

TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: Softbank EB-3238

FCC ID: UCE211049A

To: FCC Part 24: 2011 Subpart E

Test Report Serial No.:
RFI-RPT-RP87154JD02A V3.0

Version 3.0 Supersedes All Previous Versions

This Test Report Is Issued Under The Authority
Of John Newell, Group Quality Manager:



Checked By:	Steven White
Signature:	
Date of Issue:	31 May 2012

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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:	47CFR24
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2011: Part 24 Subpart E (Personal Communication Services)
Specification Reference:	47CFR15.107 and 47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2011: Part 15 Subpart B (Unintentional Radiators) - Sections 15.107 and 15.109
Site Registration:	FCC: 209735
Location of Testing:	RFI Global Services, Wade Road, Basingstoke, Hampshire, RG24 8AH
Test Dates:	20 April 2012 to 15 May 2012

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 24		
Part 15.107(a)	Receiver/Idle Mode AC Conducted Spurious Emissions	✓
Part 15.109	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 24.232	Transmitter Output Power (EIRP)	✓
Part 2.1055/24.235	Transmitter Frequency Stability (Temperature and Voltage Variation)	✓
Part 2.1049	Transmitter Occupied Bandwidth	✓
Part 2.1053/24.238	Transmitter Out of Band Radiated Emissions	✓
Part 2.1053/24.238	Transmitter Band Edge Radiated Emissions	✓
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 (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.

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:	EB-3238
IMEI:	004401221227289 (<i>Radiated sample</i>) 004401221227123 (<i>Conducted RF port sample</i>)
Hardware Version Number:	Rev C
Software Version Number:	ACPU: B-S21CS1-007.01.001 CCPU: Cv4A000303
FCC ID:	UCE211049A

Brand Name:	Softbank
Description:	AC Charger
Model Name or Number:	ZTDA1

Brand Name:	Softbank
Description:	Data cable
Model Name or Number:	ZTFE01

Brand Name:	Softbank
Description:	Personal Hands-Free
Model Name or Number:	ZTCK01/ZTBBA1

3.2. Description of EUT

The equipment under test was Dual Mode UMTS/GSM Mobile Phone with *Bluetooth*.

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:	PCS1900		
Maximum Output Power (EIRP):	GSM	29.9 dBm	
	GPRS	29.8 dBm	
Transmit Frequency Range:	1850 to 1910 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	512	1850.2
	Middle	660	1879.8
	Top	810	1909.8
Receive Frequency Range:	1930 to 1990 MHz		
Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	512	1930.2
	Middle	660	1959.8
	Top	810	1989.8

3.5. Support Equipment

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

Description:	Not stated
Brand Name:	Micro SD Memory Card
Model Name or 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/Idle mode.
- Constantly transmitting at full power on bottom, middle and top channels as required.
- Occupied bandwidth, ERP/EIRP and band edge tests were performed with the EUT in GSM single timeslot circuit switched and GPRS Class10. The EUT output power was initially checked when transmitting at maximum power on one, two, three and four timeslots. The highest power was observed when transmitting on one timeslot.
- Transmitter radiated spurious emissions were checked in all modes during pre-scans. Circuit switched voice 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):

- The conducted sample with IMEI 004401221227123 was used for frequency stability measurements.
- The conducted sample with IMEI 004401221227123 was used for occupied bandwidth measurements.
- The radiated sample with IMEI 004401221227289 was used for all radiated measurements.
- Idle mode and transmitter mode radiated spurious emissions tests were performed with the AC charger connected to the EUT.
- Connected to a GSM/GPRS/EGPRS system simulator, operating in transceiver 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 Uncertainty* for details.

5.2. Test Results - Part 24

5.2.1. Receiver/Idle Mode AC Conducted Spurious Emissions

Test Engineer:	Nick Steele	Test Date:	24 April 2012
Test Sample IMEI:	004401221227289		

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

Environmental Conditions:

Temperature (°C):	19
Relative Humidity (%):	42

Results: Live / Quasi Peak

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.168000	Live	42.2	65.1	22.9	Complied
0.168000	Live	39.5	65.1	25.6	Complied
0.195000	Live	47.2	63.8	16.6	Complied
0.361500	Live	30.5	58.7	28.2	Complied
0.397500	Live	32.7	57.9	25.2	Complied
1.617000	Live	22.8	56.0	33.2	Complied

