



Test Report

Product Name	ASUS Pad
Model No.	ME370T
FCC ID	MSQME370T

Applicant	ASUSTeK COMPUTER INC.
Address	No. 15, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

Date of Receipt	May 04, 2012
Issued Date	May 15, 2012
Report No.	125128R-RFUSP39V01
Report Version	V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date: May 15, 2012

Report No.: 125128R-RFUSP39V01



Product Name	ASUS Pad
Applicant	ASUSTeK COMPUTER INC.
Address	No. 15, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.
Manufacturer	Tech-Com (Shanghai) Computer Co., Ltd.
Model No.	ME370T
FCC ID.	MSQME370T
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	ASUS
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010 ANSI C63.4: 2003
Test Result	Complied

Test results relate only to the samples tested.

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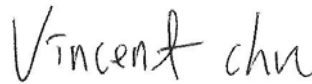
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By :



(Senior Adm. Specialist / Rita Huang)

Tested By :



(Engineer / Vincent Chu)

Approved By :



(Manager / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	ASUS Pad
Trade Name	ASUS
Model No.	ME370T
FCC ID	MSQME370T
Frequency Range	13.56MHz
Modulation	ASK
Antenna Type	PIFA Antenna
Power Adapter	MFR: PIE, M/N: AD83531 Input: 100-240V, 50-60Hz 0.3A Output: 5V $\overline{=}$ 2A
USB Cable	Non-Shielded, 1.0m

Frequency of Each Channel:

Channel	Frequency
Channel 1:	13.56 MHz

Note:

1. This device is an ASUS Pad with a built-in 13.56MHz transceiver.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.225
3. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit mode
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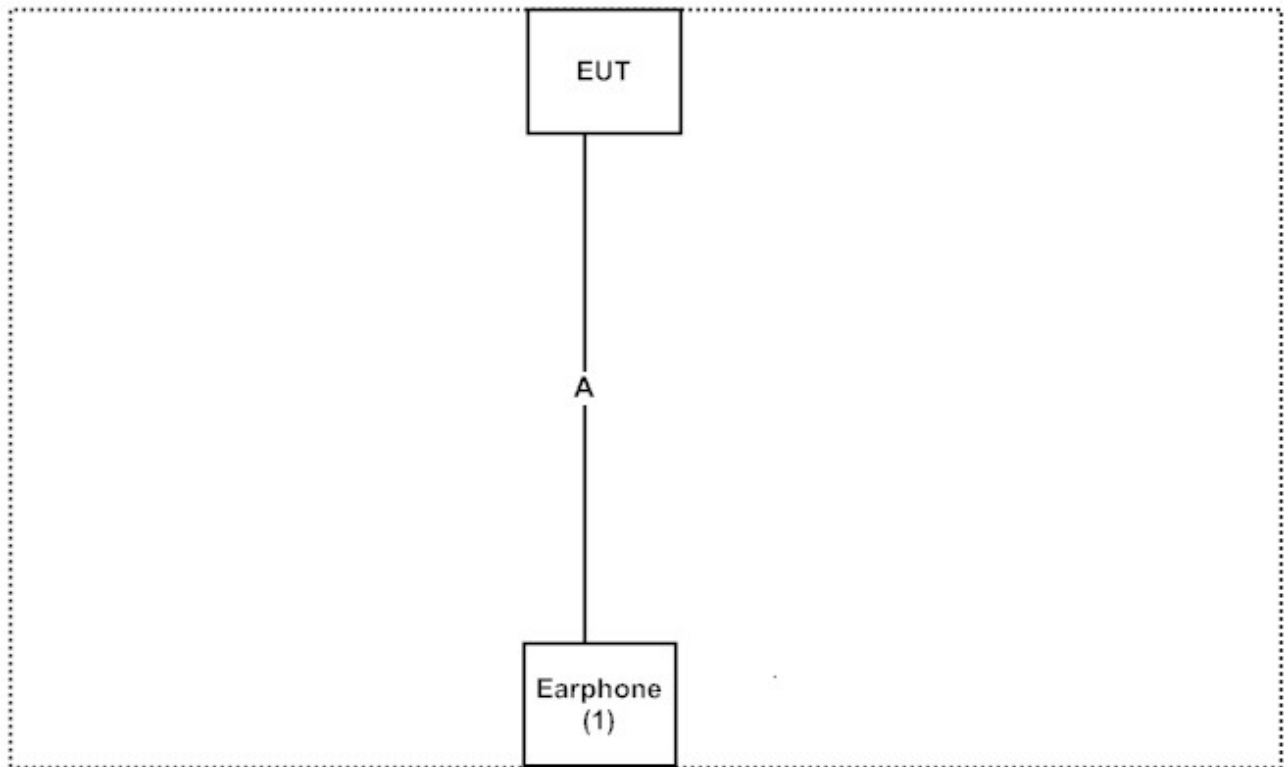
1.3. Tested System Details

