

# RF Test Report

Test in accordance with  
Federal Communications Commission(FCC)  
CFR TITLE 47, Parts 2, 22, 24  
&  
Industry Canada (IC), RSS-GEN, 132,133

Product Name : Compact  
Model No. : Compact 1.0  
FCC ID : 2AHR8-COMPACT01  
IC: 21405-COMPACT01

Applicant : Octo Telematics S.P.A  
Address : Via Iamaro 51, 00173 Rome, Italy

Date of Receipt : 08-12-2016  
Test Date : 08-15-2016~09-12-2016  
Issued Date : 09-13-2016  
Report No. : UL32620160812FCC002-1  
Report Version : V 1.0

**Notes:**

The test results only relate to these samples which have been tested.  
Partly using this report will not be admitted unless been allowed by Unilab.  
Unilab is only responsible for the complete report with the reported stamp of Unilab.

## Test Report Certification

Issued Date : 09-13-2016  
Report No. : UL32620160812FCC002-1

Product Name : Compact  
Applicant : Octo Telematics S.P.A  
Address : Via Iamaro 51, 00173 Rome, Italy  
Manufacturer : Octo Telematics S.P.A  
Address : Via Iamaro 51, 00173 Rome, Italy  
Model No. : Compact 1.0  
EUT Voltage : MIN: 6V, NOR: 12/24V, MAX: 32V  
Brand Name : OCTO  
FCC ID : 2AHR8-COMPACT01  
IC : 21405-COMPACT01  
Applicable Standard : ANSI/TIA-603-D-2010; FCC CFR Title 47 Part 2;  
FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02;  
FCC CFR Title 47 Part 22 Subpart H;  
FCC CFR Title 47 Part 24 Subpart E;  
RSS-GEN Issue 4  
RSS 132 Issue 3  
RSS 133 Issue 6  
ANSI C63.4-2014  
ANSI C63.26-2015  
Test Result : Complied  
Performed Location : Unilab (Shanghai) Co., Ltd.  
FCC 2.948 register number is 714465  
No. 1350, Lianxi Rd. Pudong New District, Shanghai, China  
TEL: +86-21-50275125 FAX: +86-21-50277862

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## SUMMARY OF TEST RESULT

Report Section	SPECIFICATION		Description	Limit	Result
	FCC	IC			
3	part2.1046	RSS GEN 6.12	Conducted Output Power	N/A	PASS
3	part 22.913(a)(2) part 24.232(c)	RSS-132, 5.4 RSS-133, 6.4	Effective Radiated Power Equivalent Isotropic Radiated Power	<7 Watts <2 Watts	PASS
4	part 2.1049 part 22.917(a) part 24.238(a)	RSS-GEN, 6.6 RSS-132, 5.2 RSS-133, 6.2	Occupied Bandwidth	N/A	PASS
5	part 2.1051 part 22.917(a) part 24.238(a)	RSS-132, 5.5 RSS-133, 6.5	Band Edge Measurement	<43+10lg(P[Watts])	PASS
6	part 2.1051 part 22.917(a) part 24.238(a)	RSS-132, 5.5 RSS-133, 6.5	Conducted Spurious Emission	<43+10lg(P[Watts])	PASS
6	part 2.1053 part 22.917(a) part 24.238(a)	RSS-132, 5.5 RSS-133, 6.5	Field Strength of Spurious Radiation	<43+10lg(P[Watts])	PASS
7	part 2.1055 part 22.355 part 24.235	RSS GEN 6.11 RSS-132, 5.3 RSS-133, 6.3	Frequency Stability for Temperature & Voltage	<2.5 ppm	PASS
8	part 24.232(d)	RSS 133,6.4 RSS 132,5.4	Peak-to-Average	<13dB	PASS
9	/	RSS-132,5.6 RSS-133,6.6	Receiver Spurious Emission	30~88MHz: <40 dBμV/m 88~216MHz: <43.5 dBμV/m 216~960MHz: <46 dBμV/m Above 960MHz: <54 dBμV/m	PASS

## 1.General Information

### 1.1. EUT Description

Product Name:	Compact
Model Name:	Compact 1.0
Hardware Version:	A03
Software Version:	1.0
RF Exposure Environment:	Uncontrolled
<b>GSM / GPRS</b>	
Support Band:	GSM850/PCS1900
GPRS Class:	12
Tx Frequency Range:	GSM 850: 824.2MHz to 848.8MHz PCS 1900: 1850.2MHz to 1909.8MHz
Rx Frequency Range:	GSM 850: 869.2MHz to 893.8MHz PCS 1900: 1930.2MHz to 1989.8MHz
Type of modulation:	GMSK for GSM/GPRS
Antenna Type:	Internal
Antenna Peak Gain:	GSM 850: 1.18 dBi PCS 1900: 3.48 dBi

### 1.2. Mode of Operation

Unilab has verified the construction and function in typical operation. EUT is in link mode with base station emulator at maximum power level. All the test modes were carried out with the EUT in normal operation, which was shown in this test report is the worst test mode and defined as:

Test Mode			
Band	Radiated TCs	Conducted TCs	Test Voltage
GSM 850	GSM Link GPRS 1 Tx slot	GSM Link GPRS 1 Tx slot	DC 12V
GSM1900	GSM Link GPRS 1 Tx slot	GSM Link GPRS 1 Tx slot	

Note:

1. Regards to the frequency band operation: the lowest、middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. The maximum power levels are GSM for GMSK link .
3. For the ERP/EIRP and radiated emission test, every axis (X, Y, Z) was verified, and show the worst (X axis) result on this report.

**The conducted power table is as follows:**

Conducted Power (Unit: dBm)						
Band	GSM 850			GSM 1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880	1909.8
GSM (GMSK, 1 Tx slot) CS1	32.10	32.06	31.97	28.18	28.37	28.24
GPRS (GMSK, 1 Tx slot) CS1	32.08	32.05	31.97	28.13	28.30	28.16
GPRS (GMSK, 2 Tx slot) CS1	30.83	30.87	30.91	24.63	24.66	24.61
GPRS (GMSK, 3 Tx slot) CS1	28.96	28.98	29.02	23.88	23.46	23.89
GPRS (GMSK, 4 Tx slot) CS1	27.04	27.07	27.14	21.24	20.77	21.14

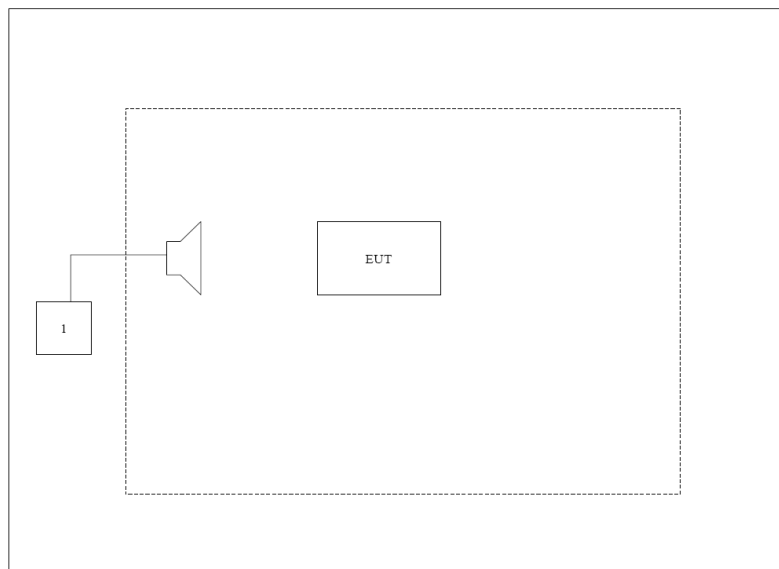
### 1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model	Serial No.	Power Cord
1 Agilent8960	Agilent	E5515C	GB46581718	N/A

### 1.4. Configuration of Tested System

Connection Diagram



### 1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	EUT Communicate with E5515C, then select channel to test.

## 2. Technical Test

### 2.1. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	57
Barometric pressure (mbar)	860-1060	950-1000



### 3. Peak Output Power

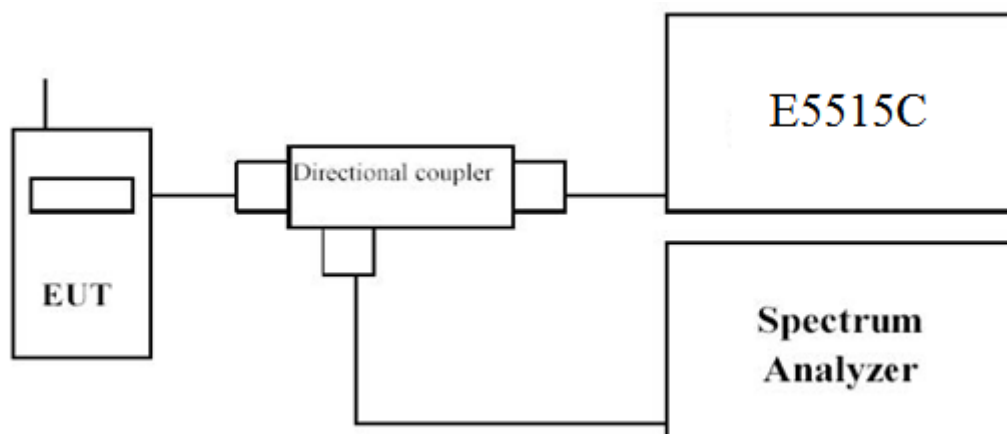
#### 3.1. Test Equipment

Instrument	Manufacturer	Model	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9038A	MY51210142	11.05.2016
Radio Communication Tester	Agilent	E5515C	GB46581718	11.08.2016
Signal Generator	Agilent	N5183A	MY50140938	01.01.2017
Preamplifier	CEM	EM30180	3008A0245	06.07.2017
Bilog Antenna	Schwarzbeck	VULB9160	9160-3316	09.19.2016
VHF-UHF-Biconical Antenna	Schwarzbeck	VUBA9117	9117-263	09.19.2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-942	09.19.2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-943	09.19.2016
Directional coupler	ATM	C122H-10	C279710-02	/
RF cable	HUBER+SUHNER	SUCOFLEX 104	342800/4	/
Attenuator	Compliance Direction System	ATT-20	/	/

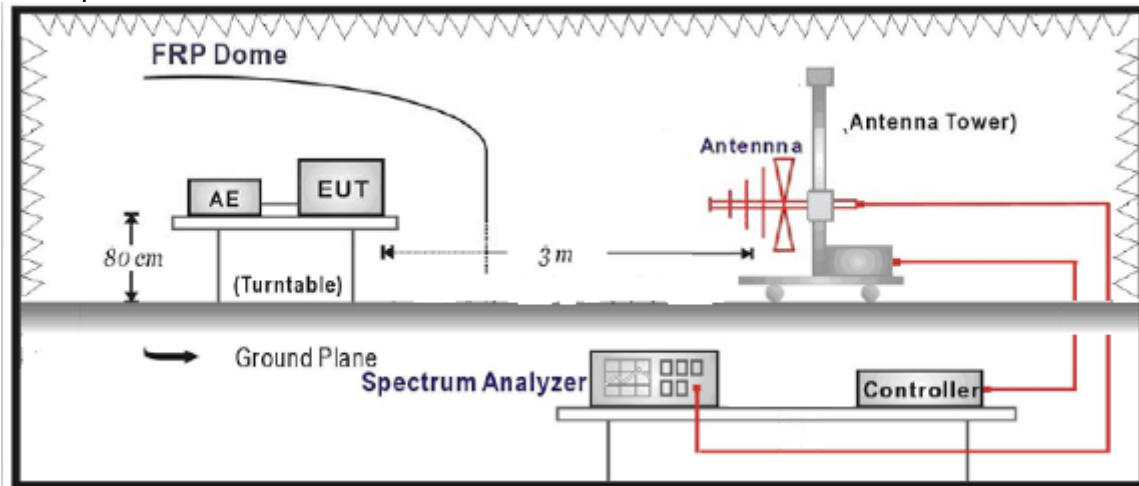
The measure equipment had been calibrated once a year.

#### 3.2. Test Setup

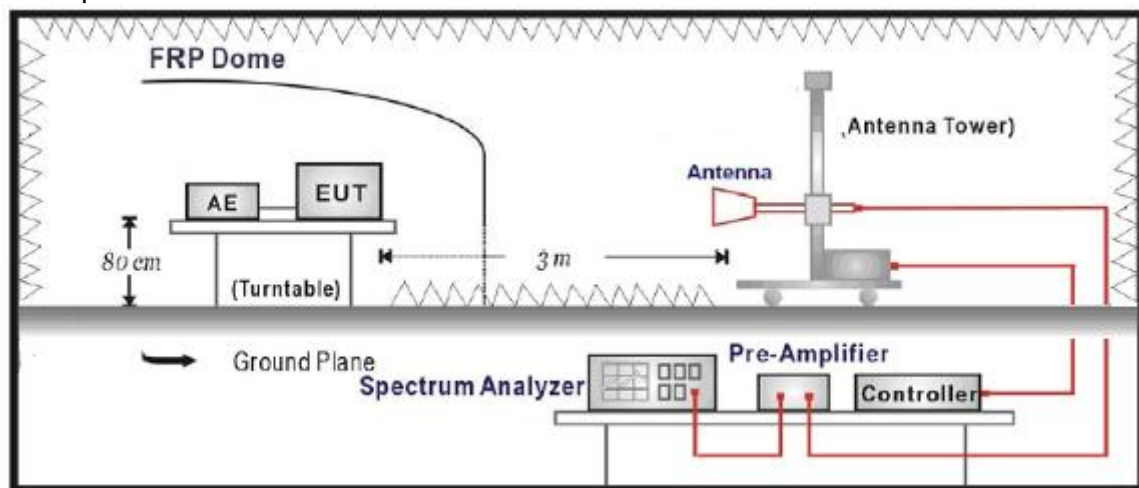
Conducted Power Measurement:



### Radiated Spurious Measurement: below 1GHz



### Radiated Spurious Measurement: above 1GHz



## 3.3. Limit

### For FCC Part 22.913(a)(2):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

### For FCC Part 24.232(c):

The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

### 3.4. Test Procedure

#### **Conducted Power Measurement:**

- a. Place the EUT on a bench and set it in transmitting mode.
- b. Connect a low loss RF cable from the antenna port to a spectrum analyzer and E5515C by a Directional Couple.
- c. EUT Communicate with E5515C, then selects a channel for testing.
- d. Add a correction factor to the display of spectrum, and then test.

#### **Radiated Power Measurement:**

- a. The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- b. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
- c. The output of the test antenna shall be connected to the measuring receiver.
- d. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- f. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h. The maximum signal level detected by the measuring receiver shall be noted.
- i. The transmitter shall be replaced by a substitution antenna.
- j. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- k. The substitution antenna shall be connected to a calibrated signal generator.
- l. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- m. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- n. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- o. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- p. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- q. Test site anechoic chamber refer to ANSI C63.4:2014.

### 3.5. Uncertainty

The measurement uncertainty is defined as for Conducted Power Measurement  $\pm 1.1$  dB,  
for Radiated Power Measurement  $\pm 3.1$  dB

### 3.6. Test Result

The following table shows the conducted power measured:

Table 1

GSM850				
Modes	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
GSM850 (GSM)	128(Low)	824.2	32.10	1.62
	189(Mid)	836.4	32.06	1.61
	251(High)	848.8	31.97	1.57
GSM850 (GPRS 1 Tx Slot)	128(Low)	824.2	32.08	1.61
	189(Mid)	836.4	32.05	1.60
	251(High)	848.8	31.97	1.57

Table 2

GSM1900				
Modes	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)
GSM1900 (GSM)	512(Low)	1850.2	28.18	0.66
	661(Mid)	1880.0	28.37	0.69
	810(High)	1909.8	28.24	0.67
GSM1900 (GPRS 1 Tx Slot)	512(Low)	1850.2	28.13	0.65
	661(Mid)	1880.0	28.30	0.68
	810(High)	1909.8	28.16	0.65

The following table shows the Radiated power measured :

GSM850 (GSM Link)

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	ERP (W)
Low Channel 128 (824.20MHz)						
824.2	H	38.14	3.83	-2.99	31.32	1.35
824.2	V	37.92	3.83	-2.99	31.10	1.29
Middle Channel 189 (836.40MHz)						
836.4	H	39.01	3.96	-3.04	32.01	1.59
836.4	V	39.11	3.96	-3.04	32.11	1.62
High Channel 251 (848.80MHz)						
848.8	H	38.26	3.97	-3.10	31.19	1.32
848.8	V	38.50	3.97	-3.10	31.43	1.39

GSM850 (GPRS 1 Tx Slot)

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	ERP (W)
Low Channel 128 (824.20MHz)						
824.2	H	38.30	3.83	-2.99	31.48	1.40
824.2	V	38.12	3.83	-2.99	31.30	1.35
Middle Channel 189 (836.40MHz)						
836.4	H	38.37	3.96	-3.04	31.37	1.37
836.4	V	38.71	3.96	-3.04	31.71	1.48
High Channel 251 (848.80MHz)						
848.8	H	38.66	3.97	-3.1	31.59	1.44
848.8	V	38.47	3.97	-3.1	31.40	1.38

GSM1900 (GSM Link)

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	EIRP (W)
Low Channel 512(1850.20MHz)						
1850.2	H	25.05	6.26	10.4	29.19	0.83
1850.2	V	24.33	6.26	10.4	28.47	0.70
Middle Channel 661 (1880.00MHz)						
1880.0	H	24.09	6.19	10.43	28.33	0.68
1880.0	V	24.64	6.19	10.43	28.88	0.77
High Channel 810 (1909.80MHz)						
1909.8	H	24.21	6.15	10.44	28.50	0.71
1909.8	V	25.06	6.15	10.44	29.35	0.86

GSM1900 (GPRS 1 Tx Slot)

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	EIRP (W)
Low Channel 512(1850.20MHz)						
1850.2	H	24.61	6.26	10.4	28.75	0.75
1850.2	V	24.09	6.26	10.4	28.23	0.67
Middle Channel 661 (1880.00MHz)						
1880.0	H	24.16	6.19	10.43	28.40	0.69
1880.0	V	23.97	6.19	10.43	28.21	0.66
High Channel 810 (1909.80MHz)						
1909.8	H	24.21	6.15	10.44	28.50	0.71
1909.8	V	24.10	6.15	10.44	28.39	0.69

## 4. Occupied Bandwidth

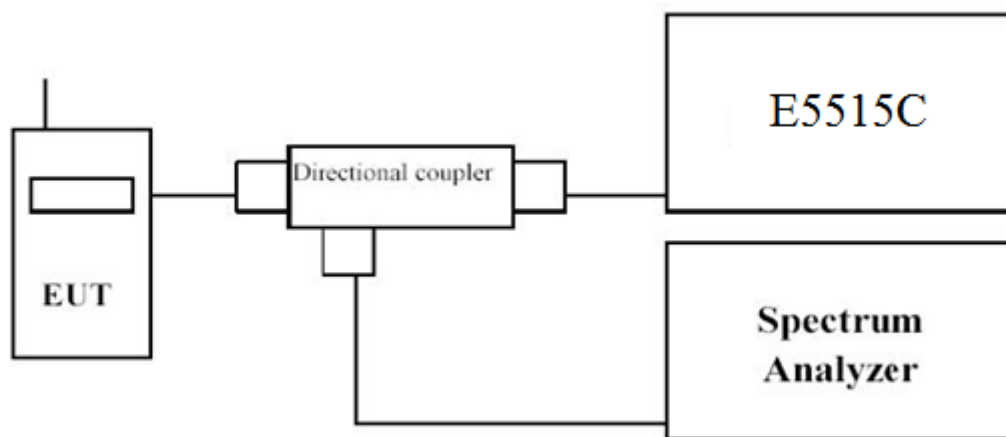
### 4.1. Test Equipment

Occupied Bandwidth

Instrument	Manufacturer	Model	Serial No	Cal. Date
Radio Communication Tester	Agilent	E5515C	GB46581718	11.08.2016
Spectrum Analyzer	Agilent	N9038A	MY51210142	11.05.2016
Directional Coupler	ATM	C122H-0	C279710-02	/
RF Cable	HUBER+SUHNER	SUCOFLEX 104	342800/4	/
Attenuator	Compliance Direction System	ATT-20	/	/

The measure equipment had been calibrated once a year.

### 4.2. Test Setup



### 4.3. Limit

N/A

### 4.4. Test Procedure

Using Occupied Bandwidth measurement function of spectrum analyzer, and setting as follows:  
For GSM850/1900 test --- RBW = 3 kHz and VBW = 10 kHz

4.5. Uncertainty

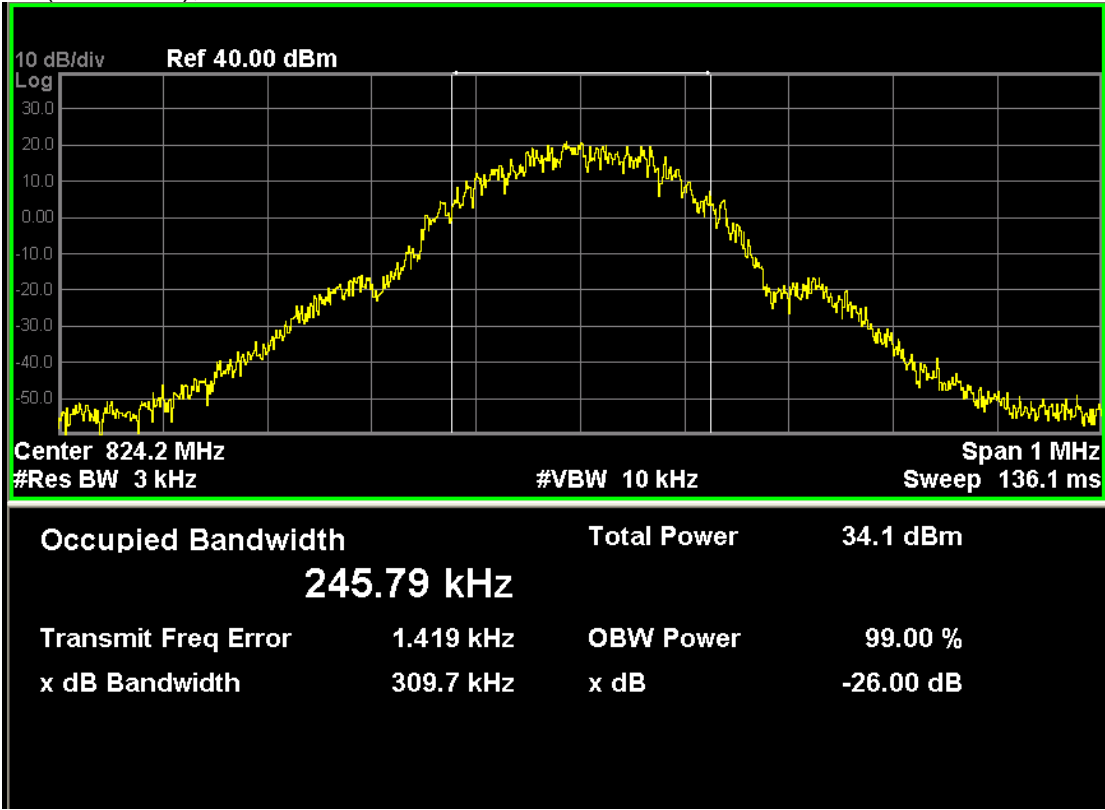
The measurement uncertainty is defined as  $\pm 10$  Hz

4.6. Test Result

GSM850 (GSM Link)

