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FCC TEST REPORT

Issued to

Cellon Communications Technology (ShenZhen) Co., Ltd.

For

GSM Mobile Phone

Model Name: A1535, PCD775EC, PCD775ECR, CL775EC, CL775ECR, PCD775, CL775EN, CL775, TE775, PCD775PE, PCD775AL, PCD775, CL, PCD775PO, PCD775MV, PCD775OM, PCD775MX, TE775PE, AL775AL, CL775CL, CL775PO, MV775MV, TE775MX, CL775CA, PCD775BR, PCD775AR, PCD775CP

Trade Name: CLARO

Brand Name: CLARO/PCD

FCC ID: T38PCD1535

Standard: 47 CFR Part 15 Subpart B

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Date 2012.5.4

CTIA Authorized Test Lab
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IEEE 1725

OFTA
OTA
電訊管理局



GCF
Official Observer of
Global Certification Forum

Bluetooth
BQTF

FCC
Reg. No.
741109

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TABLE OF CONTENTS

1. GENERAL INFORMATION	3
1.1 EUT Description	3
1.2 Test Standards and Results	4
1.3 Facilities and Accreditations	5
1.3.1 Facilities	5
1.3.2 Test Environment Conditions	5
1.3.3 Measurement Uncertainty	5
2. TEST CONDITIONS SETTING.....	6
2.1 Test Mode	6
2.2 Test Setup and Equipments List.....	7
2.2.1 Conducted Emission.....	7
2.2.2 Radiated Emission.....	8
3. 47 CFR PART 15B REQUIREMENTS	9
3.1 Conducted Emission	9
3.1.1 Requirement	9
3.1.2 Test Description	9
3.1.3 Test Result.....	9
3.2 Radiated Emission	11
3.2.1 Requirement	11
3.2.2 Test Description	11
3.2.3 Test Result.....	11

Change History		
Issue	Date	Reason for change
1.0	May 4, 2012	First edition

1. GENERAL INFORMATION

1.1 EUT Description

EUT Type GSM Mobile Phone
Serial No..... (n.a, marked #1 by test site)
Hardware Version P3
Software Version V1.1
Applicant..... Cellon Communications Technology (ShenZhen) Co., Ltd.
13/F, Skyworth Building C Gaoxin S. Ave. 1st, High-Tech industrial
Park NanShan, ShenZhen
Manufacturer..... Cellon Communications Technology (ShenZhen) Co., Ltd.
13/F, Skyworth Building C Gaoxin S. Ave. 1st, High-Tech industrial
Park NanShan, ShenZhen
Modulation Type GMSK, FHSS
Power Supply Battery
Brand Name: PCD
Model No.: BTR1238
Serial No.: (n.a. marked #1 by test site)
Capacitance: 550mAh
Rated Voltage: 3.7V
Charge Limit: 5.5V
Ancillary Equipment 1 AC Adapter (Charger for Battery)
Brand Name: PCD
Model Name: ASTC20-050065
Serial No.: (n.a. marked #1 by test site)
Rated Input: ~ 100-240V, 0.3A, 50/60Hz
Rated Output: = 5V, 650mA

Note 1: The EUT is GSM Mobile Phone, it supports GSM 850MHz, 900MHz, 1800MHz, 1900MHz, GPRS and 2.4G Bluetooth bands.

Note 2: The EUT is equipped with a T-Flash card slot; equipped with a mini-USB port which can be connected to the ancillary equipments supplied by the manufacturer e.g. the AC Adapter and the USB Cable.

Note 3: 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 15 Subpart B:

No.	Identity	Document Title
1	47 CFR Part 15 (10-1-09 Edition)	Radio Frequency Devices

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

No.	Section	Description	Result
1	15.107	Conducted Emission	PASS
2	15.109	Radiated Emission	PASS

NOTE: The tests were performed according to the method of measurements prescribed in ANSI C63.4 2009.

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 3/F, Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen, 518055 P. R. China. 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 741109.

