

## FCC TEST REPORT

For

Shenzhen Outfone Technology CO., LTD

Professional & Outdoor Support Phone

Model No.: S15

Additional Model No.: S15T, S15C, S15Q, S15L, S12, S19, Defender,  
RS61D Ultimate, PROCOM Director, ROVER, TITAN T1

Prepared for : Shenzhen Outfone Technology CO., LTD  
Address : Room 408, Jianda building, #10 KeYuan Rd. Nanshan District,  
Shenzhen, China

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.  
Address : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue,  
Bao'an District, Shenzhen, Guangdong, China

Date of receipt of test sample : December 12, 2013  
Number of tested samples : 1  
Serial number : Prototype  
Date of Test : December 12, 2013 – January 15, 2014  
Date of Report : January 15, 2014

**FCC TEST REPORT**

FCC CFR 47 PART 22 SUBPART H AND PART 24 SUBPART E

**Report Reference No. .... : LCS131225771TF**

Date of Issue ..... : January 15, 2014

**Testing Laboratory Name..... : Shenzhen LCS Compliance Testing Laboratory Ltd.**Address ..... : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue,  
Bao'an District, Shenzhen, Guangdong, ChinaTesting Location/ Procedure..... : Full application of Harmonised standards ☒  
Partial application of Harmonised standards ☐  
Other standard testing method ☐**Applicant's Name..... : Shenzhen Outfone Technology CO., LTD**Address ..... : Room 408, Jianda building, #10 KeYuan Rd. Nanshan District,  
Shenzhen, China**Test Specification**Standard ..... : FCC CFR 47 PART 2, FCC CFR 47 PART 22 SUBPART H  
AND PART 24 SUBPART E**Test Report Form No..... : LCSEMC-1.0**

TRF Originator ..... : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF ..... : Dated 2011-03

**Shenzhen LCS Compliance Testing Laboratory Ltd. All rights reserved.**

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen LCS Compliance Testing Laboratory Ltd. is acknowledged as copyright owner and source of the material. Shenzhen LCS Compliance Testing Laboratory Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

**Test Item Description. .... : Professional & Outdoor Support Phone**

Trade Mark ..... : RANGERPHONE

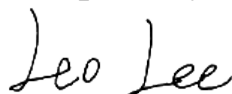
Model/ Type reference..... : S15

Ratings ..... : DC 3.7V by battery(2600mAh)

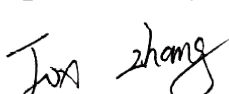
Recharge Voltage: DC 5V/1A

Adapter Parameters: Input AC 100~240V, 50/60Hz 0.15A

Output: DC 5V/1A

Result ..... : **Positive****Compiled by:**

Leo Lee/ File administrators

**Supervised by:**

Fox Zhang/ Technique principal

**Approved by:**

Gavin Liang/ Manager

**FCC -- TEST REPORT****Test Report No. : LCS131225771TF**January 15, 2014

Date of issue

Type / Model..... : S15

EUT..... : Professional &amp; Outdoor Support Phone

**Applicant..... : Shenzhen Outfone Technology CO., LTD**Address..... : Room 408, Jianda building, #10 KeYuan Rd. Nanshan District,  
Shenzhen, China

Telephone..... : /

Fax..... : /

**Manufacturer..... : Shenzhen Outfone Technology CO., LTD**Address..... : Room 408, Jianda building, #10 KeYuan Rd. Nanshan District,  
Shenzhen, China

Telephone..... : /

Fax..... : /

**Factory..... : Shenzhen Outfone Technology CO., LTD**Address..... : Room 408, Jianda building, #10 KeYuan Rd. Nanshan District,  
Shenzhen, China

Telephone..... : /

Fax..... : /

**Test Result****Positive**

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.

## TABLE OF CONTENTS

<b>1. GENERAL INFORMATION .....</b>	<b>5</b>
1.1. DESCRIPTION OF DEVICE (EUT) .....	5
1.2. HOST SYSTEM CONFIGURATION LIST AND DETAILS .....	7
1.3. EXTERNAL I/O CABLE .....	7
1.4. DESCRIPTION OF TEST FACILITY .....	7
1.5. STATEMENT OF THE MEASUREMENT UNCERTAINTY .....	7
1.6. MEASUREMENT UNCERTAINTY .....	8
1.7. TEST ENVIRONMENT .....	8
<b>2. TEST METHODOLOGY .....</b>	<b>9</b>
2.1. EUT CONFIGURATION .....	9
2.2. OBJECTIVE .....	9
2.3. GENERAL TEST PROCEDURES .....	9
2.4. TEST MODE .....	10
<b>3. SYSTEM TEST CONFIGURATION .....</b>	<b>11</b>
3.1. JUSTIFICATION .....	11
3.2. EUT EXERCISE SOFTWARE .....	11
3.3. SPECIAL ACCESSORIES .....	11
3.4. BLOCK DIAGRAM/SCHEMATICS .....	11
3.5. EQUIPMENT MODIFICATIONS .....	11
3.6. TEST SETUP .....	11
<b>4. SUMMARY OF TEST RESULTS.....</b>	<b>12</b>
<b>5. TEST RESULT .....</b>	<b>13</b>
5.1. RF OUTPUT POWER .....	13
5.2. PEAK-TO-AVERAGE RATIO .....	20
5.3. OCCUPIED BANDWIDTH .....	21
5.4. SPURIOUS AND HARMONIC EMISSION AT ANTENNA TERMINAL .....	29
5.5. RADIATED SPURIOUS EMISSIONS MEASUREMENT .....	42
5.6. POWER LINE CONDUCTED EMISSIONS.....	47
5.7. FREQUENCY STABILITY OVER TEMPERATURE AND VOLTAGE VARIATIONS .....	49
<b>6. LIST OF MEASURING EQUIPMENTS.....</b>	<b>53</b>
<b>7. MANUFACTURER/APPROVAL HOLDER DECLARATION .....</b>	<b>54</b>

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT	: Professional & Outdoor Support Phone
Test Model	: S15
Power Supply	: DC 3.7V by battery(2600mAh) Recharge Voltage: DC 5V/1A Adapter Parameters: Input AC 100~240V, 50/60Hz 0.15A Output: DC 5V/1A
EUT Support Radios Application	: GSM/GPRS/EDGE/WCDMA/HSDPA/WIFI/Bluetooth/ GPS(RX)/NFC/Two Way Radio
2G	:
Support Band	: <input checked="" type="checkbox"/> GSM 900 (EU-Band) <input checked="" type="checkbox"/> DCS 1800 (EU-Band) <input checked="" type="checkbox"/> GSM 850 (U.S.-Band) <input checked="" type="checkbox"/> PCS 1900 (U.S.-Band)
Release Ver.	: R99
GPRS Class	: Class 12
Uplink	: GSM 850: 824.2MHz ~ 848.8MHz PCS 1900: 1850.2MHz ~ 1909.8MHz
Downlink	: GSM 850: 869.2MHz ~ 893.8MHz PCS 1900: 1930.2MHz ~ 1989.8MHz
Number of Channels	: GSM/GPRS 850: 128 / 190 / 251 PCS/GPRS 1900: 512 / 661 / 810
Type Of Modulation	: GMSK for GSM/GPRS GMSK/8PSK for EDGE
Antenna Description	: Integral Antenna, Antenna Gain: 0.8dBi
Test PCL/Class	: GSM/GPRS 850: Level 5 / Class 4 PCS/GPRS 1900: Level 0 / Class 1
Maximum RF Output Power	: 31.35dBm for GSM 850 29.86dBm for PCS 1900

3G :

Support Band : ☐ WCDMA Band II (U.S.-Band)  
☒ WCDMA Band V (U.S.-Band)  
☒ WCDMA Band I (EU-Band)  
☐ WCDMA Band VIII (EU-Band)

Release Ver. : R6

Uplink : WCDMA Band V: 826.4MHz ~ 846.6MHz

Downlink : WCDMA Band V: 871.4MHz ~ 891.6MHz

Number of Channels : WCDMA Band V: 4132 / 4177 / 4233

Type Of Modulation : WCDMA: QPSK; HSDPA: QPSK

Antenna Description : Integral Antenna, Antenna Gain: 0.8dBi

Test PCL/Class : Level 3

Maximum : 23.86dBm for WCDMA Band V

RF Output Power

## 1.2. Host System Configuration List and Details

Manufacturer	Description	Model	Serial Number	Certificate
Shenzhen cyclelong power-tech Co., Ltd	Adapter	GAC-03-US	--	VOC

## 1.3. External I/O Cable

I/O Port Description	Quantity	Cable
USB Port	1	1.0m, unshielded
Earphone Port	1	1.2m, unshielded

## 1.4. Description of Test Facility

### Site Description

#### EMC Lab.

: Accredited by CNAS, June 04, 2010

The Certificate Registration Number. is L4595.

Accredited by FCC, July 14, 2011

The Certificate Registration Number. is 899208.

Accredited by Industry Canada, May. 02, 2011

The Certificate Registration Number. is 9642A-1

## 1.5. 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 CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS 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.

## 1.6. Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
Radiation Uncertainty	:	9KHz~30MHz	$\pm 3.10\text{dB}$	(1)
		30MHz~200MHz	$\pm 2.96\text{dB}$	(1)
		200MHz~1000MHz	$\pm 3.10\text{dB}$	(1)
		1GHz~26.5GHz	$\pm 3.80\text{dB}$	(1)
Conduction Uncertainty	:	150kHz~30MHz	$\pm 1.63\text{dB}$	(1)
Power disturbance	:	30MHz~300MHz	$\pm 1.60\text{dB}$	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

## 1.7. Test environment

All tests were performed under the following environmental conditions:

Condition	Minimum value	Maximum value
Barometric pressure	86kPa	106kPa
Temperature	15°C	30°C
Relative Humidity	20 %	75 %
Power supply range	$\pm 5\%$ of rated voltages	



## 2. TEST METHODOLOGY

All tests and measurements indicated in this document were performed in accordance with FCC CFR 47 part 2, FCC CFR 47 part 22 subpart H and part 24 subpart E.

Applicable Standards: TIA/EIA603-C, ANSI C63.4-2003. The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Shenzhen LCS Compliance Testing Laboratory Ltd..

### 2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

### 2.2. Objective

This type approval report is prepared on behalf of **Shenzhen Outfone Technology CO., LTD** in accordance with FCC CFR 47 part 2, FCC CFR 47 part 22 subpart H and part 24 subpart E.

The objective is to determine compliance with FCC rules for RF output power, modulation characteristics, occupied bandwidth, spurious emissions at antenna terminal, field strength of spurious radiation, frequency stability, band edge, and conducted and radiated margin.

### 2.3. General Test Procedures

#### 2.3.1 Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

#### 2.3.2 Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4

## 2.4. Test Mode

GSM / GPRS 850/ EDGE 850: Channel Low (CH128), Channel Mid (CH190) and Channel High (CH251) were chosen for full testing. The test PCL(Power Control Level)/Class is level 5/class 4.

PCS / GPRS 1900/ EDGE 1900: Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing. The test PCL(Power Control Level)/Class is level 0/class 1.

WCDMA Band V/HSDPA Band V: Channel Low (CH4132), Channel Mid (CH4177) and Channel High (CH4233) were chosen for full testing. The test PCL(Power Control Level)/Class is level 3.

During the testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication Tester (CMU 200) to ensure max power transmission and proper modulation. Three channels (The top channel, the middle channel and the bottom channel) were chosen for testing on both GSM and WCDMA frequency band.

GSM/GPRS850/EDGE 850, GSM/GPRS1900/EDGE 1900, WCDMA band V/ HSDPA band V mode have been tested during the test. This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position.

The EUT has two GSM/WCDMA card slots, the two card slot can't transmit simultaneously. The result for SIM1 is the worst case which was only recorded.

The worst condition was recorded in the test report if no other modes test data.

### **3. SYSTEM TEST CONFIGURATION**

#### **3.1. Justification**

The EUT had been tested under operating condition. EUT staying in continuous transmitting mode.

#### **3.2. EUT Exercise Software**

N/A.

#### **3.3. Special Accessories**

N/A.

#### **3.4. Block Diagram/Schematics**

Please refer to the related document

#### **3.5. Equipment Modifications**

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

#### **3.6. Test Setup**

Please refer to the test setup photo.

## 4. SUMMARY OF TEST RESULTS

Applied Standard: 47 CFR FCC Part 22 Subpart H, Part 24 Subpart E			
FCC Rules	Description of Test		Result
§2.1046, §22.913 / §24.232	RF Output Power	Conducted Output Power	Compliant
		Radiated Output Power	
§24.232(d)	Peak-to-Average Ratio		Compliant
§2.1049, §22.905 §2.917, §24.238	Occupied Bandwidth		Compliant
§2.1053 §2.917, §24.238	Spurious Radiated Emissions		Compliant
§2.1051 §2.917, §24.238	Spurious Emissions at Antenna Terminals		Compliant
§2.917, §24.238	Band Edge		Compliant
§2.1055 §22.355, §24.235	Frequency Stability		Compliant
§15.107 / §15.207	AC power line conducted emissions		Compliant
§1.1310, §2.1091	RF Exposure Information		Compliant

## 5. TEST RESULT

### 5.1. RF OUTPUT POWER

#### 5.1.1. Standard Applicable

According to FCC §2.1046 and §22.913, the maximum effective radiated power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to FCC §2.1046 and §22.232, mobile and portable stations are limited to 2 Watts and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

#### 5.1.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

#### 5.1.3. Test Procedures

Conducted method:



Radiated method:

TIA 603-D section 2.2.17

## 5.1.4. Test Results

Temperature	25°C	Humidity	60%
ATM Pressure:	101.4kPa	Test Engineer	Tree

## Conducted Power(SIM2):

Mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
GSM 850	128	824.2	31.17	38.45
	190	836.6	31.29	38.45
	251	848.8	31.07	38.45
GPRS 850	128	824.2	31.21	38.45
	190	836.6	31.12	38.45
	251	848.8	31.06	38.45
EDGE 850	128	824.2	31.11	38.45
	190	836.6	30.99	38.45
	251	848.8	31.00	38.45
PCS 1900	512	1850.2	29.84	33
	661	1880.0	29.64	33
	810	1909.8	29.54	33
GPRS 1900	512	1850.2	29.71	33
	661	1880.0	29.59	33
	810	1909.8	29.54	33
EDGE 1900	512	1850.2	29.61	33
	661	1880.0	29.48	33
	810	1909.8	29.36	33
WCDMA Band V RMC 12.2K	4132	826.4	23.83	38.45
	4177	832.2	23.76	38.45
	4233	846.6	23.52	38.45
WCDMA Band V HSDPA	4132	826.4	21.91	38.45
	4177	832.2	21.70	38.45
	4233	846.6	21.63	38.45

## Conducted Power(SIM1):

Mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
GSM 850	128	824.2	31.23	38.45
	190	836.6	<b>31.35</b>	38.45
	251	848.8	31.09	38.45
GPRS 850 (Slot 1)	128	824.2	<b>31.26</b>	38.45
	190	836.6	31.18	38.45
	251	848.8	31.11	38.45
GPRS 850 (Slot 2)	128	824.2	29.37	38.45
	190	836.6	29.14	38.45
	251	848.8	29.22	38.45
GPRS 850 (Slot 3)	128	824.2	27.19	38.45
	190	836.6	27.11	38.45
	251	848.8	27.01	38.45
GPRS 850 (Slot 4)	128	824.2	26.17	38.45
	190	836.6	26.04	38.45
	251	848.8	26.07	38.45
EDGE 850 (Slot 1, GMSK)	128	824.2	<b>31.17</b>	38.45
	190	836.6	31.03	38.45
	251	848.8	31.02	38.45
EDGE 850 (Slot 2, GMSK)	128	824.2	29.24	38.45
	190	836.6	29.01	38.45
	251	848.8	29.03	38.45
EDGE 850 (Slot 3, GMSK)	128	824.2	27.00	38.45
	190	836.6	27.02	38.45
	251	848.8	27.13	38.45
EDGE 850 (Slot 4, GMSK)	128	824.2	25.90	38.45
	190	836.6	25.94	38.45
	251	848.8	25.93	38.45
EDGE 850 (Slot 1, 8PSK)	128	824.2	<b>31.11</b>	38.45
	190	836.6	30.93	38.45
	251	848.8	30.84	38.45
EDGE 850 (Slot 2, 8PSK)	128	824.2	29.13	38.45
	190	836.6	28.97	38.45
	251	848.8	28.91	38.45
EDGE 850 (Slot 3, 8PSK)	128	824.2	26.95	38.45
	190	836.6	27.02	38.45
	251	848.8	27.06	38.45
EDGE 850 (Slot 4, 8PSK)	128	824.2	25.96	38.45
	190	836.6	25.93	38.45
	251	848.8	25.89	38.45

Mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
PCS 1900	512	1850.2	<b>29.86</b>	33
	661	1880.0	29.67	33
	810	1909.8	29.59	33
GPRS 1900 (Slot 1)	512	1850.2	<b>29.75</b>	33
	661	1880.0	29.64	33
	810	1909.8	29.59	33
GPRS 1900 (Slot 2)	512	1850.2	28.37	33
	661	1880.0	28.21	33
	810	1909.8	28.32	33
GPRS 1900 (Slot 3)	512	1850.2	26.32	33
	661	1880.0	27.24	33
	810	1909.8	26.17	33
GPRS 1900 (Slot 4)	512	1850.2	25.22	33
	661	1880.0	25.13	33
	810	1909.8	25.07	33
EDGE 1900 (Slot 1, GMSK)	512	1850.2	<b>29.63</b>	33
	661	1880.0	29.52	33
	810	1909.8	29.41	33
EDGE 1900 (Slot 2, GMSK)	512	1850.2	28.13	33
	661	1880.0	28.01	33
	810	1909.8	28.11	33
EDGE 1900 (Slot 3, GMSK)	512	1850.2	26.21	33
	661	1880.0	27.13	33
	810	1909.8	26.12	33
EDGE 1900 (Slot 4, GMSK)	512	1850.2	25.01	33
	661	1880.0	25.17	33
	810	1909.8	25.03	33
EDGE 1900 (Slot 1, 8PSK)	512	1850.2	<b>29.59</b>	33
	661	1880.0	29.47	33
	810	1909.8	29.43	33
EDGE 1900 (Slot 2, 8PSK)	512	1850.2	28.11	33
	661	1880.0	28.03	33
	810	1909.8	28.06	33
EDGE 1900 (Slot 3, 8PSK)	512	1850.2	26.17	33
	661	1880.0	27.11	33
	810	1909.8	26.09	33
EDGE 1900 (Slot 4, 8PSK)	512	1850.2	25.04	33
	661	1880.0	25.13	33
	810	1909.8	25.06	33



Mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
WCDMA Band V RMC 12.2K	4132	826.4	<b>23.86</b>	38.45
	4177	832.2	23.78	38.45
	4233	846.6	23.57	38.45
HSDPA Subtest 1	4132	826.4	<b>21.94</b>	38.45
	4177	832.2	21.73	38.45
	4233	846.6	21.66	38.45
HSDPA Subtest 2	4132	826.4	21.86	38.45
	4177	832.2	21.96	38.45
	4233	846.6	21.51	38.45
HSDPA Subtest 3	4132	826.4	21.62	38.45
	4177	832.2	21.71	38.45
	4233	846.6	21.12	38.45
HSDPA Subtest 4	4132	826.4	21.62	38.45
	4177	832.2	21.67	38.45
	4233	846.6	21.06	38.45

Radiated Power:

The worst test data(SIM1) as follow:

Mode	Channel	Frequency (MHz)	Test Result		Limit (dBm)
			Max. Peak ERP (dBm)	Polarization	
GSM 850	128	824.2	30.34	H	38.45
	190	836.6	30.31	H	38.45
	251	848.8	30.27	H	38.45
	128	824.2	28.53	V	38.45
	190	836.6	28.45	V	38.45
	251	848.8	28.31	V	38.45
EDGE 850 (Slot 1, 8PSK)	128	824.2	29.16	H	38.45
	190	836.6	29.07	H	38.45
	251	848.8	28.96	H	38.45
	128	824.2	27.21	V	38.45
	190	836.6	27.13	V	38.45
	251	848.8	27.01	V	38.45

Mode	Channel	Frequency (MHz)	Test Result		Limit (dBm)
			Max. Peak EIRP (dBm)	Polarization	
PCS 1900	512	1850.2	28.11	H	33
	661	1880.0	28.07	H	33
	810	1909.8	28.06	H	33
	512	1850.2	26.93	V	33
	661	1880.0	26.85	V	33
	810	1909.8	26.64	V	33
EDGE 1900 (Slot 1, 8PSK)	512	1850.2	27.26	H	33
	661	1880.0	27.21	H	33
	810	1909.8	27.14	H	33
	512	1850.2	25.87	V	33
	661	1880.0	25.81	V	33
	810	1909.8	25.78	V	33

Mode	Channel	Frequency (MHz)	Test Result		Limit (dBm)
			Max. Peak ERP (dBm)	Polarization	
WCDMA Band V RMC 12.2K	4132	826.4	22.45	H	38.45
	4177	832.2	22.28	H	38.45
	4233	846.6	22.02	H	38.45
	4132	826.4	19.19	V	38.45
	4177	832.2	19.16	V	38.45
	4233	846.6	19.11	V	38.45

## 5.2. PEAK-TO-AVERAGE RATIO

### 5.2.1. Standard Applicable

According to FCC §2.1046 and §24.232(d), the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

### 5.2.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

### 5.2.3. Test Procedures

The following steps outline the procedure used to measure the Peak-to-Average Ratio from the EUT.

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. For GSM/EGPRS operating modes:
  - a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.
  - b. Set EUT in maximum power output, and triggered the burst signal.
  - c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.
3. For UMTS operating modes:
  - a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
  - b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

### 5.2.4. Test Results

Modes	PCS 1900		
Channel	512	661	810
	Low	Mid	High
Frequency(MHz)	1850.2	1880	1909.8
Peak-To-Average Ratio (dB)	1.17	1.13	1.10

### 5.3. OCCUPIED BANDWIDTH

#### 5.3.1. Standard Applicable

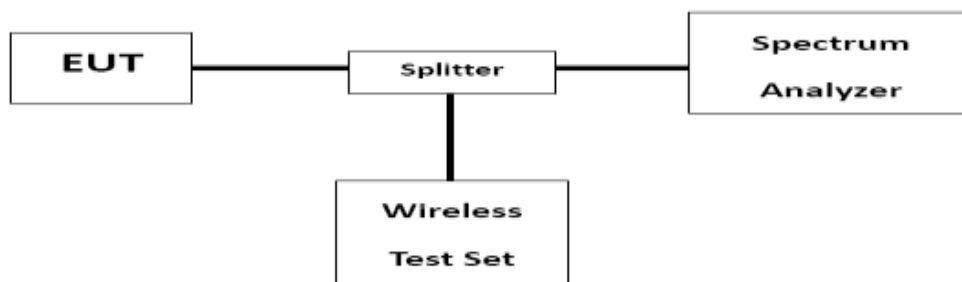
FCC §2.1049, §22.917, §22.905 and §24.238.

#### 5.3.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

#### 5.3.3. Test Procedures

The RF output of the transmitter was connected to the wireless communication tester and spectrum analyzer through attenuation.



The -26dB & 99% bandwidth was recorded.

## 5.3.4. Test Results

Temperature	25°C	Humidity	60%
ATM Pressure:	101.4kPa	Test Engineer	Tree

## Summary of The Worst Test Result:

Band	Mode	Emission Bandwidth (-26dBc) (kHz)	Occupied Bandwidth (99%) (kHz)
GSM 850 Band	GSM	321.94	248.42
	GPRS	320.89	247.83
	EDGE(GMSK)	319.71	247.64
	EDGE(8PSK)	320.11	246.51
GSM 1900 Band	GSM	324.39	249.68
	GPRS	322.24	247.96
	EDGE(GMSK)	319.13	246.78
	EDGE(8PSK)	319.46	246.81
Band	Mode	Emission Bandwidth (-26dBc) (MHz)	Occupied Bandwidth (99%) (MHz)
WCDMA 850 Band	RMC 12.2K	4.69	4.17
	HSPA	4.69	4.17

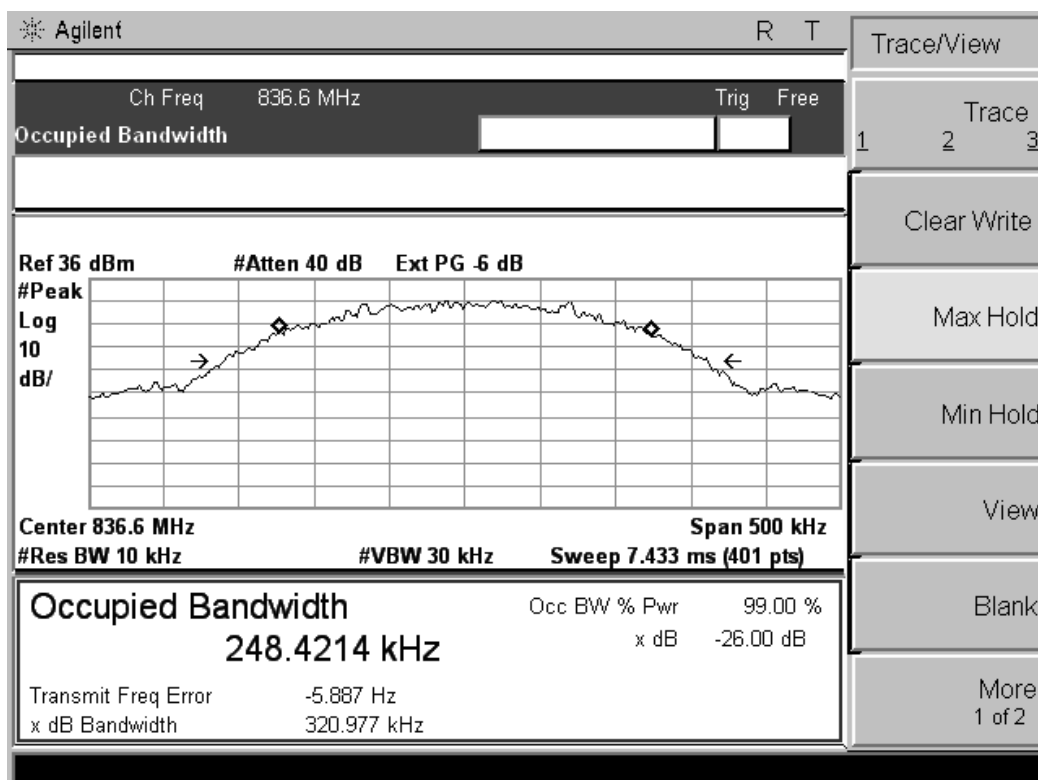
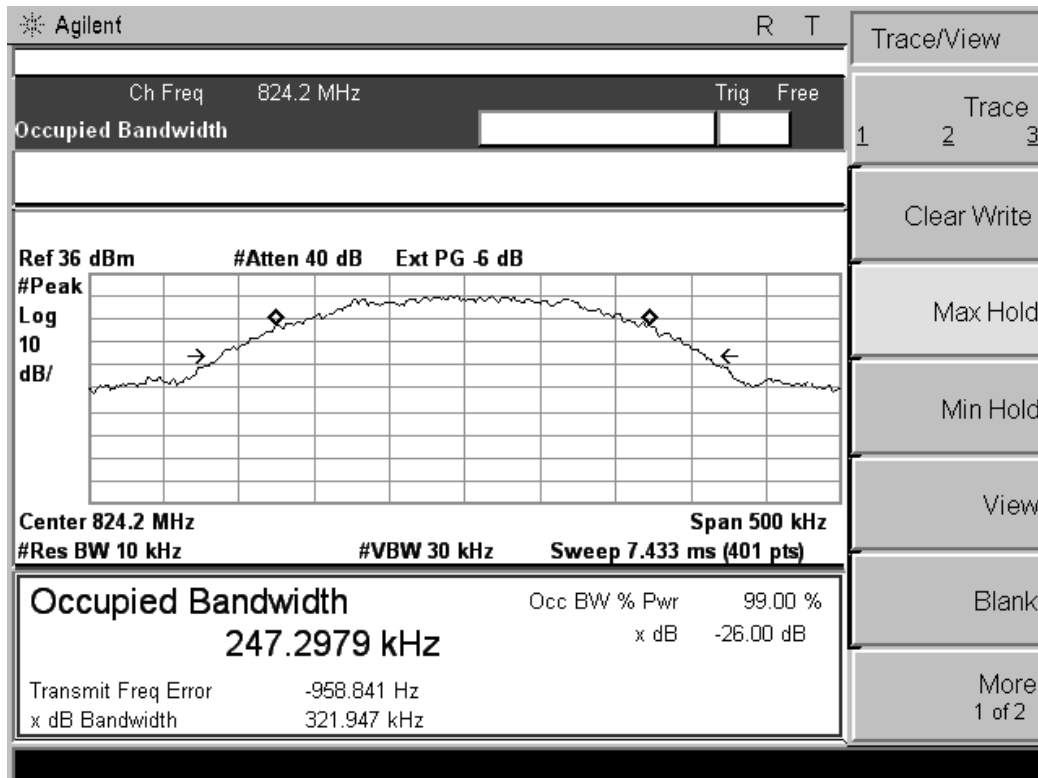
The worst test data as follow:

Mode	Channel	Frequency (MHz)	Emission Bandwidth (-26dBc) (kHz)	Occupied Bandwidth (99%) (kHz)
GSM 850	128	824.2	321.95	247.30
	190	836.6	320.98	248.42
	251	848.8	316.81	244.33

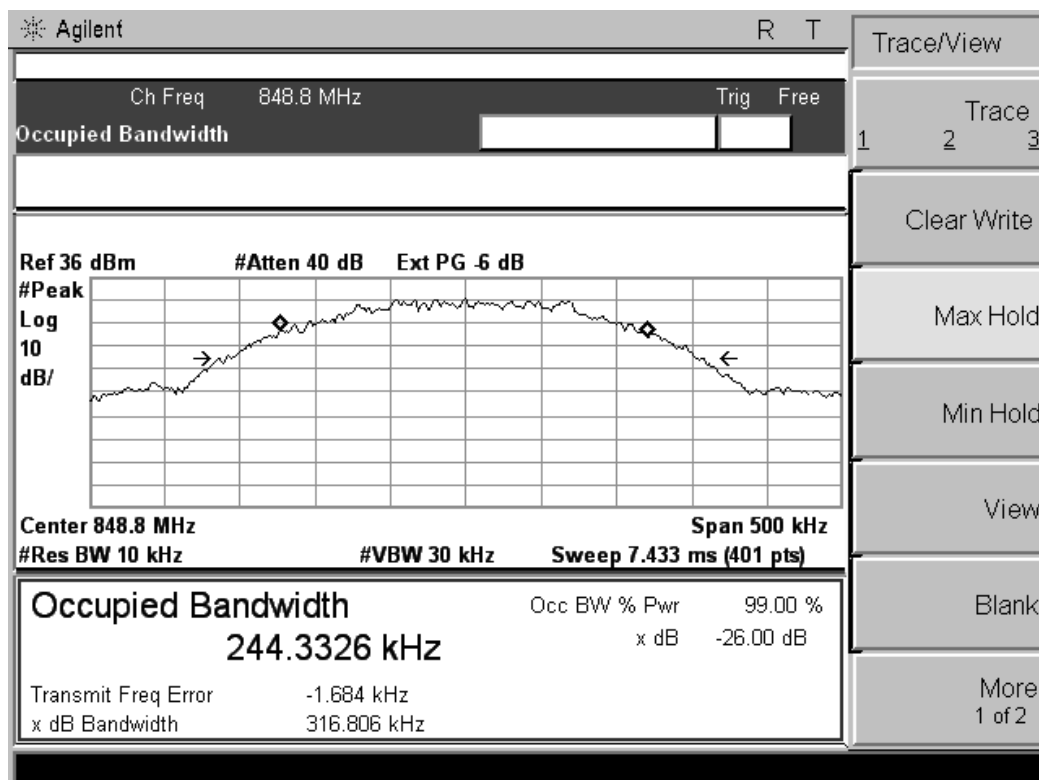
Mode	Channel	Frequency (MHz)	Emission Bandwidth (-26dBc) (kHz)	Occupied Bandwidth (99%) (kHz)
PCS 1900	512	1850.2	318.12	244.70
	661	1880.0	324.39	249.68
	810	1909.8	317.61	246.83

Mode	Channel	Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	Occupied Bandwidth (99%) (MHz)
WCDMA Band V	4132	826.4	4.69	4.16
	4177	932.2	4.69	4.16
	4233	846.6	4.69	4.17