Results: Live / Average

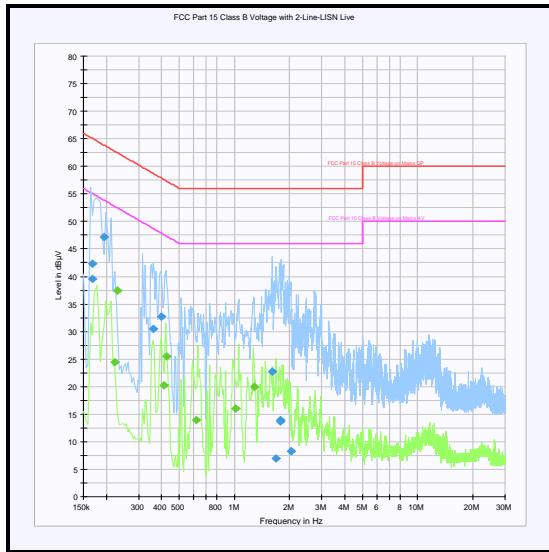
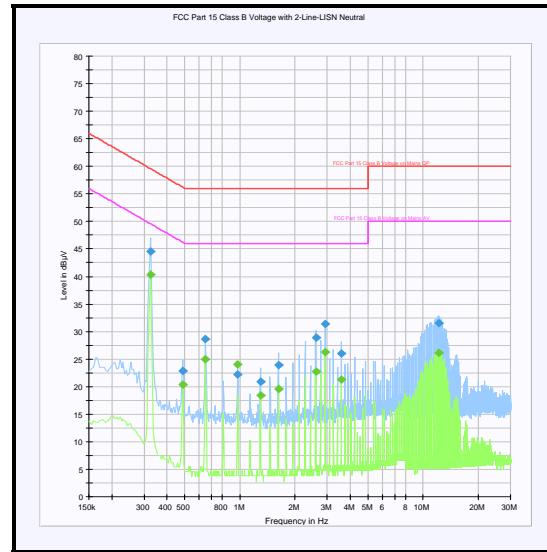
Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.222000	Live	24.5	52.7	28.2	Complied
0.231000	Live	37.5	52.4	14.9	Complied
0.411000	Live	20.2	47.6	27.4	Complied
0.429000	Live	25.5	47.3	21.8	Complied
1.018500	Live	16.1	46.0	29.9	Complied
1.293000	Live	20.0	46.0	26.0	Complied

Receiver/Idle Mode AC Conducted Spurious Emissions (continued)**Results: Neutral / Quasi Peak**

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.325500	Neutral	44.5	59.6	15.1	Complied
0.649500	Neutral	28.6	56.0	27.4	Complied
1.621500	Neutral	23.9	56.0	32.1	Complied
2.598000	Neutral	28.9	56.0	27.1	Complied
2.922000	Neutral	31.4	56.0	24.6	Complied
12.174000	Neutral	31.5	60.0	28.5	Complied

Results: Neutral / Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.325500	Neutral	40.4	49.6	9.2	Complied
0.649500	Neutral	25.0	46.0	21.0	Complied
0.973500	Neutral	24.0	46.0	22.0	Complied
2.598000	Neutral	22.7	46.0	23.3	Complied
2.922000	Neutral	26.3	46.0	19.7	Complied
12.174000	Neutral	26.1	50.0	23.9	Complied

Receiver/Idle Mode AC Conducted Spurious Emissions (continued)**Live****Neutral**

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

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

Test Engineer:	Nick Steele	Test Date:	23 April 2012 & 24 April 2012
Test Sample IMEI:	004401221227289		

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:

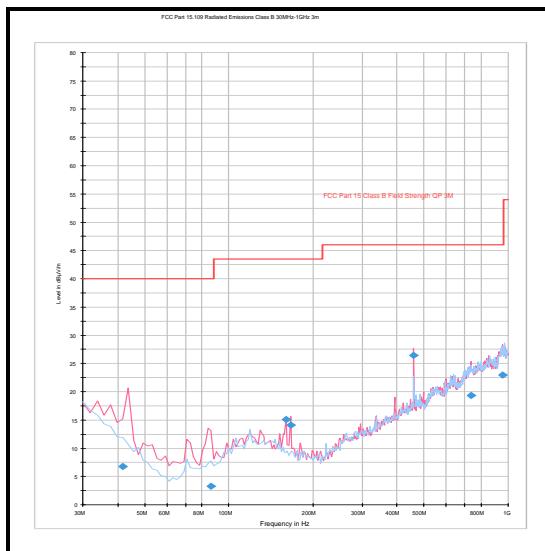
Temperature (°C):	24
Relative Humidity (%):	31

Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
41.592	Vertical	6.7	40.0	33.3	Complied
160.014	Vertical	15.1	43.5	28.4	Complied
166.067	Vertical	14.1	43.5	29.4	Complied
458.767	Vertical	26.5	46.0	19.5	Complied
735.010	Vertical	19.3	46.0	26.7	Complied
955.276	Vertical	23.0	46.0	23.0	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.
3. Measurements below 1 GHz were performed in a semi-anechoic chamber (RFI Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

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:	Nick Steele	Test Date:	24 April 2012
Test Sample IMEI:	004401221227289		

FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.4 Section 8
Frequency Range:	1 GHz to 10 GHz

Environmental Conditions:

Temperature (°C):	20
Relative Humidity (%):	24

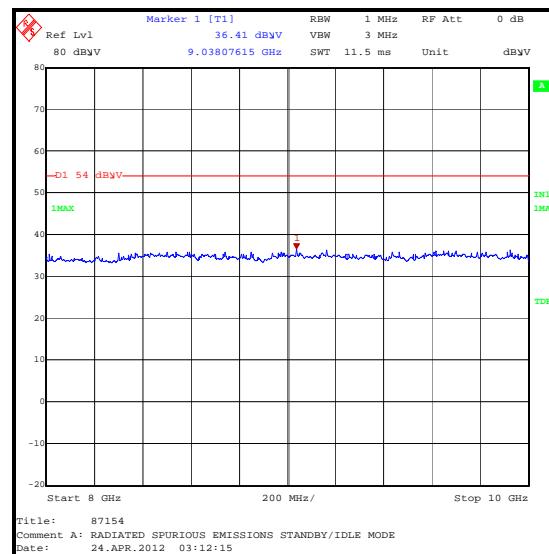
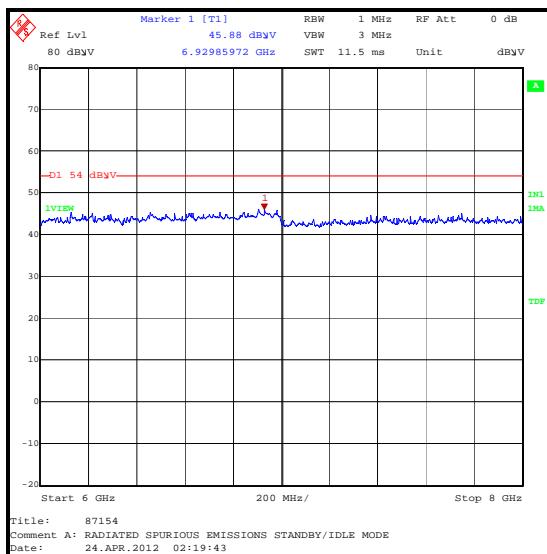
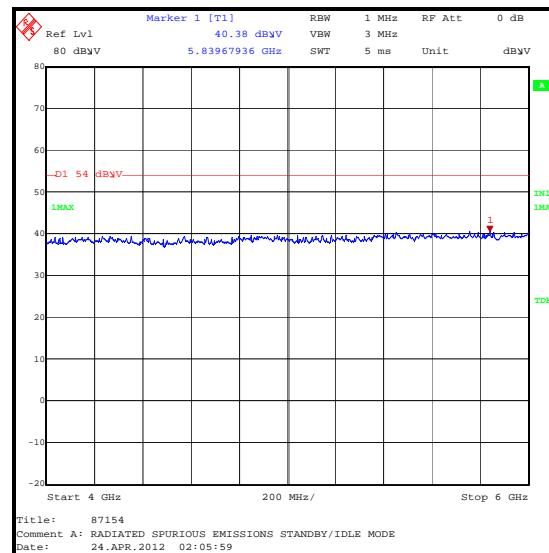
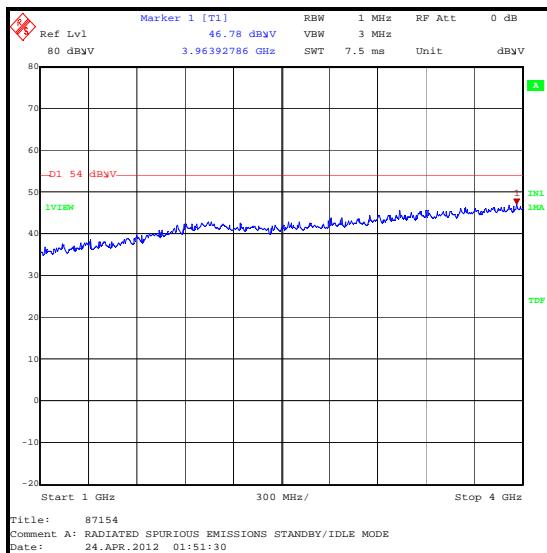
Results:

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
3963.928	Vertical	46.8	54.0	7.2	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.
3. Pre-scans above 1 GHz were performed in a fully anechoic chamber (RFI Asset Number K0002) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber (RFI Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Receiver/Idle Mode Radiated Spurious Emissions (continued)



5.2.3. Transmitter Output Power (EIRP)**Test Summary:**

Test Engineer:	David Doyle	Test Date:	24 April 2012
Test Sample IMEI:	004401221227289		

FCC Part:	24.232
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.17.2

Environmental Conditions:

Temperature (°C):	21
Relative Humidity (%):	23

Results: GSM Circuit Switched

Channel	Frequency (MHz)	Antenna Polarity	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1850.2	Horizontal	29.9	33.0	3.1	Complied
Middle	1879.8	Horizontal	29.6	33.0	3.4	Complied
Top	1909.8	Horizontal	29.4	33.0	3.6	Complied

Results: GPRS

Channel	Frequency (MHz)	Antenna Polarity	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1850.2	Vertical	28.0	33.0	5.0	Complied
Middle	1879.8	Vertical	28.7	33.0	4.3	Complied
Top	1909.8	Vertical	29.8	33.0	3.2	Complied

5.2.4. Transmitter Frequency Stability (Temperature Variation)**Test Summary:**

Test Engineer:	Mark Percival	Test Date:	11 May 2012
Test Sample IMEI:	004401221227123		

FCC Part:	2.1055 & 24.235
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.2 referencing FCC CFR Part 2.1055

Environmental Conditions:

Ambient Temperature (°C):	25
Ambient Relative Humidity (%):	40

Results: Bottom Channel (1850.2 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
-30	21	1850.199979	1850.0	0.199979	Complied
-20	10	1850.200010	1850.0	0.200010	Complied
-10	48	1850.199952	1850.0	0.199952	Complied
0	35	1850.199965	1850.0	0.199965	Complied
10	32	1850.199968	1850.0	0.199968	Complied
20	50	1850.199950	1850.0	0.199950	Complied
30	40	1850.199960	1850.0	0.199960	Complied
40	48	1850.199952	1850.0	0.199952	Complied
50	34	1850.199966	1850.0	0.199966	Complied

