TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: iCon451

To: FCC Part 24: 2008 Subpart E

Test Report Serial No:
RFI/RPT1/RP74528JD14B

This Test Report Is Issued Under The Authority Of Brian Watson, Operations Director: 	
Checked By:	Nigel Davison
	
Date of Issue:	02 April 2009

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1. Customer Information

Company Name:	Option nv
Address:	Option Headquarters Gaston Geenslaan 14 3001 Leuven Belgium

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR24
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 24 Subpart E (Personal Communication Services)
Site Registration:	FCC: 209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	29 January 2009 to 24 March 2009

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Port Type	Result
FCC Part 15: Section 15.107	Idle Mode AC Conducted Spurious Emissions	AC Mains Input	✓
FCC Part 15: Section 15.109	Idle Mode Radiated Spurious Emissions	Enclosure	✓
FCC Part 15: Section 15.207	Transmitter AC Conducted Spurious Emissions	AC Mains Input	✓
FCC Part 24: Section 24.232	Transmitter Equivalent Isotropic Radiated Power (EIRP)	Antenna	✓
FCC Part 24: Section 24.235	Transmitter Frequency Stability (Temperature Variation)	Antenna	✓
FCC Part 24: Section 24.235	Transmitter Frequency Stability (Voltage Variation)	Antenna	✓
FCC Part 24: Section 24.238	Transmitter Occupied Bandwidth	Antenna	✓
FCC Part 24: Section 2.1053/24.238	Transmitter Out of Band Radiated Emissions	Antenna	✓
FCC Part 2: Section 2.1053/24.238	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)

Description:	USB modem
Brand Name:	Option nv
Model Name or Number:	iConN451
Serial Number:	Not stated
IMEI Number(s):	004401441088271 004401441080963 004401441081664
FCC ID Number:	NCMOGI0451

3.2. Description of EUT

The equipment under test was a quad band GSM/GPRS/EGPRS/UMTS USB modem.

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		
Type of Radio Device:	Transceiver		
Mode:	GSM/GPRS/EGPRS		
Modulation Type:	GMSK and 8PSK		
Channel Spacing:	200 kHz		
Power Supply Requirement(s):	Nominal	5.0 V	
	Minimum	4.25 V	
	Maximum	5.75 V	
Maximum Output Power (EIRP):	32.5 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:	Laptop PC
Model Name or Number:	Dell PR04S
Serial Number:	CN-OJ7316-36521-47C-0361
Cable Length and Type:	Not applicable
Connected to Port:	EUT through USB

Description:	100-240V 50-60 Hz AC mains power supply
Model Name or Number:	Dell ADP-65JB B
Serial Number:	CN-OF-8834-48661-55G-OMIR
Cable Length and Type:	AC cable 0.8 metres / DC cable 1.95 metres
Connected to Port:	DC power on laptop PC

Description:	Micro-SD card
Model Name or Number:	Transcend 2GB
Serial Number:	Not applicable
Cable Length and Type:	Not applicable
Connected to Port:	Micro-SD

Description:	3GPP Test USIM
Model Name or Number:	Rohde & Schwarz CRT-Z3
Serial Number:	8952535250010000346F
Cable Length and Type:	Not applicable
Connected to Port:	USIM

Description:	Modified USB cable with power breakout
Model Name or Number:	CoPartner E188601 Type CM
Serial Number:	Not applicable
Cable Length and Type:	3 metres
Connected to Port:	USB

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

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

- Idle mode.
- Constantly transmitting at full power on bottom, centre and top channels as required.
- Circuit switched occupied bandwidth, EIRP and band edge tests were performed with the EUT in GSM single timeslot circuit switched mode.
- Packet switched occupied bandwidth, EIRP and band edge tests were performed with the EUT transmitting on the maximum supported timeslots in the uplink.

4.2. Configuration and Peripherals

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

- The EUT was tested connected to and powered from a USB port on a laptop PC (apart from frequency stability, voltage variation tests). Radiated emissions and EIRP measurements were performed with the EUT placed at the same height as the measuring antenna in the centre of the turntable. The laptop was initially positioned in the normal user operating position with the keyboard facing upwards and screen open. Measurements were performed in this configuration. In addition to this, the laptop was placed sideways, left side downwards with the EUT at the opposite end and vertical in the centre of the turntable and the radiated measurements repeated. This was done to maximise any radiated emissions. The highest emissions and EIRP were obtained with the laptop placed downwards on it's left side and the EUT at the opposite end facing upwards.
- Transmitter frequency stability (voltage variation) tests were performed with the EUT powered from a modified USB cable at voltage extremes. The USB cable had a breakout enabling the voltage to be supplied from a bench power supply and not the laptop PC.
- AC conducted emissions tests were performed with the EUT inserted into the USB port on a laptop PC. The laptop PC power supply AC input was connected to a LISN. The power supply DC output was connected to the laptop PC. A 120 V 60 Hz AC supply was connected to the LISN.