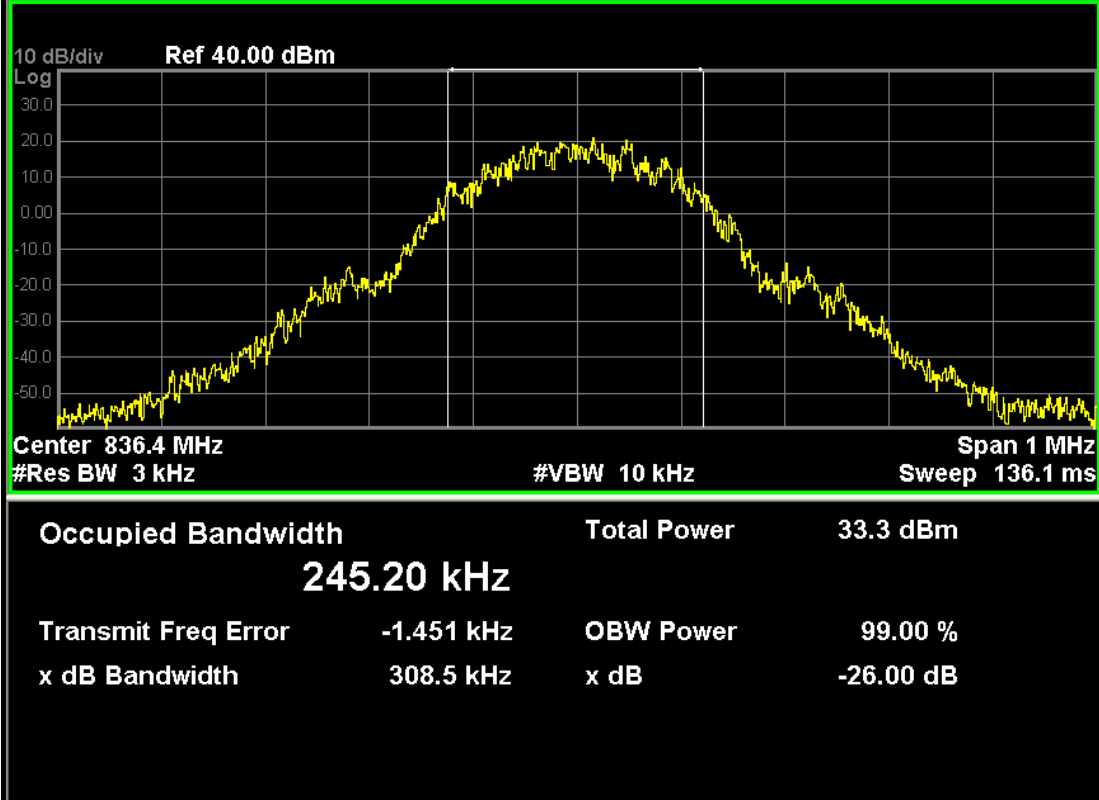
Channel No.	Frequency (MHz)	-26dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
128	824.20	309.7	245.79
189	836.40	308.5	245.20
251	848.80	310.3	243.74

GSM850 (GSM Link), Channel 128

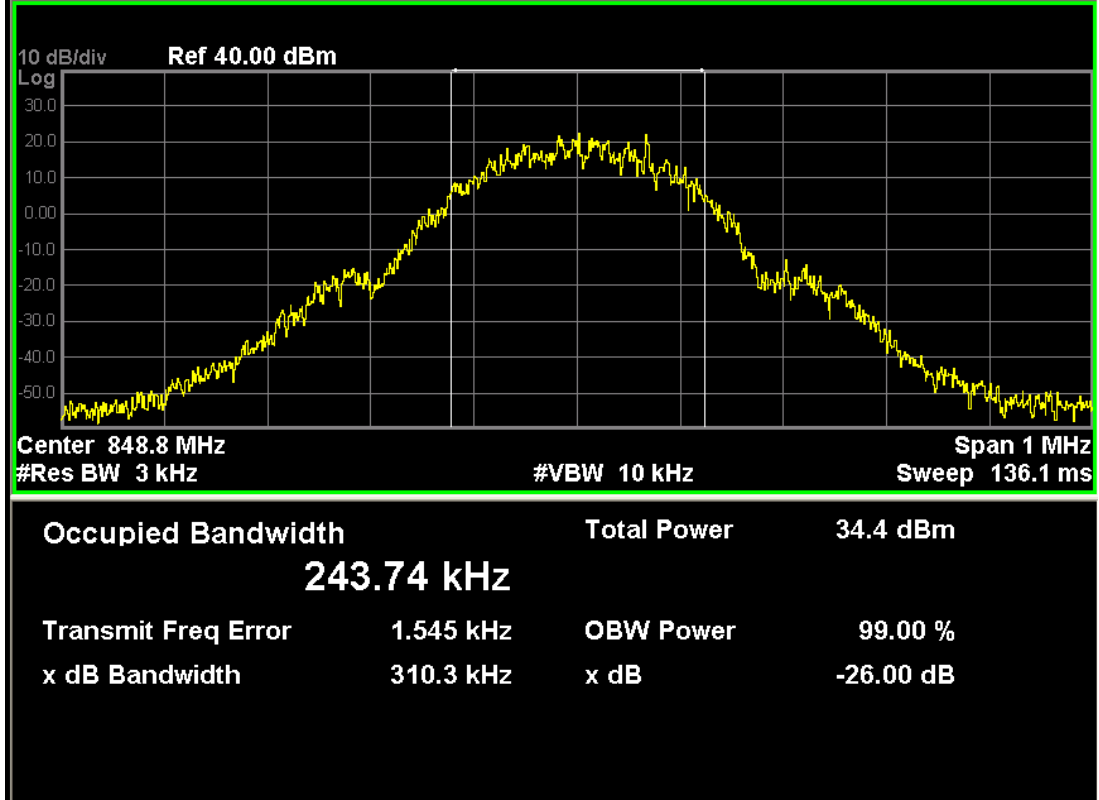




GSM850 (GSM Link), Channel 189



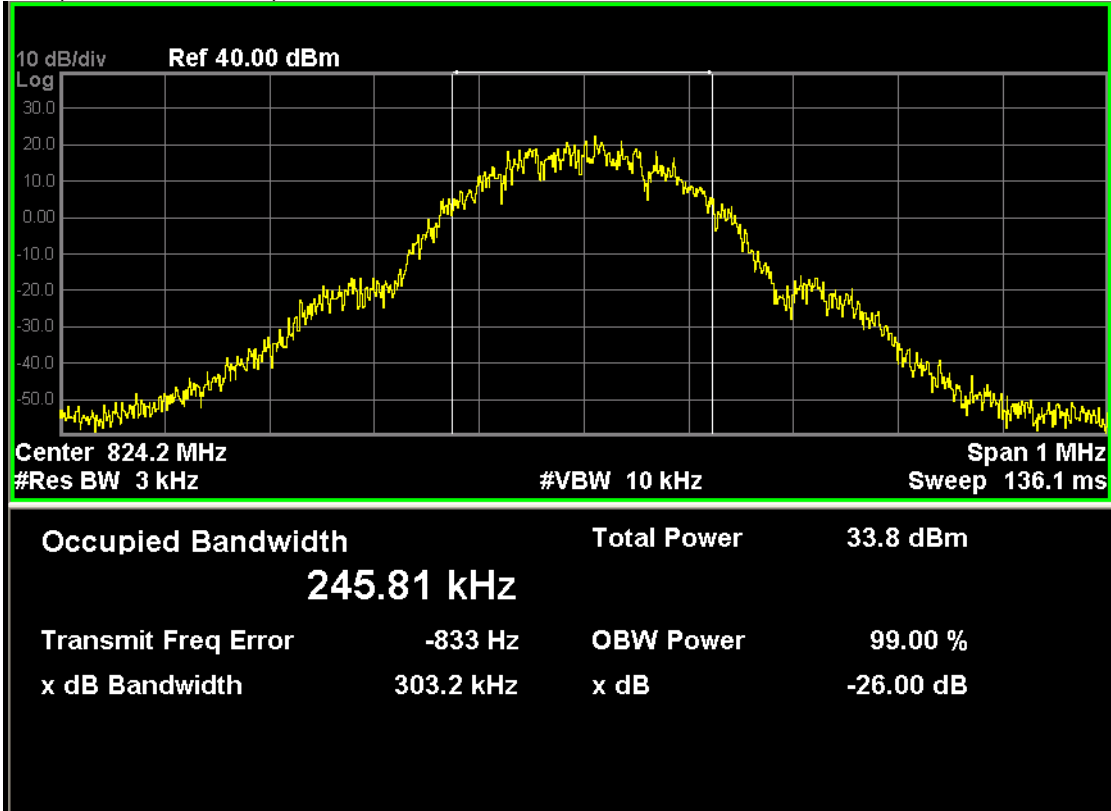
GSM850 (GSM Link), Channel 251



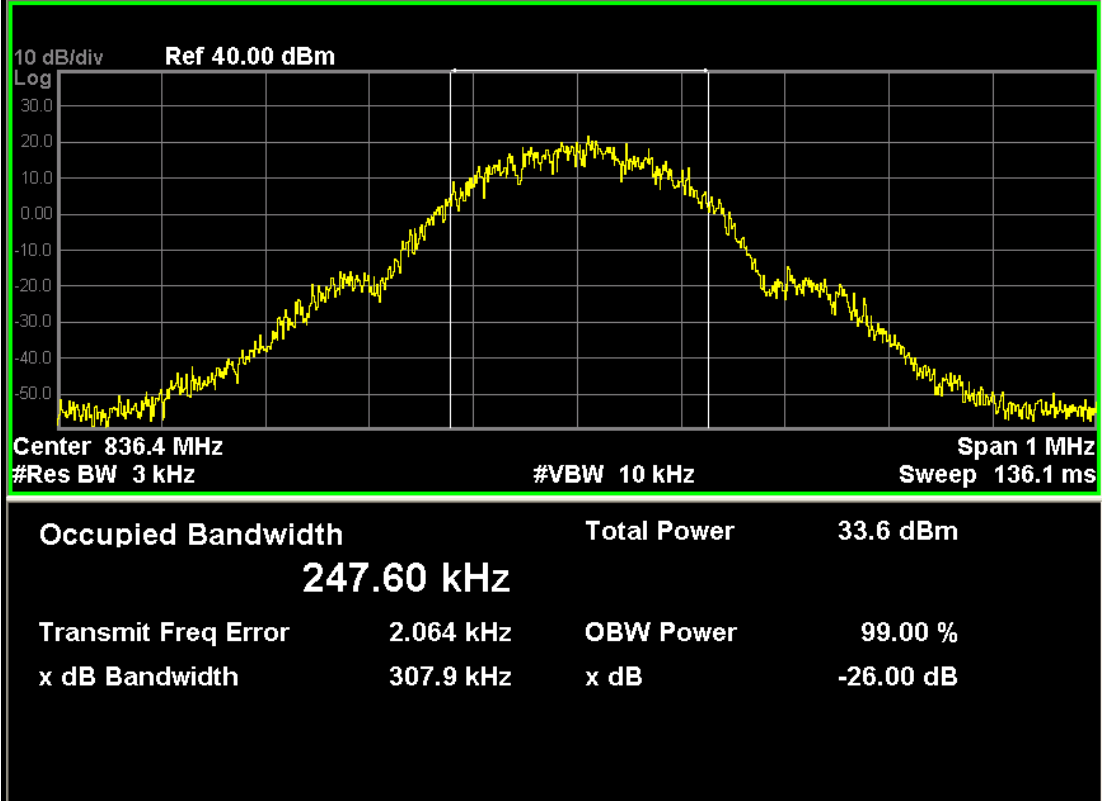
GSM850 (GPRS 1 Tx Slot)

Channel No.	Frequency (MHz)	-26dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
128	824.20	303.2	245.81
189	836.40	307.9	247.60
251	848.80	308.8	245.13

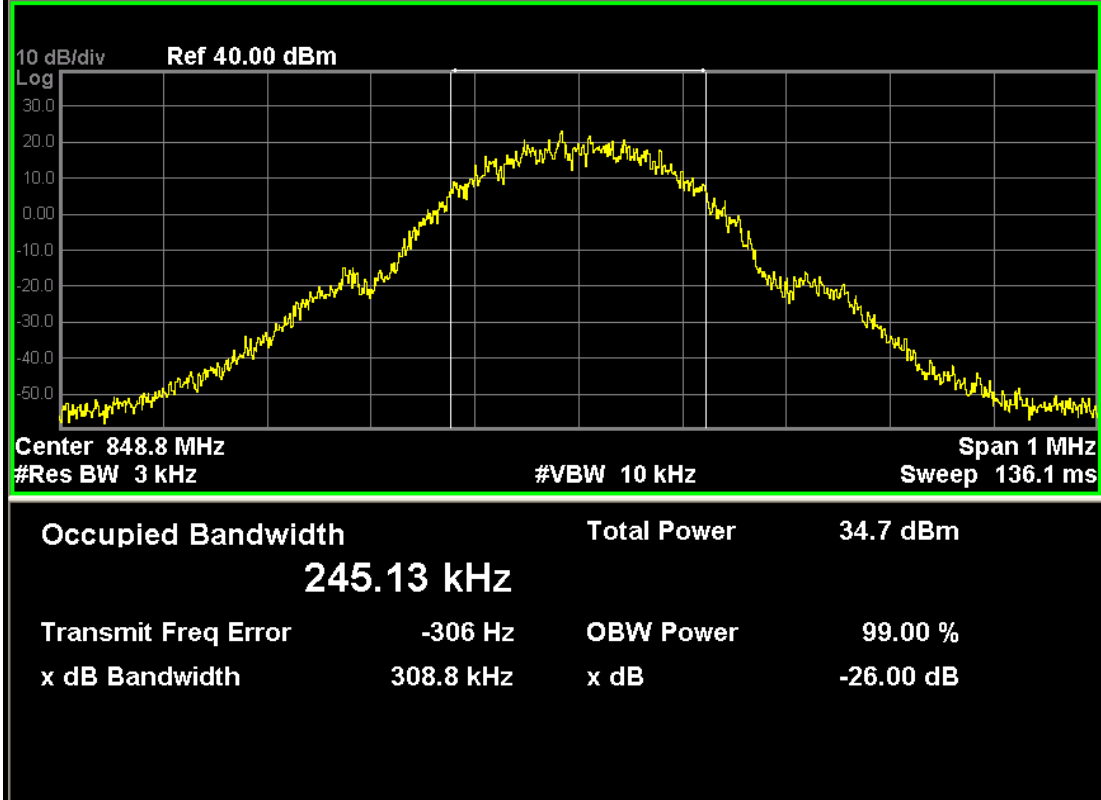
GSM850 (GPRS 1 Tx Slot), Channel 128



GSM850 (GPRS 1 Tx Slot), Channel 189



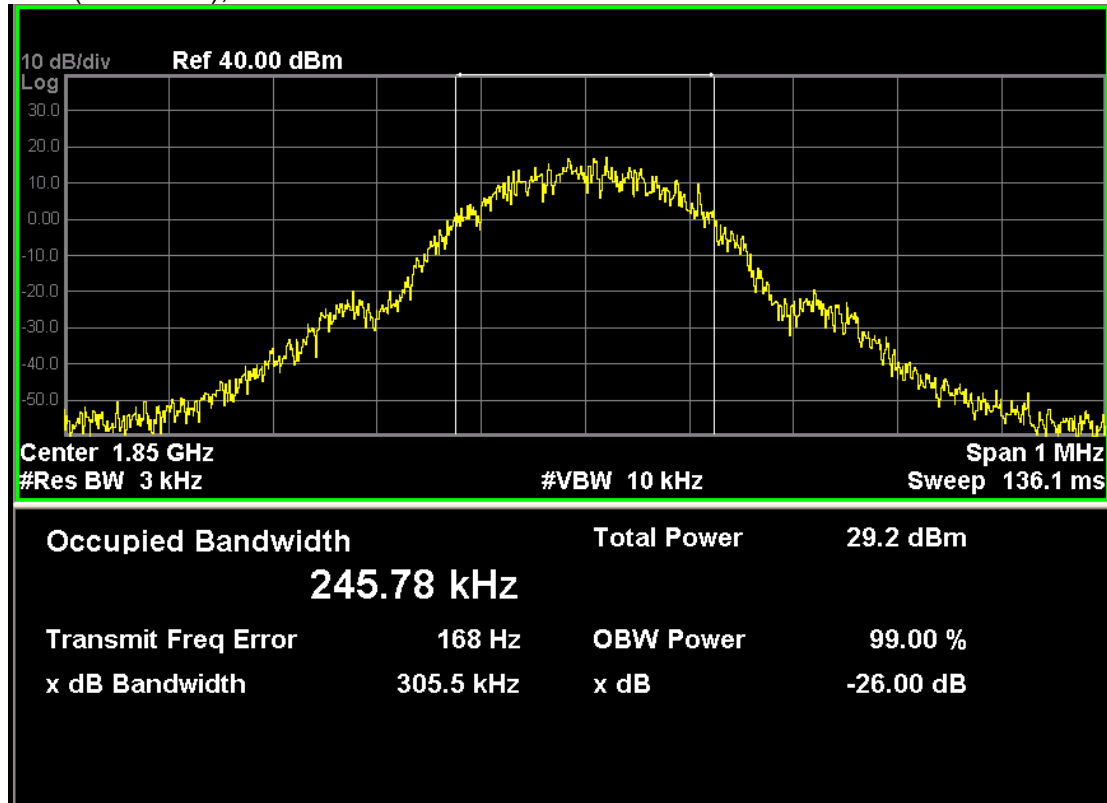
GSM850 (GPRS 1 Tx Slot), Channel 251



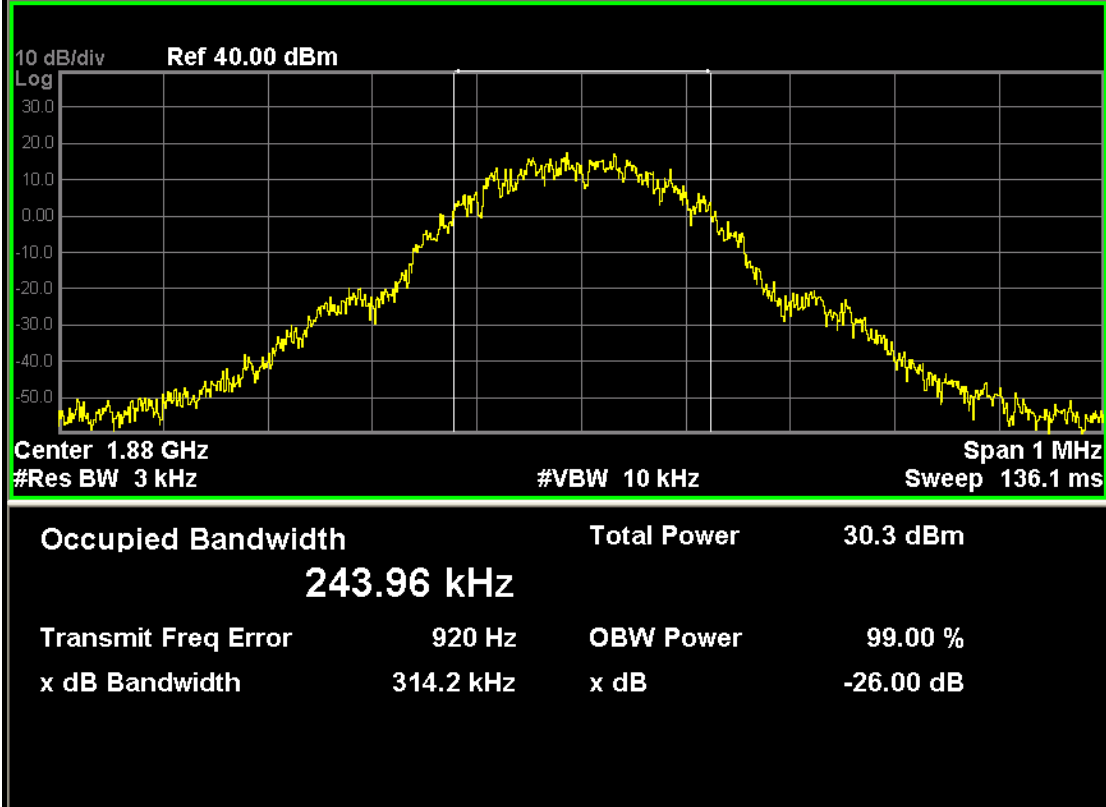
GSM 1900 (GSM Link)

Channel No.	Frequency (MHz)	-26dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
512	1850.20	305.5	245.78
661	1880.00	314.2	243.96
810	1909.80	314.9	248.25

