TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: SoftBank 001P

FCC ID: UCE210035A

To: FCC Part 15.225: 2010 Subpart C

Test Report Serial No:
RFI-RPT-RP79566JD05A V3.0

Version 3.0 supersedes all previous versions

This Test Report Is Issued Under The Authority Of Chris Guy, Head of Global Approvals: 	
Checked By:	A. Henriques
Signature: 	
Date of Issue:	14 December 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:	47CFR15.225
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart C (Radio Frequency Devices) - Section 15.225
Specification Reference:	47CFR15.107 and 47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart B (Radio Frequency Devices) - Sections 15.107 and 15.109
Specification Reference:	47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart C (Intentional Radiators) - Section 15.209
Site Registration:	209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	13 November 2010 to 18 November 2010

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.107(a)	Receiver/Idle Mode AC Conducted Spurious Emissions	✓
Part 15.109	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.225(a)(b)(c)(d)	Transmitter Fundamental Field Strength	✓
Part 15.209(a), 15.225(d)	Transmitter Radiated Spurious Emissions	✓
Part 15.209(a), 15.225(c)(d)	Transmitter Band Edge Radiated Emissions	✓
Part 2.1049	Transmitter 20 dB Bandwidth	✓
Part 15.225(e)	Transmitter Frequency Stability (Temperature & Voltage Variation)	✓

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
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:	RFID	
Category of Equipment:	Transceiver	
Channel Spacing:	Single channel device	
Transmit Frequency Range:	13.56 MHz	
Receive Frequency Range:	13.56 MHz	
Power Supply Requirement:	Nominal	3.7 V
	Minimum	3.4 V
	Maximum	4.2 V
Tested Temperature Range:	Minimum	-20°C
	Maximum	50°C

3.5. Support Equipment

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

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

Brand Name:	Not marked or stated
Description:	Dummy battery
Model Name or Number:	Not marked or stated

Brand Name:	Sony
Description:	Laptop PC
Model Name or Number:	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):

- Receiver/Idle mode
- Constantly transmitting at full power with a modulated carrier in RFID test mode.

4.2. Configuration and Peripherals

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

- The RFID transmitter test mode was enabled by running a proprietary application on the laptop PC supplied by the client.
- Receiver Idle/standby mode radiated spurious emission tests were performed with the AC Charger connected to the EUT 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.
- Transmitter radiated spurious emission tests were performed with the Personal Hands Free connected to the EUT as this was found to be the worst case during pre-scans. All appropriate accessories were individually connected and measurements made during pre-scans to determine the worst case combination.
- As the EUT is not capable of transmitting while charging in RFID test mode, no AC Mains conducted emissions (150 kHz to 30 MHz) tests were performed in transmit mode.

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 Uncertainties* 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:

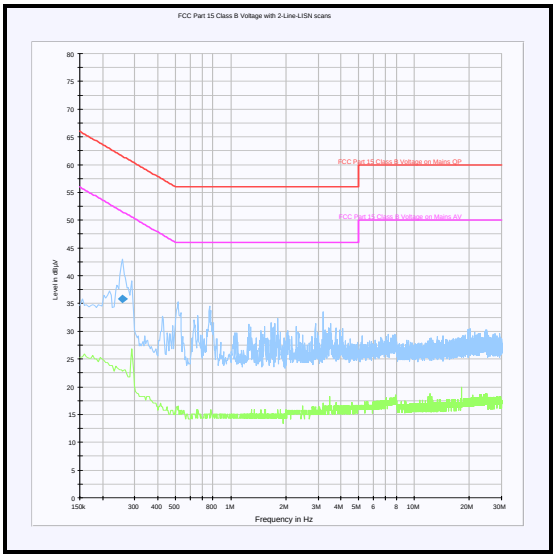
Temperature (°C):	25
Relative Humidity (%):	25

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:**	13 November 2010 / 14 November 2010
Test Sample IMEI:	004401221005610		

FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3, 6.4 and 6.5 referencing ANSI C63.4
Frequency Range:	9 kHz to 1000 MHz

Environmental Conditions:

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

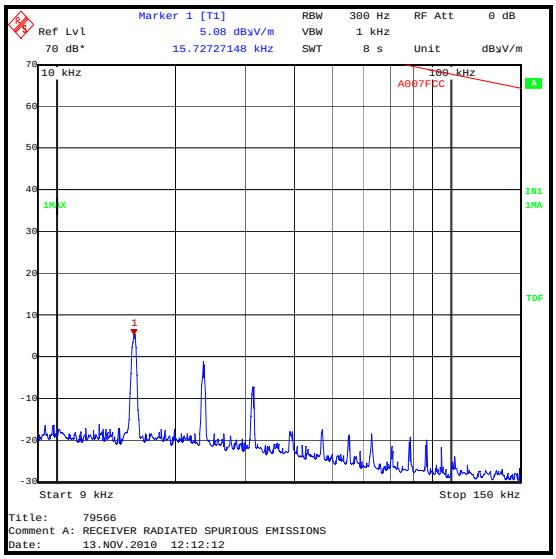
Results: Quasi Peak

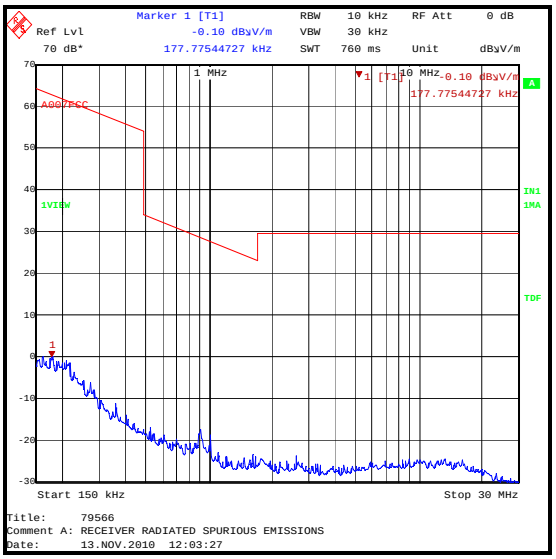
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
50.369	Vertical	26.1	40.0	13.9	Complied
107.592	Vertical	24.5	43.5	19.0	Complied
458.795	Vertical	28.1	46.0	17.9	Complied

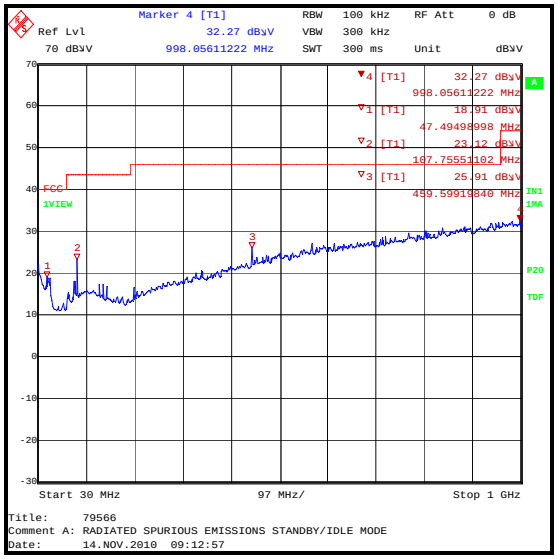
Note(s):

1. Limits below 30 MHz are specified at a test distance of 30 metres, whilst below 0.49 MHz they are specified at a test distance of 300 metres. However, as specified by FCC Section 15.31 (f)(2), measurements may be performed at a closer distance and the measured level corrected to the specified measurement distance by using the square of an inverse linear distance extrapolation factor (40dB/decade).
2. A transducer factor on the measuring instrument was used to extrapolate the results at 3 metres to a distance of 30 metres where required. A distance extrapolation factor of 40 dB was used.
3. Final measurement values include corrections for antenna factor and cable losses.
4. All emissions on the 9 kHz to 150 kHz plot were investigated and found to be radiating from the test site turntable.
5. All other emissions shown on the pre-scan plots were investigated and found to be >20 dB below the applicable limit or below the measurement noise floor.

