

FCC PART 15.247 & 15.407 TEST REPORT



For

AMBIT Microsystems Corporation

4-1, Ming Shen Street, Tu Chen Industrial District.
Tu Chen, Taipei Hsien 236, Taiwan, R.O.C.

FCC ID: MCLT60H6773

2003-10-02

This Report Concerns: <input checked="" type="checkbox"/> Permissive II Change	Equipment Type: MiniPCI 802.11a/b/g Combo Module with Bluetooth Wireless Card
Test Engineer: Ming Jing / 	
Report No.: R0309031	
Test Date: 2003-09-15	
Reviewed By: Ling Zhang / 	
Prepared By: Bay Area Compliance Laboratory Corporation (BACL) 230 Commercial Street Sunnyvale, CA 94085 Tel: (408) 732-9162 Fax: (408) 732 9164	

Note: This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of Bay Area Compliance Laboratory Corporation. This report **must not** be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

TABLE OF CONTENTS

1 - GENERAL INFORMATION.....4

1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)4

1.2 OBJECTIVE4

1.3 RELATED SUBMITTAL(S)/GRANT(S).....4

1.4 TEST METHODOLOGY4

1.5 TEST FACILITY4

1.6 TEST EQUIPMENT LIST5

1.7 LOCAL SUPPORT EQUIPMENT LIST AND DETAILS.....5

1.8 EXTERNAL I/O CABLING LIST AND DETAILS6

2 - SYSTEM TEST CONFIGURATION.....7

2.1 JUSTIFICATION7

2.2 EUT EXERCISE SOFTWARE7

2.3 SPECIAL ACCESSORIES.....7

2.4 SCHEMATICS / BLOCK DIAGRAM7

2.5 EQUIPMENT MODIFICATIONS7

2.6 CONFIGURATION OF TEST SYSTEM.....8

2.7 TEST SETUP BLOCK DIAGRAM8

3 - SUMMARY OF TEST RESULTS.....9

4 - SPURIOUS RADIATED EMISSION.....10

4.1 MEASUREMENT UNCERTAINTY10

4.2 EUT SETUP11

4.3 SPECTRUM ANALYZER SETUP11

4.4 TEST PROCEDURE12

4.5 CORRECTED AMPLITUDE & MARGIN CALCULATION12

4.6 SUMMARY OF TEST RESULTS12

4.6.3 CO-LOCATION 802.11A (T60H677.03 CARD) & BLUETOOTH (T60M665 CARD)18

4.6.3 CO-LOCATION 802.11A (T60H677.03 CARD) & BLUETOOTH (T60M665 CARD), CONTINUED20

4.6.3 CO-LOCATION 802.11A (T60H677.03 CARD) & BLUETOOTH (T60M665 CARD), CONTINUED22

5 - CONDUCTED EMISSIONS.....24

5.1 MEASUREMENT UNCERTAINTY24

5.2 EUT SETUP.....24

5.3 SPECTRUM ANALYZER SETUP24

5.4 TEST PROCEDURE24

5.5 SUMMARY OF TEST RESULTS25

5.6 CONDUCTED EMISSIONS TEST DATA25

5.7 PLOT OF CONDUCTED EMISSIONS TEST DATA25

EXHIBIT A - FCC ID LABEL INFORMATION28

PROPOSED FCC ID LABEL.....28

PROPOSED LABEL LOCATION ON EUT28

EXHIBIT B - TEST SETUP PHOTOGRAPHS29

CONDUCTED EMISSION - FRONT VIEW.....29

CONDUCTED EMISSION - SIDE VIEW29

RADIATED EMISSION - FRONT VIEW30

RADIATED EMISSION - REAR VIEW30

EXHIBIT C - EUT PHOTOGRAPHS.....31

NOTEBOOK FRONT VIEW31

EUT – TOP VIEW.....31

EUT – COVER REMOVED VIEW32

EUT – SOLDER VIEW32

ANTENNA VIEW33

AC POWER ADAPTER VIEW33

APPENDIX A - SCHEMATICS / BLOCK DIAGRAM	34
APPENDIX B - TECHNICAL SPECIFICATIONS.....	35
APPENDIX C - USERS MANUAL.....	36

1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

The *Ambit Microsystems Corporation's*, model: *T60H677.03*, or the "EUT" as referred to in this report is a MiniPCI 802.11a/b/g Module with Bluetooth co-located module.

** The test data gathered are from production sample, serial number:1007, provided by the manufacturer.*

1.2 Objective

This type approval report is prepared on behalf of *AMBIT Microsystems Corporation* in accordance with Part 2, Subpart J, Part 15, Subparts A, C, and E of the Federal Communication Commissions rules.

The objective of the manufacturer is to demonstrate compliance with FCC rules for Conducted and Spurious Radiated Emission, for a Permissive Class II application. The difference between the original application and this PC2 is that an additional transmitter, Ambit Bluetooth wireless card is co-located, capable of co-transmitting with the 802.11a/b/g in the notebook PC. The Bluetooth wireless card certified with FCC ID: MCLT60M665, M/N: T60M665. During the test, the EUT was installed in the ACER notebook PC, M/N: SKU-3. The antenna ZG1S was used.

1.3 Related Submittal(s)/Grant(s)

The original FCC ID:MCLT60H6773 was granted on 2003-11-13/2003-11-14. Please refer to BACL report R0308076 for the original test. This C2PC co-locates Ambit Bluetooth wireless card is with M/N: T60M665, FCC ID: MCLT60M665 and was granted on 2003-03-19. Please refer to BACL report R0301173 for the test of this device.

1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2001, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

1.5 Test Facility

The Open Area Test site used by BACL to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Sunnyvale, California, USA.

Test site at BACL has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2001.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-1298 and R-1234. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200167-0). The scope of the accreditation covers the FCC Method – 47 CFR Part – Digital Devices, CISPER 22: 1997: Electromagnetic Interference – Limits and Methods of Measurement of Information Technology Equipment test methods.

1.6 Test Equipment List

Manufacturer	Description	Model	Serial Number	Cal. Due Date
HP	Spectrum Analyzer	8568B	2517A01610	2003-10-30
HP	Spectrum Analyzer	8593A	29190A00242	2004-05-01
HP	Amplifier	8447E	1937A01054	2004-05-01
HP	Quasi-Peak Adapter	85650A	2521A00718	2004-05-01
Com-Power	Biconical Antenna	AB-100	14012	2004-05-01
Rohde & Schwarz	Artificial LISN	ESH2-Z5	871884/039	2003-03-28
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2003-12-03
The Electro-Mechanics Co.	Log Periodic Antenna	AL-100	16091	2004-05-01
The Electro-Mechanics Co.	Log Periodic Antenna	AB-900	15049	2004-05-01
Agilent	Spectrum Analyzer (9KHz – 40GHz)	8564E	08303	2004-08-01
Agilent	Spectrum Analyzer (9KHz – 50GHz)	8565EC	06042	2004-05-03
HP	Amplifier (1-26.5GHz)	8449B	3147A00400	2004-03-14
A.H.System	Horn Antenna (700MHz-18GHz)	SAS-200/571	261	2003-05-31

* **Statement of Traceability: Bay Area Compliance Laboratory Corp.** certifies that all calibration has been performed using suitable standards traceable to the NIST.

1.7 Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
ACER	Notebook PC	SKU-3	N/A	DoC
HP	Printer	2225C	N/A	DOC

1.8 External I/O Cabling List and Details

Cable Description	Length (M)	Port/From	To
Shielded Printer Cable	2.0	Parallel Port/Notebook PC	Printer

2 - SYSTEM TEST CONFIGURATION

2.1 Justification

The host system was configured for testing according to ANSI C-63.4-2001.

