



FCC RADIO TEST REPORT

FCC ID: QAPQ70S15

Product : AOC Tablet

Trade Name : AOC

Model Name : Q70S15

Serial Model : N/A

Report No. : NTEK- 2013NT0901234F3

Prepared for

Fuzhou Smart Digital Science & Technology Co., Ltd
No.8 Building, Honshan Science & Technology Zone, Gulou District,
Fuzhou, Fujian, China

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.
1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street
Bao'an District, Shenzhen P.R. China
Tel.: +86-0755-61156588 Fax.: +86-0755-61156599
Website: www.ntek.org.cn

TEST RESULT CERTIFICATION

Applicant's name : Fuzhou Smart Digital Science & Technology Co., Ltd
Address : No.8 Building, Honshan Science & Technology Zone, Gulou District, Fuzhou, Fujian, China
Manufacturer's Name : Fuzhou Smart Digital Science & Technology Co., Ltd
Address : No.8 Building, Honshan Science & Technology Zone, Gulou District, Fuzhou, Fujian, China

Product description

Product name : AOC Tablet
Model and/or type reference : Q70S15
 FCC Part15B(2012)

Standards : ANSI C63.4:2003

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with Part 15 of FCC Rules. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of NTEK, this document may be altered or revised by NTEK, personal only, and shall be noted in the revision of the document.

Date of Test

Date (s) of performance of tests : 20 Aug. 2013 ~30 Aug. 2013

Date of Issue..... : 30 Aug. 2013

Test Result..... : **Pass**

Testing Engineer : Jason Chen
 (Jason Chen)

Technical Manager : Jim He
 (Jim He)

Authorized Signatory : Bovey Yang
 (Bovey Yang)

Table of Contents	Page
1 . TEST SUMMARY	4
1.1 TEST FACILITY	5
1.2 MEASUREMENT UNCERTAINTY	5
2 . GENERAL INFORMATION	6
2.1 GENERAL DESCRIPTION OF EUT	6
2.2 DESCRIPTION OF TEST MODES	7
2.3 DESCRIPTION OF TEST SETUP	8
2.4 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL	9
2.5 MEASUREMENT INSTRUMENTS LIST	10
3 . EMC EMISSION TEST	11
3.1 CONDUCTED EMISSION MEASUREMENT	11
3.1.1 POWER LINE CONDUCTED EMISSION	11
3.1.2 TEST PROCEDURE	12
3.1.3 TEST SETUP	12
3.1.4 EUT OPERATING CONDITIONS	12
3.1.5 TEST RESULTS	13
3.2 RADIATED EMISSION MEASUREMENT	15
3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT	15
3.2.2 TEST PROCEDURE	15
3.2.3 TEST SETUP	16
3.2.4 EUT OPERATING CONDITIONS	16
3.2.5 TEST RESULTS	17
3.2.6 TEST RESULTS(Above 1GHz)	19
4 . EUT TEST PHOTO	21

1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
FCC Part15B:2012 ANSI C63.4: 2003	Conducted Emission	Class B	PASS	
	Radiated Emission	Class B	PASS	

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report
- (2) For client's request and manual description, the test will not be executed.

1.1 TEST FACILITY

NTEK 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 Number:238937; IC Registration Number:9270A-1

CNAS Registration Number:L5516

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

A. Conducted Measurement :


Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
NTEKC01	ANSI	150 KHz ~ 30MHz	3.2	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
NTEKA01	ANSI	30MHz ~ 1000MHz	4.7	
		1GHz ~6GHz	5.0	

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	AOC Tablet	
Model Name	Q70S15	
Serial No	N/A	
Model Difference	N/A	
Product Description	The EUT is a AOC Tablet.	
	Operating frequency:	OSC 24MHz ,32.768KHz,40MHz
	Connecting I/O port:	USB, HDMI
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification please refer to the User's Manual.	
Adapter	Model:DSA-12PFA-05, AC Power Input: 100-240V~, 50/60Hz, 0.5A Output: 5.0V  1.5A	
Battery	Rated Voltage: 3.7V Capacity :3600mAh	
Connecting I/O Port(s)	Please refer to the User's Manual	

2.2 DESCRIPTION OF TEST MODES

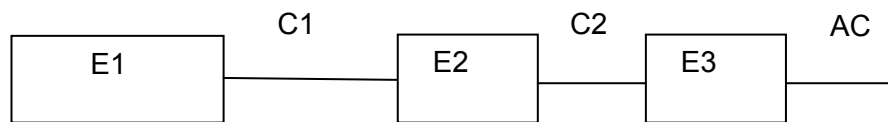
To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	USB Mode

For Conducted Test	
Final Test Mode	Description
Mode 1	USB Mode

For Radiated Test	
Final Test Mode	Description
Mode 1	USB Mode

2.3 DESCRIPTION OF TEST SETUP



2.4 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E1	AOC Tablet	N/A	MW0733	N/A	EUT
E2	PC	IBM	2366	N/A	
E3	Adapter	IBM	08K8202	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C1	No	No	1.0M	
C2	No	No	1.0M	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” means “shielded” “with core”; “NO” means “unshielded” “without core”.

