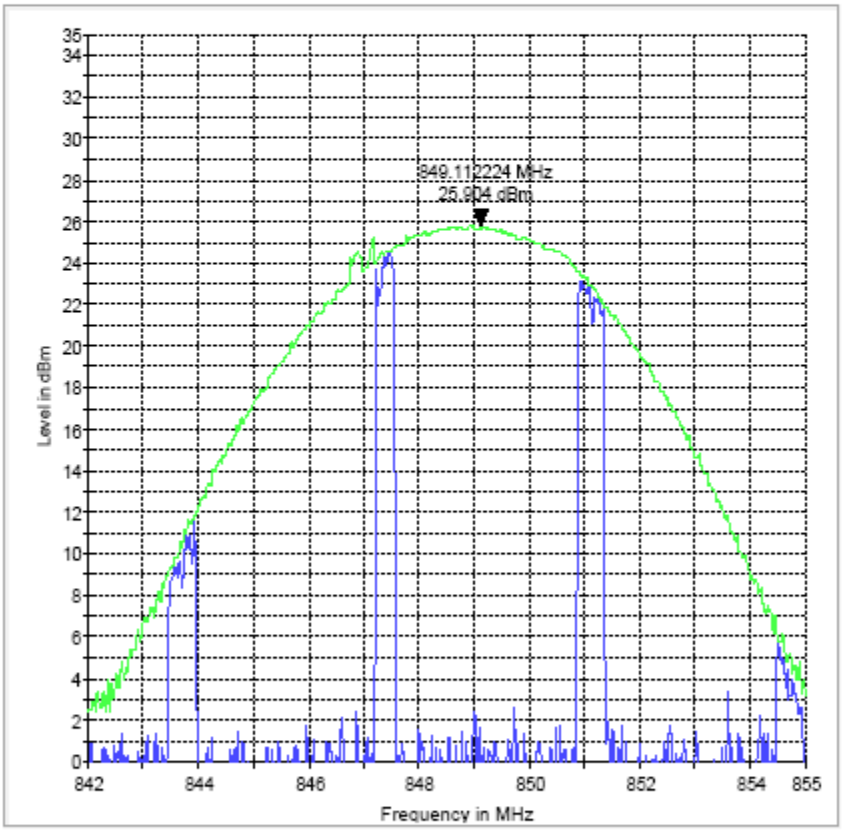
ERP-H

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

ERP 850 H



1/6/2010 smoon EMC32 V8.10.10 11:19:56

EIRP (UMTS FDD5) CHANNEL 4132 §22.913(a)

ERP-L 1 / 1

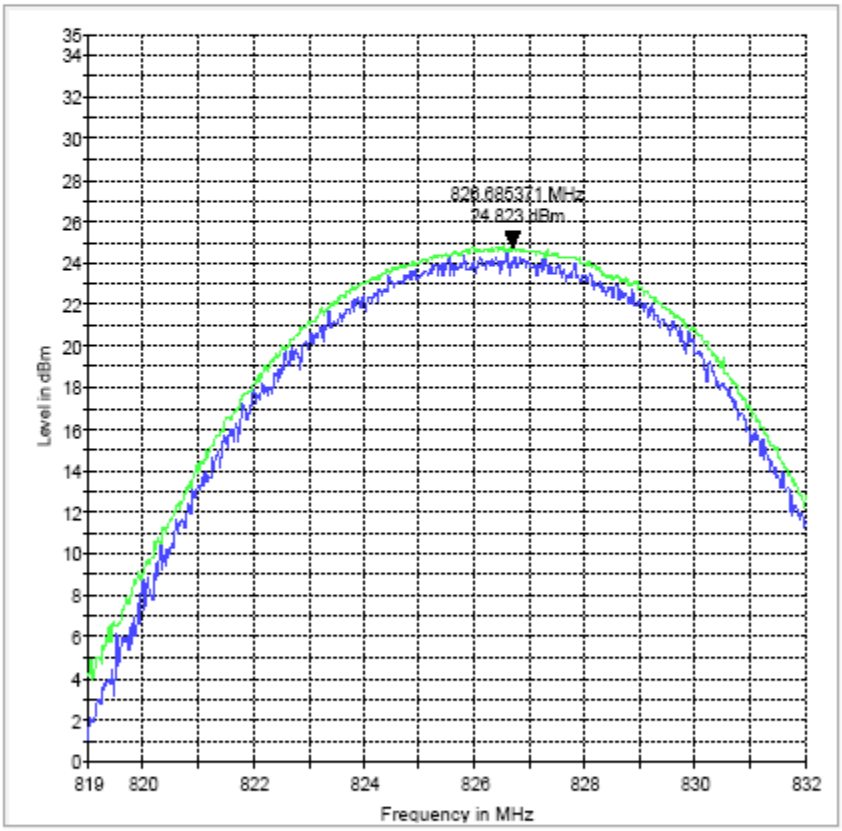
ERP-L

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

ERP 850 L



1/6/2010 smoon EMC32 V8.10.10 9:20:26

EIRP (UMTS FDD5) CHANNEL 4183 §22.913(a)

ERP-M 1 / 1

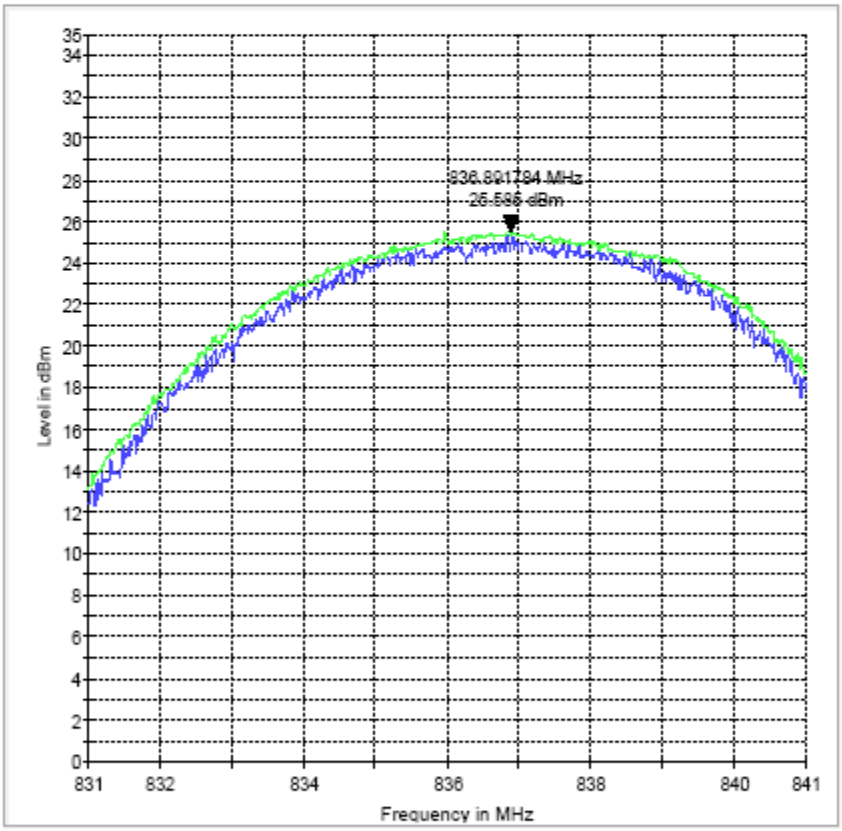
ERP-M

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

ERP 850 M



1/6/2010 smoon EMC32 V8.10.10 9:34:12

EIRP (UMTS FDD5) CHANNEL 4233 §22.913(a)

ERP-H 1 / 1

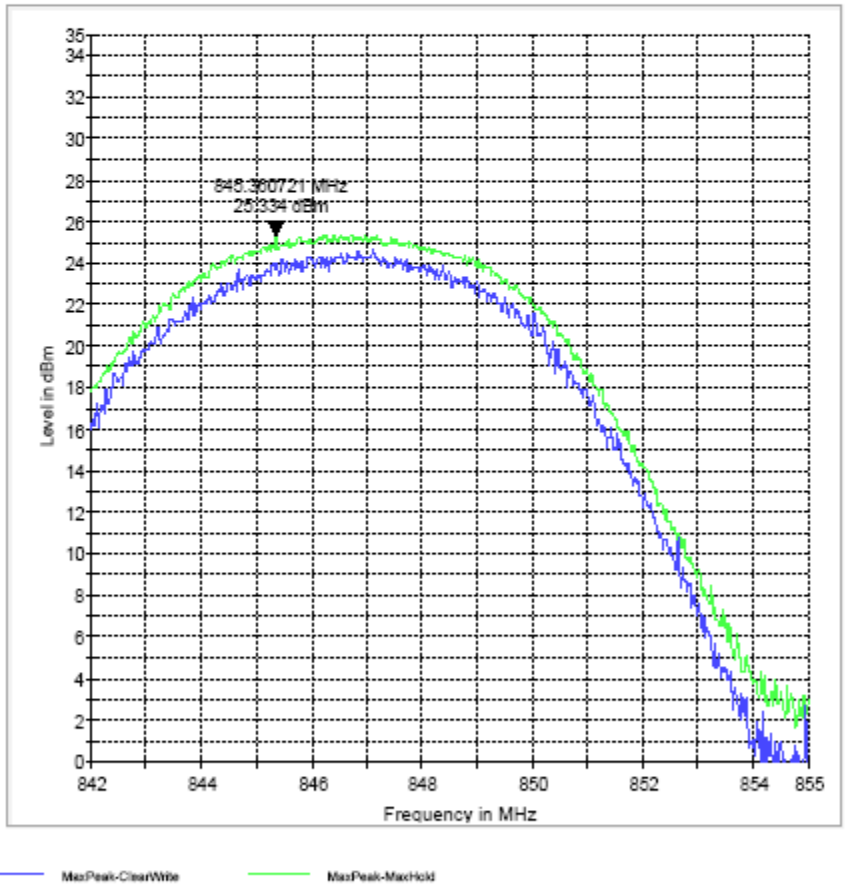
ERP-H

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

ERP 850 H



1/6/2010 smoon EMC32 V8.10.10 9:23:58

EIRP (PCS-1900) CHANNEL 512 §24.232(b)

EMI Sweep(1) 1 / 1

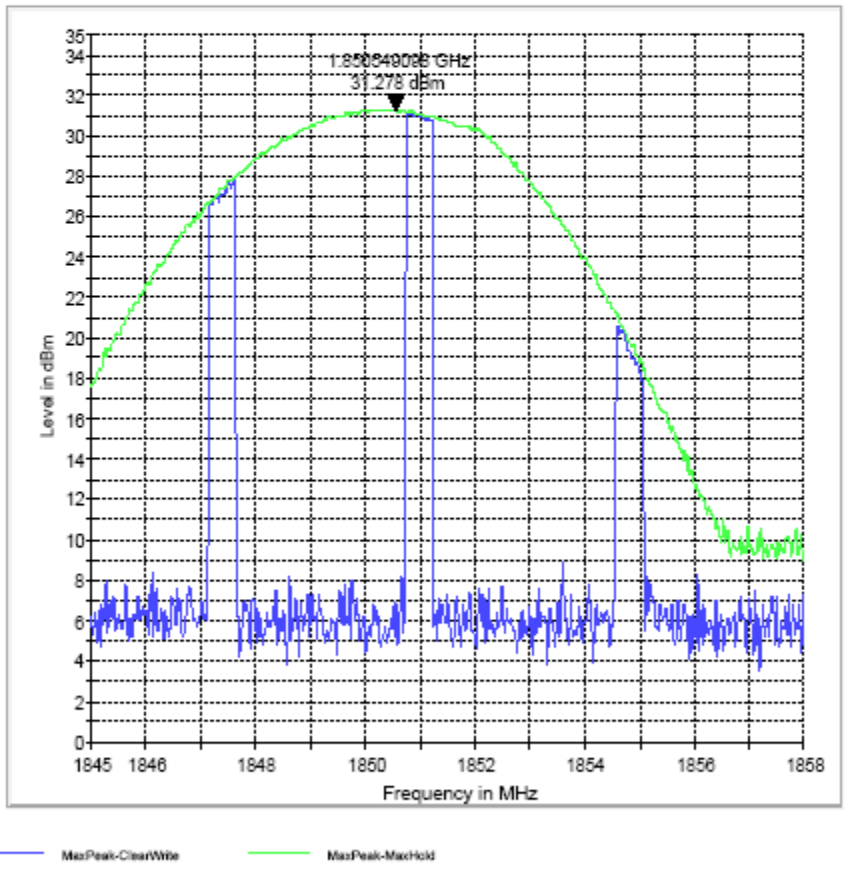
EMI Sweep(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

EIRP 1900 L



12/21/2009 smoon EMC32 V8.10.10 8:33:08

EIRP (PCS-1900) CHANNEL 661 §24.232(b)

661 - Mid 1 / 1

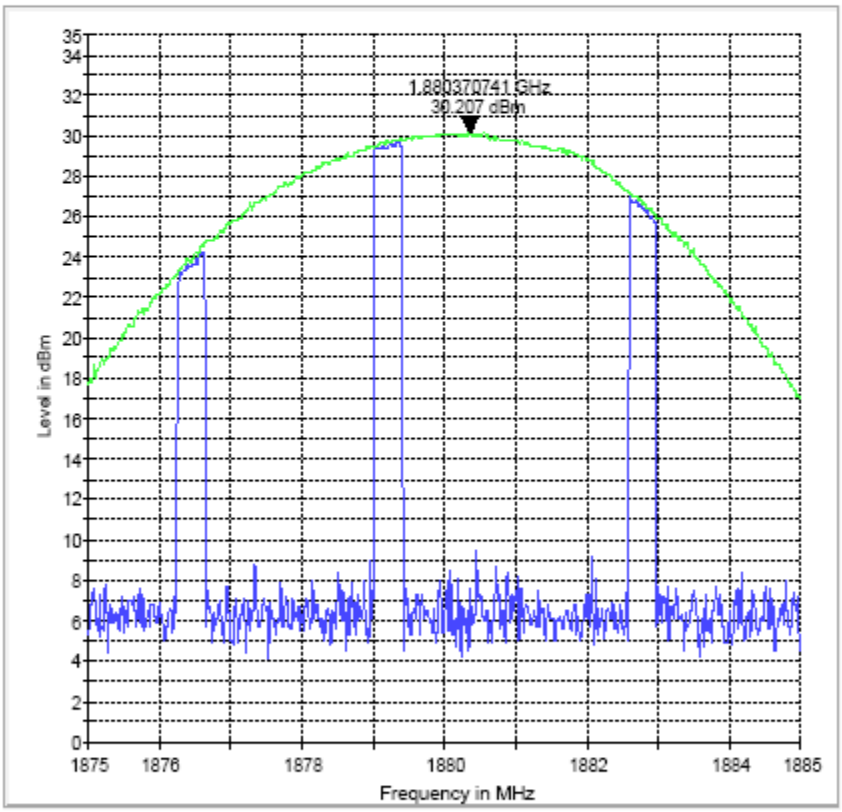
661 - Mid

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

EIRP 1900 M



12/21/2009 smoon EMC32 V8.10.10 8:39:16

EIRP (PCS-1900) CHANNEL 810 §24.232(b)

EMI Sweep(1) 1 / 1

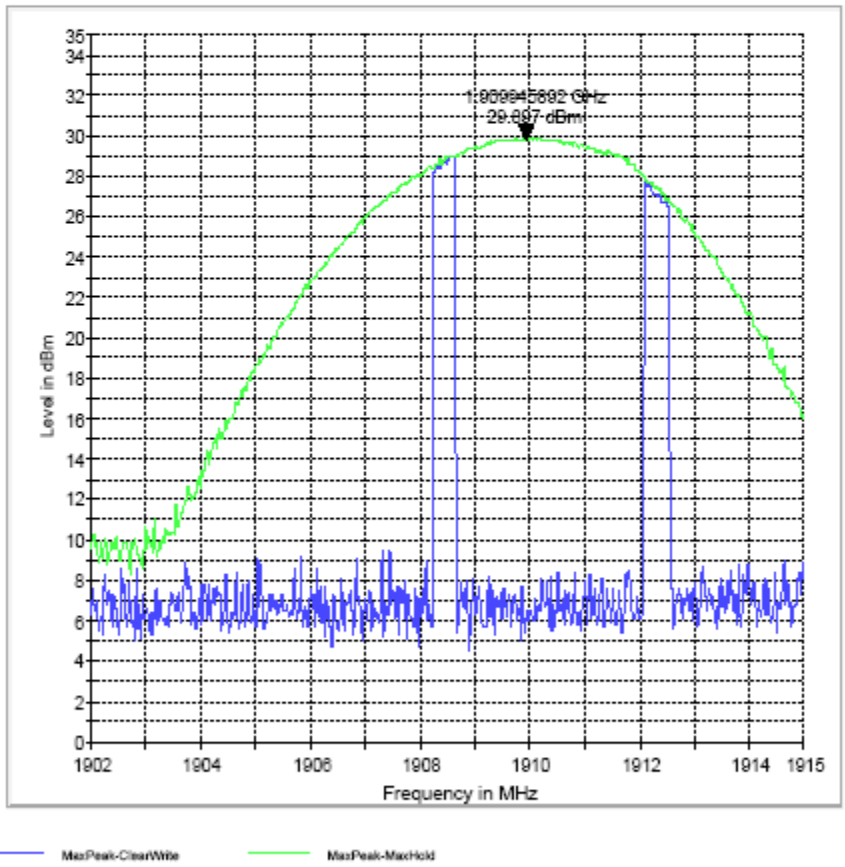
EMI Sweep(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

EIRP 1900 H



12/21/2009 smoon EMC32 V8.10.10 8:41:18

EIRP (EGPRS 1900) CHANNEL 512 §24.232(b)

EMI Sweep(1) 1 / 1

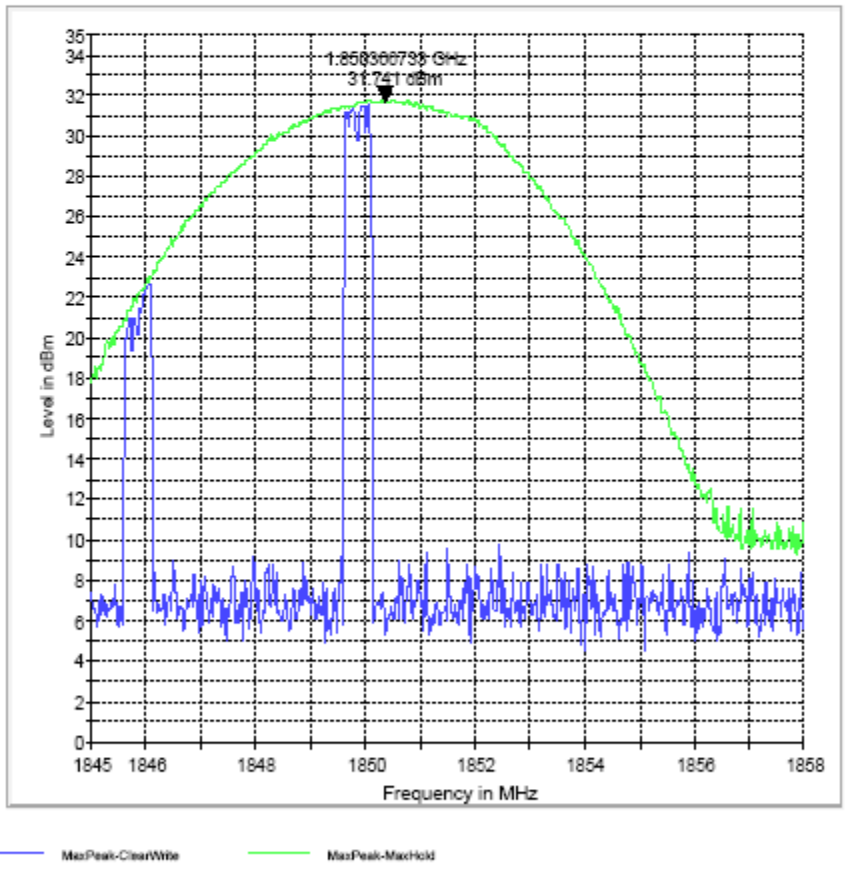
EMI Sweep(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

EIRP 1900 L



12/21/2009 smoon EMC32 V8.10.10 8:46:45

EIRP (EGPRS 1900) CHANNEL 661 §24.232(b)

EMI Sweep(1) 1 / 1

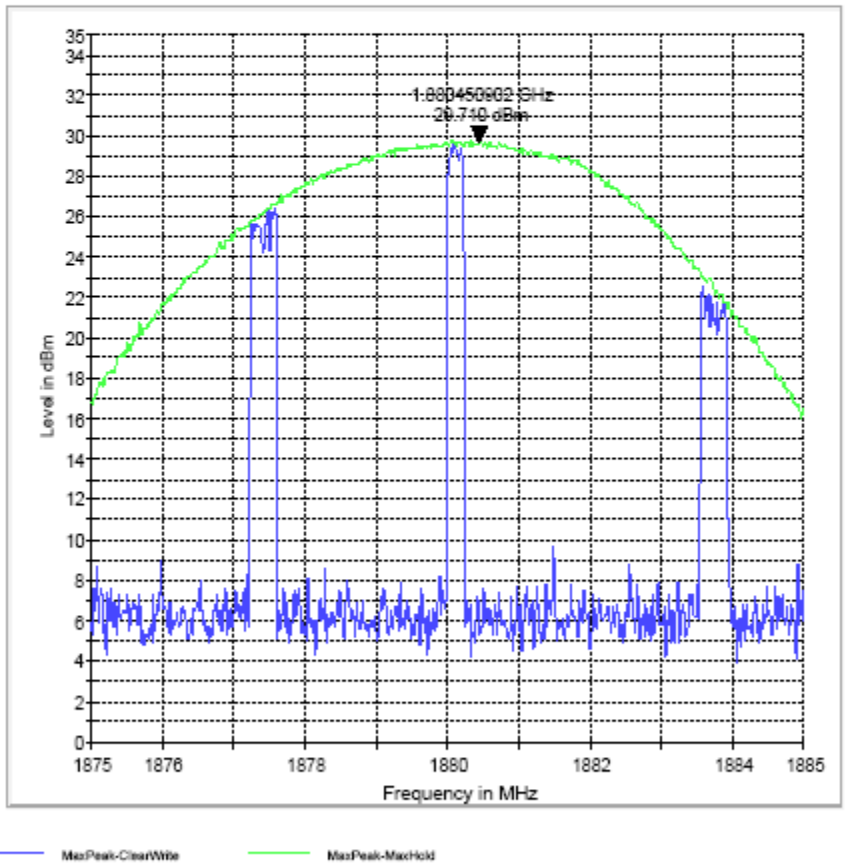
EMI Sweep(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

EIRP 1900 M



12/21/2009 smoon EMC32 V8.10.10 8:49:32

EIRP (EGPRS 1900) CHANNEL 810 §24.232(b)

EMI Sweep(1) 1 / 1

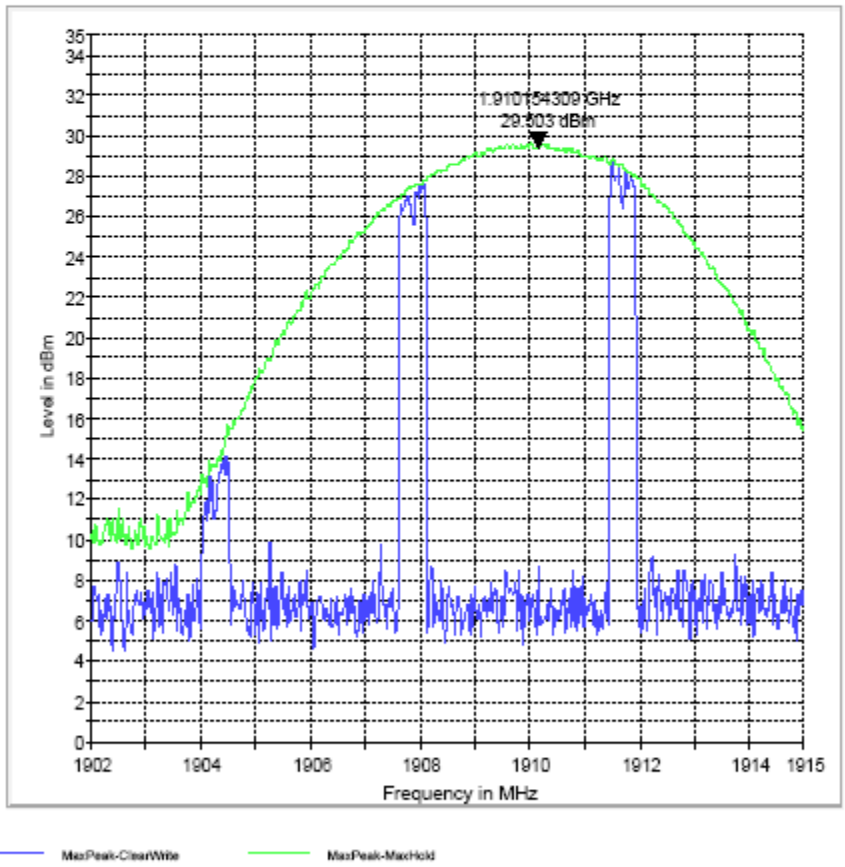
EMI Sweep(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

EIRP 1900 H



12/21/2009 smoon EMC32 V8.10.10 8:51:05

EIRP (UMTS FDD2) CHANNEL 9262 §24.232(b)

EMI Sweep(1) 1 / 1

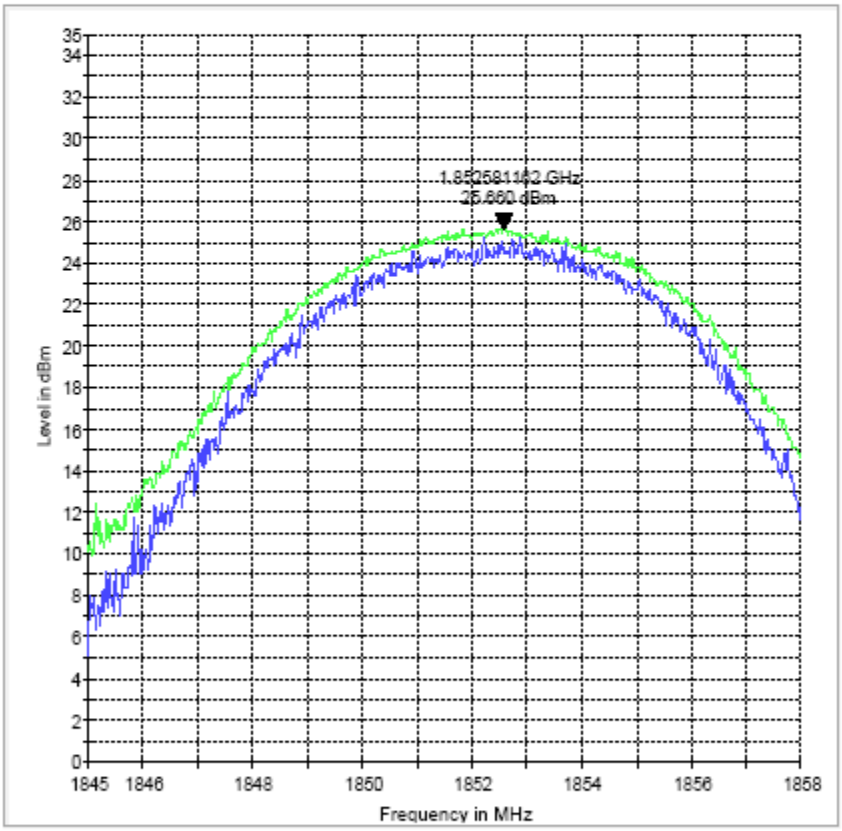
EMI Sweep(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Standard Cover and AC adapter #30
Comment:	

EIRP 1900 L



1/4/2010 knavares EMC32 V8.10.10 6:29:37

EIRP (UMTS FDD2) CHANNEL 9400 §24.232(b)

EMI Sweep(1) 1 / 1

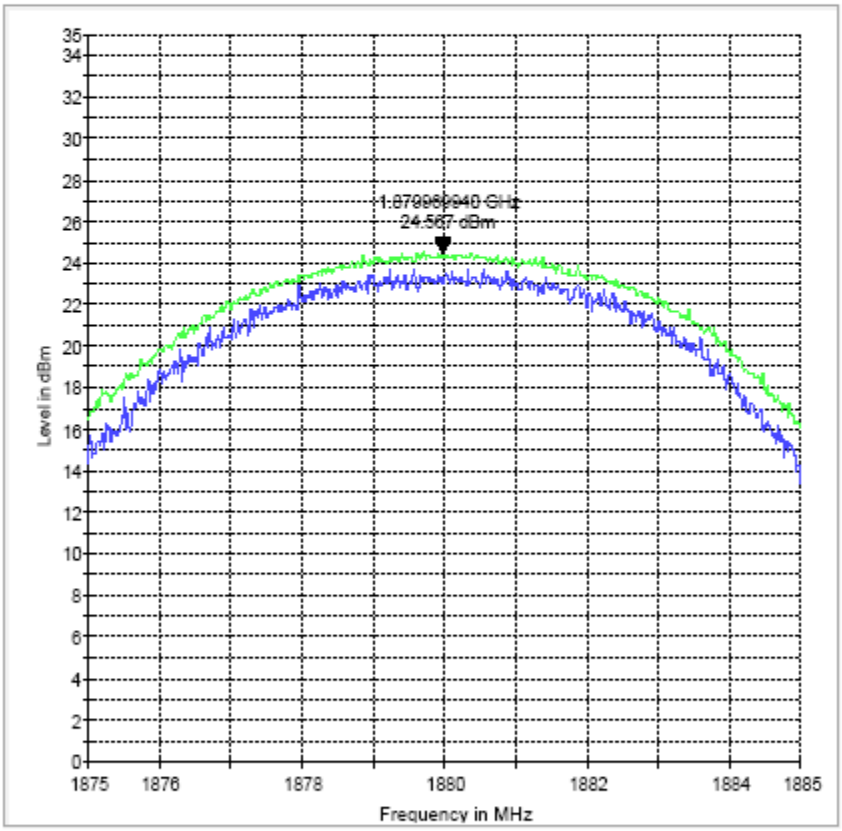
EMI Sweep(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Standard Cover and AC adapter #30
Comment:	

EIRP 1900 M



1/4/2010 knavares EMC32 V8.10.10 6:42:05

EIRP (UMTS FDD2) CHANNEL 9538 §24.232(b)

EMI Sweep(1) 1 / 1

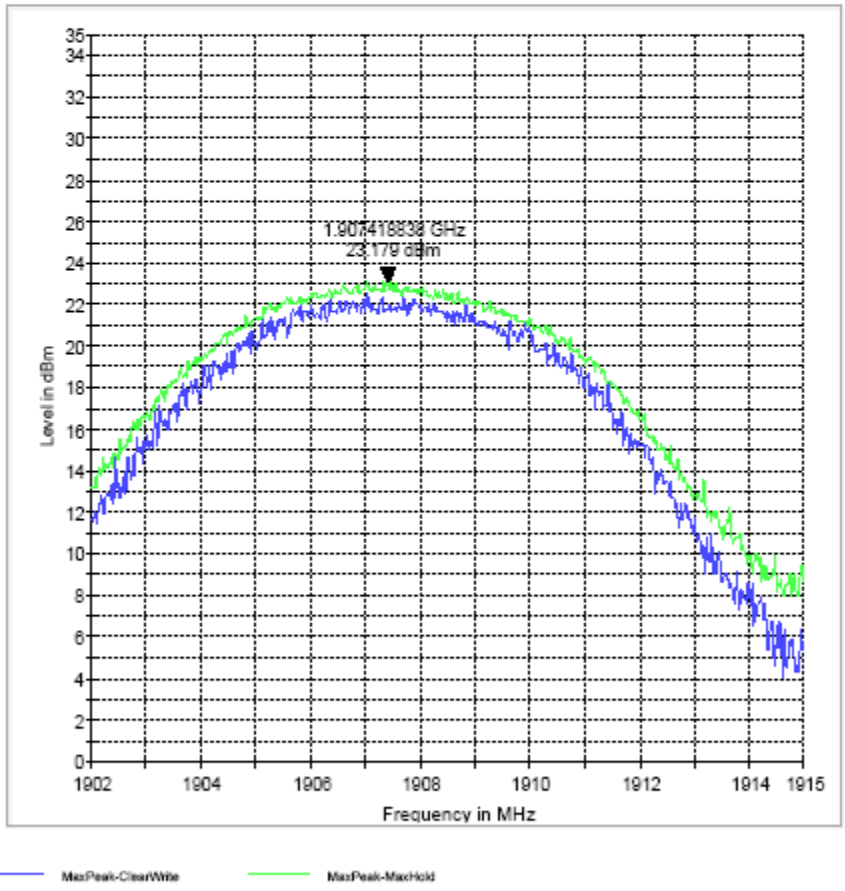
EMI Sweep(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Standard Cover and AC adapter #30
Comment:	

EIRP 1900 H



1/4/2010 knavares EMC32 V8.10.10 6:51:15

5.2 Occupied Bandwidth/Emission Bandwidth

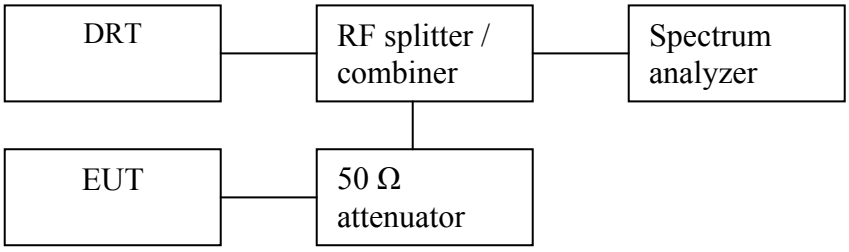
5.2.1 References

FCC: CFR Part 2.1049, CFR Part 22.917, CFR Part 24.238
IC: RSS 132 Section 4.2; RSS 133 Section 6.5

5.2.2 FCC 2.1049 Measurements required: Occupied bandwidth

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions as applicable.
(h) Transmitters employing digital modulation techniques-when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated.

5.2.3 Occupied / Emission bandwidth measurement procedure



1. Connect the equipment as shown in the above diagram.
2. Adjust the settings of the Digital RadioCommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
3. Set the spectrum analyzer to measure the 99% (-20 dB) occupied bandwidth. Record the value.
4. Set the spectrum analyzer to measure the 99.5% (-26 dB) emission bandwidth. Record the value.
5. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.

Spectrum analyzer settings: Meaasurement bandwidth of atleast 1% of the occupied bandwidth.

5.2.4 Occupied/Emission Bandwidth- 850 MHz band

GSM 850: GMSK Mode		
Frequency (MHz)	**99% Occupied Bandwidth (kHz)**	**-26dBc Bandwidth (kHz)**
824.2	244.49	324.65
836.4	244.49	324.65
848.8	244.49	324.65

EGPRS 850: 8PSK Mode		
Frequency (MHz)	**99% Occupied Bandwidth (kHz)**	**-26dBc Bandwidth (kHz)**
824.2	248.5	332.66
836.4	248.5	332.66
848.8	252.5	328.66

FDD V: UMTS Mode		
Frequency (MHz)	**99% Occupied Bandwidth (MHz)**	**-26dBc Bandwidth (MHz)**
826.4	4.19	4.73
836.0	4.19	4.73
846.6	4.19	4.75

5.2.5 Occupied/Emission Bandwidth- 1900 MHz band

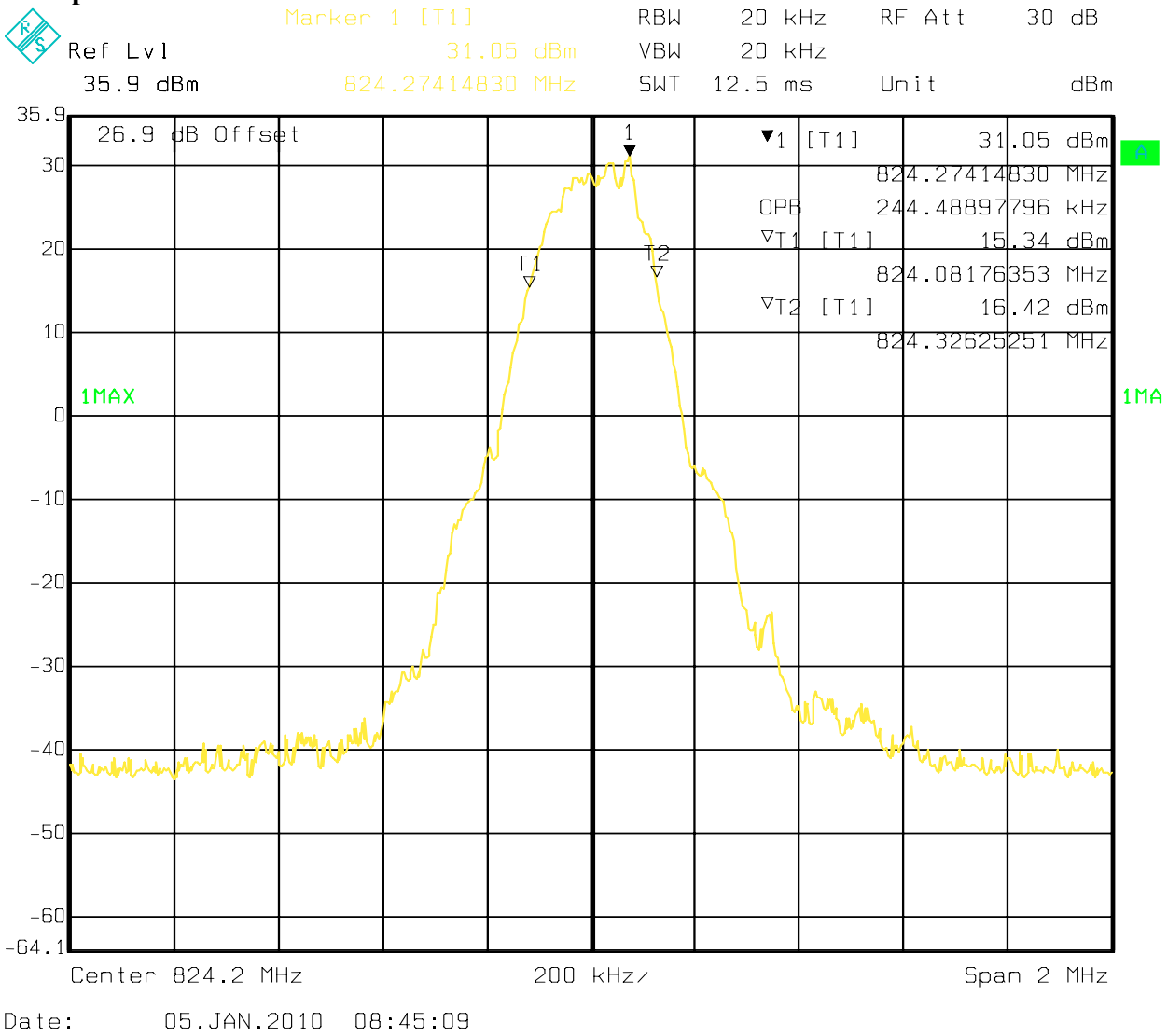
GSM 1900: GMSK Mode		
Frequency (MHz)	**99% Occupied Bandwidth (kHz)**	**-26dBc Bandwidth (kHz)**
1850.2	244.49	324.65
1880.0	244.49	324.65
1909.8	244.49	324.65

EGPRS 1900: 8PSK Mode		
Frequency (MHz)	**99% Occupied Bandwidth (kHz)**	**-26dBc Bandwidth (kHz)**
1850.2	248.5	324.65
1880.0	248.5	316.63
1909.8	248.5	320.64

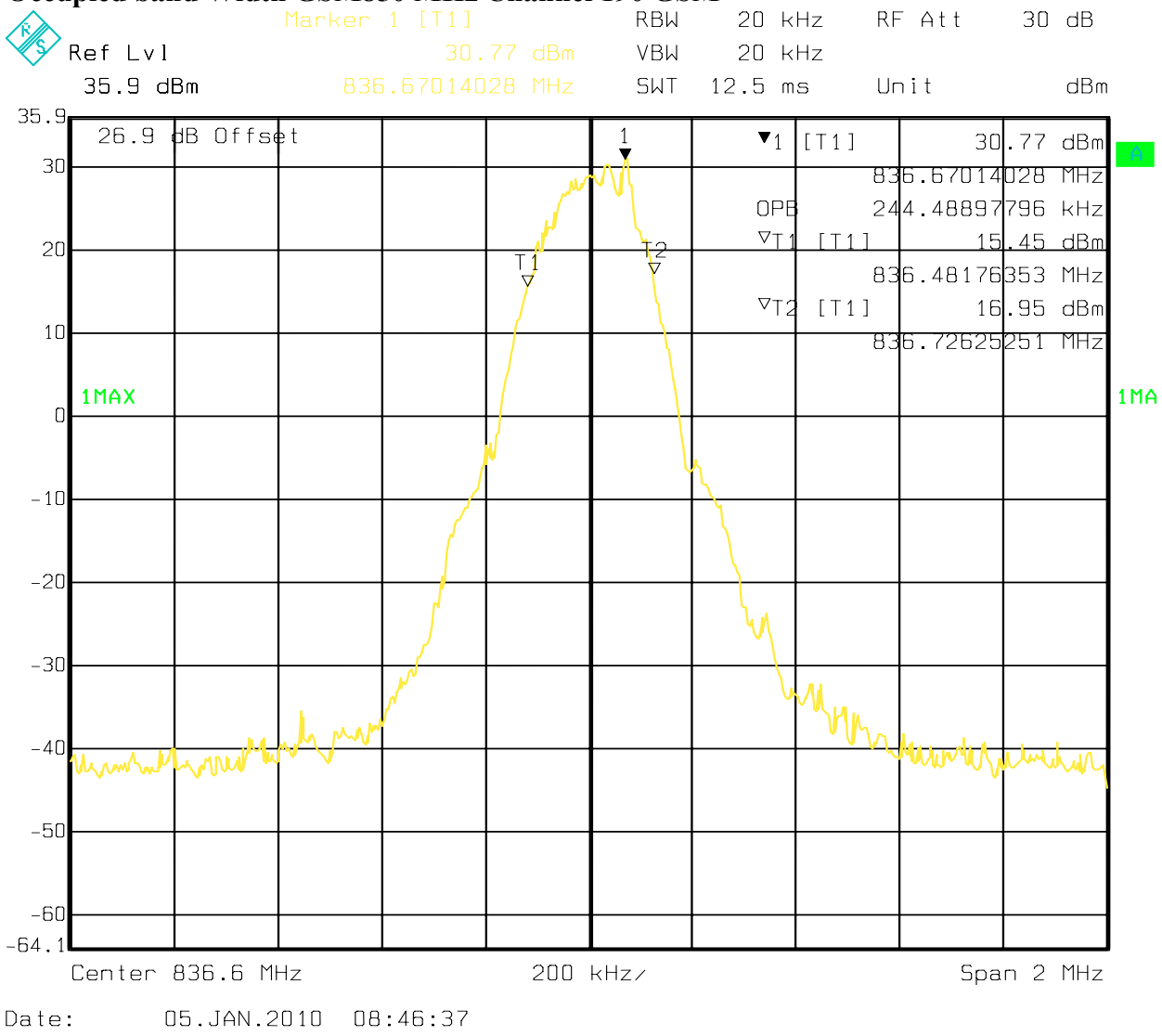
FDD II: UMTS Mode		
Frequency (MHz)	**99% Occupied Bandwidth (MHz)**	**-26dBc Bandwidth (MHz)**
1852.4	4.29	4.87
1880.0	4.29	4.91
1907.6	4.29	4.91

5.2.6 Results

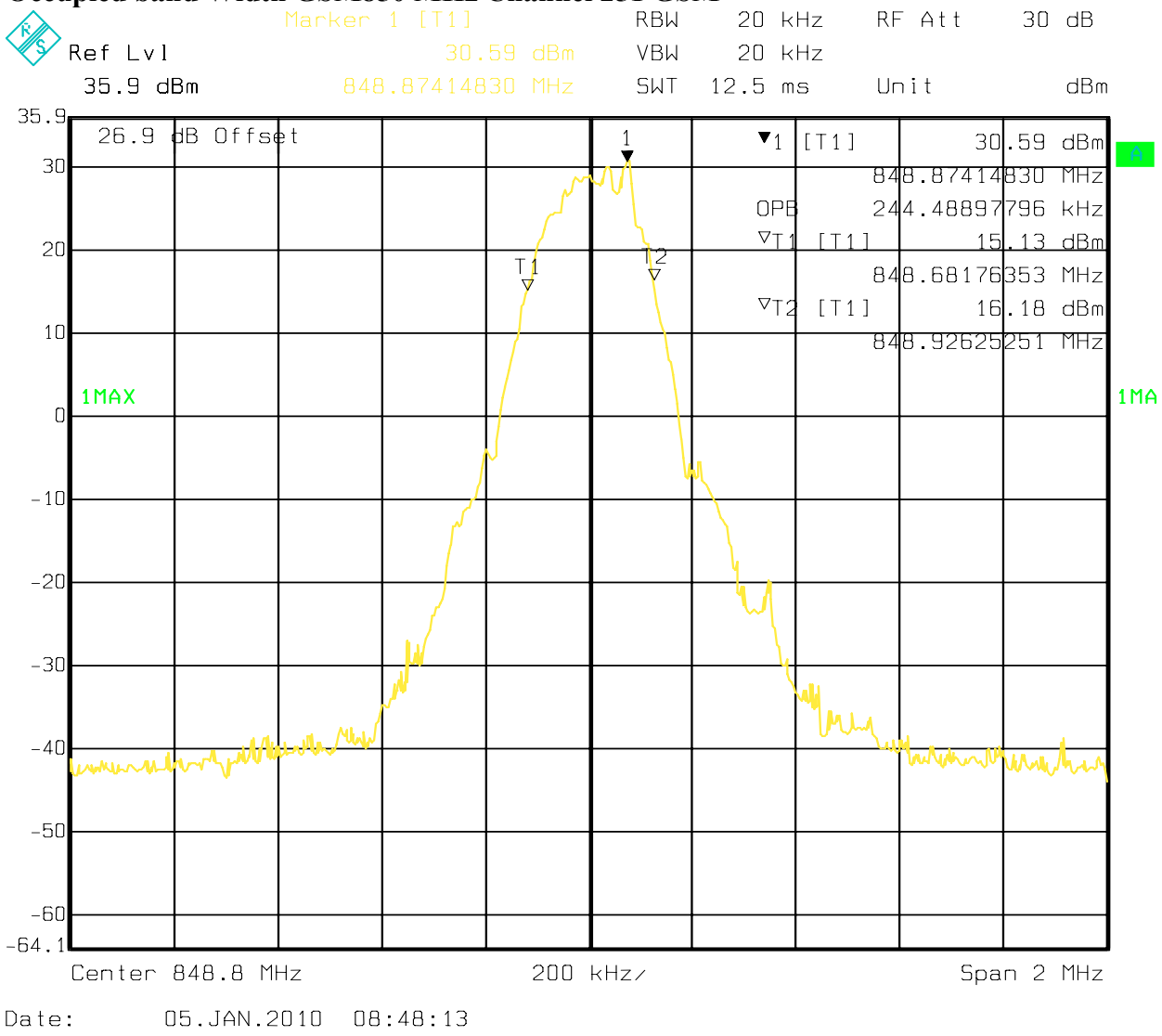
Occupied band Width GSM850 MHz Channel 128 GSM



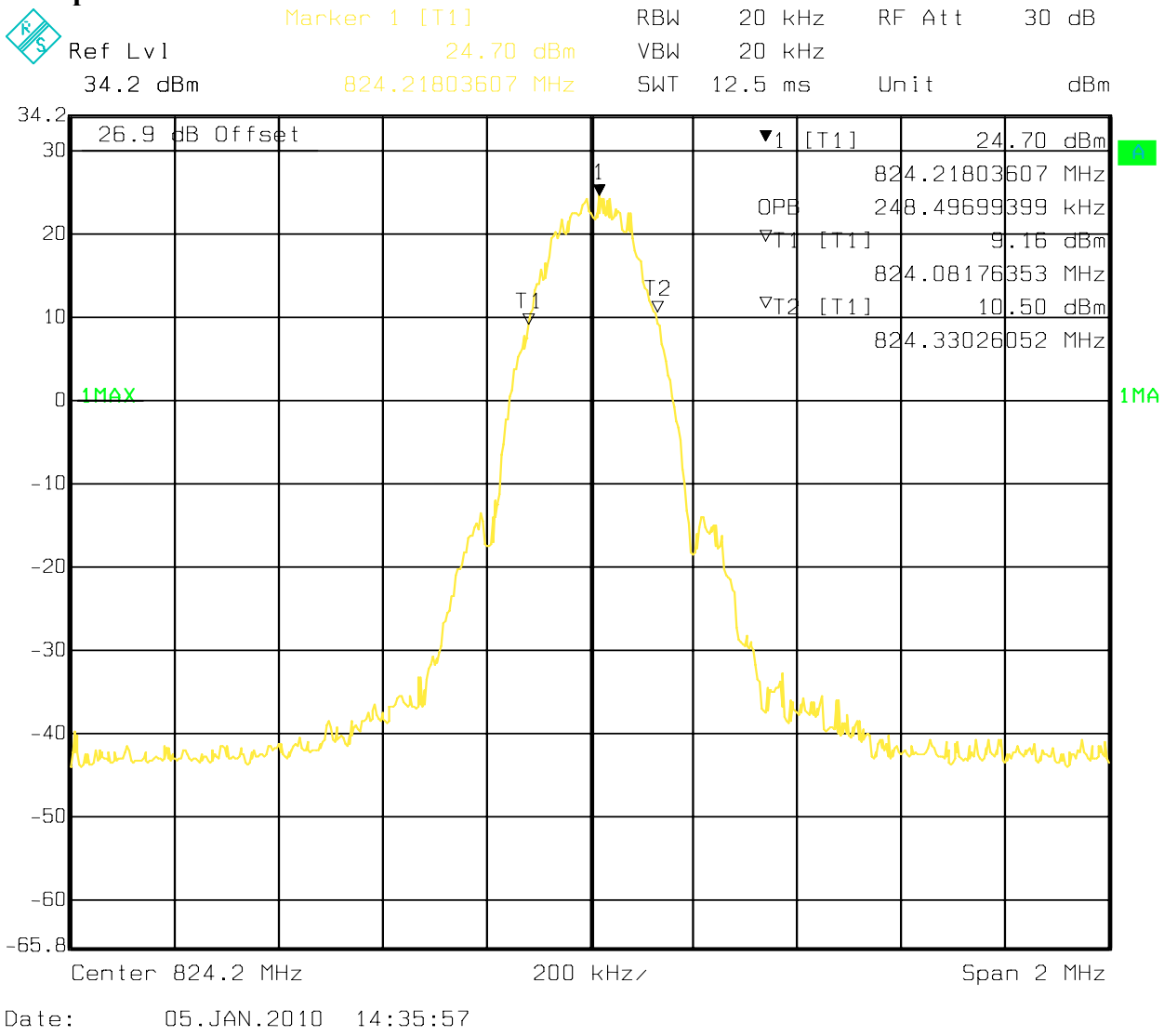
Occupied band Width GSM850 MHz Channel 190 GSM



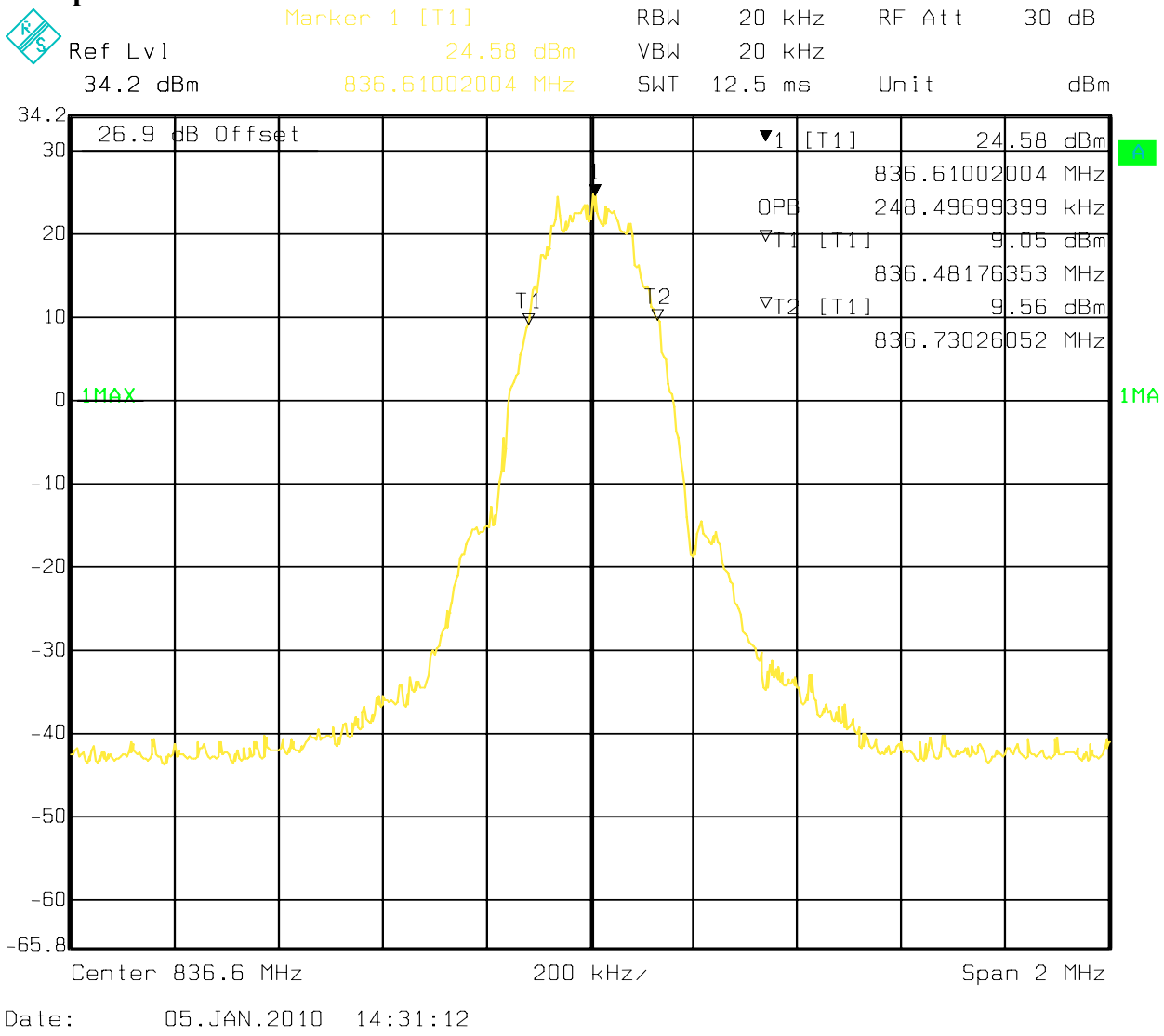
Occupied band Width GSM850 MHz Channel 251 GSM



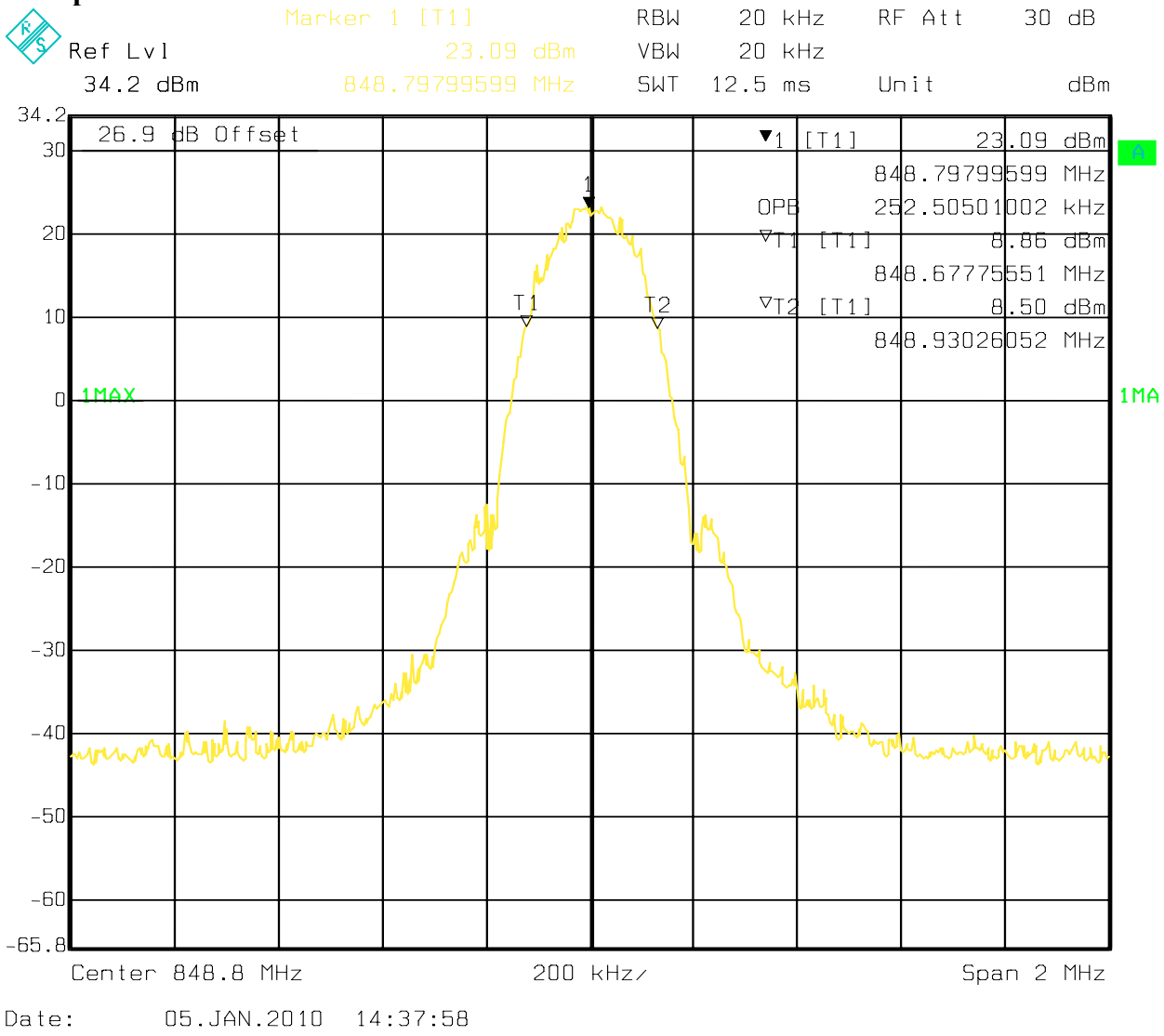
Occupied band Width GSM850 MHz Channel 128 EGPRS