The EUT was tested in the normal (native) operating mode to represent *worst*-case results during the final qualification test.

2.2 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components. The test software, provided by the customer, is started the Windows terminal program under the Windows 98/2000/ME/XP operating system.

Once loaded, set the Tx channel to low, mid and high for testing.

2.3 Special Accessories

As shown in section 2.7, all interface cables used for compliance testing are shielded. The host PC and the peripherals featured shielded metal connectors.

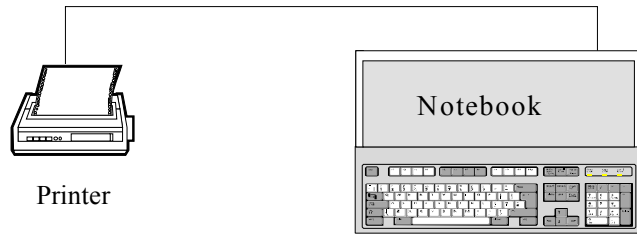
2.4 Schematics / Block Diagram

Please refer to Appendix A.

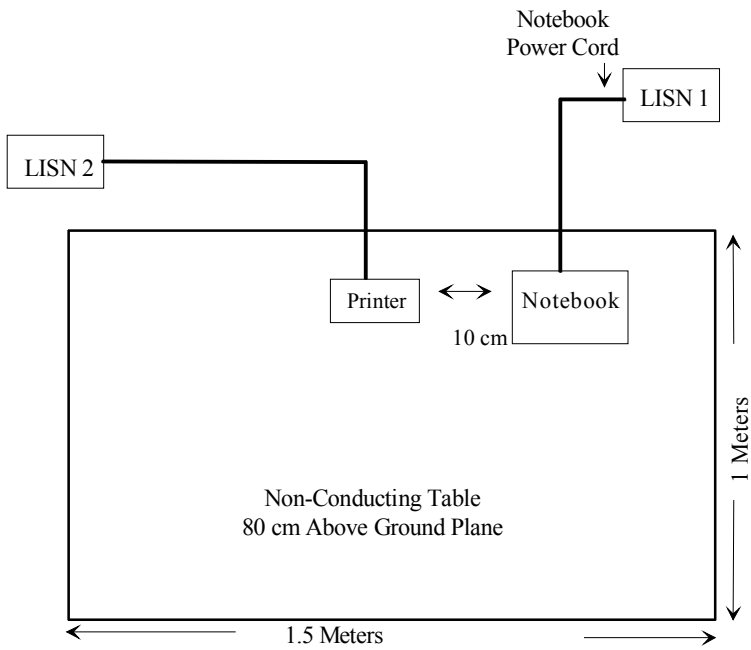
2.5 Equipment Modifications

No modifications were made to the EUT.

2.6 Configuration of Test System



2.7 Test Setup Block Diagram



3 - SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT	REFERENCE
§15.209 (a), §15.247 (c), §15.407 (b)(5)	Radiated Emission	Compliant	Section 4
§ 15.207 (a)	Conducted Emission	Compliant	Section 5

4 - SPURIOUS RADIATED EMISSION

4.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at BACL is ± 4.0 dB.

According to §15.205, 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 – 12.57725	240 – 285	3345.8 – 3358	36.43 – 36.5
13.36 – 13.41	322 – 335.4	3600 – 4400	(²)

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510MHz

² Above 38.6

Except as provided in paragraph (d) and (e), the filed 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 1000MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, 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.

According to §15.209, the device shall meet radiated emission general requirements.

Except for Class A device, the filed strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (Microvolts/meter)	dB (dBµV/meter)
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

4.2 EUT Setup

The radiated emission tests were performed in the open area 3-meter test site, using the setup in accordance with the ANSI C63.4-2001. The specification used was the FCC 15 Subpart C limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The host PC system was connected with 120Vac/60Hz power source.

4.3 Spectrum Analyzer Setup

According to FCC CFR 47, Section 15.31, the EUT was tested to 40GHz. During the radiated emission test, the spectrum analyzer was set with the following configurations:

Start Frequency 30 MHz
 Stop Frequency 40GHz
 Sweep Speed Auto
 IF Bandwidth 1 MHz
 Video Bandwidth 1 MHz
 Quasi-Peak Adapter Bandwidth..... 120 kHz
 Quasi-Peak Adapter Mode Normal
 Resolution Bandwidth..... 1MHz

4.4 Test Procedure

For the radiated emissions test, the Host PC system power cord was connected to the AC floor outlet since the power supply used in the EUT did not provide an accessory power outlet.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB μ V of specification limits), and are distinguished with a "Qp" in the data table.

4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB μ V means the emission is 7dB μ V below the maximum limit for Subpart C. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Subpart C Limit}$$

4.6 Summary of Test Results

According to the data in section 11.7, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.207 and 15.247, and had the worst margin of:

Co-Location 802.11g (T60H677.03 Card) & Bluetooth (T60M655 Card)

- 10.0 dB at 2367.00 MHz in the **Vertical** polarization, Low Channel
- 10.2 dB at 2344.20 MHz in the **Vertical** polarization, Middle Channel
- 10.1 dB at 2490.54 MHz in the **Vertical** polarization, High Channel
- 8.4 dB at 128.83 MHz in the **Horizontal** polarization, Unwanted Emission

Co-Location 802.11b (T60H677.03 Card) & Bluetooth (T60M655 Card)

- 10.1 dB at 2368.35 MHz in the **Vertical** polarization, Low Channel
- 10.0 dB at 2378.10 MHz in the **Vertical** polarization, Middle Channel
- 10.0 dB at 2490.43 MHz in the **Vertical** polarization, High Channel
- 8.5 dB at 128.83 MHz in the **Horizontal** polarization, Unwanted Emission

Co-Location 802.11a (T60H677.03 Card) & Bluetooth (T60M655 Card)

- 14.1 dB at 10320.00 MHz in the **Vertical** polarization, Low Band, Low Channel
- 14.3 dB at 10400.00 MHz in the **Vertical** polarization, Low Band, Mid Channel
- 14.1 dB at 10460.00 MHz in the **Horizontal** polarization, Low Band, High Channel
- 8.5 dB at 128.83 MHz in the **Horizontal** polarization, Unwanted Emission
- 11.7 dB at 10520.00 MHz in the **Vertical** polarization, Middle Band, Low Channel
- 11.6 dB at 10600.00 MHz in the **Vertical** polarization, Middle Band, Mid Channel
- 11.7 dB at 10660.00 MHz in the **Vertical** polarization, Middle Band, High Channel
- 8.7 dB at 128.83 MHz in the **Horizontal** polarization, Unwanted Emission
- 11.9 dB at 11490.00 MHz in the **Horizontal** polarization, High Band, Low Channel
- 12.0 dB at 11550.00 MHz in the **Horizontal** polarization, High Band, Mid Channel
- 12.1 dB at 4924.00 MHz in the **Vertical** polarization, High Band, High Channel
- 8.6 dB at 128.83 MHz in the **Horizontal** polarization, Unwanted Emission