Receiver/Idle Mode Radiated Spurious Emissions (continued)







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5.2.3. Transmitter Fundamental Field Strength

Test Summary:

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

FCC Part:	15.225(a)(b)(c)(d)
Test Method Used:	ANSI C63.10 Section 6.4

Environmental Conditions:

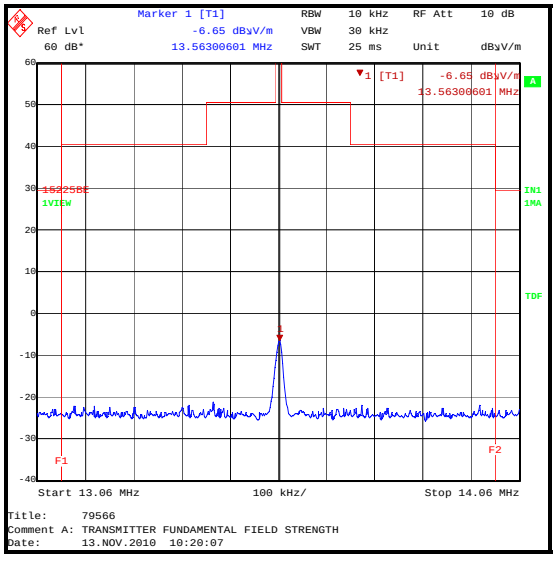
Temperature (°C):	26
Relative Humidity (%):	24

Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit at 30 m (dBµV/m)	Margin (dB)	Result
13.56	90° to EUT	-7.1	84.0	91.1	Complied

Note(s):

1. The limit is specified at a test distance of 30 metres. However, as specified by FCC Section 15.31 (f)(2), measurements may be performed at a closer distance and the measured level corrected to the specified measurement distance by using the square of an inverse linear distance extrapolation factor (40dB/decade).
2. A transducer factor on the measuring instrument was used to extrapolate the results at 3 metres to a distance of 30 metres. A distance extrapolation factor of 40 dB was used.



5.2.4. Transmitter Radiated Spurious Emissions

Test Summary:

Test Engineer:	Ian Watch	**Test Date:**	13 November 2010 / 14 November 2010
Test Sample IMEI:	004401221005610		

FCC Part:	15.225(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3, 6.4 and 6.5 referencing ANSI C63.4
Frequency Range:	9 kHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	27

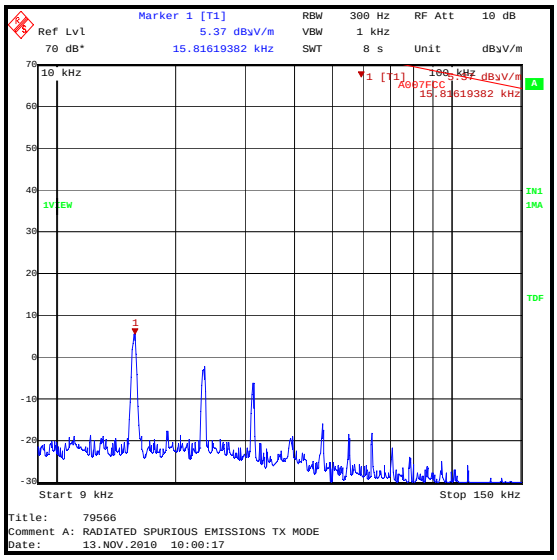
Results: Quasi Peak

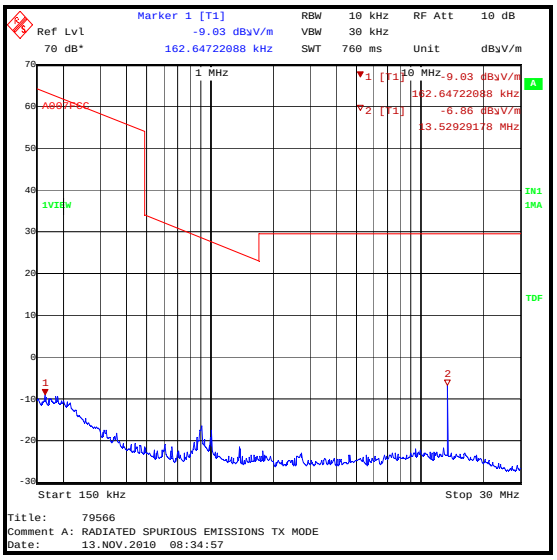
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
67.798	Horizontal	31.2	40.0	8.8	Complied
149.156	Vertical	29.1	43.5	14.4	Complied
718.657	Vertical	34.2	46.0	11.8	Complied
881.404	Vertical	37.2	46.0	8.8	Complied
908.515	Vertical	38.1	46.0	7.9	Complied