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

1.3.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Conducted Emission:	$\pm 1.8\text{dB}$
Uncertainty of Radiated Emission:	$\pm 3.1\text{dB}$

2. TEST CONDITIONS SETTING

2.1 Test Mode

- (1) The first test mode (USB)

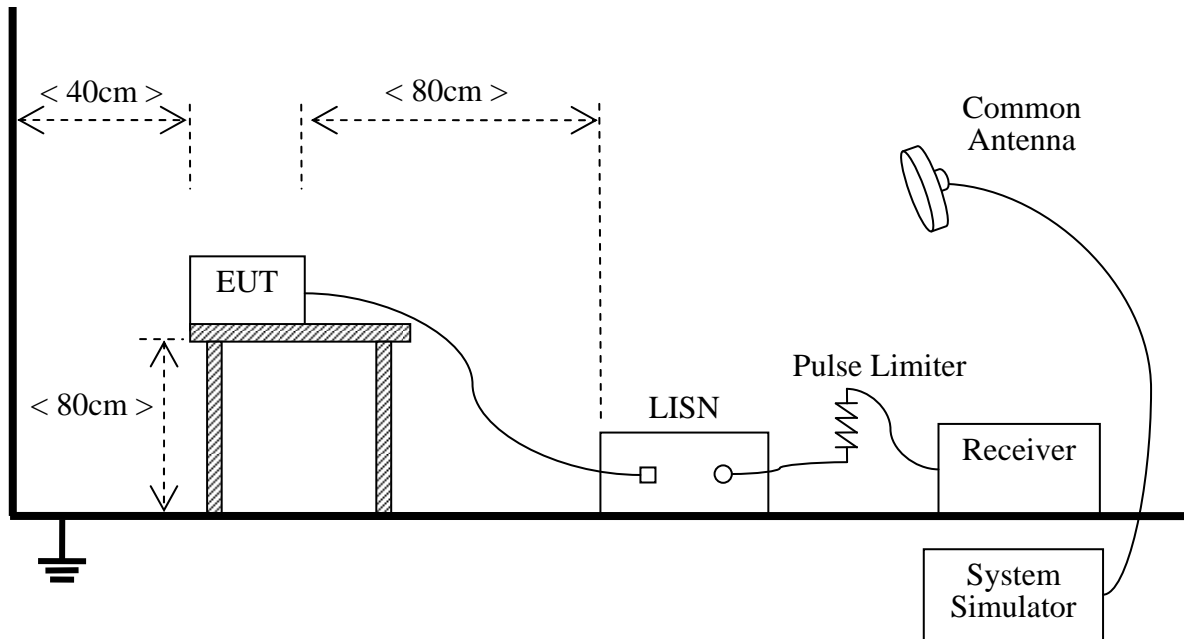
The EUT configuration of the emission tests is TransFlash Card + EUT + Battery + PC.

In this test mode, the EUT with a TransFlash Card embedded is connected with a PC via a USB cable supplied by applicant. During the measurement, a communication link was established between the EUT and a System Simulator (SS), simultaneity, the data is transmitting between the PC and the TransFlash Card of the EUT.

