



# FCC REPORT

**Report Reference No.**..... : **TRE1706004101** R/C.....: 44073

**FCC ID**..... : **QRP-AZUMIIROA55QP**

**Applicant's name**..... : **Azumi S.A**

Address.....: Avenida Aquilino de la Guardia con Calle 47, PH Ocean Plaza, Piso 16 of. 16-01, Marbella, Ciudad de Panama, Panama

Manufacturer.....: AZUMI HK LTD

Address.....: FLAT/RM 18 BLK 1 14/F GOLDEN INDUSTRIAL BUILDING 16-26 KWAI TAK STREET KWAI CHUNG,HK

**Test item description** ..... : **Mobile Phone**

Trade Mark .....: -

Model/Type reference.....: IRO A55 Q Pro

Listed Model(s) .....: -

**Standard** ..... : **FCC Part 22: PUBLIC MOBILE SERVICES**  
**FCC Part 24: PERSONAL COMMUNICATIONS SERVICES**  
**FCC Part 27: MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES**

Date of receipt of test sample.....: Jun. 06, 2017

Date of testing.....: Jun. 06, 2017 - Jun. 22, 2017

Date of issue.....: Jun. 22, 2017

**Result**.....: **Pass**

Compiled by  
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**Testing Laboratory Name** ..... : **Shenzhen Huatongwei International Inspection Co., Ltd.**

Address.....: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

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*The test report merely corresponds to the test sample.  
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.*

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# **1. Test standards and Report version**

## **1.1. Applicable Standards**

The tests were performed according to following standards:

[FCC Part 22](#):PRIVATE LAND MOBILE RADIO SERVICES.

[FCC Part 24](#):PUBLIC MOBILE SERVICES

[FCC Part 27](#):MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

[TIA/EIA 603 D June 2010](#):Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

[FCC Part 2](#):FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS

[971168 D01 Power Meas License Digital Systems v02r02](#):provides a methodology for fully characterizing the fundamental power of wideband (> 1 MHz) digitally modulated RF signals acceptable to the FCC for demonstrating compliance for licensed transmitters.

## **1.2. Report version**

Version No.	Date of issue	Description
00	Jun. 22, 2017	Original

## 2. Test Description

Test Item	Section in CFR 47	Result
RF Output Power	Part 2.1046 Part 22.913(a) Part 24.232(c) Part 27.50	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b)	Pass
Conducted Spurious Emissions	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass
Band Edge	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass
ERP and EIRP	Part 22.913(a) Part 24.232(b)	Pass
Radiated Spurious Emissions	Part 2.1053 Part 22.917 Part 24.238 Part 27.53	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b) Part 22.255 Part 24.235 Part 27.54	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2) Part 22.255 Part 24.235 Part 27.54	Pass
Peak-Average Ratio	Part 24.232 Part 27.50	Pass

Note: The measurement uncertainty is not included in the test result.

### 3. SUMMARY

#### 3.1. Client Information

Applicant:	Azumi S.A
Address:	Avenida Aquilino de la Guardia con Calle 47, PH Ocean Plaza, Piso 16 of. 16-01, Marbella, Ciudad de Panama, Panama
Manufacturer:	AZUMI HK LTD
Address:	FLAT/RM 18 BLK 1 14/F GOLDEN INDUSTRIAL BUILDING 16-26 KWAI TAK STREET KWAI CHUNG, HK

#### 3.2. Product Description

Name of EUT:	Mobile Phone
Trade Mark:	-
Model No.:	IRO A55 Q Pro
Listed Model(s):	-
IMEI:	354935080000465
Power supply:	DC 3.8V From internal battery
Adapter information:	Input: 100-240Va.c., 50/60Hz, 0.2A Output: 5Vd.c., 1A
Hardware version:	AZUMI_IRO_A55_Q_Pro_Hardware_V1.0
Software version:	AZUMI_IRO_A55_Q_Pro_CL_V06
<b>2G:</b>	
Support Network:	GSM, GPRS, EGPRS
Support Band:	GSM850, PCS1900
Modulation:	GSM/GPRS/EGPRS: GMSK EGPRS: 8PSK
Transmit Frequency:	GSM850: 824.20MHz-848.80MHz PCS1900: 1850.20MHz-1909.80MHz
Receive Frequency:	GSM850: 869.20MHz-893.80MHz PCS1900: 1930.20MHz-1989.80MHz
GPRS Class:	12
EGPRS Class:	12
Antenna type:	Integral Antenna
Antenna gain:	GSM850: 1.0 dBi PCS1900: 1.0 dBi
<b>3G:</b>	
Operation Band:	FDD Band II and FDD Band IV, FDD Band V
Power Class:	Power Class 3
Modulation Type:	QPSK/16QAM/64QAM/HSUPA/HSDPA
DC-HSUPA Release Version:	Not Supported
Antenna type:	Integral Antenna
Antenna gain:	Band II: 1.0 dBi, Band IV: 1.0 dBi ,Band V: 1.0 dBi

### 3.3. Operation state

#### ➤ Test frequency list

GSM850		PCS1900	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.20	512	1850.20
190	836.60	661	1880.00
251	848.80	810	1909.80

FDD Band II		FDD Band IV		FDD Band V	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
9262	1852.4	1313	1712.6	4132	826.40
9400	1880.0	1450	1740.0	4183	836.60
9538	1907.6	1512	1752.4	4233	846.60

#### ➤ Test mode

For RF test items

The EUT has been tested under typical operating condition. The Applicant provides software to control the EUT for staying in continuous transmitting and receiving mode for testing.

### 3.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- - supplied by the manufacturer
- - supplied by the lab

	Length (m): /
	Shield: /
	Detachable: /
	Manufacturer: /
	Model No.: /

### 3.5. Modifications

No modifications were implemented to meet testing criteria.

## **4. TEST ENVIRONMENT**

### **4.1. Address of the test laboratory**

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.

Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

Phone: 86-755-26748019 Fax: 86-755-26748089

### **4.2. Test Facility**

The test facility is recognized, certified, or accredited by the following organizations:

#### **CNAS-Lab Code: L1225**

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

#### **A2LA-Lab Cert. No.: 3902.01**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

#### **FCC-Registration No.: 317478**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 317478.

#### **IC-Registration No.: 5377B**

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B.

#### **ACA**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

### 4.3. Equipments Used during the Test

Output Power(Conducted) &Occupied Bandwidth&Emission Bandwidth&Band Edge Compliance&Conducted Spurious Emission					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
3	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13

Frequency Stability					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
3	Climate Chamber	ESPEC	EL-10KA	05107008	2016/11/13
4	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13

Output Power (Radiated) & Radiated Spurious Emission					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
3	HORNANTENNA	ShwarzBeck	9120D	1012	2016/11/13
4	HORNANTENNA	ShwarzBeck	9120D	1011	2016/11/13
5	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	538	2016/11/13
6	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	539	2016/11/13
7	TURNTABLE	MATURO	TT2.0	----	N/A
8	ANTENNA MAST	MATURO	TAM-4.0-P	----	N/A
9	EMI Test Software	Audix	E3	N/A	N/A
10	EMI Test Receiver	Rohde&Schwarz	ESIB 26	100009	2016/11/13
11	RF Test Panel	Rohde&Schwarz	TS / RSP	335015/ 0017	2016/11/13
12	High pass filter	Compliance Direction systems	BSU-6	34202	2016/11/13
13	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13
14	Horn Antenna	SCHWARZBECK	BBHA9170	25841	2016/11/13
15	Horn Antenna	SCHWARZBECK	BBHA9170	25842	2016/11/13
16	Preamplifier	ShwarzBeck	BBV 9718	BBV 9718	2016/11/13
17	Broadband Preamplifier	ShwarzBeck	BBV743	9743-0079	2016/11/13
18	Signal Generator	Rohde&Schwarz	SMF100A	101932	2016/11/13
19	Amplifier	Compliance Direction systems	PAP1-4060	120	2016/11/13
20	TURNTABLE	ETS	2088	2149	2016/11/13
21	ANTENNA MAST	ETS	2075	2346	2016/11/13
22	HORNANTENNA	Rohde&Schwarz	HF906	100068	2016/11/13
23	HORNANTENNA	Rohde&Schwarz	HF906	100039	2016/11/13

The calibration interval was one year.



#### 4.4. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature/Tnor:	15~35°C
Relative Humidity	30~60 %
Air Pressure	950-1050 hPa

#### 4.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Frequency stability	25 Hz	(1)
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-12.75 GHz	1.60 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.24 dB	(1)
Radiated Emission 1~18GHz	5.16 dB	(1)
Radiated Emission 18-40GHz	5.54 dB	(1)
Occupied Bandwidth	-----	(1)
Emission Mask	-----	(1)
Modulation Characteristic	-----	(1)
Transmitter Frequency Behavior	-----	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=1.96$ .

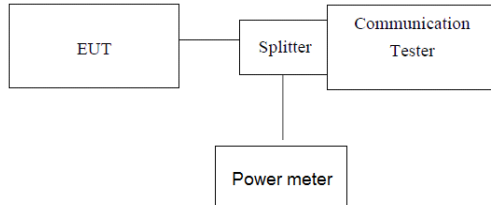
## 5. TEST CONDITIONS AND RESULTS

### 5.1. Conducted Output Power

#### LIMIT

N/A

#### TEST CONFIGURATION



*Note: Measurement setup for testing on Antenna connector*

#### TEST PROCEDURE

1. The transmitter output port was connected to base station.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement.
3. Set EUT at maximum power through base station.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure the maximum burst average power.

