

TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: Q-cnx-Q2400-100

To: FCC Part 15.247: 2008 Subpart C, RSS-210 Issue 7 June 2007
& RSS-Gen Issue 2 June 2007

Test Report Serial No:
RFI/RPT1/RP73082JD15A

This Test Report Is Issued Under The Authority Of Brian Watson, Operations Director:		
Checked By:	A. Henriques	
Signature:		
Date of Issue:	10 July 2009	

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1. Customer Information

Company Name:	Lo-Q Plc
Address:	The Smith Centre The Fairmile Henley-on-Thames Oxfordshire RG9 6AB

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.247
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 15 Subpart C (Radio Frequency Devices) - Section 15.247
Specification Reference:	47CFR15.107 and 47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 15 Subpart B (Radio Frequency Devices) - Sections 15.107 and 15.109
Specification Reference:	RSS-210 Issue 7 June 2007
Specification Title:	Low-power Licence-exempt Radio communication Devices (All Frequency Bands): Category I Equipment.
Specification Reference:	RSS-GEN Issue 2 June 2007
Specification Title:	General Requirements and Information for the Certification of Radio communication Equipment
Site Registration:	FCC: 209735; Industry Canada: 3245B-2
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	18 April to 27 April 2008 and 06 July to 07 July 2009

2.2. Summary of Test Results

FCC Reference (47CFR)	IC Reference	Measurement	Port Type	Result
Part 15.107(a)	RSS-Gen 7.2.2	Idle Mode AC Conducted Emissions	AC Mains	
Part 15.109	RSS-Gen 4.10 RSS-Gen 6.0	Idle Mode Radiated Spurious Emissions	Antenna	
Part 15.207	RSS-Gen 7.2.2	Transmitter AC Conducted Emissions	AC Mains	
Part 15.247(a)(2)	RSS-210 A8.2	Transmitter 6 dB Bandwidth	Antenna	
Part 2.1049	RSS-Gen 4.6.1	Transmitter 20 dB Bandwidth	Antenna	
Part 15.247(e)	RSS-210 A8.2	Transmitter Peak Power Spectral Density	Antenna	
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	Antenna	
Part 15.247(d)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Conducted Emissions	Antenna	
Part 15.247(d) & 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	Antenna	
Part 15.247(d)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Conducted Emissions	Antenna	
Part 15.247(d) & 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	Antenna	
Key to Results  = Complied  = Did not comply				

2.3. Methods and Procedures

Reference:	ANSI C63.4 (2003)
Title:	American National Standard Methods of Measurement of Electromagnetic Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
Reference:	ANSI/TIA-603-C-2004
Title:	Land Mobile Communications Equipment, Measurements and performance Standards
Reference:	DA00-705 (2000)
Title:	Filing and Frequency Measurement Guidelines for Frequency Hopping Spread Spectrum Systems.

2.4. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	Q-cnx
Model Name or Number:	Q2400-100
Serial Number:	Test-01, Test-02
Hardware Version Number:	RF Interface 485 V1.0, RF2400 V1.2
Software Version Number:	Q-cnx Test Mode SW V1.0.0.1
IC Number:	7174A-Q2400100
FCC ID:	QCX-Q2400-100

Description:	Feeder Unit (interface unit with power supply fitted)
Brand Name:	Q-cnx Feeder
Serial Number:	Test-01

3.2. Description of EUT

The equipment under test was a fixed wireless base station device that is used in to the Lo-Q VQ2020 Guest Services System. It is capable of bi-directional communication using the 2.4GHz unlicensed ISM radio band.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Power Supply Requirement:	DC Supply of 24 V via Feeder Unit (Feeder Unit is supplied via 120 VAC mains)		
Channel Spacing:	5 MHz		
Modulation Type:	802.15.4 DSSS O-QPSK		
Data Rate:	250 Kbps		
Type of Unit:	Transceiver		
Transmit Frequency Range:	2410 MHz to 2475 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	11	2410
	Middle	18	2440
	Top	25	2475
Receive Frequency Range:	2410 MHz to 2475 MHz		
Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	11	2410
	Middle	18	2440
	Top	25	2475
Maximum Peak Power Output (EIRP)	10.6 dBm (measured)		

3.5. Support Equipment

No support equipment was used to exercise the EUT during testing.

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating mode(s):

- Receive/Idle mode with amplifier enabled
- Transmit mode transmitting data continuously

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- The EUT was hard wired to the feeder unit which provided the 24V source.
- The AC power supply adaptor on the feeder unit was connected to a 120V 60 Hz supply via a LISN for the AC conducted tests.

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6. Measurement Uncertainty* for details.

5.2. Test Results

5.2.1. Idle Mode AC Conducted Spurious Emissions

Test Summary:

FCC Part:	15.107(a)
Test Method Used:	As detailed in ANSI C63.4 Section 7 and relevant annexes

Environmental Conditions:

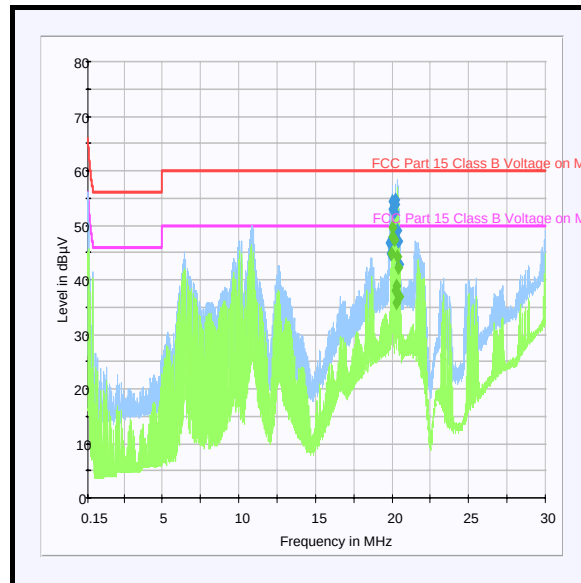
Temperature (°C):	23
Relative Humidity (%):	45

Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
19.826000	Live	46.7	60.0	13.3	Complied
19.882000	Live	44.9	60.0	15.1	Complied
19.998000	Live	53.1	60.0	6.9	Complied
20.050000	Live	54.3	60.0	5.7	Complied
20.154000	Live	52.3	60.0	7.7	Complied
20.198000	Neutral	53.7	60.0	6.3	Complied
20.250000	Neutral	54.6	60.0	5.4	Complied
20.366000	Live	49.1	60.0	10.9	Complied
20.418000	Live	47.1	60.0	12.9	Complied
20.470000	Live	42.8	60.0	17.2	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
19.946000	Live	44.9	50.0	5.2	Complied
19.998000	Live	48.0	50.0	2.0	Complied
20.050000	Live	49.5	50.0	0.5	Complied
20.154000	Live	47.2	50.0	2.8	Complied
20.210000	Live	38.0	50.0	12.0	Complied
20.262000	Live	38.9	50.0	11.1	Complied
20.314000	Live	35.6	50.0	14.4	Complied
20.366000	Live	44.1	50.0	5.9	Complied
20.418000	Live	42.2	50.0	7.8	Complied
20.470000	Live	36.9	50.0	13.1	Complied

Idle Mode AC Conducted Spurious Emissions (continued)

Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.

5.2.2. Idle Mode Radiated Spurious Emissions**Test Summary:**

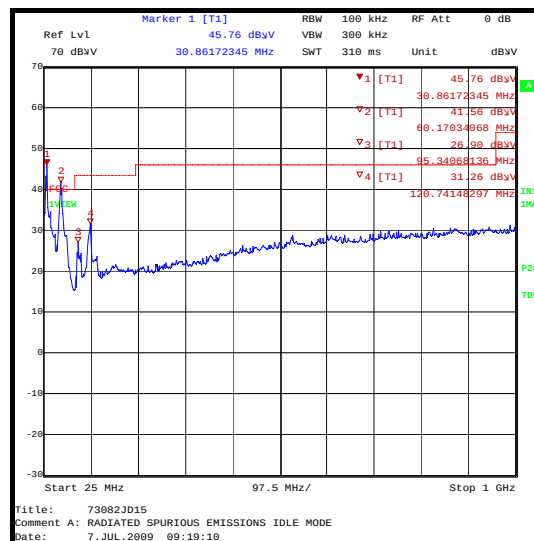
FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes
Frequency Range:	30 MHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	40

Results:

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
31.132	Vertical	38.9	40.0	1.1	Complied
60.691	Vertical	34.7	40.0	5.3	Complied
63.679	Vertical	30.9	40.0	9.1	Complied
121.101	Vertical	27.9	43.5	15.6	Complied



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying table.

