

FC

Test Report

Product Name : Tablet

Model No. : QS08XXX

Applicant : New Telecom Holdings Limited

Address : 2/F, Eton Tower, 8 Hysan Avenue, Causeway, Hong Kong.

Date of Receipt : 05/06/2013

Test Date : 10/06/2013~15/06/2013

Issued Date : 17/06/2013

Report No. : 136293R-ITUSP01V01

Report Version : V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Test Report Certification

Issued Date : 17/06/2013

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Address : 2/F, Eton Tower, 8 Hysan Avenue, Causeway, Hong Kong.

Manufacturer : New Telecom Holdings Limited

Address : 2/F, Eton Tower, 8 Hysan Avenue, Causeway, Hong Kong.

Model No. : QS08XXX

EUT Voltage : DC 5.0V

Brand Name : 3Q

Applicable Standard : FCC Part 15 Subpart B: 2012
ANSI C63.4: 2009

Test Result : Complied

Performed Location : Quietek Corporation (Linkou Laboratory)
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Approved By : Vincent Lin
(Manager / Vincent Lin)

Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scopes:

Taiwan R.O.C.	:	BSMI, NCC, TAF
Norway	:	Nemko, DNV
USA	:	FCC, NVLAP
Japan	:	VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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1. General Information

1.1. EUT Description

Product Name	Tablet
Model No.	QS08XXX
IMEI	3544820501900430
Hardware Version	V2
Software Version	V2.0
Device Category	Portable
2G	
Support Band	GSM850/PCS1900
GPRS Type	Class B
GPRS Class	Class 12
Uplink	GSM 850: 824~849MHz PCS 1900: 1850~1910MHz
Downlink	GSM 850: 869~894MHz PCS 1900: 1930~1990MHz
Release Version	R99
Type of modulation	GMSK for GSM/GPRS, 8PSK for EDGE
Antenna Gain	-1.5dBi for GSM850 0dBi for PCS1900
Max. Output Power (Conducted)	GSM850: 32.98 dBm PCS1900: 30.12 dBm
Max. Output Power (Radiated)	GSM850: 30.57dBm- ERP PCS1900: 30.51dBm- EIRP
3G	
Support Band	WCDMA Band V
Uplink	WCDMA Band V: 824~849MHz
Downlink	WCDMA Band V: 869~894MHz
Release Version	Rel-5
Type of modulation	QPSK
Antenna Gain	-1.5dBi
Max. Output Power (Conducted)	23.63dBm
Max. Output Power (Radiated)	22.77dBm - ERP

Wi-Fi	
Frequency Range	802.11b/g/n(20MHz): 2412 - 2462 MHz 802.11n(40MHz): 2422 - 2452 MHz
Type of Modulation	802.11b: DSSS; 802.11g/n: OFDM
Data Rate	802.11b: 1/2/5.5/11 Mbps
	802.11g: 6/9/12/18/24/36/48/54 Mbps
	802.11n: up to 150Mbps
Antenna Type	Internal
Peak Antenna Gain	-2dBi
Max. Output Power (Conducted)	802.11b: 12.79dBm 802.11g: 11.20dBm 802.11n(20MHz): 11.05dBm 802.11n(40MHz): 9.92dBm
Bluetooth	
Bluetooth Frequency	2402~2480MHz
Bluetooth Version	V3.0
Type of modulation	FHSS
Data Rate	1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK)
Peak Antenna Gain	-2dBi

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Normal Operation

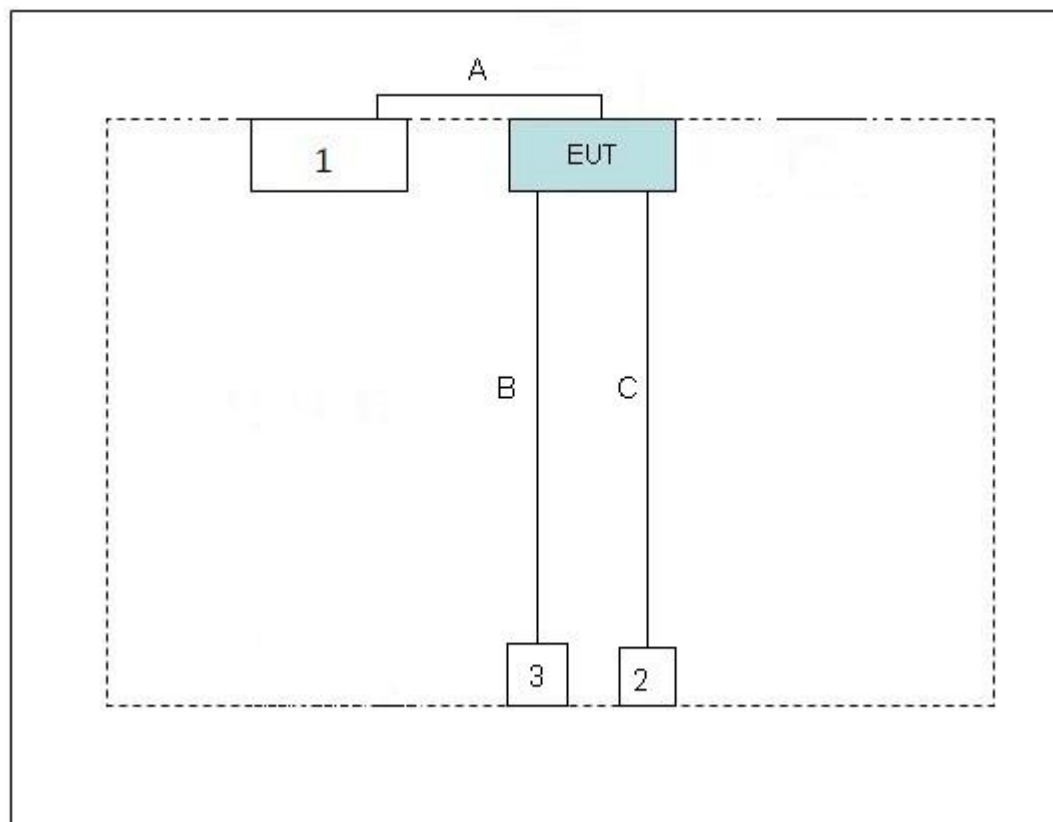
1.3. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	LCD Monitor	BenQ	ET-0033T	ETT8903750019	Non-Shielded, 1.8m
2	Earphone & Microphone	SOMIC	V85	N/A	N/A
3	iPod	Apple	A1199	7J71085BVQ5	N/A

