



Product Integrity Laboratory

5151-47th Street, NE
Calgary, Alberta T3J 3R2
Tel: (403) 568-6605
Fax : (403) 568-6970

Certification Test Report
CFR 47 FCC Part 15, Subpart C Section 15.247
Industry Canada RSS 210, Issue 6

Axiom Manufacturing's AXM0361
FCC ID # TFY0511AXM0361
IC ID#: 5986A-AXM0361

Project Code CG-245
(Report CG-245-RA-1-3)

Revision: 3

May 19, 2006

Prepared for: Axiom Manufacturing

Author: Glen Moore
EMC Manager

Approved by: Nick Kobrosly
Lab Manager

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Report Summary

NTS Canada

Product Integrity Laboratory
5151-47th Street, N.E. Calgary Alberta T3J 3R2

Accreditation Numbers: FCC 101386
IC 46405-3978 File # IC3978-2
Standards Council of Canada Accredited Laboratory No. 440

Applicant Axiom Manufacturing
2813 Industrial Lane
Garland, Texas 75041
Phone (972) 926-9303

Customer Representative: Roger Forrester
Engineering Manager

EUT Description:

EUT Description	Manufacturer	Model	Revision	Serial Number
2.4 GHz Modular Transceiver	Axiom Manufacturing	AXM0361	E	TxCI2-0-94V-0-1605

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Test Summary

Appendix	Test/Requirement Description	Deviations* from:			Pass / Fail	Applicable Rule Parts
		Base Standard	Test Basis	NTS Procedure		
A	TX 6 dB Bandwidth	No	No	No	PASS	15.247
B	TX Peak Power Output	No	No	No	PASS	15.247
C	TX Peak Power Density	No	No	No	PASS	15.247
D	TX Conducted Spurious Emissions	No	No	No	PASS	15.247, 15.205
E	TX Spurious Emissions Band edge	No	No	No	PASS	15.247
F	TX/RX Radiated Spurious Emissions	No	No	No	PASS	15.247, 15.205
G	Test Equipment List	No	No	No	PASS	NA

Test Result: The product presented for testing complied with test requirements as shown above.

Prepared By: _____
Glen Moore
EMC Manager

Reviewed By: _____
Alex Mathews
Compliance Specialist

Approved By: _____
Janet Johanntges
Quality Representative

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REGISTER OF REVISIONS

Revision	Date	Description of Revisions
1	April 27, 2006	Release
2	May 19, 2006	Edits based on ATCB review
3	May 26, 2006	Edits based on ATCB review

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this document is to describe the tests applied by NTS Canada to demonstrate compliance of the AXM0361 from Axiom Manufacturing to FCC Part 15 Subpart C section 15.247 for DTS transmitter and the equivalent sections of Industry Canada's RSS 210 Issue 5

2.0 EUT DESCRIPTION

2.1 CONFIGURATION

Description of EUT

	Name	Model	Revision	Serial Number
EUT	Development Board	AXM0361	B	TxC12-0-94V-0-1605
Classification	Table Top			
Size (cm)	15cm x 9.5cm			
Power	+3.3V to +5.5V input range – regulated on module to 3.0 V			
Functional Description	Zigbee transceiver			

RF Channel Assignment

Channel Number	Software Channel	IEEE 802.15.4 Channel	Channel Frequency
1	0x00	11	2405 MHz
2	0x01	12	2410 MHz
3	0x02	13	2415 MHz
4	0x03	14	2420 MHz
5	0x04	15	2425 MHz
6	0x05	16	2430 MHz
7	0x06	17	2435 MHz
8	0x07	18	2440 MHz
9	0x08	19	2445 MHz
10	0x09	20	2450 MHz
11	0x0A	21	2455 MHz
12	0x0B	22	2460 MHz
13	0x0C	23	2465 MHz
14	0x0D	24	2470 MHz
15	0x0E	25	2475 MHz
16	0x0F	26	2480 MHz

Bold indicates test channels

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2.1.1 EUT POWER

Voltage	3-5 vdc (provided from host board)
Number of Feeds	1 (1 Hot, 1 Return)
Description	Sceptre switching power supply P/N 1212APLO5
Input Current	0.4 amps

2.2 SUPPORT CABLES

Quantity	Model/Type	Routing		Shielded / Unshielded	Description	Cable Length (m)
		From	To			
1	Power	Power Supply	EUT	Unsheilded	Permanent connection to power supply	1.85
1	Power	Power Supply	AC Mains	Shielded		1.8
1	Serial Data	EUT	PC		DB9 connectors	1.8

2.3 MODE OF OPERATION DURING TESTS

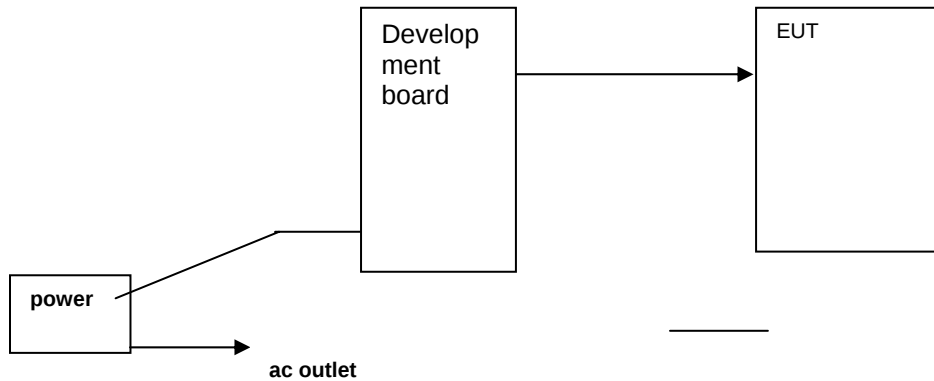
The AXM0361 was tested while in a continuous transmit mode. The EUT was tuned to a low, middle, and high channel to perform power, occupied bandwidth, and spurious/harmonic tests. For conducted emissions the device was tuned to its center frequency. The EUT continuously transmitted an un pulsed DSSS modulated packet with payload. While transmitting the EUT was setup to operate at the intended maximum power output available to the end user. For all test cases prescans were completed in all modes to determine worst case levels.

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3.0 SUPPORT EQUIPMENT

3.1 CONFIGURATION



3.2 TEST BED/PERIPHERAL CABLES

Quantity	Model/Type	Routing		Shielded / Unshielded	Description	Cable Length (m)
		From	To			

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APPENDICES

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APPENDIX A: 6 DB BANDWIDTH

A.1. Base Standard & Test Basis

Base Standard	FCC PART 15.247 (A)
Test Basis	RF conducted as per FCC Publication 558074
Test Method	RF conducted as per FCC Publication 558074

A.2. Specifications

15.247 2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

A.3. Measurement Uncertainty

Expanded Uncertainty (K=2)
1.11/-1.22

A.4. Deviations

Deviation Number	Time & Date	Description and Justification of Deviation	Deviation Reference			Approval
			Base Standard	Test Basis	NTS Procedure	
none						

A.5. Test Procedure

RF conducted as per FCC Publication 558074

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A.6. Test Results

The EUT is in compliance with the limits as specified above

Channel	6 dB Bandwidth (MHz)
2405 MHz	1.623
2440 MHz	1.623
2480 MHz	1.643

A.7. Operating Mode During Test

The AXM0361 was tested while in a continuous transmit mode. The EUT was tuned to a low, middle, and high channel to perform power, occupied bandwidth, and spurious/harmonic tests. For conducted emissions the device was tuned to its center frequency. The EUT continuously transmitted a pulsed modulated packet with a payload. While transmitting the EUT was setup to operate at maximum power.