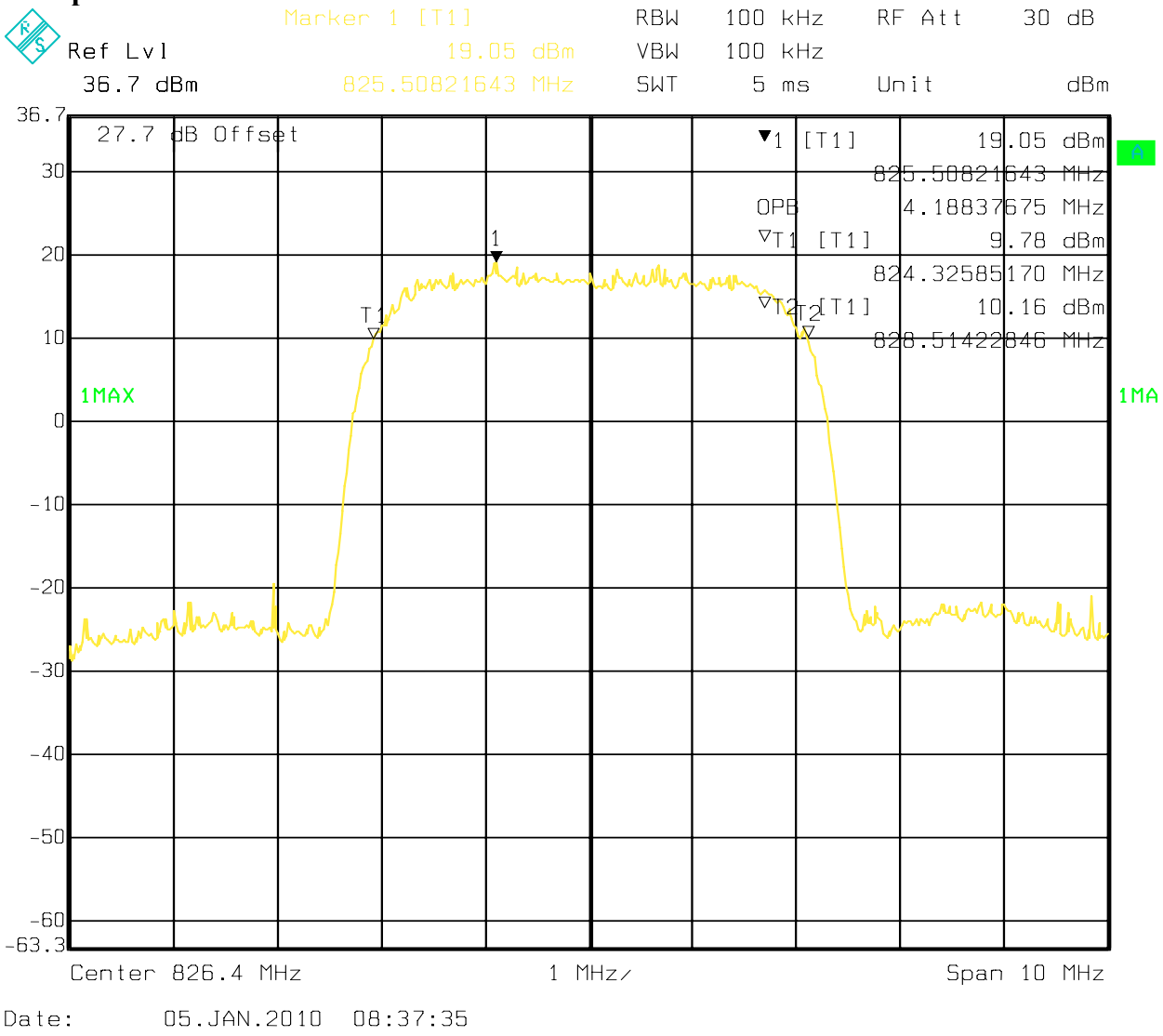
Occupied band Width GSM850 MHz Channel 190 EGPRS



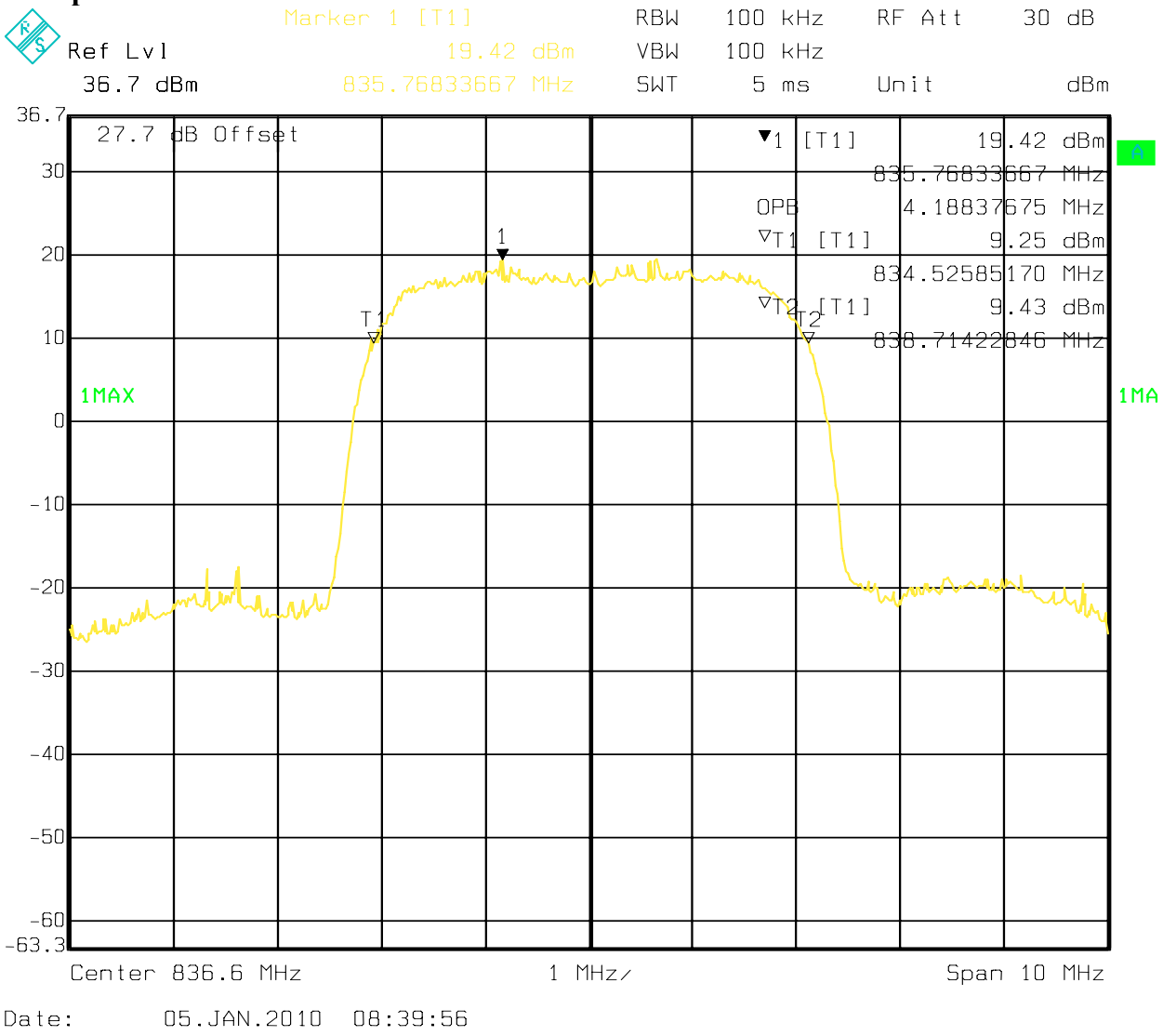
Occupied band Width GSM850 MHz Channel 251 EGPRS



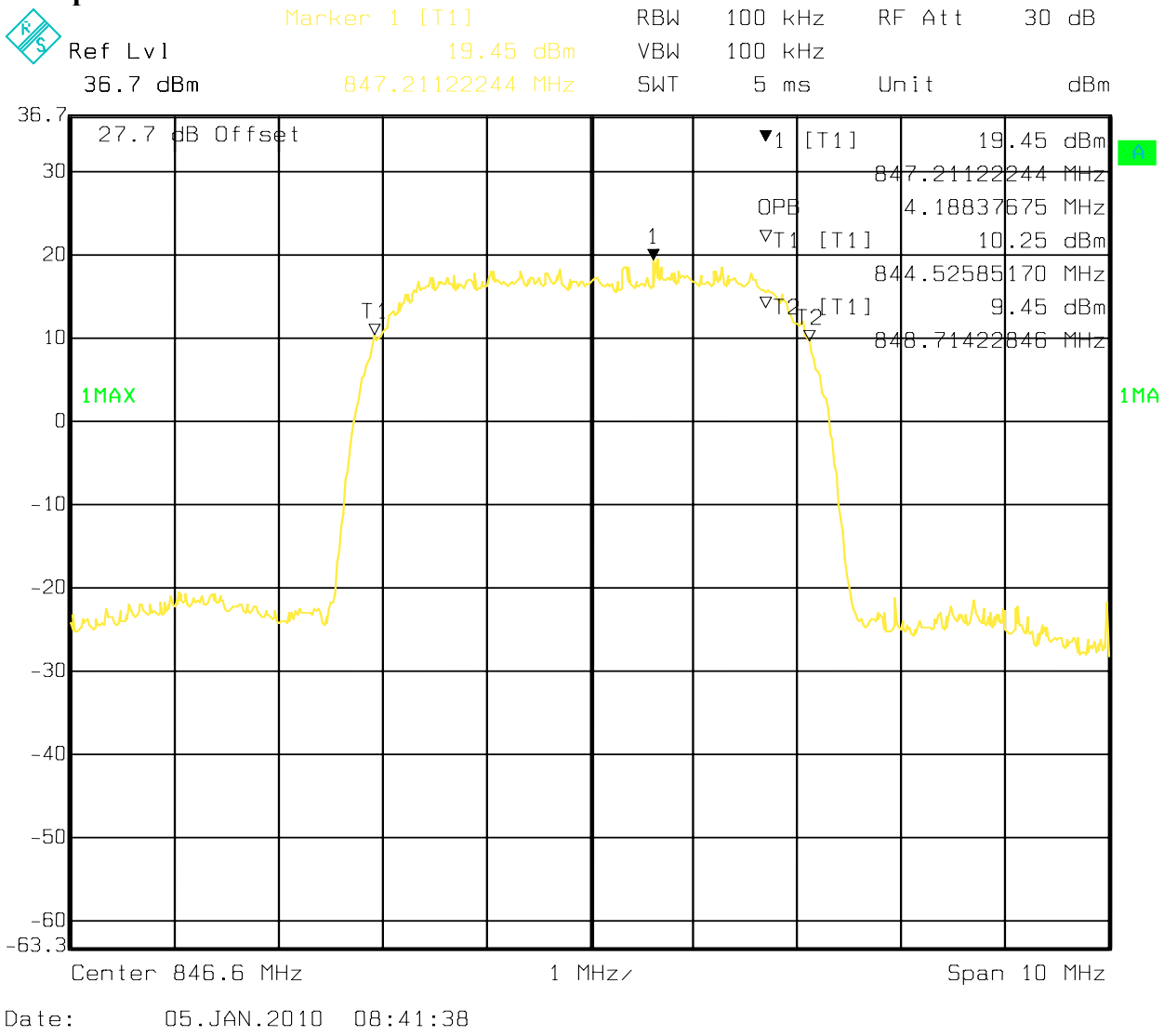
Occupied band Width UMTS FDD5 Channel 4132



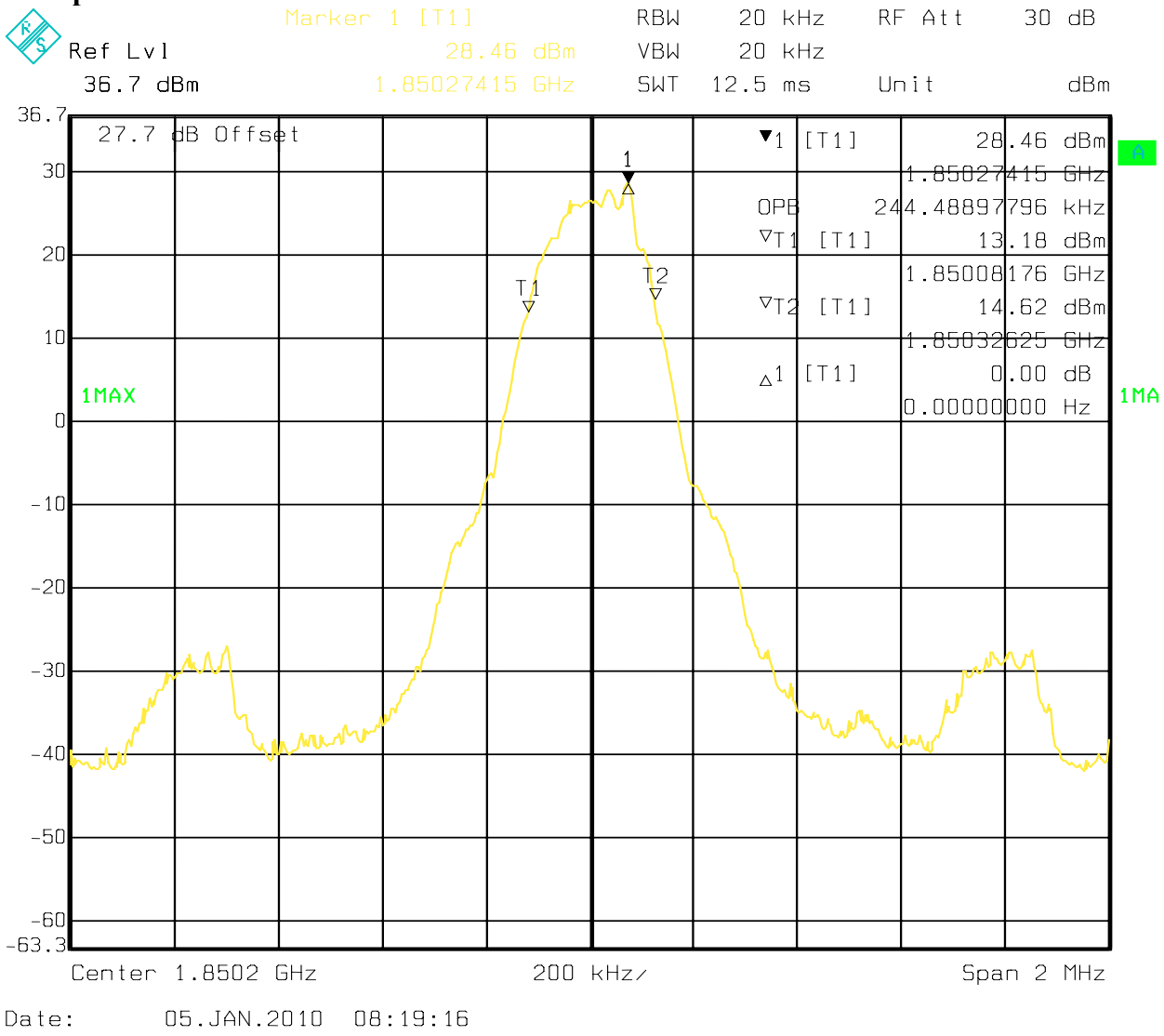
Occupied band Width UMTS FDD5 Channel 4183



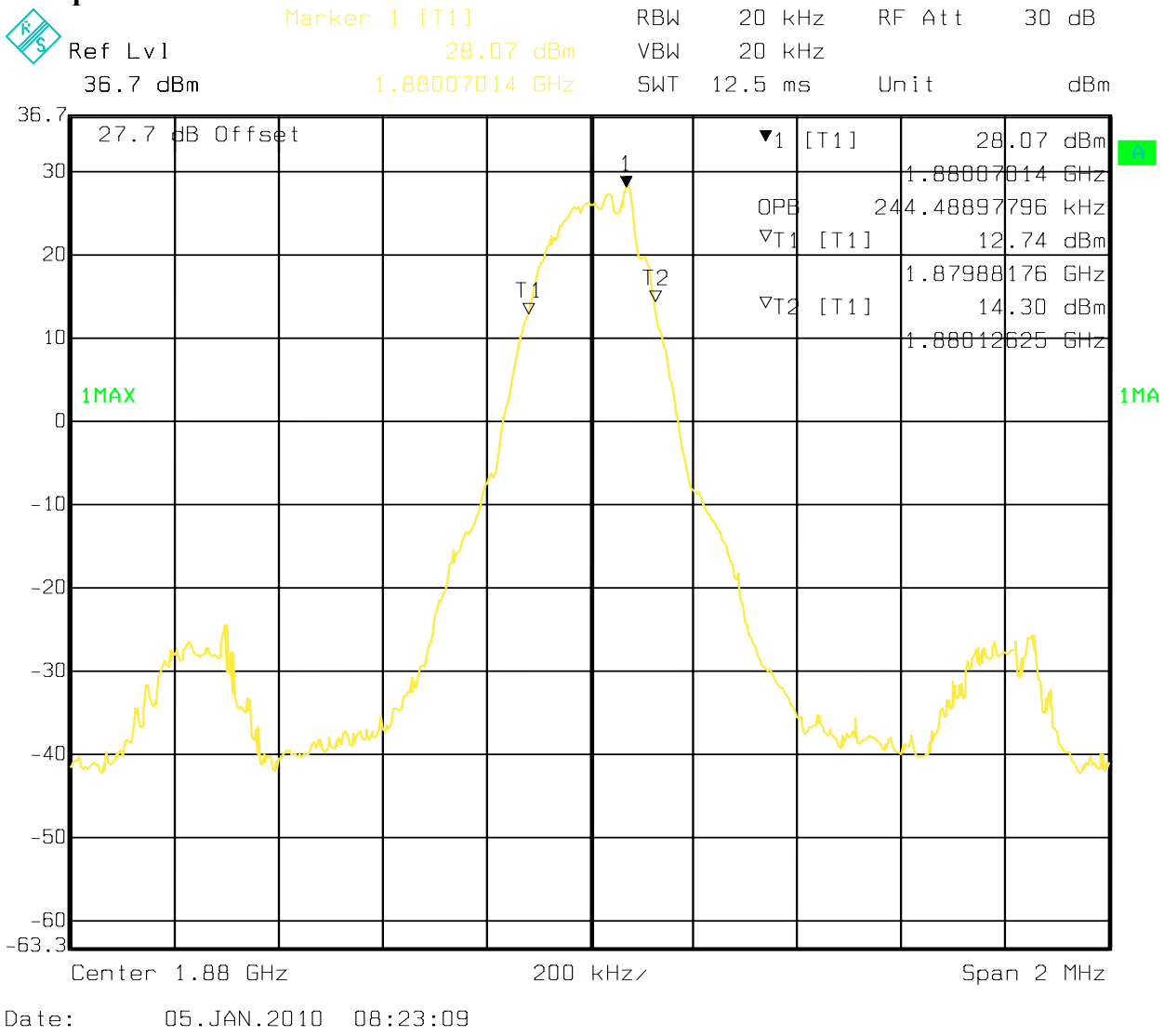
Occupied band Width UMTS FDD5 Channel 4233



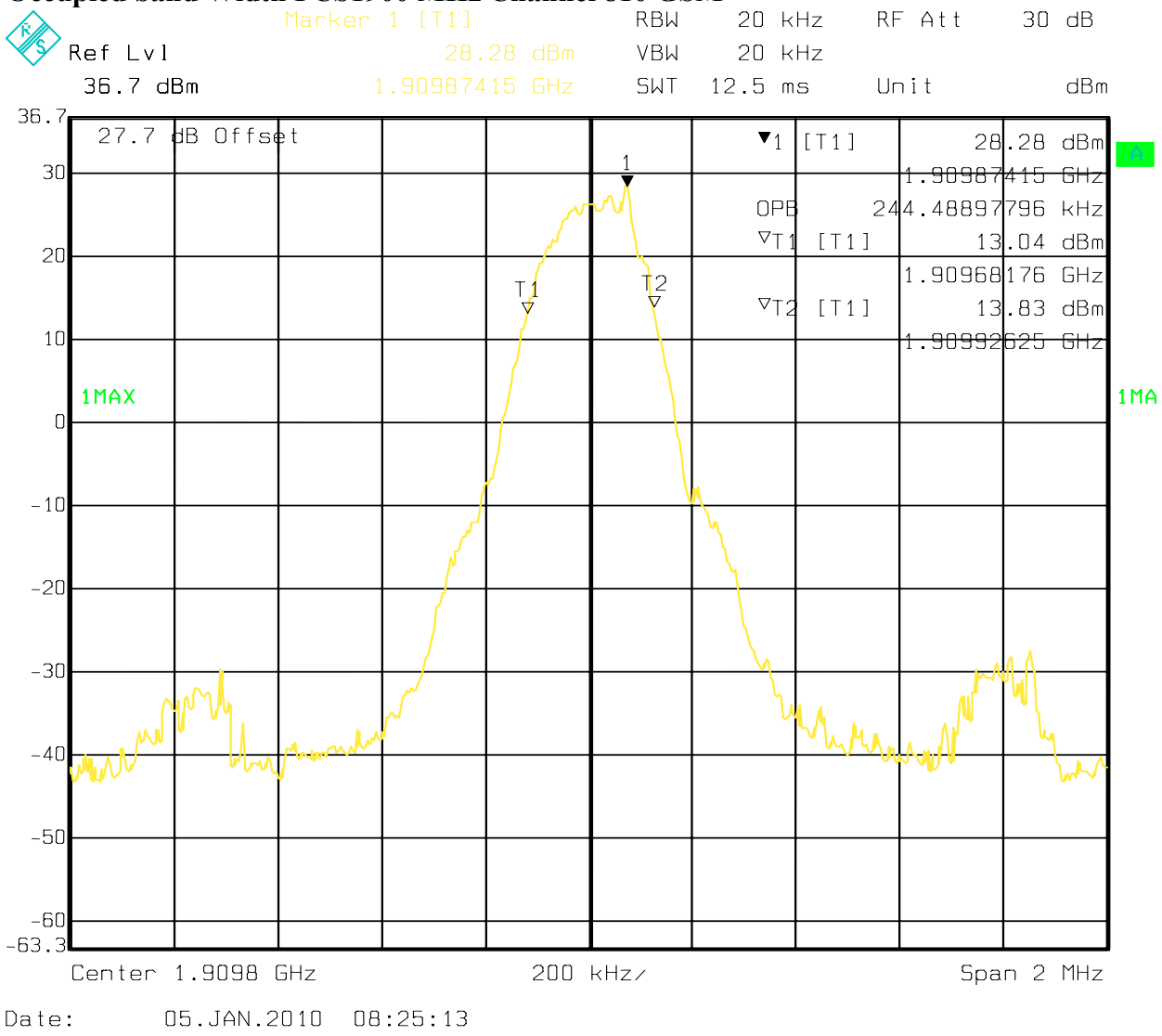
Occupied band Width PCS1900 MHz Channel 512 GSM



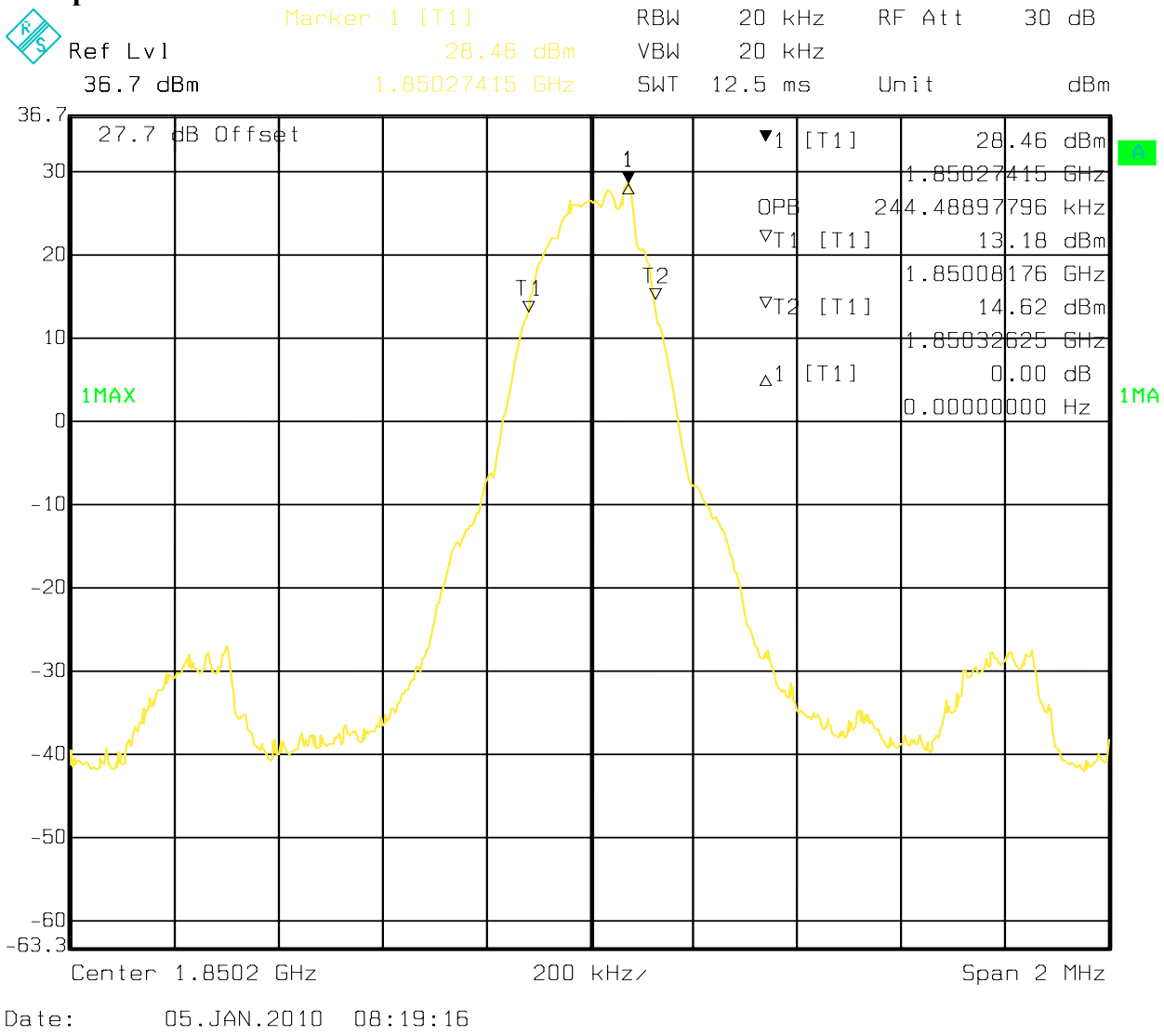
Occupied band Width PCS1900 MHz Channel 661 GSM



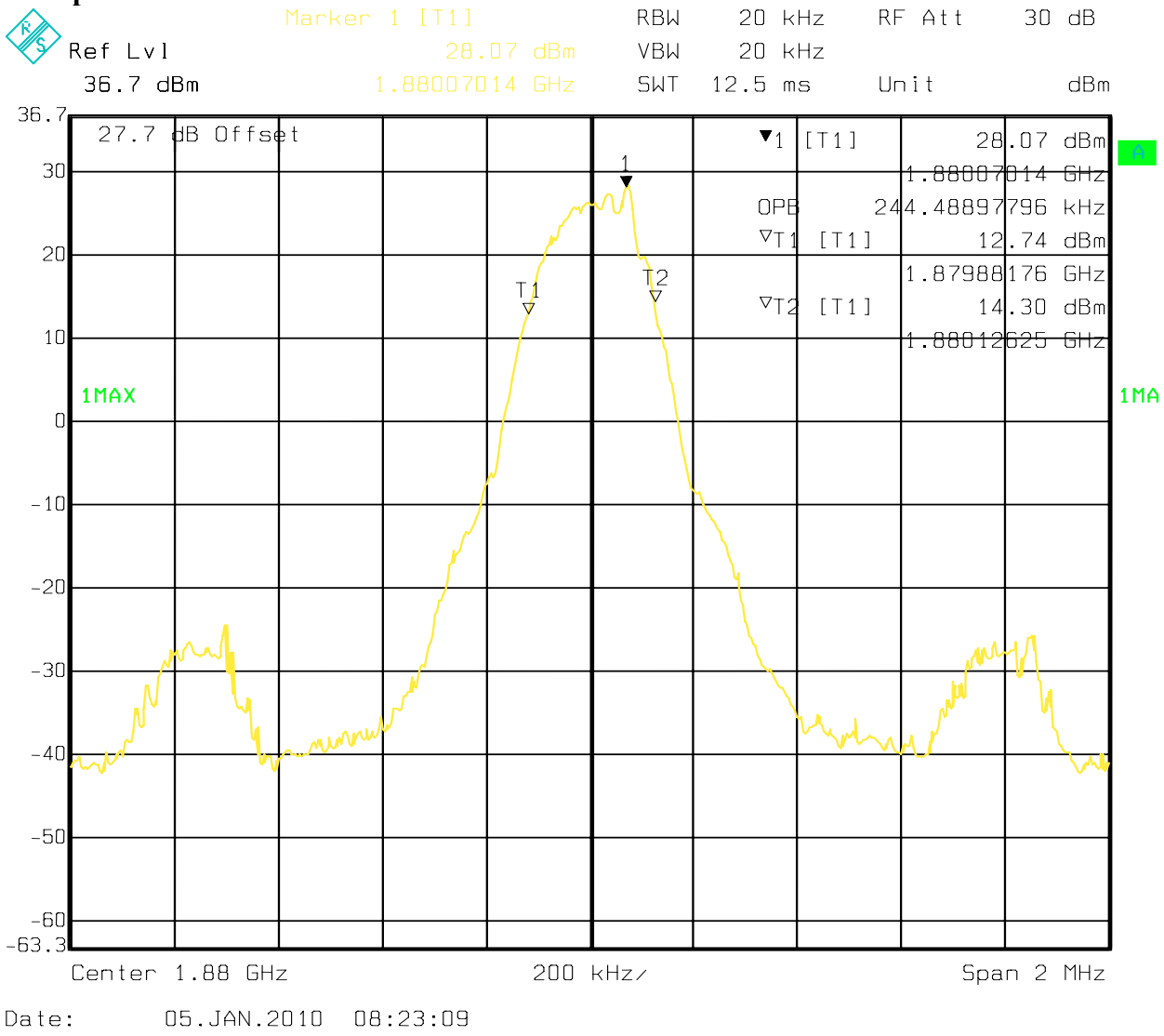
Occupied band Width PCS1900 MHz Channel 810 GSM



Occupied band Width PCS1900 MHz Channel 512 EGPRS



Occupied band Width PCS1900 MHz Channel 661 EGPRS



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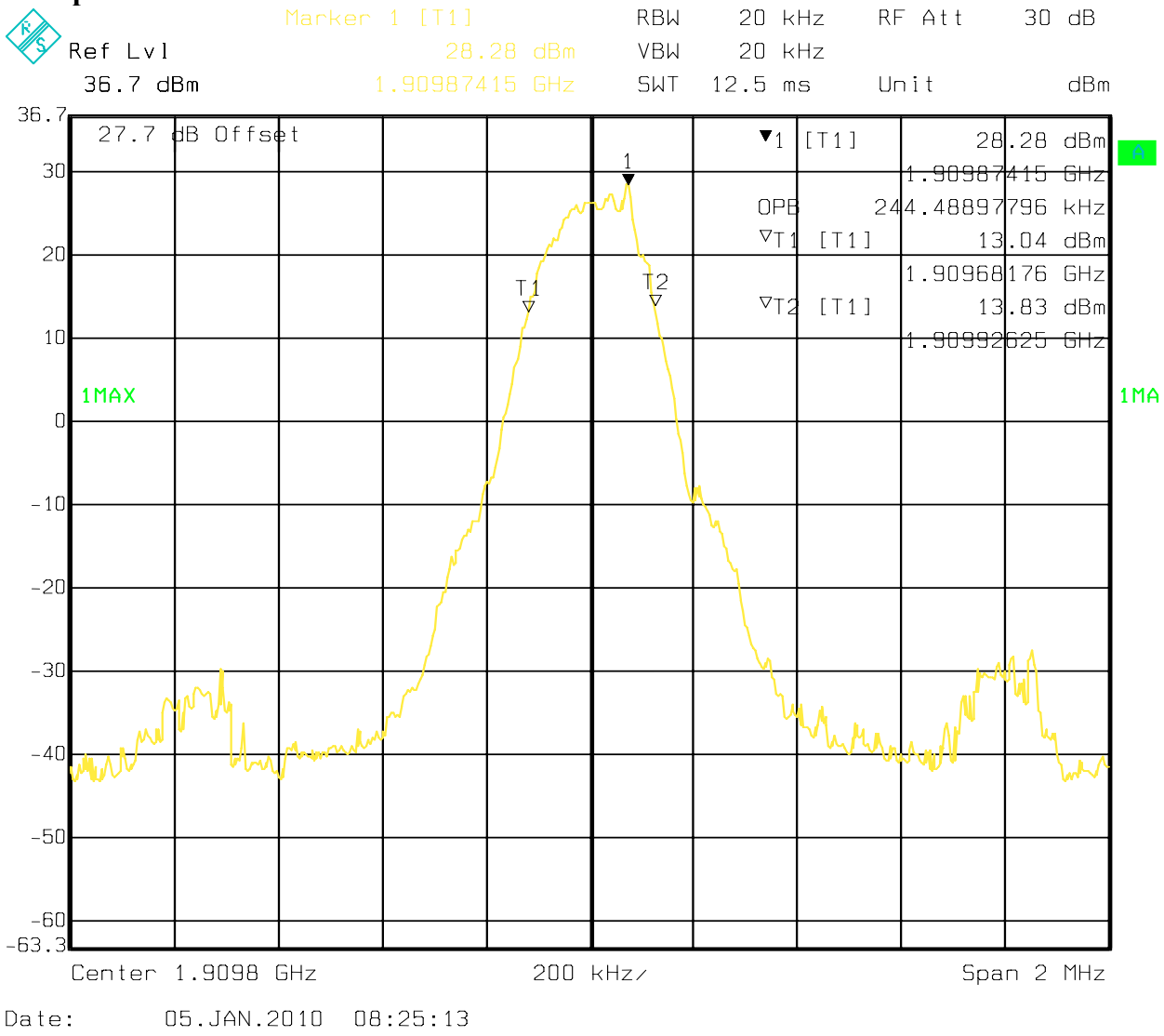
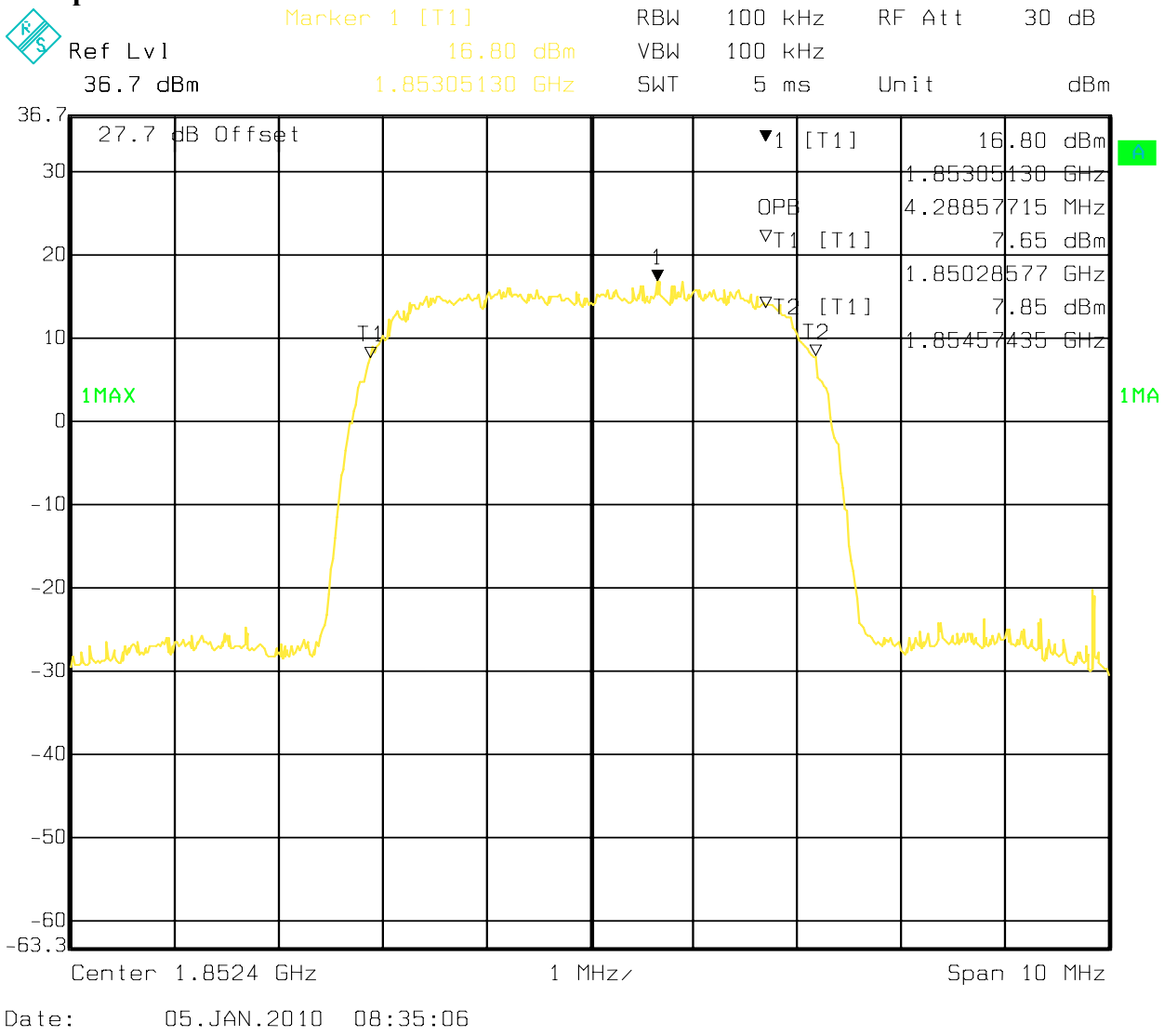


Occupied band Width UMTS FDD2 Channel 9262



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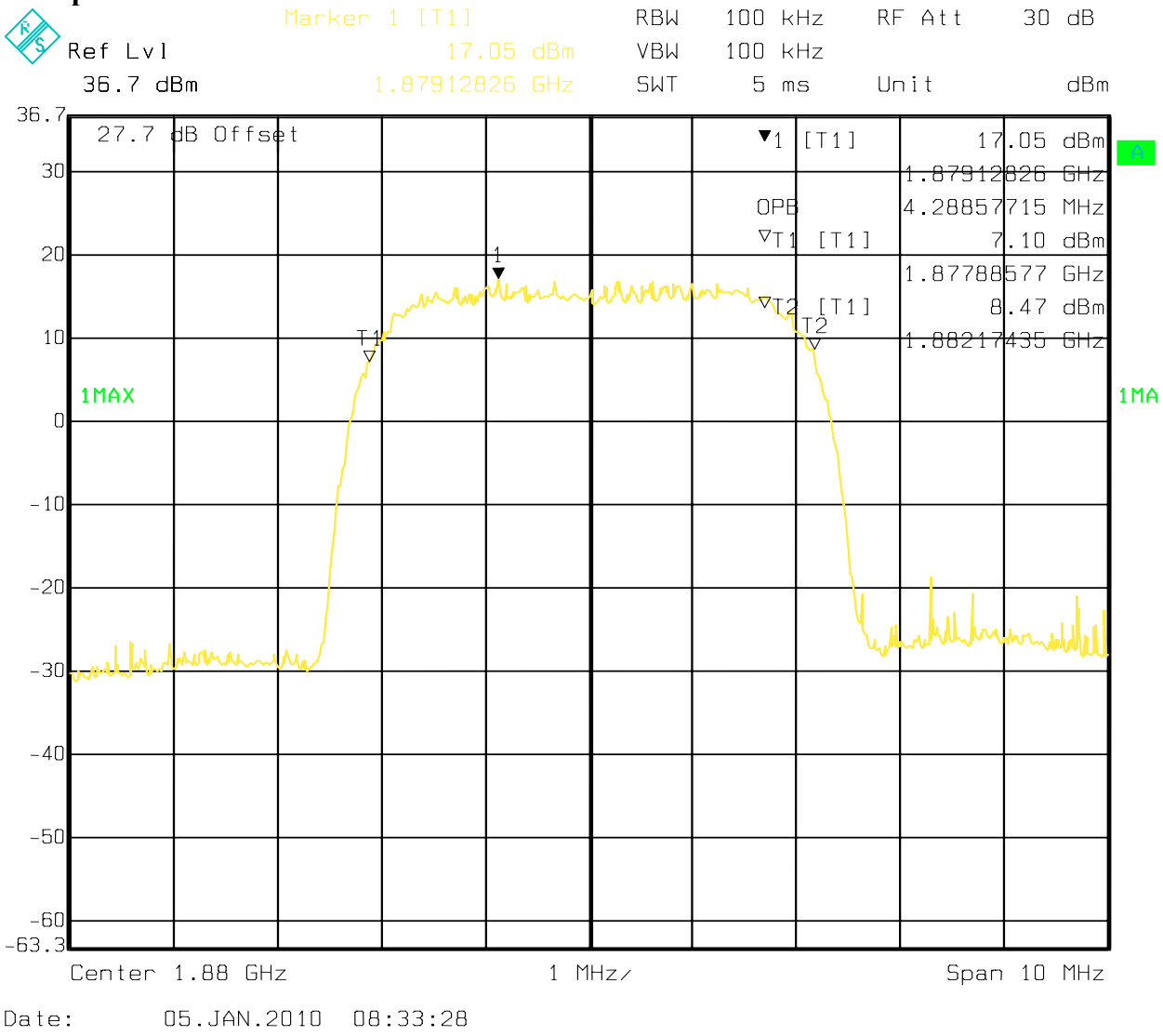
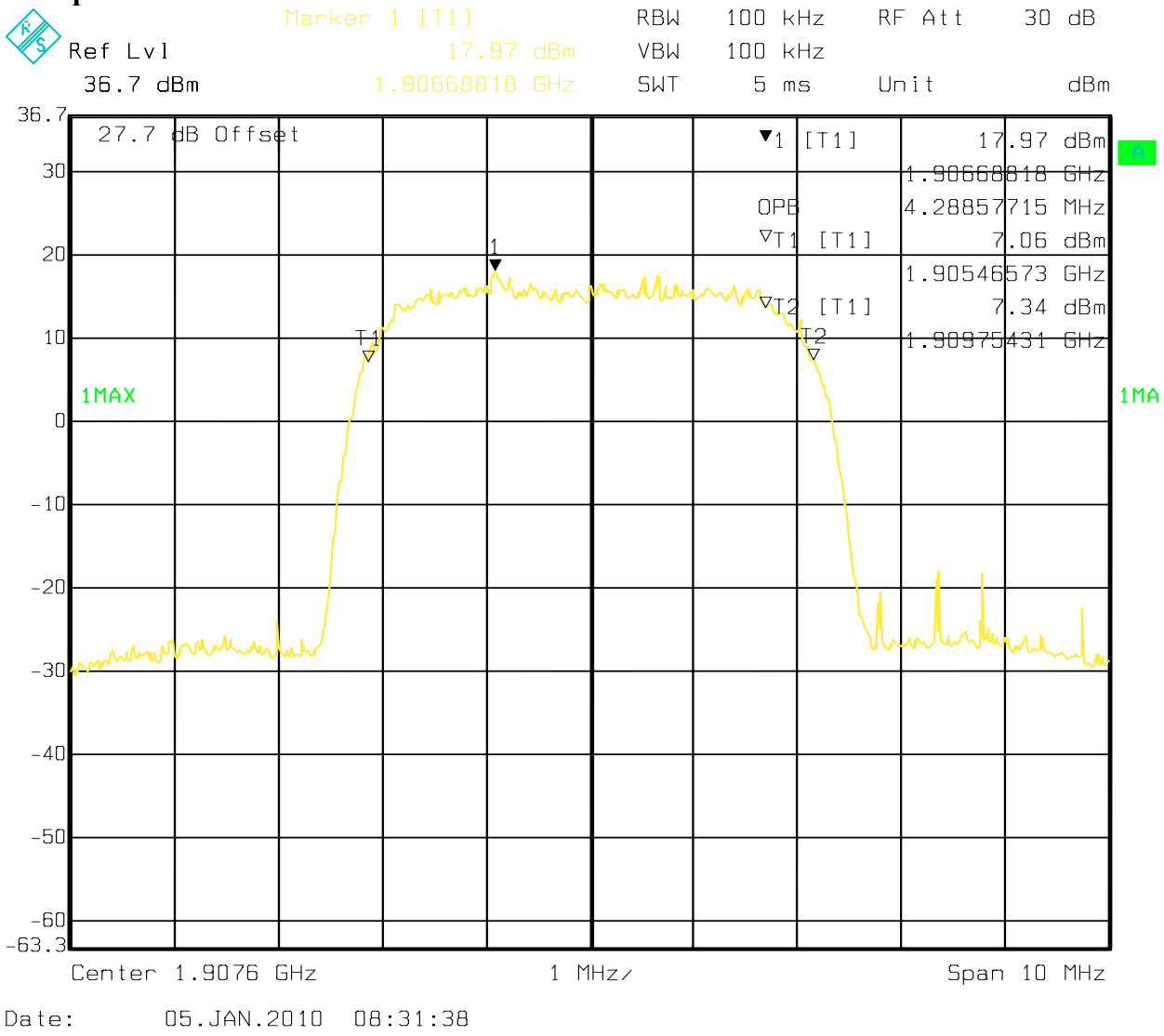
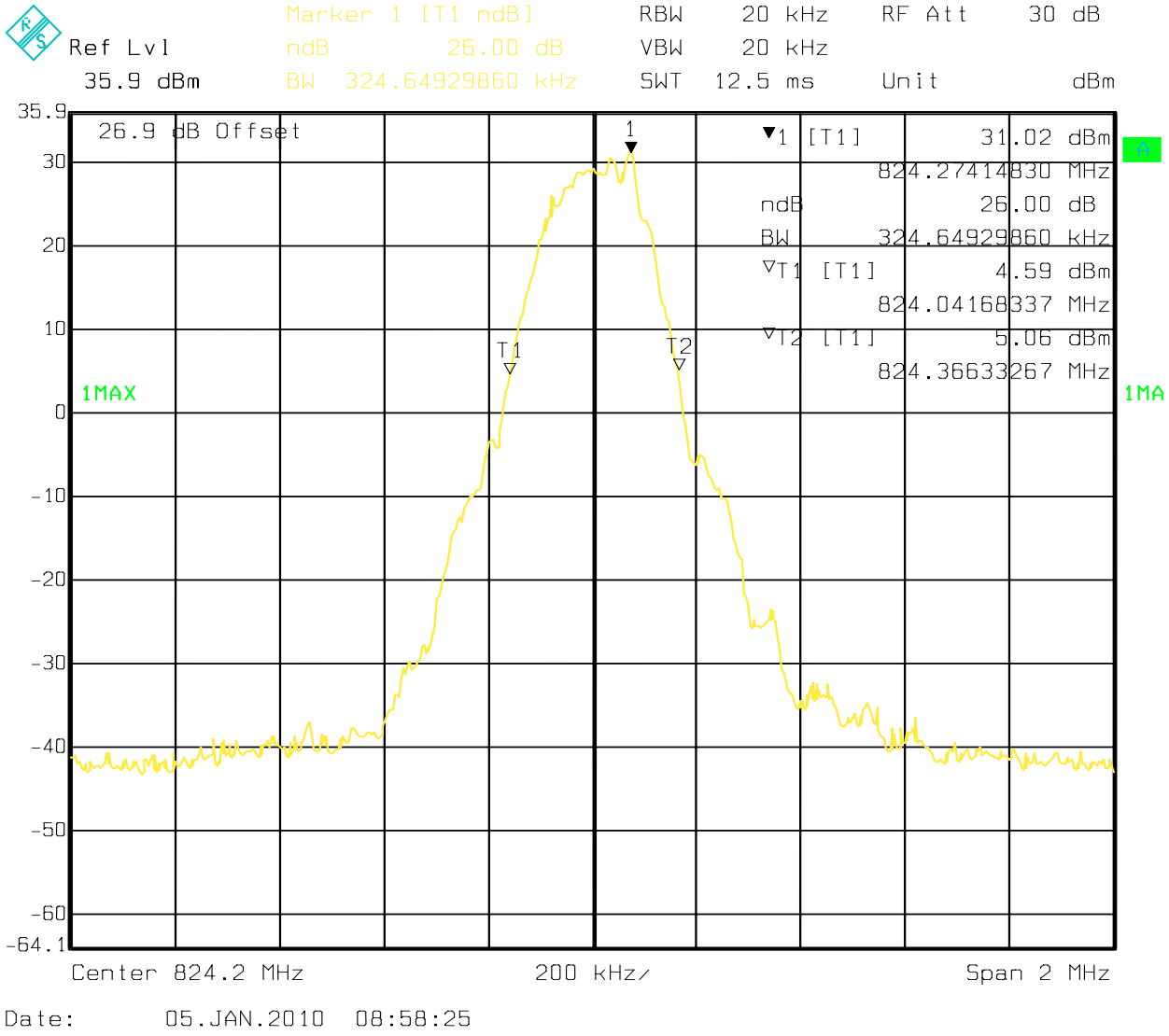


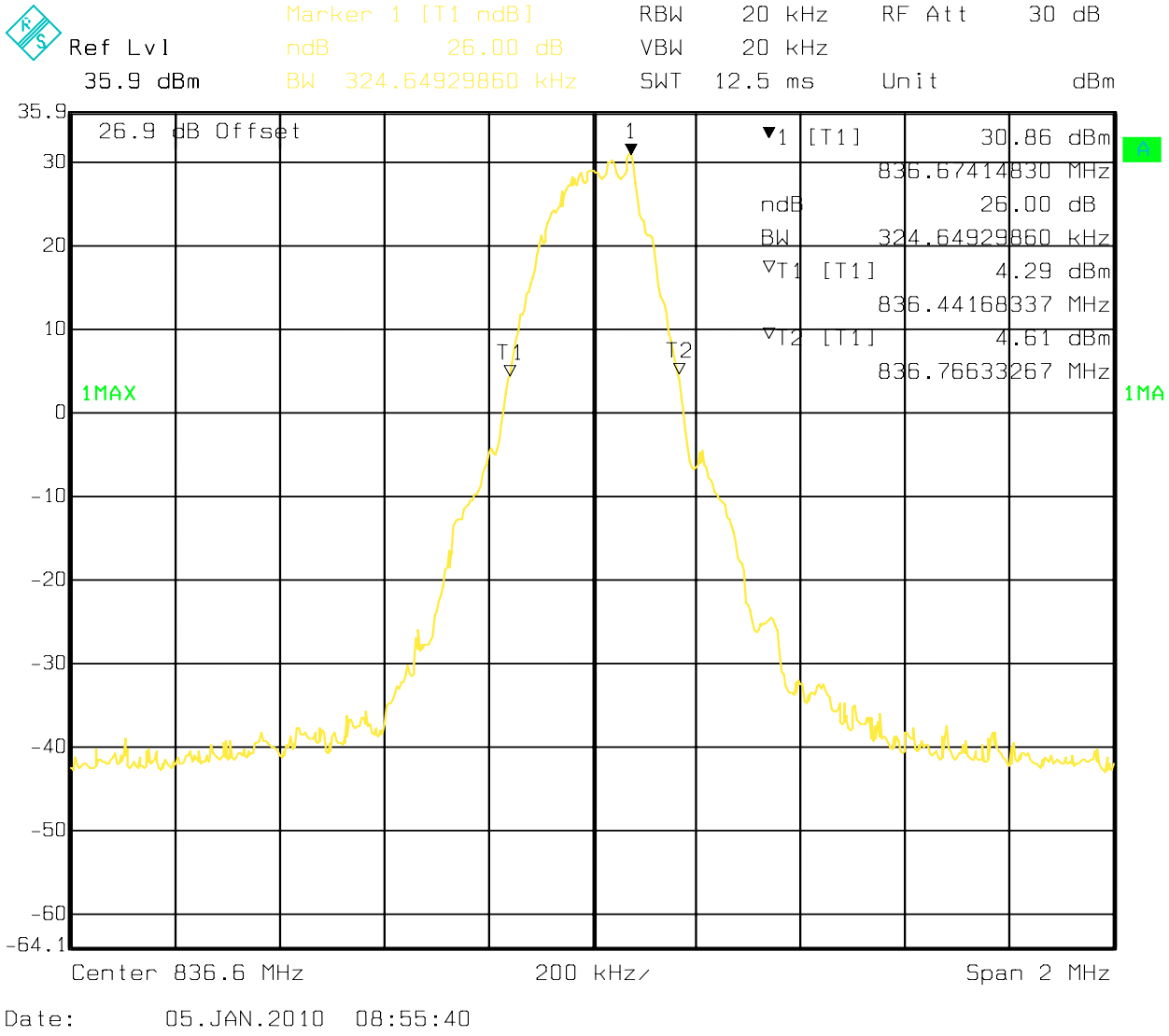
Occupied band Width UMTS FDD2 Channel 9538



Emission band Width GSM850 MHz Channel 128 GSM



Emission band Width GSM850 MHz Channel 190 GSM



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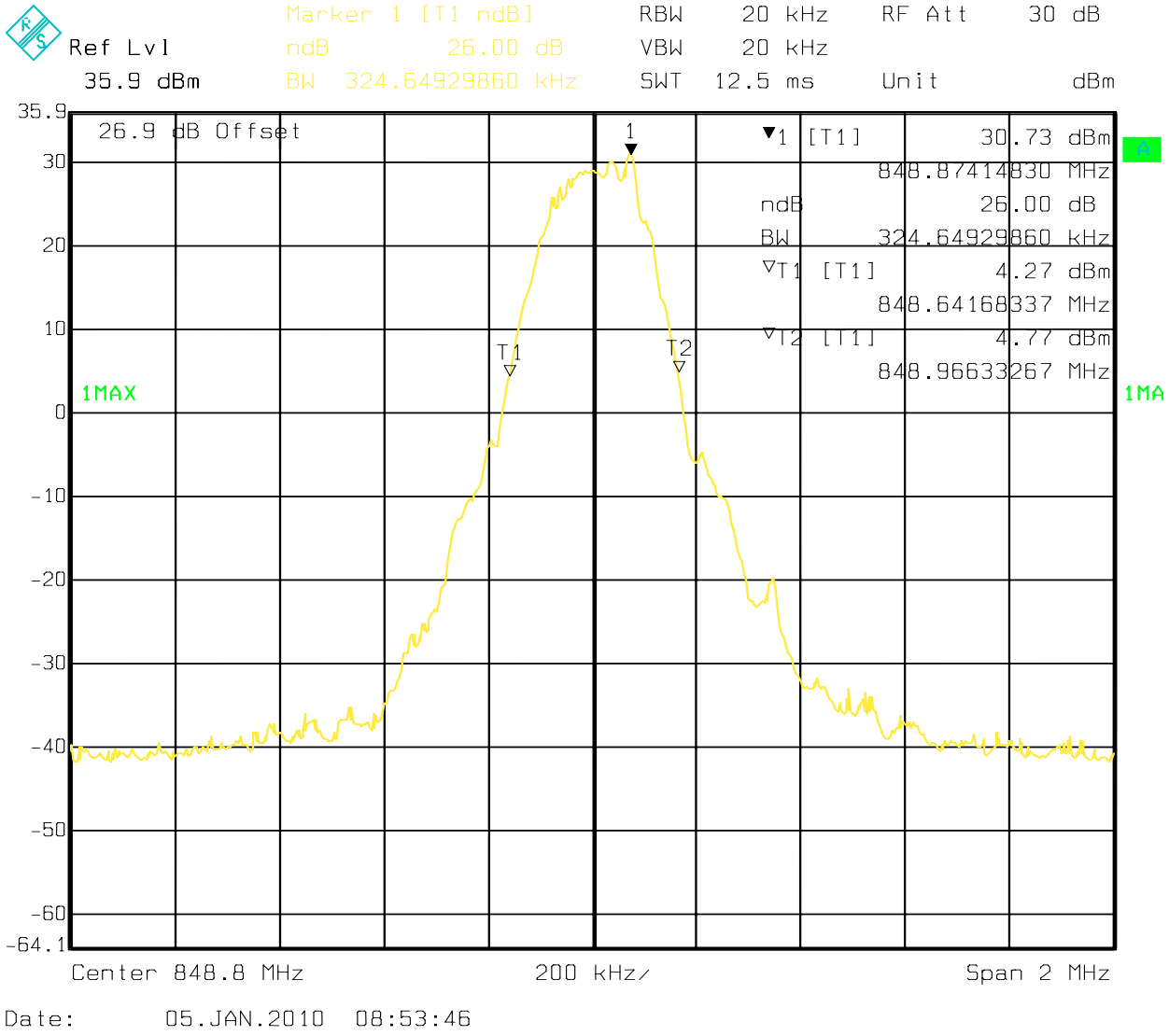
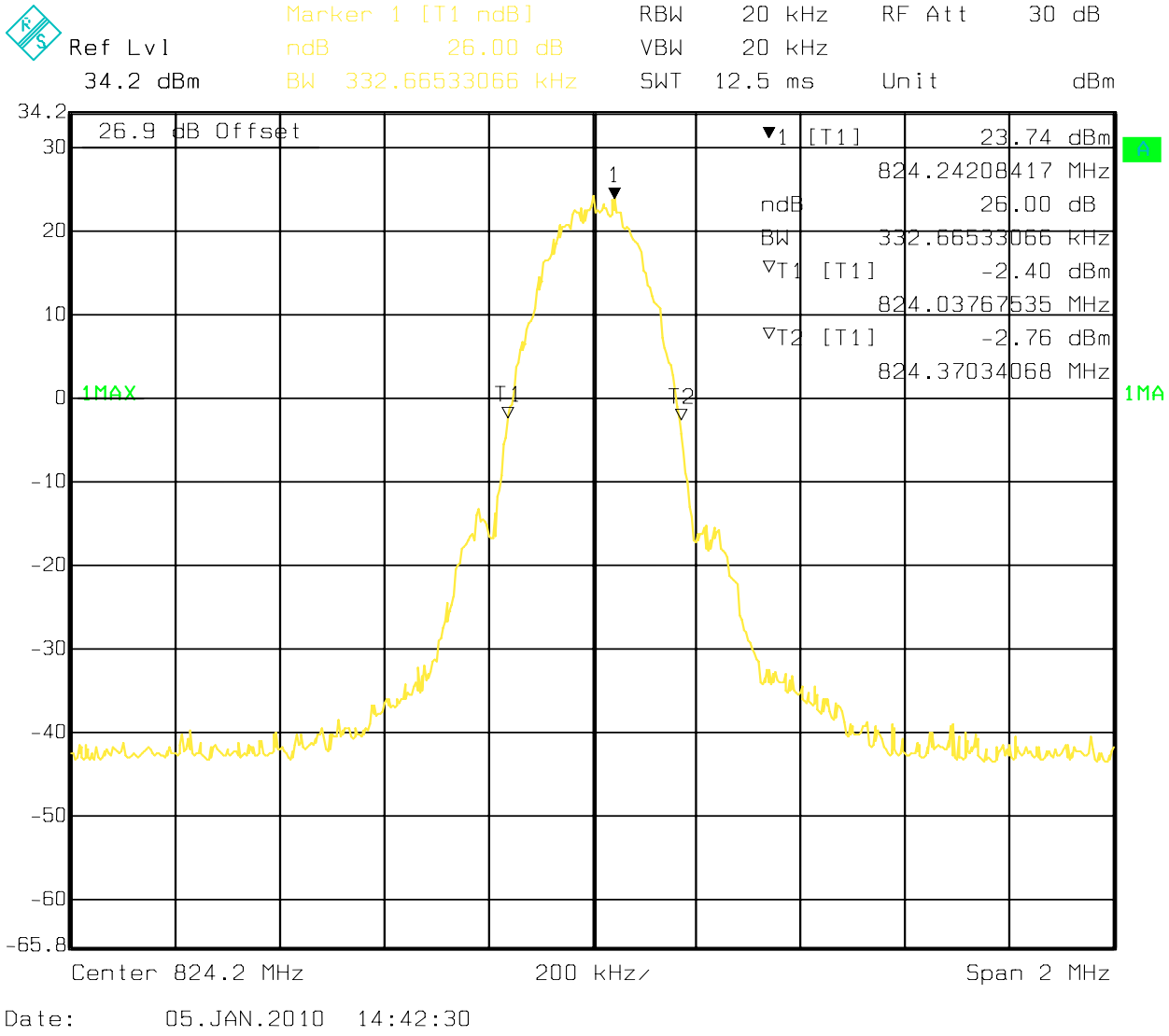