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

5.3. 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
EUT Tested (IMEI):	004401441080963

Environmental Conditions:

Temperature Variation (°C):	17
Relative Humidity Variation (%):	36

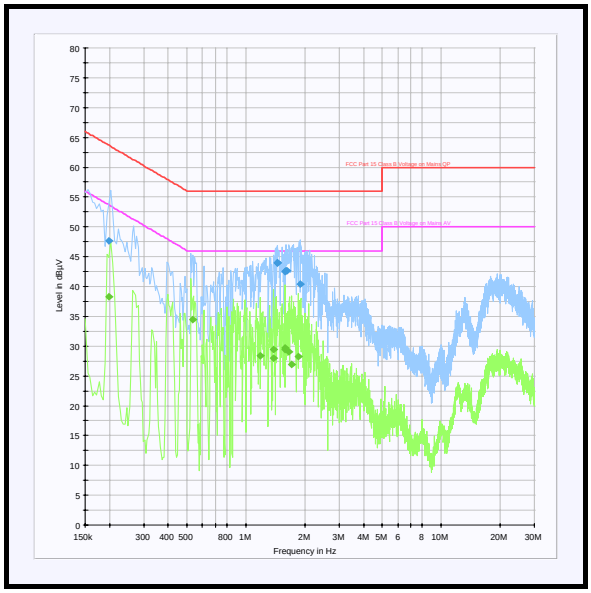
Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Quasi Peak Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.199500	Live 1	47.7	63.6	15.9	Complied
1.450500	Neutral	44.0	56.0	12.0	Complied
1.455000	Neutral	43.9	56.0	12.1	Complied
1.581000	Live 1	42.6	56.0	13.4	Complied
1.603500	Live 1	42.7	56.0	13.3	Complied
1.626000	Neutral	42.7	56.0	13.3	Complied
1.887000	Live 1	40.4	56.0	15.6	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.199500	Live 1	38.2	53.6	15.4	Complied
0.532500	Neutral	34.5	46.0	11.5	Complied
1.185000	Neutral	28.4	46.0	17.6	Complied
1.378500	Neutral	28.0	46.0	18.0	Complied
1.387500	Neutral	29.4	46.0	16.6	Complied
1.581000	Neutral	29.4	46.0	16.6	Complied
1.585500	Neutral	29.7	46.0	16.3	Complied
1.648500	Live 1	29.0	46.0	17.0	Complied
1.720500	Live 1	27.0	46.0	19.0	Complied
1.851000	Neutral	28.2	46.0	17.8	Complied

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.

5.4. Idle Mode Radiated Spurious Emissions

Test Summary:

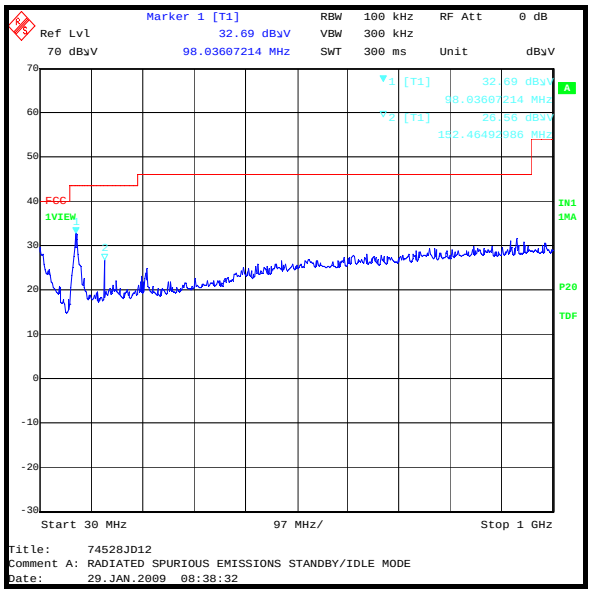
FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes
Frequency Range:	30 MHz to 1000 MHz
EUT Tested (IMEI):	004401441081664

Environmental Conditions:

Temperature Variation (°C):	21
Relative Humidity Variation (%):	33

Results:

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
100.020	Horizontal	33.5	43.5	10.0	Complied
153.287	Horizontal	27.5	43.5	16.0	Complied



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
EUT Tested (IMEI):	004401441081664

Environmental Conditions:

Temperature Variation (°C):	21
Relative Humidity Variation (%):	33

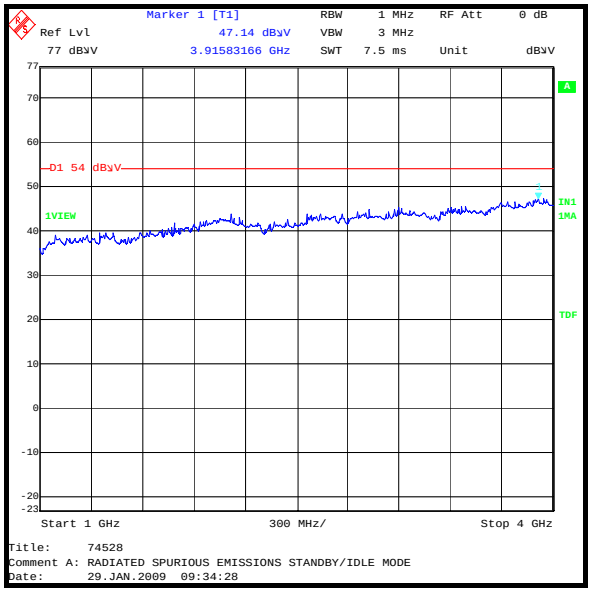
Highest Peak Level:

