



# TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: mCOG-RF-1X-M2c-915

To: FCC Part 15.247: 2009 Subpart C, RSS-210 Issue 7 June 2007  
& RSS-Gen Issue 2 June 2007

**Test Report Serial No:**  
RFI-RPT-RP76581JD06A

**Version 3.0 Supersedes All Previous Versions**

<b>This Test Report Is Issued Under The Authority Of Brian Watson, Operations Director:</b>		pp 
<b>Checked By:</b>	R. Graham	
<b>Signature:</b>		
<b>Date of Issue:</b>	21 July 2010	

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**1. Contact Information**












<b>Company Name:</b>	Cyan Technology
<b>Address:</b>	Buckingway Business Park Swavesey Cambridge CB24 4UQ United Kingdom

## 2. Summary of Testing

### 2.1. General Information

<b>Specification Reference:</b>	47CFR15.247
<b>Specification Title:</b>	Code of Federal Regulations Volume 47 (Telecommunications) 2009: Part 15 Subpart C (Intentional Radiators) - Section 15.247
<b>Specification Reference:</b>	47CFR15.109
<b>Specification Title:</b>	Code of Federal Regulations Volume 47 (Telecommunications) 2009: Part 15 Subpart B (Unintentional Radiators) – Section 15.109
<b>Specification Reference:</b>	47CFR15.209
<b>Specification Title:</b>	Code of Federal Regulations Volume 47 (Telecommunications) 2009: Part 15 Subpart C (Intentional Radiators) – Section 15.209
<b>Specification Reference:</b>	RSS-GEN Issue 2 June 2007
<b>Specification Title:</b>	General Requirements and Information for the Certification of Radiocommunication Equipment
<b>Specification Reference:</b>	RSS-210 Issue 7 June 2007
<b>Specification Title:</b>	Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment.
<b>Site Registration:</b>	FCC: 209735; Industry Canada: 3245B-2
<b>Location of Testing:</b>	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
<b>Test Dates:</b>	18 June 2010 to 14 July 2010

### 2.2. Summary of Test Results

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.107(a)	RSS-Gen 7.2.2	Receiver/Idle Mode AC Conducted Emissions	
Part 15.109	RSS-Gen 4.10/6	Receiver/Idle Mode Radiated Spurious Emissions	
Part 15.207	RSS-Gen 7.2.2	Transmitter AC Conducted Emissions	
Part 15.247(a)(1)	RSS-Gen 4.6.1 RSS-210 A8.1(a)	Transmitter 20 dB Bandwidth	
Part 15.247(a)(1)	RSS-210 A8.1(b)	Transmitter Carrier Frequency Separation	
Part 15.247(a)(1)(i)	RSS-210 A8.1(c)	Transmitter Number of Hopping Frequencies and Average Time of Occupancy	
Part 15.247(b)(2)	RSS-Gen 4.8 RSS-210 A8.4(1)	Transmitter Maximum Peak Output Power	
Part 15.247(d) & 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	
Part 15.247(d)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	
<b>Key to Results</b>  = Complied  = Did not comply			

**2.3. Methods and Procedures**

<b>Reference:</b>	ANSI C63.4 (2009)
<b>Title:</b>	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.
<b>Reference:</b>	ANSI C63.10 (2009)
<b>Title:</b>	American National Standard for Testing Unlicensed Wireless Devices

**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:	Hunter M2c RF Module
Model Name or Number:	mCOG-RF-1X-M2c-915
Serial Number:	11 ( <i>radiated sample</i> ) 13 ( <i>conducted sample</i> )
Hardware Version Number:	Rev E
Software Version Number:	2.3.0.20100505160026
FCC ID Number:	YHZM1XM2C915
IC Certification Number:	9063A-M1XM2C915

#### **3.2. Description of EUT**

The equipment under test was a 915MHz ISM band radio module mounted on a development board.

#### **3.3. Modifications Incorporated in the EUT**

No modifications were applied to the EUT during testing.

### 3.4. Additional Information Related to Testing

<b>Tested Technology:</b>	Frequency Hopping Spread Spectrum device operating in the ISM band with a 20 dB bandwidth of greater than 250 kHz and hopping on at least 25 frequencies		
<b>Power Supply Requirement:</b>	5 VDC Nominal		
<b>Type of Unit:</b>	Transceiver		
<b>Modulation:</b>	2FSK		
<b>Data Rate</b>	19.2 kbps		
<b>Maximum Transmit ERP:</b>	3.7 dBm		
<b>Transmit Frequency Range:</b>	902 MHz to 928 MHz		
<b>Transmit Channels Tested:</b>	<b>Channel ID</b>	<b>Channel Number</b>	<b>Channel Frequency (MHz)</b>
	Bottom	1	904.296296
	Middle	13	915.200000
	Top	25	926.060606
<b>Receive Frequency Range:</b>	902 MHz to 928 MHz		
<b>Receive Channels Tested:</b>	<b>Channel ID</b>	<b>Channel Number</b>	<b>Channel Frequency (MHz)</b>
	Bottom	1	904.296296
	Middle	13	915.200000
	Top	25	926.060606

### 3.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

<b>Description:</b>	Development Board
<b>Brand Name:</b>	Cyan Technology
<b>Model Name or Number:</b>	1X-RF-Carrier-A
<b>Serial Number:</b>	Not stated

<b>Description:</b>	AC Adapter
<b>Brand Name:</b>	Stontronics
<b>Model Name or Number:</b>	3A-181WP05
<b>Serial Number:</b>	Not stated

<b>Description:</b>	Laptop PC
<b>Brand Name:</b>	Dell
<b>Model Name or Number:</b>	D600
<b>Serial Number:</b>	PC343NT



## **4. Operation and Monitoring of the EUT during Testing**

### **4.1. Operating Modes**

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

- Constantly transmitting at maximum power in either static mode or frequency hopping as required.
- Receive / idle mode.

