

TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: NTT docomo P-01B

To: FCC Part 22: 2008 Subpart H

Test Report Serial No:
RFI/RPT1/RP75983JD01B

This Test Report Is Issued Under The Authority Of Brian Watson, Operations Director:	
Checked By:	pp <i>R. Graham</i>
Signature:	<i>R. Graham</i>
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:	47CFR22
Specification Title:	Code of Federal Regulations, Part 22 (47CFR22) Public Mobile Services
Site Registration:	FCC: 209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire RG24 8AH, United Kingdom
Test Dates:	17 September 2009 to 29 September 2009

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Port Type	Result
Part 15.107	Receiver/Idle Mode AC Conducted Spurious Emissions	AC Mains	✓
Part 15.109	Receiver/Idle Mode Radiated Spurious Emissions	Enclosure	✓
Part 15.207	Transmitter AC Conducted Spurious Emissions	AC Mains	✓
Part 22.913(a)	Transmitter Effective Radiated Power (ERP)	Antenna	✓
Part 22.355	Transmitter Frequency Stability (Temperature & Voltage Variation)	Antenna	✓
Part 2.1049	Transmitter Occupied Bandwidth	Antenna	✓
Part 2.1053/22.917	Transmitter Out of Band Radiated Emissions	Antenna	✓
Part 2.1053/22.917	Transmitter Band Edge Radiated Emissions	Antenna	✓

Key to Results

✓ = Complied ✗ = Did not comply

2.3. Methods and Procedures

Reference:	ANSI/TIA-603-C-2004
Title:	Land Mobile Communications Equipment, Measurements and performance Standards
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.

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

Technology Tested:	UMTS		
Type of Radio Device:	Transceiver		
Mode:	UMTS FDD V and UMTS Release 5 HSDPA		
Modulation Type:	QPSK (UMTS / HSDPA)		
Channel Spacing:	5 MHz		
Power Supply Requirement(s):	Nominal	3.7 V	
	Minimum	3.4 V	
	Maximum	4.2 V	
Transmit Frequency Range:	824 to 849 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	4132	826.4
	Middle	4182	836.4
	Top	4233	846.6
Receive Frequency Range:	869 to 894 MHz		
Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	4357	871.4
	Middle	4407	881.4
	Top	4458	891.6

3.5. Support Equipment

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

Description:	Dummy Battery
Brand Name:	Not stated
Model Name or Number:	Not stated
Serial Number:	Not stated

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

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

- Receiver mode.
- Constantly transmitting at full power on bottom, middle and top channels as required.
- Occupied bandwidth, ERP and band edge tests were performed with the EUT in Voice (RMC/12.2 kbps) or HSDPA (Sets 1 to 4) modes.
- Transmitter radiated spurious emissions were checked in all modes during prescans. Voice (RMC/12.2 kbps) was found to be the worst case and all final measurements were performed with the EUT in this mode.

4.2. Configuration and Peripherals

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

- Connected to a UMTS Band V system simulator, operating in transceiver mode.
- Idle mode and transmitter mode radiated spurious emissions tests were performed with the mains charger connected to the EUT via 120 VAC supply as this was found to be the worst case during pre-scans. All accessories were individually connected and measurements made during pre-scans 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. Receive/Idle Mode AC Conducted Spurious Emissions

Test Summary:

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

Environmental Conditions:

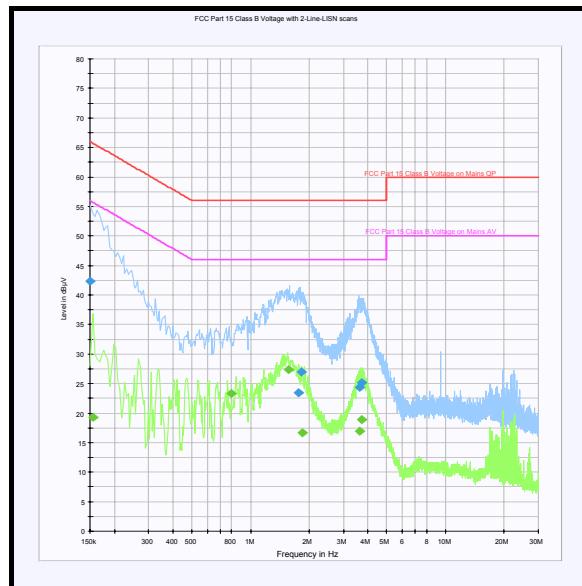
Temperature (°C):	29
Relative Humidity (%):	35

Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Quasi Peak Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.150000	Neutral	42.4	66.0	23.6	Complied
1.761000	Live	23.4	56.0	32.6	Complied
1.833000	Live	27.0	56.0	29.0	Complied
3.619500	Live	24.4	56.0	31.6	Complied
3.723000	Live	25.1	56.0	30.9	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.154500	Live	19.3	55.8	36.5	Complied
0.798000	Live	23.4	46.0	22.6	Complied
1.572000	Neutral	27.4	46.0	18.6	Complied
1.842000	Live	16.7	46.0	29.3	Complied
3.637500	Live	17.0	46.0	29.0	Complied
3.705000	Live	18.8	46.0	27.2	Complied