2.5 MEASUREMENT INSTRUMENTS LIST

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2013.07.06	2014.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2013.06.07	2014.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2013.07.06	2014.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2013.06.07	2014.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2013.06.07	2014.06.06	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2013.07.06	2014.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2013.07.06	2014.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2012.12.22	2013.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2013.06.08	2014.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2013.07.06	2014.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2013.07.06	2014.07.05	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2013.06.06	2014.06.05	1 year
2	LISN	R&S	ENV216	101313	2013.08.24	2014.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2013.08.24	2014.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2013.06.07	2014.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2013.06.07	2014.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2013.06.08	2014.06.07	1 year

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

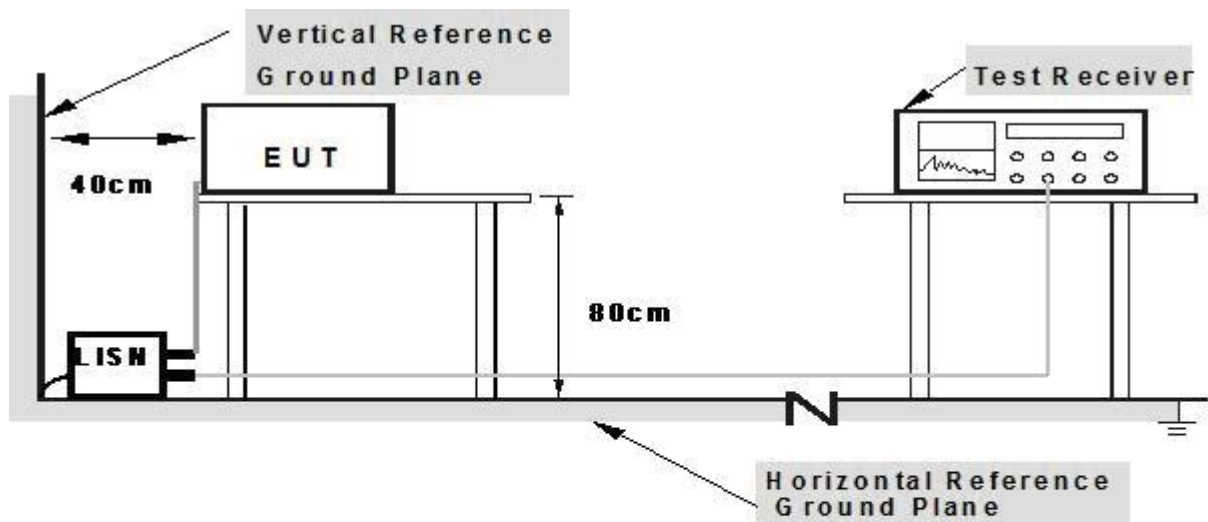
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

