



# FCC TEST REPORT

**FCC ID: 2ACDBJEASUNGA9**

*Of*

**Product:** WCDMA 3G SMART PHONE

**Trade Name:** JEASUNG

**Model Number:** A9

**Serial Model:** N/A

**Report No.:** BZT140404F04

***Issued to***

Shen Zhen Xin Jiao Du Technology Development.,LTD  
28-2, 2F, Wu Gang Henggang Town Village Road, Longgang,  
Shenzhen, China

***Prepared by***

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**TEST RESULT CERTIFICATION**

**Applicant's name** .....: Shen Zhen Xin Jiao Du Technology Development.,LTD  
**Address**.....: 28-2, 2F, Wu Gang Henggang Town Village Road, Longgang Shenzhen, China

**Manufacture's Name** .....: Shen Zhen Xin Jiao Du Technology Development.,LTD  
**Address**.....: 28-2, 2F, Wu Gang Henggang Town Village Road, Longgang Shenzhen, China

**Product description**

Product name.....: WCDMA 3G SMART PHONE  
Band name .....: JEASUNG  
Model and/or type reference .. : A9  
Ratings.....: 5V1A

**Standards** .....: 47 CFR Part 15.225  
Test procedure .....: ANSI C63.4-2003

This device described above has been tested by BZT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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**Date of Test** .....

Date (s) of performance of tests .....: April 15, 2014 ~ April 25, 2014  
Date of Issue .....: April 28, 2014  
Test Result.....: **Pass**

Testing Engineer : Apple Huang  
(Apple Huang)

Technical Manager : Tom Zhang  
(Tom Zhang)

Authorized  
Signatory : Bovey Yang  
(Bovey Yang)

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## 1. GENERAL INFORMATION

### 1.1 EUT Description

EUT Type..... WCDMA 3G SMART PHONE  
Trade Name JEASUNG  
Model Name A9  
Serial Model..... N/A  
Applicant..... Shen Zhen Xin Jiao Du Technology Development.,LTD  
28-2, 2F, Wu Gang Henggang Town Village Road, Longgang, Shenzhen,  
China  
Manufacturer..... Shen Zhen Xin Jiao Du Technology Development.,LTD  
28-2, 2F, Wu Gang Henggang Town Village Road, Longgang, Shenzhen,  
China  
GSM 850 PCS 1900 (U.S. Bands)  
GSM 900 DCS 1800 (Non-U.S. Bands)  
Frequency Bands:  
UMTS FDD Band II UMTS FDD Band V  
Non-U.S. Bands:  
UMTS FDD Band I UMTS FDD Band VIII  
Frequency:2402 – 2480 MHz  
Modulation: GFSK  
Output Power: 2.554dBm (Max.)  
Frequency:2412 – 2462 MHz  
Modulation: CCK/OFDM/DBPSK/DAPSK  
Output Power: 8.37 dBm (Max.)  
Frequency Band ..... 13.553MHz~13.567MHz  
Frequency ..... 13.56MHz  
Channel Number..... 1  
Modulation Type ..... ASK  
Antenna Type ..... Coil Antenna  
Antenna Gain..... 0  
Adapter  
Input: AC 100-240V,50/60Hz  
Output: DC 5V,1A  
Rated Voltage: 3.7V  
Battery  
Charge Limit: 4.2V  
capacity :3000mah

Note 1: The EUT supports 13.56MHz NFC which was tested in this report.

Note 2: 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

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

FCC Part15 (15.225) , Subpart C			
No.	Section	Description	Result
1	15.203	Antenna requirement	PASS
2	15.207	Conducted Emission	PASS
3	15.209 15.225(a)(b)(c)(d)	Radiated Emission	PASS
4	15.225(e)	Frequency Tolerance	PASS
5	15.215(c)	20dB Bandwidth	PASS

NOTE:

The tests were performed according to the method of measurements prescribed in ANSI C63.4 2003.

