

Test Report



(Declaration of Conformity)

for

Electromagnetic Interference

of

Product : **Tablet PC**

Trade Name : N/A

Model Number : ARMOR X10gx

Prepared for

Wistron Corporation.

21F, 88, Sec.1, Hsin Tai Wu Road., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

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Designation Number: TW1020

Remark:

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The test results in the report only to the tested sample.

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Statement of Compliance

Applicant: Wistron Corporation.
Manufacturer: Wistron InfoComm Co., LTD.
Product: Tablet PC
Model No.: ARMOR X10gx
Tested Power Supply: 120Vac, 60Hz
Date of Final Test: Jul. 05, 2010

Measurement Procedures and Standards Used:

- 47 CFR FCC Part 15 Subpart B
- ANSI C63.4: 2003

The measurement results in this test report were performed at Interocean EMC Technology Corp. the responsibility of measurement result is only subject to the tested sample. This report shows the EUT is technically compliance with the above official standards. This report shall not be partial reproduced without written approval by Interocean EMC Technology Corporation.

Report Issued: 2010/07/13

Project Engineer: Victor Chen
Victor Chen

Approved: Benson Tsai
Benson Tsai

1 General Information

1.1 Description of Equipment Under Test

Product	: Tablet PC
Model Number	: ARMOR X10gx
Applicant	: Wistron Corporation. 21F, 88, Sec.1, Hsin Tai Wu Road., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Manufacturer	: Wistron InfoComm Co., LTD. 7, Hsin-Ann Rd., Hsinchu Science Park, Hsinchu 300, Taiwan.
Power Supply	: <u>Adapter 1:</u> Manufacturer: GlobTek, Inc., Model No.: GT-21131-7215 Input: 100-240Vac, 50-60Hz, 1.6A Power cord: <input checked="" type="checkbox"/> Non-shielded <input type="checkbox"/> Detachable, 1.8 m <input checked="" type="checkbox"/> w/o core Output: 15Vdc, 4.8A Power cable: <input checked="" type="checkbox"/> Non-shielded <input type="checkbox"/> Un-detachable, 1.8m <input checked="" type="checkbox"/> w/o core
	<u>Adapter 2:</u> Manufacturer: Delta, Model No.: ADP-65JH BB Input: 100-240Vac, 50-60Hz, 1.5A Power cord: <input checked="" type="checkbox"/> Non-shielded <input type="checkbox"/> Detachable, 1.8 m <input checked="" type="checkbox"/> w/o core Output: 19Vdc, 3.42A Power cable: <input checked="" type="checkbox"/> Non-shielded <input type="checkbox"/> Un-detachable, 1.8m <input checked="" type="checkbox"/> with core
Date of Receipt Sample	: Apr. 19, 2010
Date of Test	: Apr. 19 ~ Jul. 05, 2010
Product Information	: <u>Interface / Port:</u> 1. USB Port *3 2. RS232 Port *1 3. PCMCIA Card Slot *1 4. Microphone Port *1 5. Display Port *1 6. SD Card Slot *1 7. Power Port*1
Additional Description	: 1) The test model is “ ARMOR X10gx ” and included in this report. 2) For more detail specification about EUT, please refer to the user’s manual.

1.2 Technical Specifications

Key Component	Mode
CPU on board	IC CPU PENRYN SU9300 1.2G BGA
DIMM	SODIMM 2G 78.A2GC6.421 DDR3 1333MHZ (Apacer DDR3 1333MHz 2G SODIMM (Elpida chip))
LCD Module P/N	LCM 10.4" TWINWILL DUAL MODE WT0300011F1 (56.0708E.001)
Wireless LAN (WLAN)	WLAN 802.11ABGN SHIRLEYPEAK3*3 (INTEL_533AN_HMWG 895401)
Bluetooth	BT MODULE BT2.1 +EDR CSR BC41-(BTC04R200B) (CASTLENET_BTC04R200B)
Battery Pack	BTY PACK LI+ SANYO 3C 2.4AH MICROSUN
Power Adapter	GlobTek, Inc, GT-21131-7215 Delta, ADP-65JH BB
Power cord	POWER CORD 110V TW
Web Camera	CAMERA 2M AF CN2015-E180-OV02-R SUYIN (SUYIN_CN2015-E180-OV02-R)
Speaker	SPEAKER DAGGER
SSD	SSD 32GB AP-SAFD18BQA032GS-BML (APACER_AP-SAFD18BQA032GS-BML)
RTC Battery	BACKUP BATTERY V15 MODIFY
Thermal Module	ASSY HEATPIPE
WWAN	WWAN GOBI2000 PCI EXPRESS MINI CARD
Global Position System (GPS)	GPS MODULE PCM-5S MINI PCICARD (ADVANTECH_GPS-107HE)
STYLUS	STYLUS DAGGER

1.3 Details of Tested Supporting System

1.3.1 Link PC

PC18

Model Number	:	IBM ThinkCentre 8175-OVE
Serial Number	:	99LBVYC
CPU Speed	:	Pentium 4 Celeron D 2.8GHz
EMC Compliance	:	CE, FCC, C-Tick, UL, BSMI: R33026
Manufacturer	:	IBM
RAM	:	256M*1
Hard Disk Driver	:	80GB
RJ45 Cable	:	Non-shielded, Detachable, 1.8m, w/o core

1.3.2 Monitor

MT31

Model Number	:	LP2475W
Serial Number	:	CNC9350X3T
EMC Compliance	:	FCC, CE, VCCI, MIC, CSA, GS
Manufacturer	:	HP
Power Cord	:	Non-shielded, Detachable, 1.8m, w/o core
Display Cable	:	Shielded, Detachable, 2m, w/o core

1.3.3 Modem

MD02

Model Number	:	199450041
Serial Number	:	211-28E1-1100-3
EMC Compliance	:	N/A
Manufacturer	:	DATATRONICS
Data Cable	:	Shielded, Detachable, 1.5m
Power Adapter	:	Amigo, Model AM-12830A Non-Shielded, Detachable, 1.8m

1.3.4 Earphone (With Microphone Function)

EAR01

Model Number	:	FS-88
Serial Number	:	N/A
Manufacturer	:	GITON
Data Cable	:	Non-shielded, detachable, 1.0m

1.3.5 Secure Digital Card

SD-07

Model Number : AP-HSC1000
Serial Number : 710533401463
Manufacturer : Apacer
Description : 1GB

1.3.6 USB iPod

USB49

Model Number : IPOD A1204
Serial Number : 4H707NKXXR1
EMC Compliance : BSMI
Manufacturer : APPLE
Data Cable : Non-shielded, detachable, 1.0m

USB51

Model Number : IPOD A1204
Serial Number : 4H710RF0XQY
EMC Compliance : BSMI
Manufacturer : APPLE
Data Cable : Non-shielded, detachable, 1.0m

USB53

Model Number : IPOD A1204
Serial Number : 5C710DFYXQV
EMC Compliance : BSMI
Manufacturer : APPLE
Data Cable : Non-shielded, detachable, 1.0m

1.3.7 Cable

Power cord : Non-shielded Detachable, 1.8 m w/o core

1.4 Test Facility

Site Description	:	<input checked="" type="checkbox"/> Conduction 1 <input checked="" type="checkbox"/> Conduction 2 <input checked="" type="checkbox"/> OATS 2
Name of Firm	:	Intercean EMC Technology Corp.
Company web	:	http://www.ietc.com.tw
Site 1, 2 Location	:	No.5-2, Lin 1, Tin-Fu Tsun, Lin-Kou Hsiang, Taipei County, Taiwan, R.O.C.
Site 3, 4 Location	:	No. 12, Ruei-Shu Valley, Ruei-Ping Tsun, Lin-Kou Hsiang, Taipei County, Taiwan, R.O.C.
Site Filing	:	<ul style="list-style-type: none"> ● Federal Communication Commissions – USA Registration No.: 96399 (OATS 1 & 2) Registration No.: 518958 (OATS 3 & 4) Designation No.: TW1020 ● Voluntary Control Council for Interference by Information Technology Equipment (VCCI) – Japan Member No.: 1349 Registration No. (Conducted Room): C-1094 Registration No. (Conducted Room): T-1562 Registration No. (OATS 1): R-1040 Registration No. (OATS 2): R-1041 ● Industry Canada (IC) OUR FILE: 46405-4437 Submission: 130946 Registration No. (OATS 1): 4437A-1 Registration No. (OATS 2): 4437A-2 Registration No. (OATS 3): 4437A-3 Registration No. (OATS 4): 4437A-4 ● Bureau of Standards and Metrology and Inspection (BSMI) – Taiwan, R.O.C. Accreditation No.: SL2-IN-E-0026 for CNS13438 / CISPR22 SL2-R1-E-0026 for CNS13439 / CISPR13 SL2-R2-E-0026 for CNS13439 / CISPR13 SL2-A1-E-0026 for CNS13783-1 / CISPR14-1 SL2-L1-E-0026 for CNS 14115 / CISPR 15 ● Taiwan Accreditation Foundation (TAF) Accreditation No.: 1113 ● TÜV NORD Certificate No: TNTW0801R-02
Site Accreditation	:	



1.5 Measurement Uncertainty

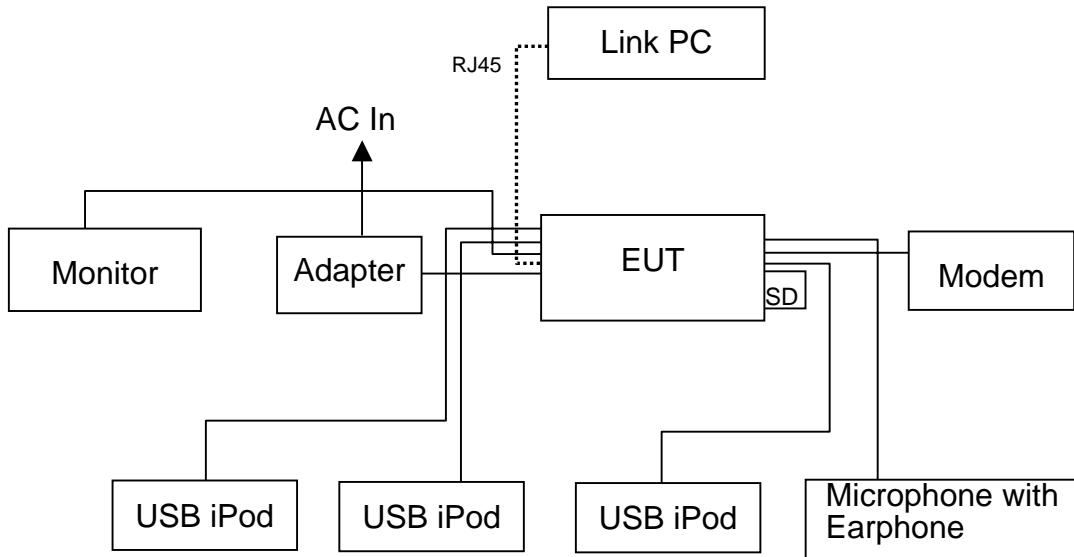
No.	Item	Value
1	Power Line Conducted Emission (Conduction 1)	2.4 dB
2	Power Line Conducted Emission (Conduction 2)	2.4 dB
3	Disturbance Power Emission (Conduction 2)	3.1 dB
4	Click disturbances Emission (Conduction 2)	2.4 dB
5	Radiated Electromagnetic disturbance (Loop Antenna)	4.8 dB
6	Radiated Emission Test (OATS 1)	4.2 dB
7	Radiated Emission Test (OATS 2)	4.2 dB
8	Radiated Emission Test (OATS 3)	4.2 dB
9	Radiated Emission Test (OATS 4)	4.2 dB
10	Radiated Emission Test (1GHz~18GHz)	3.2 dB
11	Radiated Emission Test (18GHz~40GHz)	3.4 dB
12	Conducted Immunity Test (CDN-M2)	1.3 dB
13	Conducted Immunity Test (CDN-M3)	1.3 dB
14	Conducted Immunity Test (EM Clamp)	3.2 dB

1.6 Measured Mode

1.6.1 The test mode for final test is as following:

- Mode 1: LCD + Display Mode (1024*768, 60Hz) (GlobTek, GT-21131-7215)
- Mode 2: LCD + Display Mode (1024*768, 60Hz) (Delta, ADP-65JH BB)

1.7 Configuration of EUT Setup



1.8 Test Step of EUT

- 1.8.1 Setup the EUT and peripheral as above.
- 1.8.2 Turn on the power of all equipment.
- 1.8.3 An executive program, EMC software under Windows OS, which generates a complete line of continuously repeating "H" pattern was used.
- 1.8.4 The program were executed as follows:
 - a. The EUT reads the test program from the hard disk drive and runs it.
 - b. The EUT sends "H" messages to the monitor, and the monitor displays "H" patterns on the screen.
 - c. The EUT sends "H" messages to the internal hard disk, and the hard disk reads and writes the message.
 - d. Repeat the steps from b to c.
- 1.8.5 At the same time, the following programs were executed:
 - Executed "Windows Media Player" to play music.
 - Executed "EMC software" to read and write data from external USB iPod to EUT.
 - Executed "EMC software" to read and write data from SD Card to EUT.
 - Executed "Ping.exe" to link with the remote workstation to receive and transmit data by UTP cable.

2 Power Line Conducted Emission Measurement

2.1 Instrument

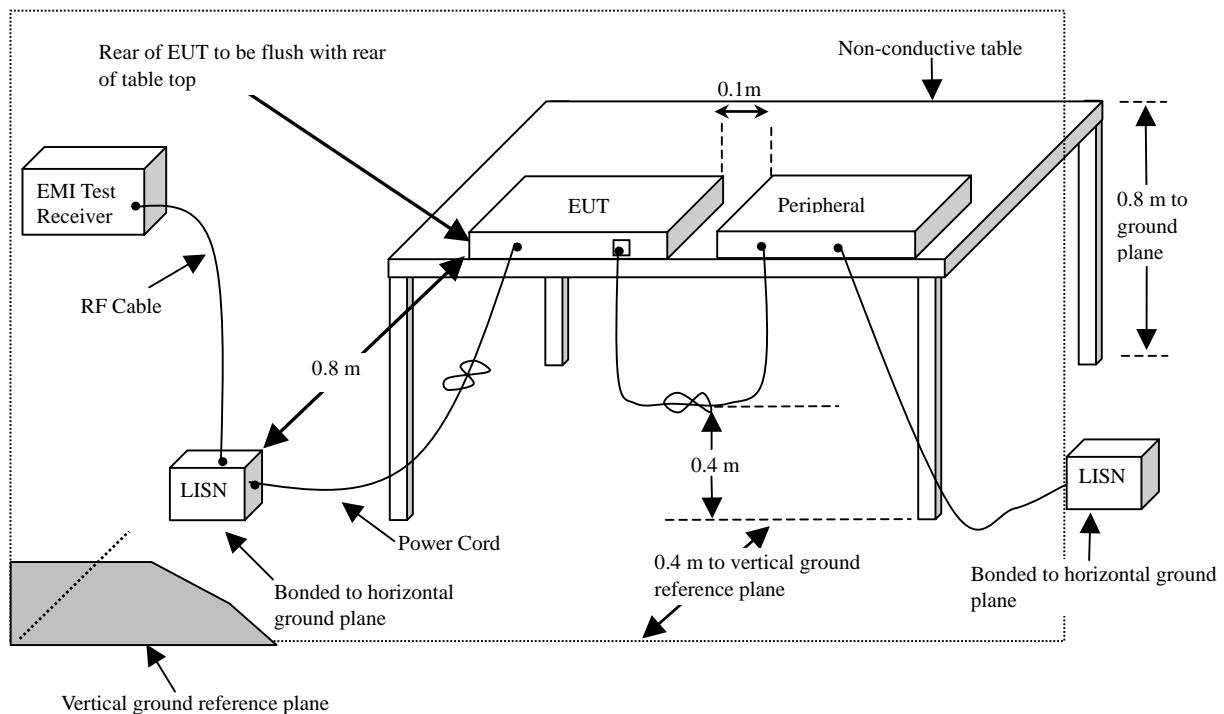
Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESCS30	100134	2010/08/12
RF Cable	HARBOUR	M71/128-RG400	MILC17-1	2010/07/23
L.I.S.N.	Schaffner	MN2050D	1597	2011/06/10
L.I.S.N.	Rohde & Schwarz	ESH3-Z5	829996/016	2011/01/09

Note: The above equipments are within the valid calibration period.

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESCS30	100134	2010/08/12
RF Cable	HARBOUR	M71/128-RG400	MILC17-1	2010/07/23
L.I.S.N.	Schaffner	MN2050D	1597	2011/06/10
L.I.S.N.	Rohde & Schwarz	ESH3-Z5	829996/016	2011/01/09

Note: The above equipments are within the valid calibration period.

2.2 Block Diagram of Test Configuration



2.3 Conducted Limits

FCC Part 15

Frequency (MHz)	<input type="checkbox"/> Class A (dB μ V)		<input checked="" type="checkbox"/> Class B (dB μ V)	
	Q.P. (Quasi-Peak)	A.V. (Average)	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 ~ 0.50	79	66	66 to 56	56 to 46
0.50 ~ 5.0	73	60	56	46
5.0 ~ 30	73	60	60	50

2.4 Instrument configuration

- 2.4.1 Set the EMI test receiver frequency range from 150 kHz to 30 MHz.
- 2.4.2 Set the EMI test receiver bandwidth at 9kHz.
- 2.4.3 Set the EMI test receiver detector as Quasi-Peak (Q.P.) and Average (AV).

2.5 Configuration of Measurement

- 2.5.1 The EUT was placed on a non-conductive table whose total height equaled 80cm and vertical conducting plane located 40cm to the rear of the EUT.
- 2.5.2 The EUT was connected to the main power through Line Impedance Stabilization Networks (LISN). This setup provided a 50ohm/50 μ H coupling impedance for the measuring equipment. The auxiliary equipment was also connected to the main power through a LISN that provided a 50ohm/50 μ H coupling impedance with 50ohm termination. (Refer to the block diagram of the test setup and photographs.)
- 2.5.3 The conducted disturbance was measured between the phase lead and the reference ground, and between the neutral lead and reference ground. The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.
- 2.5.4 The identification of the frequency of highest disturbance with respect to the limit was found by investigating disturbances at a number of significant frequencies. The probable frequency of maximum disturbance had been found and that the associated cable and EUT configuration and mode of operation had been identified.

2.6 Test Result

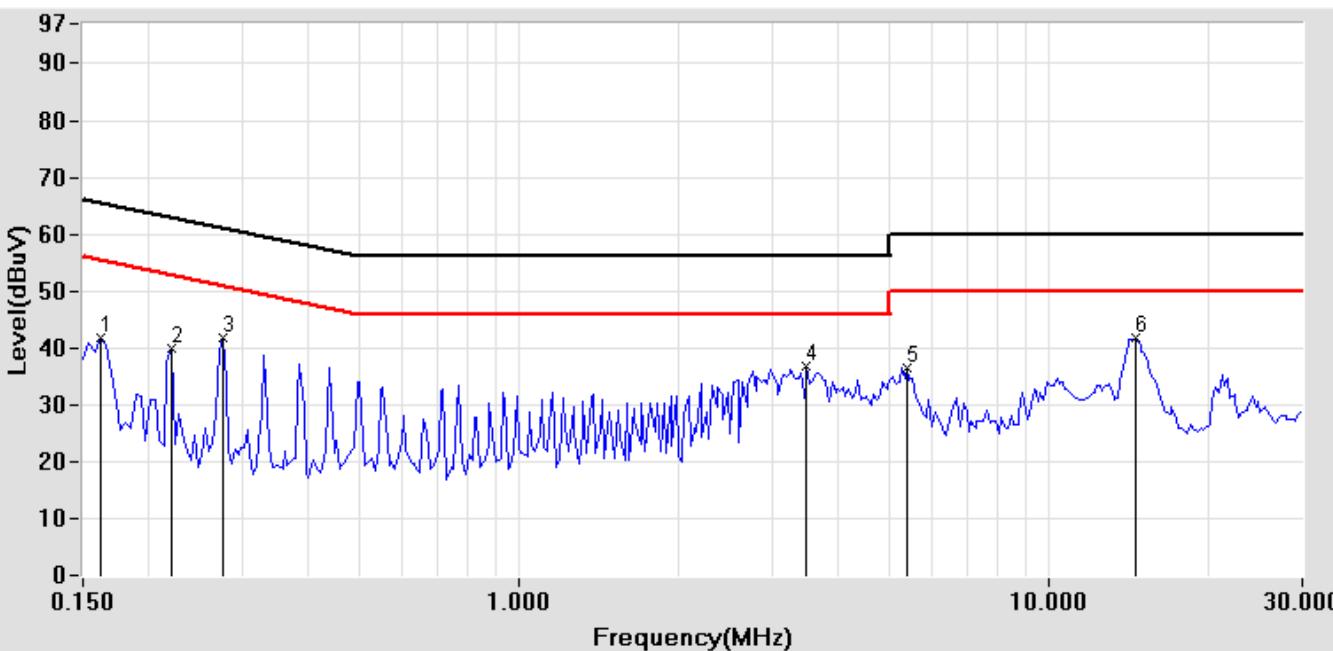
PASS.

The final test data is shown as following pages.

Power Line Conducted Test Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 23.4 °C Humidity: 59 %				POLARITY: Line DISTANCE: Serial No.: FILE/DATA#: Wistron.emi/10 OPERATOR: Raven TEST SITE: Conduction 1					
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)		Emission Level (dB μ V)		Limits (dB μ V)		Margin (dB)	
		Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.166	0.11	49.85	40.27	49.96	40.38	65.16	55.16	-15.20	-14.78
0.275	0.18	40.28	34.76	40.46	34.94	60.97	50.97	-20.51	-16.03
3.298	0.26	32.50	25.70	32.76	25.96	56.00	46.00	-23.24	-20.04
3.908	0.30	33.34	25.66	33.64	25.96	56.00	46.00	-22.36	-20.04
5.291	0.34	29.80	21.03	30.14	21.37	60.00	50.00	-29.86	-28.63
14.502	0.68	37.69	30.28	38.37	30.96	60.00	50.00	-21.63	-19.04
Remark: 1. All readings are Quasi-Peak and Average values. 2. Factor = Insertion Loss + Cable Loss.									
Test Mode: Mode 1: LCD + Display Mode (1024*768, 60Hz) (GlobTek, GT-21131-7215)									

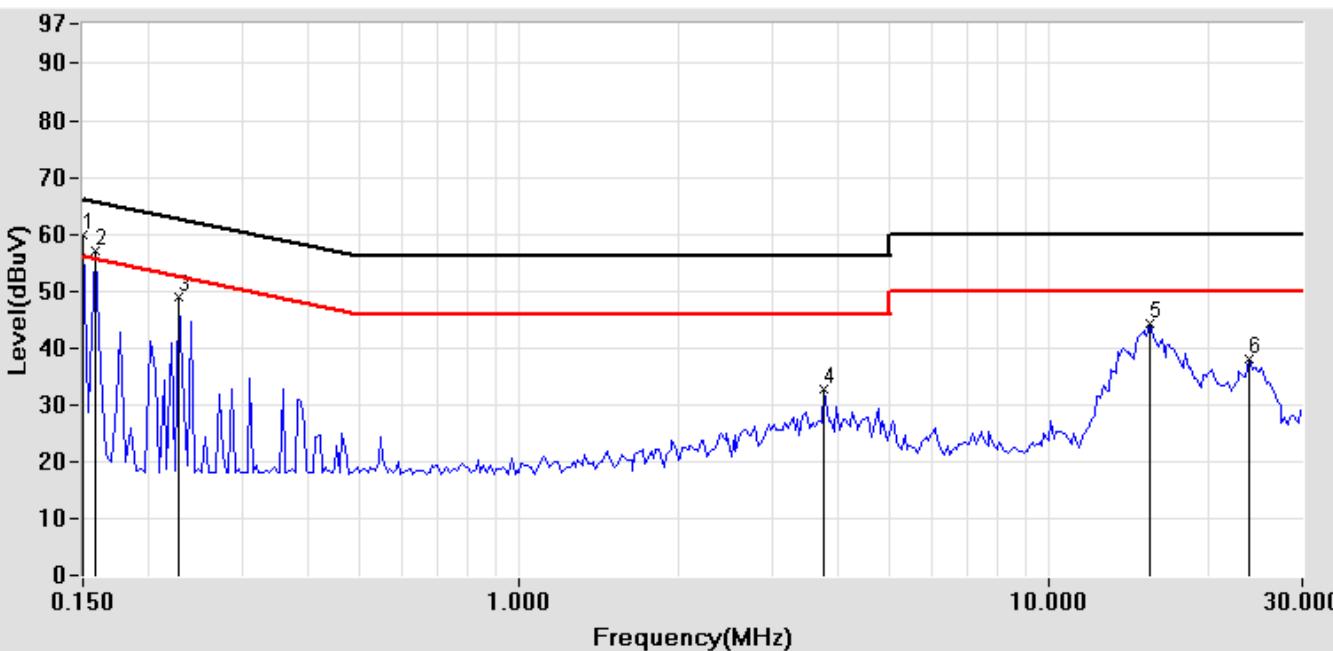
Power Line Conducted Test Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 23.4 °C Humidity: 59 %				POLARITY: Neutral DISTANCE: Serial No.: FILE/DATA#: Wistron.emi/11 OPERATOR: Raven TEST SITE: Conduction 1					
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)		Emission Level (dB μ V)		Limits (dB μ V)		Margin (dB)	
		Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.162	0.11	49.20	40.60	49.31	40.71	65.36	55.36	-16.05	-14.65
0.220	0.15	39.72	30.92	39.87	31.07	62.82	52.82	-22.95	-21.75
0.275	0.18	40.83	36.16	41.01	36.34	60.97	50.97	-19.96	-14.63
3.470	0.20	33.82	25.18	34.02	25.38	56.00	46.00	-21.98	-20.62
5.388	0.25	32.46	25.46	32.71	25.71	60.00	50.00	-27.29	-24.29
14.498	0.58	38.78	30.65	39.36	31.23	60.00	50.00	-20.64	-18.77
Remark: 1. All readings are Quasi-Peak and Average values. 2. Factor = Insertion Loss + Cable Loss.									
									
Test Mode: Mode 1: LCD + Display Mode (1024*768, 60Hz) (GlobTek, GT-21131-7215)									

Power Line Conducted Test Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 24.1 °C Humidity: 54 %				POLARITY: Line DISTANCE: Serial No.: FILE/DATA#: Wistron.emi/26 OPERATOR: Raven TEST SITE: Conduction 2					
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)		Emission Level (dB μ V)		Limits (dB μ V)		Margin (dB)	
		Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.158	0.11	56.20	40.00	56.31	40.11	65.57	55.57	-9.26	-15.46
0.205	0.09	46.60	21.50	46.69	21.59	63.41	53.41	-16.72	-31.82
0.216	0.09	45.65	23.77	45.74	23.86	62.97	52.97	-17.23	-29.11
0.275	0.09	37.14	13.85	37.23	13.94	60.97	50.97	-23.74	-37.03
15.611	0.66	36.01	28.17	36.67	28.83	60.00	50.00	-23.33	-21.17
29.712	2.04	32.14	23.64	34.18	25.68	60.00	50.00	-25.82	-24.32
Remark: 1. All readings are Quasi-Peak and Average values. 2. Factor = Insertion Loss + Cable Loss.									
Test Mode: Mode 2: LCD + Display Mode (1024*768, 60Hz) (Delta, ADP-65JH BB)									

Power Line Conducted Test Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 24.1 °C Humidity: 54 %				POLARITY: Neutral DISTANCE: Serial No.: FILE/DATA#: Wistron.emi/27 OPERATOR: Raven TEST SITE: Conduction 2					
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)		Emission Level (dB μ V)		Limits (dB μ V)		Margin (dB)	
		Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.150	0.12	56.11	39.60	56.23	39.72	66.00	56.00	-9.77	-16.28
0.158	0.11	55.90	39.20	56.01	39.31	65.57	55.57	-9.56	-16.26
0.228	0.09	45.27	27.00	45.36	27.09	62.52	52.52	-17.16	-25.43
3.763	0.15	22.75	15.64	22.90	15.79	56.00	46.00	-33.10	-30.21
15.482	0.56	35.52	25.76	36.08	26.32	60.00	50.00	-23.92	-23.68
23.759	0.80	28.42	21.82	29.22	22.62	60.00	50.00	-30.78	-27.38
Remark: 1. All readings are Quasi-Peak and Average values. 2. Factor = Insertion Loss + Cable Loss.									
									
Test Mode: Mode 2: LCD + Display Mode (1024*768, 60Hz) (Delta, ADP-65JH BB)									

3 Radiated Emission Measurement (below 1GHz)

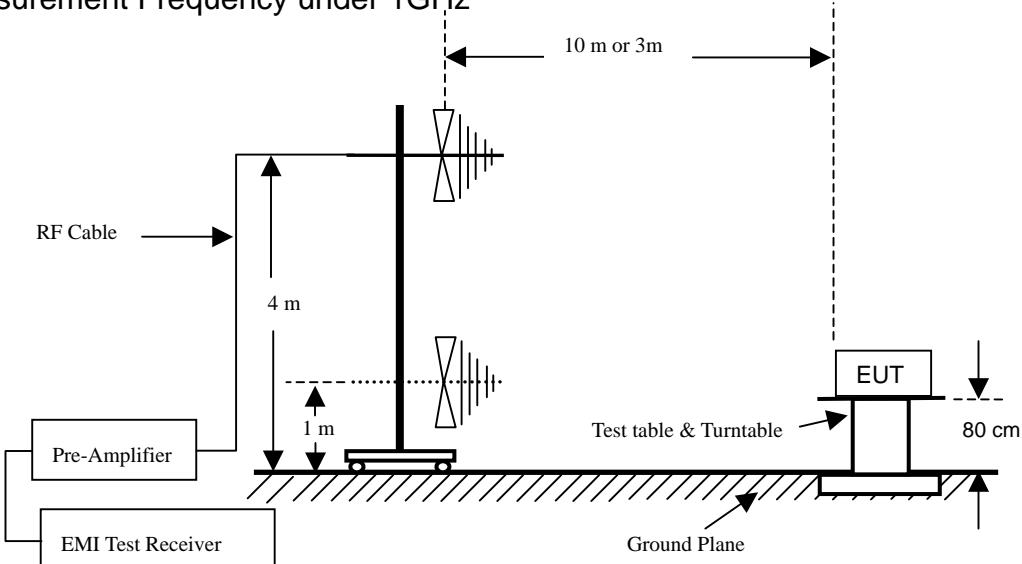
3.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESVS10	826148/011	2010/07/08
Biconical Antenna	Schwarzbeck	VHA 9103	2484	2010/10/09
Log Antenna	Schwarzbeck	UHALP 9108	A 0765	2010/10/09
Pre-Amplifier	SCHAFFNER	CPA9231A	3349	2010/08/04
RF Cable	IETC	8DFB	CBL14	2010/07/13

Note: The above equipments are within the valid calibration period.

3.2 Block Diagram of Test Configuration

Measurement Frequency under 1GHz



3.3 Radiated Limits

FCC Part 15

Frequency (MHz)	□ Class A (10m)		□ Class B (3m)	
	Field Strength (µV)	Quasi-Peak dB(µV/m)	Field Strength (µV)	Quasi-Peak dB(µV/m)
30 ~ 88	90	39.08	100	40.00
88 ~ 216	150	43.52	150	43.52
216 ~ 960	210	46.44	200	46.02
960 above	300	49.54	500	53.98

CISPR 22

Frequency (MHz)	□ Class A	<input checked="" type="checkbox"/> Class B
	Quasi-Peak dB(µV/m)	Quasi-Peak dB(µV/m)
30 ~ 230	40.0	30.0
230 ~ 1000	47.0	37.0

** According to 47 CFR FCC Part 15 § 15.109(g)

3.4 Instrument configuration

- 3.4.1 Set the EMI test receiver frequency range from 30 MHz to 1000 MHz.
- 3.4.2 Set the EMI test receiver bandwidth at 120 kHz.
- 3.4.3 Set the EMI test receiver detector as Quasi-Peak (Q.P.).

3.5 Configuration of Measurement

- 3.5.1 The EUT was placed on a non-conductive table whose total height equaled 80cm. The turntable can rotate 360 degree to determine the position of the maximum emission level.
- 3.5.2 The EUT was set 10 meters away from the receiving antenna that was mounted on a non-conductive mast. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level.
- 3.5.3 The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.
- 3.5.4 The identification of the frequency of highest emission with respect to the limit was found by investigating emissions at a number of significant frequencies. The probable frequency of maximum emission had been found and that the associated cable and EUT configuration and mode of operation had been identified.

3.6 Test Result

PASS.

The final test data is shown as following pages.

Radiated Emission Measurement Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 25.6 °C Humidity: 45 %			POLARITY: Horizontal DISTANCE: 10 m Serial No.: FILE/DATA#: Wistron.emi/7 OPERATOR: Nigel TEST SITE: OATS 2		
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
69.860 **	-5.64	25.80	20.16	30.00	-9.84
147.560 **	3.10	20.13	23.23	30.00	-6.77
173.214 **	4.38	19.23	23.61	30.00	-6.39
195.200 **	4.99	18.90	23.89	30.00	-6.11
220.490 **	5.42	18.40	23.82	30.00	-6.18
291.384 **	7.95	20.10	28.05	37.00	-8.95
536.600 **	8.61	16.50	25.11	37.00	-11.89
697.240 **	11.22	19.50	30.72	37.00	-6.28
766.710 **	11.47	17.40	28.87	37.00	-8.13
852.130 **	12.59	12.90	25.49	37.00	-11.51
<p>Remark:</p> <ol style="list-style-type: none"> “ * ” Mark means readings are Peak Values. “ ** ” Mark means readings are Quasi-Peak values. Factor = Antenna Factor + Cable Loss – Pre-amplifier. 					
Test Mode: Mode 1: LCD + Display Mode (1024*768, 60Hz) (GlobTek, GT-21131-7215)					

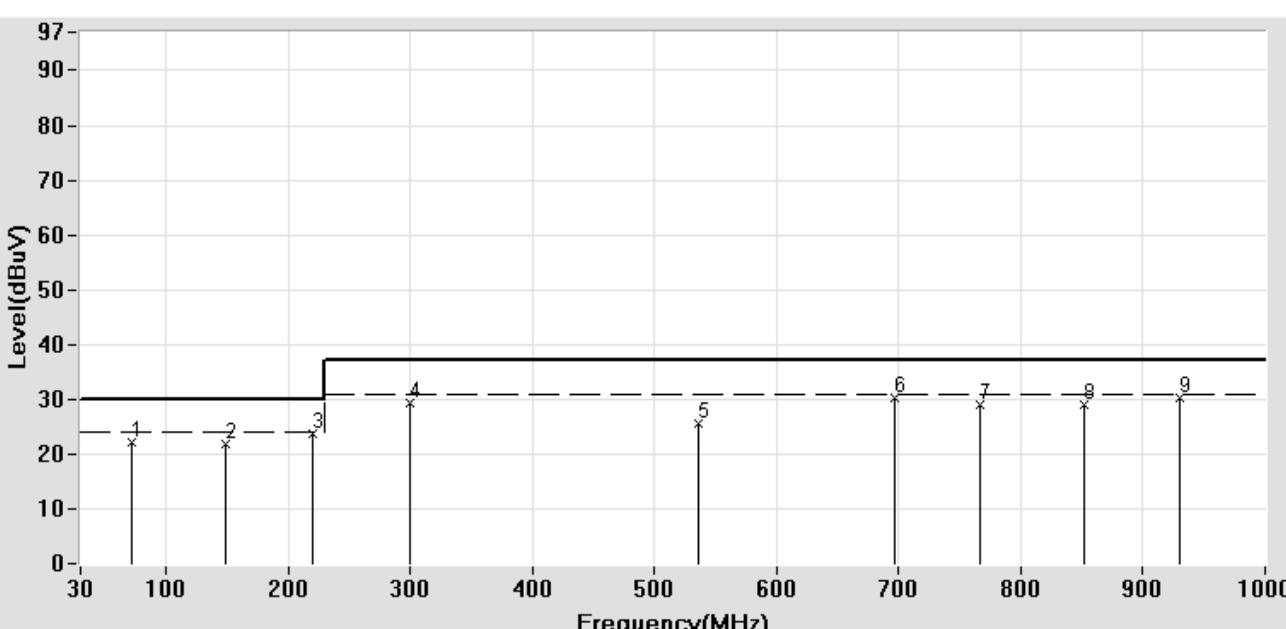
Radiated Emission Measurement Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 25.6 °C Humidity: 45 %		POLARITY: Vertical DISTANCE: 10 m Serial No.: FILE/DATA#: Wistron.emi/6 OPERATOR: Nigel TEST SITE: OATS 2			
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
70.300 **	-6.14	29.60	23.46	30.00	-6.54
148.220 **	2.42	19.80	22.22	30.00	-7.78
220.500 **	6.22	17.40	23.62	30.00	-6.38
299.244 **	9.52	19.80	29.32	37.00	-7.68
536.590 **	8.91	16.55	25.46	37.00	-11.54
697.310 **	11.28	18.90	30.18	37.00	-6.82
766.670 **	11.64	17.40	29.04	37.00	-7.96
852.220 **	12.79	16.30	29.09	37.00	-7.91
929.780 **	14.09	16.10	30.19	37.00	-6.81
Remark: 1. "*" Mark means readings are Peak Values. 2. "**" Mark means readings are Quasi-Peak values. 3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.					
Test Mode: Mode 1: LCD + Display Mode (1024*768, 60Hz) (GlobTek, GT-21131-7215)					

Radiated Emission Measurement Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 25.6 °C Humidity: 45 %			POLARITY: Horizontal DISTANCE: 10 m Serial No.: FILE/DATA#: Wistron.emi/34 OPERATOR: Victor TEST SITE: OATS 2		
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
65.260 **	-5.27	27.12	21.85	30.00	-8.15
167.260 **	4.10	16.26	20.36	30.00	-9.64
172.260 **	4.32	18.26	22.58	30.00	-7.42
195.200 **	4.99	18.90	23.89	30.00	-6.11
220.490 **	5.42	18.40	23.82	30.00	-6.18
291.384 **	7.95	20.10	28.05	37.00	-8.95
536.600 **	8.61	16.50	25.11	37.00	-11.89
697.240 **	11.22	19.50	30.72	37.00	-6.28
766.710 **	11.47	17.40	28.87	37.00	-8.13
852.130 **	12.59	12.90	25.49	37.00	-11.51
<p>Remark:</p> <ol style="list-style-type: none"> “ * ” Mark means readings are Peak Values. “ ** ” Mark means readings are Quasi-Peak values. Factor = Antenna Factor + Cable Loss – Pre-amplifier. 					
Test Mode: Mode 2: LCD + Display Mode (1024*768, 60Hz) (Delta, ADP-65JH BB)					

Radiated Emission Measurement Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 25.6 °C Humidity: 45 %		POLARITY: Vertical DISTANCE: 10 m Serial No.: FILE/DATA#: Wistron.emi/33 OPERATOR: Victor TEST SITE: OATS 2			
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
72.260 **	-6.08	28.26	22.18	30.00	-7.82
148.260 **	2.42	19.26	21.68	30.00	-8.32
220.500 **	6.22	17.40	23.62	30.00	-6.38
299.244 **	9.52	19.80	29.32	37.00	-7.68
536.590 **	8.91	16.55	25.46	37.00	-11.54
697.310 **	11.28	18.90	30.18	37.00	-6.82
766.670 **	11.64	17.40	29.04	37.00	-7.96
852.220 **	12.79	16.30	29.09	37.00	-7.91
929.780 **	14.09	16.10	30.19	37.00	-6.81
Remark: 1. “*” Mark means readings are Peak Values. 2. “**” Mark means readings are Quasi-Peak values. 3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.					
					
Test Mode: Mode 2: LCD + Display Mode (1024*768, 60Hz) (Delta, ADP-65JH BB)					

4 Radiated Emission Measurement (above 1GHz)

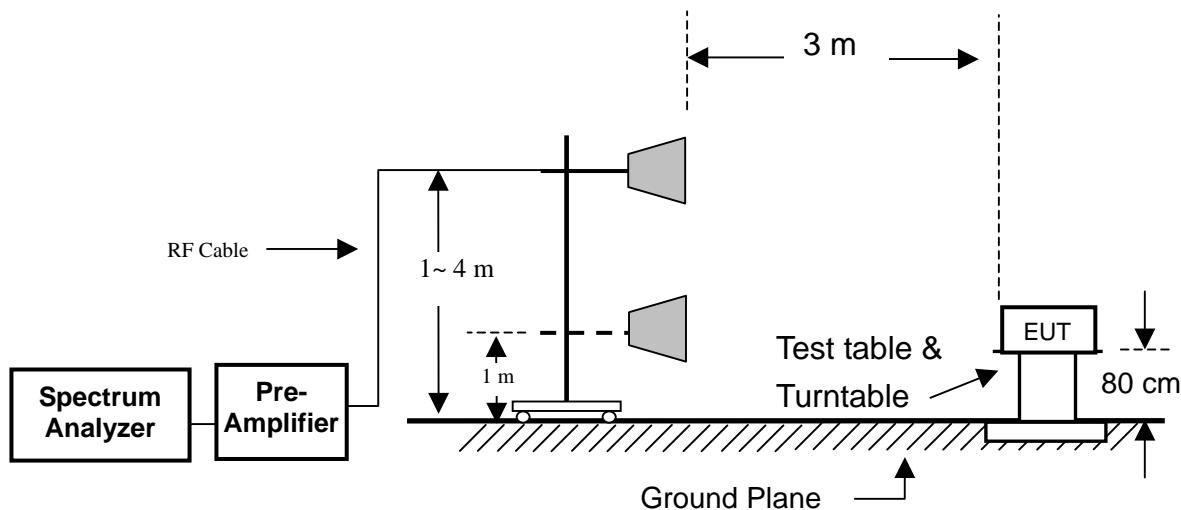
4.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
Spectrum Analyzer	R&S	FSP30	100002	2010/12/08
Preamplifier	Agilent	83050A	3950M00225	2010/08/10
Cable	HARBOUR	27478LL142	CBL22	2010/10/20
Cable	HARBOUR	27478LL142	CBL23	2010/10/20
Horn Antenna	COM-POWER	AH-118	10081	2012/05/19

Note: The above equipments are within the valid calibration period.

4.2 Block Diagram of Test Configuration

Measurement Frequency above 1GHz



4.3 Radiated Limits

FCC (above 1000MHz) (3m)

Frequency (MHz)	□ Class A		☒ Class B	
	Peak dB(µV/m)	Average dB(µV/m)	Peak dB(µV/m)	Average dB(µV/m)
Above 1000	80.0	60.0	74.0	54.0

4.4 Instrument configuration

- 4.4.1 Set the EMI test Spectrum frequency range above 1GHz.
- 4.4.2 Set the EMI test Spectrum bandwidths above 1GHz are at 1MHz for peak value and 10Hz for average value.
- 4.4.3 All readings of the test Spectrum detector above 1GHz are average value.

4.5 Configuration of Measurement

- 4.5.1 The EUT was placed on a non-conductive table whose total height equaled 80cm. The turntable can rotate 360 degree to determine the position of the maximum emission level.
- 4.5.2 The EUT was set 3 meters for measuring frequency above 1GHz away from the receiving antenna that was mounted on a non-conductive mast. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level.
- 4.5.3 The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.
- 4.5.4 The identification of the frequency of highest emission with respect to the limit was found by investigating emissions at a number of significant frequencies. The probable frequency of maximum emission had been found and that the associated cable and EUT configuration and mode of operation had been identified.

4.6 Test Result

PASS.

The final test data is shown as following pages.

Radiated Emission Measurement Data

EUT: Tablet PC			POLARITY: Horizontal		
CLIENT: Wistron Corporation.			DISTANCE: 3 m		
MODEL: ARMOR X10gx			Serial No.:		
RATING: 120V/60Hz			FILE/DATA#: Wistron.emi/11		
Temperature: 25.6 °C			OPERATOR: Nigel		
Humidity: 45 %			TEST SITE: OATS 2		
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1316.000 *	-6.24	56.89	50.65	74.00	-23.35
1316.000 **	-6.24	44.02	37.78	54.00	-16.22
1635.000 *	-3.93	47.65	43.72	74.00	-30.28
1635.000 **	-3.93	39.56	35.63	54.00	-18.37
2023.000 *	-0.64	45.65	45.01	74.00	-28.99
2023.000 **	-0.64	37.56	36.92	54.00	-17.08
2330.000 *	-1.32	37.65	36.33	74.00	-37.67
2330.000 **	-1.32	41.20	39.88	54.00	-14.12
Remark:					
1. “*” Mark means readings are Peak Values.					
2. “**” Mark means readings are Average values.					
3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.					
Test Mode: Mode 1: LCD + Display Mode (1024*768, 60Hz) (GlobTek, GT-21131-7215)					

Radiated Emission Measurement Data

EUT: Tablet PC		POLARITY: Vertical			
CLIENT: Wistron Corporation.		DISTANCE: 3 m			
MODEL: ARMOR X10gx		Serial No.:			
RATING: 120V/60Hz		FILE/DATA#: Wistron.emi/10			
Temperature: 25.6 °C		OPERATOR: Nigel			
Humidity: 45 %		TEST SITE: OATS 2			
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1316.000 *	-6.24	57.13	50.89	74.00	-23.11
1316.000 **	-6.24	45.65	39.41	54.00	-14.59
1627.000 *	-4.00	49.67	45.67	74.00	-28.33
1627.000 **	-4.00	40.56	36.56	54.00	-17.44
2090.000 *	-0.79	47.52	46.73	74.00	-27.27
2090.000 **	-0.79	39.65	38.86	54.00	-15.14
2323.000 *	-1.30	49.18	47.88	74.00	-26.12
2323.000 **	-1.30	38.98	37.68	54.00	-16.32
Remark:					
1. “*” Mark means readings are Peak Values.					
2. “**” Mark means readings are Average values.					
3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.					
Test Mode: Mode 1: LCD + Display Mode (1024*768, 60Hz) (GlobTek, GT-21131-7215)					

Radiated Emission Measurement Data

EUT: Tablet PC CLIENT: Wistron Corporation. MODEL: ARMOR X10gx RATING: 120V/60Hz Temperature: 25.6 °C Humidity: 45 %			POLARITY: Horizontal DISTANCE: 3 m Serial No.: FILE/DATA#: Wistron.emi/38 OPERATOR: Victor TEST SITE: OATS 2		
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1316.000 *	-6.24	56.89	50.65	74.00	-23.35
1316.000 **	-6.24	44.02	37.78	54.00	-16.22
1635.000 *	-3.93	47.65	43.72	74.00	-30.28
1635.000 **	-3.93	39.56	35.63	54.00	-18.37
2023.000 *	-0.64	45.65	45.01	74.00	-28.99
2023.000 **	-0.64	37.56	36.92	54.00	-17.08
2330.000 *	-1.32	37.65	36.33	74.00	-37.67
2330.000 **	-1.32	41.20	39.88	54.00	-14.12
<p>Remark:</p> <ol style="list-style-type: none"> “ * ” Mark means readings are Peak Values. “ ** ” Mark means readings are Average values. Factor = Antenna Factor + Cable Loss – Pre-amplifier. 					
Test Mode: Mode 2: LCD + Display Mode (1024*768, 60Hz) (Delta, ADP-65JH BB)					

Radiated Emission Measurement Data

EUT: Tablet PC			POLARITY: Vertical		
CLIENT: Wistron Corporation.			DISTANCE: 3 m		
MODEL: ARMOR X10gx			Serial No.:		
RATING: 120V/60Hz			FILE/DATA#: Wistron.emi/37		
Temperature: 25.6 °C			OPERATOR: Victor		
Humidity: 45 %			TEST SITE: OATS 2		
Frequency (MHz)	Factor (dB)	Meter Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1316.000 *	-6.24	57.13	50.89	74.00	-23.11
1316.000 **	-6.24	45.65	39.41	54.00	-14.59
1627.000 *	-4.00	49.67	45.67	74.00	-28.33
1627.000 **	-4.00	40.56	36.56	54.00	-17.44
2090.000 *	-0.79	47.52	46.73	74.00	-27.27
2090.000 **	-0.79	39.65	38.86	54.00	-15.14
2323.000 *	-1.30	49.18	47.88	74.00	-26.12
2323.000 **	-1.30	38.98	37.68	54.00	-16.32
Remark:					
1. “*” Mark means readings are Peak Values.					
2. “**” Mark means readings are Average values.					
3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.					
Test Mode: Mode 2: LCD + Display Mode (1024*768, 60Hz) (Delta, ADP-65JH BB)					

5 Photographs of Measurement

5.1 Power Line Conducted Emission Measurement



Front View



Rear View

5.2 Radiated Emission Measurement (below 1GHz)



Front View



Rear View

5.3 Radiated Emission Measurement (above 1GHz)



Front View



Rear View

6 Photographs of EUT



Front View of EUT



Rear View of EUT



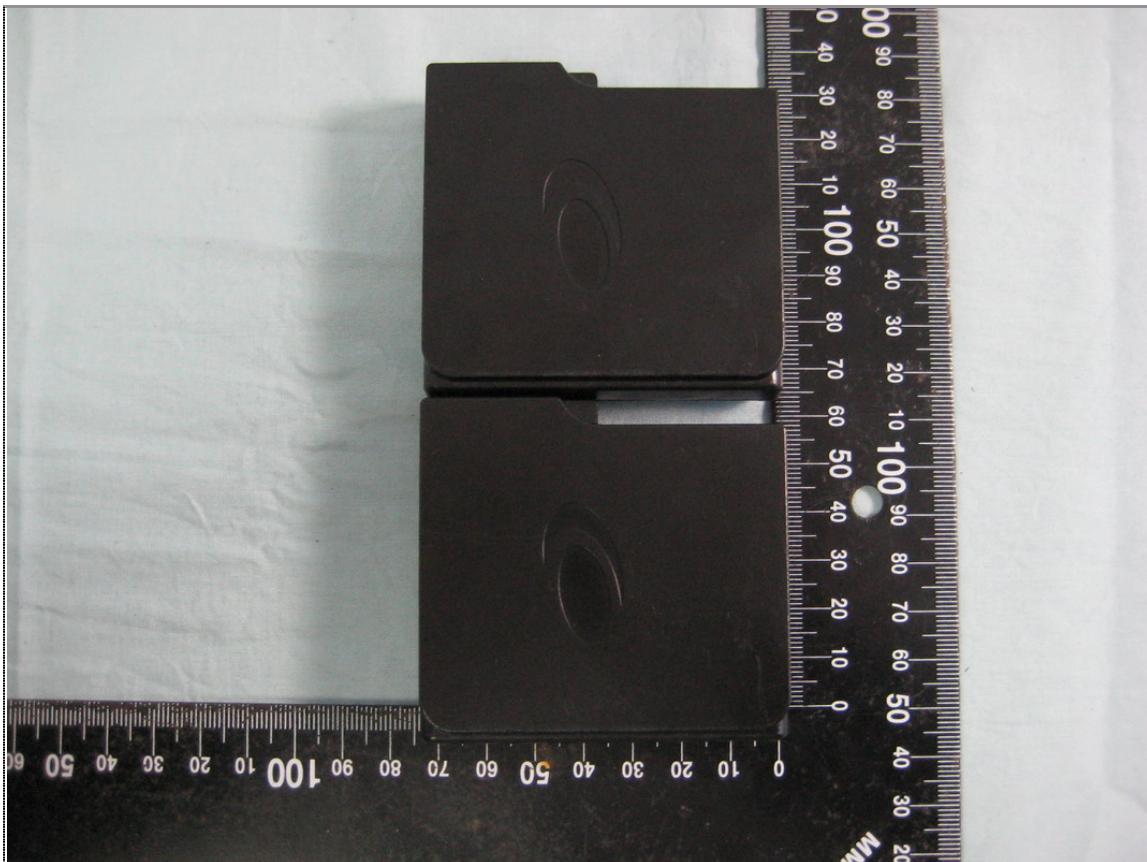
I/O Port-1



I/O Port-2



Front View of Battery



Rear View of Battery



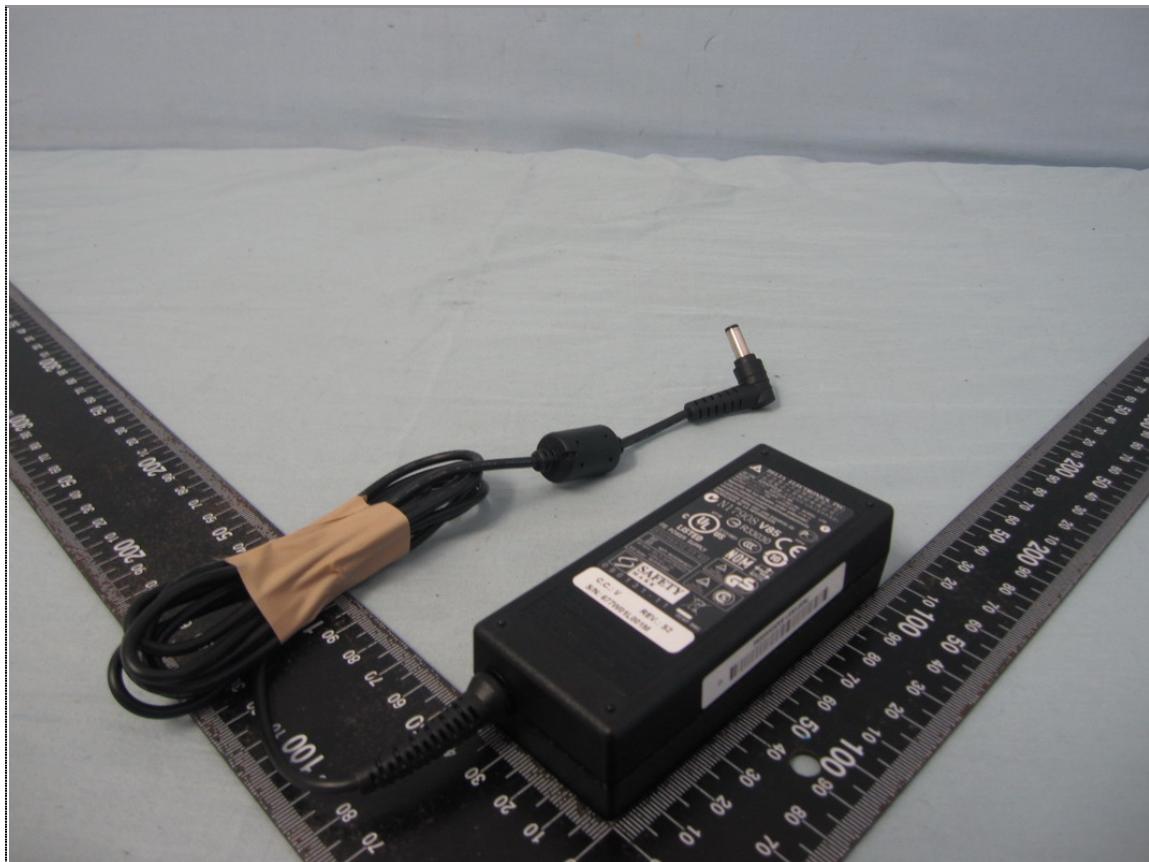
Front View of Adapter-1 (GlobTek, GT-21131-7215)



Rear View of Adapter-1 (GlobTek, GT-21131-7215)



Front View of Adapter-2 (Delta, ADP-65JH BB)



Rear View of Adapter-2 (Delta, ADP-65JH BB)