1.4. Configuration of Tested System

Connection Diagram (Mode 1)



Signal Cable Type		Signal cable Description
A	HDMI Cable	Shielded, 1.5m
B	USB Cable	Shielded, 0.8m
C	Earphone & Microphone	Non-Shielded, 2.1m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Making EUT working on “Normal Operation” Mode.
4	Start Test.

2. Technical Test

2.1. Summary of Test Result

- ☒ No deviations from the test standards
- ☐ Deviations from the test standards as below description:

Emission			
Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC Part 15 Subpart B: 2012 ANSI C63.4: 2009	Yes	No
Radiated Emission	FCC Part 15 Subpart B: 2012 ANSI C63.4: 2009	Yes	No

2.2. List of Test Equipment

Conducted Emission / SR8

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
EMI Test Receiver	R&S	ESCS 30	838251/001	2012/06/02
LISN	R&S	ESH3-Z5	836679/020	2013/04/07
LISN	R&S	ENV216	100097	2013/04/07
Pulse Limiter	R&S	ESH3-Z2	357.8810.52	2012/09/23

Radiated Emission / CB7

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
EMI Test Receiver	Agilent	E4440A	MY46185846	2012/12/12
Bilog Antenna	Schaffner Chase	CBL6112B	2918	2012/07/28
EMI Test Receiver	R&S	ESCS 30	100121	2012/12/06
Pre-Amplifier	QTK	N/A	N/A	2012/07/07
CXA Signal Analyzer	Agilent	N9000A	MY50510072	2013/02/10
Horn Antenna	Schwarzbeck	9120D	576	2012/11/14
Pre-Amplifier	Quietek	AP-180C	CHM/071920	2012/07/12

2.3. Measurement Uncertainty

Conducted Emission
The maximum measurement uncertainty is evaluated as $\pm 2.26\text{dB}$.
Radiated Emission
The maximum measurement uncertainty is evaluated as $\pm 3.19\text{dB}$.

2.4. Test Environment

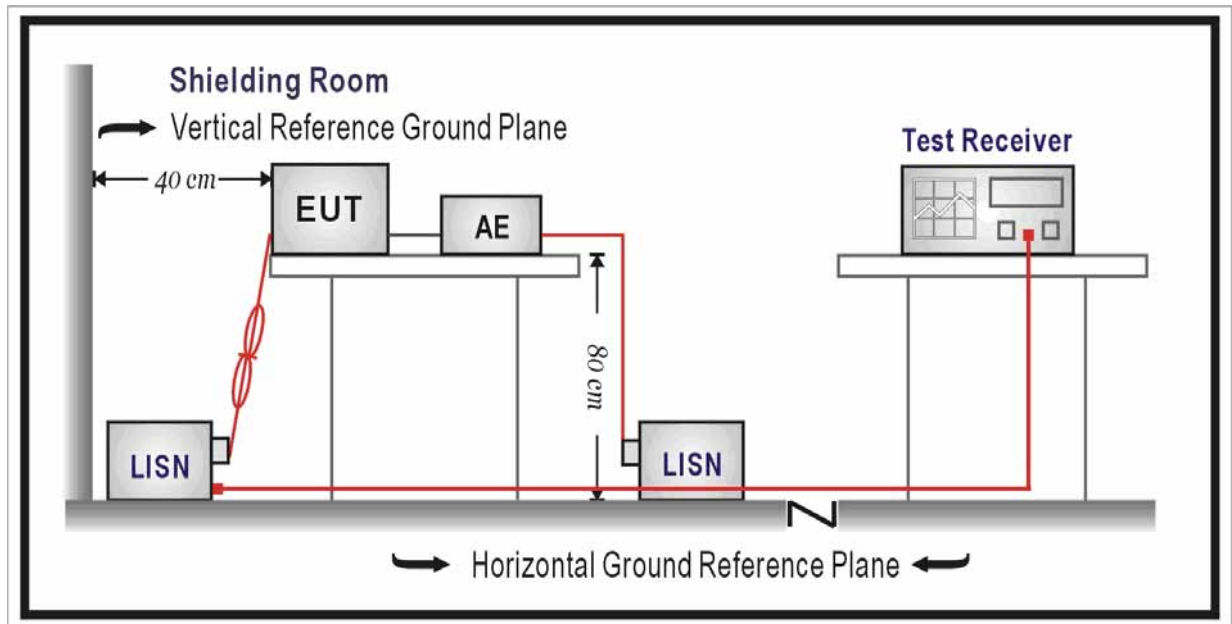
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

3.1. Test Specification

According to Standard: FCC Part 15 Subpart B, ANSI C63.4

3.2. Test Setup



3.3. Limit

Limits		
Frequency range MHz	Limits dB(μ V)	
	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

NOTE: Decreases with the logarithm of the frequency.