## 1.3 Facilities and Accreditations

### 1.3.1 Facilities

BZT Testing Technology Co., Ltd

Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

FCC Registration No.: 701733

### 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:	±1.38dB
Uncertainty of Radiated Emission:	±4.68dB

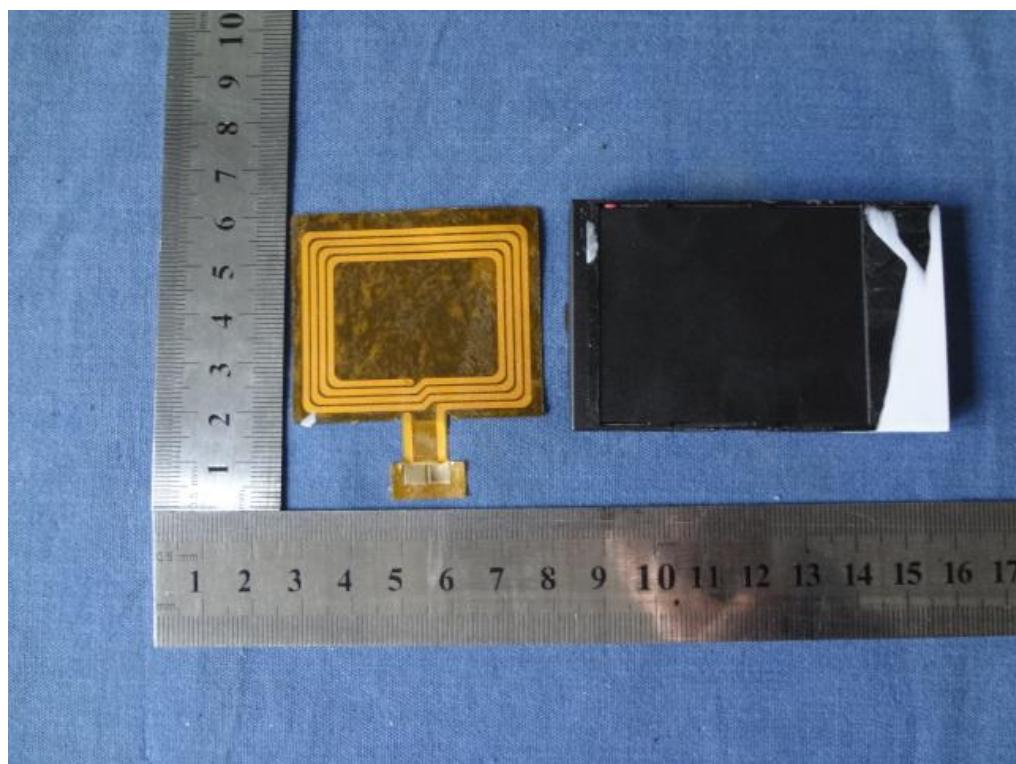
## 2. 47 CFR PART 15C REQUIREMENTS

### 2.1 Antenna requirement

#### 2.1.1 Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses an unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The EUT has a antenna which uses an unique coupling for NFC module. Please refer to EUT photos for more photos.



**Result:** Compliant

## 2.2 Conducted Emission

### 2.2.1 Test Requirement

According to FCC section 15.207, 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 $\mu$ H/50 $\Omega$  line impedance stabilization network (LISN).

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

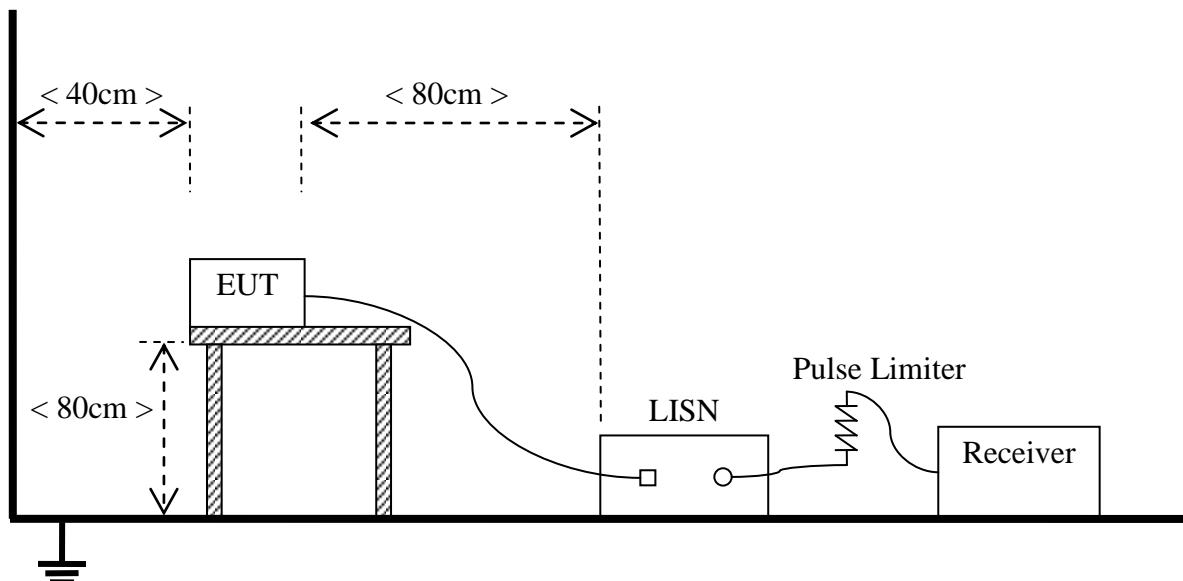
NOTE:

- 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.

### 2.2.2 Test Equipment

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	R&S	ESPI	101318	2013.06.06	2014.06.05
Receiver	R&S	ESCI	101160	2013.06.06	2014.06.05
LISN	Schwarzbeck	ENV216	101313	2013.08.24	2014.08.23
Pulse Limiter (20dB)	Schwarzbeck	VTSD 9561-D	9391	(n.a.)	(n.a.)

### 2.2.3 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  $50\Omega/50\mu\text{H}$  of coupling impedance for the measuring instrument. The RF Card is used for the call between with the EUT, and the EUT was measured by transmitter mode continuously. A Pulse Limiter is used to protect the measuring instrument. The factors of the whole test system are calibrated to correct the reading.