Results: Top Channel (1909.8 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
-30	64	1909.799936	1910.0	0.200064	Complied
-20	21	1909.799979	1910.0	0.200021	Complied
-10	78	1909.799922	1910.0	0.200078	Complied
0	69	1909.800069	1910.0	0.199931	Complied
10	72	1909.799928	1910.0	0.200072	Complied
20	63	1909.799967	1910.0	0.200063	Complied
30	59	1909.799941	1910.0	0.200059	Complied
40	61	1909.799939	1910.0	0.200061	Complied
50	110	1909.799890	1910.0	0.200110	Complied

Transmitter Frequency Stability (Temperature Variation) (continued)**Note(s):**

1. A dummy battery was placed on the EUT and the dummy battery cables connected to a bench power supply.
2. Frequency error was measured using a calibrated Rohde & Schwarz CMU 200 Universal Radio Communications Tester in accordance with current Rohde & Schwarz application notes. The EUT was connected by suitable RF cables to the CMU 200. A bidirectional communications link was established between the EUT and CMU 200. The frequency meter value was recorded.
3. Temperature was monitored throughout the test with a calibrated digital thermometer.

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

Test Engineer:	Mark Percival	Test Date:	11 May 2012
Test Sample IMEI:	004401221227123		

FCC Part:	2.1055 & 24.235
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):	25
Relative Humidity (%):	40

Results: Bottom Channel (1850.2 MHz)

Supply Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
3.4	32	1850.199968	1850.0	0.199968	Complied
4.2	33	1850.199967	1850.0	0.199967	Complied

Results: Top Channel (1909.8 MHz)

Supply Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
3.4	48	1909.799952	1910.0	0.200048	Complied
4.2	58	1909.799942	1910.0	0.200058	Complied

Note(s):

1. A dummy battery was placed on the EUT and the dummy battery cables connected to a bench power supply.
2. Frequency error was measured using a calibrated Rohde & Schwarz CMU 200 Universal Radio Communications Tester in accordance with current Rohde & Schwarz application notes. The EUT was connected by suitable RF cables to the CMU 200. A bidirectional communications link was established between the EUT and CMU 200. The frequency meter value was recorded.
3. Voltage was monitored throughout the test with a calibrated digital voltmeter.

5.2.6. Transmitter Occupied Bandwidth**Test Summary:**

Test Engineer:	Mark Percival	Test Date:	15 May 2012
Test Sample IMEI:	004401221227289		

FCC Part:	2.1049
Test Method Used:	The 99% occupied bandwidth was measured using the Occupied Bandwidth function of a spectrum analyser

Environmental Conditions:

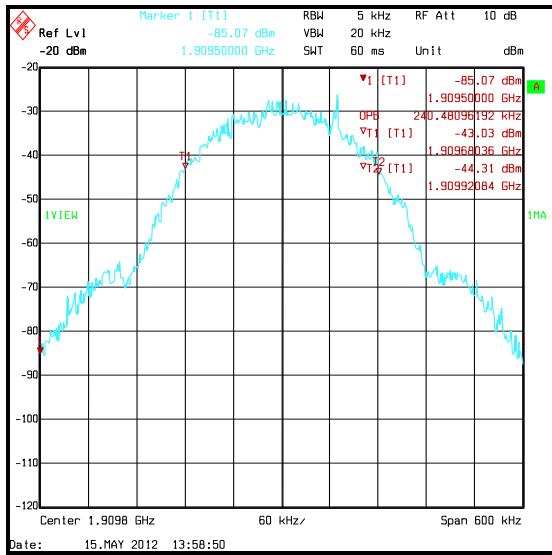
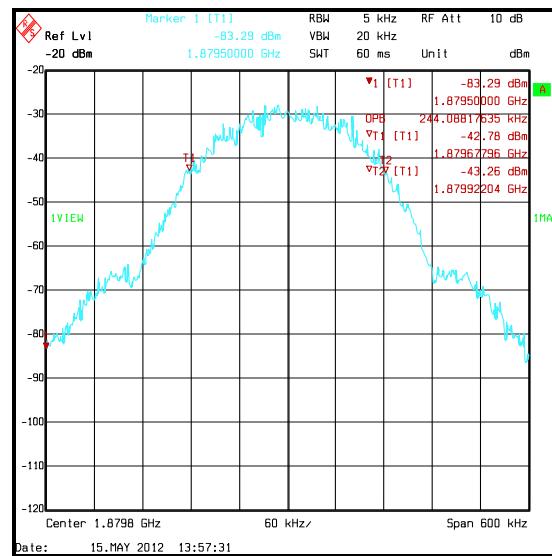
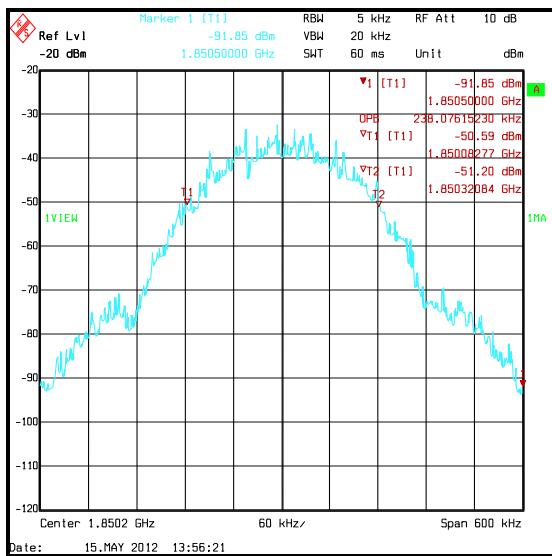
Temperature (°C):	24
Relative Humidity (%):	32