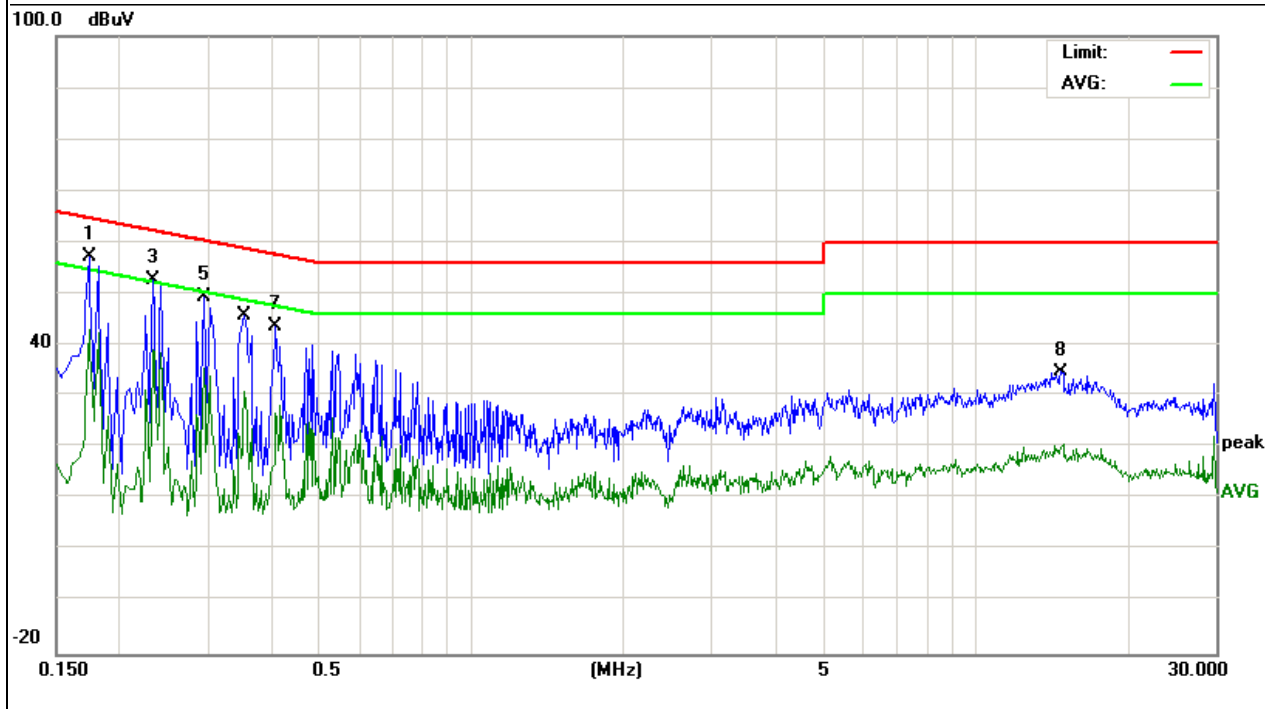
3.1.5 TEST RESULTS

EUT :	AOC Tablet	Model Name. :	Q70S15
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2013-08-28
Test Mode :	Mode 1	Phase :	L
Test Voltage :	AC 120V		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1740	46.85	10.50	57.35	64.76	-7.41	QP
0.1740	32.76	10.50	43.26	54.76	-11.50	AVG
0.2340	42.28	10.61	52.89	62.30	-9.41	QP
0.2340	28.67	10.61	39.28	52.30	-13.02	AVG
0.2940	38.77	10.69	49.46	60.41	-10.95	QP
0.3540	19.92	10.78	30.70	48.87	-18.17	AVG
0.41	32.87	10.86	43.73	57.65	-13.92	QP
14.79	23.37	11.43	34.8	60	-25.2	QP

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. N/A means All Data have pass Limit