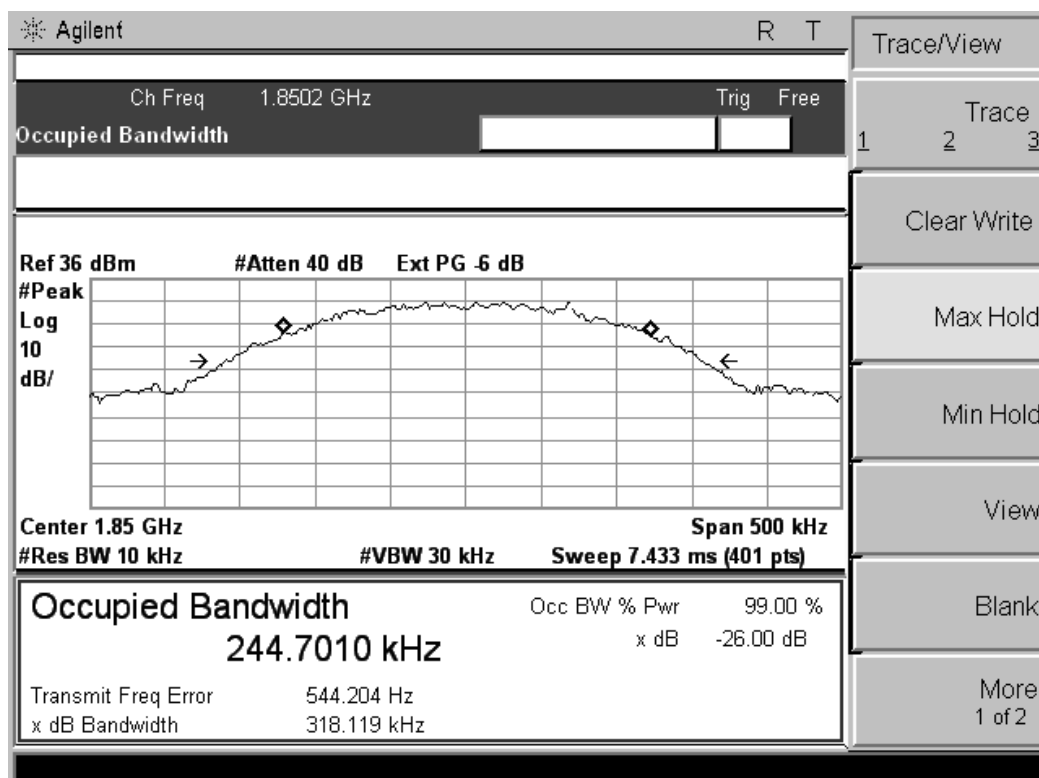
## Test Plots For GSM 850

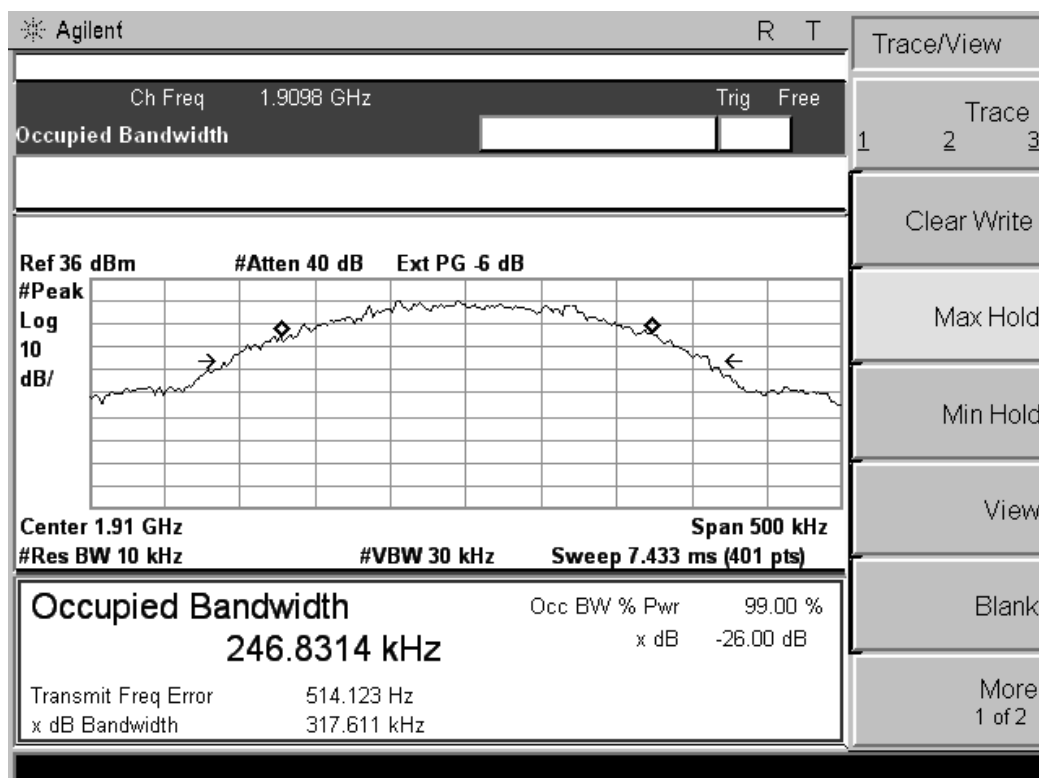
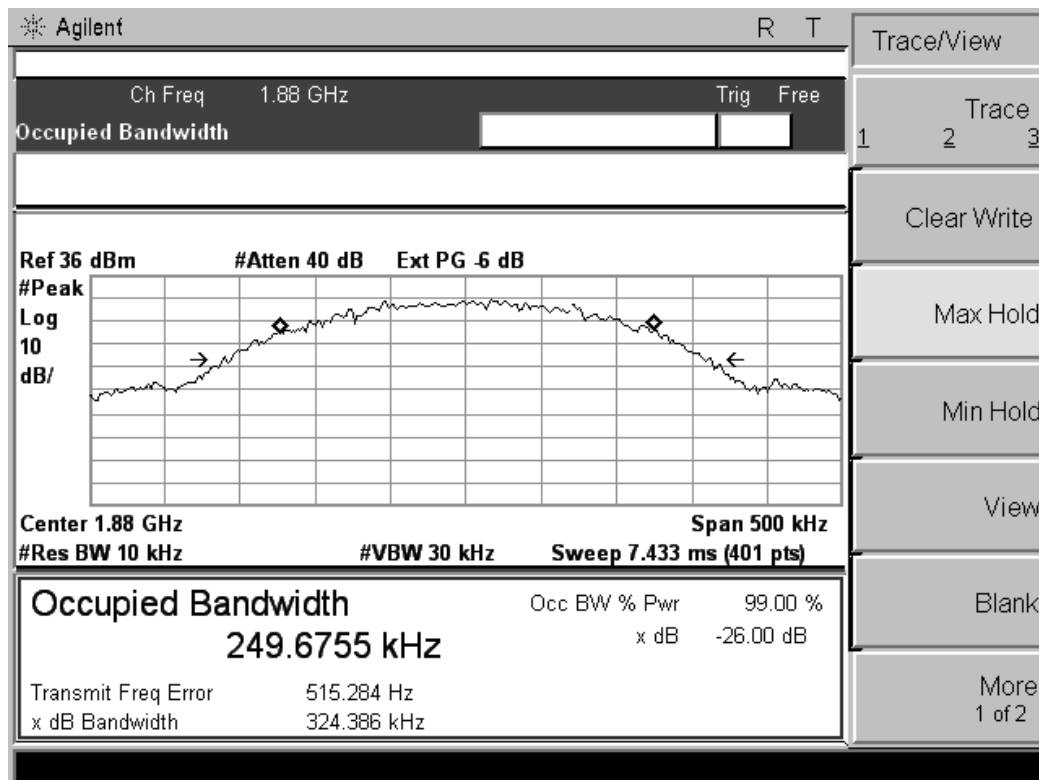




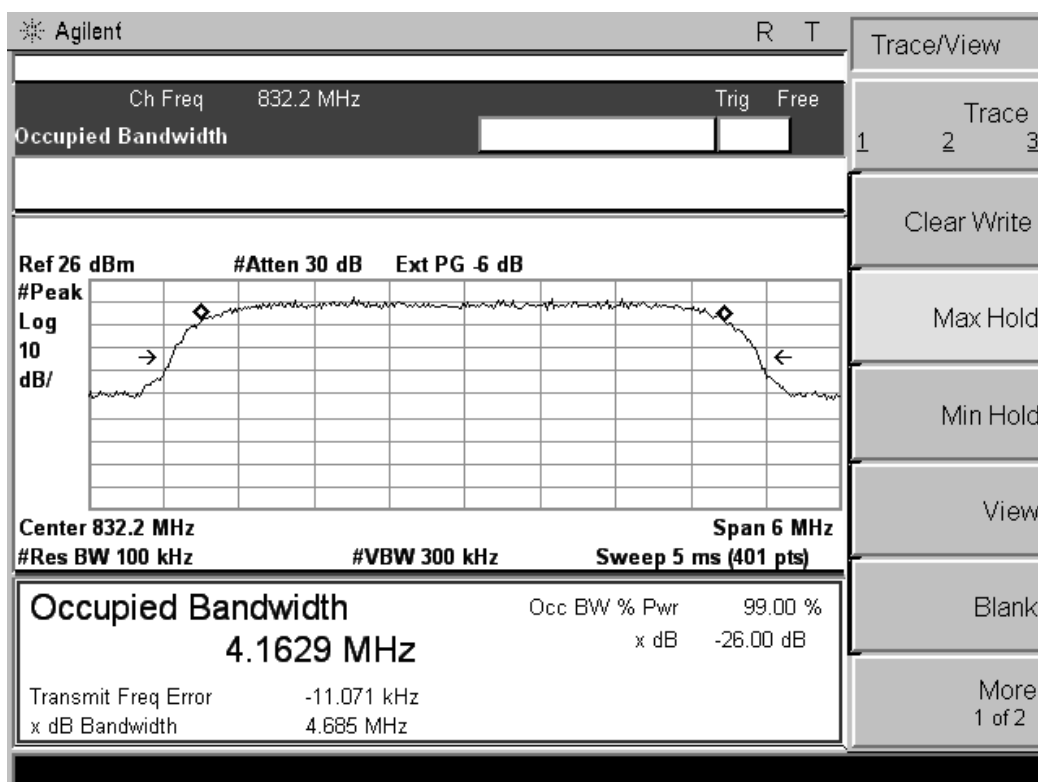
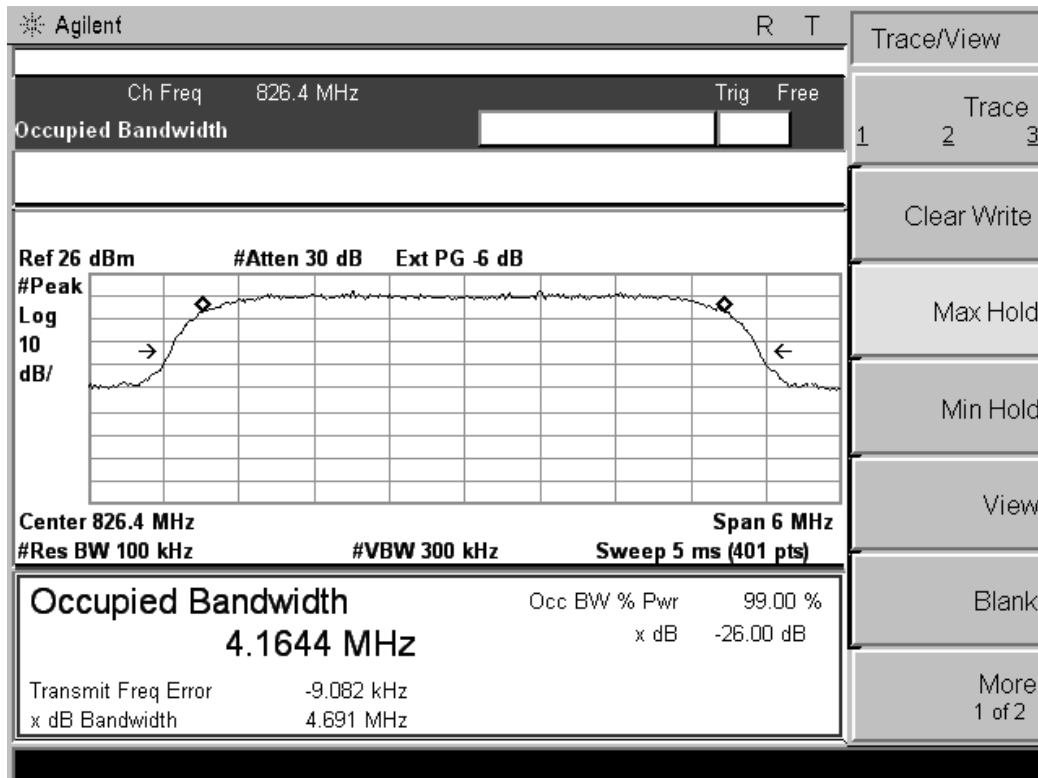


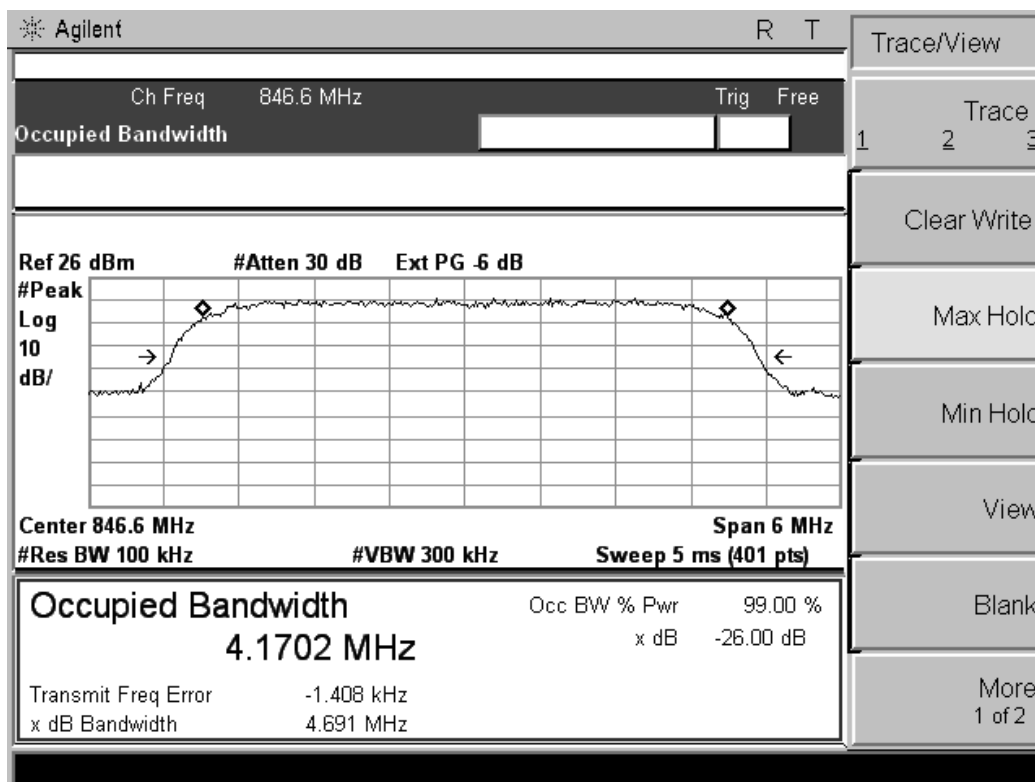
Test Plots For PCS 1900





## Test Plots For WCDMA Band V





## 5.4. SPURIOUS AND HARMONIC EMISSION AT ANTENNA TERMINAL

### 5.4.1. Standard Applicable

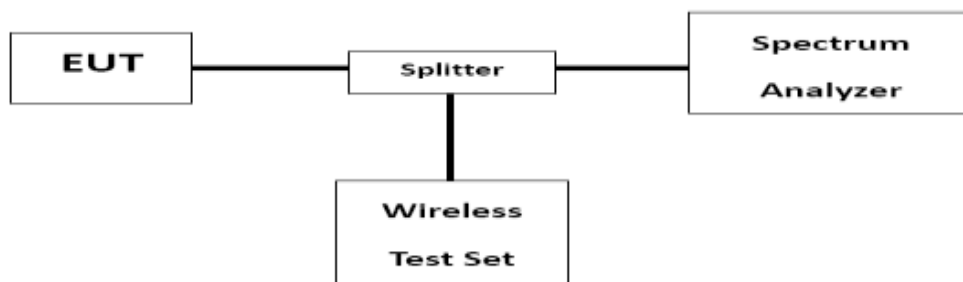
FCC §2.1051, §22.917 and §24.238.