Emission band Width GSM850 MHz Channel 128 EGPRS



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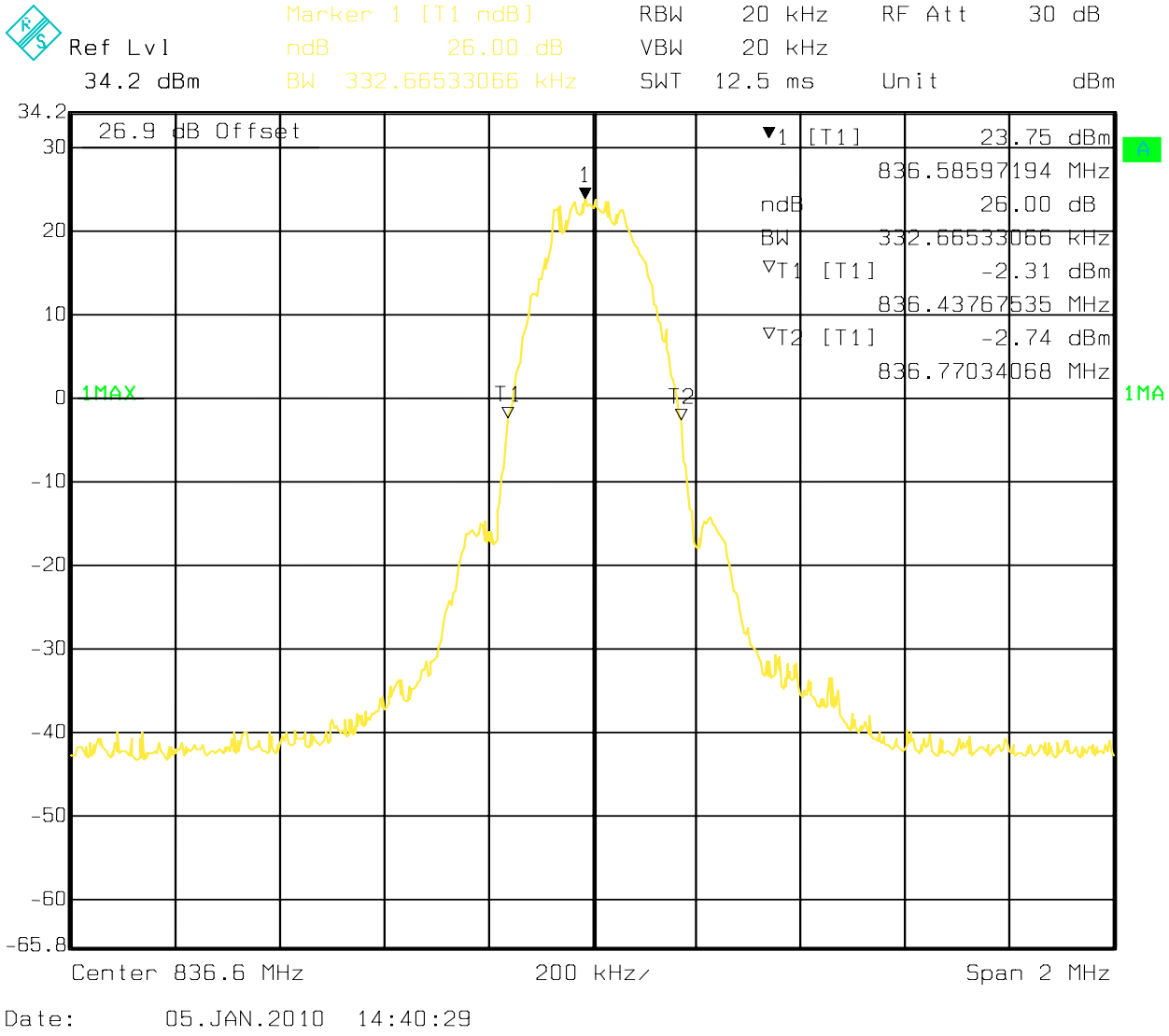
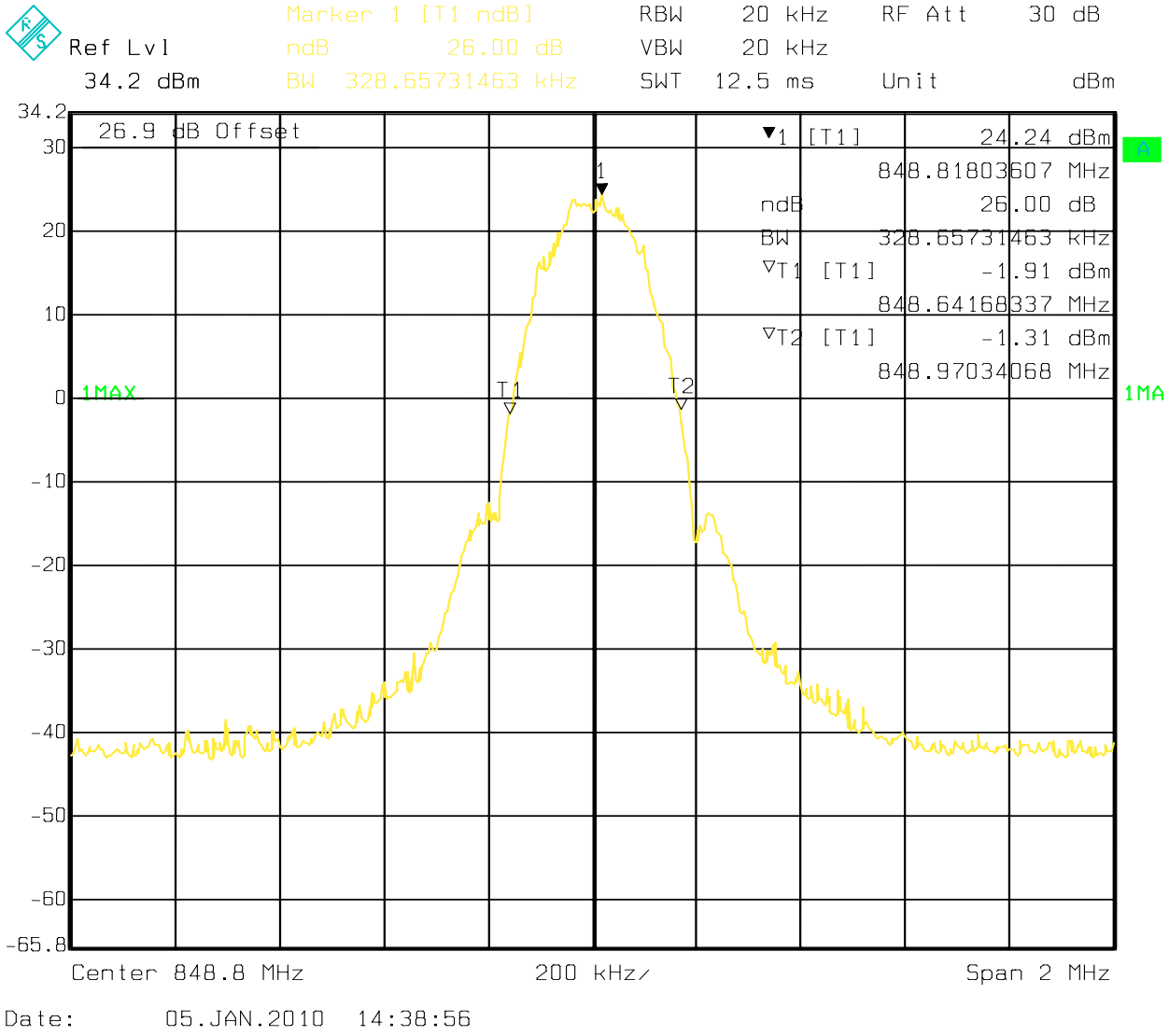
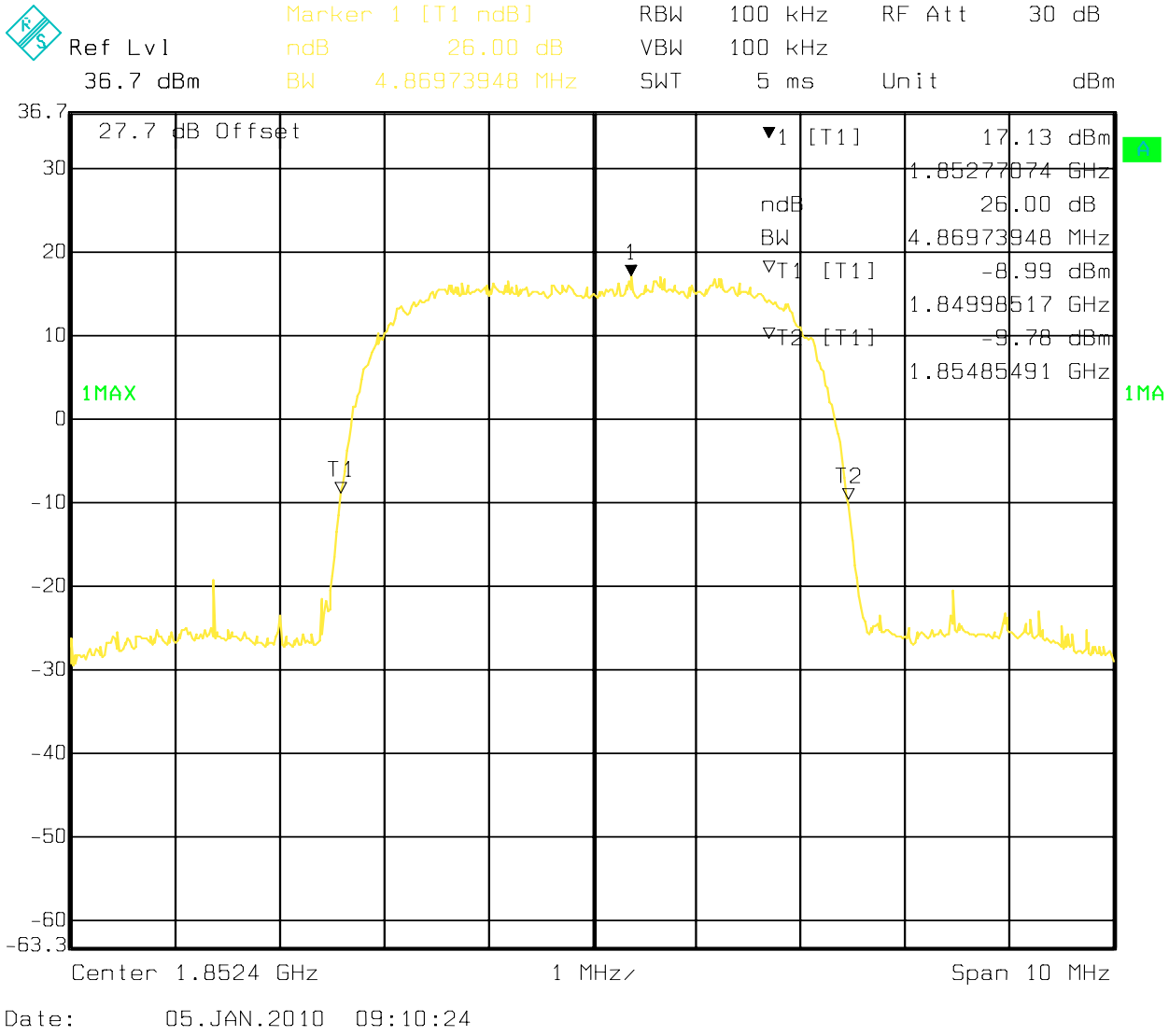


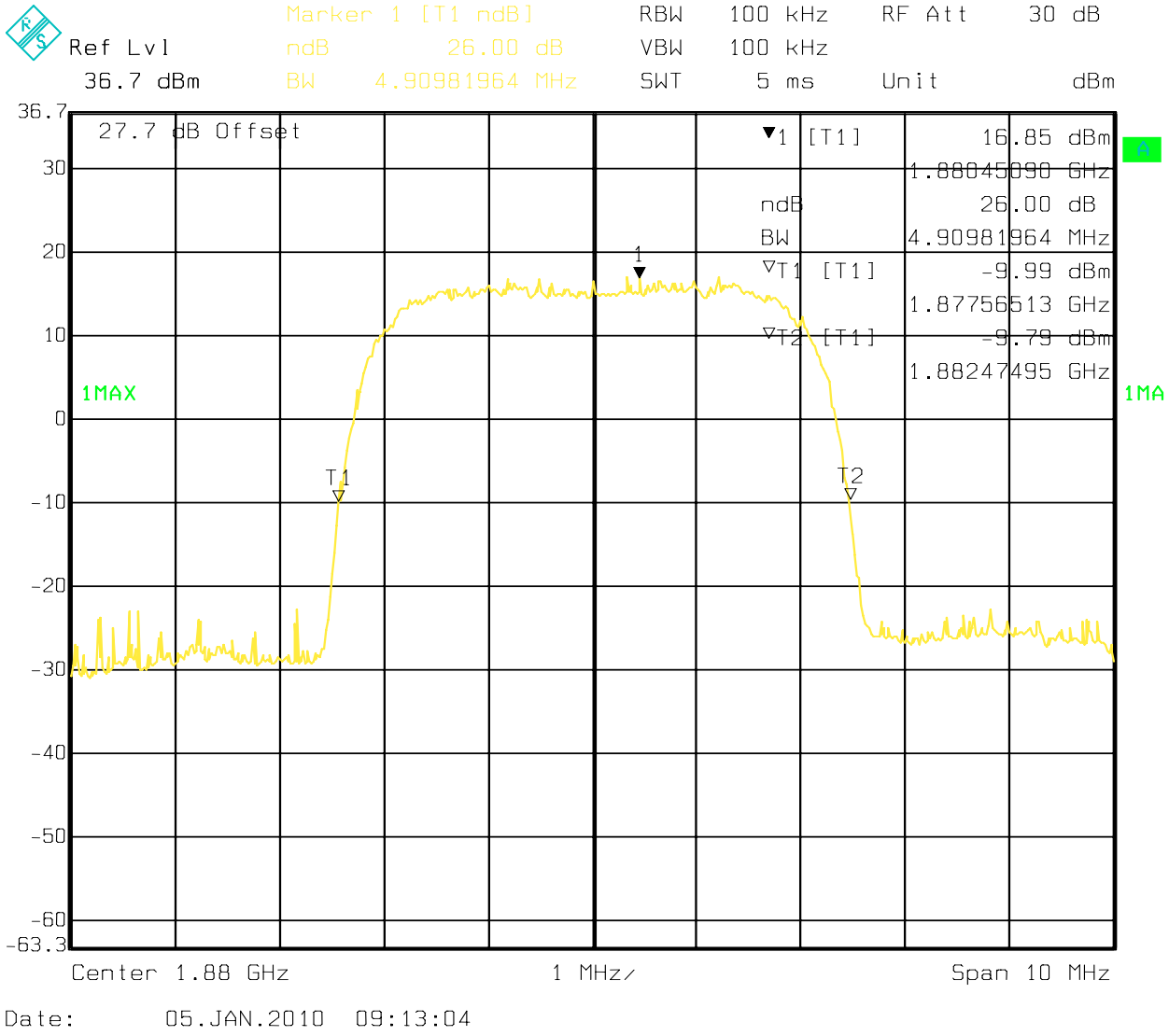
Emission band Width GSM850 MHz Channel 251 EGPRS



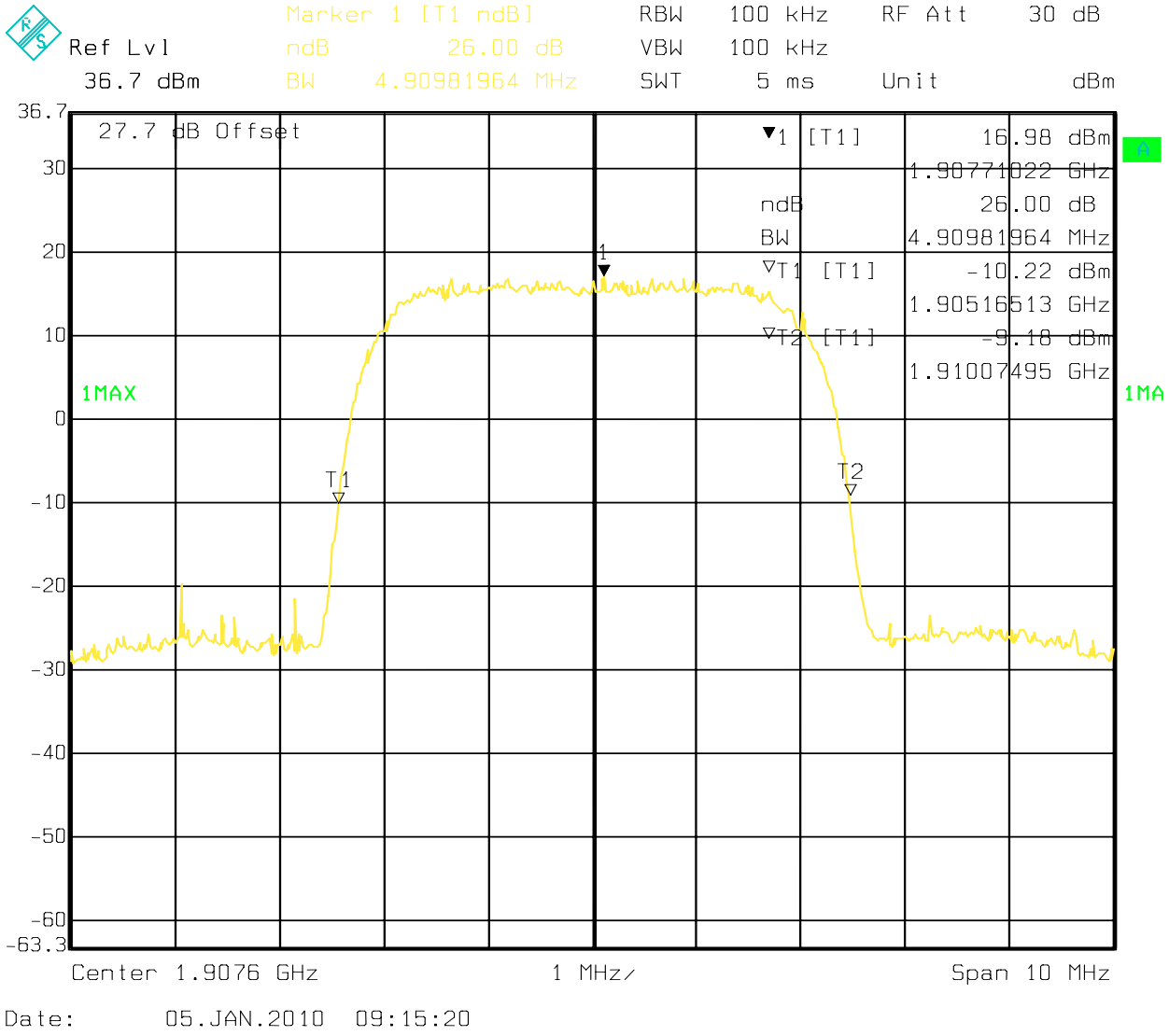
Emission band Width UMTS FDD5 Channel 4132



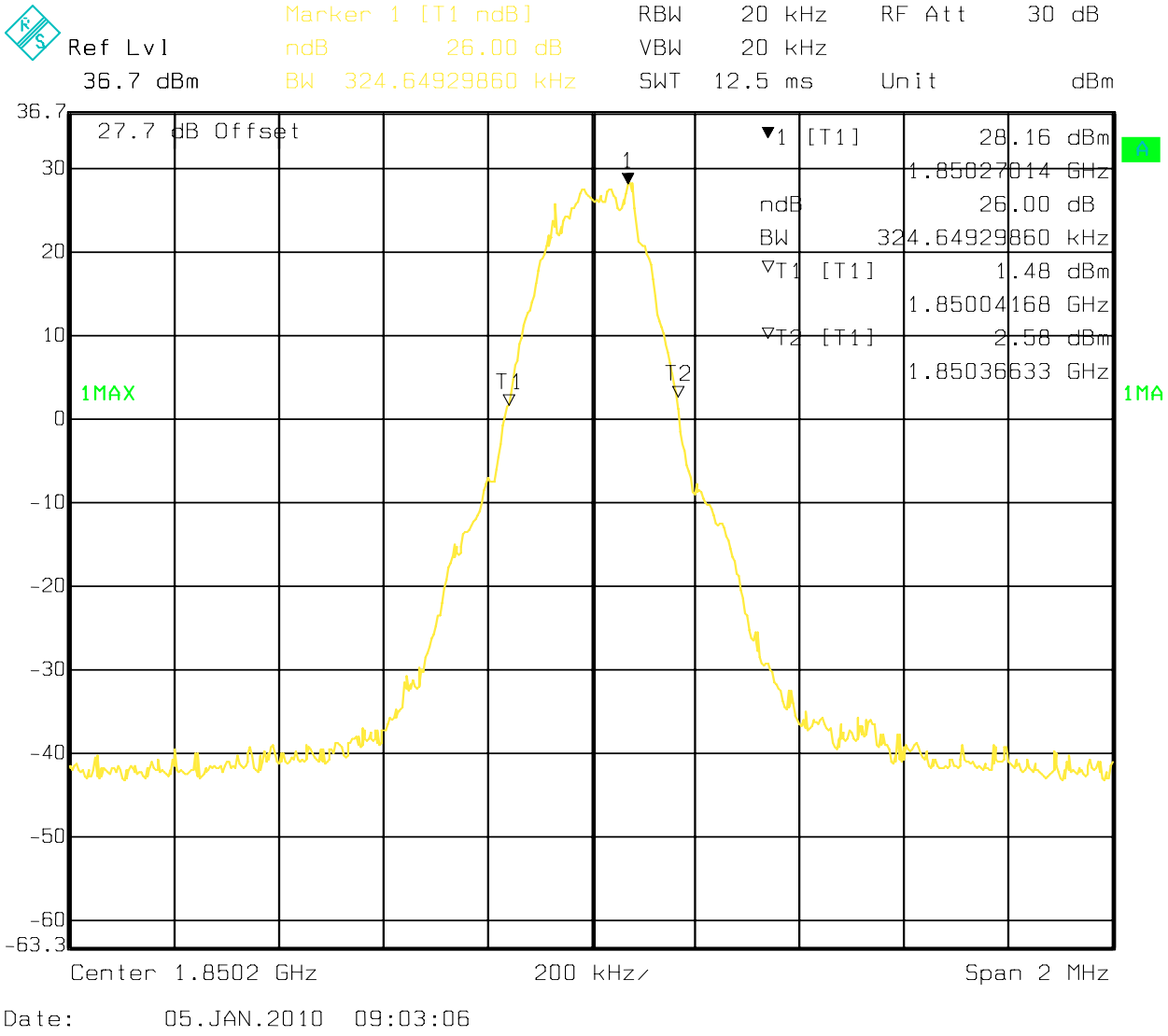
Emission band Width UMTS FDD5 Channel 4183



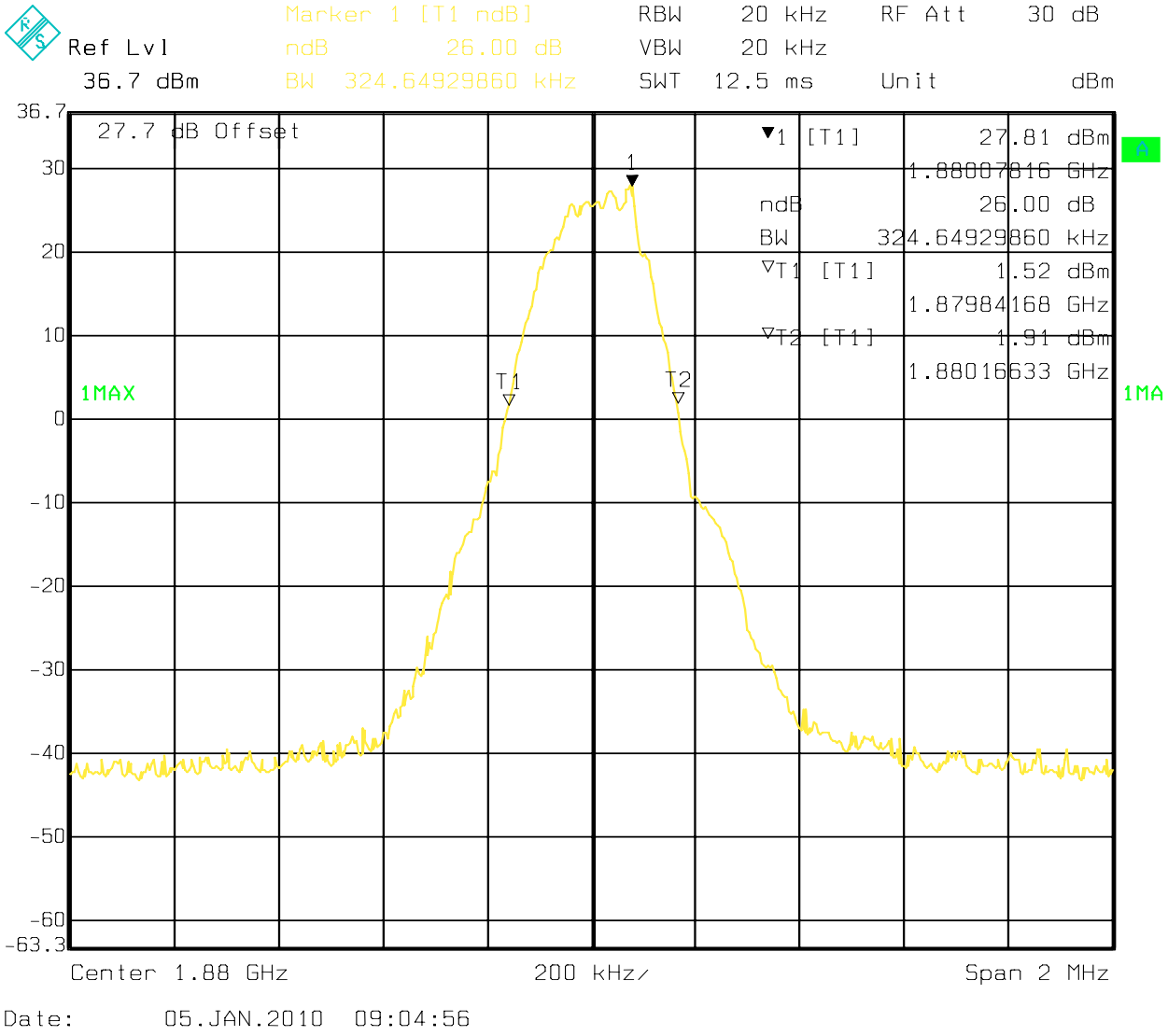
Emission band Width UMTS FDD5 Channel 4233



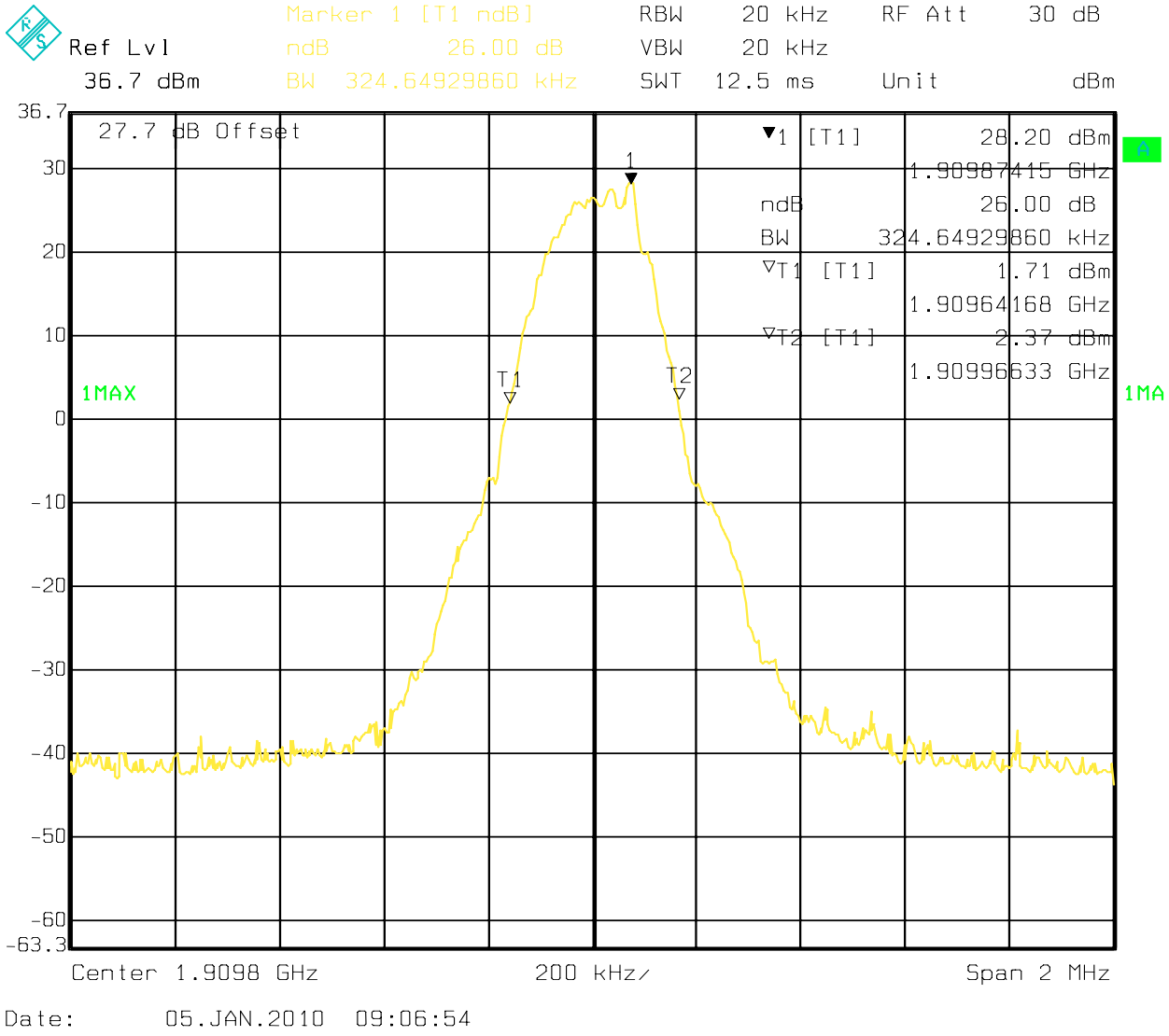
Emission band Width PCS1900 MHz Channel 512 GSM



Emission band Width PCS1900 MHz Channel 661 GSM



Emission band Width PCS1900 MHz Channel 810 GSM



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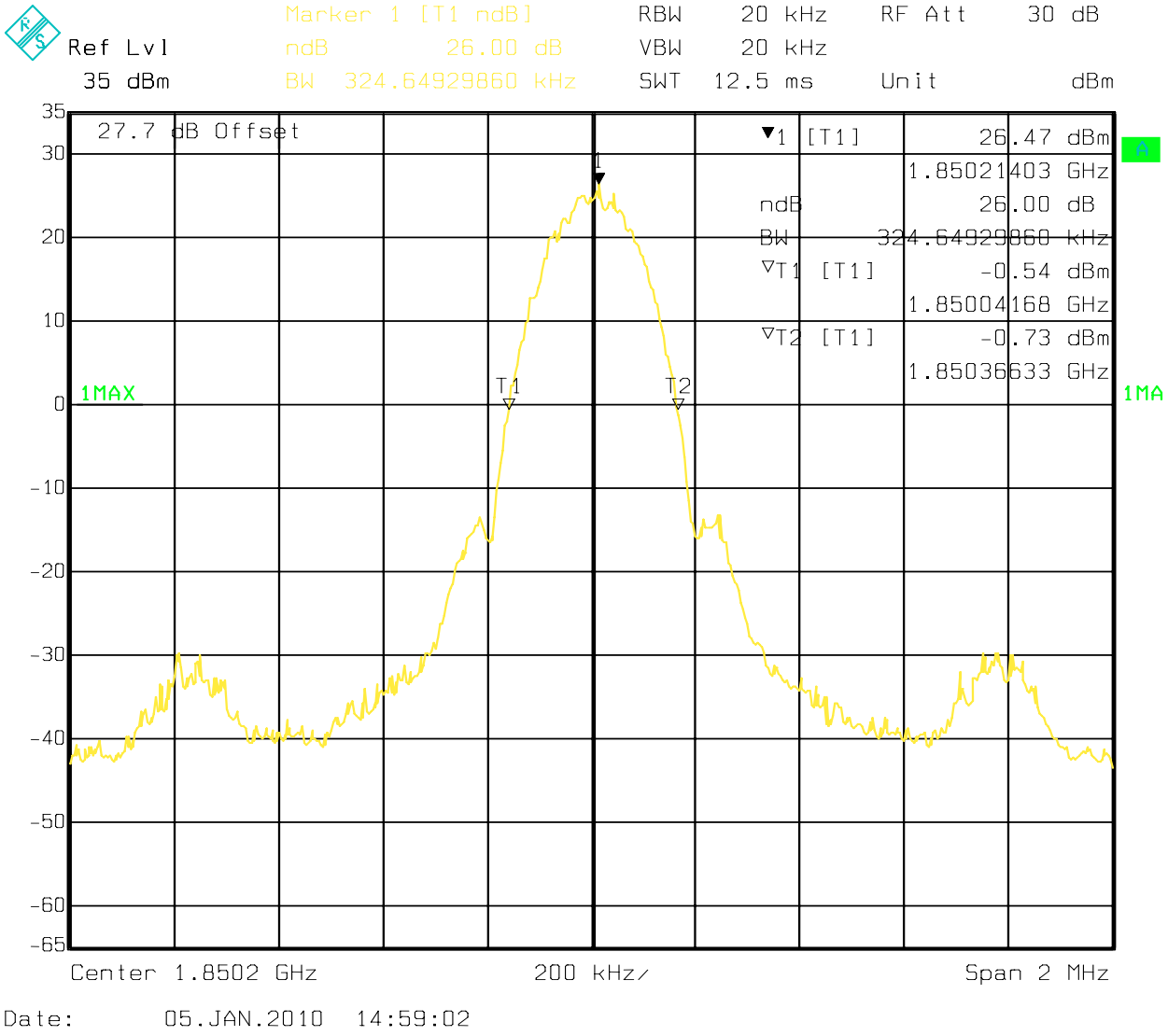

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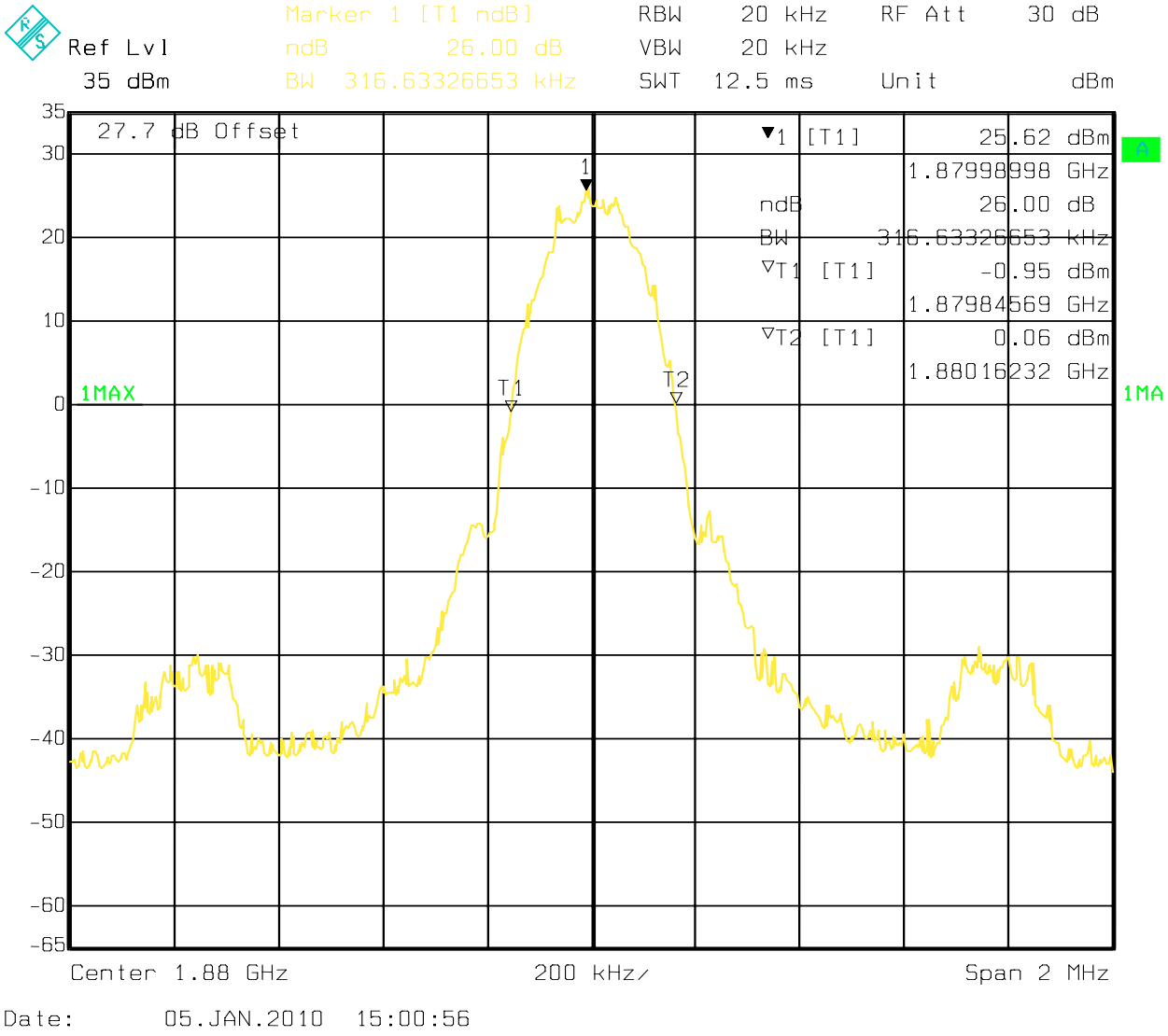

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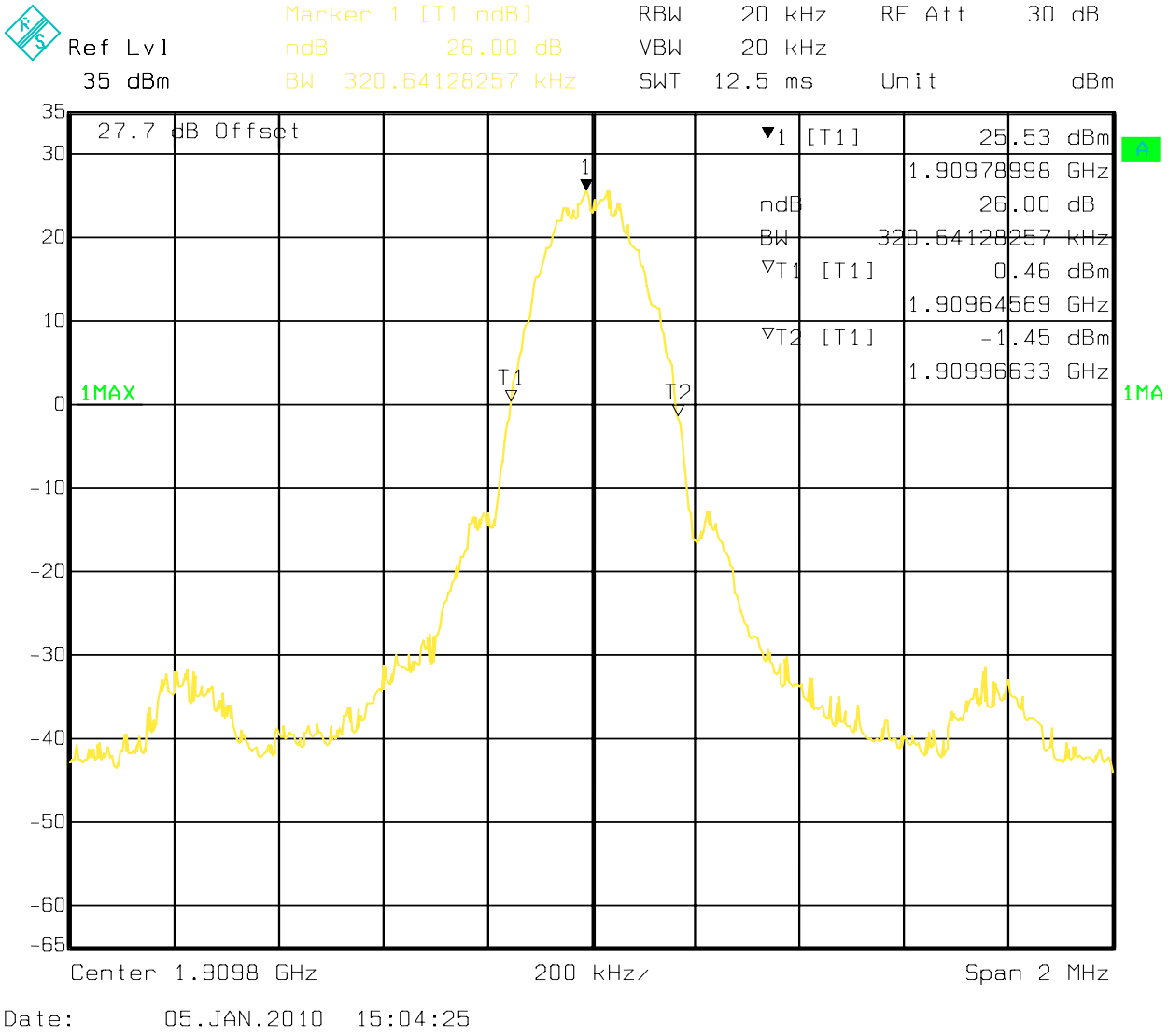
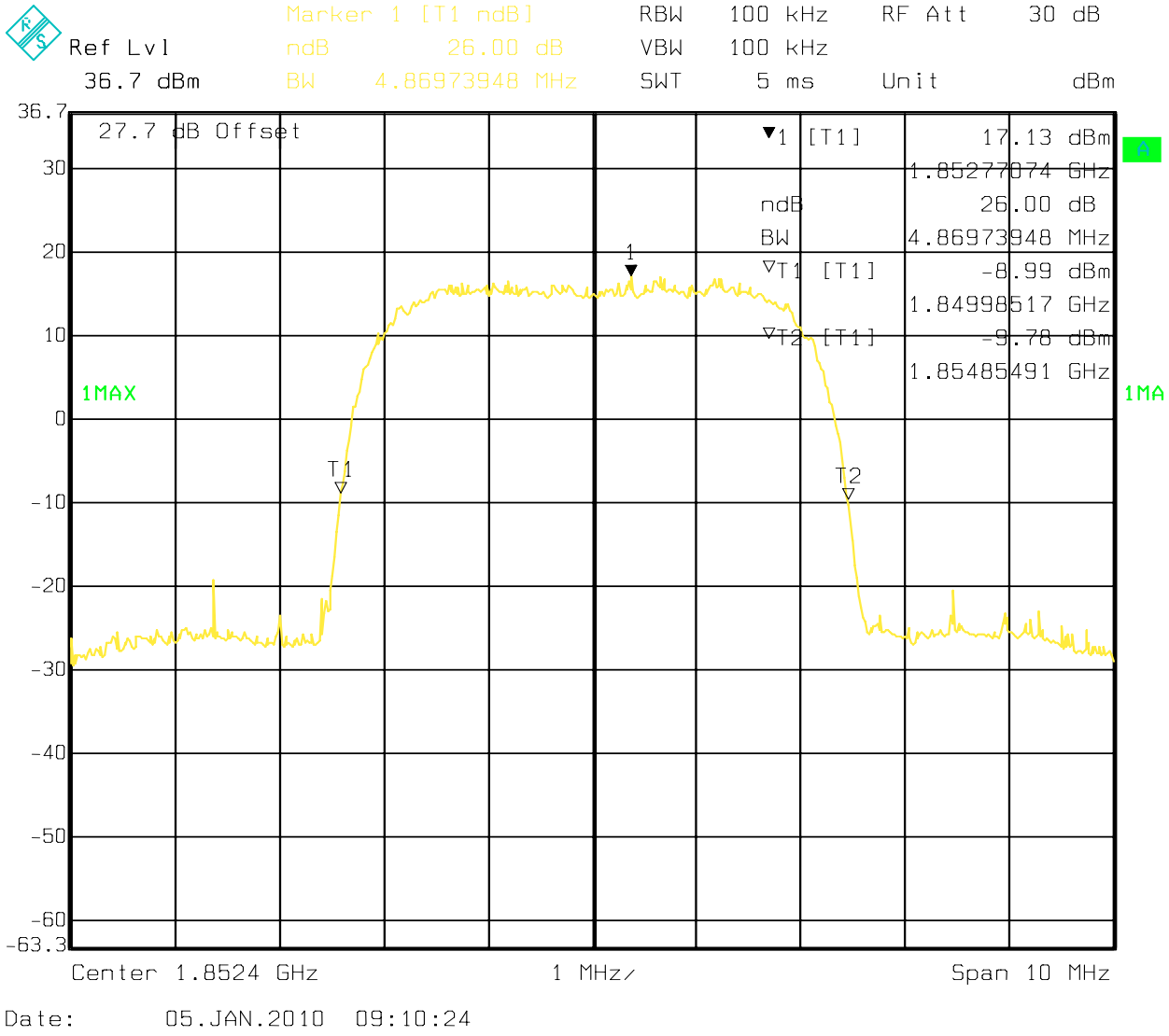
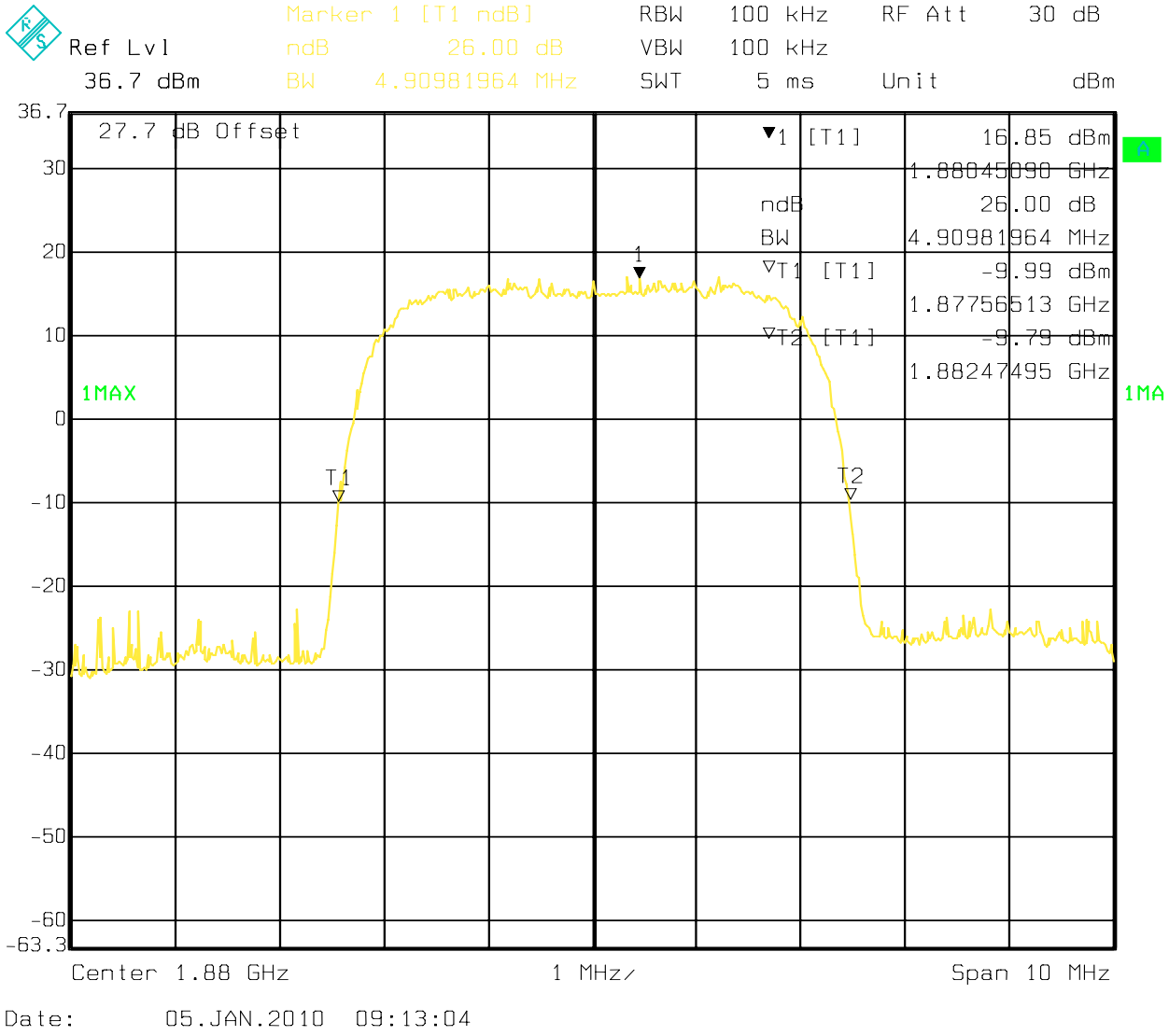


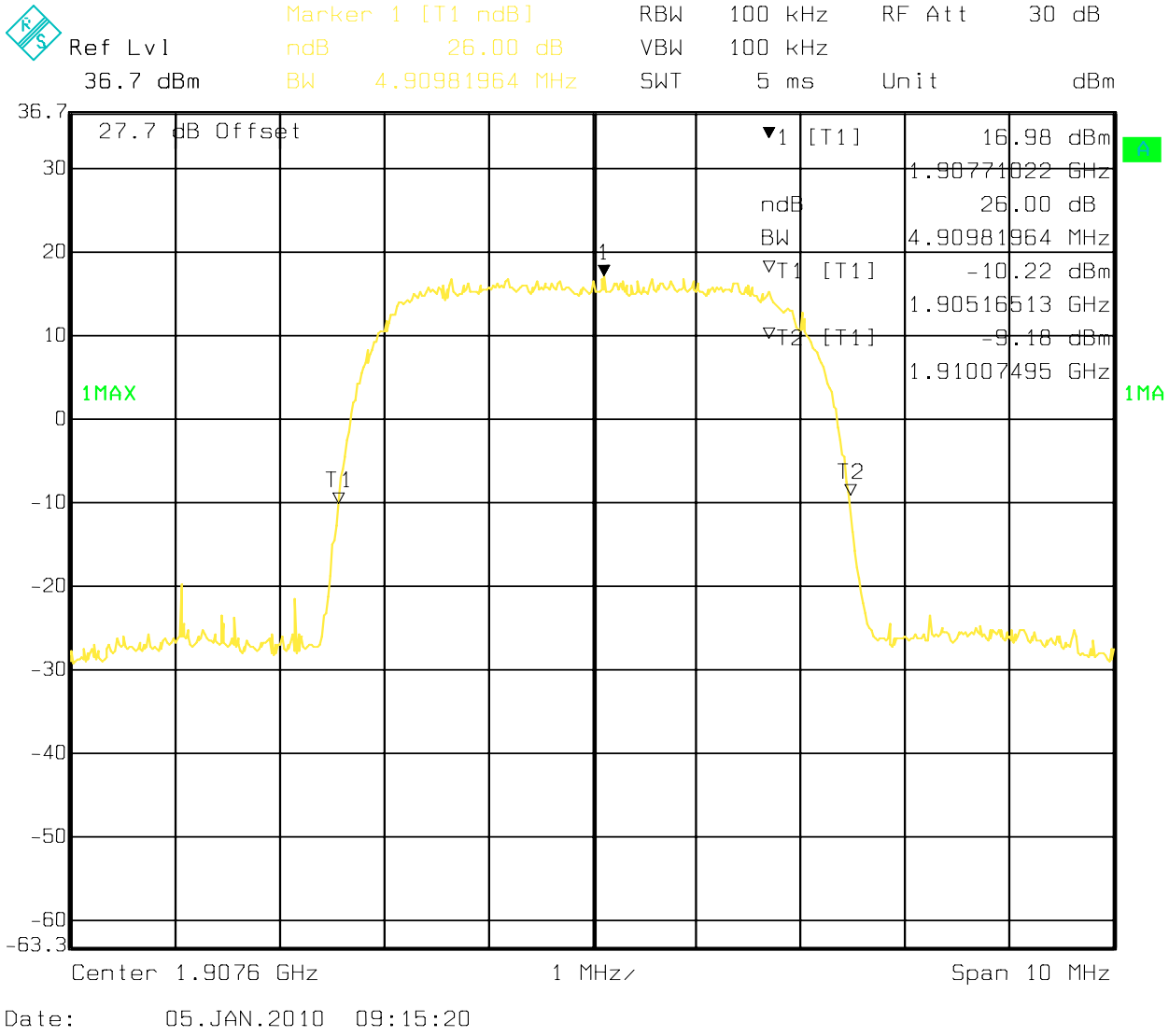
Emission band Width UMTS FDD2 Channel 9262



Emission band Width UMTS FDD2 Channel 9400



Emission band Width UMTS FDD2 Channel 9538



5.3 Frequency Stability

5.3.1 References

FCC: CFR Part 2.1055, CFR Part 22.355, CFR Part 24.235
IC: RSS 132 Section 4.3 and 6.3; RSS 133 Section 4.2

5.3.2 Limits

For Hand carried battery powered equipment:
According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235/22.355 Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.
As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.4VDC and 4.2VDC, with a nominal voltage of 3.7VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress.

For equipment powered by primary supply voltage:
According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235/22.355 Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.
For this EUT section 2.1055(d)(1) applies. This requires to vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

Method of Measurement:

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a "call mode". This is accomplished with the use of R&S CMU 200 Universal Radio Communication Tester.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30 C.
3. With the EUT, powered via nominal voltage, connected to the CMU 200 and in a simulated call on mid channel (190 for GSM 850 & 4183 for FDD5 & 661 for PCS1900 & 9400 for FDD2), measure the carrier frequency. These measurements should be made within 2 minutes of powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10 C increments from -30 C to +50 C. Allow at least 1 1/2 hours at each temperature, un-powered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Re-measure carrier frequency at low and high voltage. Pause at nominal voltage for 1 1/2 hours un-powered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50 C.
7. With the EUT, powered via nominal voltage, connected to the CMU 200 and in a simulated call on mid channel (190 for GSM 850 & 4183 for FDD5 & 661 for PCS1900 & 9400 for FDD2), measure the carrier frequency. These measurements should be made within 2 minutes of powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 C increments from +50 C to -30 C. Allow at least 1 1/2 hours at each temperature, un-powered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5 C during the measurement procedure.

5.3.3 Test Results Frequency Stability (GSM-850): Channel 190 (836.6 MHz)

Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)
Low V: 3.145	-996	-1.19
High V: 4.255	-39	-0.04

§2.1055 (a)(1) AFC FREQ ERROR vs. TEMPERATURE

Temperature (^{o}C)	Frequency Error (Hz)	Frequency Error (ppm)
-30	-17	-0.02
-20	-34	-0.04
-10	-15	-0.02
0	17	0.02
+10	8	0.01
+20	-9	-0.01
+30	-34	-0.04
+40	-39	-0.05
+50	-46	-0.05

§2.1055 (b)(2) Battery end point

Battery End Point (V DC)	Frequency Error (Hz)	Frequency Error (ppm)
3.145	-996	-1.19

5.3.4 Test Results Frequency Stability (GSM-1900): Channel 661 (1880.0 MHz)

Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)
Low V: 3.145	-31	0.02
High V: 4.255	-46	0.02

§2.1055 (a)(1) AFC FREQ ERROR vs. TEMPERATURE

Temperature (^{o}C)	Frequency Error (Hz)	Frequency Error (ppm)
-30	-62	-0.03
-20	-26	-0.01
-10	-32	-0.02
0	-28	-0.01
+10	-32	-0.02
+20	-38	-0.02
+30	-32	-0.02
+40	-72	-0.04
+50	-58	-0.03

§2.1055 (b)(2) Battery end point

Battery End Point (V DC)	Frequency Error (Hz)	Frequency Error (ppm)
2.9	-35	-0.02

5.3.5 Test Results Frequency Stability (FDD V): Channel 4183 (836.6 MHz)

Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)
Low V: 3.145	-86	0.10
High V: 4.255	15	0.02

§2.1055 (a)(1) AFC FREQ ERROR vs. TEMPERATURE

Temperature (^{o}C)	Frequency Error (Hz)	Frequency Error (ppm)
-30	-17	-0.02
-20	15	0.02
-10	-15	-0.02
0	-28	-0.03
+10	-13	-0.02
+20	23	0.03
+30	-16	-0.02
+40	-18	-0.02
+50	-25	-0.03

§2.1055 (b)(2) Battery end point

Battery End Point (V DC)	Frequency Error (Hz)	Frequency Error (ppm)
2.8	-106	-0.13

5.3.6 Test Results Frequency Stability (FDD II): Channel 9400 (1880.0 MHz)

Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)
Low V: 3.145	35	0.02
High V: 4.255	-61	-0.03

§2.1055 (a)(1) AFC FREQ ERROR vs. TEMPERATURE

Temperature (^{o}C)	Frequency Error (Hz)	Frequency Error (ppm)
-30	-33	-0.02
-20	-49	-0.03
-10	23	0.01
0	-31	-0.02
+10	26	0.01
+20	-21	-0.01
+30	34	0.02
+40	-45	-0.02
+50	-24	-0.01

§2.1055 (b)(2) Battery end point

Battery End Point (V DC)	Frequency Error (Hz)	Frequency Error (ppm)
2.7	-35	-0.02

5.4 Conducted Spurious Emissions

5.4.1 References

FCC: CFR Part 2.1051, CFR Part 22.917, CFR Part 24.238
IC: RSS 132 Section 4.5 and 6.5; RSS 133 Section 4.4

5.4.2 FCC 2.1051 Measurements required: Spurious emissions at antenna terminals.

The radio frequency voltage or power generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in FCC 2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.

5.4.3 Limits

(a) *Out of band emissions*. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
For all power levels +30dBm to 0dBm, this becomes a constant specification of -13dBm.

5.4.3.1 FCC 22.917 Emission limitations for cellular equipment.

The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.
(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

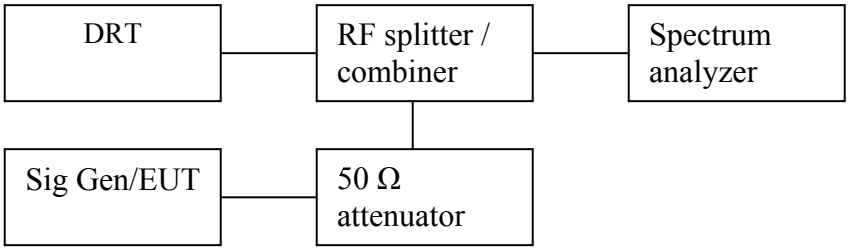
5.4.3.2 FCC 24.238 Emission limitations for Broadband PCS equipment.