A.8. Sample Calculation

NA

A.9. Test Data

See plots on following pages

A.10. Tested By

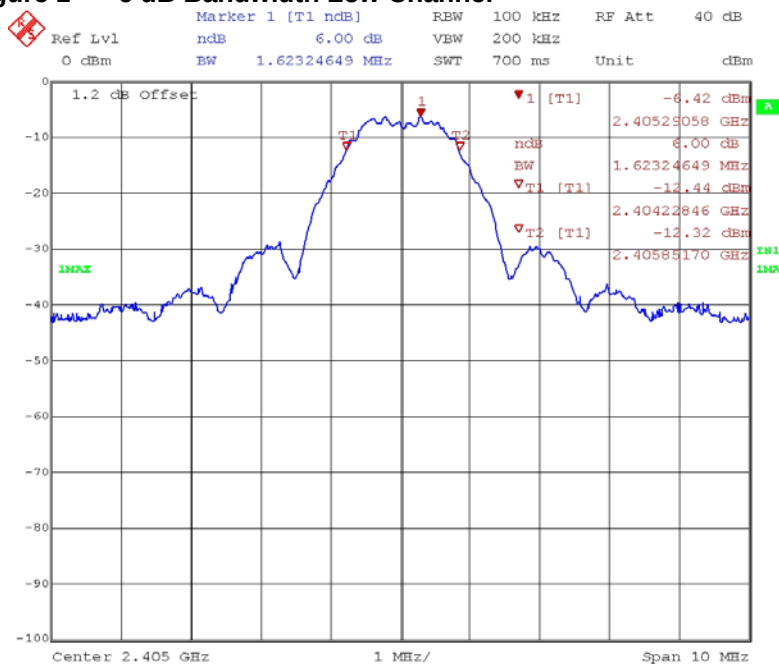
This testing was conducted in accordance with the ISO 17025:1999 scope of accreditation, table 1; Quality Manual.

Name: Glen Moore
Function: EMC Manager

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Figure 1 6 dB Bandwidth Low Channel



Comment A: CG-245 FCC ID TFY1105AXM0361, FCC 15.247 6 dB BW Channel 11
Date: 20.JAN.2006 13:43:26

Figure 2 6 dB Bandwidth Mid Channel

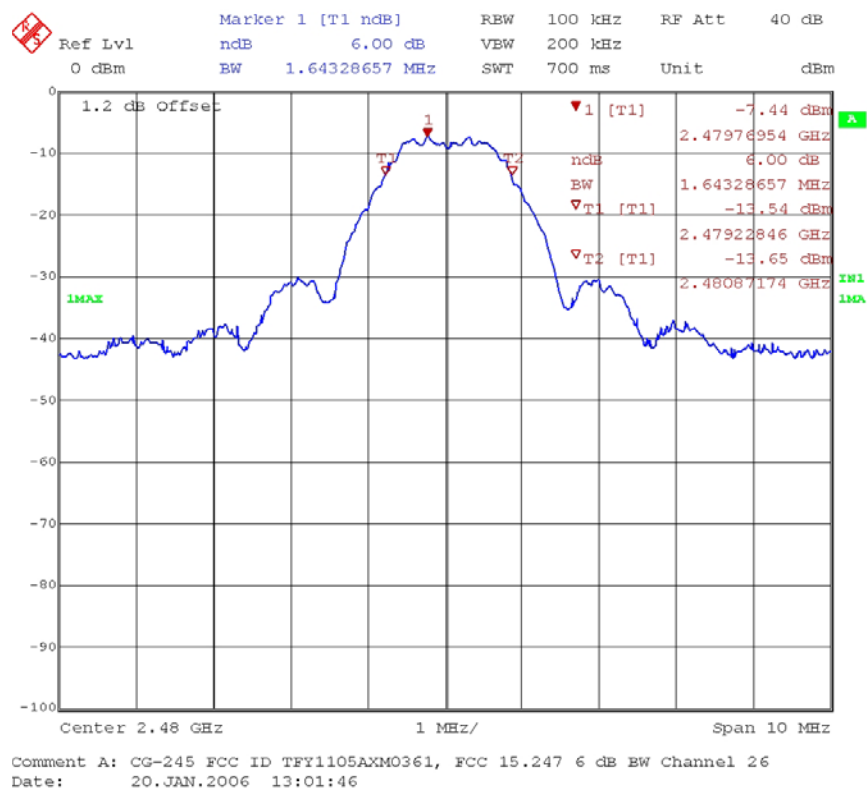


Comment A: CG-245 FCC ID TFY1105AXM0361, FCC 15.247 6 dB BW Channel 18
Date: 20.JAN.2006 13:44:33

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Figure 3 6 dB Bandwidth Upper Channel



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APPENDIX B: PEAK POWER OUTPUT

B.1. Base Standard & Test Basis

Base Standard	FCC 15.247
Test Basis	FCC 15.247 RF conducted as per FCC Publication 558074
Test Method	RF conducted as per FCC Publication 558074

B.2. Specifications

The maximum peak output power shall not exceed 30 dBm in the 2400 MHz- 2483.5 MHz band

B.3. Measurement Uncertainty

Expanded Uncertainty (K=2)
1.11/-1.22

B.4. Deviations

Deviation Number	Time & Date	Description and Justification of Deviation	Deviation Reference			Approval
			Base Standard	Test Basis	NTS Procedure	
none						

B.5. Test Method

RF conducted as per FCC Publication 558074

B.6. Test Results

Compliant – The maximum conducted peak power was – 3.5 dBm

B.7. Sample Calculation

None.

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B.8. Test Data Summary

EUT Transmit Channel	Measured Output Power (dBm)
2405 MHz	-3.5
2440 MHz	-3.9
2480 MHz	-4.3

B.9. Tested By

This testing was conducted in accordance with the ISO 17025:1999 scope of accreditation, table 1; Quality Manual.