#### TEST MODE:

Please refer to the clause 3.3

#### TEST RESULTS

**Passed**       **Not Applicable**

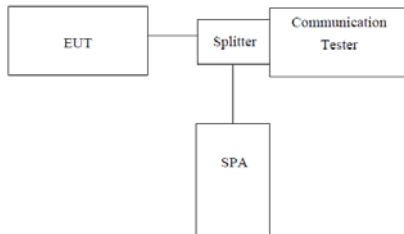
EUT Mode	Channel	Frequency (MHz)	Power (dBm)
GSM 850 (GMSK)	128	824.20	32.36
	190	836.60	32.38
	251	848.80	32.35
GPRS850 (GMSK,1Slot)	128	824.20	32.32
	190	836.60	32.31
	251	848.80	32.21
EGPRS850 (8PSK,1Slot)	128	824.20	26.52
	190	836.60	26.75
	251	848.80	26.78
PCS1900 (GMSK)	512	1850.20	29.85
	661	1880.00	29.98
	810	1909.80	30.04
GPRS1900 (GMSK,1Slot)	512	1850.20	29.83
	661	1880.00	29.99
	810	1909.80	30.08
EGPRS1900 (8PSK,1Slot)	512	1850.20	25.88
	661	1880.00	25.45
	810	1909.80	25.76
WCDMA Band II	9262	1852.40	22.18
	9400	1880.00	22.66
	9538	1907.60	22.25
WCDMA Band IV	1313	1712.6	22.27
	1450	1740.0	22.42
	1512	1752.4	22.66
WCDMA Band V	4132	826.40	22.80
	4183	836.60	22.64
	4233	846.60	22.59

## 5.2. 99% & -26 dB Occupied Bandwidth

### LIMIT

N/A

### TEST CONFIGURATION



*Note: Measurement setup for testing on Antenna connector*

### TEST PROCEDURE

1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer
2. RBW was set to about 1% of emission BW, VBW= 3 times RBW.
3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

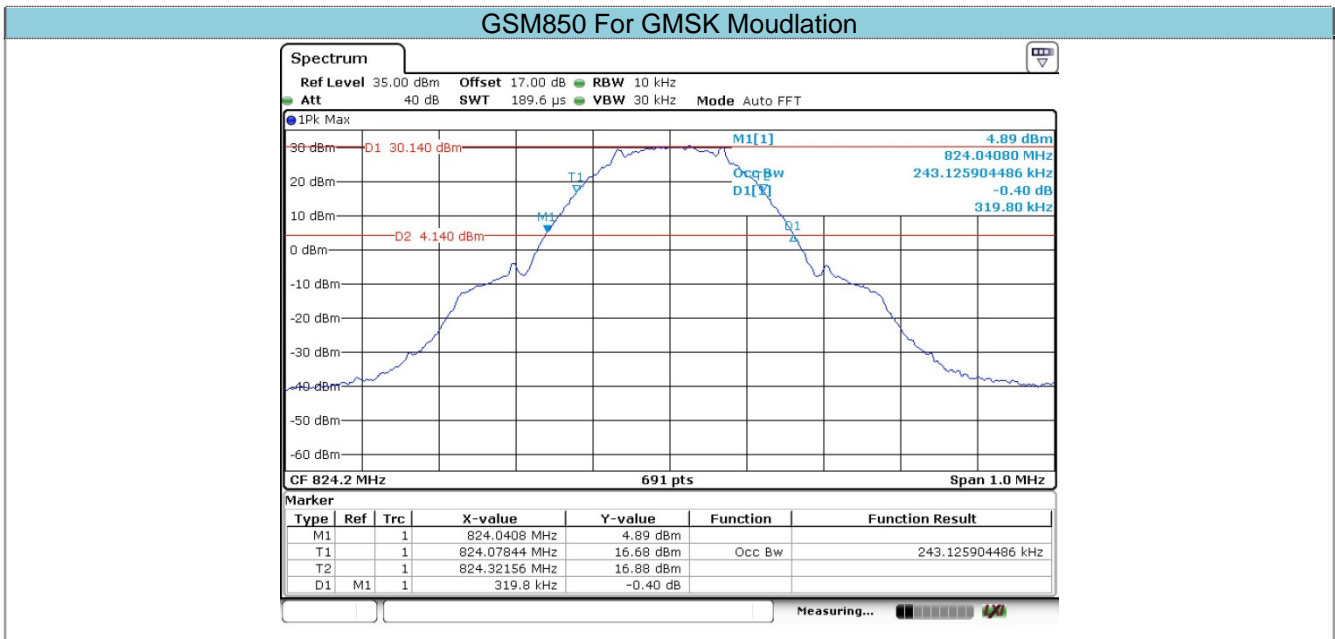
### TEST MODE:

Please refer to the clause 3.3

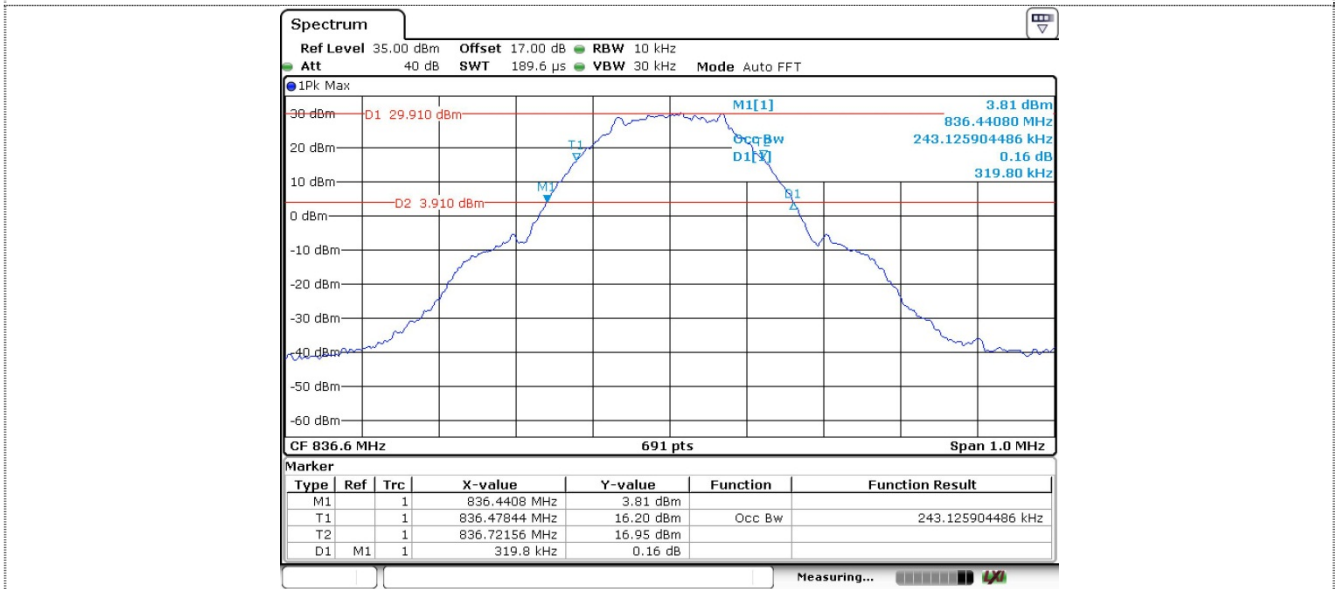
### TEST RESULTS

**Passed**       **Not Applicable**

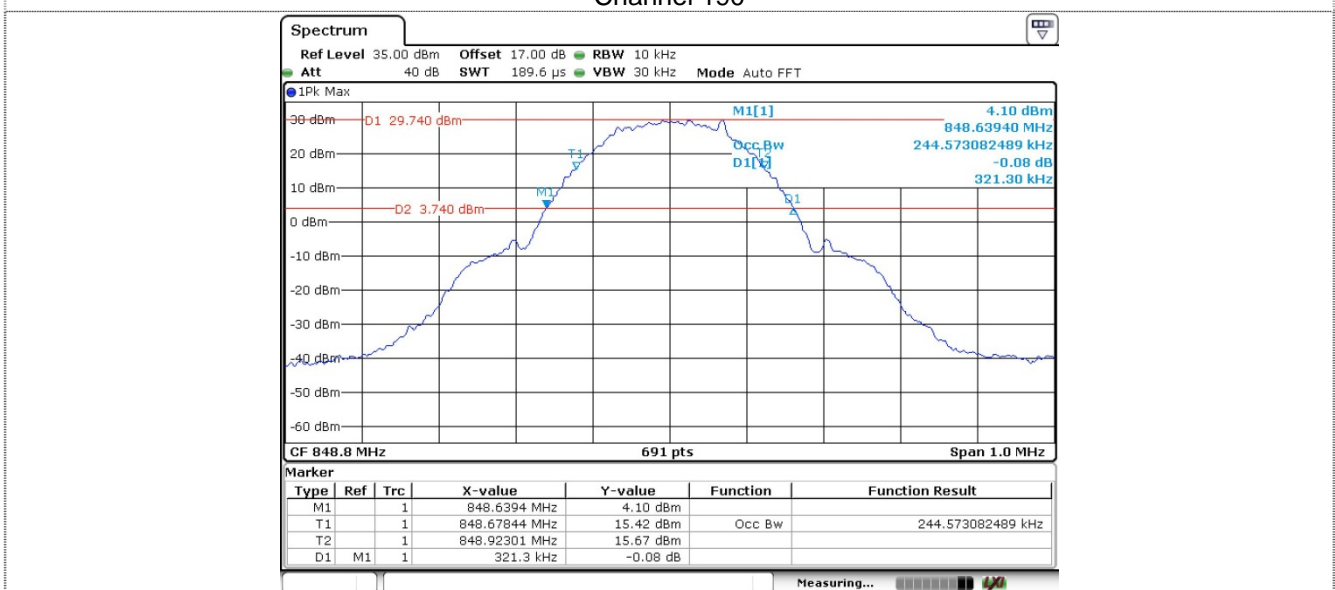
EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
GSM 850 (GMSK)	128	824.20	243.13	319.80
	190	836.60	243.13	319.80
	251	848.80	244.57	321.30
GPRS850 (GMSK,1Slot)	128	824.20	243.13	319.80
	190	836.60	243.13	322.70
	251	848.80	243.13	322.72
EGPRS850 (8PSK,1Slot)	128	824.20	243.13	322.70
	190	836.60	241.68	322.72
	251	848.80	243.13	319.80
PCS1900 (GMSK)	512	1850.20	243.13	324.20
	661	1880.00	244.57	322.70
	810	1909.80	241.68	319.83
GPRS1900 (GMSK,1Slot)	512	1850.20	243.13	319.83
	661	1880.00	244.57	321.27
	810	1909.80	244.57	319.83
EGPRS1900 (8PSK,1Slot)	512	1850.20	243.13	324.20
	661	1880.00	244.57	324.17
	810	1909.80	241.69	321.27
WCDMA Band II	9262	1852.40	4167.87	4703.00
	9400	1880.00	4167.87	4689.00
	9538	1907.60	4153.40	4674.00
WCDMA Band IV	1313	1712.60	4153.40	4688.90
	1450	1740.00	4153.40	4674.40
	1512	1752.40	4153.40	4689.00
WCDMA Band V	4132	826.40	4153.40	4689.00
	4183	836.60	4153.40	4703.00
	4233	846.60	4153.40	4674.00



