

TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: NTT docomo P-01B

To: FCC Part 15.247: 2008 Subpart C

Test Report Serial No:
RFI/RPT1/RP75983JD05A

**This Test Report Is Issued Under The Authority
Of Brian Watson, Operations Director:**

pp 

Checked By:	R Graham
Signature:	
Date of Issue:	06 October 2009

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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) 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
Site Registration:	FCC: 209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	27 September 2009 to 29 September 2009

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Port Type	Result
Part 15.107(a)	Receiver/Idle Mode AC Conducted Emissions	AC Mains	✓
Part 15.109	Receiver/Idle Mode Radiated Spurious Emissions	Enclosure	✓
Part 15.207	Transmitter AC Conducted Emissions	AC Mains	✓
Part 15.247(a)(1)	Transmitter 20 dB Bandwidth	Antenna	✓
Part 15.247(a)(1)	Transmitter Carrier Frequency Separation	Antenna	✓
Part 15.247(a)(1)(iii)	Transmitter Average Time of Occupancy	Antenna	✓
Part 15.247(b)(3)	Transmitter Maximum Peak Output Power	Antenna	✓
Part 15.247(d) & 15.209(a)	Transmitter Radiated Emissions	Antenna	✓
Part 15.247(d) & 15.209(a)	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:	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:	NTT docomo
Model Name or Number:	P-01B
Hardware Version Number:	Rev C
Software Version Number:	B-D92WP1-01.03.001 D92WP1_Cv18121508
IMEI Number:	353152030012795 & 353152030012845
FCC ID:	UCE209021A

Description:	Battery
Brand Name:	NTT
Model Name or Number:	P20

Description:	AC charger
Brand Name:	NTT docomo
Model Name or Number:	FOMA AC Adapter 01 for Global use / MAS-BH0008-A 002

Description:	DC charger
Brand Name:	NTT docomo
Model Name or Number:	FOMA DC Adapter 02

Description:	Charge/USB data cable
Brand Name:	NTT docomo
Model Name or Number:	FOMA USB Cable with Charge Function 02

Description:	Micro-SD Memory Card
Brand Name:	Not stated
Model Name or Number:	Not stated

Description:	Personal Hands-Free
Brand Name:	NTT docomo
Model Name or Number:	Stereo Earphone Set 01

3.2. Description of EUT

The equipment under test was a dual mode UMTS/GSM cellular handset with *Bluetooth* 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:	<i>Bluetooth</i>		
Power Supply Requirement:	Nominal	3.7 V	
Type of Unit:	Transceiver		
Channel Spacing:	1 MHz		
Mode:	Basic Rate		Enhanced Data Rate
Modulation:	GFSK		$\pi/4$ -DQPSK 8DQPSK
Packet Type: (Maximum Payload)	DH5	2DH5	3DH5
Data Rate (Mbit/s):	1	2	3
Maximum Transmit EIRP:	0.2 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:

Description:	Dummy battery
Model Name or Number:	Not stated
Serial Number:	Not stated

Description:	Laptop PC
Model Name or Number:	Sony VAIO PCG-551N
Serial Number:	283506 2 1208763

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: Standalone, 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 test mode.
- For Receive/Idle mode tests: Standalone, with the Bluetooth mode active but not transmitting.
- Both EDR/Basic rate modes were compared and tests were performed with the mode that presented the worse case result. For output power, bandwidth, band edge and channel separation, all modes were tested.
- Idle mode and transmitter mode radiated spurious emissions tests were performed with the personal hands free connected to the EUT this was found to be the worst case during prescans. All accessories were individually connected and measurements made during prescans to determine the worst case combination.

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:

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

Environmental Conditions:

Temperature (°C):	28
Relative Humidity (%):	32

Results: Quasi Peak Detector Measurements

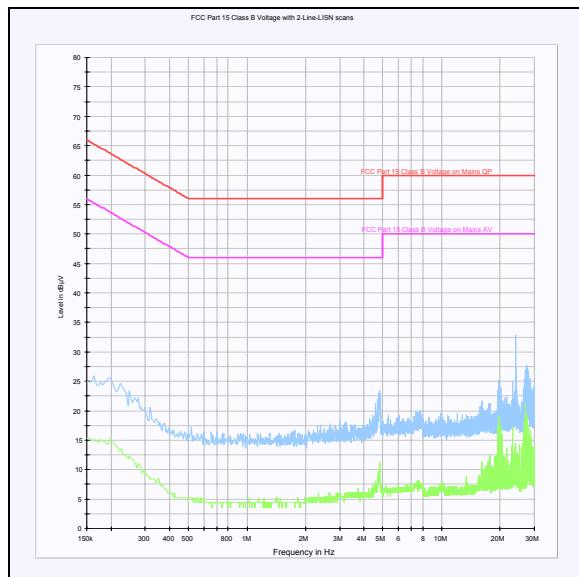
Frequency (MHz)	Line	Quasi Peak Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
Note 1					

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
Note 1					

Note(s):

1. All emissions were greater than 20 dB below the applicable limits.



5.2.2. Receiver/Idle Mode Radiated Spurious Emissions

Test Summary:

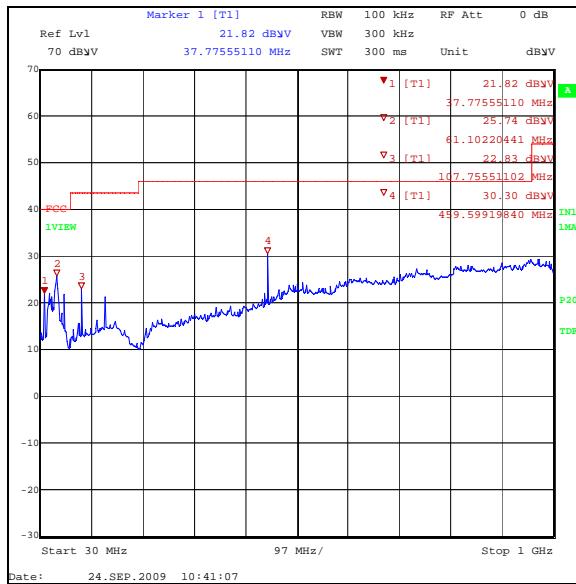
FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes
Frequency Range:	30 MHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	31

Results:

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
38.006	Horizontal	16.0	43.5	27.5	Complied
61.411	Vertical	26.9	43.5	16.6	Complied
107.620	Vertical	23.8	46.0	22.2	Complied
458.693	Vertical	28.0	46.0	18.0	Complied