### 5.4.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

### 5.4.3. Test Procedures

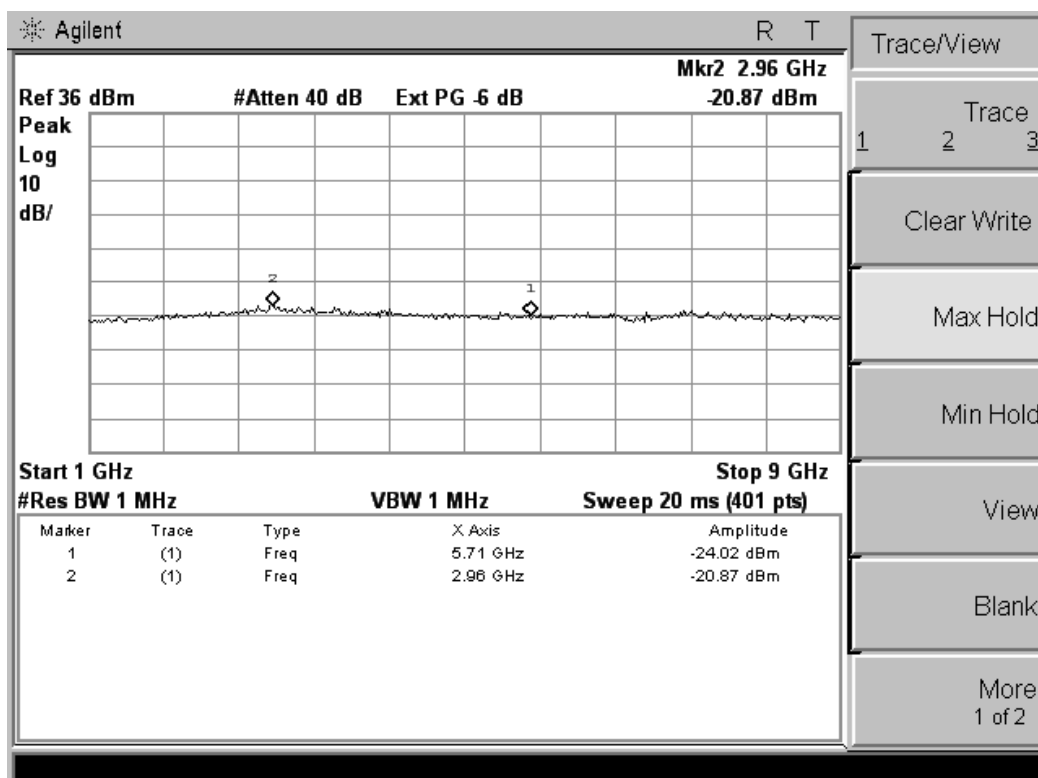
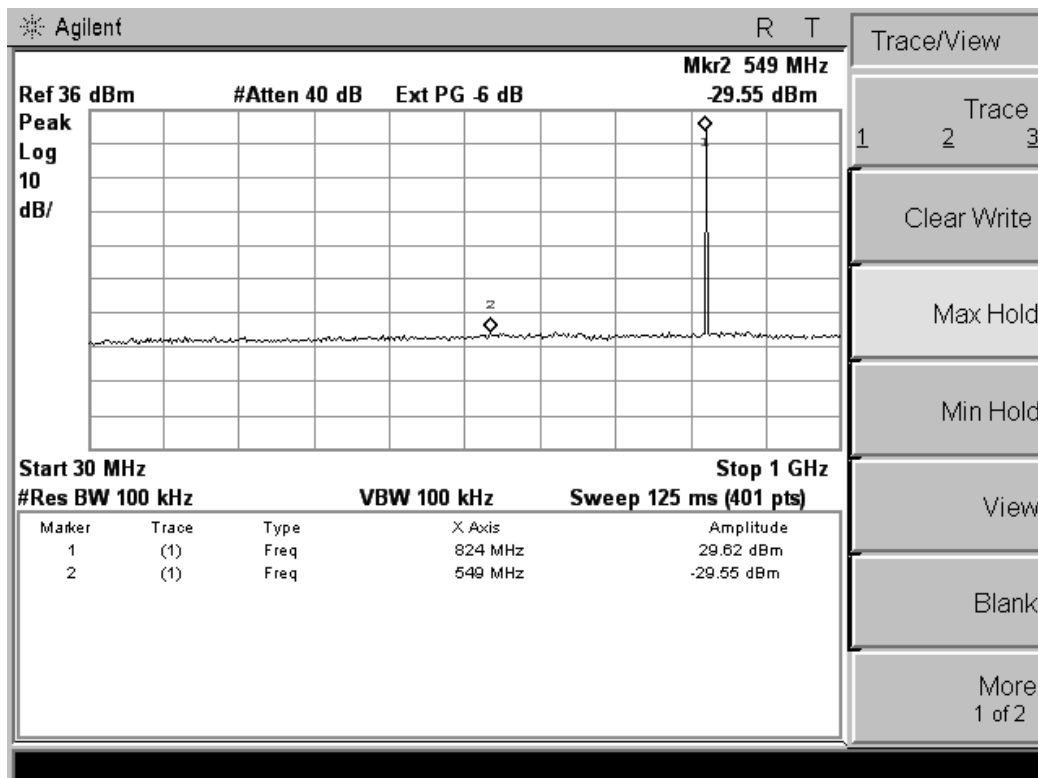
The RF output of the transmitter was connected to the wireless communication tester and spectrum analyzer through attenuation.



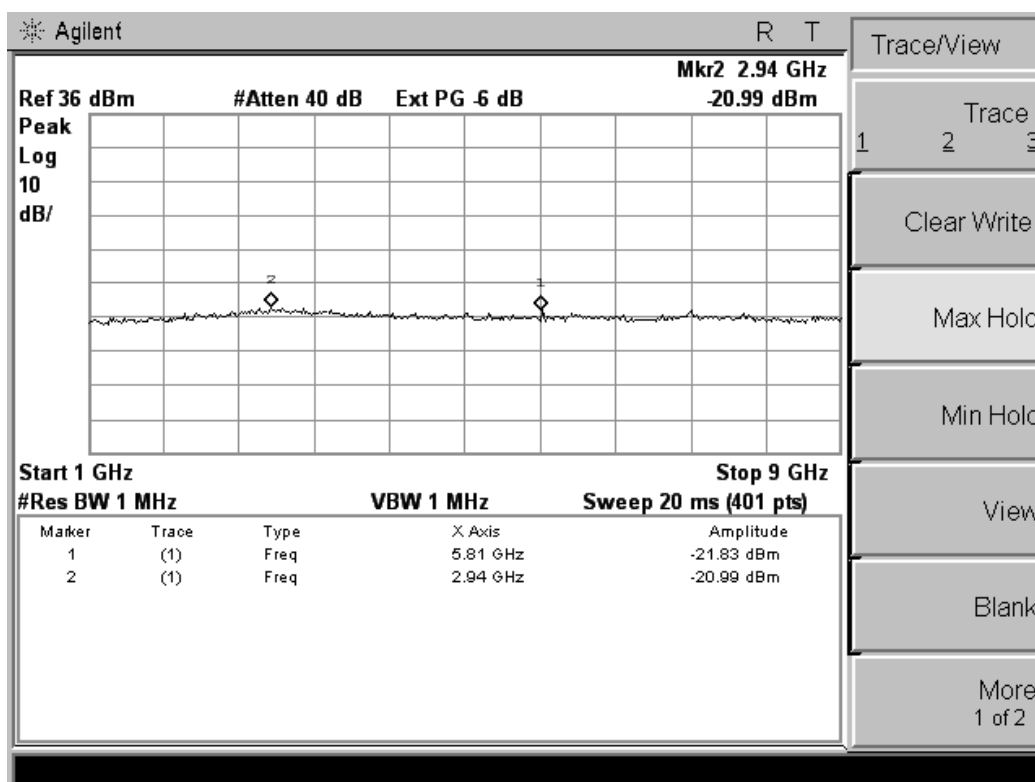
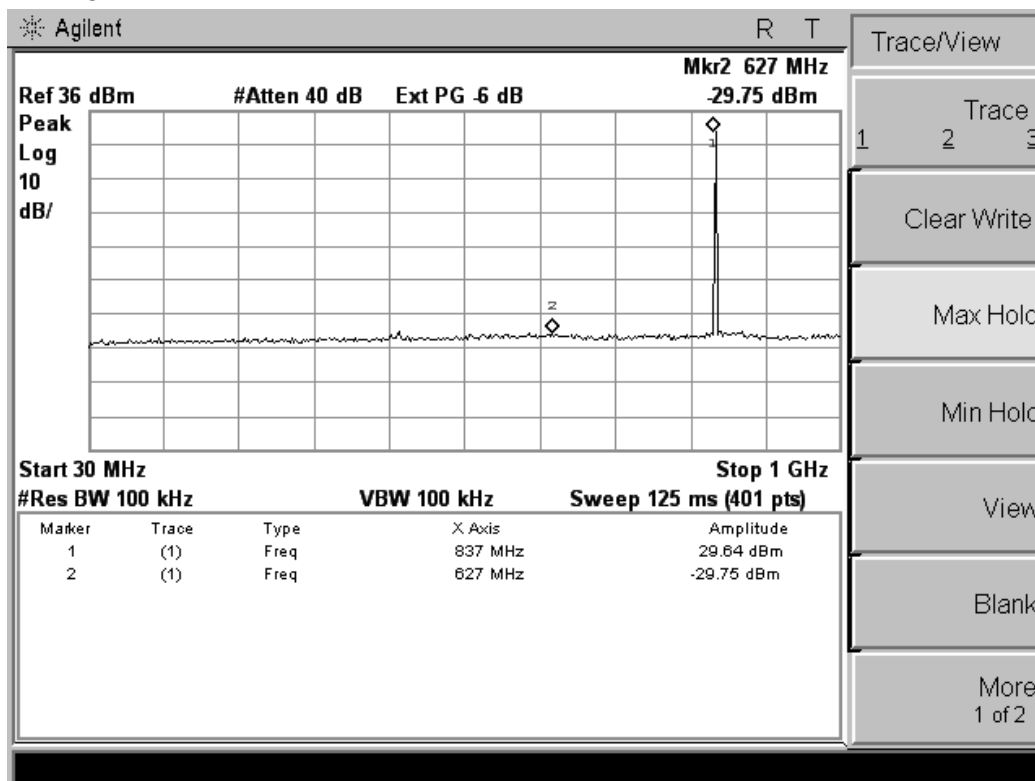
### 5.4.4. Test Results

Please refer to the following plots.

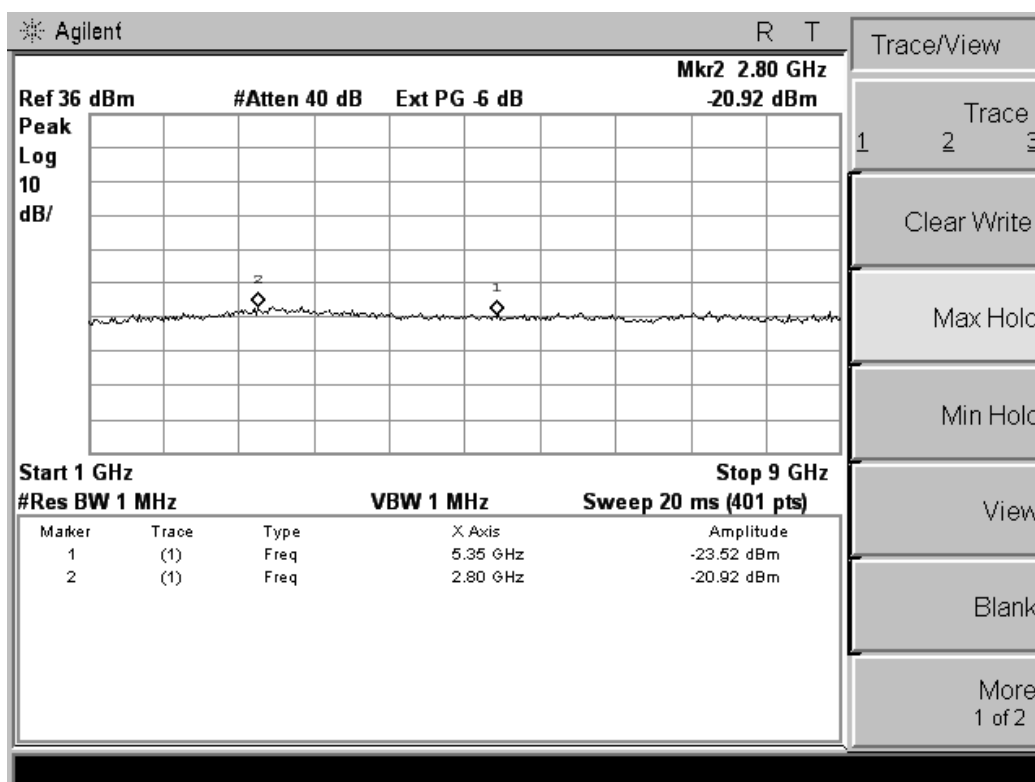
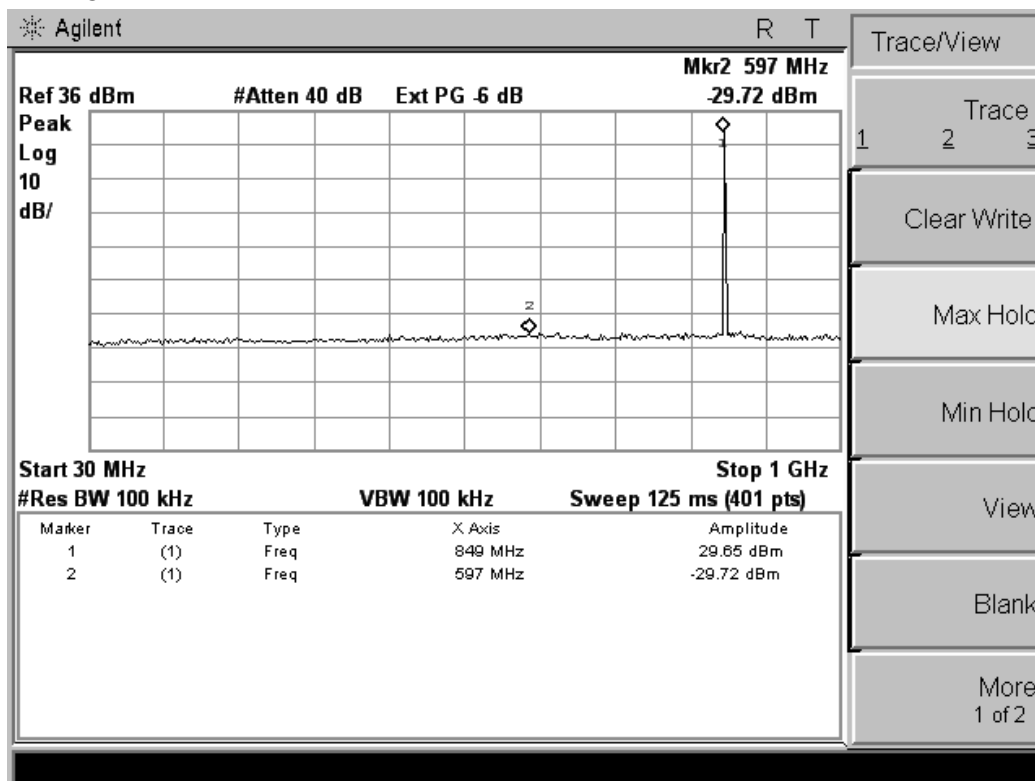
Transmitting Mode, CH 128, GSM 850



Transmitting Mode, CH 190, GSM 850

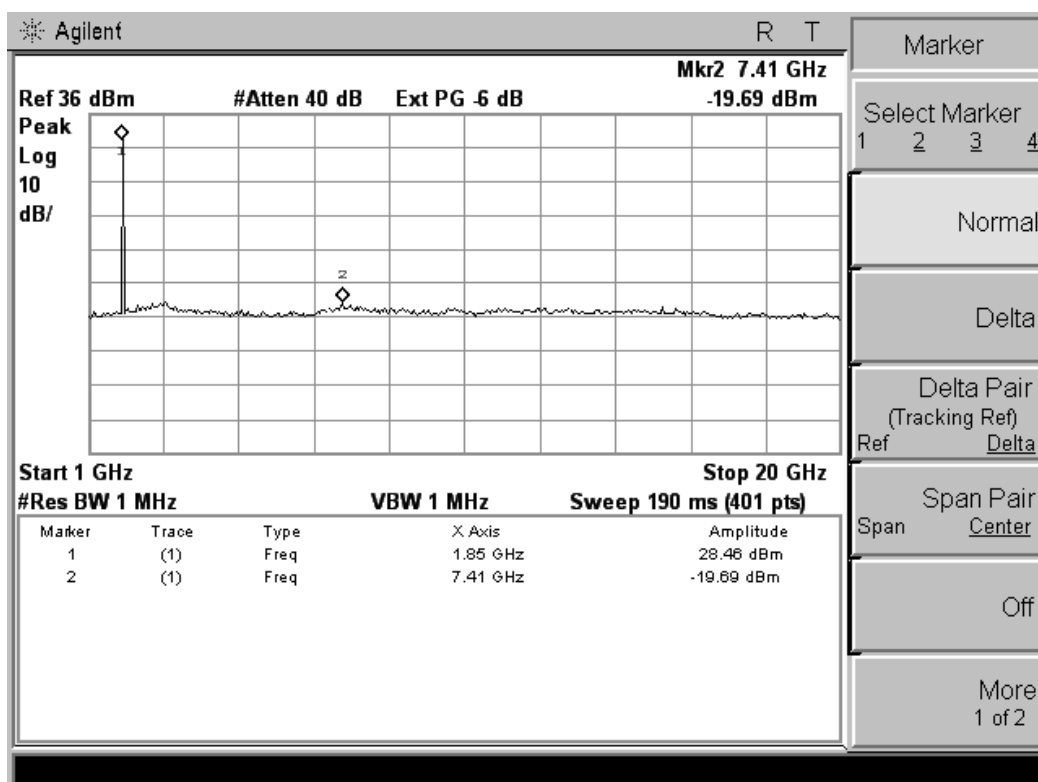
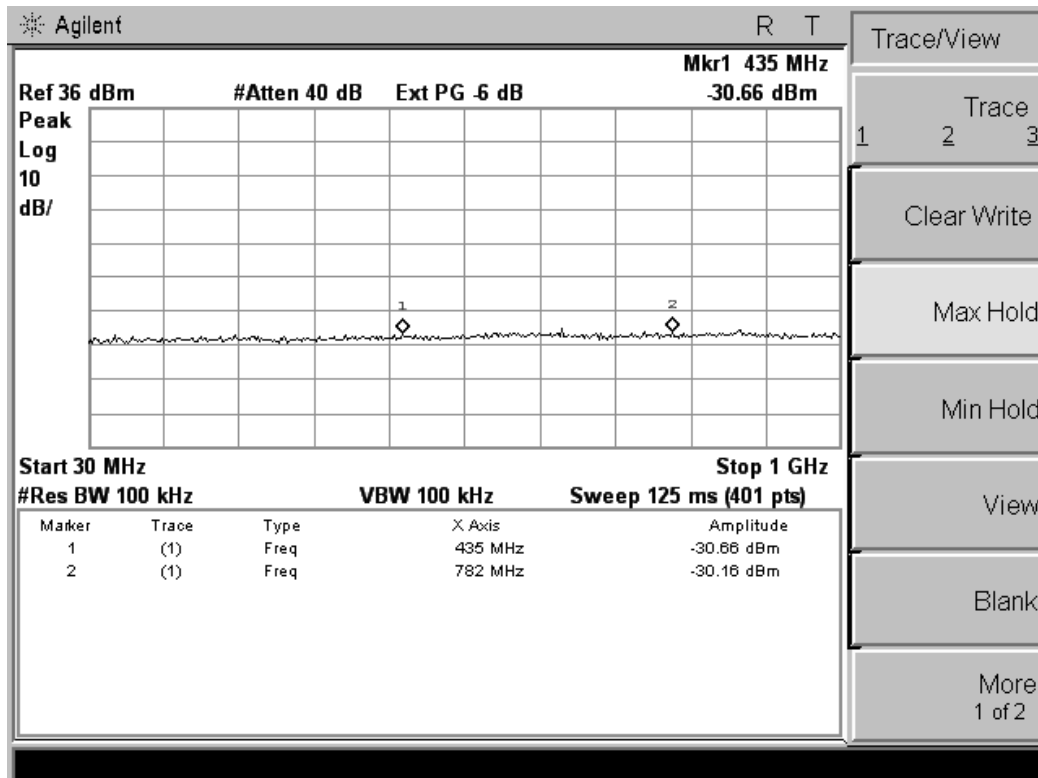