Idle Mode Radiated Spurious Emissions (continued)**Test Summary:**

FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes
Frequency Range:	1 GHz to 12.75 GHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	40

Results: Highest Peak Level

Frequency (GHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
12.655311	Vertical	40.4	13.1	53.5	74.0	20.5	Complied

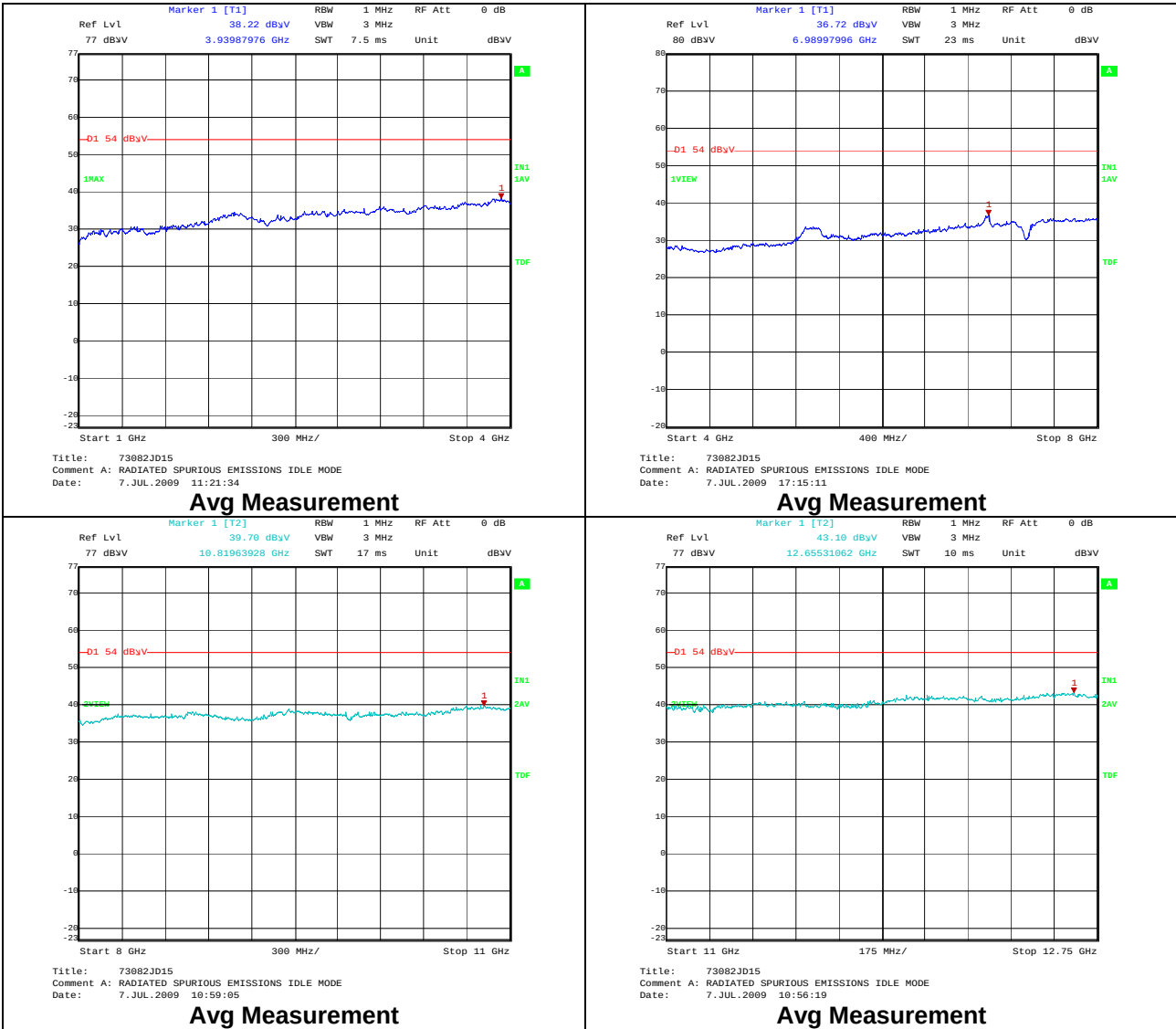
Results: Highest Average Level

Frequency (GHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
12.655311	Vertical	40.1	13.1	43.1	54.0	10.9	Complied

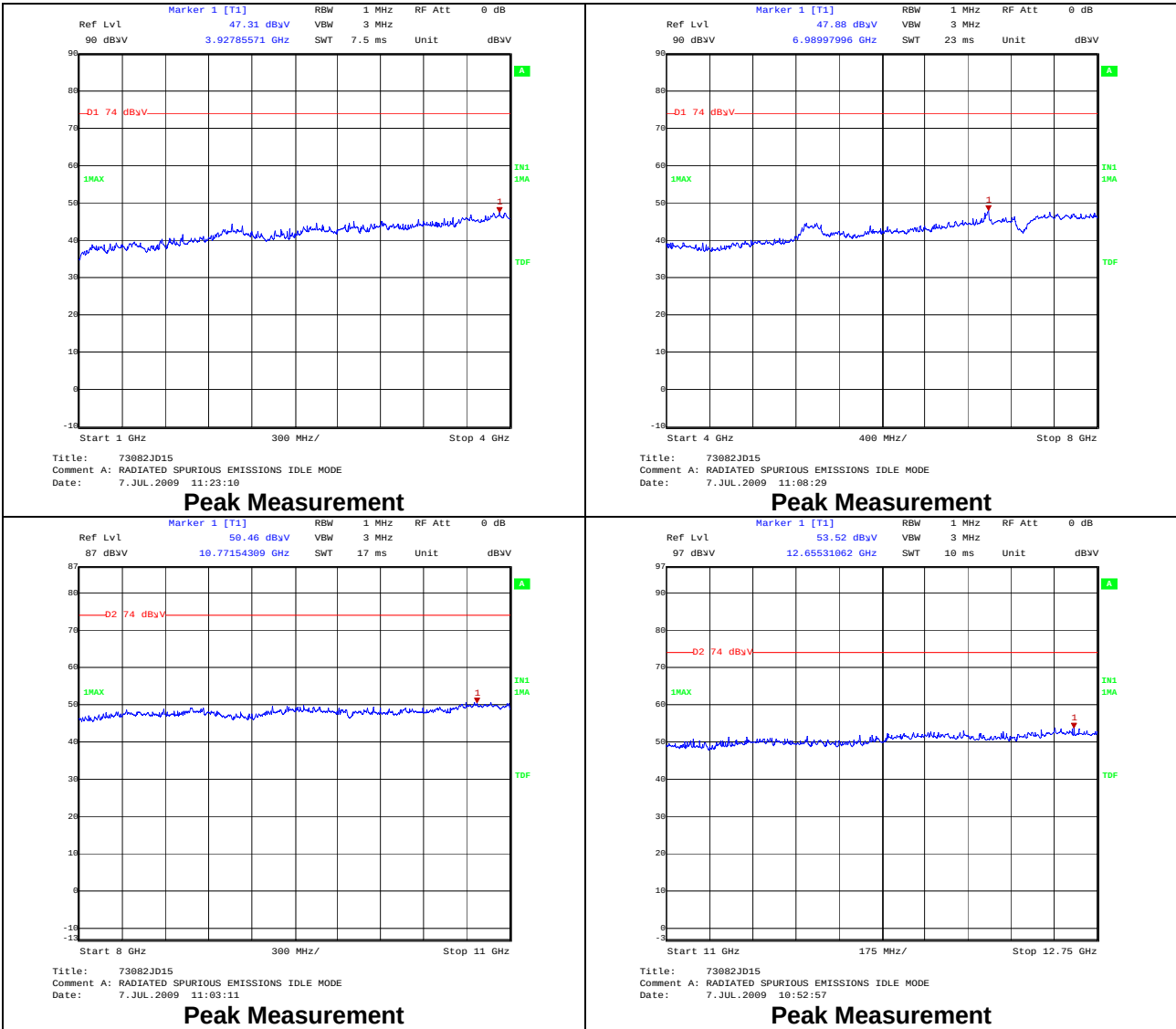
Note(s):

1. No spurious emissions were detected above the noise floor of the measuring receiver; therefore, the highest peak and average noise floor reading of the measuring receiver was recorded as shown in the table above.