Receive/Idle Mode AC Conducted Spurious Emissions (continued)

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

5.2.2. Receive/Idle Mode Radiated Spurious Emissions

Test Summary:

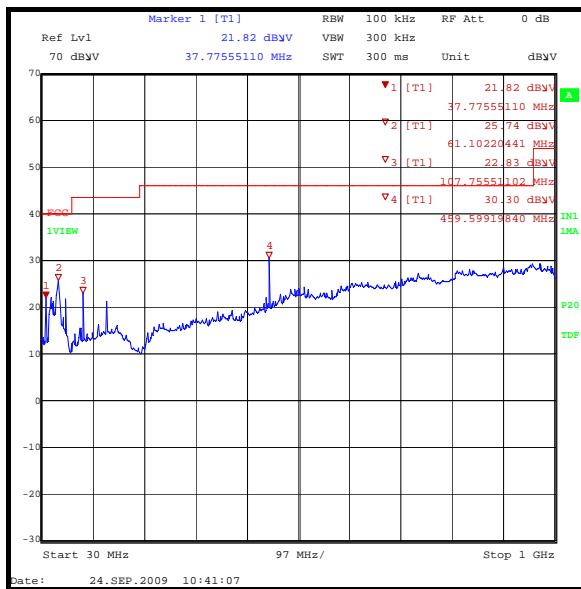
FCC Part:	15.109
Frequency Range:	30 MHz to 1000 MHz
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes

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

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

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

Environmental Conditions:

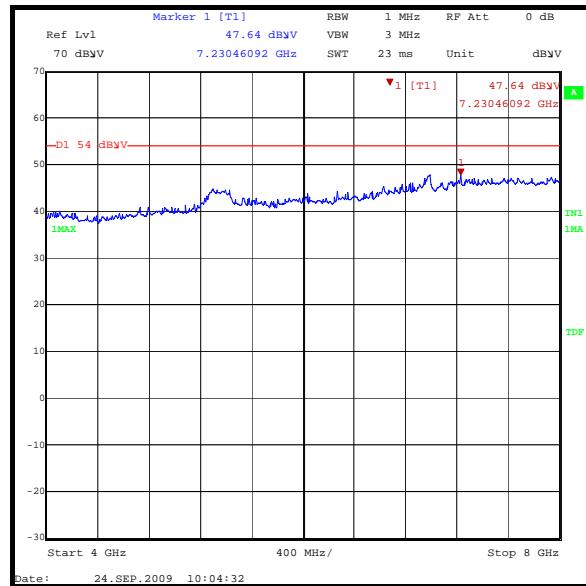
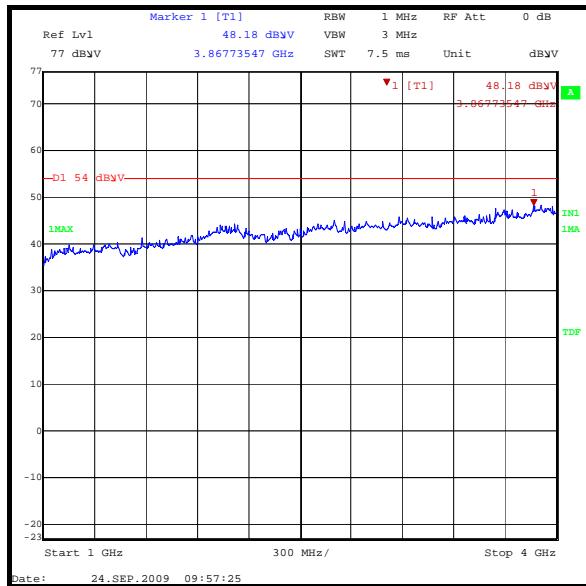
Temperature (°C):	26
Relative Humidity (%):	30

Results: Highest Peak Level

Frequency (GHz)	Antenna Polarity	Detector Level (dB μ V/m)	Transducer Factor (dB)	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
3.8677	Horizontal	51.7	-3.5	48.2	54.0	5.8	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.



