FCC TEST REPORT

Issued to

SGP Technologies S.A.

For

Smartphone

Model Name:	BP1
Trade Name:	N/A
Brand Name:	blackphone
FCC ID :	2ACDKBP1
Standard:	47 CFR Part 22 Subpart H
	47 CFR Part 24 Subpart E
	47 CFR Part 27 Subpart L
Test date:	2014-6-24 to 2014-7-14
Issue date:	2014-7-17

By

Shenzhen Morlab Communications Technology Co., Ltd.
FL.3, Building A, FeiYang Science Park, No.8 LongChang Road,Block 67, BaoAn District,
ShenZhen, GuangDong Province, P. R. China 518101

Tested by Liu Zhisen	**Approved by** Zeng Dexin	**Reviewed by** Peng Huarui
Liu Zhisen	Zeng Dexin	Peng Huarui
(Test Engineer)	(Chief Engineer)	(Dept. Manager)
Date 2014.7.17	**Date** 2014.7.17	**Date** 2014.7.17

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Change History		
Issue	Date	Reason for change
1.0	July 17, 2014	First edition

1. GENERAL INFORMATION

1.1 EUT Description

EUT Type..... :	Smartphone
Serial No..... :	(n.a, marked #1 by test site)
Hardware Version..... :	1.0
Software Version ..... :	V07
Applicant..... :	SGP Technologies S.A. Rue du 31 Decembre, 47,Geneva, Switzerland.
Manufacturer ..... :	Tinno Mobile Technology Corp. 4/F.,H-3 Building,OCT Eastern Industrial Park. NO.1 XiangShan East Road.,Nan Shan District,Shenzhen,P.R.China.
Frequency Range..... :	GSM 850MHz: Tx: 824.20 - 848.80MHz (at intervals of 200kHz); Rx: 869.20 - 893.80MHz (at intervals of 200kHz) GSM 1900MHz: Tx: 1850.20 - 1909.80MHz (at intervals of 200kHz); Rx: 1930.20 - 1989.80MHz (at intervals of 200kHz) WCDMA 850MHz Tx: 826.4 - 846.6MHz (at intervals of 200kHz); Rx: 871.4 - 891.6MHz (at intervals of 200kHz) WCDMA 1900MHz Tx: 1852.4 - 1907.6MHz (at intervals of 200kHz); Rx: 1932.4 - 1987.6MHz (at intervals of 200kHz) WCDMA 1700MHz Tx: 1712.4 - 1752.6MHz (at intervals of 200kHz); Rx: 2112.4 - 2152.6MHz (at intervals of 200kHz)
Modulation Type ..... :	GSM,GPRS Mode with GMSK Modulation EDGE Mode with 8PSK Modulation WCDMA Mode with QPSK Modulation HSDPA Mode with QPSK Modulation HSUPA Mode with QPSK Modulation HSPA+ Mode with QPSK Modulation
Multislot Class ..... :	GPRS: Multislot Class 12,EGPRS: Multislot Class 12
Antenna Type ..... :	PIFA Antenna
Emission Designators..... :	GSM 850:243KGXW,GSM 1900:245KGXW EGPRS850:251KG7W, EGPRS1900:245KG7W, WCDMA 850:4M15F9W ,WCDMA1900:4M19F9W WCDMA1700:4M17F9W

Note 1: The transmitter (Tx) frequency arrangement of the Cellular 850MHz band used by the EUT can be represented with the formula F(n)=824.2+0.2*(n-128), 128<=n<=251; the lowest, middle,

highest channel numbers (ARFCHs) used and tested in this report are separately 128 (824.2MHz), 190 (836.6MHz) and 251 (848.8MHz).

Note 2: The transmitter (Tx) frequency arrangement of the PCS 1900MHz band used by the EUT can be represented with the formula F(n)=1850.2+0.2*(n-512), 512<=n<=810; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 512 (1850.2MHz), 661 (1880.0MHz) and 810 (1909.8MHz).

Note 3: The transmitter (Tx) frequency arrangement of the WCDMA 850MHz band used by the EUT can be represented with the formula F(n)=826.4+0.2*(n-4132), 4132<=n<=4233; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 4132 (826.4MHz), 4175(835MHz) and 4233 (846.6MHz).

Note 4: The transmitter (Tx) frequency arrangement of the WCDMA 1900MHz band used by the EUT can be represented with the formula F(n)=1852.4+0.2*(n-9262), 9262<=n<=9538; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 9262 (1852.4MHz), 9400 (1880MHz) and 9538 (1907.6MHz).

Note 5: The transmitter (Tx) frequency arrangement of the WCDMA 1700MHz band used by the EUT can be represented with the formula F(n)=1712.4+0.2*(n-1312), 1312<=n<=1513; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 1312 (1712.4MHz), 1412 (1732.4MHz) and 1513 (1752.6MHz).

Note 6: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

1.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 22 and Part 24, 27for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2 (10-1-13 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-13 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-13 Edition)	Personal Communications Services
4	47 CFR Part 27 (10-1-13 Edition)	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result
1	2.1046	Conducted RF Output Power	PASS
2.	24.232(d) ,27.50(d)(5)	Peak to average radio	PASS
2	2.1049,22.917 24.238, 27.53(g)	99% Occupied Bandwidth	PASS
3	2.1055,22.355 24.235,27.54	Frequency Stability	PASS
4	2.1051,2.1057 22.917,24.238, 27.53(g)	Conducted Out of Band Emissions	PASS
5	2.1051,2.1057 22.917,24.238 27.53(g)(h)	Band Edge	PASS
6	22.913,24.232 27.50(d)(4)	Transmitter Radiated Power (EIPR/ERP)	PASS
7	2.1053,2.1057 22.917,24.238 27.53(g)	Radiated Out of Band Emissions	PASS

NOTE：Measurement method according to TIA/EIA 603.D-2010

1.3 Facilities and Accreditations

1.3.1 Facilities

Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L3572.

All measurement facilities used to collect the measurement data are located at FL.1, Building A, FeiYang Science Park, No.8 LongChang Road,Block 67, BaoAn District, ShenZhen, GuangDong Province,P. R. China 518101. The test site is constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22; the FCC registration number is 695796.

1.3.2 Test Environment Conditions

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

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

2. 47 CFR PART 2, PART 22H & 24E 27L REQUIREMENTS

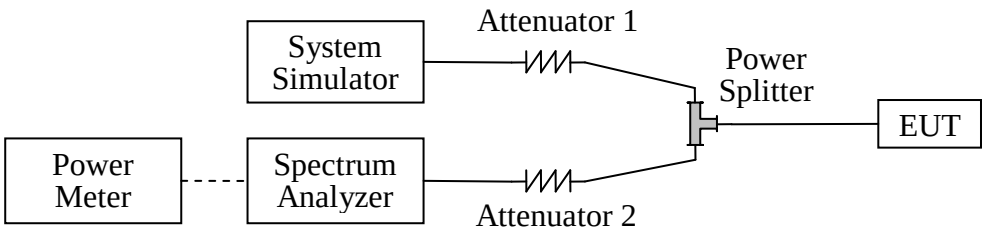
2.1 Conducted RF Output Power

2.1.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

2.1.2 Test Description

1. Test Setup:



The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

The Power Meter was just used for the Conducted RF Output Power test of WCDMA Model.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2014.02.26	2015.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2014.02.26	2015.02.25
Power Meter	Agilent	E4418B	GB43318055	2014.02.26	2015.02.25
Power Sensor	Agilent	8482A	MY41091706	2014.02.26	2015.02.25
Power Splitter	Weinschel	1506A	NW521	2014.02.26	2015.02.25
Attenuator 1	Resnet	20dB	(n.a.)	2014.02.26	2015.02.25
Attenuator 2	Resnet	3dB	(n.a.)	2014.02.26	2015.02.25

2.1.3 Test Results

Here the lowest, middle and highest channels are selected to perform testing to verify the conducted RF output power of the EUT.