Idle Mode Radiated Spurious Emissions (continued)



Idle Mode Radiated Spurious Emissions (continued)



5.2.3. Transmitter AC Conducted Spurious Emissions**Test Summary:**

FCC Part:	15.207
Test Method Used:	As detailed in ANSI C63.4 Section 7 and relevant annexes

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	45

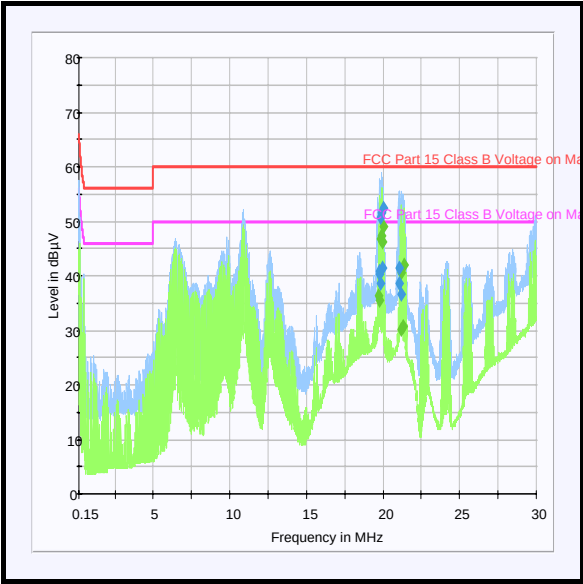
Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
19.746000	Live	40.3	60.0	19.7	Complied
19.798000	Live	40.8	60.0	19.2	Complied
19.830000	Live	38.6	60.0	21.4	Complied
19.862000	Neutral	50.6	60.0	9.4	Complied
19.914000	Live	51.5	60.0	8.5	Complied
19.962000	Live	41.4	60.0	18.6	Complied
20.022000	Live	52.3	60.0	7.7	Complied
21.030000	Live	41.3	60.0	18.7	Complied
21.082000	Live	38.5	60.0	21.5	Complied
21.218000	Live	36.7	60.0	23.3	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
19.694000	Live	36.3	50.0	13.7	Complied
19.746000	Live	35.6	50.0	14.4	Complied
19.806000	Live	46.8	50.0	3.2	Complied
19.914000	Live	47.3	50.0	2.7	Complied
19.966000	Live	46.1	50.0	3.9	Complied
20.022000	Live	49.0	50.0	1.0	Complied
21.170000	Live	40.6	50.0	9.4	Complied
21.218000	Live	30.2	50.0	19.8	Complied
21.326000	Neutral	30.7	50.0	19.3	Complied
21.386000	Neutral	41.9	50.0	8.1	Complied

Transmitter AC Conducted Spurious Emissions (continued)



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying table.

5.2.4. Transmitter 6 dB Bandwidth**Test Summary:**

FCC Part:	15.247(a)(2)
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000) (see note below)

Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	37

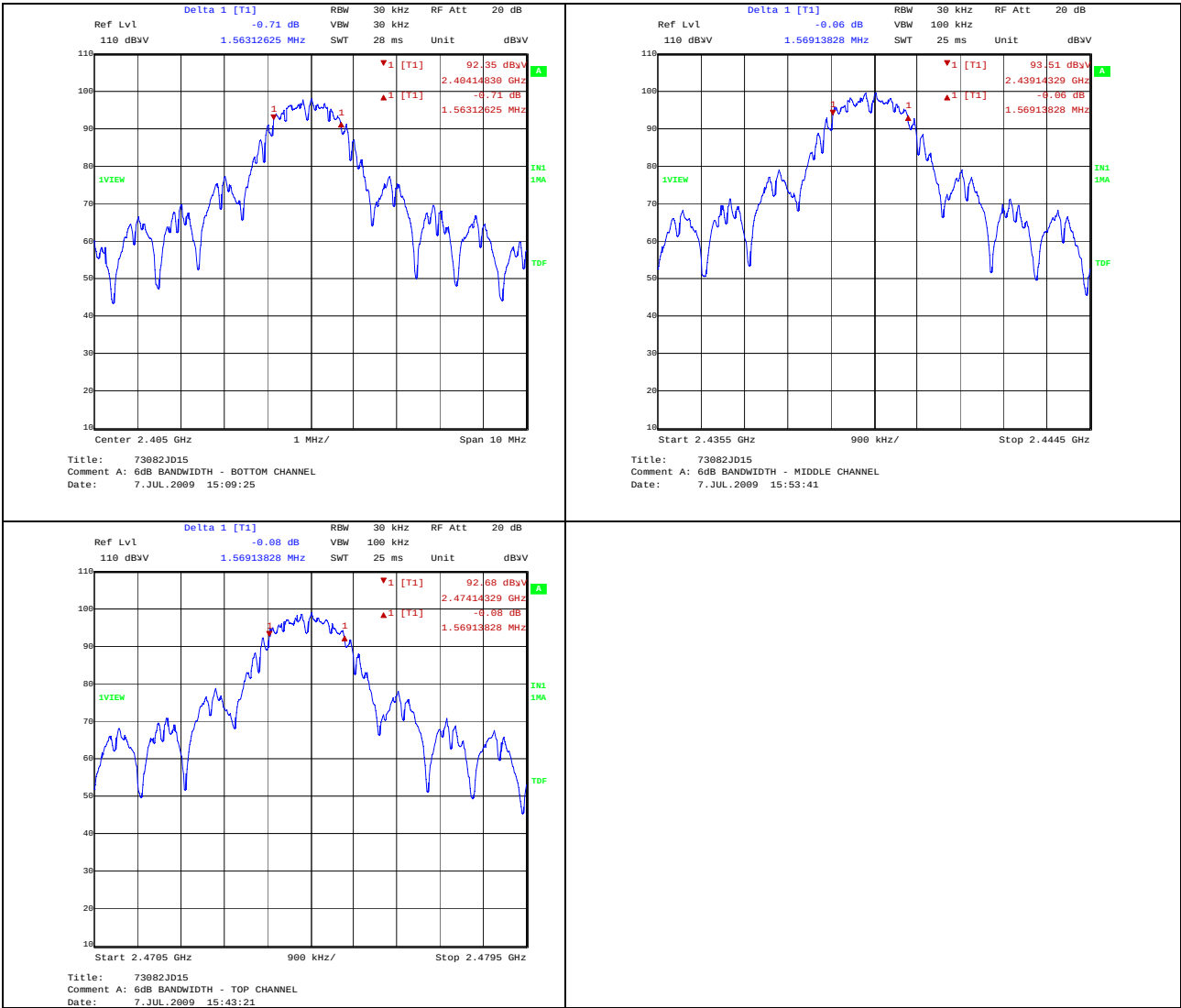
Results:

Channel	Transmitter 6 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
Bottom	1.563	≥ 0.5	1.063	Complied
Middle	1.569	≥ 0.5	1.069	Complied
Top	1.569	≥ 0.5	1.069	Complied

Note(s):

1. To determine the 6 dB bandwidth, a resolution bandwidth of 30 kHz was used, which is > 1% of the 6 dB bandwidth.. The analyser was set to a span of greater than twice the 6 dB bandwidth and for a maximum hold scan to capture the profile of the signal. The peak level was then determined, and a reference established 6 dB below the peak level. The bandwidth was determined at the points where the 6 dB reference crossed the profile of the emission.

Transmitter 6 dB Bandwidth (continued)



5.2.5. Transmitter 20 dB Bandwidth**Test Summary:**

FCC Part:	2.1049
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000)

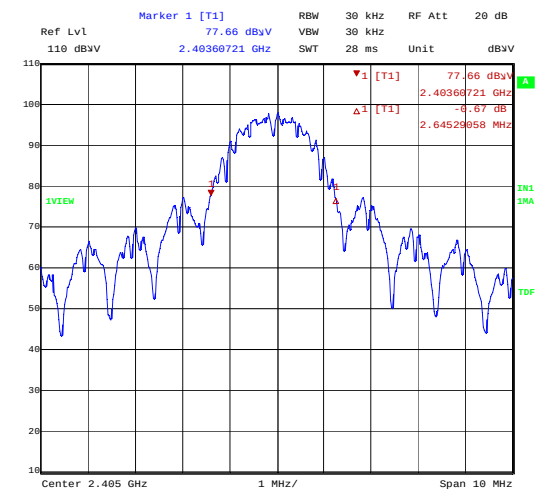
Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	37

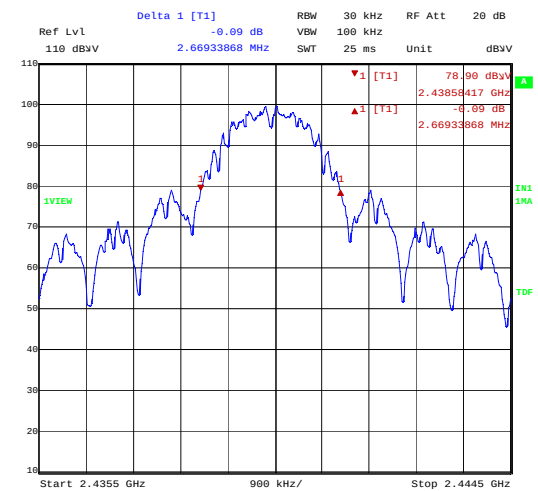
Results:

Channel	Transmitter 20 dB Bandwidth (MHz)
Bottom	2.645
Middle	2.669
Top	2.651

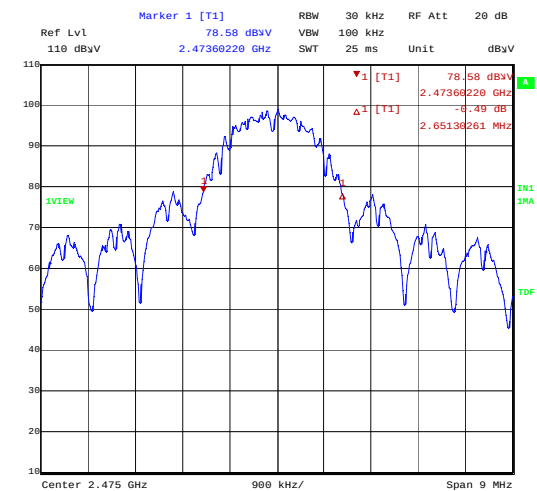
Transmitter 20 dB Bandwidth (continued)



Title: 73082JD15
Comment A: 20dB BANDWIDTH - BOTTOM CHANNEL
Date: 7.JUL.2009 15:11:40



Title: 73082JD15
Comment A: 20dB BANDWIDTH - MIDDLE CHANNEL
Date: 7.JUL.2009 15:52:26



Title: 73082JD15
Comment A: 20dB BANDWIDTH - TOP CHANNEL
Date: 7.JUL.2009 15:41:51

5.2.6. Transmitter Peak Power Spectral Density**Test Summary:**

FCC Part:	15.247(e)
Test Method Used:	As detailed in ANSI TIA-603-C-2004 and FCC CFR Part 2

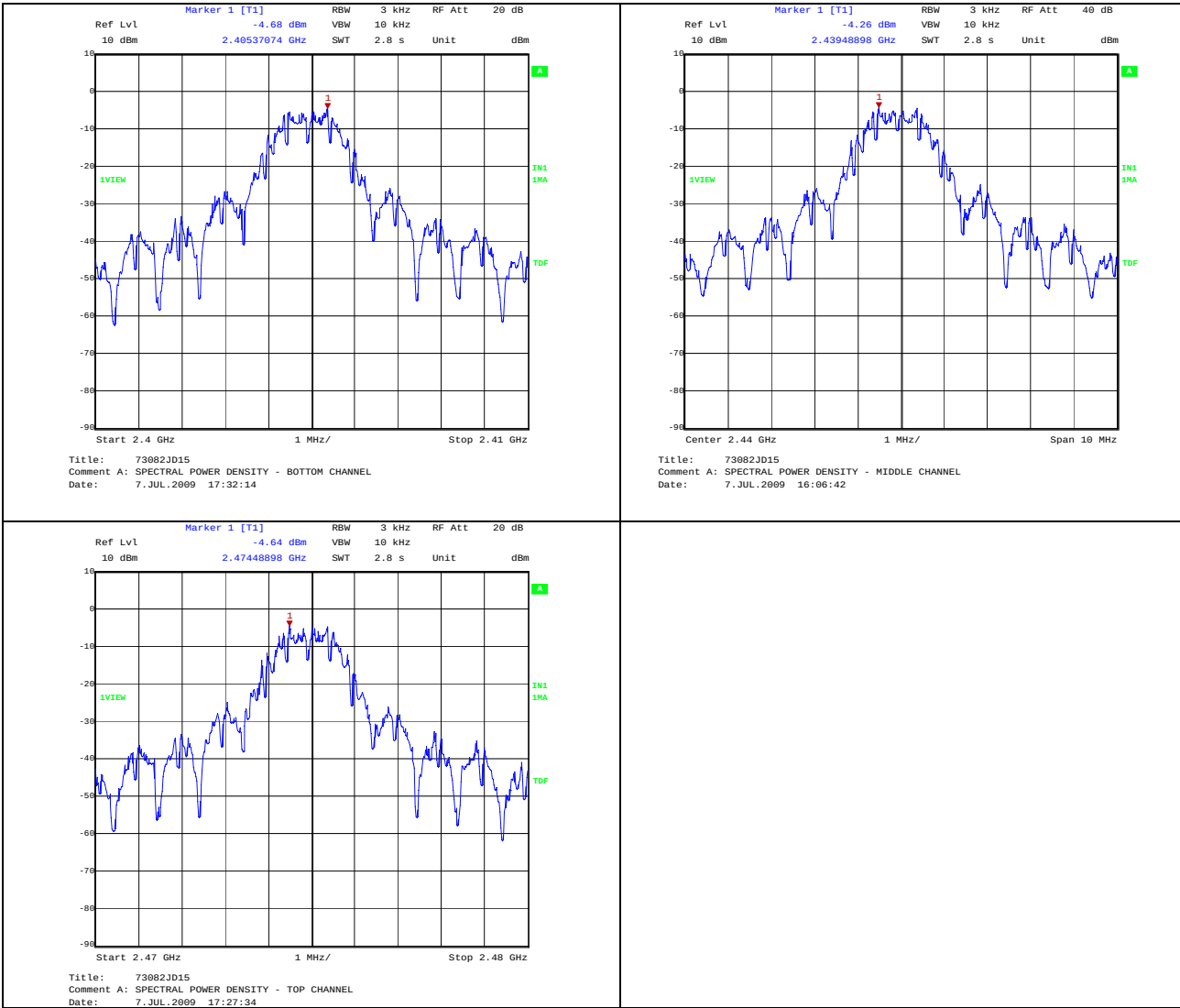
Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	37

Results:

Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-4.7	8.0	12.7	Complied
Middle	-4.3	8.0	12.3	Complied
Top	-4.6	8.0	12.6	Complied

Transmitter Peak Power Spectral Density (continued)



5.2.7. Transmitter Maximum Peak Output Power (EIRP)**Test Summary:**

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000), ANSI TIA-603-C-2004 and FCC CFR Part 2

Environmental Conditions:

Temperature (°C):	20
Relative Humidity (%):	42

Results: AC Powered Devices

Channel	Input Voltage (AC)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	93.5	9.3	30.0	20.7	Complied
Bottom	110.0	8.8	30.0	21.2	Complied
Bottom	126.5	9.6	30.0	20.4	Complied
Middle	93.5	10.2	30.0	19.8	Complied
Middle	110.0	10.3	30.0	19.7	Complied
Middle	126.5	10.2	30.0	19.8	Complied
Top	93.5	10.6	30.0	19.4	Complied
Top	110.0	10.5	30.0	19.5	Complied
Top	126.5	10.6	30.0	19.4	Complied

Note(s):

1. These tests were performed radiated; therefore the EUT antenna gain is encompassed in the final result and not measurable.

5.2.8. Transmitter Conducted Emissions**Test Summary:**

FCC Part:	15.247(d)
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000), ANSI TIA-603-C-2004 and FCC CFR Part 2

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	44

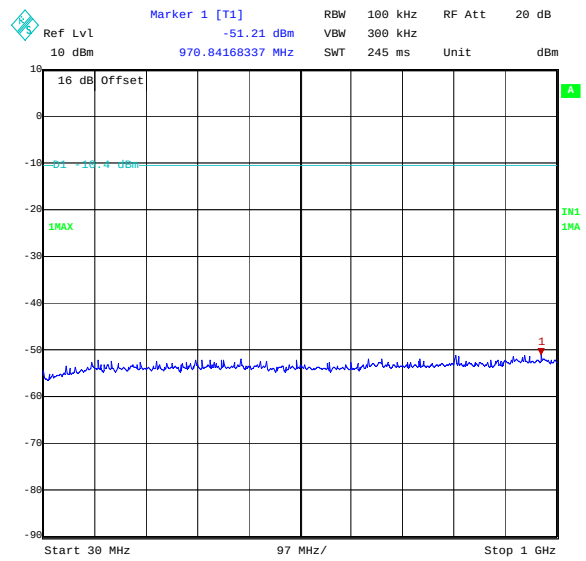
Results: Top Channel

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2483.500	-35.5	-45.1	-20.0	25.1	Complied
2627.375	-36.6	-45.7	-20.0	25.7	Complied