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:

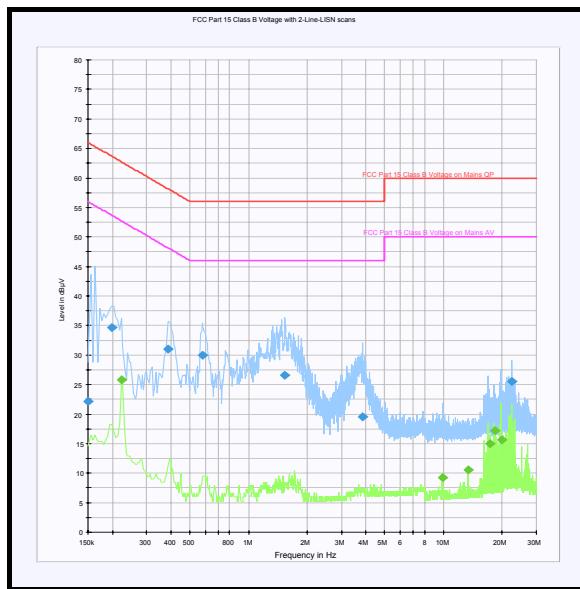
Temperature (°C):	29
Relative Humidity (%):	35

Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Quasi Peak Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.150000	Neutral	22.1	66.0	43.9	Complied
0.199500	Live	34.7	63.6	28.9	Complied
0.384000	Live	31.0	58.2	27.2	Complied
0.577500	Neutral	29.9	56.0	26.1	Complied
1.536000	Neutral	26.5	56.0	29.5	Complied
3.844500	Live	19.5	56.0	36.5	Complied
22.456500	Live	25.5	60.0	34.5	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.222000	Live	25.8	52.7	26.9	Complied
9.856500	Neutral	9.3	50.0	40.7	Complied
13.357500	Live	10.5	50.0	39.5	Complied
17.349000	Neutral	15.0	50.0	35.0	Complied
18.366000	Neutral	17.2	50.0	32.8	Complied
19.891500	Neutral	15.7	50.0	34.3	Complied

Transmitter AC Conducted Spurious Emissions (continued)

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

5.2.4. Transmitter Effective Radiated Power (ERP)**Test Summary:**

FCC Part:	22.913(a)
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.17.2

Environmental Conditions:

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

Results:

Modes		HSDPA				Voice			
Sets		1	2	3	4	RMC 12.2kbps			
Band	Channel	Power (dBm)	Power (dBm)	Power (dBm)	Power (dBm)	Power (dBm)	Limit (dBm)	Margin	Result
V (850)	4132	22.4	22.6	23.1	22.6	22.0	38.5	15.4	Complied
	4183	22.1	22.8	23.0	22.9	21.9	38.5	15.5	Complied
	4233	21.4	21.9	22.4	21.9	21.1	38.5	16.1	Complied
βc		2	12	15	15				
βd		15	15	8	4				
ΔACK, ΔNACK, ΔCQI		8	8	8	8				

Note(s):

1. All modes were compared on each channel and the highest power recorded was subtracted from the limit to show the margin.

5.2.5. Transmitter Frequency Stability (Temperature)**Test Summary:**

FCC Part:	22.355
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.2 referencing FCC CFR Part 2.1055

Environmental Conditions:

Temperature (°C):	30
Relative Humidity (%):	29

Results: Middle Channel (836.4 MHz)

Temperature (°C)	Measured Frequency (MHz)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Margin (ppm)	Result
-30	836.400034	34	0.04	2.5	2.46	Complied
-20	836.400037	37	0.04	2.5	2.46	Complied
-10	836.400036	36	0.04	2.5	2.46	Complied
0	836.400032	32	0.04	2.5	2.46	Complied
10	836.400028	28	0.03	2.5	2.47	Complied
20	836.399982	-18	0.02	2.5	2.48	Complied
30	836.399966	-34	0.04	2.5	2.46	Complied
40	836.399965	-35	0.04	2.5	2.46	Complied
50	836.399967	-33	0.04	2.5	2.46	Complied

5.2.6. Transmitter Frequency Stability (Voltage Variation)**Test Summary:**

FCC Part:	22.355
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.2 referencing FCC CFR Part 2.1055

Environmental Conditions:

Temperature (°C):	28
Relative Humidity (%):	31

Results: Middle Channel (836.4 MHz)

Supply Voltage (V)	Measured Frequency (MHz)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Margin (ppm)	Result
3.4	836.399986	-32	0.04	2.5	2.46	Complied
4.2	836.399974	-26	0.03	2.5	2.47	Complied

5.2.7. Transmitter Occupied Bandwidth

Test Summary:

FCC Part:	2.1049
Test Method Used:	As detailed in ANSI C63.4 Section 13.1.7 and relevant annexes referencing FCC CFR Part 2.1049 (see note below)

Environmental Conditions:

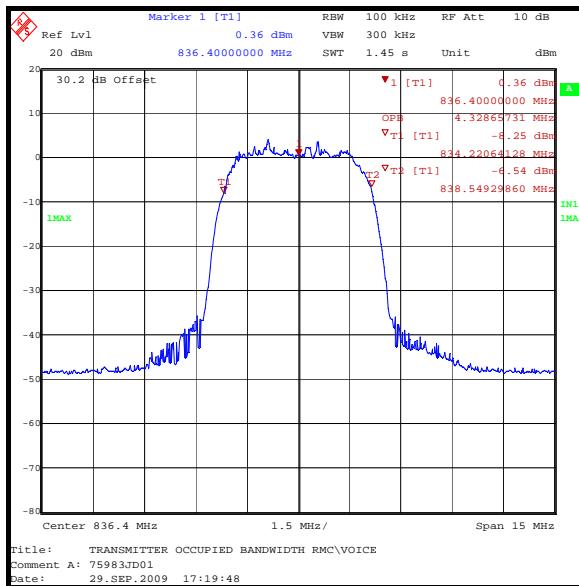
Temperature (°C):	27
Relative Humidity (%):	32