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

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Earphone	AIWA	N/A	N/A	N/A

Signal Cable Type	Signal cable Description
A Earphone Cable	Non-Shielded, 1.7m

1.4. Configuration of tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute Software on the EUT.
- (3) Start the continuous transmitter.
- (4) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

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/>

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation
Site Address: No.5-22, Ruishukeng,
Linkou Dist. New Taipei City 24451,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

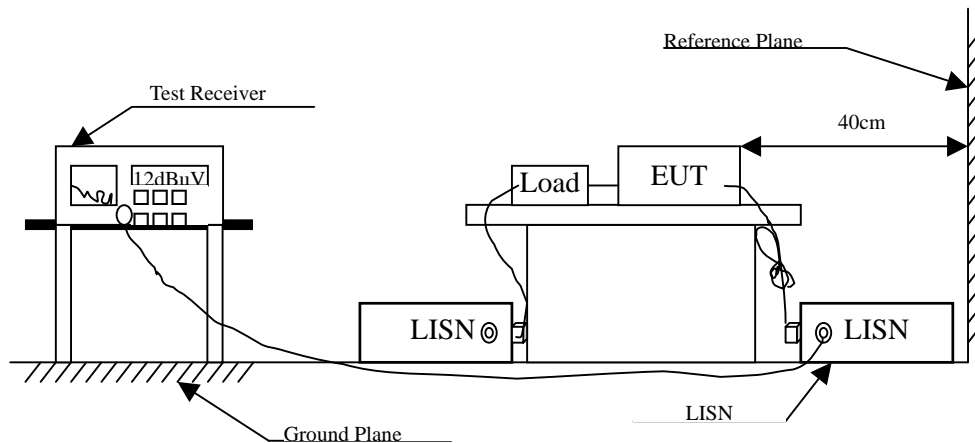
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2011	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2012	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2012	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2012	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2012	
	No.1 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56 _(註)	56-46 _(註)
0.50-5.0	56	46
5.0 - 30	60	50

2.4. 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 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm 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 according to ANSI C63.4: 2003 on conducted measurement.

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

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : ASUS Pad
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 1: Transmit mode

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.162	9.696	34.970	44.666	-20.991	65.657
0.197	9.809	31.820	41.629	-23.028	64.657
0.474	9.805	29.670	39.475	-17.268	56.743
0.525	9.800	29.200	39.000	-17.000	56.000
0.724	9.820	19.800	29.620	-26.380	56.000
7.353	9.924	16.100	26.024	-33.976	60.000
Average					
0.162	9.696	24.070	33.766	-21.891	55.657
0.197	9.809	20.860	30.669	-23.988	54.657
0.474	9.805	22.280	32.085	-14.658	46.743
0.525	9.800	21.540	31.340	-14.660	46.000
0.724	9.820	11.110	20.930	-25.070	46.000
7.353	9.924	9.970	19.894	-30.106	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : ASUS Pad
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 1: Transmit mode

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.150	9.800	29.410	39.210	-26.790	66.000
0.177	9.778	28.460	38.238	-26.991	65.229
0.224	9.771	26.580	36.351	-27.535	63.886
0.494	9.830	28.880	38.710	-17.461	56.171
0.697	9.850	20.880	30.730	-25.270	56.000
6.447	9.896	11.230	21.126	-38.874	60.000
Average					
0.150	9.800	13.380	23.180	-32.820	56.000
0.177	9.778	12.400	22.178	-33.051	55.229
0.224	9.771	22.480	32.251	-21.635	53.886
0.494	9.830	20.940	30.770	-15.401	46.171
0.697	9.850	10.000	19.850	-26.150	46.000
6.447	9.896	7.270	17.166	-32.834	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "█" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Radiated Emission