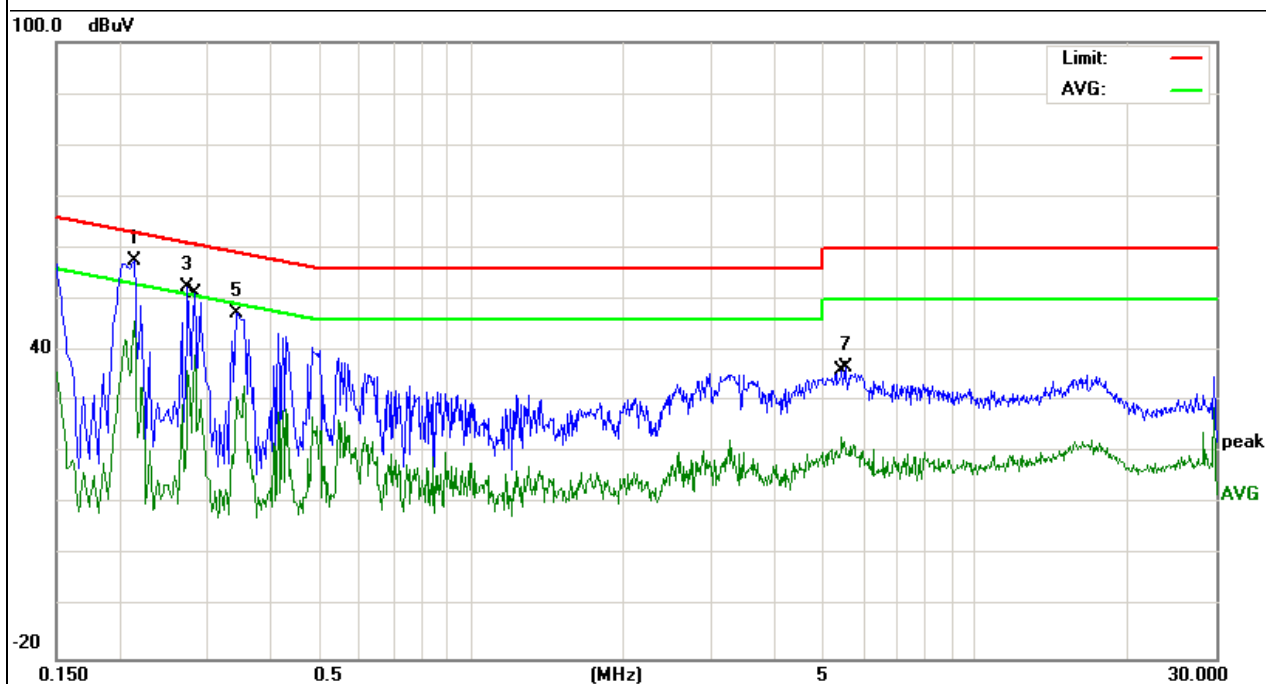


EUT :	AOC Tablet	Model Name. :	Q70S15
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2013-08-28
Test Mode :	Mode 1	Phase :	N
Test Voltage :	AC 120V		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.2140	46.55	10.99	57.54	63.04	-5.50	QP
0.2140	34.82	10.99	45.81	53.04	-7.23	AVG
0.2740	41.49	10.99	52.48	60.99	-8.51	QP
0.2819	28.25	10.99	39.24	50.76	-11.52	AVG
0.3420	36.41	10.99	47.40	59.15	-11.75	QP
5.4340	11.77	11.30	23.07	50.00	-26.93	AVG
5.52	25.42	11.3	36.72	60	-23.28	QP

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. N/A means All Data have pass Limit



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 3m)
	dBuV/m	dBuV/m
30 ~ 88	39.0	40.0
88 ~ 216	43.5	43.5
216 ~ 960	46.5	46.0
Above 960	49.5	54.0

Notes:

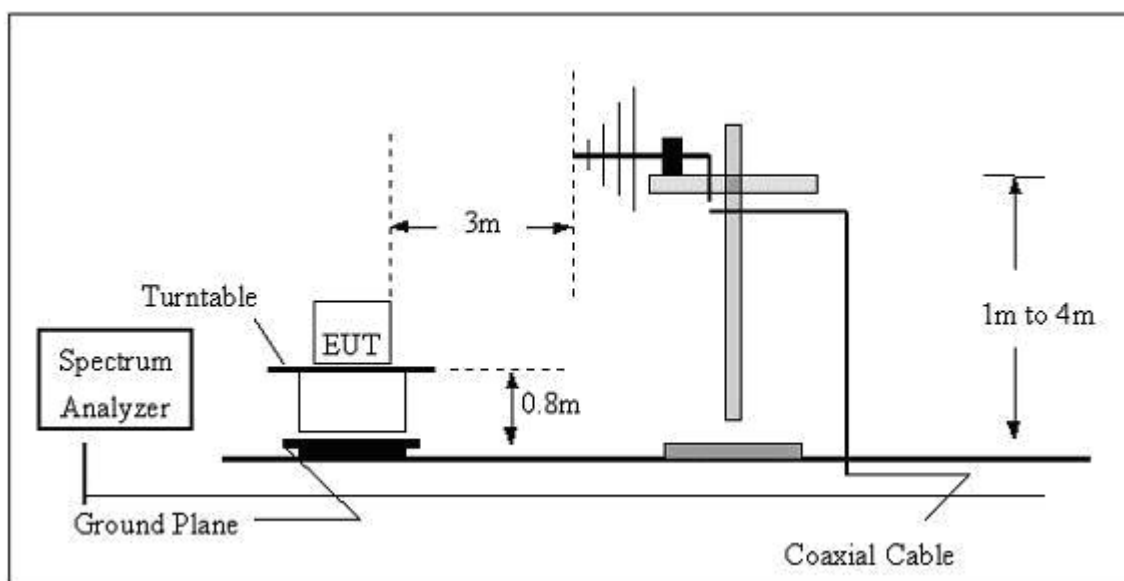
- (1) The limit for radiated test was performed according to as following:
FCC PART 15B /ICES-003.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