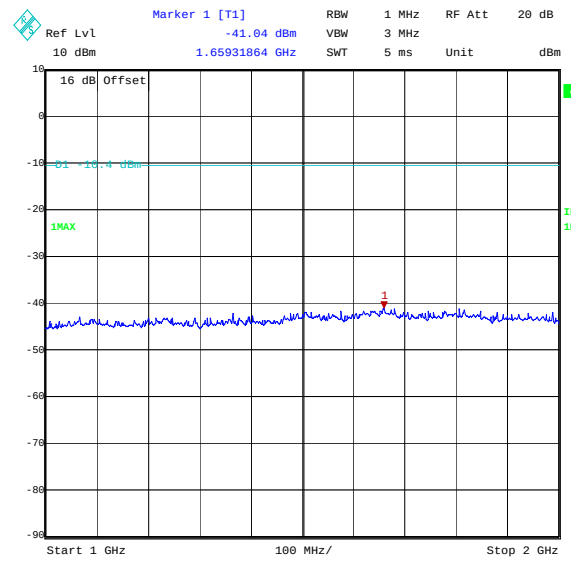
Note(s):

1. Pre-scans of the emissions for both the bottom and middle channels exhibited similar levels to those of the top channel and all emissions in those channels were greater than 20 dB below the limit. Plots are for the top channels only for this reason.
2. The pre-scan plots above 1 GHz were made using a 1MHz RBW instead of 100 kHz. Final measurements where necessary were made using 100kHz RBW.

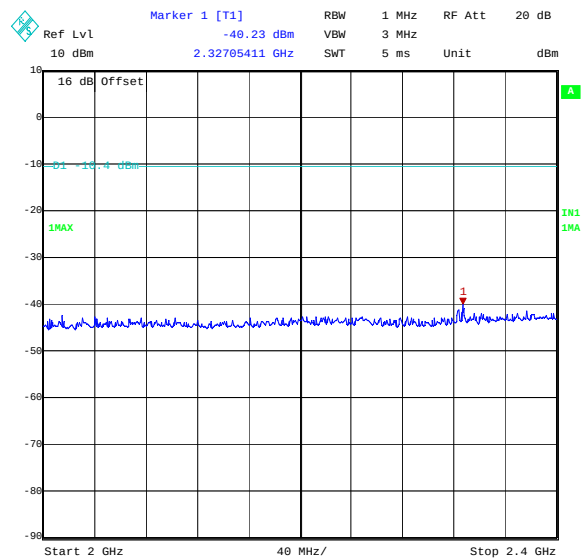
Transmitter Conducted Emissions (Continued)



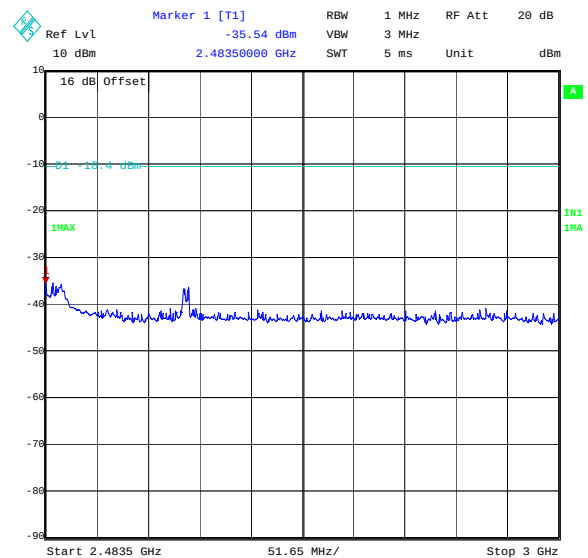
Date: 23.APR.2008 11:30:56



Date: 23.APR.2008 11:32:36

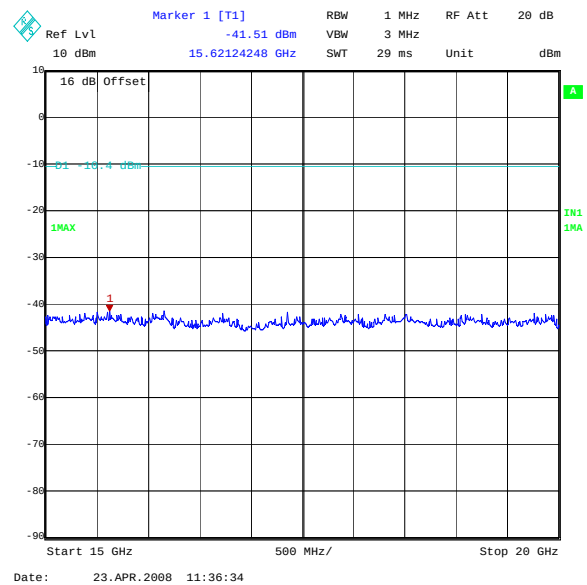
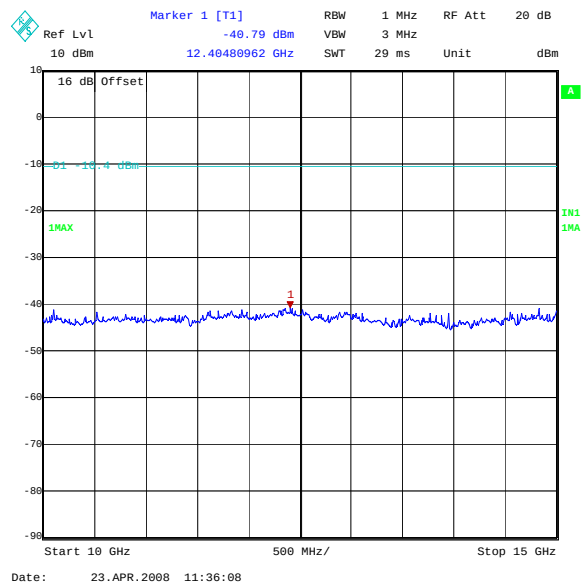
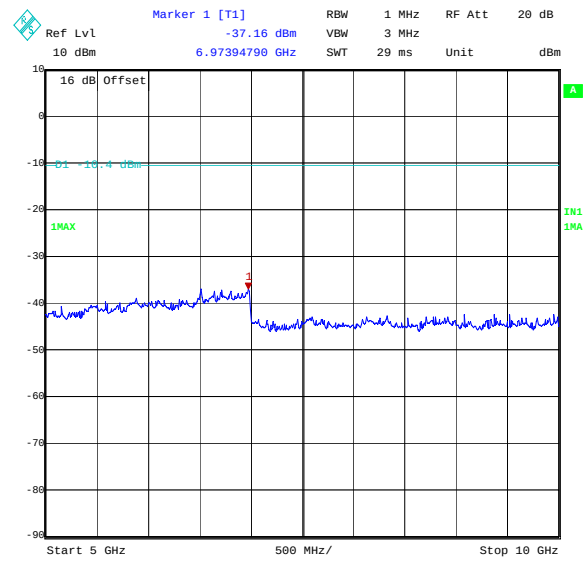
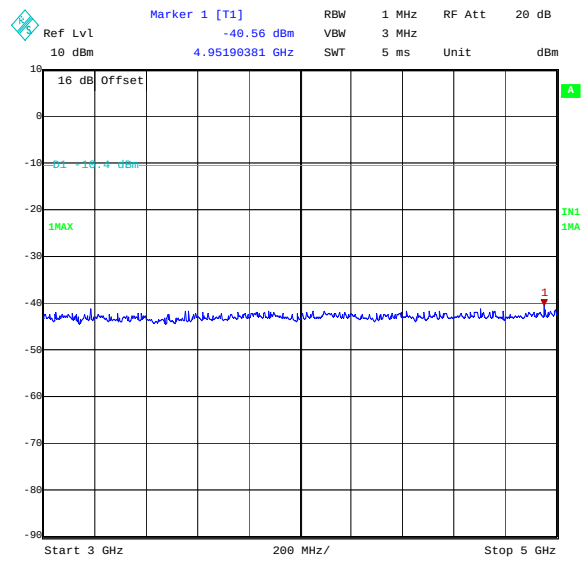


Date: 23.APR.2008 11:33:10



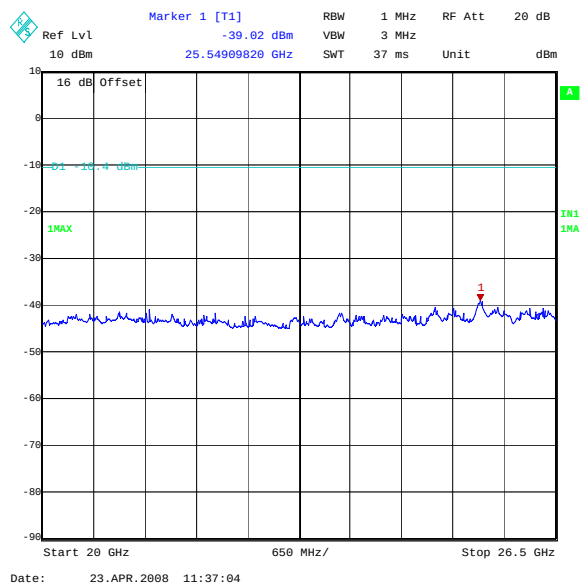
Date: 23.APR.2008 11:33:46

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Transmitter Conducted Emissions (Continued)

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Transmitter Conducted Emissions (Continued)



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.