Name: Glen Moore
Function: EMC Manager

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Figure 4 2405 MHz

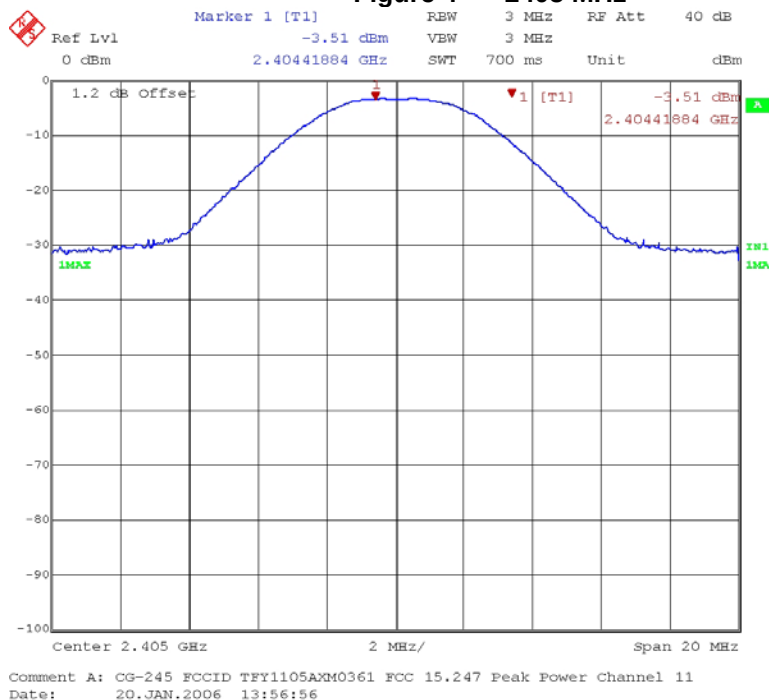
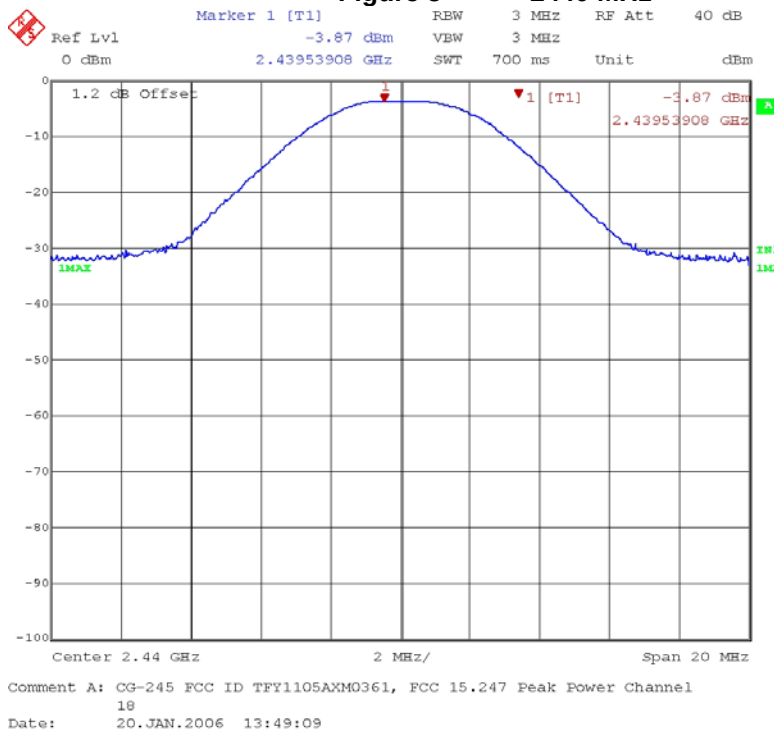


Figure 5 2440 MHz



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APPENDIX C: PEAK POWER DENSITY

C.1. Base Standard & Test Basis

Base Standard	CFR Title 47 – Telecommunications, Chapter I - FCC Part 15.247 – Radio Frequency Devices - Subpart C– intentional Radiators
Test Basis	RF conducted as per FCC Publication 558074
Test Method	RF conducted as per FCC Publication 558074

C.2. Specifications

15.247 e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

C.3. Measurement Uncertainty

Expanded Uncertainty (K=2)
+1.11/-1.22

C.4. Deviations

Deviation Number	Time & Date	Description and Justification of Deviation	Deviation Reference			Approval
			Base Standard	Test Basis	NTS Procedure	
none						

C.5. Test Method

RF conducted as per FCC Publication 558074

C.6. Test Results

Compliant. The maximum measured Peak Power Density was -18.0 dbm

C.7. Sample Calculation

None.

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C.8. Test Data

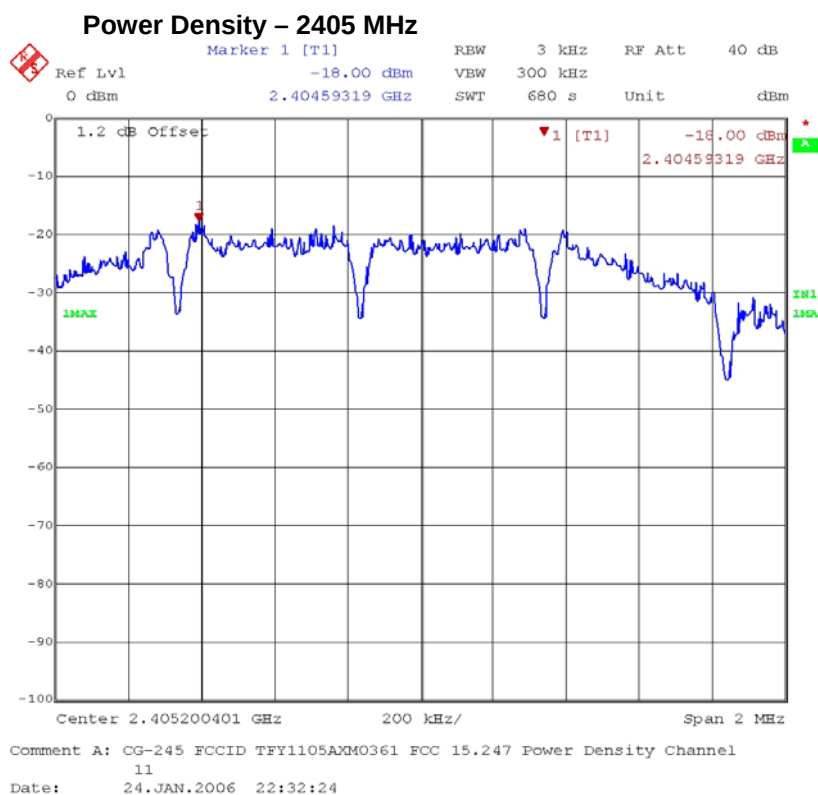
EUT Transmit Channel	Peak Power Density (dBm)
2405 MHz	-18.0
2440 MHz	-18.8
2480 MHz	-19.64

See plots below.

C.9. Tested By

This testing was conducted in accordance with the ISO 17025:1999 scope of accreditation, table 1; Quality Manual.