Remarks: In the above table, the tighter limit applies at the band edges.

3.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50Ω / $50\mu\text{H}$ coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50Ω / $50\mu\text{H}$ coupling impedance with 50Ω termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

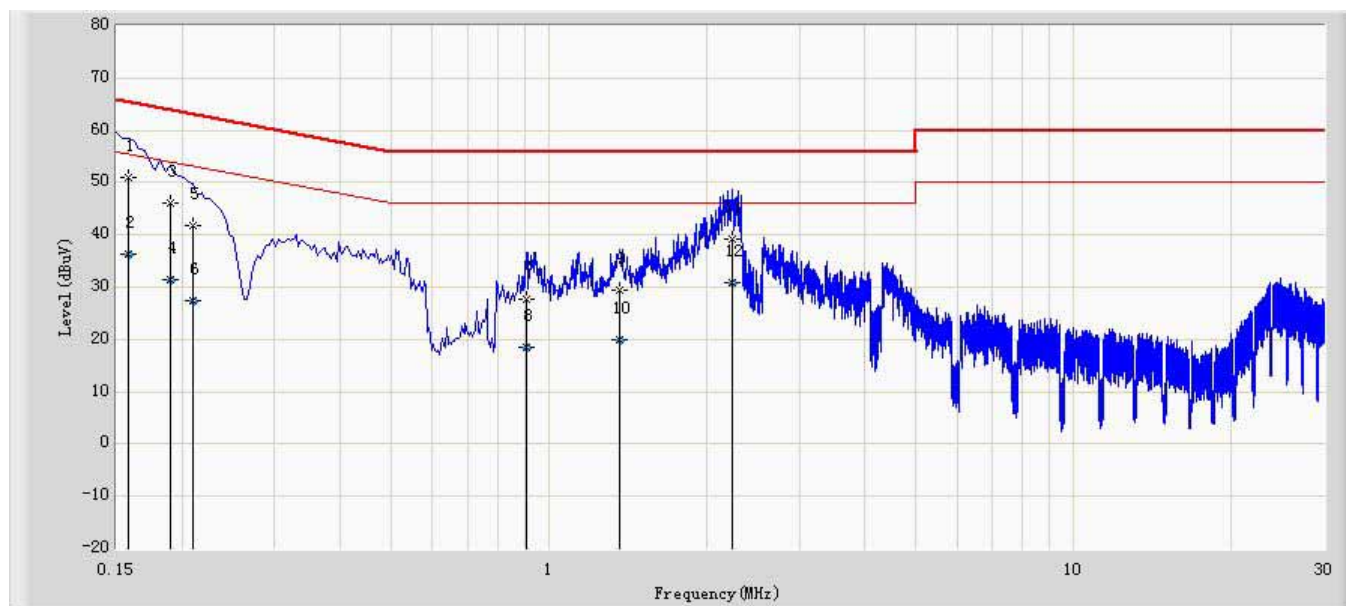
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Deviation from Test Standard

No deviation.