2.2 Test Setup and Equipments List

2.2.1 Conducted Emission

A. Test Setup:



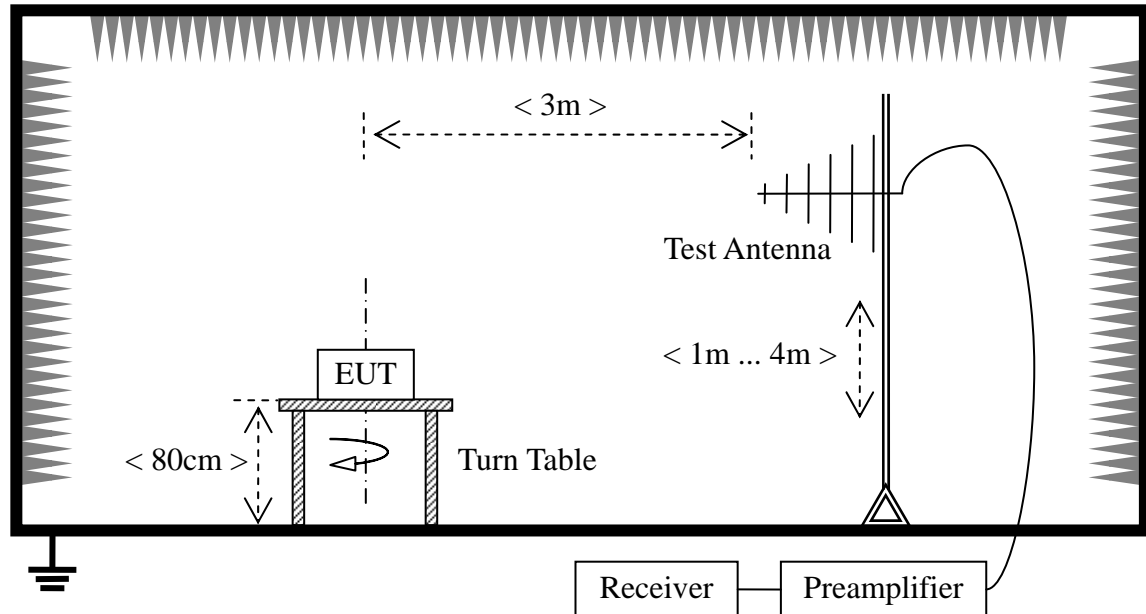
The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides 50 Ω /50 μ H of coupling impedance for the measuring instrument. The Common Antenna is used for the call between the EUT and the System Simulator (SS). A Pulse Limiter is used to protect the measuring instrument. The factors of the whole test system are calibrated to correct the reading.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date
EMC Analyzer	Agilent	E7405A	US44210471	2011.05
Receiver	Narda	PMM 9060	001WX11001	2011.12
Receiver	Narda	PMM 9010	595WX11007	2011.11
LISN	Schwarzbeck	NSLK 8127	812744	2011.05
Pulse Limiter (20dB)	Schwarzbeck	VTSD 9561-D	9391	(n.a.)
System Simulator	Agilent	E5515C	GB43130131	2011.05
Personal Computer	IBM	IBM_T20	(n.a.)	(n.a.)
Bluetooth-Headset	Nokia	HS-36W	(n.a.)	(n.a.)
T-Flash Card	SanDisk	256MB	(n.a.)	(n.a.)

2.2.2 Radiated Emission

A. Test Setup:



The test is performed in a 3m Semi-Anechoic Chamber; the antenna factor, cable loss and so on of the site (factors) is calculated to correct the reading. The EUT is placed on a 0.8m high insulating Turn Table, and keeps 3m away from the Test Antenna, which is mounted on a variable-height antenna master tower.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date
EMC Analyzer	Agilent	E7405A	US44210471	2011.05
Receiver	Narda	PMM 9060	001WX11001	2011.12
Receiver	Narda	PMM 9010	595WX11007	2011.11
Semi-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2011.05
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2011.05
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2011.05
Test Antenna -Loop	Schwarzbeck	FMZB 1519	1519-022	2011.05
T-Flash Card	SanDisk	256MB	(n.a.)	(n.a.)

3. 47 CFR PART 15B REQUIREMENTS

3.1 Conducted Emission

3.1.1 Requirement

According to FCC section 15.107, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- The limit subjects to the Class B digital device.
- The lower limit shall apply at the band edges.
- The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