Transmitting Mode, CH 251, GSM 850

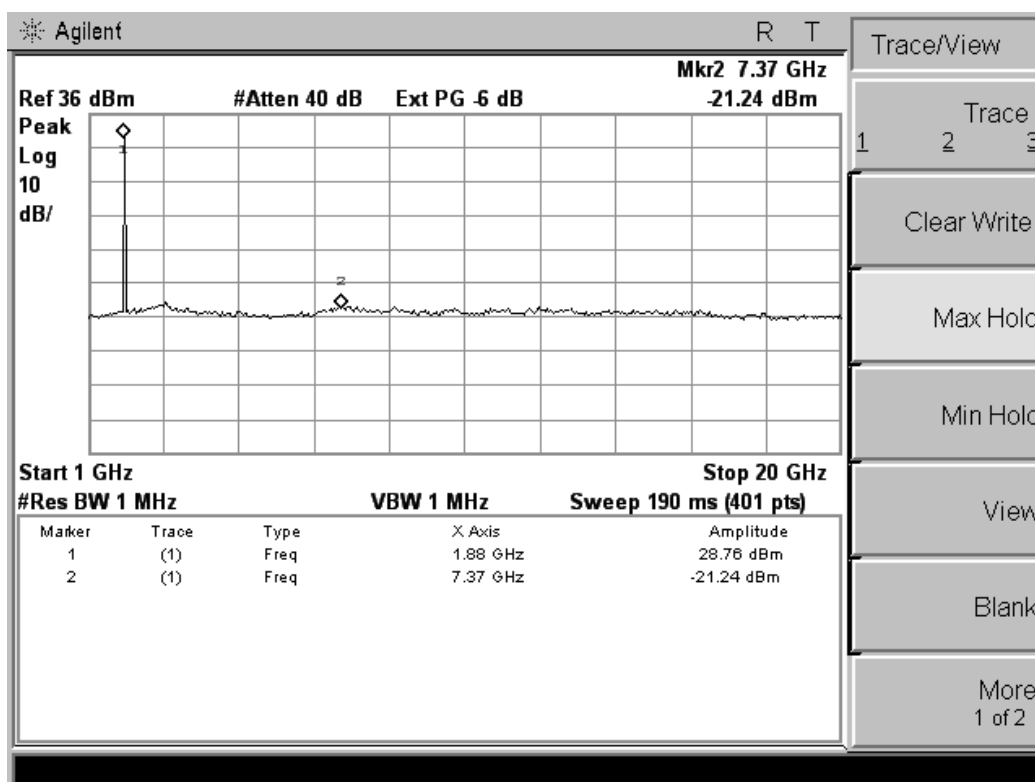
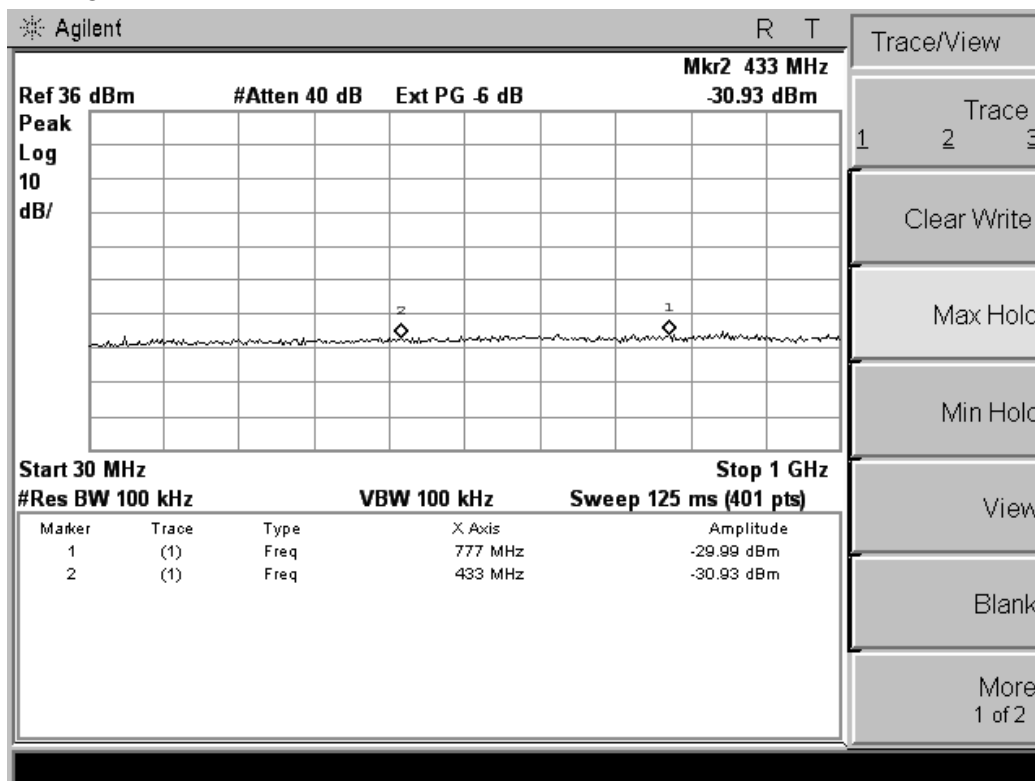




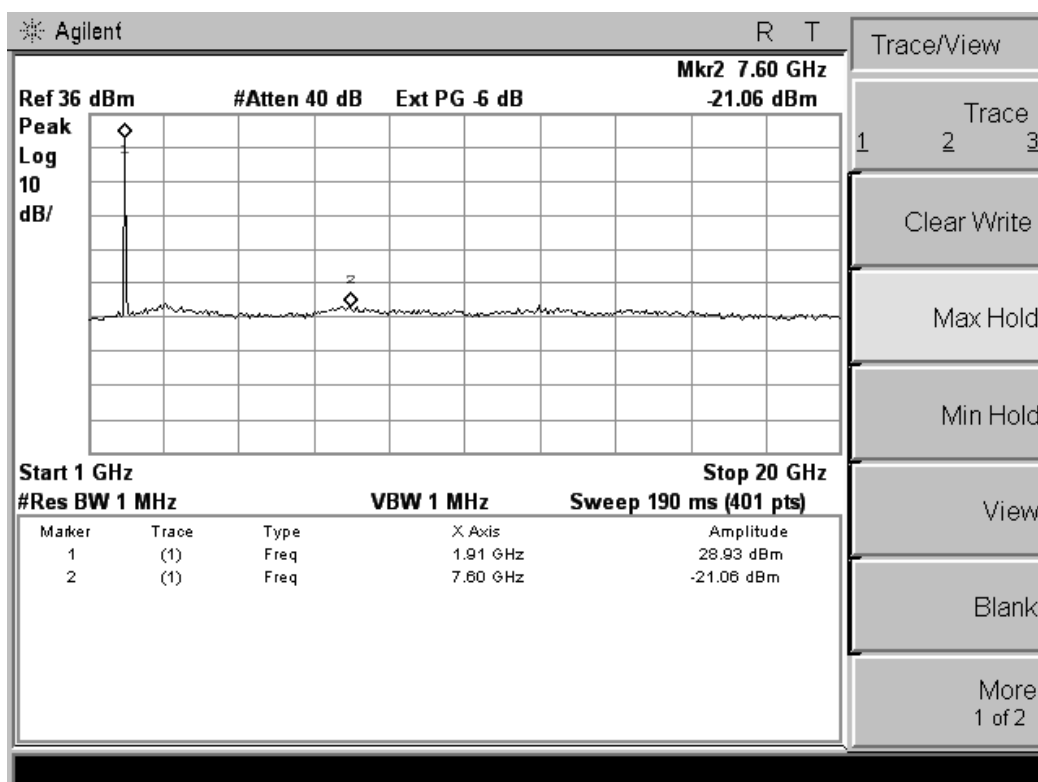
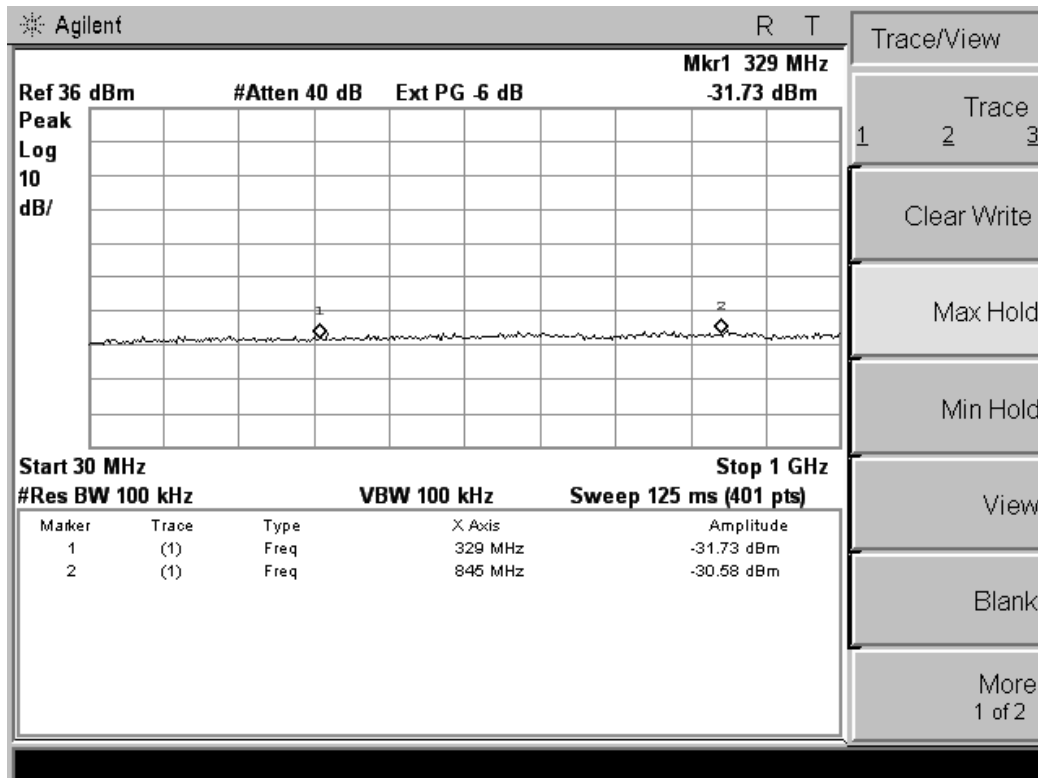
Transmitting Mode, CH 512, PCS 1900



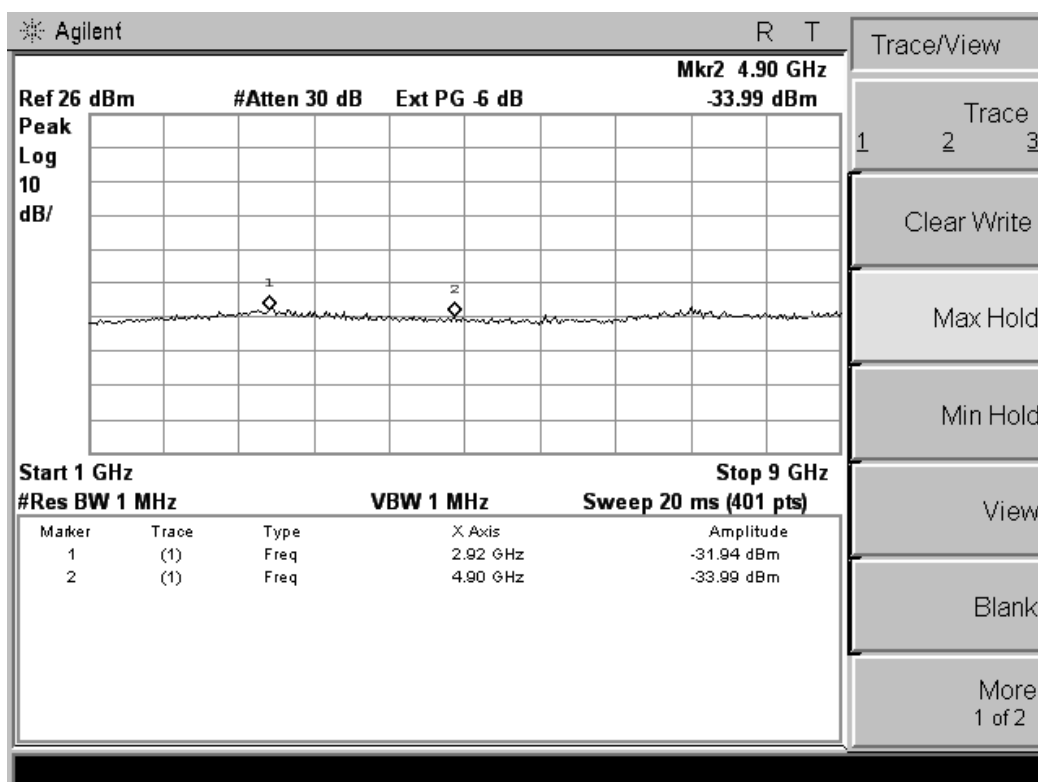
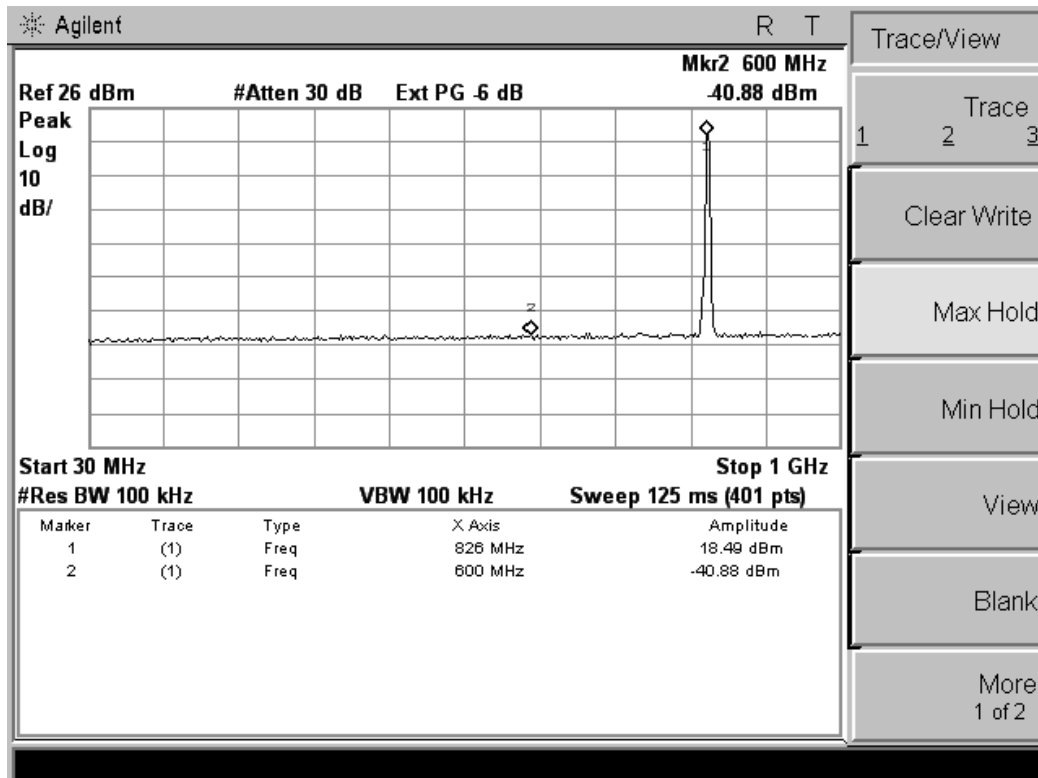
Transmitting Mode, CH 661, PCS 1900