4.6.1 Co-Location 802.11g (T60H677.03 Card) & Bluetooth (T60M665 Card)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE Corr. Ampl. dBµV/m	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBµV/ m	Comments		Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable DB		Amp. DB	Limit dBµV/ m
Low Channel											
2412.00	111.6	FUND/PEAK	180	1.5	V	28.1	3.4	35.2	107.9		
2412.00	102.5	FUND/PEAK	270	1.6	H	28.1	3.4	35.2	98.8		
2412.00	101.8	FUND/AVG	180	1.5	V	28.1	3.4	35.2	98.1		
2412.00	93.5	FUND/AVG	270	1.6	H	28.1	3.4	35.2	89.8		
2367.00	47.8	AVG	0	1.5	V	28.1	3.4	35.2	44.1	54	-10.0
2367.00	45.5	AVG	270	1.5	H	28.1	3.4	35.2	41.8	54	-12.3
4824.00	33.7	AVG	310	1.5	V	32.5	4.9	33.0	38.1	54	-15.9
4824.00	30.5	AVG	270	1.5	H	32.5	4.9	33.0	34.9	54	-19.1
2367.00	57.1	PEAK	0	1.5	V	28.1	3.4	35.2	53.4	74	-20.7
2367.00	54.6	PEAK	270	1.5	H	28.1	3.4	35.2	50.9	74	-23.2
4824.00	46.1	PEAK	310	1.5	V	32.5	4.9	33.0	50.5	74	-23.5
4824.00	42.5	PEAK	270	1.5	H	32.5	4.9	33.0	46.9	74	-27.1
Middle Channel											
2442.00	110.5	FUND/PEAK	0	1.2	V	28.1	3.4	35.2	106.8		
2442.00	101.6	FUND/PEAK	270	1.5	H	28.1	3.4	35.2	97.9		
2442.00	101.8	FUND/AVG	0	1.2	V	28.1	3.4	35.2	98.1		
2442.00	93.4	FUND/AVG	270	1.5	H	28.1	3.4	35.2	89.7		
2344.20	47.6	AVG	0	1.5	V	28.1	3.4	35.2	43.9	54	-10.2
2344.20	45.3	AVG	60	1.2	H	28.1	3.4	35.2	41.6	54	-12.5
4884.00	33.2	AVG	30	1.2	V	32.5	4.9	33.0	37.6	54	-16.4
4884.00	30.4	AVG	270	1.8	H	32.5	4.9	33.0	34.8	54	-19.2
2344.20	56.9	PEAK	0	1.5	V	28.1	3.4	35.2	53.2	74	-20.9
2344.20	54.5	PEAK	60	1.2	H	28.1	3.4	35.2	50.8	74	-23.3
4884.00	45.6	PEAK	30	1.2	V	32.5	4.9	33.0	50.0	74	-24.0
4884.00	42.4	PEAK	270	1.8	H	32.5	4.9	33.0	46.8	74	-27.2

4.6.1 Co-Location 802.11g (T60H677.03 Card) & Bluetooth (T60M665 Card), Continued

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE Corr. Ampl. dBµV/m	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBµV/ m	Comments		Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable DB		Amp. DB	Limit dBµV/ m
High Channel											
2462.00	110.9	FUND/PEAK	0	1.5	V	28.1	3.4	35.2	107.2		
2462.00	100.2	FUND/PEAK	30	1.6	H	28.1	3.4	35.2	96.5		
2462.00	101.5	FUND/AVG	0	1.5	V	28.1	3.4	35.2	97.8		
2462.00	89.1	FUND/AVG	30	1.6	H	28.1	3.4	35.2	85.4		
2490.54	47.7	AVG	45	1.8	V	28.1	3.4	35.2	44.0	54	-10.1
2490.54	45.1	AVG	60	1.2	H	28.1	3.4	35.2	41.4	54	-12.7
4924.00	33.5	AVG	0	1.2	V	32.5	4.9	33.0	37.9	54	-16.1
4924.00	30.1	AVG	300	1.5	H	32.5	4.9	33.0	34.5	54	-19.5
2490.54	56.8	PEAK	45	1.8	V	28.1	3.4	35.2	53.1	74	-21.0
2490.54	54.3	PEAK	60	1.2	H	28.1	3.4	35.2	50.6	74	-23.5
4924.00	45.8	PEAK	0	1.2	V	32.5	4.9	33.0	50.2	74	-23.8
4924.00	42.3	PEAK	300	1.5	H	32.5	4.9	33.0	46.7	74	-27.3
Unwanted Emission, 30 – 1000MHz											
128.83	46.4		310	1.2	H	11.5	2.2	25.0	35.1	43.5	-8.4
211.29	42.9		15	1.6	V	11.8	2.2	25.0	31.9	43.5	-11.6
415.99	41.2		110	1.5	V	13.7	2.1	25.0	32.0	46	-14.0
320.45	42.5		60	1.8	H	11.8	2.2	25.0	31.5	46	-14.5
384.00	39.4		0	2.0	V	13.7	2.1	25.0	30.2	46	-15.8

4.6.2 Co-Location 802.11b (T60H677.03 Card) & Bluetooth (T60M665 Card)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/ m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/ m	Margin dB
Low Channel											
2412.00	105.8	FUND/PEAK	90	1.5	V	28.1	3.4	35.2	102.1		
2412.00	99.8	FUND/PEAK	30	1.5	H	28.1	3.4	35.2	96.1		
2412.00	101.2	FUND/AVG	90	1.5	V	28.1	3.4	35.2	97.5		
2412.00	96.3	FUND/AVG	30	1.5	H	28.1	3.4	35.2	92.6		
2368.35	47.7	AVG	0	1.5	V	28.1	3.4	35.2	44.0	54	-10.1
2368.35	44.8	AVG	90	1.8	H	28.1	3.4	35.2	41.1	54	-13.0
4824.00	36.3	AVG	180	1.2	V	32.5	4.9	33.0	40.7	54	-13.3
4824.00	34.5	AVG	310	1.5	H	32.5	4.9	33.0	38.9	54	-15.1
2368.35	56.5	PEAK	0	1.5	V	28.1	3.4	35.2	52.8	74	-21.3
4824.00	45.5	PEAK	180	1.2	V	32.5	4.9	33.0	49.9	74	-24.1
2368.35	53.4	PEAK	90	1.8	H	28.1	3.4	35.2	49.7	74	-24.4
4824.00	42.9	PEAK	310	1.5	H	32.5	4.9	33.0	47.3	74	-26.7
Middle Channel											
2442.00	105.2	FUND/PEAK	15	2.0	V	28.1	3.4	35.2	101.4		
2442.00	98.8	FUND/PEAK	0	1.8	H	28.1	3.4	35.2	95.1		
2442.00	101.9	FUND/AVG	15	2.0	V	28.1	3.4	35.2	98.2		
2442.00	94.8	FUND/AVG	0	1.8	H	28.1	3.4	35.2	91.1		
2378.10	47.8	AVG	180	1.2	V	28.1	3.4	35.2	44.1	54	-10.0
4884.00	36.1	AVG	210	1.5	V	32.5	4.9	33.0	40.5	54	-13.5
2378.10	43.2	AVG	90	1.5	H	28.1	3.4	35.2	39.4	54	-14.6
4884.00	34.2	AVG	230	1.5	H	32.5	4.9	33.0	38.6	54	-15.4
2378.10	56.9	PEAK	180	1.2	V	28.1	3.4	35.2	53.2	74	-20.9
4884.00	45.3	PEAK	210	1.5	V	32.5	4.9	33.0	49.7	74	-24.3
2378.10	52.2	PEAK	90	1.5	H	28.1	3.4	35.2	48.5	74	-25.6
4884.00	42.7	PEAK	230	1.5	H	32.5	4.9	33.0	47.1	74	-26.9