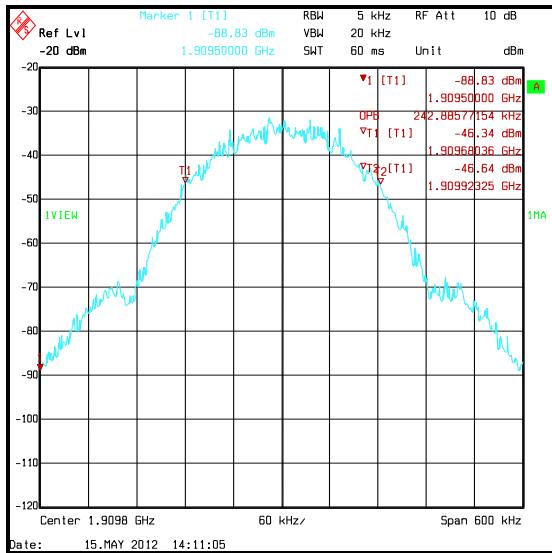
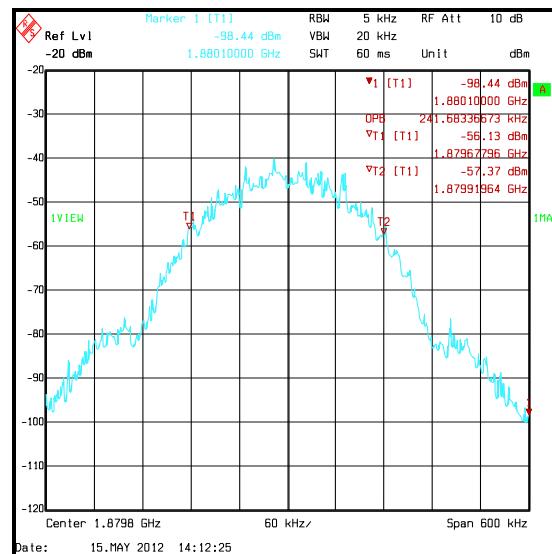
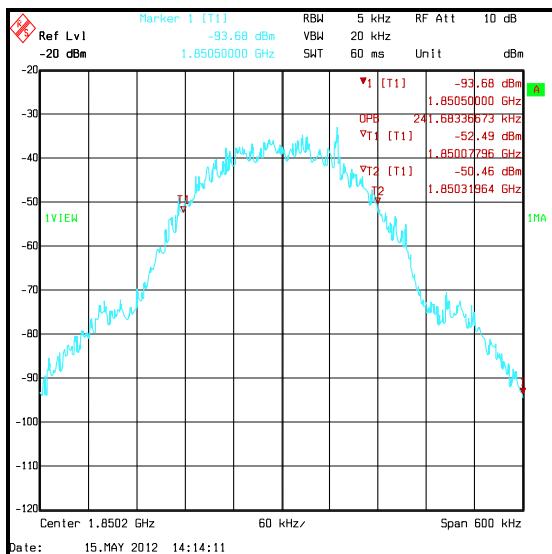
Results: GSM Circuit Switched

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Bottom	1850.2	238.076
Middle	1879.8	244.088
Top	1909.8	240.481

Results: GPRS

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Bottom	1850.2	241.683
Middle	1879.8	241.683
Top	1909.8	242.886

Transmitter Occupied Bandwidth (continued)**GSM Circuit Switched**

Transmitter Occupied Bandwidth (continued)**GRPS**

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

Test Engineers:	Nick Steele & David Doyle	Test Dates:	20 April 2012 & 23 April 2012
Test Sample IMEI:	004401221227289		

FCC Part:	2.1053 & 24.238
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 24.238
Frequency Range:	30 MHz to 20 GHz
Configuration:	GSM Circuit Switched

Environmental Conditions:

Temperature (°C):	21 to 24
Relative Humidity (%):	23 to 31

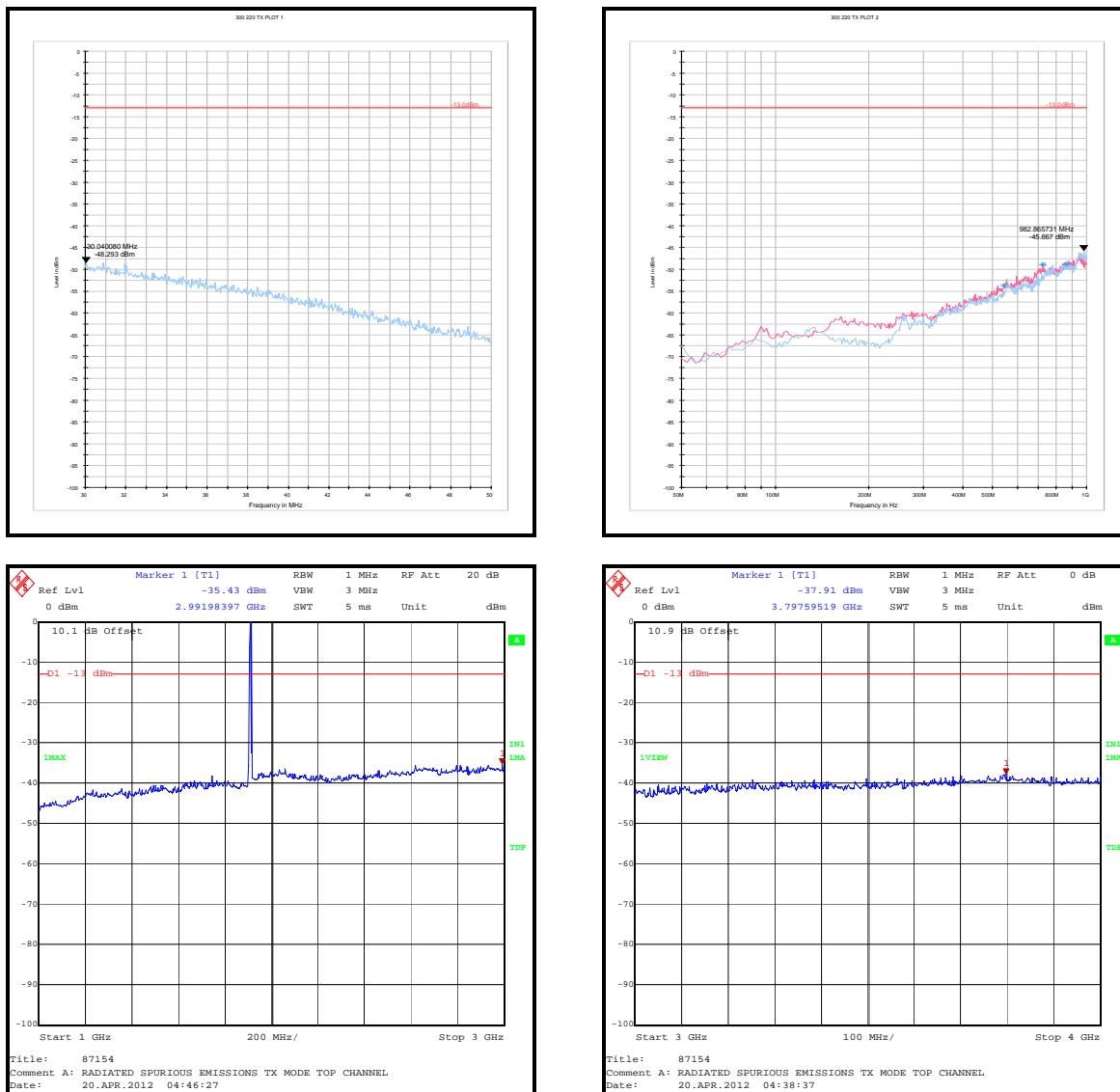
Results**Results:**

Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
17189.880	-36.2	-13.0	23.2	Complied