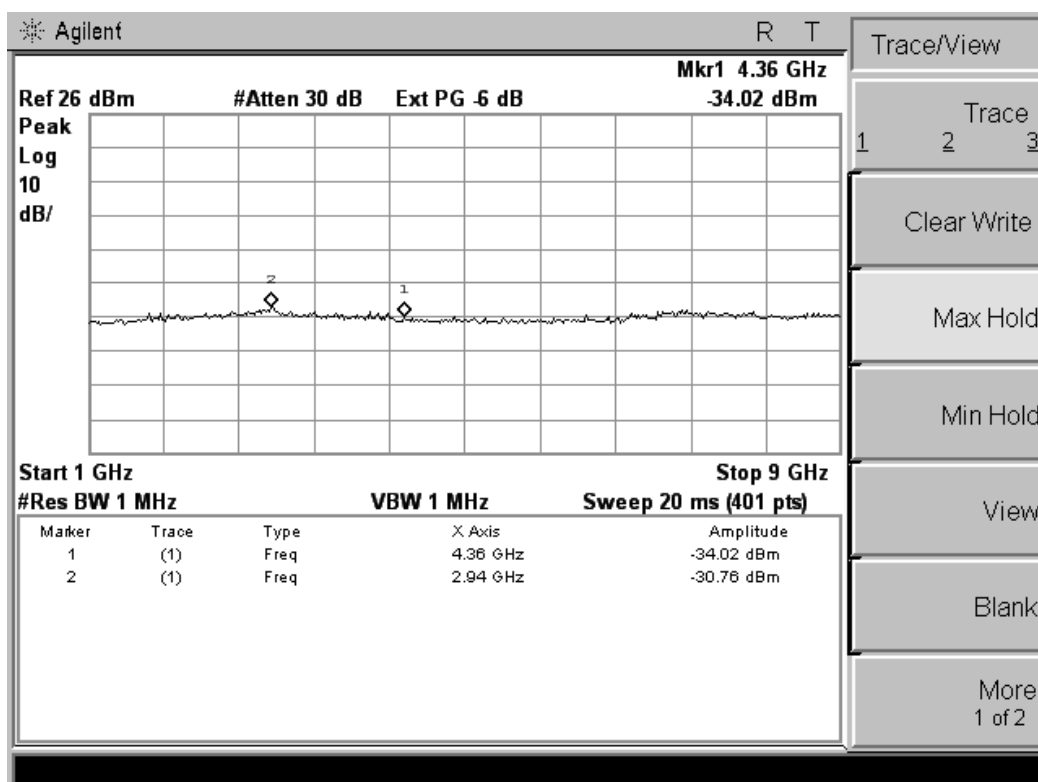
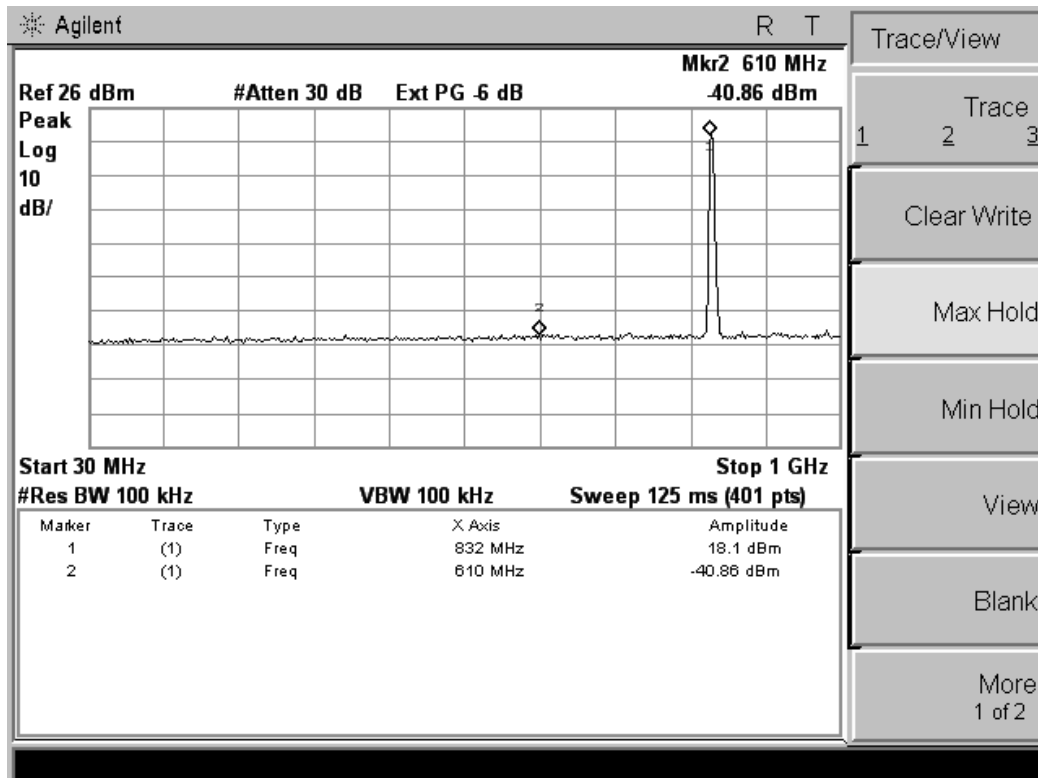
Transmitting Mode, CH 810, PCS 1900



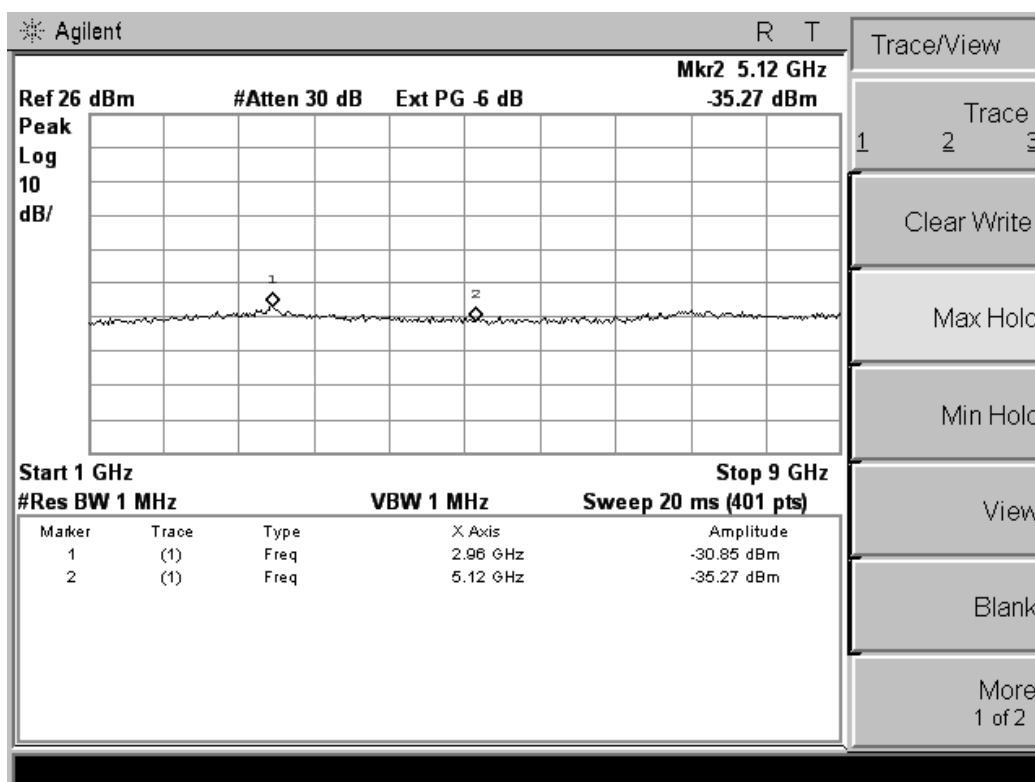
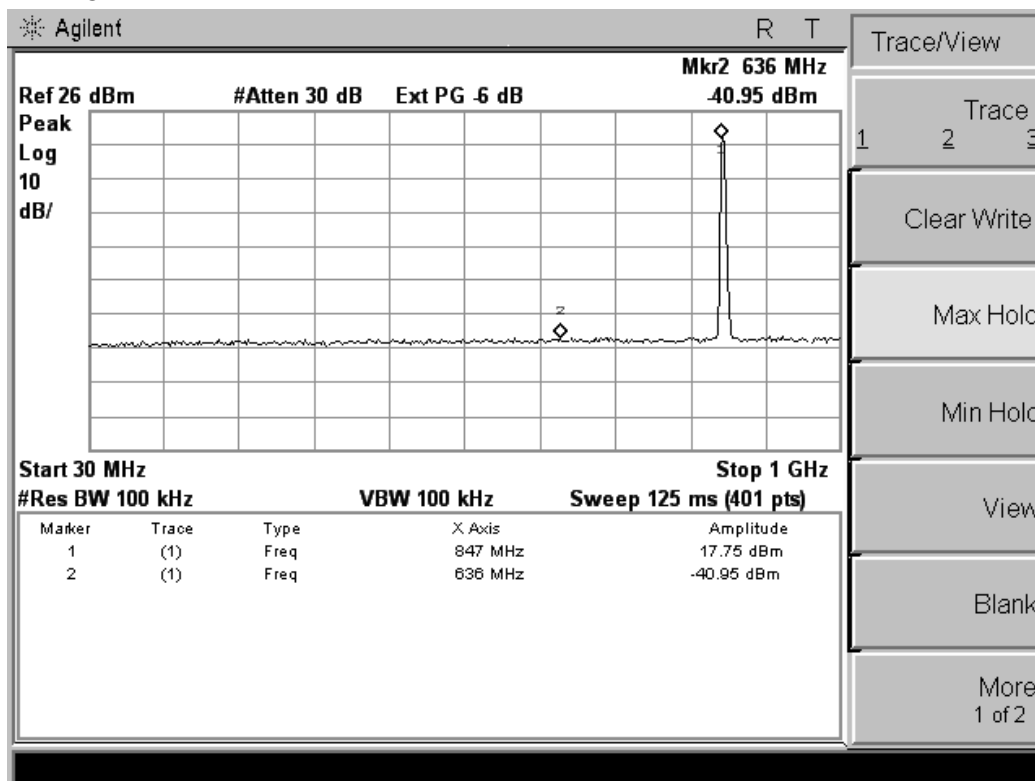
Transmitting Mode, CH 4132, WCDMA Band V



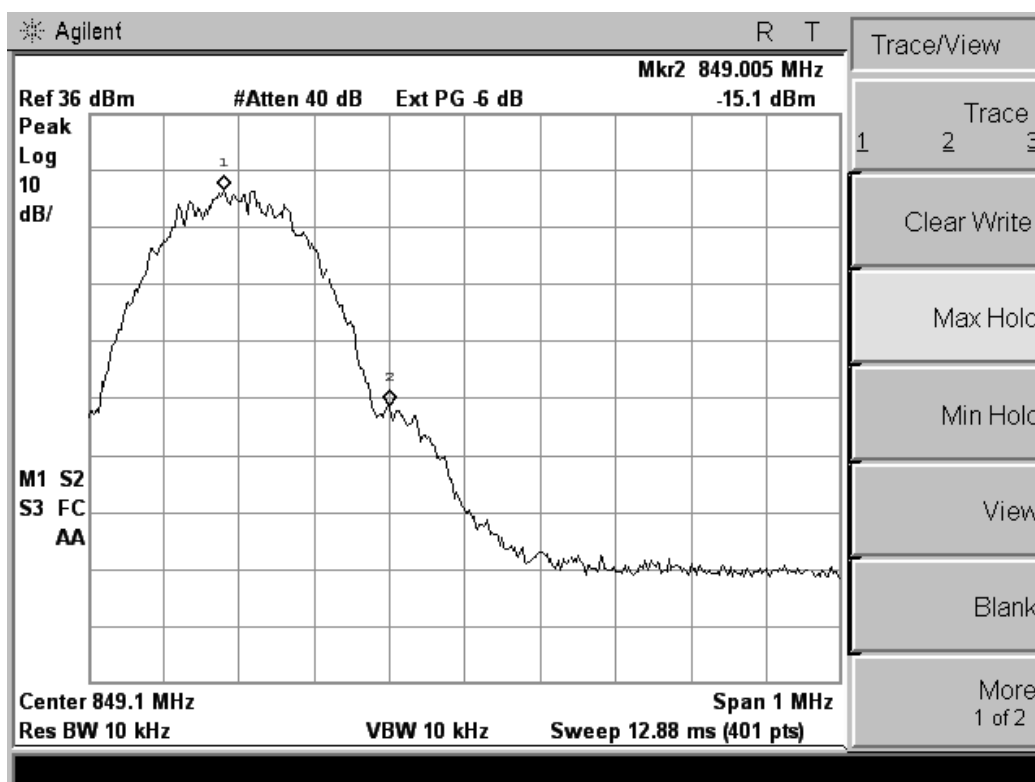
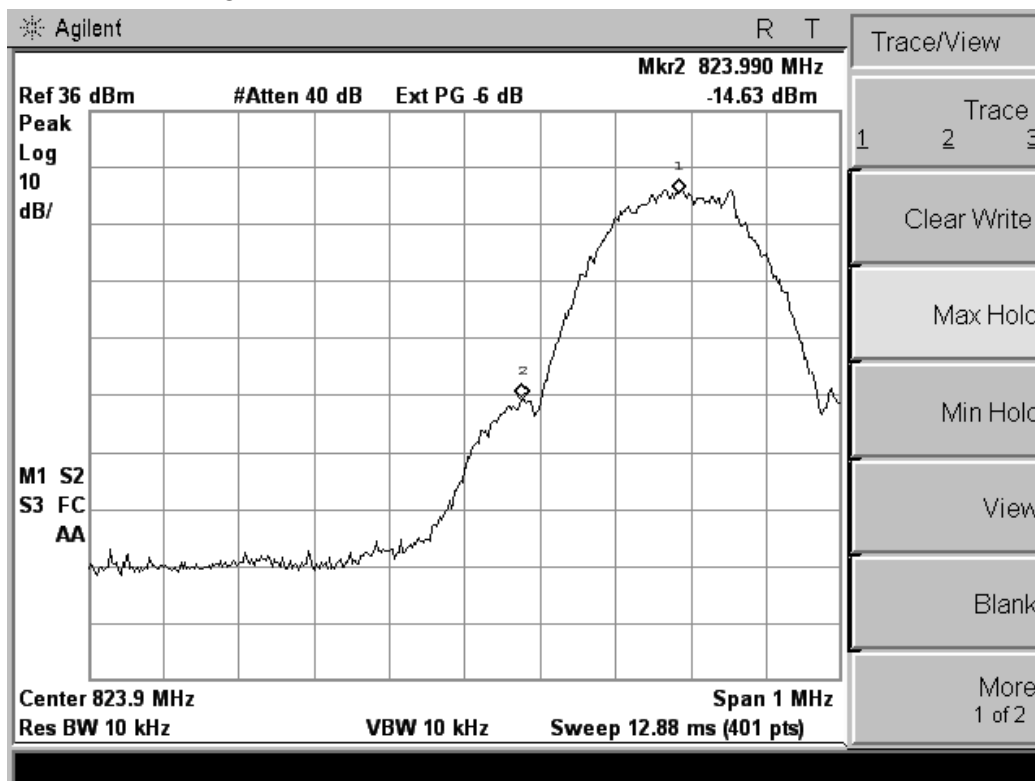
Transmitting Mode, CH 4177, WCDMA Band V