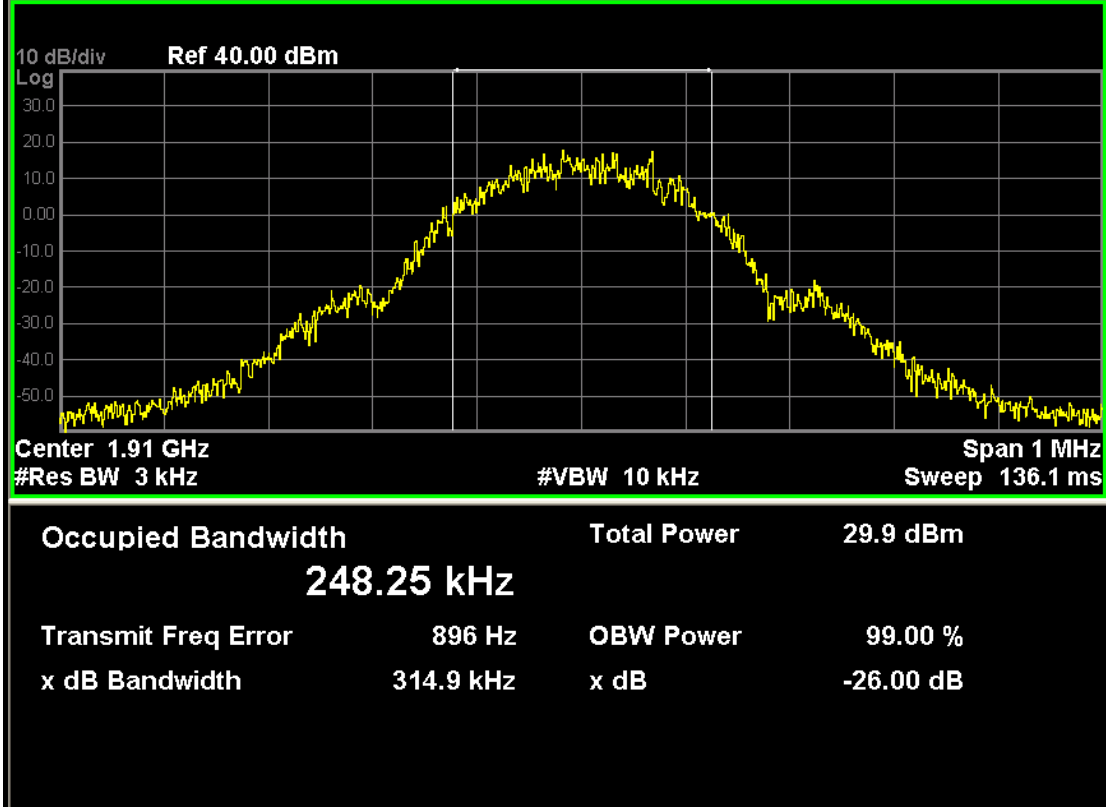
GSM1900 (GSM Link), Channel 512



GSM1900 (GSM Link), Channel 661



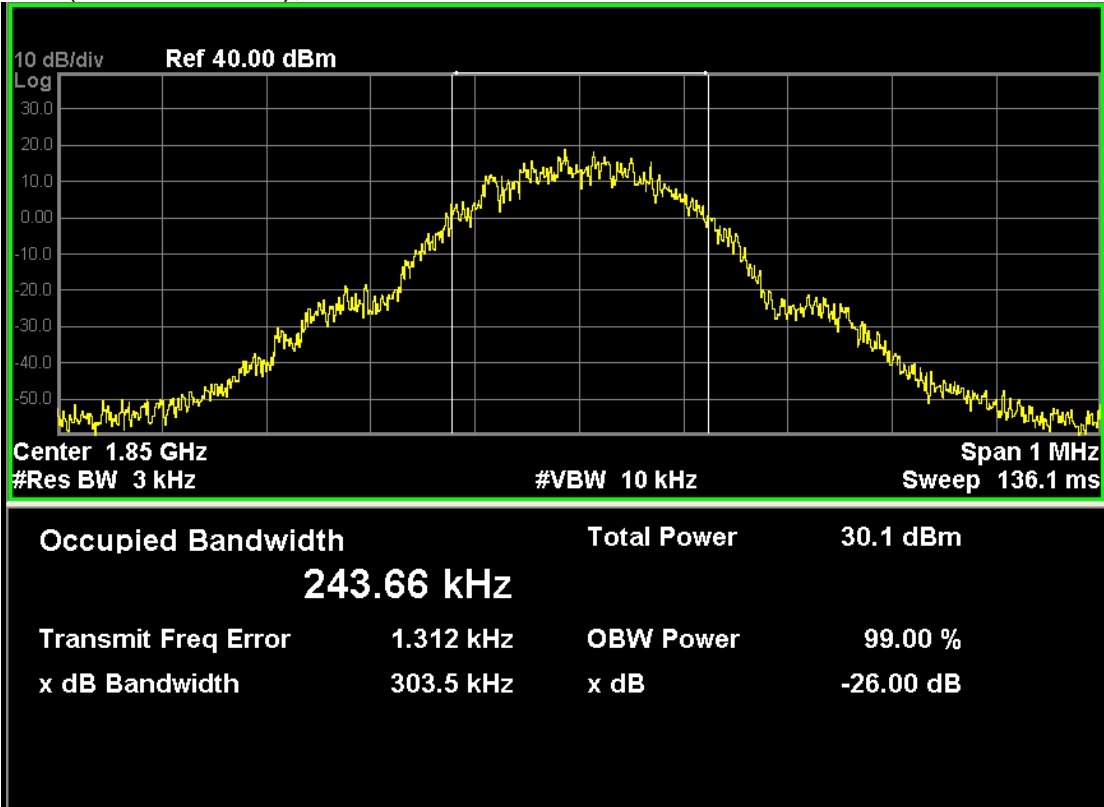
GSM1900 (GSM Link), Channel 810



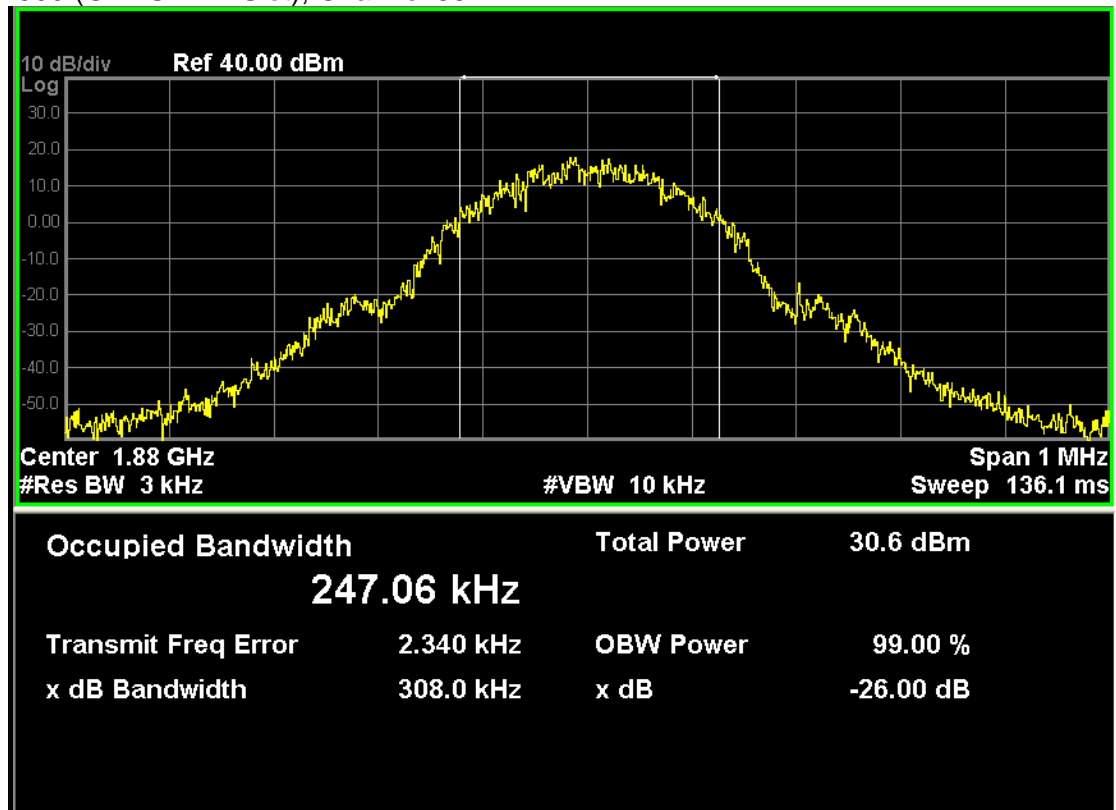
GSM1900 (GPRS 1 Tx Slot)

Channel No.	Frequency (MHz)	-26dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
512	1850.20	303.5	243.66
661	1880.00	308.0	247.06
810	1909.80	308.1	246.89

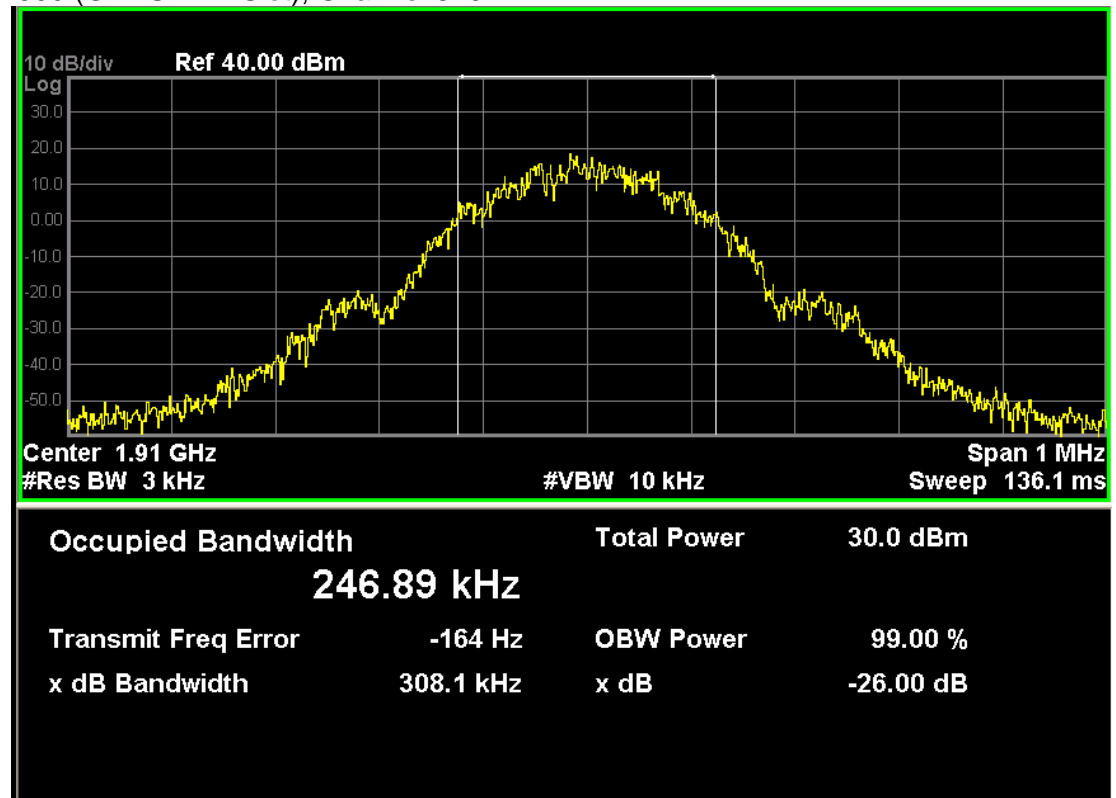
GSM1900 (GPRS 1 Tx Slot), Channel 512



GSM1900 (GPRS 1 Tx Slot), Channel 661



GSM1900 (GPRS 1 Tx Slot), Channel 810



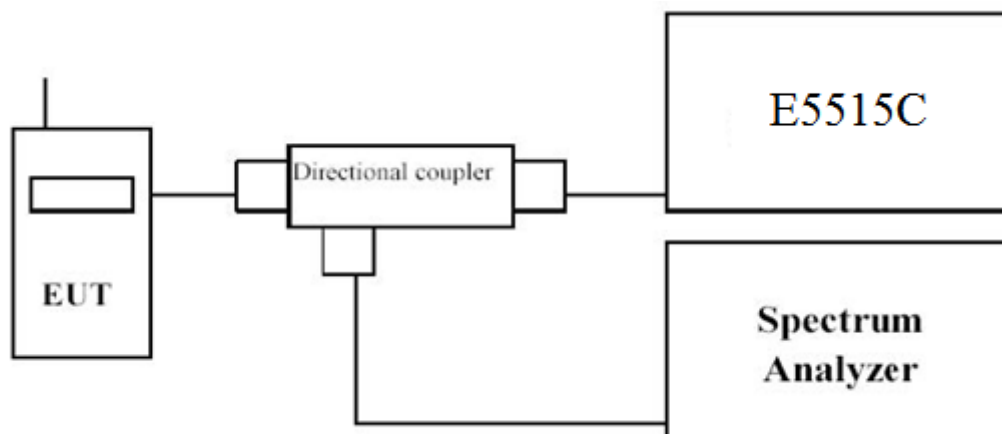
## 5.Spurious Emission At Antenna Terminals (+/- 1MHz)

### 5.1. Test Equipment

Instrument	Manufacturer	Model	Serial No	Cal. Date
Radio Communication Tester	Agilent	E5515C	GB46581718	06.02.2016
Spectrum Analyzer	Agilent	N9038A	MY51210142	11.05.2016
Directional coupler	ATM	C122H-10	C279710-02	/
RF cable	HUBER+SUHNER	SUCOFLEX 104	342800/4	/
Attenuator	Compliance Direction System	ATT-20	/	/

The measure equipment had been calibrated once a year.

### 5.2. Test Setup



### 5.3. Limit

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

### 5.4. Test Procedure

In the 1MHz 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 to measure the out of band Emissions.

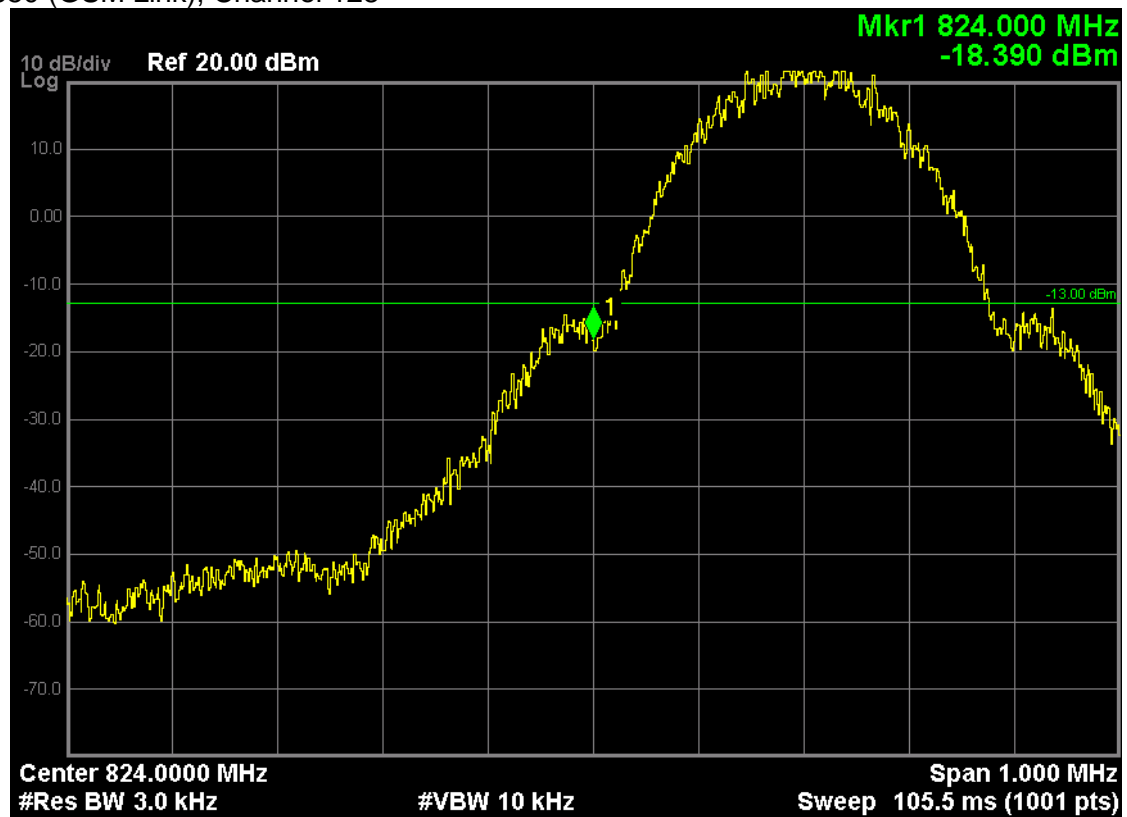


### **5.5. Uncertainty**

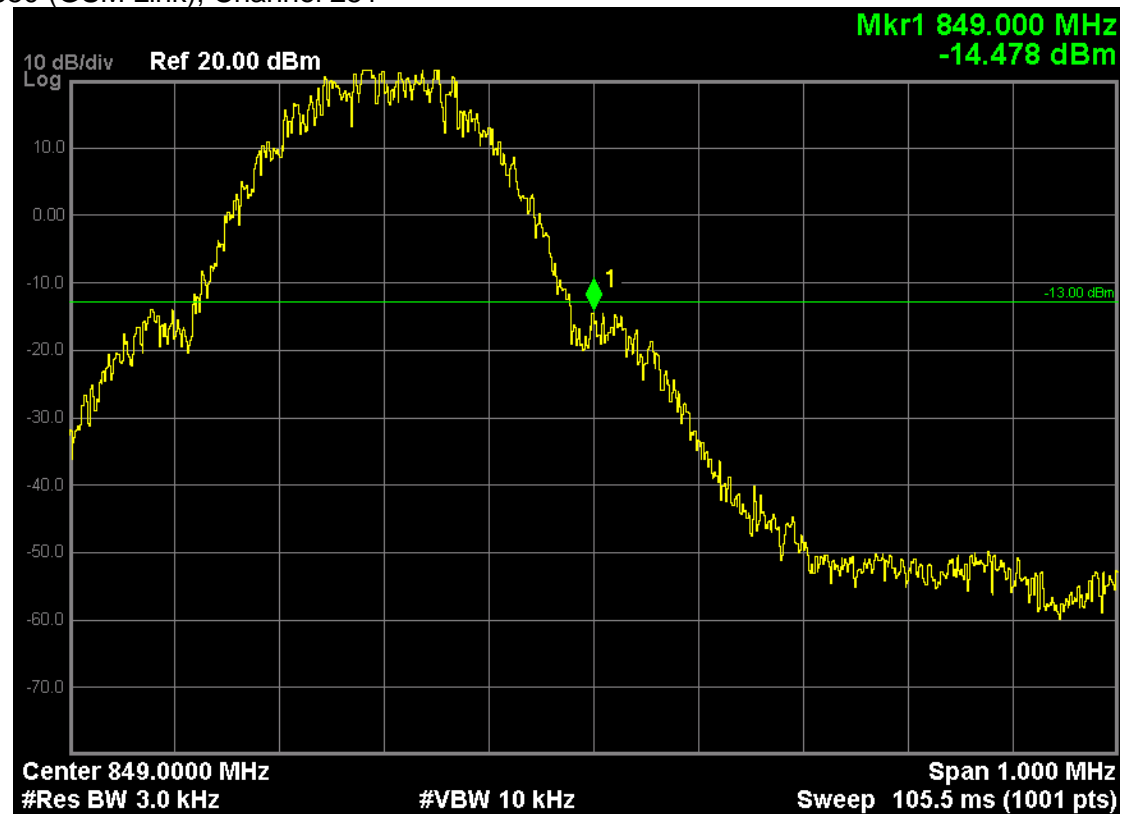
The measurement uncertainty is defined as  $\pm 1.2$  dB.