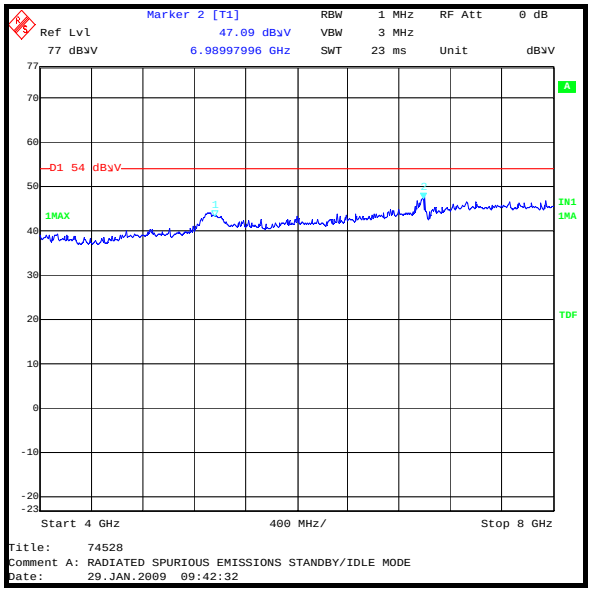
Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Transducer Factor (dB)	Peak Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
12.521	H	39.6	12.9	52.5	54.0	1.5	Complied

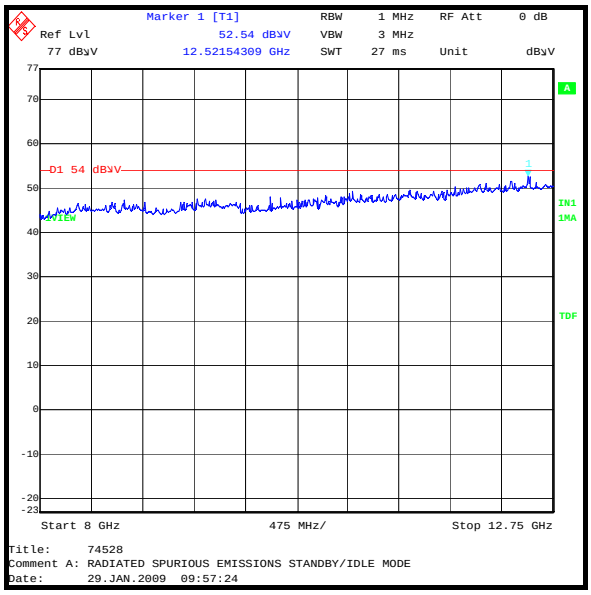
Note(s):

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.

Idle Mode Radiated Spurious Emissions (continued)







5.5. Transmitter AC Conducted Spurious Emissions

Test Summary:

FCC Part:	15.207(a)
Test Method Used:	As detailed in ANSI C63.4 Section 7 and relevant annexes
EUT Tested (IMEI):	004401441080963

Environmental Conditions:

Temperature Variation (°C):	17
Relative Humidity Variation (%):	36

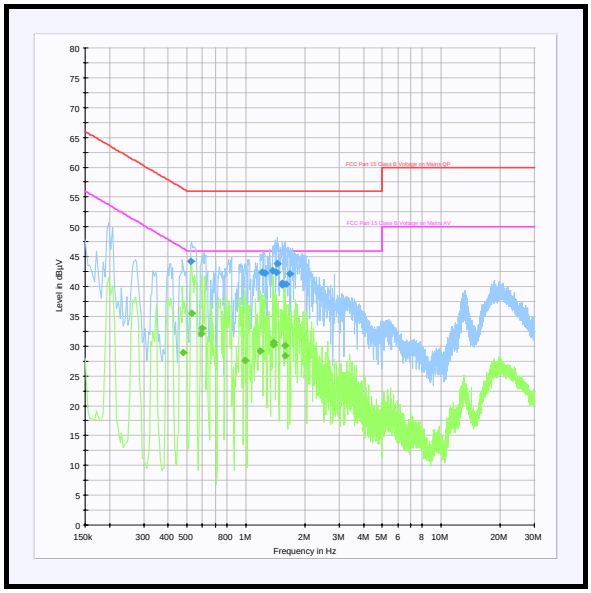
Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Quasi Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.523500	Live 1	44.2	56.0	11.8	Complied
1.212000	Neutral	42.3	56.0	13.7	Complied
1.252500	Live 1	42.2	56.0	13.8	Complied
1.374000	Neutral	42.6	56.0	13.4	Complied
1.428000	Neutral	42.3	56.0	13.7	Complied
1.450500	Neutral	43.9	56.0	12.1	Complied
1.536000	Neutral	40.3	56.0	15.7	Complied
1.540500	Neutral	40.5	56.0	15.5	Complied
1.608000	Neutral	40.4	56.0	15.6	Complied
1.684500	Live 1	42.2	56.0	13.8	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.478500	Live 1	29.0	46.4	17.4	Complied
0.528000	Neutral	35.5	46.0	10.5	Complied
0.591000	Neutral	32.1	46.0	13.9	Complied
0.595500	Live 1	33.0	46.0	13.0	Complied
0.987000	Live 1	27.6	46.0	18.4	Complied
1.189500	Neutral	29.2	46.0	16.8	Complied
1.383000	Live 1	30.6	46.0	15.4	Complied
1.387500	Neutral	30.2	46.0	15.8	Complied
1.576500	Neutral	28.4	46.0	17.6	Complied
1.581000	Live 1	30.1	46.0	15.9	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.