5.2.9. Transmitter Radiated Emissions**Test Summary:**

FCC Part:	15.247(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.4 Section 8 and Public Notice DA 00-705 (March 30, 2000)
Frequency Range	30 to 1000 MHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	40

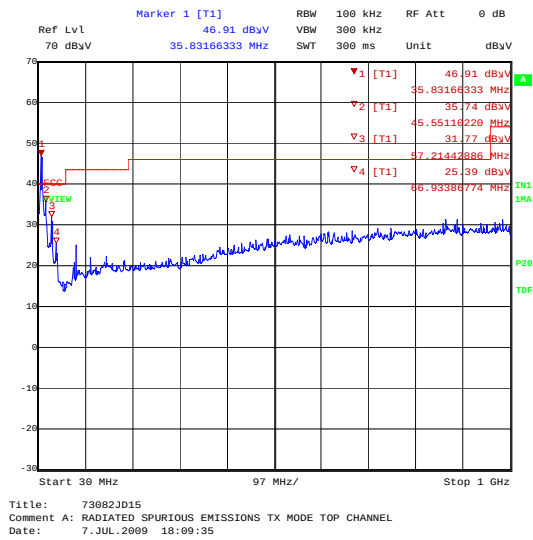
Results: Top Channel - Emissions Occurring in the Restricted Bands

Frequency (MHz)	Antenna Polarity	Q-P Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
121.101	Vertical	27.9	43.5	15.6	Complied

Results: Top Channel - Emissions Outside the Restricted Bands

Frequency (MHz)	Antenna Polarity	Peak Level (dBμV/m)	-20.0 dBc Limit (dBμV/m)	Margin (dB)	Result
35.832	Vertical	39.7	86.8	47.1	Complied
46.238	Vertical	36.1	86.8	50.7	Complied
57.214	Vertical	31.4	86.8	55.4	Complied
66.933	Vertical	26.0	86.8	60.8	Complied

Transmitter Radiated Emissions (continued)



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.

5.2.10. Transmitter Radiated Emissions**Test Summary:**

FCC Part:	15.247(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.4 Section 8 and Public Notice DA 00-705 (March 30, 2000)
Frequency Range	1 to 26 GHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	40

Results: Highest Peak Level. Bottom Channel - Emissions Occurring in the Restricted Bands

Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
4.809892	Vertical	44.2	3.3	47.5	74.0	26.5	Complied

Results: Highest Average Level. Bottom Channel - Emissions Occurring in the Restricted Bands

Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
4.809892	Vertical	28.5	3.3	31.8	54.0	22.2	Complied

Results: Highest Peak Level. Middle Channel - Emissions Occurring in the Restricted Bands

Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
4.878882	Vertical	43.7	3.3	47.0	74.0	27.0	Complied

Results: Highest Average Level. Middle Channel - Emissions Occurring in the Restricted Bands

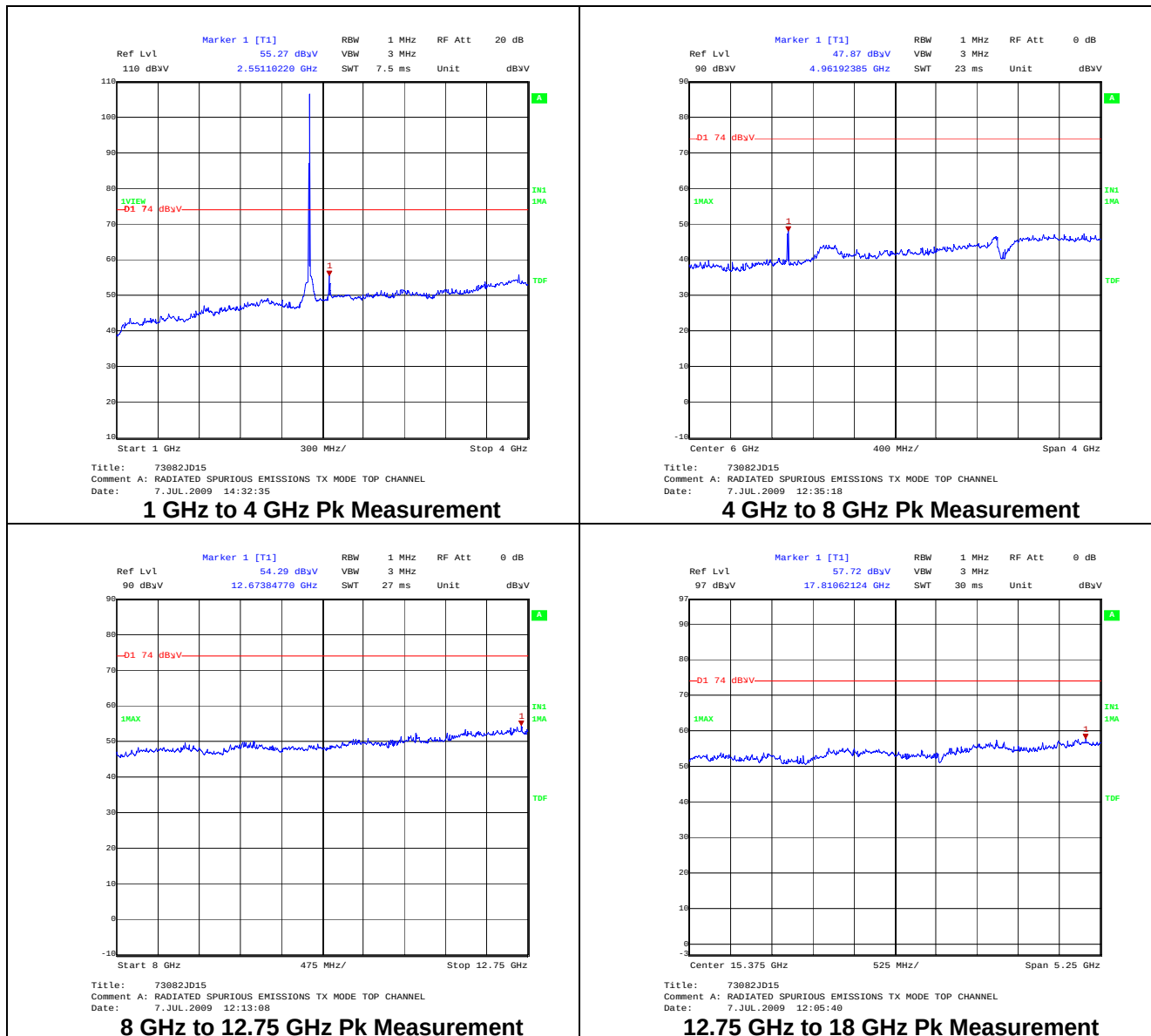
Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
4.878882	Vertical	28.1	3.3	31.4	54.0	22.6	Complied

Results: Highest Peak Level. Top Channel - Emissions Occurring in the Restricted Bands

Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
4.960922	Vertical	47.9	3.3	51.2	74.0	22.8	Complied