## 5.6. Test Result

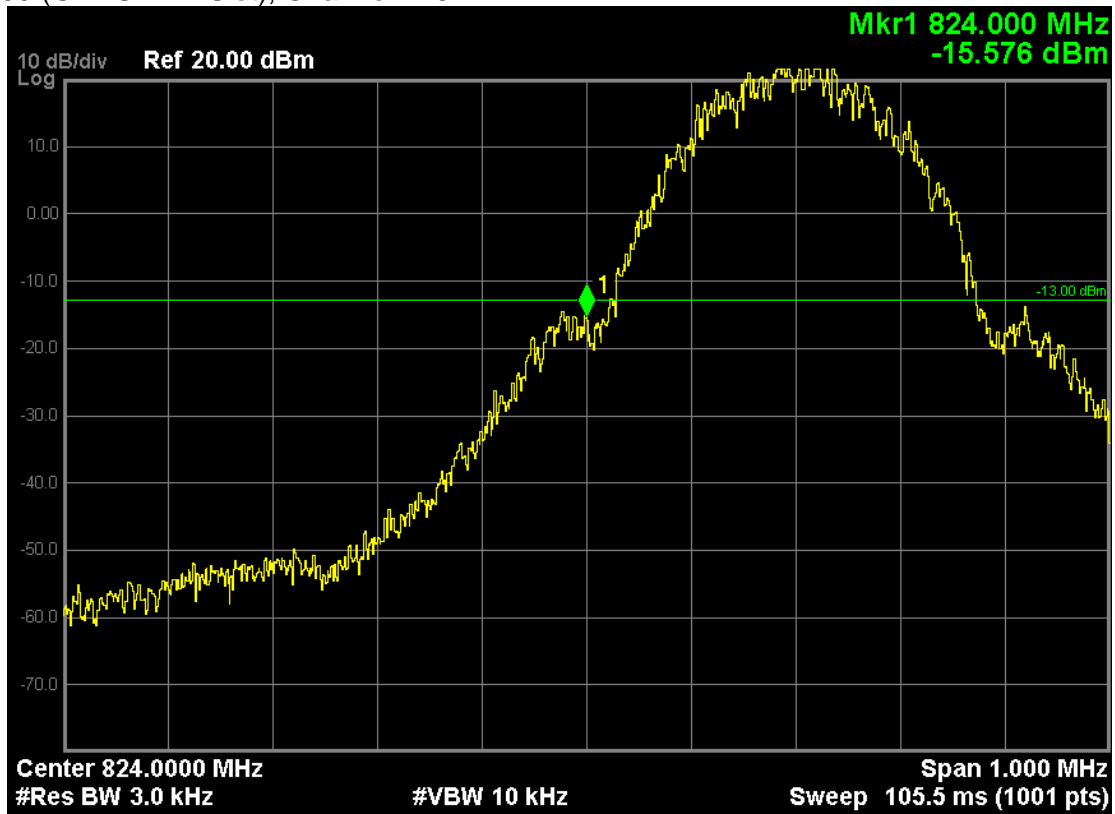
GSM850 (GSM Link), Channel 128



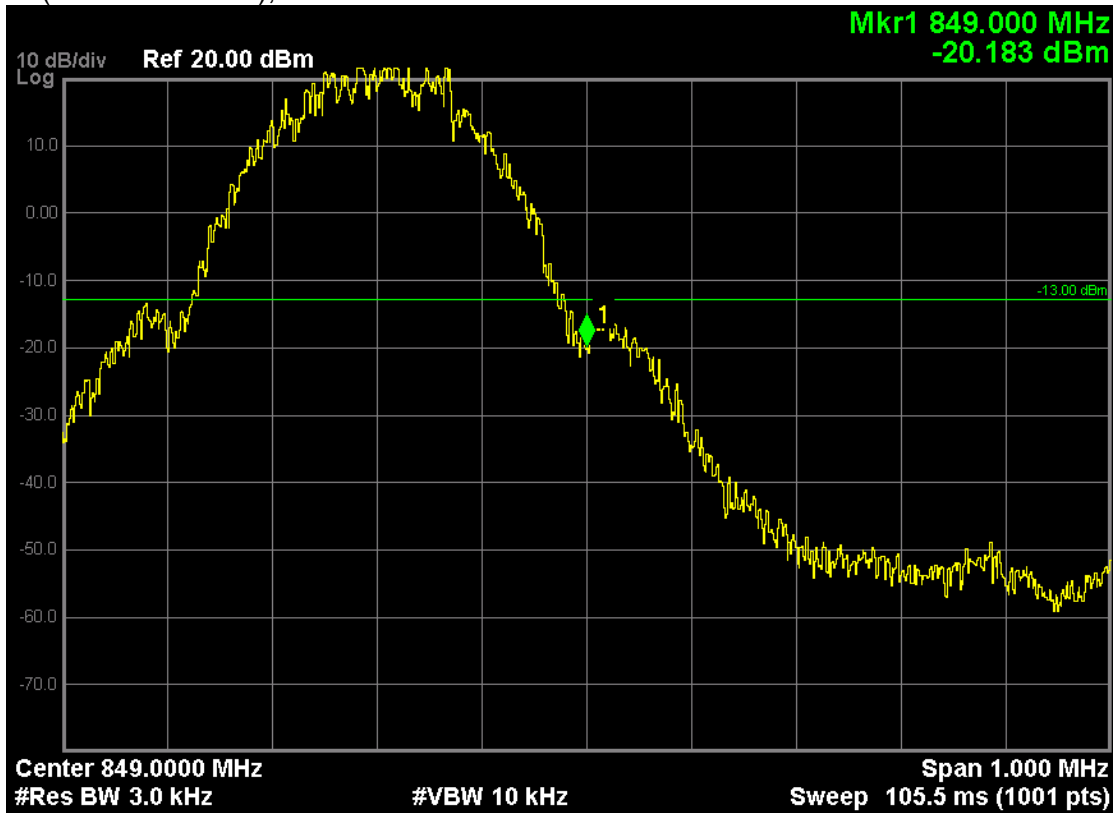
GSM850 (GSM Link), Channel 251



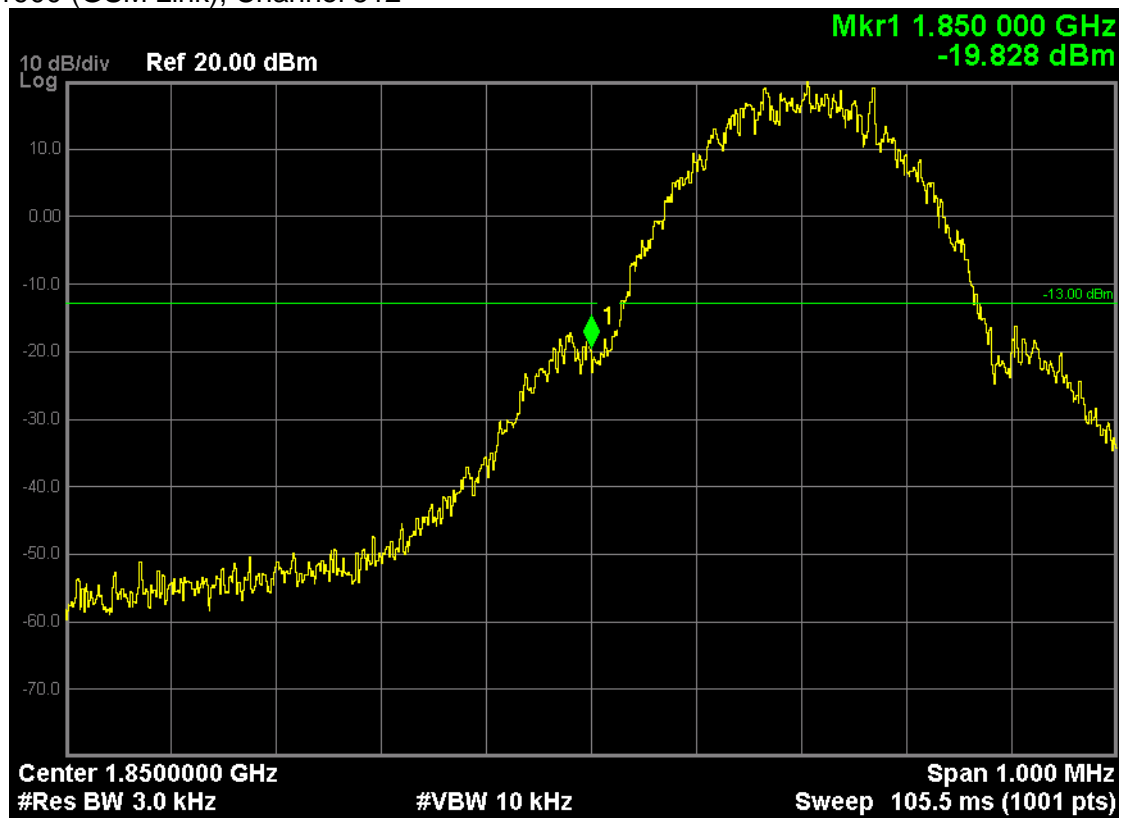
GSM850 (GPRS 1 Tx Slot), Channel 128



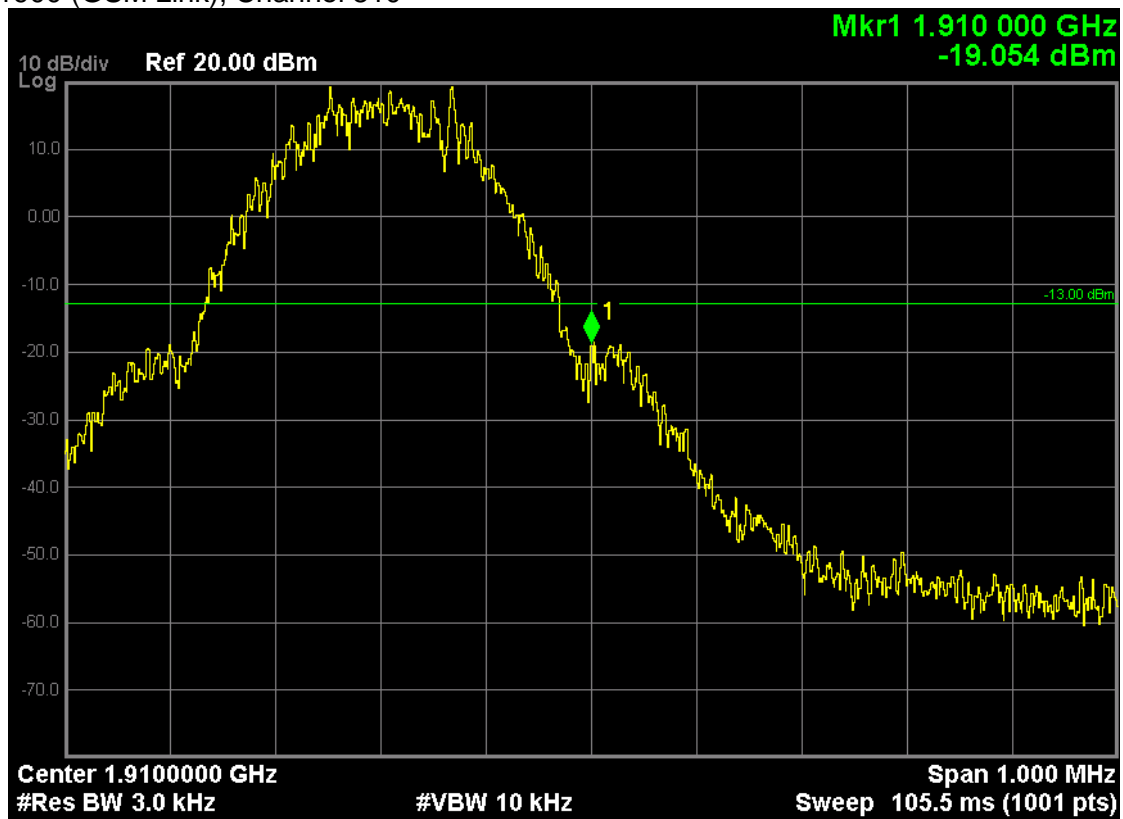
GSM850 (GPRS 1 Tx Slot), Channel 251



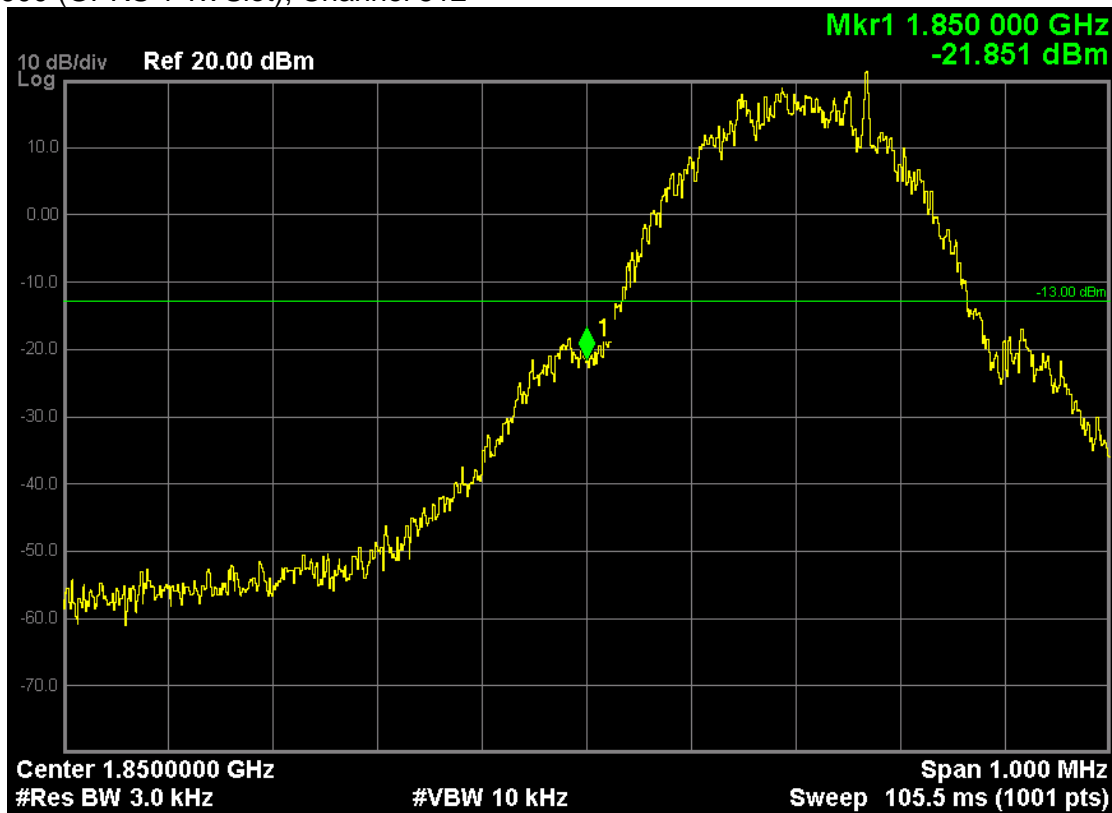
GSM 1900 (GSM Link), Channel 512



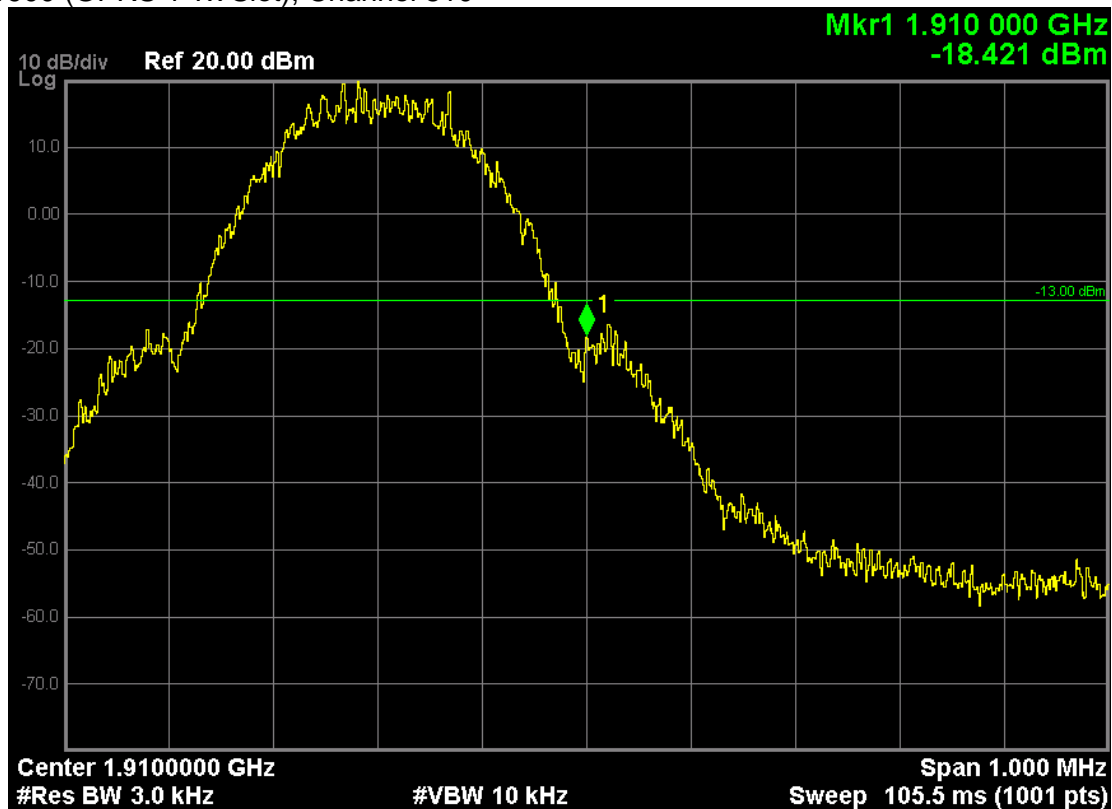
GSM 1900 (GSM Link), Channel 810



GSM1900 (GPRS 1 Tx Slot), Channel 512



GSM1900 (GPRS 1 Tx Slot), Channel 810



## 6.Spurious Emission

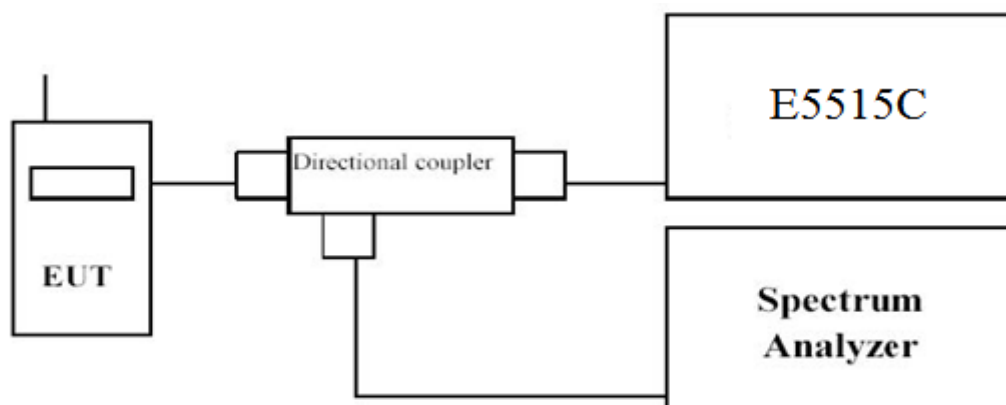
### 6.1. Test Equipment

Instrument	Manufacturer	Model	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9038A	MY51210142	11.05.2016
Radio Communication Tester	Agilent	E5515C	GB46581718	11.08.2016
Signal Generator	Agilent	N5183A	MY50140938	01.01.2017
Preamplifier	CEM	EM30180	3008A0245	06.07.2017
Loop Antenna	Schwarzbeck	FMZB1519	1519-020	03.02.2017
Bilog Antenna	Schwarzbeck	VULB9160	9160-3316	09.19.2016
VHF-UHF-Biconical Antenna	Schwarzbeck	VUBA9117	9117-263	09.19.2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-942	09.19.2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-943	09.19.2016
Directional coupler	ATM	C122H-10	C279710-02	/
RF cable	HUBER+SUHNER	SUCOFLEX 104	342800/4	/
Attenuator	Compliance Direction System	ATT-20	/	/
wave trap	Walnwright instrument	WRCT 836.6-0.2/40-5SS	SN7	/
wave trap	Walnwright instrument	WRCD 1880-1.25/40-10SS	SN1	/

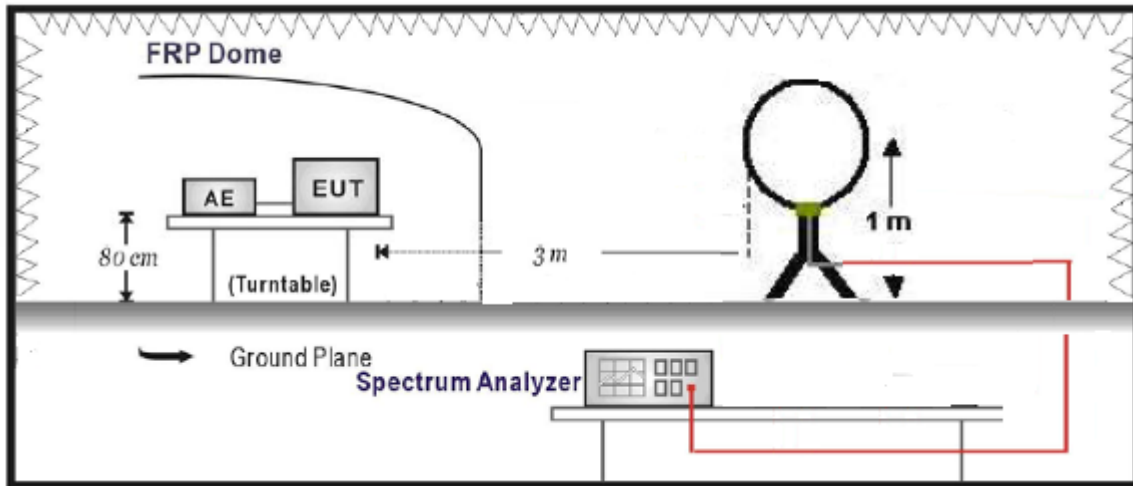
The measure equipment had been calibrated once a year.

### 6.2. Test Setup

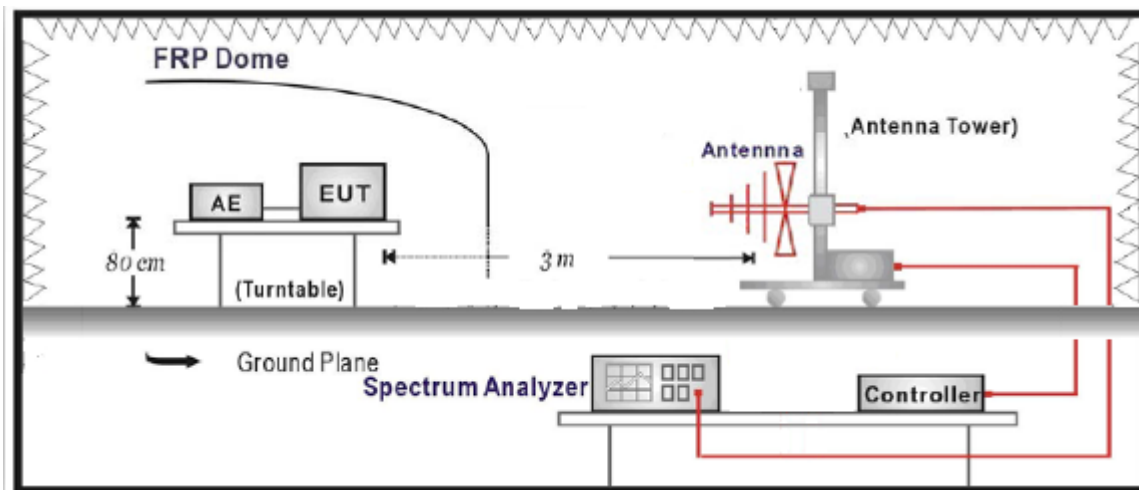
Conducted Spurious Emission Measurement:



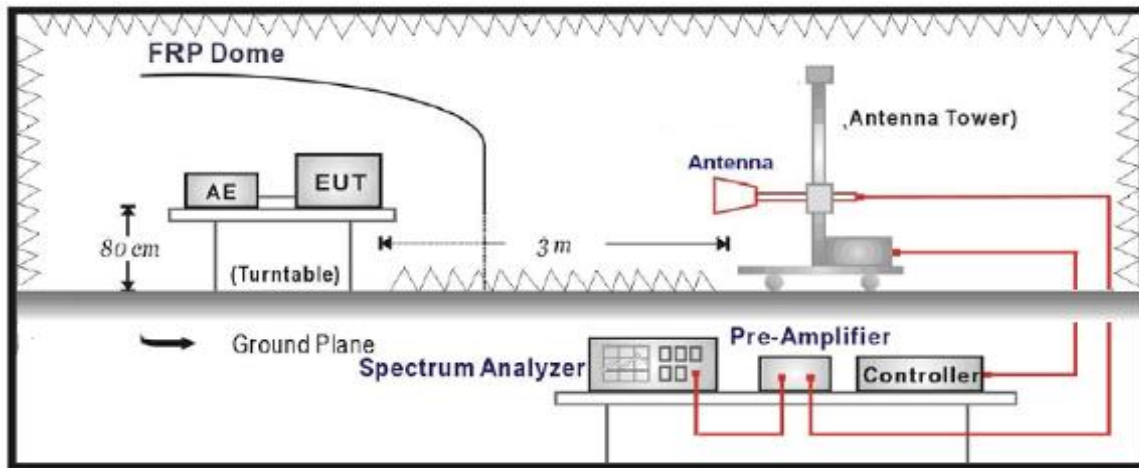
Radiated Spurious Measurement: below 30MHz



Radiated Spurious Measurement: 30MHz to 1GHz



Radiated Spurious Measurement: above 1GHz



### 6.3. Limit

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

### 6.4. Test Procedure

#### Conducted Spurious Measurement:

- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and E5515C by a Directional Couple.
- EUT Communicate with E5515C, then select a channel for testing.
- Add a correction factor to the display of spectrum, and then test.
- The resolution bandwidth of the spectrum analyzer was set at 1 MHz, sufficient scans were taken to show the out of band Emission if any up to 10th harmonic.

#### Radiated Spurious Measurement:

- The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
- The output of the test antenna shall be connected to the measuring receiver. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- The transmitter shall then be rotated through  $360^\circ$  in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- The maximum signal level detected by the measuring receiver shall be noted.
- The transmitter shall be replaced by a substitution antenna.
- The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- The substitution antenna shall be connected to a calibrated signal generator.
- If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- The test antenna shall be raised and lowered through the specified range of height to ensure



that the maximum signal is received.

- n. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- o. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- p. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- q. The frequency range was checked up to 10<sup>th</sup> harmonic.
- r. Test site anechoic chamber refer to ANSI/TIA-603-D-2010.