4.6.2 Co-Location 802.11b (T60H677.03 Card) & Bluetooth (T60M665 Card), Continued

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency	Ampl.	Comments		Angle	Height	Polar	Antenna	Cable		Amp.	Corr. Ampl.
MHz	dBμV/m			Degree	Meter	H/ V	dBμV/m	DB	DB	dBμV/m	dBμV/m
High Channel											
2462.00	105.9	FUND/PEAK	180	1.2	V	28.1	3.4	35.2	102.2		
2462.00	98.8	FUND/PEAK	90	1.5	H	28.1	3.4	35.2	95.1		
2462.00	101.8	FUND/AVG	180	1.2	V	28.1	3.4	35.2	98.1		
2462.00	94.5	FUND/AVG	90	1.5	H	28.1	3.4	35.2	90.8		
2490.43	47.8	AVG	0	1.8	V	28.1	3.4	35.2	44.1	54	-10.0
4924.00	36.5	AVG	270	1.2	V	32.5	4.9	33.0	40.9	54	-13.1
4924.00	34.6	AVG	310	1.5	H	32.5	4.9	33.0	39.0	54	-15.0
2490.43	42.3	AVG	30	1.6	H	28.1	3.4	35.2	38.6	54	-15.5
2490.43	57.0	PEAK	0	1.8	V	28.1	3.4	35.2	53.3	74	-20.8
4924.00	45.7	PEAK	270	1.2	V	32.5	4.9	33.0	50.1	74	-23.9
4924.00	43.1	PEAK	310	1.5	H	32.5	4.9	33.0	47.5	74	-26.5
2490.43	51.2	PEAK	45	1.6	H	28.1	3.4	35.2	47.5	74	-26.6
Unwanted Emission, 30 – 1000MHz											
128.83	46.3		310	1.2	H	11.5	2.2	25.0	35.0	43.5	-8.5
211.29	42.7		0	1.5	V	11.8	2.2	25.0	31.7	43.5	-11.8
415.99	40.9		110	1.5	V	13.7	2.1	25.0	31.7	46	-14.3
320.45	42.5		60	2.0	H	11.8	2.2	25.0	31.5	46	-14.5
384.00	39.4		330	1.8	V	13.7	2.1	25.0	30.2	46	-15.8

4.6.3 Co-Location 802.11a (T60H677.03 Card) & Bluetooth (T60M665 Card)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE Corr. Ampl. dBµV/m	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBµV/ m	Comments		Angle Degree	Height Meter	Polar H/V	Antenna dBµV/m	Cable DB		Amp. DB	Limit dBµV/ m
Bluetooth (2.4GHz) & 802.11a Low Band, Low Channel											
5160.00	99.7	FUND/PEAK	0	1.5	V	33.9	5.2	33.0	105.8		
5160.00	95.6	FUND/PEAK	310	1.6	H	33.9	5.2	33.0	101.7		
5160.00	90.1	FUND/AVG	0	1.5	V	33.9	5.2	33.0	96.2		
5160.00	86.2	FUND/AVG	310	1.6	H	33.9	5.2	33.0	92.3		
2412.00	89.3	FUND/PEAK	0	1.2	V	28.1	3.4	35.2	85.6		
2412.00	85.1	FUND/PEAK	15	1.5	H	28.1	3.4	35.2	81.4		
2412.00	88.4	FUND/AVG	0	1.2	V	28.1	3.4	35.2	84.7		
2412.00	84.2	FUND/AVG	15	1.5	H	28.1	3.4	35.2	80.5		
10320.00	32.7	AVG	150	1.5	V	35.1	5.6	33.5	39.9	54	-14.1
10320.00	32.6	AVG	330	1.5	H	35.1	5.6	33.5	39.8	54	-14.2
4824.00	31.4	AVG	310	1.5	V	32.5	4.9	33.0	35.8	54	-18.2
4824.00	30.7	AVG	270	1.5	H	32.5	4.9	33.0	35.1	54	-18.9
10320.00	45.9	PEAK	330	1.5	H	35.1	5.6	33.5	53.1	74	-20.9
10320.00	45.6	PEAK	150	1.5	V	35.1	5.6	33.5	52.8	74	-21.2
4824.00	40.1	PEAK	310	1.5	V	32.5	4.9	33.0	44.5	74	-29.5
4824.00	39.8	PEAK	270	1.5	H	32.5	4.9	33.0	44.2	74	-29.8
Bluetooth (2.4GHz) & 802.11a Low Band, Middle Channel											
5200.00	97.1	FUND/PEAK	180	1.8	V	33.9	5.2	33.0	103.2		
5200.00	96.9	FUND/PEAK	180	1.5	H	33.9	5.2	33.0	103.0		
5200.00	88.2	FUND/AVG	180	1.8	V	33.9	5.2	33.0	94.3		
5200.00	88.0	FUND/AVG	180	1.5	H	33.9	5.2	33.0	94.1		
2442.00	89.1	FUND/PEAK	90	1.8	V	28.1	3.4	35.2	85.4		
2442.00	84.9	FUND/PEAK	110	1.5	H	28.1	3.4	35.2	81.2		
2442.00	88.2	FUND/AVG	90	1.8	V	28.1	3.4	35.2	84.5		
2442.00	84.1	FUND/AVG	110	1.5	H	28.1	3.4	35.2	80.4		
10400.00	32.5	AVG	60	1.5	V	35.1	5.6	33.5	39.7	54	-14.3
10400.00	32.3	AVG	150	1.6	H	35.1	5.6	33.5	39.5	54	-14.5
4884.00	31.6	AVG	270	1.5	V	32.5	4.9	33.0	36.0	54	-18.0
4884.00	30.8	AVG	230	1.5	H	32.5	4.9	33.0	35.2	54	-18.8
10400.00	45.6	PEAK	150	1.6	H	35.1	5.6	33.5	52.8	74	-21.2
10400.00	45.3	PEAK	60	1.5	V	35.1	5.6	33.5	52.5	74	-21.5
4884.00	40.3	PEAK	270	1.5	V	32.5	4.9	33.0	44.7	74	-29.3
4884.00	39.9	PEAK	230	1.5	H	32.5	4.9	33.0	44.3	74	-29.7

4.6.3 Co-Location 802.11a (T60H677.03 Card) & Bluetooth (T60M665 Card), Continued

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE Corr. Ampl. dBμV/m	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/ m	Comments		Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB		Amp. DB	Limit dBμV/ m
Bluetooth (2.4GHz) & 802.11a Low Band, High Channel											
5230.00	97.3	FUND/PEAK	180	1.6	V	33.9	5.2	33.0	103.4		
5230.00	97.1	FUND/PEAK	180	1.6	H	33.9	5.2	33.0	103.2		
5230.00	88.5	FUND/AVG	180	1.6	V	33.9	5.2	33.0	94.6		
5230.00	88.3	FUND/AVG	180	1.6	H	33.9	5.2	33.0	94.4		
2462.00	89.2	FUND/PEAK	110	1.6	V	28.1	3.4	35.2	85.5		
2462.00	85.1	FUND/PEAK	170	1.6	H	28.1	3.4	35.2	81.4		
2462.00	88.3	FUND/AVG	110	1.6	V	28.1	3.4	35.2	84.6		
2462.00	84.2	FUND/AVG	170	1.6	H	28.1	3.4	35.2	80.5		
10460.00	32.7	AVG	290	1.5	H	35.1	5.6	33.5	39.9	54	-14.1
10460.00	32.5	AVG	30	1.5	V	35.1	5.6	33.5	39.7	54	-14.3
4924.00	31.7	AVG	30	1.5	V	32.5	4.9	33.0	36.1	54	-17.9
4924.00	31.2	AVG	290	1.5	H	32.5	4.9	33.0	35.6	54	-18.4
10460.00	45.8	PEAK	290	1.5	H	35.1	5.6	33.5	53.0	74	-21.0
10460.00	45.6	PEAK	30	1.5	V	35.1	5.6	33.5	52.8	74	-21.2
4924.00	40.5	PEAK	30	1.5	V	32.5	4.9	33.0	44.9	74	-29.1
4924.00	40.1	PEAK	290	1.5	H	32.5	4.9	33.0	44.5	74	-29.5
Unwanted Emission, 30 – 1000MHz											
128.83	46.3		310	1.2	H	11.5	2.2	25.0	35.0	43.5	-8.5
211.29	42.7		15	1.6	V	11.8	2.2	25.0	31.7	43.5	-11.8
415.99	41.1		110	1.5	V	13.7	2.1	25.0	31.9	46	-14.1
320.45	42.2		60	1.8	H	11.8	2.2	25.0	31.2	46	-14.8
384.00	39.5		0	2.0	V	13.7	2.1	25.0	30.3	46	-15.7