5.6. Transmitter Equivalent Isotropic Radiated Power (EIRP)

Test Summary:

FCC Part:	24.232
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.17.2
EUT Tested (IMEI):	004401441088271

Environmental Conditions:

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

Results: GSM

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter (dBm)	Limit (dBm)	Margin (dBm)	Result
Bottom	1850.2	Horizontal	32.5	33.0	0.5	Complied
Middle	1879.8	Horizontal	31.0	33.0	2.0	Complied
Top	1909.8	Horizontal	32.3	33.0	0.7	Complied

Results: GPRS

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter (dBm)	Limit (dBm)	Margin (dBm)	Result
Bottom	1850.2	Horizontal	30.3	33.0	2.7	Complied
Middle	1879.8	Horizontal	28.5	33.0	4.5	Complied
Top	1909.8	Horizontal	29.2	33.0	3.8	Complied

Results: EGPRS

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter (dBm)	Limit (dBm)	Margin (dBm)	Result
Bottom	1850.2	Horizontal	26.4	33.0	6.6	Complied
Middle	1879.8	Horizontal	24.4	33.0	8.6	Complied
Top	1909.8	Horizontal	27.3	33.0	5.7	Complied

Note(s):

1. All modes were compared on each channel and the highest power recorded was subtracted from the limit to show the margin.
2. Measurements were performed with the test antenna in the vertical and horizontal planes. The highest level was recorded.

5.7. Transmitter Frequency Stability (Temperature Variation)

Test Summary:

FCC Part:	24.235
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.2 referencing FCC CFR Part 2.1055
EUT Tested (IMEI):	004401441088271

Environmental Conditions:

Temperature Variation (°C):	22
Relative Humidity Variation (%):	25

Results: Bottom Channel (1850.2 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
-30	-56	1850.199944	1850.0	0.199944	Complied
-20	-49	1850.199951	1850.0	0.199951	Complied
-10	-42	1850.199958	1850.0	0.199958	Complied
0	-43	1850.199957	1850.0	0.199957	Complied
10	40	1850.200040	1850.0	0.200040	Complied
20	-50	1850.199950	1850.0	0. 199950	Complied
30	-39	1850.199961	1850.0	0.199961	Complied
40	-33	1850.199967	1850.0	0.199967	Complied
50	-35	1850.199965	1850.0	0.199965	Complied

Results: Top Channel (1909.8 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
-30	-51	1909.799949	1910.0	0.200051	Complied
-20	-54	1909.799946	1910.0	0.200054	Complied
-10	-42	1909.799958	1910.0	0.200042	Complied
0	-37	1909.799963	1910.0	0.200037	Complied
10	24	1909.800024	1910.0	1.999976	Complied
20	-39	1909.799961	1910.0	0.200039	Complied
30	-21	1909.799979	1910.0	0.200021	Complied
40	-26	1909.799974	1910.0	0.200026	Complied
50	-55	1909.799945	1910.0	0.200055	Complied

5.8. Transmitter Frequency Stability (Voltage Variation)

Test Summary:

FCC Part:	24.235
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.2 referencing FCC CFR Part 2.1055
EUT Tested (IMEI):	004401441088271

Environmental Conditions:

Temperature Variation (°C):	22
Relative Humidity Variation (%):	25

Results: Bottom Channel (1850.2 MHz)

Supply Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
4.25	-49	1850.199951	1850.0	0. 199951	Complied
5.75	-28	1850.199972	1850.0	0. 199972	Complied

Results: Top Channel (1909.8 MHz)

Supply Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
4.25	-21	1909.799979	1910.0	0.200021	Complied
5.75	-21	1909.799979	1910.0	0.200021	Complied

5.9. Transmitter Occupied Bandwidth

Test Summary:

FCC Part:	24.238
Test Method Used:	As detailed in ANSI C63.4 Section13.1.7 and relevant annexes referencing FCC CFR Part 2.1049
EUT Tested (IMEI):	004401441088271

Environmental Conditions:

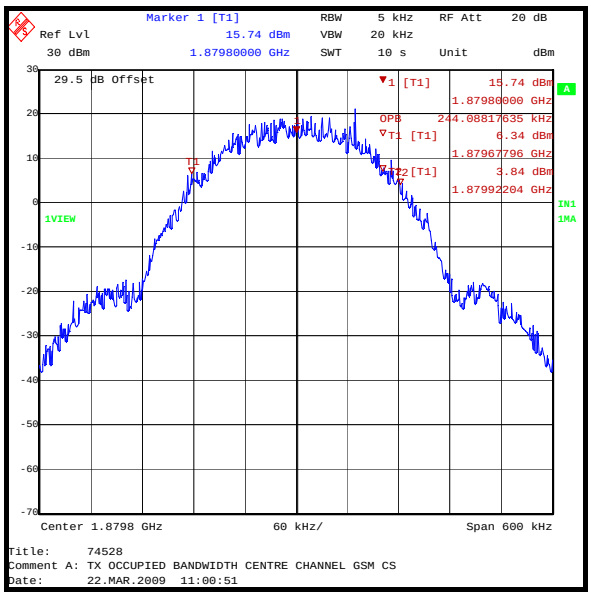
Temperature Variation (°C):	22
Relative Humidity Variation (%):	24

Results: GSM

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	1879.8	244.088

Note(s):

1. The transmitter occupied bandwidth results were obtained by using an occupied bandwidth function of a measurement analyser. The measurement bandwidth was set to 200 kHz.