3.1. Test Equipment

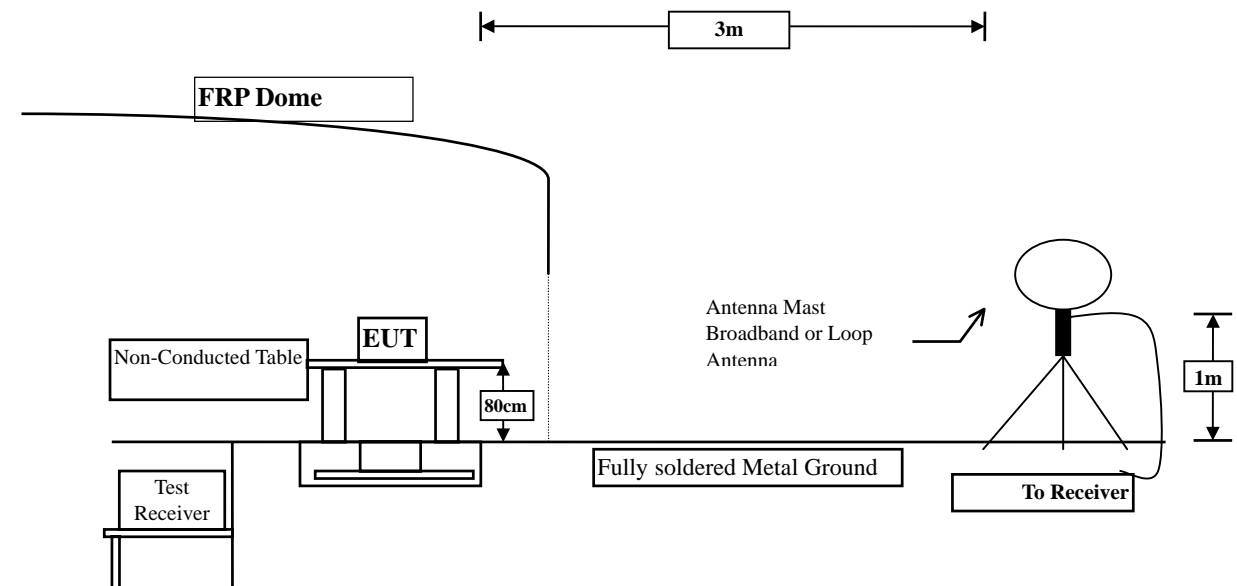
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2011
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2011
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2011
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2012
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

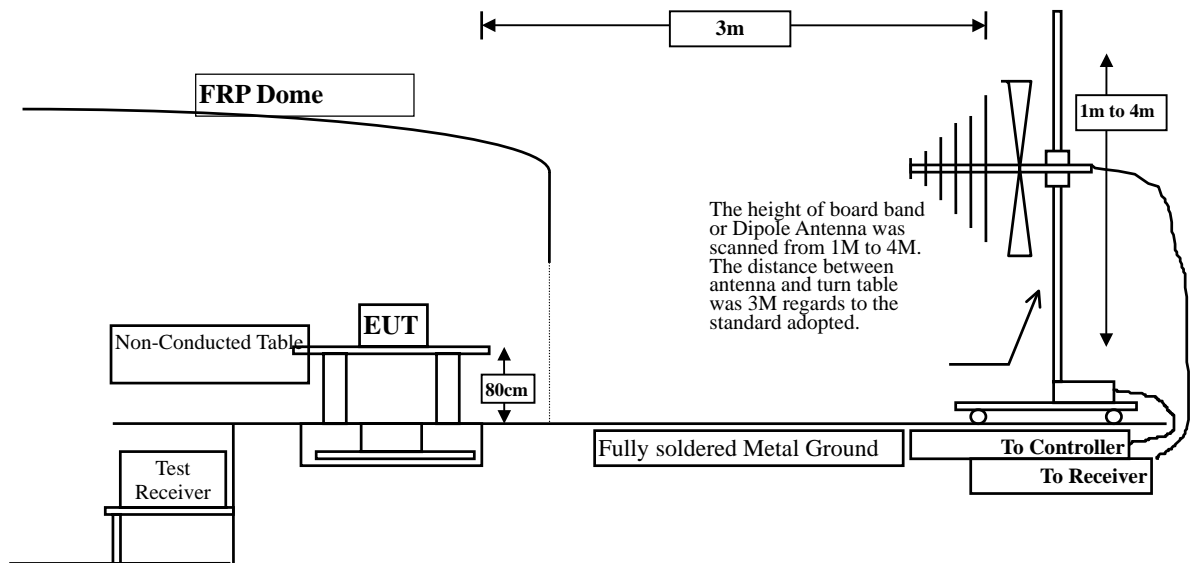
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