3.1.2 Test Description

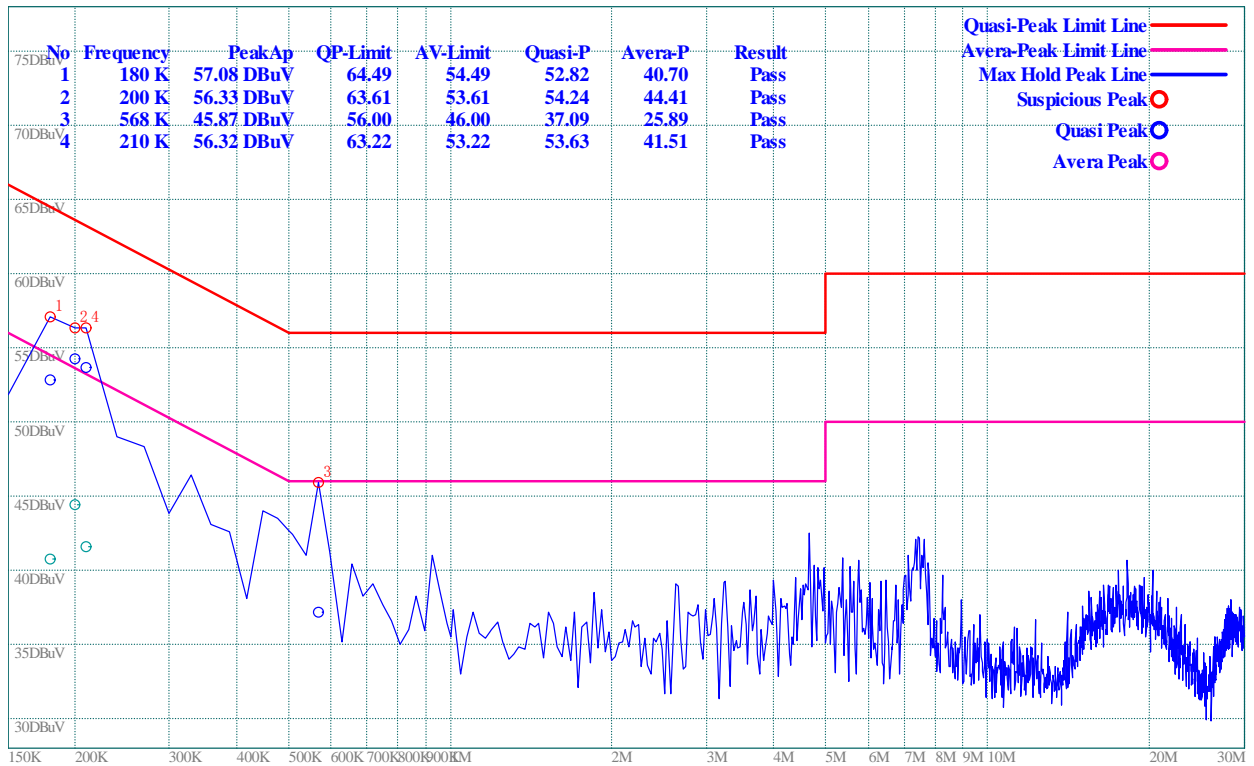
See section 2.2.1 of this report.

3.1.3 Test Result

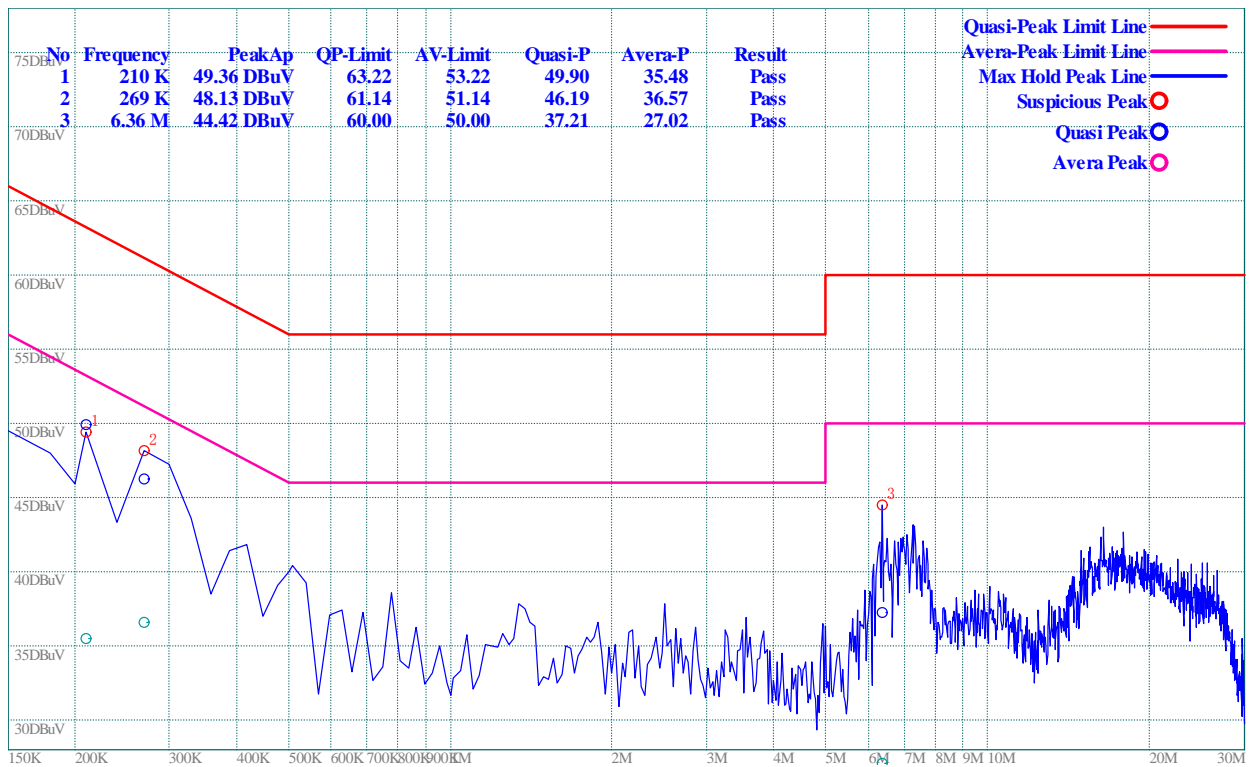
The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. All test modes are considered, refer to recorded points and plots below.