Results: RMC/Voice

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4328.657

Note(s):

1. In lieu of the test method detailed in ANSI C63.4 Section 13.1.7 the 99% occupied bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser



Transmitter Occupied Bandwidth (continued)**Results: HSDPA 1**

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4298.597

Note(s):

1. In lieu of the test method detailed in ANSI C63.4 Section 13.1.7 the 99% occupied bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser

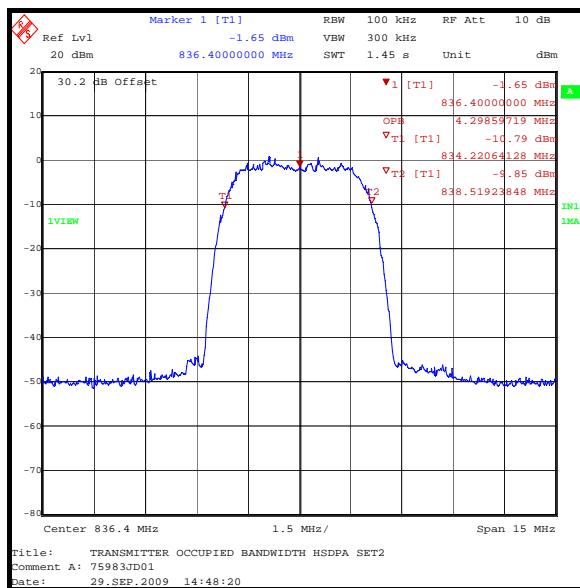


Transmitter Occupied Bandwidth (continued)**Results: HSDPA 2**

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4298.597

Note(s):

1. In lieu of the test method detailed in ANSI C63.4 Section 13.1.7 the 99% occupied bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser

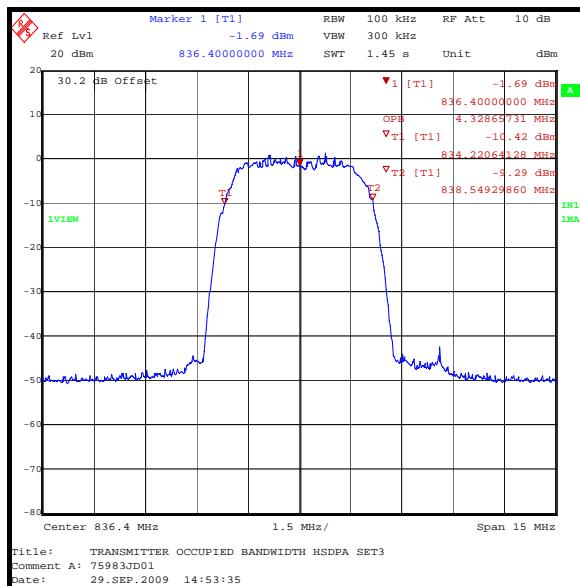


Transmitter Occupied Bandwidth (continued)**Results: HSDPA 3**

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4328.657

Note(s):

1. In lieu of the test method detailed in ANSI C63.4 Section 13.1.7 the 99% occupied bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser

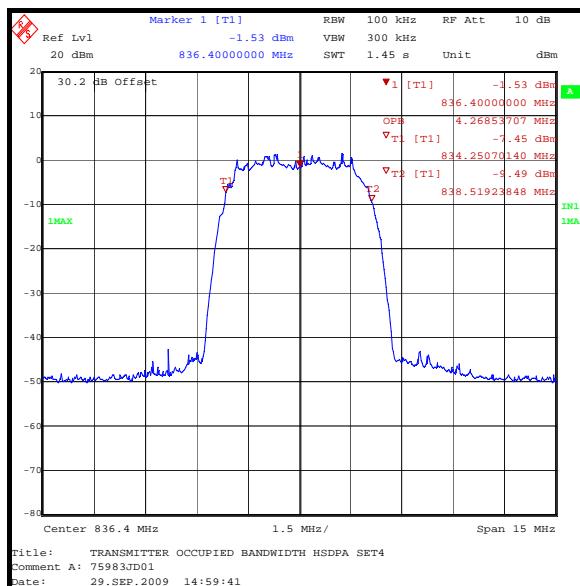


Transmitter Occupied Bandwidth (continued)**Results: HSDPA 4**

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4268.537

Note(s):

1. In lieu of the test method detailed in ANSI C63.4 Section 13.1.7 the 99% occupied bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser



5.2.8. Transmitter Out of Band Radiated Emissions**Test Summary:**

FCC Part:	2.1053 & 22.917
Frequency Range:	30 MHz to 12.75 GHz
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Part 2.1053
Modulation:	Voice / RMC 12.2 kbps

Environmental Conditions:

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

Results: Bottom Channel

Frequency (GHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
4.137	-36.8	-13.0	23.8	Complied

Results: Middle Channel

Frequency (GHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
4.187	-35.2	-13.0	22.5	Complied

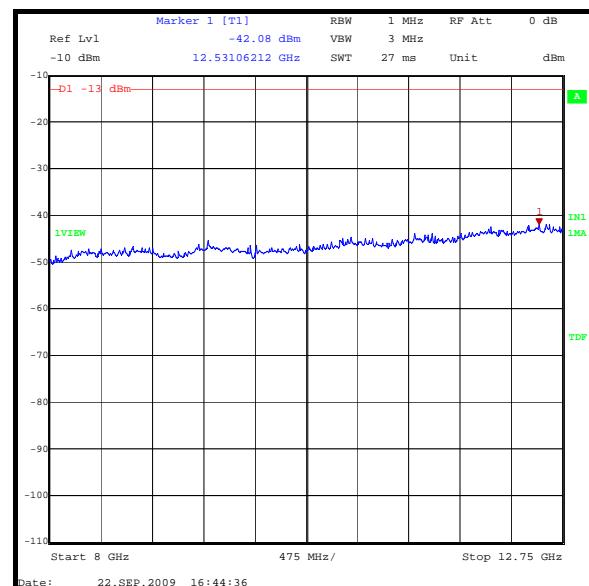
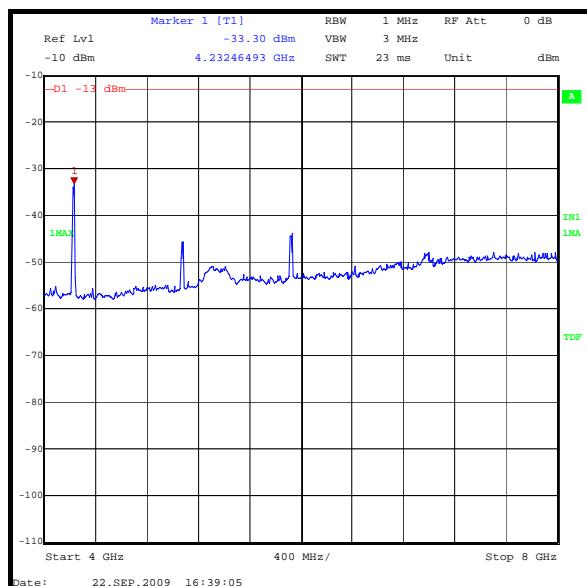
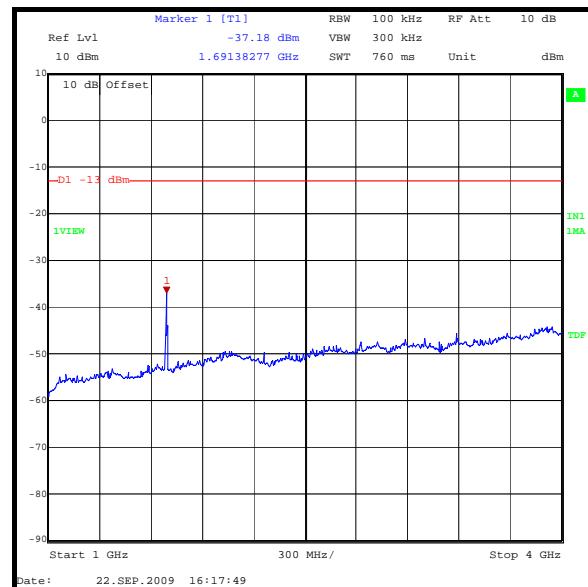
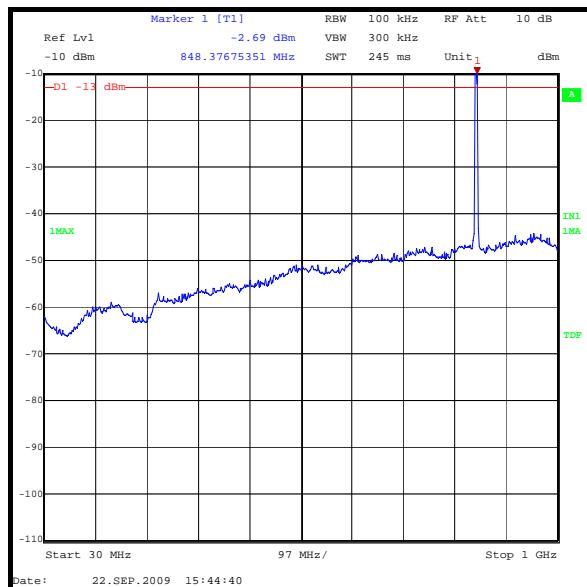
Results: Top Channel

Frequency (GHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
4.228	-33.6	-13.0	20.6	Complied

Note(s):

1. The carrier is shown at approximately 848 MHz on the 30 MHz to 1 GHz plot.
2. Final measurements were made with appropriate RF filters and attenuators where required.