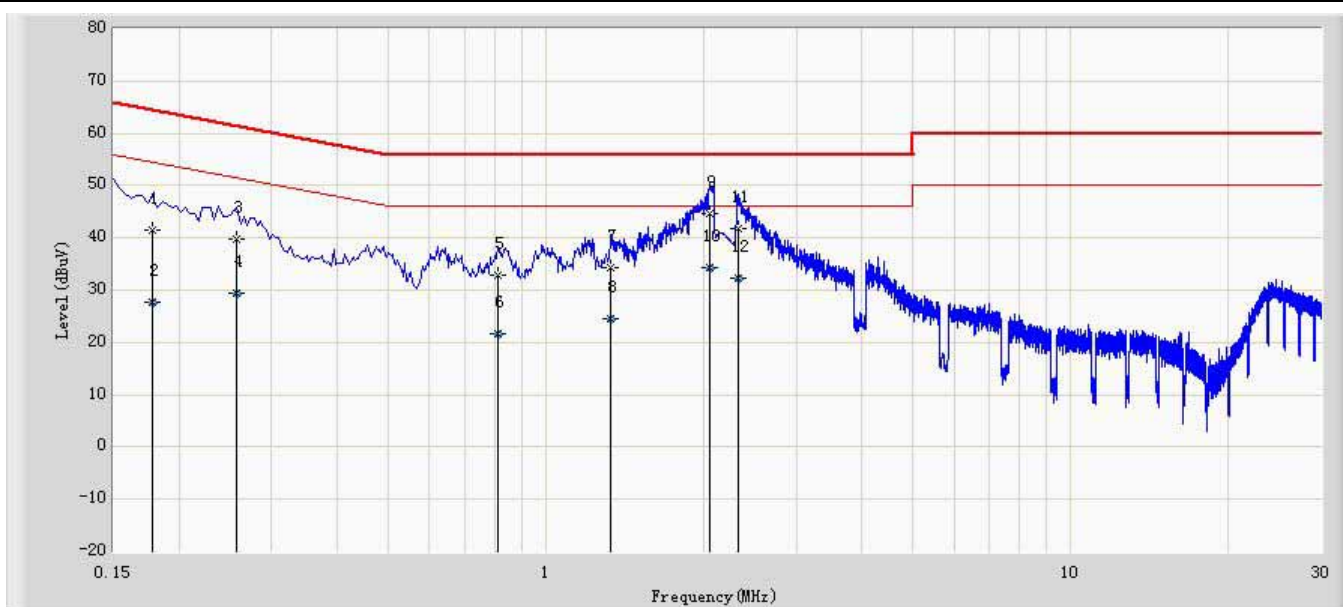
3.6. Test Result

Site: SR8	Time: 2013/06/15 - 13:10
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-L1	Polarity: Line
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode1: Charging + Camera On	



N o	Mar k	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.158	50.930	41.059	-14.638	65.568	9.871	QP
2		0.158	36.212	26.341	-19.356	55.568	9.871	AV
3		0.190	45.998	36.148	-18.039	64.037	9.850	QP
4		0.190	31.554	21.704	-22.483	54.037	9.850	AV
5		0.210	41.818	31.968	-21.387	63.205	9.850	QP
6		0.210	27.483	17.633	-25.722	53.205	9.850	AV
7		0.906	27.620	17.790	-28.380	56.000	9.830	QP
8		0.906	18.622	8.792	-27.378	46.000	9.830	AV
9		1.362	29.427	19.597	-26.573	56.000	9.830	QP
10		1.362	19.802	9.972	-26.198	46.000	9.830	AV
11		2.242	39.145	29.305	-16.855	56.000	9.840	QP
12		2.242	30.851	21.011	-15.149	46.000	9.840	AV

Site: SR8	Time: 2013/06/15 - 13:10
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-N	Polarity: Neutral
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode1: Charging + Camera On	



N o	Mar k	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.178	41.378	31.514	-23.200	64.578	9.864	QP
2		0.178	27.643	17.779	-26.935	54.578	9.864	AV
3		0.258	39.872	30.015	-21.624	61.496	9.857	QP
4		0.258	29.532	19.675	-21.964	51.496	9.857	AV
5		0.810	32.802	22.962	-23.198	56.000	9.840	QP
6		0.810	21.720	11.880	-24.280	46.000	9.840	AV
7		1.330	34.283	24.453	-21.717	56.000	9.830	QP
8		1.330	24.545	14.715	-21.455	46.000	9.830	AV
9	*	2.046	44.543	34.703	-11.457	56.000	9.840	QP
10		2.046	34.414	24.574	-11.586	46.000	9.840	AV
11		2.334	41.919	32.079	-14.081	56.000	9.840	QP
12		2.334	32.243	22.403	-13.757	46.000	9.840	AV

3.7. Test Photograph

Test Mode: Mode 1:

Description: Conducted Emission Test Setup



Test Mode: Mode 1:

Description: Conducted Emission Test Setup



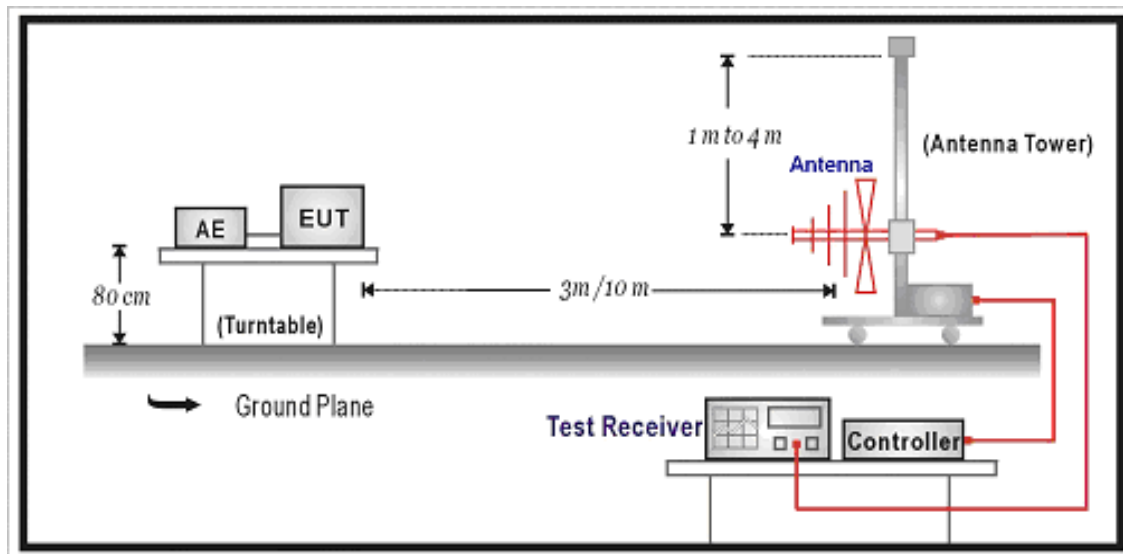
4. Radiated Emission

4.1. Test Specification

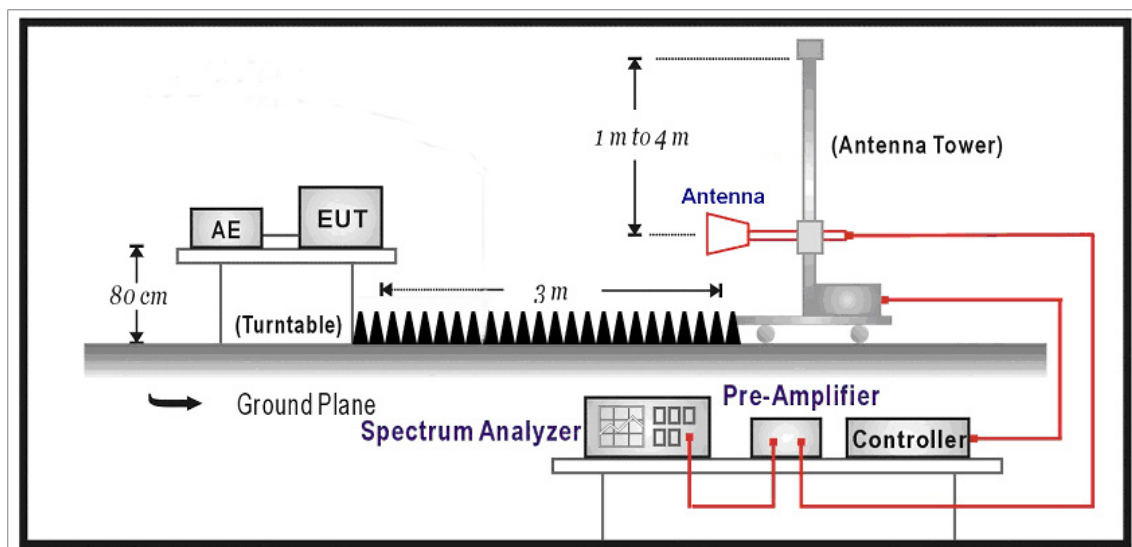
According to EMC Standard: FCC Part 15 Subpart B, ANSI C63.4

4.2. Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



4.3. Limit

FCC Part 15 Subpart B Paragraph 15.109 Limits (dBuV/m)		
Frequency (MHz)	Distance (m)	dBuV/m
30-88	3	40
88-216	3	43.5
216-960	3	46
Above 960	3	54
NOTE: The lower limit shall apply at the transition frequency.		

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

For an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 1000 MHz, the radiated limits shown are based measuring equipment employing an average detector function.

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

For class A, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and above 1GHz.

For class B, the measurement distance between the EUT and antenna is 3 meters.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30) is 120 kHz and above 1GHz is 1MHz.

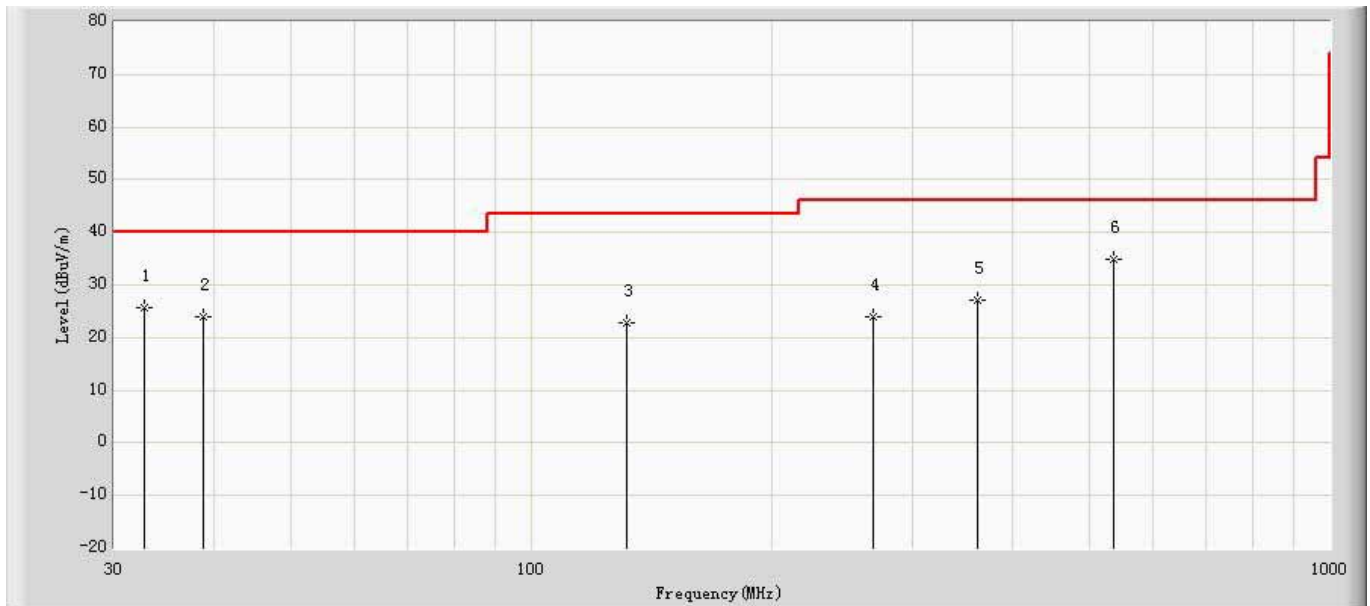
The measurement is performed in the 667MHz processor.