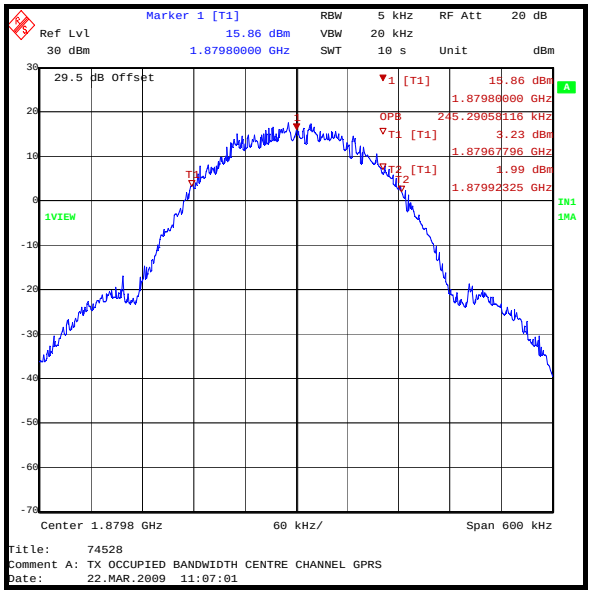
Transmitter Occupied Bandwidth (continued)

Results: GPRS

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	1879.8	245.291

Note(s):

1. The transmitter occupied bandwidth results were obtained by using an occupied bandwidth function of a measurement analyser. The measurement bandwidth was set to 200 kHz.



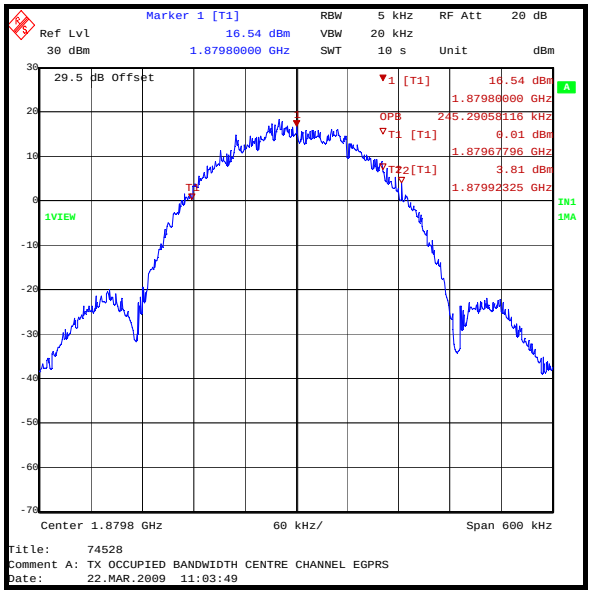
Transmitter Occupied Bandwidth (continued)

Results: EGPRS / 8PSK

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	1879.8	245.291

Note(s):

1. The transmitter occupied bandwidth results were obtained by using an occupied bandwidth function of a measurement analyser. The measurement bandwidth was set to 200 kHz.



5.10. Transmitter Out of Band Radiated Emissions

Test Summary:

FCC Part:	2.1053 & 24.238
Test Method Used:	As detailed in ANSI C63.4 Section13 and relevant annexes referencing FCC CFR Part 2.1049
EUT Tested (IMEI):	004401441088271

Environmental Conditions:

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

Note(s):

1. The plots shown are pre-scans and for indication purposes only. For final measurements, see accompanying tables.
2. Pre-scans were performed in GSM circuit switched mode at maximum power on the top channel as this produced the highest EIRP. Final measurements were performed in GSM Circuit Switched, GPRS, EGPRS with 8PSK modulation and the EUT transmitting on the maximum number of timeslots supported in each mode.
3. The transmitter fundamental is shown on the 1 GHz to 4 GHz plot at approximately 1909 MHz.
4. Final measurements were performed using appropriate attenuators and filters where required.
5. All other emissions in all other modes were >20dB below the limit or below the level of the noise floor.
6. Measurements were performed with the test antenna in the vertical and horizontal planes. The highest level was recorded.

Results: GSM Circuit Switched Bottom Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
3700.335	-47.7	-13.0	34.7	Complied

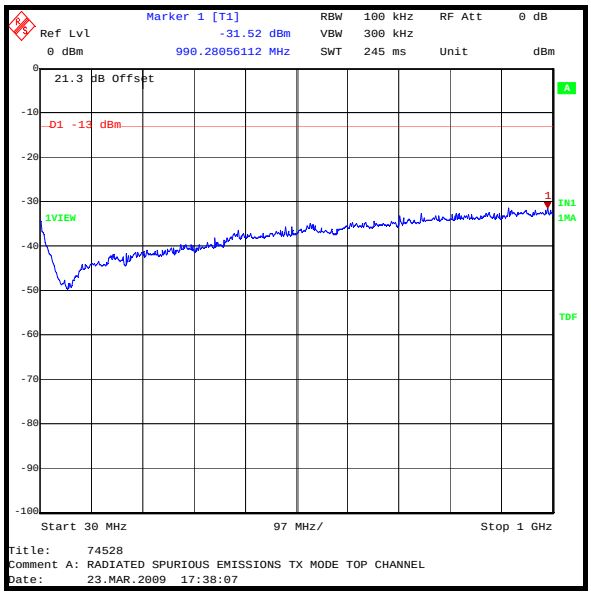
Results: GSM Circuit Switched Middle Channel