Transmitter Out of Band Radiated Emissions (continued)



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

5.2.9. Transmitter Radiated Emissions at Band Edges

Test Summary:

FCC Part:	2.1053 & 22.917
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 22.917
Modulation:	RMC/Voice

Environmental Conditions:

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

Results: Bottom Band Edge

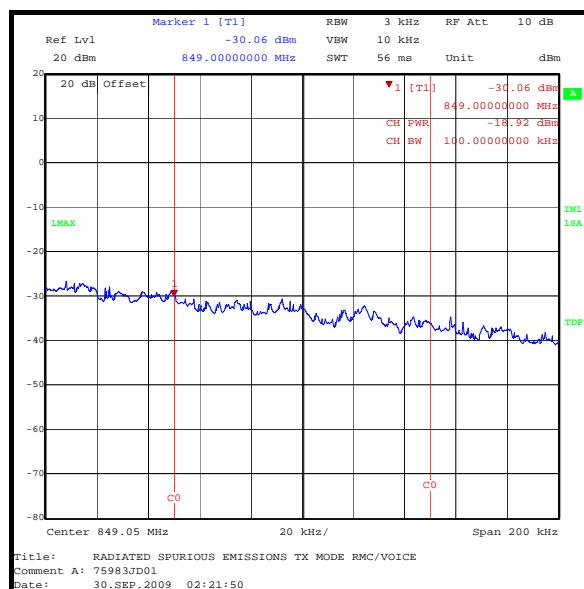
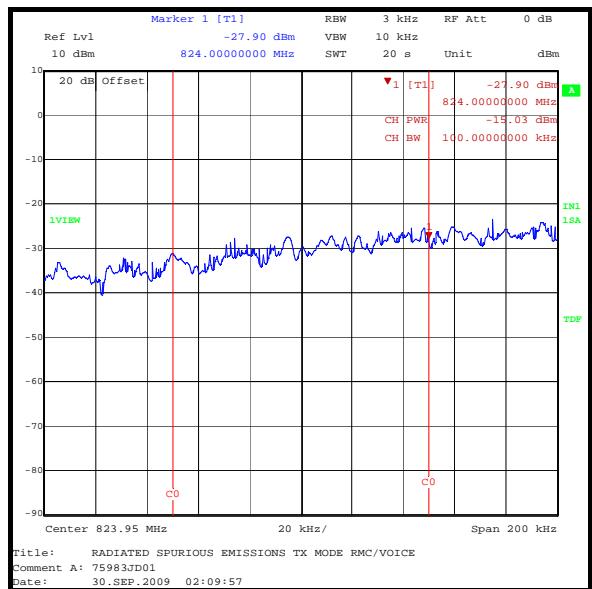
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-15.0	-13.0	2.0	Complied

Results: Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-18.9	-13.0	5.9	Complied

Note(s):

1. The band edge result was obtained by integrating the 100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.



Transmitter Radiated Emissions at Band Edges (continued)**Test Summary:**

FCC Part:	2.1053 & 22.917
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 22.917
Modulation:	HSDPA 1

Environmental Conditions:

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

Results: Bottom Band Edge

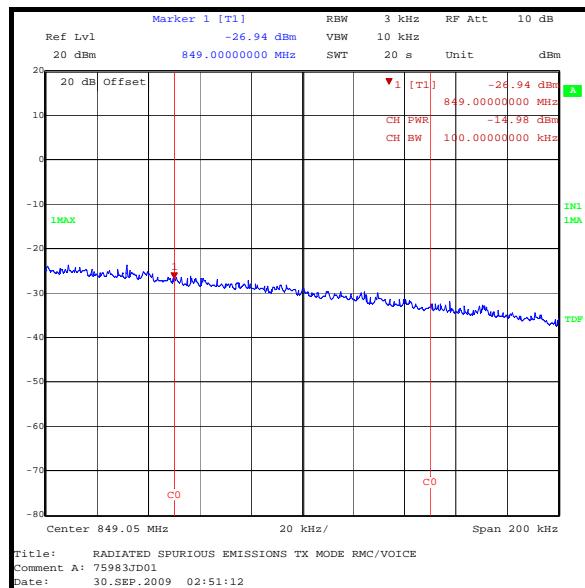
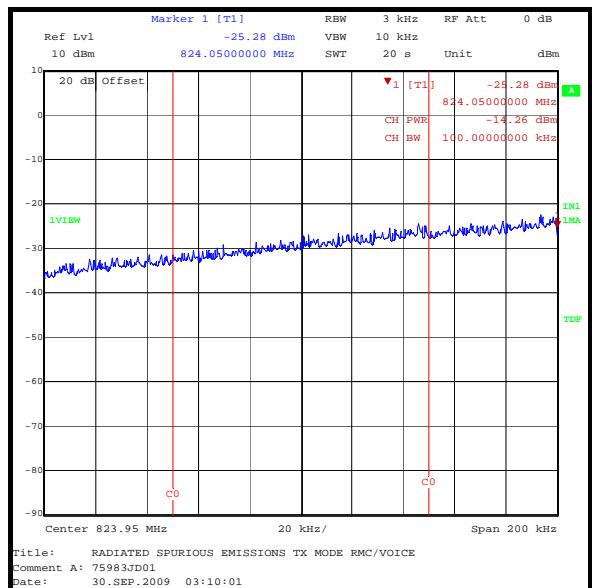
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-14.3	-13.0	1.3	Complied