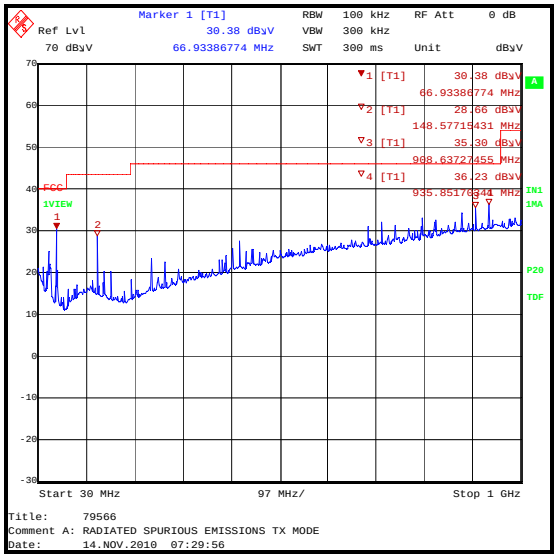
Note(s):

1. Limits below 30 MHz are specified at a test distance of 30 metres, whilst below 0.49 MHz they are specified at a test distance of 300 metres. However, as specified by FCC Section 15.31 (f)(2), measurements may be performed at a closer distance and the measured level corrected to the specified measurement distance by using the square of an inverse linear distance extrapolation factor (40dB/decade).
2. A transducer factor on the measuring instrument was used to extrapolate the results at 3 metres to a distance of 30 metres where required. A distance extrapolation factor of 40 dB was used.
3. Final measurement values include corrections for antenna factor and cable losses.
4. The emission shown at approximately 13.56 MHz is the fundamental.
5. All emissions on the 9 kHz to 150 kHz plot were investigated and found to be radiating from the test site turntable.
6. All other emissions shown on the pre-scan plots were investigated and found to be >20 dB below the applicable limit or below the measurement system noise floor.

Transmitter Radiated Spurious Emissions (continued)







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

5.2.5. Transmitter Band Edge Radiated Emissions

Test Summary:

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

FCC Part:	15.225(c)(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.2

Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	25

Results: Quasi Peak Lower Band Edge

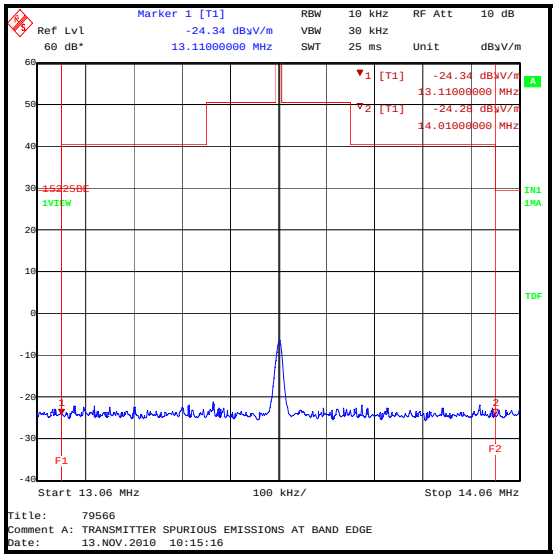
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
13.11	-24.3	29.5	53.8	Complied

Results: Quasi Peak Upper Band Edge

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
14.01	-24.3	29.5	53.8	Complied

Note(s):

1. A transducer factor on the measuring instrument was used to extrapolate the results at 3 metres to a distance of 30 metres where required. A distance extrapolation factor of 40 dB was used.