1. GSM Model Test Verdict:

Band	Channel	Frequency (MHz)	Measured Output Power		Limit	Verdict
			dBm	Refer to Plot	dBm	
GSM 850MHz	128	824.2	33.24	Plot A1 to A3	35	PASS
	190	836.6	33.20			PASS
	251	848.8	33.20			PASS
GSM 1900MHz	512	1850.2	29.45	Plot B1 to B3	32	PASS
	661	1880.0	29.69			PASS
	810	1909.8	29.60			PASS
GPRS 850MHz	128	824.2	29.85	Plot C1 to C3 Note 1	35	PASS
	190	836.6	29.98			PASS
	251	848.8	30.04			PASS
GPRS 1900MHz	512	1850.2	26.37	Plot D1 to D3 Note 1	32	PASS
	661	1880.0	26.50			PASS
	810	1909.8	26.27			PASS
EGPRS 850MHz	128	824.2	30.08	Plot E1 to E3 Note 1	35	PASS
	190	836.6	30.18			PASS
	251	848.8	30.23			PASS
EGPRS 1900MHz	512	1850.2	26.41	Plot F1 to F3 Note 1	32	PASS
	661	1880.0	26.56			PASS
	810	1909.8	26.31			PASS

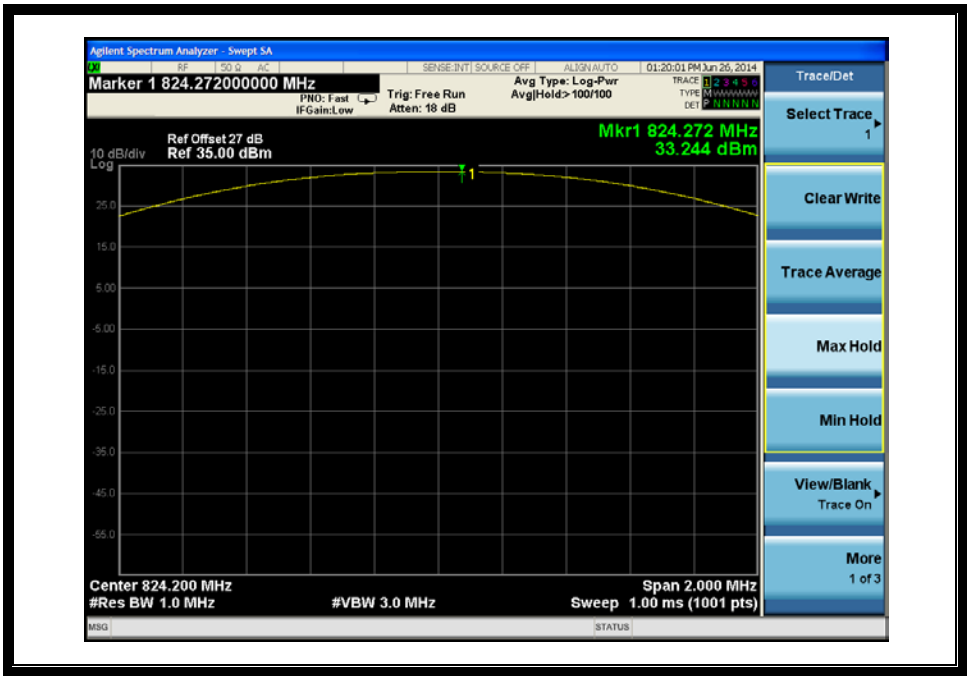
Note 1: For the GPRS and EGPRS model, all the slots were tested and just the worst data was record in this report.

2. WCDMA Model Test Verdict:

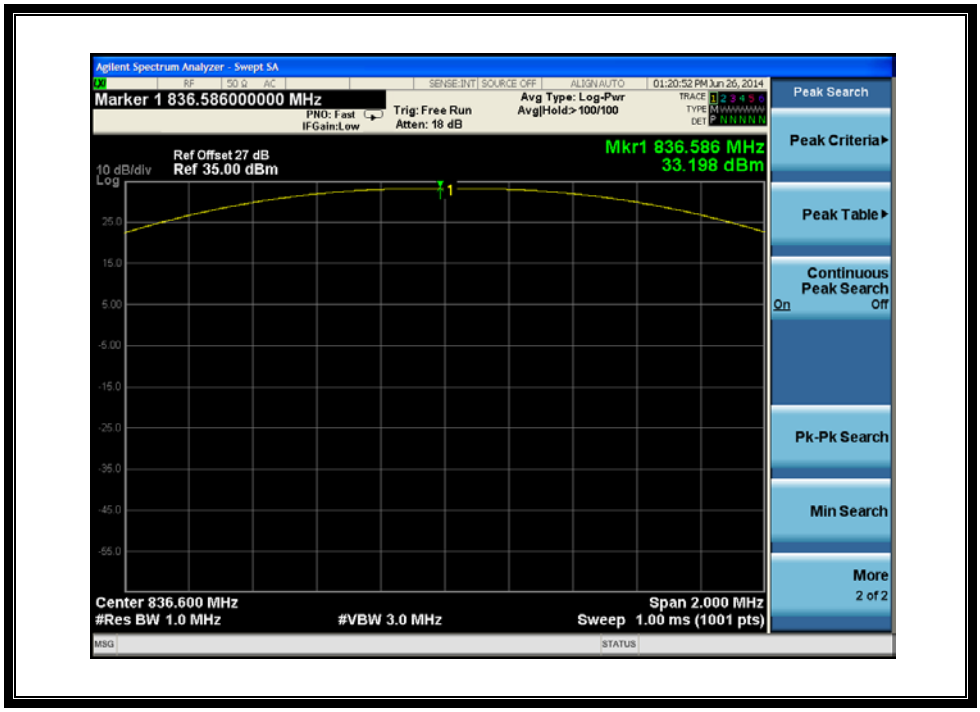
Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4175	4233	9262	9400	9538
	subtest	dBm			dBm		
5.2(WCDMA)	non	24.23	23.83	24.12	23.28	23.65	23.37
HSDPA	1	23.88	23.45	23.72	23.32	23.68	23.51
	2	23.87	23.46	23.71	23.31	23.67	23.49
	3	23.36	22.96	23.21	22.81	23.16	23.00
	4	23.38	22.95	23.20	22.82	23.17	23.01
HSUPA	1	24.22	23.93	24.16	23.34	23.66	23.38
	2	22.21	21.94	22.15	21.34	21.65	21.36
	3	23.23	22.93	23.17	22.33	22.64	22.37
	4	22.22	21.93	22.16	21.35	21.66	21.37
	5	24.21	23.91	24.15	23.33	23.66	23.37
HSPA+	1	23.82	23.43	23.75	23.22	23.67	23.36
Note:	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA /HSPA+ was tested by power meter.						

Item	band	WCDMA 1700		
	ARFCN	1312	1412	1513
	subtest	dBm		
5.2(WCDMA)	non	23.69	23.75	23.52
HSDPA	1	23.69	23.80	23.52
	2	23.67	23.77	23.50
	3	23.18	23.29	23.02
	4	23.19	23.30	23.03
HSUPA	1	23.69	23.78	23.55
	2	21.68	21.77	21.53
	3	22.69	22.79	22.54
	4	21.70	21.78	21.55
	5	23.38	23.77	23.54
HSPA+	1	23.66	23.71	23.50
Note	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA /HSPA+ was tested by power meter.			

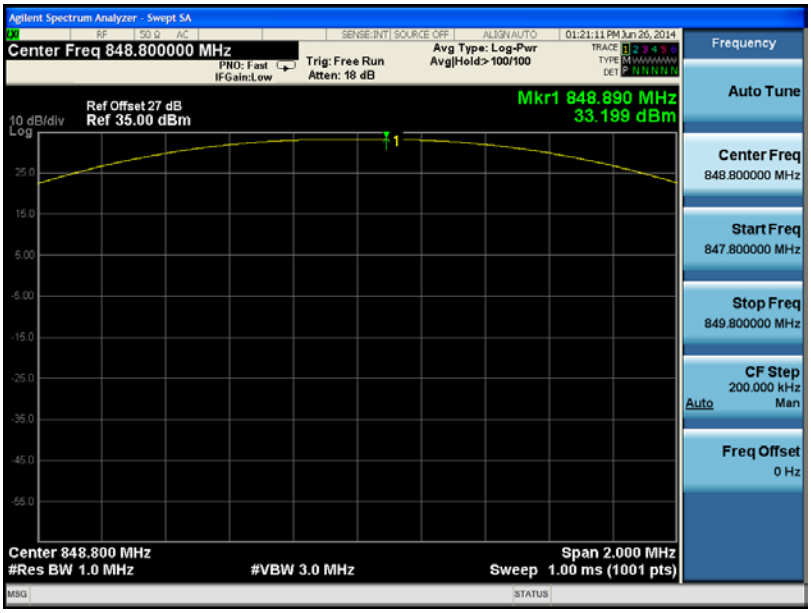
3. GSM Model Test Plots:



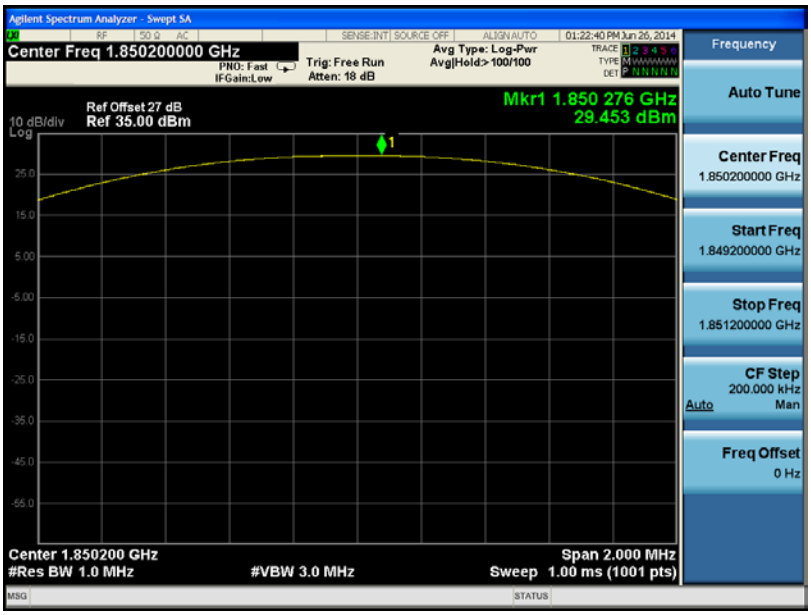
(Plot A1:GSM 850MHz Channel = 128)



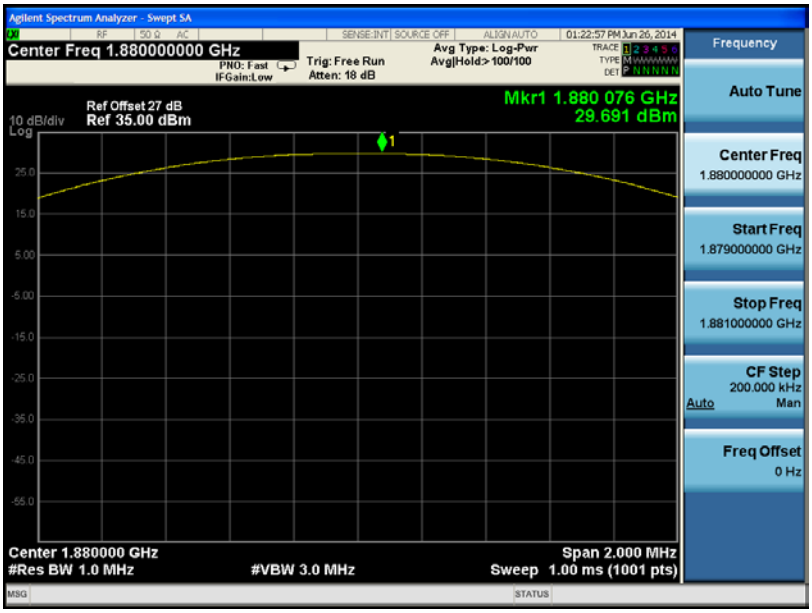
(Plot A2:GSM 850MHz Channel = 190)



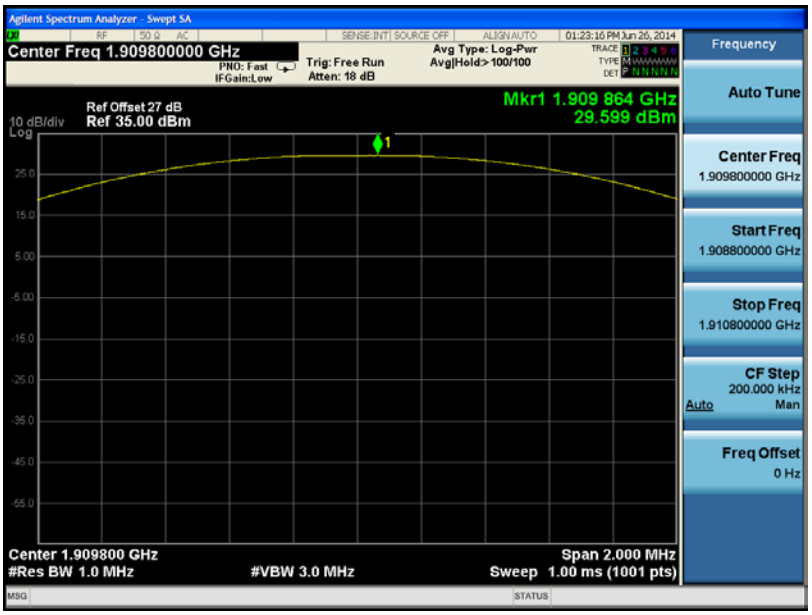
(Plot A3:GSM 850MHz Channel = 251)



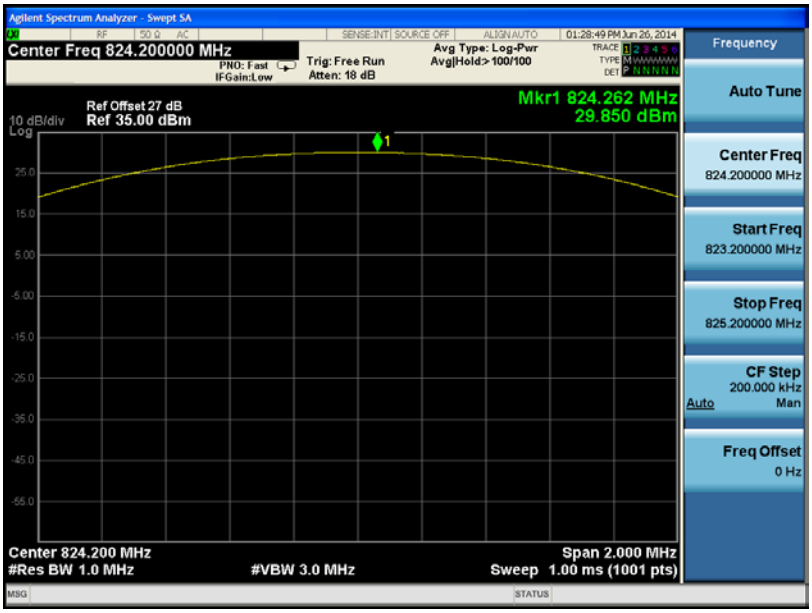
(Plot B1: GSM 1900MHz Channel = 512)



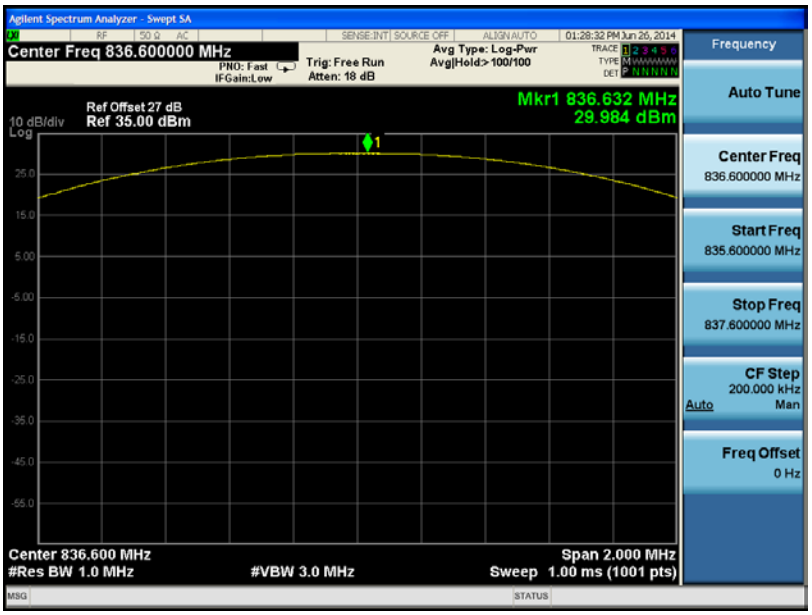
(Plot B2: GSM 1900MHz Channel = 661)