4.6.3 Co-Location 802.11a (T60H677.03 Card) & Bluetooth (T60M665 Card), Continued

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE Corr. Ampl. dBµV/m	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBµV/ m	Comments		Angle Degree	Height Meter	Polar H/V	Antenna dBµV/m	Cable DB		Amp. DB	Limit dBµV/ m
Bluetooth (2.4GHz) & 802.11a Middle Band, Low Channel											
5260.00	98.6	FUND/PEAK	45	1.5	V	33.9	5.2	33.0	104.7		
5260.00	98.4	FUND/PEAK	60	1.5	H	33.9	5.2	33.0	104.5		
5260.00	89.7	FUND/AVG	45	1.5	V	33.9	5.2	33.0	95.8		
5260.00	89.5	FUND/AVG	60	1.5	H	33.9	5.2	33.0	95.6		
2412.00	89.6	FUND/PEAK	0	1.2	V	28.1	3.4	35.2	85.9		
2412.00	85.4	FUND/PEAK	15	1.5	H	28.1	3.4	35.2	81.7		
2412.00	88.7	FUND/AVG	0	1.2	V	28.1	3.4	35.2	85.0		
2412.00	84.5	FUND/AVG	15	1.5	H	28.1	3.4	35.2	80.8		
10520.00	35.1	AVG	180	1.2	V	35.1	5.6	33.5	42.3	54	-11.7
10520.00	34.6	AVG	310	1.5	H	35.1	5.6	33.5	41.8	54	-12.2
4824.00	31.6	AVG	310	1.5	V	32.5	4.9	33.0	36.0	54	-18.0
4824.00	30.9	AVG	270	1.5	H	32.5	4.9	33.0	35.3	54	-18.7
10520.00	43.9	PEAK	180	1.2	V	35.1	5.6	33.5	51.1	74	-22.9
10520.00	43.5	PEAK	310	1.5	H	35.1	5.6	33.5	50.7	74	-23.3
4824.00	40.3	PEAK	310	1.5	V	32.5	4.9	33.0	44.7	74	-29.3
4824.00	40.0	PEAK	270	1.5	H	32.5	4.9	33.0	44.4	74	-29.6
Bluetooth (2.4GHz) & 802.11a Middle Band, Middle Channel											
5300.00	98.5	FUND/PEAK	120	1.8	V	33.9	5.2	33.0	104.6		
5300.00	98.3	FUND/PEAK	180	2.0	H	33.9	5.2	33.0	104.4		
5300.00	89.4	FUND/AVG	120	1.8	V	33.9	5.2	33.0	95.5		
5300.00	89.2	FUND/AVG	180	2.0	H	33.9	5.2	33.0	95.3		
2442.00	89.5	FUND/PEAK	90	1.8	V	28.1	3.4	35.2	85.8		
2442.00	85.3	FUND/PEAK	110	1.5	H	28.1	3.4	35.2	81.6		
2442.00	88.6	FUND/AVG	90	1.8	V	28.1	3.4	35.2	84.9		
2442.00	84.4	FUND/AVG	110	1.5	H	28.1	3.4	35.2	80.7		
10600.00	35.2	AVG	210	1.5	V	35.1	5.6	33.5	42.4	54	-11.6
10600.00	34.8	AVG	230	1.5	H	35.1	5.6	33.5	42.0	54	-12.0
4884.00	31.6	AVG	270	1.5	V	32.5	4.9	33.0	36.0	54	-18.0
4884.00	30.9	AVG	230	1.5	H	32.5	4.9	33.0	35.3	54	-18.7
10600.00	44.1	PEAK	210	1.5	V	35.1	5.6	33.5	51.3	74	-22.7
10600.00	43.7	PEAK	230	1.5	H	35.1	5.6	33.5	50.9	74	-23.1
4884.00	40.3	PEAK	270	1.5	V	32.5	4.9	33.0	44.7	74	-29.3
4884.00	40.0	PEAK	230	1.5	H	32.5	4.9	33.0	44.4	74	-29.6

4.6.3 Co-Location 802.11a (T60H677.03 Card) & Bluetooth (T60M665 Card), Continued

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/ m	Comments		Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/ m
Bluetooth (2.4GHz) & 802.11a Middle Band, High Channel											
5330.00	98.4	FUND/PEAK	180	1.2	V	33.9	5.2	33.0	104.5		
5330.00	95.2	FUND/PEAK	90	1.5	H	33.9	5.2	33.0	101.3		
5330.00	89.3	FUND/AVG	180	1.2	V	33.9	5.2	33.0	95.4		
5330.00	89.1	FUND/AVG	90	1.5	H	33.9	5.2	33.0	95.2		
2462.00	89.4	FUND/PEAK	110	1.6	V	28.1	3.4	35.2	85.7		
2462.00	85.5	FUND/PEAK	170	1.6	H	28.1	3.4	35.2	81.8		
2462.00	88.3	FUND/AVG	110	1.6	V	28.1	3.4	35.2	84.6		
2462.00	84.6	FUND/AVG	170	1.6	H	28.1	3.4	35.2	80.9		
10660.00	35.1	AVG	270	1.2	V	35.1	5.6	33.5	42.3	54	-11.7
10660.00	34.6	AVG	310	1.5	H	35.1	5.6	33.5	41.8	54	-12.2
4924.00	31.7	AVG	30	1.5	V	32.5	4.9	33.0	36.1	54	-17.9
4924.00	30.8	AVG	290	1.5	H	32.5	4.9	33.0	35.2	54	-18.8
10660.00	43.9	PEAK	270	1.2	V	35.1	5.6	33.5	51.1	74	-22.9
10660.00	43.5	PEAK	310	1.5	H	35.1	5.6	33.5	50.7	74	-23.3
4924.00	40.4	PEAK	30	1.5	V	32.5	4.9	33.0	44.8	74	-29.2
4924.00	40.1	PEAK	290	1.5	H	32.5	4.9	33.0	44.5	74	-29.5
Unwanted Emission, 30 – 1000MHz											
128.83	46.1		310	1.2	H	11.5	2.2	25.0	34.8	43.5	-8.7
211.29	42.6		0	1.5	V	11.8	2.2	25.0	31.6	43.5	-11.9
415.99	41.3		110	1.5	V	13.7	2.1	25.0	32.1	46	-13.9
320.45	42.3		60	2.0	H	11.8	2.2	25.0	31.3	46	-14.7
384.00	39.6		330	1.8	V	13.7	2.1	25.0	30.4	46	-15.6