Channel 128

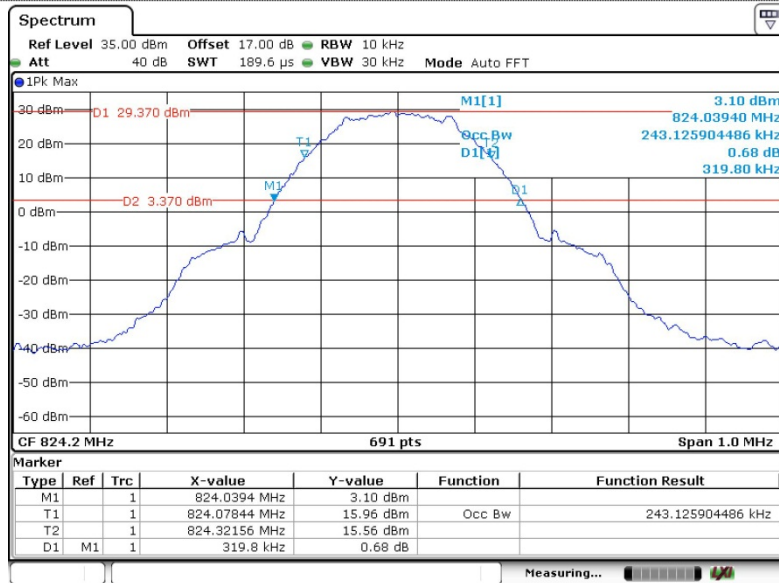


Channel 190

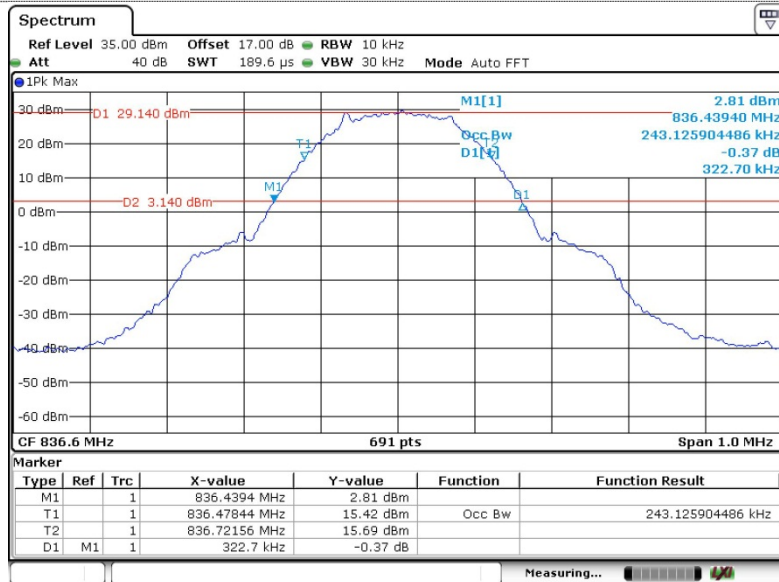


Channel 251

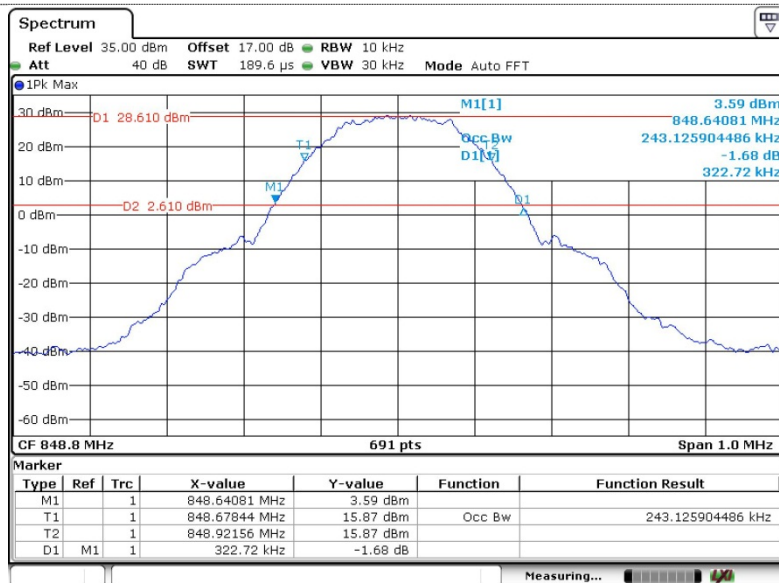
GPRS850 For GMSK Modulation



Channel 128

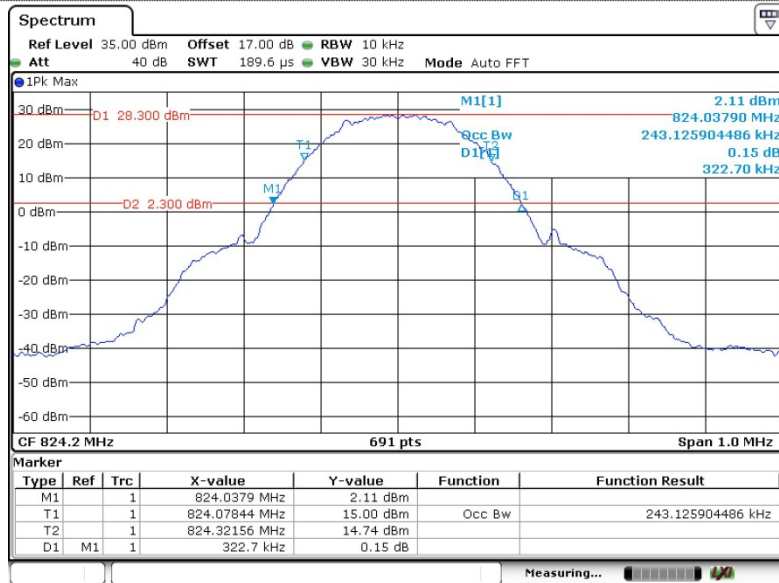


Channel 190

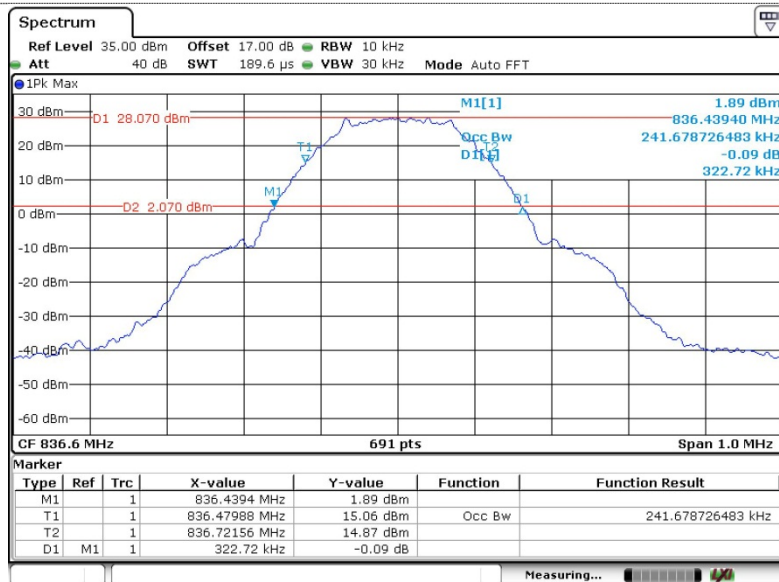


Channel 251

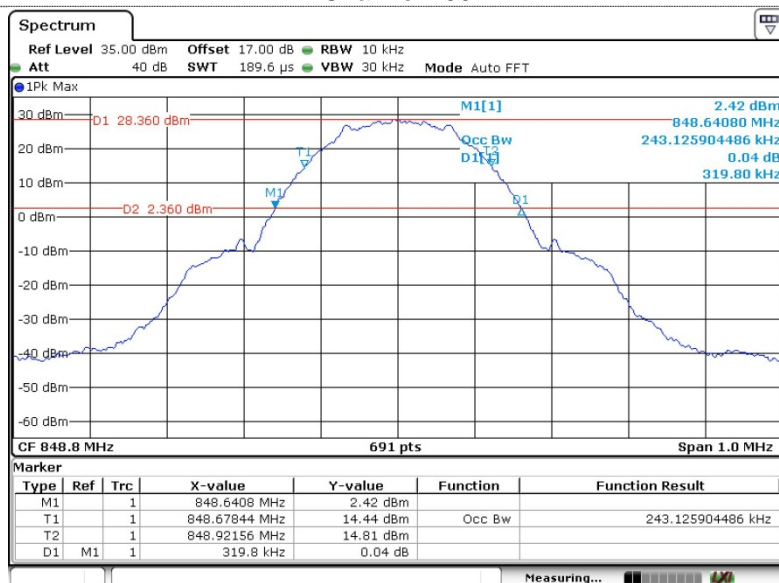
EGPRS850 For 8PSK Modulation



Channel 128



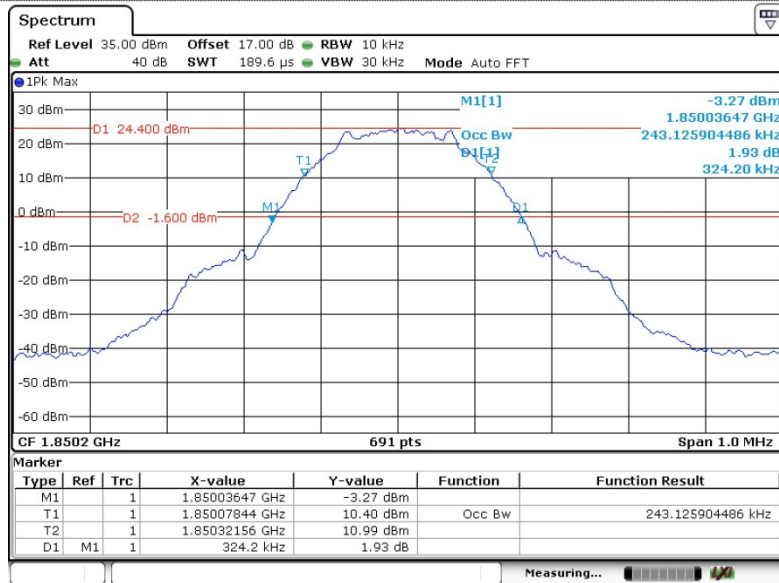
Channel 190



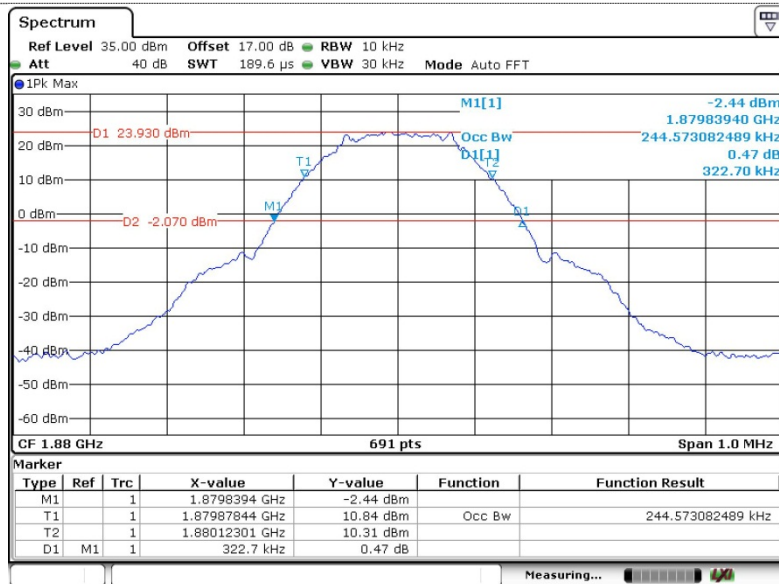
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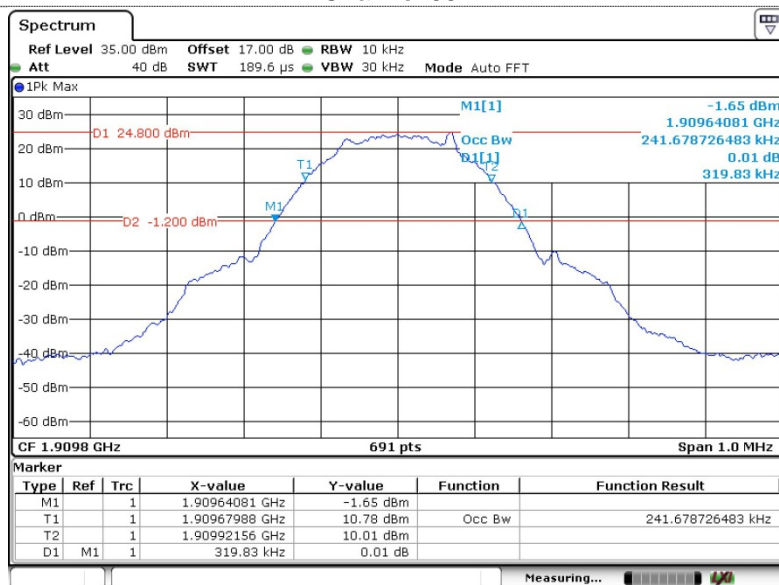
PCS1900 For GMSK Modulation