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

Receiver/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 (%):	33

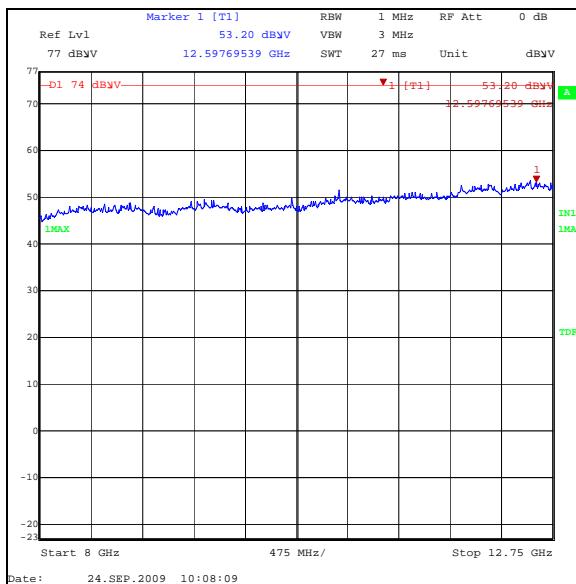
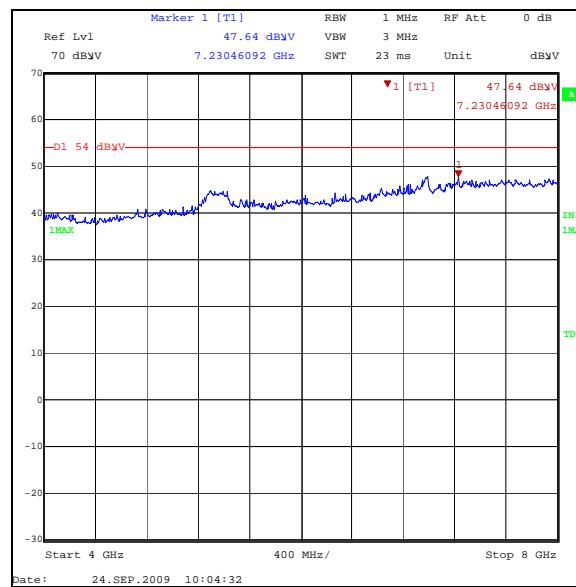
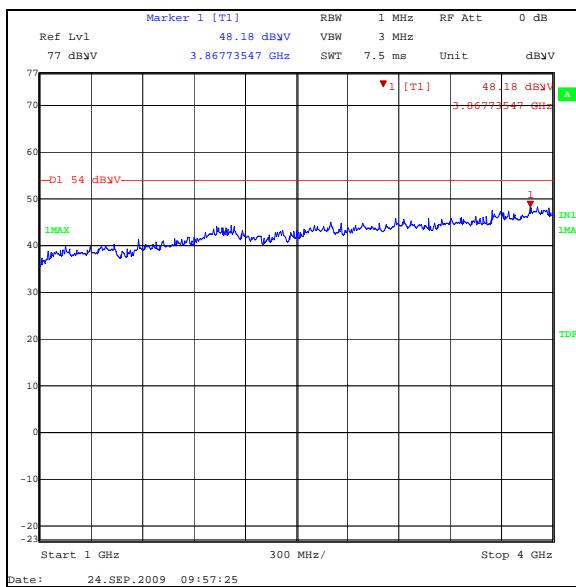
Results: (Highest Peak Level)

Frequency (GHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
12593.695	Horizontal	41.4	11.8	53.2	54.0	0.8	Complied

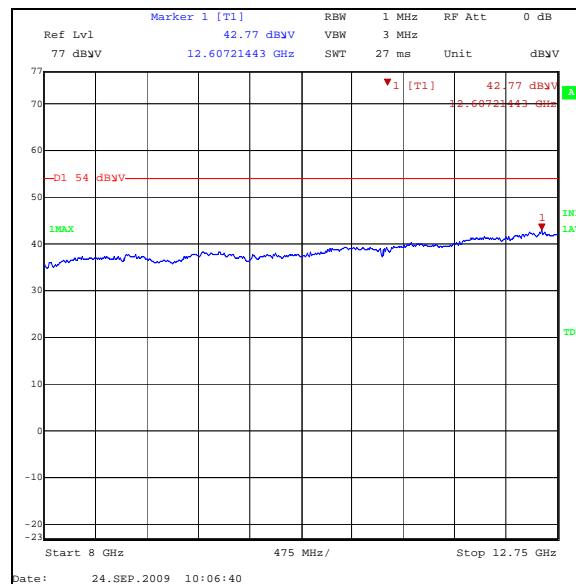
Note(s):

1. 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)



Peak detector



Average detector

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):	28
Relative Humidity (%):	32

Results: Quasi Peak Detector Measurements

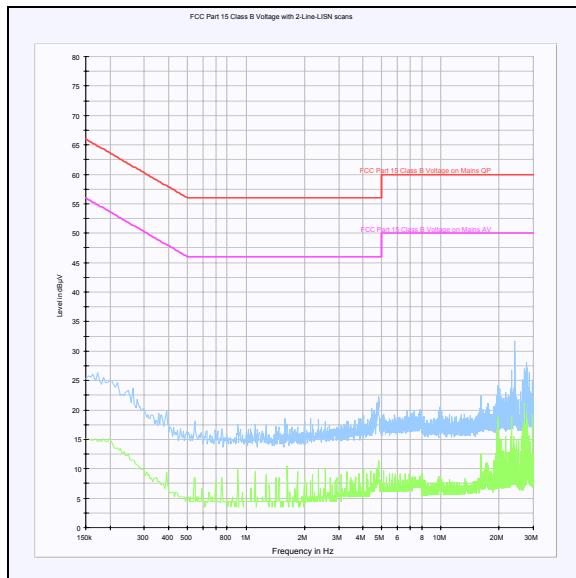
Frequency (MHz)	Line	Quasi Peak Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
Note 1					

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
Note 1					

Note(s):

1. All emissions were greater than 20 dB below the applicable limits.



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

FCC Part:	15.247(a)(1)
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000) (see note below)

Environmental Conditions:

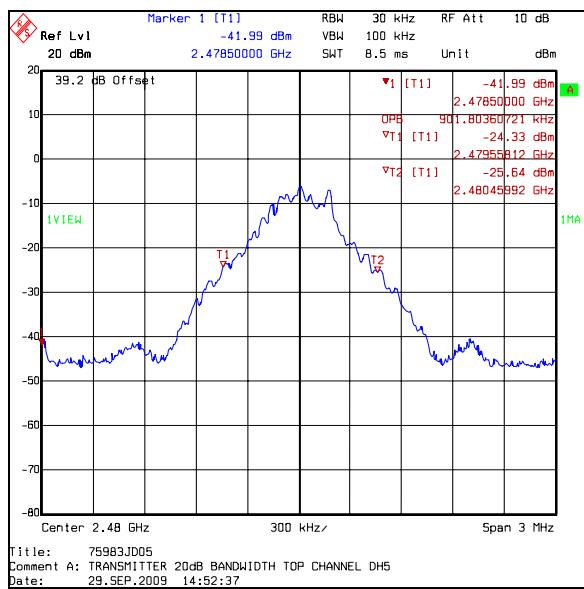
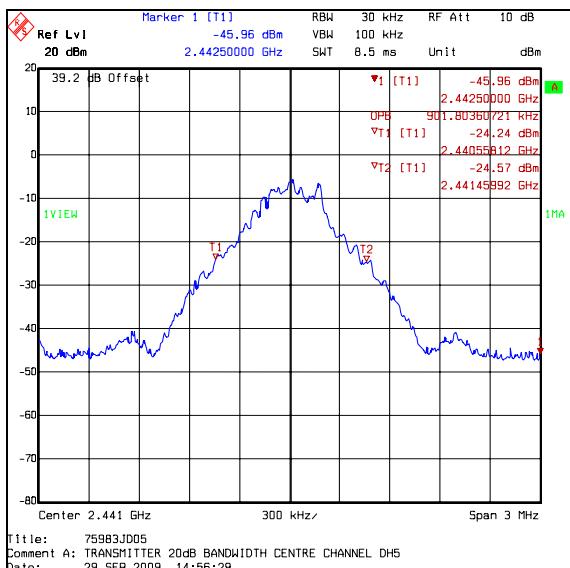
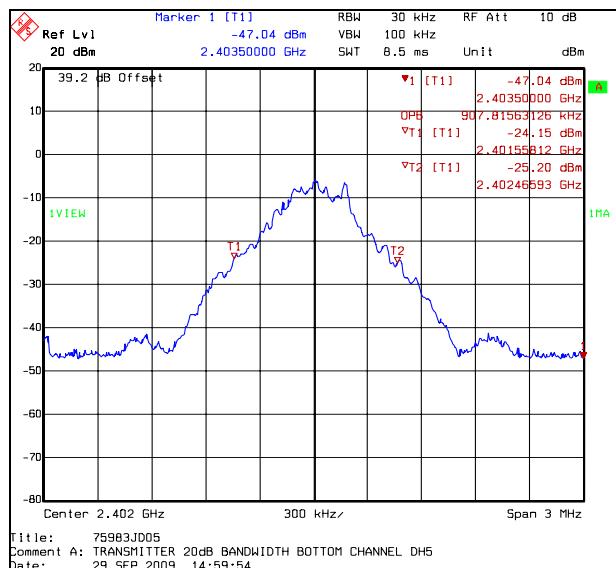
Temperature (°C):	31
Relative Humidity (%):	34

Results: DH5

Channel	20 dB Bandwidth (kHz)
Bottom	907.816
Middle	901.804
Top	901.803

Note(s):

1. In lieu of the test method detailed in Public Notice DA 00-705 the 20 dB bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser.