Results: Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-15.0	-13.0	2.0	Complied

Note(s):

1. The band edge result was obtained by integrating the 100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.



Transmitter Radiated Emissions at Band Edges (continued)

Test Summary:

FCC Part:	2.1053 & 22.917
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 22.917
Modulation:	HSDPA 2

Environmental Conditions:

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

Results: Bottom Band Edge

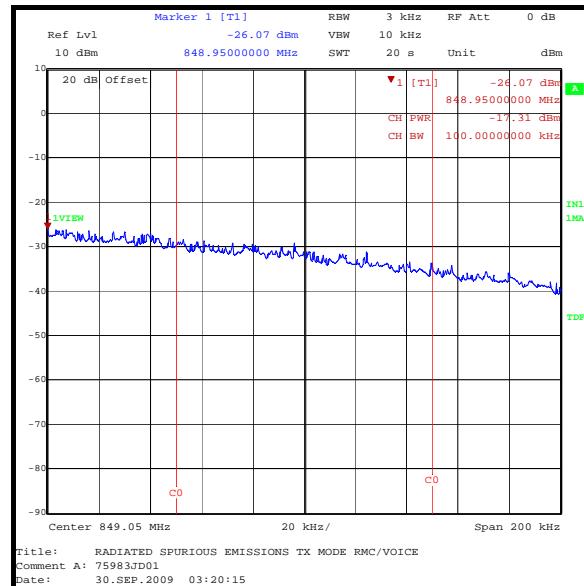
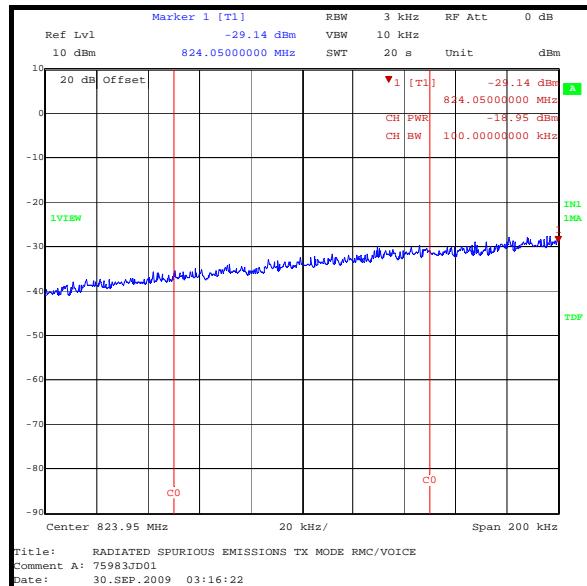
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-18.9	-13.0	5.9	Complied

Results: Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-17.3	-13.0	4.3	Complied

Note(s):

1. The band edge result was obtained by integrating the 100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.



Transmitter Radiated Emissions at Band Edges (continued)**Test Summary:**

FCC Part:	2.1053 & 22.917
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 22.917
Modulation:	HSDPA 3

Environmental Conditions:

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

Results: Bottom Band Edge

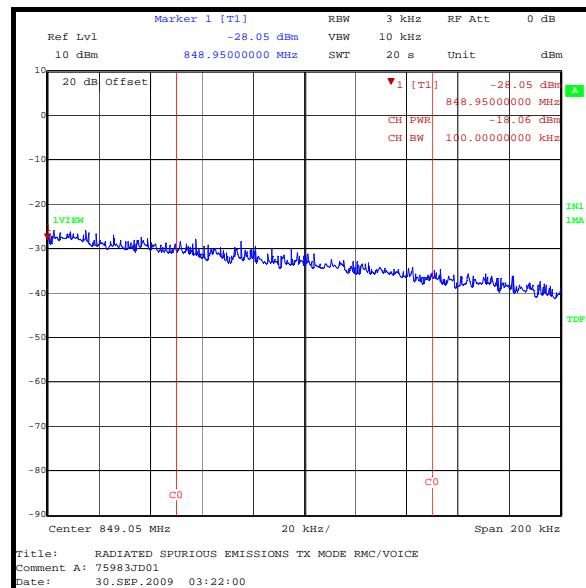
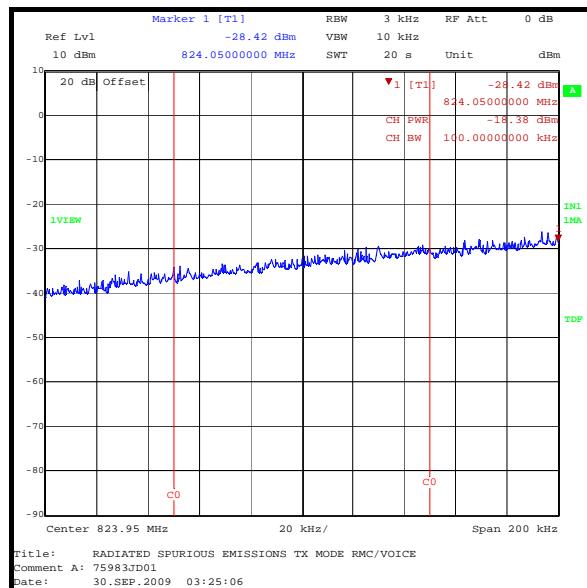
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	18.4	-13.0	5.4	Complied