Name: Glen Moore
Function: EMC Manager



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Figure 7 Power Density – 2440 MHz

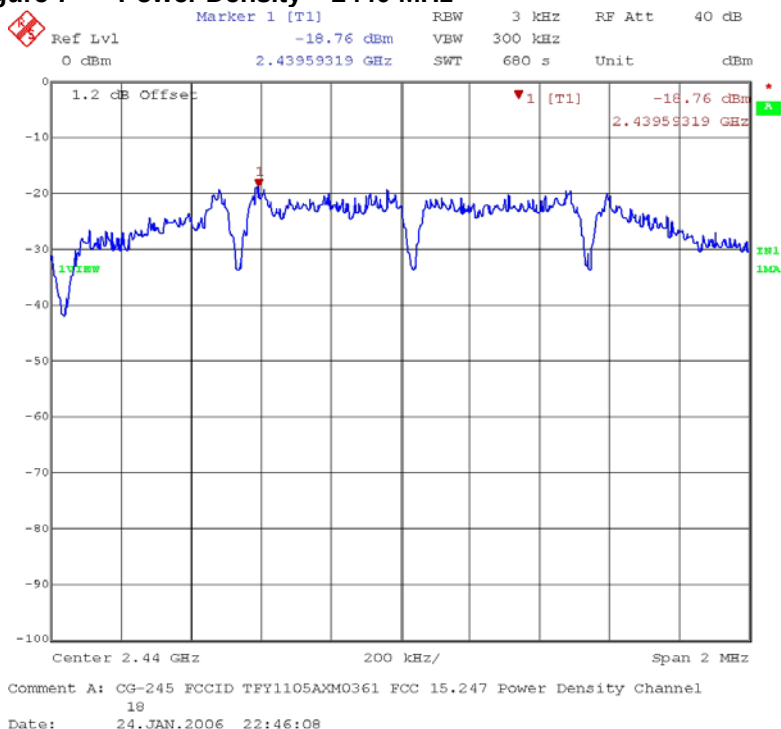
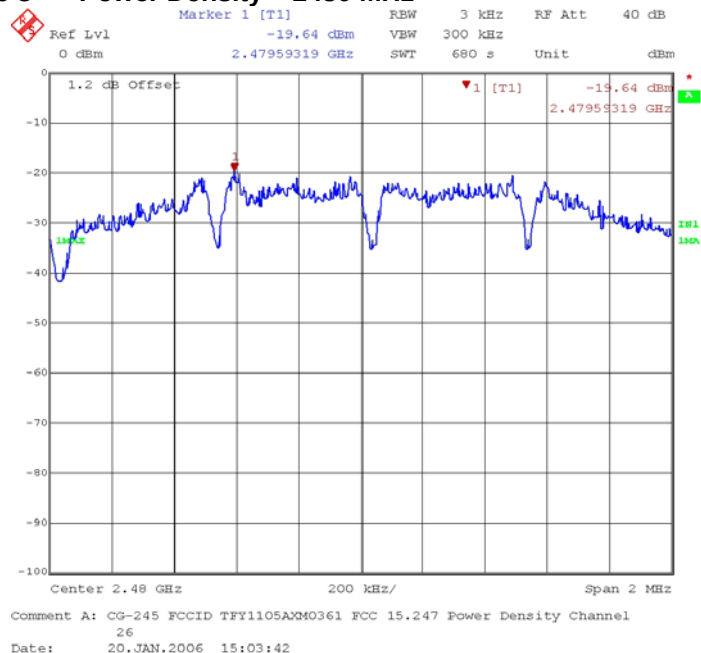


Figure 8 Power Density – 2480 MHz



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APPENDIX D: 15.247 CONDUCTED SPURIOUS EMISSIONS

D.1. Base Standard & Test Basis

Base Standard	CFR Title 47 – Telecommunications, Chapter I – FCC Part 15.247 – Radio Frequency Devices - Subpart C– intentional Radiators FCC Part 15.205 Restricted Bands of Operation
Test Basis	RF conducted as per FCC Publication 558074
Test Method	RF conducted as per FCC Publication 558074

D.2. Specifications

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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)).

D.3. Measurement Uncertainty

Expanded Uncertainty (K=2)
1.11/-1.22

D.4. Deviations

Deviation Number	Time & Date	Description and Justification of Deviation	Deviation Reference			Approval
			Base Standard	Test Basis	NTS Procedure	
none						

D.5. Test Results

Compliant. All peak emissions were more than 20 dB below the inband power.

D.6. Test Data & Photographs

See following pages. Note that the all of the plots are corrected final data

D.7. Tested By

This testing was conducted in accordance with the ISO 17025:1999 scope of accreditation, table 1; Quality Manual.

Name: Glen Moore
Function: EMC Manager

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Figure 9 Conducted Spurious Channel 2405 MHz

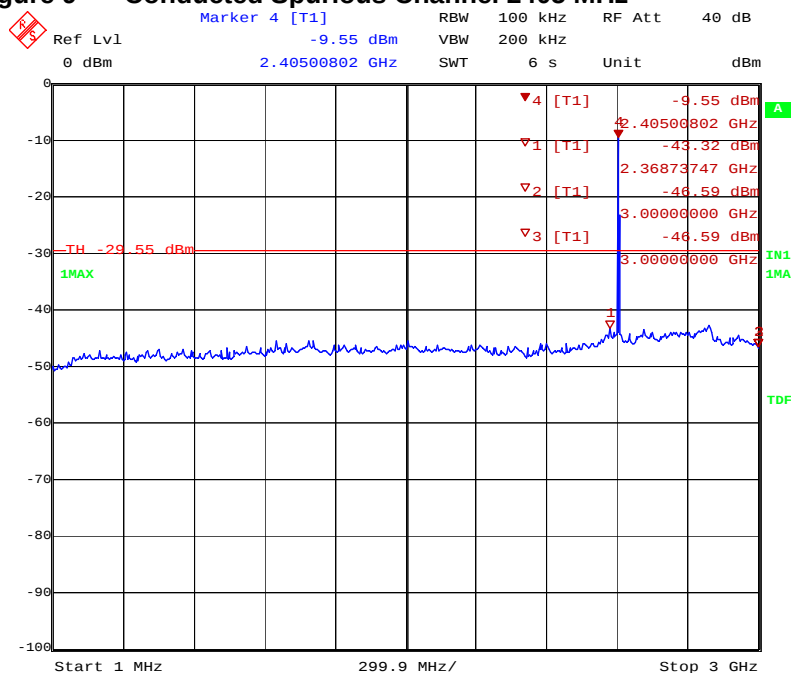
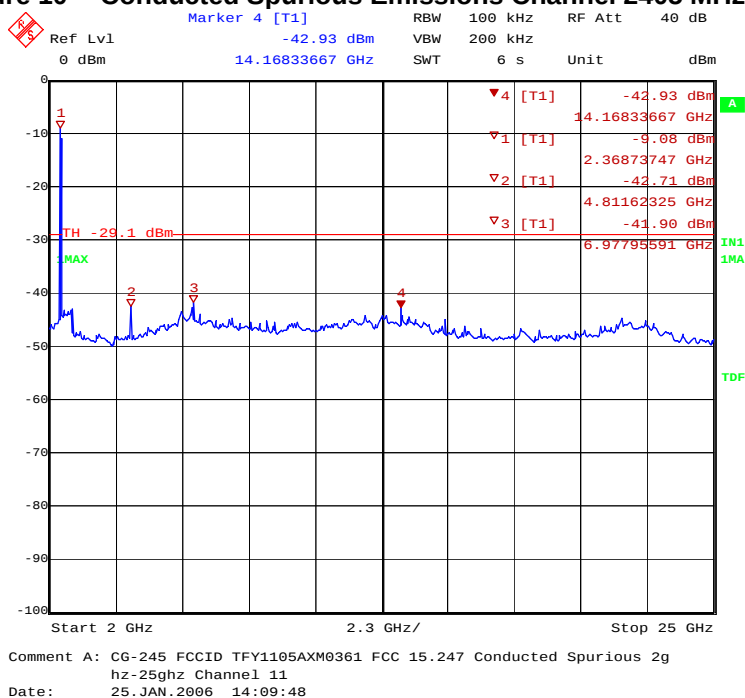