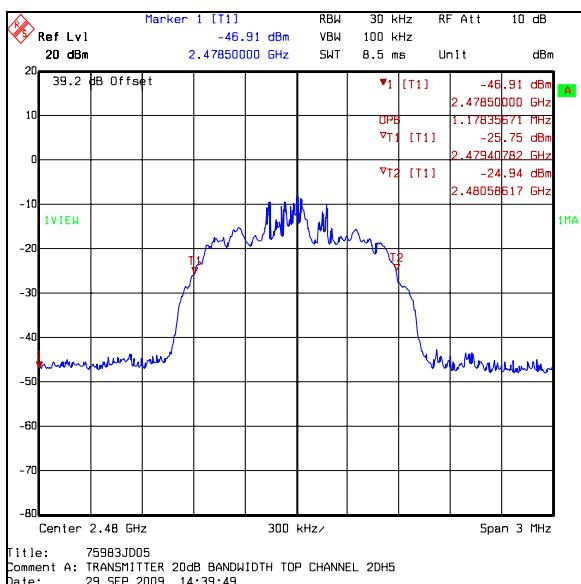
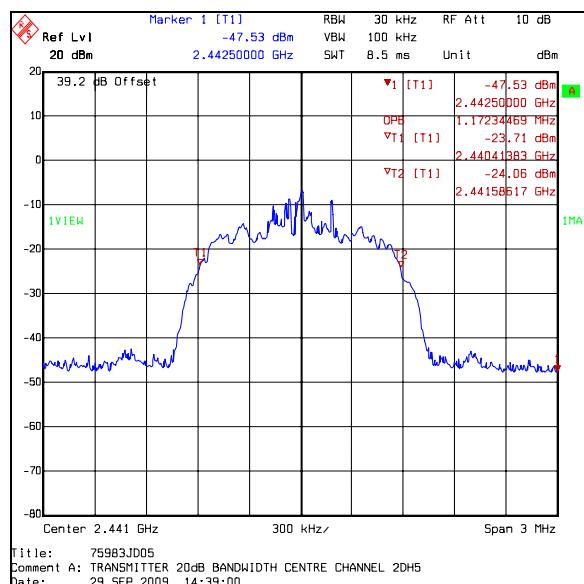
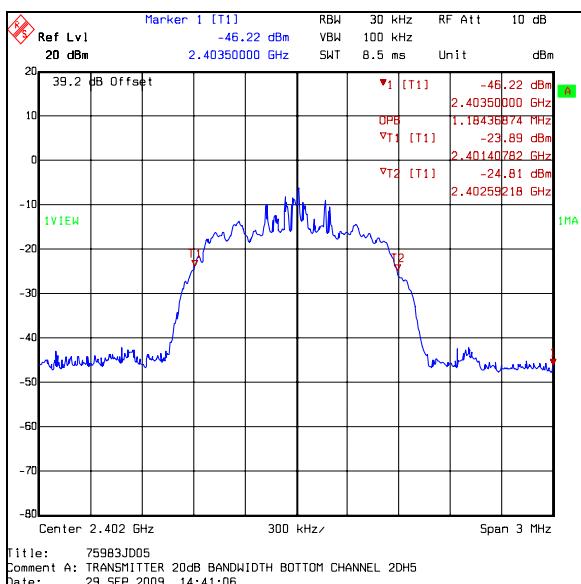
Transmitter -20 dB Bandwidth (continued)**Results: DH5**

Transmitter 20 dB Bandwidth (continued)**Results: 2DH5**

Channel	20 dB Bandwidth (kHz)
Bottom	1184.369
Middle	1172.345
Top	1178.357

Note(s):

1. In lieu of the test method detailed in Public Notice DA 00-705 the 20 dB bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser.

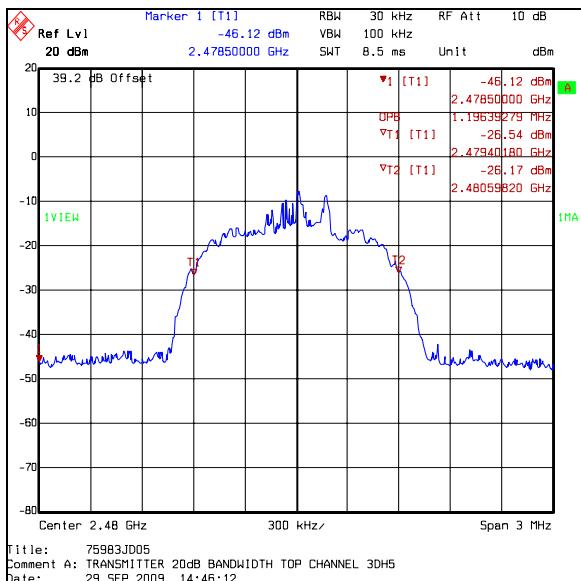
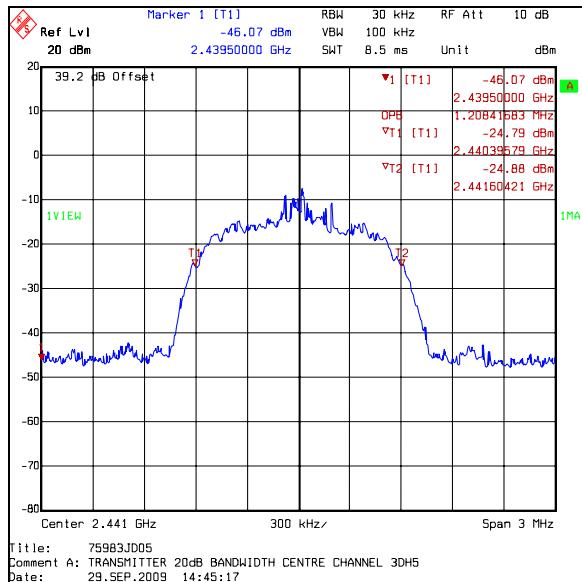
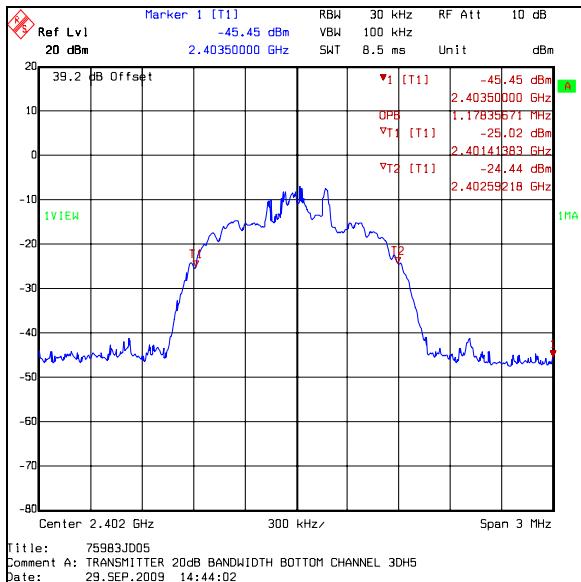


Transmitter 20 dB Bandwidth (continued)**Results: 3DH5**

Channel	Transmitter 20 dB 3DH5 Bandwidth (kHz)
Bottom	1178.357
Middle	1204.417
Top	1208.417

Note(s):

1. In lieu of the test method detailed in Public Notice DA 00-705 the 20 dB bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser.