4.6.3 Co-Location 802.11a (T60H677.03 Card) & Bluetooth (T60M665 Card), Continued

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE Corr. Ampl. dBµV/m	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBµV/ m	Comments		Angle Degree	Height Meter	Polar H/V	Antenna dBµV/m	Cable DB		Amp. DB	Limit dBµV/ m
Bluetooth (2.4GHz) & 802.11a High Band, Low Channel											
5745.00	97.7	FUND/PEAK	180	1.5	V	34.1	5.4	33.0	104.2		
5745.00	99.8	FUND/PEAK	30	1.5	H	34.1	5.4	33.0	106.3		
5745.00	88.9	FUND/AVG	180	1.5	V	34.1	5.4	33.0	95.4		
5745.00	90.6	FUND/AVG	30	1.5	H	34.1	5.4	33.0	97.1		
2412.00	89.5	FUND/PEAK	0	1.2	V	28.1	3.4	35.2	85.8		
2412.00	85.4	FUND/PEAK	15	1.5	H	28.1	3.4	35.2	81.7		
2412.00	88.6	FUND/AVG	0	1.2	V	28.1	3.4	35.2	84.9		
2412.00	84.5	FUND/AVG	15	1.5	H	28.1	3.4	35.2	80.8		
11490.00	34.9	AVG	310	1.5	H	35.1	5.6	33.5	42.1	54	-11.9
11490.00	34.7	AVG	180	1.2	V	35.1	5.6	33.5	41.9	54	-12.1
4824.00	31.7	AVG	310	1.5	V	32.5	4.9	33.0	36.1	54	-17.9
4824.00	31.1	AVG	270	1.5	H	32.5	4.9	33.0	35.5	54	-18.5
11490.00	43.8	PEAK	310	1.5	H	35.1	5.6	33.5	51.0	74	-23.0
11490.00	43.6	PEAK	180	1.2	V	35.1	5.6	33.5	50.8	74	-23.2
4824.00	40.4	PEAK	310	1.5	V	32.5	4.9	33.0	44.8	74	-29.2
4824.00	40.1	PEAK	270	1.5	H	32.5	4.9	33.0	44.5	74	-29.5
Bluetooth (2.4GHz) & 802.11a High Band, Middle Channel											
5775.00	97.6	FUND/PEAK	180	2.0	V	34.1	5.4	33.0	104.1		
5775.00	99.5	FUND/PEAK	210	1.8	H	34.1	5.4	33.0	106.0		
5775.00	88.7	FUND/AVG	180	2.0	V	34.1	5.4	33.0	95.2		
5775.00	90.4	FUND/AVG	210	1.8	H	34.1	5.4	33.0	96.9		
2442.00	89.3	FUND/PEAK	90	1.8	V	28.1	3.4	35.2	85.6		
2442.00	85.2	FUND/PEAK	110	1.5	H	28.1	3.4	35.2	81.5		
2442.00	88.5	FUND/AVG	90	1.8	V	28.1	3.4	35.2	84.8		
2442.00	84.3	FUND/AVG	110	1.5	H	28.1	3.4	35.2	80.6		
11550.00	34.8	AVG	230	1.5	H	35.1	5.6	33.5	42.0	54	-12.0
4884.00	37.6	AVG	270	1.5	V	32.5	4.9	33.0	42.0	54	-12.0
11550.00	34.6	AVG	270	1.5	V	35.1	5.6	33.5	41.8	54	-12.2
4884.00	30.9	AVG	230	1.5	H	32.5	4.9	33.0	35.3	54	-18.7
11550.00	43.9	PEAK	230	1.5	H	35.1	5.6	33.5	51.1	74	-22.9
11550.00	43.5	PEAK	270	1.5	V	35.1	5.6	33.5	50.7	74	-23.3
4884.00	40.3	PEAK	270	1.5	V	32.5	4.9	33.0	44.7	74	-29.3
4884.00	40.0	PEAK	230	1.5	H	32.5	4.9	33.0	44.4	74	-29.6

4.6.3 Co-Location 802.11a (T60H677.03 Card) & Bluetooth (T60M665 Card), Continued

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE Corr. Ampl. dBμV/m	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/ m	Comments		Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB		Amp. DB	Limit dBμV/ m
Bluetooth (2.4GHz) & 802.11a High Band, High Channel											
5810.00	97.4	FUND/PEAK	180	1.2	V	34.1	5.4	33.0	103.9		
5810.00	99.3	FUND/PEAK	90	1.5	H	34.1	5.4	33.0	105.8		
5810.00	88.5	FUND/AVG	180	1.2	V	34.1	5.4	33.0	95.0		
5810.00	90.2	FUND/AVG	90	1.5	H	34.1	5.4	33.0	96.7		
2462.00	89.4	FUND/PEAK	110	1.6	V	28.1	3.4	35.2	85.7		
2462.00	85.3	FUND/PEAK	170	1.6	H	28.1	3.4	35.2	81.6		
2462.00	88.1	FUND/AVG	110	1.6	V	28.1	3.4	35.2	84.4		
2462.00	84.2	FUND/AVG	170	1.6	H	28.1	3.4	35.2	80.5		
4924.00	37.5	AVG	30	1.5	V	32.5	4.9	33.0	41.9	54	-12.1
11620.00	34.6	AVG	310	1.5	H	35.1	5.6	33.5	41.8	54	-12.2
11620.00	34.4	AVG	270	1.2	V	35.1	5.6	33.5	41.6	54	-12.4
4924.00	30.8	AVG	290	1.5	H	32.5	4.9	33.0	35.2	54	-18.8
11620.00	43.7	PEAK	310	1.5	H	35.1	5.6	33.5	50.9	74	-23.1
11620.00	43.3	PEAK	270	1.2	V	35.1	5.6	33.5	50.5	74	-23.5
4924.00	40.2	PEAK	30	1.5	V	32.5	4.9	33.0	44.6	74	-29.4
4924.00	39.9	PEAK	290	1.5	H	32.5	4.9	33.0	44.3	74	-29.7
Unwanted Emission, 30 – 1000MHz											
128.83	46.2		310	1.2	H	11.5	2.2	25.0	34.9	43.5	-8.6
211.29	42.5		0	1.5	V	11.8	2.2	25.0	31.5	43.5	-12.0
415.99	41.2		110	1.5	V	13.7	2.1	25.0	32.0	46	-14.0
320.45	42.1		60	2.0	H	11.8	2.2	25.0	31.1	46	-14.9
384.00	39.8		330	1.8	V	13.7	2.1	25.0	30.6	46	-15.4

5 - CONDUCTED EMISSIONS

5.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BACL is ± 2.4 dB.

5.2 EUT Setup

The measurement was performed at the shielded room, using the same setup per ANSI C63.4-2001 measurement procedure. The specification used was FCC 15 Subpart B limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The notebook system was connected with 120Vac/60Hz power source.

5.3 Spectrum Analyzer Setup

The spectrum analyzer was set with the following configurations during the conduction test:

Start Frequency.....	150 kHz
Stop Frequency.....	30 MHz
Sweep Speed.....	Auto
IF Bandwidth.....	10 kHz
Video Bandwidth.....	10 kHz
Quasi-Peak Adapter Bandwidth	9 kHz
Quasi-Peak Adapter Mode.....	Normal

5.4 Test Procedure

During the conducted emission test, the power cord of the host system was connected to the auxiliary outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of each modes tested to ensure EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (within -4 dB μ V of specification limits). Quasi-peak readings are distinguished with a "Qp".

5.5 Summary of Test Results

According to the data in section 5.6, the EUT complies with the FCC Conducted margin for a Class B device, with the *worst* margin reading of:

-15.2 dBμV at 0.560 MHz in the Neutral mode

5.6 Conducted Emissions Test Data

LINE CONDUCTED EMISSIONS				FCC PART 15 CLASS B	
Frequency MHz	Amplitude dBμV	Detector Qp/Ave/Peak	Phase Line/Neutral	Limit dBμV	Margin dB
0.560	30.8	AVE	Neutral	46	-15.2
0.535	30.4	AVE	Line	46	-15.6
0.150	46.2	QP	Neutral	66	-19.8
0.150	35.7	AVE	Neutral	56	-20.3
0.150	44.9	QP	Line	66	-21.1
0.535	32.2	QP	Line	56	-23.8
0.560	32.1	QP	Neutral	56	-23.9
17.600	25.3	AVE	Neutral	50	-24.7
17.600	24.7	AVE	Line	50	-25.3
0.150	29.8	AVE	Line	56	-26.2
17.600	28.9	QP	Neutral	60	-31.1
17.600	28.5	QP	Line	60	-31.5

5.7 Plot of Conducted Emissions Test Data

Plot(s) of Conducted Emissions Test Data is presented hereinafter as reference.