3.2.2 TEST PROCEDURE

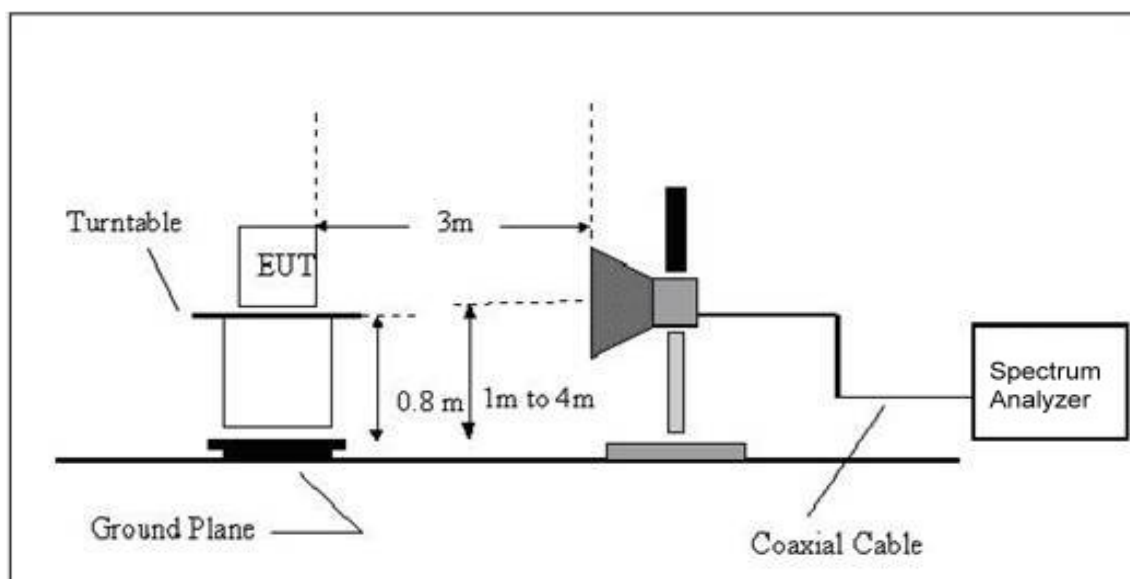
- a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured, above 1G Average detector mode will be instead.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP(AV) Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.2.3 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1GHz