Channel 512

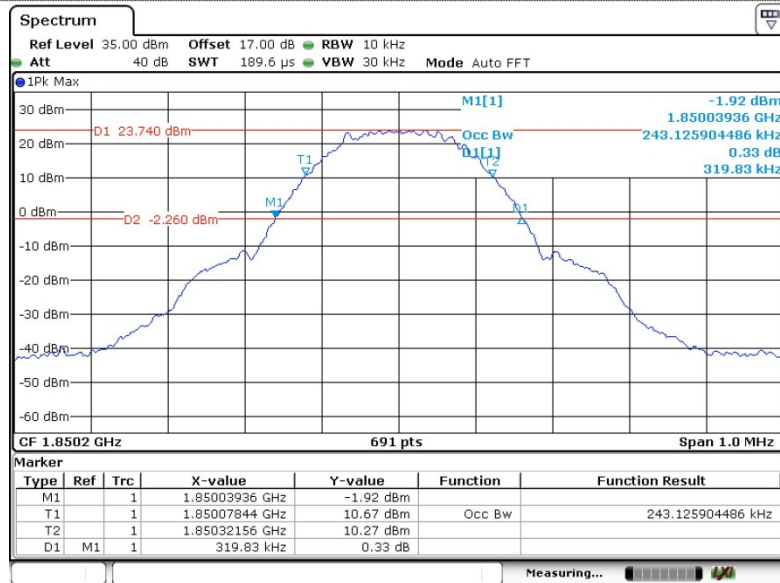


Channel 661

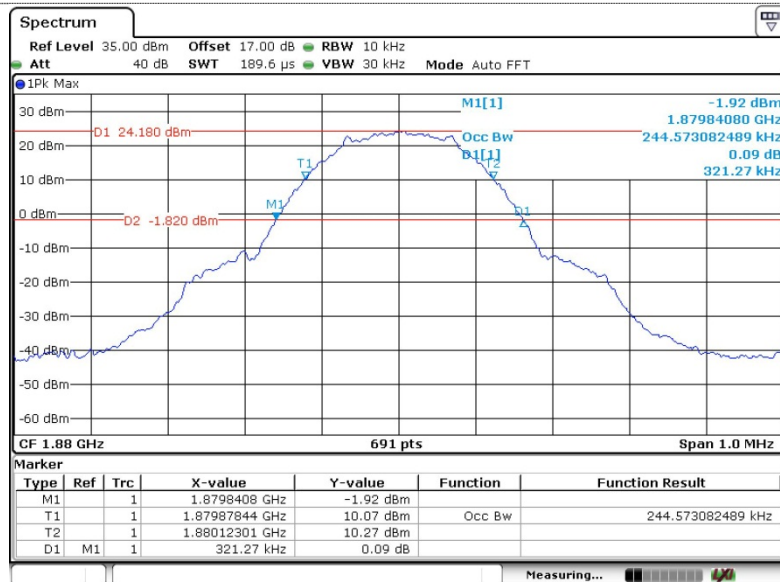


Channel 810

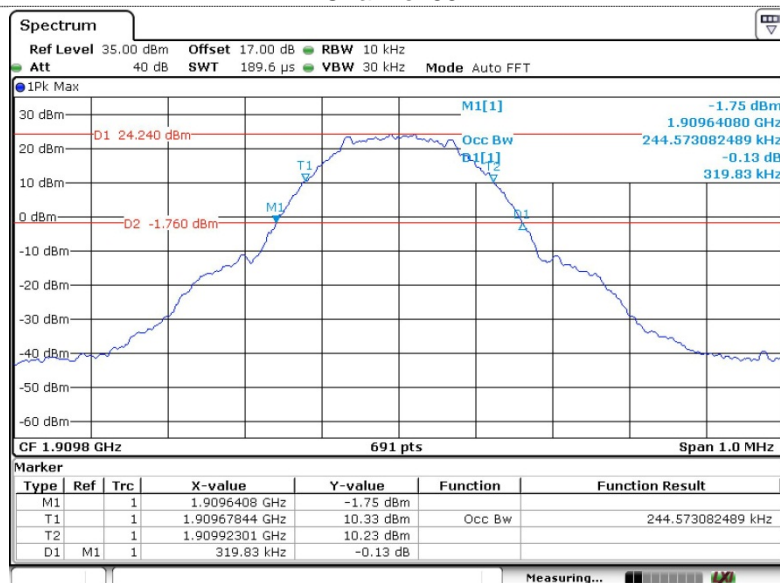
GPRS1900 For GMSK Modulation



Channel 512

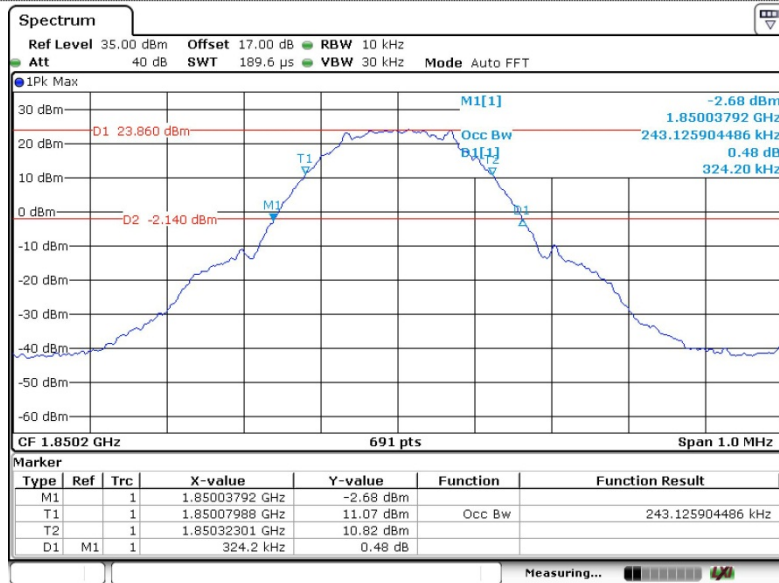


Channel 661

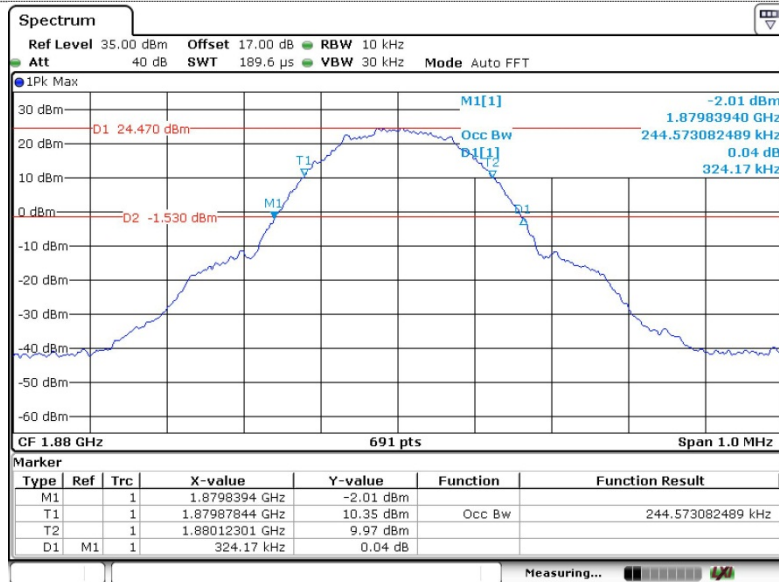


Channel 810

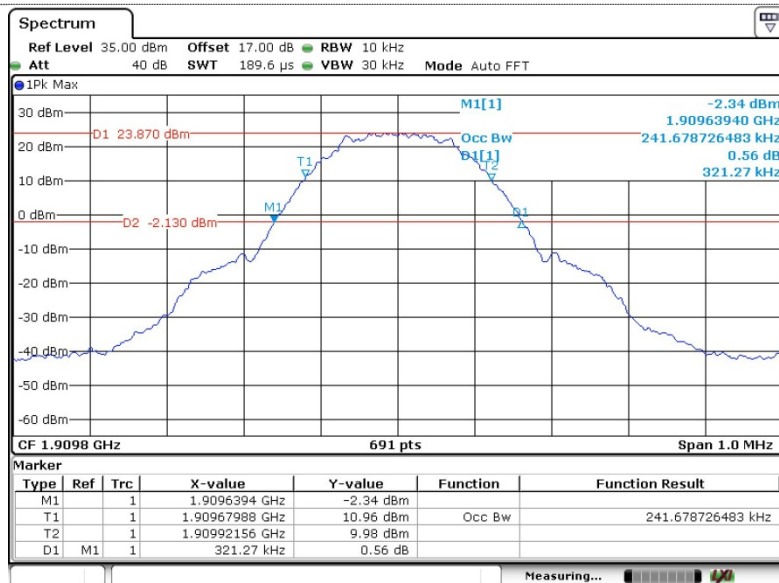
EGPRS1900 For 8PSK Moudlation



Channel 512

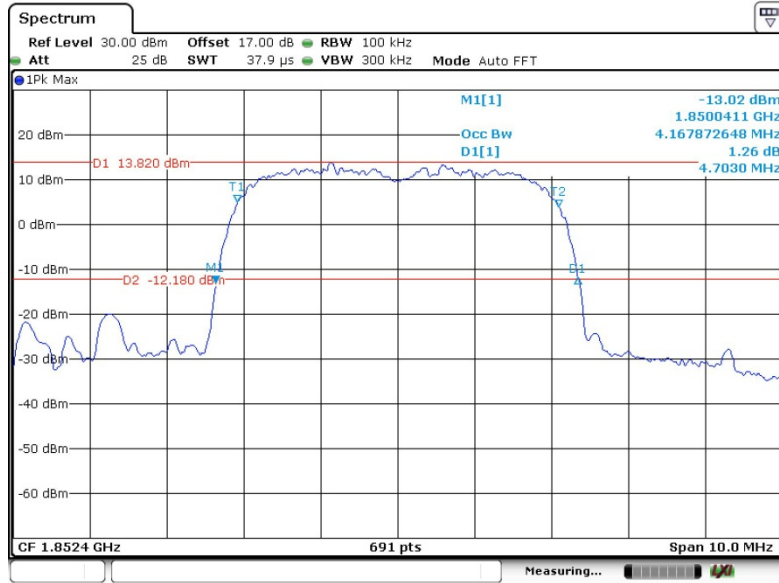


Channel 661

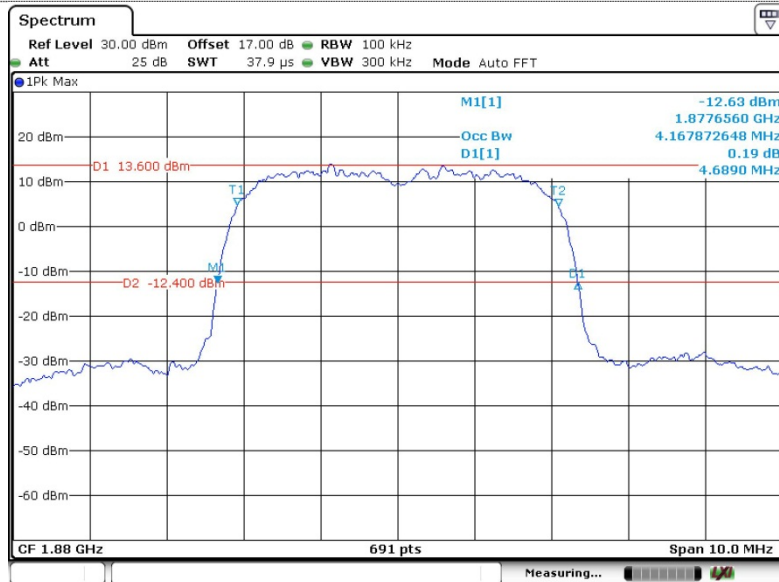


Channel 810

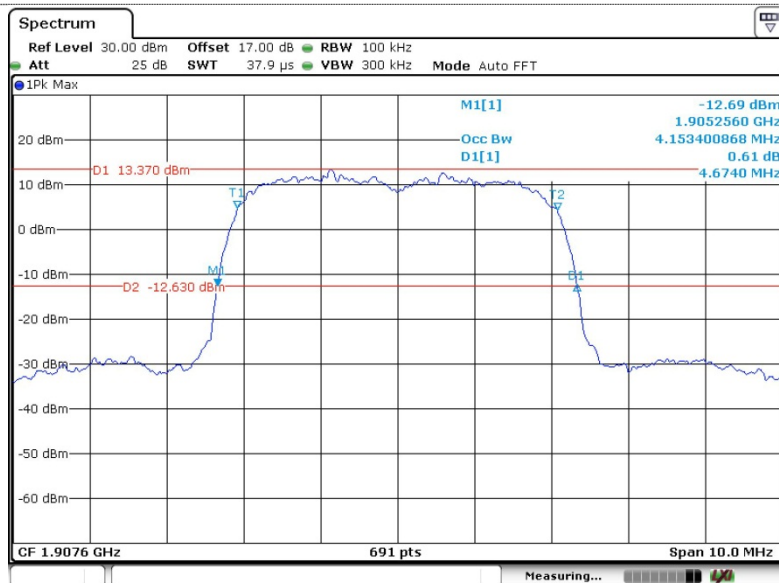