#### **2.2.4 Test Result**

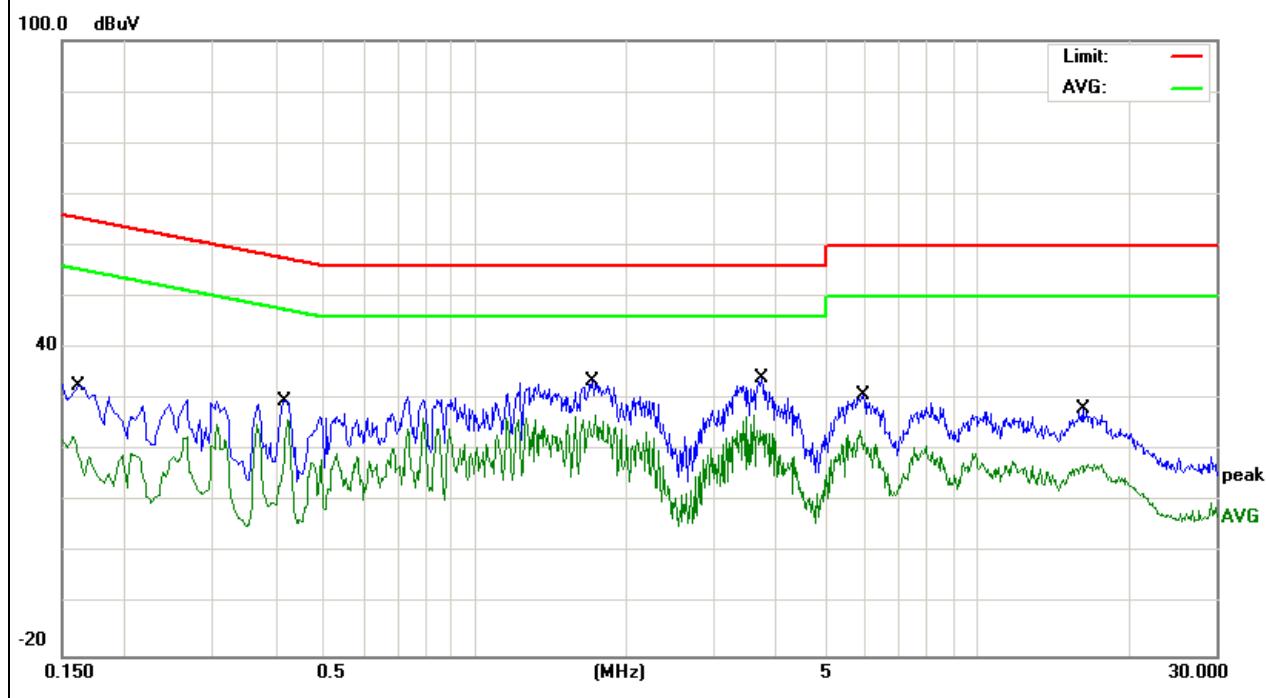
The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; Tests for both L phase and N phase lines of the power mains connected to the EUT are performed.

## Plot A: L Phase

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detect or
0.1620	22.96	9.62	32.58	65.36	-32.78	QP
0.1620	13.28	9.62	22.90	55.36	-32.46	AVG
0.4180	20.09	9.52	29.61	57.49	-27.88	QP
0.4180	16.60	9.52	26.12	47.49	-21.37	AVG
1.7100	23.90	9.56	33.46	56.00	-22.54	QP
1.7100	17.28	9.56	26.84	46.00	-19.16	AVG
3.7220	24.66	9.59	34.25	56.00	-21.75	QP
3.7220	17.33	9.59	26.92	46.00	-19.08	AVG
5.9579	21.17	9.63	30.80	60.00	-29.20	QP
5.9579	14.21	9.63	23.84	50.00	-26.16	AVG
16.2339	18.21	9.92	28.13	60.00	-31.87	QP
16.2339	7.40	9.92	17.32	50.00	-32.68	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