3.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

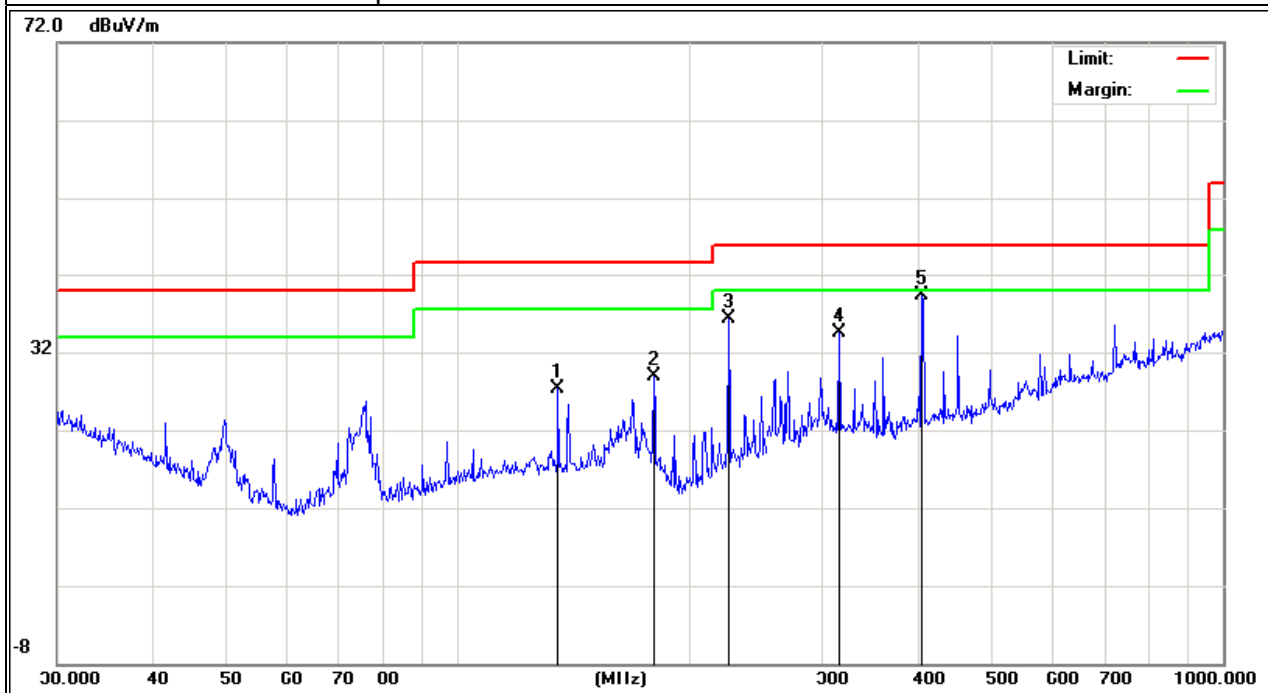
3.2.5 TEST RESULTS

EUT :	AOC Tablet	Model Name :	Q70S15
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2013-08-28
Test Mode :	Mode 1	Polarization :	Horizontal
Test Power :	AC 120V		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
135.0319	15.38	11.99	27.37	43.50	-16.13	QP
180.0165	19.26	9.67	28.93	43.50	-14.57	QP
225.3080	26.03	10.29	36.32	46.00	-9.68	QP
315.4808	19.82	14.66	34.48	46.00	-11.52	QP
404.6665	21.82	17.42	39.24	46.00	-6.76	QP

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Antenna Factor + Cable Loss.
3. N/A means All Data have pass Limit

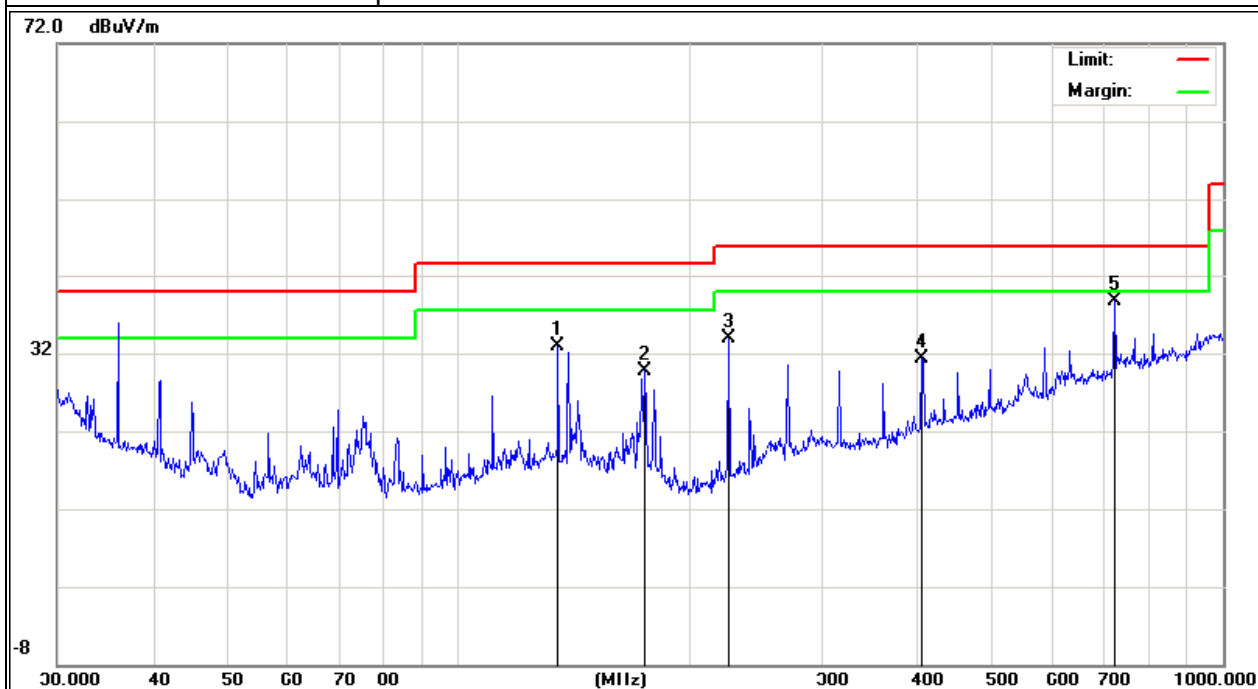


EUT :	AOC Tablet	Model Name :	Q70S15
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2013-08-28
Test Mode :	Mode 1	Polarization :	Vertical
Test Power :	AC 120V		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
135.0319	20.88	11.99	32.87	43.50	-10.63	QP
175.0368	19.98	9.70	29.68	43.50	-13.82	QP
225.3080	23.53	10.29	33.82	46.00	-12.18	QP
404.6665	13.85	17.42	31.27	46.00	-14.73	QP
721.7259	15.54	23.14	38.68	46.00	-7.23	QP

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Antenna Factor + Cable Loss.
3. N/A means All Data have pass Limit