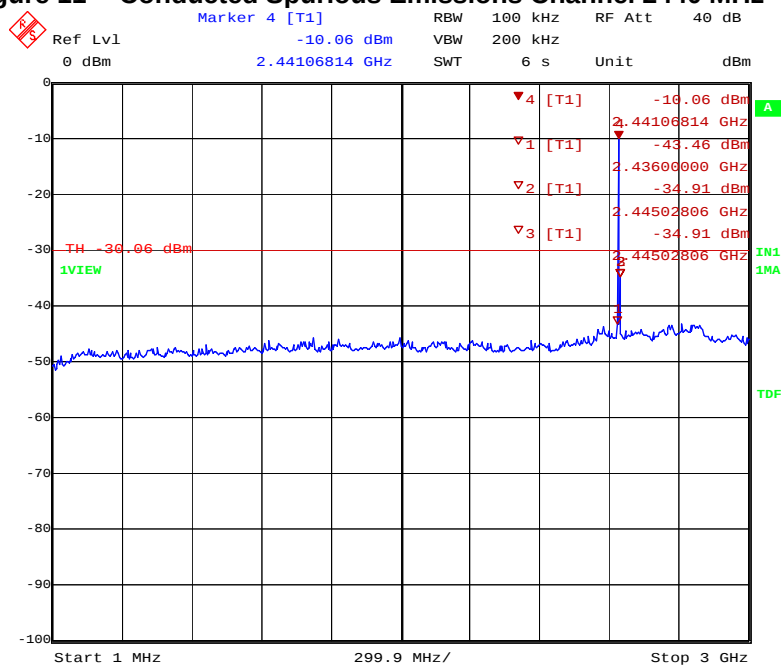
Figure 10 Conducted Spurious Emissions Channel 2405 MHz



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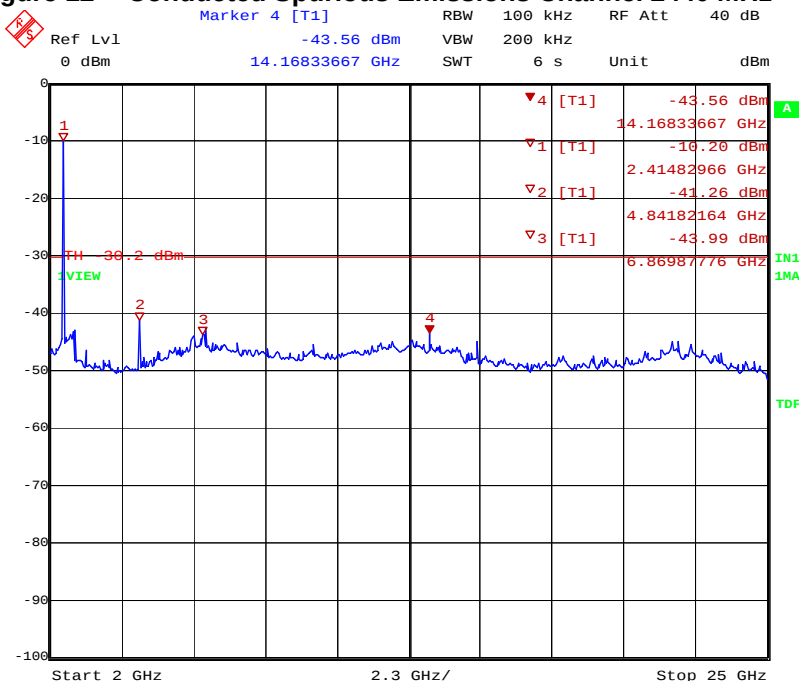
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Figure 11 Conducted Spurious Emissions Channel 2440 MHz



Comment A: CG-245 FCCID TFY1105AXM0361 FCC 15.247 Conducted Spurious 1M
hz-3ghz Channel 18
Date: 25.JAN.2006 14:45:49

Figure 12 Conducted Spurious Emissions Channel 2440 MHz

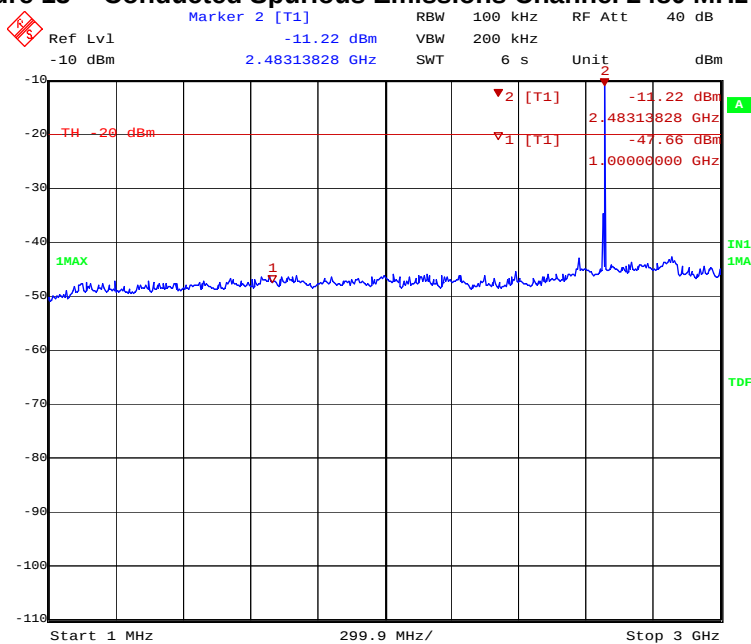


Comment A: CG-245 FCCID TFY1105AXM0361 FCC 15.247 Conducted Spurious 2_
25ghz Channel 18
Date: 25.JAN.2006 14:57:25