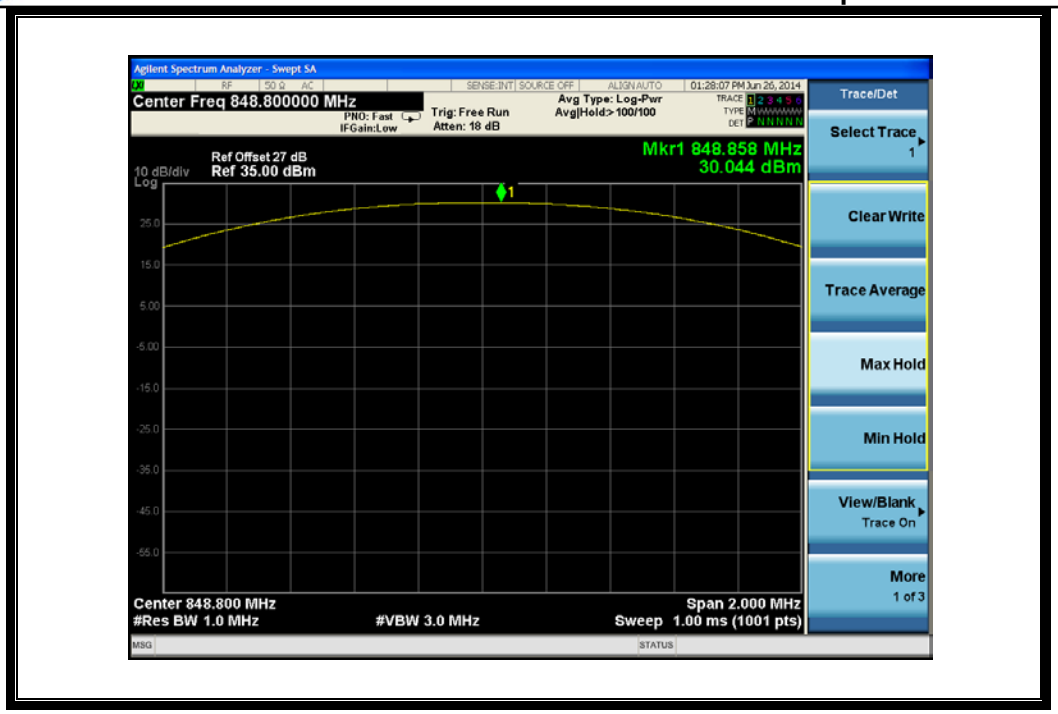
(Plot B3: GSM 1900Hz Channel = 810)



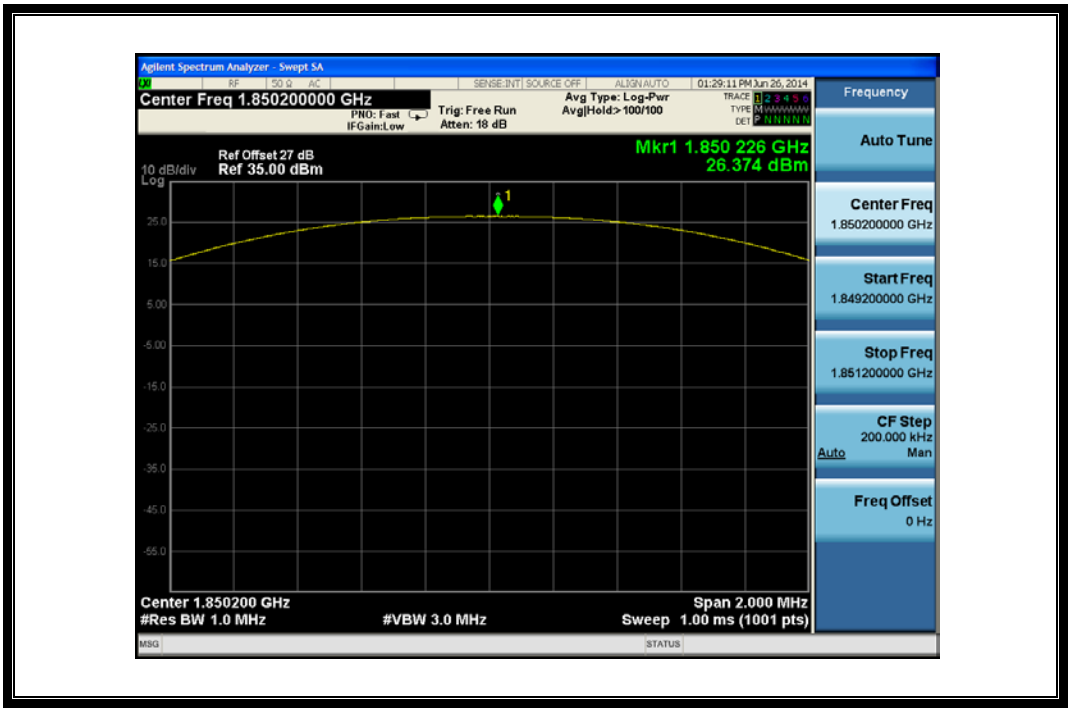
(Plot C 1: GPRS 850MHz Channel = 128)



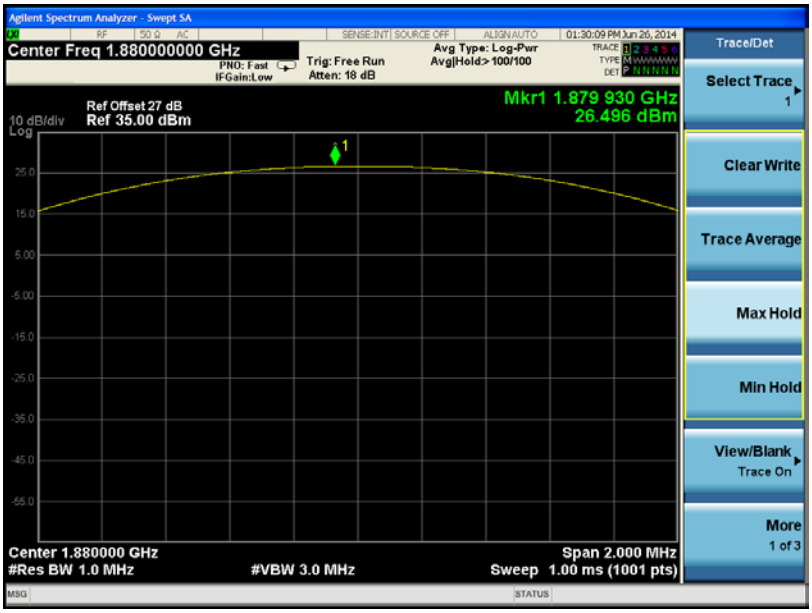
(Plot C 2: GPRS 850MHz Channel = 190)



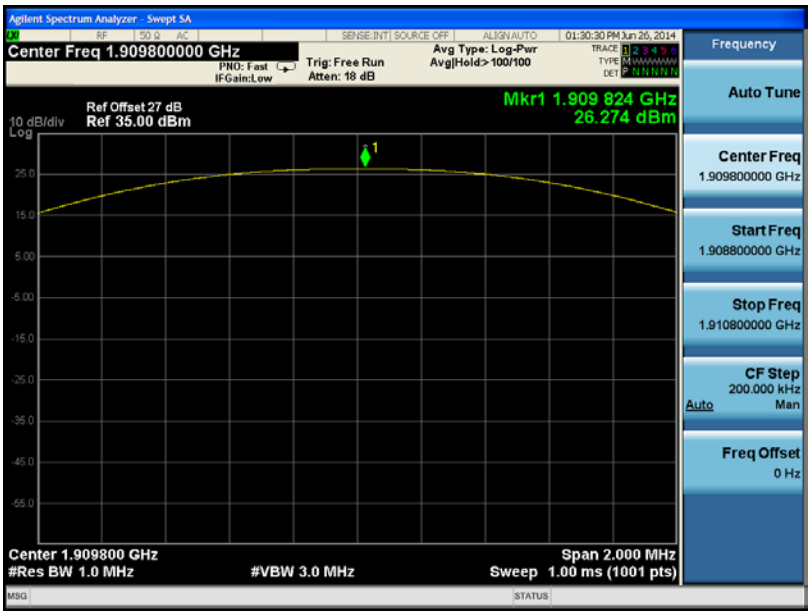
(Plot C 3: GPRS 850MHz Channel = 251)



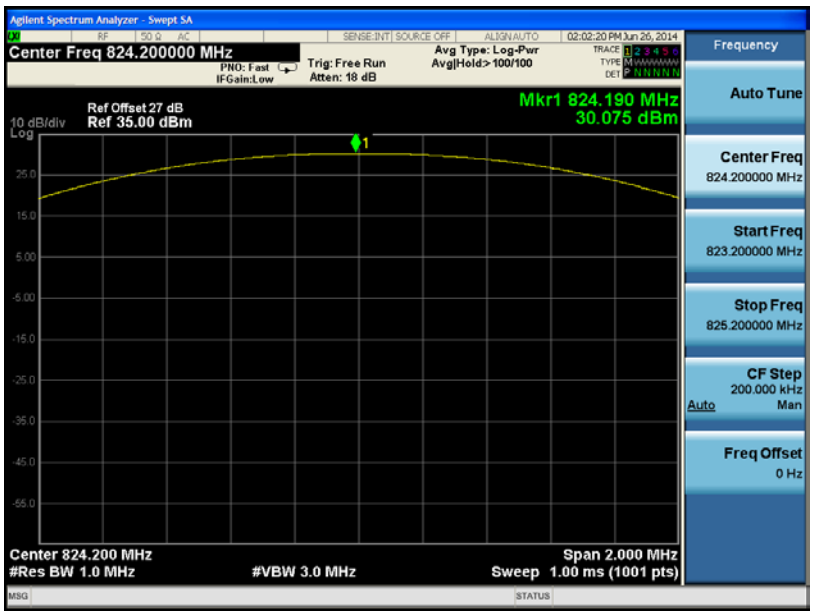
(Plot D 1: GPRS 1900MHz Channel = 512)