3.1.3.1 Test Mode

A. Test Plot and Suspicious Points:



(Plot A: L Phase)



(Plot B: N Phase)

Test Result: PASS

3.2 Radiated Emission

3.2.1 Requirement

According to FCC section 15.109, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency range (MHz)	Field Strength		Field Strength Limitation at 3m Measurement Dist	
	$\mu\text{V/m}$	Dist	($\mu\text{V/m}$)	(dBuV/m)
0.009 - 0.490	$2400/F(\text{KHz})$	300m	$10000 * 2400/F(\text{KHz})$	$20\log 2400/F(\text{KHz}) + 80$
0.490 - 1.705	$2400/F(\text{KHz})$	30m	$100 * 2400/F(\text{KHz})$	$20\log 2400/F(\text{KHz}) + 40$
1.705 - 30.00	30	30m	$100 * 30$	$20\log 30 + 40$
30.0 - 88.0	100	3m	100	$20\log 100$
88.0 - 216.0	150	3m	150	$20\log 150$
216.0 - 960.0	200	3m	200	$20\log 200$
Above 960.0	500	3m	500	$20\log 500$

As shown in FCC section 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

Note:

- 1) The tighter limit shall apply at the boundary between two frequency range.
- 2) Limitation expressed in dBuV/m is calculated by $20\log \text{Emission Level}(\mu\text{V/m})$.
- 3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of $Ld1 = Ld2 * (d2/d1)^2$.

Example:

F.S Limit at 30m distance is $30\mu\text{V/m}$, then F.S Limitation at 3m distance is adjusted as

$$Ld1 = L1 = 30\mu\text{V/m} * (10)^2 = 100 * 30\mu\text{V/m}$$

3.2.2 Test Description

See section 2.2.2 of this report.

3.2.3 Test Result

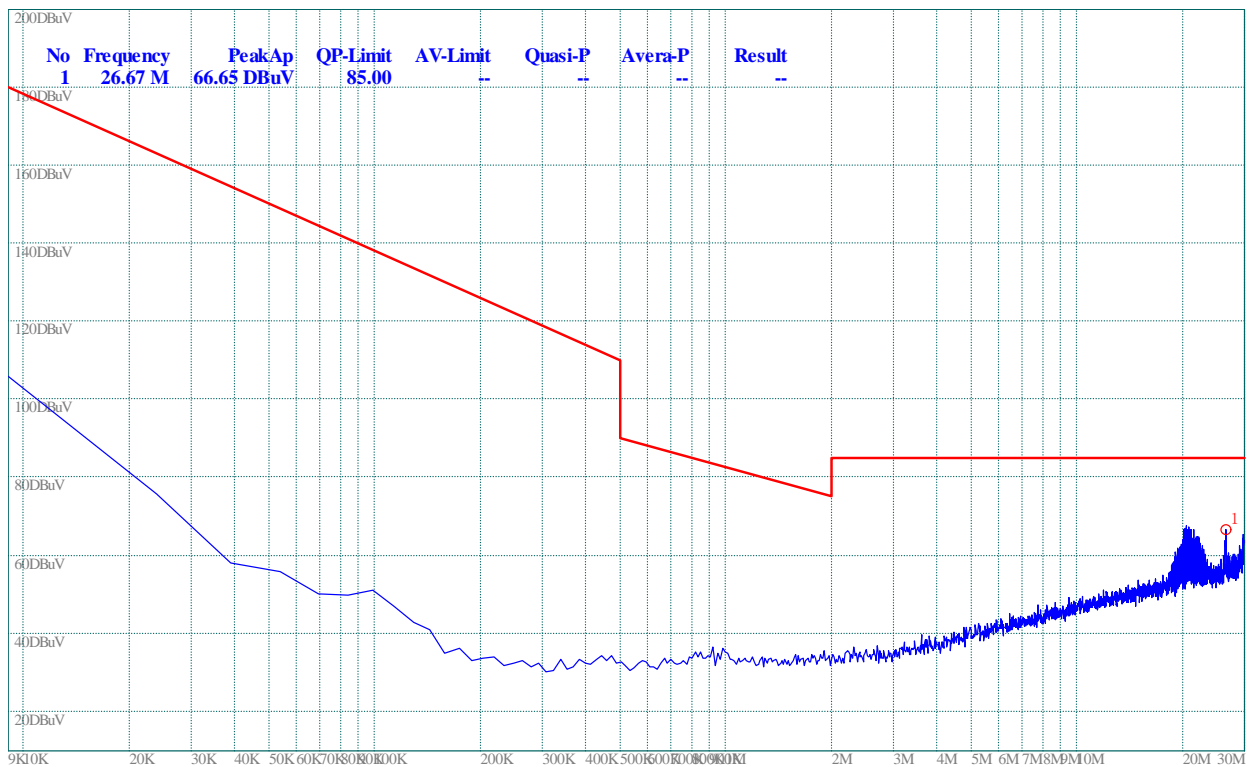
The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors. Both the vertical and the horizontal polarizations of the Test Antenna are considered to