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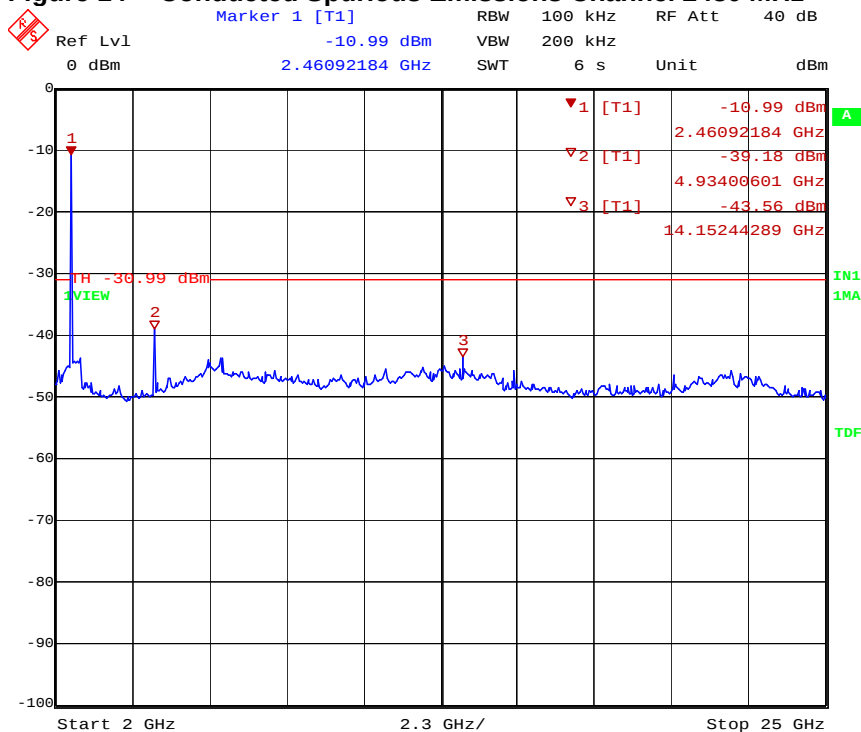
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Figure 13 Conducted Spurious Emissions Channel 2480 MHz



Comment A: CG-245 FCCID TFY1105AXM0361 FCC 15.247 Conducted Spurious 1-
3ghz Channel 26
Date: 25. JAN. 2006 13:23:25

Figure 14 Conducted Spurious Emissions Channel 2480 MHz



Comment A: CG-245 FCCID TFY1105AXM0361 FCC 15.247 Conducted Spurious 2_
25ghz Channel 26
Date: 25. JAN. 2006 15:05:35

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APPENDIX E: CONDUCTED SPURIOUS EMISSIONS BAND EDGE MEASUREMENTS

E.1. Base Standard & Test Basis

Base Standard	CFR Title 47 – Telecommunications, Chapter I – FCC Part 15.247 – Radio Frequency Devices - Subpart C– intentional Radiators.
Test Basis	RF conducted as per FCC Publication 558074
Test Method	RF conducted as per FCC Publication 558074

E.2. Limits

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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)).

E.3. Measurement Uncertainty

Expanded Uncertainty (K=2)
+1.11/-1.22

E.4. Test Results

Compliant. All out of band spurious emissions are more than 20 dB below the in band power of the fundamental.

E.5. Sample Calculation

NA.

E.6. Test Data

See plots on following pages.

E.7. Tested By

This testing was conducted in accordance with the ISO 17025:1999 scope of accreditation, table 1; Quality Manual.

Name: Glen Moore
Function: EMC Manager

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Figure 15 2405 MHz Band edge Measurement (Pk Detector)

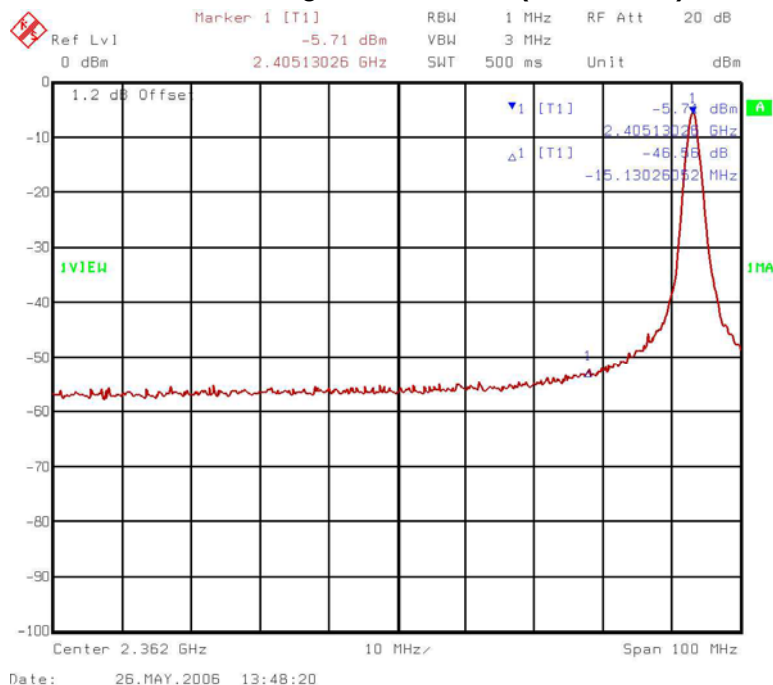
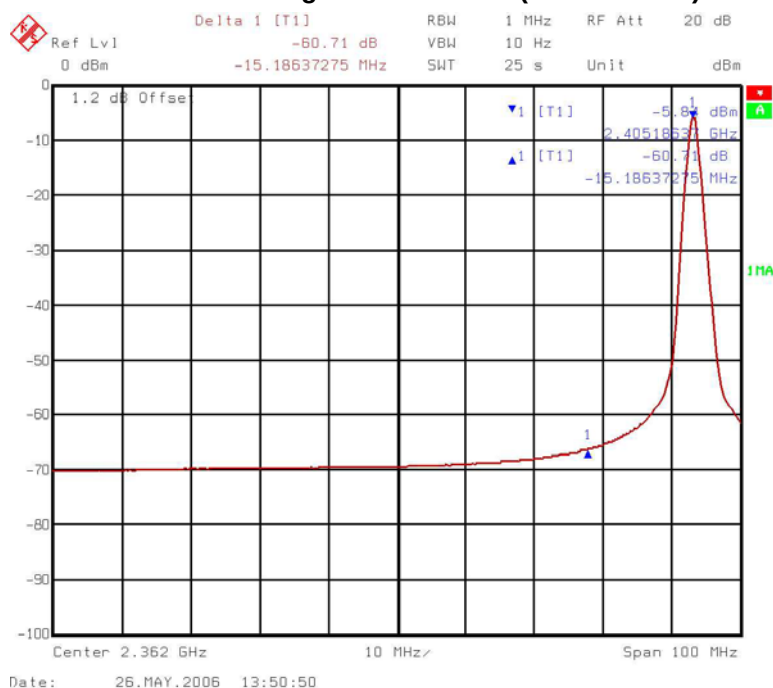


Figure 16 2405 MHz Band edge Measurement (Ave Detector)



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Figure 17 2480 MHz Band edge Measurement (Pk Detector)