Bay Area Compliance Laboratory Corp Class B

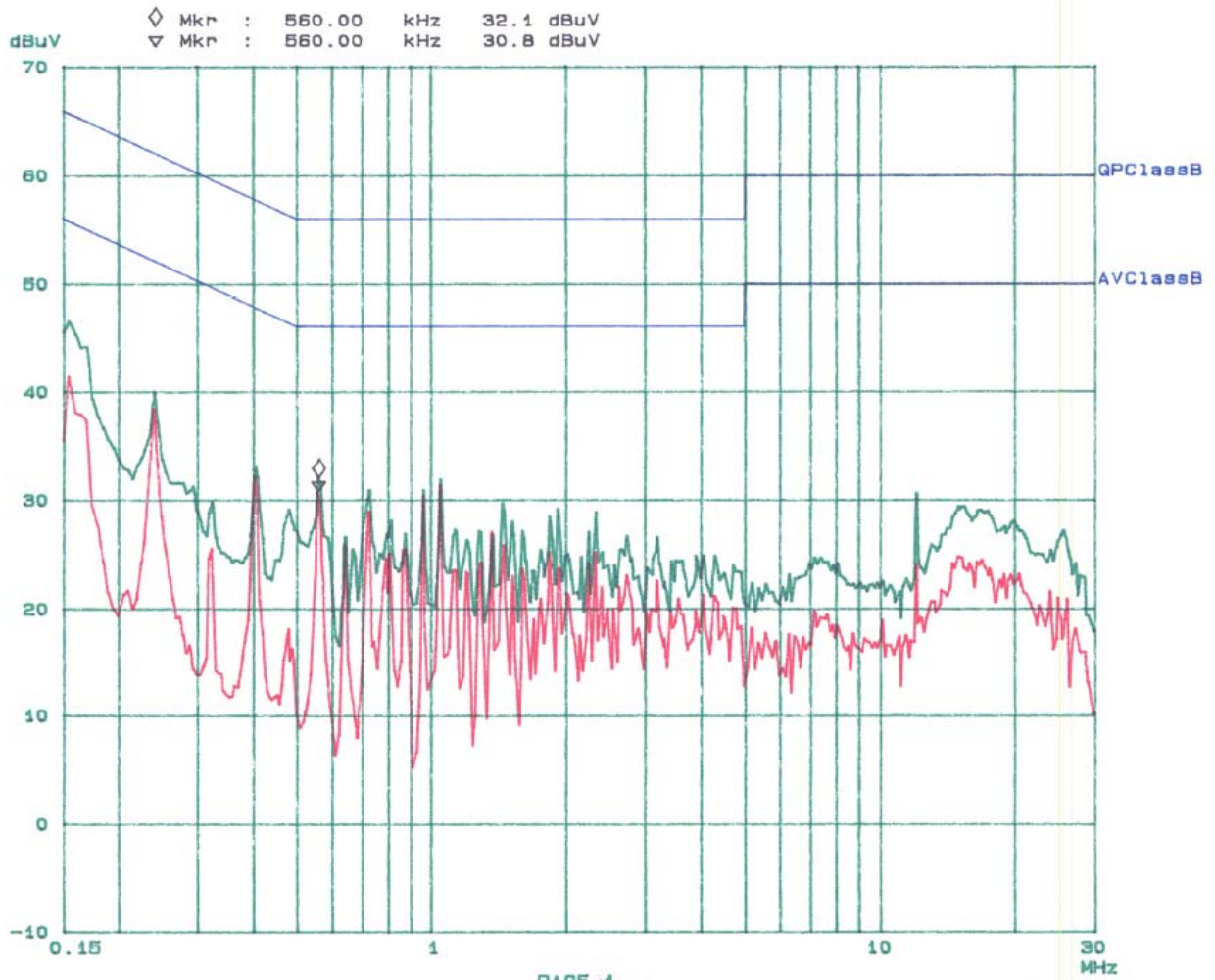
17 Sep 03 09:58

EUT: T60H677.03 & T60M665
Manuf: AMBIT
Op Cond: Normal
Operator: Benjamin
Comment: N

Scan Settings (3 Ranges)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	1M	5k	9k	QP+AV	20ms	10dB LN	OFF
1M	5M	10k	9k	QP+AV	1ms	10dB LN	OFF
5M	30M	100k	9k	QP+AV	1ms	10dB LN	OFF

