

FCC CFR47 PART 15 SUBPART C CERTIFICATION TEST REPORT

FOR

NOTE BOOK WITH 802.11b MINI PCI CARD

MODEL: ZGIS

FCC ID: HFSZGISWM3B2100

REPORT NUMBER: 03T1782-1

ISSUE DATE: FEBRUARY 21, 2003

Prepared for QUANTA COMPUTER INC. NO. 188 WEN HWA 2ND ROAD. KUEI SHAN HSIANG TAIWAN, R.O.C.

Prepared by

COMPLIANCE CERTIFICATION SERVICES 561F MONTEREY ROAD, MORGAN HILL, CA 95037, USA TEL: (408) 463-0885 FAX: (408) 463-0888

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1. TEST RESULT CERTIFICATION

COMPANY NAME:	QUANTA COMPUTER INC. NO. 188, WEN HWA 2 ROAD, KUEI SHAN HSUIANG TAO YUAN SHIEN, TAIWAN, R.O.C.
EUT DESCRIPTION:	NOTE BOOK WITH 802.11b MINI PCI CARD
MODEL NAME:	ZGIS
DATE TESTED:	JANUARY 29, 2003 TO FEBRUARY 21, 2003

APPLICABLE STANDARDS				
STANDARD TEST RESULTS				
FCC PART 15 SUBPART C	NO NON-COMPLIANCE NOTED			

Compliance Certification Services, Inc. tested the above equipment in accordance with the radiated and conducted emissions requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: This document reports conditions under which testing was conducted and results of tests performed. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document.

Approved & Released For CCS By:

Tested By:

M, H

MIKE HECKROTTE CHIEF ENGINEER COMPLIANCE CERTIFICATION SERVICES

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2. EUT DESCRIPTION

The Mini PCI Type 3B Single Band 802.11b WLAN adapter is an embedded 2.4GHz Wireless Local Area Network Mini-PCI adapter. The Mini-PCI Type 3B form factor is designed for notebook computer systems where overall thickness must be kept to an absolute minimum. It is capable of a data rate of up to 11 Mbps at 2.4GHz. This unit provides a power output of 16 dBm and includes a Foxcomm Antenna Right side antenna/peak gain -2.67dBi@2.5GHz and Left side antenna/peak gain -1.76dBi@2.45GHz

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3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, and 15.407.

4. FACILITIES AND ACCREDITATION

4.1. FACILITIES AND EQUIPMENT

The open area test sites and conducted measurement facilities used to collect the radiated data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

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4.2. TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements	FC
Japan	VCCI	CISPR 22 Two OATS and one conducted Site	VCCI R-1014, R-619, C-640
Norway	NEMKO	EN50081-1, EN50081-2, EN50082-1, EN50082-2, IEC61000-6-1, IEC61000-6-2, EN50083-2, EN50091-2, EN50130-4, EN55011, EN55013, EN55014-1, EN55104, EN55015, EN61547, EN55022, EN55024, EN61000-3-2, EN61000-3-3, EN60945, EN61326-1	N _{ELA 117}
Norway	NEMKO	EN60601-1-2 and IEC 60601-1-2, the Collateral Standards for Electro-Medical Products. MDD, 93/42/EEC, AIMD 90/385/EEC	N _{ELA-171}
Taiwan	BSMI	CNS 13438	SL2-IN-E-1012
Canada	Industry Canada	RSS210 Low Power Transmitter and Receiver	Canada IC2324 A,B,C, and F

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5. CALIBRATION AND UNCERTAINTY

5.1. MEASURING INSTRUMENT CALIBRATION

The measurement instruments utilized to perform the tests documented in this report have been calibrated in accordance with the manufacturer's recommendations, and are traceable to national standards.

5.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Radiated Emission			
30MHz – 200 MHz	+/- 3.3dB		
200MHz – 1000MHz	+4.5/-2.9dB		
1000MHz - 2000MHz	+4.6/-2.2dB		
Power Line Conducted Emission			
150kHz – 30MHz	+/-2.9		

Any results falling within the above values are deemed to be marginal.

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5.3. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST AND MEASUREMENT EQUIPMENT LIST						
Name of Equipment	Model	Serial Number	Calibration Due Date			
SA Display Section 1	HP	85662A	3026A19146	5/23/03		
Quasi-Peak Adapter	HP	85650	2811A01335	5/23/03		
Spectrum Analyzer	HP	8566B	2140A01296	5/23/03		
Preamplifier	HP	8447D	2944A06550	8/22/03		
Antenna, Biconical	EATON	94455-1	1197	3/30/03		
Antenna, Log Periodic 200-1000	EMCO	3146	2120	3/30/03		
Preamplifier (1 - 26.5GHz) Miteq		NSP10023988	646456	4/26/03		
Horn Antenna (1 - 18GHz)	EMCO	3115	6739	1/31/04		
Horn Antenna (1 – 18GHz)	EMCO	3115	6717	1/31/04		
High Pass Filter (4.57GHz)	FSY Microwave	FM-4570-9SS	003	N.C.R.		
High Freq Amplifier	HP	8449B	NA	5/30/03		
EMI Test Receiver	Rohde & Schwarz	ESHS20	827129/006	4/17/03		
LISN	FCC	50/250-25-2	114	9/06/03		
LISN Filter	SOLAR	8012-50-R-24-BNC	837990	9/06/03		
Line Filter	LINDGREN	LMF-3489	00497	N.C.R		

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6. SETUP OF EQUIPMENT UNDER TEST

SUPPORT EQUIPMENT FOR DIGITAL DEVICE TESTING

PERIPHERAL SUPPORT EQUIPMENT LIST					
Device Type Manufacturer Model Serial Number FCC ID					
Laptop	Quanta Computer	ZGIS	QCHCP025000020	N/A	
AC Adapter	Delta Electronic	ADP-75FB	NA	N/A	
Printer	HP	2225C	2930852614	DS16XU2225	

I/O CABLES

Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US115	Un-shielded	2 m	Integrated with AC Adapter, Bundled only for LC test
2	AC	1	US115	Un-Shielded	2m	Unbundle
3	Parallel	1	Printer	Unshielded	2m	bundled
4	Ethernet	1	RJ45	Un-Shielded	3m	Unbundled
5	Phone	1	RJ11	Unshielded	3m	Unbundled

SUPPORT EQUIPMENT FOR TRANSMITTER TESTING

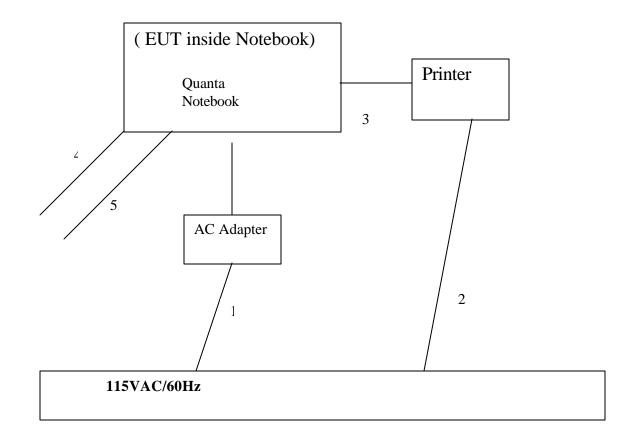
PERIPHERAL SUPPORT EQUIPMENT LIST					
Device Type Manufacturer Model Serial Number FCC ID					
Laptop	Quanta Computer	ZGIS	QCHCP025000020	N/A	
AC Adapter	Delta Electronic	ADP-75FB	NA	N/A	

I/O CABLES

Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US115	Un-shielded	2 m	Integrated with AC Adapter, Bundled only for LC test

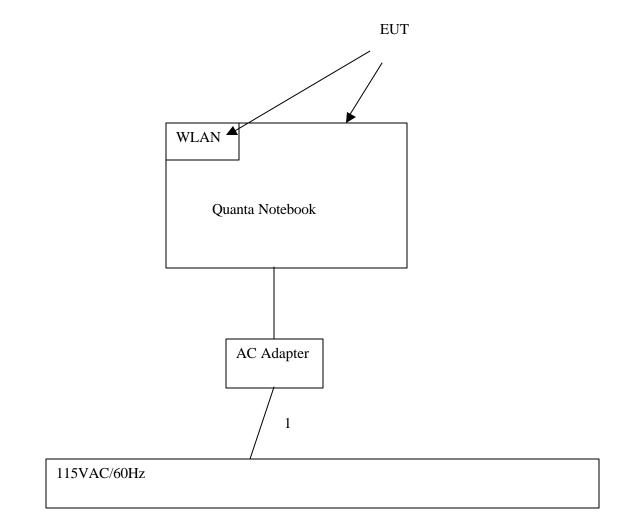
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SETUP DIAGRAM FOR DIGITAL DEVICE TEST



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SETUP DIAGRAM FOR TRANSMITTER TEST



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7. APPLICABLE RULES

§15.247 (c)- SPURIOUS EMISSIONS

In addition, radiated emissions which fall in the restricted bands, as defined in \$15.205(a), must also comply with the radiated emission limits specified in \$15.209(a) (see \$15.205(c)).

§15.205- RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

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§15.209- RADIATED EMISSION LIMITS

(a) 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	Field Strength	Measurement Distance	
(MHz)	(microvolts/meter)	(meters)	
30 - 88	100 **	3	
88 - 216	150 **	3	
216 - 960	200 **	3	
Above 960	500	3	

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

(b) In the emission table above, the tighter limit applies at the band edges.

Frequency Range (MHz)	Field Strength (uV/m at 3 m)	Field Strength (dBuV/m at 3 m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

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8. TEST SETUP, PROCEDURE AND RESULT

8.1. UNDESIRABLE EMISSIONS – RADIATED MEASUREMENTS

TEST SETUP

The EUT is placed on the wooden table. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4/1992.

The WLAN module in the EUT is set to transmit in a continuous mode. The Bluetooth module in the EUT is turned off.

TEST PROCEDURE

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz within restricted bands, the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated.

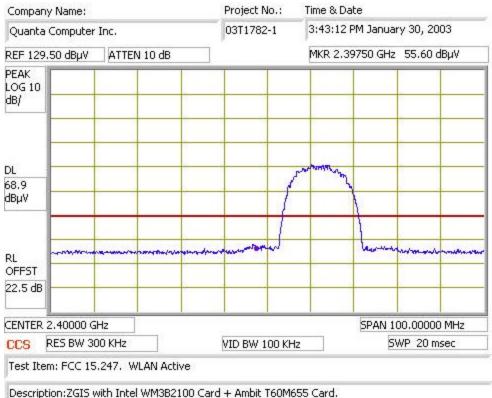
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The frequency span is set small enough to easily differentiate between broadcast stations, intermittent ambient signals and EUT emissions. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the suspected signal. Measurements were made with the antenna polarized in both the vertical and the horizontal positions.

TEST RESULTS

No non-compliance noted:

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LOWER BAND EDGE



Low Ch, Bandedge, -20dBc

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LOWER RESTRICTED BAND - VERTICAL PEAK

Company	/Name:			Pro	Project No.: Time & Date						
Quanta Computer					Г1782-1	3:37:21	3:37:21 PM February 21, 2003				
REF 107.	00 dBµV	ATTEN	0 dB			MKR 2.	38560 GHz	52.14	ЗΒμν		
POS PK LOG 10 dB/					-						
DL 74.0 dBµV											
RL OFFST	mon	manahan	man	danna	um	mmm	mann	mm	mon		
22.5 dB											
5TART 2.31000 GHz						5TOP 2.39000 GHz					
CCS RES BW 1 MHz			VID	VID BW 1 MHz			SWP 20.0000 msec				
Test Iter	n:802.11b		WM382100								

WLAN, Low Channel, 2310-2390MHz Restricted Band, Vert, Peak

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LOWER RESTRICTED BAND - VERTICAL AVERAGE

mpany Name:		Project No.:	Project No.: Time & Date						
uanta Computer		03T1782-1	3:39:50	3:39:50 PM February 21, 2003					
F 107.00 dBµV	ATTEN 0 dB		MKR 2.3	9000 GHz	40.58 d	JBμV			
5 PK 3 10									
0 JV									
FST						4			
ART 2.31000 GHz		2.2	STOP 2.39000 GHz						
S RES BW 1 M	Hz	VID BW 10 Hz	VID BW 10 Hz 5						
ART 2.31000 GHz S RES BW 1 M st Item:802.11b				STOP 2 SWP 24	AND	1			

WLAN, Low Channel, 2310-2390MHz Restricted Band, Vert, Ave

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LOWER RESTRICTED BAND - HORIZONTAL PEAK

Company Na	me:			Project No.	Project No.: Time & Date						
Quanta Com	puter			03T1782-1	3:42:44	3:42:44 PM February 21, 2003					
REF 107.00 d	lBμV	ATTEN	0 dB	1	MKR 2.	34240 GHz	52.86 d	BμV			
POS PK LOG 10 dB/											
DL											
	m	mahanin	nanaparan	montmonen	whenenant		******	g-shaad			
22.5 dB											
START 2.31000 GHz				5TOP 2.39000 GHz							
CCS RESE	RES BW 1 MHz			VID BW 1 M	IHz	SWP 20	.0000 ms	ес			
Test Item:80	2.11b										

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LOWER RESTRICTED BAND - HORIZONTAL AVERAGE

Company Name:			Project No.: Time & Date						
Quanta Comput	er		03T1782-1	3:45:52 PM February 21, 2003					
REF 107.00 dBμ\	ATTEN) dB		MKR 2.	33300 GHz	40.10 dBµV			
POS PK LOG 10 dB/									
DL									
54.0 3ΒμΥ									
22.5 dB									
START 2.31000 GHz				STOP 2	.39000 GHz				
CCS RES BW 1 MHz		VID BW 10 Hz		SWP 24.00 sec					

WLAN, Low Channel, 2310-2390MHz Restricted Band, Horiz, Ave

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UPPER BAND EDGE

Company	Name:			Project No.:	Time & Dal	Time & Date 3:58:24 PM January 30, 2003			
Quanta (Computer Inc.			03T1782-1	3:58:24 P				
REF 117.0	00 dBµV ATTER	V 10 dB			MKR 2.47	710 GHz	54.20 d	BμV	
PEAK LOG 10 dB/									
DL 62.2 dBµV		mount	any						
	where we are a second and the		1	www.www.www.www.www.www.	readers	-	hodan	attend to the second	
RL OFFST 22.7 dB									
CENTER 2	2.48350 GHz				-	SPAN 10	0.00000	MHz	
CCS F	ES BW 300 KHz			VID BW 100 KH	łz	S١	WP 20 ms	sec	

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UPPER RESTRICTED BAND - VERTICAL PEAK

Company	Name:			Project	Project No.: Time & Date						
Quanta C	omputer			03T17	82-1	3:56:50	3:56:50 PM February 21, 2003				
REF 107.2	REF 107.20 dBµV ATTEN 0 dB					MKR 2.4	8354 GHz	52.95 (dBμV		
POS PK LOG 10 dB/							-				
DL 74.0 dBµV											
RL OFFST	Roman		manahan	-en al and a second	Manna			mond	m		
22.7 dB											
5TART 2.48350 GHz					STOP 2	.50000 @	iHz				
CCS RES BW 1 MHz				VID BW	VID BW 1 MHz			SWP 20.0000 msec			

WLAN, Hi Channel, 2483.5-25005MHz Restricted Band, Vert, PK

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UPPER RESTRICTED BAND - VERTICAL AVERAGE

Company Name:		Project No.:	Project No.: Time & Date						
Quanta Comput	er	03T1782-1	3:58:00 PM February 21, 2003						
REF 107.20 dBµ\	ATTEN 0 dB		MKR 2.48560 G	Hz 39.55 dBµV					
POS PK LOG 10 dB/									
DL									
22.7 dB									
START 2.48350 GHz			STOP	STOP 2.50000 GHz					
CCS RES BW	1 MHz	VID BW 10 Hz	SWP	5.00 sec					
Test Item:802.1	1Ь								

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UPPER RESTRICTED BAND – HORIZONTAL PEAK

782-1 3:50:39 PM February 21, 2003 MKR 2.49113 GHz 52.70 dBµV		
MKR 2.49113 GHz 52.70 dBµV		
Roman and a second and a second		
STOP 2.50000 GHz		
W 1 MHz SWP 20.0000 msec		

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UPPER RESTRICTED BAND - HORIZONTAL AVERAGE

	Project No.:	Time & D	Time & Date				
	03T1782-1	3:53:16 PM February 21, 2003					
ATTEN 0 dB		MKR 2.4	18482 GHz	39.54 dBµV			
START 2.48350 GHz			STOP 2	.50000 GHz			
MHz	VID BW 10 Hz		SWP 5.00 sec				
	ATTEN 0 dB	03T1782-1	03T1782-1 3:53:16 ATTEN 0 dB MKR 2.4 MKR 2.4	03T1782-1 3:53:16 PM Februa ATTEN 0 dB MKR 2.48482 GHz MKR 2.48482 GHz MKR 2.48482 GHz MKR 2.48482 GHz MKR 2.48482 GHz MKR 2.48482 GHz STOP 2			

WLAN, Hi Channel, 2483.5-25005MHz Restricted Band, Horiz, Ave

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HARMONICS AND SPURIOUS

01/29/03 High Frequency Measurement Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Chin Pang Project #: 03T1782-1 Company: Quanta Computer Inc. EUT Descrip.: Notebook with 802.11b mini PCI Card and Bluetooth modem EUT M/N: ZGIS with intel WM3B2100 Card + Ambit T60M665 Card Test Target: FCC 15.247 Mode Oper: WLAN Only Tx

Cable(fo	EMCO Horn 1-18GHz Pre-amplifer 1-26GHz Spectrum Analyzer Horn > 18GHz T73; S/N: 6717 Miteq NSP2600-44 8566B Analyzer -														
	Peak Measurements: Average Measurements: 1 MHz Resolution Bandwidth 1 MHz Resolution Bandwidth 1 MHz Video Bandwidth 1 0Hz Video Bandwidth 1 MHz Video Bandwidth 10Hz Video Bandwidth														
f	Dist	Read Pk	Read Avg.	AF	CL	Amp	D Corr HPF Peak Avg Pk Lim				Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes
GHz	feet	dBuV	dBuV	dB/m	-	dB	dB dBuV/m dBuV/m dBuV/m					-	dB	dB	
4.824	9.8	47.4	35.5	33.8	5.3	-36.1	0.0 1.0 51.4 39.5 74.0					54.0	-22.6	-14.5	V
7.236	9.8	47.0	35.8	37.0	6.8	-36.3	0.0 1.0 55.4 44.2 74.0				74.0	54.0	-18.6	-9.8	v
								1.0			74.0	54.0			V
								1.0			74.0	54.0			V
								1.0			74.0	54.0			
No other l	narmonics	s or spurious e	missions detect	ed above	noise flo	oor.									
	f	Measureme	ent Frequency	y		Amp	Preamp (Gain				Avg Lim	Average H	Field Streng	th Limit
	Dist	Distance to	o Antenna			D Corr	Distance	Correc	et to 3 mete	ers		Pk Lim	Peak Field	l Strength L	imit
	Read	Analyzer F	Reading			Avg	Average	Field S	Strength @	3 m		Avg Mar	Margin vs	. Average L	imit
	AF	Antenna Fa	actor			Peak	Calculate	ed Peak	Field Stre	ngth		Pk Mar	Margin vs	. Peak Limi	t
	CL	Cable Loss				HPF	High Pas	s Filter		-			Ũ		

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Horn >18GHz

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01/29/03 High Frequency Measurement Compliance Certification Services, Morgan Hill Open Field Site

1MHz Video Bandwidth

Test Engr: Chin Pang Project#: 03T1782-1 Company: Quanta Computer Inc. EUT Descrip.: Notebook with 802.11b mini PC EUT M/N: ZGIS with intel WM3B2100 Card Test Target: FCC 15.247 Mode Oper: WLAN Only Tx	
Tast Rominenant-	
Cable (feet) EMCO Horn 1-18GHz 14 T73; S/N: 6717	Pre-amplifer I-26GHz Spectrum Analyzer Miteq NSP2600-44 •
Peak Measurements: 1 MHz Resolution Bandwidth	Average Measurements: 1 MHz Resolution Bandwidth

10Hz Video Bandwidth

f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB		Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	. 9	Pk Mar dB	Avg Mar dB	Notes
4.874	9.8	44.5	33.0	33.9	5.4	-36.1	0.0	1.0	48.7	37.2	74.0	54.0	-25.3	-16.8	V
7.311	9.8	47.0	35.6	37.2	6.8	-36.3	0.0	1.0	55.7	44.3	74.0	54.0	-18.3	-9.7	v
o other harmonics or spurious emissions detected above noise floor.															
	f	Measurement Frequency A					Preamp Gain					Avg Lim Average Field Strength Limit			
	Dist	Distance to	D Corr	Distance Correct to 3 meters					Pk Lim Peak Field Strength Limit						
	Read	Analyzer Reading Avg					Average Field Strength @ 3 m					Avg Mar Margin vs. Average Limit			
	AF	Antenna Fa	enna Factor Peak Calculated Peak Field Strength						Pk Mar Margin vs. Peak Limit						
	CL						High Pass Filter								

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01/29/03 High Frequency Measurement Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Chin Pang Project #: 03T1782-1 Company: Quanta Computer Inc. EUT Descrip.: Notebook with 802.11b mini PCI Card and Bluetooth modem EUT M/N: ZGIS with intel WM3B2100 Card + Ambit T60M665 Card Test Target: FCC 15.247 Mode Oper: WLAN Only Tx

Cable (fe	et) -	EMCO He T73; S/N:	orn 1-18GHz 6717 -			plifer 1-26 SP2600-44			pectrum Ana 566B Analyz			Horr	n >18GHz		
Peak Me	Peak Measurements: Average Measurements: 1 MHz Resolution Bandwidth 1 MHz Resolution Bandwidth 1 MHz Video Bandwidth 1 0Hz Video Bandwidth 1 MHz Video Bandwidth 1 0Hz Video Bandwidth														
	1			1		1					1				
f	Dist	Read Pk	0	AF	CL	Amp	D Corr	HPF	Peak	Avg	Pk Lim	0	Pk Mar	0	Notes
GHz	feet	dBuV	dBuV	dB/m		dB	dB				dBuV/m		dB	dB	
4.924	9.8	44.6	32.6	34.1	5.4	-36.1	0.0	1.0	49.0	37.0	74.0	54.0	-25.0	-17.0	v
7.386	9.8	49.3	35.5	37.3	6.8	-36.2	0.0	1.0	58.2	44.4	74.0	54.0	-15.8	-9.6	V
No other h	armonics	s or spurious e	missions detect	ed above	noise flo	oor.									
	f Measurement Frequency					Amp	p Preamp Gain					Avg Lim	Average I	Field Strengt	ah Limit
	Dist	1 2				D Corr	1					Pk Lim	Peak Field Strength Limit		
	Read	Analyzer F	Reading			Avg	Average	Field S	Strength @	3 m		Avg Mar	ar Margin vs. Average Limit		
	AF	Antenna Fa	actor			Peak	Calculate	ed Peak	Field Stre	ngth		Pk Mar	Margin vs	. Peak Limit	i
	CL	Cable Loss				HPF	High Pas			0			0		
	CL	Cable Loss					ingnias	5 1 11(0)							

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DIGITAL DEVICE RADIATED EMISSIONS

	Contification ServicesFCC, VCCI, CISPR, CE, AUSTEL, NZ UL, CSA, TUV, BSMI, DHHS, NVLAPS61F MONTEREY ROAD, SAN JOSE, CA 95037-9001 PHONE: (408) 463-0885FAX: (408) 463-0885										
	Company: Quanta Computer Inc. EUT Description: Notebook with 802.11b mini PCI Card and Bluetooth modem Test Configuration : EUT/support equipment Type of Test: FCC Class B Mode of Operation: TX										
Freq.	Reading		Closs	Pre-amp		Limit	Margin	Pol	Az	Height	Mark
(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)		(dB)	(H/V)	(Deg)	(Meter)	(P/Q/A)
199.20	45.00	16.50	2.23	26.67	37.05	43.50	-6.45	3mV	0.00	1.20	P
781.00	40.80	21.35	4.67	27.99	38.83	46.00	-7.17	3mH	0.00	1.20	P
157.75	43.10	16.86	1.96	26.79	35.13	43.50	-8.37	3mV	0.00	1.00	Р
507.20	43.40	18.05	3.71	27.73	37.43	46.00	-8.57	3mV	0.00	1.00	P
543.23 603.20 6 Worst	42.40 41.50 Data	18.43 19.12	3.84 4.07	27.82 27.98	36.85 36.71	46.00 46.00	-9.15 -9.29	3mH 3m∨	0.00 0.00	1.50 1.00	P P

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8.2. POWERLINE CONDUCTED EMISSIONS

TEST SETUP

The EUT is placed on a wooden table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane on the floor.

The EUT is set to transmit in a continuous mode.

TEST PROCEDURE

The resolution bandwidth is set to 10 kHz for both peak detection and quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Line conducted data is recorded for both NEUTRAL and HOT lines.

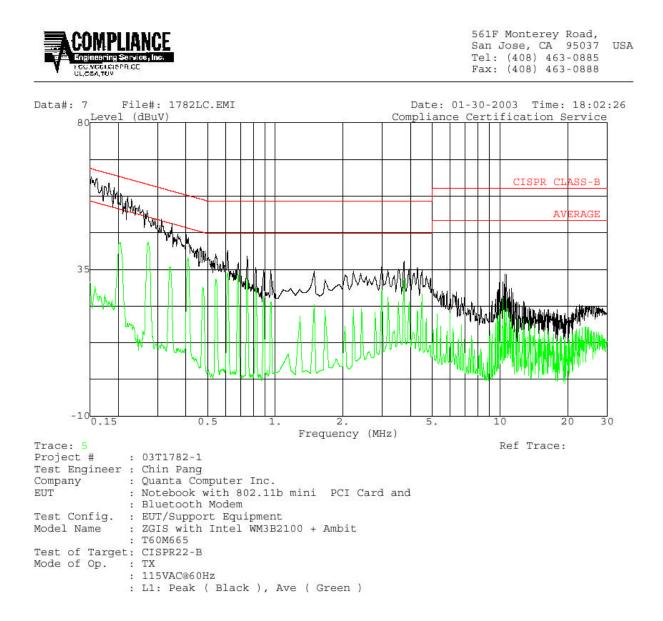
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LINE CONDUCTION DATA

Freq.		Reading		Closs	Limit	EN_B	Marg	;in	Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV(dB)	L1/L2
0.18	61.95		42.60	0.00	65.03	55.03	-3.08	-12.43	L1
0.23	56.56		42.72	0.00	63.74	53.74	-7.18	-11.02	L1
0.34	48.80		39.79	0.00	60.49	50.49	-11.69	-10.70	L1
0.16	62.29	÷-	40.05	0.00	65.66	55.66	-3.37	-15.61	L2
0.23	55.70	-	37.37	0.00	63.74	53.74	-8.04	-16.37	L2
0.35	45.90	22	33.91	0.00	60.23	50.23	-14.33	-16.32	L2

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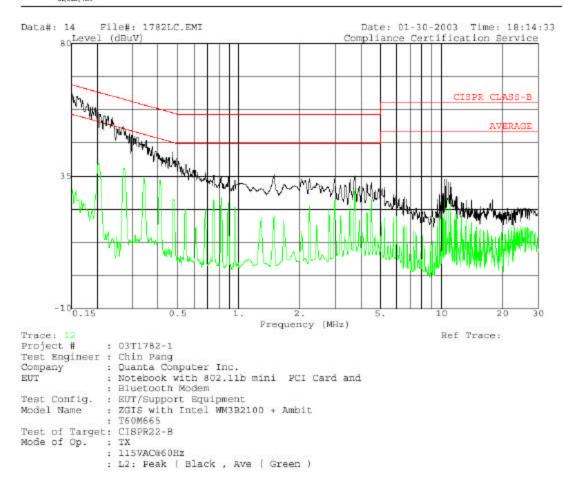
LINE CONDUCTION PLOTS



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REPORT NO: 03T1782-1 EUT: NOTE BOOK WITH 802.11b WLAN AND BLUETOOTH

561F	Monte	rey	Road,	
San d	Jose,	CA	95037	USA
Tel:	(408)	463	3-0885	
Fax:	(408)	463	8-0888	



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9. SETUP PHOTOS

SETUP PHOTOS FOR TRANSMITTER TESTING



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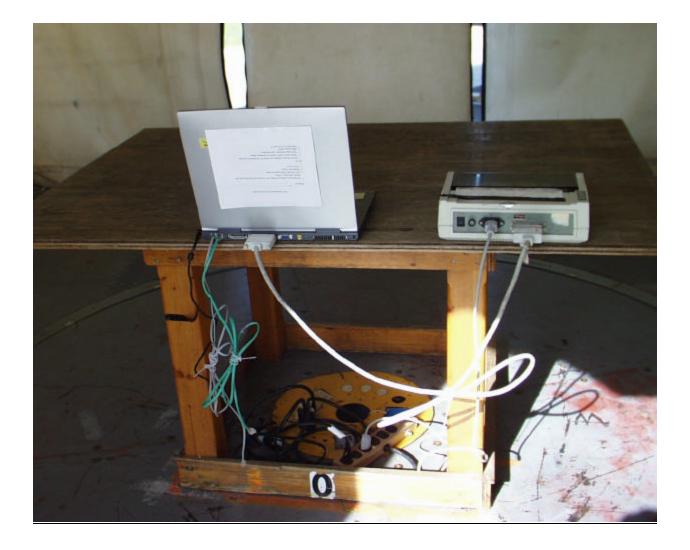


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SETUP PHOTOS FOR DIGITAL DEVICE TESTING



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LINE CONDUCTION SETUP PHOTO



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END OF REPORT

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