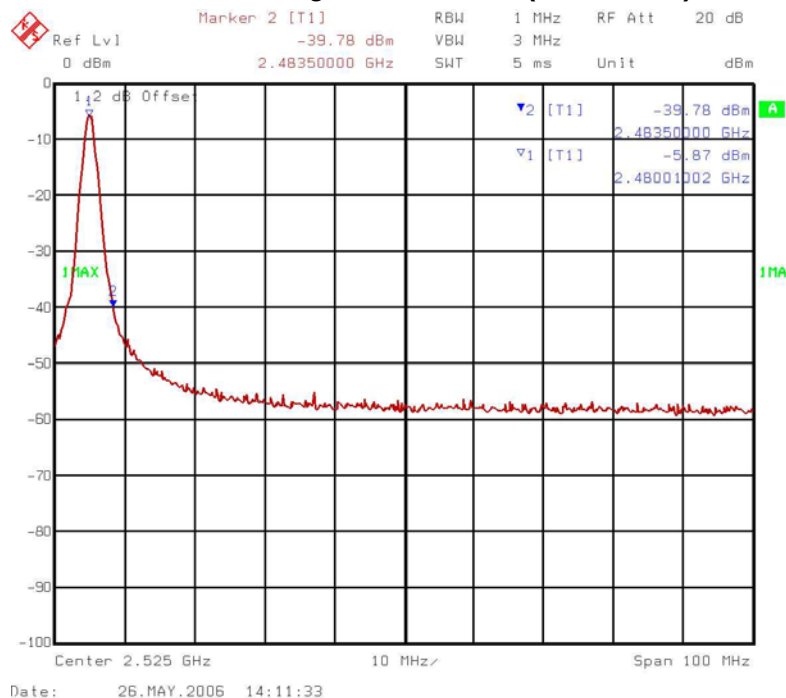
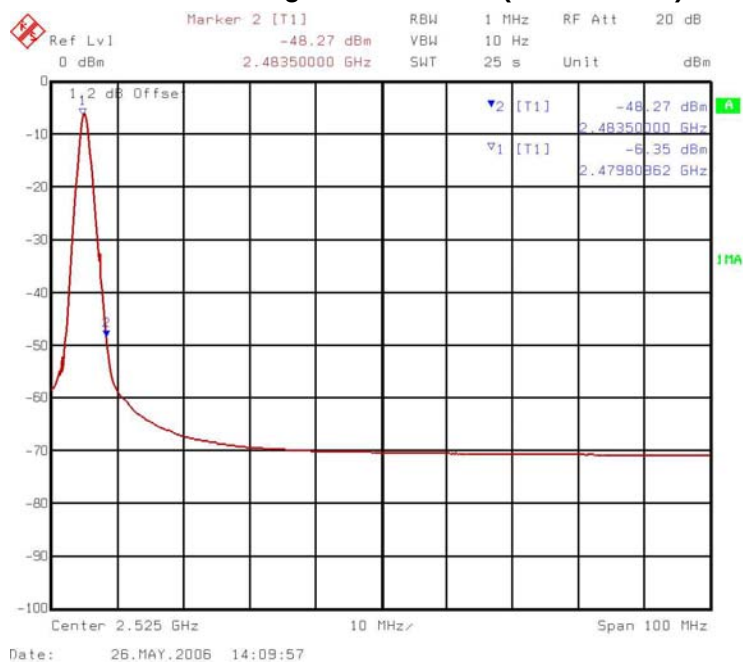


Figure 18 2480 MHz Band edge Measurement (Ave Detector)



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APPENDIX F: RADIATED SPURIOUS EMISSIONS (RX AND TX MODE)

F.1. Base Standard & Test Basis

Base Standard	CFR Title 47 – Telecommunications, Chapter I - FCC Part 15.209 – Radio Frequency Devices
Test Basis	ANSI C63.4-2003 Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
Test Method	NTS Radiated Emissions Test Method E001R7

Specifications

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	2690-2900	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) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

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F.2. Measurement Uncertainty

Radiated Emissions 30 MHz – 1 GHz	Measurement Uncertainty	Expanded Uncertainty (K=2)
(dB)	+2.32/-2.36	+4.65/-4.72

F.3. Deviations

Deviation Number	Time & Date	Description and Justification of Deviation	Deviation Reference			Approval
			Base Standard	Test Basis	NTS Procedure	
none						

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F.4. Test Results

The EUT is in compliance with FCC CFR47 Part 15.205/15209 Radiated emission limits. The worst case emission was 29.13 dB μ V/m @10 meters @ 444.35 MHz, a pass margin of 13.1 dB. The EUT was operating in RX and TX mode during this test.

p1of1

Compliance Scan Peaks

FCC15B - Vertical

03/02/2006 08:17

 Product Integrity Laboratory V2.5	Project Name: CG-245	Tester: Glen Moore
	Model: AXM0361	Test ID: RE02c-10m-CG245
	Comments: EUT in Horizontal Plane on table (worst case) Transmitting full power on mid band channel	

Pre-Compliance		Verified Compliance Scan													
Emission Frequency (MHz)	Emission Level (dB μ V/m)	Peak Status	Emission Frequency (MHz)	QP Measured Level (dB μ V/m)	QP Emission Level (dB μ V/m)	FCC15B Limit (dB μ V/m)	FCC15B Margin (dB)	QP Mast Height (cm)	QP Turntable Angle (deg)	Correction Factors (dB/m)					
56.9099	14.85	Verify	56.7552	30.64	12.85	29.54	16.69	224.3	302.7	-17.80					
76.0111	16.45	Verify	75.9002	26.96	8.99	29.54	20.55	133.4	201.6	-17.97					
111.9310	17.24	Verify	111.8322	27.93	15.71	33.06	17.35	102.9	261.3	-12.22					
191.6997	17.47	Verify	191.7123	30.59	17.36	33.06	15.70	104.7	217.5	-13.23					

p1of1

Compliance Scan Peaks

FCC15B - Horizontal

03/02/2006 08:17

 Product Integrity Laboratory V2.5	Project Name: CG-245	Tester: Glen Moore
	Model: AXM0361	Test ID: RE02c-10m-CG245
	Comments: EUT in Horizontal Plane on table (worst case) Transmitting full power on mid band channel	