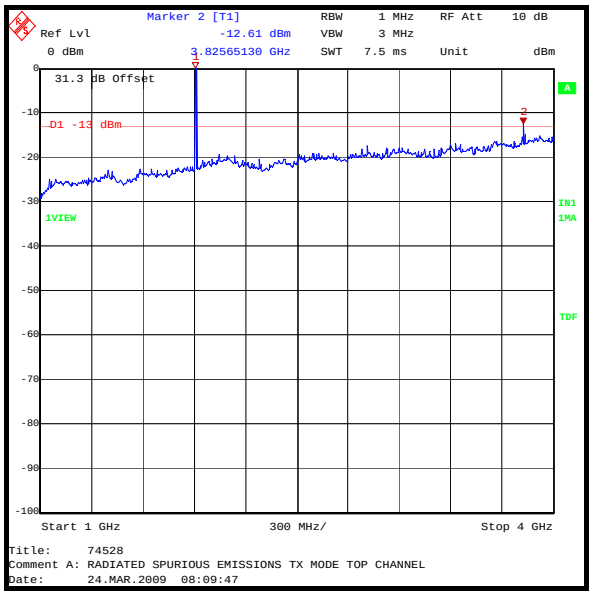
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
3759.605	-47.3	-13.0	34.3	Complied

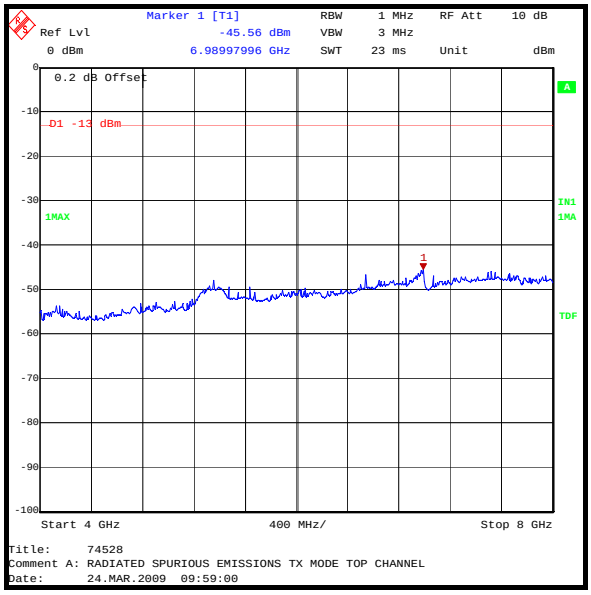
Results: GSM Circuit Switched Top Channel

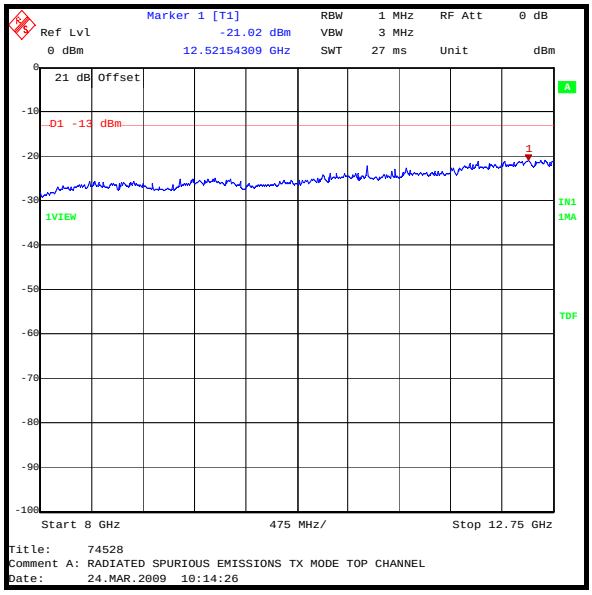
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
3819.549	-44.6	-13.0	31.6	Complied

Transmitter Out of Band Radiated Emissions (continued)

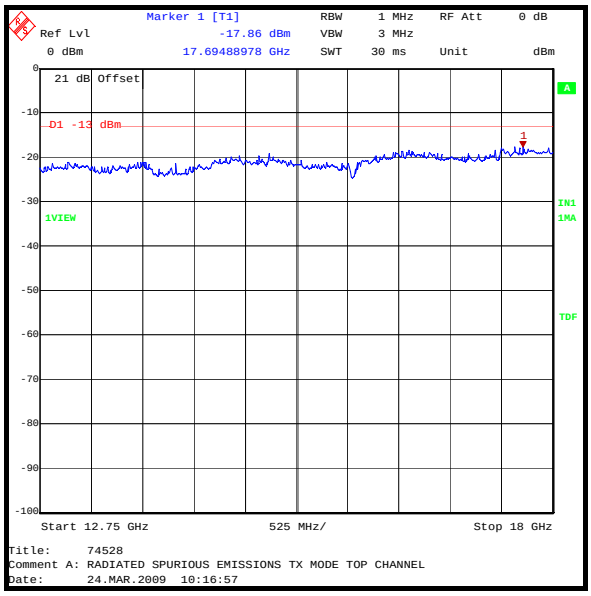


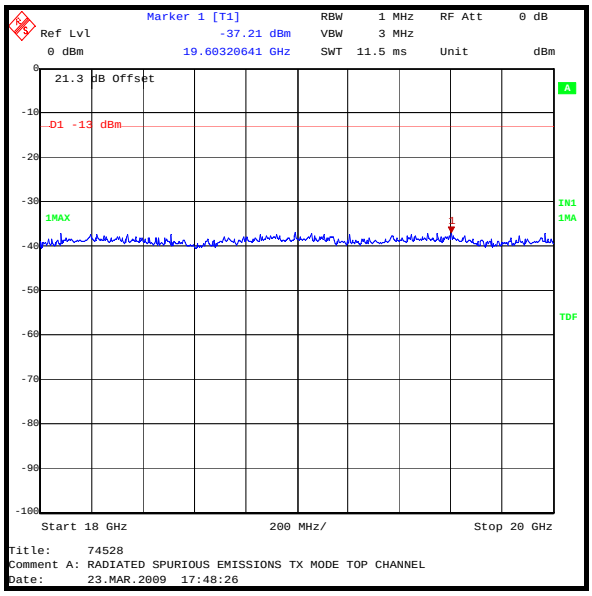






Transmitter Out of Band Radiated Emissions (continued)