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

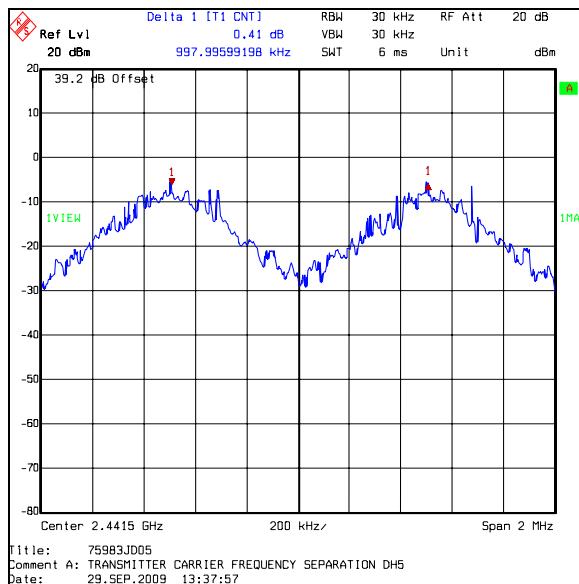
FCC Part:	15.247(a)(1)
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000)

Environmental Conditions:

Temperature (°C):	31
Relative Humidity (%):	34

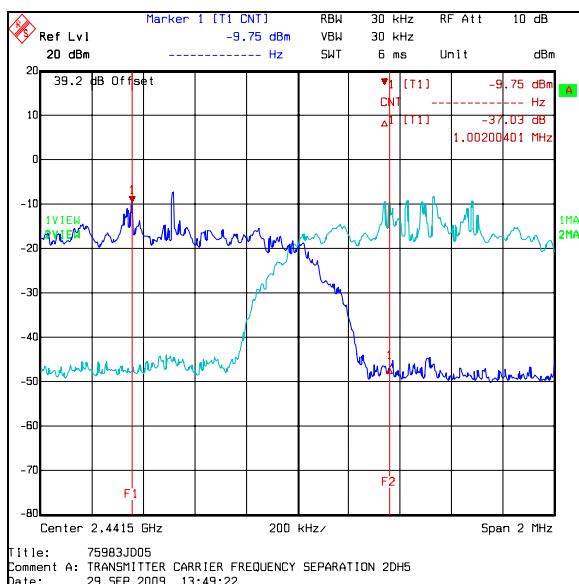
Results: DH5

Transmitter Carrier Frequency Separation (kHz)	Limit ($\frac{2}{3}$ of 20 dB BW) (kHz)	Margin (kHz)	Result
997.996	605.211	392.785	Complied



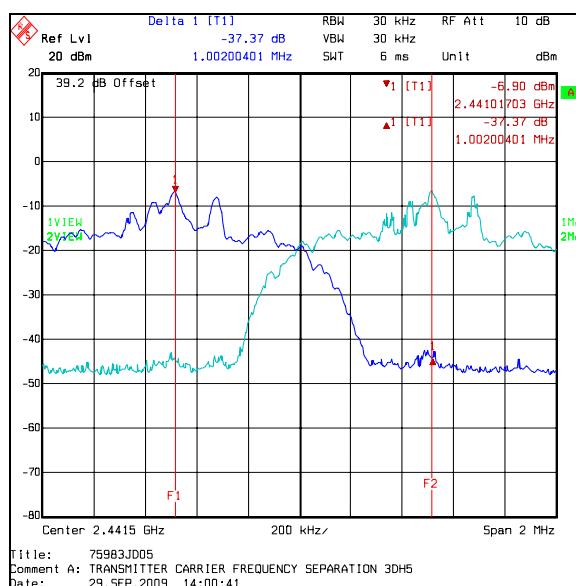
Transmitter Carrier Frequency Separation (continued)**Results: 2DH5**

Transmitter Carrier Frequency Separation (kHz)	Limit ($\frac{2}{3}$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1002.004	789.579	212.425	Complied



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

Transmitter Carrier Frequency Separation (kHz)	Limit ($\frac{2}{3}$ of 20 dB BW) (kHz)	Margin (kHz)	Result
1002.004	802.944	199.059	Complied



5.2.6. Transmitter Average Time of Occupancy**Test Summary:**

FCC Part:	15.247(a)(1)(iii)
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000)

Environmental Conditions:

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

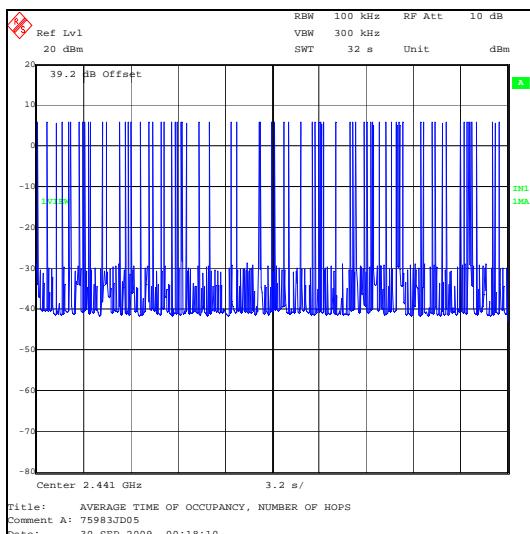
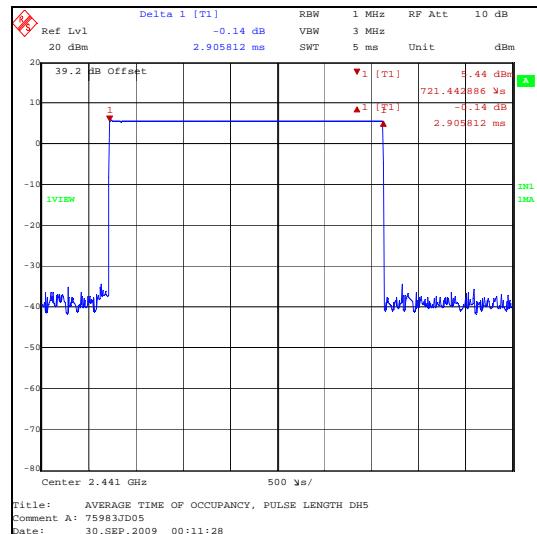
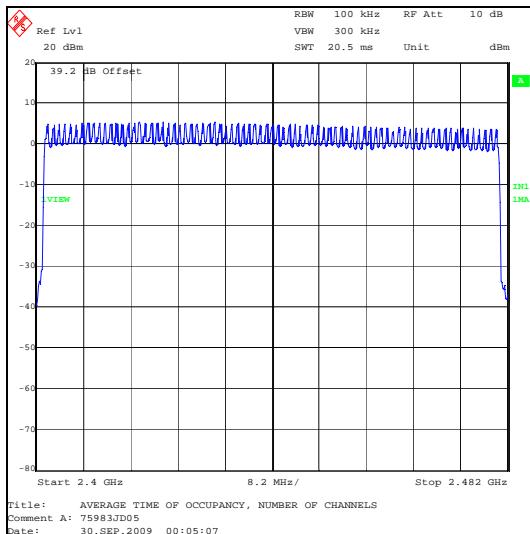
Results:

Emission Width (μs)	Number of Hops in 31.6 Seconds	Average Time of Occupancy (s)	Limit (s)	Margin (s)	Result
2905.812	74	0.215	0.4	0.185	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 Average Time of Occupancy



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

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)

Environmental Conditions:

Temperature (°C):	26
Relative Humidity (%):	32

Results: Basic Rate DH5

Channel	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	0.2	30.0	29.8	Complied
Middle	-0.2	30.0	30.2	Complied
Top	-0.4	30.0	30.4	Complied

Results: EDR 2DH5

Channel	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	-0.8	20.1	20.9	Complied
Middle	-0.9	20.1	21.0	Complied
Top	-1.0	20.1	21.1	Complied

Results: EDR 3DH5

Channel	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	-0.7	20.1	20.8	Complied
Middle	-1.0	20.1	21.1	Complied
Top	-1.0	20.1	21.1	Complied

Note(s):

1. Measurements were performed with the test antenna in the vertical and horizontal planes and the EUT in the X, Y and Z planes. The highest level was recorded.