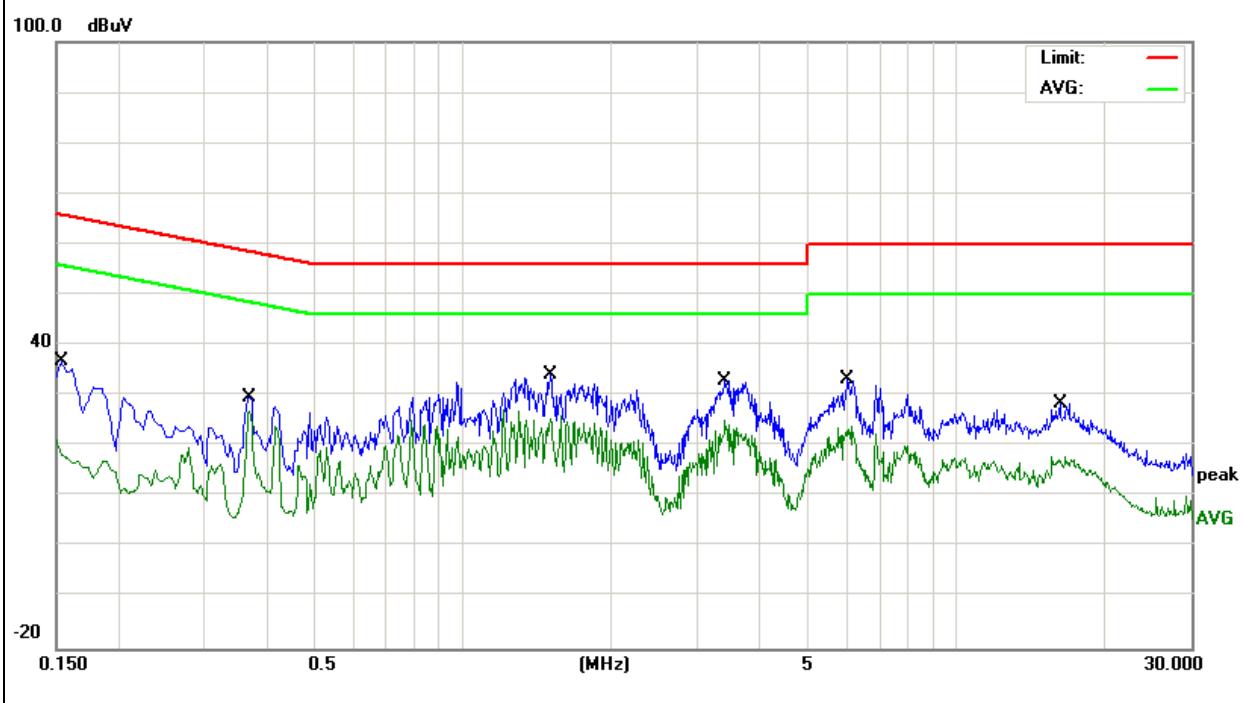


## Plot B: N Phase

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
0.1539	27.20	9.65	36.85	65.78	-28.93	QP
0.1539	10.48	9.65	20.13	55.78	-35.65	AVG
0.3700	20.07	9.52	29.59	58.50	-28.91	QP
0.3700	17.39	9.52	26.91	48.50	-21.59	AVG
1.5060	24.54	9.56	34.10	56.00	-21.90	QP
1.5060	15.96	9.56	25.52	46.00	-20.48	AVG
3.4020	23.35	9.58	32.93	56.00	-23.07	QP
3.4020	15.50	9.58	25.08	46.00	-20.92	AVG
6.0299	23.63	9.64	33.27	60.00	-26.73	QP
6.0299	14.18	9.64	23.82	50.00	-26.18	AVG
16.2499	18.45	9.92	28.37	60.00	-31.63	QP
16.2499	8.03	9.92	17.95	50.00	-32.05	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



**Result: PASS**

## 2.3 Radiated Emission

### 2.3.1 Test Requirement

#### A. Radiated Emission <30MHz (9KHz-30MHz, H-field)

According to FCC section 15.225, for <30MHz, Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power. The EUT was set 30 meter away from the measuring antenna. The loop antenna was positioned 1 meter above the ground from the center of the loop. The measuring bandwidth was set to 10KHz. (Note: During testing the receive antenna was rotated about its axis to maximize the emission from the EUT)

There was no detected Restricted bands and Radiated suprious emission below 30MHz. The 30m limit was converted to 3m Limit using square factor(x) as it was found by measurements as follows;  
 $3 \text{ m Limit(dBuV/m)} = 20\log(X) + 40\log(30/3) = 20\log(15848) + 40\log(30/3) = 124 \text{ dBuV}$

Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency range (MHz)	Field Strength@30m		Field Strength@3m
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
Below 13.110	30	29.5	69.5
13.110 ~ 13.410	106	40.5	80.5
13.410 ~ 13.553	334	50.5	90.5
13.553 ~13.567	15.848	84	124
13.567 ~ 13.710	334	50.5	90.5
13.710 ~14.010	106	40.5	80.5
Above 14.010	30	29.5	69.5

NOTE:

- Field Strength ( $\text{dB}\mu\text{V/m}$ ) =  $20 * \log[\text{Field Strength } (\mu\text{V/m})]$ .
- In the emission tables above, the tighter limit applies at the band edges.

#### B. Radiated Emission >30MHz (30MHz-1GHz, E-field)

According to FCC section 15.205, the field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency range (MHz)	Field Strength	
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

NOTE:

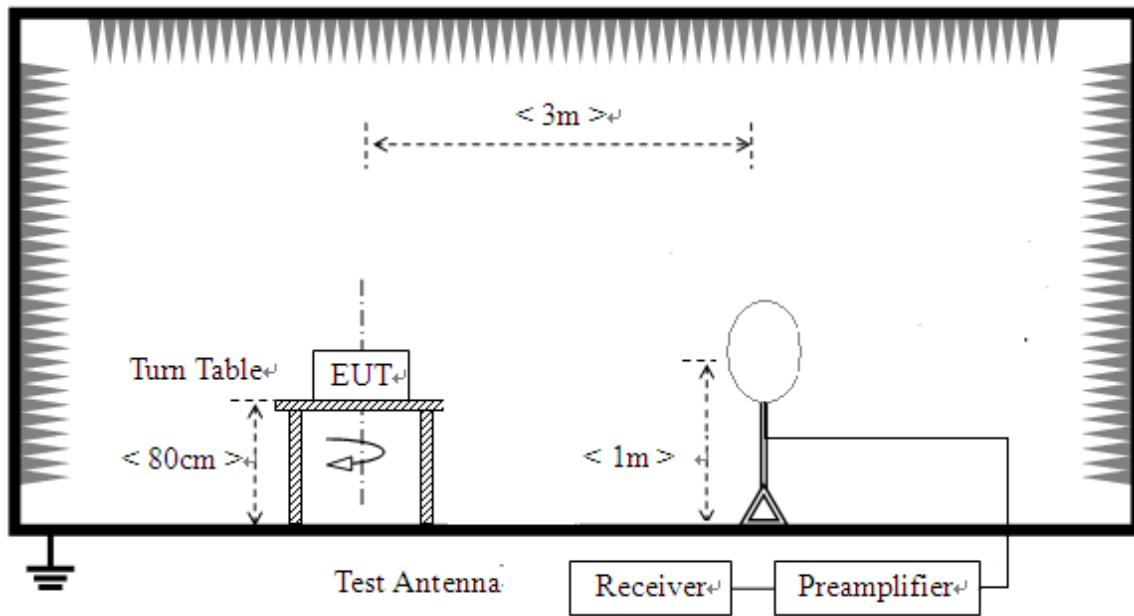
- Field Strength ( $\text{dB}\mu\text{V/m}$ ) =  $20 * \log[\text{Field Strength } (\mu\text{V/m})]$ .
- In the emission tables above, the tighter limit applies at the band edges.