5.11. Transmitter Radiated Emissions at Band Edges

Test Summary:

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
EUT Tested (IMEI):	004401441088271

Environmental Conditions:

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

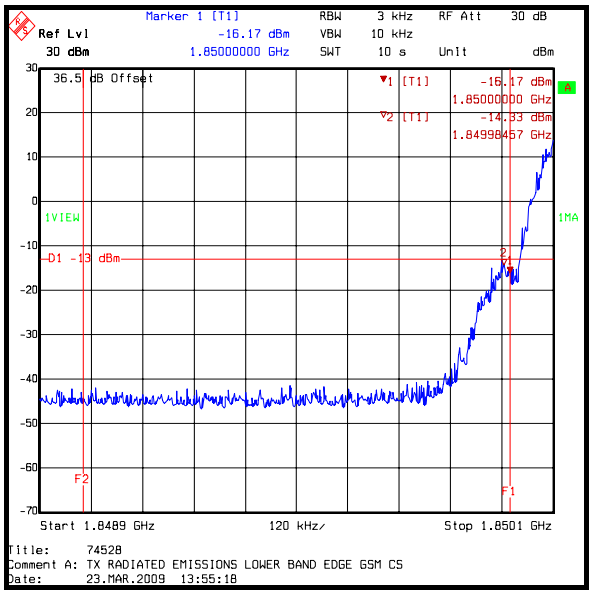
Results: GSM Bottom Band Edge

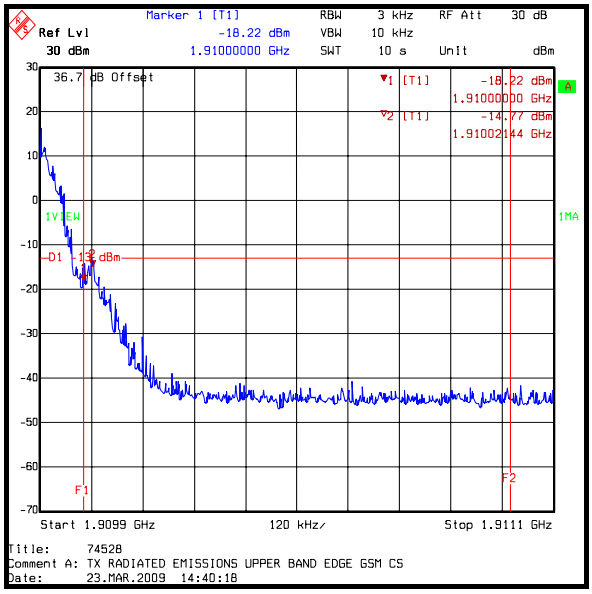
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1850	-16.2	-13.0	3.2	Complied

Results: GSM Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1910	-18.2	-13.0	5.2	Complied

Transmitter Radiated Emissions at Band Edges (continued)





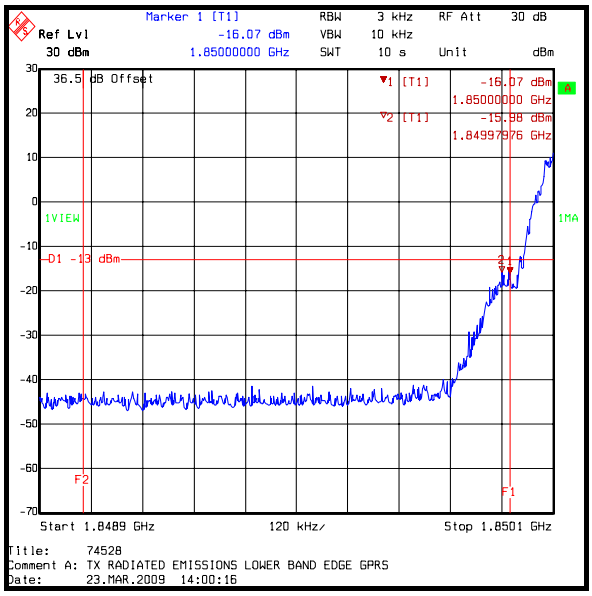
Transmitter Radiated Emissions at Band Edges (continued)

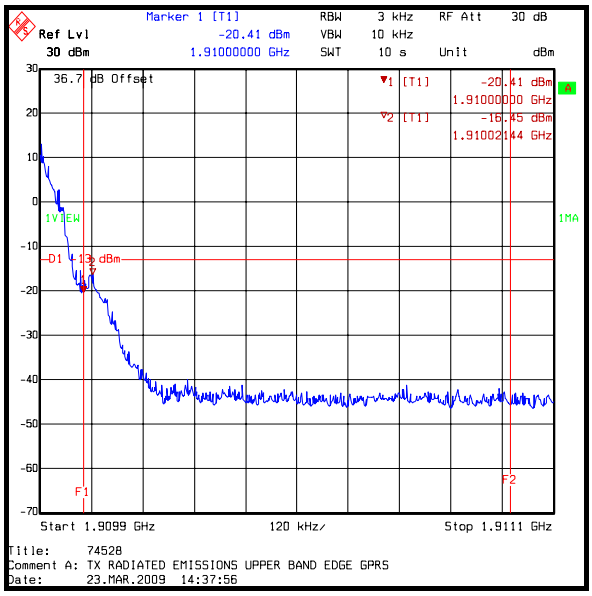
Results: GPRS Bottom Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1850	-16.1	-13.0	3.1	Complied