5.2.8. 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 MHz to 1000 MHz

Environmental Conditions:

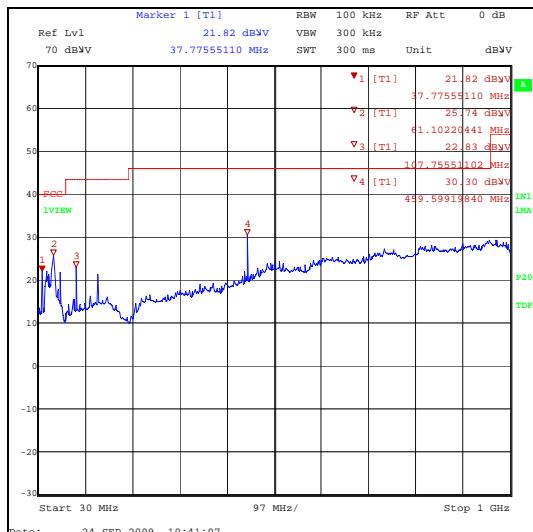
Temperature (°C):	28
Relative Humidity (%):	30

Results: Top Channel DH5

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
38.006	Horizontal	16.0	40.0	24.0	Complied
61.411	Vertical	26.9	40.0	13.1	Complied
107.620	Vertical	23.8	43.5	19.7	Complied
458.693	Vertical	28.0	46.0	18.0	Complied

Note(s):

1. The preliminary scans showed similar emission levels below 1 GHz, for each mode of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.



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

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

FCC Part:	15.247(d) & 15.209(a)
Test Method Used:	As detailed in Public Notice DA 00-705 (March 30, 2000) and ANSI C63.4 Section 8.
Frequency Range	1 GHz to 26.5 GHz

Environmental Conditions:

Temperature (°C):	28
Relative Humidity (%):	30

Results: Highest Peak Level

Frequency (GHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
17.884	Vertical	40.6	17.2	57.8	74.0	16.2	Complied

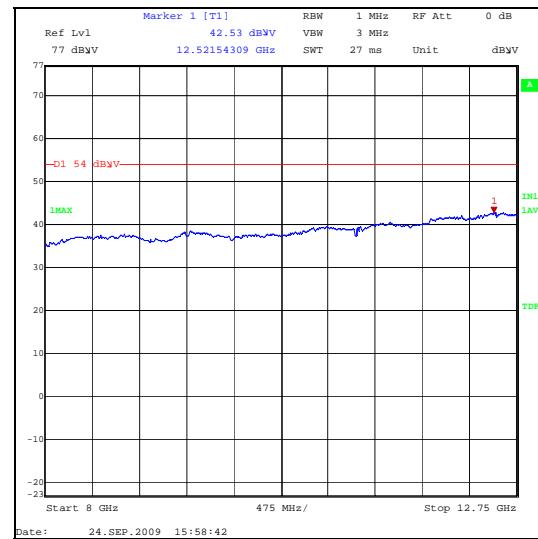
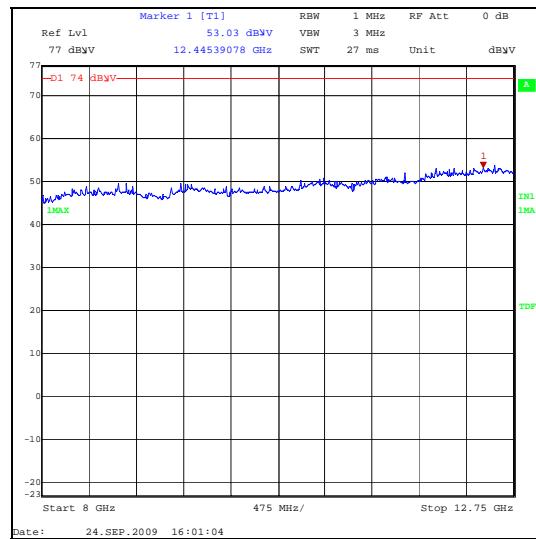
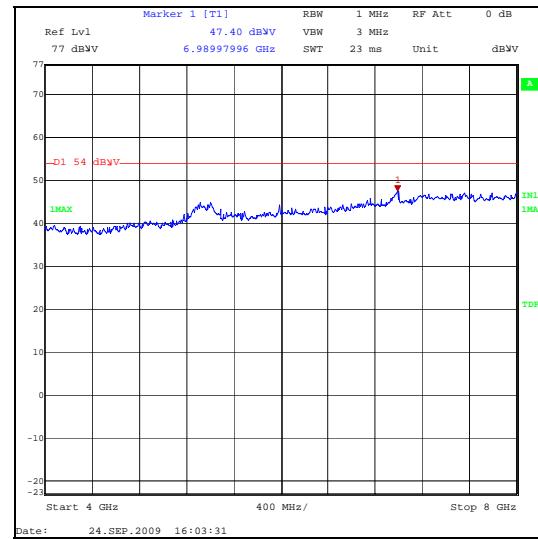
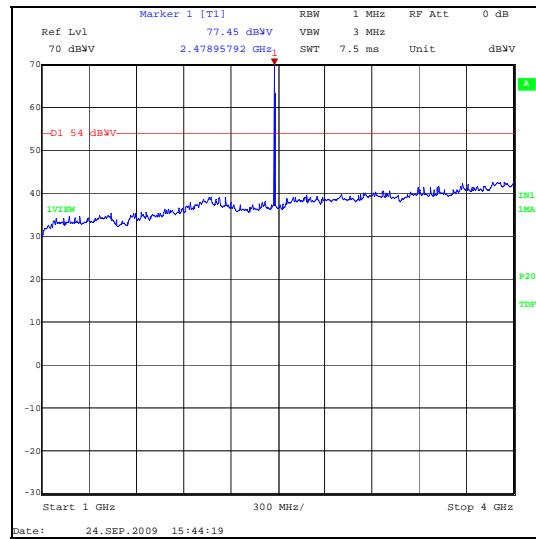
Results: Highest Average Level

Frequency (GHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
6.990	Vertical	41.5	5.9	47.4	54.0	6.6	Complied

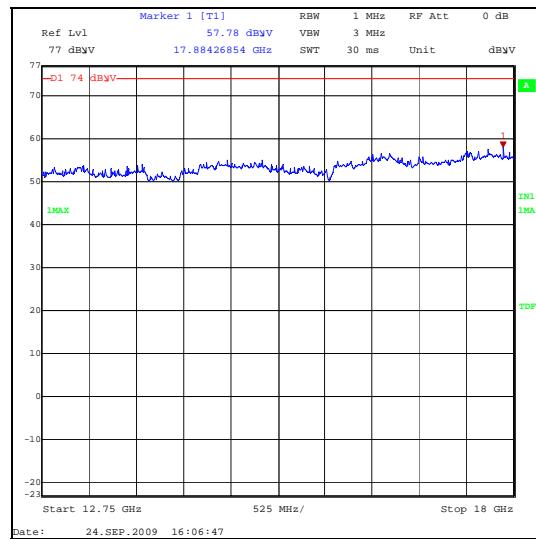
Note(s):

1. All pre-scans were performed with a peak detector against average limits apart from measurements made in the range 8 to 26.5 GHz where pre-scans were performed with peak and average detectors and the applicable limit applied. This was due to the noise floor exceeding the average limit when using a peak detector.
2. No spurious emissions were detected above the noise floor of the measuring receiver; therefore, the highest peak and average noise floor readings of the measuring receiver were recorded as shown in the tables above.
3. The emission shown on the 1 GHz to 4 GHz plot is the EUT carrier at 2480 MHz.