3.2.6 TEST RESULTS(Above 1GHz)

EUT :	AOC Tablet	Model Name :	Q70S15
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2013-08-28
Test Mode :	Mode 1	Polarization :	Horizontal
Test Power :	AC 120V		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
1896.3510	78.94	-14.25	64.69	74.00	-9.31	QP
1896.3510	53.94	-14.25	39.69	54.00	-14.31	AVG
3861.2400	70.47	-7.27	63.20	74.00	-10.80	QP
3861.2400	46.13	-7.27	38.86	54.00	-15.14	AVG
4967.3100	69.42	-3.63	65.79	74.00	-8.21	QP
4967.3100	44.42	-3.63	40.79	54.00	-13.21	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Antenna Factor + Cable Loss.
3. N/A means All Data have pass Limit

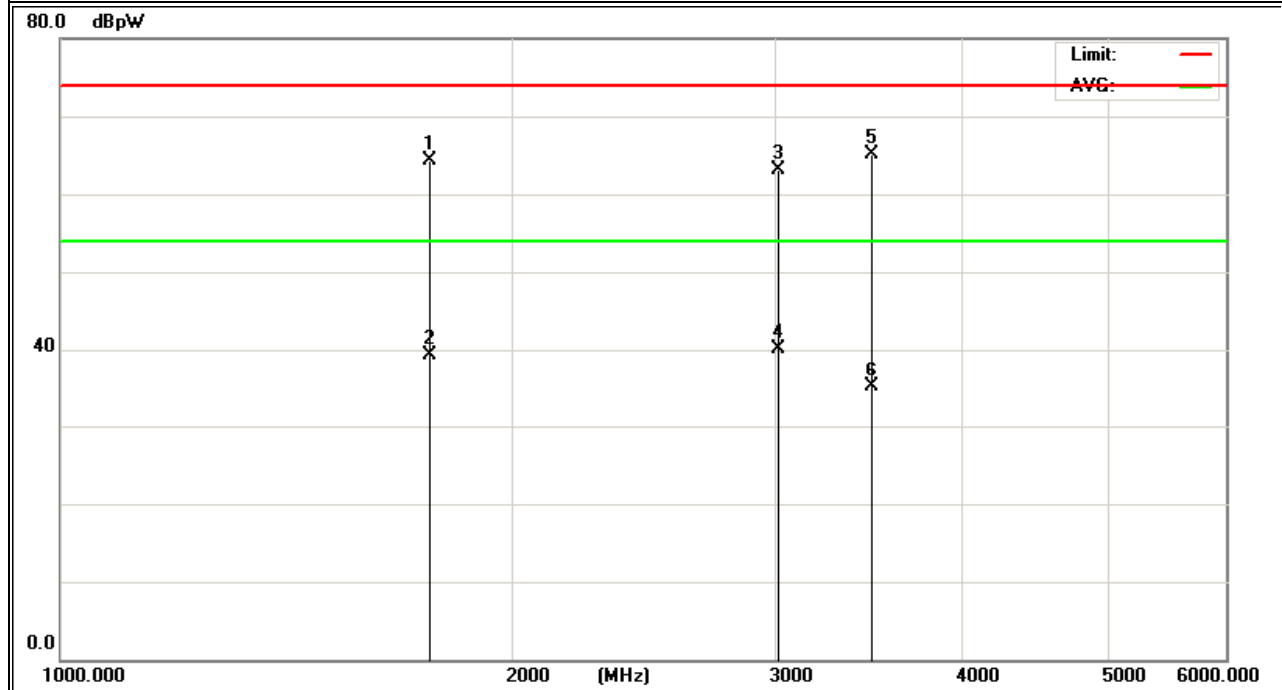


EUT :	AOC Tablet	Model Name :	Q70S15
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2013-08-28
Test Mode :	Mode 1	Polarization :	Vertical
Test Power :	AC 120V		

(MHz)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	Detector
1761.0900	79.54	-15.23	64.31	74.00	-9.31	QP
1761.0900	54.54	-15.23	39.31	54.00	-14.69	AVG
3018.0200	74.90	-11.75	63.15	74.00	-10.85	QP
3018.0200	51.90	-11.75	40.15	54.00	-13.85	AVG
3476.5900	74.62	-9.52	65.10	74.00	-8.90	QP
3476.5900	44.62	-9.52	35.10	54.00	-18.90	AVG