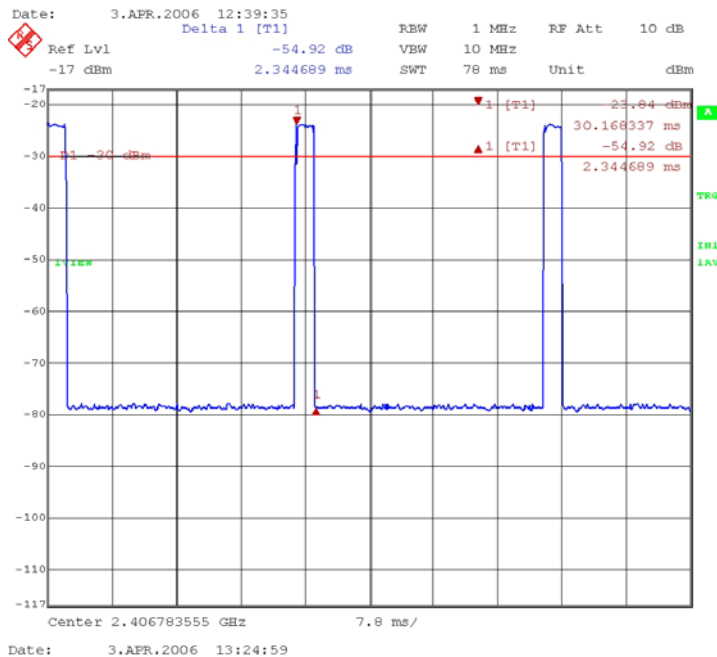
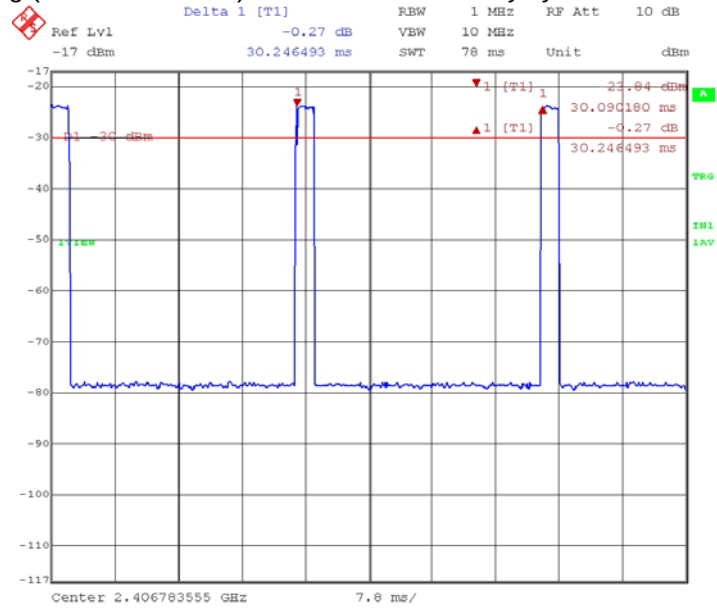
Pre-Compliance		Verified Compliance Scan													
Emission Frequency (MHz)	Emission Level (dB μ V/m)	Peak Status	Emission Frequency (MHz)	QP Measured Level (dB μ V/m)	QP Emission Level (dB μ V/m)	FCC15B Limit (dB μ V/m)	FCC15B Margin (dB)	QP Mast Height (cm)	QP Turntable Angle (deg)	Correction Factors (dB/m)					
207.6774	14.92	Freq Adjust	207.6839	27.01	13.31	33.06	19.75	400.1	282.3	-13.69					
447.3437	22.86	Freq Adjust	447.3200	28.23	22.50	35.56	13.06	204.6	291.7	-5.72					

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Duty cycle calculation as per FCC Part 15.35

$20 \cdot \log(2.34\text{ms}/30.25\text{ms}) = -22.23 \text{ dB}$ is the duty cycle correction factor



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APPENDIX G: TEST EQUIPMENT LIST

G.1. Conducted Emissions 150 kHz – 30 MHz Measurement Equipment

Description		Manufacturer	Type/Model	Serial #	Cal Due	Cal Date
10m ANECHOIC CHAMBER						
A LISN Link					07JAN06	07JAN04
-LISN A Switch	☒ A	NA	NA	263177		
-Cable Switch to Limiter	☒ A	NA	NA	263164		
- Cable LISN to Switch	☒ A1	Succoflex	NA	263168	07JAN06	07JAN04
	☐ A2	Succoflex	NA	263169	07JAN06	07JAN04
	☐ A3	Succoflex	NA	263170	07JAN06	07JAN04
	☒ A4	Succoflex	NA	263171	07JAN06	07JAN04
- LISN	☐ A1	EMCO	38100/1SPEC	260454	07JAN06	07JAN04
- LISN	☐ A2	EMCO	38100/1SPEC	260268	07JAN06	07JAN04
- LISN	☐ A3	EMCO	38100/1SPEC	260458	07JAN06	07JAN04
- LISN	☐ A4	EMCO	38100/1SPEC	260265	07JAN06	07JAN04
- Table Top LISN	☒ TT	EMCO	3825	260354	08JAN06	08JAN04
CONTROL ROOM						
Test Receiver		Rohde & Schwarz	ESAI	260110 / 260111	02FEB06	02FEB05
Mast Controller		EMCO	2090	260166	N/A	N/A
Switch Matrix		TDL	SMC-002	260162	07JAN06	07JAN04
Cable Switch Matrix to Receiver		NA	NA	263166	07JAN06	07JAN04
A LISN Link					07JAN06	07JAN04
-LISN A Limiter	☒ A	NA	NA	263178		
-Cable Switch to Limiter	☒ A	NA	NA	263164		

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G.2. Radiated Emissions 30 MHz – 1 GHz Measurement Equipment

Description	Manufacturer	Type/Model	Asset #	Cal Due	Cal Date
10m ANECHOIC CHAMBER					
Bilog Antenna	☐ Chase	CBL 6111B	260398	09JULY06	09JULY04
	☒ Chase	CBL 6112B	260301		
RF Cable	Suhner Succoflex	Ferrite bead loaded cable	260388	07JAN06	07JAN04
CONTROL ROOM					
Test Receiver	☒ Rohde & Schwarz	ESAI	260110 / 260111	2FEB06	2FEB05
Mast Controller	EMCO	2090	260165	N/A	N/A
Multi Device Controller TT1 (Turntable)	07JAN06	07JAN04		N/A	N/A
RF 10m East site Link				Suhner Succoflex	NA
- Cable 1	Suhner Succoflex	NA	263135		
- Cable 2	Suhner Succoflex	NA	263161		
- Cable 3	Suhner Succoflex	NA	263162		
- Cable 4	TDL	SMC-002	260162		
- Switch Matrix Controller	Hewlett Packard	8447F	260164		
- Amplifier					

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G.3. Radiated Emissions 1 GHz – 25 GHz Measurement Equipment

Description	Manufacturer	Type/Model	Asset #	Cal Due	Cal Date
10m ANECHOIC CHAMBER					
Horn Antenna (Rx) 1 GHz – 18 GHz	EMCO	3115	260092	16Jun06	16JUN04
High pass filter	K&L	11SH10-3860	263124	08JAN06	08JAN04
High frequency Link				07JAN06	07JAN04
Step Attenuator/Switch (0dB & 10 dB)	HP	11713A	260048 260097		
LNA	Miteq	JSD000121	260477		
Cable from LNA to SA	Succoflex	101PEA	263187		
Spectrum Analyzer 9k-40GHz	Rohde & Schwarz	FSEK	260104	05APR06	05APR05
LNA DC Power Supply	Xantrex	LXO 30-2	260483	NA	NA
HPIB Extender	HP	37204	260096	N/A	N/A
CONTROL ROOM					
PC with FSEK Manual ctrl S/W	N/A	N/A	N/A	N/A	N/A
HPIB Extender	HP	37204	260168	N/A	N/A
Mast Controller	EMCO	2090	260166	N/A	N/A
Multi Device Controller TT1	EMCO	2090	260165	N/A	N/A
Horn Antenna (Tx)	EMCO	3160	260088	N/A	N/A

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END OF DOCUMENT

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