9kHz~30MHz



30MHz~1GHz



3.3. Limits

➤ Fundamental electric field strength Limit

FCC Part 15 Subpart C Paragraph 15.225 Limits				
Fundamental Frequency MHz	Field strength of fundamental			
	uV/m	Distance (meter)	dBuV/m	Distance (meter)
13.553 – 13.567	15848	30	124	3
13.410 – 13.553 and 13.567 – 13.710	334	30	90.47	3
13.110 – 13.410 and 13.710 – 14.010	106	30	80.50	3
Outside of the 13.110 – 14.010	See 15.209 Limits			

- Remarks :
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
 2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

➤ Spurious electric field strength Limit

FCC Part 15 Subpart C Paragraph 15.209 Limits			
Frequency MHz	uV/m	dBuV/m	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	See Remark ¹	300
0.490-1.705	24000/F(kHz)	See Remark ¹	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

- Remarks :
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
 2. In the Above Table, the tighter limit applies at the band edges.
 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4. Test Procedure

Fundamental electric field strength:

The EUT and its simulators are placed on a turn table which is 1 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum electric field strength.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna which is 1 meter above ground. All X-axis, Y-axis and Z-axis polarization of the antenna are set on measurement.

Spurious electric field strength:

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.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

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 according to ANSI C63.4 on

radiated measurement.

On any frequency the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 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.

The bandwidth below 30MHz setting on the field strength meter is 9kHz and above 30MHz is 120kHz.

3.5. Uncertainty

± 2.6 dB below 30MHz

± 3.8 dB above 30MHz

3.6. Test Result of Radiated Emission

Product : ASUS Pad
 Test Item : Fundamental Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit mode

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
X-axis					
Quasi-Peak					
13.560	20.716	39.176	59.892	-64.108	124.000
Y-axis					
Quasi-Peak					
13.560	20.716	39.613	60.329	-63.671	124.000
Z-axis					
Quasi-Peak					
13.560	20.716	34.886	55.602	-68.398	124.000

Note:

1. $\text{Limit} = 84 \text{ dBuV/m} + 40 * \text{Log} (30 \text{ (m)} / 3 \text{ (m)}) = 124 \text{ dBuV/m}$
2. All Readings below 1GHz are Quasi-Peak, above are average value.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : ASUS Pad
 Test Item : General Radiated Emission Data (below 30MHz)
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit mode

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level	dB	dBuV/m
	dB	dBuV	dBuV/m		
27.120	19.256	16.632	35.888	-33.652	69.540

Note:

1. $\text{Limit} = 29.54 \text{ dBuV/m} + 40 * \text{Log} (30(\text{m})/3(\text{m})) = 69.54 \text{ dBuV/m}$
2. All Readings below 1GHz are Quasi-Peak, above are average value.
3. "█" means the worst emission level.
4. $\text{Measurement Level} = \text{Reading Level} + \text{Correct Factor}$.