Results: GPRS Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1910	-20.4	-13.0	7.4	Complied





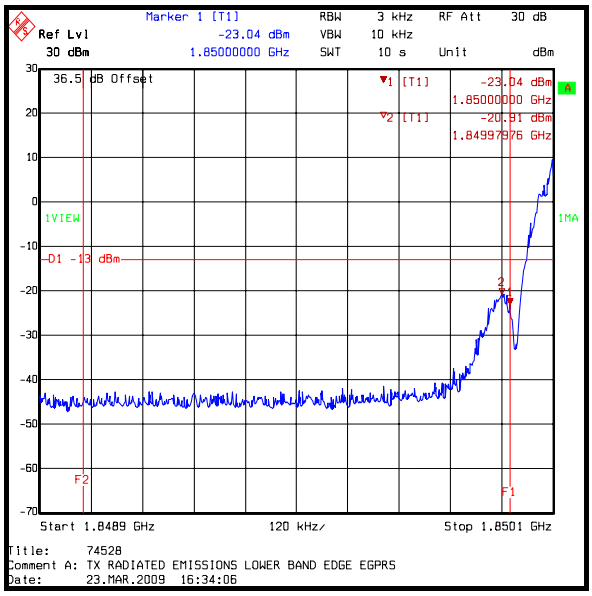
Transmitter Radiated Emissions at Band Edges (continued)

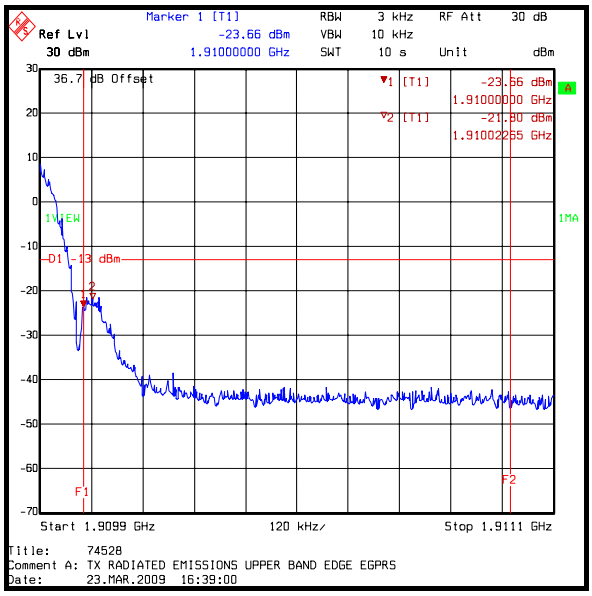
Results: EGPRS / 8PSK Bottom Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1850	-23.0	-13.0	10.0	Complied

Results: EGPRS / 8PSK Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1910	-23.7	-13.0	10.7	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%	±3.72 dB
Effective Isotropic Radiated Power (EIRP)	1850 to 1910 MHz	95%	±2.94 dB
Frequency Stability	1850 to 1910 MHz	95%	±11.4 ppm
Occupied Bandwidth	1850 to 1910 MHz	95%	±11.4 ppm
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	±4.64 dB
Radiated Spurious Emissions	1 GHz 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)
A004	Line Impedance Stabilization Network	Rohde & Schwarz	ESH3-Z5	890604/027	19 May 2008	12
A1299	Antenna	Schaffner	CBL6143	5094	28 Jul 2008	12
A1368	Directional Coupler	Pasternack Enterprises.	PE2214-10	None	Calibrated before use	12
A1391	Attenuator	HUBER + SUHNER AG	757987	6810.17.B	Calibrated before use	12
A1392	Attenuator	HUBER + SUHNER AG	757456	6820.17.B	Calibrated before use	12
A1396	Attenuator	HUBER + SUHNER AG	757987	6810.17.B	Calibrated before use	12
A1534	Pre Amplifier	Hewlett Packard	8449B OPT H02	3008A00405	Calibrated before use	12
A1550	Ultra Stable Notch Filter	Wainright Instruments GMBH	WRCT836.6-0.3/40-8EE	2	28 Nov 2008	12
A1818	Antenna	EMCO	3115	00075692	25 Oct 2008	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	05 Jan 2009	12
A244	Attenuator	Schaffner	6820-17-B	None	Calibration not required	-
E013	Environmental Chamber	Sanyo	ATMOS chamber	None	Calibrated before use	-
G0548	Signal Generator	Rohde & Schwarz	SMHU	830046/001	21 Jul 2008	12
K0002	Site Reference 4421	Rainford EMC	N/A	N/A	Calibration not required	-
K0004	Site Reference 4428	RFI Global Services Ltd	N/A	N/A	Calibration not required	-
K0008	Site Reference 4422	RFI Global Services Ltd	N/A	N/A	Calibration not required	-
L0991	CMU 200	R&S	CMU200	111688	Calibration not required	-
M1068	Thermometer	Iso-Tech	RS55	93102884	09 Jul 2008	12
M1124	Spectrum Analyser	Rohde & Schwarz	ESIB26	100046K	09 Mar 2009	12
M1242	Spectrum Analyser	Rohde & Schwarz, Inc.	FSEM30	845986/022	09 Dec 2008	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	16 Feb 2009	12

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval (Months)
S0520	DC Power Supply Unit	GW instek	GPC-3030	E835141	Calibrated before use	-

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