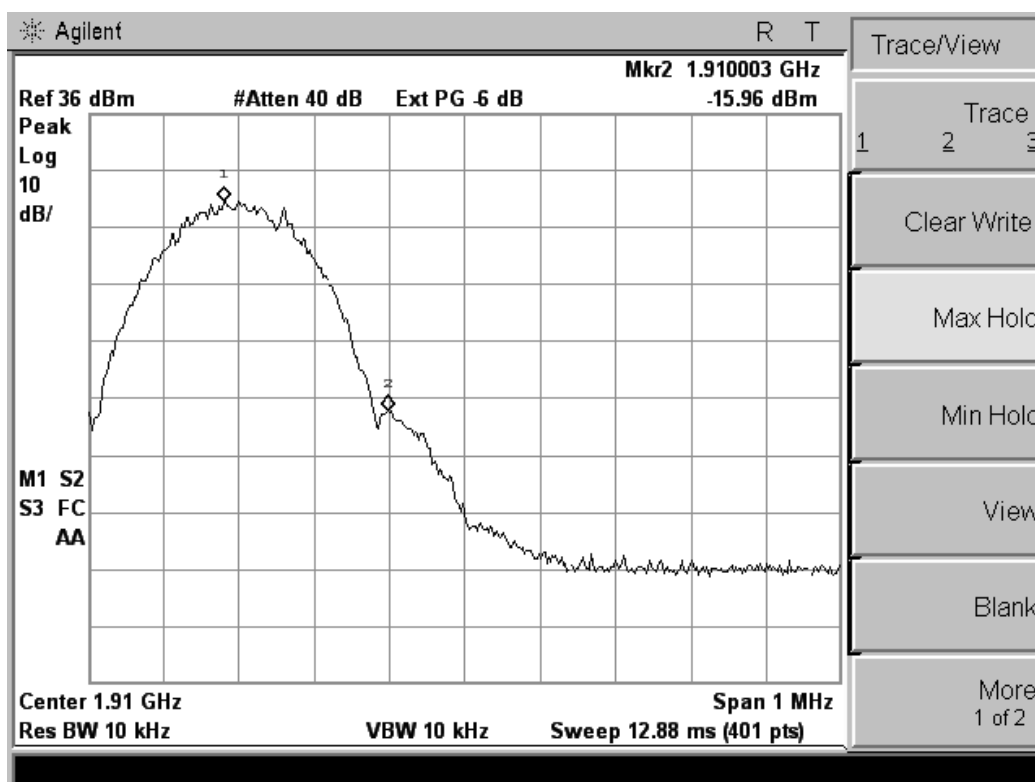
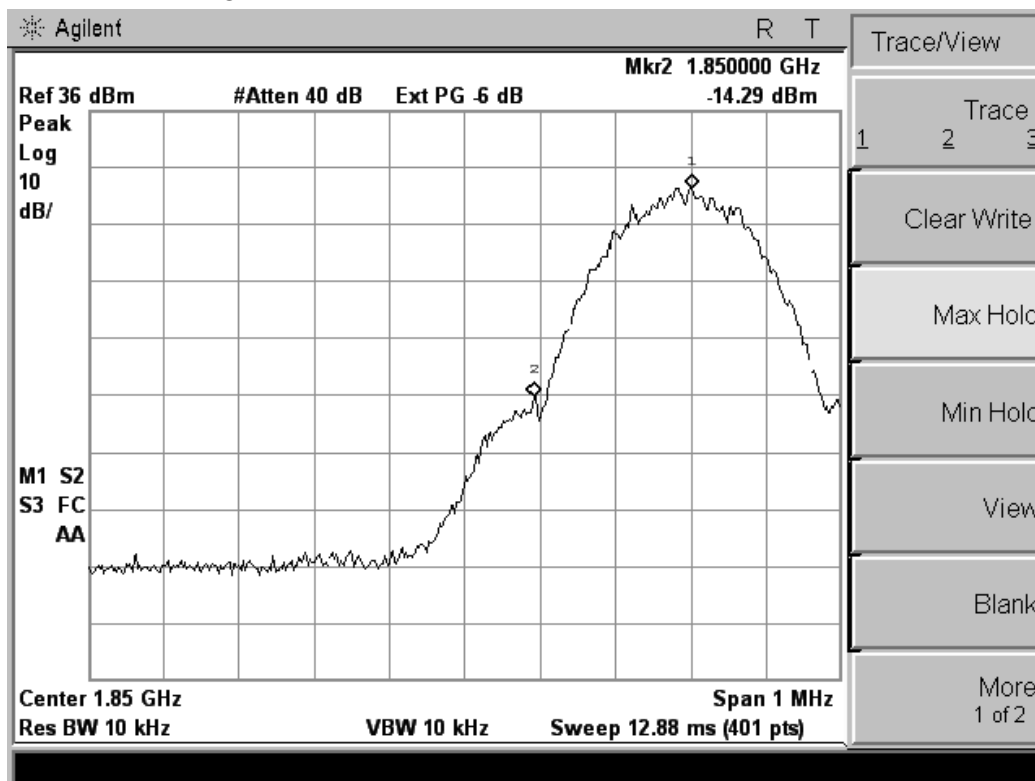
Transmitting Mode, CH 4233, WCDMA Band V



## Test Result of Band Edge Emissions, GSM 850

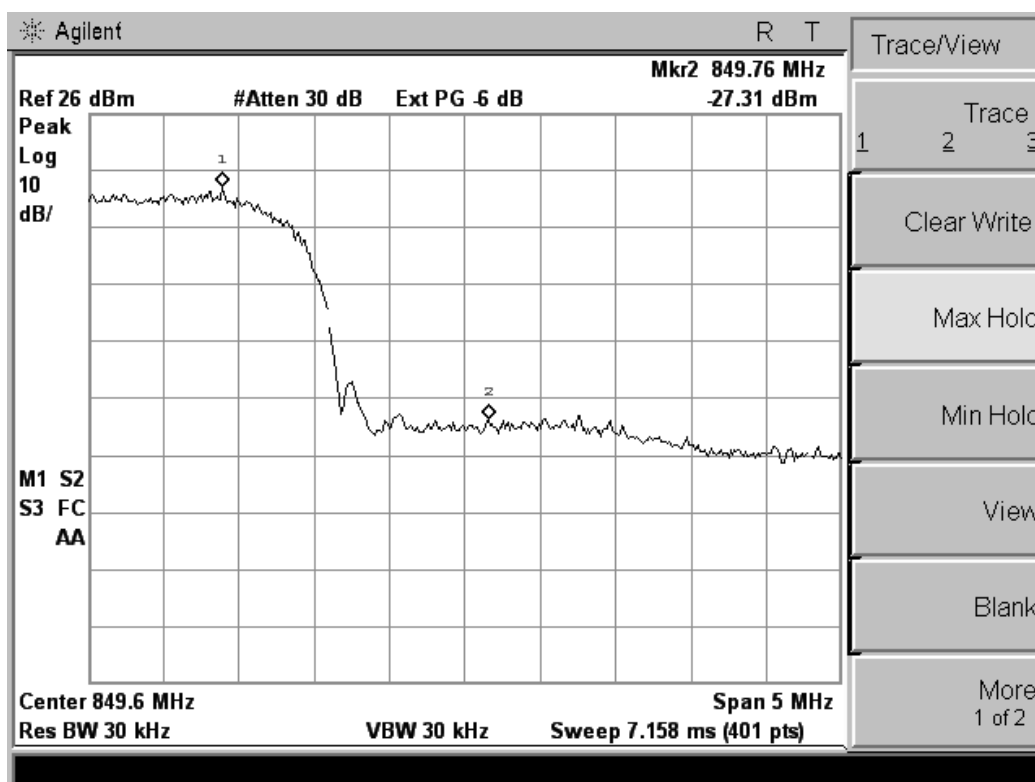
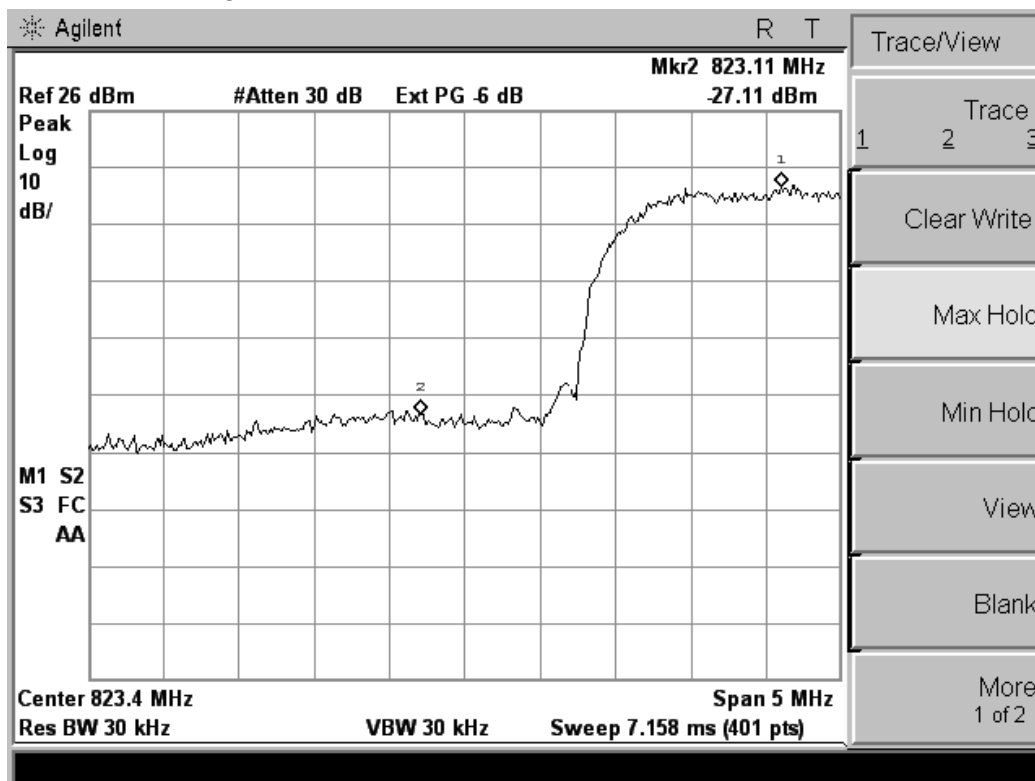


## Test Result of Band Edge Emissions, PCS 1900





## Test Result of Band Edge Emissions, WCDMA Band V



## 5.5. RADIATED SPURIOUS EMISSIONS MEASUREMENT

### 5.5.1. Standard Applicable

FCC §2.1053, §22.917 and §24.238.

### 5.5.2. Measuring Instruments

Please refer to section 6 of equipments list in this report.

### 5.5.3. Test Procedures

The EUT was placed on a non-conductive, the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

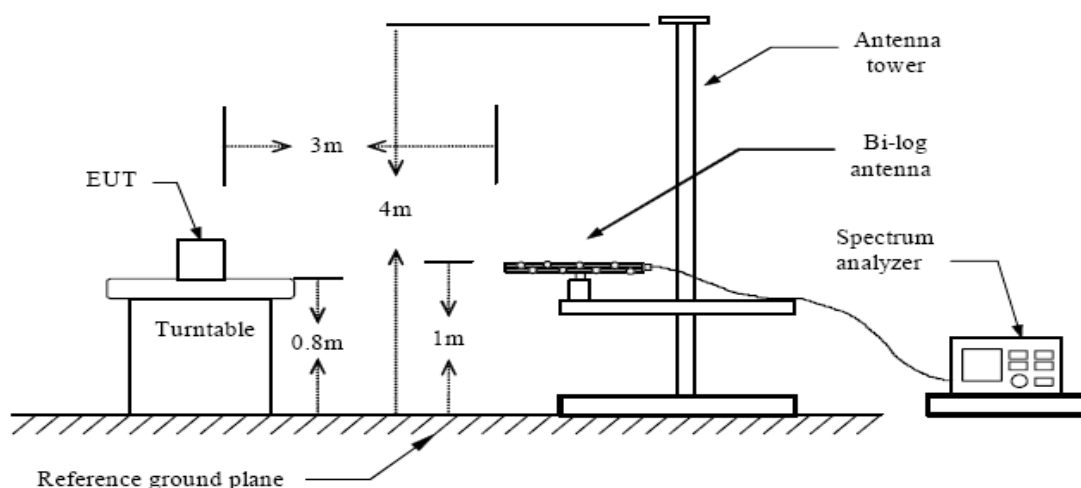
The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

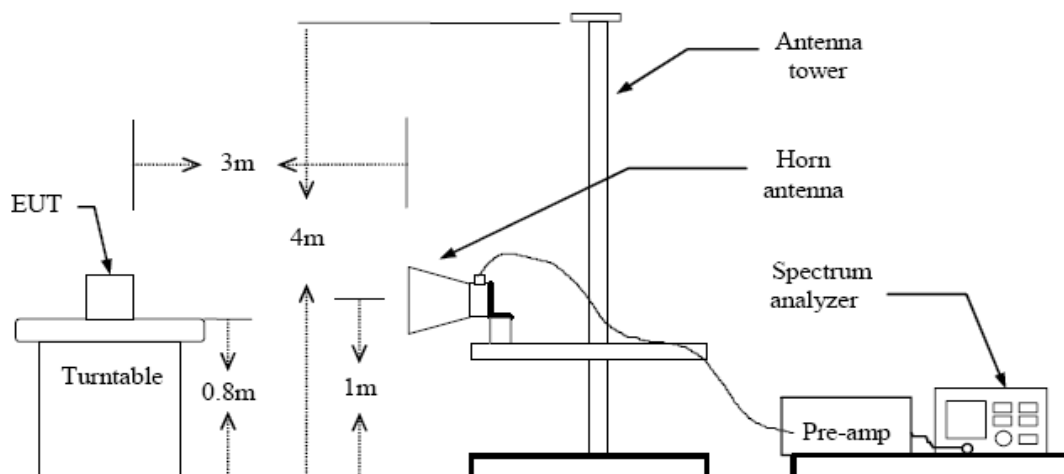
$$\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable (dB)}$$

$$\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable (dB)}$$

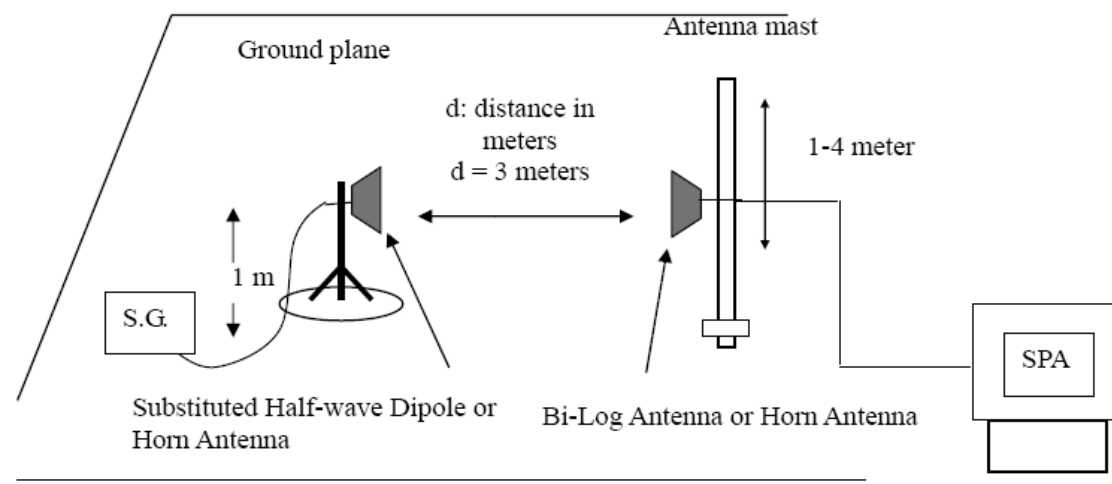
For radiated spurious emissions below 1GHz



For radiated spurious emissions above 1GHz



### Substituted Method



#### 5.5.4. Test Results

The worst test data as follow:

30MHz~10GHz

The Worst Test Result For GSM 850, CH 128				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
69.99	-64.62	-13	-51.62	H
182.01	-71.51	-13	-58.51	H
691.05	-75.83	-13	-62.83	H
1780.44	-20.31	-13	-7.31	H
2492.48	-29.64	-13	-16.64	H
84.99	-63.24	-13	-50.24	V
181.48	-67.06	-13	-54.06	V
719.67	-71.65	-13	-58.65	V
1646.64	-24.54	-13	-11.54	V
2468.17	-41.62	-13	-28.62	V

The Worst Test Result For GSM 850, CH 190				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
75.62	-66.41	-13	-53.41	H
185.19	-74.65	-13	-61.65	H
671.04	-79.92	-13	-66.92	H
1666.15	-21.24	-13	-8.24	H
2513.08	-29.40	-13	-16.40	H
86.03	-60.80	-13	-47.80	V
186.12	-68.54	-13	-55.54	V
463.48	-71.14	-13	-58.14	V
1667.76	-23.50	-13	-10.50	V
2506.36	-35.09	-13	-22.09	V

The Worst Test Result For GSM 850, CH 251				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
93.17	-63.70	-13	-50.70	H
184.61	-68.63	-13	-55.63	H
720.28	-73.28	-13	-60.28	H
1600.87	-21.30	-13	-8.30	H
2558.00	-30.49	-13	-17.49	H
90.49	-64.69	-13	-51.69	V
187.45	-65.61	-13	-52.61	V
712.41	-76.43	-13	-63.43	V
1699.51	-25.87	-13	-12.87	V
2512.13	-36.54	-13	-23.54	V

30MHz~20GHz

The Worst Test Result For PCS 1900, CH 512				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
69.88	-63.87	-13	-50.87	H
174.82	-72.72	-13	-59.72	H
689.29	-73.07	-13	-60.07	H
3639.87	-25.93	-13	-12.93	H
5433.98	-33.00	-13	-20.00	H
74.73	-67.22	-13	-54.22	V
164.53	-66.89	-13	-53.89	V
652.84	-77.49	-13	-64.49	V
3607.60	-25.19	-13	-12.19	V
5750.28	-33.28	-13	-20.28	V

The Worst Test Result For PCS 1900, CH 661				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
93.00	-67.20	-13	-54.20	H
188.75	-73.28	-13	-60.28	H
634.33	-79.95	-13	-66.95	H
3824.85	-21.96	-13	-8.96	H
5725.82	-31.60	-13	-18.60	H
82.72	-68.87	-13	-55.87	V
193.78	-65.21	-13	-52.21	V
459.30	-72.91	-13	-59.91	V
3811.61	-26.68	-13	-13.68	V
5719.41	-31.88	-13	-18.88	V

The Worst Test Result For PCS 1900, CH 810				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
101.18	-58.82	-13	-45.82	H
195.65	-73.83	-13	-60.83	H
673.80	-76.36	-13	-63.36	H
3809.49	-26.38	-13	-13.38	H
5717.92	-33.21	-13	-20.21	H
93.62	-59.96	-13	-46.96	V
180.16	-67.66	-13	-54.66	V
667.35	-73.11	-13	-60.11	V
3781.39	-27.36	-13	-14.36	V
5686.51	-34.47	-13	-21.47	V

30MHz~10GHz

The Worst Test Result For WCDMA Band V, CH 4132				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
70.29	-64.50	-13	-51.50	H
190.24	-75.14	-13	-62.14	H
702.54	-76.16	-13	-63.16	H
1783.29	-20.07	-13	-7.07	H
2491.98	-29.44	-13	-16.44	H
77.99	-62.46	-13	-49.46	V
179.58	-65.19	-13	-52.19	V
724.42	-73.33	-13	-60.33	V
1644.60	-23.26	-13	-10.26	V
2482.75	-43.82	-13	-30.82	V

The Worst Test Result For WCDMA Band V, CH 4177				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
87.49	-65.27	-13	-52.27	H
175.69	-71.58	-13	-58.58	H
679.05	-79.63	-13	-66.63	H
1676.31	-21.21	-13	-8.21	H
2503.95	-29.36	-13	-16.36	H
85.26	-64.70	-13	-51.70	V
198.70	-68.23	-13	-55.23	V
468.48	-71.28	-13	-58.28	V
1665.97	-20.09	-13	-7.09	V
2509.62	-34.39	-13	-21.39	V

The Worst Test Result For WCDMA Band V, CH 4233				
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Polarity
89.54	-60.89	-13	-47.89	H
184.50	-67.82	-13	-54.82	H
709.77	-73.50	-13	-60.50	H
1609.12	-21.86	-13	-8.86	H
2549.21	-28.92	-13	-15.92	H
75.62	-65.64	-13	-52.64	V
191.98	-62.17	-13	-49.17	V
725.02	-76.11	-13	-63.11	V
1690.79	-27.71	-13	-14.71	V
2512.77	-39.32	-13	-26.32	V

Note: Only recorded the worst test data.