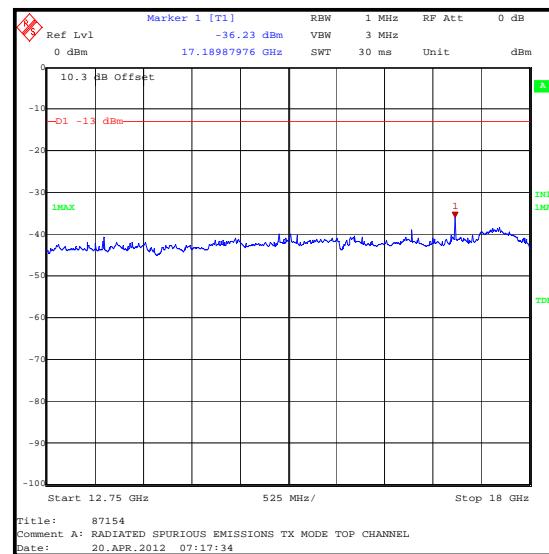
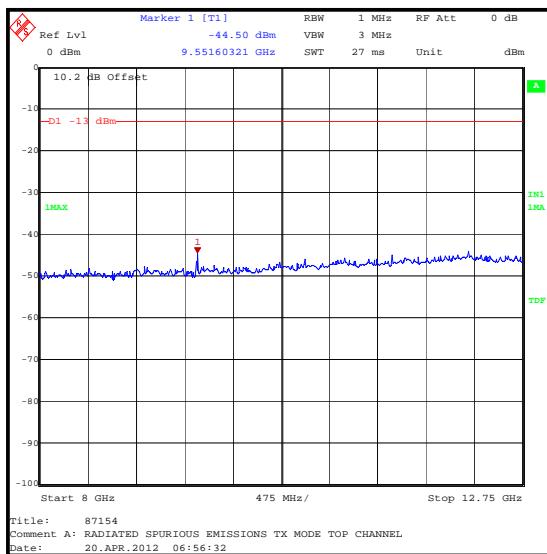
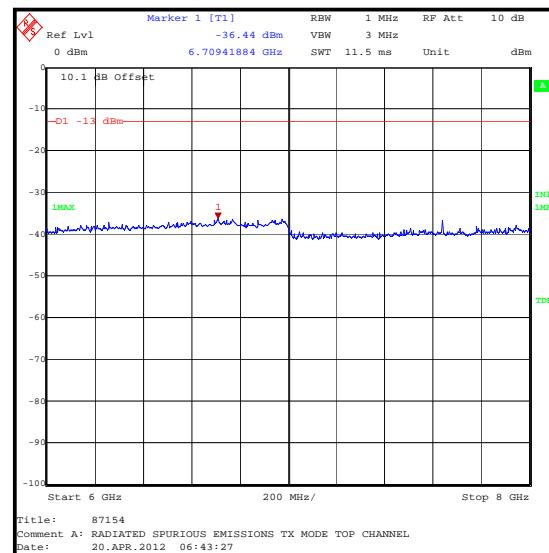
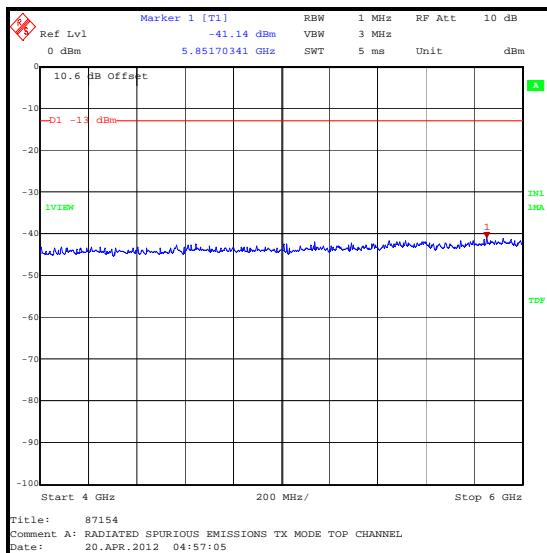
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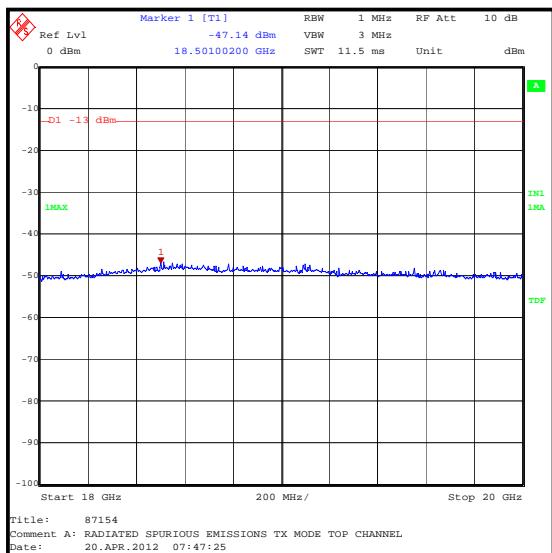
1. All emissions shown on the pre-scan plots were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor. Therefore the highest peak noise floor reading of the measuring receiver was recorded in the table above.
2. The uplink traffic channel is shown on the 1 GHz to 4 GHz plot.
3. Measurements below 1 GHz were performed in a semi-anechoic chamber (RFI Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
4. Pre-scans above 1 GHz were performed in a fully anechoic chamber (RFI Asset Number K0002) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber (RFI Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Transmitter Out of Band Radiated Emissions (continued)



Transmitter Out of Band Radiated Emissions (continued)



Transmitter Out of Band Radiated Emissions (continued)

5.2.7. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	David Doyle	Test Date:	20 April 2012
Test Sample IMEI:	004401221227289		

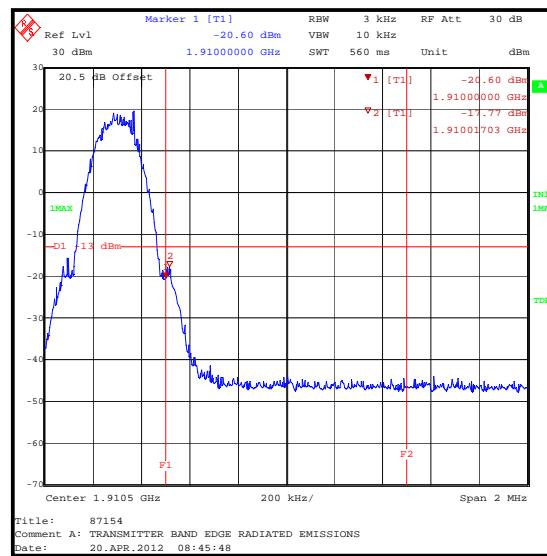
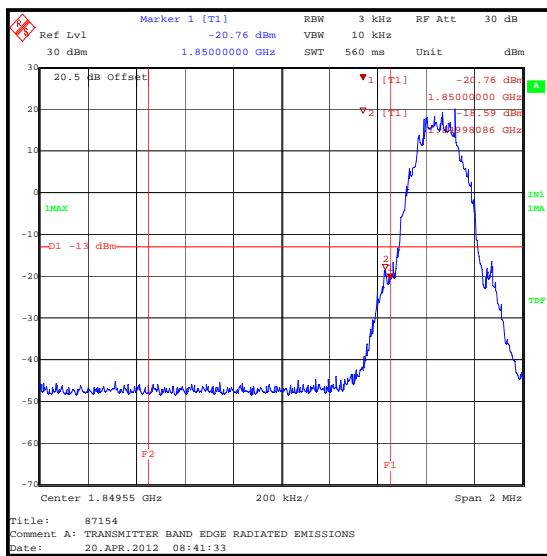
FCC Part:	2.1053 & 24.238
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 24.238