Results: Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-18.1	-13.0	5.1	Complied

Note(s):

1. The band edge result was obtained by integrating the 100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.



Transmitter Radiated Emissions at Band Edges (continued)**Test Summary:**

FCC Part:	2.1053 & 22.917
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 22.917
Modulation:	HSDPA 4

Environmental Conditions:

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

Results: Bottom Band Edge

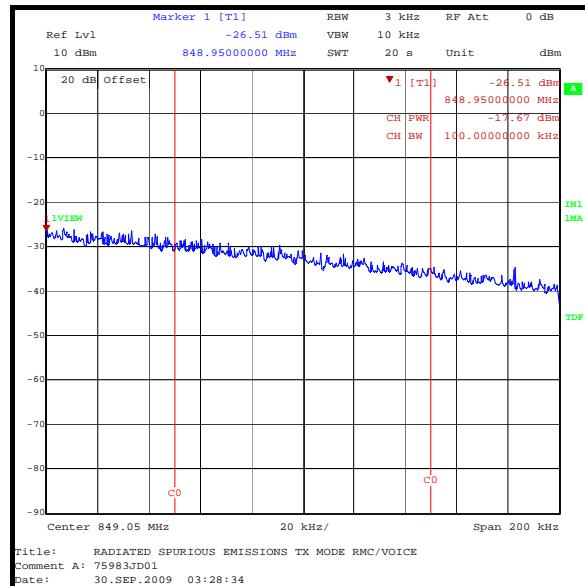
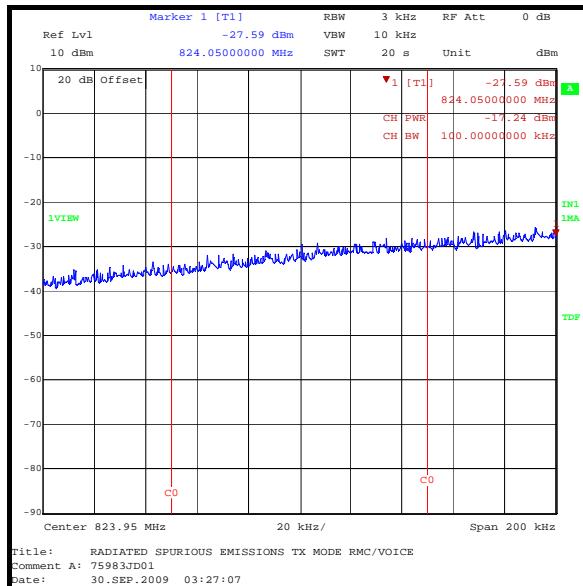
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-17.2	-13.0	4.2	Complied

Results: Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-17.7	-13.0	4.7	Complied

Note(s):

1. The band edge result was obtained by integrating the 100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.



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
Effective Radiated Power (ERP)	Not applicable	95%	±2.94 dB
Frequency Stability	Not applicable	95%	±0.92 ppm
Occupied Bandwidth	Not applicable	95%	±0.92 ppm
Radiated Spurious Emissions	30 MHz to 26 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)
A1141	Directional Coupler	Hewlett Packard	11691D	1212A02494	Calibrated before use	-
A1392	Attenuator	Huber + Suhner	757456	6820.17.B	Calibrated before use	
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
A1975	High Pass Filter	AtlanTecRF	AFH-03000	090424010	Calibrated before use	12
A288	Antenna	Chase	CBL6111A	1589	13 Mar 2009	12
A649	LISN	Rohde & Schwarz	ESH3-Z5	825562/008	19 Mar 2009	12
E013	Environmental Chamber	Sanyo	ATMOS chamber	None	Calibrated before use	-
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	01 Sep 2009	12
L0990	Comms Test Set	R&S	CMU 200	S220447	18 Feb 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
S021	DC Power Supply	Thurlby Thandar	CPX200	061034	Calibrated before use	-

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