### **4.2. Configuration and Peripherals**

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

- Mounted on the development board which was powered by a 120V AC adapter. The supplied antenna was connected to the EUT via a supplied 10 cm RF cable. The antenna was an ANT-916-CW-HWR, manufactured by Antenna Factor.

## **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 C63.10 Section 6.2 referencing ANSI C63.4

#### Environmental Conditions:

Temperature (°C):	28
Relative Humidity (%):	23

#### Results: Quasi Peak Detector Measurements

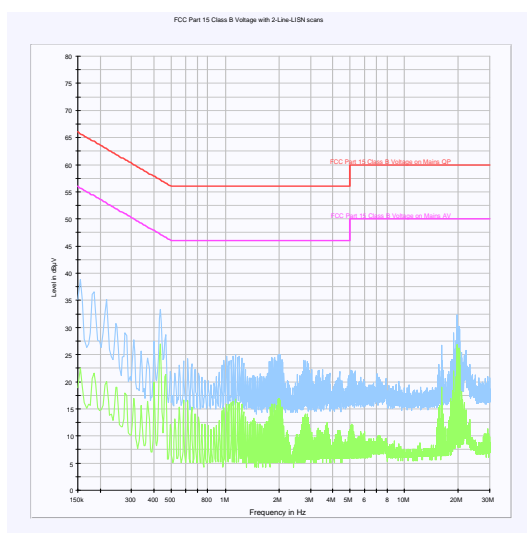
Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
Note 1					Complied

#### Results: Average Detector Measurements

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
Note 1					Complied

#### Note(s):

1. All emissions were investigated and found to be at least 20 dB below the specified limit.
2. EUT serial number 11 was used for testing.



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

<b>FCC Part:</b>	15.109
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4
<b>Frequency Range:</b>	30 MHz to 1000 MHz

**Environmental Conditions:**

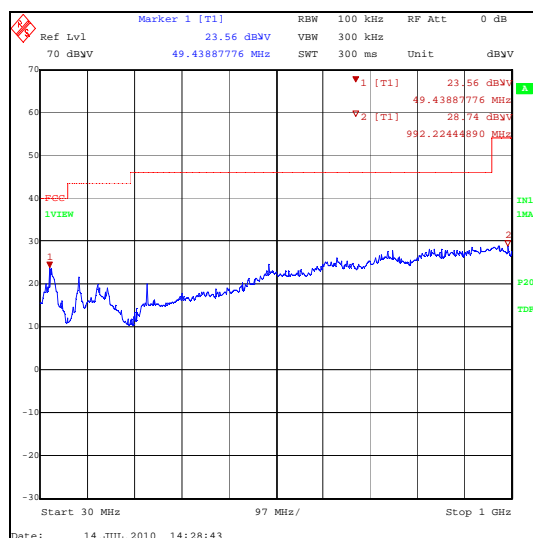
<b>Temperature (°C):</b>	28
<b>Relative Humidity (%):</b>	31

**Results: Quasi Peak Detector Measurements**

Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
50.671	Vertical	17.5	40.0	22.5	Complied

**Note(s):**

1. All other emissions were >20 dB below the applicable limits or below the level of the measurement system noise floor.
2. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
3. EUT serial number 11 was used for testing.



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

<b>FCC Part:</b>	15.109
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
<b>Frequency Range:</b>	1 GHz to 4.7 GHz

**Environmental Conditions:**

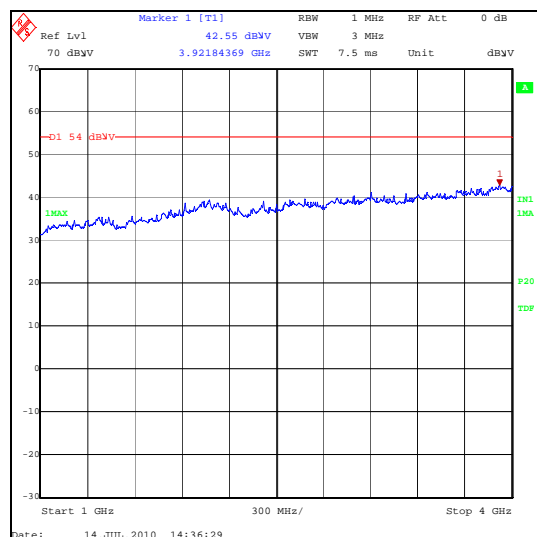
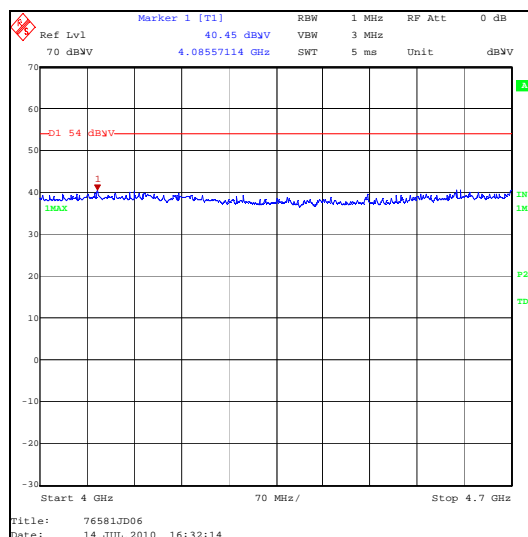
<b>Temperature (°C):</b>	30
<b>Relative Humidity (%):</b>	22

**Results:**

Frequency (MHz)	Antenna Polarity	Peak Level (dB $\mu$ V/m)	Average Limit (dB $\mu$ V/m)	Margin (dB)	Result
3921.844	Vertical	42.6	54.0	11.4	Complied

**Note(s):**

- No spurious emissions were detected above the noise floor of the measuring receiver therefore the highest peak noise floor reading of the measuring receiver was recorded as shown in the table above. The peak level was compared to the average limit as opposed to being compared to the peak limit because this is the more onerous limit.
- EUT serial number 11 was used for testing.