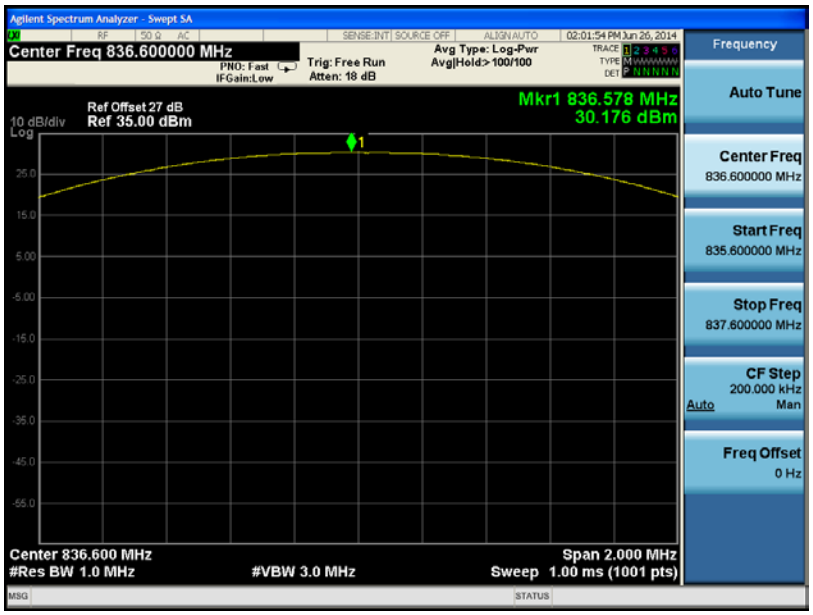
(Plot D 2: GPRS 1900MHz Channel = 661)



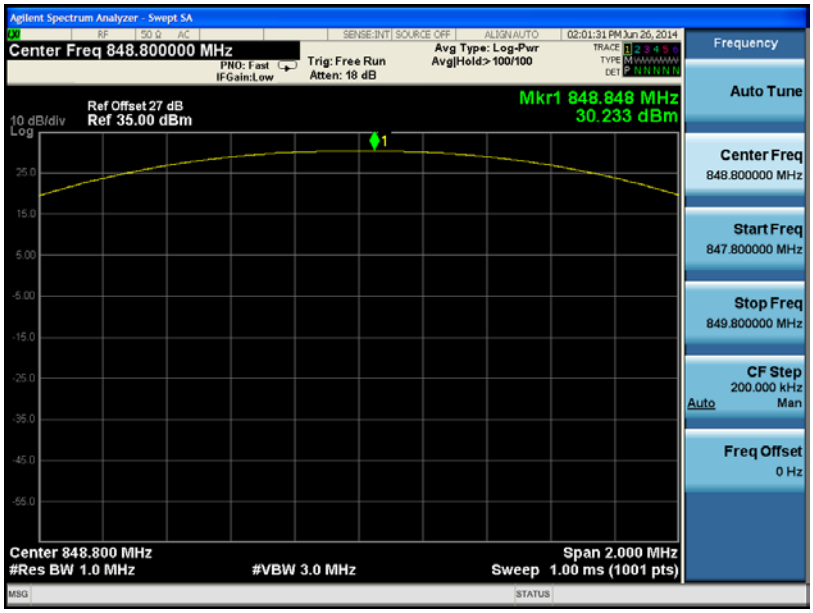
(Plot D 3: GPRS 1900MHz Channel = 810)



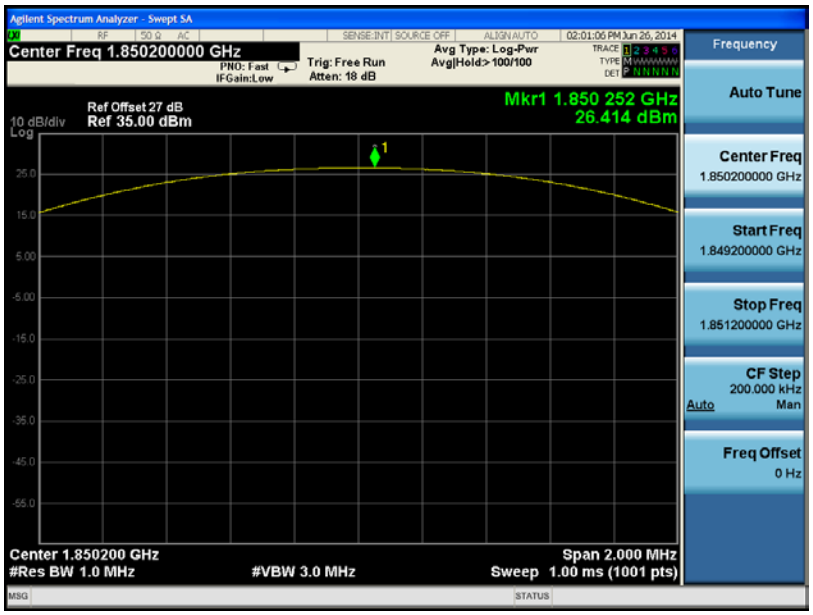
(Plot E1: EGPRS 850MHz Channel = 128)



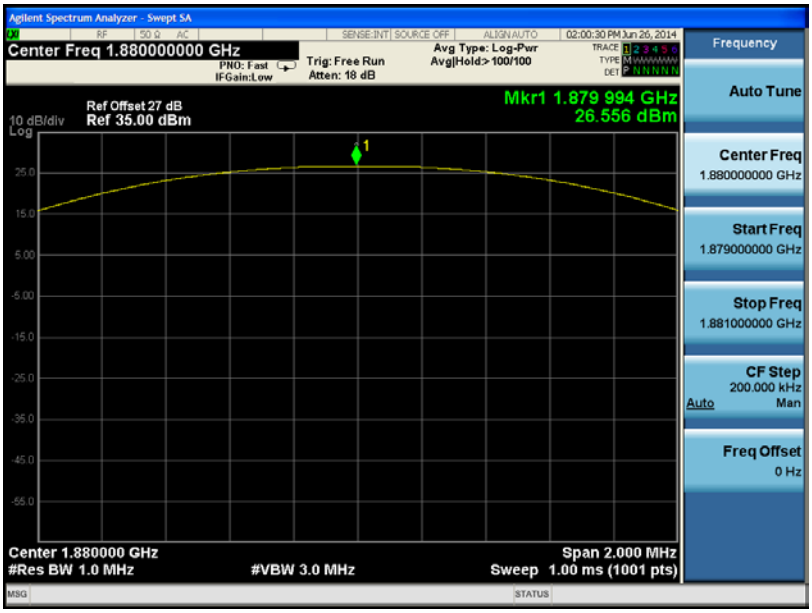
(Plot E2: EGPRS 850MHz Channel = 190)



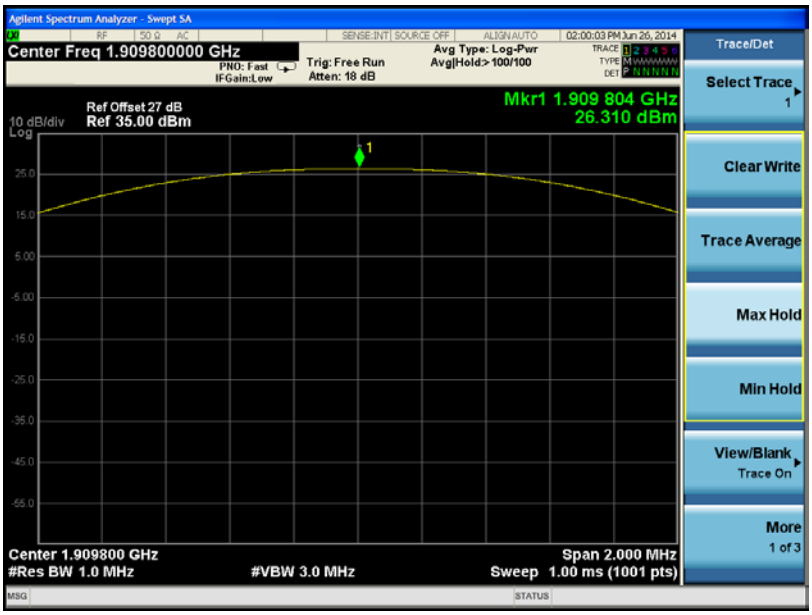
(Plot E3: EGPRS 850MHz Channel = 251)



(Plot F1:EGPRS 1900MHz Channel = 512)



(Plot F2:EGPRS 1900MHz Channel = 661)



(Plot F3:EGPRS 1900Hz Channel = 810)

2.2 Peak to Average Radio

2.2.1 Definition

According to FCC section 2.1049 and FCC 24.232(d), 27.50(d) the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

2.2.2 Test Description

See section 2.1.2 of this report.