4.5. Deviation from Test Standard

No deviation.

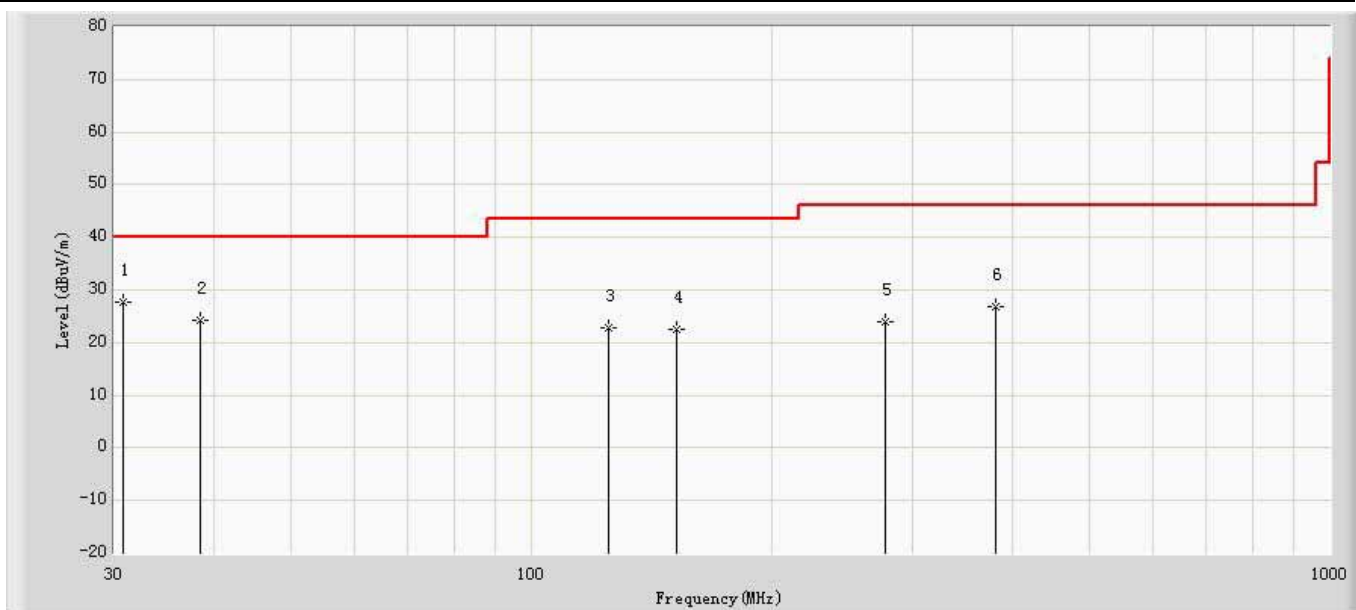
4.6. Test Result

Site: CB7	Time: 2013/06/15 - 16:18
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Normal Operation	



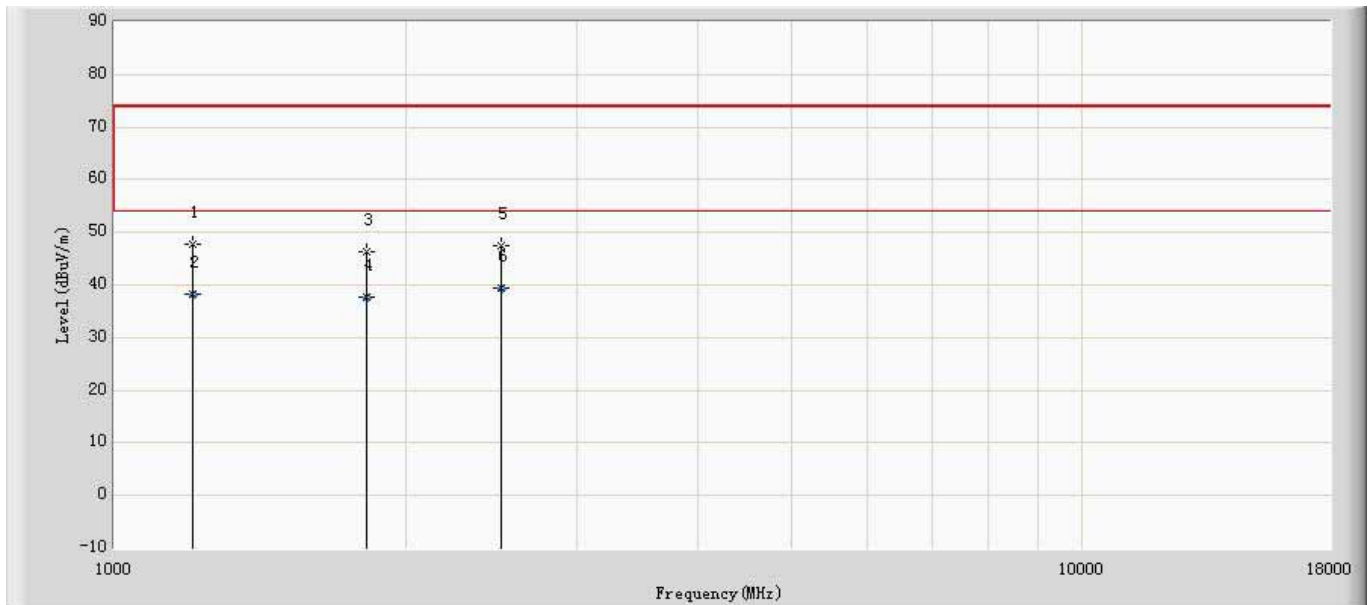
N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		32.667	25.831	8.968	-14.169	40.000	16.862	QP
2		38.851	23.917	10.404	-16.083	40.000	13.513	QP
3		131.607	22.730	9.952	-20.770	43.500	12.778	QP
4		267.529	23.962	9.630	-22.038	46.000	14.333	QP
5		361.983	27.252	10.487	-18.748	46.000	16.765	QP
6	*	535.976	35.011	14.494	-10.989	46.000	20.517	QP