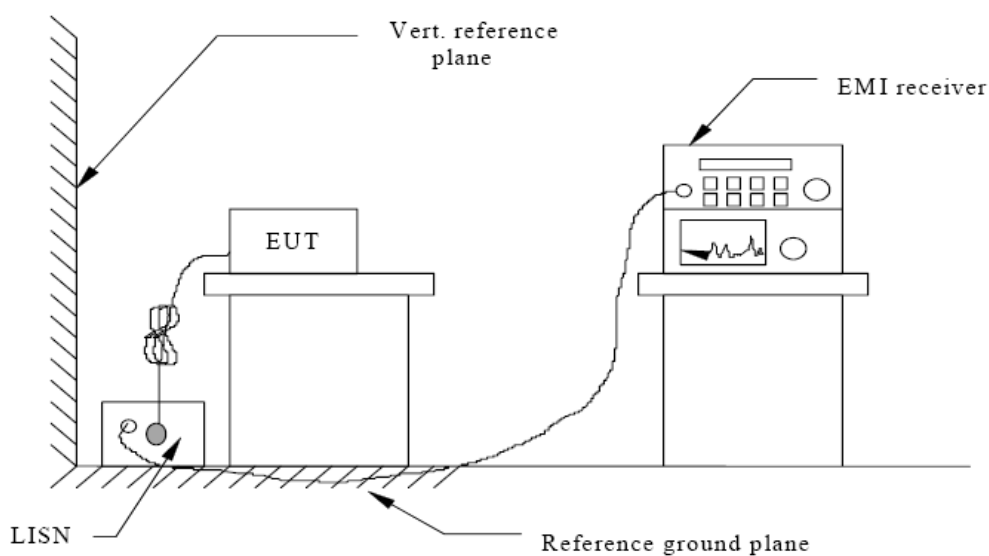
## 5.6. POWER LINE CONDUCTED EMISSIONS

### 5.6.1 Standard Applicable

According to §15.107 (a): For an intentional radiator which 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 250 microvolt (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

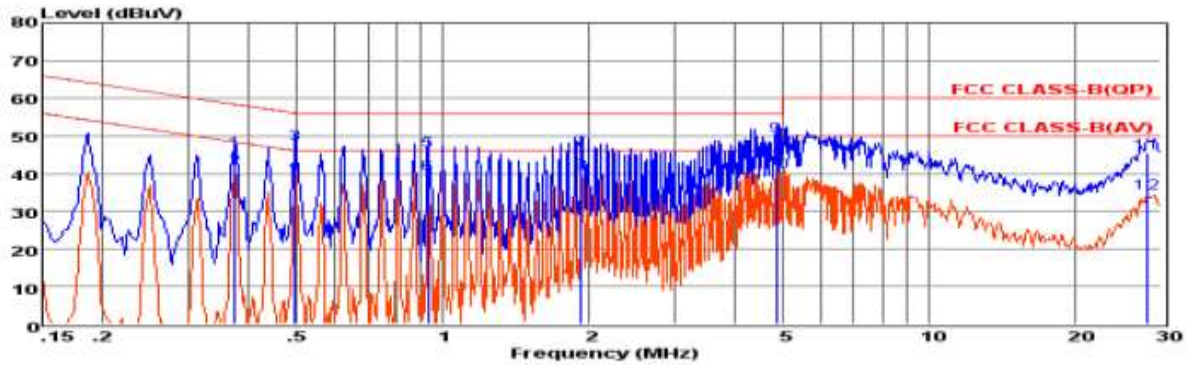
### 5.6.2 Block Diagram of Test Setup



### 5.6.3 Test Results

PASS.

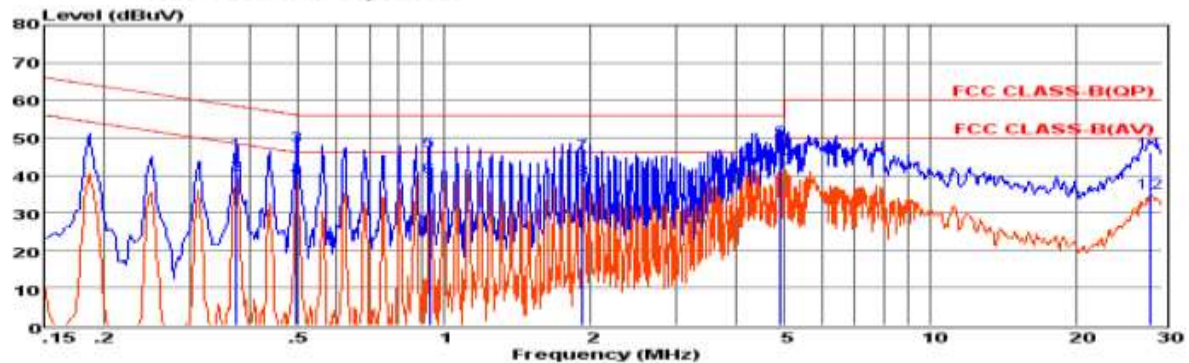
The test data please refer to following page.



Env. Ins: 24\*/56%  
 EUT: Professional & Outdoor Support Phone  
 M/N: S15  
 Power Rating: AC 120V/60Hz  
 Test Mode: GSM 850 Call  
 Operator: ANDY  
 Memo:  
 Pol: LINE

	Freq	Reading	LisnFac	CabLos	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.37314	36.42	9.62	0.04	46.08	58.43	-12.35	QP
2	0.37315	31.54	9.62	0.04	41.20	48.43	-7.23	Average
3	0.49673	38.16	9.62	0.04	47.82	56.05	-8.23	QP
4	0.49674	30.62	9.62	0.04	40.28	46.05	-5.77	Average
5	0.93314	36.45	9.63	0.05	46.13	56.00	-9.87	QP
6	0.93315	30.25	9.63	0.05	39.93	46.00	-6.07	Average
7	1.92836	36.83	9.64	0.05	46.52	56.00	-9.48	QP
8	1.92856	30.31	9.64	0.05	40.00	46.00	-6.00	Average
9	4.84805	40.18	9.65	0.06	49.89	56.00	-6.11	QP
10	4.84865	30.81	9.65	0.06	40.52	46.00	-5.48	Average
1128	15198	35.59	9.71	0.14	45.44	60.00	-14.56	QP
1228	15268	24.88	9.71	0.14	34.73	50.00	-15.27	Average

Remarks: 1. Measured = Reading + Lisn Factor + Cable Loss.  
 2. The emission levels that are 20dB below the official limit are not reported.



Env. Ins: 24\*/56%  
 EUT: Professional & Outdoor Support Phone  
 M/N: S15  
 Power Rating: AC 120V/60Hz  
 Test Mode: GSM 850 Call  
 Operator: ANDY  
 Memo:  
 Pol: NEUTRAL

	Freq	Reading	LisnFac	CabLos	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.37314	36.45	9.61	0.04	46.10	58.43	-12.33	QP
2	0.37315	30.54	9.61	0.04	40.19	48.43	-8.24	Average
3	0.49673	38.16	9.62	0.04	47.82	56.05	-8.23	QP
4	0.49674	29.56	9.62	0.04	39.22	46.05	-6.83	Average
5	0.93314	36.57	9.63	0.05	46.25	56.00	-9.75	QP
6	0.93315	29.78	9.63	0.05	39.46	46.00	-6.54	Average
7	1.92836	36.12	9.63	0.05	45.80	56.00	-10.20	QP
8	1.92866	29.21	9.63	0.05	38.89	46.00	-7.11	Average
9	4.92572	39.76	9.66	0.06	49.48	56.00	-6.52	QP
10	4.92672	32.36	9.66	0.06	42.08	46.00	-3.92	Average
1128	30153	36.07	9.84	0.14	46.05	60.00	-13.95	QP
1228	30263	25.47	9.84	0.14	35.45	50.00	-14.55	Average

Remarks: 1. Measured = Reading + Lisn Factor + Cable Loss.  
 2. The emission levels that are 20dB below the official limit are not reported.

Note: Pre-scan all mode and recorded the worst case results in this report (GSM 850 Call)



## 5.7. FREQUENCY STABILITY OVER TEMPERATURE AND VOLTAGE VARIATIONS

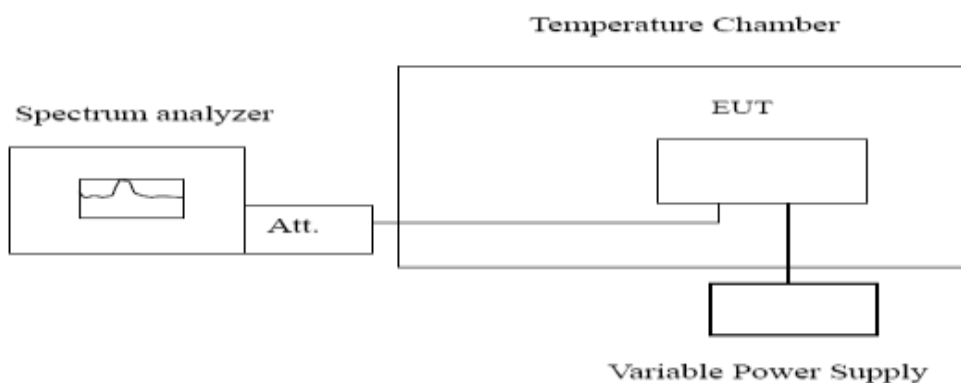
### 5.7.1. Standard Applicable

FCC §2.1055, §22.355 and §24.235, Frequency Tolerance:  $\pm 2.5$ ppm

### 5.7.2. Test Procedures

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  $-30^{\circ}\text{C}$ . After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with  $10^{\circ}\text{C}$  increased per stage until the highest temperature of  $+50^{\circ}\text{C}$  reached.



### 5.7.3. Test Results

Pass

Summary Of The Worst Test Result				
Band & Channel	Mode	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
GSM 850 Band CH 190	GSM	21	0.02510	±2.5
	GPRS(Slot 1)	17	0.02032	±2.5
	EDGE(Slot 1, GMSK)	15	0.01793	±2.5
	EDGE(Slot 1, 8PSK)	14	0.01673	±2.5
GSM 1900 Band CH 661	GSM	19	0.01011	±2.5
	GPRS(Slot 1)	16	0.00851	±2.5
	EDGE(Slot 1, GMSK)	15	0.00798	±2.5
	EDGE(Slot 1, 8PSK)	13	0.00691	±2.5
WCDMA 850 Band CH 4177	RMC 12.2K	17	0.02043	±2.5
	HSDPA	15	0.01802	±2.5

The worst test data as follow:

The Worst Test Result For GSM 850, CH 190, $f_0 = 836.6\text{MHz}$				
Temperature (°C)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.7	21	0.02510	$\pm 2.5$
-20		19	0.02271	$\pm 2.5$
-10		16	0.01913	$\pm 2.5$
0		15	0.01793	$\pm 2.5$
10		10	0.01195	$\pm 2.5$
20		11	0.01315	$\pm 2.5$
30		9	0.01076	$\pm 2.5$
40		13	0.01554	$\pm 2.5$
50		15	0.01793	$\pm 2.5$
25	4.07	14	0.01673	$\pm 2.5$
25	3.33	17	0.02032	$\pm 2.5$

The Worst Test Result For PCS 1900, CH 661, $f_0 = 1880.0\text{MHz}$				
Temperature (°C)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.7	19	0.01011	$\pm 2.5$
-20		16	0.00851	$\pm 2.5$
-10		14	0.00745	$\pm 2.5$
0		9	0.00479	$\pm 2.5$
10		11	0.00585	$\pm 2.5$
20		13	0.00691	$\pm 2.5$
30		16	0.00851	$\pm 2.5$
40		12	0.00638	$\pm 2.5$
50		15	0.00798	$\pm 2.5$
25	4.07	13	0.00691	$\pm 2.5$
25	3.33	17	0.00904	$\pm 2.5$

The Worst Test Result For WCDMA Band V, CH 4177, $f_0 = 832.2\text{MHz}$				
Temperature (°C)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.7	16	0.01923	±2.5
-20		11	0.01322	±2.5
-10		9	0.01081	±2.5
0		7	0.00841	±2.5
10		13	0.01562	±2.5
20		11	0.01322	±2.5
30		16	0.01923	±2.5
40		17	0.02043	±2.5
50		13	0.01562	±2.5
25	4.07	11	0.01322	±2.5
25	3.33	16	0.01923	±2.5

## 6. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal Date	Due Date
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	June 18,2013	June 17,2014
Signal analyzer	Agilent	E4448A(External mixers to 40GHz)	US44300469	9kHz~40GHz	July 16,2013	July 15,2014
LISN	MESS Tec	NNB-2/16Z	99079	9KHz-30MHz	June 18,2013	June 17,2014
LISN (Support Unit)	EMCO	3819/2NM	9703-1839	9KHz-30MHz	June 18,2013	June 17,2014
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9KHz-30MHz	June 18,2013	June 17,2014
ISN	SCHAFFNER	ISN ST08	21653	9KHz-30MHz	June 18,2013	June 17,2014
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30M-1GHz 3m	June 18,2013	June 17,2014
Amplifier	SCHAFFNER	COA9231A	18667	9kHz-2GHz	June 18,2013	June 17,2014
Amplifier	Agilent	8449B	3008A02120	1GHz-26.5GHz	July 16,2013	July 15,2014
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5GHz-40GHz	July 16,2013	July 15,2014
Spectrum Analyzer	Agilent	E4407B	MY41440292	9k-26.5GHz	July 16,2013	July 15,2014
Loop Antenna	R&S	HFH2-Z2	860004/001	9k-30MHz	June 18,2013	June 17,2014
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	30MHz-1GHz	June 10,2013	June 09,2014
Horn Antenna	EMCO	3115	6741	1GHz-18GHz	June 10,2013	June 09,2014
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz-40GHz	June 10,2013	June 09,2014
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz-1GHz	June 18,2013	June 17,2014
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz-40GHz	June 18,2013	June 17,2014
Spectrum Meter	R&S	FSP 30	100023	9kHz-30GHz	July 16,2013	July 15,2014
Power Meter	R&S	NRVS	100444	DC-40GHz	June 18,2013	June 17,2014
Power Sensor	R&S	NRV-Z51	100458	DC-30GHz	June 18,2013	June 17,2014
Power Sensor	R&S	NRV-Z32	10057	30MHz-6GHz	June 18,2013	June 17,2014
AC Power Source	HPC	HPA-500E	HPA-9100024	AC 0~300V	June 18,2013	June 17,2014
DC power Source	GW	GPC-6030D	C671845	DC 1V-60V	June 18,2013	June 17,2014
Temp. and Humidity	Giant Force	GTH-225-20-S	MAB0103-00	N/A	June 18,2013	June 17,2014
RF CABLE-1m	JYE Bao	RG142	CB034-1m	20MHz-7GHz	June 18,2013	June 17,2014
RF CABLE-2m	JYE Bao	RG142	CB)35-2m	20MHz-1GHz	June 18,2013	June 17,2014
Vector signal Generator	R&S	SMU200A	102098	100kHz~6GHz	June 18,2013	June 17,2014
Signal Generator	R&S	SMR40	10016	10MHz~40GHz	July 16,2013	July 15,2014
Universal Radio Communication	R&S	CMU200	112012	N/A	July 18,2013	July 17,2014

Note: All equipment through GRGT EST calibration

## 7. MANUFACTURER/APPROVAL HOLDER DECLARATION

The following identical model(s):

S15T	S15C	S15Q	S15L
S12	S19	Defender	RS61D Ultimate
PROCOM Director	ROVER	TITAN T1	--

Belong to the tested device:

Product description : Professional & Outdoor Support Phone

Model name : S15

Remark: PCB board, structure and internal of these model(s) are the same, So no additional models were tested.

-----THE END OF REPORT-----