Product : ASUS Pad
 Test Item : General Radiated Emission Data (above 30MHz)
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit mode

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
QP Detector					
187.625	-13.645	31.197	17.552	-25.948	43.500
340.400	-5.540	31.352	25.812	-20.188	46.000
476.200	-0.970	33.777	32.807	-13.193	46.000
599.875	3.790	26.580	30.370	-15.630	46.000
820.550	4.370	25.541	29.911	-16.089	46.000
922.400	4.400	25.288	29.688	-16.312	46.000
Vertical					
QP Detector					
37.275	-7.645	44.164	36.519	-3.481	40.000
93.050	-7.980	37.619	29.639	-13.861	43.500
190.050	-4.140	33.378	29.238	-14.262	43.500
476.200	-2.100	27.978	25.878	-20.122	46.000
810.850	2.830	25.437	28.267	-17.733	46.000
963.625	5.565	25.498	31.063	-22.937	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. "█" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

4. Band Edge

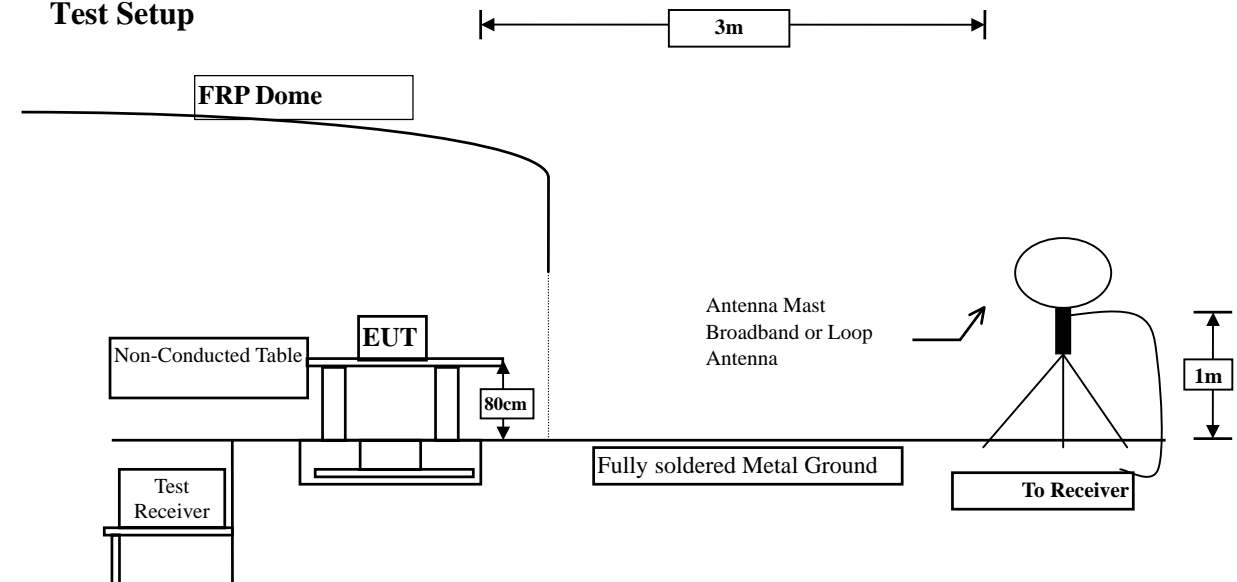
4.1. Test Equipment

The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	X	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2011
		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
		Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2011
		Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2012
		Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2011
		Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2012
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2011
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2012
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

- Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with “X” are used to measure the final test results.

4.2. Test Setup



4.3. Limits

In any 9 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50 dB below that in the 9 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

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. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

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 according to ANSI C63.4 on radiated measurement.

The bandwidth below 30MHz setting on the field strength meter is 9kHz and above 30MHz is 120kHz.