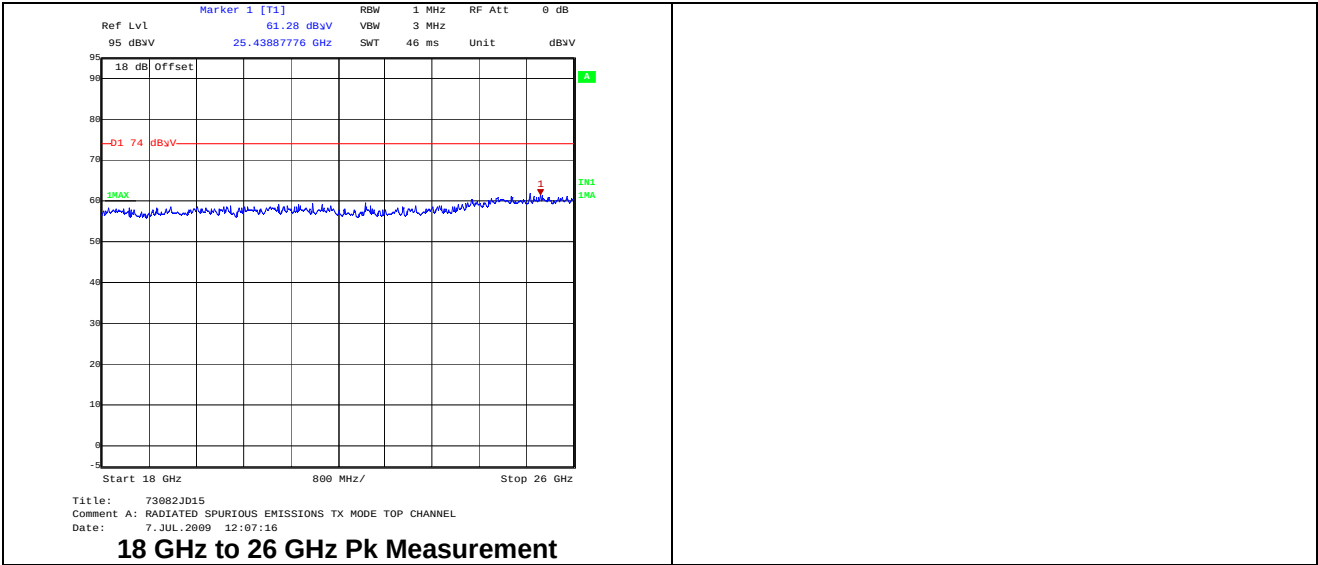
Results: Highest Average Level. Top Channel - Emissions Occurring in the Restricted Bands

Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
4.960922	Vertical	30.7	3.3	34.0	54.0	20.0	Complied

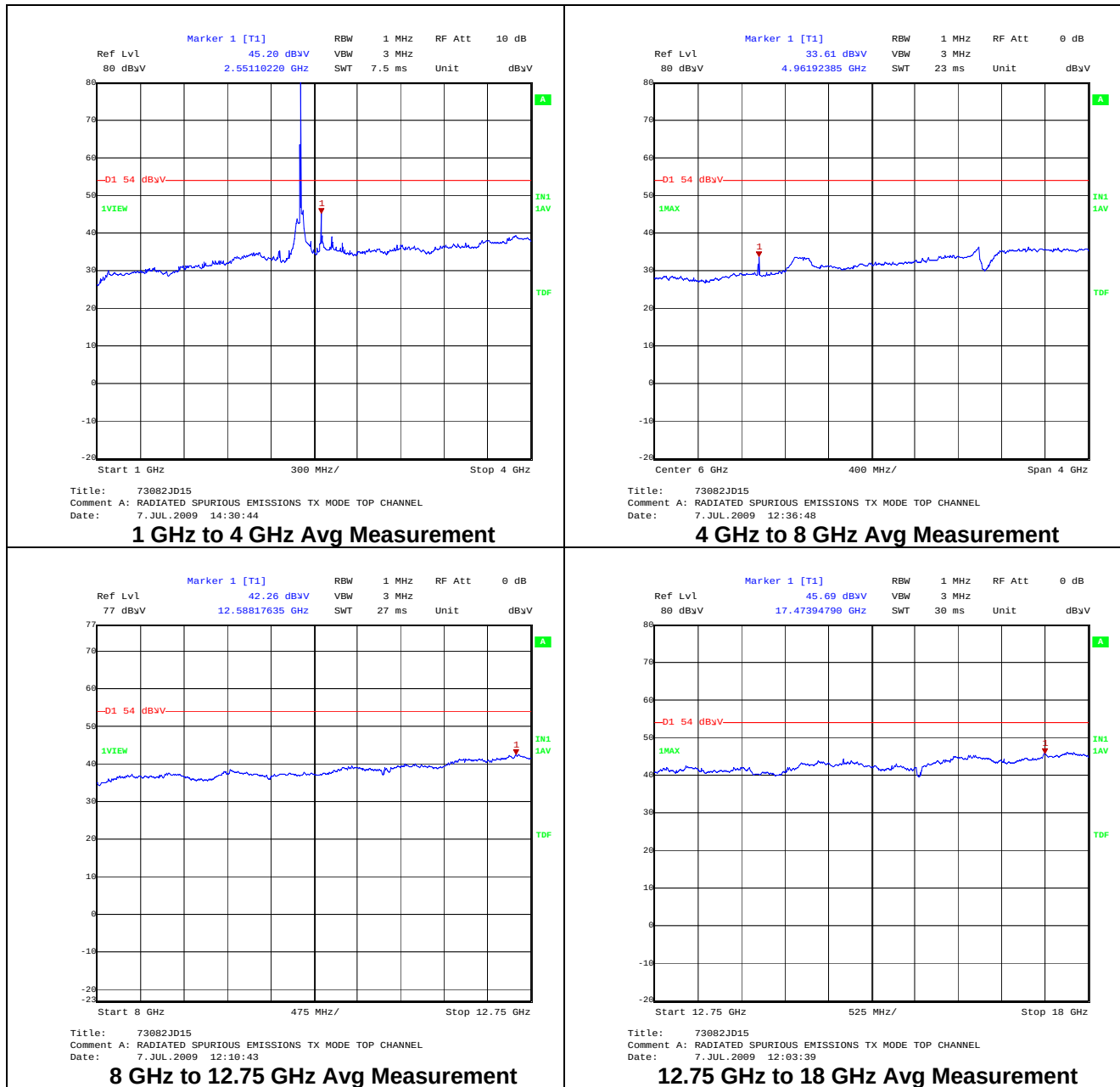
Transmitter Radiated Emissions (continued)

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Transmitter Radiated Emissions (continued)

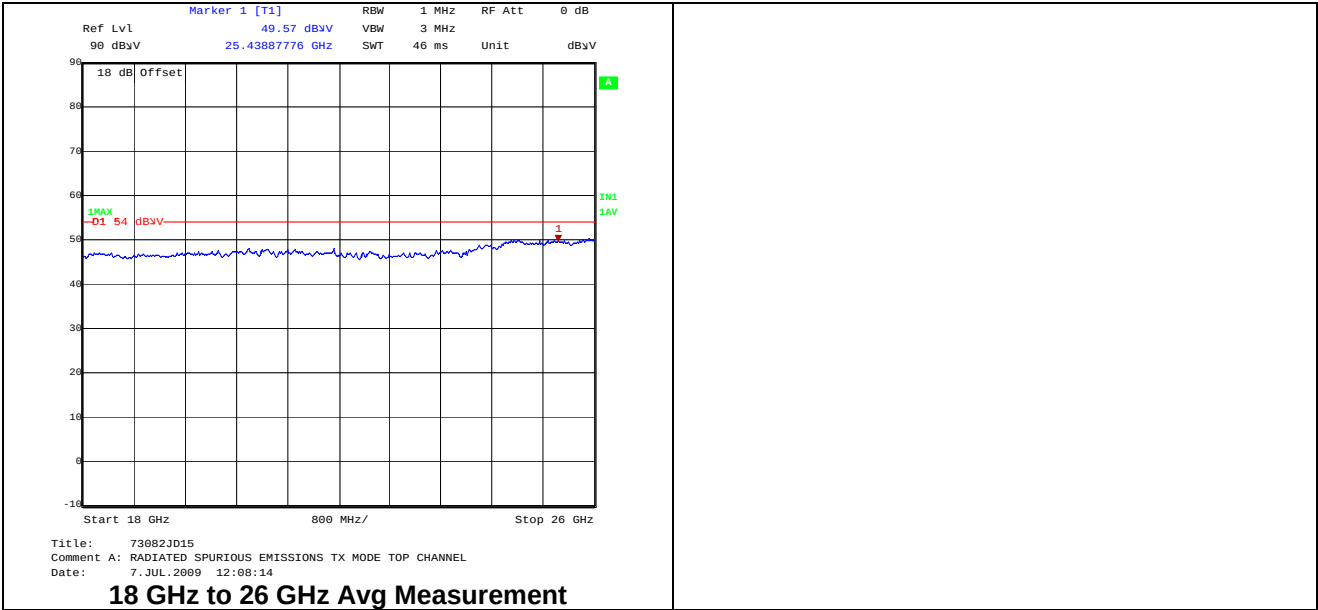


Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.

Transmitter Radiated Emissions (continued)

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Transmitter Radiated Emissions (continued)



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.