Environmental Conditions:

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

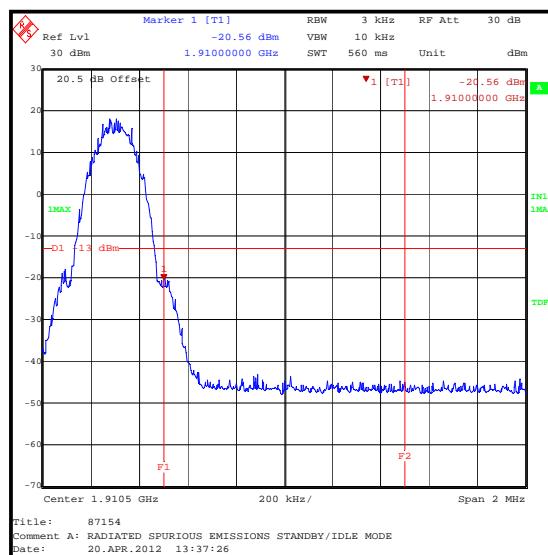
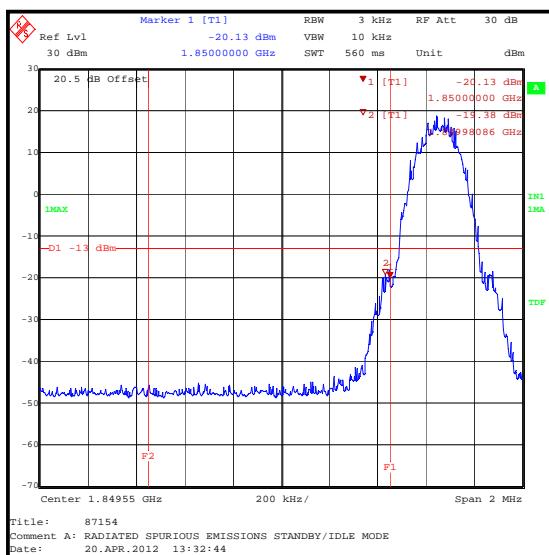
Results: GSM Circuit Switched

Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
1849.981	-18.6	-13.0	5.6	Complied
1850.000	-20.8	-13.0	7.8	Complied
1910.000	-20.6	-13.0	7.6	Complied
1910.017	-17.8	-13.0	4.8	Complied



Transmitter Band Edge Radiated Emissions (continued)**Results: GPRS**

Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
1849.981	-19.4	-13.0	6.4	Complied
1850.000	-20.1	-13.0	7.1	Complied
1910.000	-20.6	-13.0	7.6	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
Effective Isotropic Radiated Power (EIRP)	1850 to 1910 MHz	95%	±2.94 dB
Frequency Stability	1850 to 1910 MHz	95%	±0.92 ppm
Occupied Bandwidth	1850 to 1910 MHz	95%	±0.92 ppm
Radiated Spurious Emissions	30 MHz to 20 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)
A067	LISN	Rohde & Schwarz	ESH3-Z5	890603/002	02 Jun 2012	12
A1393	Attenuator	Huber + Suhner	757456	6820.17.B	08 Jul 2012	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	09 Oct 2012	12
A1818	Antenna	EMCO	3115	00075692	09 Oct 2012	12
A1830	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100668	25 Feb 2013	12
A1834	Attenuator	Hewlett Packard	8491B	10444	29 Jan 2013	12
A253	Antenna	Flann Microwave	12240-20	128	09 Oct 2012	12
A254	Antenna	Flann Microwave	14240-20	139	09 Oct 2012	12
A255	Antenna	Flann Microwave	16240-20	519	09 Oct 2012	12
A256	Antenna	Flann Microwave	18240-20	400	09 Oct 2012	12
A436	Antenna	Flann Microwave	20240-20	330	09 Oct 2012	12
A553	Antenna	Chase	CBL6111A	1593	15 Feb 2013	12
E013	Environmental Chamber	Sanyo	MTH-4200PR	None	10 Aug 2012	12
G0543	Amplifier	Sonoma	310N	230801	13 Apr 2013	12
K0001	5m Semi-Anechoic Chamber	Rainford EMC	N/A	N/A	29 May 2012	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	09 Oct 2012	12
L1058	Comms Test Set	Rohde & Schwarz	CMU200	07252	16 Mar 2013	12
M1068	Thermometer	Iso-Tech	RS55	93102884	02 Apr 2013	12
M1124	Test Receiver	Rohde & Schwarz	ESI26	100046K	29 Jun 2012	12
M1251	Multimeter	Fluke	175	89170179	29 Jul 2012	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	03 Feb 2013	12
M1379	Test Receiver	Rohde & Schwarz	ESIB7	100330	20 Sep 2012	12
M1630	Test Receiver	Rohde & Schwarz	ESU40	100233	06 Feb 2013	12