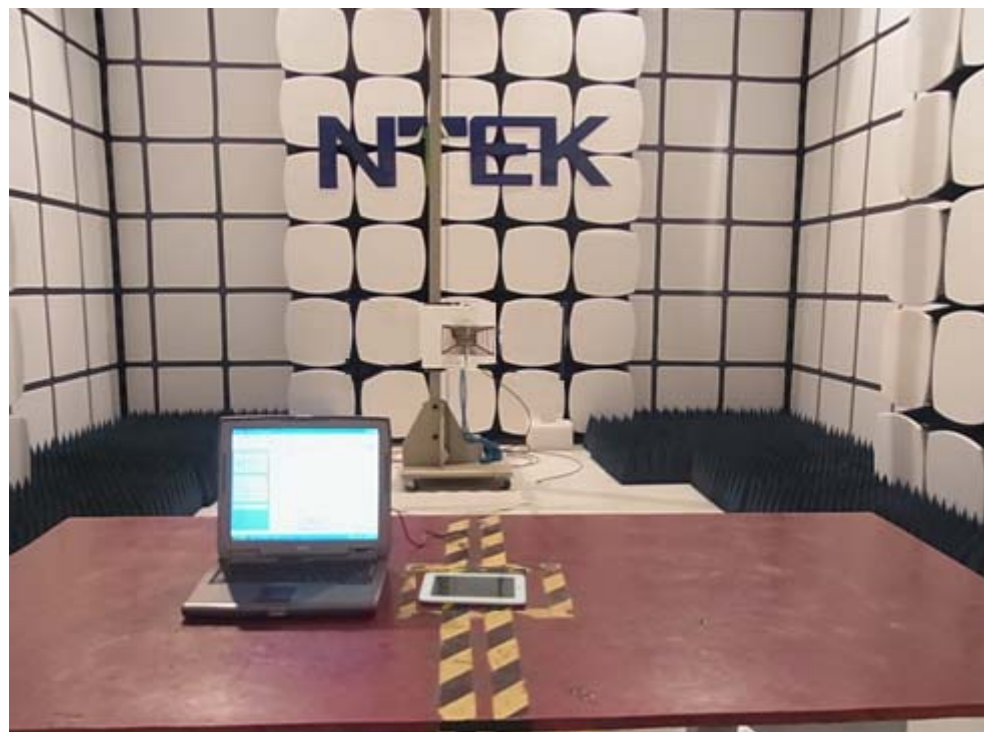
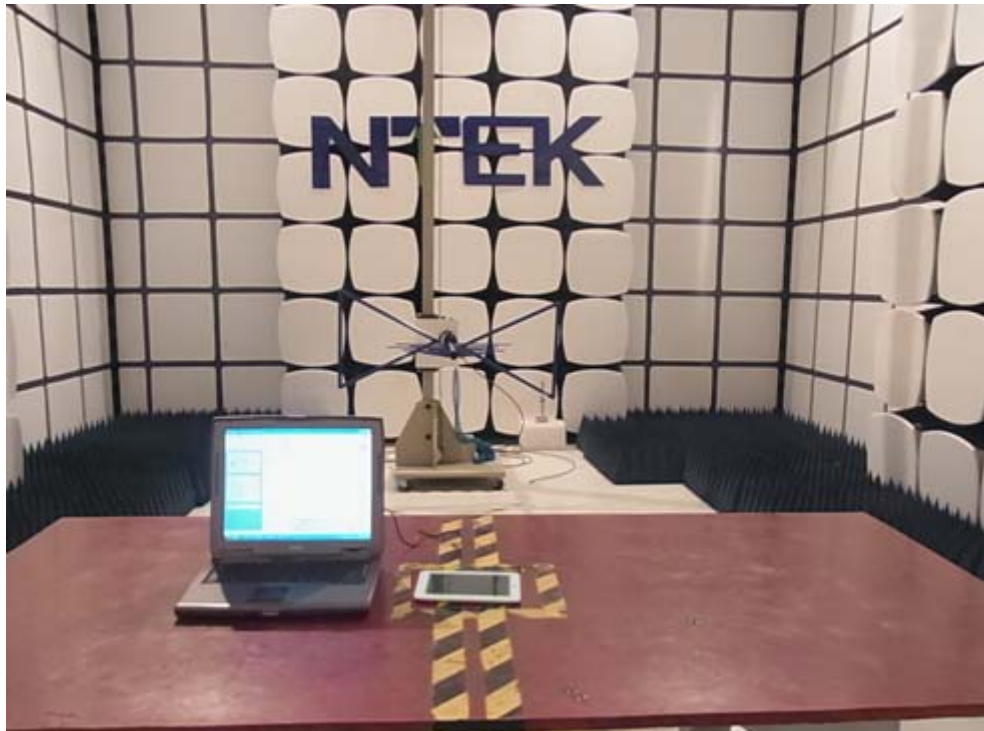
Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Antenna Factor + Cable Loss.
3. N/A means All Data have pass Limit



4. EUT TEST PHOTO

Radiated Measurement Photos



Conducted Emission Photos