**1 GHz to 4 GHz****4 GHz to 4.7 GHz**

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

<b>FCC Part:</b>	15.207
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Section 6.2 referencing ANSI C63.4

**Environmental Conditions:**

<b>Temperature (°C):</b>	28
<b>Relative Humidity (%):</b>	23

**Results: Quasi Peak Detector Measurements**

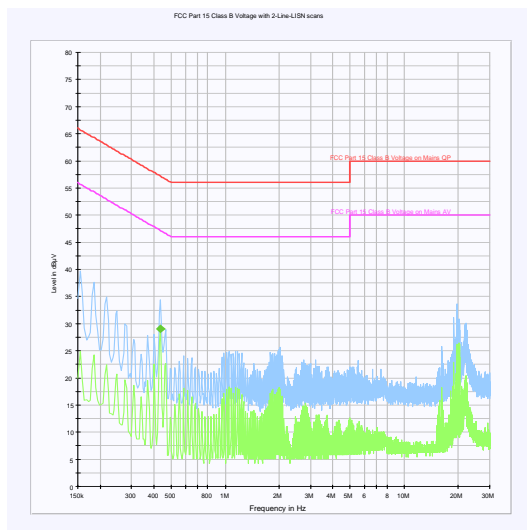
Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
Note 1					Complied

**Results: Average Detector Measurements**

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.433500	Live	29.1	47.2	18.1	Complied

**Note(s):**

1. All other emissions were investigated and found to be at least 20 dB below the specified limit
2. EUT serial number 11 was used for testing.



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

<b>FCC Part:</b>	15.247(a)(1)(i)
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Section 6.9.1

**Environmental Conditions:**

<b>Temperature (°C):</b>	30
<b>Relative Humidity (%):</b>	28

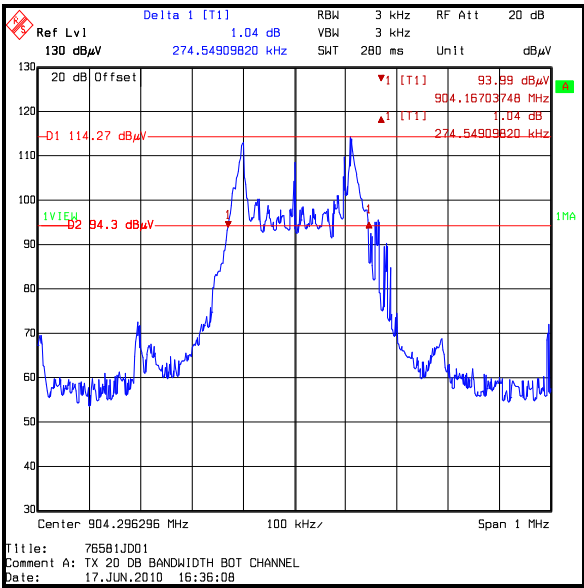
**Results:**

<b>Channel</b>	<b>Transmitter 20 dB Bandwidth (kHz)</b>	<b>Limit (kHz)</b>
Bottom	274.6	500
Middle	299.9	500
Top	282.6	500

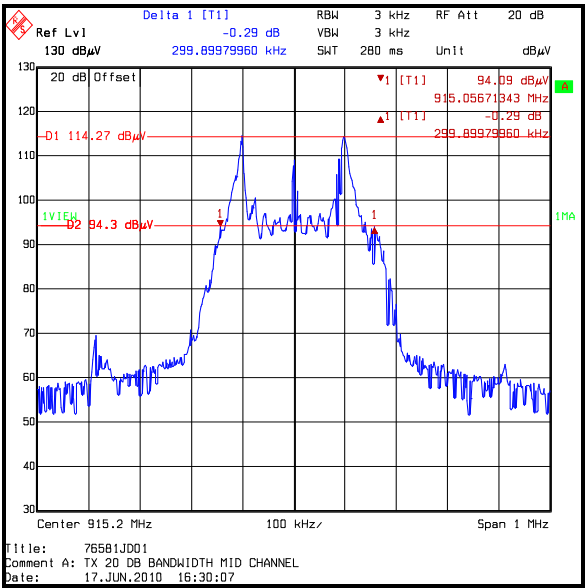
**Note(s):**

1. EUT serial number 13 was used for testing.

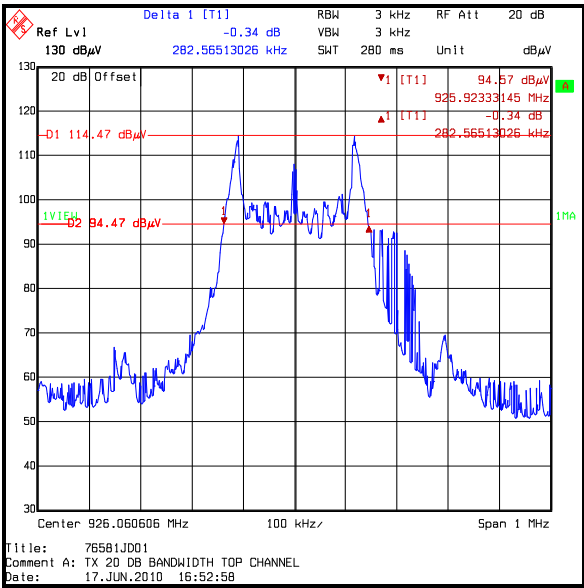
Transmitter 20 dB Bandwidth (continued)