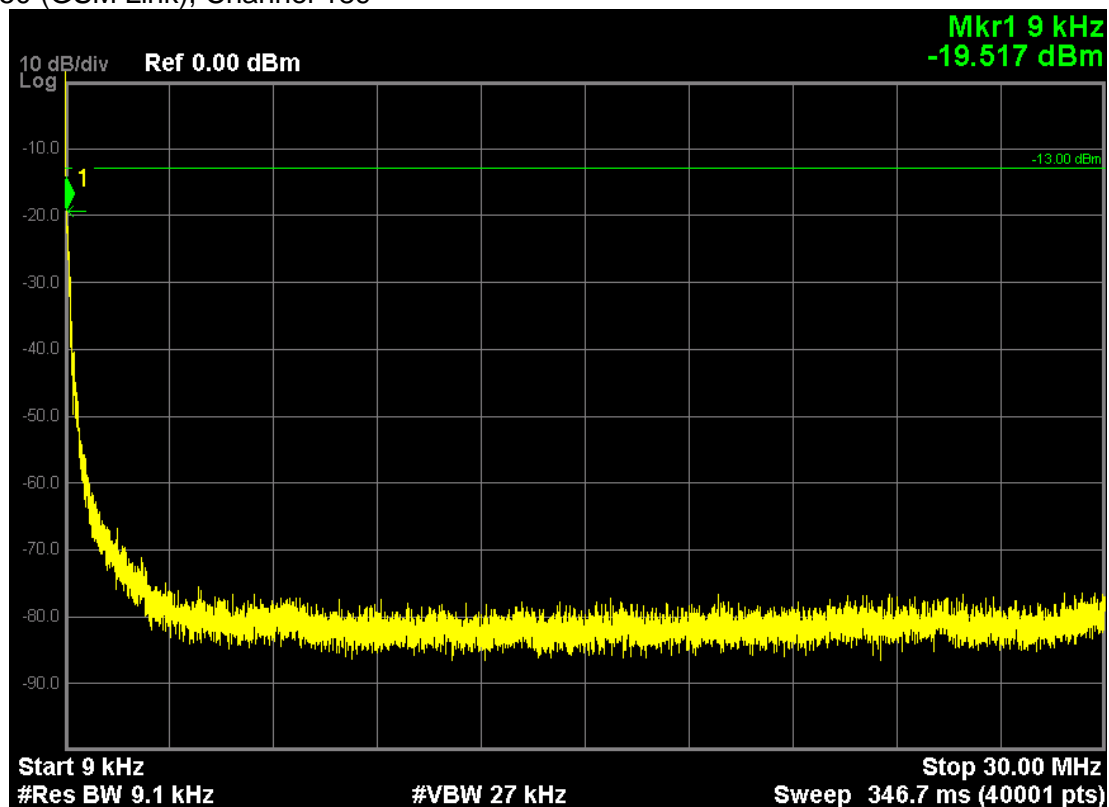
## 6.5. Uncertainty

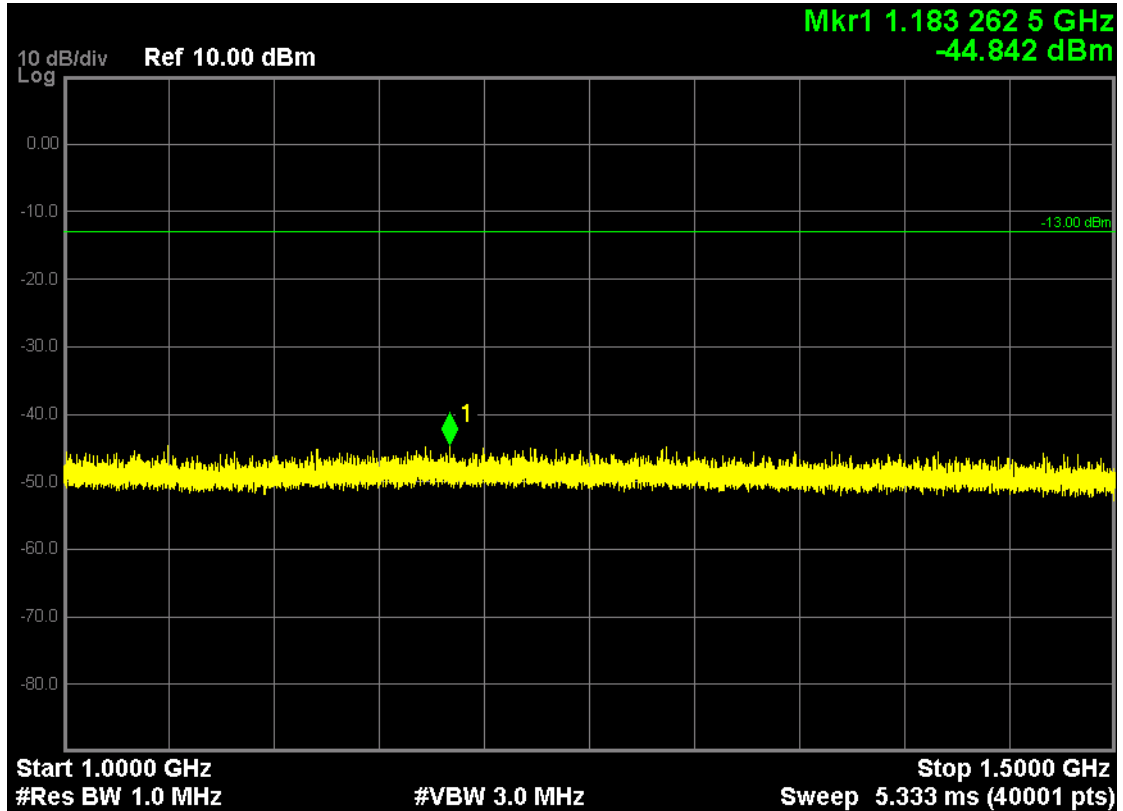
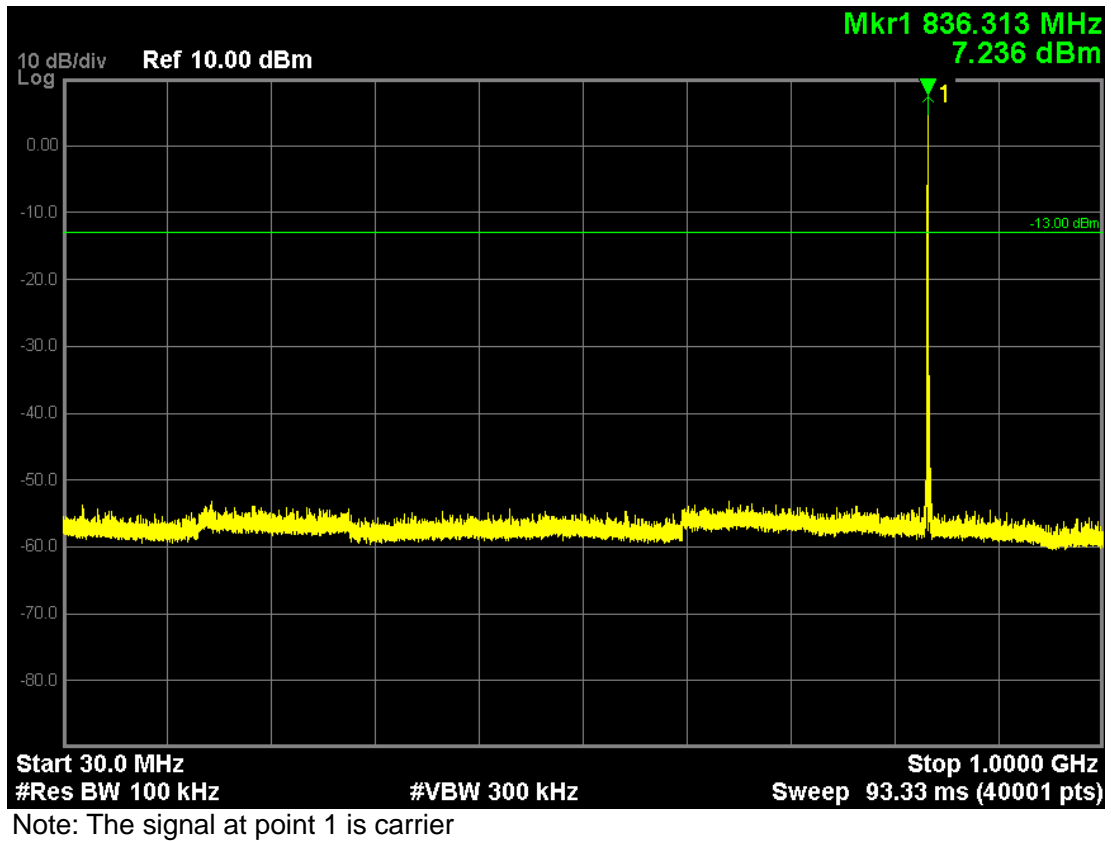
The measurement uncertainty is defined as 3.2 dB for Radiated Power Measurement.

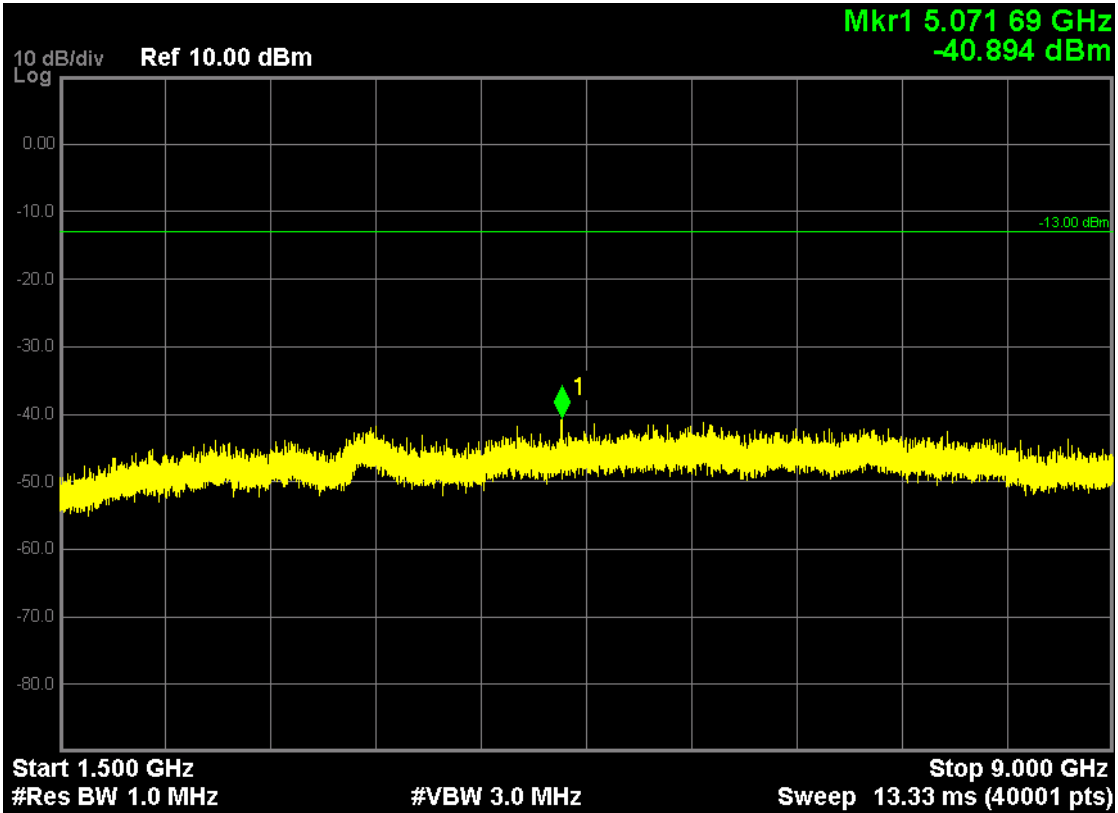
## 6.6. Test Result

### Conducted Spurious Measurement:

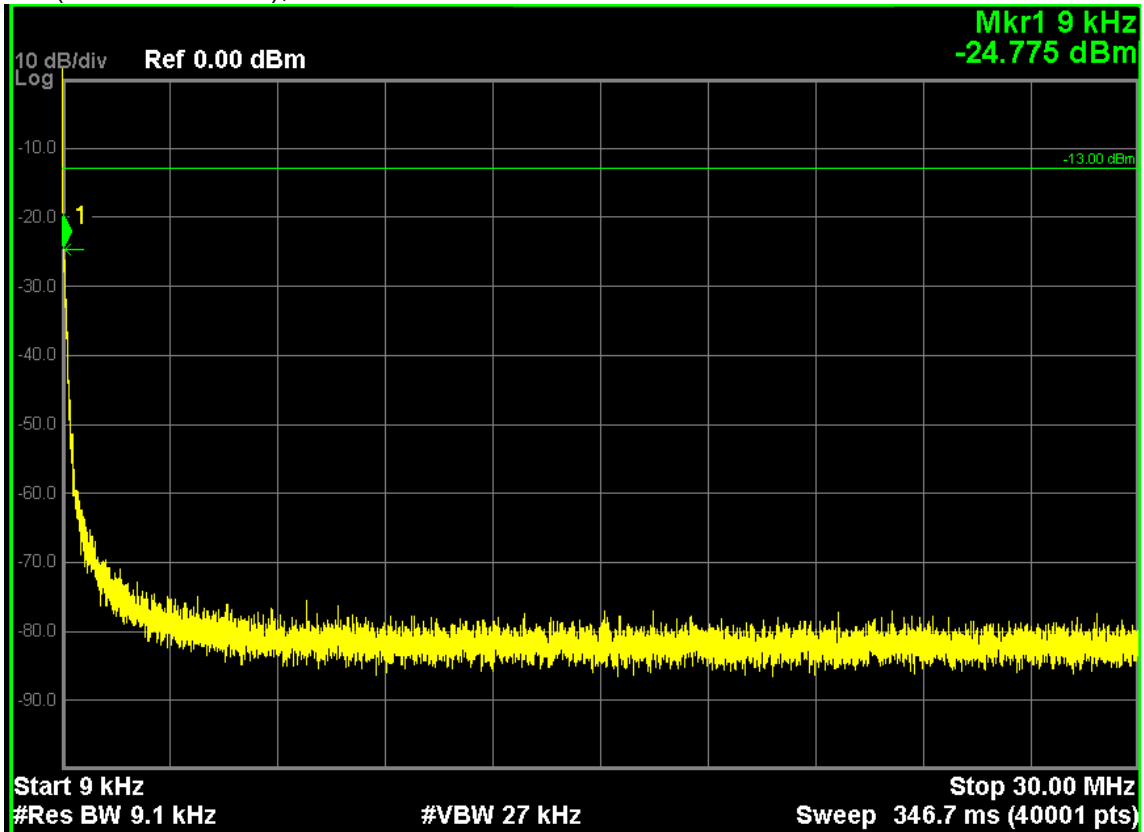
GSM850 (GSM Link), Channel 189

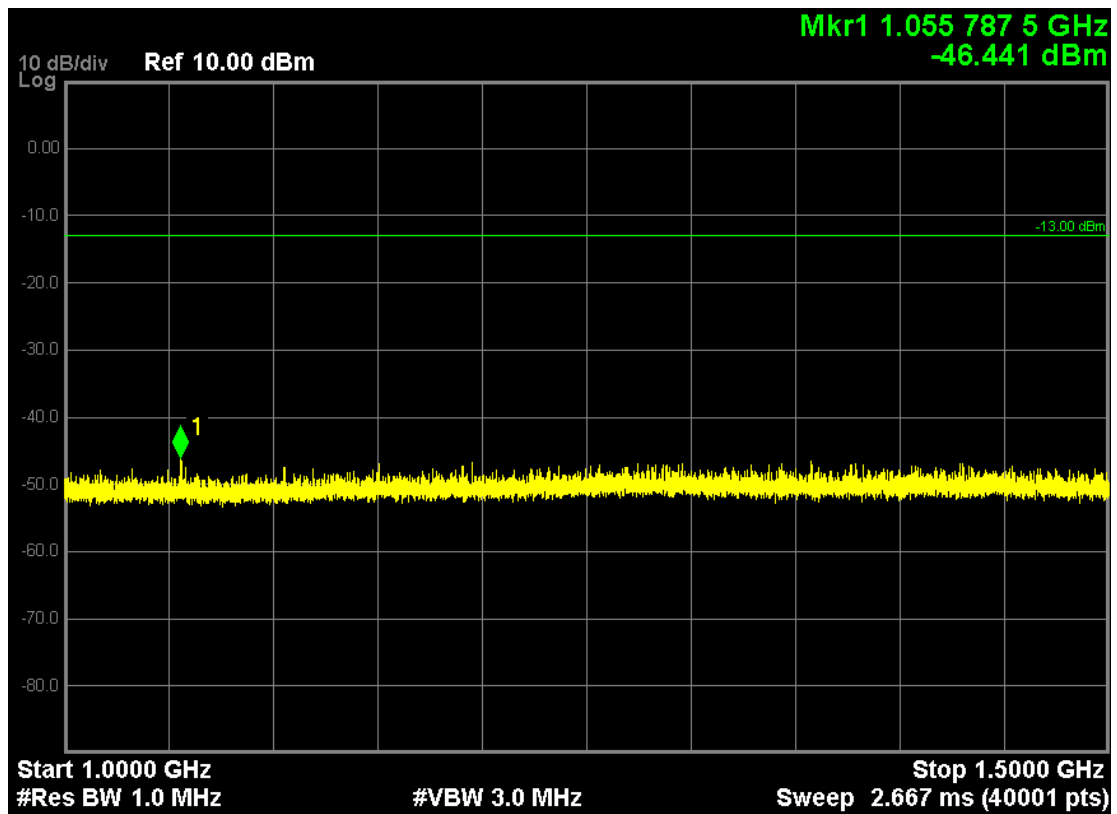
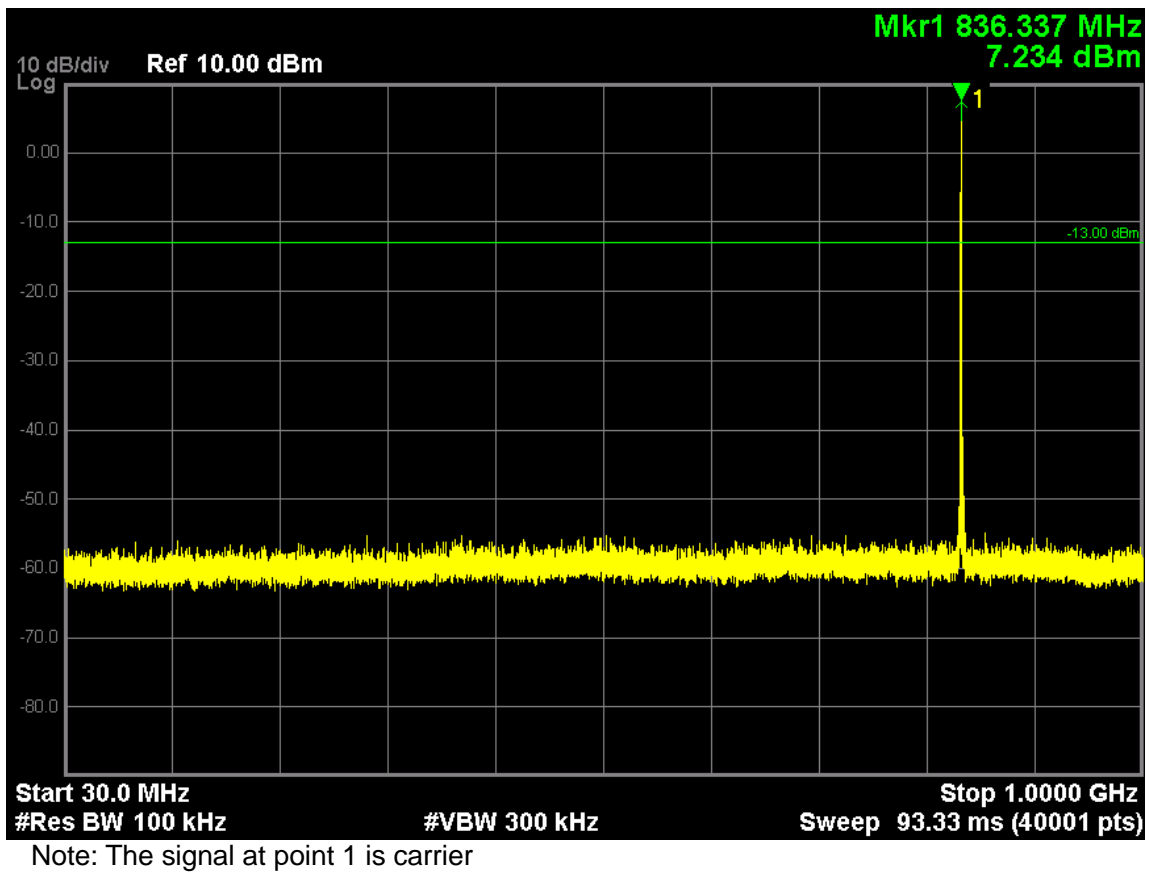