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.
(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the

carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

5.4.4 Measurement Procedure -Conducted Out of band Emissions

Ref: TIA-603C 2004 2.2.13 Unwanted Emissions: Conducted Spurious



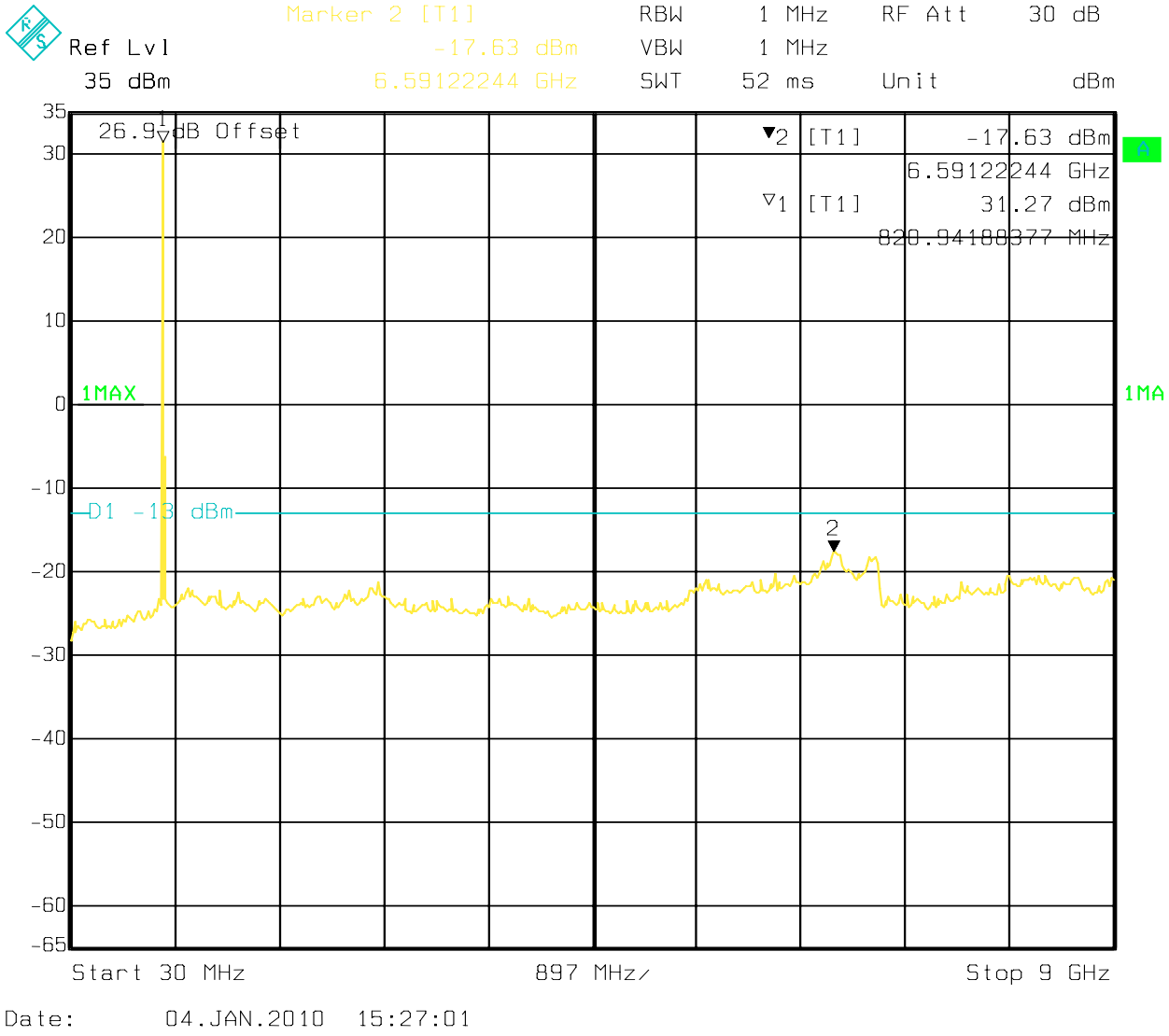
1. Connect the equipment as shown in the above diagram.
2. Set the spectrum analyzer to measure peak hold with the required settings.
3. Set the signal generator to a known output power and record the path loss in dB (**LOSS)** for frequencies up to the tenth harmonic of the EUT's carrier frequency. \
   LOSS = Generator Output Power (dBm) – Analyzer reading (dBm).
4. Replace the signal generator with the EUT.
5. Adjust the settings of the Digital RadioCommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
6. Set the spectrum analyzer to measure peak hold with the required settings. Offset the spectrum analyzer reference level by the path loss measured above.
7. Measure and record all spurious emissions up to the tenth harmonic of the carrier frequency.
8. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.
9. If necessary steps 6 and 7 may be performed with the spectrum analyzer set to average detector.
   (**Note:** Step 3 above is performed prior to testing and **LOSS** is recorded by test software. Steps 2, 6, and 7 above are performed with test software.)

5.4.5 Test Results- Conducted Out of band Emission

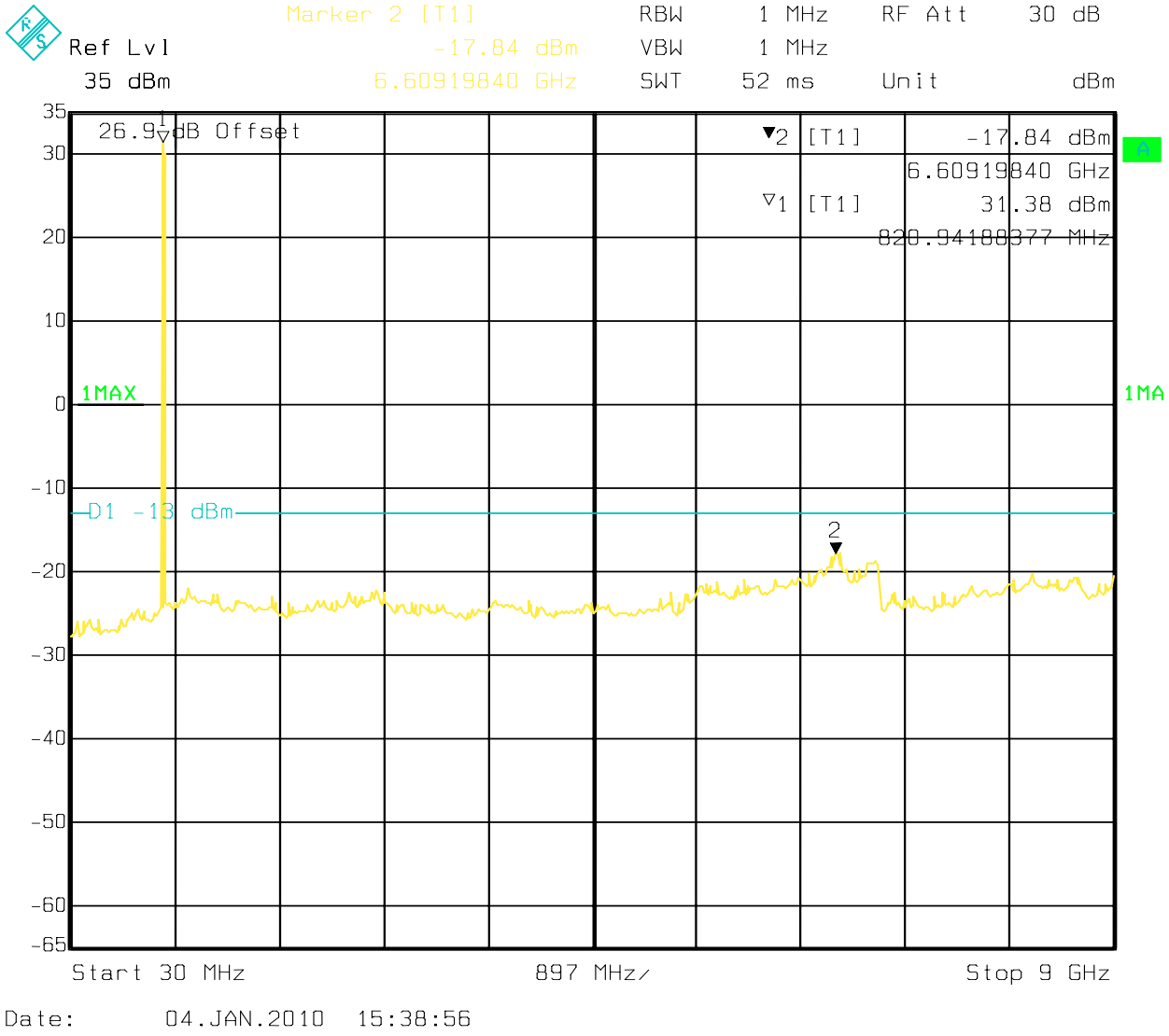
No measurable spurious emissions noted. Emission above the limit in the plots is from EUT uplink.

All measurement conducted in GSM and UMTS mode with highest power settings. Plots here show worse case emission for each channel under any modulation.

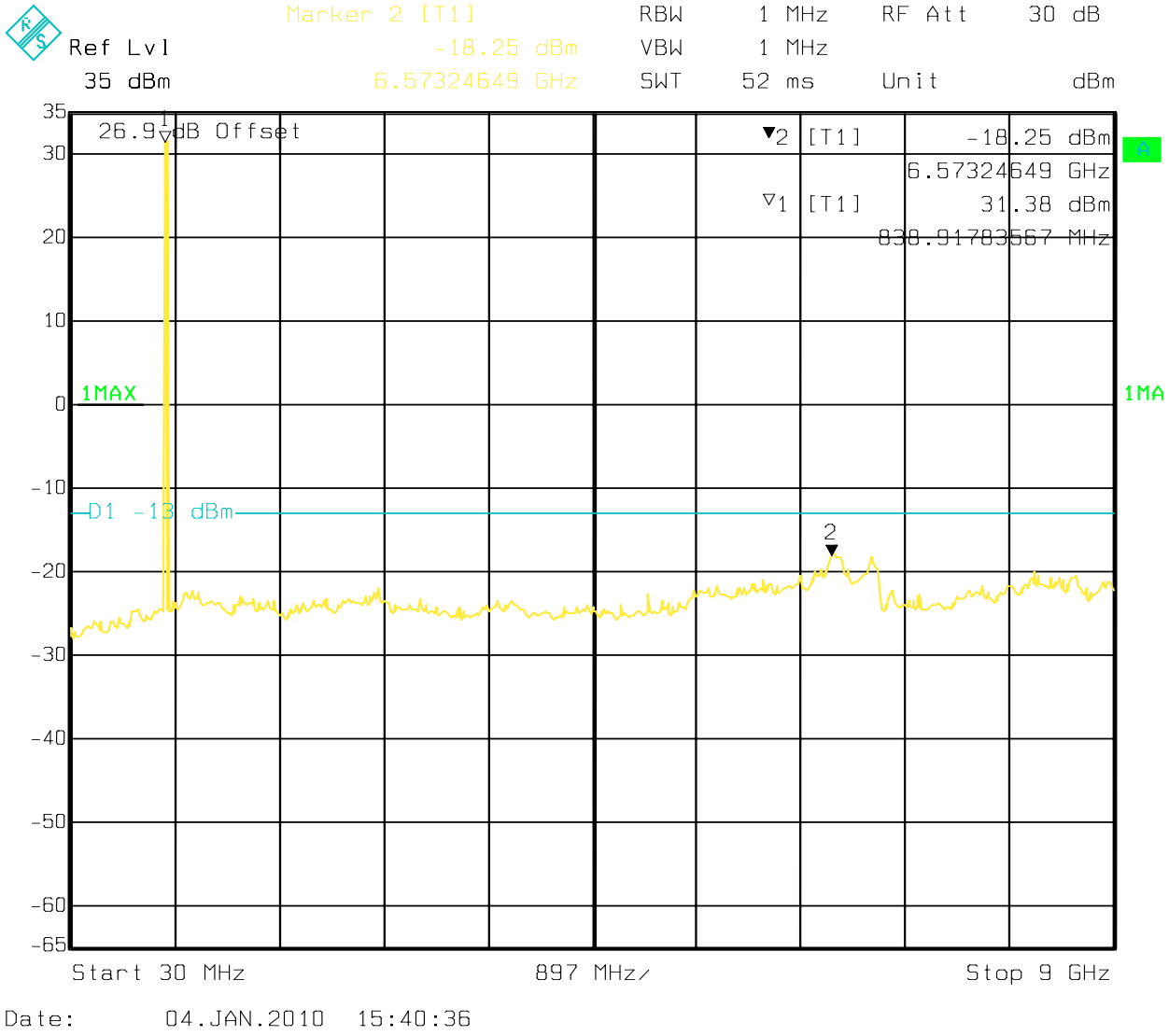
Conducted Out of band Emission GSM850 channel 128:



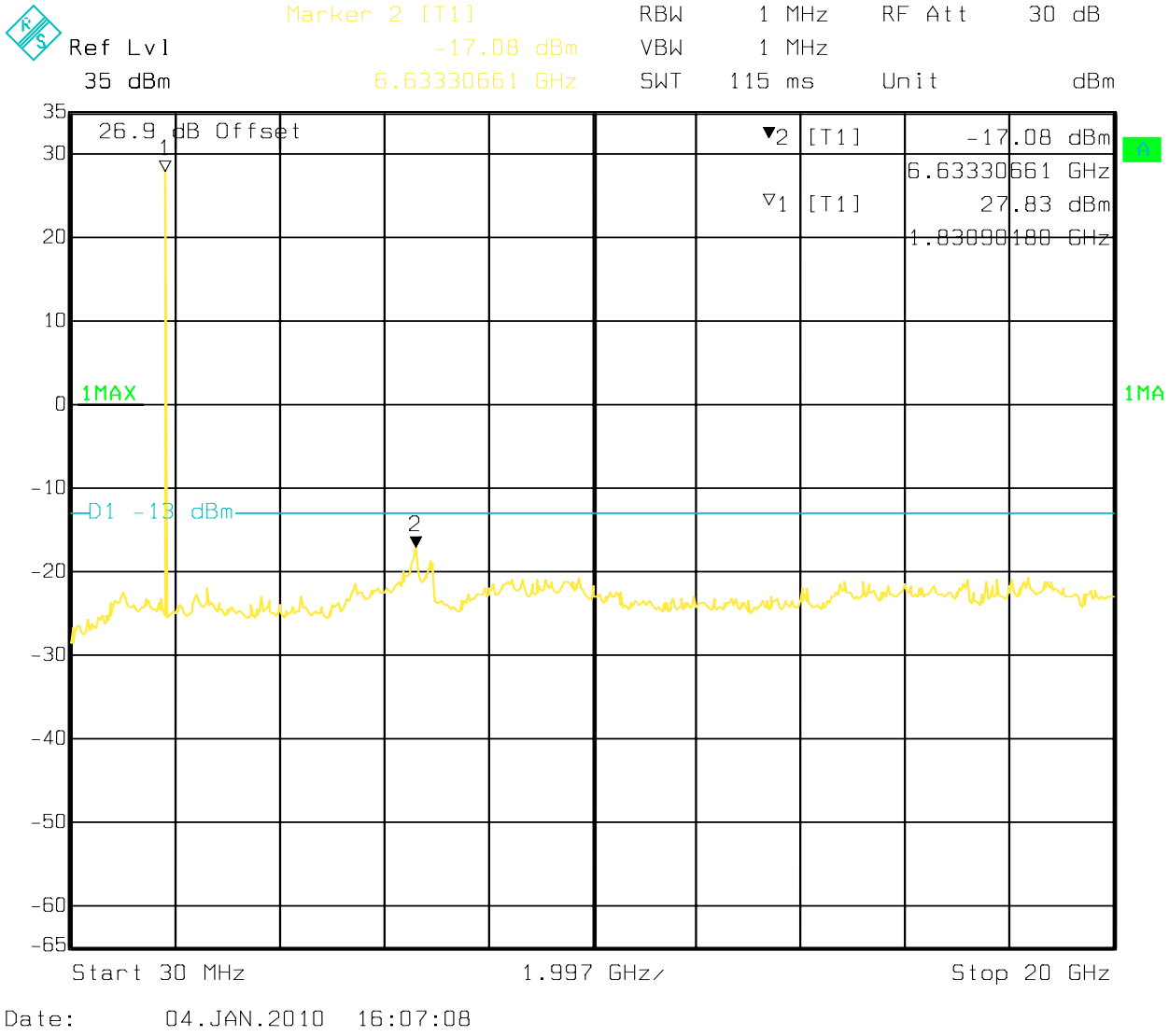
Conducted Out of band Emission GSM850 channel 190:



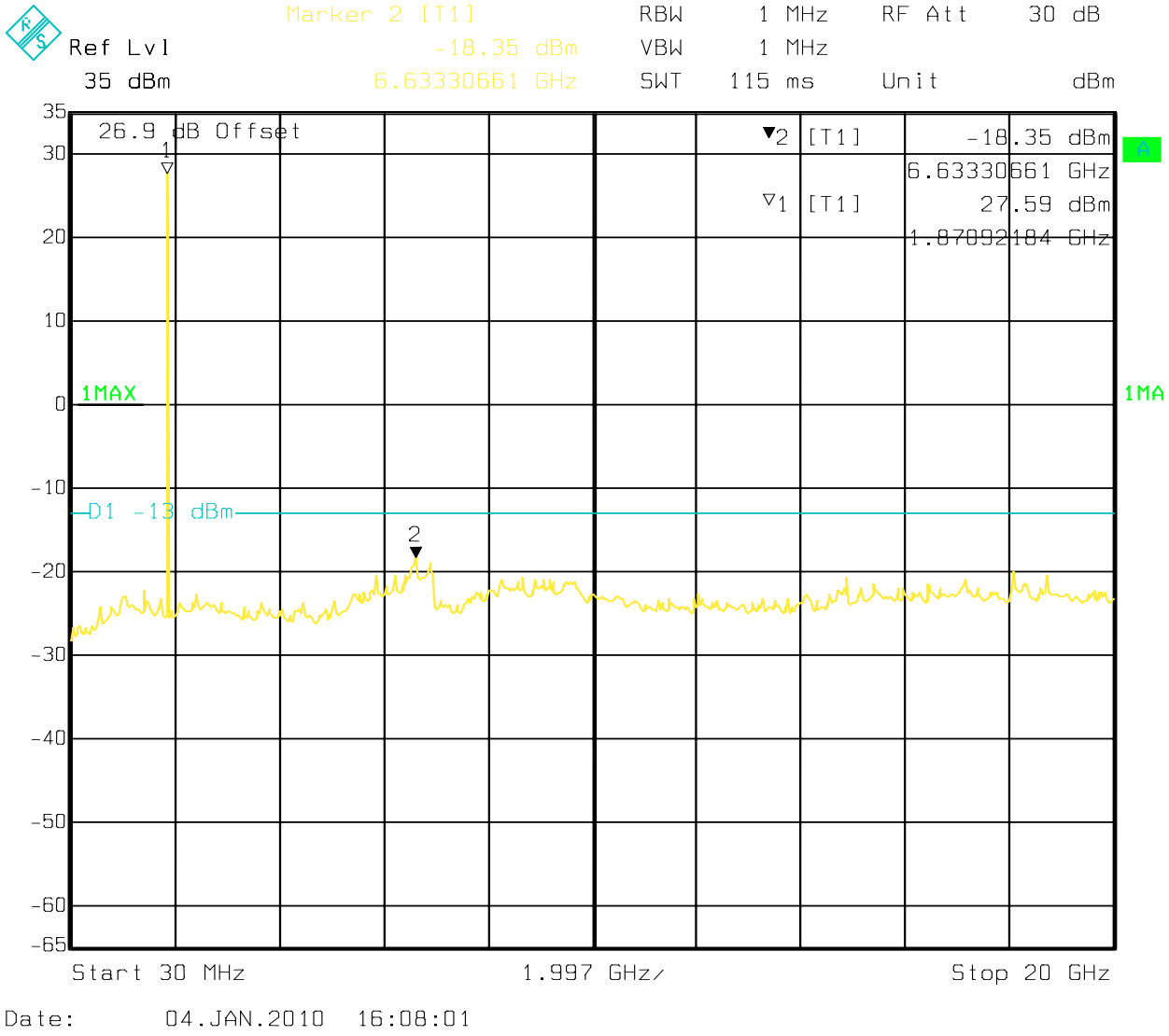
Conducted Out of band Emission GSM850 channel 251:



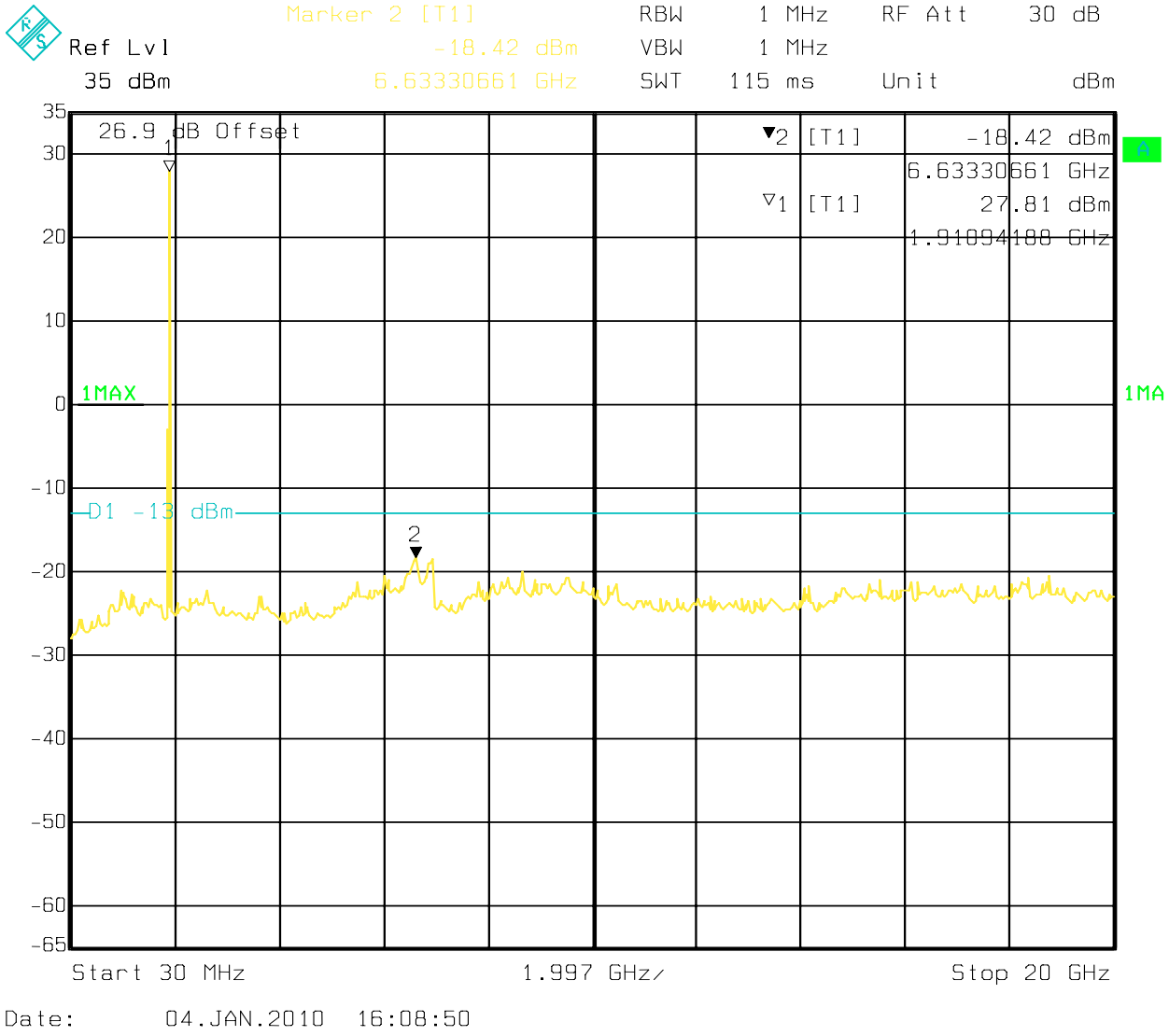
Conducted Out of band Emission GSM1900 channel 512:



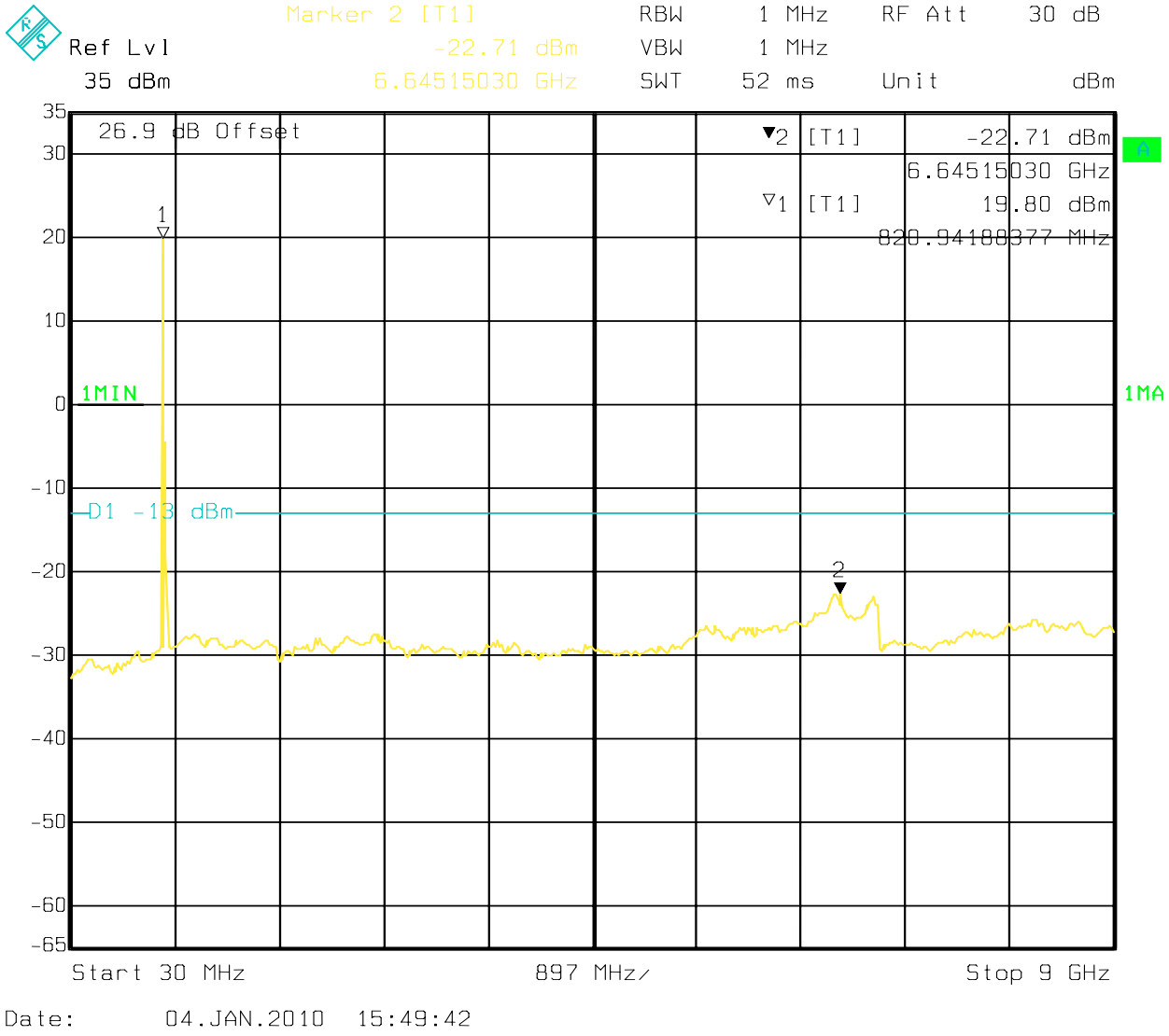
Conducted Out of band Emission GSM1900 channel 661:



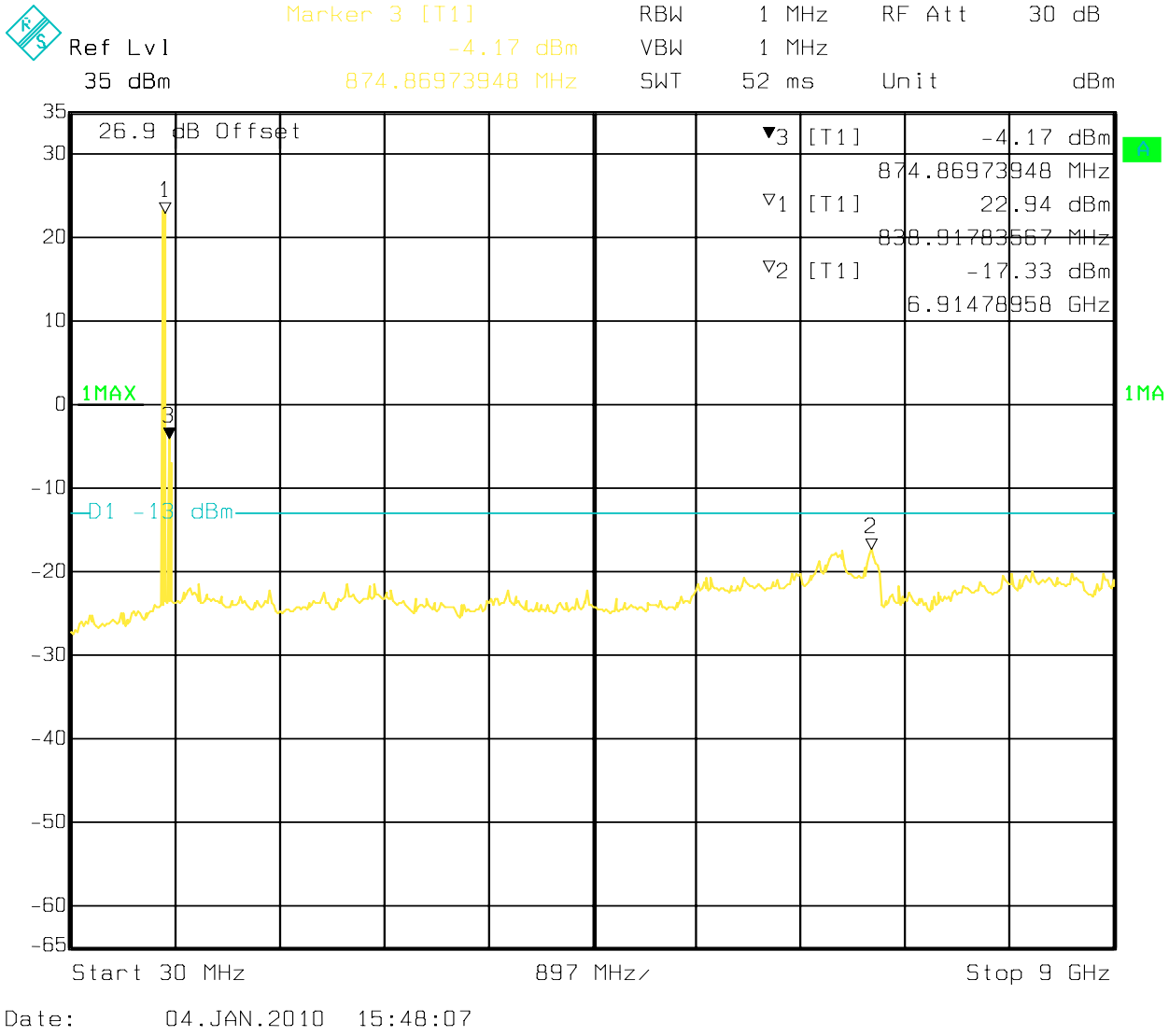
Conducted Out of band Emission GSM1900 channel 810:



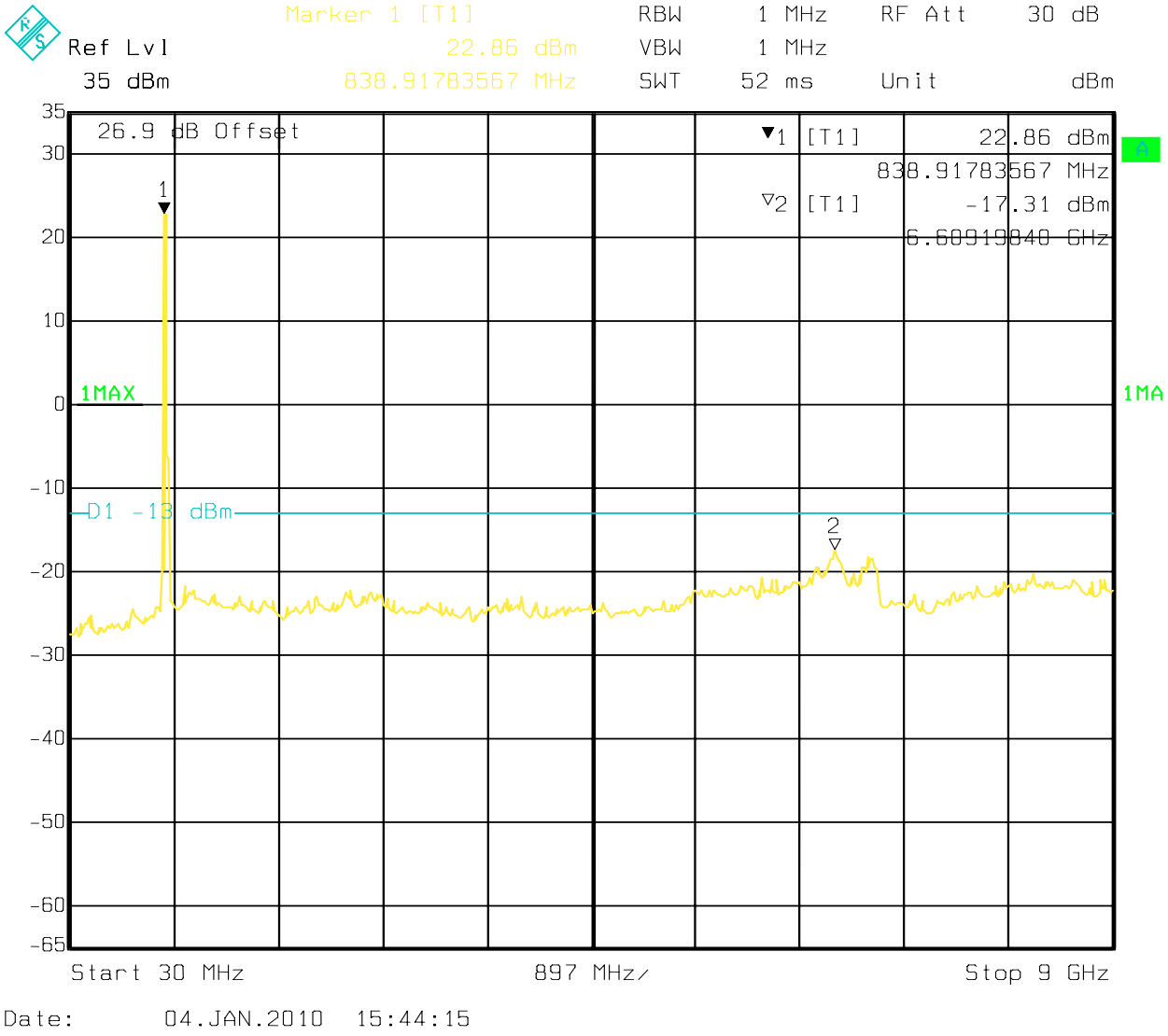
Conducted Out of band Emission UMTS FDD5 channel 4132:



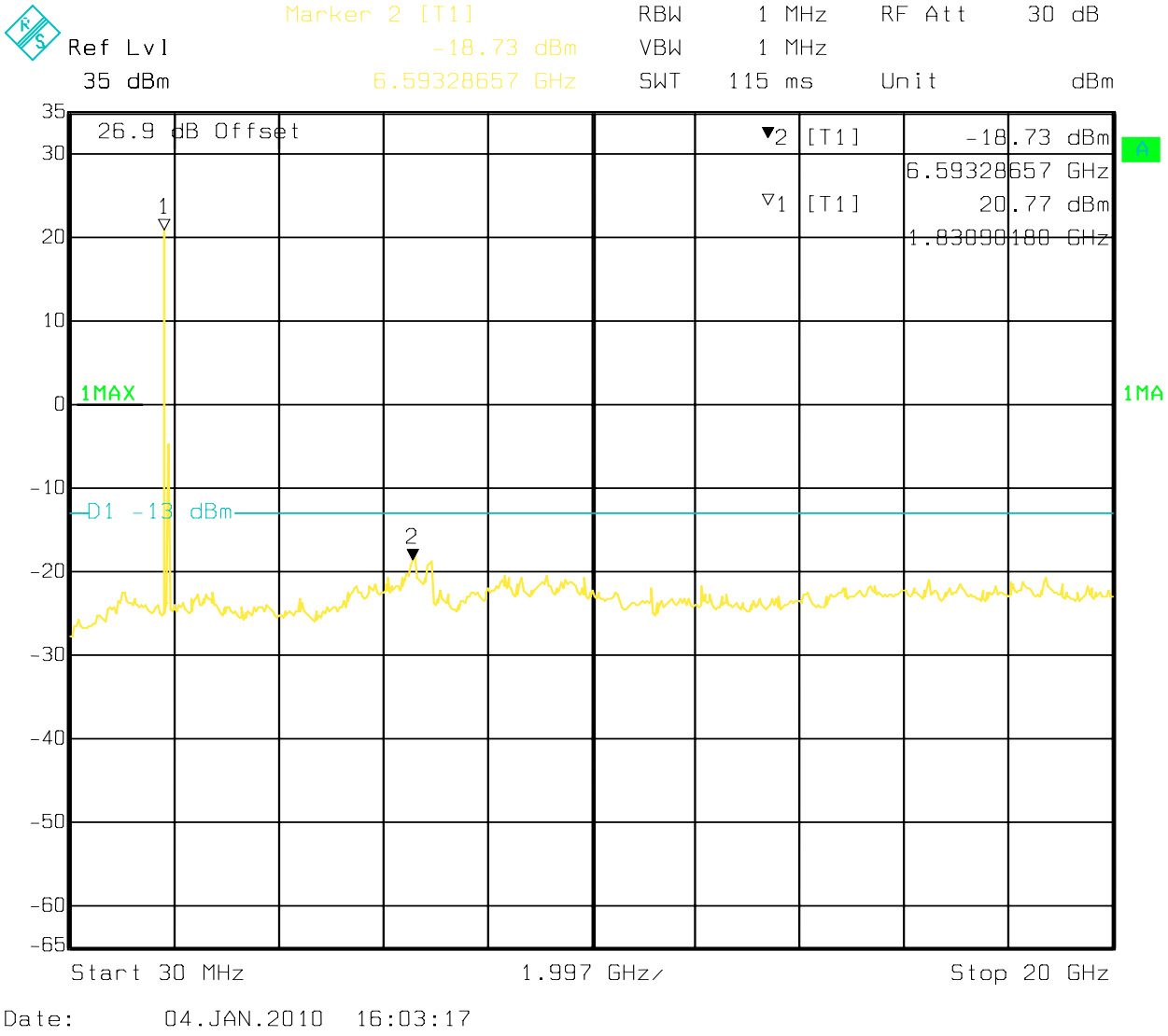
Conducted Out of band Emission UMTS FDD5 channel 4183:



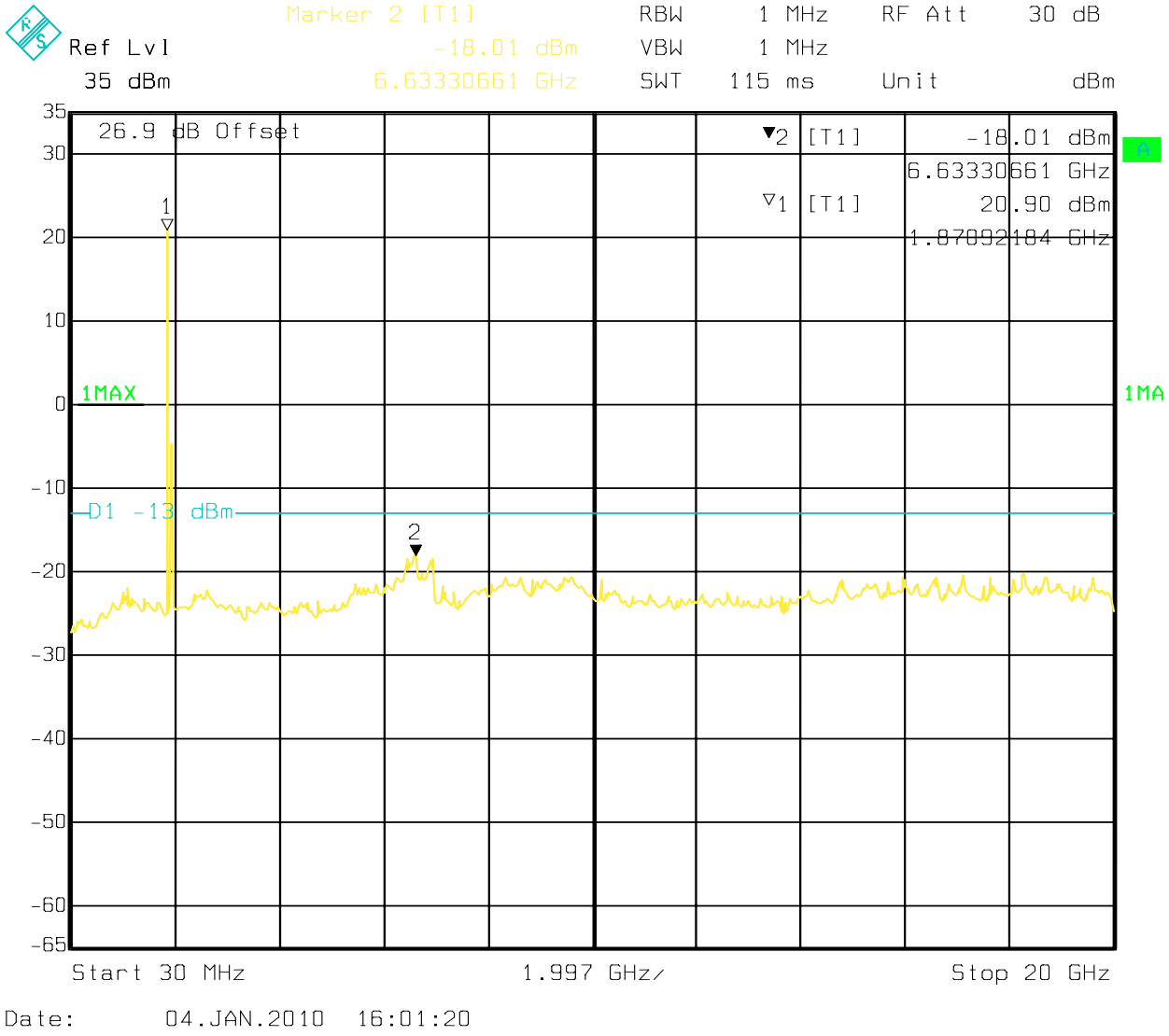
Conducted Out of band Emission UMTS FDD5 channel 4233:



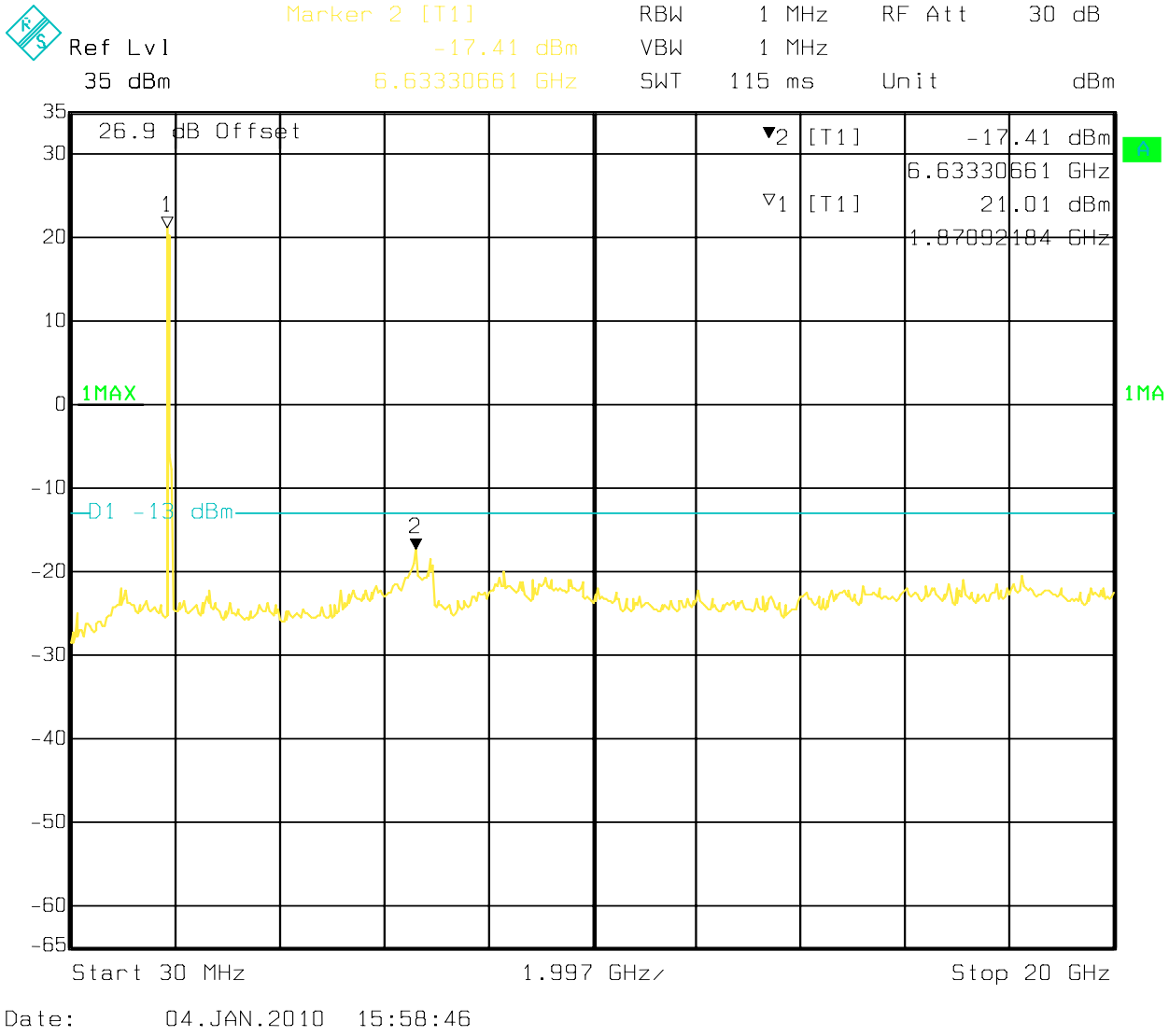
Conducted Out of band Emission UMTS FDD2 channel 9262:



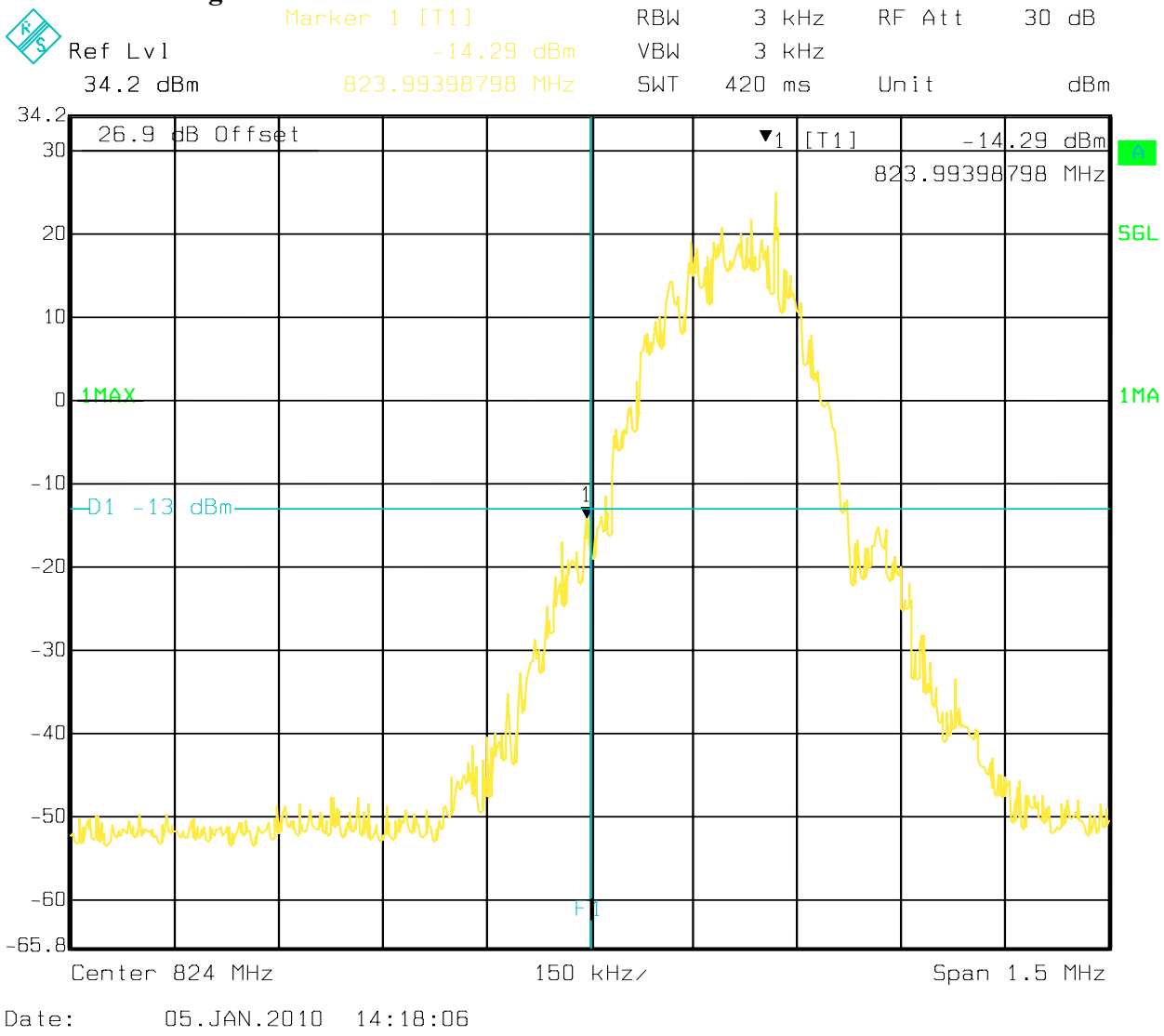
Conducted Out of band Emission UMTS FDD2 channel 9400:



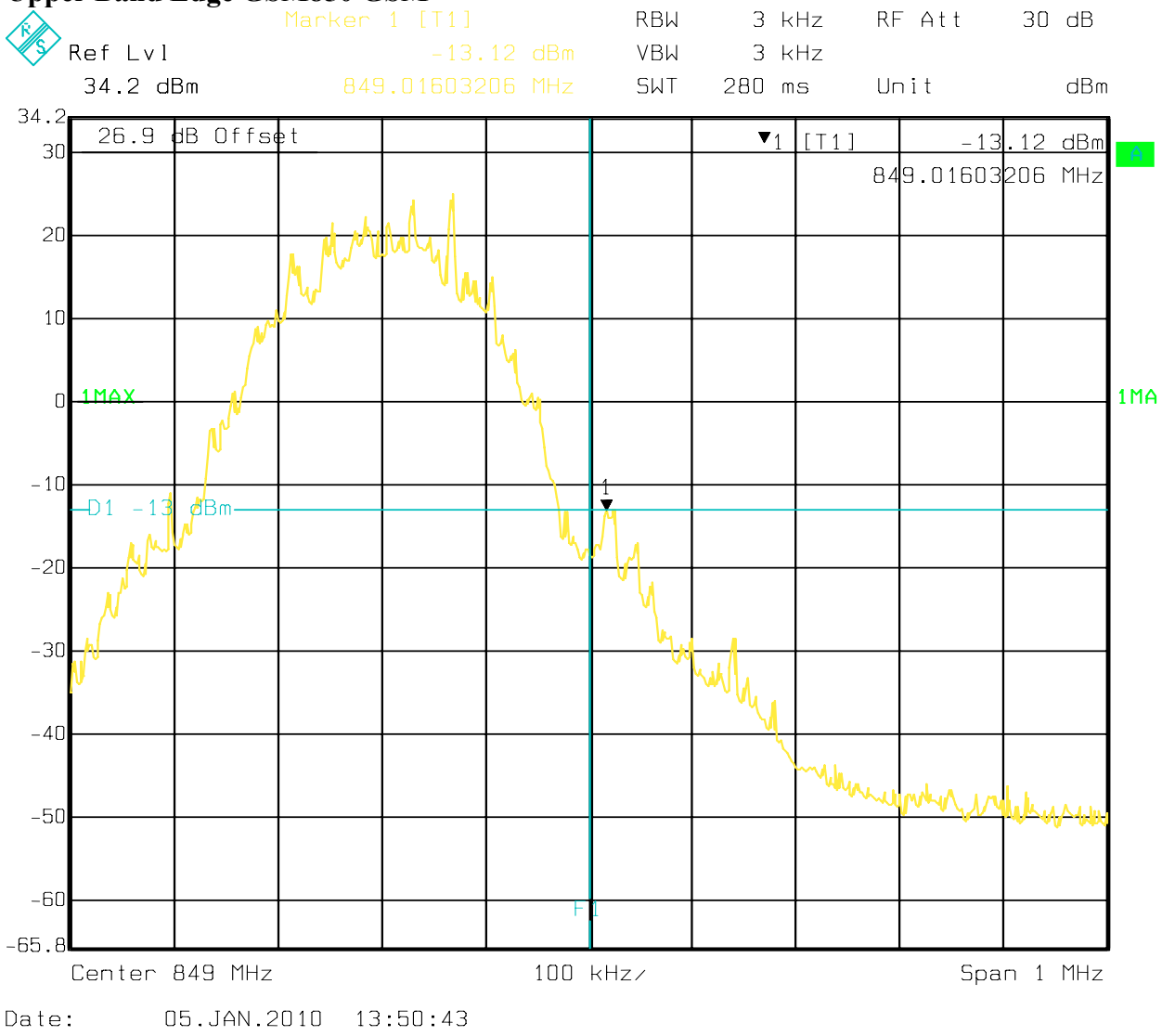
Conducted Out of band Emission UMTS FDD2 channel 9538:



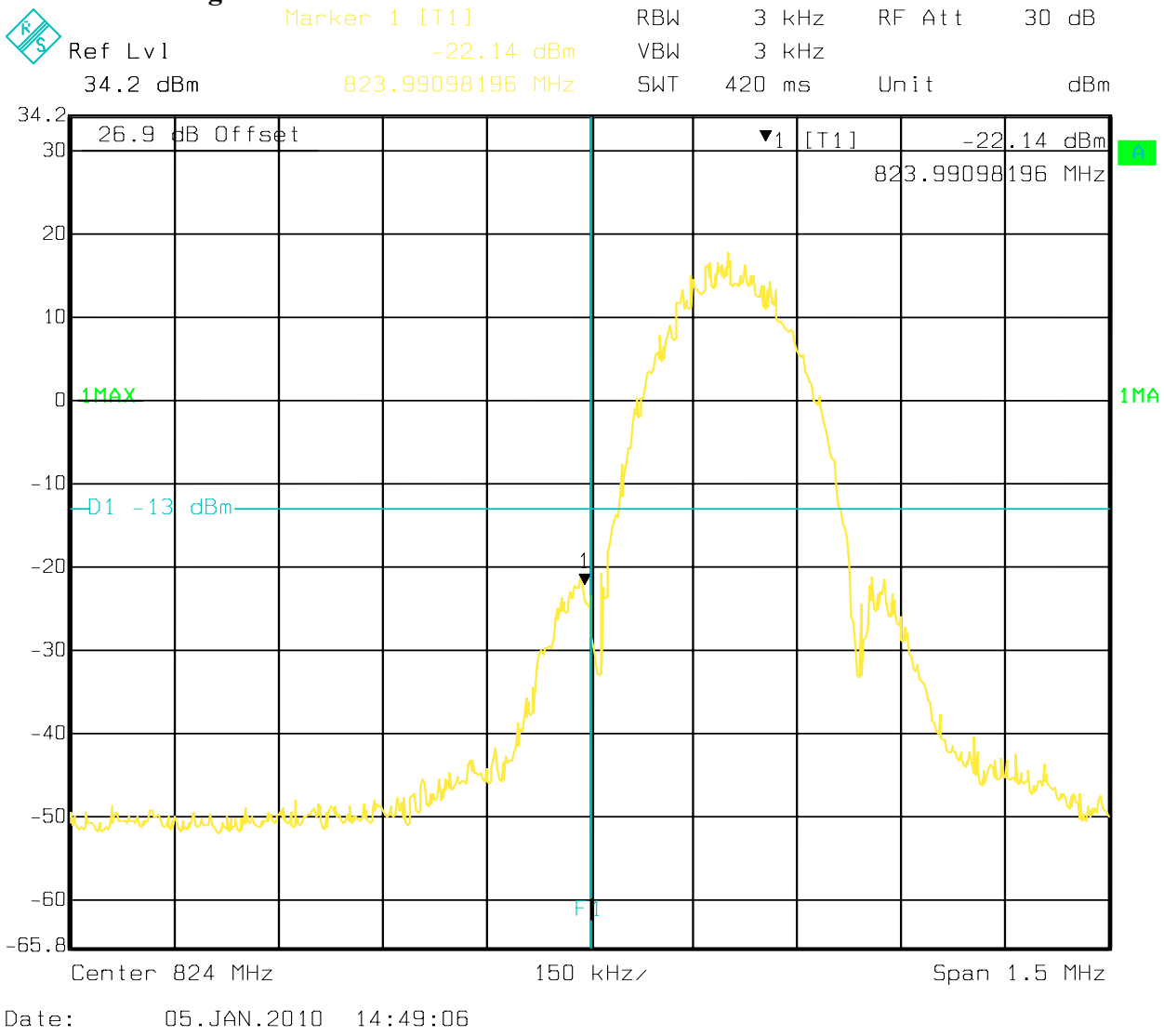
Lower Band Edge GSM850 GSM



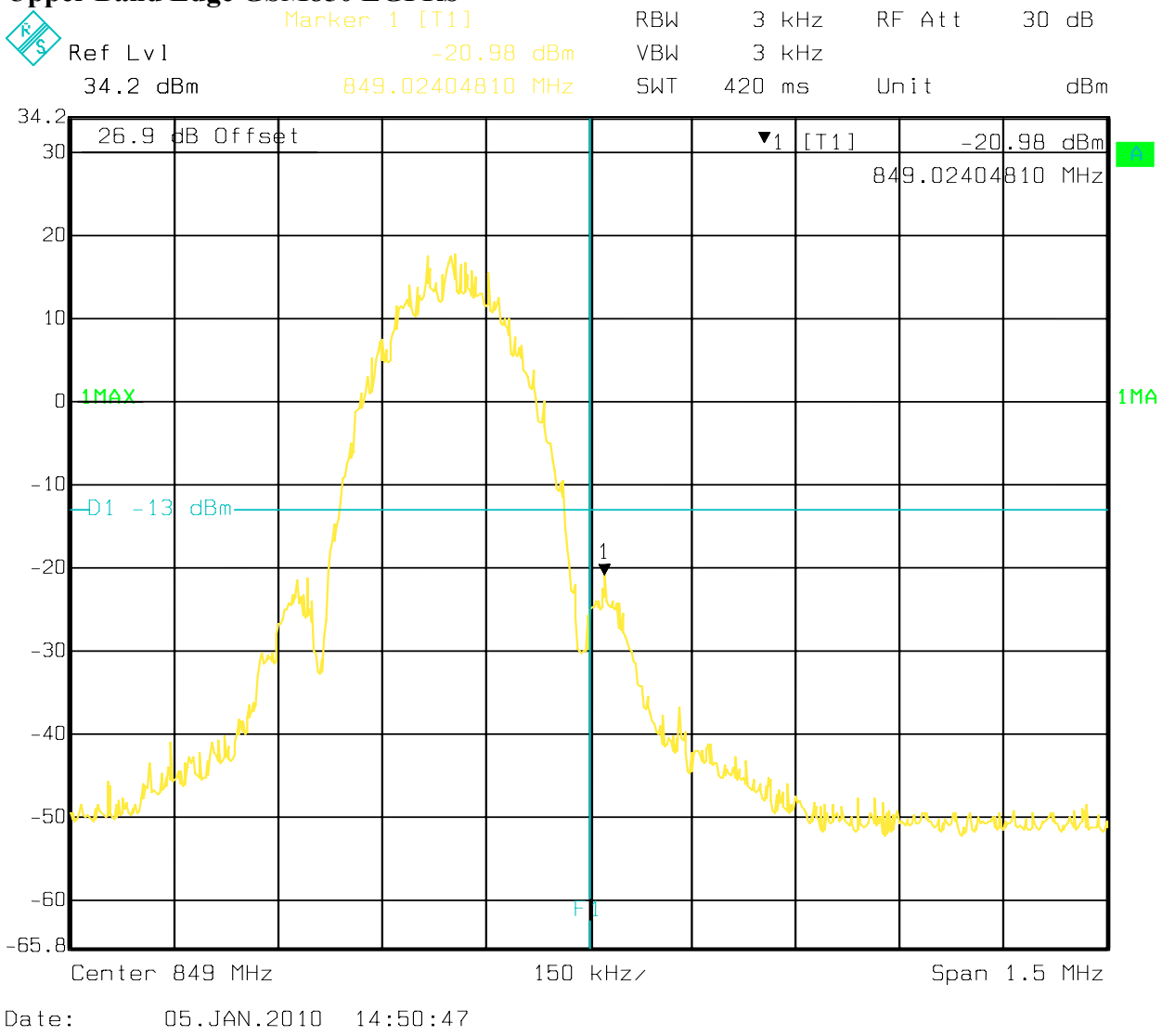
Upper Band Edge GSM850 GSM



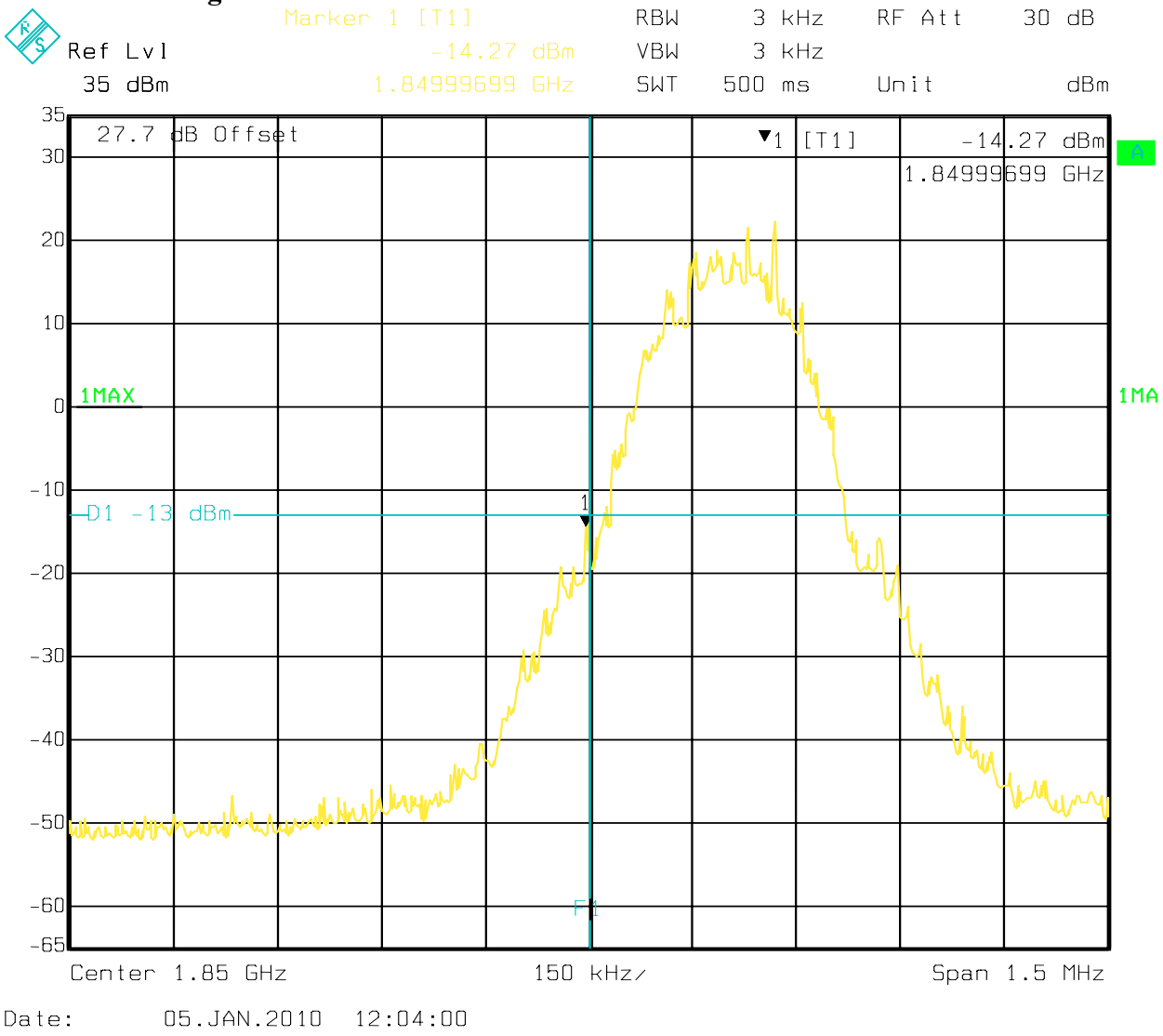
Lower Band Edge GSM850 EGPRS



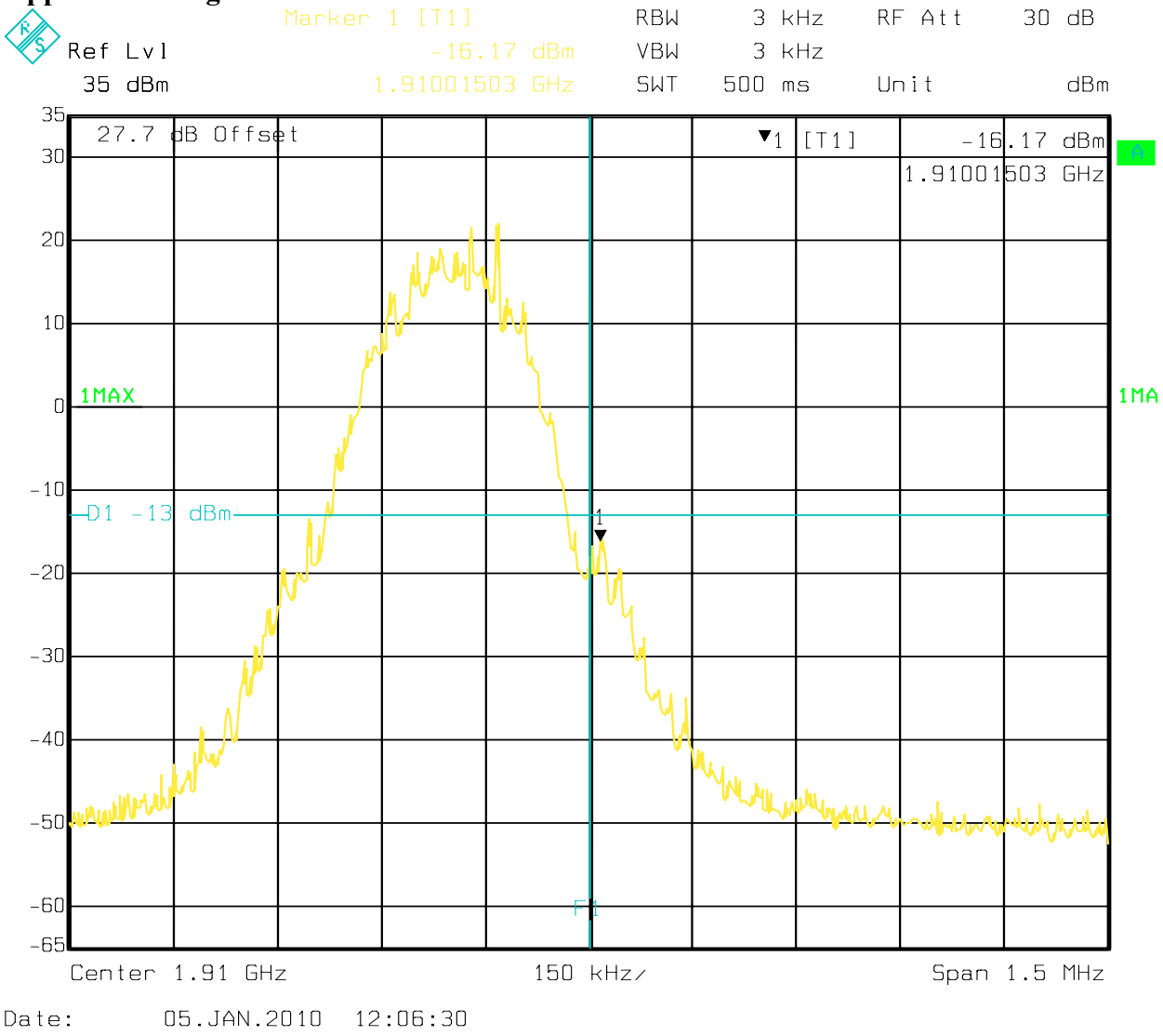
Upper Band Edge GSM850 EGPRS



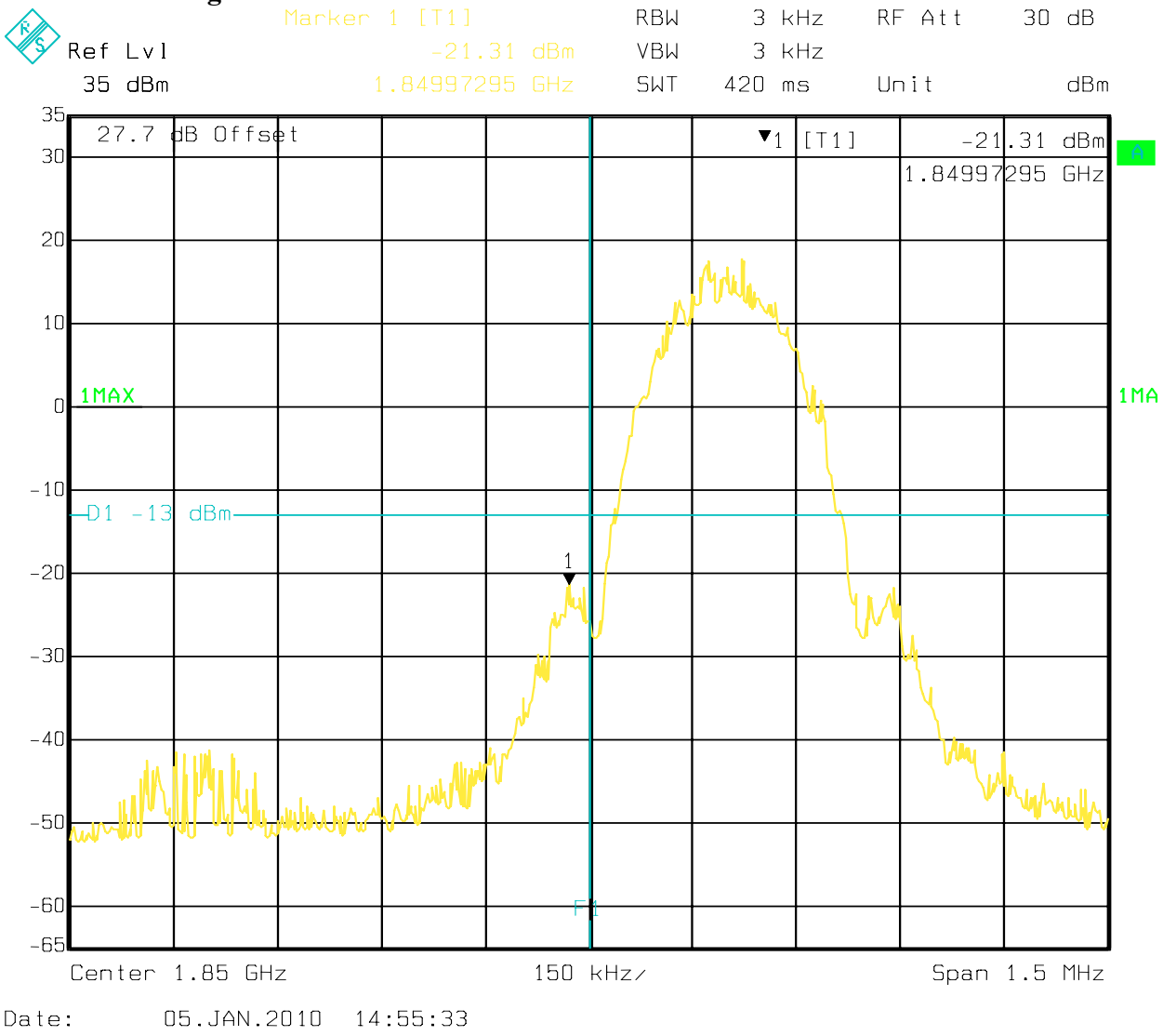
Lower Band Edge GSM1900 GSM



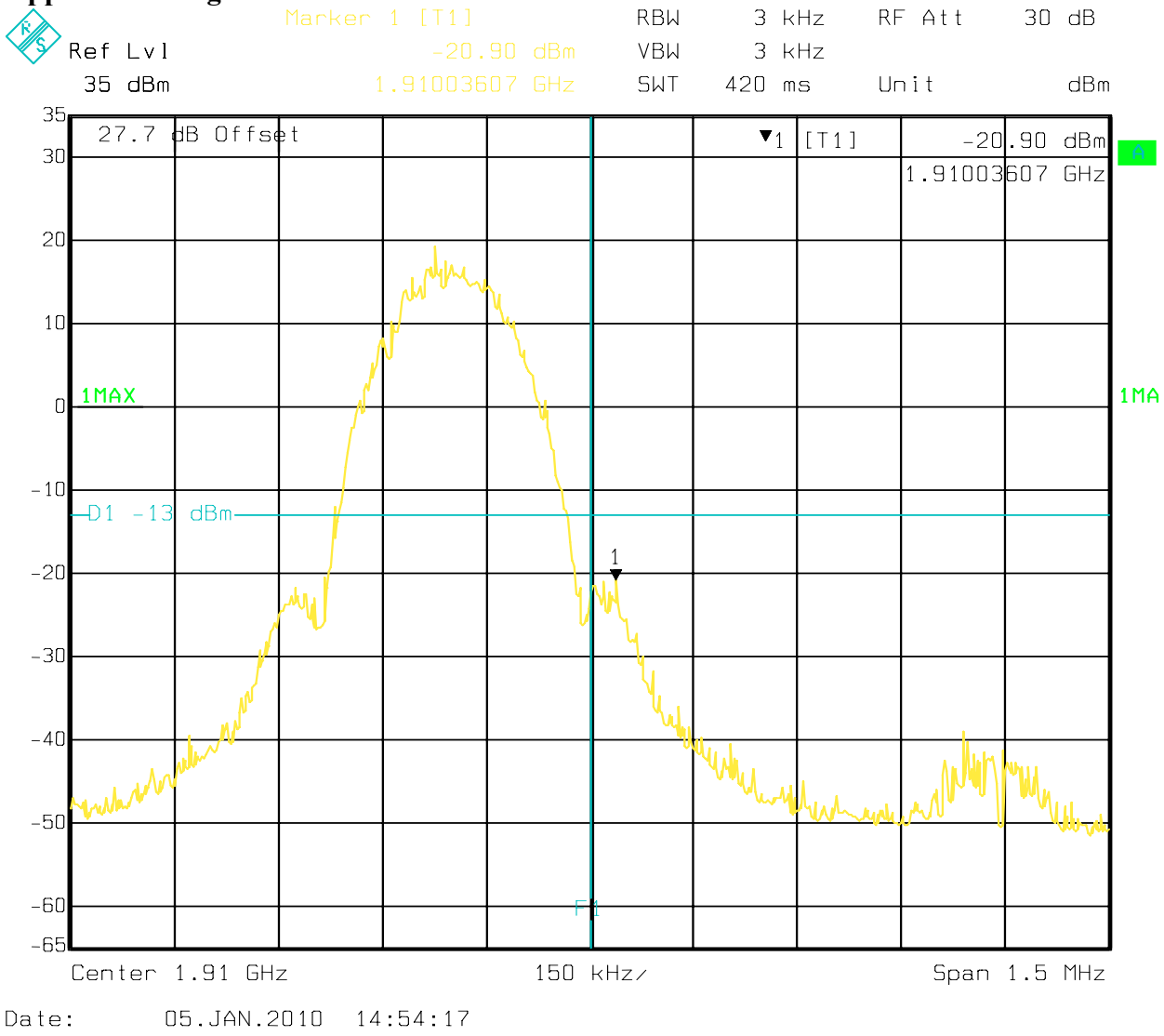
Upper Band Edge GSM1900 GSM



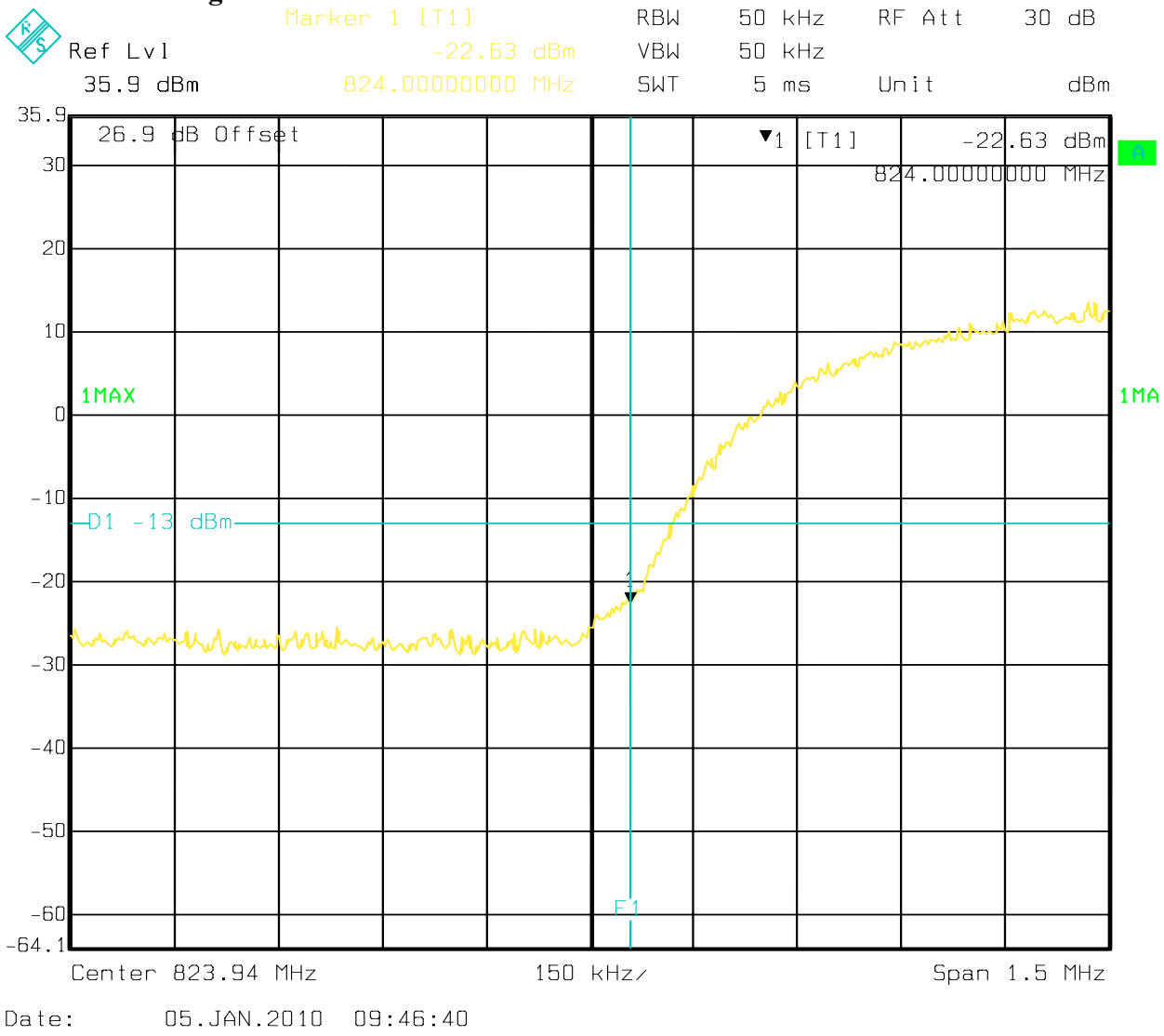
Lower Band Edge GSM1900 EGPRS



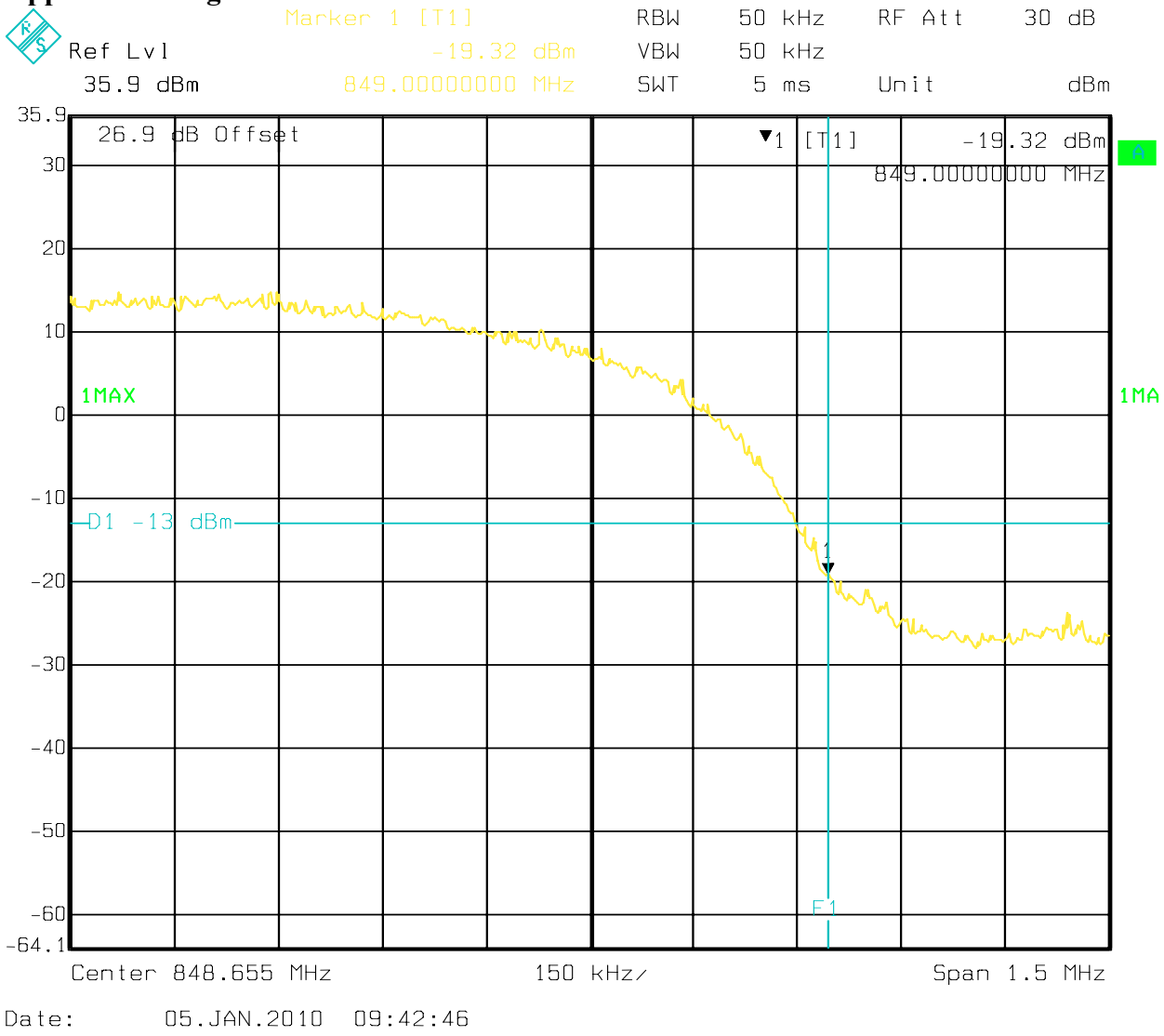
Upper Band Edge GSM1900 EGPRS



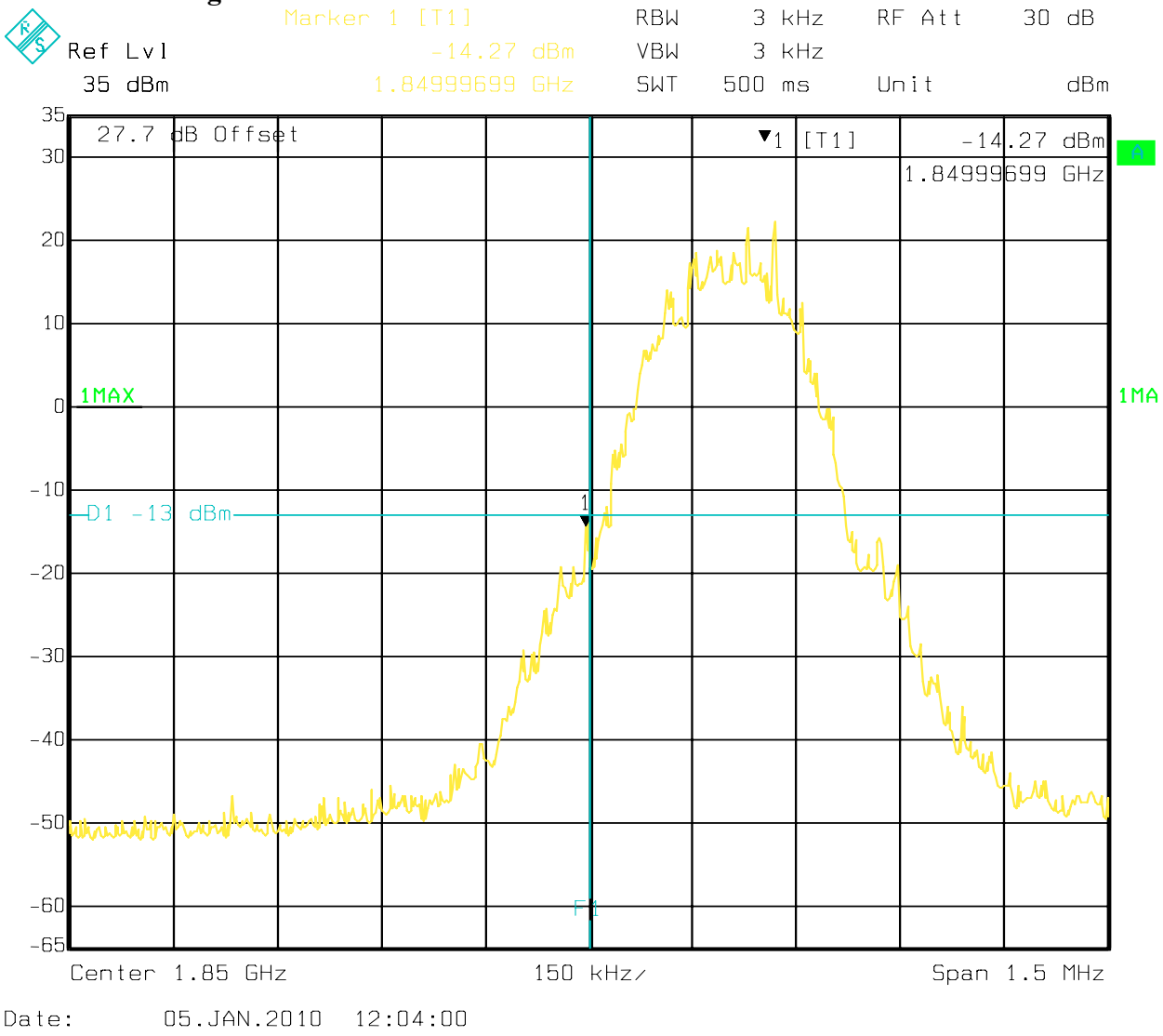
Lower Band Edge UMTS FDD5



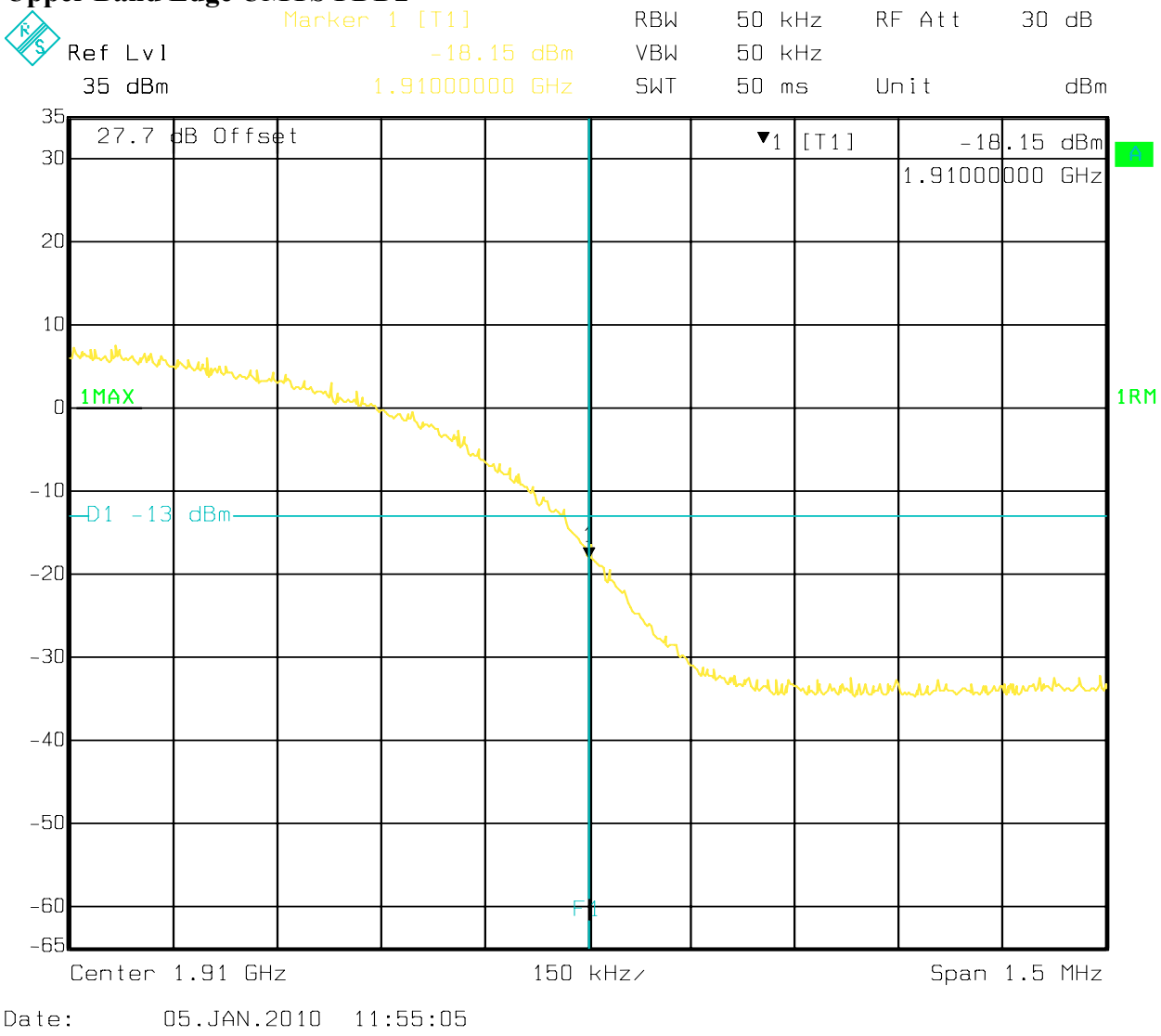
Upper Band Edge UMTS FDD5



Lower Band Edge UMTS FDD2



Upper Band Edge UMTS FDD2



5.5 Spurious Emissions Radiated

5.5.1 References

FCC: CFR Part 2.1053, CFR Part 22.917, CFR Part 24.238
IC: RSS 132 Section 4.5 and 6.5; RSS 133 Section 4.4

5.5.2 FCC 2.1053 Measurements required: Field strength of spurious radiation.

Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission.

5.5.3 Limits:

(a) *Out of band emissions*. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
For all power levels +30dBm to 0dBm, this becomes a constant specification of -13dBm.

5.5.3.1 FCC 22.917 Emission limitations for cellular equipment.

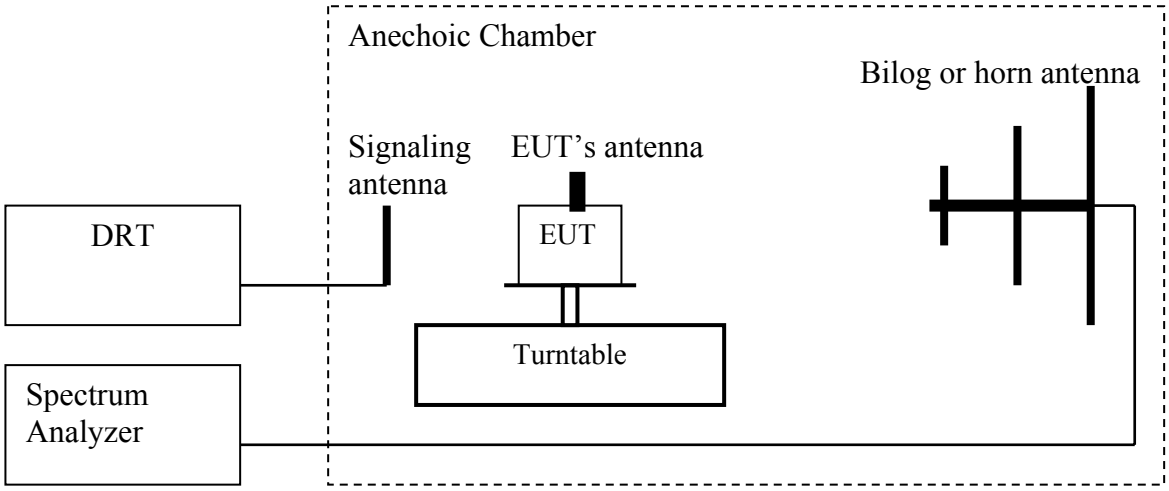
The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.
(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

5.5.3.2 FCC 24.238 Emission limitations for Broadband PCS equipment.

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.
(b) Measurement procedure. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

5.5.4 Radiated out of band measurement procedure:

Ref: TIA-603C 2004- 2.2.12 Unwanted emissions: Radiated Spurious



1. Connect the equipment as shown in the above diagram with the EUT's antenna in a horizontal orientation.
2. Adjust the settings of the Digital RadioCommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
3. Set the spectrum analyzer to measure peak hold with the required settings.
4. Place the measurement antenna in a horizontal orientation. Rotate the EUT 360°. Raise the measurement antenna up to 4 meters in 0.5 meters increments and rotate the EUT 360° at each height to maximize all emissions. Measure and record all spurious emissions (**LVL**) up to the tenth harmonic of the carrier frequency.
5. Replace the EUT with a horizontally polarized half wave dipole or known gain antenna. The center of the antenna should be at the same location as the center of the EUT's antenna.
6. Connect the antenna to a signal generator with known output power and record the path loss in dB (**LOSS)**. **LOSS** = Generator Output Power (dBm) – Analyzer reading (dBm).
7. Determine the level of spurious emissions using the following equation:
   Spurious (dBm) = **LVL** (dBm) + **LOSS** (dB):
8. Repeat steps 4, 5 and 6 with all antennas vertically polarized.
9. Determine the level of spurious emissions using the following equation:
   Spurious (dBm) = **LVL** (dBm) + **LOSS** (dB):
10. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.
    (N**ote:** Steps 5 and 6 above are performed prior to testing and **LOSS** is recorded by test software. Steps 3, 4 and 7 above are performed with test software.)

Spectrum analyzer settings: RBW=VBW=1MHz

Measurement Survey:

The site is constructed in accordance with ANSI C63.4 requirements and is recognized by the FCC to be in compliance for a 3m site. The spectrum is scanned from 30MHz to the 10th harmonic of the highest frequency generated by the EUT.
Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the GSM-850 & PCS-1900 bands. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the GSM-850 & PCS-1900 band into any of the other blocks respectively. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

Radiated emission measurements were made only with Circuit Switched mode GMSK modulation because this mode represents the worse case emission for all the modulations for GSM. All measurements are done in horizontal and vertical polarization; the plots show the worst case where it is not indicated otherwise.
Unless mentioned otherwise, the peaks in the plots are from the carrier frequency.

Radiated emissions measurements were made also with UMTS FDD mode where the EUT supports such technology.

5.5.5 Radiated out of band emissions results on EUT with standard cover and AC adapter #30 - Transmit Mode:

5.5.5.1 Test Results Transmitter Spurious Emission GSM850:

Harmonic	Tx ch-128 Freq. (MHz)	Level (dBm)	Tx ch-190 Freq. (MHz)	Level (dBm)	Tx ch-251 Freq. (MHz)	Level (dBm)
1	**824.2**	-	**836.6**	-	**848.8**	-
2	**1648.4**	NF	**1673.2**	NF	**1697.6**	NF
3	**2472.6**	NF	**2509.8**	NF	**2546.4**	NF
4	**3296.8**	NF	**3346.4**	NF	**3395.2**	NF
5	**4121**	NF	**4183**	NF	**4244**	NF
6	**4945.2**	NF	**5019.6**	NF	**5092.8**	NF
7	**5769.4**	NF	**5856.2**	NF	**5941.6**	NF
8	**6593.6**	NF	**6692.8**	NF	**6790.4**	NF
9	**7417.8**	NF	**7529.4**	NF	**7639.2**	NF
10	**8242**	NF	**8366**	NF	**8488**	NF
NF = Noise Floor						

Radiated Spurious Emissions (GSM-850) Tx: 30MHz – 1GHz

Low Channel

***Peak over the limit is the carrier frequency**

Low - 128 1 / 1

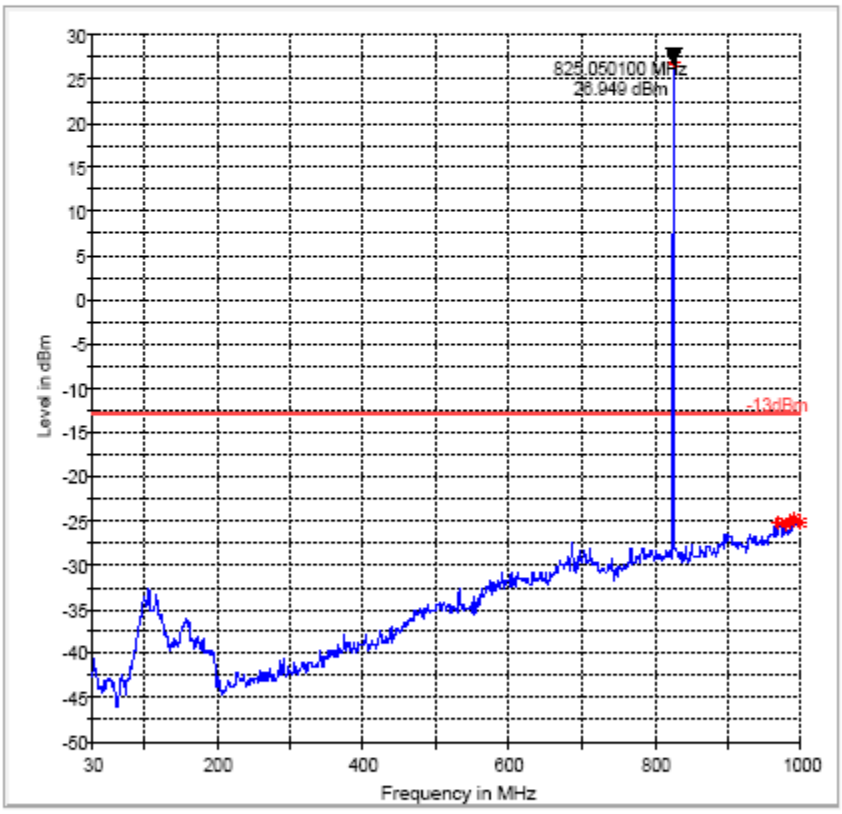
Low - 128

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:02:18

Mid Channel
***Peak over the limit is the carrier frequency**

30-1 CH 190 1 / 1

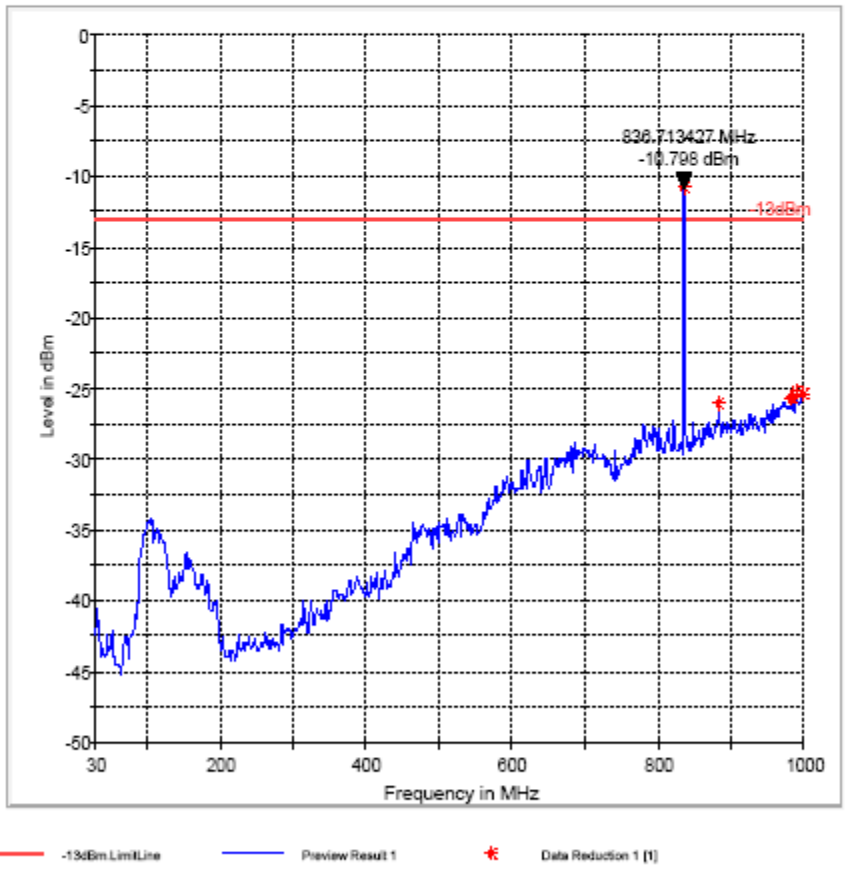
30-1 CH 190

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

FCC 22 30-1000MHz



12/22/2009 smoon EMC32 V8.10.10 6:57:22

High Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

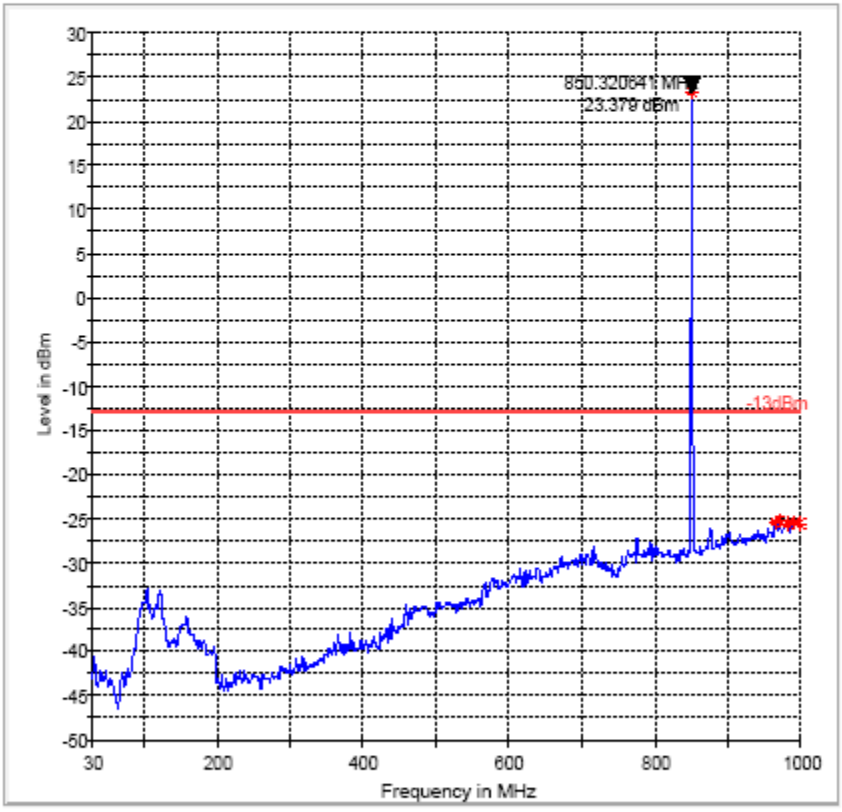
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:06:19

Radiated Spurious Emissions (GSM-850): 1GHz – 9GHz
Low Channel

EMI Auto Test(1) 1 / 1

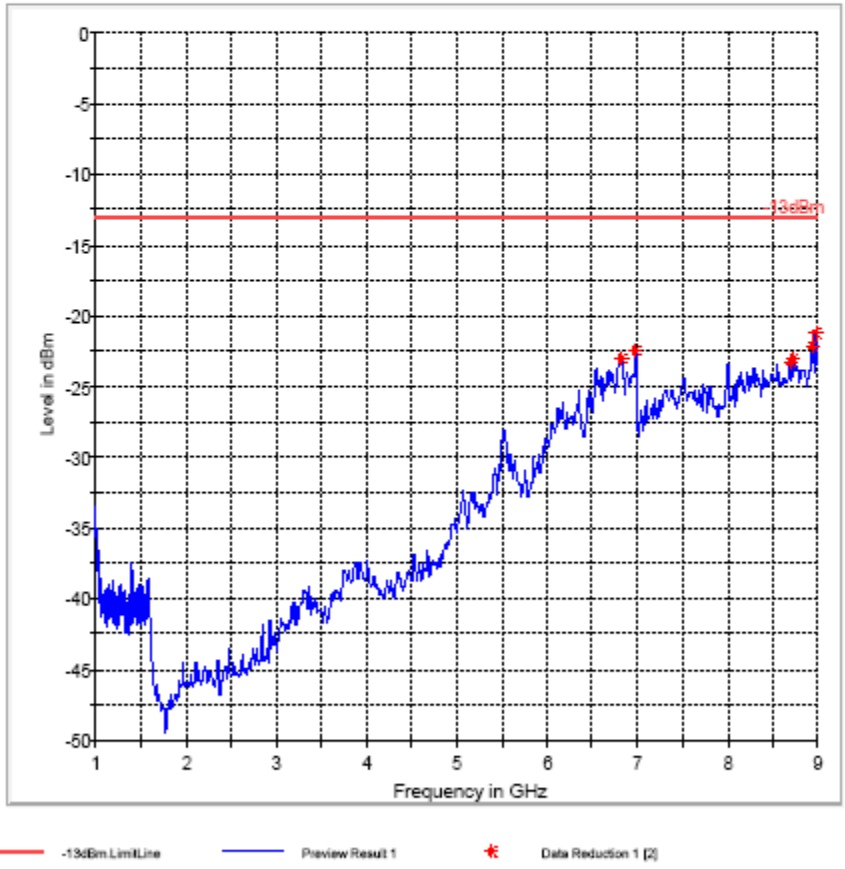
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

FCC 22 1-9GHz



12/21/2009 smoon EMC32 V8.10.10 11:20:52

Mid Channel

EMI Auto Test(1) 1 / 1

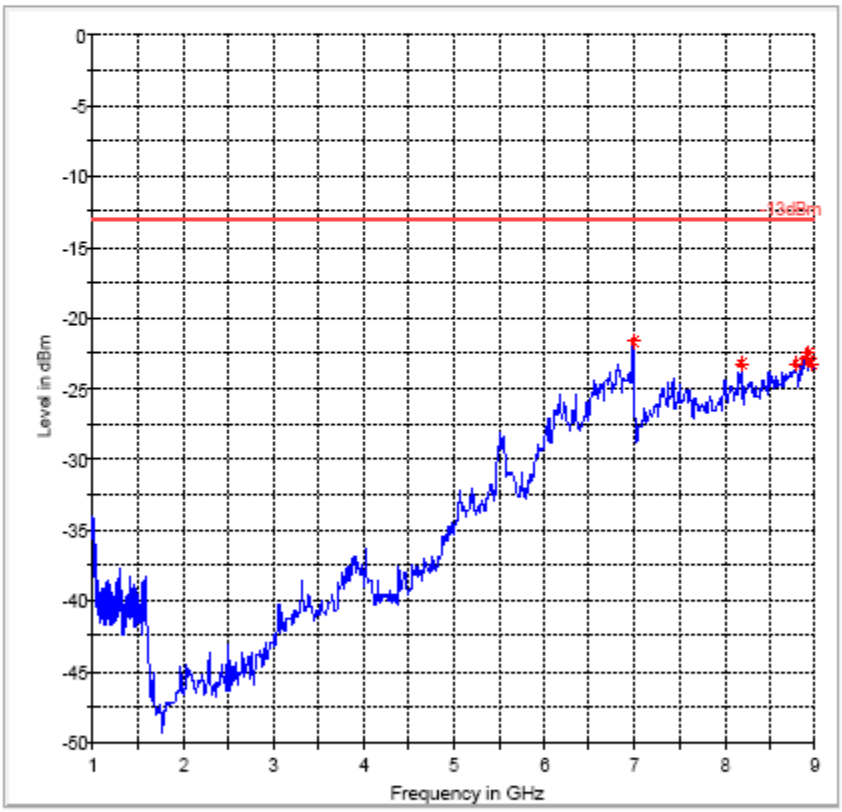
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

FCC 22 1-9GHz



12/21/2009 smoon EMC32 V8.10.10 11:36:16

High Channel

EMI Auto Test(1) 1 / 1

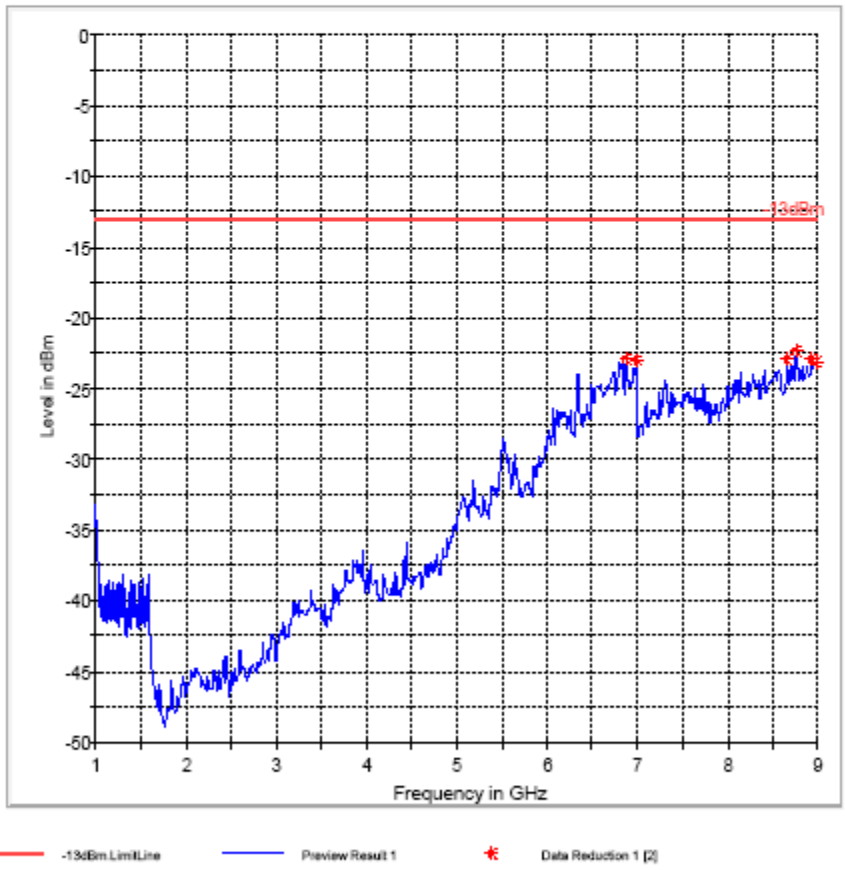
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

FCC 22 1-9GHz



12/21/2009 smoon EMC32 V8.10.10 11:49:04

5.5.5.2 Test Results Transmitter Spurious Emission UMTS FDDV

Harmonic	Tx ch-4132 Freq. (MHz)	Level (dBm)	Tx ch-4183 Freq. (MHz)	Level (dBm)	Tx ch-4233 Freq. (MHz)	Level (dBm)
1	**826.4**	-	**836.6**	-	**846.6**	-
2	**1652.8**	NF	**1673.2**	NF	**1693.2**	NF
3	**2479.2**	NF	**2509.8**	NF	**2539.8**	NF
4	**3305.6**	NF	**3346.4**	NF	**3386.4**	NF
5	**4132**	NF	**4183**	NF	**4233**	NF
6	**4958.4**	NF	**5019.6**	NF	**5079.6**	NF
7	**5784.8**	NF	**5856.2**	NF	**5926.2**	NF
8	**6611.2**	NF	**6692.8**	NF	**6772.8**	NF
9	**7437.6**	NF	**7529.4**	NF	**7619.4**	NF
10	**8264**	NF	**8366**	NF	**8466**	NF
NF= Noise Floor						

Radiated Spurious Emissions (UMTS FDDV) Tx: 30MHz – 1GHz
Low Channel
***Peak over the limit is the carrier frequency**

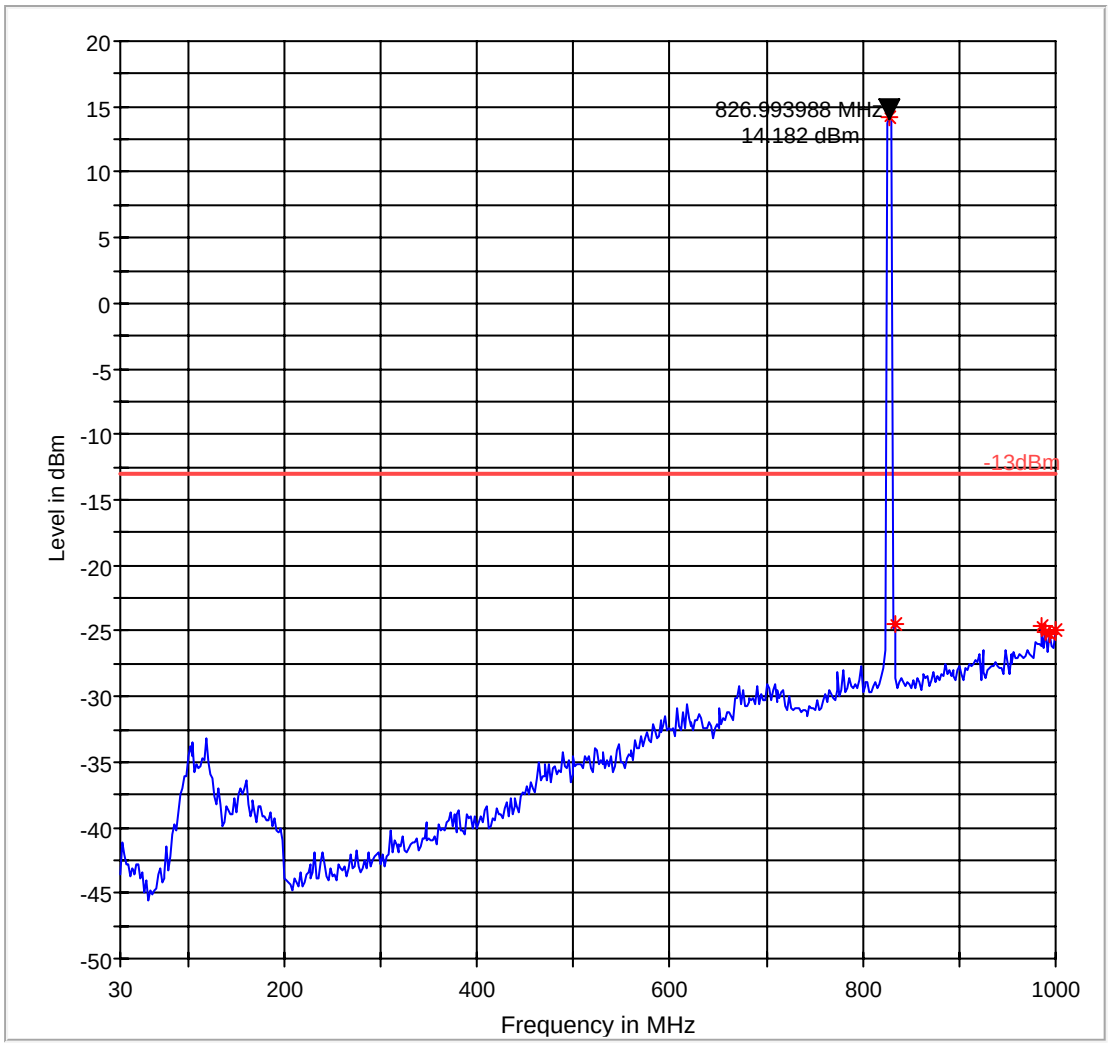
FCC 22 30-1000MHz Low Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 22 30-1000MHz



Mid Channel
***Peak over the limit is the carrier frequency**

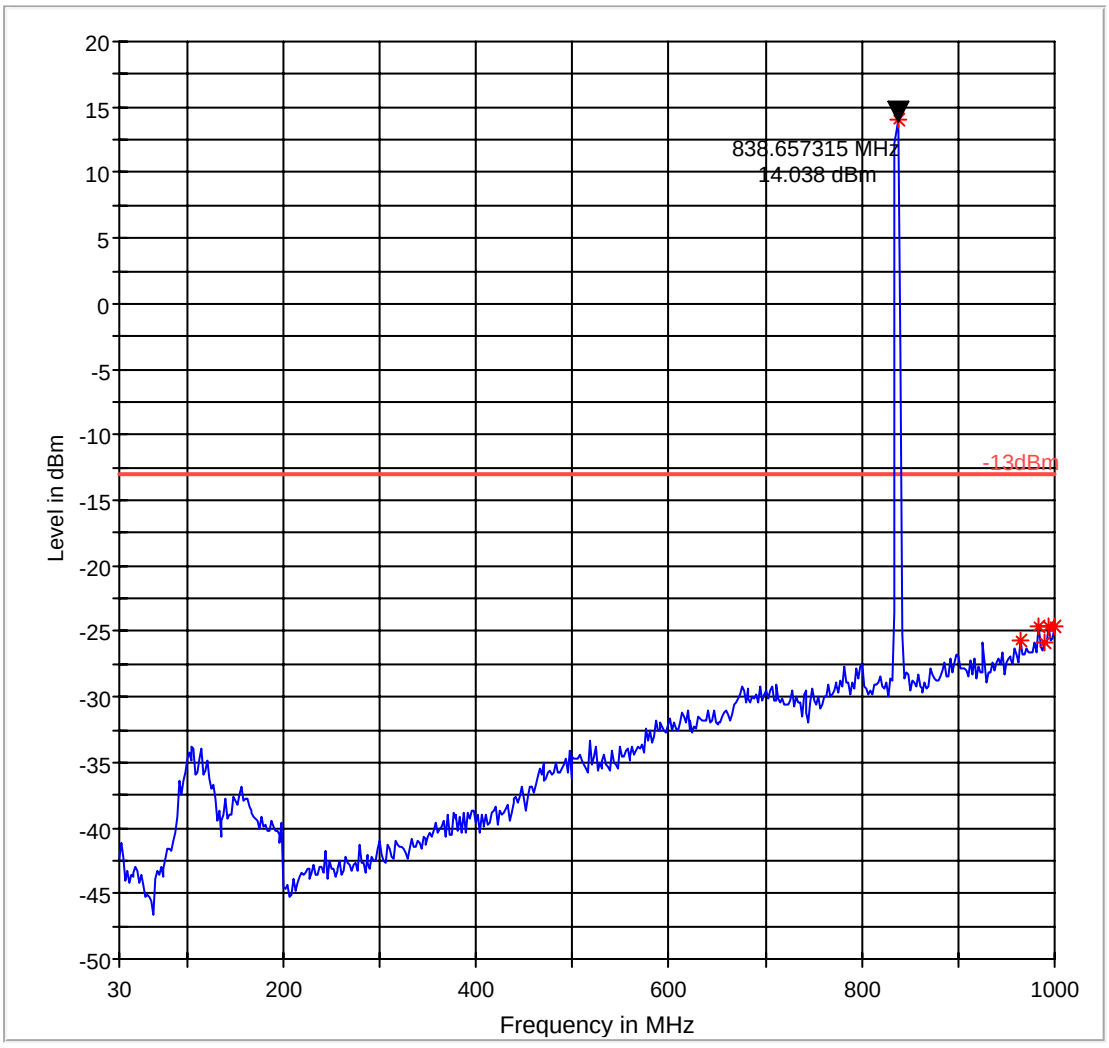
FCC 22 30-1000MHz Mid Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 22 30-1000MHz