2.2.3 Test Verdict

Here the lowest, middle and highest channels are selected to perform testing to verify the peak-to-average ratio.

Test procedures:

A .For GSM/EGPRS operating mode:

a. Set RBW=1MHz, VBW=1MHz, peak detector in spectrum analyzer.

b. Set EUT in maximum output power, and triggered the bust signal.

c. Measured respectively the peak level and mean level, and the deviation was recorded as Peak to Average radio.

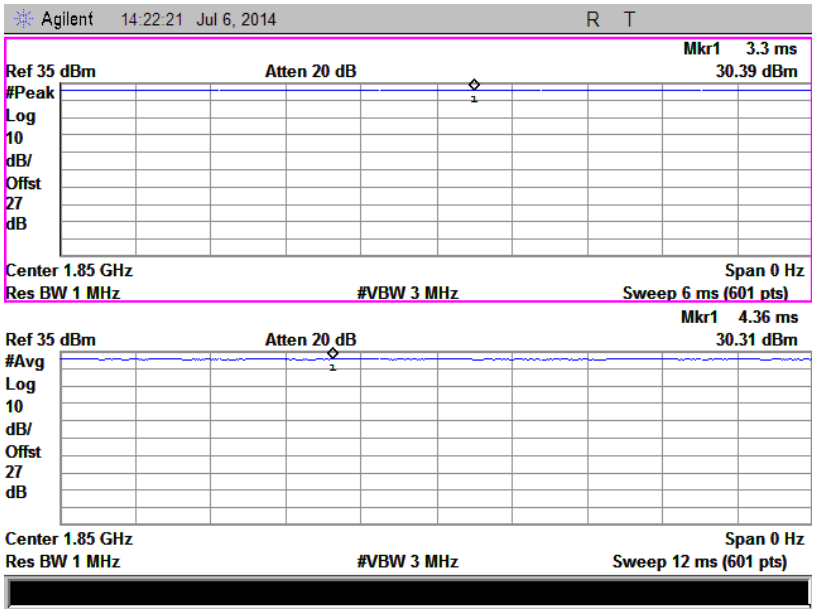
B. For UMTS operating mode:

a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.

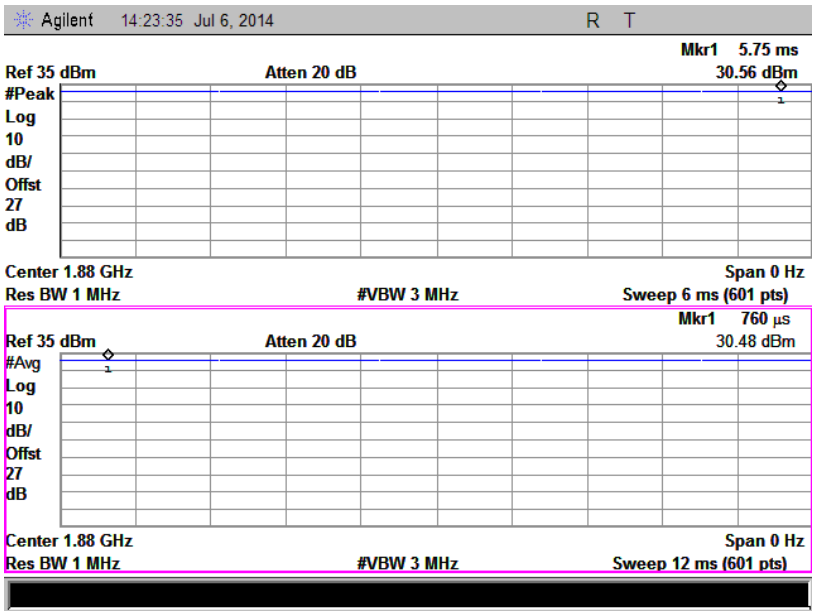
b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%.

1. Test Verdict:

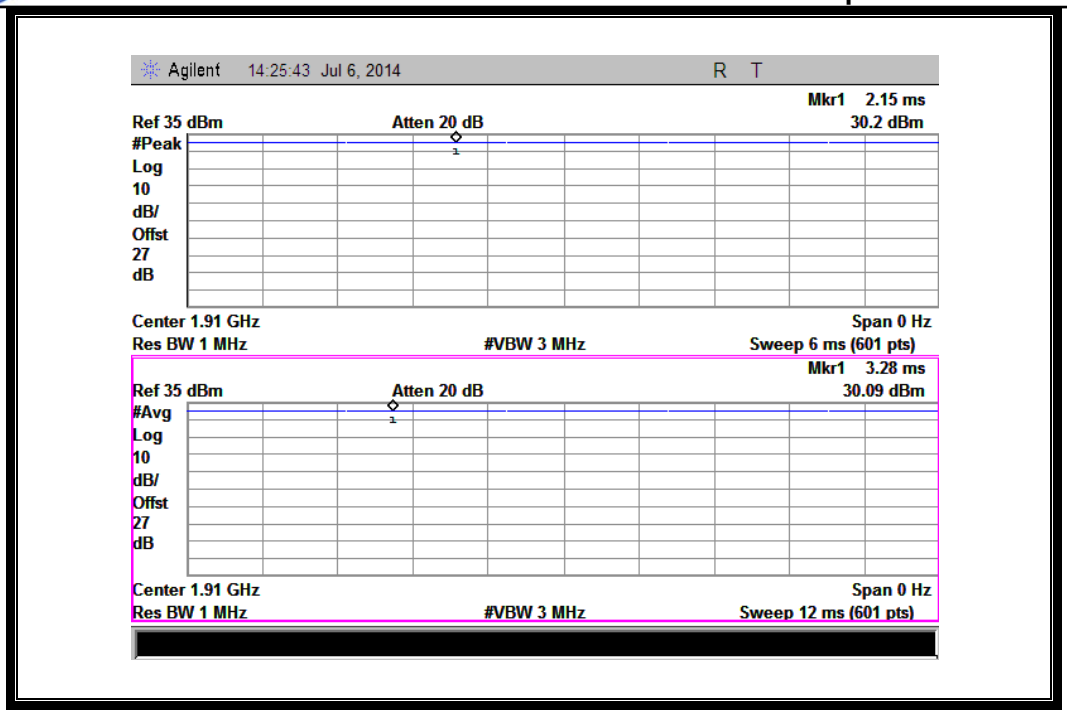
Band	Channel	Frequency (MHz)	Peak to Average radio		Limit	Verdict
			dBm	Refer to Plot	dBm	
GSM 1900MHz	512	1850.2	0.08	Plot A1 to A3	13	PASS
	661	1880.0	0.08			PASS
	810	1909.8	0.11			PASS
EGPRS 1900MHz	512	1850.2	0.04	Plot B1 to B3	13	PASS
	661	1880.0	0.06			PASS
	810	1909.8	0.04			PASS
WCDMA 1900MHz	9262	1852.4	2.50	Plot C1 toC3	13	PASS
	9400	1880	2.71			PASS
	9538	1907.6	2.66			PASS
WCDMA 1700MHz	1312	1712.4	2.71	Plot D1 toD3	13	PASS
	1412	1732.4	2.79			PASS
	1513	1752.6	2.64			PASS



(Plot A1:GSM 1900 MHz Channel = 512)



(Plot A2:GSM 1900 MHz Channel = 661)