perform the tests. All test modes are considered, refer to recorded points and plots below.

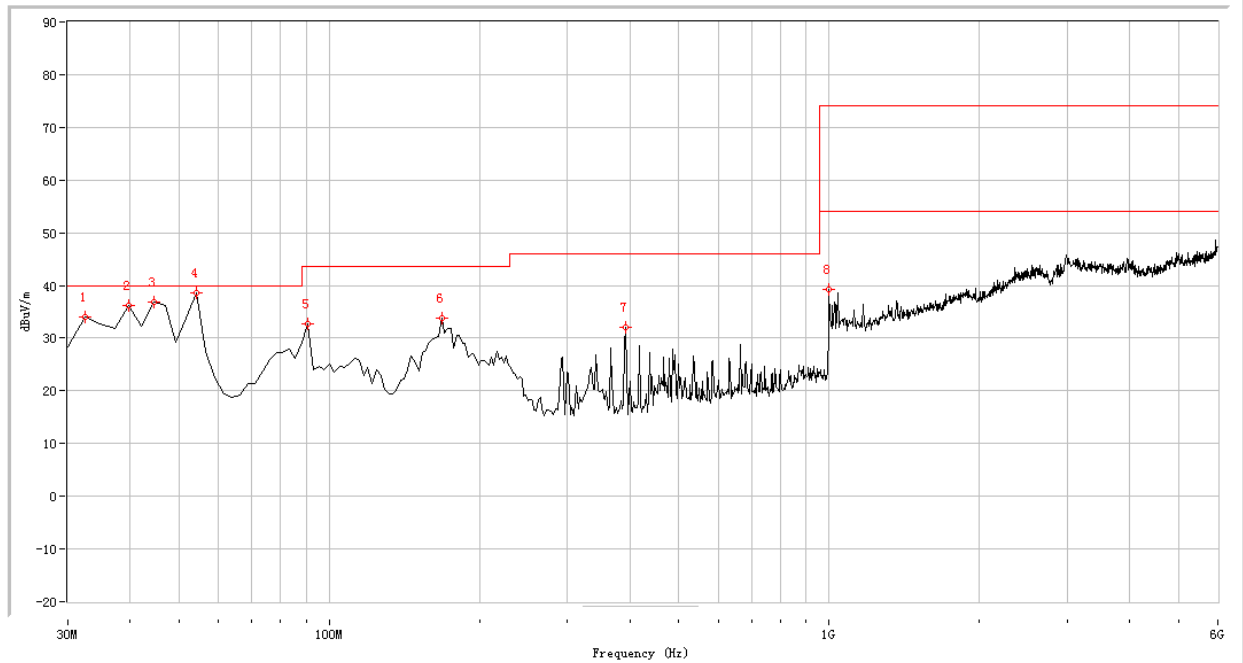
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

A. Test Plots and Suspicious Points:

NOTE: The emissions are too small to be measured and are at least 6 dB below the limit, So all the data of marked are pass.