### WCDMA Band II



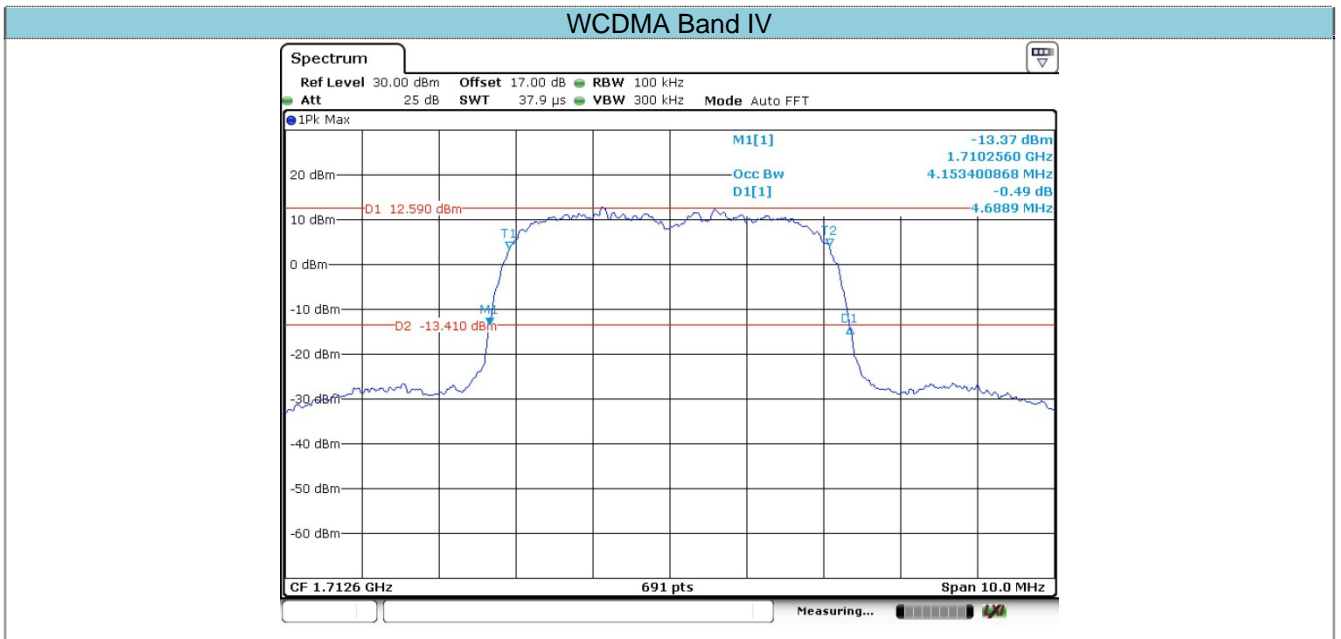
### Channel 9262



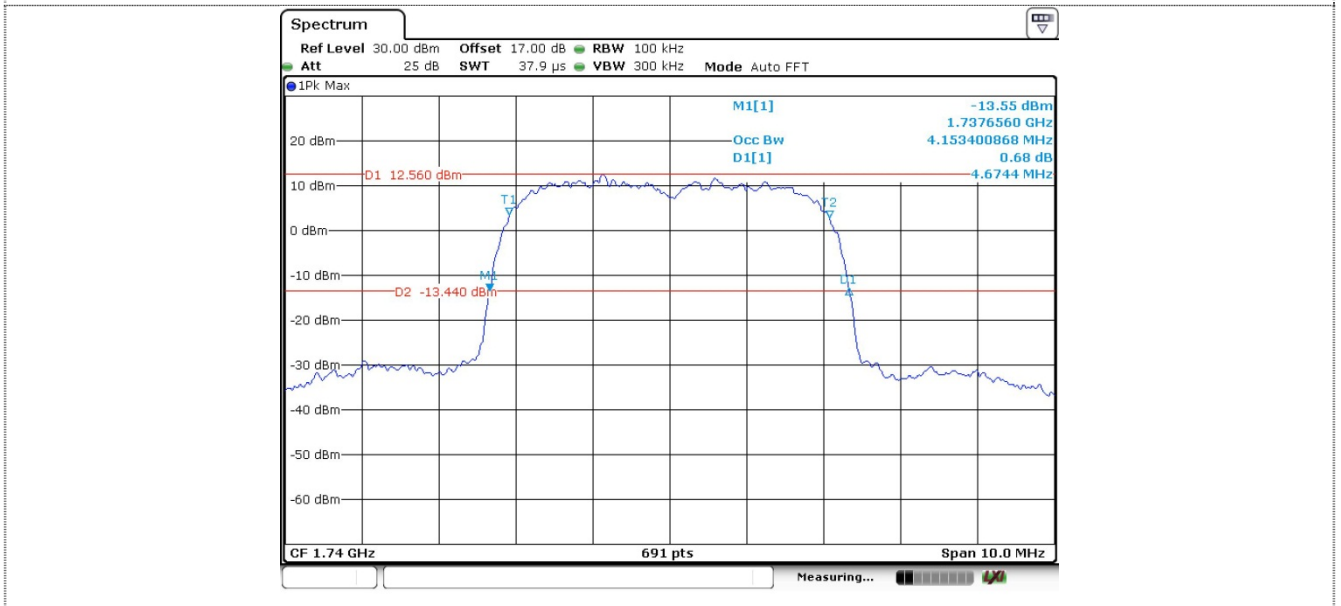
### Channel 9400



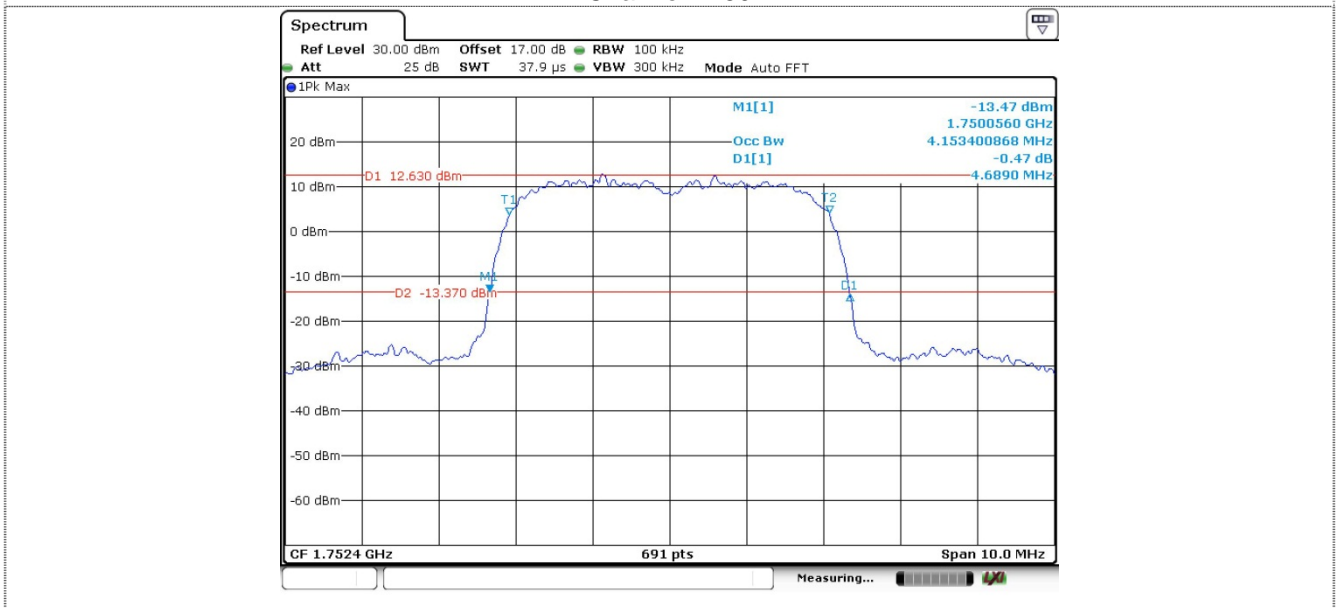
### Channel 9538



Channel 1313

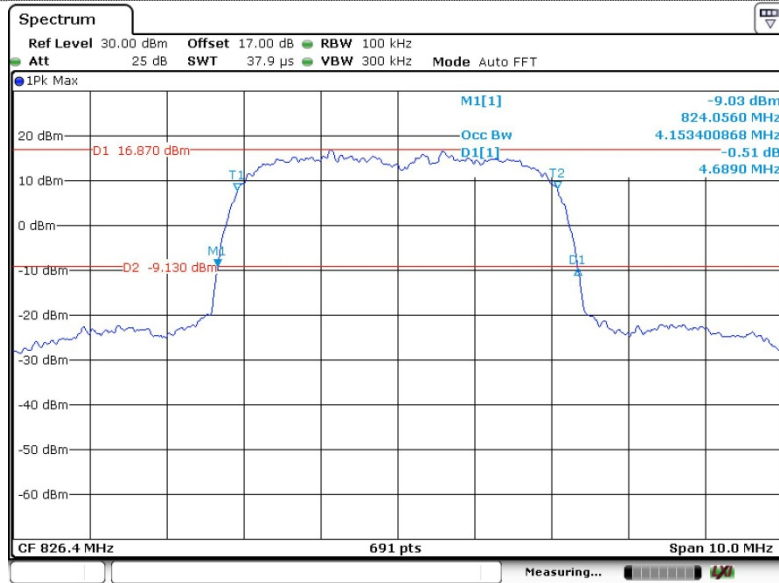


Channel 1450

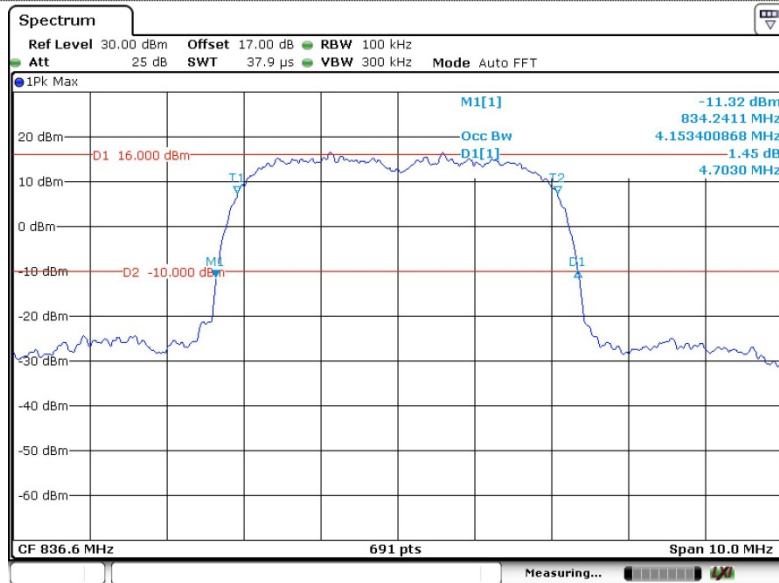


Channel 1512

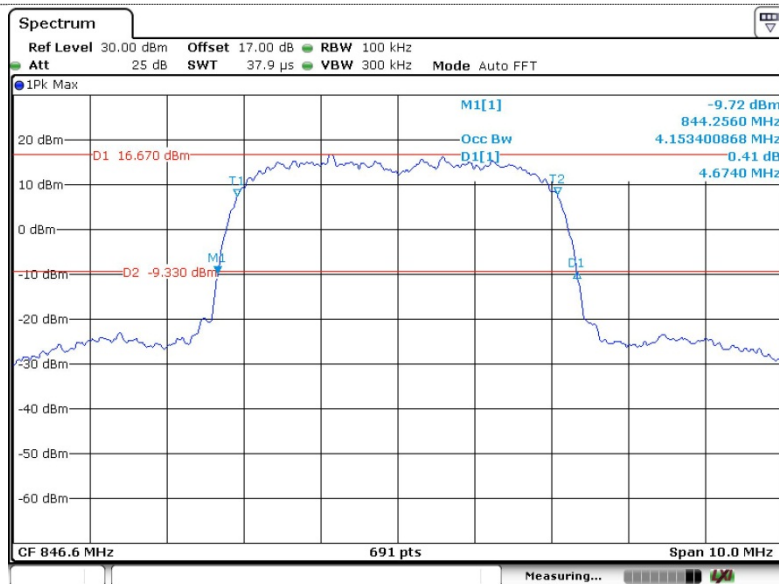
### WCDMA Band V



### Channel 4132



### Channel 4183



### Channel 4233

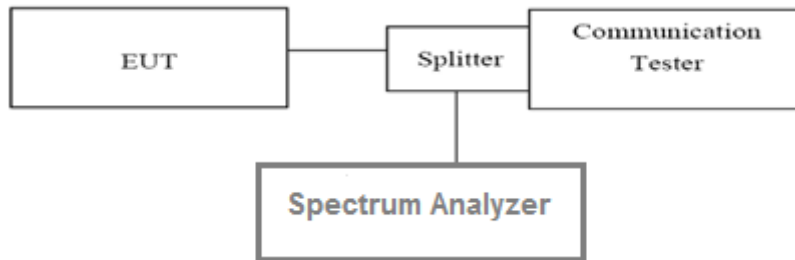