Transmitter Radiated Emissions (continued)

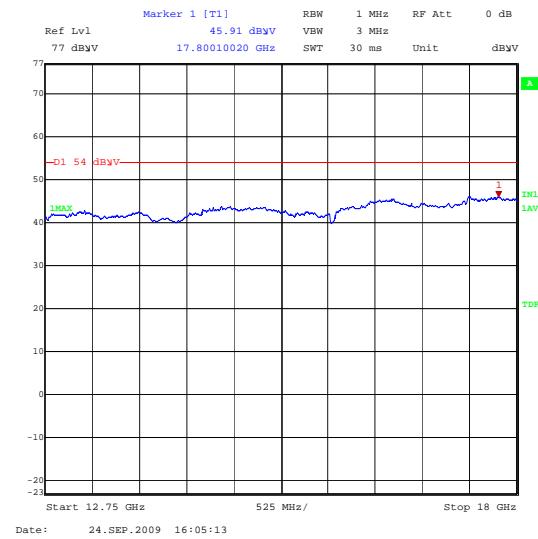


PEAK MEASUREMENT

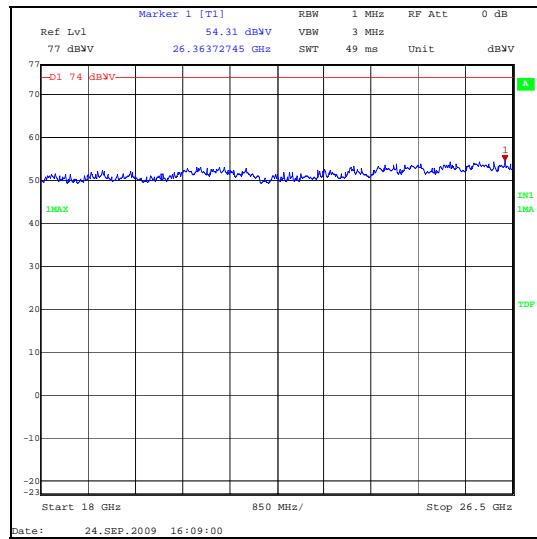
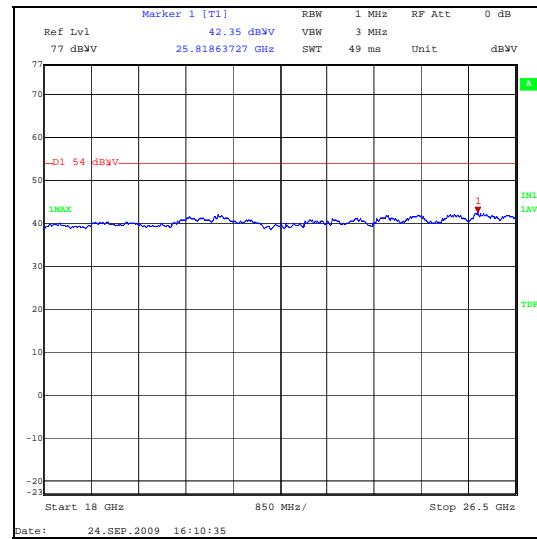


PEAK MEASUREMENT

AVG MEASUREMENT



AVG MEASUREMENT

Transmitter Radiated Emissions (continued)**PEAK MEASUREMENT****AVG MEASUREMENT**

5.2.10. 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 (%):	27

Results: Peak Power Level Hopping Mode DH5

Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4000	Vertical	52.4	-0.2	52.2	74.6*	22.4	Complied
2.4835	Vertical	56.5	-0.3	56.2	74.0	17.8	Complied

* -20 dBc limit

Results: Average Power Level Hopping Mode DH5

Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4835	Vertical	42.7	-0.3	42.4	54.0	11.6	Complied

Results: Peak Power Level Hopping Mode 2DH5

Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4000	Vertical	46.5	-0.2	46.3	73.6*	27.3	Complied
2.4835	Vertical	58.4	-0.3	58.1	74.0	15.9	Complied

* -20 dBc limit

Results: Average Power Level Hopping Mode 2DH5

Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4835	Vertical	43.1	-0.3	42.8	54.0	11.2	Complied

Results: Peak Power Level Hopping Mode 3DH5

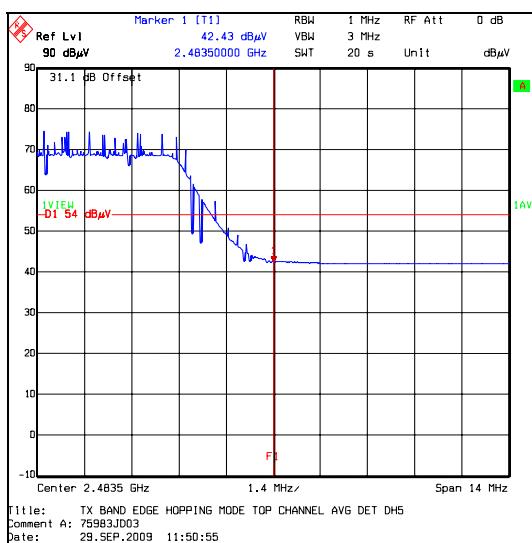
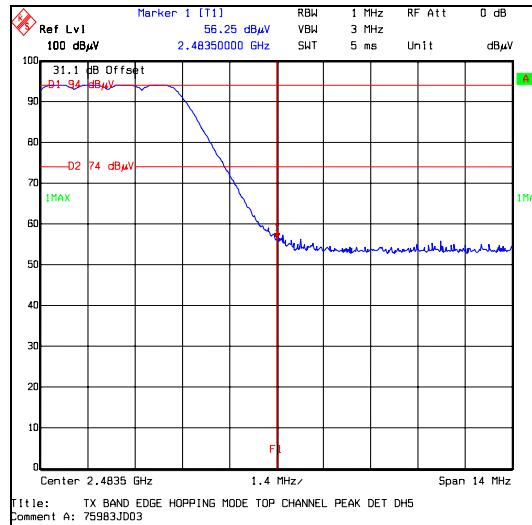
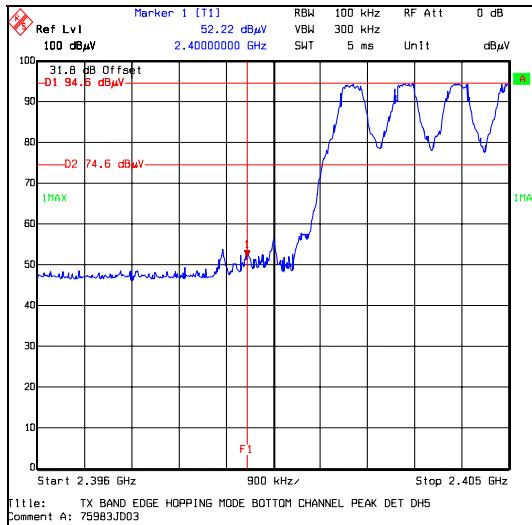
Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4000	Vertical	47.6	-0.2	47.4	73.7*	26.3	Complied
2.4835	Vertical	57.9	-0.3	57.6	74.0	16.4	Complied

* -20 dBc limit

Transmitter Band Edge Radiated Emissions (continued)**Results: Average Power Level Hopping Mode 3DH5**

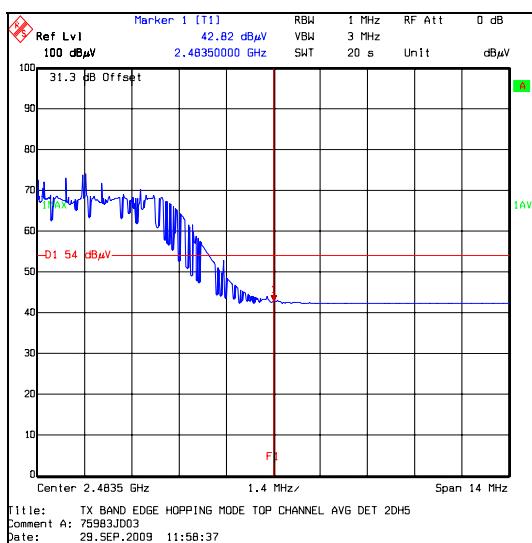
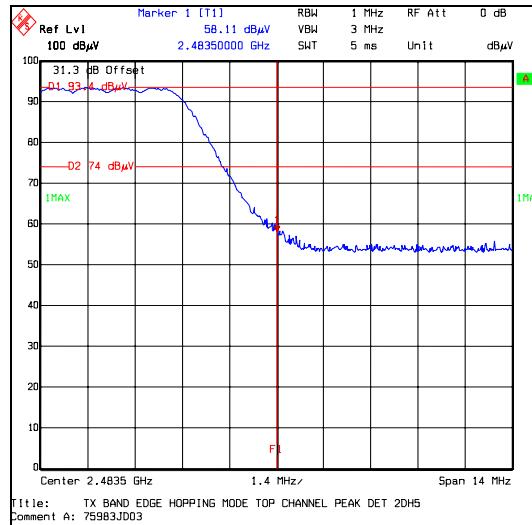
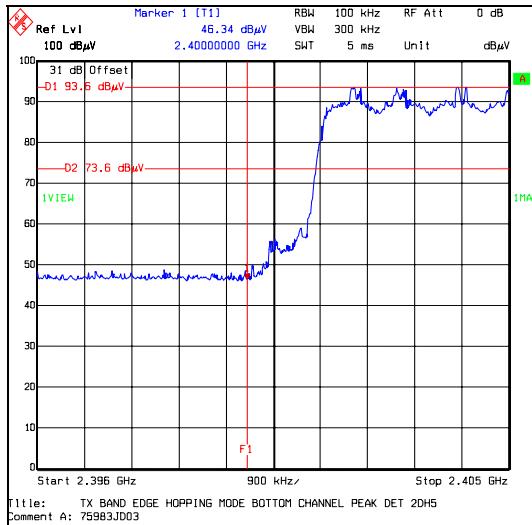
Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4835	Vertical	43.1	-0.3	42.8	54.0	11.2	Complied