### 2.3.2 Test Equipment

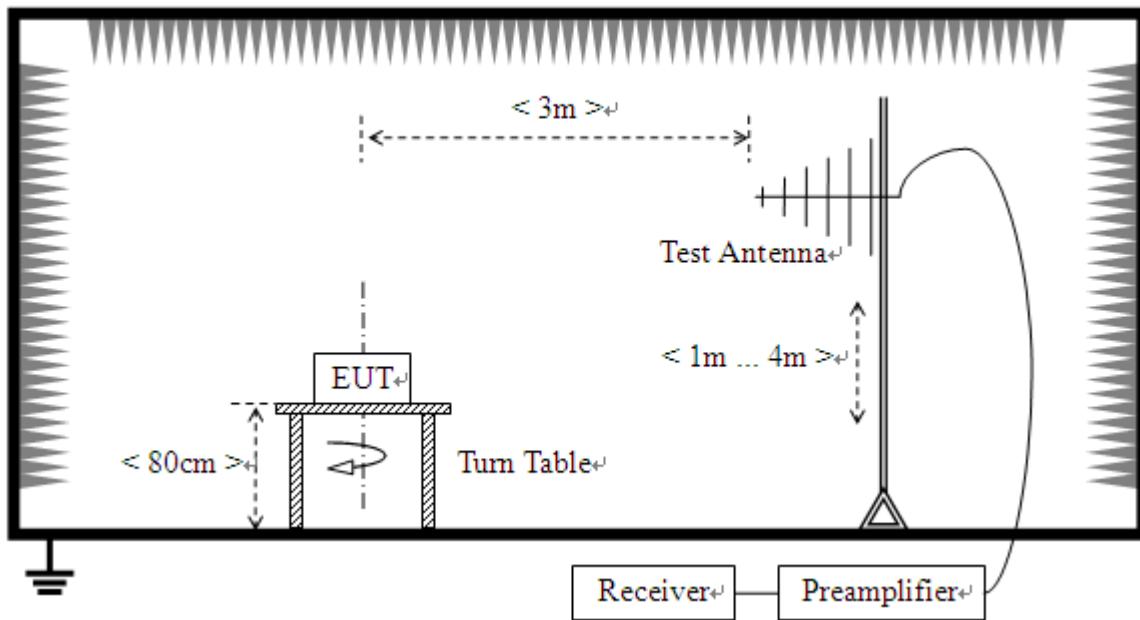
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EMC Analyzer	Agilent	E4407B	MY45108040	2013.07	2014.07
Receiver	R&S	ESPI	101318	2013.06	2014.06
Receiver	R&S	ESCI	101160	2013.06	2014.06
Semi-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2012.05	2014.05
Test Antenna - Bi-Log	TESEQ	CBL6111D	31216	2013.07	2014.07
Test Antenna - Horn	EM	EM-AH-10180	2011071402	2013.07	2014.07
Test Antenna - Loop	ARA	PLA-1030/B	1029	2013.06	2014.06

### 2.3.3 Test Setup

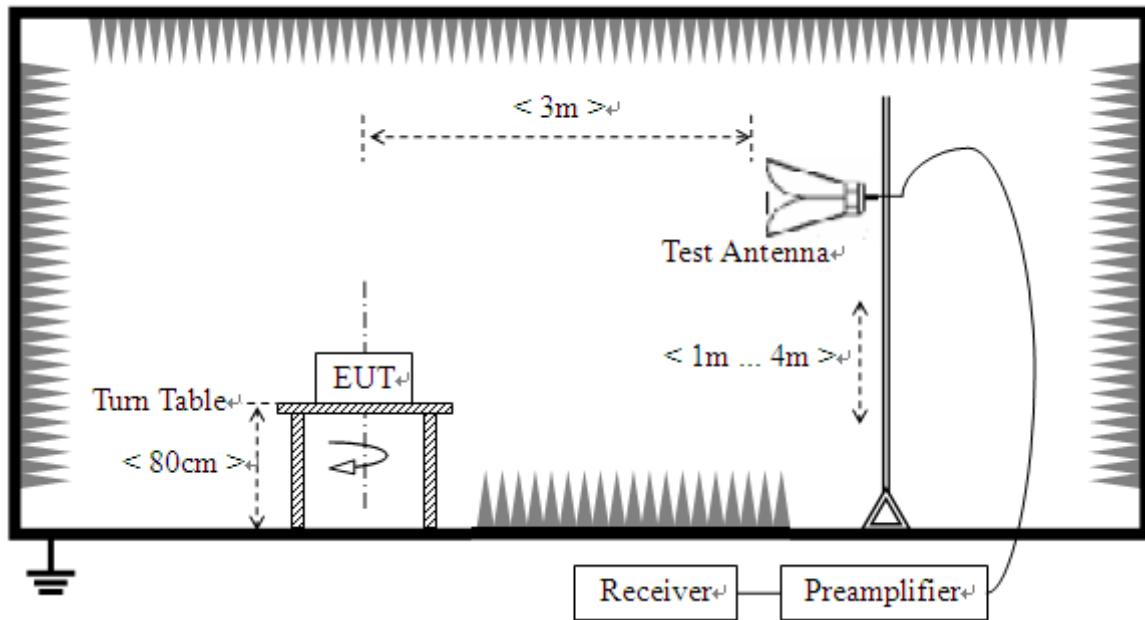
- 1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to 1GHz



3) For radiated emissions above 1GHz



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.

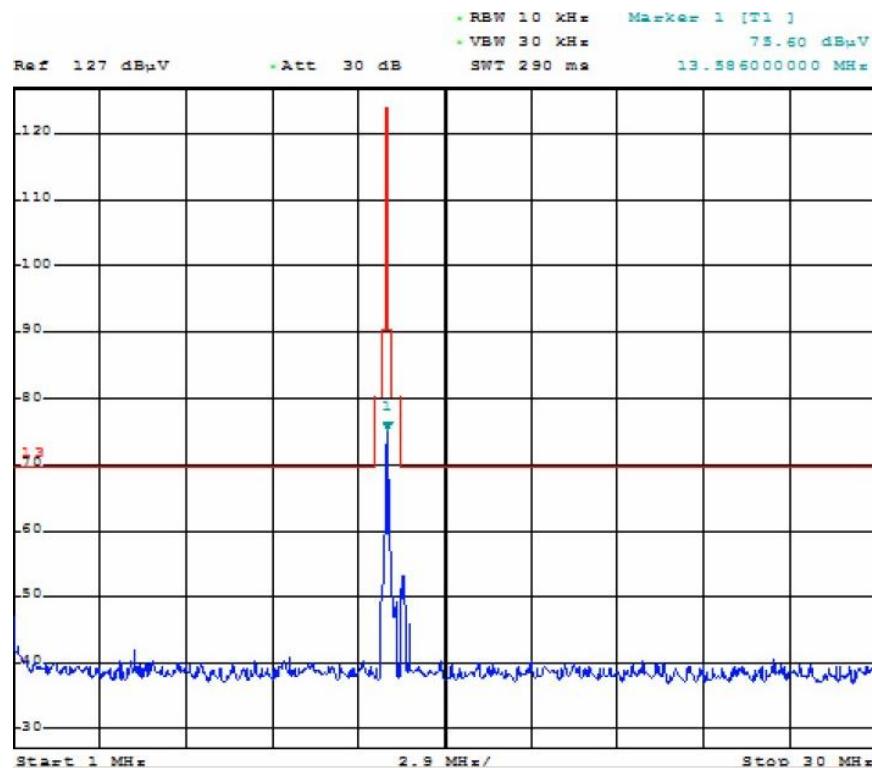
For the test Antenna:

- 1) In the frequency range of 9KHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
- 2) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

### 2.3.4 Test Result

#### 2.3.4.1 Radiated Emission <30MHz (9KHz-30MHz, H-field)

##### A. Test Plots



NO.	Fre. (MHz)	Type	Value			Limit (dB <sub>μ</sub> V/m)			Verdict
			Peak	QP	Avg	Peak	QP	Avg	
1	13.586	Fundamenta l Carrier	75.60	N.A	N.A	N.A	124	N.A	PASS

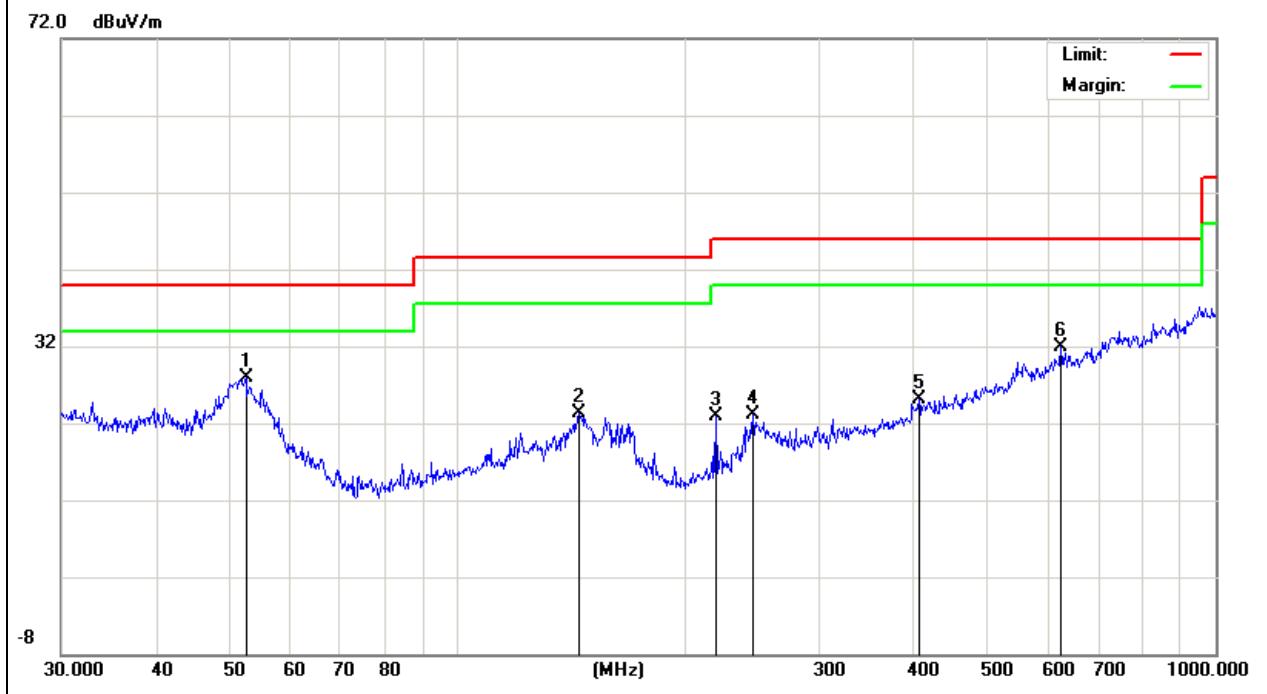
**2.3.4.2 Radiated Emission >30MHz (30MHz-1GHz, E-field)**