High Channel
***Peak over the limit is the carrier frequency**

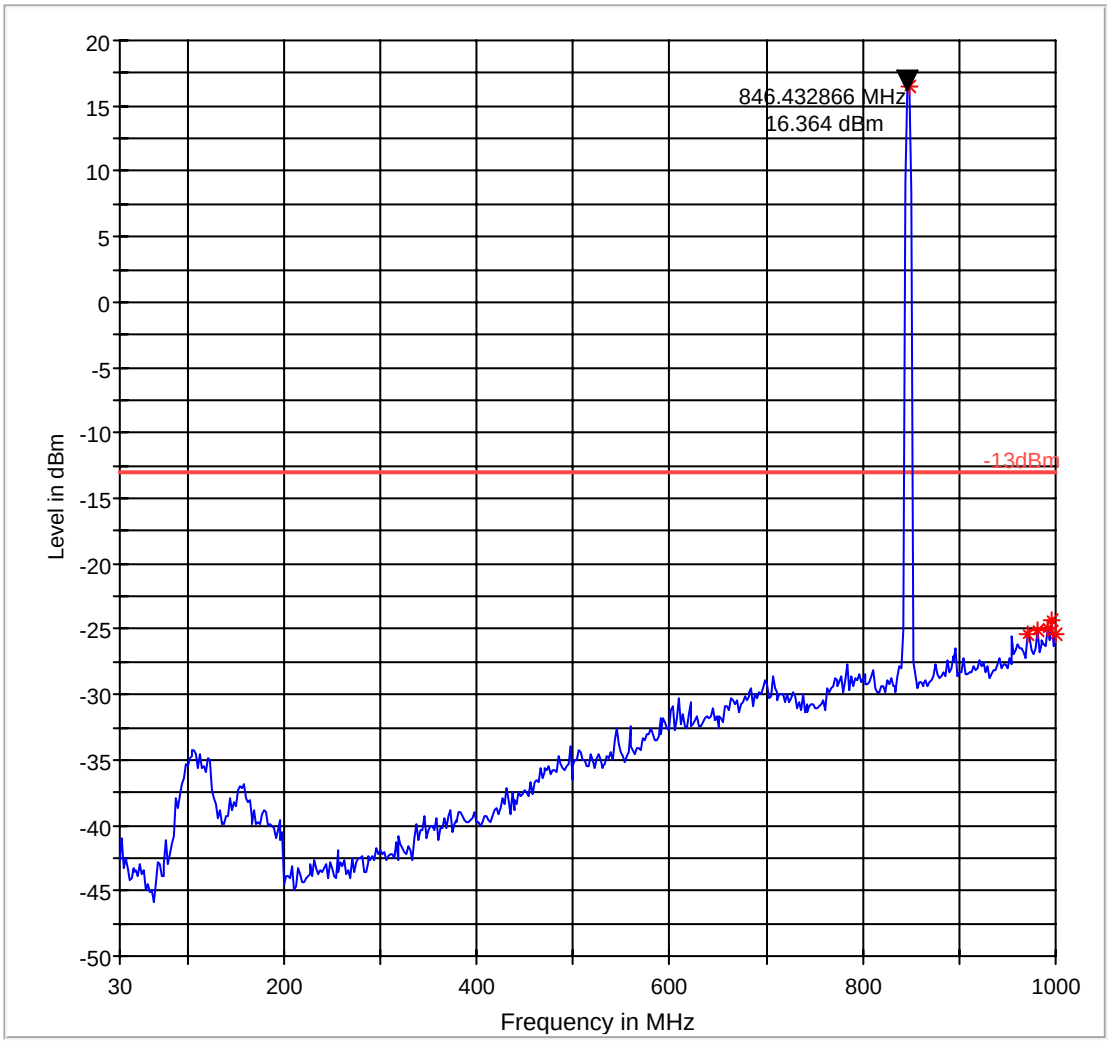
FCC 22 30-1000MHz High Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 22 30-1000MHz



Radiated Spurious Emissions (UMTS FDDV) Tx: 1GHz – 9GHz
Low Channel

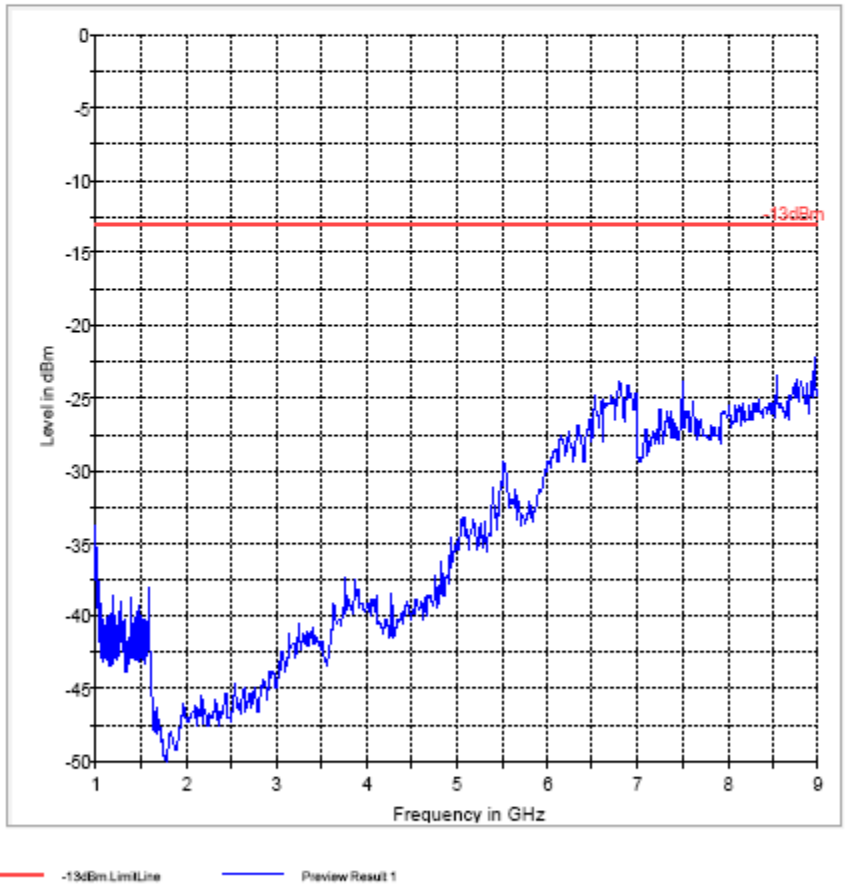
FCC 22 1-9GHz Low Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 22 1-9GHz



Mid Channel

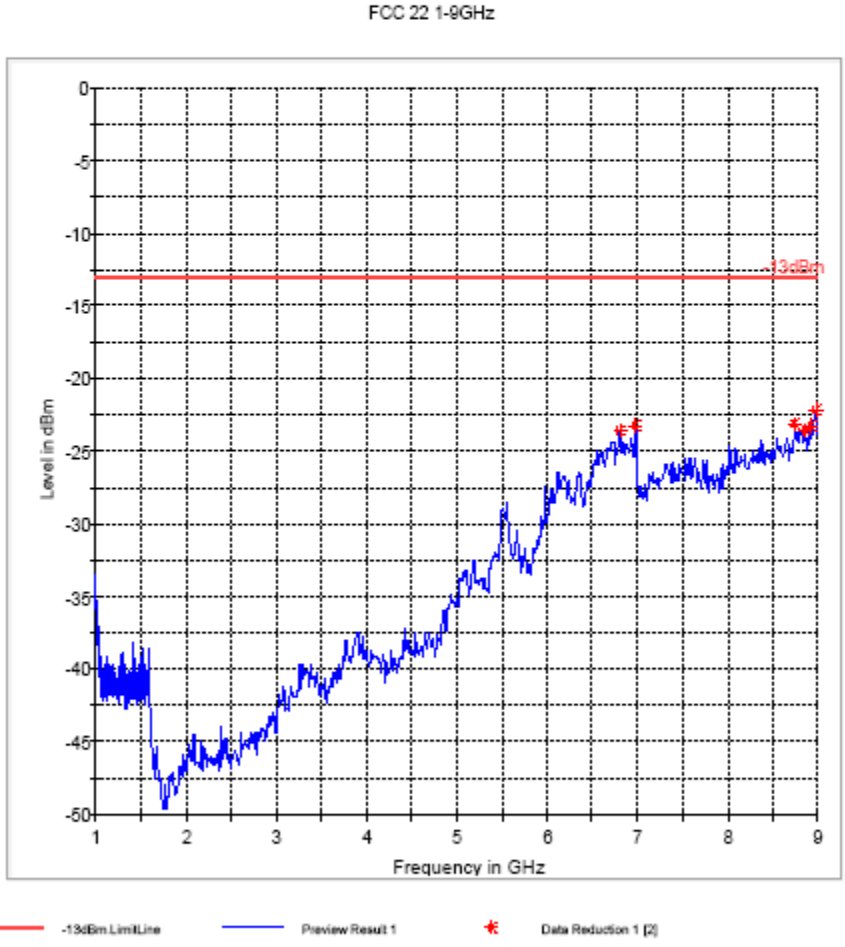
FCC 22 1-9GHz Mid Channel 1 / 1

FCC 22 1-9GHz Mid Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	



1/6/2010 smoon EMC32 V8.10.10 11:32:18

High Channel

FCC 22 1-9GHz High Channel 1 / 1

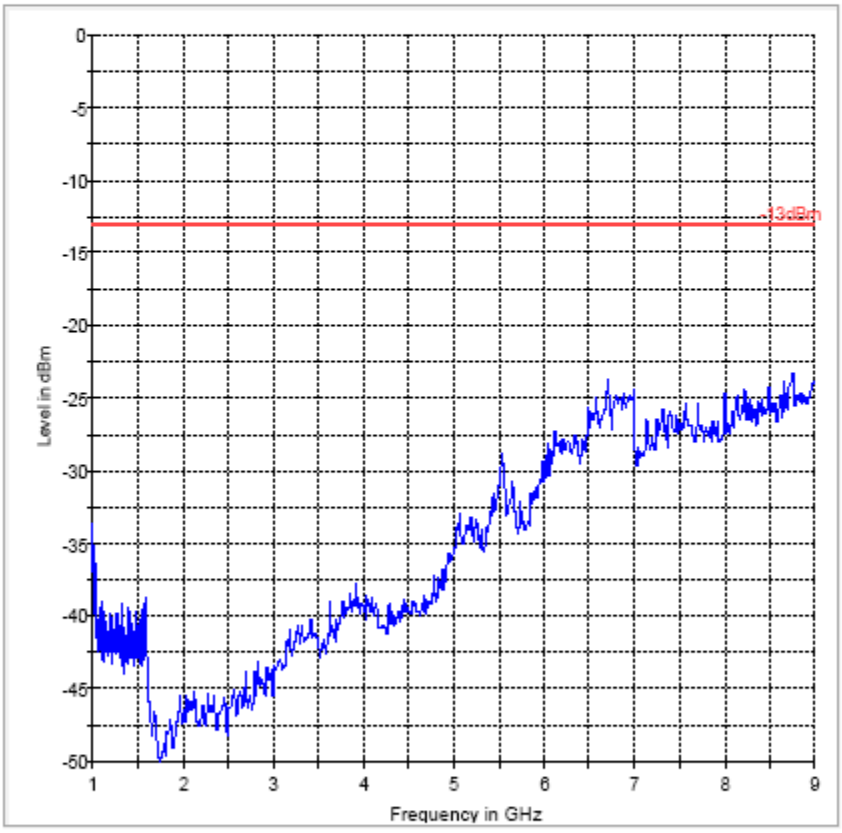
FCC 22 1-9GHz High Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 22 1-9GHz



1/6/2010 smoon EMC32 V8.10.10 11:41:49

5.5.5.3 Test Results Transmitter Spurious Emission PCS-1900:

Harmonic	Tx ch-512 Freq.(MHz)	Level (dBm)	Tx ch-661 Freq. (MHz)	Level (dBm)	Tx ch-810 Freq. (MHz)	Level (dBm)
1	**1850.2**	-	**1880.0**	-	**1909.8**	-
2	**3700.4**	NF	**3760**	NF	**3819.6**	NF
3	**5550.6**	NF	**5640**	NF	**5729.4**	NF
4	**7400.8**	NF	**7520**	NF	**7639.2**	NF
5	**9251**	NF	**9400**	NF	**9549**	NF
6	**11101.2**	NF	**11280**	NF	**11458.8**	NF
7	**12951.4**	NF	**13160**	NF	**13368.6**	NF
8	**14801.6**	NF	**15040**	NF	**15278.4**	NF
9	**16651.8**	NF	**16920**	NF	**17188.2**	NF
10	**18502**	NF	**18800**	NF	**19098**	NF
NF = Noise Floor						

Radiated Spurious Emissions (PCS 1900) Tx: 30MHz – 1GHz
Low Channel

EMI Auto Test(1) 1 / 1

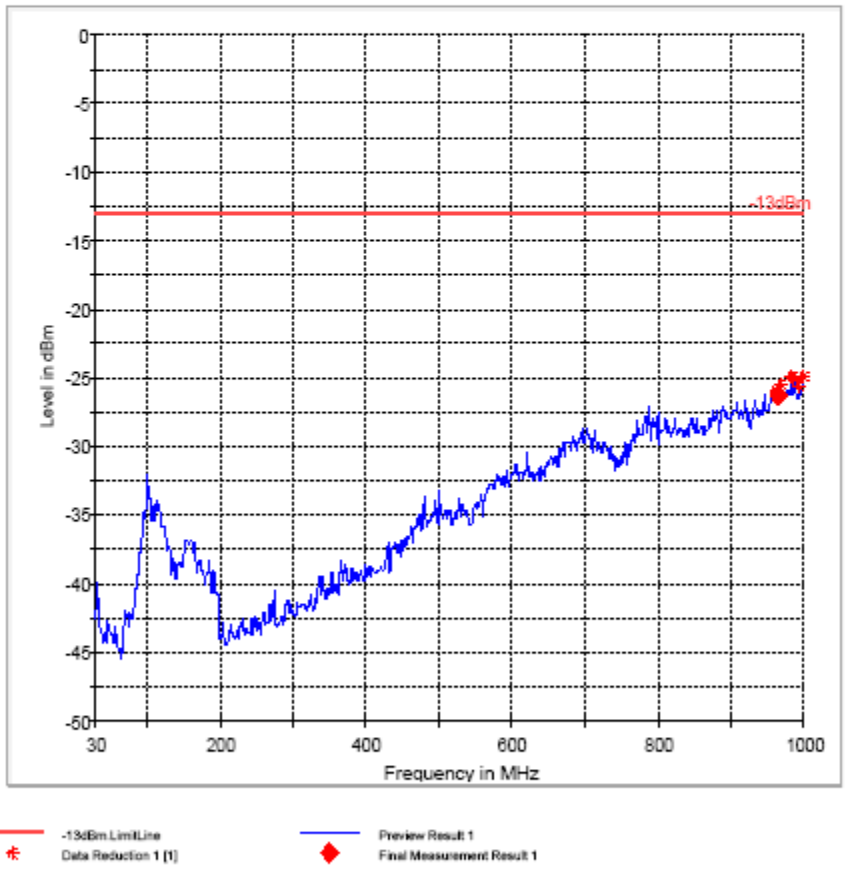
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:12:40

Mid Channel

EMI Auto Test(1) 1 / 1

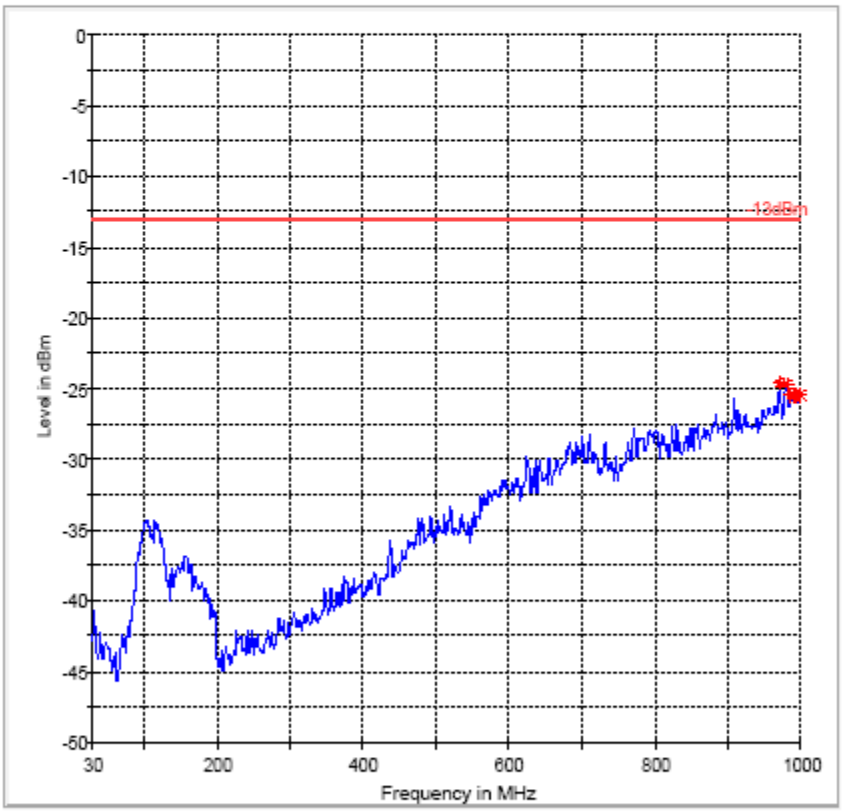
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:18:50

High Channel

EMI Auto Test(1) 1 / 1

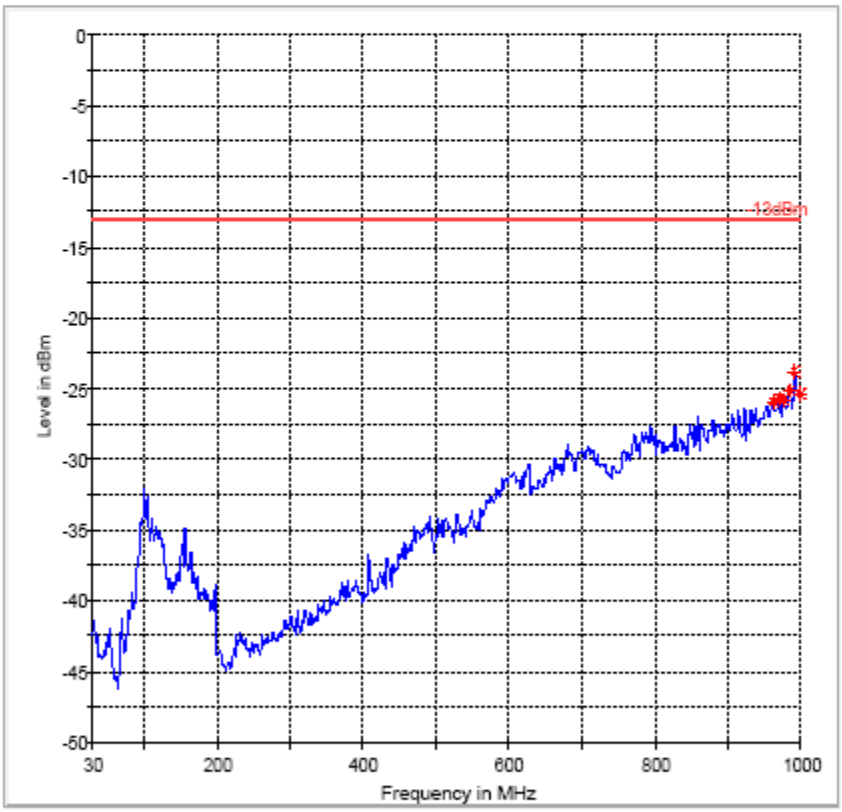
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Black Cover / AC Adapter #30 / No Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:22:13

Radiated Spurious Emissions (PCS 1900) Tx: 1GHz – 18GHz
Low Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

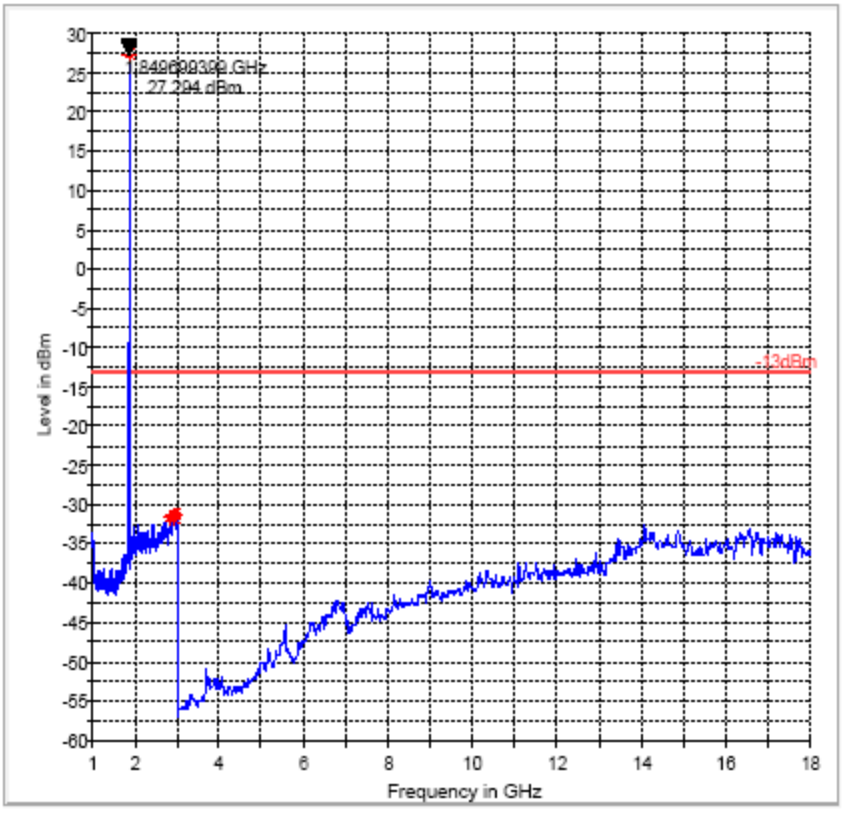
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

FCC 24 1-18GHz



12/21/2009 smoon EMC32 V8.10.10 9:13:49

Mid Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

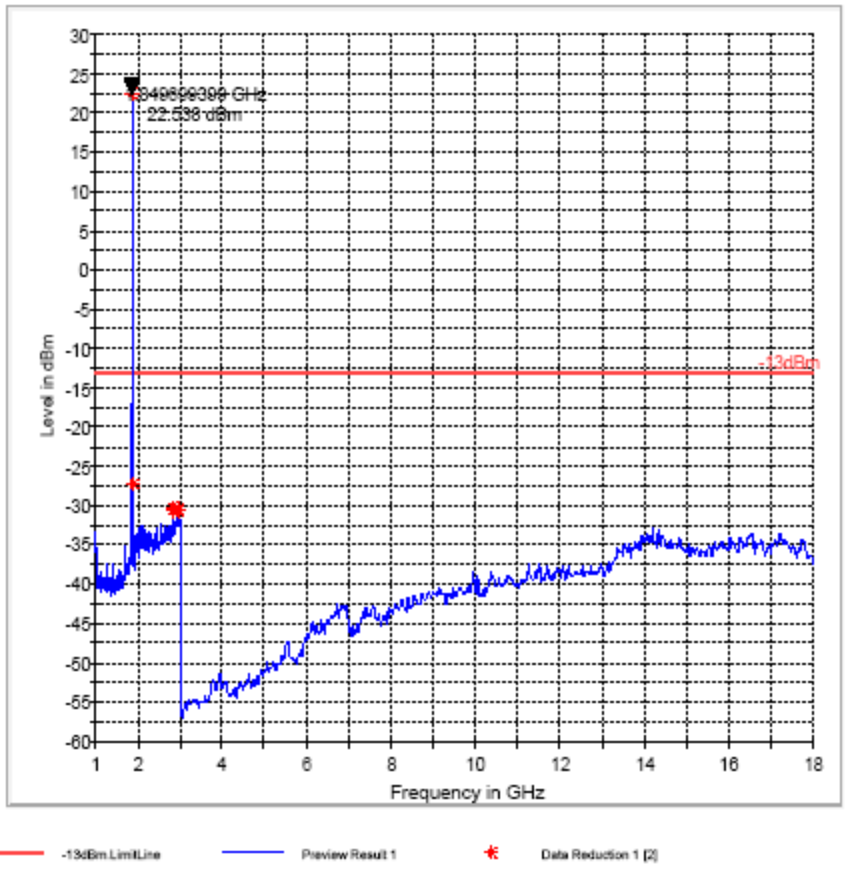
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

FCC 24 1-18GHz



12/21/2009 smoon EMC32 V8.10.10 9:28:05

High Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

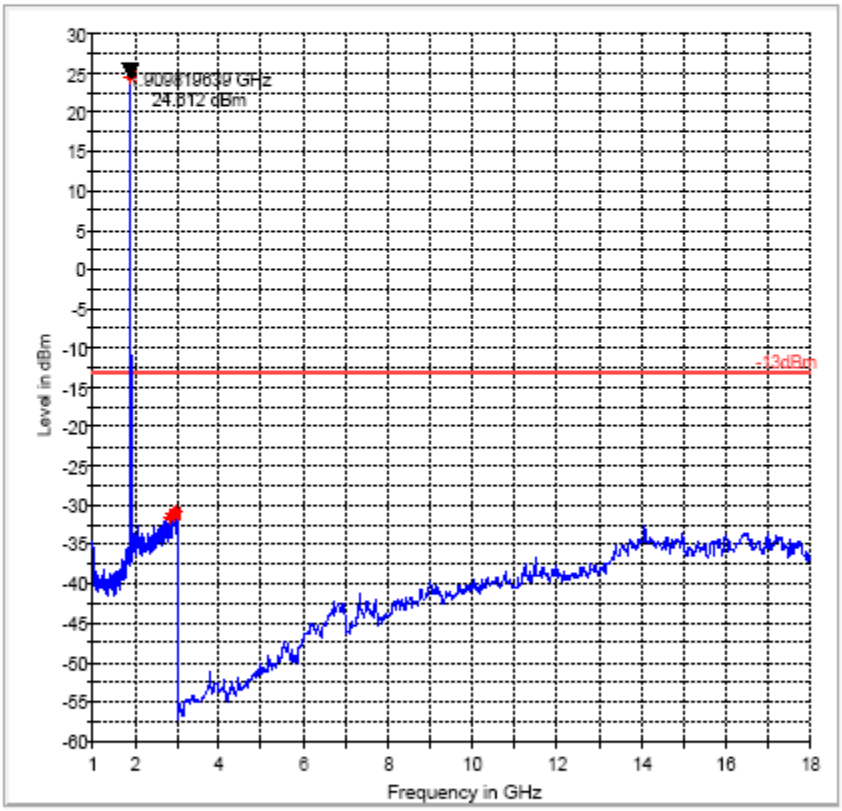
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Standard Cover w/ AC Adapter #30

FCC 24 1-18GHz



12/21/2009 smoon EMC32 V8.10.10 9:40:51

Radiated Spurious Emissions (PCS 1900) Tx: 18GHz – 19.1GHz
Low Channel

EMI Auto Test(1) 1 / 1

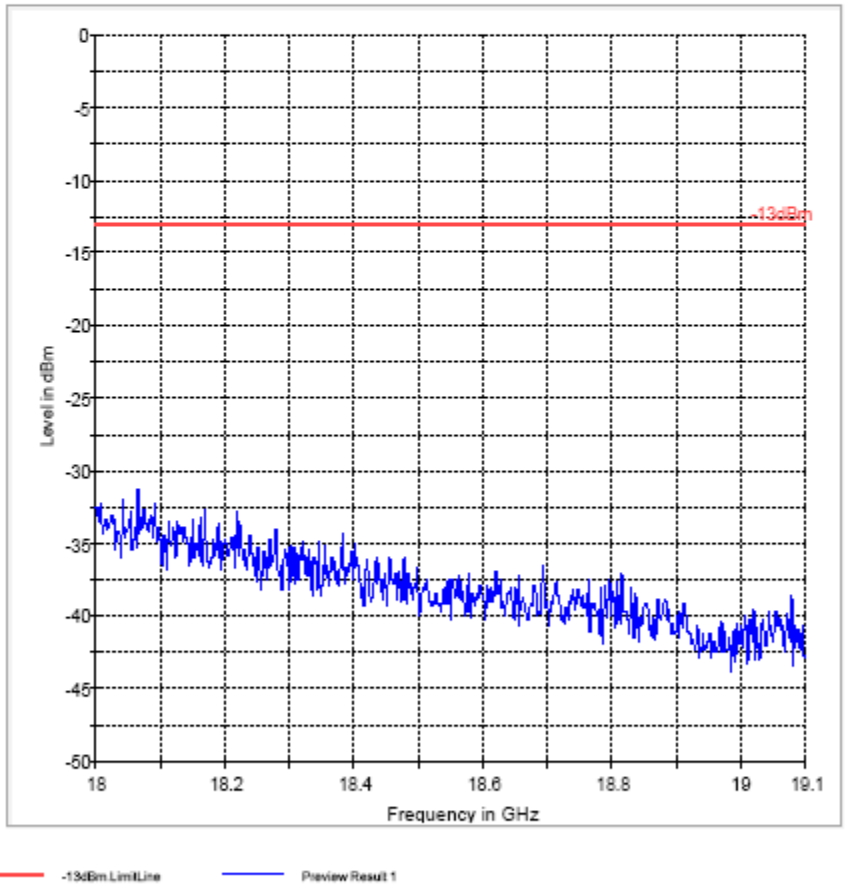
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	1900 CH 512

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 1:43:49

Mid Channel

EMI Auto Test(1) 1 / 1

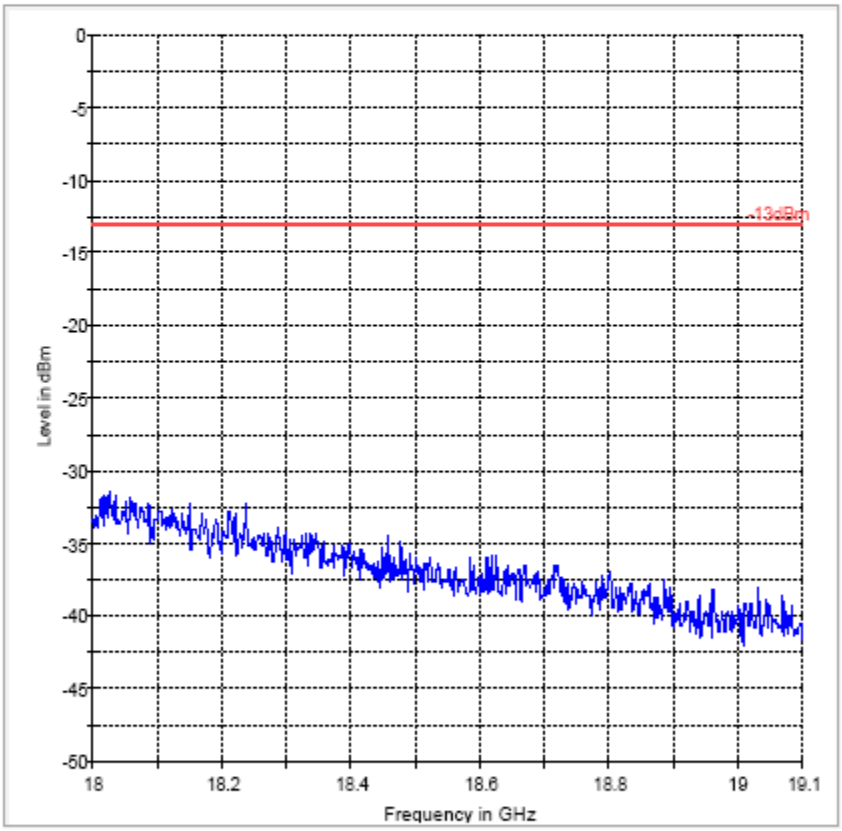
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	1900 CH 661

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 1:52:22

High Channel

EMI Auto Test(1) 1 / 1

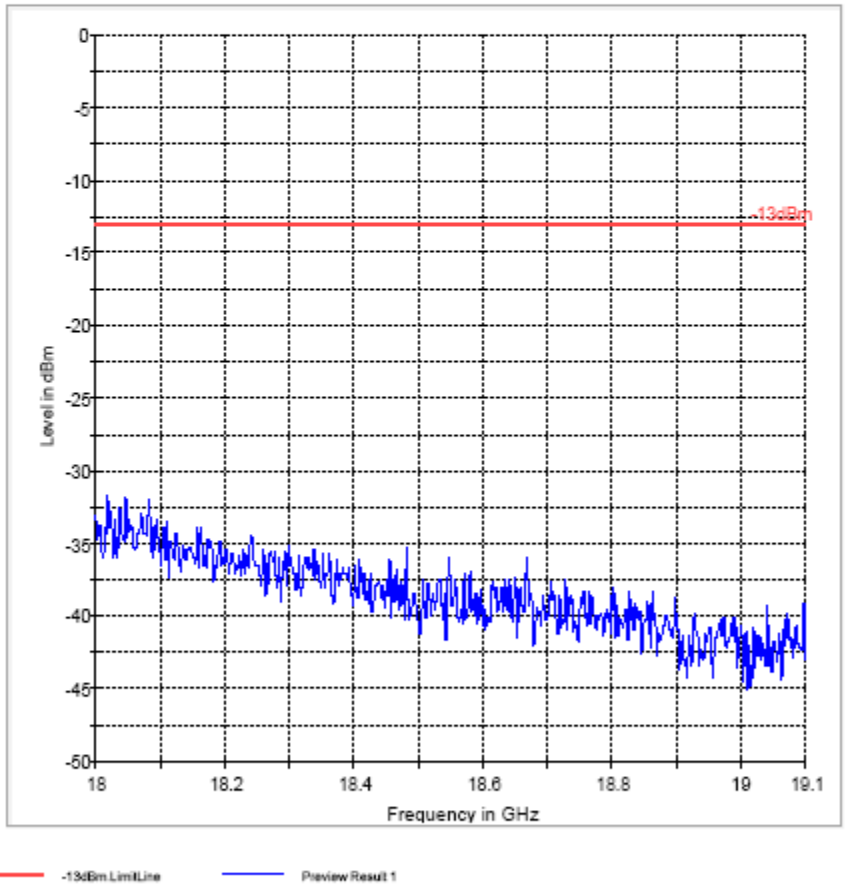
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	1900 CH 810

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 1:58:16

5.5.5.4 Test Results Transmitter Spurious Emission UMTS FDD2:

Harmonic	Tx ch-9262 Freq. (MHz)	Level (dBm)	Tx ch-9400 Freq. (MHz)	Level (dBm)	Tx ch-9538 Freq. (MHz)	Level (dBm)
1	**1852.4**	-	**1880.0**	-	**1907.6**	-
2	**3704.8**	NF	**3760**	NF	**3815.2**	NF
3	**5557.2**	NF	**5640**	NF	**5722.8**	NF
4	**7409.6**	NF	**7520**	NF	**7630.4**	NF
5	**9262**	NF	**9400**	NF	**9538**	NF
6	**11114.4**	NF	**11280**	NF	**11445.6**	NF
7	**12966.8**	NF	**13160**	NF	**13353.2**	NF
8	**14819.2**	NF	**15040**	NF	**15260.8**	NF
9	**16671.6**	NF	**16920**	NF	**17168.4**	NF
10	**18524**	NF	**18800**	NF	**19076**	NF
NF= Noise Floor						

Radiated Spurious Emissions (UMTS FDDII) Tx: 30MHz – 1GHz
Low Channel

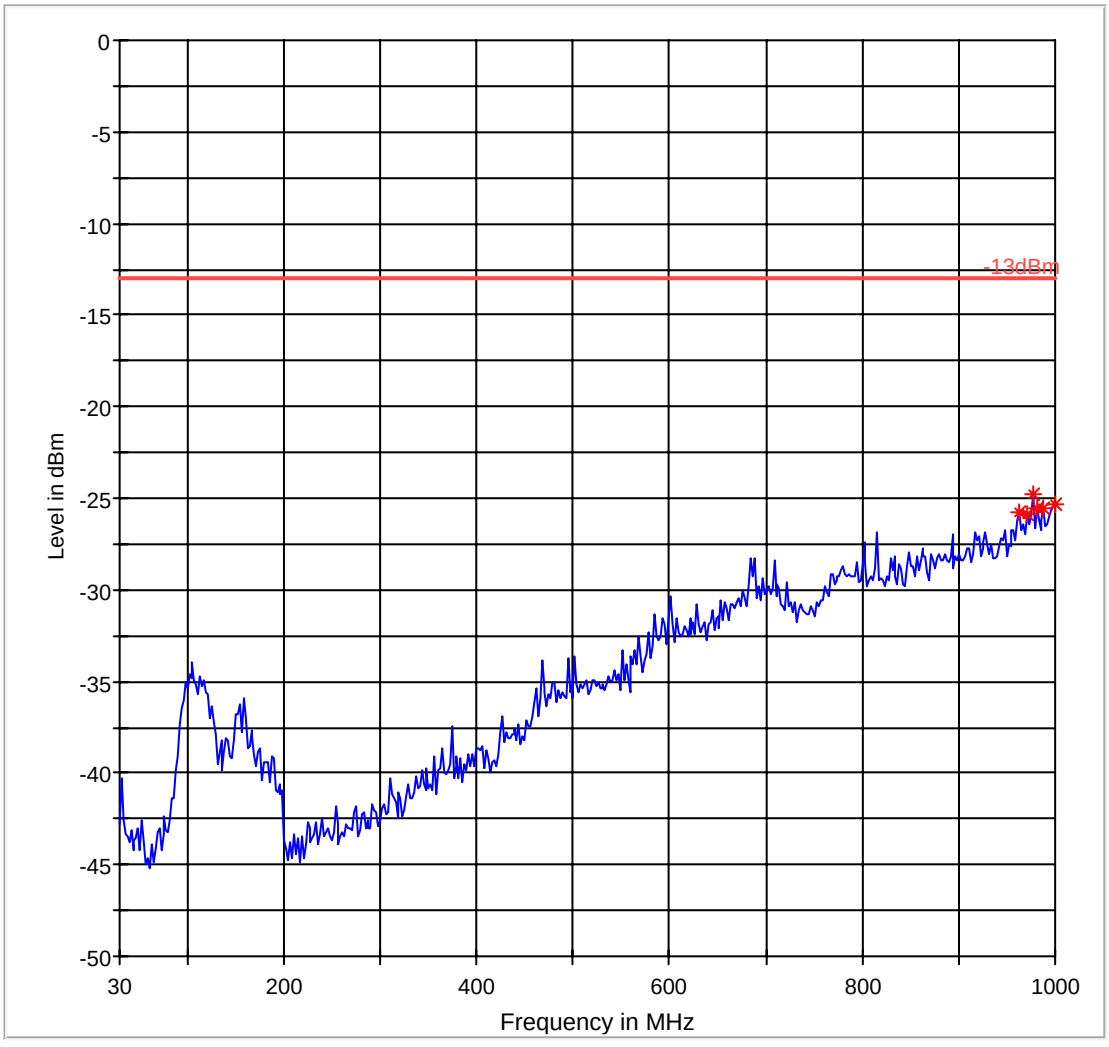
FCC 24 30-1000MHz Low Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 22 30-1000MHz



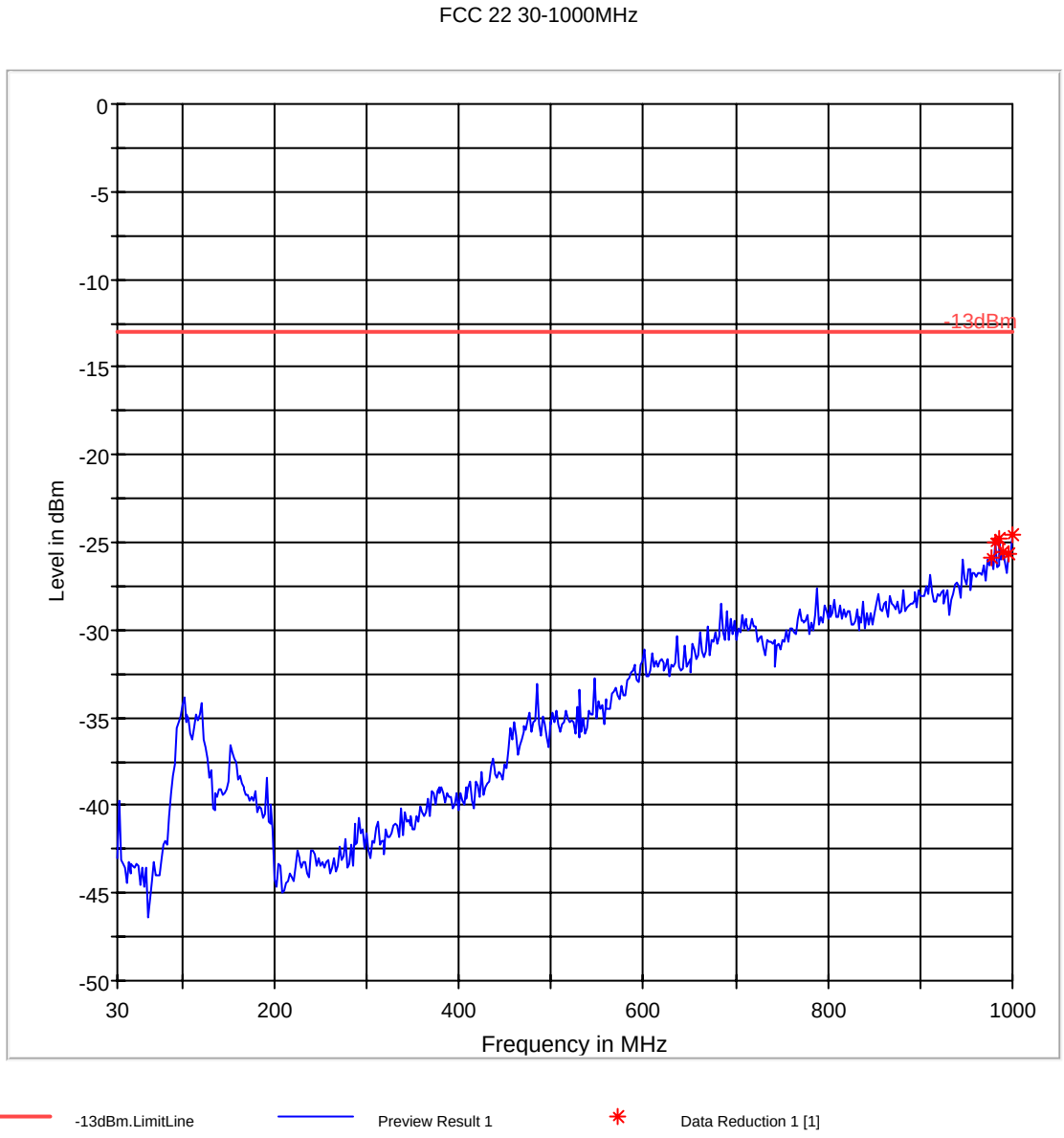
Mid Channel

FCC 24 30-1000MHz Mid Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	



High Channel

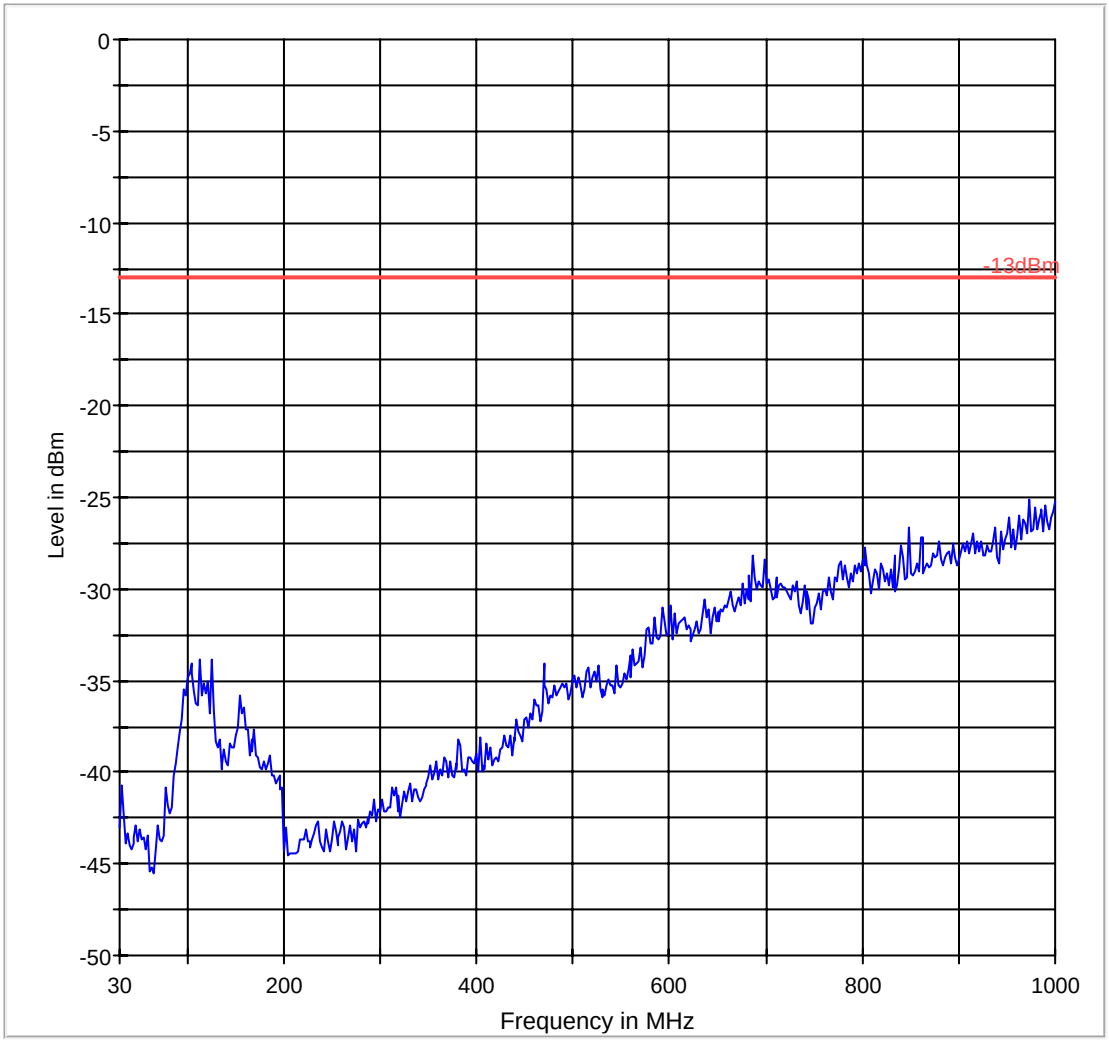
FCC 24 30-1000MHz High Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 22 30-1000MHz



Radiated Spurious Emissions (UMTS FDDII) Tx: 1GHz –18GHz
Low Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

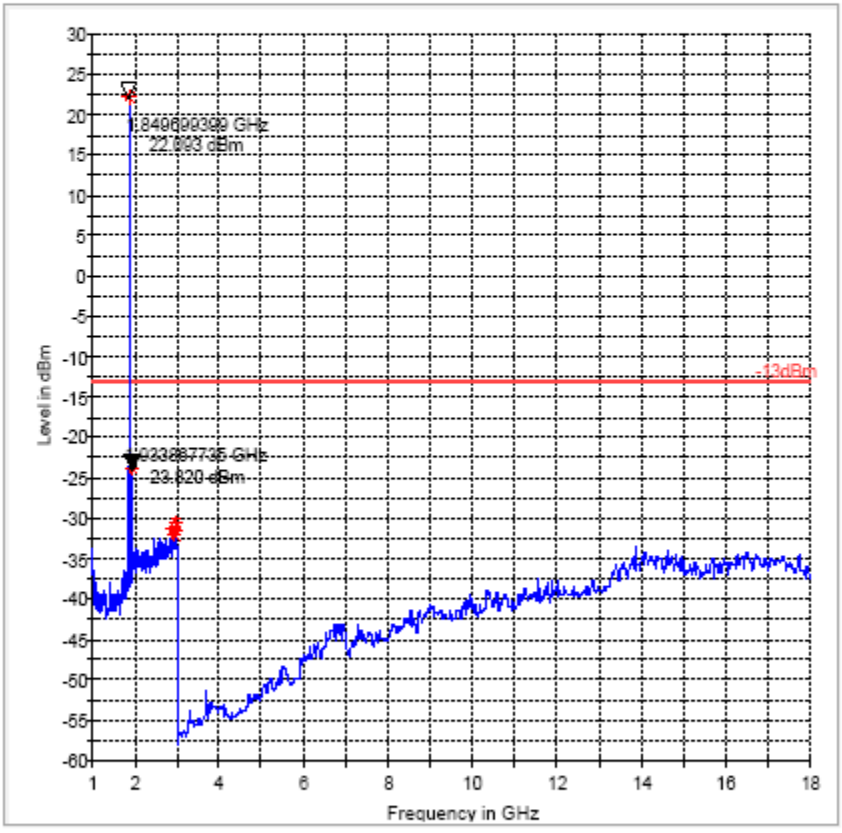
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 24 1-18GHz



1/4/2010 knavares EMC32 V8.10.10 7:00:59

Mid Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

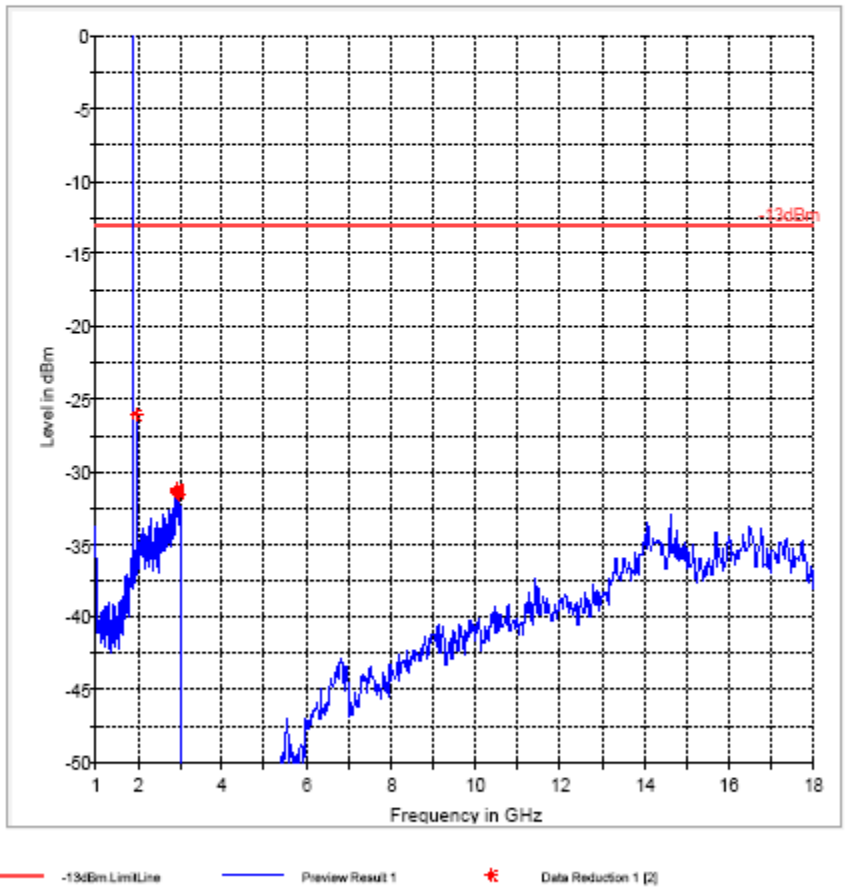
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 24 1-18GHz



1/4/2010 knavares EMC32 V8.10.10 7:11:59

High Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

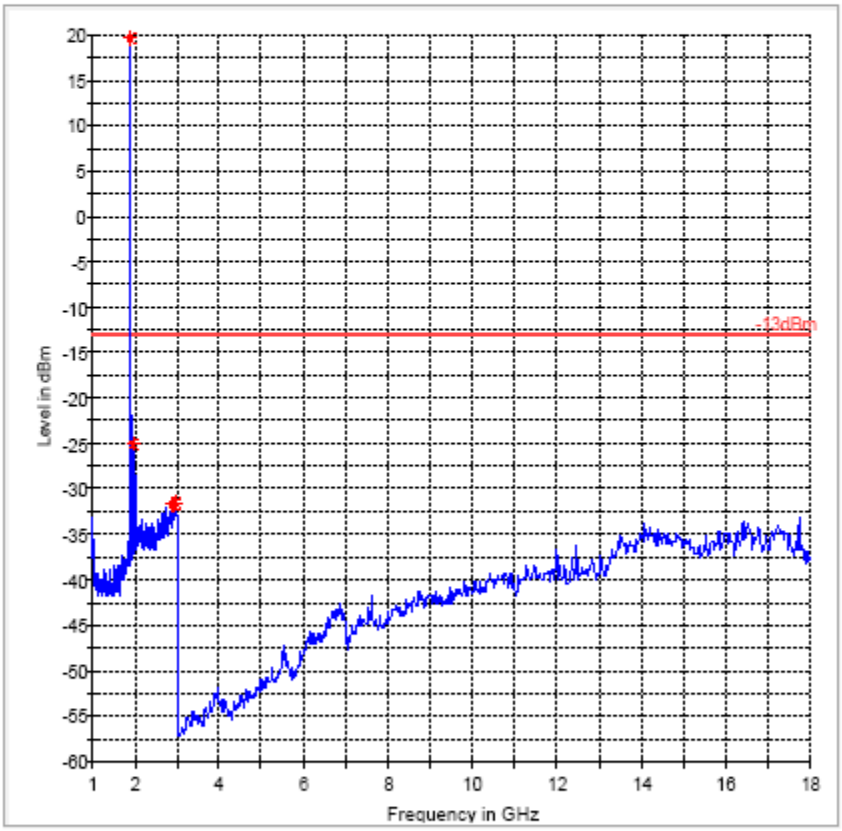
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Standard Cover and AC adapter #30
Comment:	

FCC 24 1-18GHz



1/4/2010 knavares EMC32 V8.10.10 7:22:13

Radiated Spurious Emissions (UMTS FDDII) Tx: 18GHz –19.1GHz
Low Channel

EMI Auto Test(1) 1 / 1

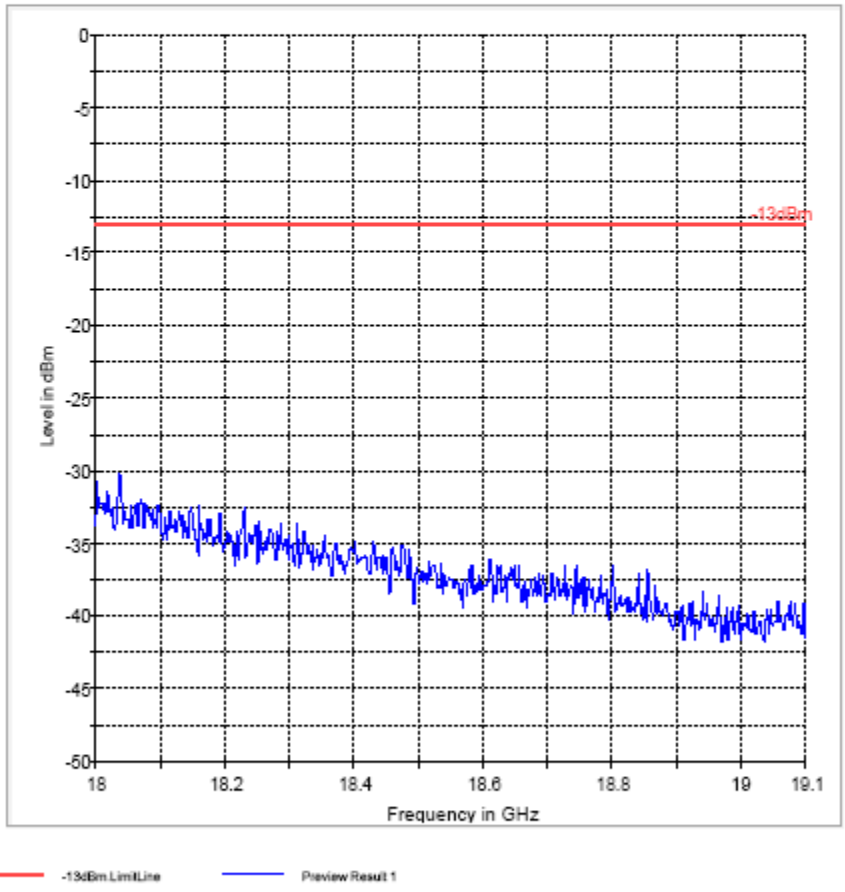
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	FDD II CH 9262

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:10:40

Mid Channel

EMI Auto Test(1) 1 / 1

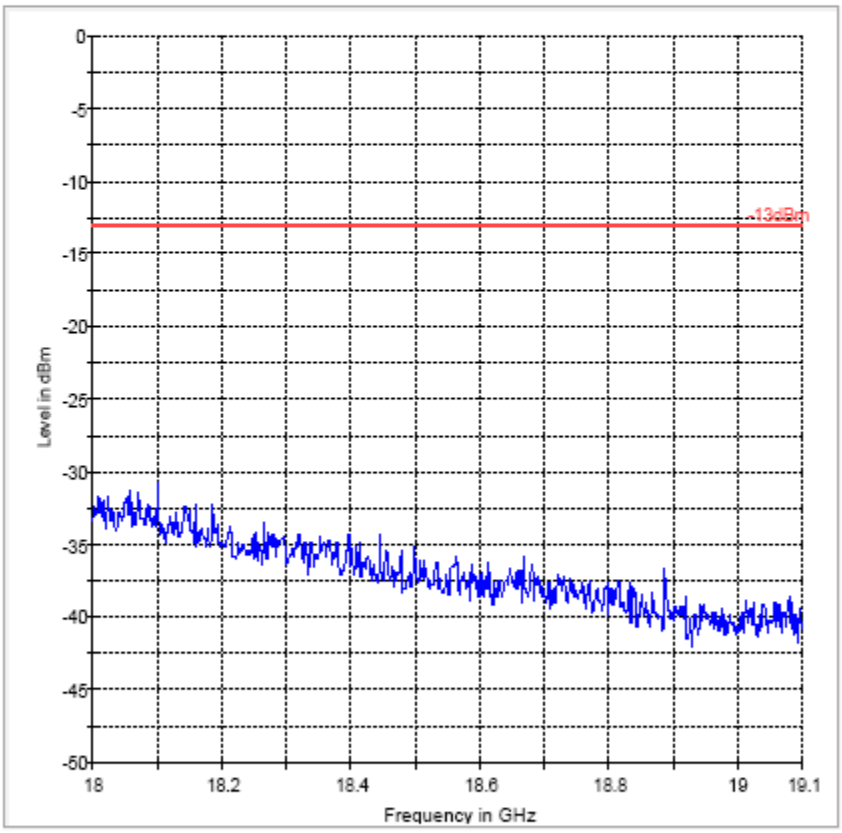
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	FDD II CH 9400

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:13:56

High Channel

EMI Auto Test(1) 1 / 1

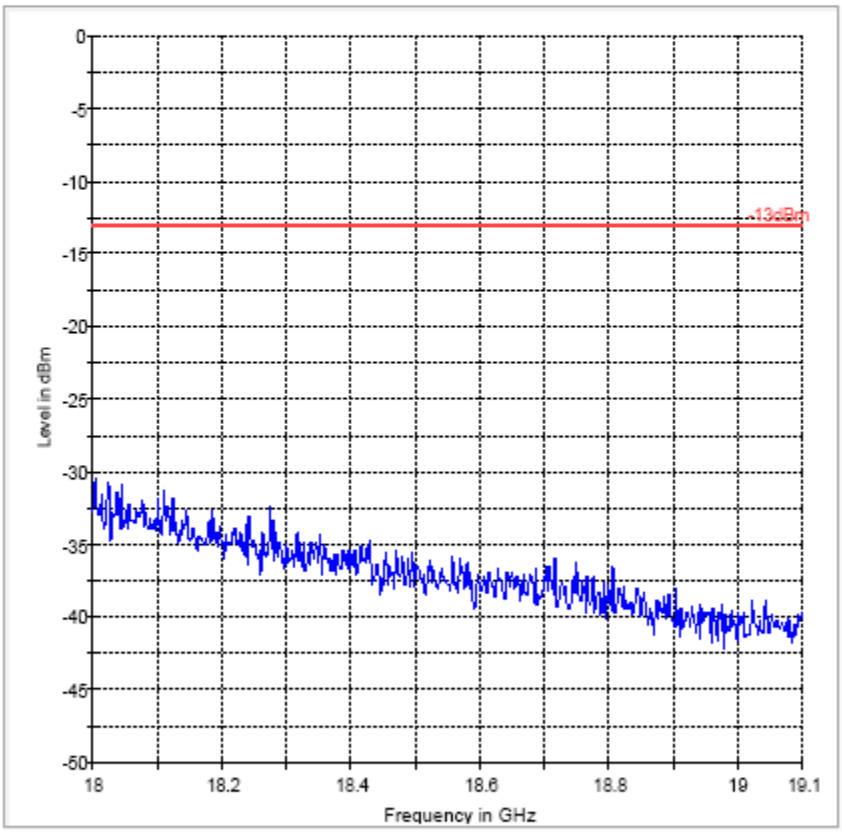
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	FDD II CH 9538