Transmitter Band Edge Radiated Emissions (continued)



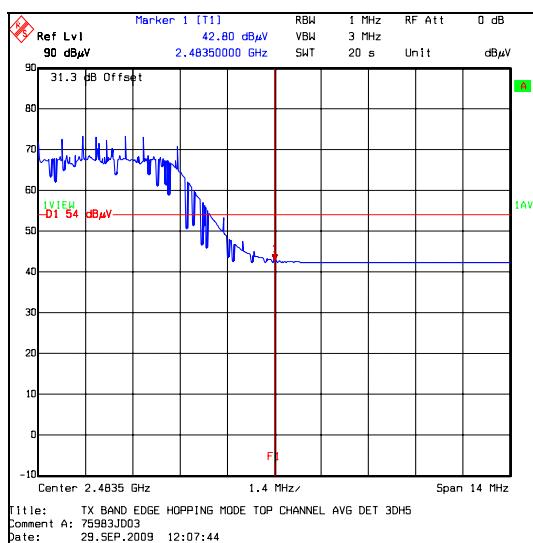
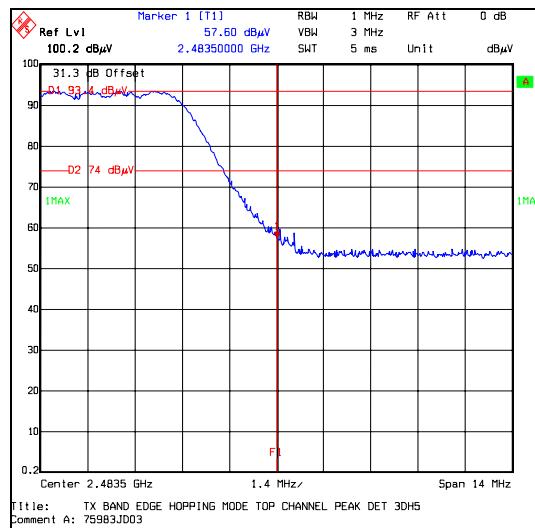
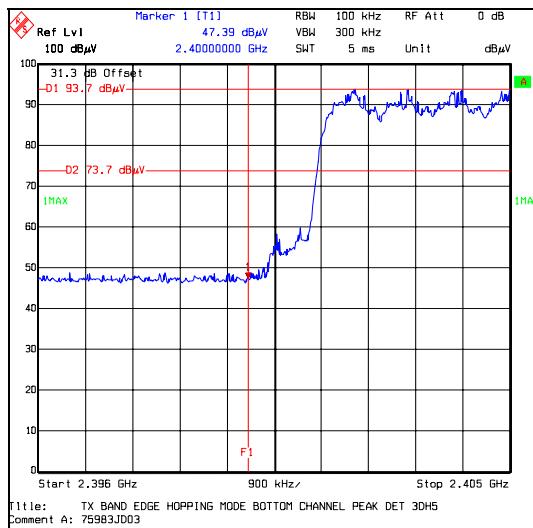
Mode DH5

Transmitter Band Edge Radiated Emissions (continued)



Mode 2DH5

Transmitter Band Edge Radiated Emissions (continued)



Mode 3DH5

Transmitter Band Edge Radiated Emissions (continued)**Results: Peak Power Level Static Mode DH5**

Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4000	Vertical	56.3	-0.2	56.1	74.6*	18.5	Complied
2.4835	Vertical	59.0	-0.3	58.7	74.0	15.3	Complied

* -20 dBc limit

Results: Average Power Level Static Mode DH5

Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4835	Vertical	45.3	-0.3	45.0	54.0	9.0	Complied

Results: Peak Power Level Static Mode 2DH5

Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4000	Vertical	48.5	-0.2	49.3	73.6*	24.3	Complied
2.4835	Vertical	60.9	-0.3	60.6	74.0	13.4	Complied

* -20 dBc limit

Results: Average Power Level Static Mode 2DH5

Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4835	Vertical	46.4	-0.3	46.1	54.0	7.9	Complied

Results: Peak Power Level Static Mode 3DH5

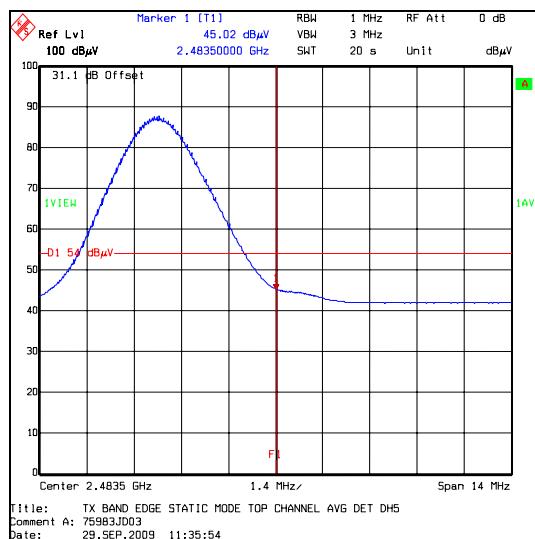
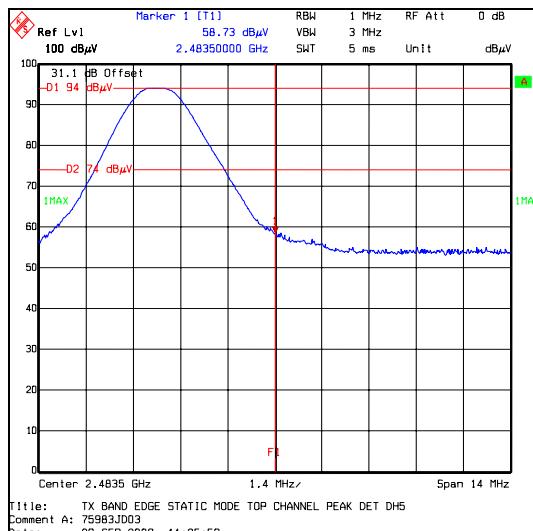
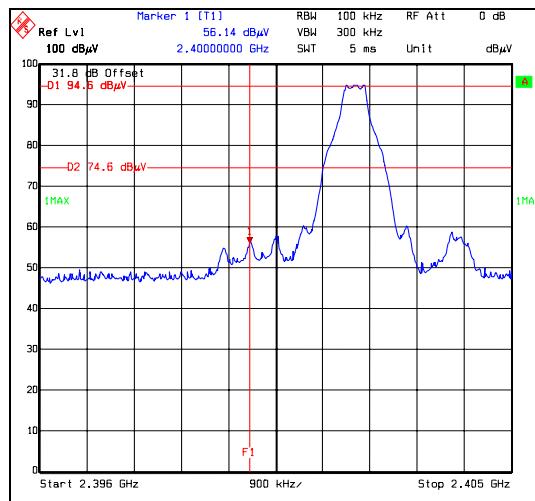
Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4000	Vertical	47.8	-0.2	47.6	73.6*	26.0	Complied
2.4835	Vertical	60.5	-0.3	60.2	74.0	13.8	Complied