5.2.11. Transmitter Band Edge Conducted Emissions

Test Summary:

FCC Part:	15.247(d)
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000), ANSI TIA-603-C-2004 and FCC CFR Part 2

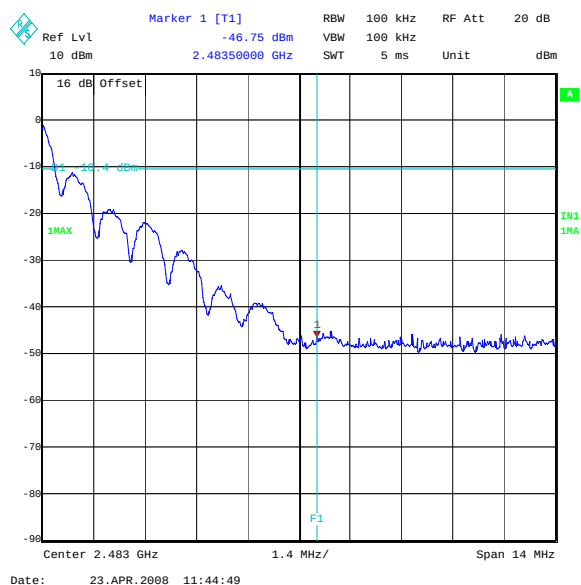
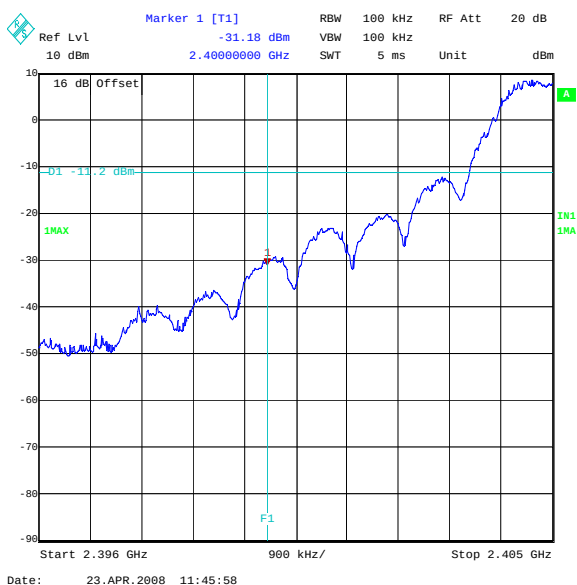
Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	44

Results:

Peak Power Level:

Frequency (MHz)	Peak Emission Level (dBm)	Peak Emission Level (dBc)	Limit (dBc)	Margin (dB)	Result
2400.000	-31.2	-40.0	-20.0	20.0	Complied
2483.500	-46.8	-55.6	-20.0	35.6	Complied



5.2.12. Transmitter Band Edge Radiated Emissions**Test Summary:**

FCC Part:	15.247(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.4 Section 8 and Public Notice DA 00-705 (March 30, 2000)

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	40

Results: Peak Power Level

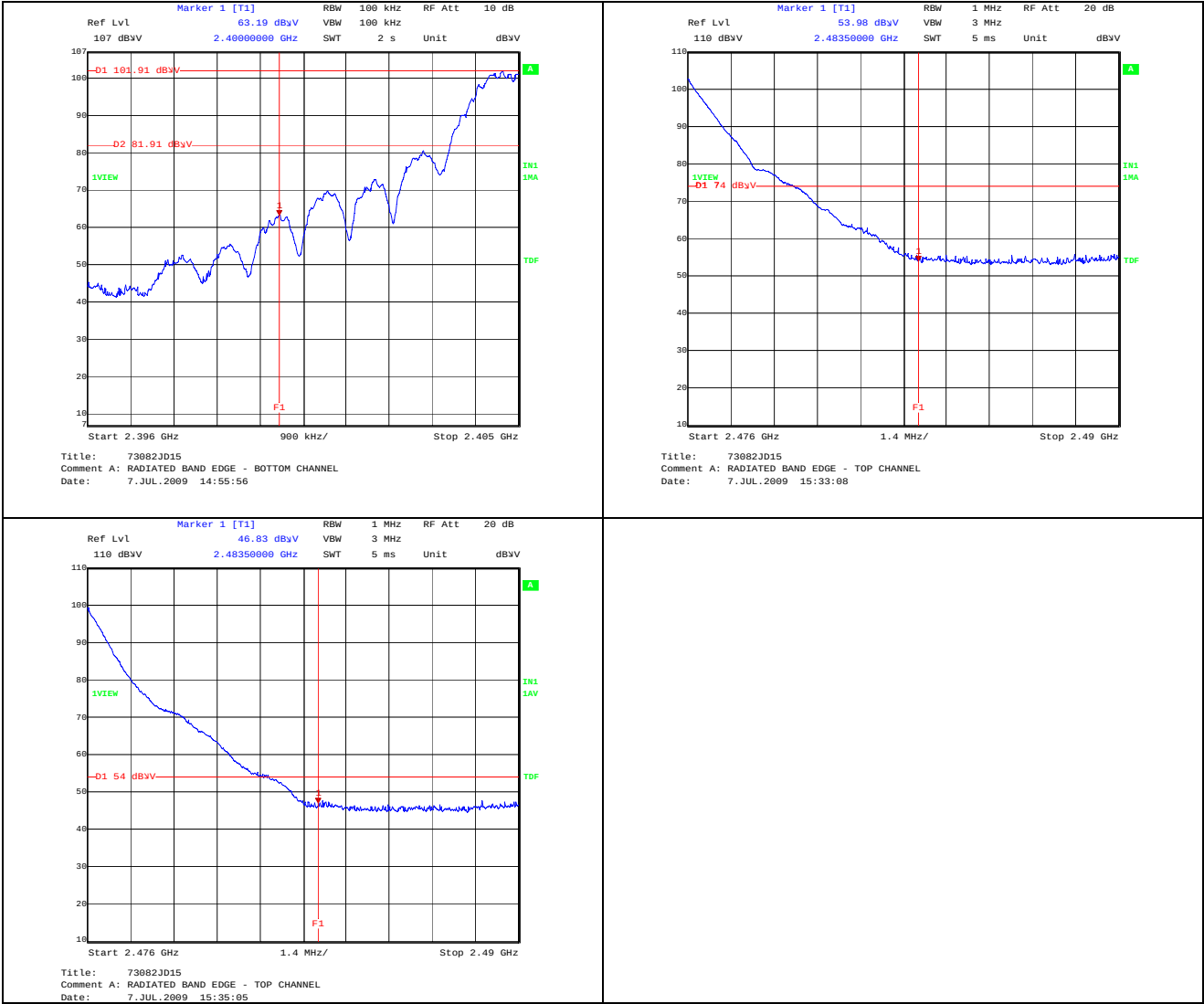
Frequency (MHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2.4000	Vertical	63.4	-0.2	63.2	81.9*	18.7	Complied
2.4835	Vertical	54.3	-0.3	54.0	74.0	20.0	Complied

* -20 dBc limit.

Results: Average Power Level

Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2.4835	Vertical	47.1	-0.3	46.8	54.0	7.2	Complied

Transmitter Band Edge Radiated Emissions (continued)



6. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±3.72 dB
Maximum Peak Output Power	Not Applicable	95%	±2.94 dB
Spectral Power Density	Not applicable	95%	±1.2 dB
6 dB/20 dB Bandwidth	Not Applicable	95%	±0.92 ppm
Conducted Spurious Emissions	9 kHz to 26 GHz	95%	±2.62 dB
Radiated Spurious Emissions	30 MHz to 40 GHz	95%	±2.94 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval (Months)
A004	LISN	Rohde & Schwarz	ESH3-Z5	890 604/027	30 Apr 2009	12
A392	Attenuator	Suhner	6803.17.B	None	Calibrated before use	-
A1299	Antenna	Schaffner	CBL6143	5094	28 Jul 2008	12
A1534	Pre Amplifier	Hewlett Packard	8449B OPT H02	3008A00405	Calibrated before use	-
A1738	Attenuator	Atlantic Microwave	BBS40-10	R1379	Calibrated before use	-
A1818	Antenna	EMCO	3115	00075692	25 Oct 2008	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	05 Jan 2009	12
A1933	High Pass Filter	AtlanTEC RF	AFH-03000	30R-JFBN07-001	14 Oct 2008	12
K0001	5m SA Chamber	Rainford EMC	N/A	N/A	04 May 2009	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	26 Aug 2008	12
M1124	Test Receiver	Rohde & Schwarz	ESIB26	100046K	09 Mar 2009	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	22 Apr 2009	12
M1273	Test Receiver	Rhode & Schwarz	ESIB26	100275	01 Apr 2009	12
M1379	Test Receiver	Rhode & Schwarz	ESIB7	100330	14 Aug 2008	12

NB In accordance with UKAS requirements all the measurement equipment is on a calibration schedule.