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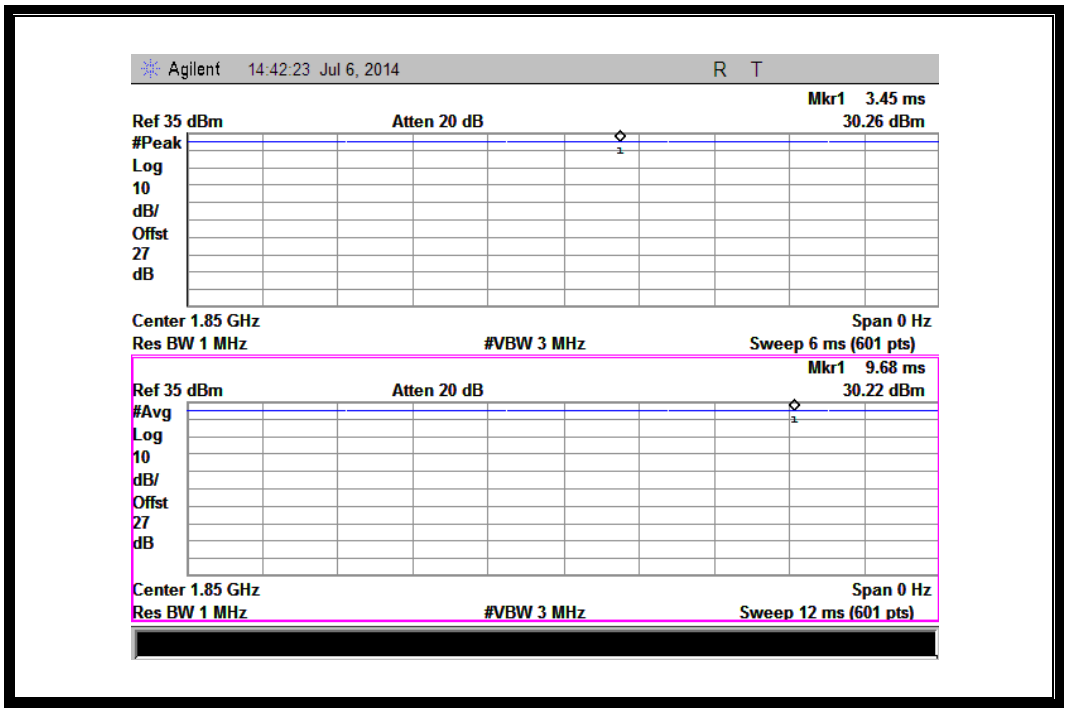
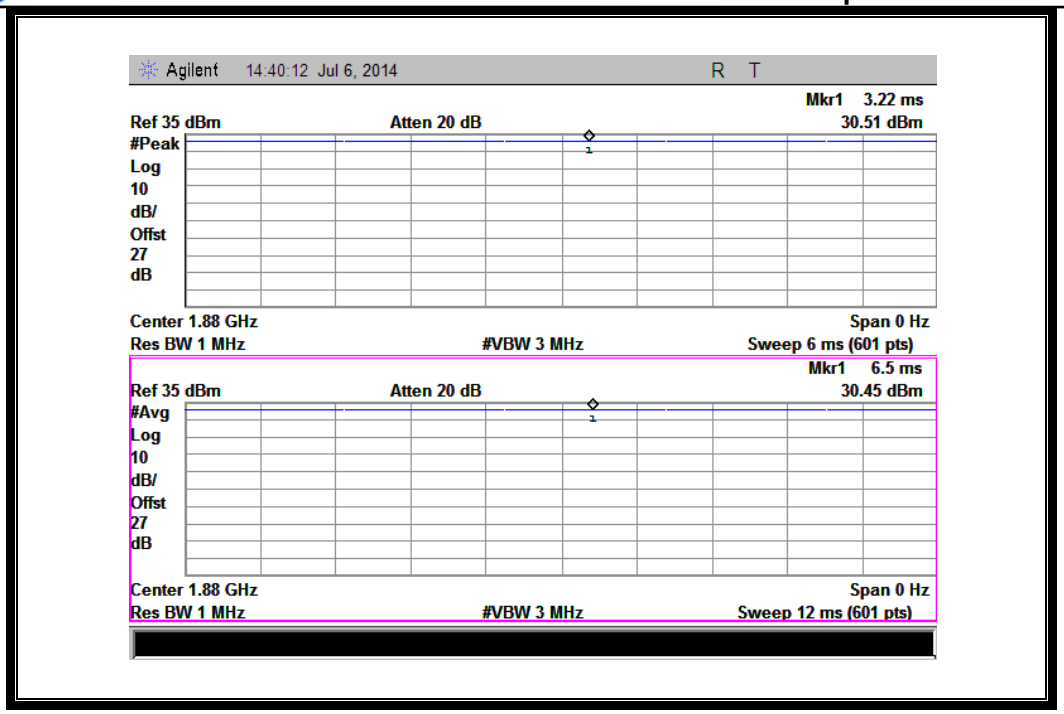


(Plot B1: EGPRS 1900MHz Channel = 512)



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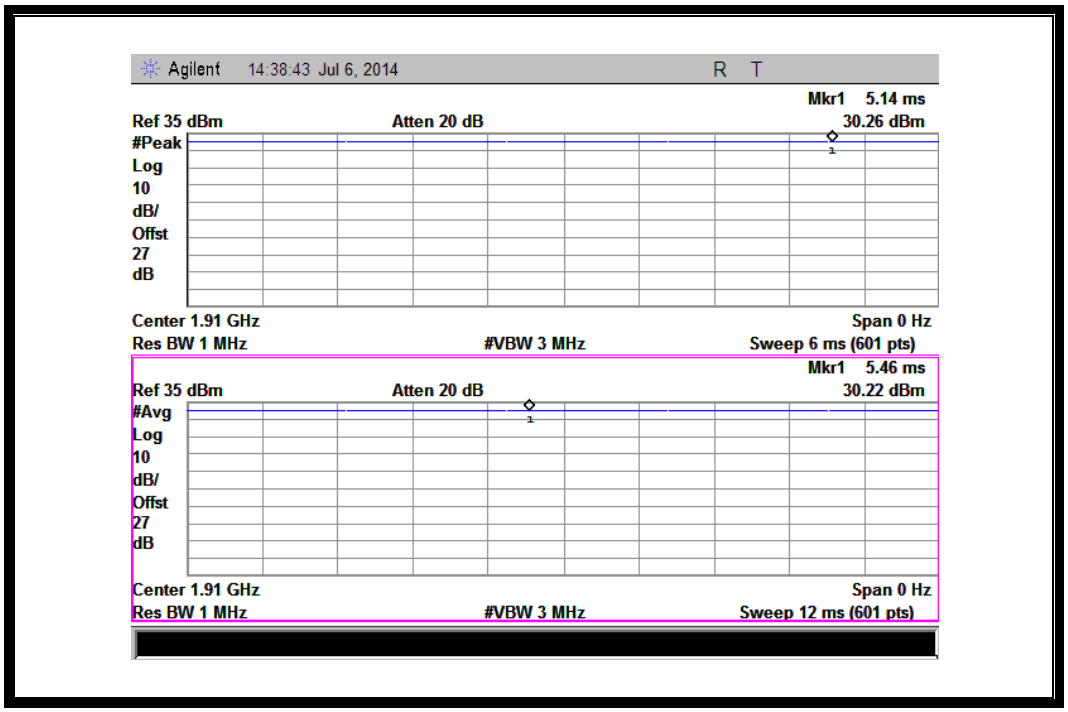