5.2.6. Transmitter 20 dB Bandwidth

Test Summary:

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

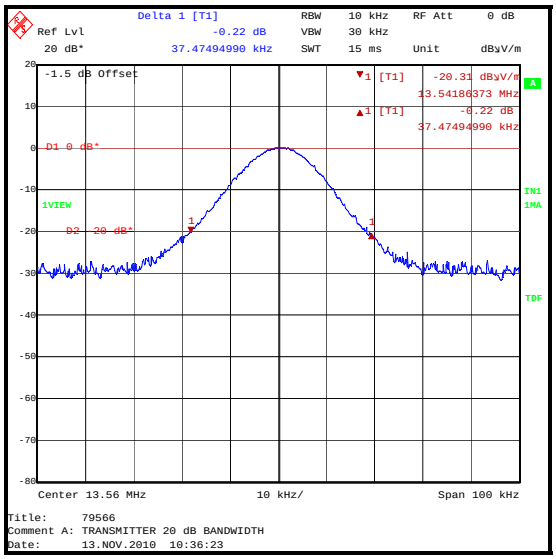
FCC Part:	2.1049
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.1

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	24

Results:

20 dB Bandwidth (kHz)
37.475



5.2.7. Transmitter Frequency Stability (Temperature & Voltage Variation)

Test Summary:

Test Engineer:	Ian Watch	**Test Date:**	18 November 2010
Test Sample IMEI:	004401221005610		

FCC Part:	15.225(e)
Test Method Used:	As detailed in ANSI C63.10 Section 6.8.1 and 6.8.2

Environmental Conditions:

Ambient Temperature (°C):	20
Ambient Relative Humidity (%):	34

Results: Maximum frequency error of the EUT with variations in ambient temperature

Temperature (°C)	Time after Start-up			
	0 minutes	**2 minutes**	**5 minutes**	**10 minutes**
-20	13.560099 MHz	13.560097 MHz	13.560095 MHz	13.560093 MHz
20	13.560008 MHz	13.599999 MHz	13.559995 MHz	13.559996 MHz
50	13.559890 MHz	13.559888 MHz	13.559886 MHz	13.559885 MHz

Frequency with Worst Case Deviation (MHz)	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Margin (%)	Result
13.559885	115	0.000848	0.01	0.009152	Complied

Results: Maximum frequency error of the EUT with variations in nominal operating voltage at an ambient temperature of 20°C

Supply Voltage (V)	Nominal Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (Hz)	Frequency Error (%)	Limit (%)	Margin (%)	Result
3.4	13.56	13.559996	4	0.000029	0.01	0.009971	Complied
3.7	13.56	13.560008	8	0.000059	0.01	0.009941	Complied
4.2	13.56	13.559995	5	0.000037	0.01	0.009963	Complied

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
20 dB Bandwidth	13 MHz to 14 MHz	95%	±0.92 ppm
Frequency Stability	13 MHz to 14 MHz	95%	±0.92 ppm
Radiated Spurious Emissions	9 kHz to 30 MHz	95%	±3.53 dB
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	±2.94 dB
Transmitter Fundamental Field Strength	13 MHz to 14 MHz	95%	±3.53 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)
A007	Antenna	Rohde & Schwarz	HFH2-Z2	880 458/020	29 Mar 2011	12
A1069	LISN	Rohde & Schwarz	ESH3-Z5	837469/012	13 Apr 2011	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	01 Mar 2011	12
A288	Antenna	Chase	CBL6111A	1589	05 Sep 2011	12
E0513	Environmental Chamber	TAS	LT600	23900506	Calibrated before use	-
K0001	5m Semi-Anechoic Chamber	Rainford EMC	N/A	N/A	25 Apr 2011	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	05 Sep 2011	12
M1068	Thermometer	Iso-Tech	RS55	93102884	10 Nov 2011	12
M1124	Test Receiver	Rohde & Schwarz	ESI26	100046K	22 Apr 2011	12
M1229	Digital Multimeter	Fluke	179	87640015	15 Jul 2011	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	28 Jun 2011	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	01 Apr 2011	12
M1379	Test Receiver	Rohde & Schwarz	ESIB7	100330	26 Aug 2011	12
S0536	Power Supply	TTI	EL302D	249944	Calibrated before use	-

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