* -20 dBc limit

Results: Average Power Level Static Mode 3DH5

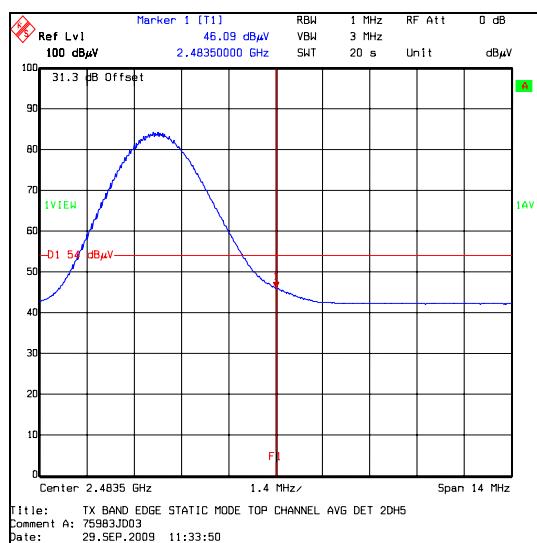
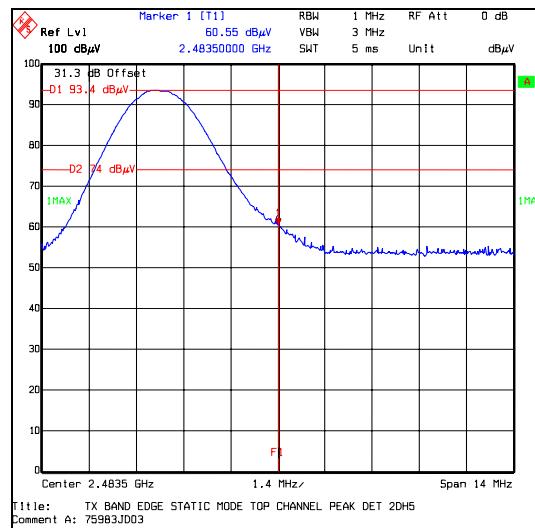
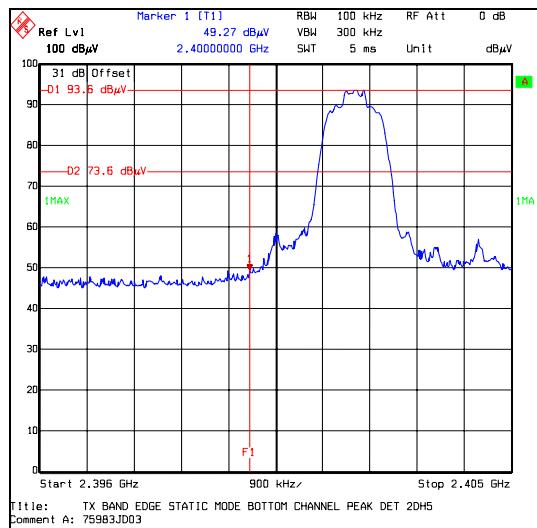
Frequency (MHz)	Antenna Polarity	Detector Level (dB μ V)	Transducer Factor (dB)	Actual Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2.4835	Vertical	46.3	-0.3	46.0	54.0	8.0	Complied

Transmitter Band Edge Radiated Emissions (continued)



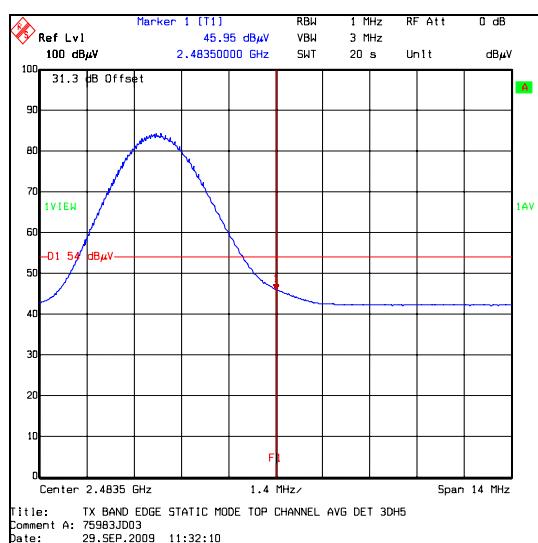
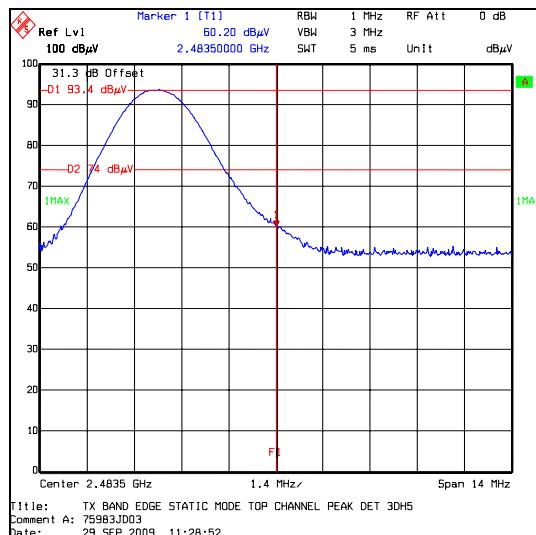
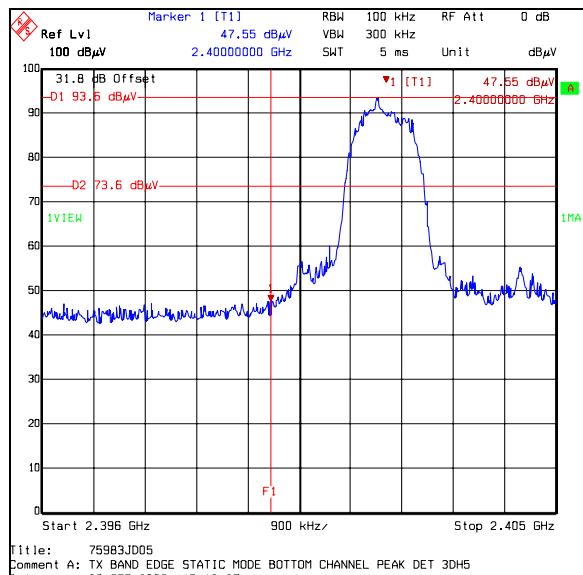
DH5

Transmitter Band Edge Radiated Emissions (continued)



2DH5

Transmitter Band Edge Radiated Emissions (continued)



3DH5

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
Carrier Frequency Separation	Not Applicable	95%	±0.92 ppm
Average Time of Occupancy	Not Applicable	95%	±0.3 ns
20 dB Bandwidth	Not Applicable	95%	±0.92 ppm
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)
A1299	Antenna	Schaffner	CBL6143	5094	13 Aug 2009	12
A1534	Pre Amplifier	Hewlett Packard	8449B OPT H02	3008A00405	Calibrated before use	-
A1818	Antenna	EMCO	3115	00075692	25 Oct 2008	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	05 Jan 2009	12
A649	LISN	Rohde & Schwarz	ESH3-Z5	825562/008	19 Mar 2009	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	01 Sep 2009	12
M1124	Spectrum Analyser	Rohde & Schwarz	ESIB26	100046K	09 Mar 2009	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	22 Apr 2009	12
M1269	Multimeter	Fluke	179	90250210	23 Jun 2009	12
M1379	Test Receiver	Rohde & Schwarz	ESIB7	100330	20 Aug 2009	12
M1447	CBT	Rohde & Schwarz	1153.9000.35	100329	19 Jan 2009	12

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