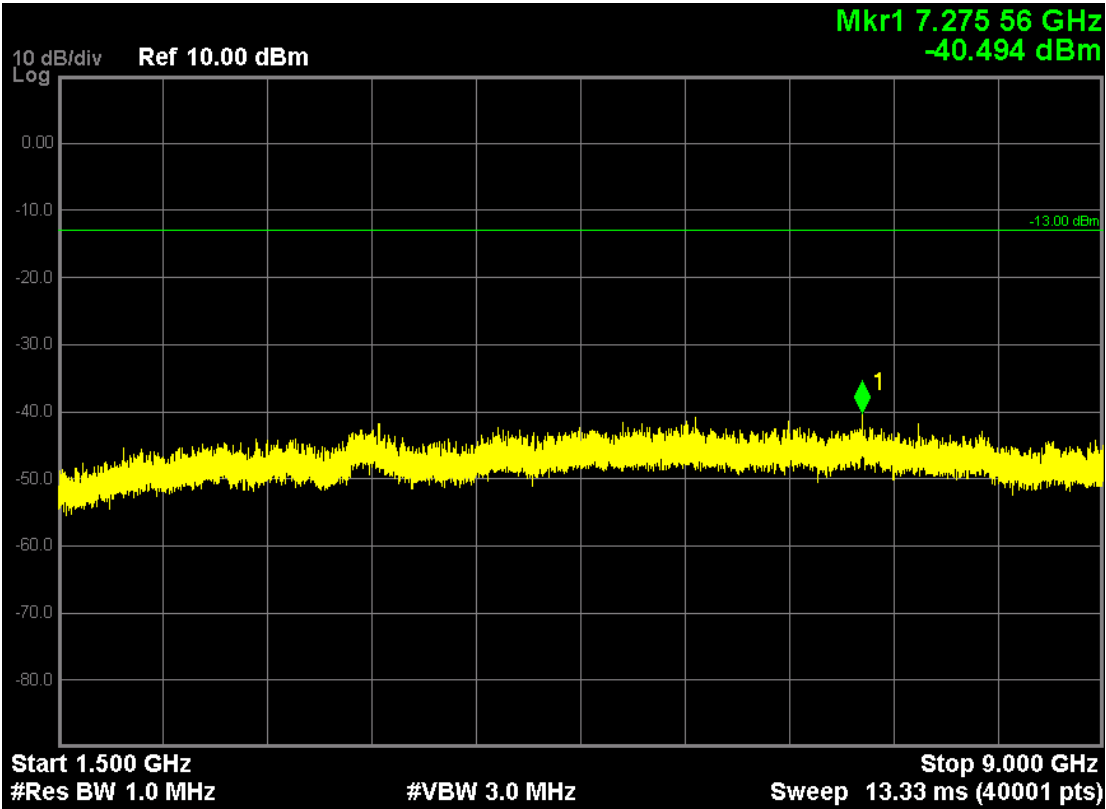




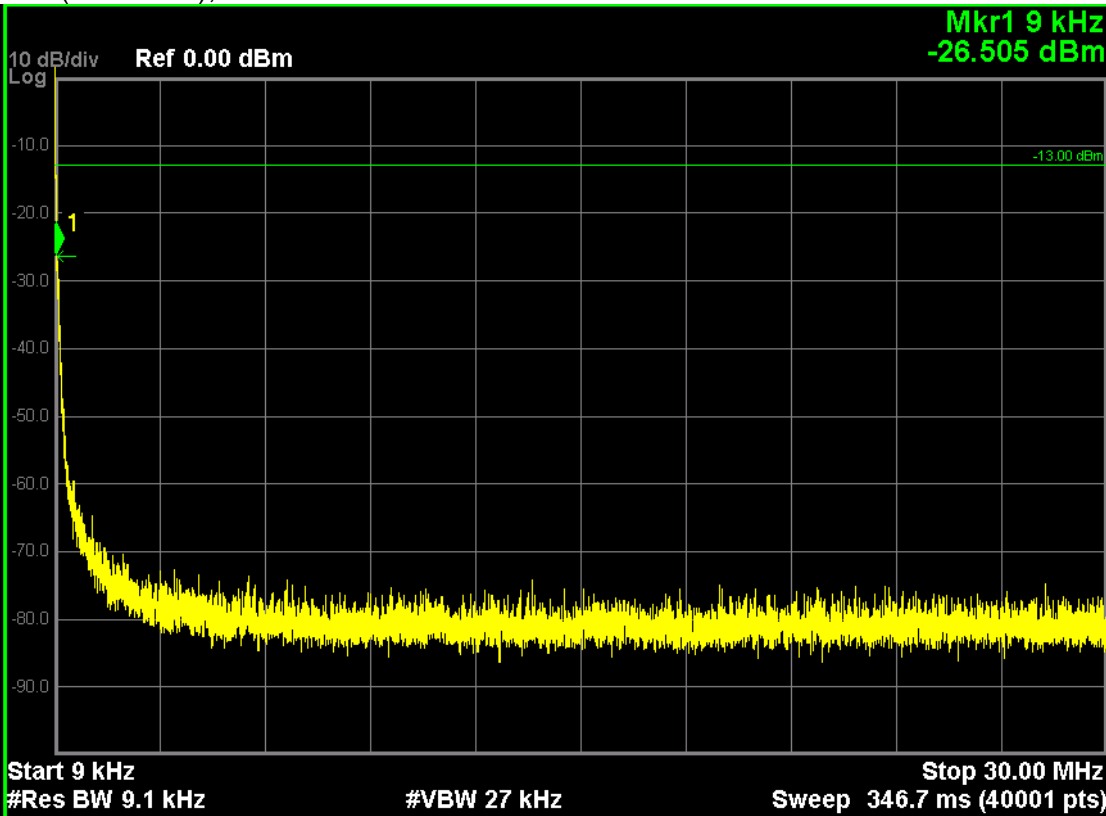
GSM850 (GPRS 1 Tx Slot), Channel 189

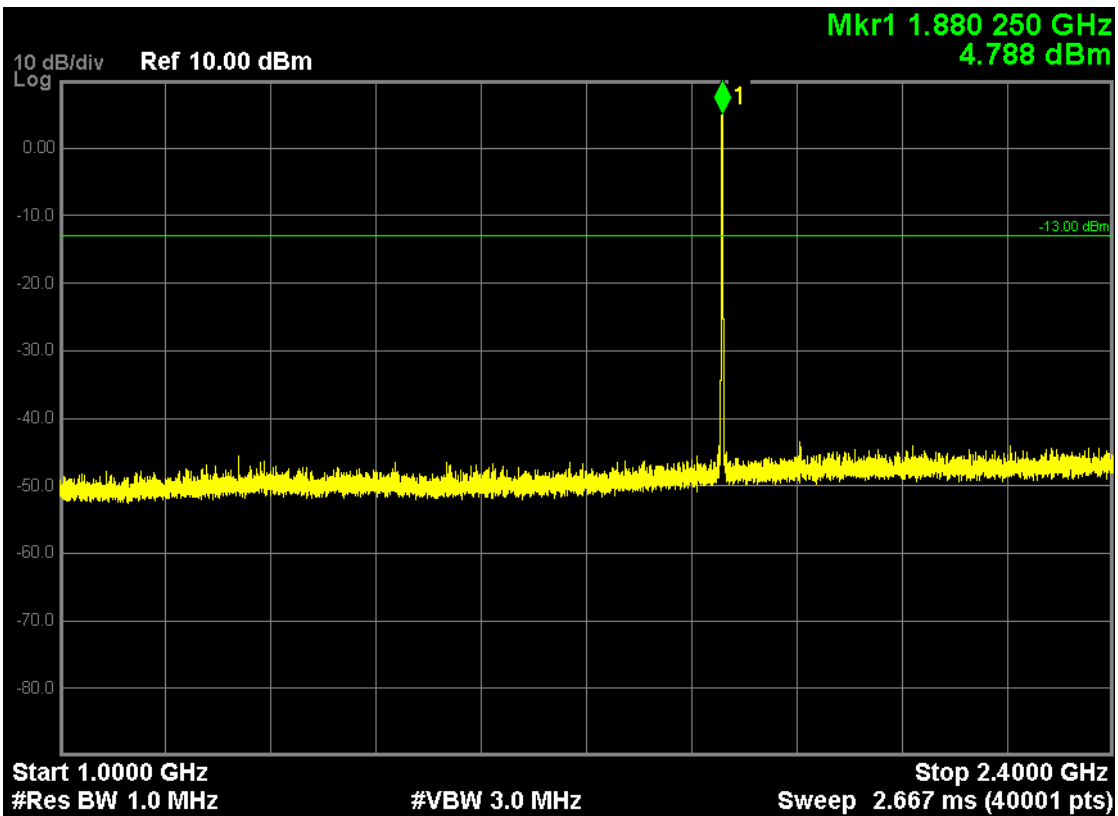
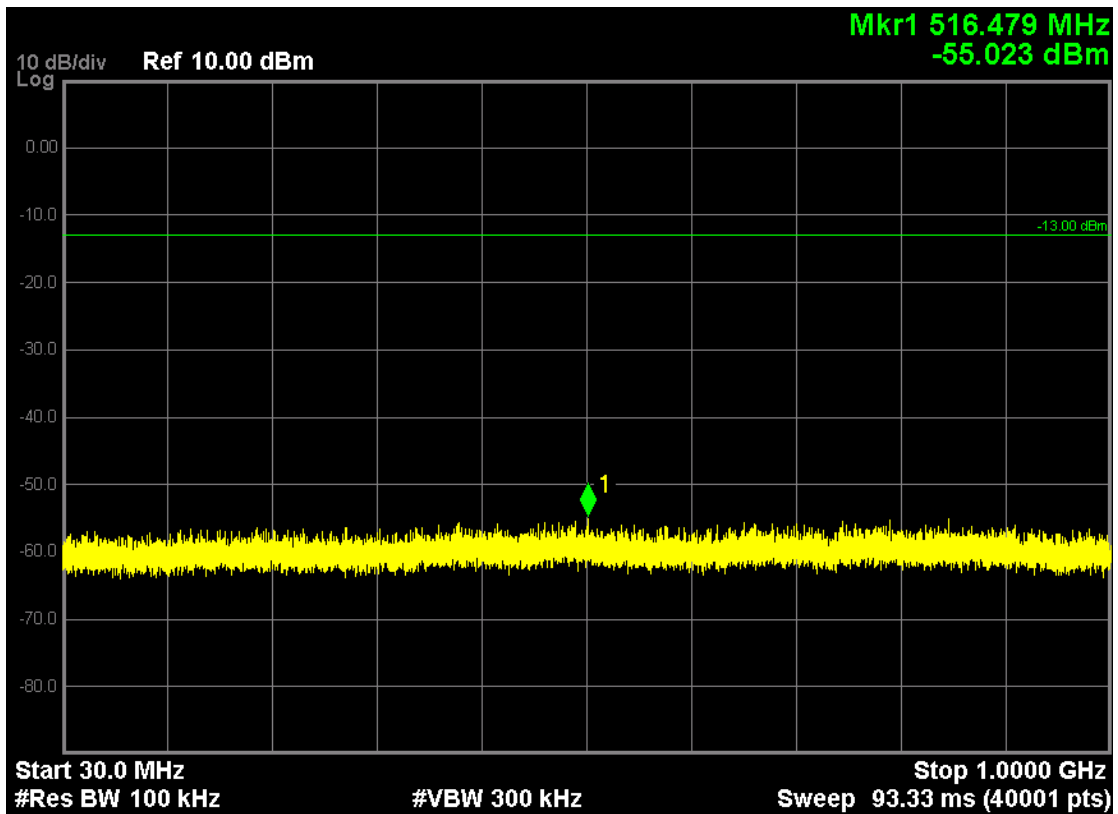




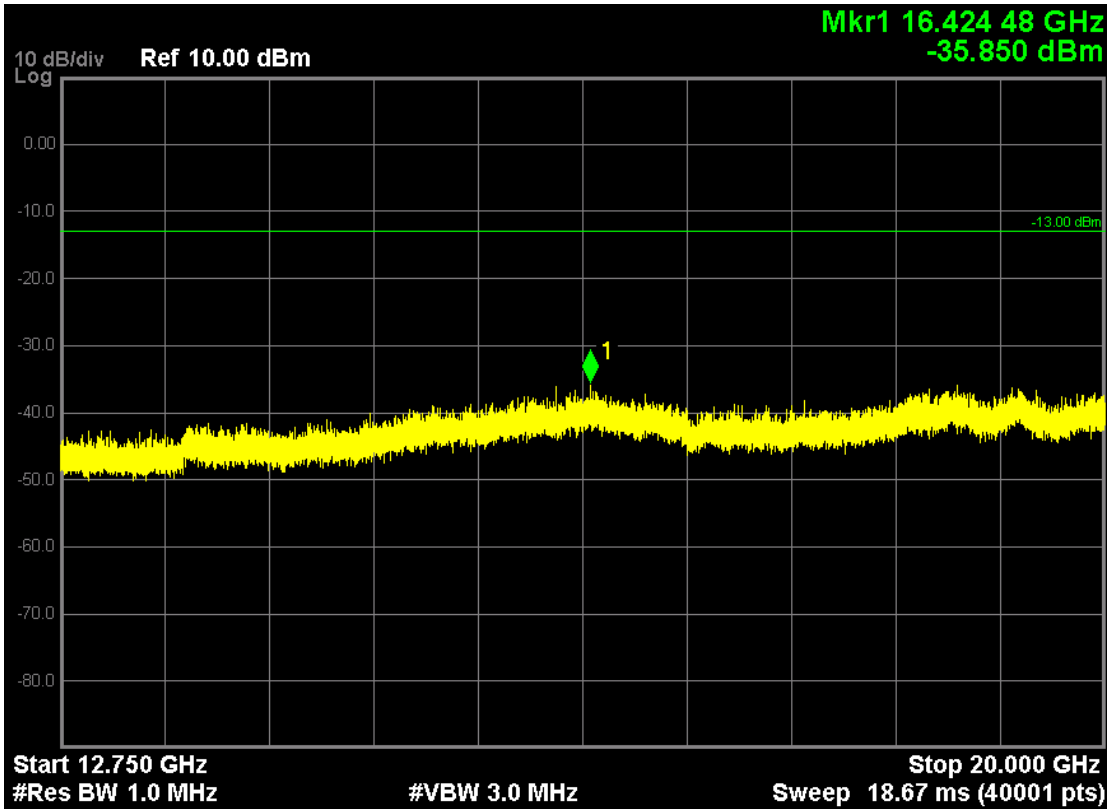
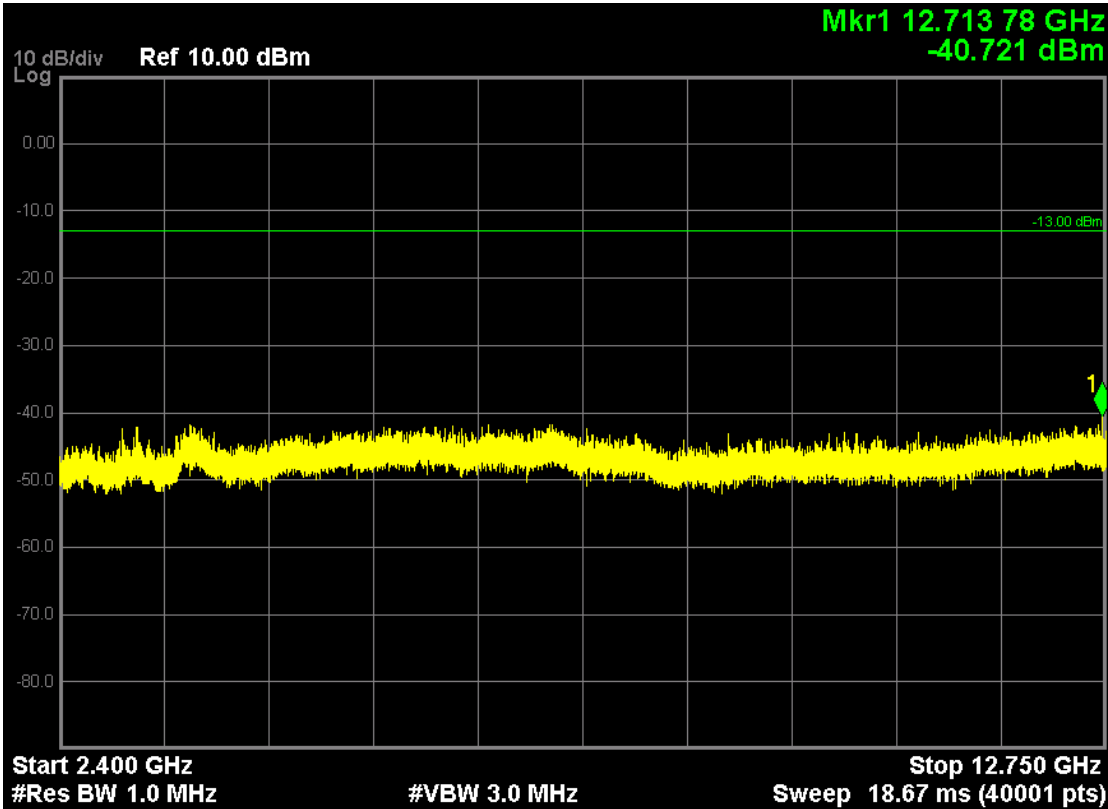


GSM 1900 (GSM Link), Channel 661

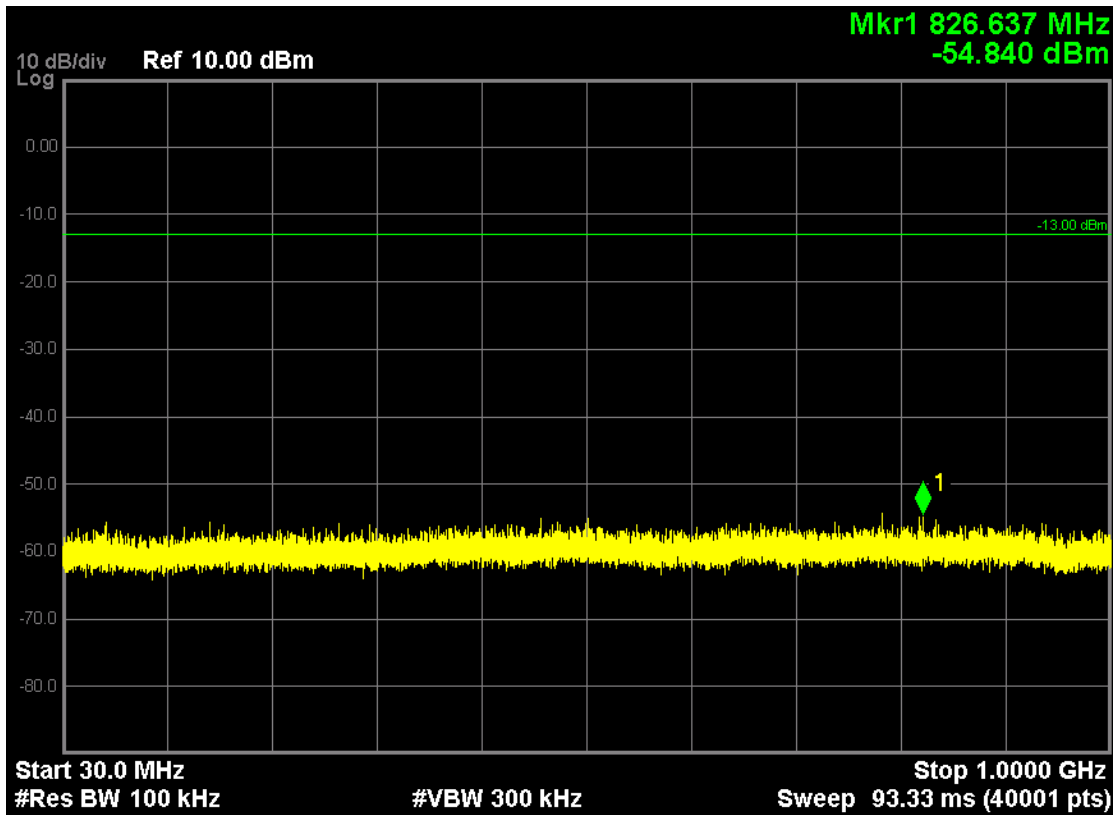
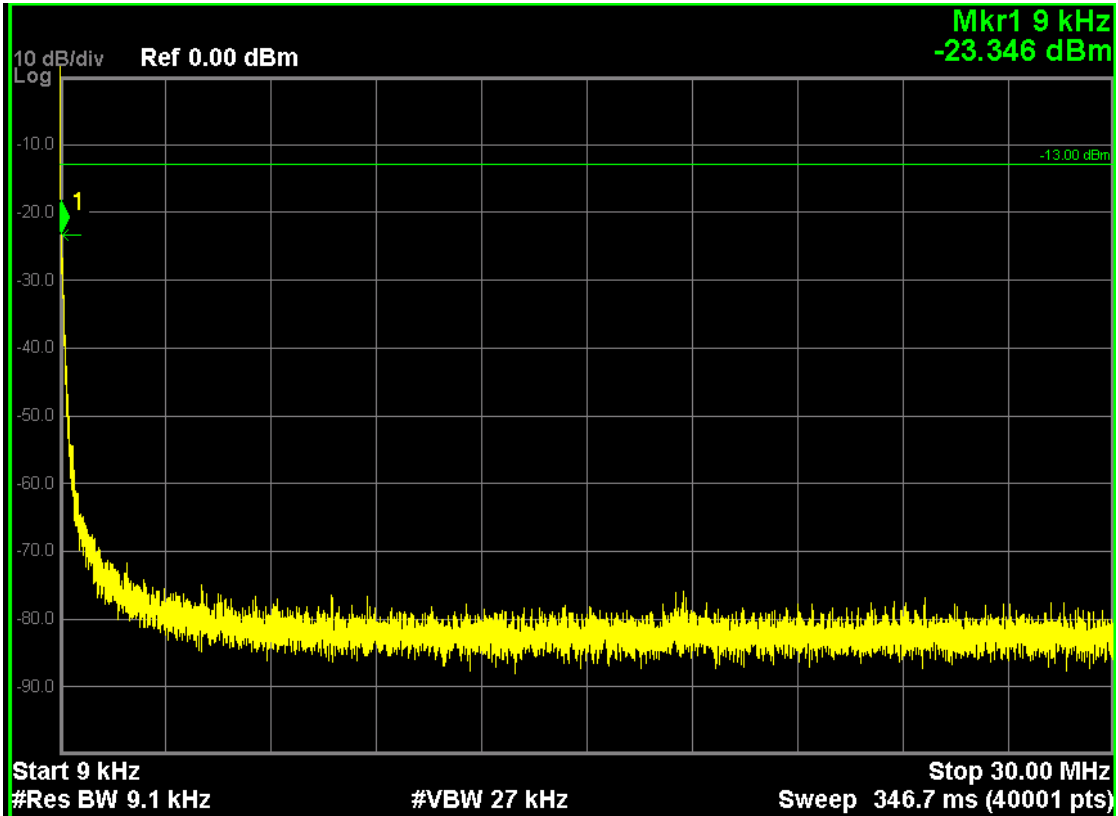




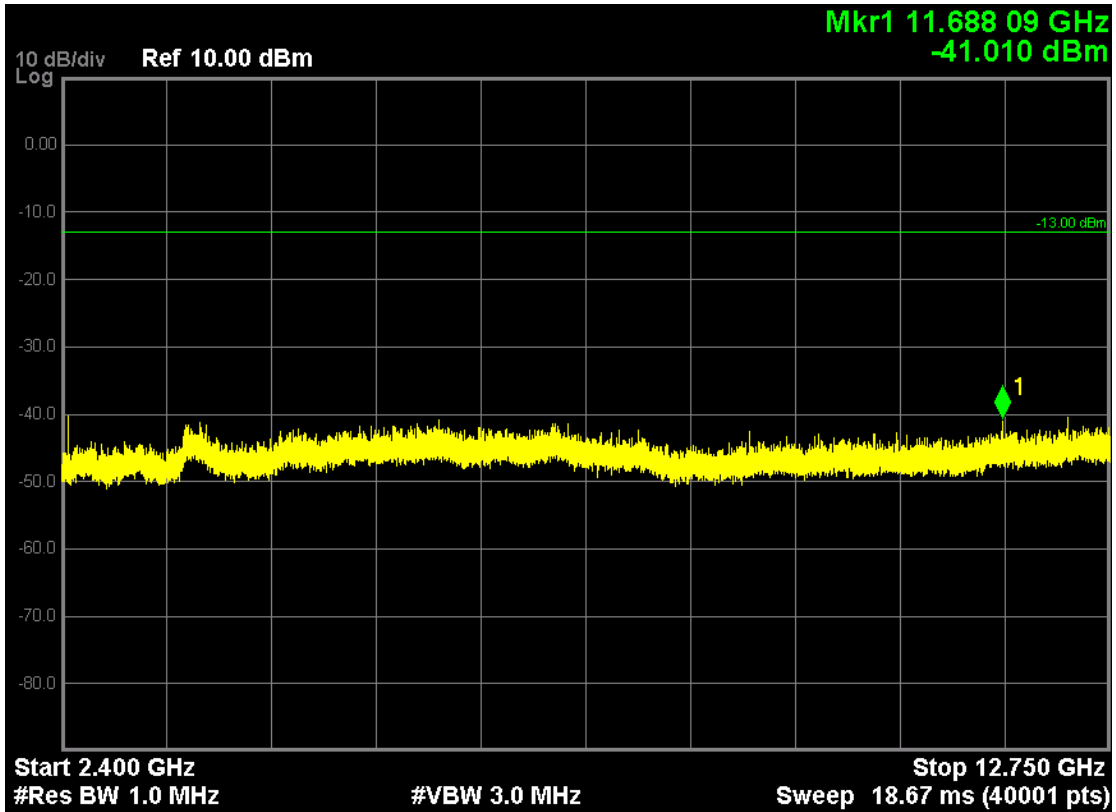
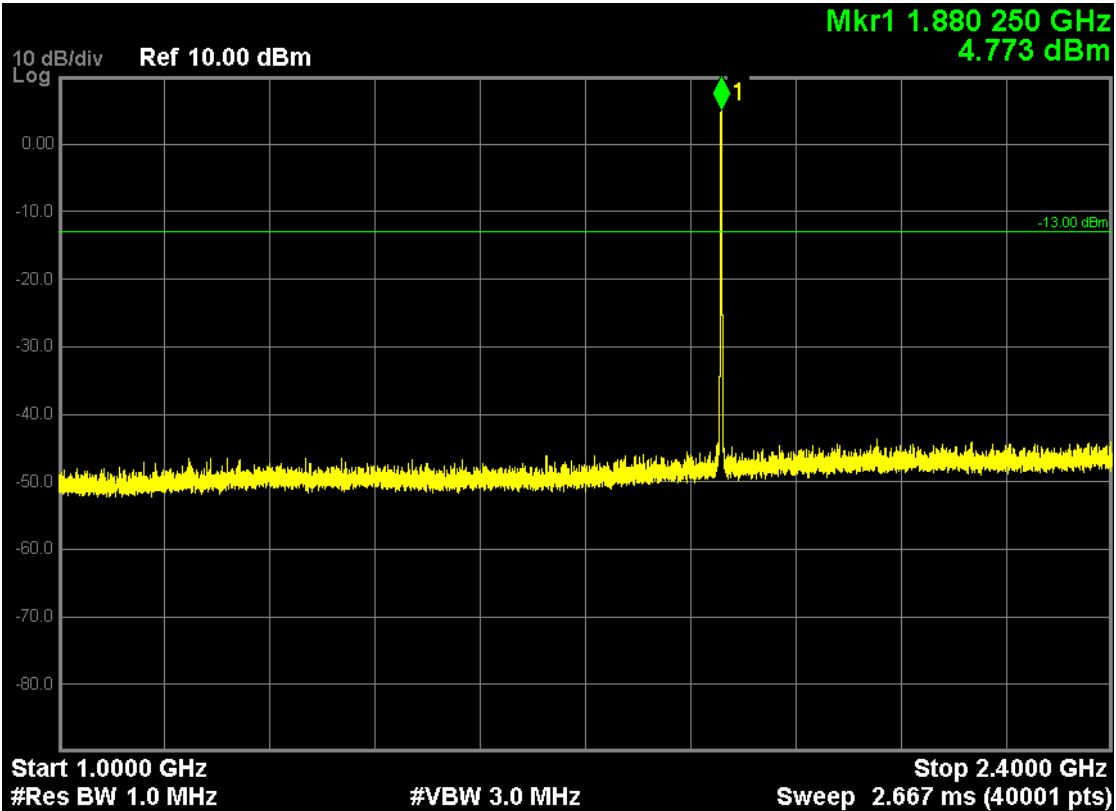
Note: The signal at point 1 is carrier

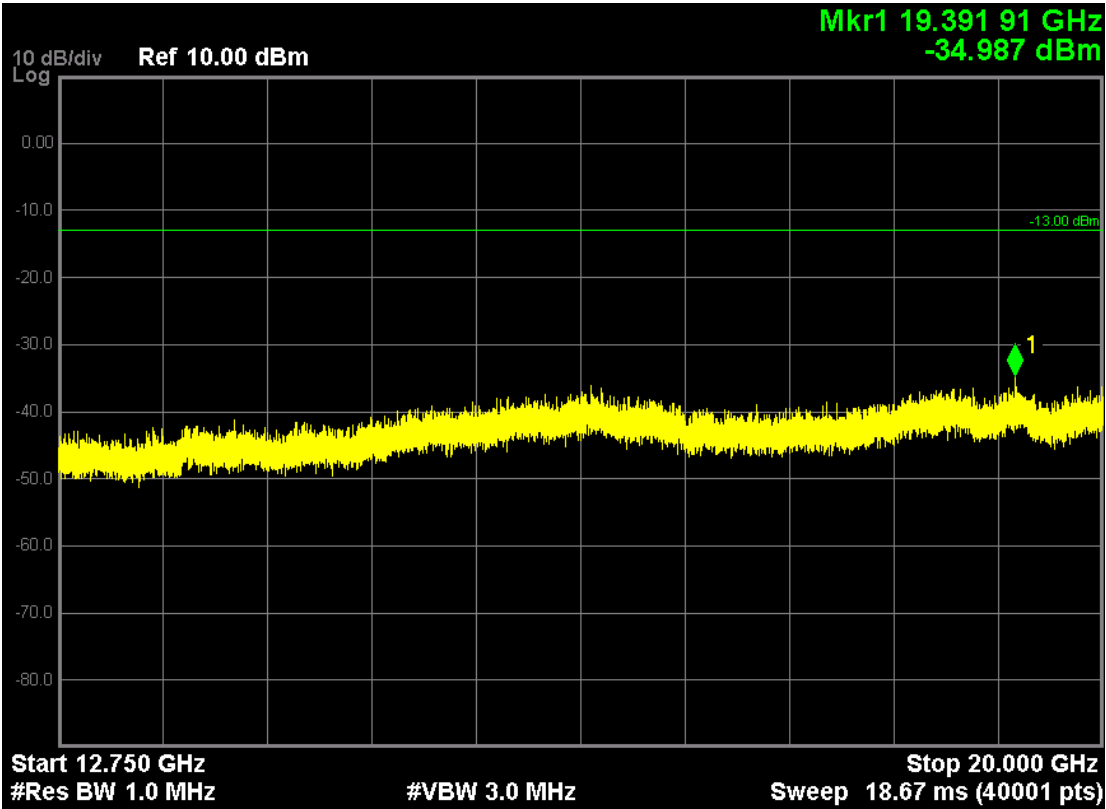


GSM 1900 (GPRS 1 Tx Slot), Channel 661:









## Radiated Spurious Measurement:

### GSM850 (GSM Link), 9KHz to 30MHz

The low frequency, which started from 9KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line, and that was not reported per 2.1057 (c).

### GSM850 (GSM Link), 30MHz to 1GHz

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Middle Channel 189 (836.40MHz)							
564.00	H	-44.76	3.12	-2.57	-50.45	-13	37.45
564.00	V	-45.95	3.12	-2.57	-51.64	-13	38.64

### GSM850 (GSM Link), Above 1GHz

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Middle Channel 189 (836.40MHz)							
2509.20	H	-53.94	7.32	-2.86	-64.12	-13	51.12
2509.20	V	-52.58	7.32	-2.86	-62.76	-13	49.76

### GSM850 (GPRS 1 Tx Slot), 9KHz to 30MHz

The low frequency, which started from 9KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line, and that was not reported per 2.1057 (c).

### GSM850 (GPRS 1 Tx Slot), 30MHz to 1GHz

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Middle Channel 189 (836.40MHz)							
574.00	H	-44.51	3.16	-2.63	-50.30	-13	37.30
574.00	V	-42.81	3.16	-2.63	-48.60	-13	35.60

### GSM850 (GPRS 1 Tx Slot), Above 1GHz

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Middle Channel 189 (836.40MHz)							
2509.20	H	-54.17	7.32	-2.86	-64.35	-13	51.35
2509.20	V	-52.80	7.32	-2.86	-62.98	-13	49.98

### GSM1900 (GSM Link), 9KHz to 30MHz

The low frequency, which started from 9KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line, and that was not reported per 2.1057 (c).

### GSM 1900 (GSM Link), 30MHz to 1GHz

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Middle Channel 661 (1880.00MHz)							
570	H	-45.56	3.16	-2.63	-51.35	-13	38.35
570	V	-44.02	3.16	-2.63	-49.81	-13	36.81

### GSM 1900 (GSM Link), Above 1GHz

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Middle Channel 661 (1880.00MHz)							
3760	H	-47.90	7.32	-2.86	-58.08	-13	45.08
3760	V	-48.21	7.32	-2.86	-58.39	-13	45.39

### GSM1900 (GPRS 1 Tx Slot), 9KHz to 30MHz

The low frequency, which started from 9KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line, and that was not reported per 2.1057 (c).

### GSM1900 (GPRS 1 Tx Slot), 30MHz to 1GHz

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Middle Channel 661 (1880.00MHz)							
571	H	-45.30	3.16	-2.63	-51.09	-13	38.09
571	V	-44.16	3.16	-2.63	-49.95	-13	36.95

### GSM1900 (GPRS 1 Tx Slot), Above 1GHz

Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Middle Channel 661 (1880.00MHz)							
3760	H	-47.93	7.32	-2.86	-58.11	-13	45.11
3760	V	-48.59	7.32	-2.86	-58.77	-13	45.77

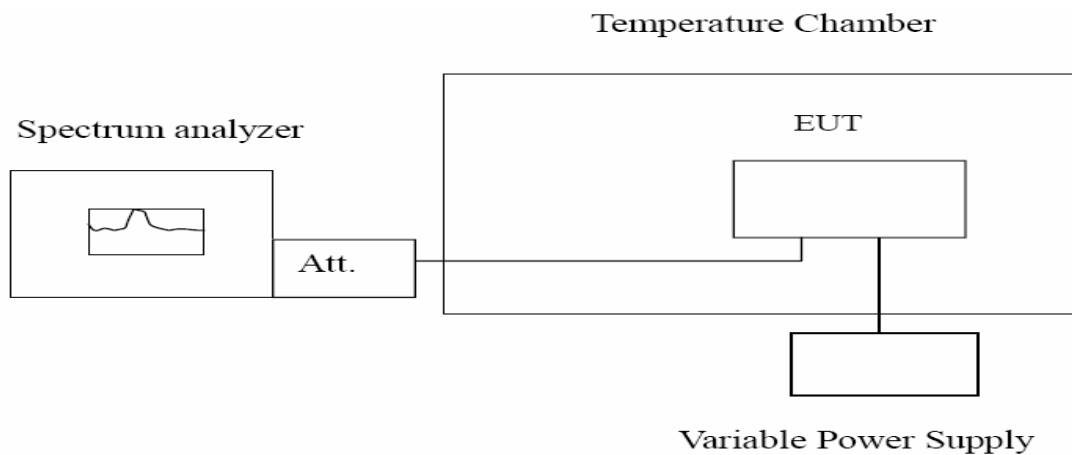
## 7. Frequency Stability Under Temperature & Voltage Variations

### 7.1. Test Equipment

Instrument	Manufacturer	Model	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9038A	MY51210142	11.05.2016
Radio Communication Tester	Agilent	E5515C	GB46581718	06.01.2017
DC Power Supply	Agilent	6612C	MY43002989	03.02.2017
Temperature Chamber	WEISS	DU/20/40	58226017340050	05.27.2017
Directional coupler	ATM	C122H-10	C279710-02	/
RF cable	HUBER+SUHNER	SUCOFLEX 104	342800/4	/
Attenuator	Compliance Direction System	ATT-20	/	/

The measure equipment had been calibrated once a year.

### 7.2. Test Setup



### 7.3. Limit

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Limit	$< \pm 2.5 \text{ ppm}$
-------	-------------------------

## 7.4. Test Procedure

### **Frequency Stability Under Temperature Variations:**

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure

EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

### **Frequency Stability Under Voltage Variations:**

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint, record the maximum frequency change.

## 7.5. Uncertainty

The measurement uncertainty is defined as  $\pm 10$  Hz.

## 7.6. Test Result

### GSM850 (GSM Link):

#### Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation	Limit (Hz)
		(Hz)	
-20	836.40	-37.43	± 2091
-10	836.40	-28.40	± 2091
0	836.40	-53.37	± 2091
10	836.40	-17.64	± 2091
20	836.40	-39.19	± 2091
30	836.40	-40.32	± 2091
40	836.40	-21.39	± 2091
50	836.40	-39.93	± 2091

#### Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
6	836.40	-35.63	± 2091
12	836.40	-42.54	± 2091
32	836.40	-48.44	± 2091

### GSM850 (GPRS 1 Tx Slot):

#### Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation	Limit (Hz)
		(Hz)	
-20	836.40	-46.36	± 2091
-10	836.40	-8.52	± 2091
0	836.40	-16.11	± 2091
10	836.40	-23.57	± 2091
20	836.40	-19.13	± 2091
30	836.40	-52.58	± 2091
40	836.40	-19.71	± 2091
50	836.40	-43.94	± 2091

#### Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
3.4	836.40	-49.19	± 2091
3.8	836.40	-32.56	± 2091
4.2	836.40	-38.76	± 2091

### GSM 1900 (GSM Link):

#### Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
-20	1880.00	-28.27	±4700
-10	1880.00	-31.65	±4700
0	1880.00	-27.76	±4700
10	1880.00	-31.47	±4700
20	1880.00	-29.05	±4700
30	1880.00	-52.79	±4700
40	1880.00	-34.04	±4700
50	1880.00	-3.61	±4700

#### Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
3.4	1880.00	-38.88	±4700
3.8	1880.00	-35.26	±4700
4.2	1880.00	-43.48	±4700

### GSM1900 (GPRS 1 Tx Slot):

#### Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
-20	1880.00	-20.42	±4700
-10	1880.00	-12.25	±4700
0	1880.00	-36.32	±4700
10	1880.00	-17.88	±4700
20	1880.00	-54.24	±4700
30	1880.00	-42.76	±4700
40	1880.00	-28.29	±4700
50	1880.00	-31.64	±4700

#### Frequency Stability under Voltage

DC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
3.4	1880.00	-50.72	±4700
3.8	1880.00	-42.62	±4700
4.2	1880.00	-38.86	±4700

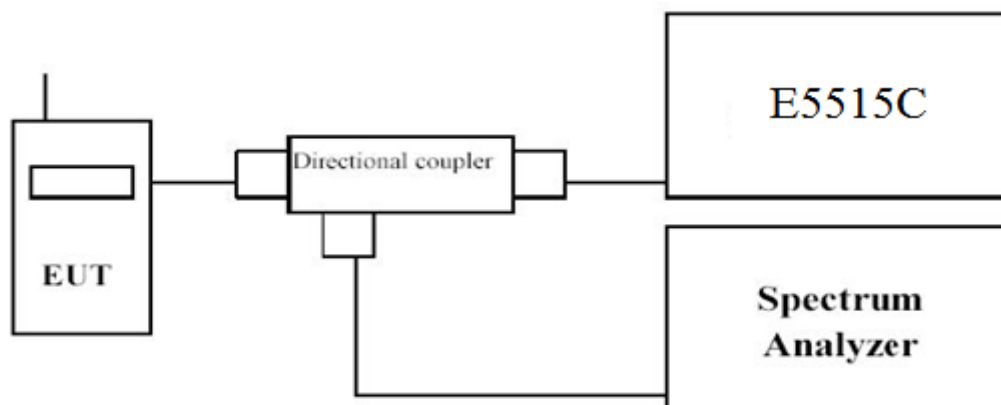


## 8. Peak to Average

### 8.1. Test Equipment

Instrument	Manufacturer	Model	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9038A	MY51210142	11.05.2016
Radio Communication Tester	Agilent	E5515C	GB46581718	06.01.2017
Signal Generator	Agilent	N5183A	MY50140938	01.01.2017
Preamplifier	CEM	EM30180	3008A0245	06.07.2017
Directional coupler	ATM	C122H-10	C279710-02	/
RF cable	HUBER+SUHNER	SUCOFLEX 104	342800/4	/
Attenuator	Compliance Direction System	ATT-20	/	/

### 8.2. Test Setup



### 8.3. Limit

In addition, the transmitter's peak-to-average power ratio (PAPR) shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

### 8.4. Test Procedure

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function(CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given a bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

Procedure:

- Place the EUT on a bench and set it in transmitting mode;
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and E5515C by a

Directional Couple;

- c. EUT Communicate with E5515C, then select a channel for testing;
- d. Add a correction factor to the display of spectrum, and then test;
- e. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
- f. Set the number of counts to a value that stabilizes the measured CCDF curve;
- g. Using the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration;
- h. Record the maximum PAPR level associated with a probability of 0.1%.

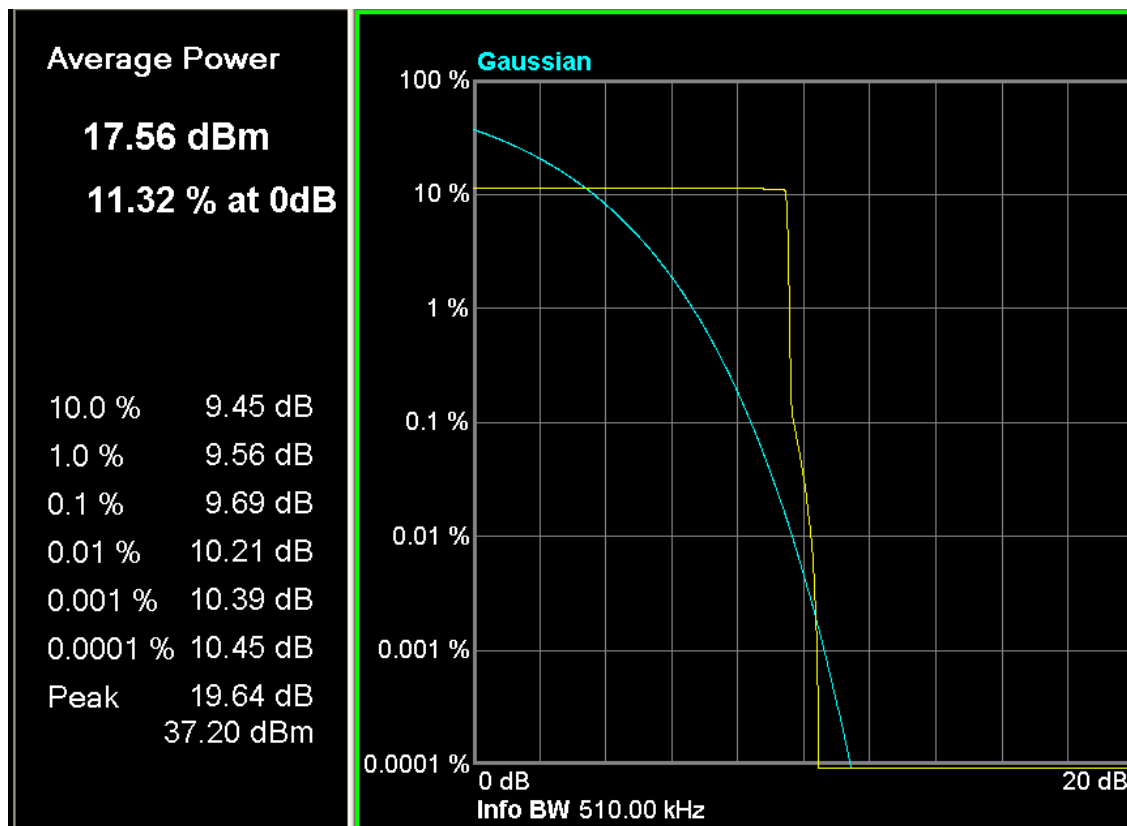
## 8.5. Uncertainty

The measurement uncertainty is defined as  $\pm 1.2$  dB.

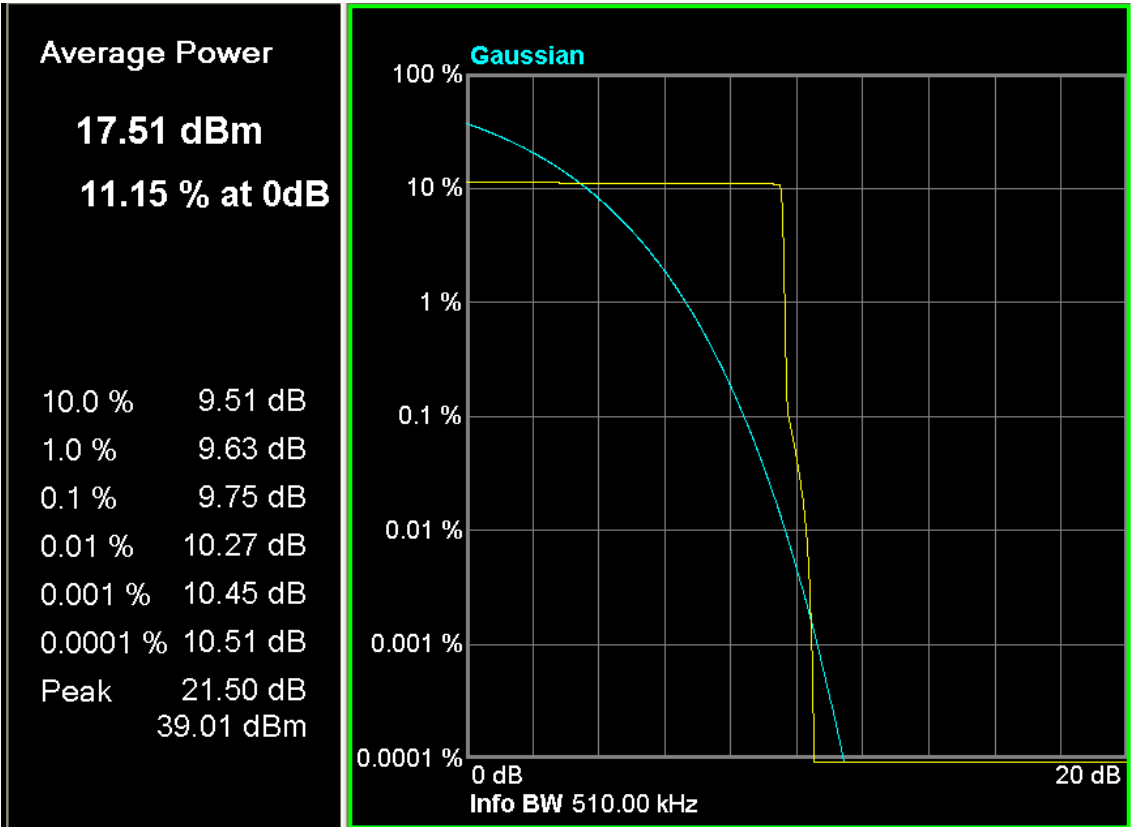
## 8.6. Test Result

Band	Channel No.	Limit (dB)	Result (dB)
PCS 1900	661	< 13	9.69
GPRS 1900	661	< 13	9.75

For PCS 1900, channel 661



For GPRS 1900, channel 661



## 9.Receiver Spurious Emission for RSS 132/133

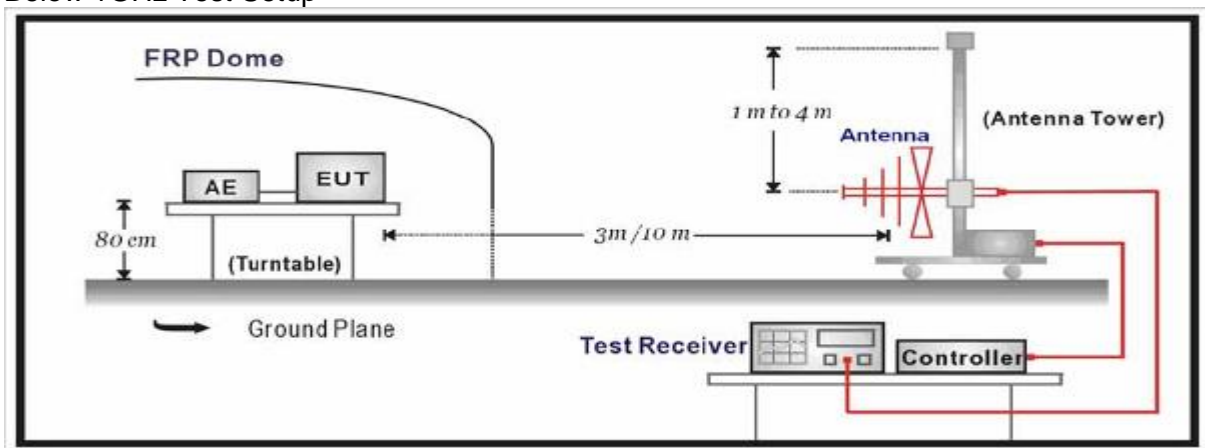
### 9.1. Test Equipment

Instrument	Manufacturer	Model	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9038A	MY51210142	11/05/2016
Radio Communication Tester	Agilent	E5515C	GB46581718	11/08/2016
Signal Generator	Agilent	N5183A	MY50140938	01/02/2017
Preamplifier	CEM	EM30180	3008A0245	02/26/2017
Loop Antenna	Schwarzbeck	FMZB1519	1519-020	03/25/2017
Bilog Antenna	Schwarzbeck	VULB9160	9160-3316	09/19/2016
VHF-UHF-Biconical Antenna	Schwarzbeck	VUBA9117	9117-263	09/19/2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-942	09/19/2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-943	09/19/2016
Directional coupler	ATM	C122H-10	C279710-02	/
RF cable	HUBER+SUHNER	SUCOFLEX 104	342800/4	/
Attenuator	Compliance Direction System	ATT-20	/	/

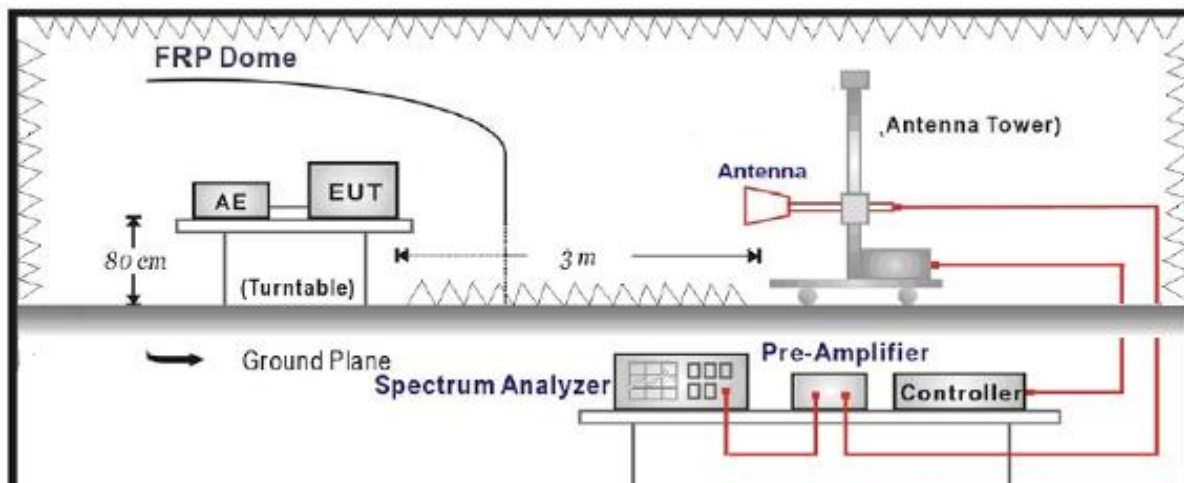
The measure equipment had been calibrated once a year.

### 9.2. Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



### 9.3. Limit

According to Standard RSS 132/133 refer to RSS-Gen Issu 4.

Field Strength micro-volts/m at 3 meters		
Frequency (MHz)	Distance (m)	Level (dB $\mu$ V/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dB $\mu$ V/m) = 20 log E field strength (uV/m).

### 9.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement. On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 100MHz, the radiated limits shown are based measuring equipment employing an average detector function.

When average radiated emission measurement are included emission measurement Above 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

**Note:** When measurement above 1GHz, the horn antenna will bend down a little (as horn antenna have the narrow beamwidth) in order to find the maximum emission of EUT.

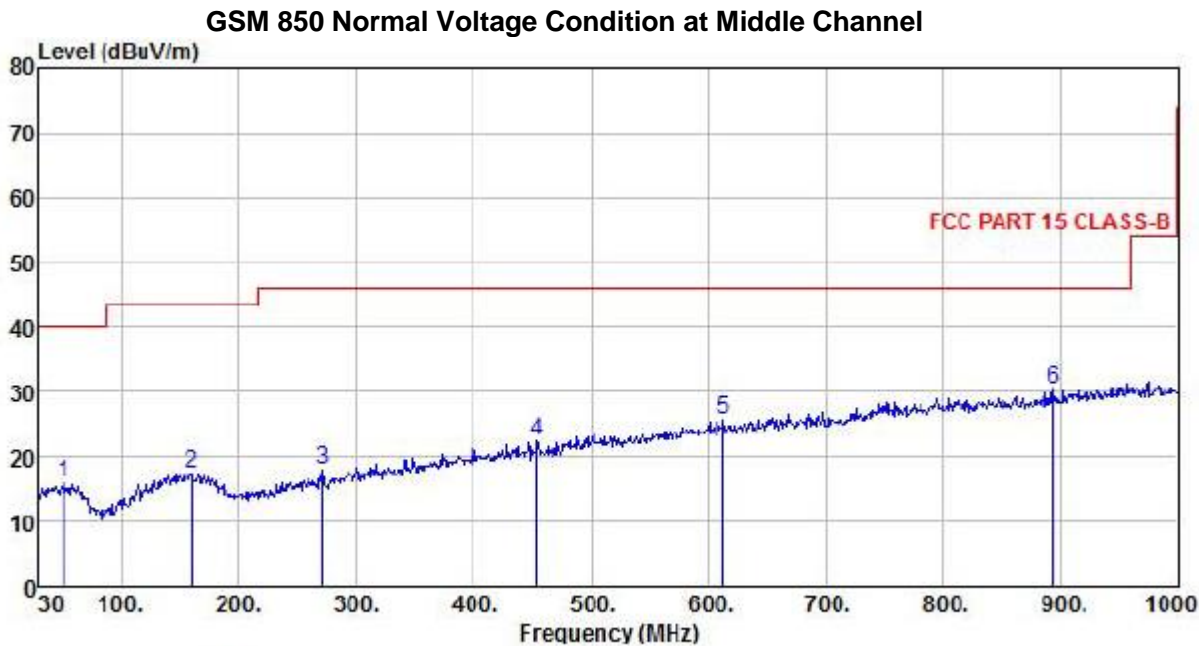
## **9.5. Uncertainty**

The measurement uncertainty is defined as 3.1 dB for Radiated Power Measurement.

9.6. Test Result

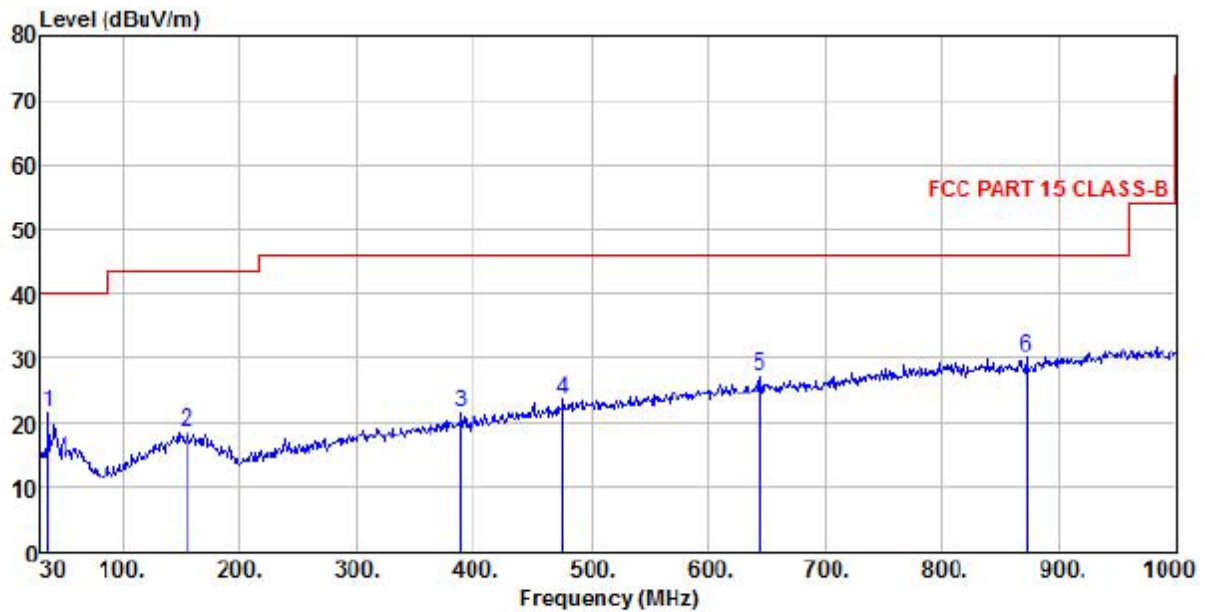
No significant emissions measurable. Plots reported here represent the worse case emissions.

GSM 850 (IDLE)



Site : chamber  
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL  
EUT :  
Model Name : R2301  
Temp/Humi : 23.2 °C /54%  
Power Rating: DC 12V  
Mode : GSM 850 IDLE  
Memo :

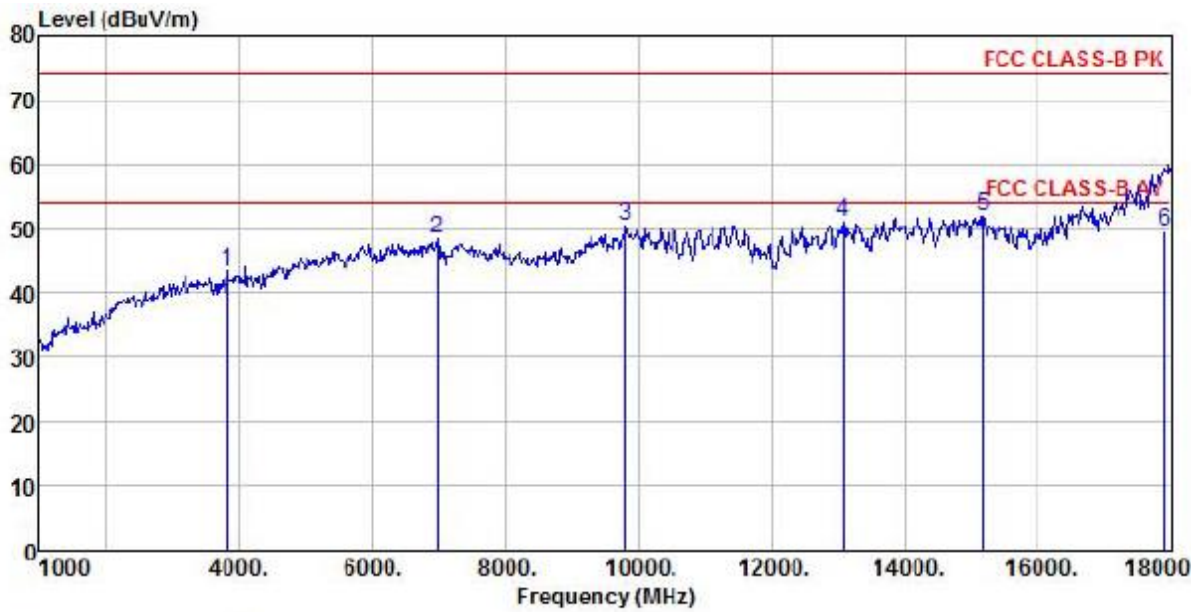
	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over	
	MHz	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	50.37	2.28	12.57	0.96	0.00	15.81	40.00	-24.19 Peak
2	159.98	2.00	13.88	1.68	0.00	17.56	43.50	-25.94 Peak
3	271.53	3.34	12.54	2.22	0.00	18.10	46.00	-27.90 Peak
4	453.89	3.15	16.42	2.87	0.00	22.44	46.00	-23.56 Peak
5	612.97	3.25	19.19	3.38	0.00	25.82	46.00	-20.18 Peak
6 pp	894.27	4.06	22.46	4.03	0.00	30.55	46.00	-15.45 Peak



Site : chamber  
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL  
EUT :  
Model Name : R2301  
Temp/Humi : 23.2 °C /54%  
Power Rating: DC 12V  
Mode : GSM 850 IDLE  
Memo :

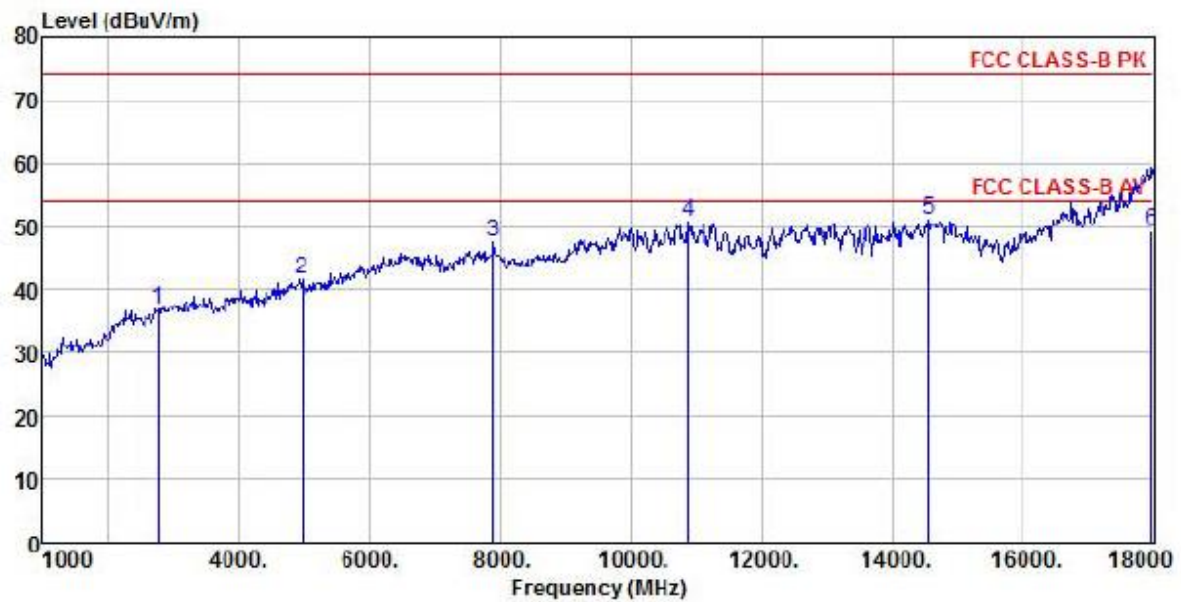
	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	35.82	8.53	12.40	0.76	0.00	21.69	40.00	-18.31	Peak
2	155.13	3.17	13.89	1.66	0.00	18.72	43.50	-24.78	Peak
3	388.90	3.64	15.06	2.71	0.00	21.41	46.00	-24.59	Peak
4	476.20	3.78	16.81	2.97	0.00	23.56	46.00	-22.44	Peak
5	644.98	4.10	19.53	3.53	0.00	27.16	46.00	-18.84	Peak
6 pp	871.96	4.09	22.05	3.96	0.00	30.10	46.00	-15.90	Peak





Site : chamber  
Condition : FCC CLASS-B PK 3m BBHA9120D(943) HORIZONTAL  
EUT :  
Model Name : R2301  
Temp/Humi : 23.2 °C /54%  
Power Rating: DC 12V  
Mode : GSM 850 IDLE  
Memo :

	Freq	ReadAntenna	Cable	Preamp		Limit	Over	
		Level	Factor	Loss	Factor	Level	Line	Limit
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	3822.00	42.33	29.63	9.01	37.60	43.37	74.00	-30.63 Peak
2	6984.00	36.77	35.40	12.47	36.31	48.33	74.00	-25.67 Peak
3	9789.00	36.54	38.61	14.97	39.77	50.35	74.00	-23.65 Peak
4	13087.00	32.04	39.54	17.88	38.43	51.03	74.00	-22.97 Peak
5 pk	15178.00	31.97	40.13	17.86	37.86	52.10	74.00	-21.90 Peak
6 pp	17915.00	20.61	46.80	18.89	36.84	49.46	54.00	-4.54 Average

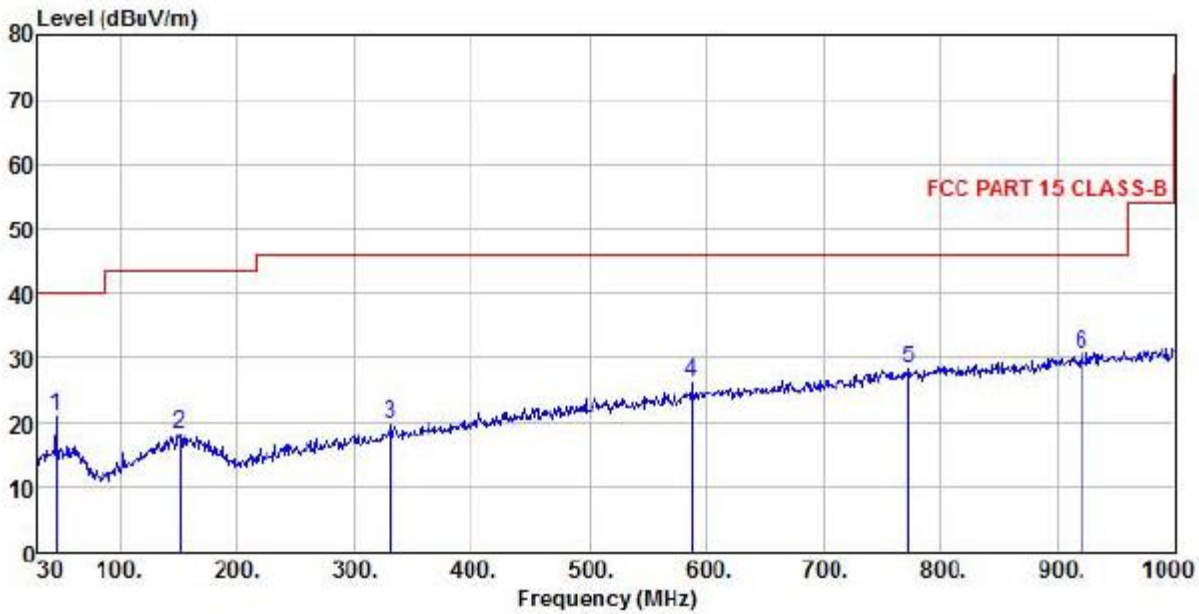


Site : chamber  
Condition : FCC CLASS-B PK 3m BBHA9120D(943) VERTICAL  
EUT :  
Model Name : R2301  
Temp/Humi : 23.2 °C /54%  
Power Rating: DC 12V  
Mode : GSM 850 IDLE  
Memo :

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2768.00	38.99	28.31	7.70	38.19	36.81	74.00	-37.19	Peak
2	4961.00	36.67	31.69	10.52	37.11	41.77	74.00	-32.23	Peak
3	7885.00	37.04	36.96	12.83	39.38	47.45	74.00	-26.55	Peak
4	10877.00	33.78	40.19	15.68	38.96	50.69	74.00	-23.31	Peak
5 pk	14549.00	28.04	42.51	18.71	38.16	51.10	74.00	-22.90	Peak
6 pp	17966.00	19.83	47.57	18.66	36.76	49.30	54.00	-4.70	Average

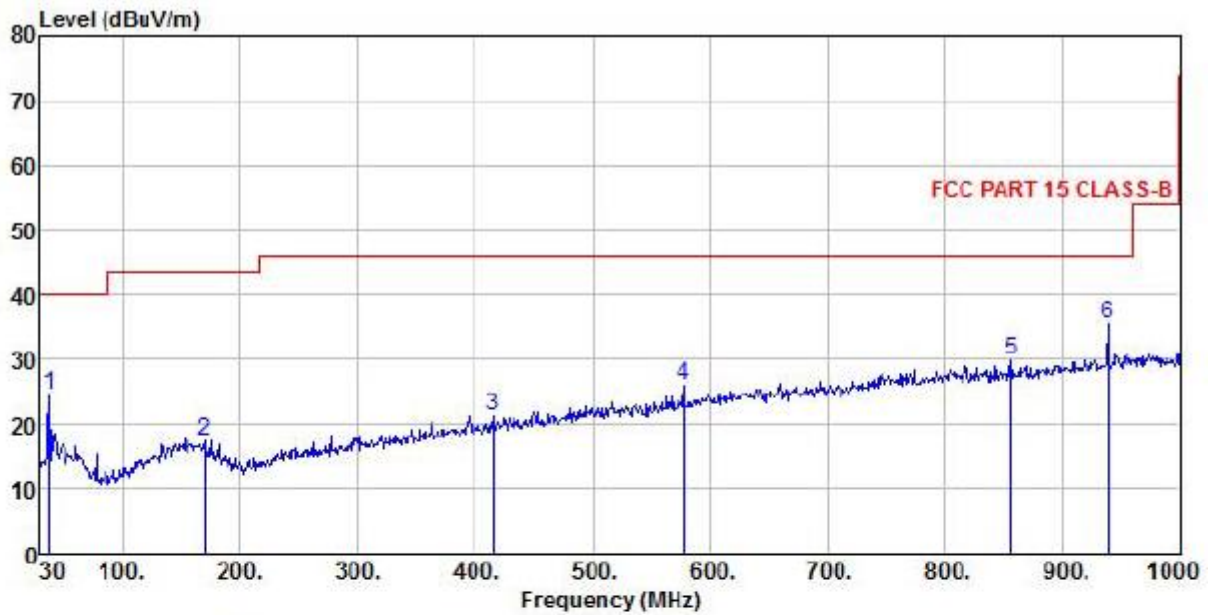
PCS 1900 (IDLE)

PCS 1900 Normal Voltage Condition at Middle Channel



Site : chamber  
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL  
EUT :  
Model Name : R2301  
Temp/Humi : 23.2 °C /54%  
Power Rating: DC 12V  
Mode : PCS 1900 IDLE  
Memo :

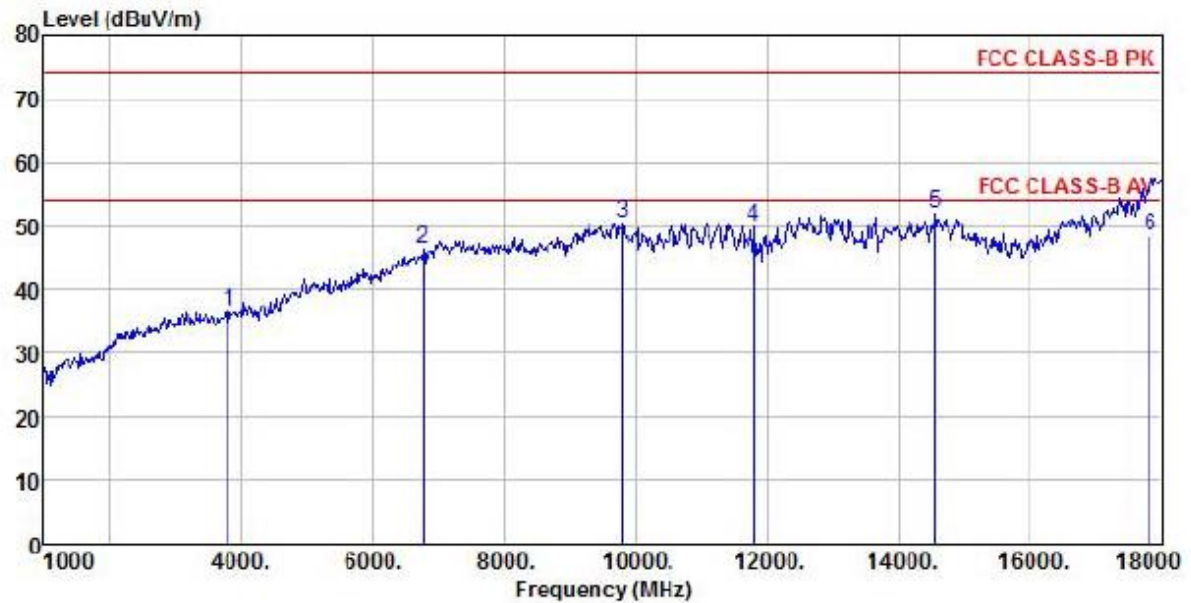
	Freq	ReadAntenna	Cable	Preamp		Limit	Over	
	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	44.55	7.18	12.75	0.88	0.00	20.81	40.00	-19.19 Peak
2	150.28	2.80	13.90	1.64	0.00	18.34	43.50	-25.16 Peak
3	330.70	3.33	13.91	2.48	0.00	19.72	46.00	-26.28 Peak
4	587.75	4.10	18.84	3.31	0.00	26.25	46.00	-19.75 Peak
5	772.05	3.11	21.40	3.74	0.00	28.25	46.00	-17.75 Peak
6 pp	920.46	3.66	22.86	4.09	0.00	30.61	46.00	-15.39 Peak



Site : chamber  
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL  
EUT :  
Model Name : R2301  
Temp/Humi : 23.2 °C /54%  
Power Rating: DC 12V  
Mode : PCS 1900 IDLE  
Memo :

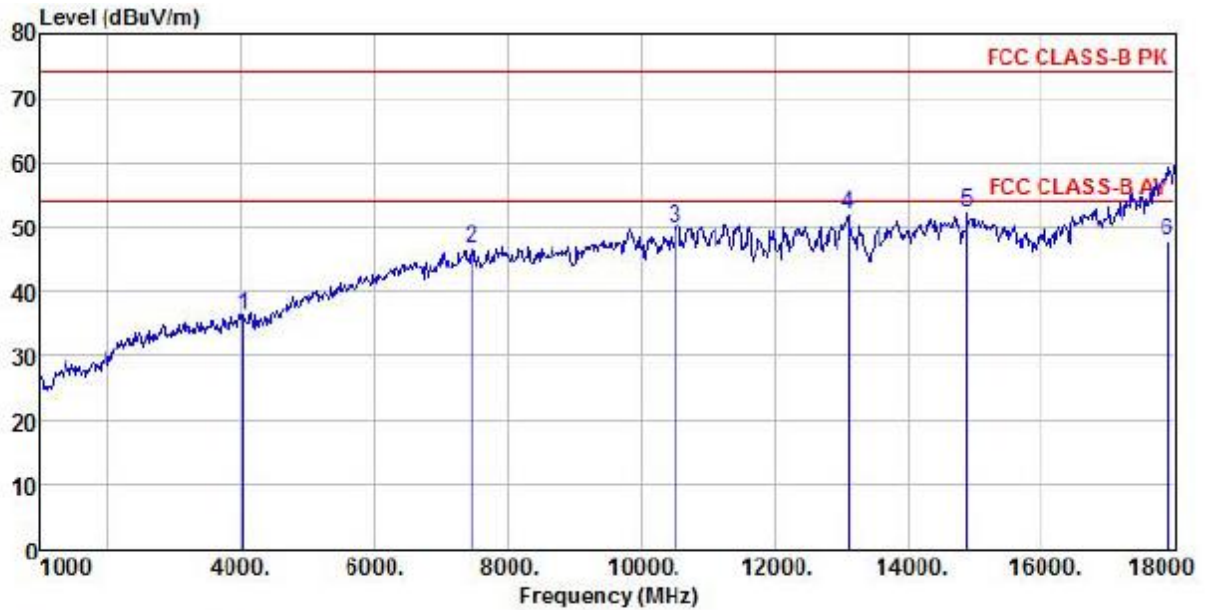
	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	37.76	11.18	12.51	0.79	0.00	24.48	40.00	-15.52	Peak
2	169.68	2.38	13.33	1.84	0.00	17.55	43.50	-25.95	Peak
3	415.09	2.80	15.62	2.82	0.00	21.24	46.00	-24.76	Peak
4	578.05	4.02	18.58	3.24	0.00	25.84	46.00	-20.16	Peak
5	856.44	3.86	22.06	4.00	0.00	29.92	46.00	-16.08	Peak
6 pp	938.89	8.02	23.23	4.13	0.00	35.38	46.00	-10.62	Peak





Site : chamber  
Condition : FCC CLASS-B PK 3m BBHA9120D(943) HORIZONTAL  
EUT :  
Model Name : R2301  
Temp/Humi : 23.2 °C /54%  
Power Rating: DC 12V  
Mode : PCS 1900 IDLE  
Memo :

	Freq	ReadLevel	AntennaFactor	CableLoss	PreamplifierFactor	Level	Limit	OverLimit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3805.00	35.53	29.57	9.00	37.61	36.49	74.00	-37.51	Peak
2	6763.00	36.02	34.47	12.38	36.42	46.45	74.00	-27.55	Peak
3	9789.00	36.67	38.61	14.97	39.77	50.48	74.00	-23.52	Peak
4	11795.00	33.14	39.40	16.51	39.30	49.75	74.00	-24.25	Peak
5 pk	14549.00	28.76	42.51	18.71	38.16	51.82	74.00	-22.18	Peak
6 pp	17830.00	19.95	45.79	19.55	36.99	48.30	54.00	-5.70	Average



Site : chamber  
Condition : FCC CLASS-B PK 3m BBHA9120D(943) VERTICAL  
EUT :  
Model Name : R2301  
Temp/Humi : 23.2 °C /54%  
Power Rating: DC 12V  
Mode : PCS 1900 IDLE  
Memo :

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4043.00	34.68	29.91	9.31	37.48	36.42	74.00	-37.58	Peak
2	7460.00	35.13	36.63	12.86	37.90	46.72	74.00	-27.28	Peak
3	10503.00	34.15	39.59	15.35	39.15	49.94	74.00	-24.06	Peak
4	13104.00	32.65	39.57	18.15	38.43	51.94	74.00	-22.06	Peak
5 pk	14889.00	29.84	41.54	18.77	37.82	52.33	74.00	-21.67	Peak
6 pp	17898.00	18.97	46.54	19.04	36.87	47.68	54.00	-6.32	Average

## **10.Attachment**

### **PHOTOGRAPHS OF TEST SETUP**

Please refer to the file named “RF Test Setup Photos”.

### **PHOTOGRAPHS OF EUT**

Please refer to the two files named “External Photos” and “Internal Photos” .

----End of the report----