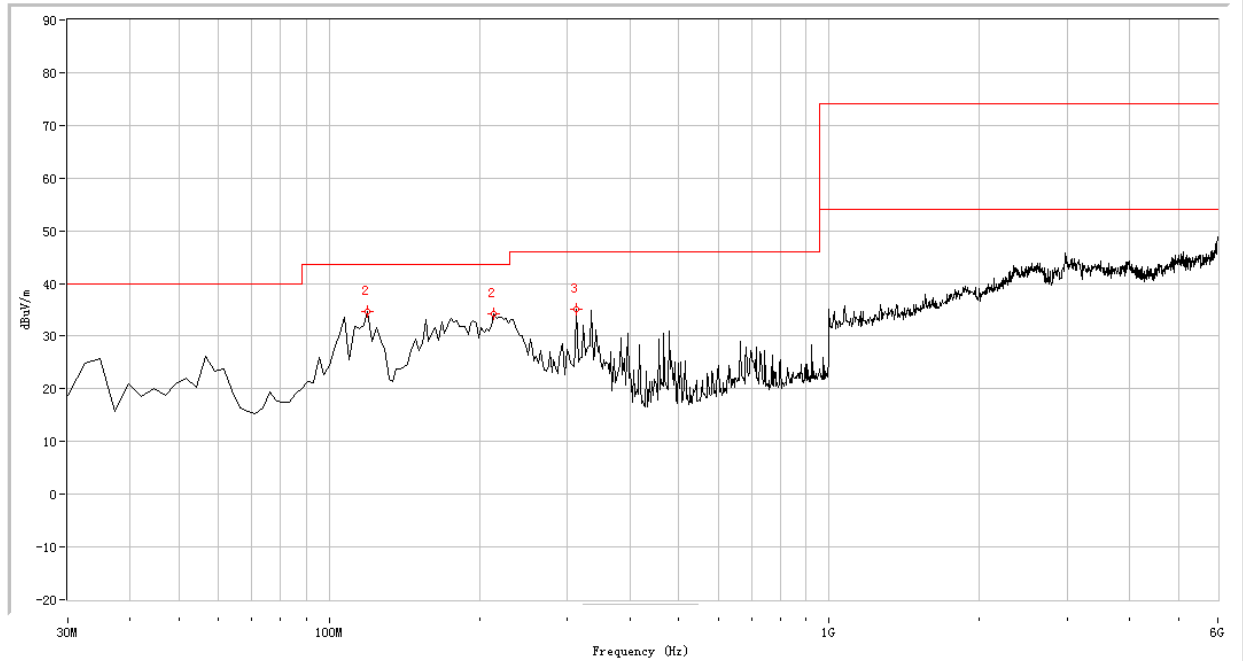


(Plot A: 9K – 30M)



Fre. (MHz)	Pk	QP	AV	Limit- PK	Limit- QP	Limit- AV	Verdical
32.419	40.43	31.18	N.A	N.A	40.0	N.A	Pass
39.676	48.67	31.72	N.A	N.A	40.0	N.A	Pass
44.514	40.54	30.71	N.A	N.A	40.0	N.A	Pass
54.190	46.11	23.35	N.A	N.A	40.0	N.A	Pass
90.474	32.68	N.A	N.A	N.A	43.5	N.A	Pass
167.880	33.77	N.A	N.A	N.A	43.5	N.A	Pass
392.843	32.00	N.A	N.A	N.A	46.0	N.A	Pass
1000.000	39.34	N.A	N.A	N.A	54.0	N.A	Pass

(Plot B: Test Antenna Vertical)



Fre. (MHz)	Pk	QP	AV	Limit- PK	Limit- QP	Limit- AV	Verdical
119.501	34.60	N.A	N.A	N.A	43.5	N.A	Pass
213.840	34.26	N.A	N.A	N.A	43.5	N.A	Pass
313.017	35.20	N.A	N.A	N.A	46.0	N.A	Pass

(Plot C: Test Antenna Horizontal)

Test Result: PASS

**** END OF REPORT ****