Bottom Channel



Centre Channel



Top Channel



**5.2.5. Transmitter Carrier Frequency Separation****Test Summary:**

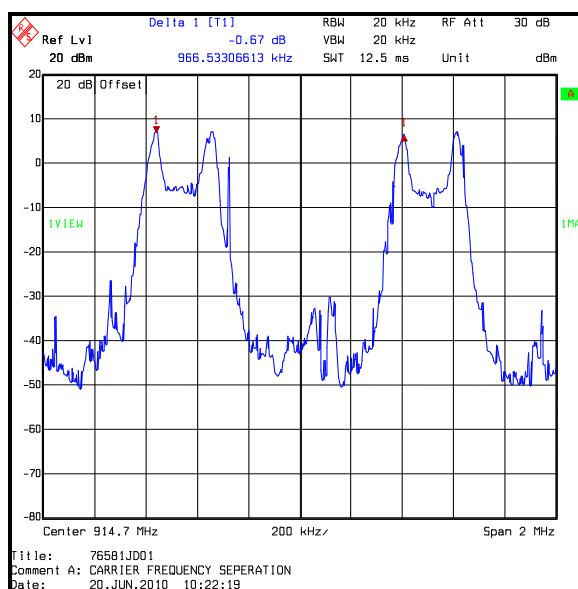
FCC Part:	15.247(a)(1)
Test Method Used:	As detailed in ANSI C63.10 Section 7.7.2

**Environmental Conditions:**

Temperature (°C):	25
Relative Humidity (%):	30

**Results:**

Transmitter Carrier Frequency Separation (kHz)	Limit* (kHz)	Margin (kHz)	Result
966.5	>299.9	666.6	Complied

**Note(s):**

- \*The limit is a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
- The hopping function of the EUT was enabled. Markers were placed on the peaks of two adjacent channels and the frequency delta recorded.
- EUT serial number 13 was used for testing.

**5.2.6. Transmitter Number of Hopping Frequencies and Average Time of Occupancy****Test Summary:**

<b>FCC Part:</b>	15.247(a)(1)(i)
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Section 7.7.4

**Environmental Conditions:**

<b>Temperature (°C):</b>	29
<b>Relative Humidity (%):</b>	28

**Results: Number of Hopping Frequencies:**

Number of Hops	Limit (Hops)	Note	Result
25	≥25	1	Complied

**Results: Average Time of Occupancy**

Emission Width (ms)	Average Time of Occupancy* (s)	Limit (s)	Margin (s)	Note	Result
31.6	0.1896	0.4	0.2104	2	Complied

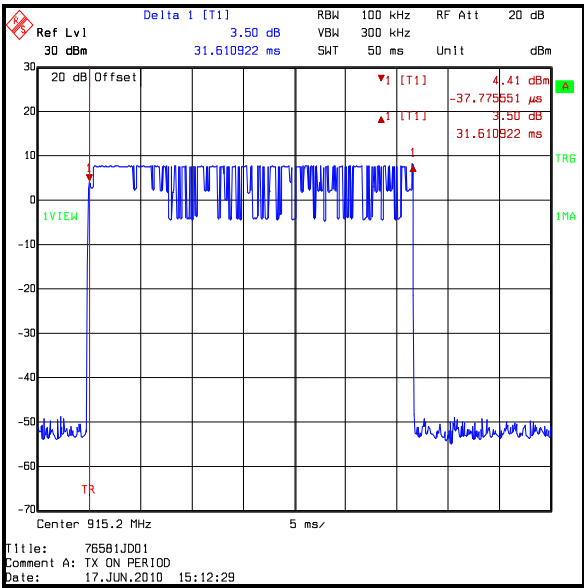
**Note(s):**

- For a hopping channel 20 dB bandwidth of equal to or more than 250 kHz
- \*In a 10 second period
- The EUT transmits 6 times in succession within a period of approximately 300 ms every 10 seconds. 6 x burst length of 31.6 ms = 189.6 ms. Therefore total on-time within 10 seconds is 189.6 ms.
- EUT serial number 13 was used for testing.
- The peaks shown on the TX on time in 10 second period plot (aside from the measured transmission slot) are not related to the EUT and are the residual noise of the spectrum analyser for the given sweep time.

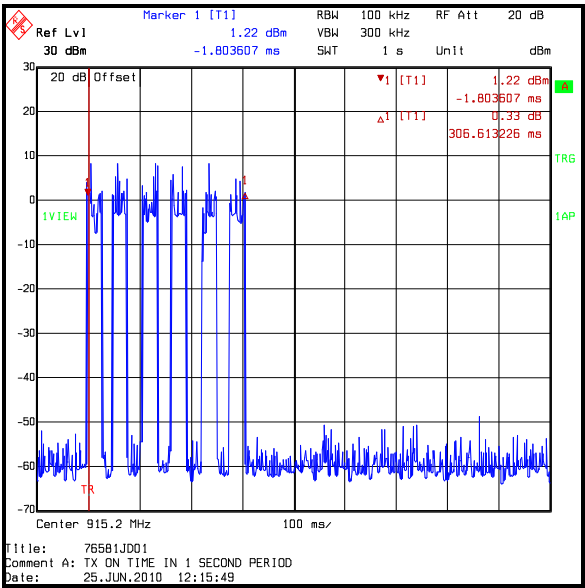
**Limit:**

If the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

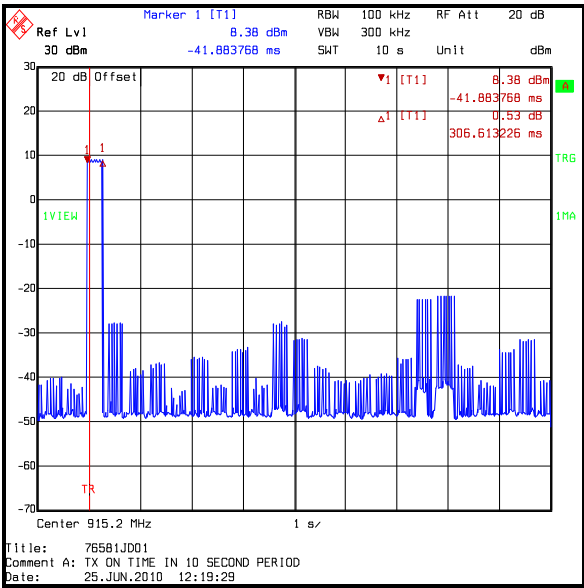
Transmitter Number of Hopping Frequencies and Average Time of Occupancy (continued)



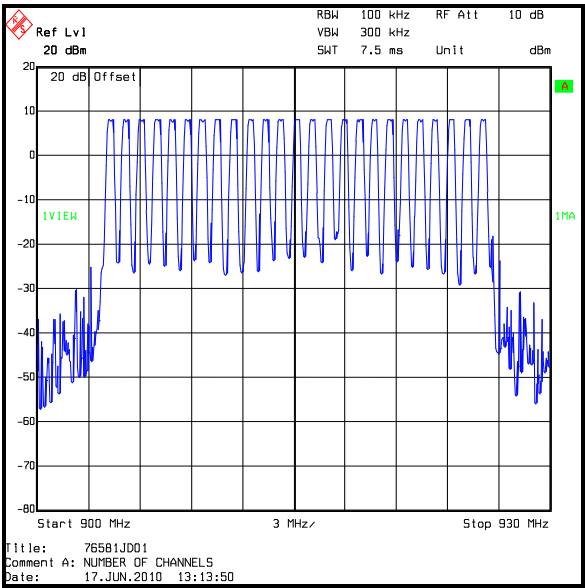
TX on period



TX on time in 1 Second period



TX on time in 10 second period



Number Of Hopping Channels

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

<b>FCC Part:</b>	15.247(b)(2)
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4 (see note 2 below)

**Environmental Conditions:**

<b>Temperature (°C):</b>	28
<b>Relative Humidity (%):</b>	31

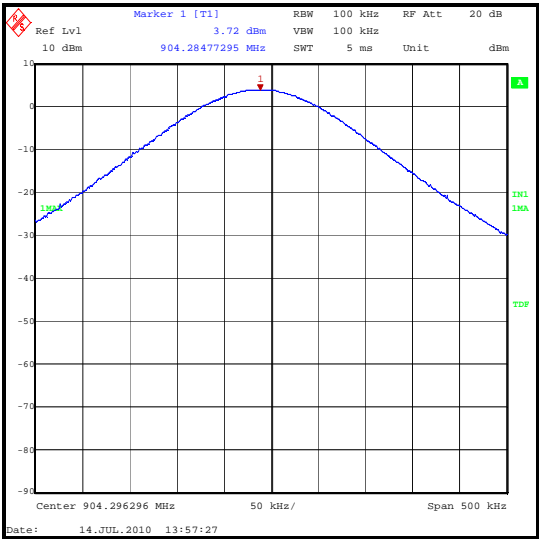
**Results:**

Channel	ERP (dBm)	Limit (dBm)	Margin (dB)	Note	Result
1	3.7	24.0	20.3	1	Complied
13	3.2	24.0	20.8	1	Complied
25	1.6	24.0	22.4	1	Complied

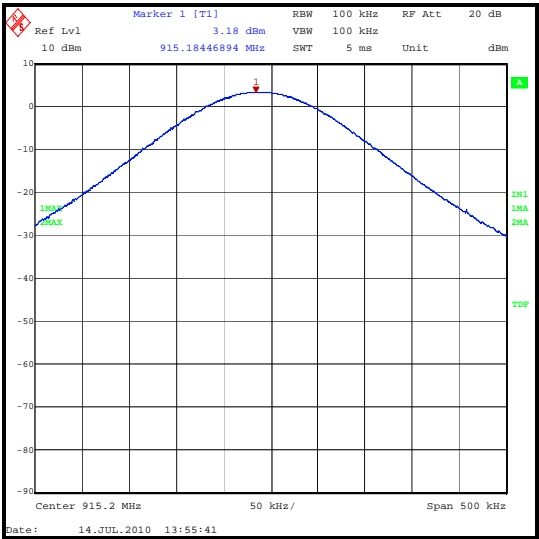
**Note(s):**

1. For frequency hopping systems employing less than 50 hopping channels
2. These tests were performed radiated; therefore the EUT antenna gain is encompassed in the final result and not measurable.
3. Tests were performed using the test methods described in ANSI C63.10 Sections 6.3 and 6.6 in lieu of the test method for a conducted measurement described in ANSI C63.10 Section 6.10.1.
4. EUT serial number 11 was used for testing.

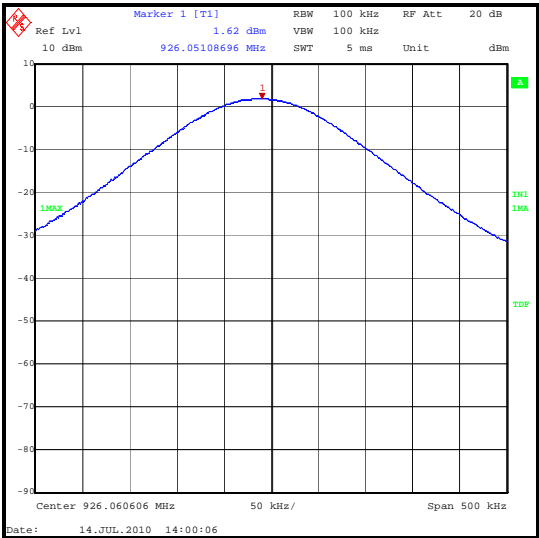
Transmitter Maximum Peak Output Power (continued)



ERP / Bottom Channel



ERP / Middle Channel



ERP / Top Channel

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

<b>FCC Part:</b>	15.247(d) & 15.209(a)
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4
<b>Frequency Range</b>	30 MHz to 1000 MHz

**Environmental Conditions:**

<b>Temperature (°C):</b>	29
<b>Relative Humidity (%):</b>	23

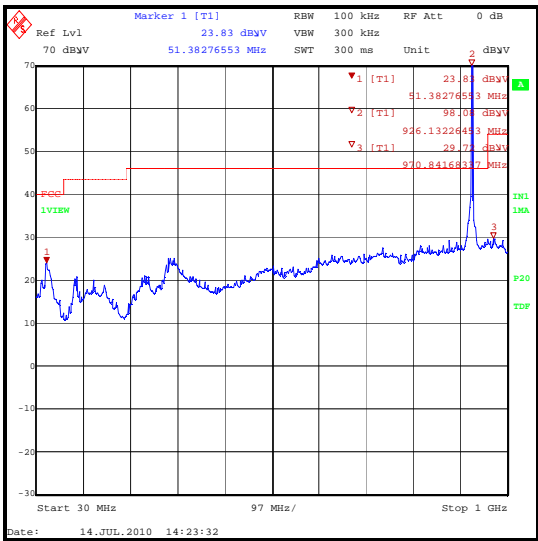
**Results: Top Channel**

<b>Frequency (MHz)</b>	<b>Antenna Polarity</b>	<b>Level (dB<math>\mu</math>V/m)</b>	<b>Limit (dB<math>\mu</math>V/m)</b>	<b>Margin (dB)</b>	<b>Result</b>
970.842	Vertical	29.7	54.0	24.3	Complied

**Note(s):**

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss
2. The carrier is shown on the pre-scan plot at approximately 926 MHz.
3. The preliminary scans showed similar emission levels below 1 GHz, for top, middle and bottom channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.
4. All emissions were investigated and found to be at least 20 dB below the specified limit; therefore the highest emission level was recorded as shown in the table above.
5. EUT serial number 11 was used for testing.

Transmitter Radiated Emissions (continued)



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

<b>FCC Part:</b>	15.247(d) & 15.209(a)
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
<b>Frequency Range</b>	1 GHz to 9.30 GHz

**Environmental Conditions:**

<b>Temperature (°C):</b>	28
<b>Relative Humidity (%):</b>	31

**Results: Highest Peak Level. Bottom Channel**

Frequency (MHz)	Antenna Polarity	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
1808.416	Horizontal	49.3	*81.1	31.8	Complied

**Results: Highest Peak Level. Middle Channel**

Frequency (MHz)	Antenna Polarity	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
1830.454	Horizontal	50.5	*80.6	30.1	Complied

**Results: Highest Peak Level. Top Channel**

Frequency (MHz)	Antenna Polarity	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
1852.047	Horizontal	52.0	*79.0	27.0	Complied

**Results: Highest Peak Level. Hopping Mode**

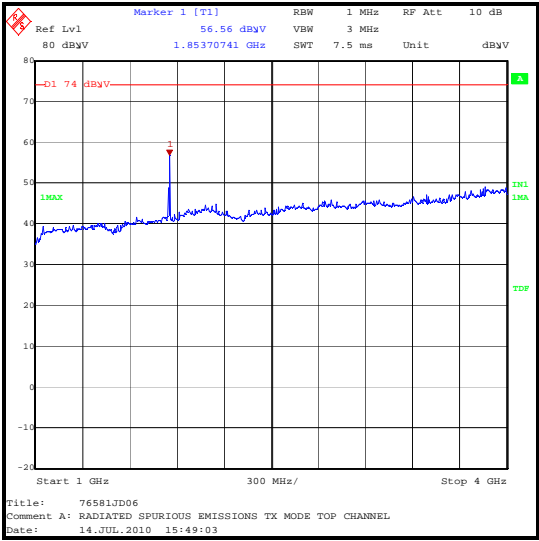
Frequency (MHz)	Antenna Polarity	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
1850.164	Horizontal	51.3	*79.0	27.7	Complied

**Note(s):**

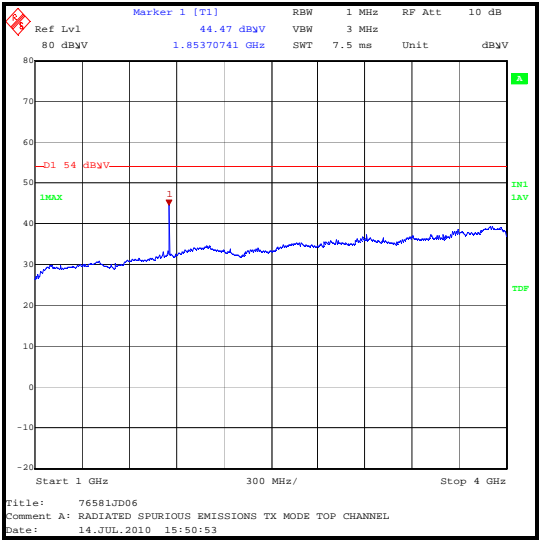
1. \*-20 dBc limit
2. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss
3. All other emissions were >20 dB below the applicable limits or below the noise floor of the measurement system.
4. EUT serial number 11 was used for testing.



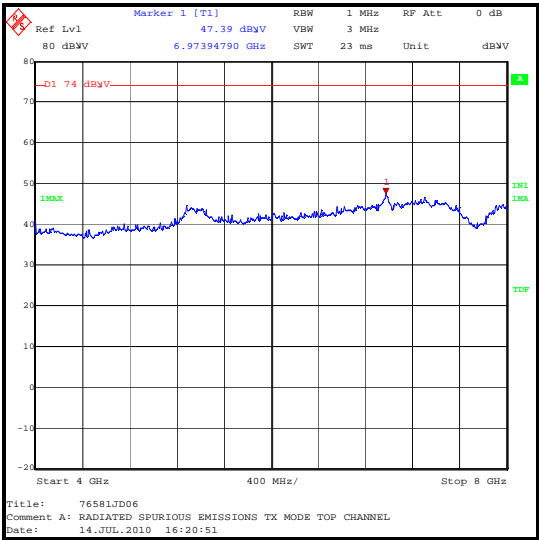
Transmitter Radiated Emissions (continued)



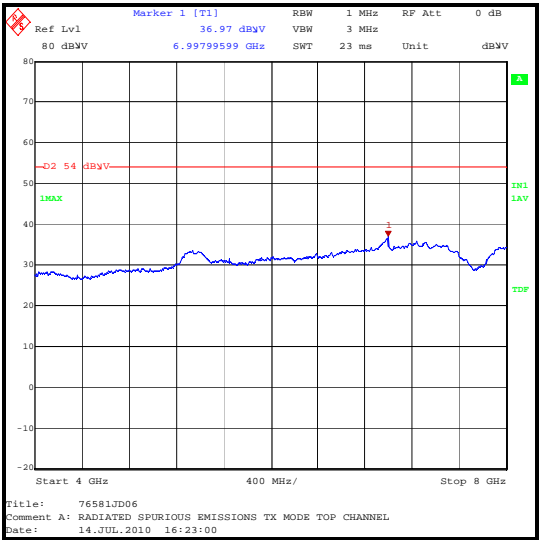
Peak Detector



Average Detector



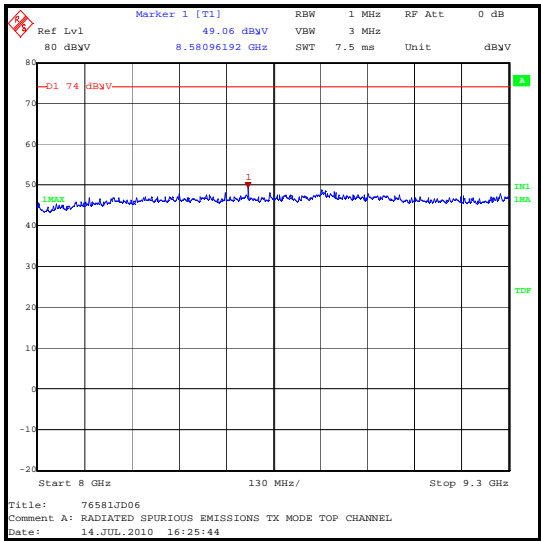
Peak Detector



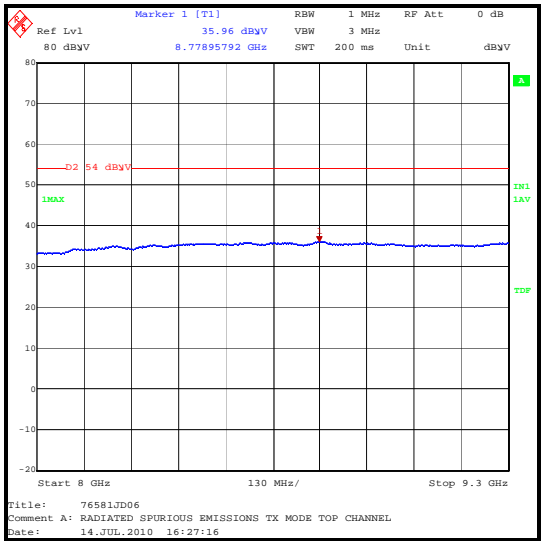
Average Detector

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

Transmitter Radiated Emissions (continued)



Peak Detector



Average Detector

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

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

<b>FCC Part:</b>	15.247(d)
<b>Test Method Used:</b>	As detailed in ANSI C63.10 Section 6.9.2

**Environmental Conditions:**

<b>Temperature (°C):</b>	27
<b>Relative Humidity (%):</b>	25

**Results: Peak Power Level Static Mode**

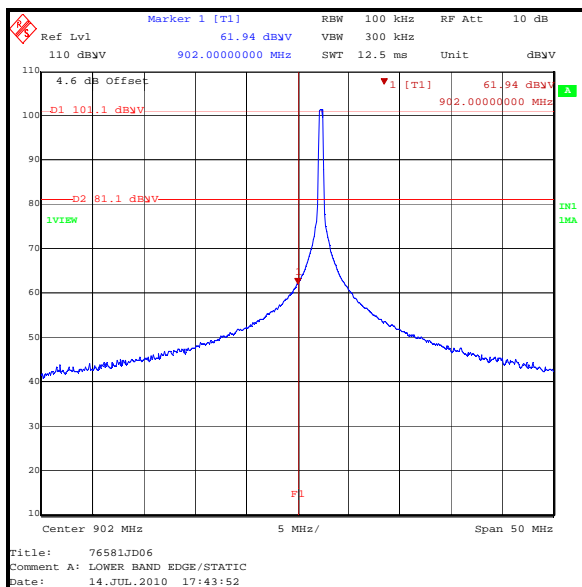
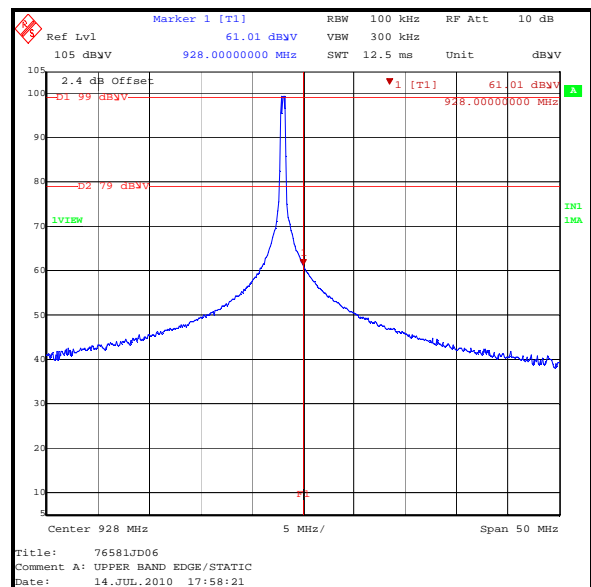
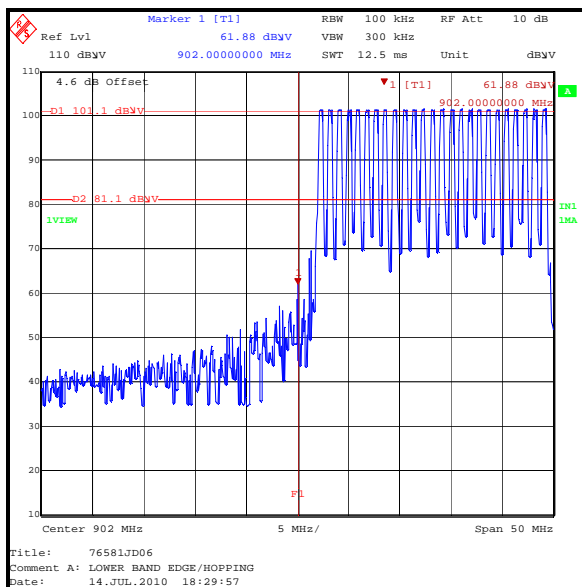
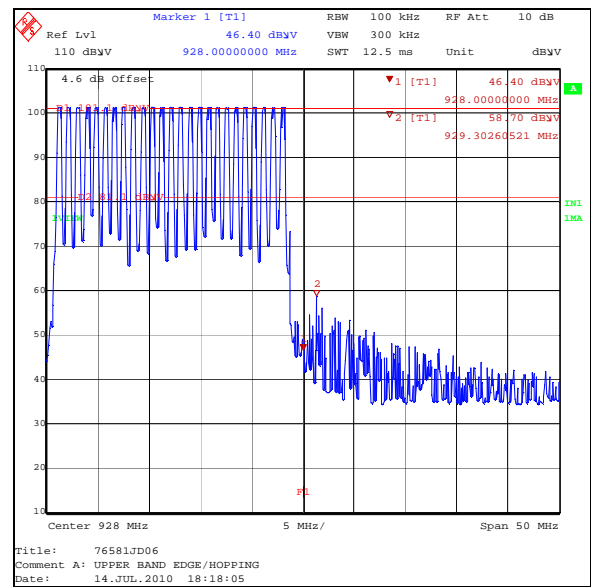
<b>Frequency (MHz)</b>	<b>Emission Level (dBµV/m)</b>	<b>-20 dBc Limit (dBµV/m)</b>	<b>Margin (dB)</b>	<b>Result</b>
902.000	61.9	81.1	19.2	Complied
928.000	61.0	79.0	18.0	Complied

**Results: Peak Power Level Hopping Mode**

<b>Frequency (MHz)</b>	<b>Emission Level (dBµV/m)</b>	<b>-20 dBc Limit (dBµV/m)</b>	<b>Margin (dB)</b>	<b>Result</b>
902.000	61.9	81.1	19.2	Complied
928.000	46.4	79.0	32.6	Complied
929.302	58.7	79.0	20.3	Complied

**Note(s):**

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. EUT serial number 11 was used for testing.

**Transmitter Band Edge Radiated Emissions (continued)****Lower Band Edge / Static****Upper Band Edge / Static****Lower Band Edge / Hopping****Upper Band Edge / Hopping**

## **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”.

<b>Measurement Type</b>	<b>Range</b>	<b>Confidence Level (%)</b>	<b>Calculated Uncertainty</b>
Transmitter Maximum Peak Output Power	N/A	95%	±2.94 dB
Transmitter Carrier Frequency Separation	N/A	95%	±0.92 ppm
Transmitter Average Time of Occupancy	N/A	95%	±0.3 ns
20 dB Bandwidth	N/A	95%	±0.92 ppm
Radiated Spurious Emissions	30 MHz to 9.3 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**

<b>RFI No.</b>	<b>Instrument</b>	<b>Manufacturer</b>	<b>Type No.</b>	<b>Serial No.</b>	<b>Date Calibration Due</b>	<b>Cal. Interval</b>
A057	High Pass Filter	Aerial Facilities	HP-950-5N	4389B	Calibrated before use	-
A1069	LISN	Rohde & Schwarz	ESH3-Z5	837469/012	13 Apr 2011	12
A1393	Attenuator	Huber + Suhner	757456	6820.17.B	Calibrated before use	-
A1396	Attenuator	Huber + Suhner	757987	6810.17.B	Calibrated before use	-
A1398	Attenuator	Weinschel	WA46-20	A129	Calibrated before use	-
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	Calibrated before use	-
A1818	Antenna	EMCO	3115	00075692	27 Nov 2010	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	01 Mar 2011	12
A1932	High Pass Filter	AtlanTecRF	AFH-02000	20r-JFBD04-002	Calibrated before use	-
A1974	High Pass Filter	AtlanTecRF	AFH-01000	090000283	Calibrated before use	-
A1975	High Pass Filter	AtlanTecRF	AFH-03000	090424010	Calibrated before use	-
A288	Antenna	Chase	CBL6111A	1589	16 Mar 2011	12
A296	Attenuator	Narda	766-20	167	Calibrated before use	-
K0001	5m Semi-Anechoic Chamber	Rainford EMC	N/A	N/A	25 Apr 2011	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	01 Sep 2010	12
M1124	Test Receiver	Rohde & Schwarz	ESI26	100046K	22 Apr 2011	12
M1242	Spectrum Analyser	Rohde & Schwarz	FSEM30	845986/022	18 Mar 2011	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	28 Jun 2011	12
M1273	Test Receiver	Rhode & Schwarz	ESIB 26	100275	08 Apr 2011	12

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