Site: CB7	Time: 2013/06/15 - 16:18
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Normal Operation	



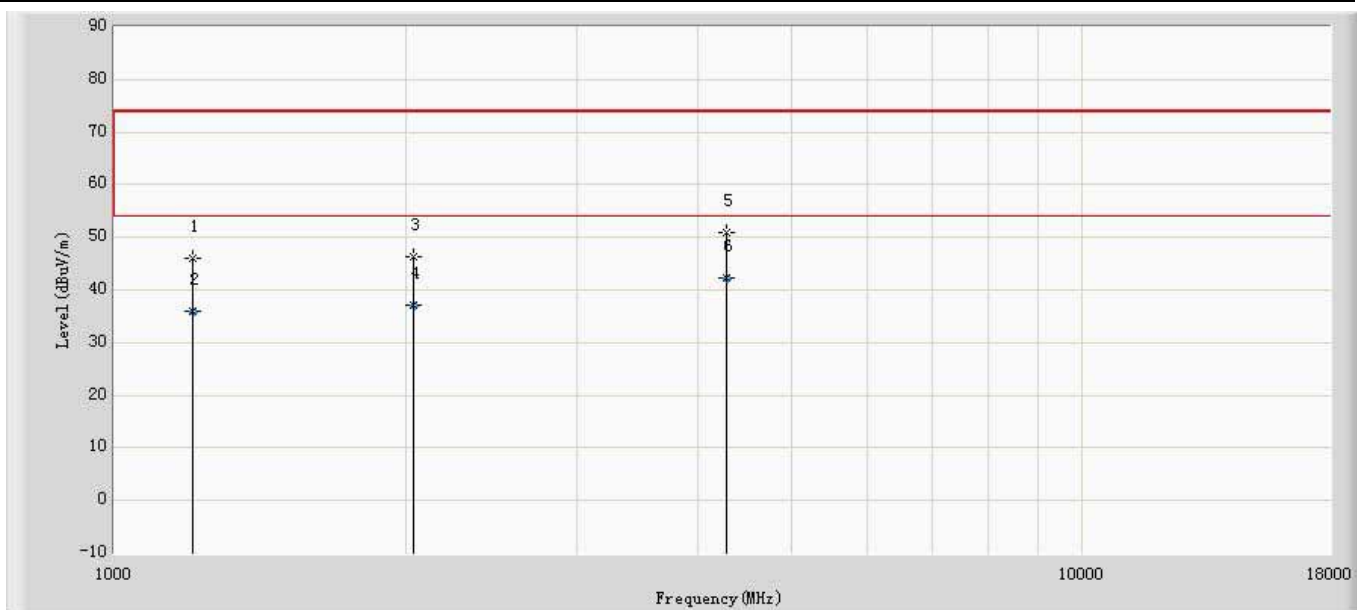
N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	30.849	27.815	9.801	-12.185	40.000	18.014	QP
2		38.487	24.331	10.621	-15.669	40.000	13.710	QP
3		125.060	22.821	9.811	-20.679	43.500	13.010	QP
4		151.977	22.411	11.291	-21.089	43.500	11.120	QP
5		276.986	24.007	9.766	-21.993	46.000	14.241	QP
6		382.110	26.777	9.457	-19.223	46.000	17.320	QP

Site: CB7	Time: 2013/06/15 - 14:05
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: 9120D_1-18G_Horn	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1:Normal Operation	



N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		1204.000	47.877	53.715	-26.123	74.000	-5.838	PK
2		1204.640	38.221	44.057	-15.779	54.000	-5.836	AV
3		1824.500	46.277	50.354	-27.723	74.000	-4.077	PK
4		1824.795	37.764	41.841	-16.236	54.000	-4.078	AV
5		2513.000	47.433	48.934	-26.567	74.000	-1.501	PK
6	*	2513.640	39.395	40.894	-14.605	54.000	-1.499	AV

Site: CB7	Time: 2013/06/15 - 14:05
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: 9120D_1-18G_Horn	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1:Normal Operation	