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:17:19

5.5.6 Radiated out of band emissions results on EUT with inductive cover and inductive dock and AC adapter #30 - Transmit Mode:

5.5.6.1 Test Results Transmitter Spurious Emission GSM850:

Harmonic	Tx ch-128 Freq. (MHz)	Level (dBm)	Tx ch-190 Freq. (MHz)	Level (dBm)	Tx ch-251 Freq. (MHz)	Level (dBm)
1	**824.2**	-	**836.6**	-	**848.8**	-
2	**1648.4**	NF	**1673.2**	NF	**1697.6**	NF
3	**2472.6**	NF	**2509.8**	NF	**2546.4**	NF
4	**3296.8**	NF	**3346.4**	NF	**3395.2**	NF
5	**4121**	NF	**4183**	NF	**4244**	NF
6	**4945.2**	NF	**5019.6**	NF	**5092.8**	NF
7	**5769.4**	NF	**5856.2**	NF	**5941.6**	NF
8	**6593.6**	NF	**6692.8**	NF	**6790.4**	NF
9	**7417.8**	NF	**7529.4**	NF	**7639.2**	NF
10	**8242**	NF	**8366**	NF	**8488**	NF
NF = Noise Floor						

Radiated Spurious Emissions (GSM-850) Tx: 30MHz – 1GHz
Low Channel
***Peak over the limit is the carrier frequency**

30-1 CH 128 1 / 1

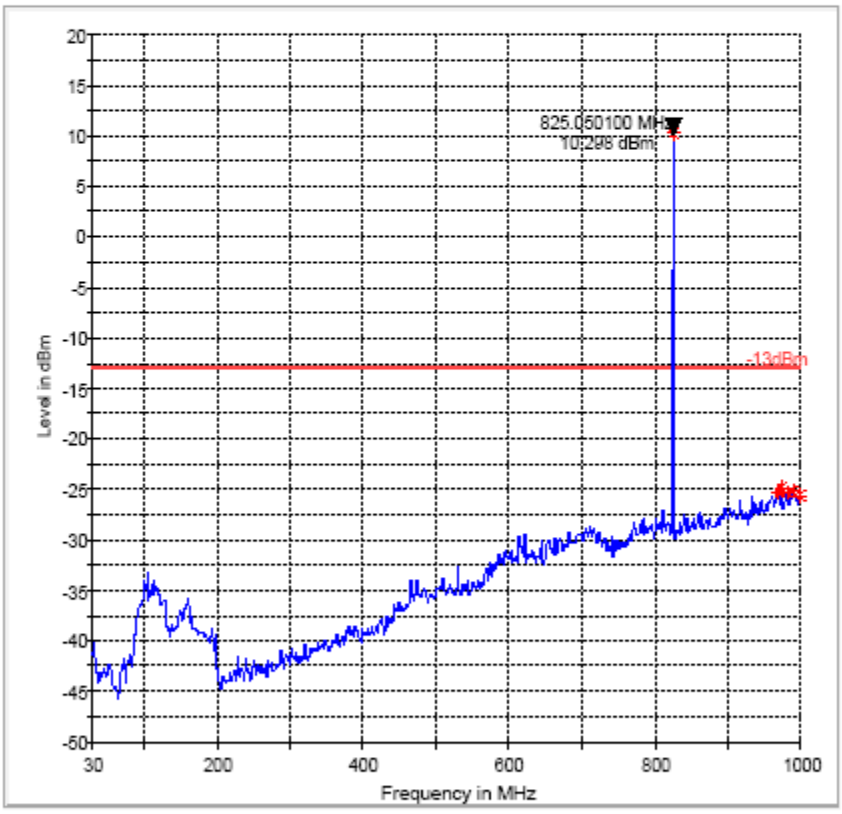
30-1 CH 128

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Pink Cover / AC Adapter #30 / With Dock

FCC 22 30-1000MHz



12/22/2009 smoon EMC32 V8.10.10 7:51:27

Mid Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

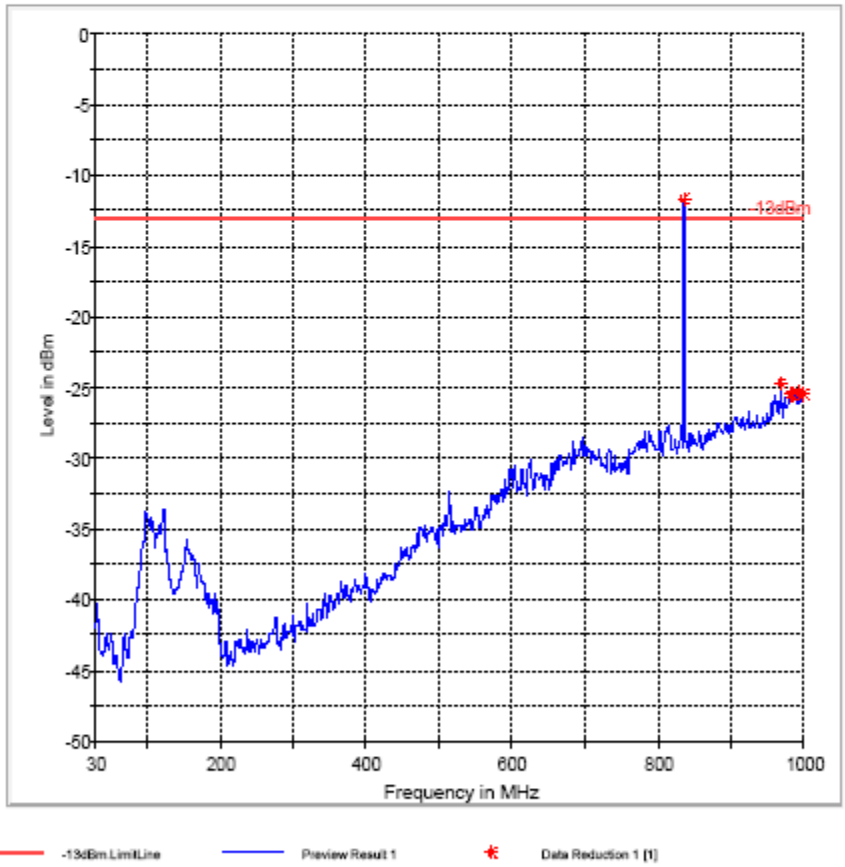
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Pink Cover / AC Adapter #30 / With Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:47:32

High Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

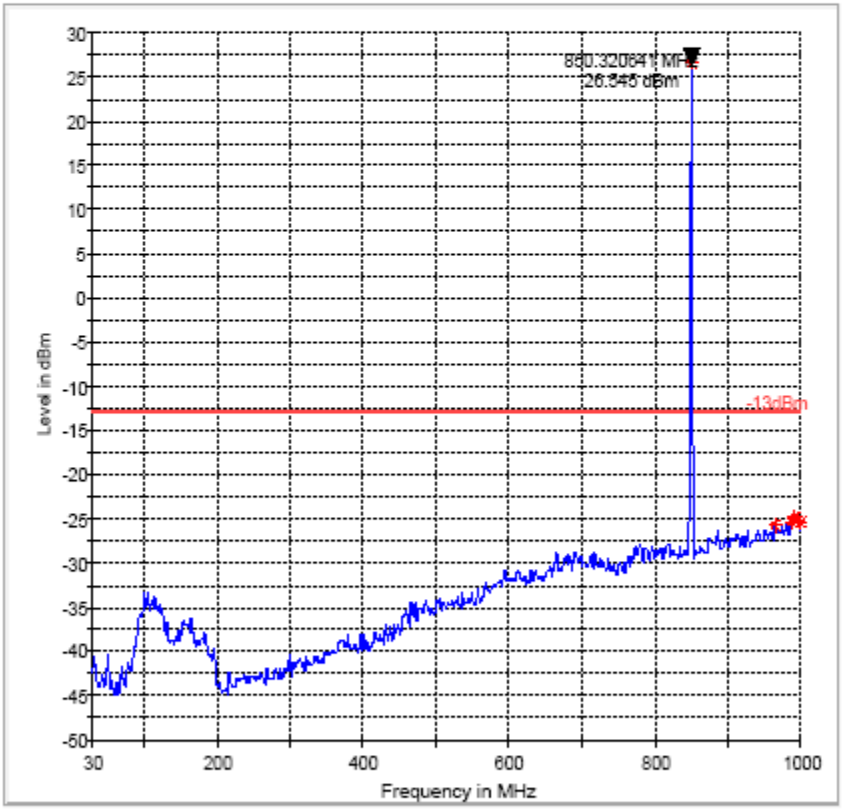
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Pink Cover / AC Adapter #30 / With Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:55:28

Radiated Spurious Emissions (GSM-850): 1GHz – 9GHz
Low Channel

EMI Auto Test(1) 1 / 1

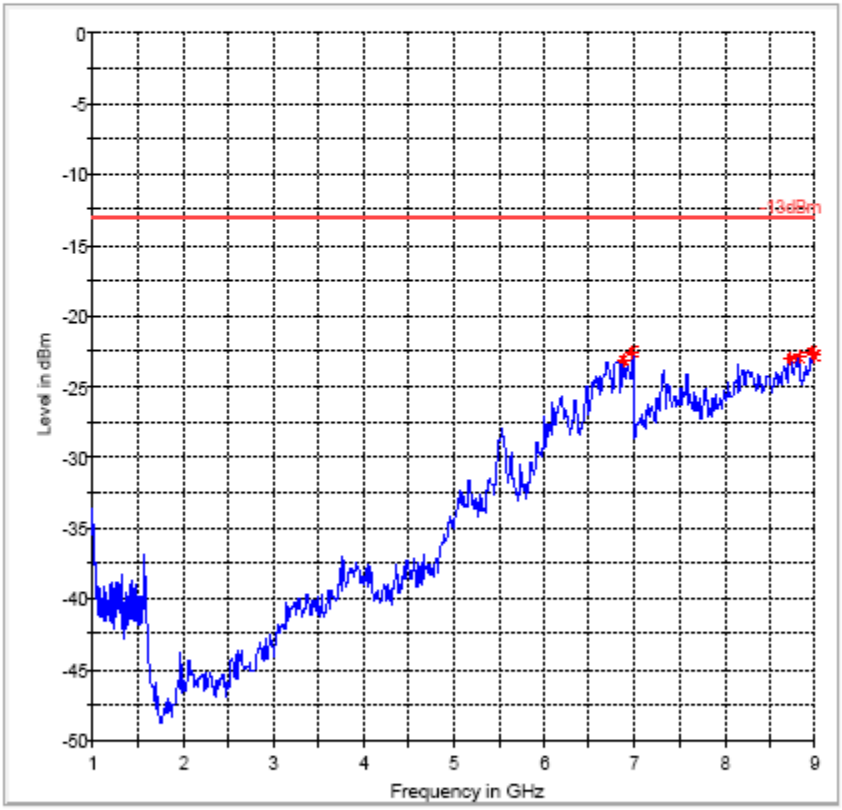
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Inducted Cover w/ Inducted Dock and AC Adapter #30

FCC 22 1-9GHz



12/22/2009 smoon EMC32 V8.10.10 12:03:01

Mid Channel

EMI Auto Test(1) 1 / 1

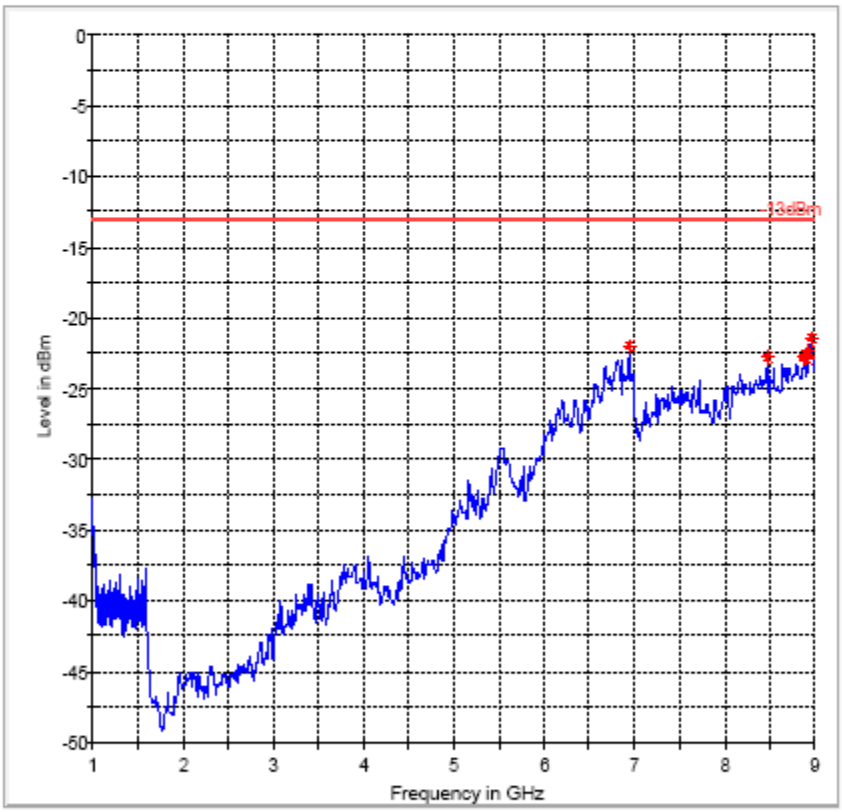
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Inducted Cover w/ Inductive Dock and AC Adapter #30

FCC 22 1-9GHz



12/22/2009 smoon EMC32 V8.10.10 12:16:40

High Channel

EMI Auto Test(1) 1 / 1

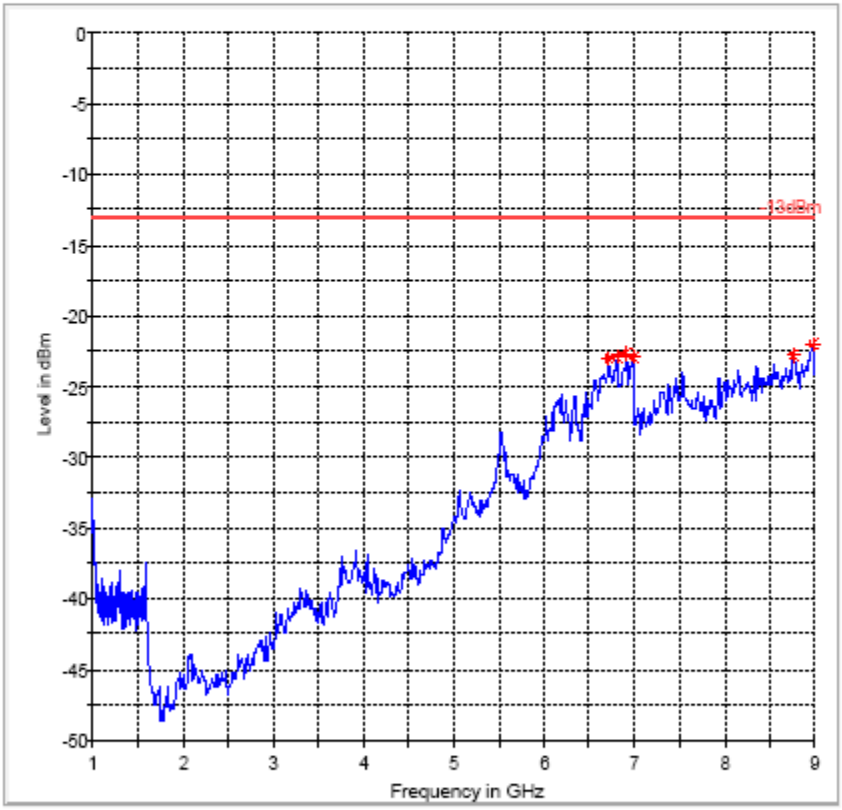
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Inducted Cover w/ Inducted Dock and AC Adapter #30

FCC 22 1-9GHz



12/22/2009 smoon EMC32 V8.10.10 12:28:19

5.5.7 Test Results Transmitter Spurious Emission UMTS FDDV

Harmonic	Tx ch-4132 Freq. (MHz)	Level (dBm)	Tx ch-4183 Freq. (MHz)	Level (dBm)	Tx ch-4233 Freq. (MHz)	Level (dBm)
1	**826.4**	-	**836.6**	-	**846.6**	-
2	**1652.8**	NF	**1673.2**	NF	**1693.2**	NF
3	**2479.2**	NF	**2509.8**	NF	**2539.8**	NF
4	**3305.6**	NF	**3346.4**	NF	**3386.4**	NF
5	**4132**	NF	**4183**	NF	**4233**	NF
6	**4958.4**	NF	**5019.6**	NF	**5079.6**	NF
7	**5784.8**	NF	**5856.2**	NF	**5926.2**	NF
8	**6611.2**	NF	**6692.8**	NF	**6772.8**	NF
9	**7437.6**	NF	**7529.4**	NF	**7619.4**	NF
10	**8264**	NF	**8366**	NF	**8466**	NF
NF= Noise Floor						

Radiated Spurious Emissions (UMTS FDDV) Tx: 30MHz – 1GHz
Low Channel
***Peak over the limit is the carrier frequency**

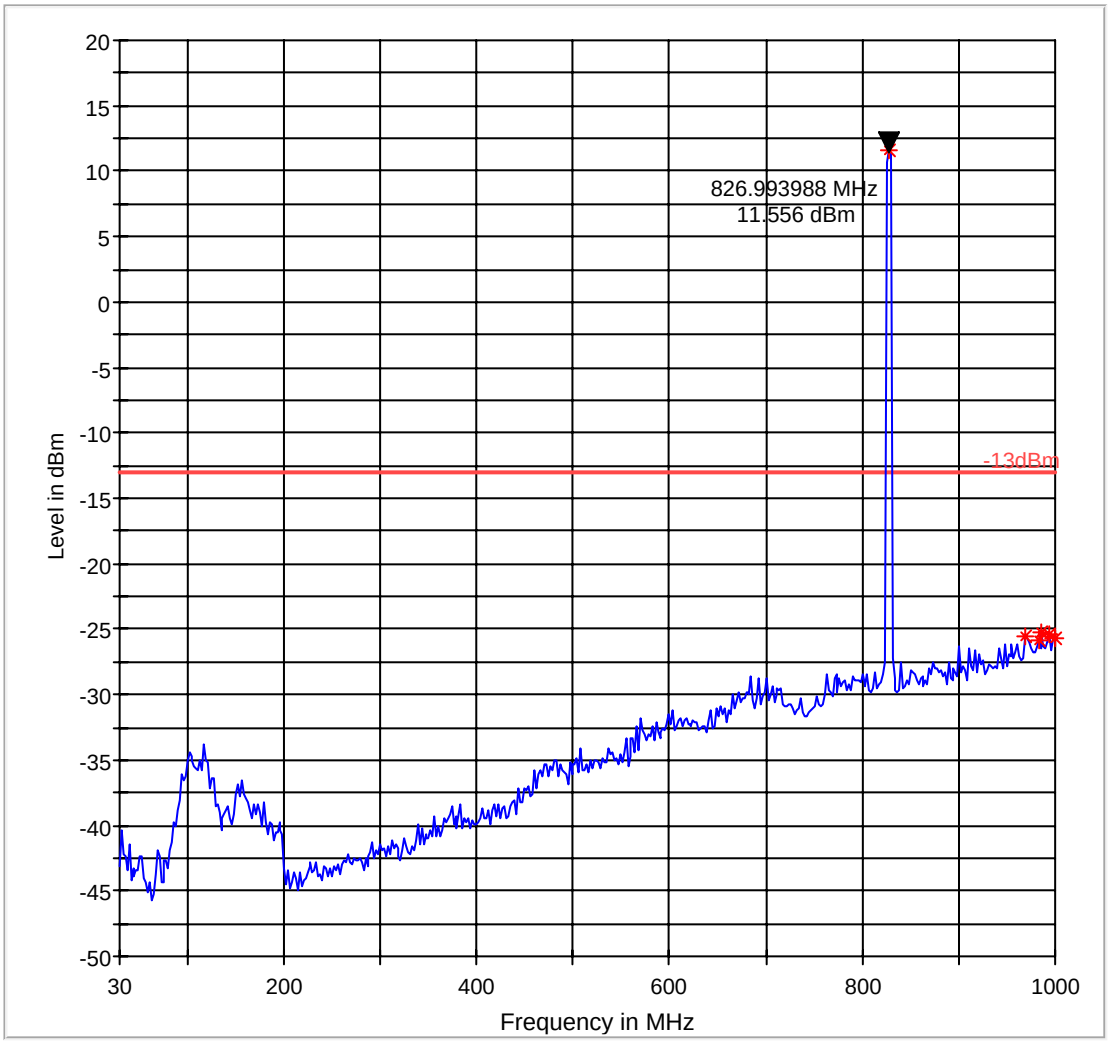
FCC 22 30-1000MHz Low Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover and AC adapter #30
Comment:	

FCC 22 30-1000MHz



Mid Channel
***Peak over the limit is the carrier frequency**

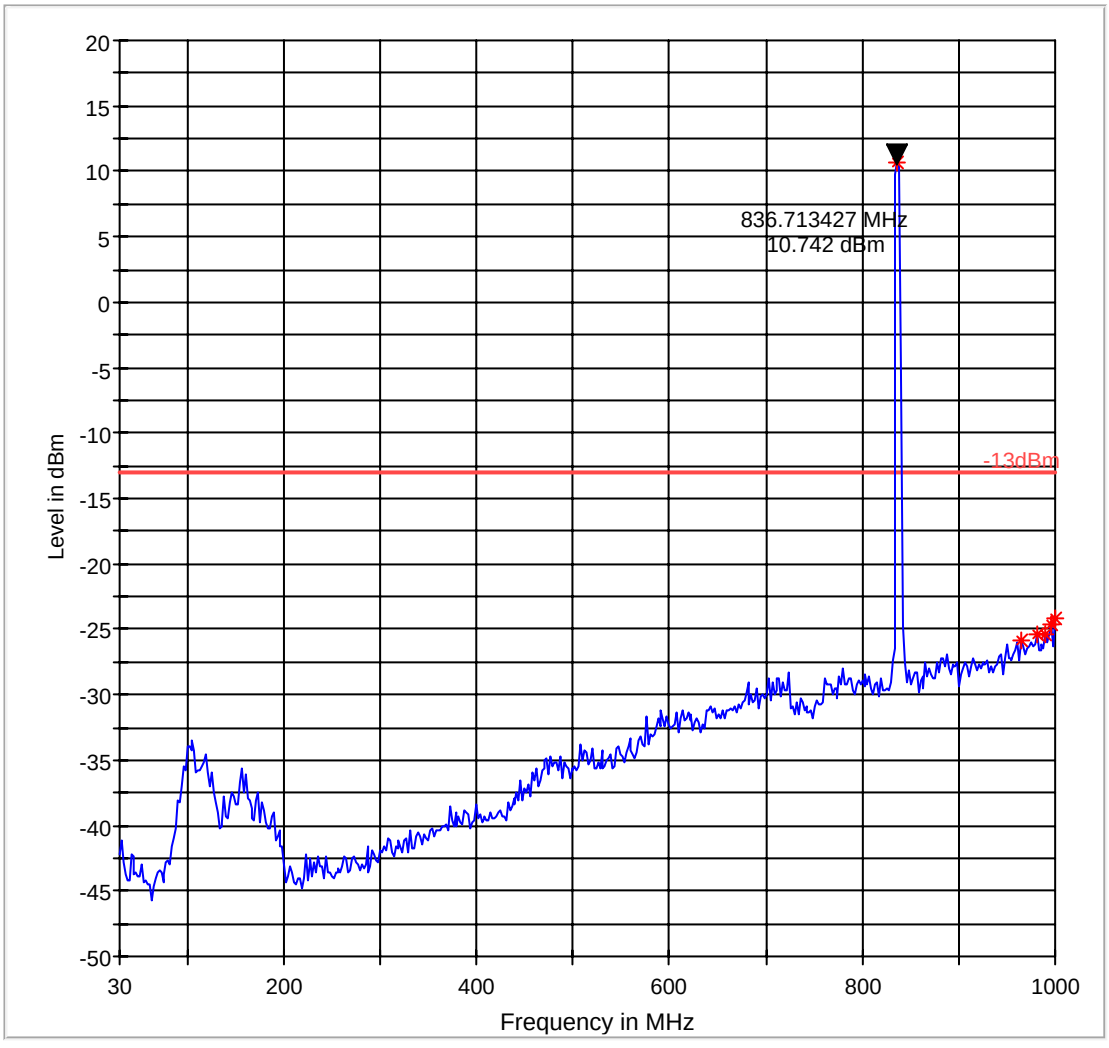
FCC 22 30-1000MHz Mid Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover and AC adapter #30
Comment:	

FCC 22 30-1000MHz



High Channel
***Peak over the limit is the carrier frequency**

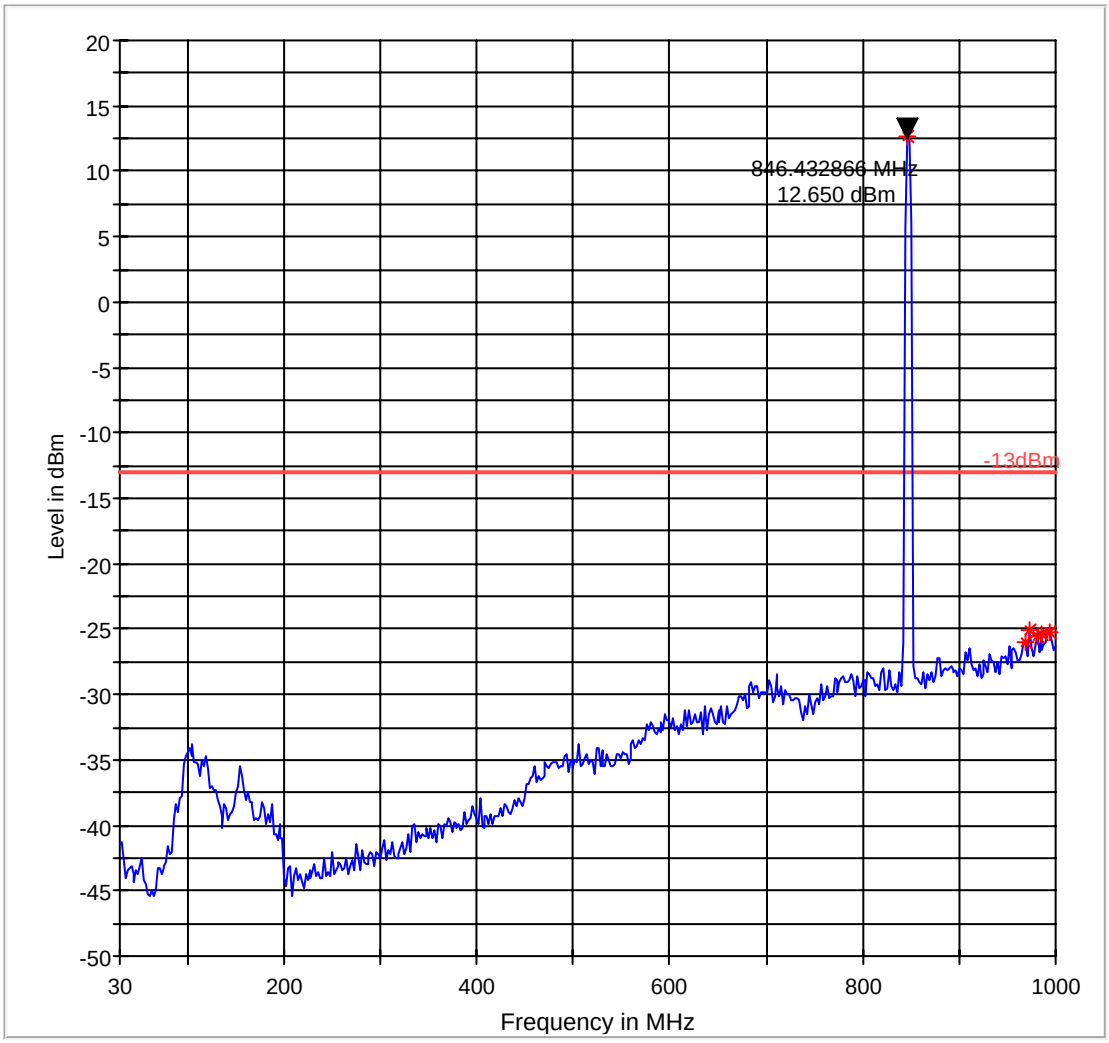
FCC 22 30-1000MHz High Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	

FCC 22 30-1000MHz



Radiated Spurious Emissions (UMTS FDDV) Tx: 1GHz – 9GHz
Low Channel

FCC 22 1-9GHz Low Channel 1 / 1

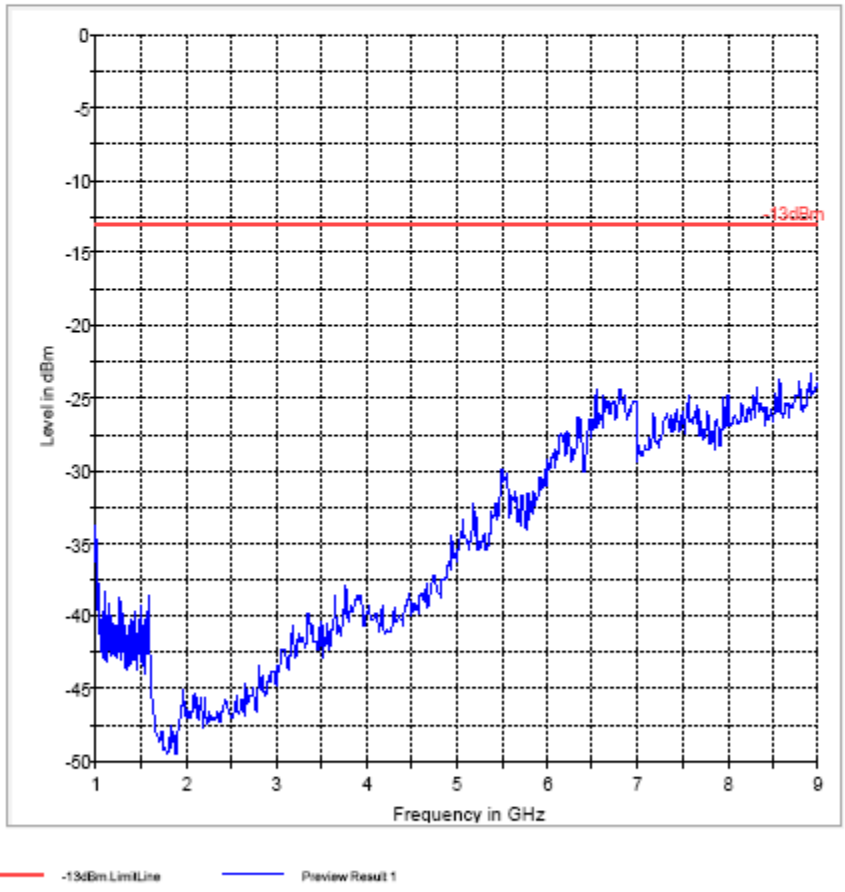
FCC 22 1-9GHz Low Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	

FCC 22 1-9GHz



1/6/2010 smoon EMC32 V8.10.10 12:55:12

Mid Channel

FCC 22 1-9GHz Mid Channel 1 / 1

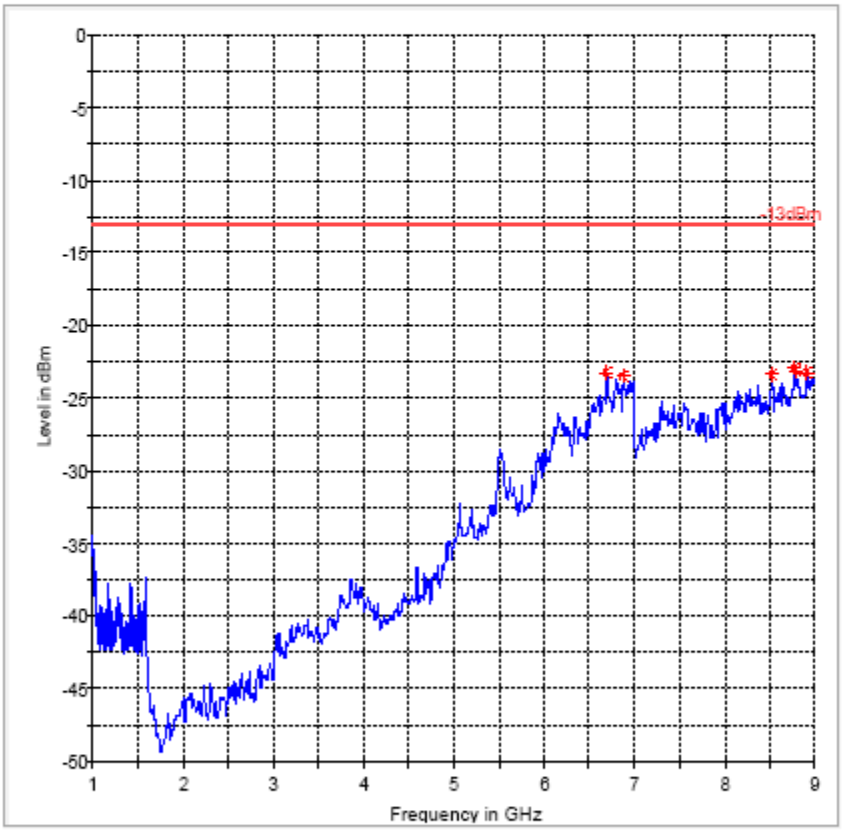
FCC 22 1-9GHz Mid Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	

FCC 22 1-9GHz



1/6/2010 smoon EMC32 V8.10.10 12:58:34

High Channel

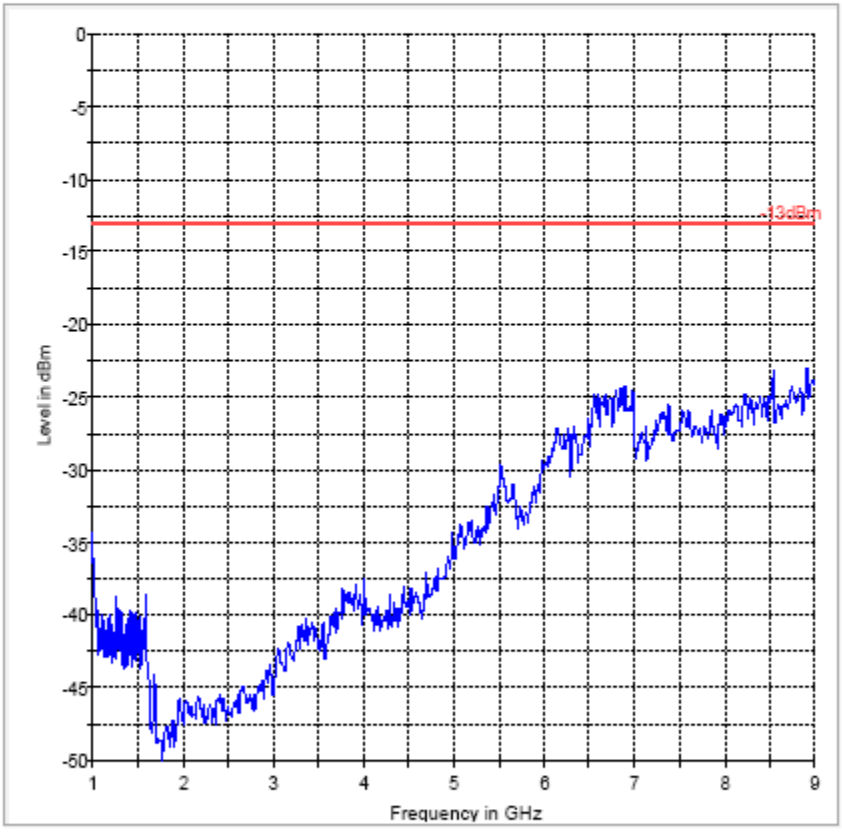
FCC 22 1-9GHz High Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	

FCC 22 1-9GHz



5.5.7.1 Test Results Transmitter Spurious Emission PCS-1900:

Harmonic	Tx ch-512 Freq.(MHz)	Level (dBm)	Tx ch-661 Freq. (MHz)	Level (dBm)	Tx ch-810 Freq. (MHz)	Level (dBm)
1	**1850.2**	-	**1880.0**	-	**1909.8**	-
2	**3700.4**	NF	**3760**	NF	**3819.6**	NF
3	**5550.6**	NF	**5640**	NF	**5729.4**	NF
4	**7400.8**	NF	**7520**	NF	**7639.2**	NF
5	**9251**	NF	**9400**	NF	**9549**	NF
6	**11101.2**	NF	**11280**	NF	**11458.8**	NF
7	**12951.4**	NF	**13160**	NF	**13368.6**	NF
8	**14801.6**	NF	**15040**	NF	**15278.4**	NF
9	**16651.8**	NF	**16920**	NF	**17188.2**	NF
10	**18502**	NF	**18800**	NF	**19098**	NF
NF = Noise Floor						

Radiated Spurious Emissions (PCS 1900) Tx: 30MHz – 1GHz
Low Channel

EMI Auto Test(1) 1 / 1

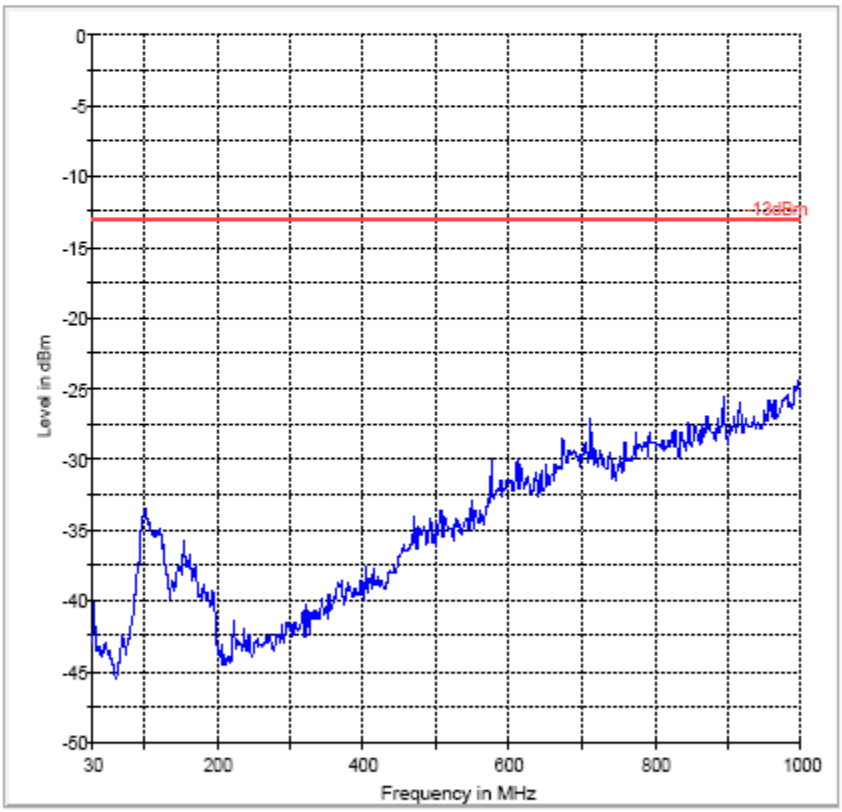
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Pink Cover / AC Adapter #30 / With Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:30:50

Mid Channel

EMI Auto Test(1) 1 / 1

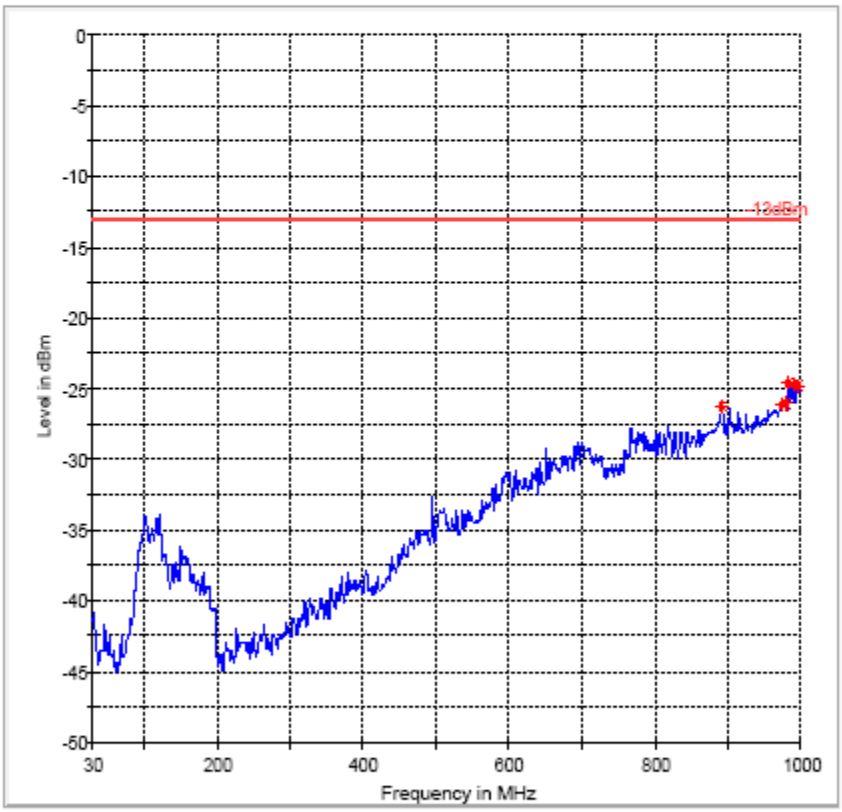
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Pink Cover / AC Adapter #30 / With Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:35:01

High Channel

EMI Auto Test(1) 1 / 1

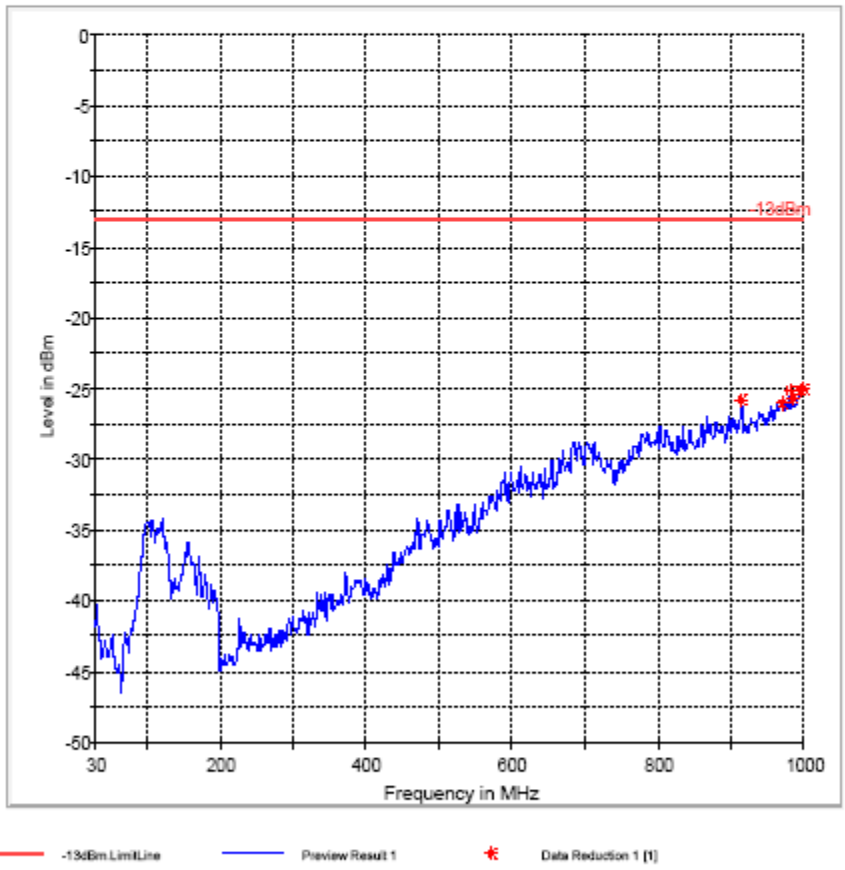
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Pink Cover / AC Adapter #30 / With Dock

FCC 22 30-1000MHz



12/22/2009 knavares EMC32 V8.10.10 7:39:28

Radiated Spurious Emissions (PCS 1900) Tx: 1GHz – 18GHz
Low Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

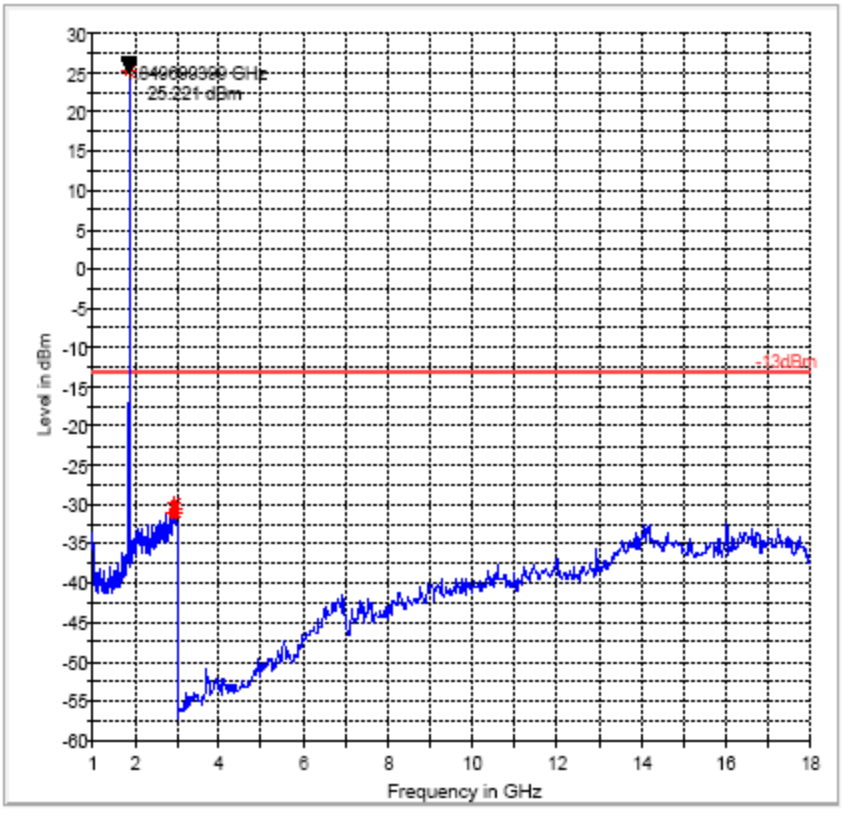
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Inducted Cover w/ Inductive Dock and AC Adapter #30

FCC 24 1-18GHz



12/21/2009 smoon EMC32 V8.10.10 10:02:00

Mid Channel

EMI Auto Test(1) 1 / 1

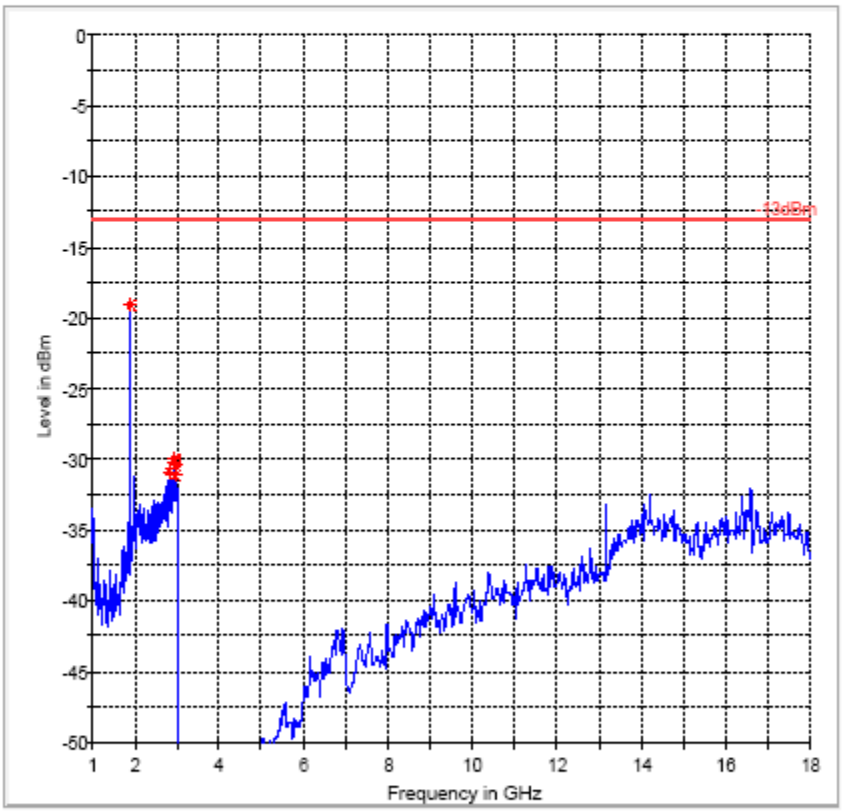
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Inducted Cover w/ Inductive Dock and AC Adapter #30

FCC 24 1-18GHz



12/21/2009 smoon EMC32 V8.10.10 10:17:19

High Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

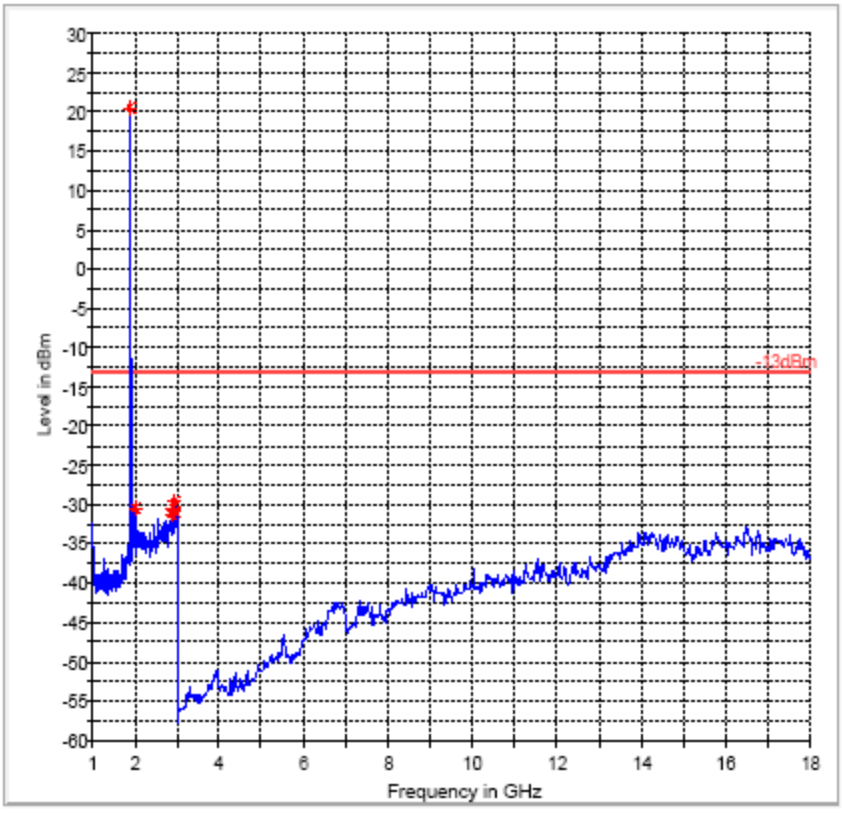
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	Pixi
Manufacturer:	Palm
Serial Number:	
Hardware Rev:	
Software Rev:	
Comment:	Inducted Cover w/ Inductive Dock and AC Adapter #30

FCC 24 1-18GHz



12/21/2009 smoon EMC32 V8.10.10 10:35:21

Radiated Spurious Emissions (PCS 1900) Tx: 18GHz – 19.1GHz
Low Channel

EMI Auto Test(1) 1 / 1

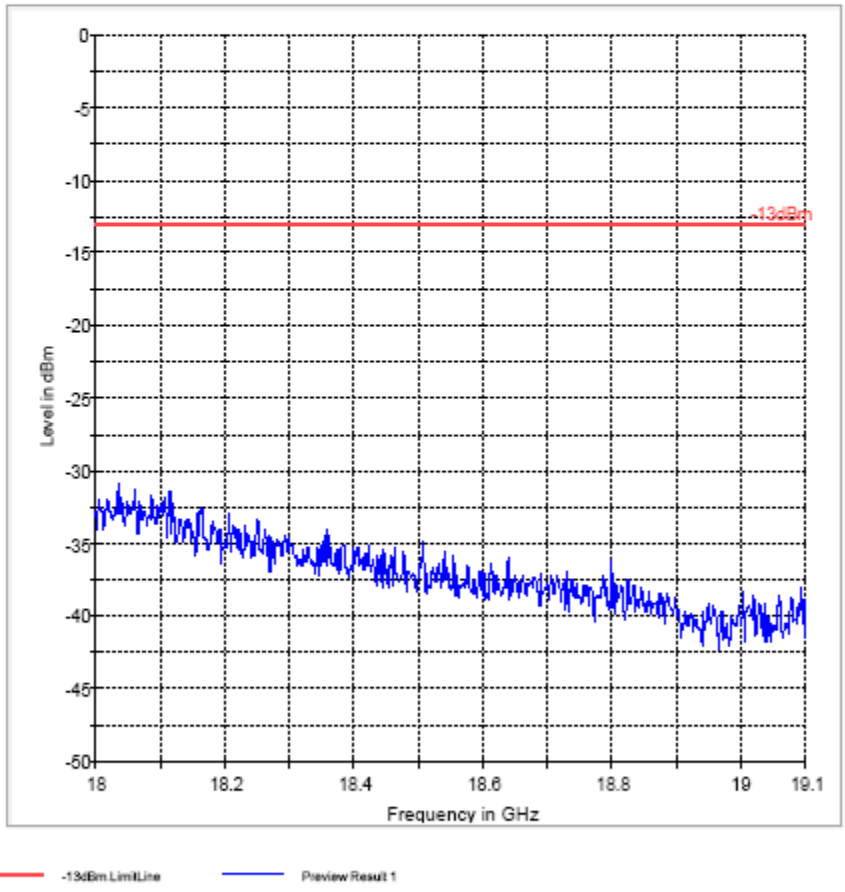
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	1900 CH 512

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:05:04

Mid Channel

EMI Auto Test(1) 1 / 1

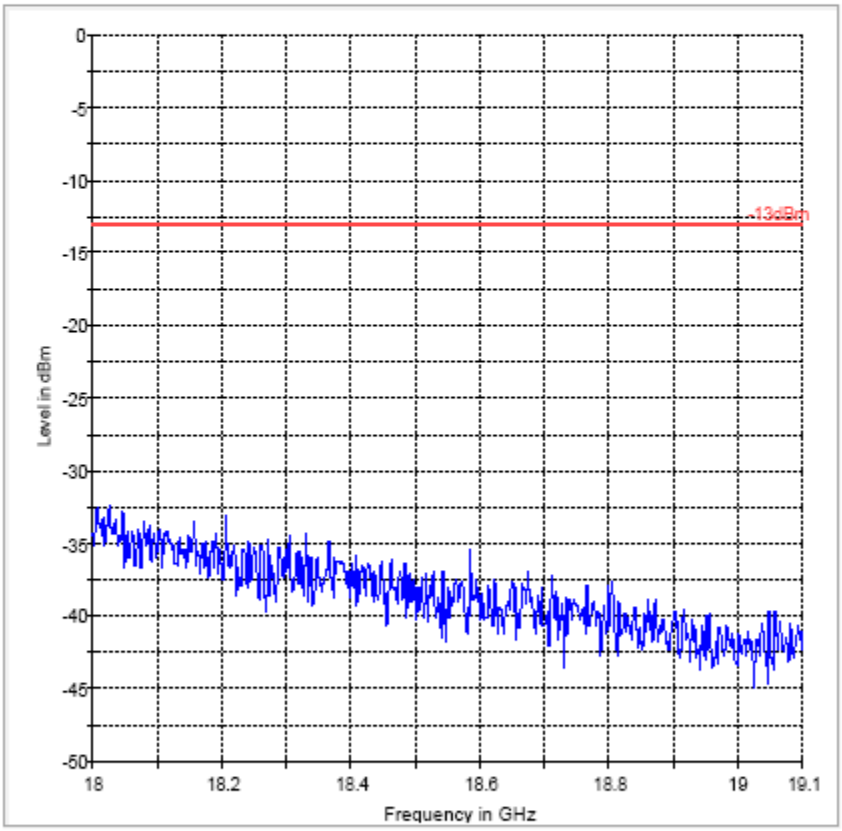
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	1900 CH 661

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:03:32

High Channel

EMI Auto Test(1) 1 / 1

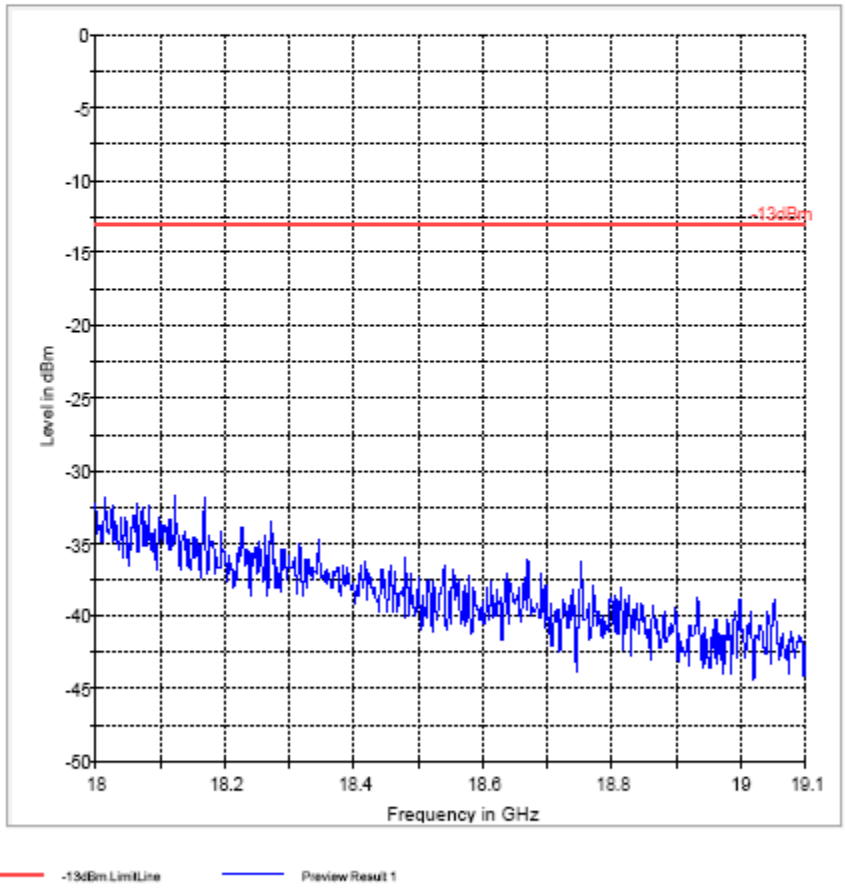
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	1900 CH 810