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



Am 2003-9-19

Bay Area Compliance Laboratory Corp
Class B

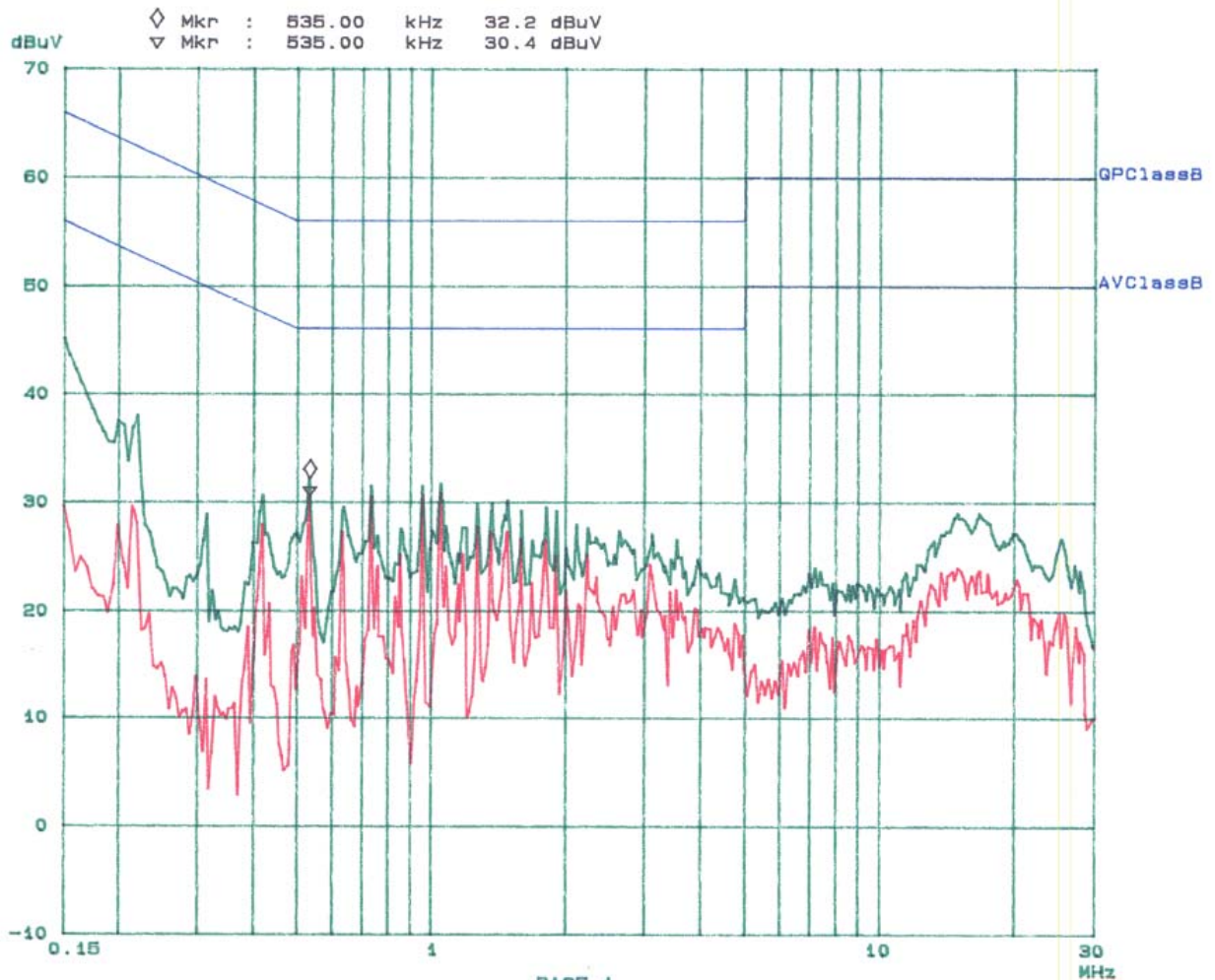
17. Sep 03 09:33

EUT: T60H677.03 & T60M665
 Manuf: AMBIT
 Op Cond: Normal
 Operator: Benjamin
 Comment: L

Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	
150k	1M	5k	9k	QP+AV	20ms	10dB LN	OFF	
1M	5M	10k	9k	QP+AV	1ms	10dB LN	OFF	
5M	30M	100k	9k	QP+AV	1ms	10dB LN	OFF	

Final Measurement: x QP / + AV
 Meas Time: 1 s
 Subranges: 25
 Acc Margin: 6dB



PAGE 1

Ben 2003-9-17

EXHIBIT A - FCC ID LABEL INFORMATION

Proposed FCC ID Label

FCC ID: MCLT60H6773

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Proposed Label Location on EUT

Rear Side of Notebook / Label Location



EXHIBIT B - TEST SETUP PHOTOGRAPHS

Conducted Emission - Front View



Conducted Emission - Side View



Radiated Emission - Front View



Radiated Emission - Rear View

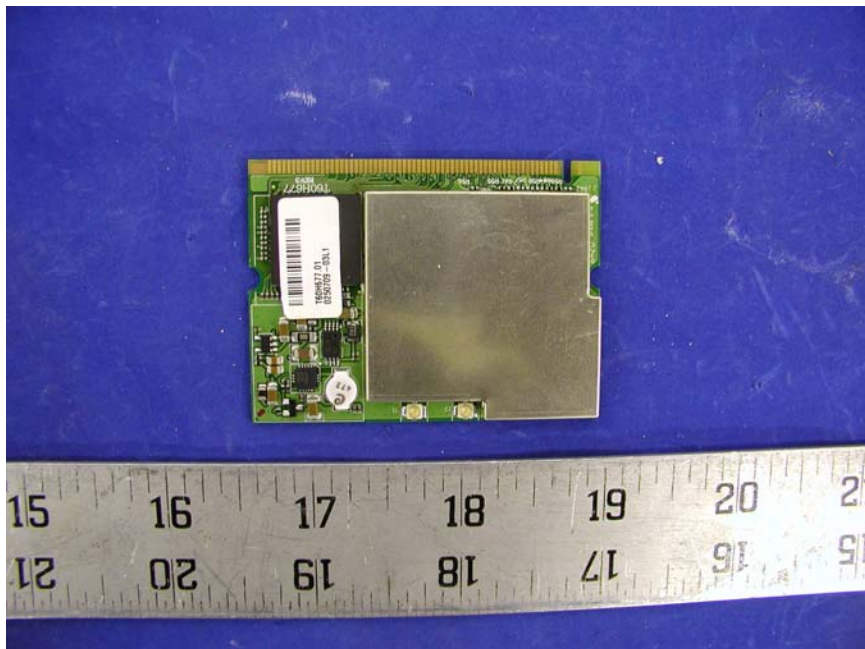


EXHIBIT C - EUT PHOTOGRAPHS

Notebook Front View



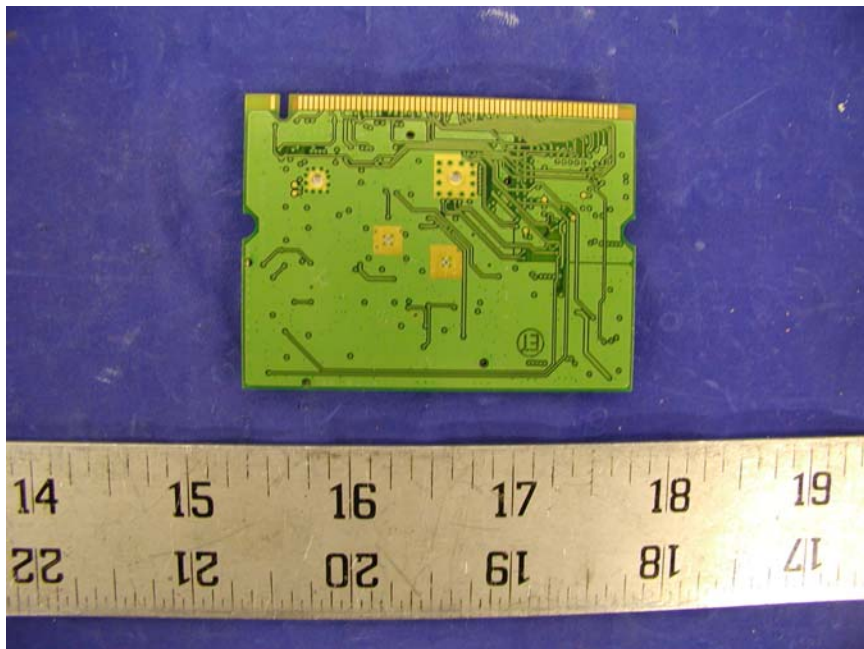
EUT – Top View



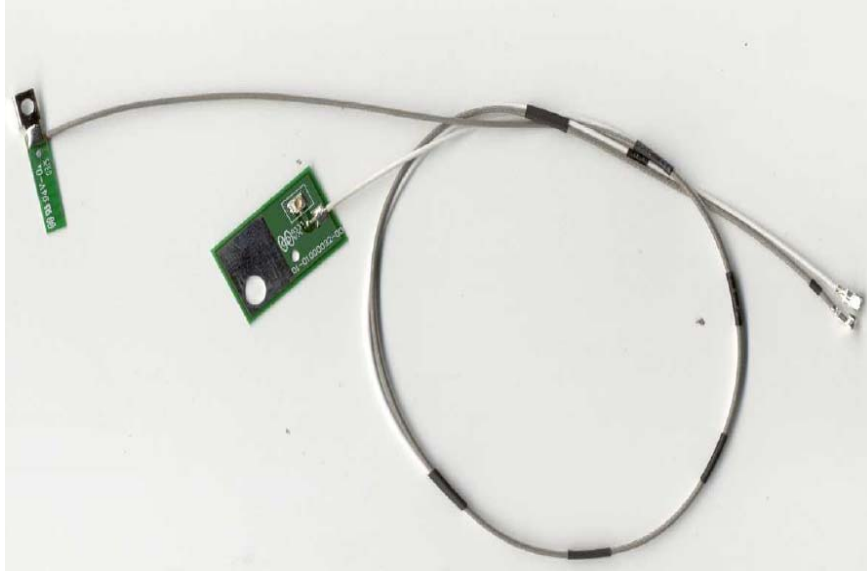
EUT – Cover Removed View



EUT – Solder View



Antenna View



AC Power Adapter View



APPENDIX A - SCHEMATICS / BLOCK DIAGRAM

APPENDIX B - TECHNICAL SPECIFICATIONS

APPENDIX C - USERS MANUAL