Plot A: Test Antenna Vertical

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
52.5752	20.80	7.14	27.94	40.00	-12.06	
144.8418	11.35	12.03	23.38	43.50	-20.12	QP
219.0752	12.64	10.27	22.91	46.00	-23.09	QP
245.0900	10.42	12.68	23.10	46.00	-22.90	QP
406.0880	6.63	18.54	25.17	46.00	-20.83	QP
625.0779	8.27	23.60	31.87	46.00	-14.13	QP

**Remark:**

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

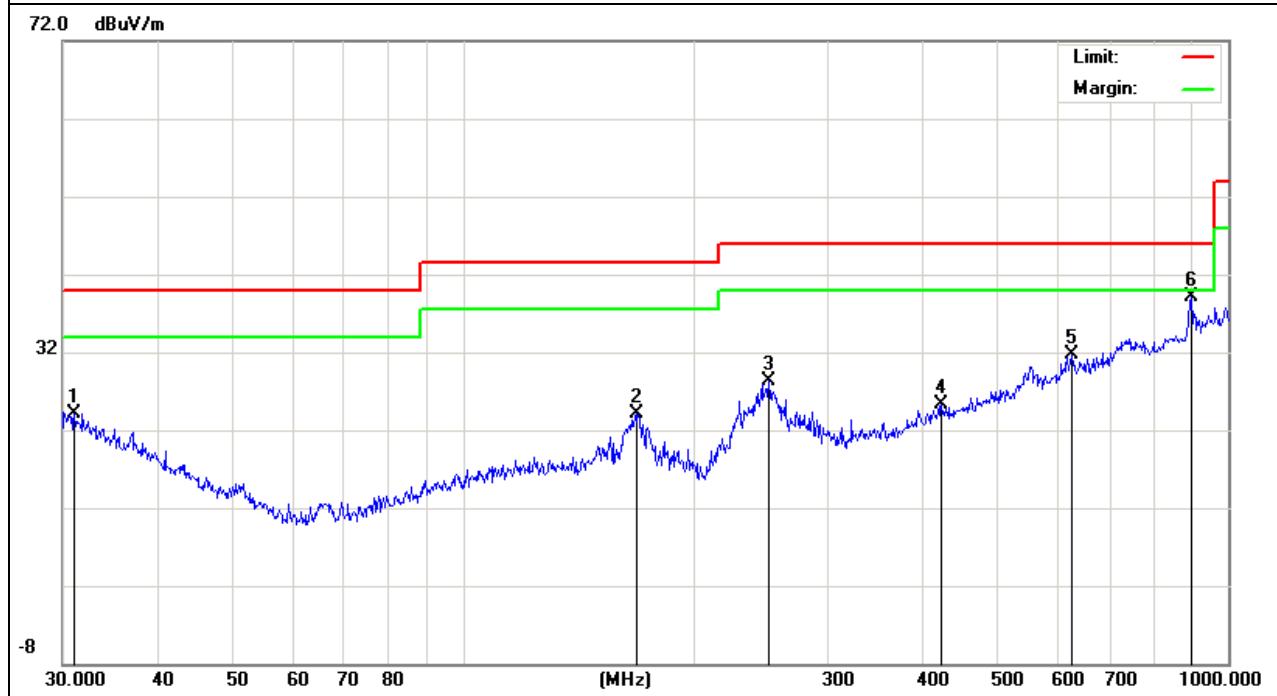


## Plot B: Test Antenna Horizontal

Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Detector
(MHz)	(dB $\mu$ V)	(dB)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	
31.0705	6.33	17.86	24.19	40.00	-15.81	QP
168.4138	13.56	10.54	24.10	43.50	-19.40	QP
251.1803	14.55	13.68	28.23	46.00	-17.77	QP
422.0577	6.30	18.99	25.29	46.00	-20.71	QP
625.0779	8.17	23.60	31.77	46.00	-14.23	QP
896.9964	11.45	27.75	39.20	46.00	-6.80	QP

## Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



**Result: PASS**

## 2.4 Frequency Tolerance

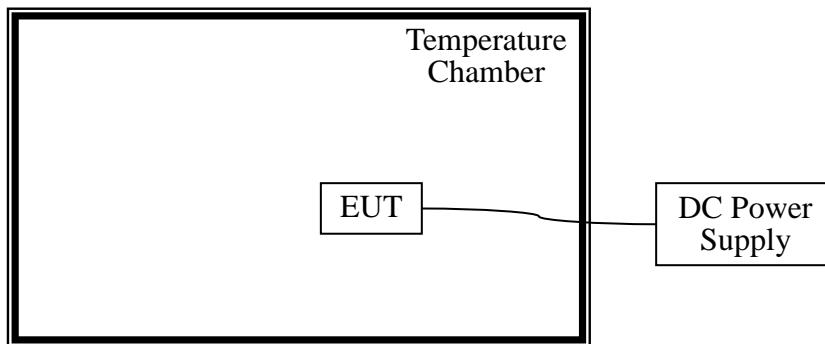
### 2.4.1 Test Requirement

According to FCC section 15.225, the devices operating in the 13.553~13.567 MHz shall maintain the carrier frequency within 0.01% of the operating frequency over the temperature variation of -20°C to +50°C using an environmental chamber. The primary supply voltage is varied from 85% to 115% of the voltage normally at the input to the device or at the power supply terminals if cables are not normally supplied.

### 2.4.2 Test Equipment

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Agilent	E4407B	MY45108040	2013.07	2014.07
DC Power Supply	Good Will	GPS-3030DD	EF920938	2013.05	2014.05
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2013.05	2014.05

### 2.4.3 Test Setup



The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT was measured by transmitter mode continuously.

### 2.4.4 Test Result

Operating Frequency: 13,560,000 Hz

Deference Voltage: 3.7V

Deviant Limit:  $\pm 0.01\%$

VOLTAGE(%)	Test Conditions		Frequency(Hz)	Deviation(%)	Verdict
	Power (VDC)	Temperature (°C)			
100	3.7	+20°C(Ref)	13559432	-0.004189	PASS
100		-20	13559412	-0.004336	
100		-10	13559472	-0.003894	
100		0	13559510	-0.003614	
100		+10	13559500	-0.003687	
100		+20	13559497	-0.003709	
100		+25	13559467	-0.003931	
100		+30	13559486	-0.003791	
100		+40	13559492	-0.003746	
100		+50	13559488	-0.003776	
Battery End Point	3.6	+20	13559542	-0.003378	
115	4.2	+20	13559438	-0.004145	

## 2.5 20dB Bandwidth

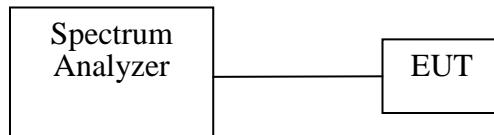
### 2.5.1 Test Requirement

According to FCC section 15.215(c), the 20dB bandwidth should be contained within the frequency band designated in the rule section under which the EUT is operated, it was measured with a spectrum analyzer connected the EUT while the EUT is operating in transmission mode.

### 2.5.2 Test Equipment

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Agilent	E4407B	MY45108040	2013.07.06	2014.07.05
DC Power Supply	Good Will	GPS-3030DD	EF920938	2013.07.06	2014.07.05

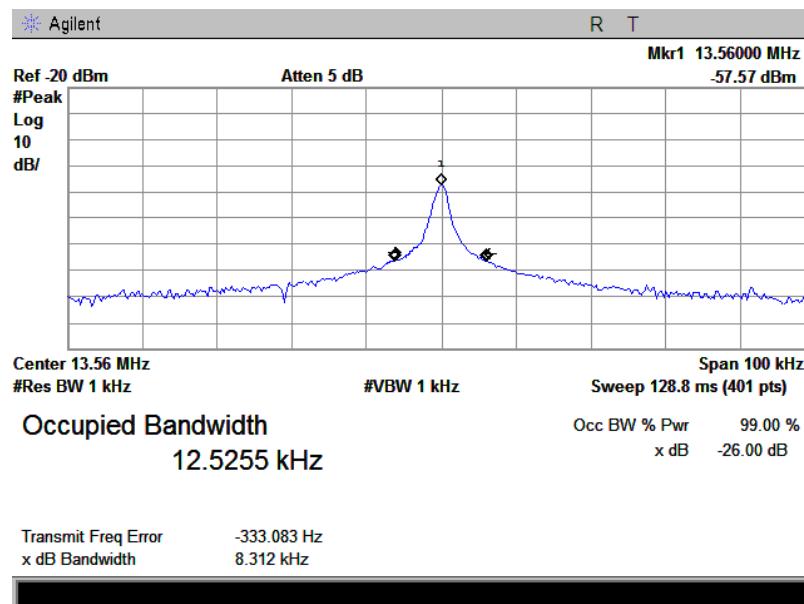
### 2.5.3 Test Setup



### 2.5.4 Test Result

Centre Frequency	Measurement	
	20dB Bandwidth (KHz)	Frequency Range (MHz)
13.56MHz	12.5255	13.55371~13.56626

Please refer to the following plot.



\*\* END OF REPORT \*\*