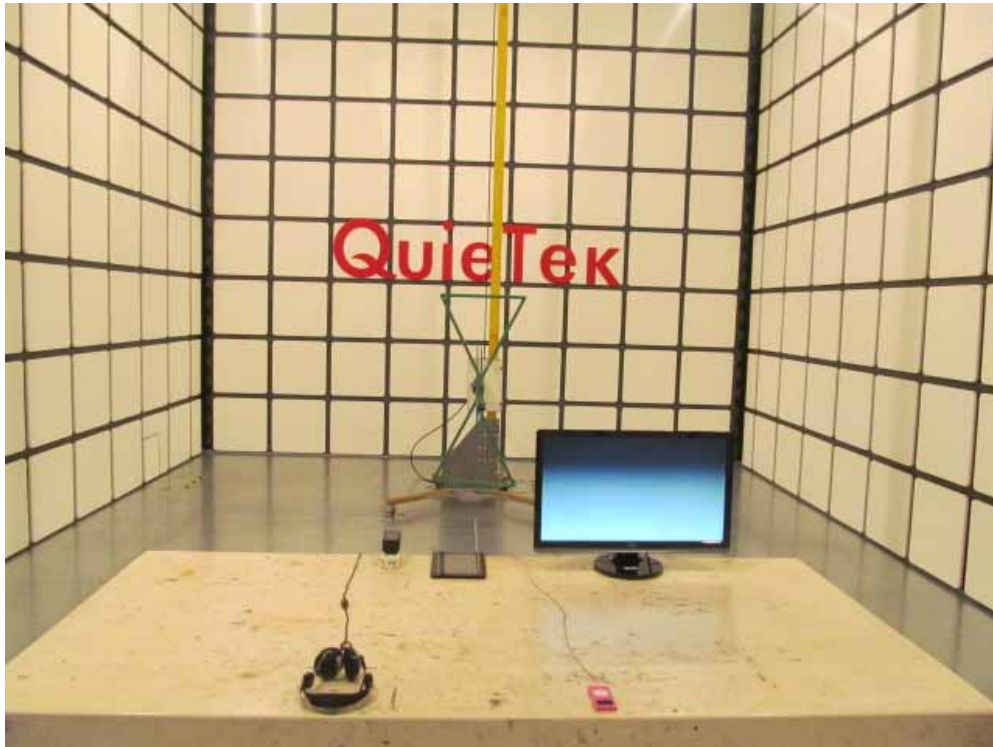


N o	Mar k	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		1204.000	45.980	51.818	-28.020	74.000	-5.838	PK
2		1204.840	35.975	41.810	-18.025	54.000	-5.836	AV
3		2037.000	46.288	49.921	-27.712	74.000	-3.633	PK
4		2037.600	37.170	40.800	-16.830	54.000	-3.630	AV
5		4289.500	51.052	47.734	-22.948	74.000	3.318	PK
6	*	4289.970	42.234	38.914	-11.766	54.000	3.319	AV

4.7. Test Photograph

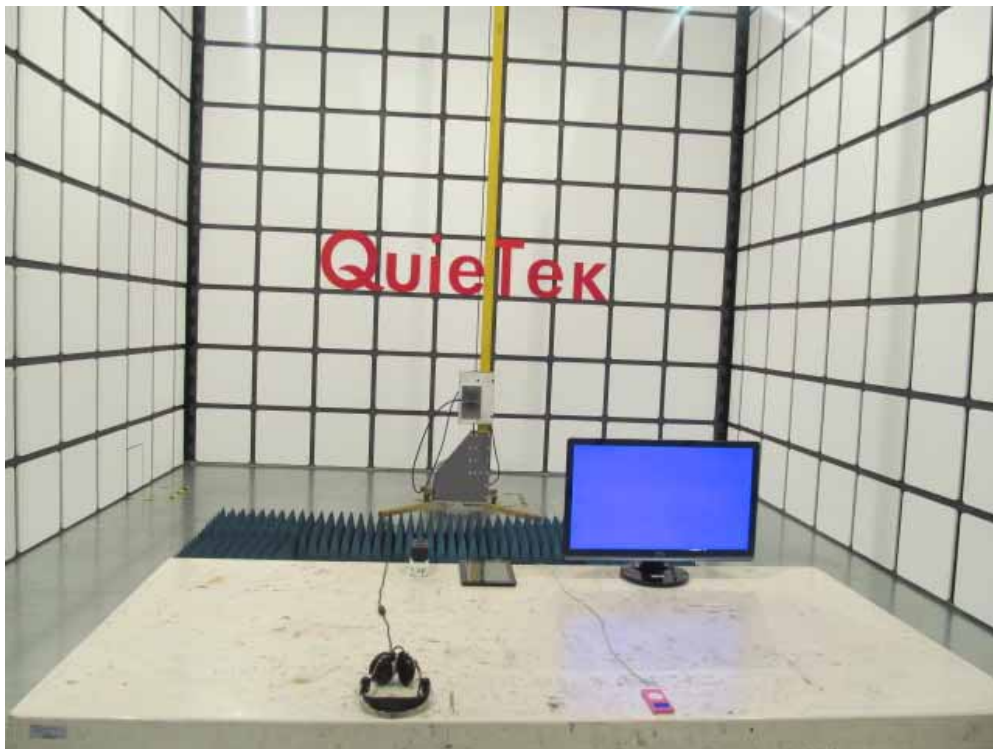
Test Mode: Mode 1

Description: Radiated Emission Test Setup Below 1GHz



Test Mode: Mode 1

Description: Radiated Emission Test Setup Above 1GHz



5. Attachment**➤ EUT Photograph**

(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo



(5) EUT Photo



(6) EUT Photo