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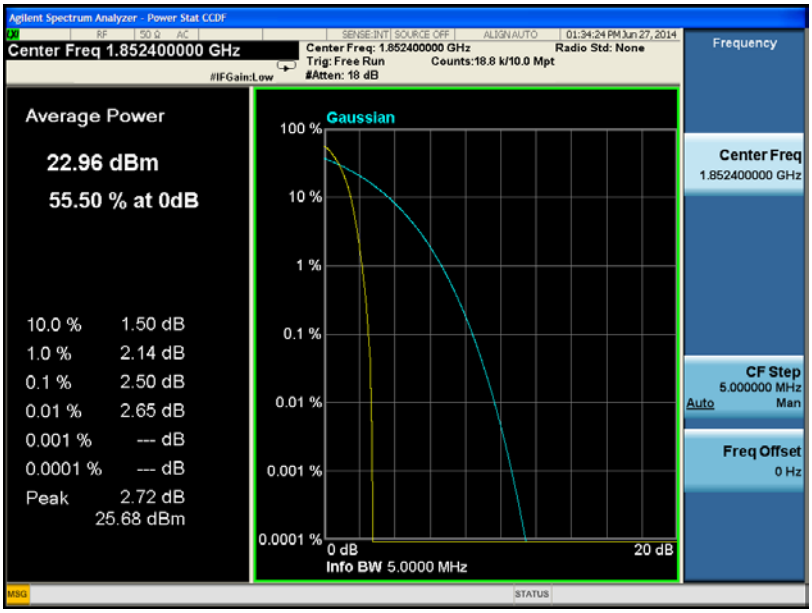
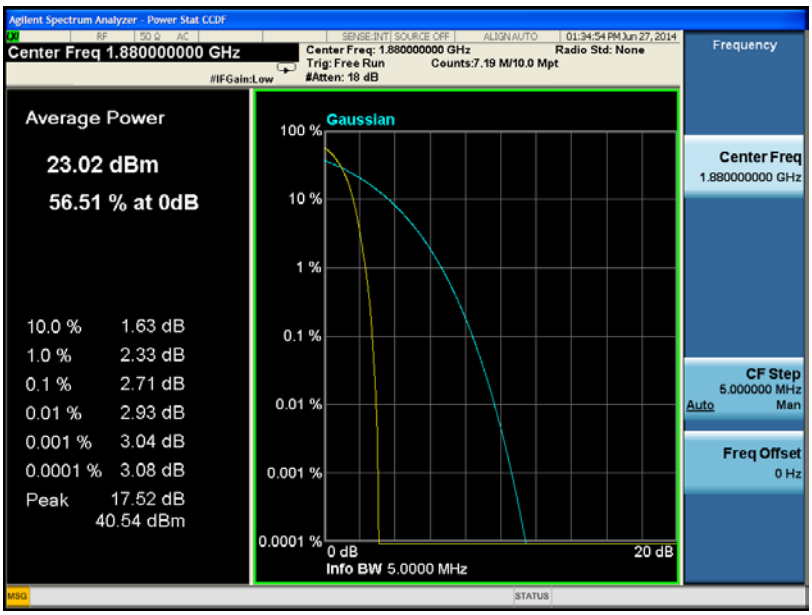
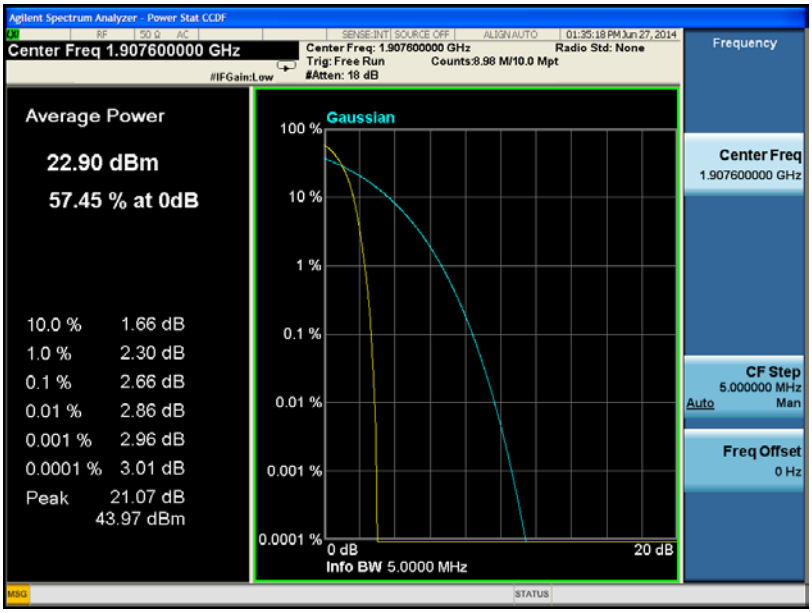


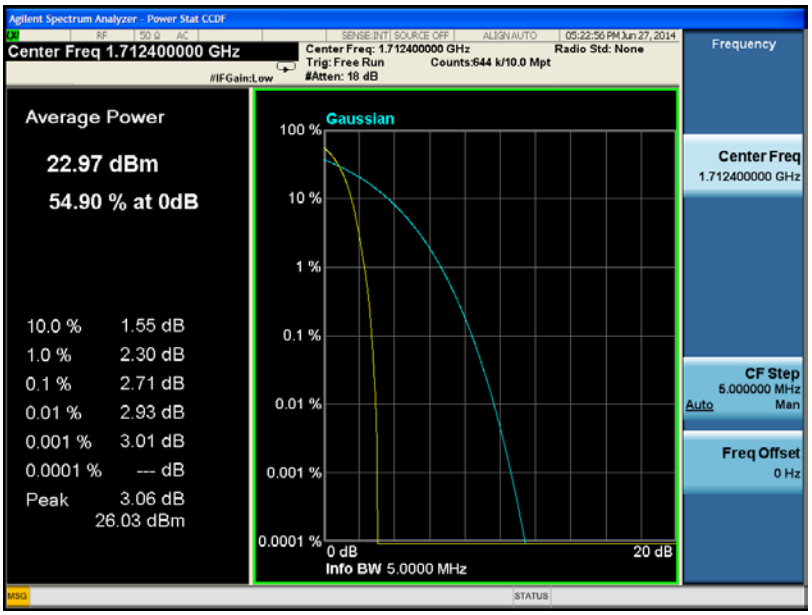
(Plot C1: WCDMA 1900MHz Channel = 9262)



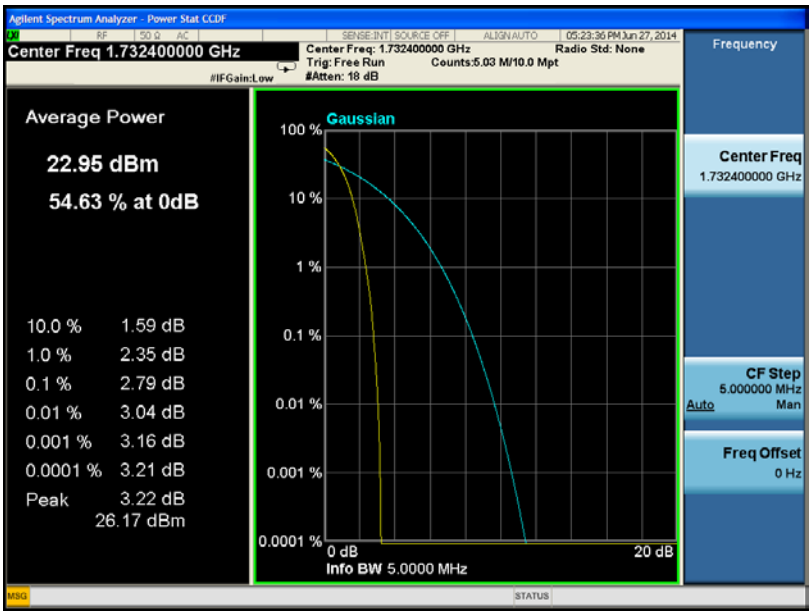
(Plot C2: WCDMA 1900MHz Channel = 9400)



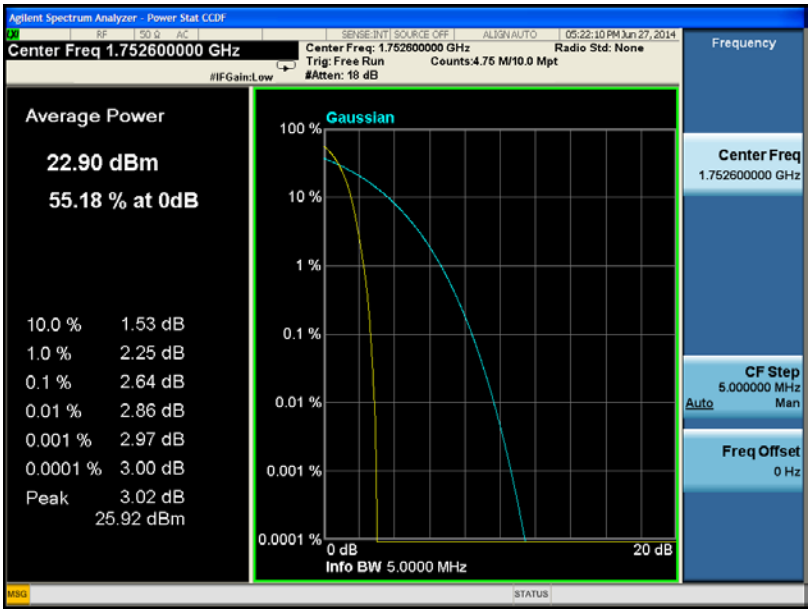
(Plot C3: WCDMA 1900MHz Channel = 9538)



(Plot D1: WCDMA 1700MHz Channel = 1312)



(Plot D2: WCDMA 1700MHz Channel = 1412)



(Plot D3: WCDMA 1700MHz Channel = 1513)