4.5. Uncertainty

Radiated is ± 2.6 dB

4.6. Test Result of Band Edge

Product : ASUS Pad
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit mode

RF Radiated Measurement

(Restricted band)

Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	QP Limit (dBuV/m)	Result
13.360	19.591	20.441	40.032	69.540	Pass
13.382	19.599	20.738	40.337	69.540	Pass
13.410	19.600	19.182	38.782	69.540	Pass

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

(Outside of Band)

Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	QP Limit (dBuV/m)	Result
13.110	19.580	18.264	37.844	69.540	Pass
14.010	19.610	19.315	38.925	69.540	Pass

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

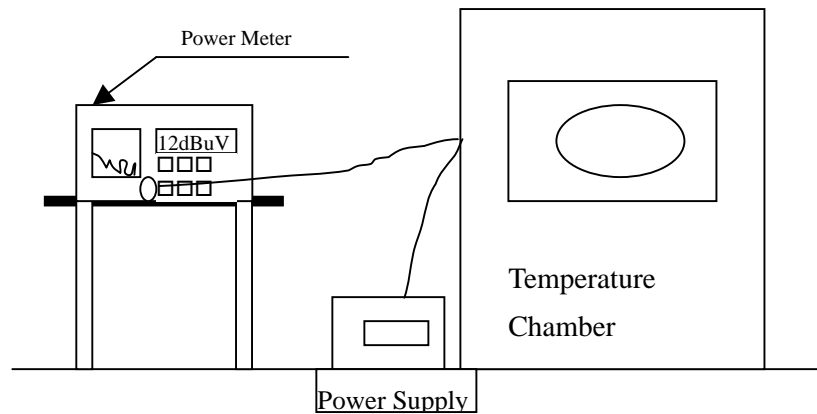
5. Frequency Tolerance

5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2011
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2011
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012
X	Temperature Chamber	TDE	CHM 150CT	March, 2012

Note: All equipments are calibrated every one year.

5.2. Test Setup



5.3. Limits

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency.

5.4. Test Procedure

The over operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

5.5. Uncertainty

± 150 Hz

5.6. Test Result of Frequency Stability

Product : ASUS Pad
 Test Item : Frequency Tolerance
 Test Site : Temperature Chamber
 Test Mode : Mode 1: Transmit mode

Temperature (°C)	Voltage (V)	Observe Time	Declared Frequency (MHz)	Read Frequency (MHz)	Tolerance (%)	Limit (%)
20	120	start	13.56	13.5607	0.005162	± 0.01 %
		2mins	13.56	13.5607	0.005162	
		5mins	13.56	13.5606	0.004425	
		10mins	13.56	13.5607	0.005162	
20	138	start	13.56	13.5608	0.005900	± 0.01 %
		2mins	13.56	13.5608	0.005900	
		5mins	13.56	13.5608	0.005900	
		10mins	13.56	13.5607	0.005162	
20	120	start	13.56	13.5606	0.004425	± 0.01 %
		2mins	13.56	13.5605	0.003687	
		5mins	13.56	13.5606	0.004425	
		10mins	13.56	13.5606	0.004425	
50	120	start	13.56	13.5612	0.008850	± 0.01 %
		2mins	13.56	13.5610	0.007375	
		5mins	13.56	13.5613	0.009587	
		10mins	13.56	13.5612	0.008850	
40	120	start	13.56	13.5612	0.008850	± 0.01 %
		2mins	13.56	13.5612	0.008850	
		5mins	13.56	13.5612	0.008850	
		10mins	13.56	13.5612	0.008850	
30	120	start	13.56	13.5610	0.007375	± 0.01 %
		2mins	13.56	13.5612	0.008850	
		5mins	13.56	13.5611	0.008112	
		10mins	13.56	13.5612	0.008850	

10	120	start	13.56	13.5590	-0.007375	± 0.01 %
		2mins	13.56	13.5590	-0.007375	
		5mins	13.56	13.5590	-0.007375	
		10mins	13.56	13.5590	-0.007375	
0	120	start	13.56	13.5607	0.005162	± 0.01 %
		2mins	13.56	13.5609	0.006637	
		5mins	13.56	13.5609	0.006637	
		10mins	13.56	13.5608	0.005900	
-10	120	start	13.56	13.5607	0.005162	± 0.01 %
		2mins	13.56	13.5609	0.006637	
		5mins	13.56	13.5608	0.005900	
		10mins	13.56	13.5609	0.006637	
-20	120	start	13.56	13.5609	0.006637	± 0.01 %
		2mins	13.56	13.5608	0.005900	
		5mins	13.56	13.5608	0.005900	
		10mins	13.56	13.5609	0.006637	

6. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs