

TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: SoftBank 001P

FCC ID: UCE210035A

To: FCC Part 15.247: 2010 Subpart C

Test Report Serial No:
RFI-RPT-RP79566JD11A

**This Test Report Is Issued Under The Authority
Of Chris Guy, Head of Global Approvals:**



Checked By:

A. Henriques

Signature:



Date of Issue:

24 November 2010

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1. Customer Information












Company Name:	Panasonic Mobile Communications Development of Europe Ltd.
Address:	Panasonic House Willoughby Road Bracknell Berkshire RG12 8FP United Kingdom

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.247
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart C (Intentional Radiators) - Section 15.247
Specification Reference:	47CFR15.107 and 47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart B (Unintentional Radiators) - Sections 15.107 and 15.109
Specification Reference:	47CFR15.207 and 47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart C (Intentional Radiators) - Sections 15.207 and 15.209
Site Registration:	209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	13 November 2010 to 20 November 2010

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.107(a)	Receiver/Idle Mode AC Conducted Emissions	
Part 15.109	Receiver/Idle Mode Radiated Spurious Emissions	
Part 15.207	Transmitter AC Conducted Emissions	
Part 15.247(a)(1)	Transmitter 20 dB Bandwidth	
Part 15.247(a)(1)	Transmitter Carrier Frequency Separation	
Part 15.247(a)(1)(iii)	Transmitter Number of Hopping Frequencies and Average Time of Occupancy	
Part 15.247(b)(1)	Transmitter Maximum Peak Output Power	
Part 15.247(d) & 15.209(a)	Transmitter Radiated Emissions	
Part 15.247(d) & 15.209(a)	Transmitter Band Edge Radiated Emissions	
Key to Results  = Complied  = Did not comply		

2.3. Methods and Procedures

Reference:	ANSI C63.4 (2009)
Title:	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
Reference:	ANSI C63.10 (2009)
Title:	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:	SoftBank
Model Name or Number:	001P
IMEI:	004401221005610 (<i>Radiated sample</i>)
Hardware Version Number:	Rev C
Software Version Number:	001PVA13
FCC ID:	UCE210035A

Brand Name:	SoftBank
Model Name or Number:	001P
IMEI:	004401221005552 (<i>Conducted RF port sample</i>)
Hardware Version Number:	Rev C
Software Version Number:	001PVA13
FCC ID:	UCE210035A

Brand Name:	SoftBank
Description:	Battery
Model Name or Number:	PMBAS1

Brand Name:	SoftBank
Description:	AC Charger
Model Name or Number:	ZTDAA1

Brand Name:	SoftBank
Description:	DC Charger
Model Name or Number:	PMJAA1

Brand Name:	SoftBank
Description:	USB Data cable
Model Name or Number:	ZTFE01

Brand Name:	SoftBank
Description:	Personal Hands-free
Model Name or Number:	ZTCK01

Brand Name:	SoftBank
Description:	Personal Hands-free Converter
Model Name or Number:	PMLAJ1

3.2. Description of EUT

The equipment under test was a dual mode cellular mobile telephone with *Bluetooth*, WLAN and RFID.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Tested Technology:	Bluetooth		
Power Supply Requirement:	Nominal	3.7 VDC	
Type of Unit:	Transceiver		
Channel Spacing:	1 MHz		
Mode:	Basic Rate	Enhanced Data Rate	
Modulation:	GFSK	π/4-DQPSK	8DQPSK
Packet Type: (Maximum Payload)	DH5	2DH5	3DH5
Data Rate (Mbit/s):	1	2	3
Maximum Peak Output Power:	2.9 dBm		
Transmit Frequency Range:	2402 MHz to 2480 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	0	2402
	Middle	39	2441
	Top	78	2480
Receive Frequency Range:	2402 MHz to 2480 MHz		
Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	0	2402
	Middle	39	2441
	Top	78	2480

3.5. Support Equipment

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

Brand Name:	Sony
Description:	Laptop PC
Model Name or Number:	Vaio PCG-551N

Brand Name:	Not marked or stated
Description:	Micro SD Memory Card
Model Name or Number:	128 MB

Brand Name:	Buffalo
Description:	USB Hub
Model Name or Number:	BSH3U01

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
- Transmit mode with Basic Rate (DH5 packets) or EDR (2DH5 or 3DH5 packets) as required.

4.2.Configuration and Peripherals

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

- For Transmit tests: Connected via a radio link to a Bluetooth tester in order to place the EUT into Bluetooth test mode. The laptop PC with the Client's bespoke application was used to place the EUT into Bluetooth mode.
- Receive/Idle tests: The Bluetooth mode was active but not transmitting.
- Both EDR/Basic rate modes were compared and tests were performed with the mode that presented the worst case result. For output power, bandwidth, band edge and channel separation, all modes were tested.
- Idle and transmitter radiated spurious emissions tests were performed with the AC charger connected to the EUT as this was found to be the worst case during pre-scans. All the accessories were individually connected and measurements made during the pre-scans to determine the worst case combination.
- The EUT conducted sample with IMEI 004401221005552 was used for 20 dB bandwidth, carrier frequency separation and average time of occupancy tests. The EUT radiated sample with IMEI 004401221005610 was used for all other tests.
- The SDRAM card was present during all 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. Receiver/Idle Mode AC Conducted Spurious Emissions

Test Summary:

Test Engineer:	Ian Watch	Test Date:	13 November 2010
Test Sample IMEI:	004401221005610		

FCC Part:	15.107(a)
Test Method Used:	As detailed in ANSI C63.10 Section 6.2 referencing ANSI C63.4

Environmental Conditions:

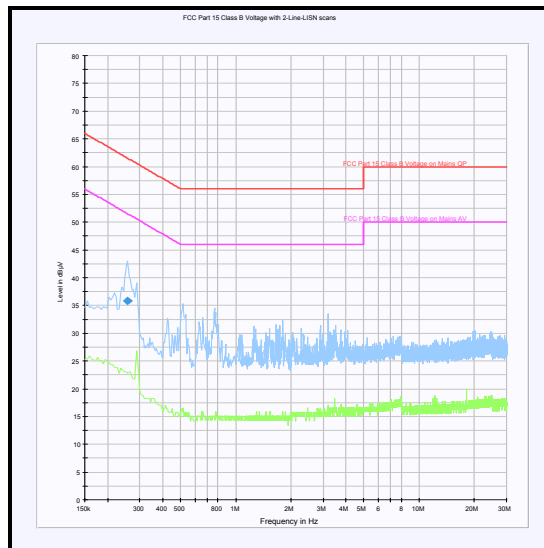
Temperature (°C):	25
Relative Humidity (%):	25

Results: Quasi Peak

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.258000	Neutral	35.8	61.5	25.7	Complied

Note(s):

1. All other emissions were >30 dB below the applicable limits.
2. All average emissions were >20 dB below the applicable limits



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

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

Test Engineer:	Ian Watch	Test Date:	14 November 2010
Test Sample IMEI:	004401221005610		

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

Environmental Conditions:

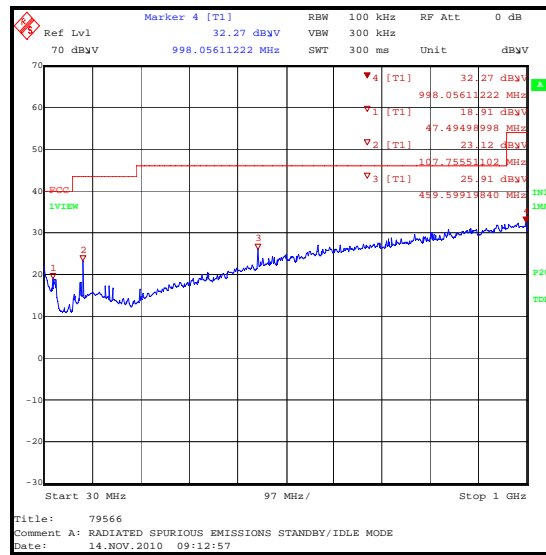
Temperature (°C):	27
Relative Humidity (%):	24

Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
50.369	Vertical	26.1	40.0	13.9	Complied
107.592	Vertical	24.5	43.5	19.0	Complied
458.795	Vertical	28.1	46.0	17.9	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. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.

Receiver/Idle Mode Radiated Spurious Emissions (continued)

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

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

Test Engineer:	Ian Watch	Test Date:	14 November 2010
Test Sample IMEI:	004401221005610		

FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range:	1 GHz to 12.5 GHz

Environmental Conditions:

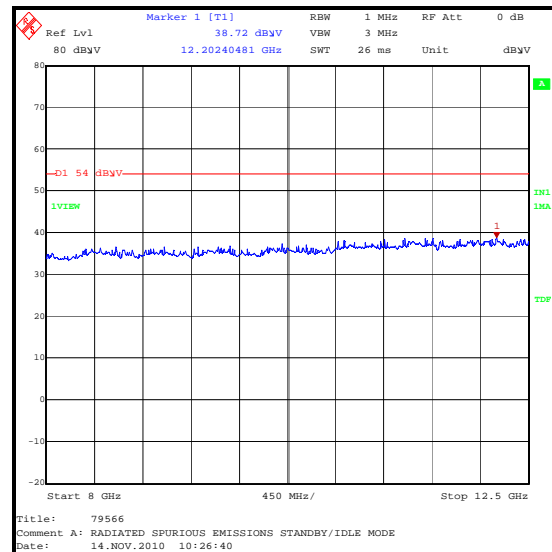
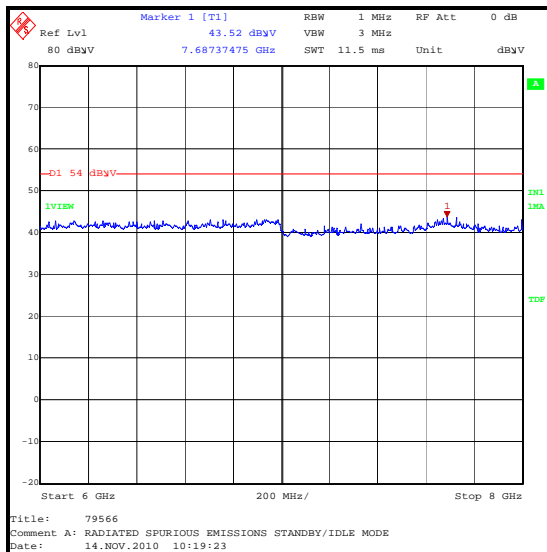
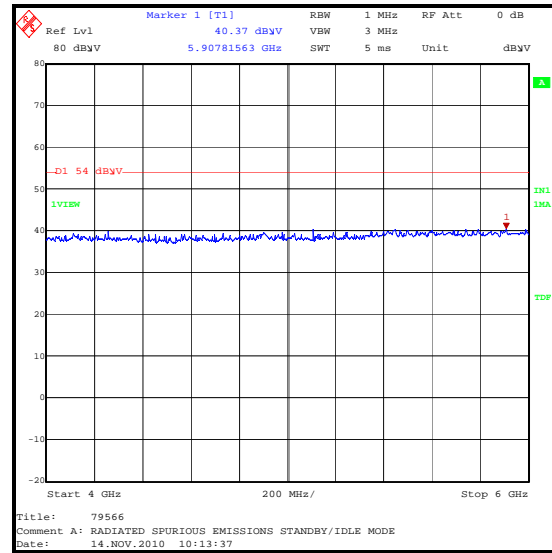
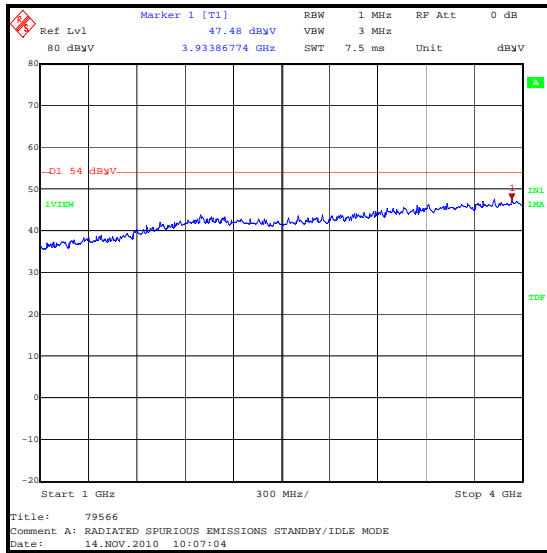
Temperature (°C):	23
Relative Humidity (%):	25

Results:

Frequency (MHz)	Antenna Polarity	Peak Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
3933.868	Vertical	47.5	54.0	6.5	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. 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.

Receiver/Idle Mode Radiated Spurious Emissions (continued)

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

Test Engineer:	Ian Watch	Test Date:	13 November 2010
Test Sample IMEI:	004401221005610		

FCC Part:	15.207(a)
Test Method Used:	As detailed in ANSI C63.10 Section 6.2 referencing ANSI C63.4

Environmental Conditions:

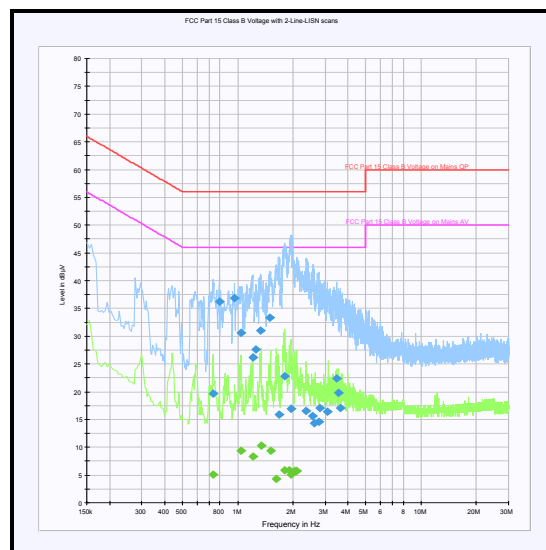
Temperature (°C):	25
Relative Humidity (%):	25

Results: Quasi Peak

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.793500	Neutral	36.2	56.0	19.8	Complied
0.960000	Neutral	36.9	56.0	19.1	Complied
1.041000	Neutral	30.6	56.0	25.4	Complied
1.207500	Neutral	26.2	56.0	29.8	Complied
1.261500	Neutral	27.6	56.0	28.4	Complied
1.324500	Neutral	31.0	56.0	25.0	Complied
1.491000	Neutral	33.3	56.0	22.7	Complied

Note(s):

1. All average emissions were >20 dB below the applicable limits and therefore not recorded.



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

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

Test Engineer:	Ian Watch	Test Date:	19 November 2010 / 20 November 2010
Test Sample Serial No:	004401221005552		

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

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	35

Results DH5:

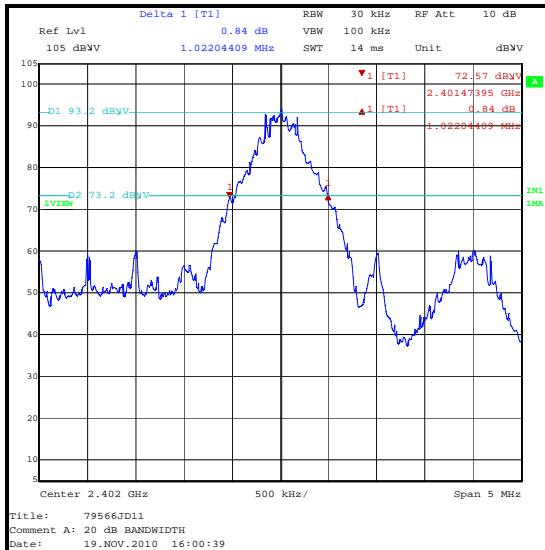
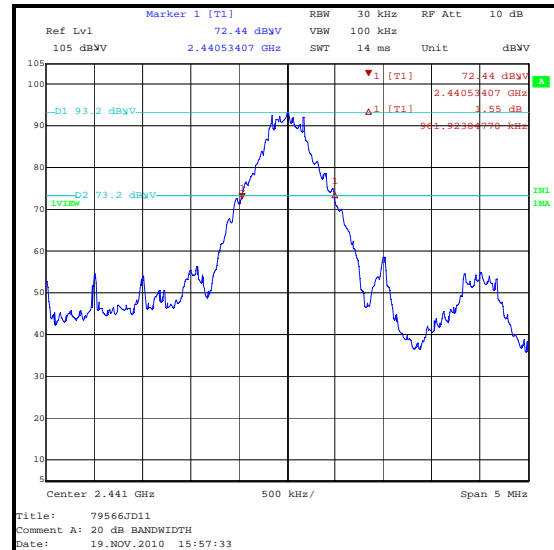
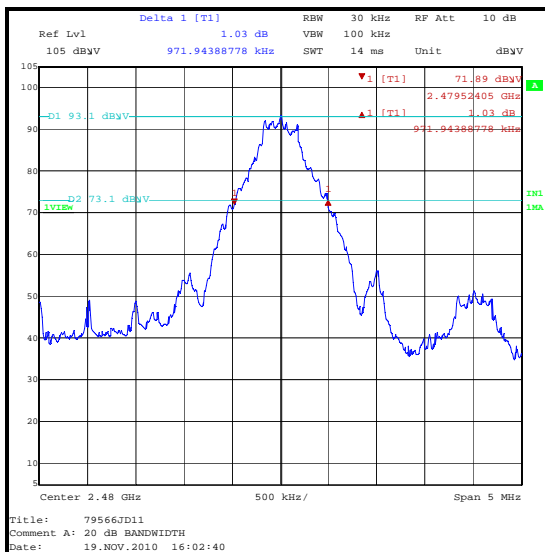
Channel	20 dB Bandwidth (kHz)
Bottom	1022.044
Middle	961.923
Top	971.943

Results 2DH5:

Channel	20 dB Bandwidth (kHz)
Bottom	1262.525
Middle	1292.585
Top	1292.585

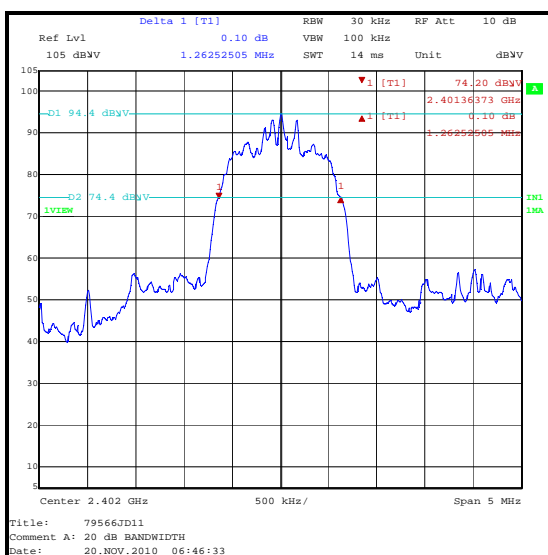
Results 3DH5:

Channel	20 dB Bandwidth (kHz)
Bottom	1282.565
Middle	1282.565
Top	1282.565

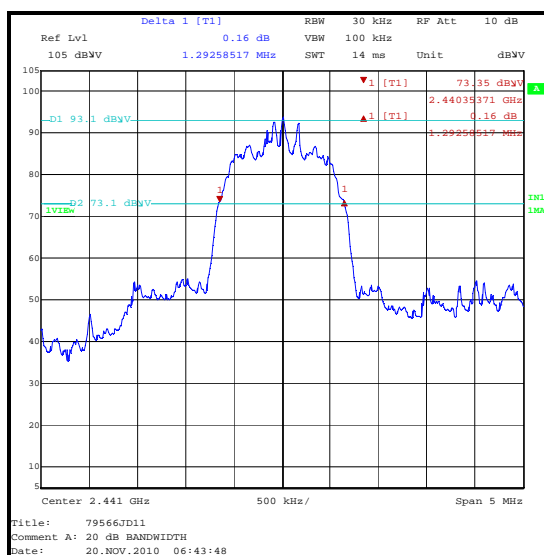
Transmitter 20 dB Bandwidth (continued)**Results DH5:****Bottom channel****Middle channel****Top channel**

Transmitter 20 dB Bandwidth (continued)

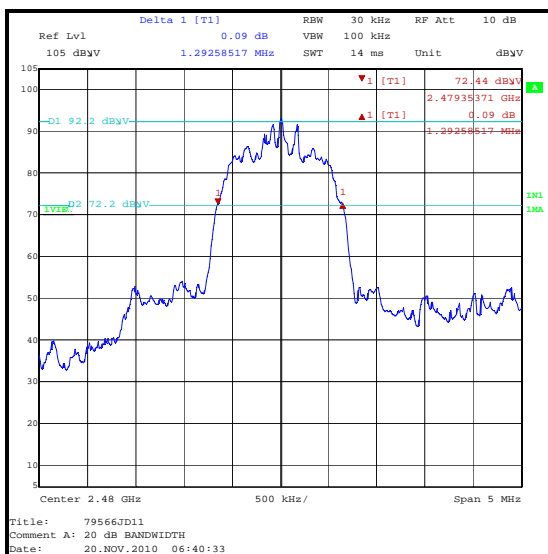
Results 2DH5:



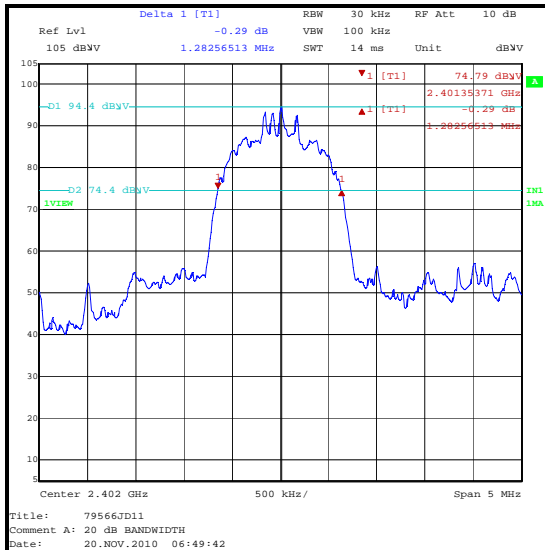
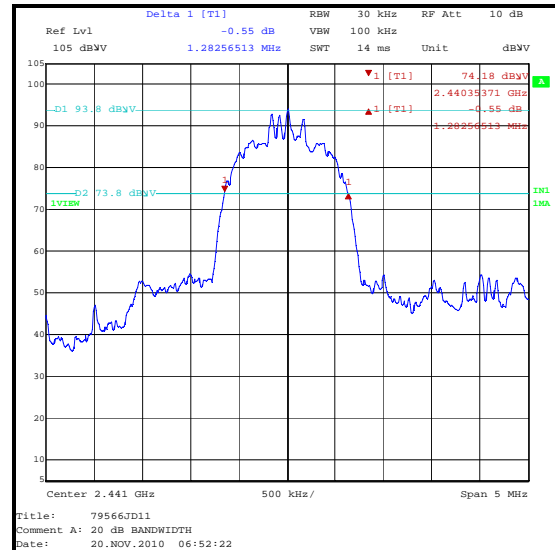
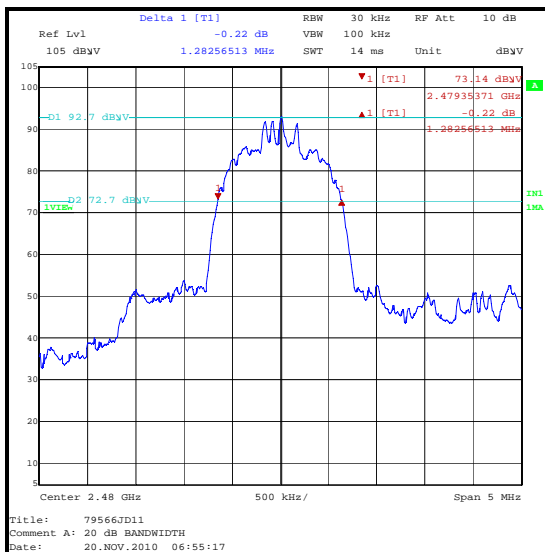
Bottom channel



Middle channel



Top channel

Transmitter 20 dB Bandwidth (continued)**Results 3DH5:****Bottom channel****Middle channel****Top channel**

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

Test Engineer:	Ian Watch	Test Date:	20 November 2010
Test Sample Serial No:	004401221005552		

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

Environmental Conditions:

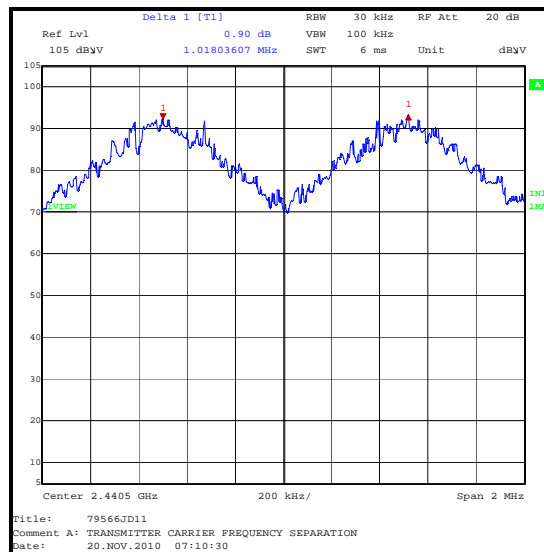
Temperature (°C):	25
Relative Humidity (%):	34

Results: DH5

Carrier Frequency Separation (kHz)	Limit ($\frac{2}{3}$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1018.036	641.282	376.754	Complied

Note(s):

- The 20 dB bandwidth measured for the middle channel operating at 2441 MHz was used to calculate the limit.

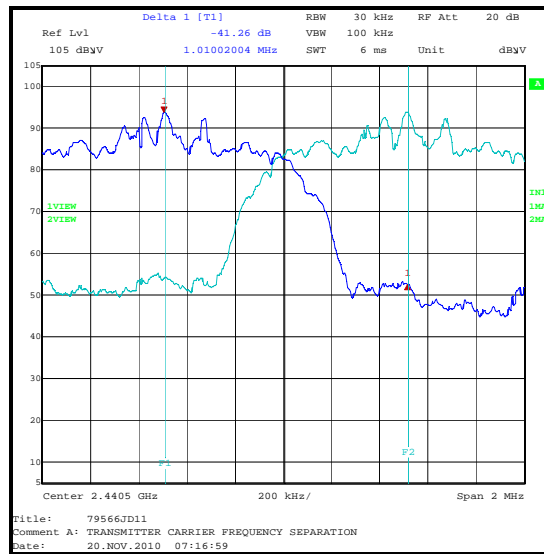


Transmitter Carrier Frequency Separation (continued)**Results: 2DH5**

Carrier Frequency Separation (kHz)	Limit ($^{2/3}$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1010.020	861.723	148.297	Complied

Note(s):

- The 20 dB bandwidth measured for the middle channel operating at 2441 MHz was used to calculate the limit.

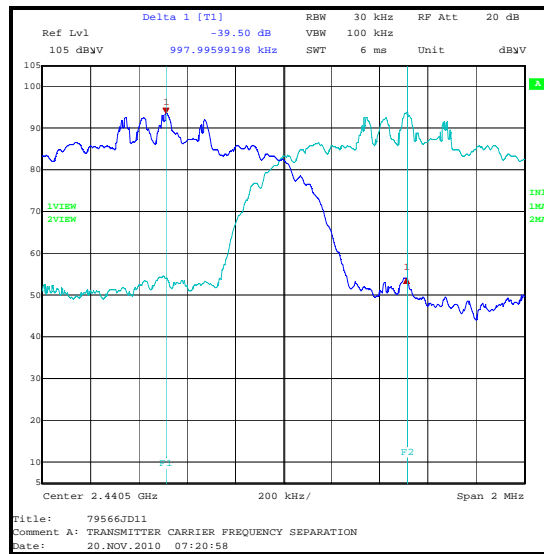


Transmitter Carrier Frequency Separation (continued)**Results: 3DH5**

Carrier Frequency Separation (kHz)	Limit ($^{2/3}$ of 20 dB BW) (kHz)	Margin (kHz)	Result
997.996	855.043	142.953	Complied

Note(s):

1. The 20 dB bandwidth measured for the middle channel operating at 2441 MHz was used to calculate the limit.



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

Test Engineer:	Ian Watch	Test Date:	19 November 2010
Test Sample Serial No:	004401221005552		

FCC Part:	15.247(a)(1)(iii)
Test Method Used:	As detailed in ANSI C63.10 Section 7.7.3 & 7.7.4

Environmental Conditions:

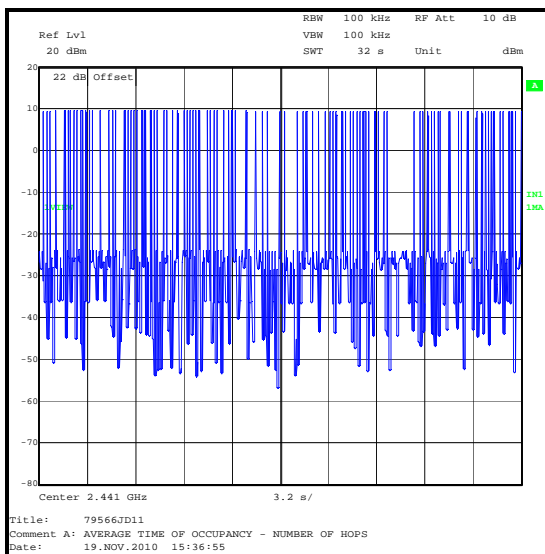
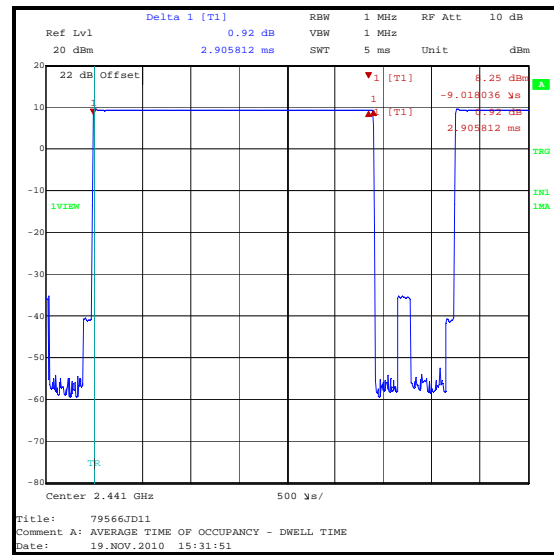
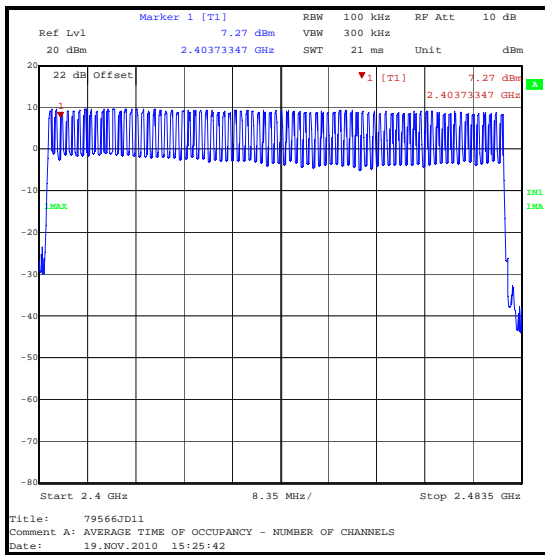
Temperature (°C):	25
Relative Humidity (%):	33

Results:

Emission Width (μs)	Number of Hops in 31.6 Seconds	Average Time of Occupancy (s)	Limit (s)	Margin (s)	Result
2905.812	111	0.323	0.4	0.077	Complied

Note(s):

1. Tests were performed to identify the average time of occupancy in number of channels (79) x 0.4 seconds. The calculated period is 31.6 seconds.

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

5.2.7. Transmitter Maximum Peak Output Power**Test Summary:**

Test Engineer:	Ian Watch	Test Date:	14 November 2010
Test Sample Serial No:	004401221005610		

FCC Part:	15.247(b)(1)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.1 and Sections 6.3 and 6.6 referencing ANSI C63.4 (see note below)

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	24

Results: DH5

Channel	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	2.0	36.0	34.0	Complied
Middle	1.2	36.0	34.8	Complied
Top	0.5	36.0	35.5	Complied

Results: 2DH5

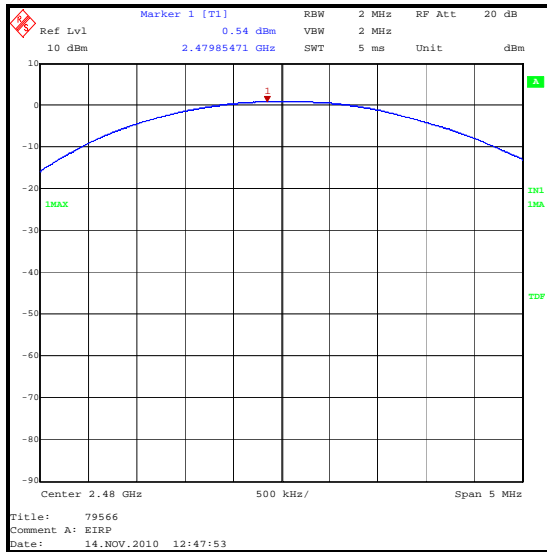
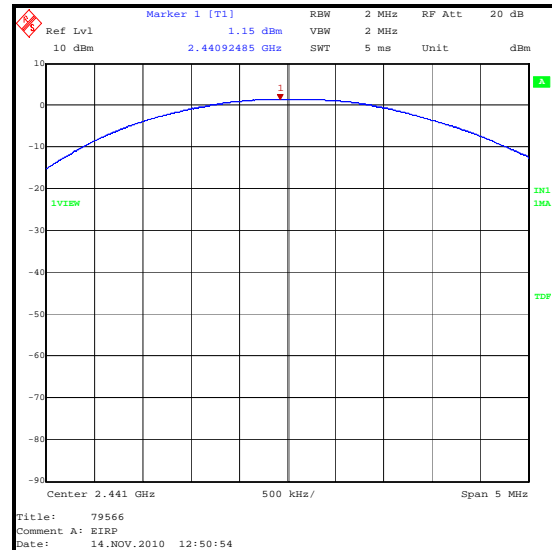
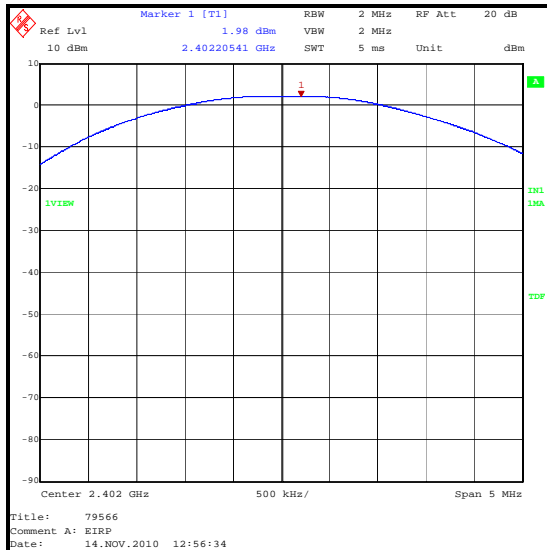
Channel	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	2.7	27.0	24.3	Complied
Middle	1.4	27.0	25.6	Complied
Top	0.5	27.0	26.5	Complied

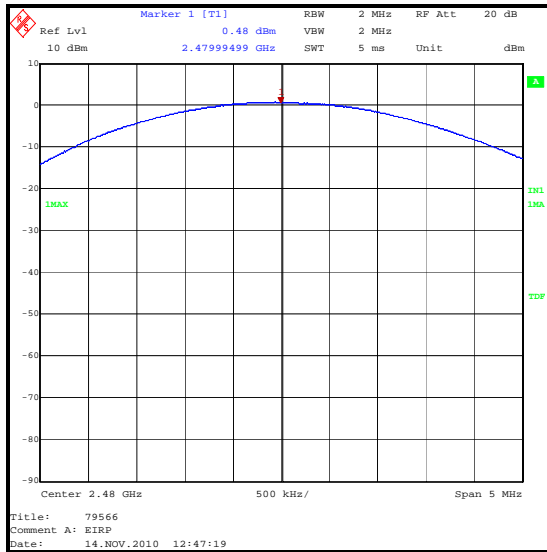
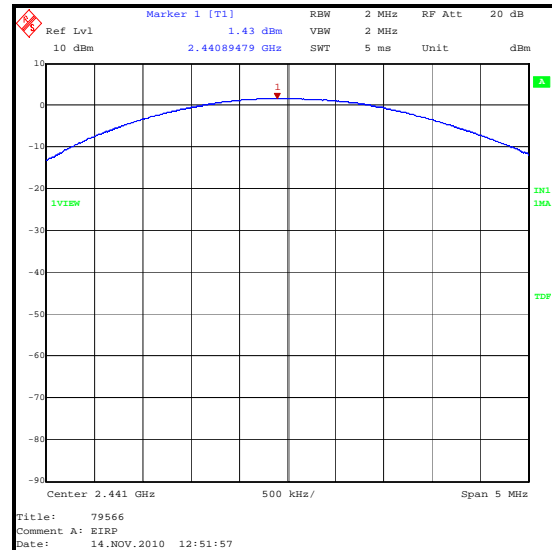
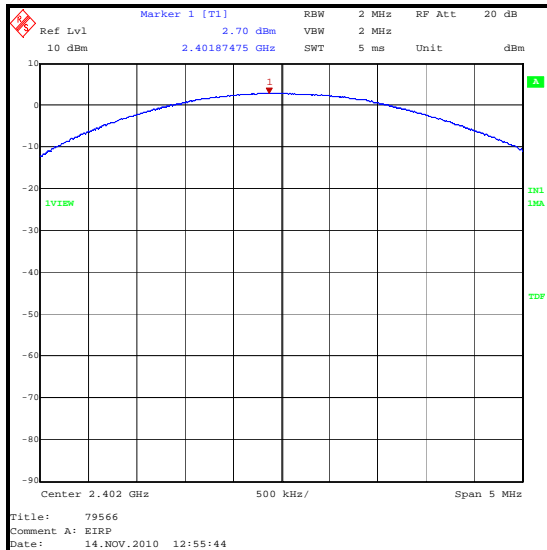
Results: 3DH5

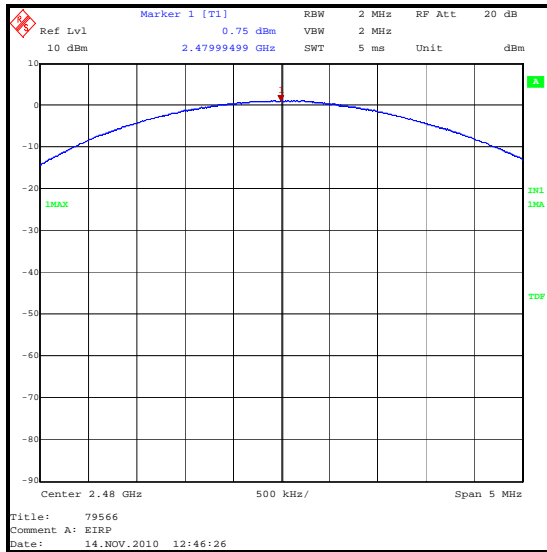
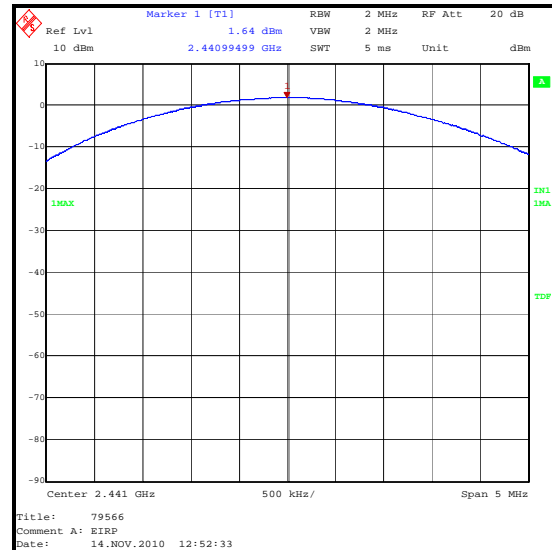
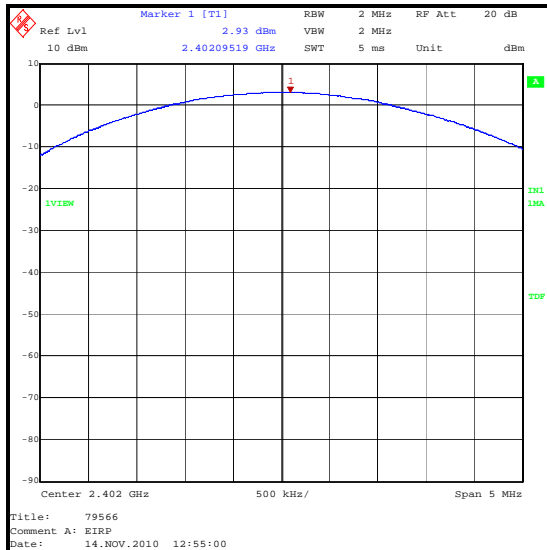
Channel	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	2.9	27.0	24.1	Complied
Middle	1.6	27.0	25.4	Complied
Top	0.8	27.0	26.2	Complied

Note(s):

1. These tests were performed radiated; therefore the EUT antenna gain is encompassed in the final result and not measurable.
2. Tests were performed using a combination of the conducted test method described in ANSI C63.10 Section 6.10.1 and the test methods for radiated emissions measurements described in Sections 6.3 and 6.6. The reason for this being that the measurements were performed radiated as the EUT has an integral antenna and does not have an external antenna port.

Transmitter Maximum Peak Output Power (continued)**Results: DH5**

Transmitter Maximum Peak Output Power (continued)**Results: 2DH5**

Transmitter Maximum Peak Output Power (continued)**Results: 3DH5**

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

Test Engineer:	Ian Watch	Test Date:	20 November 2010
Test Sample Serial No:	004401221005610		

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

Environmental Conditions:

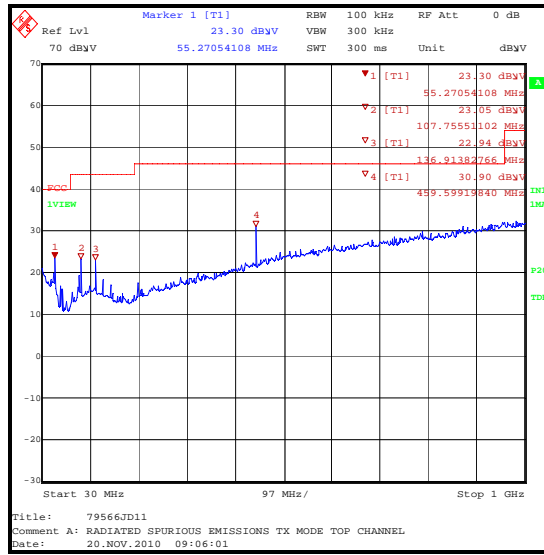
Temperature (°C):	23
Relative Humidity (%):	24

Results: Quasi-Peak 3DH5

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
55.861	Horizontal	25.3	40.0	14.7	Complied
107.751	Vertical	28.7	43.5	14.8	Complied
138.039	Vertical	31.1	43.5	12.4	Complied
458.776	Horizontal	36.4	46.0	9.6	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 preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.
3. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.

Transmitter Radiated Emissions (continued)

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

Transmitter Radiated Emissions (continued)**Test Summary:**

Test Engineer:	Ian Watch	Test Date:	17 November 2010
Test Sample Serial No:	004401221005610		

FCC Part:	15.247(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range	1 GHz to 25 GHz

Environmental Conditions:

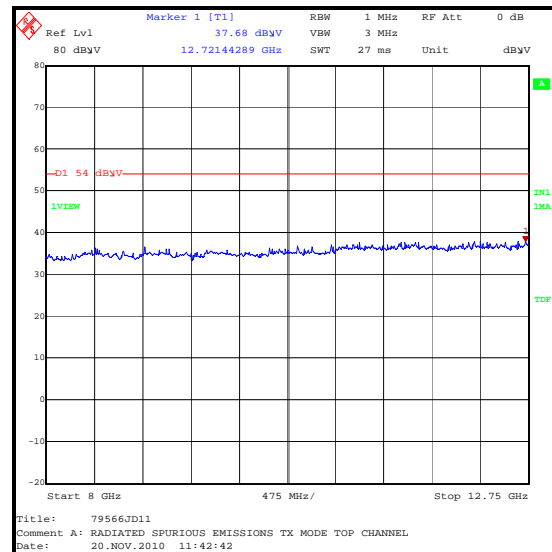
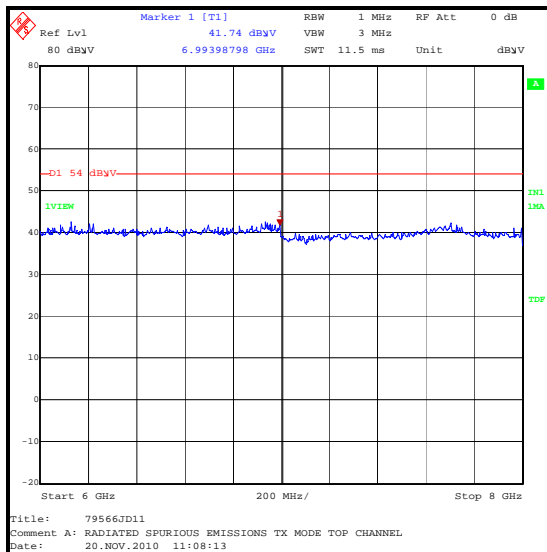
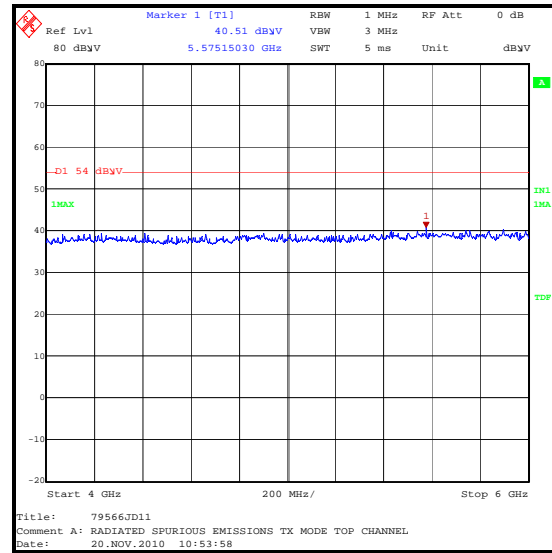
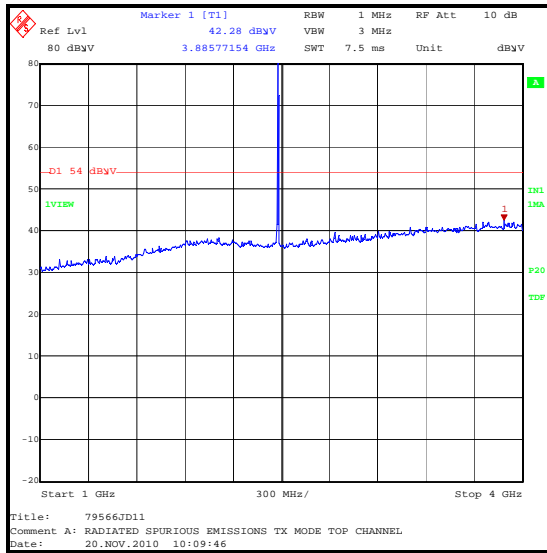
Temperature (°C):	23
Relative Humidity (%):	22

Results: 3DH5

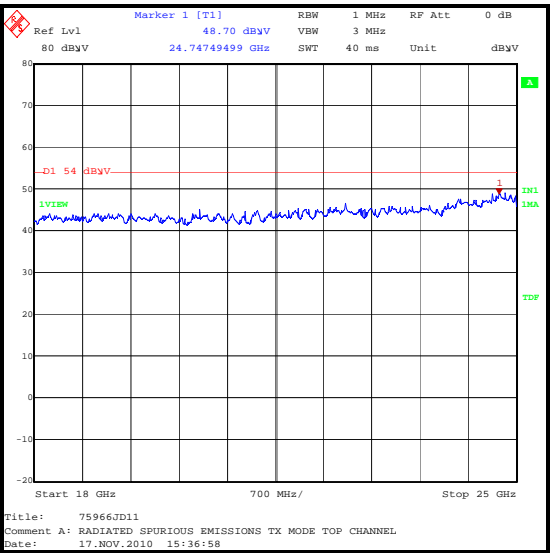
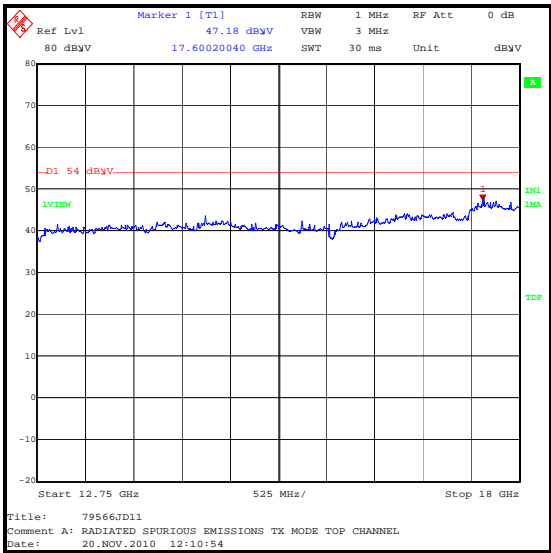
Frequency (GHz)	Antenna Polarity	Peak Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
24.747950	Vertical	48.7	54.0	5.3	Complied

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 emission shown on the 1 GHz to 4 GHz plot is the EUT fundamental at 2480 MHz.
3. 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.

Transmitter Radiated Emissions (continued)

Transmitter Radiated Emissions (continued)



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

Test Engineer:	Ian Watch	Test Date:	20 November 2010
Test Sample Serial No:	004401221005610		

FCC Part:	15.247(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.10 Sections 6.9.2

Environmental Conditions:

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

Results: Static Mode DH5

Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2400.0	Horizontal	58.4	77.2*	18.8	Complied
2483.5	Horizontal	60.0	74.0	14.0	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Horizontal	47.1	54.0	6.9	Complied

Results: Hopping Mode DH5

Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2400.0	Horizontal	54.2	77.2*	23.0	Complied
2483.5	Horizontal	58.7	74.0	15.3	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Horizontal	44.8	54.0	9.2	Complied

Results: Static Mode 2DH5

Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2400.0	Horizontal	53.9	77.9*	24.0	Complied
2483.5	Horizontal	61.4	74.0	12.6	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Horizontal	48.1	54.0	5.9	Complied

Results: Hopping Mode 2DH5

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2400.0	Horizontal	50.3	77.9*	27.6	Complied
2483.5	Horizontal	60.9	74.0	13.1	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Horizontal	45.0	54.0	9.0	Complied

Results: Static Mode 3DH5

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2400.0	Horizontal	53.0	78.1*	25.1	Complied
2483.5	Horizontal	61.9	74.0	12.1	Complied

Frequency (MHz)	Antenna Polarity	Average Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Horizontal	48.4	54.0	5.6	Complied

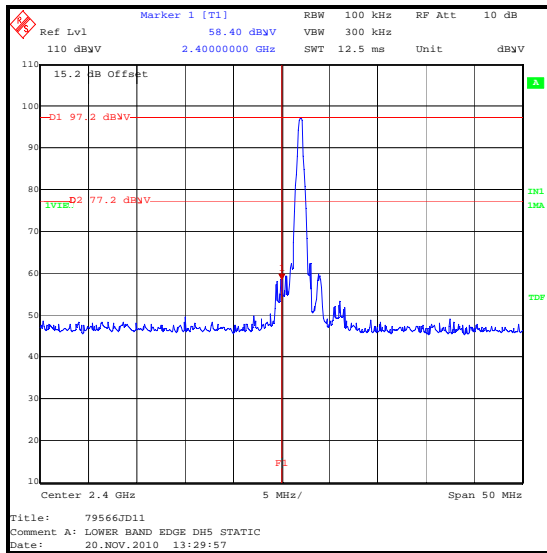
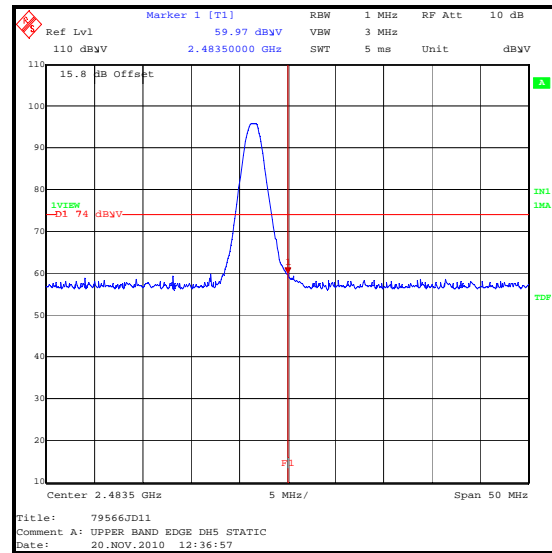
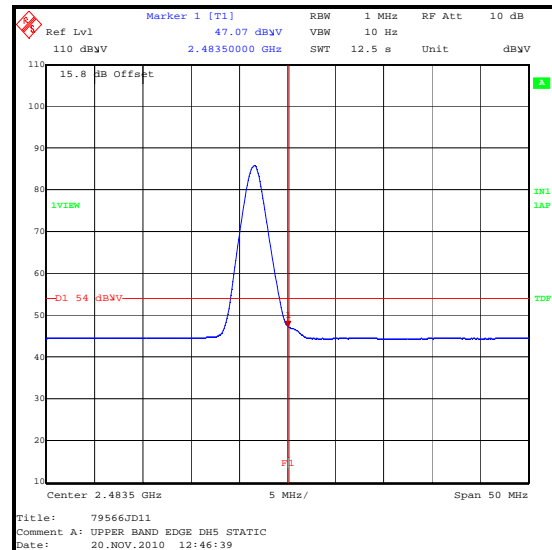
Results: Hopping Mode 3DH5

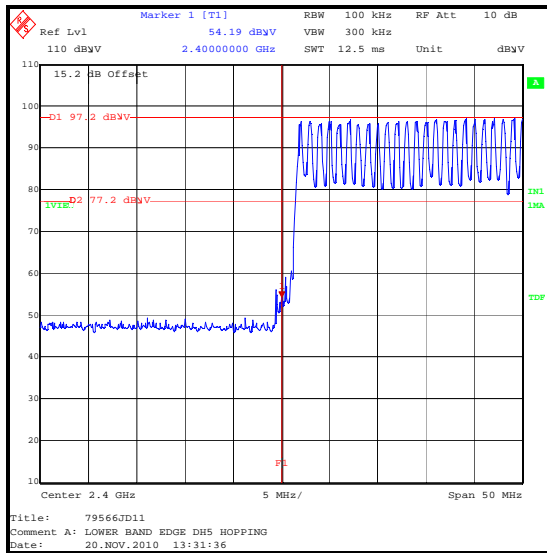
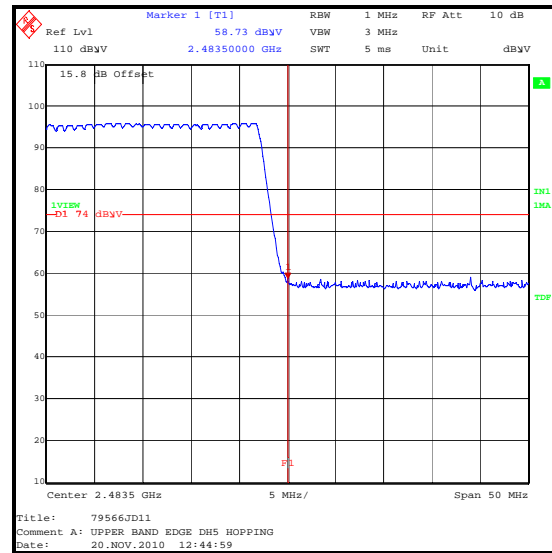
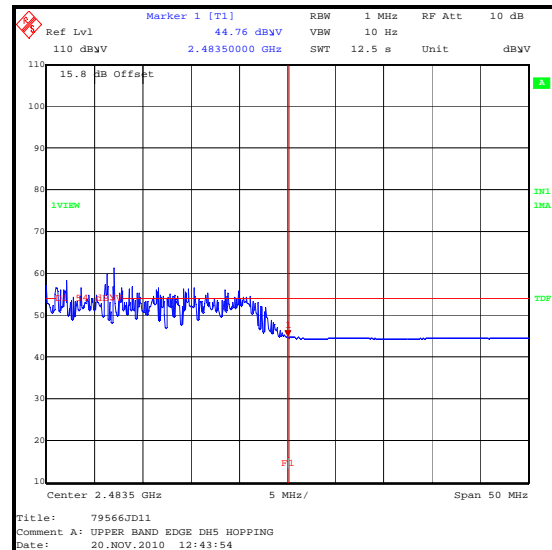
Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2400.0	Horizontal	51.2	78.1*	26.9	Complied
2483.5	Horizontal	59.2	74.0	14.8	Complied

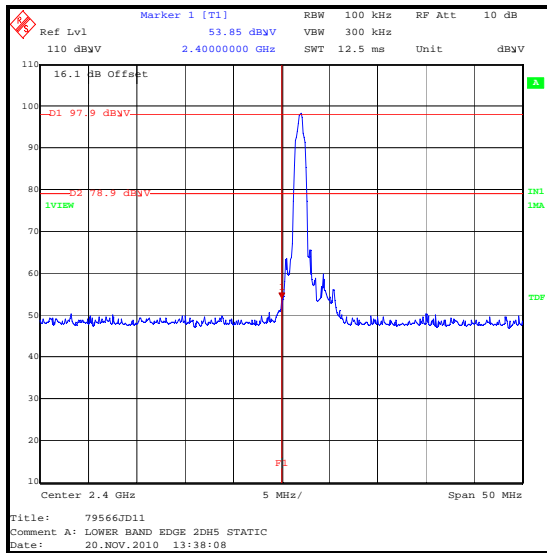
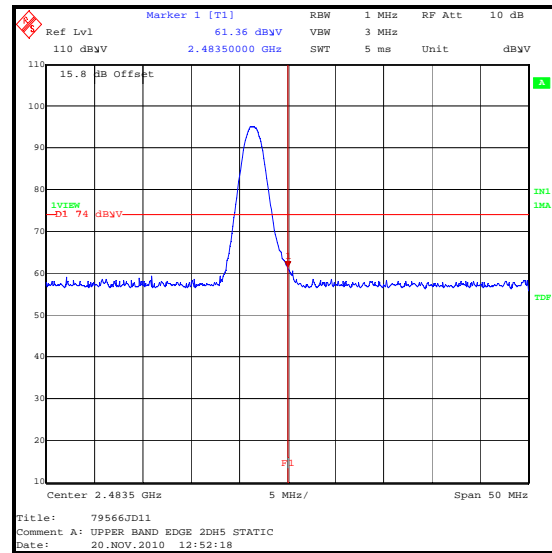
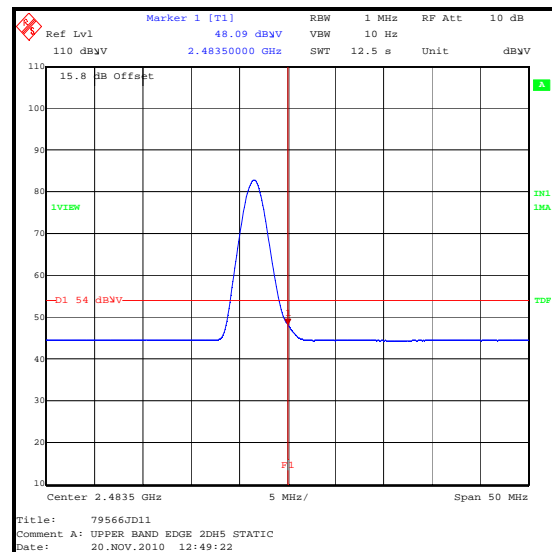
Frequency (MHz)	Antenna Polarity	Average Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Horizontal	45.1	54.0	8.9	Complied

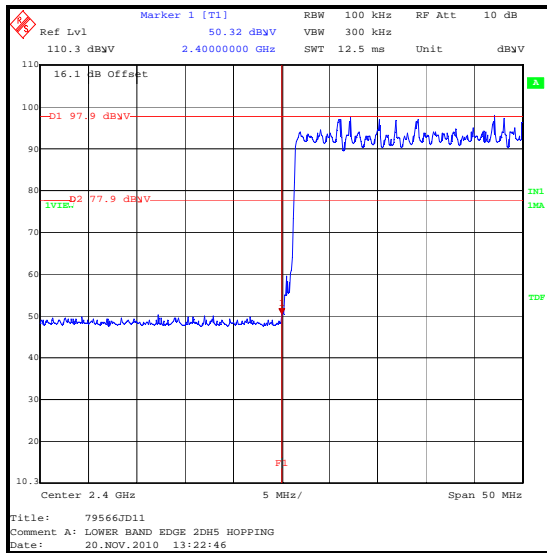
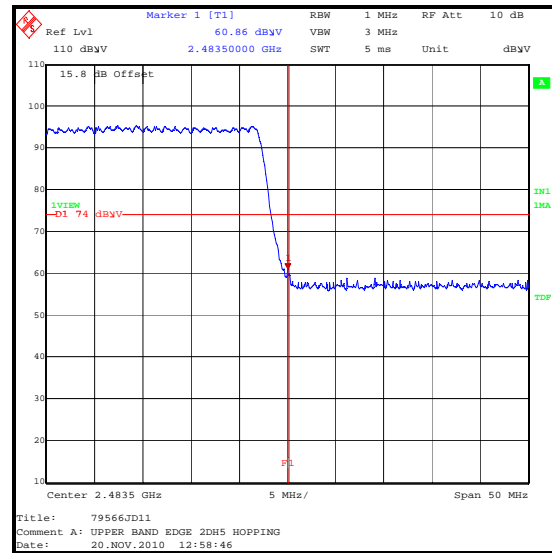
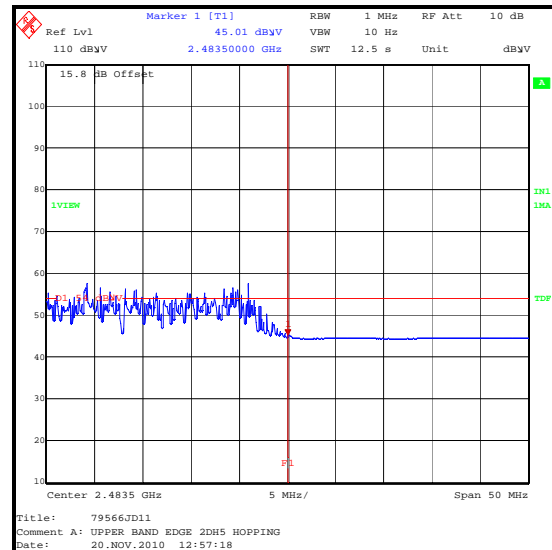
Note(s):

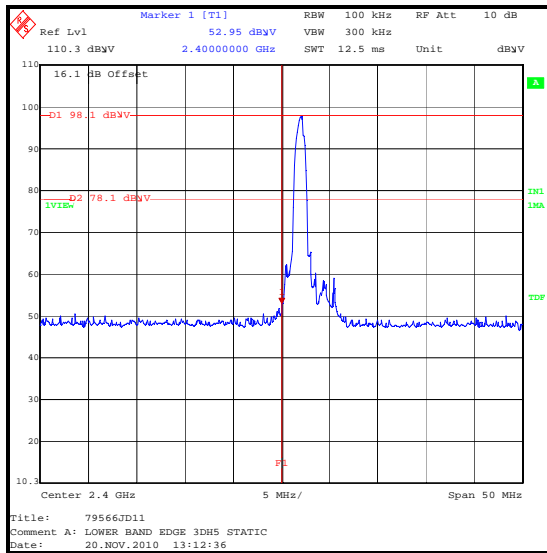
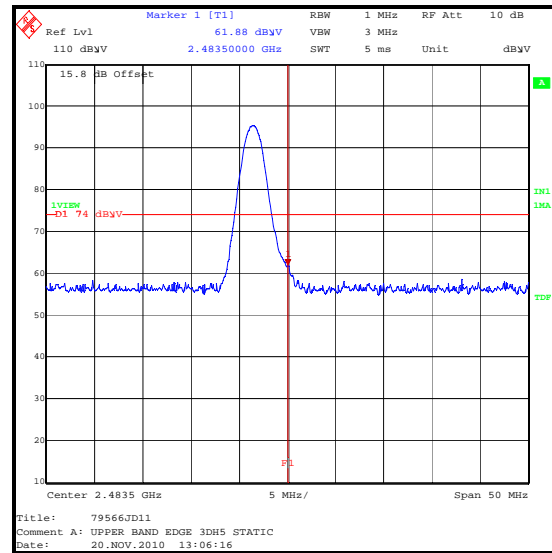
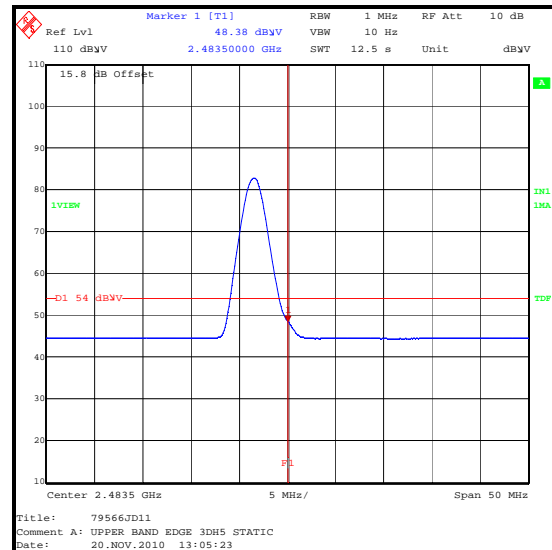
1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. * -20 dBc limit

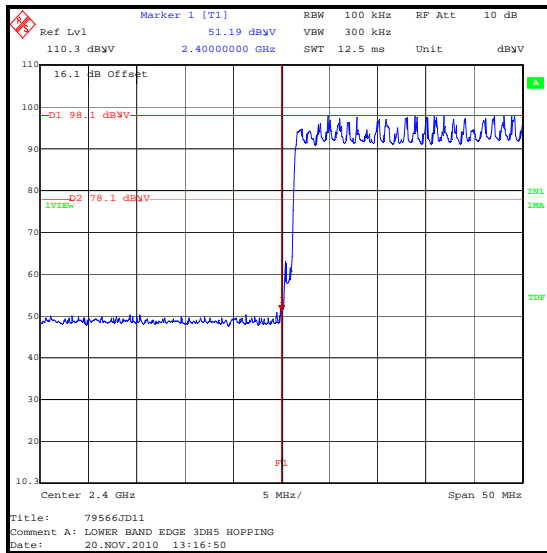
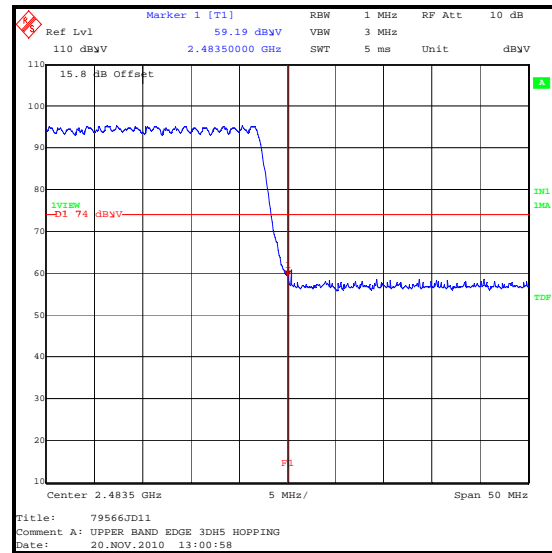
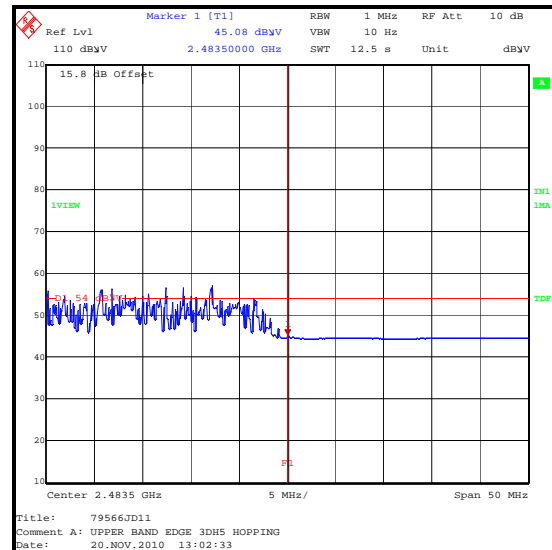
Transmitter Band Edge Radiated Emissions (continued)**DH5 Static Mode****Lower Band Edge Peak Static****Upper Band Edge Peak Static****Upper Band Edge Average Static**

Transmitter Band Edge Radiated Emissions (continued)**DH5 Hopping Mode****Lower Band Edge Peak Hopping****Upper Band Edge Peak Hopping****Upper Band Edge Average Hopping**

Transmitter Band Edge Radiated Emissions (continued)**2DH5 Static Mode****Lower Band Edge Peak Static****Upper Band Edge Peak Static****Upper Band Edge Average Static**

Transmitter Band Edge Radiated Emissions (continued)**2DH5 Hopping Mode****Lower Band Edge Peak Hopping****Upper Band Edge Peak Hopping****Upper Band Edge Average Hopping**

Transmitter Band Edge Radiated Emissions (continued)**3DH5 Static Mode****Lower Band Edge Peak Static****Upper Band Edge Peak Static****Upper Band Edge Average Static**

Transmitter Band Edge Radiated Emissions (continued)**3DH5 Hopping Mode****Lower Band Edge Peak Hopping****Upper Band Edge Peak Hopping****Upper Band Edge Average 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".

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±3.25 dB
Maximum Peak Output Power	2.4 GHz to 2.4835 GHz	95%	±2.94 dB
Carrier Frequency Separation	2.4 GHz to 2.4835 GHz	95%	±0.92 ppm
Average Time of Occupancy	2.4 GHz to 2.4835 GHz	95%	±0.3 ns
20 dB Bandwidth	2.4 GHz to 2.4835 GHz	95%	±0.92 ppm
Radiated Spurious Emissions	30 MHz to 26.5 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 Calibration Due	Cal. Interval (Months)
A1069	LISN	Rohde & Schwarz	ESH3-Z5	837469/012	13 Apr 2011	12
A1396	Attenuator	Huber + Suhner	757987	6810.17.B	06 Jul 2011	12
A1415	Directional Coupler	Atlantic	422057-1	306	Calibrated before use	-
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	06 Jun 2011	12
A1818	Antenna	EMCO	3115	00075692	05 Sep 2011	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	01 Mar 2011	12
A253	Antenna	Flann Microwave	12240-20	128	05 Sep 2011	12
A254	Antenna	Flann Microwave	14240-20	139	05 Sep 2011	12
A255	Antenna	Flann Microwave	16240-20	519	05 Sep 2011	12
A256	Antenna	Flann Microwave	18240-20	400	05 Sep 2011	12
A288	Antenna	Chase	CBL6111A	1589	05 Sep 2011	12
A436	Antenna	Flann	20240-20	330	05 Sep 2011	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	05 Sep 2011	12
M1124	Test Receiver	Rohde & Schwarz	ESI26	100046K	22 Apr 2011	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	28 Jun 2011	12
M1379	Test Receiver	Rohde & Schwarz	ESIB7	100330	26 Aug 2011	12
M1447	Bluetooth Tester	Rohde & Schwarz	CBT	100329	02 Feb 2011	12

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