### 5.3. Conducted Spurious Emissions

#### LIMIT

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

The specification that emissions shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log(P)$  dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

#### TEST CONFIGURATION



#### TEST PROCEDURE

1. The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.
2. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.
3. For the out of band: Set the RBW= 1MHz, VBW = 3MHz, Start=30MHz, Stop= 10th harmonic.

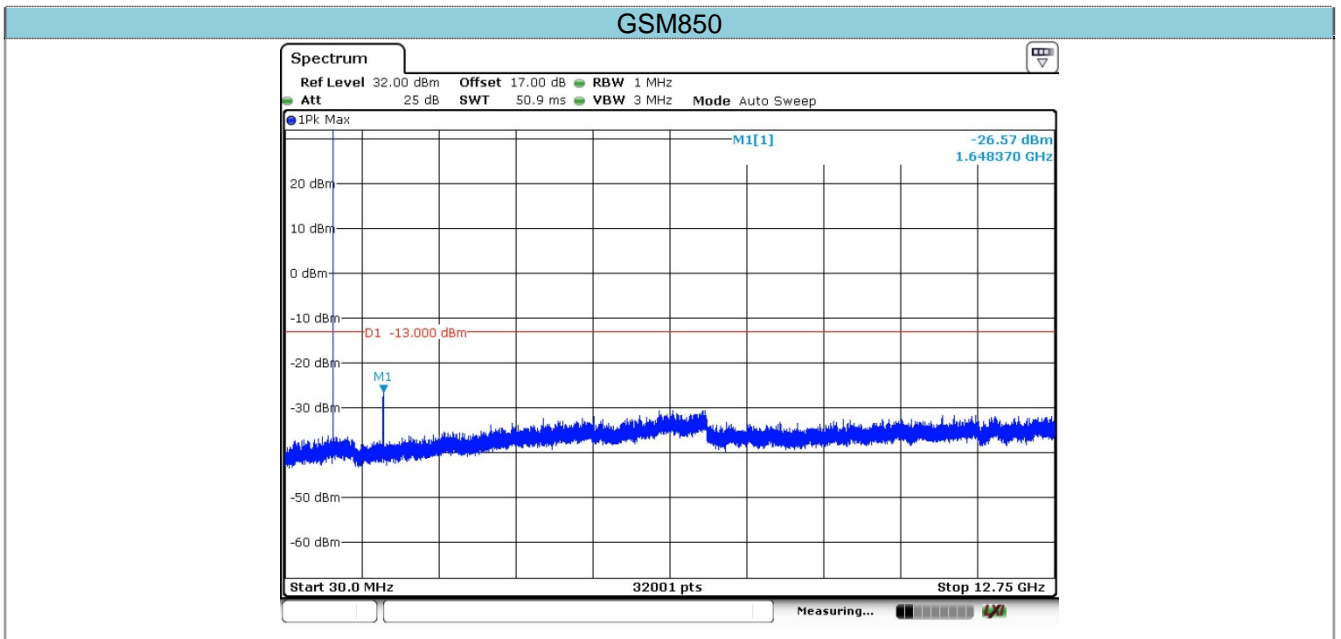
#### TEST MODE:

Please refer to the clause 3.3

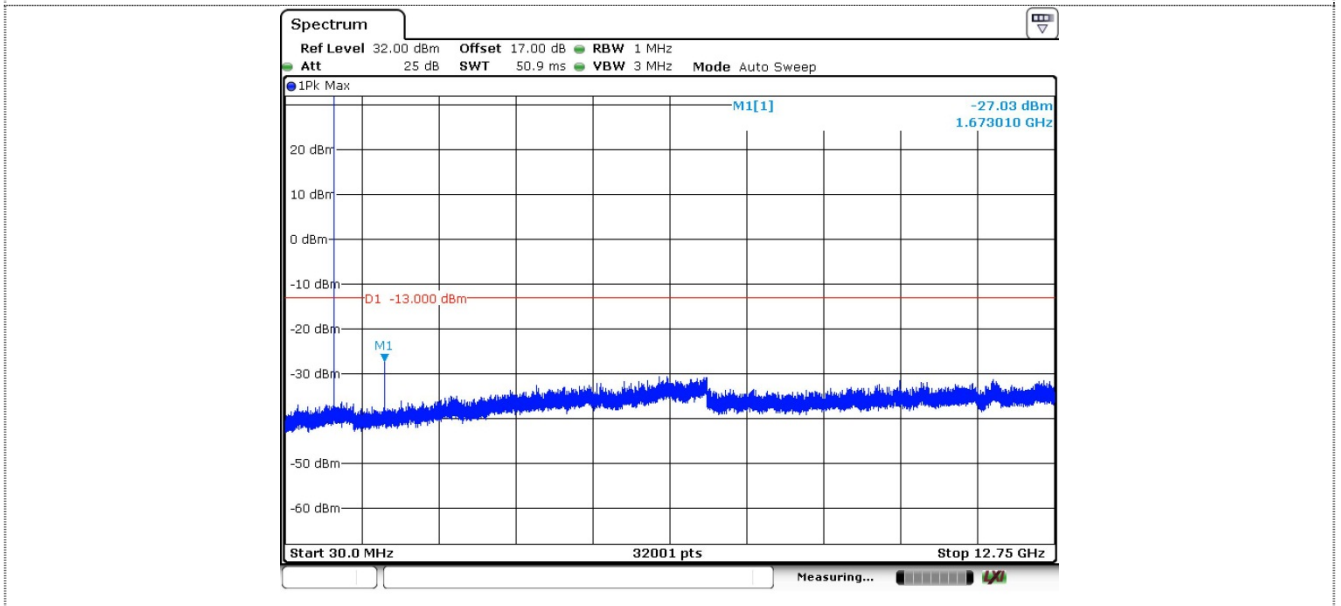
#### TEST RESULTS

**Passed**       **Not Applicable**

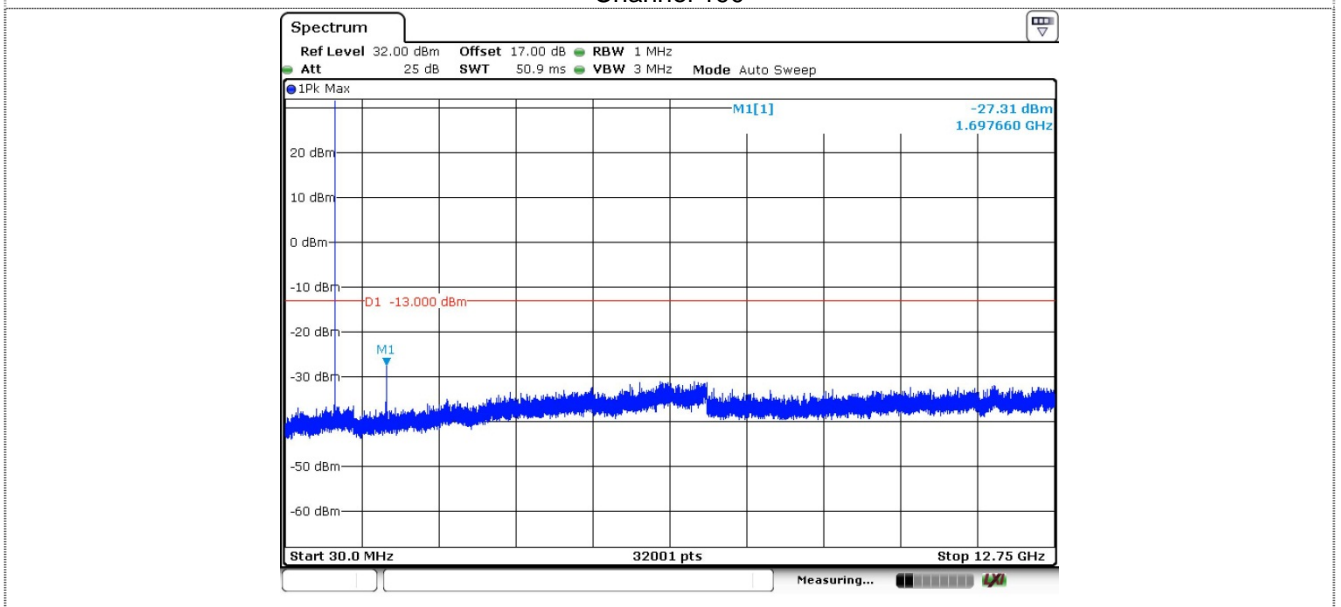
Note: Worst case at GSM850/PCS1900