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:01:21

5.5.7.2 Test Results Transmitter Spurious Emission UMTS FDD2:

Harmonic	Tx ch-9262 Freq. (MHz)	Level (dBm)	Tx ch-9400 Freq. (MHz)	Level (dBm)	Tx ch-9538 Freq. (MHz)	Level (dBm)
1	**1852.4**	-	**1880.0**	-	**1907.6**	-
2	**3704.8**	NF	**3760**	NF	**3815.2**	NF
3	**5557.2**	NF	**5640**	NF	**5722.8**	NF
4	**7409.6**	NF	**7520**	NF	**7630.4**	NF
5	**9262**	NF	**9400**	NF	**9538**	NF
6	**11114.4**	NF	**11280**	NF	**11445.6**	NF
7	**12966.8**	NF	**13160**	NF	**13353.2**	NF
8	**14819.2**	NF	**15040**	NF	**15260.8**	NF
9	**16671.6**	NF	**16920**	NF	**17168.4**	NF
10	**18524**	NF	**18800**	NF	**19076**	NF
NF= Noise Floor						

Radiated Spurious Emissions (UMTS FDDII) Tx: 30MHz – 1GHz
Low Channel

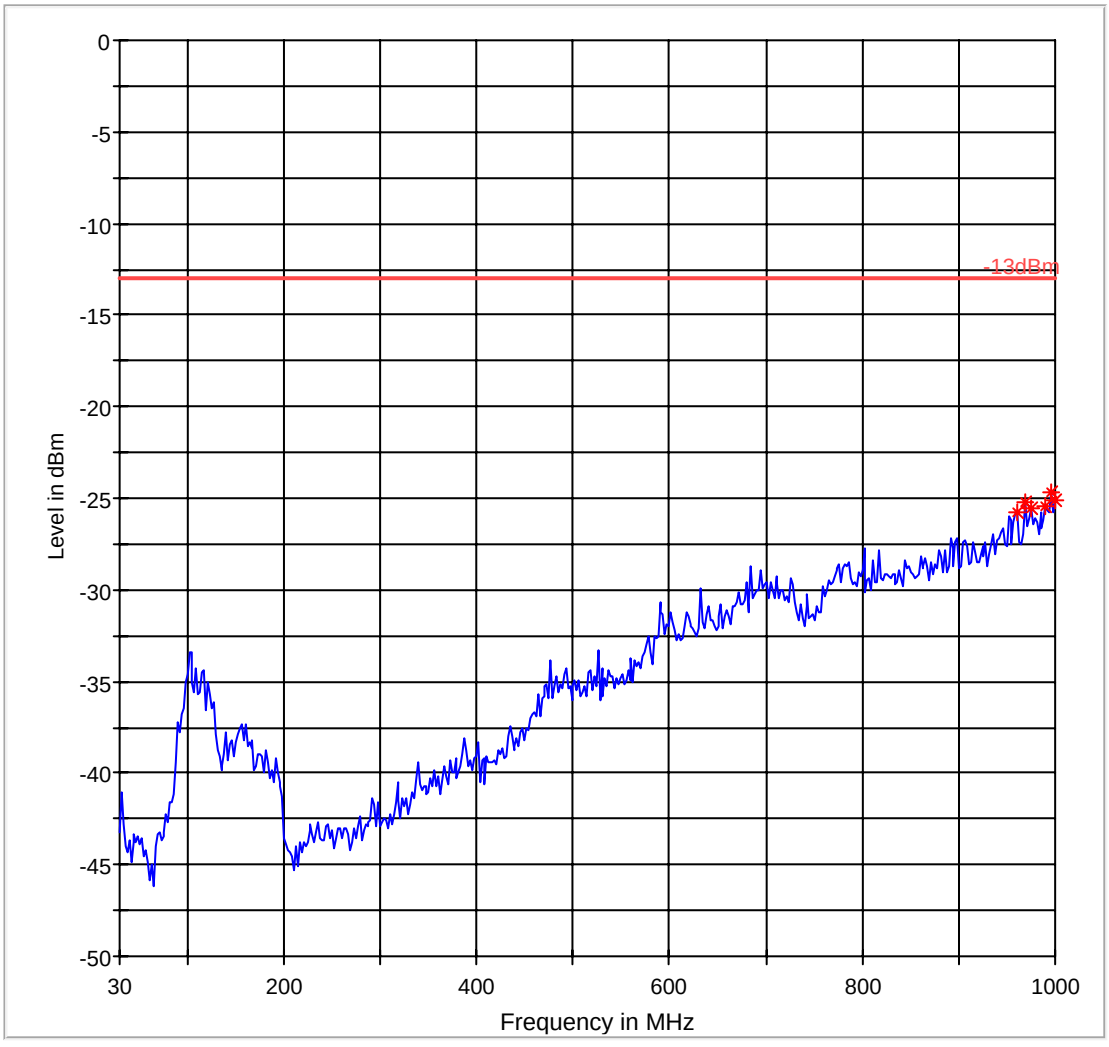
FCC 24 30-1000MHz Low Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	

FCC 22 30-1000MHz



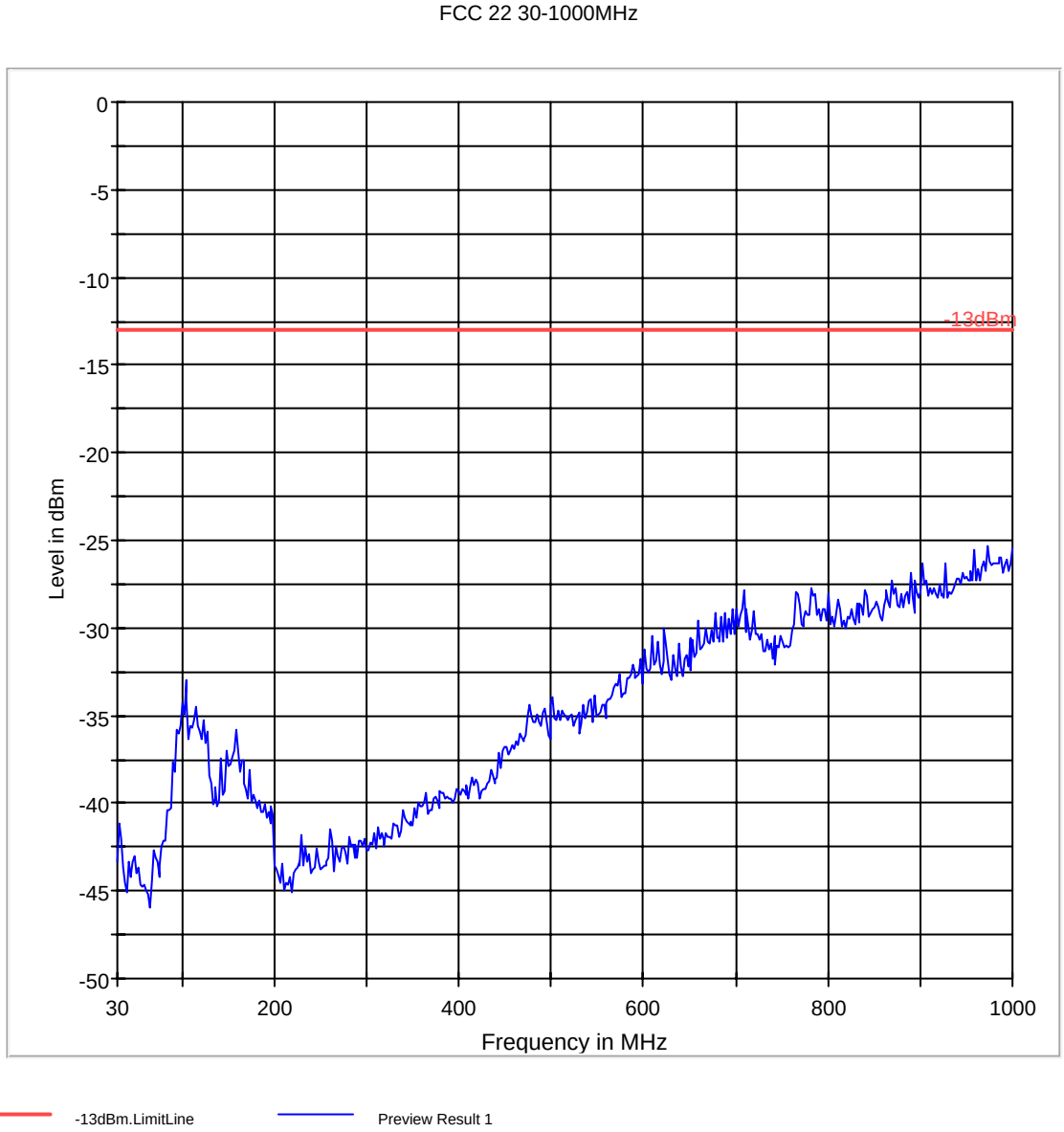
Mid Channel

FCC 24 30-1000MHz Mid Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	



High Channel

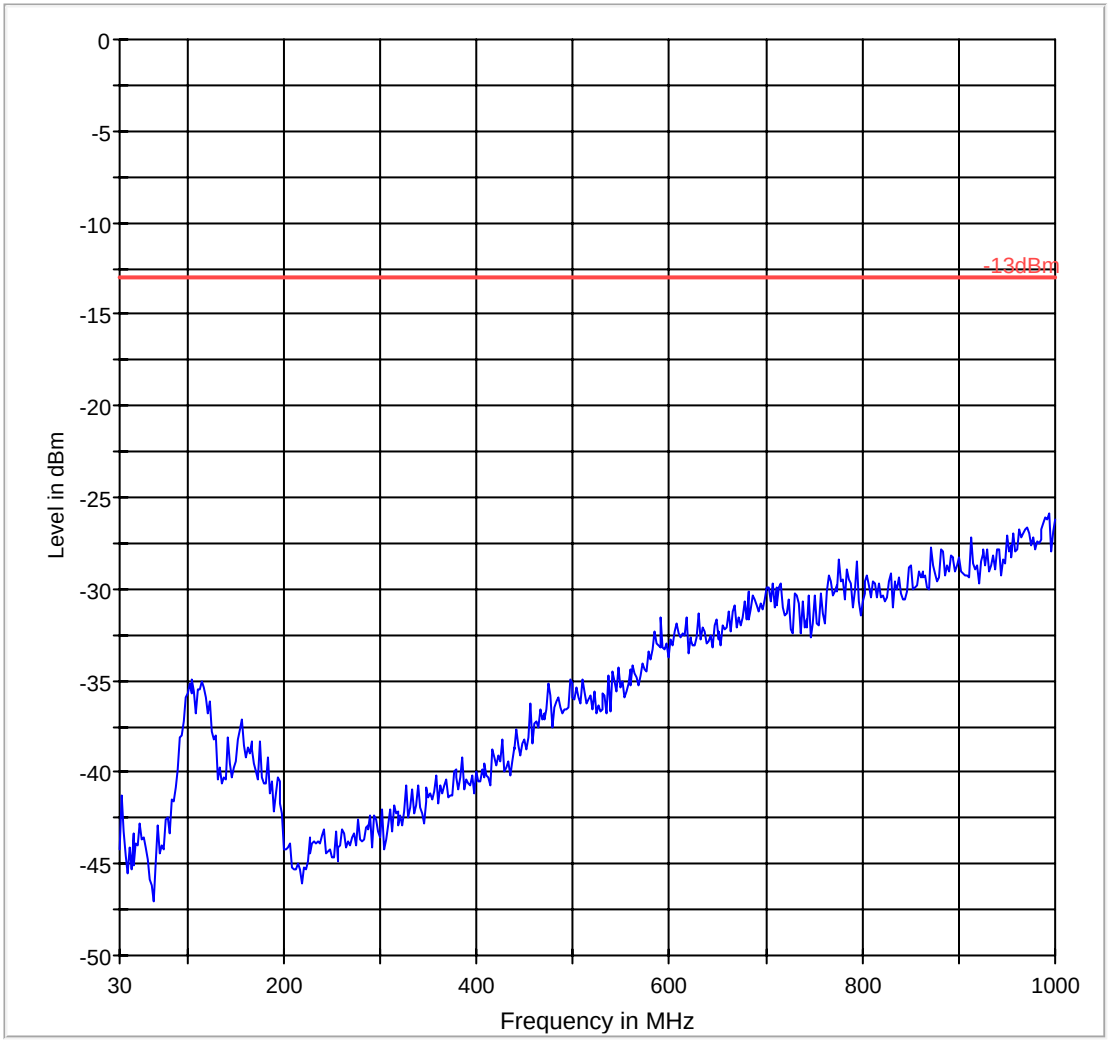
FCC 24 30-1000MHz High Channel

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	

FCC 22 30-1000MHz



Radiated Spurious Emissions (UMTS FDDII) Tx: 1GHz –18GHz

Low Channel

***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

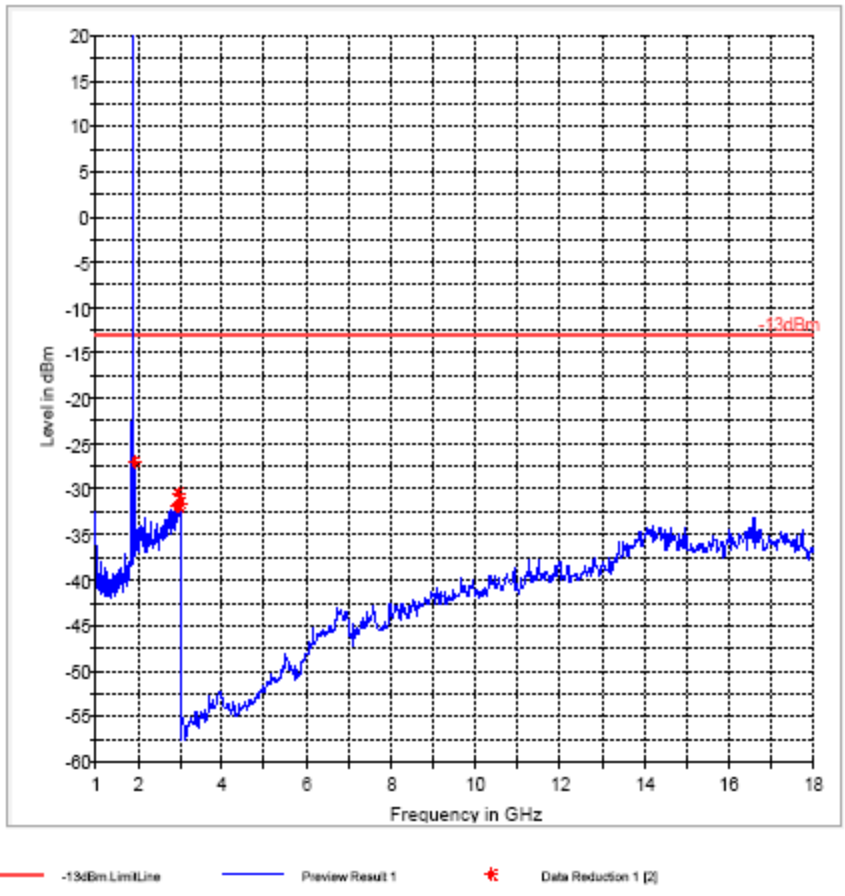
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Inductive Cover with Inductive Dock and AC adapter #30
Comment:	

FCC 24 1-18GHz



1/4/2010 knavares EMC32 V8.10.10 7:42:37

Mid Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

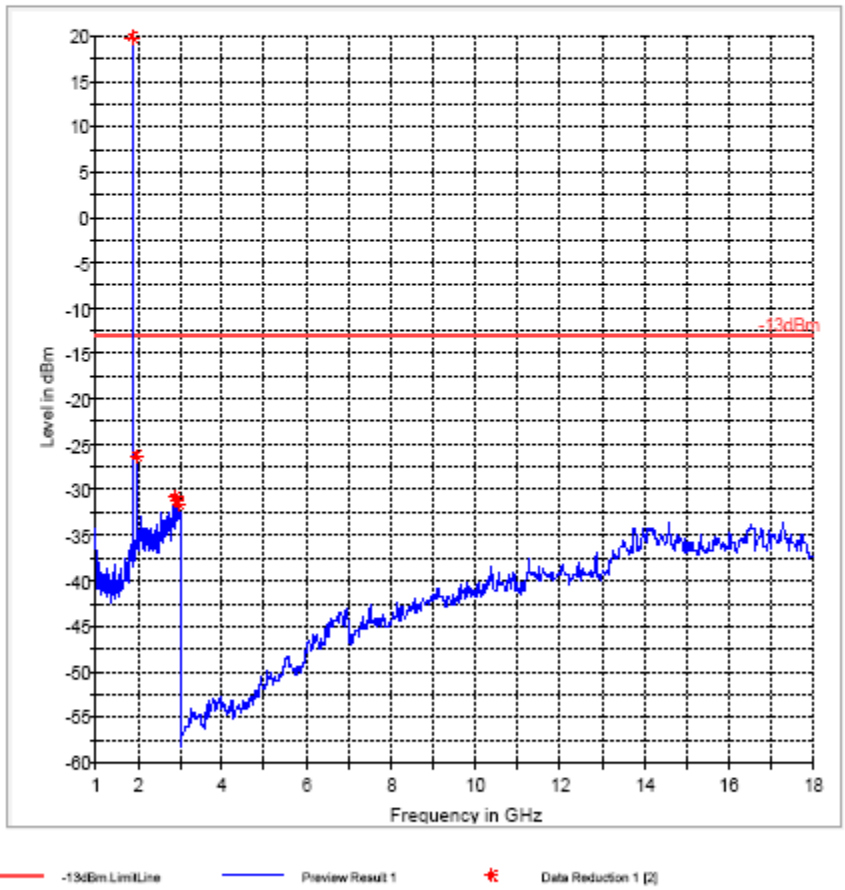
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Inductive Cover with Inductive Dock and AC adapter #30
Comment:	

FCC 24 1-18GHz



1/4/2010 knavares EMC32 V8.10.10 7:55:22

High Channel
***Peak over the limit is the carrier frequency**

EMI Auto Test(1) 1 / 1

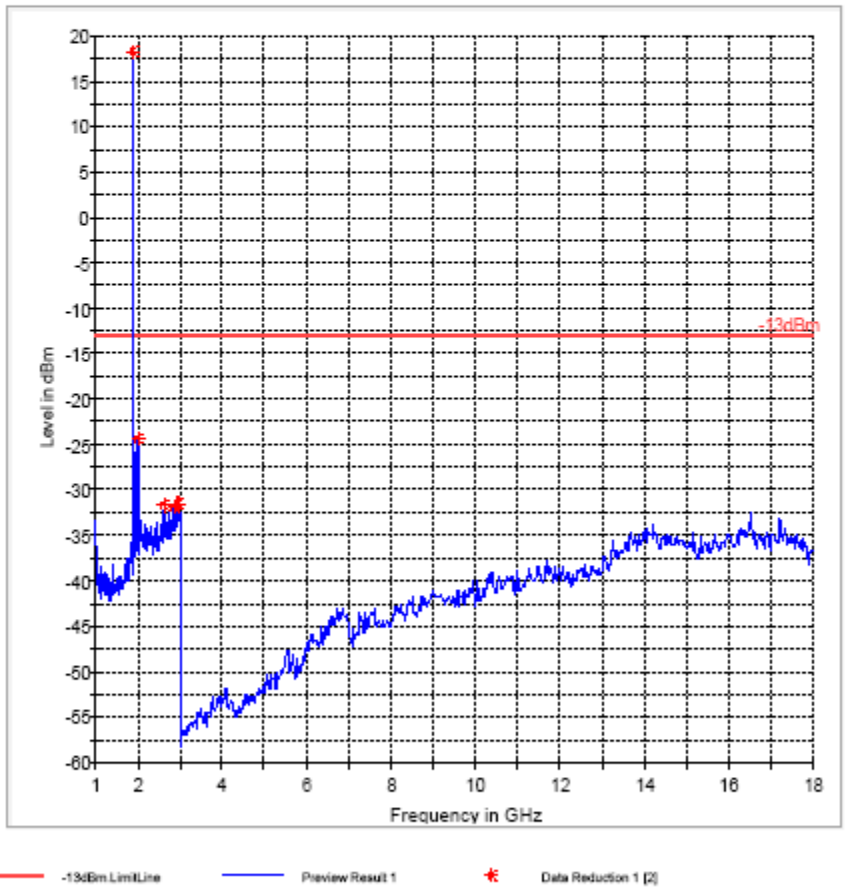
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Inductive Cover with Inductive Dock and AC adapter #30
Comment:	

FCC 24 1-18GHz



1/4/2010 knavares EMC32 V8.10.10 8:10:36

Radiated Spurious Emissions (UMTS FDDII) Tx: 18GHz –19.1GHz
Low Channel

EMI Auto Test(1) 1 / 1

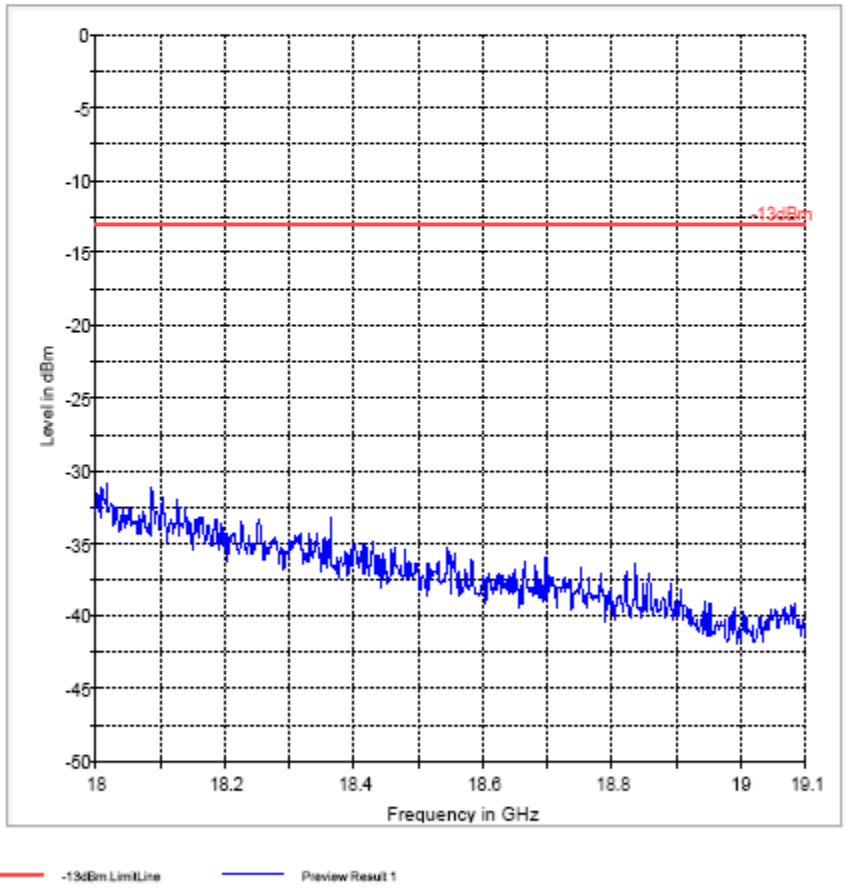
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	FDD II CH 9262

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:27:06

Mid Channel

EMI Auto Test(1) 1 / 1

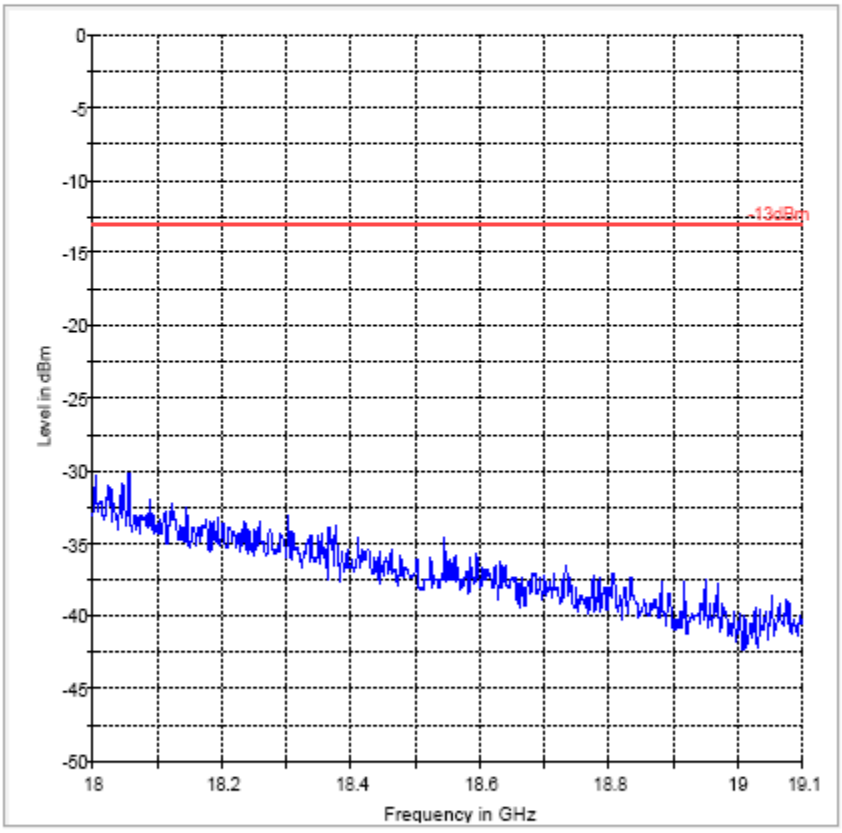
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	FDD II CH 9400

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:24:05

High Channel

EMI Auto Test(1) 1 / 1

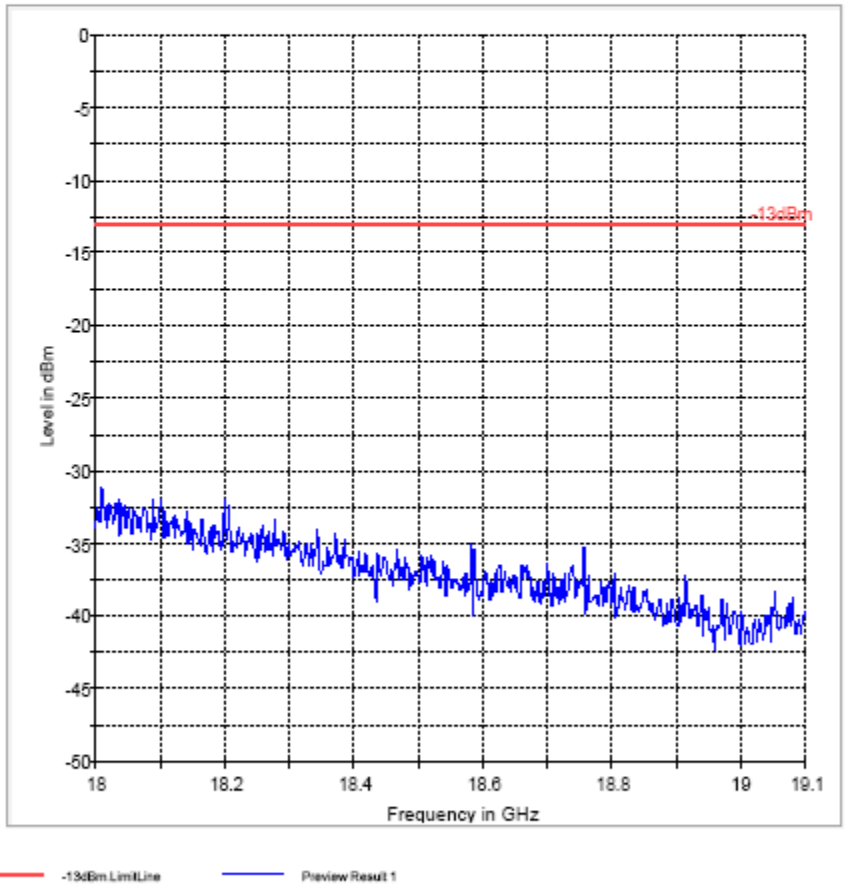
EMI Auto Test(1)

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	FDD II CH 9538

FCC 24 18-19.1GHz



1/8/2010 smoon EMC32 V8.10.10 2:21:13

5.5.8 Radiated out of band emissions results on EUT- Receive Mode:

5.5.8.1 References

FCC: CFR Part 15.109, 2.1053
IC: RSS 132 Section 4.6 and 6.6

5.5.8.2 §15.109 Radiated emission limits- Unintentional Radiators:

(a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of emission (MHz)	Field strength (µV/m)
30–88	100 (40dBµV/m)
88–216	150 (43.5 dBµV/m)
216–960	200 (46 dBµV/m)
Above 960	500 (54 dBµV/m)

(b) The field strength of radiated emissions from a Class A digital device, as determined at a distance of 10 meters, shall not exceed the following:

Frequency of emission (MHz)	Field strength (µV/m)
30–88	90
88–216	150
216–960	210
Above 960	300

5.5.8.3 Results

No significant emissions measurable. Plots reported here represent the worse case emissions.

5.5.8.4 Test Results Receiver Spurious Emission

Receive Mode: 30MHz-1GHz

EMI Auto Test(1)

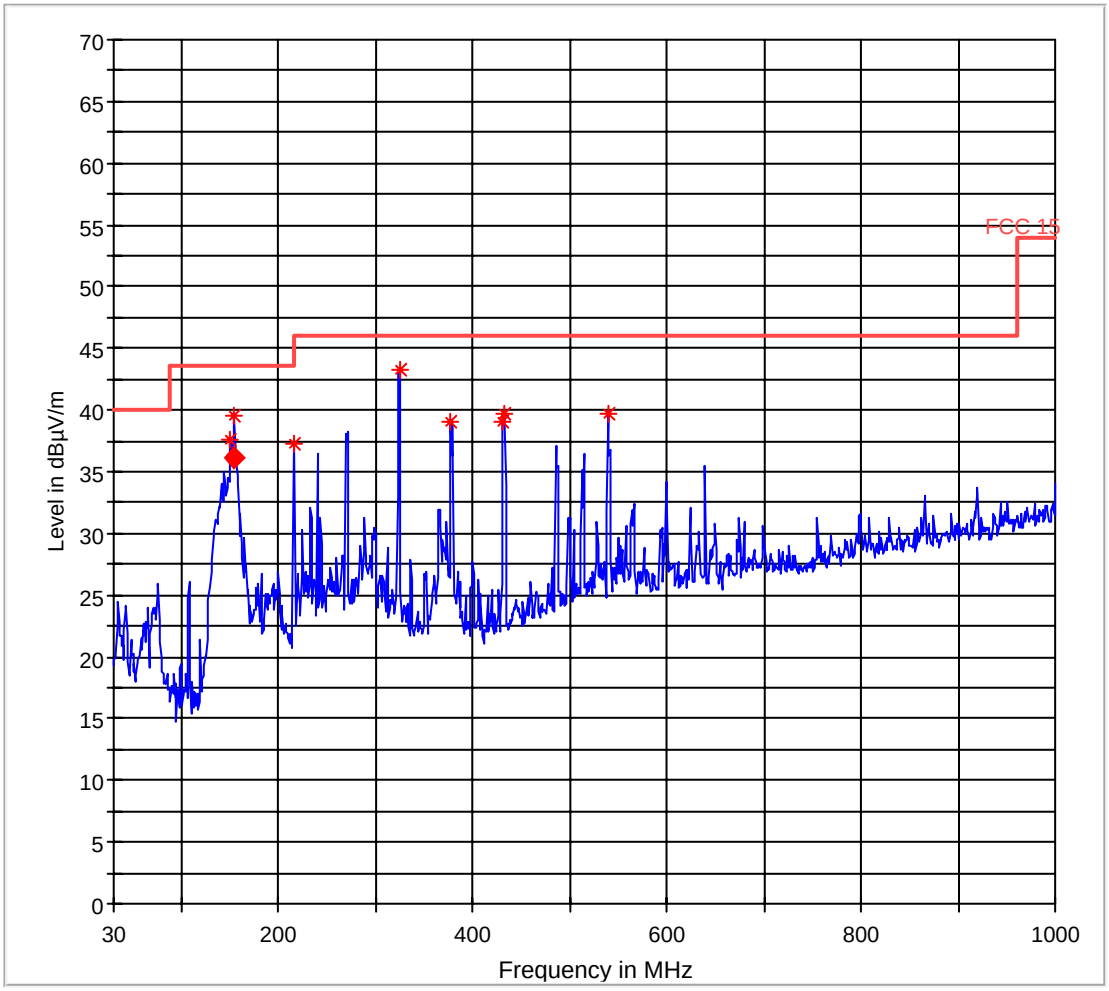
EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Inductive Cover with Inductive Dock with AC Adapter #24 with Laptop

Comment:

FCC 15 30-1000MHz



Receive Mode: 1GHz-18GHz

EMI Auto Test(1)

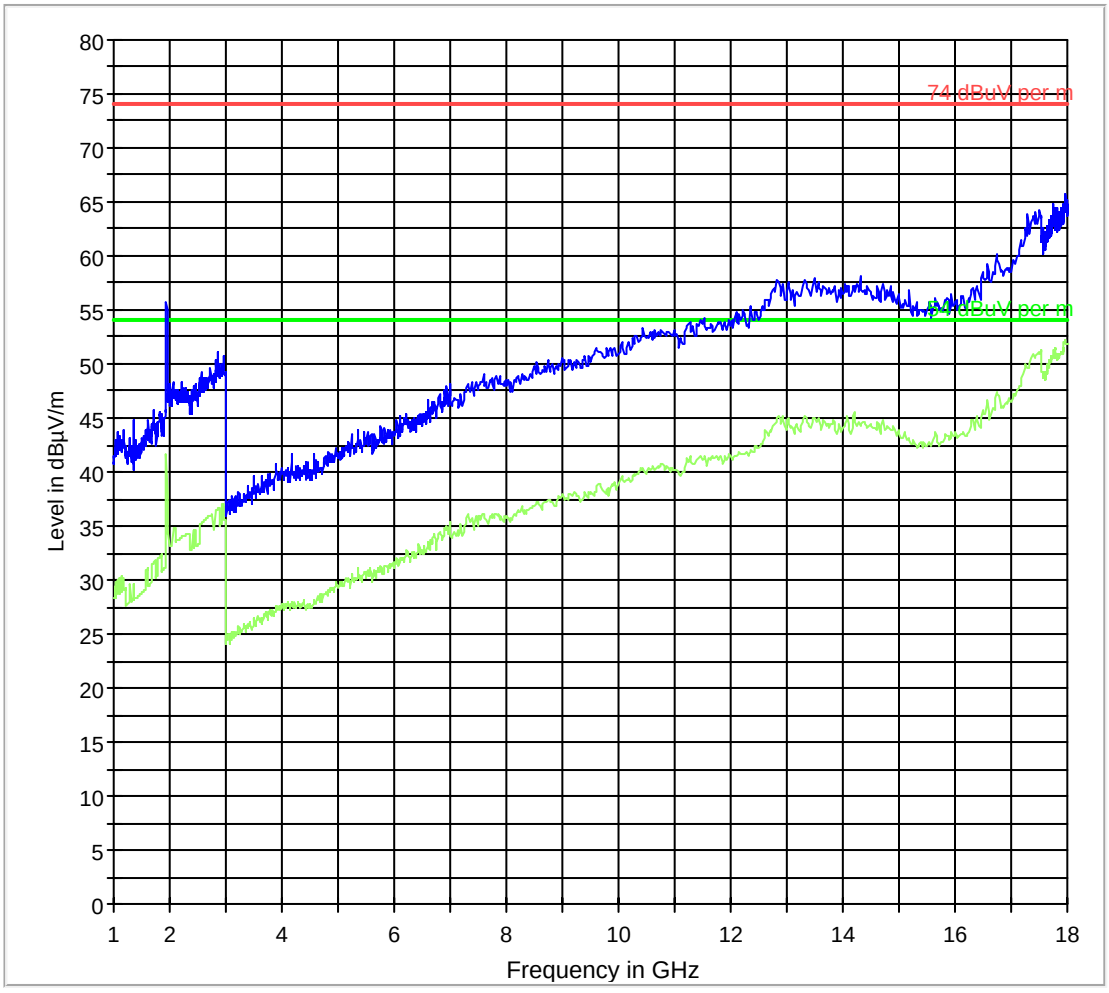
EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	(GSM/UMTS Sample)
Configuration:	Inductive Cover with Inductive Dock with AC Adapter #24 with Laptop

Comment:

FCC 15 1-18GHz



5.6 AC Power Line Conducted Emissions

5.6.1 §15.207 Conducted limits- Intentional Radiators:

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

Analyzer Settings: RBW = 10KHz; VBW = 10KHz

5.6.2 Test Results:

GSM 850 – Standard Cover with AC #30

850_Standard Cover; ac 30 1 / 1

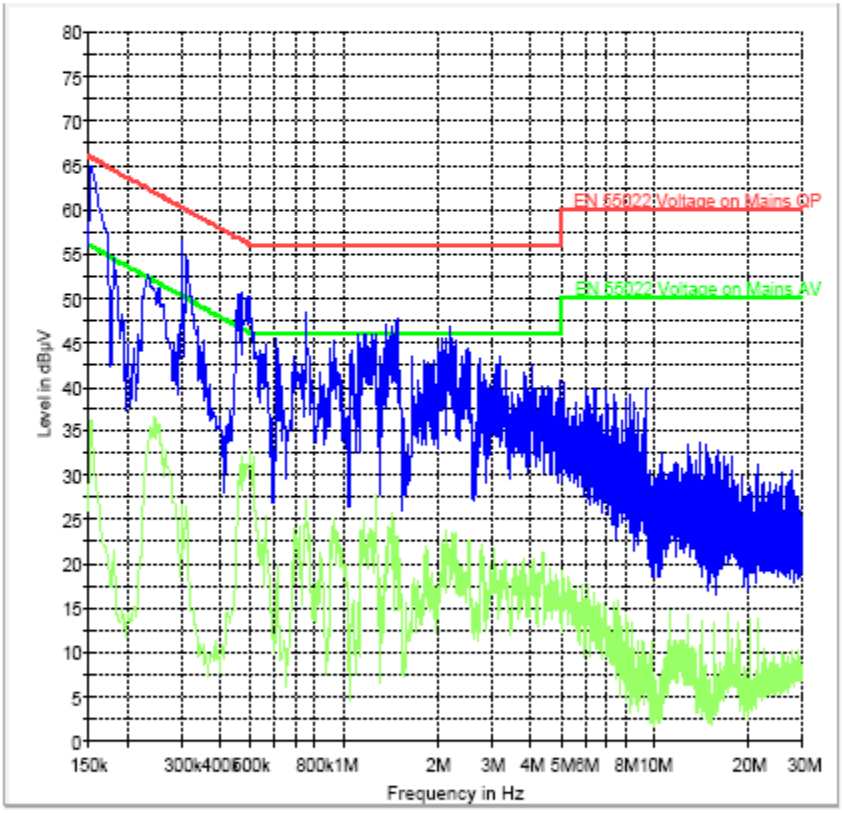
850_Standard Cover; ac 30

EUT Information

Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #30
Comment:	850

CISPR 22 Mains Conducted



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FDD V – Inductive cover with inductive dock and AC Adapter #30

FDD V_Inductive Cover; dock; ac 30 1 / 1

FDD V_Inductive Cover; dock; ac 30

EUT Information

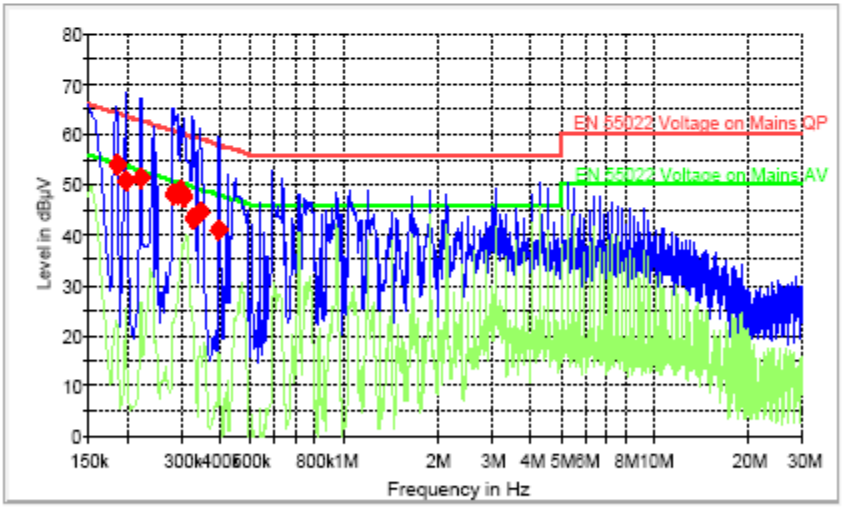
Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	FDD V

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.186000	54.0	5000.000	9.000	GND	L1	0.9	10.2	64.2	
0.198000	50.9	5000.000	9.000	GND	N	0.9	12.8	63.7	
0.222000	51.5	5000.000	9.000	GND	N	0.9	11.2	62.7	
0.282000	48.1	5000.000	9.000	GND	N	0.7	12.7	60.8	
0.290000	48.0	5000.000	9.000	GND	N	0.7	12.5	60.5	
0.298000	48.9	5000.000	9.000	GND	N	0.6	11.4	60.3	
0.306000	47.6	5000.000	9.000	GND	N	0.6	12.5	60.1	
0.326000	43.2	5000.000	9.000	GND	N	0.6	16.4	59.6	
0.346000	44.5	5000.000	9.000	GND	N	0.5	14.6	59.1	
0.394000	41.0	5000.000	9.000	GND	N	0.4	17.0	58.0	

CISPR 22 Mains Conducted



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PCS 1900 – Inductive cover with inductive dock and AC Adapter #24

1900_Inductive Cover; dock; ac 24

EUT Information

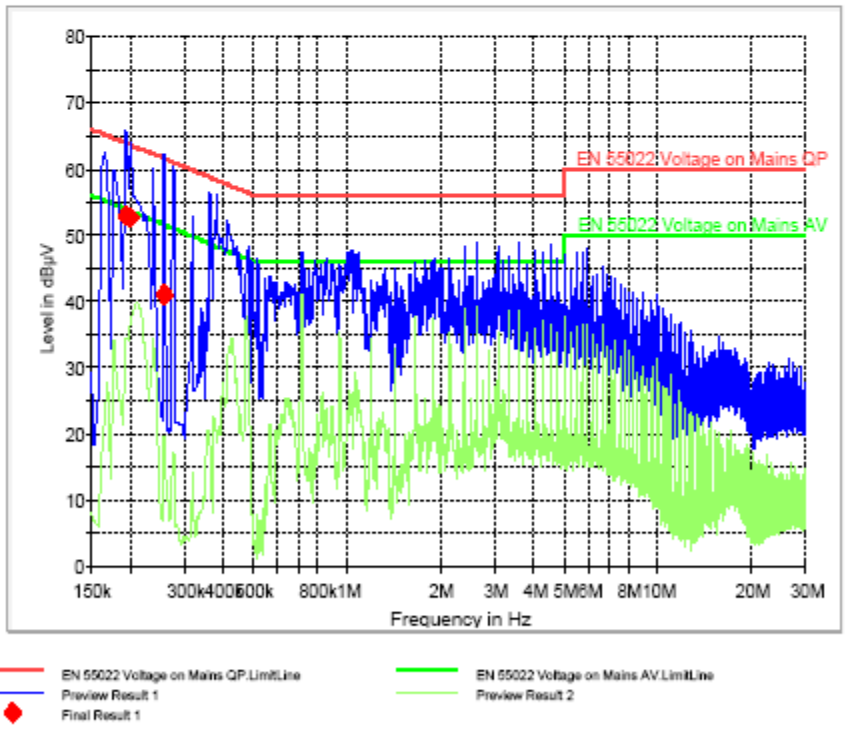
Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #24
Comment:	1900

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.194000	52.7	5000.000	9.000	GND	N	0.9	11.2	63.9	
0.202000	52.5	5000.000	9.000	GND	L1	0.9	11.0	63.5	
0.258000	40.9	5000.000	9.000	GND	N	0.8	20.6	61.5	

CISPR 22 Mains Conducted



FDD II – Standard cover with AC adapter #24

FDD II_Standard Cover; ac 24

EUT Information

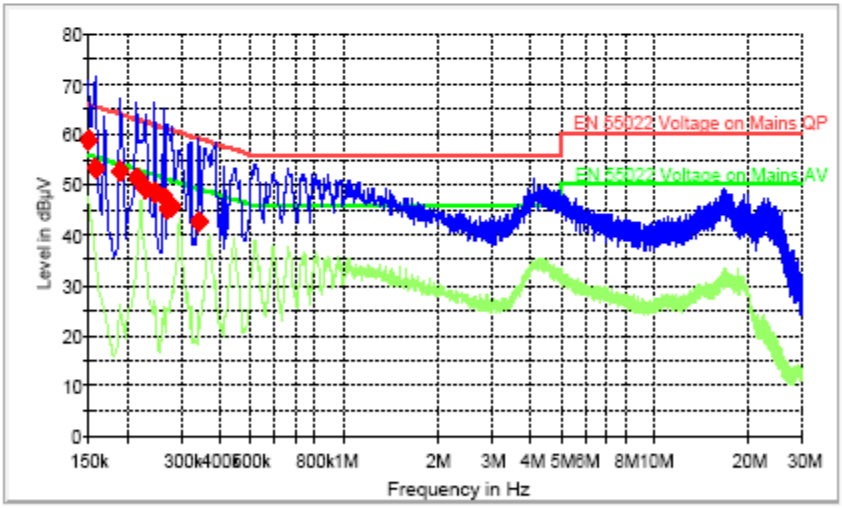
Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Standard Cover and AC adapter #24
Comment:	FDD II

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	58.9	5000.000	9.000	GND	L1	1.0	7.1	66.0	
0.158000	53.2	5000.000	9.000	GND	N	1.0	12.4	65.6	
0.190000	52.8	5000.000	9.000	GND	N	0.9	11.2	64.0	
0.214000	51.3	5000.000	9.000	GND	L1	0.9	11.7	63.0	
0.230000	49.1	5000.000	9.000	GND	L1	0.8	13.3	62.4	
0.246000	48.3	5000.000	9.000	GND	L1	0.8	13.6	61.9	
0.262000	47.6	5000.000	9.000	GND	L1	0.7	13.8	61.4	
0.270000	45.4	5000.000	9.000	GND	N	0.7	15.7	61.1	
0.278000	45.5	5000.000	9.000	GND	N	0.7	15.4	60.9	
0.342000	42.5	5000.000	9.000	GND	L1	0.5	16.7	59.2	

CISPR 22 Mains Conducted



Idle Mode – Inductive Cover with AC adapter #30
This represents worst case emissions of all configurations.

RX_Inductive Cover; dock; ac 30 1 / 1

RX_Inductive Cover; dock; ac 30

EUT Information

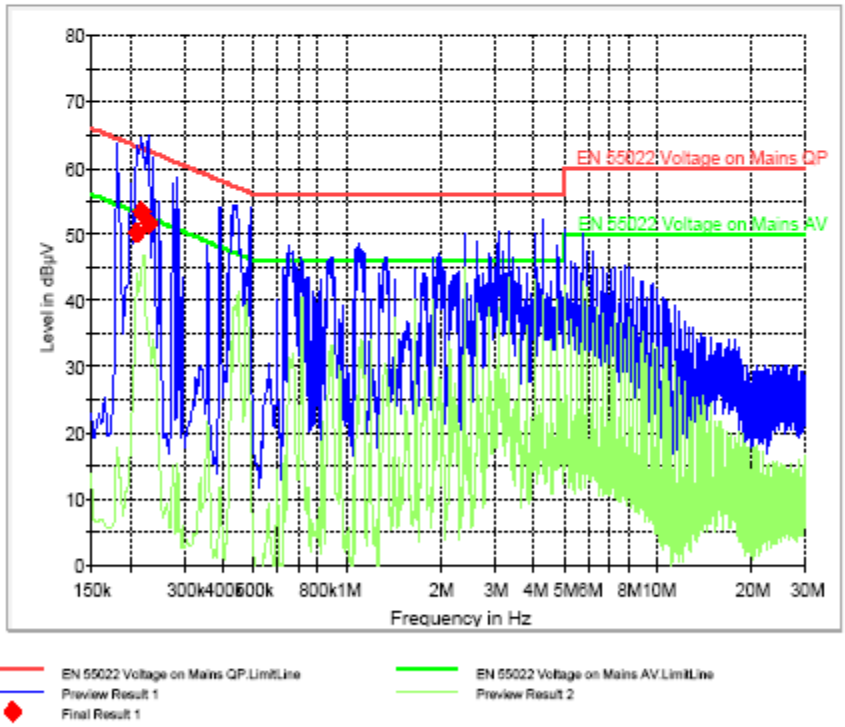
Description:

EUT Name:	GSM/UMTS Phone
Manufacturer:	Palm
Serial Number:	GSM/UMTS SAMPLE
Configuration:	Inductive Cover w dock and AC adapter #30
Comment:	RX

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.210000	50.2	5000.000	9.000	GND	L1	0.9	13.0	63.2	
0.218000	53.4	5000.000	9.000	GND	L1	0.9	9.5	62.9	
0.230000	51.7	5000.000	9.000	GND	N	0.8	10.7	62.4	

CISPR 22 Mains Conducted



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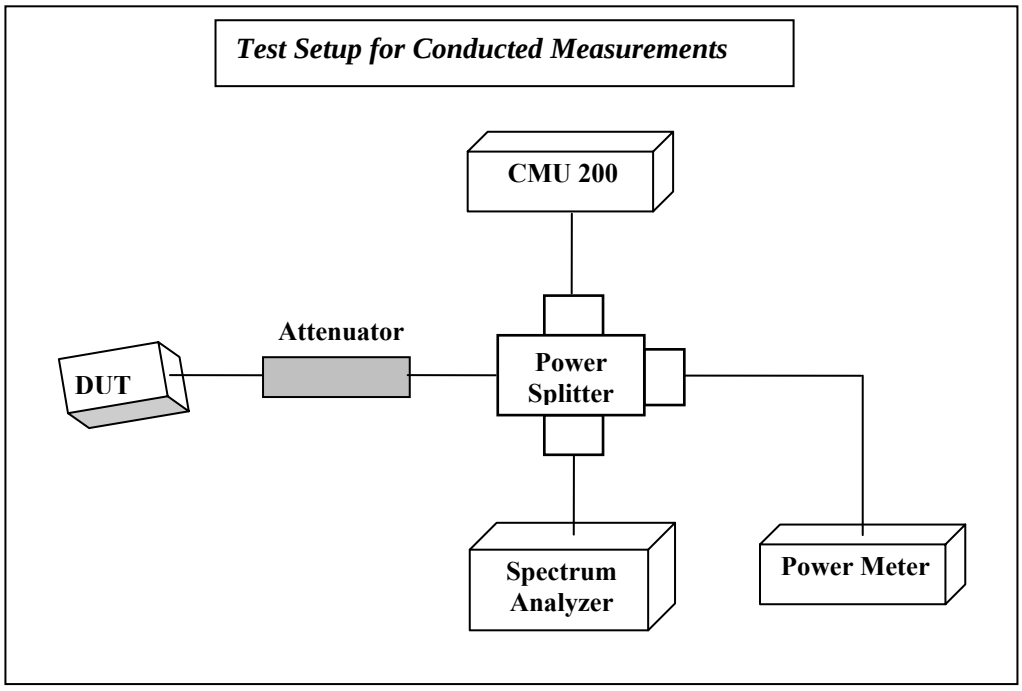
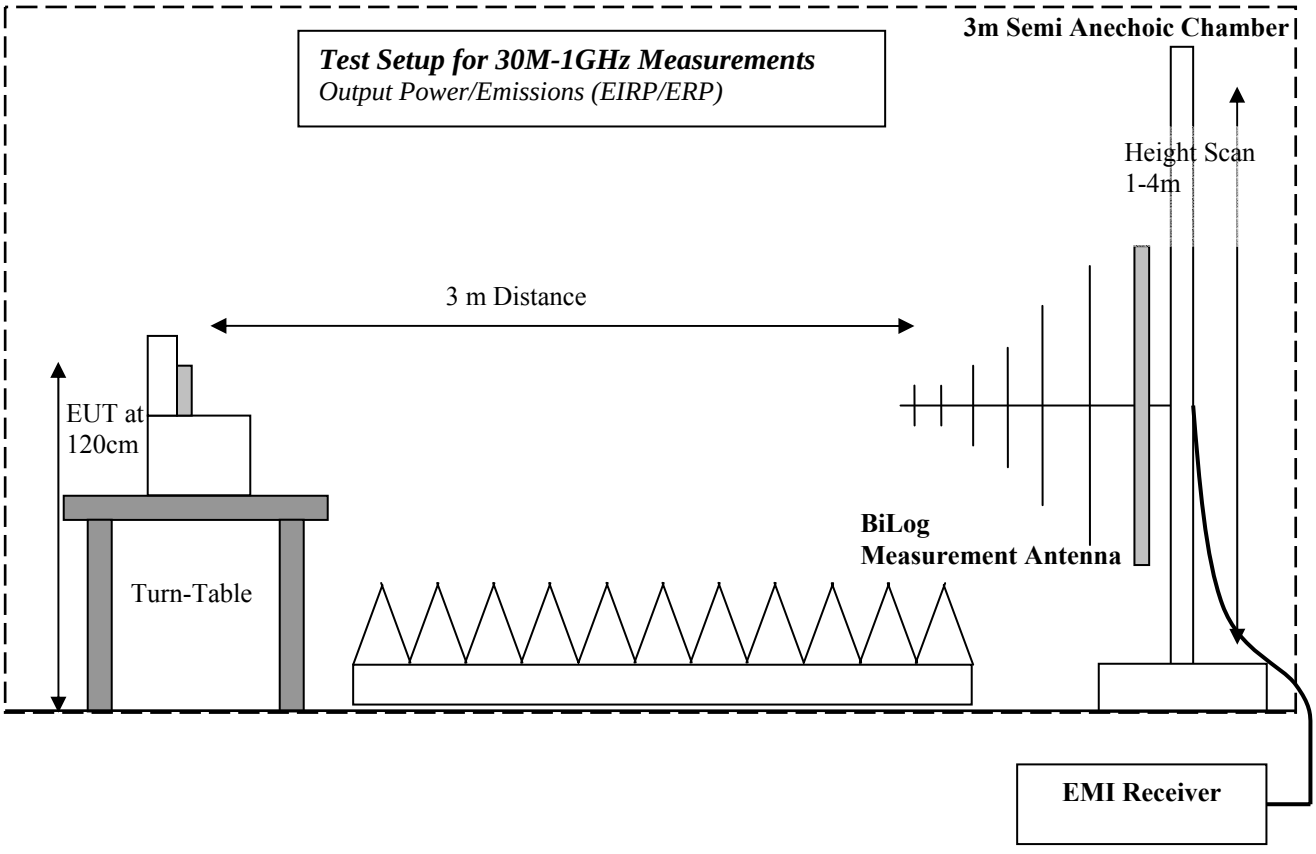
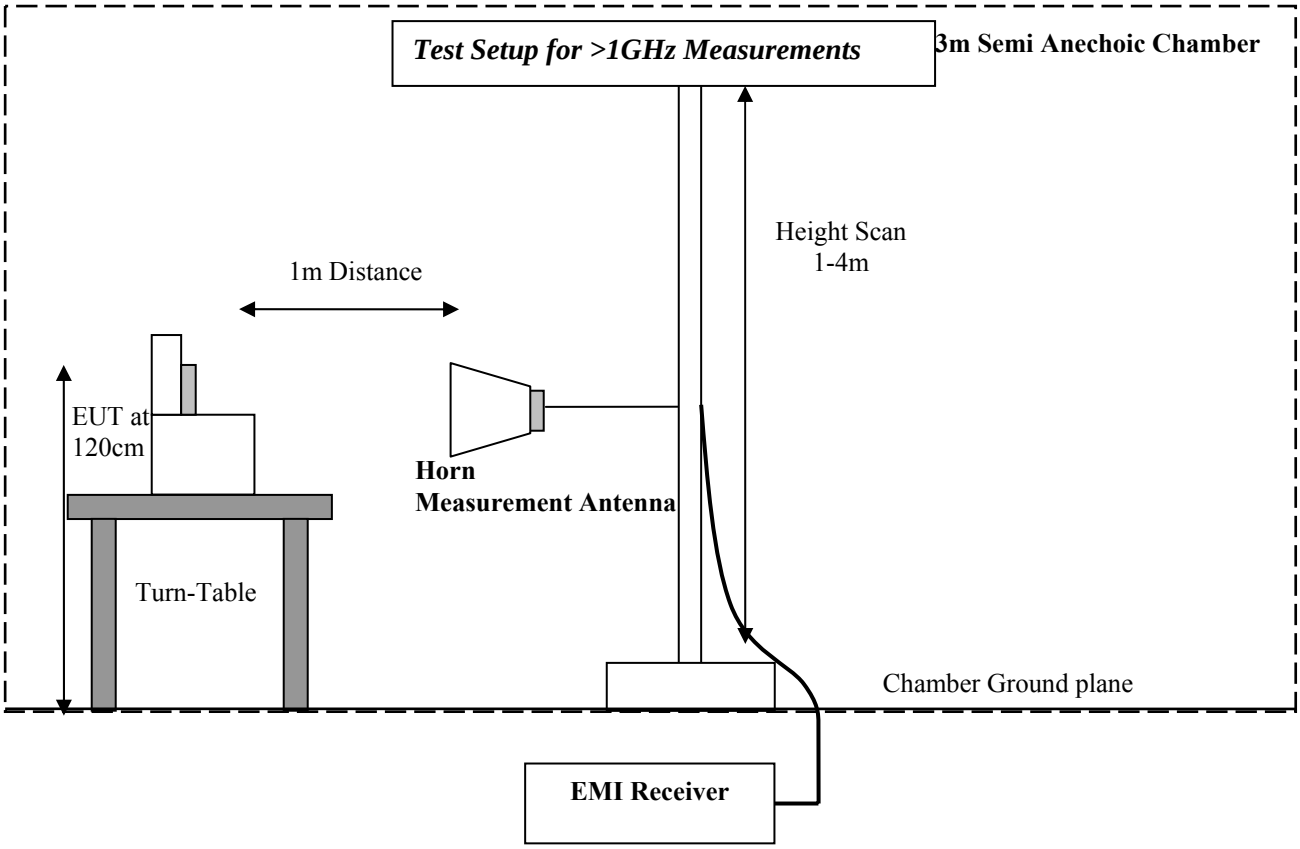
6 Test Equipment And Ancillaries Used For Tests

No	Instrument/Ancillary	Type	Manufacturer	Serial No.	Cal Due	Interval
01	Spectrum Analyzer	ESIB 40	Rohde & Schwarz	100107	May 2010	1 year
02	Spectrum Analyzer	FSEM 30	Rohde & Schwarz	100017	May 2010	1 year
03	Signal Generator	SMY02	Rohde & Schwarz	836878/011	May 2010	1 year
04	Power-Meter	NRVD	Rohde & Schwarz	0857.8008.02	May 2010	1 year
05	Biconilog Antenna	3141	EMCO	0005-1186	June 2010	1 year
06	Horn Antenna (1-18GHz)	SAS-200/571	AH Systems	325	June 2010	1 year
07	Horn Antenna (18-26.5GHz)	3160-09	EMCO	1240	June 2010	1 year
08	Power Splitter	11667B	Hewlett Packard	645348	n/a	n/a
09	Climatic Chamber	VT4004	Voltsch	G1115	May 2010	1 year
10	High Pass Filter	5HC2700	Trilithic Inc.	9926013	n/a	n/a
11	High Pass Filter	4HC1600	Trilithic Inc.	9922307	n/a	n/a
12	Pre-Amplifier	JS4-00102600	Miteq	00616	May 2010	1 year
13	Power Sensor	URV5-Z2	Rohde & Schwarz	DE30807	May 2010	1 year
14	Digital Radio Comm. Tester	CMD-55	Rohde & Schwarz	847958/008	May 2010	1 year
15	Universal Radio Comm. Tester	CMU 200	Rohde & Schwarz	832221/06	May 2010	1 year
16	LISN	ESH3-Z5	Rohde & Schwarz	836679/003	May 2010	1 year
17	Loop Antenna	6512	EMCO	00049838	July 2010	2 years

7 Block Diagrams






Test Setup for >1GHz Measurements
3m Semi Anechoic Chamber
Height Scan
1-4m
1m Distance
EUT at
120cm
Horn
Measurement Antenna
Turn-Table
Chamber Ground plane
EMI Receiver

8 Revision History

Date	Report Name	Changes to report	Report prepared by
2010-01-25	**EMC_PALMO_070_09001_FCC22_24**	**Original Report**	**Josie Sabado**