Channel 128

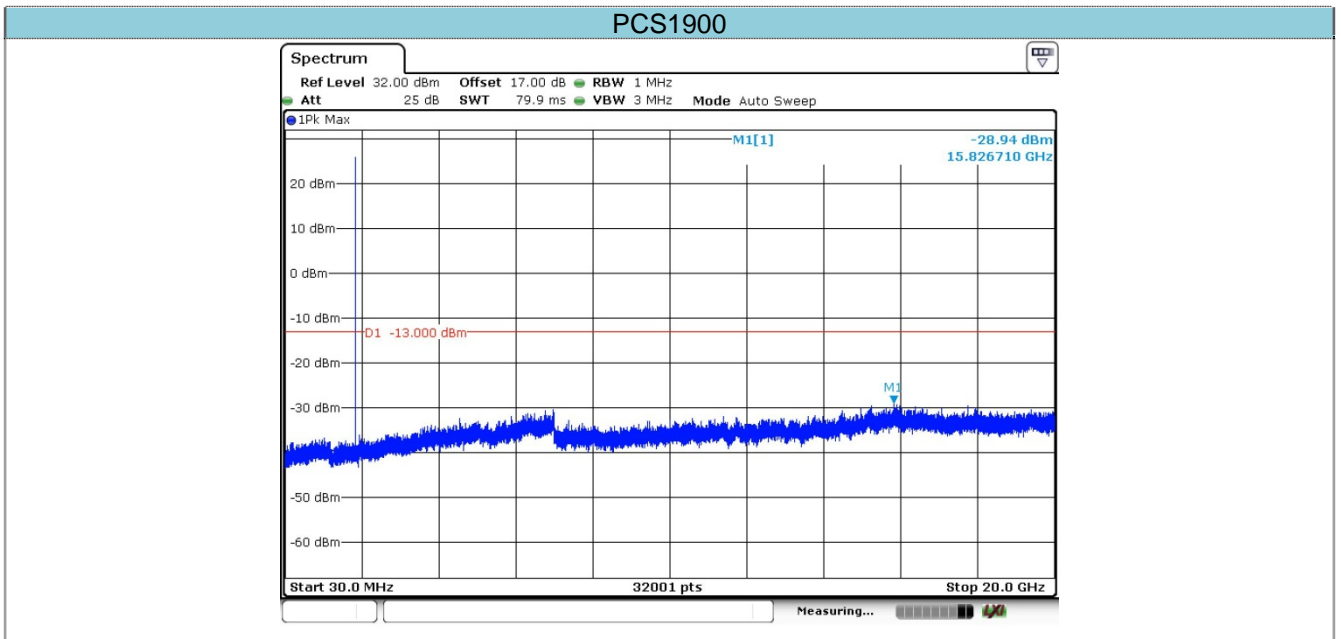


Channel 190

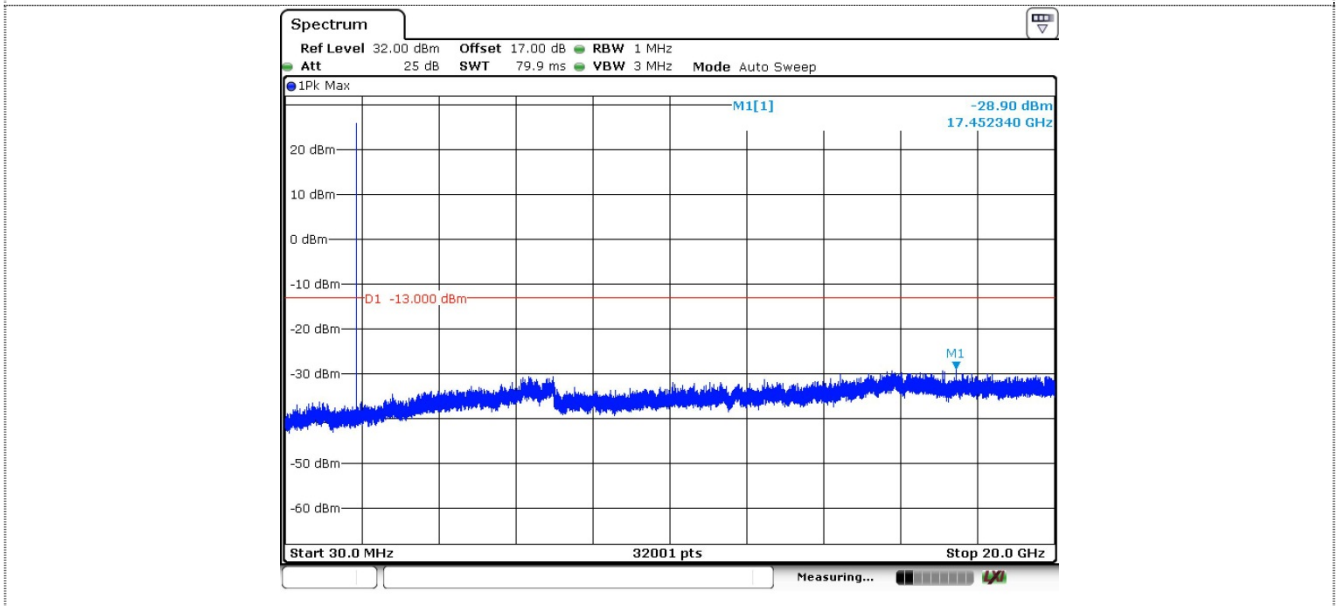


Channel 251

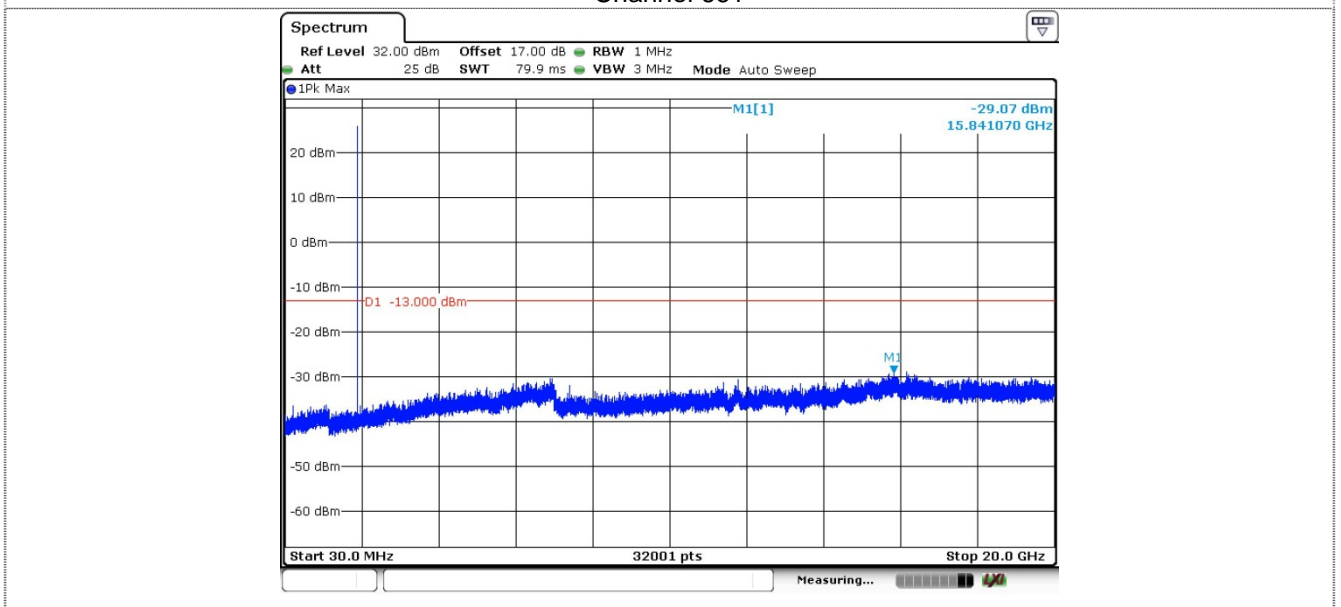




Channel 512



Channel 661



Channel 810