TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: iCon451

To: FCC Part 22: 2008 Subpart H

Test Report Serial No:
RFI/RPT1/RP74528JD12B

This Test Report Is Issued Under The Authority Of Brian Watson, Operations Director:	 pp
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:	47CFR22
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 22 Subpart H (Public Mobile 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	Receiver/Idle Mode AC Conducted Spurious Emissions	AC Mains Input	✓
FCC Part 15: Section 15.109	Receiver/Idle Mode Radiated Spurious Emissions	Enclosure	✓
C.F.R. 47 FCC Part 15: Section 15.207	Transmitter AC Conducted Spurious Emissions	AC Mains Input	✓
FCC Part 22: Section 22.913(a)	Transmitter Effective Radiated Power (ERP)	Antenna	✓
FCC Part 22: Section 22.355	Transmitter Frequency Stability (Temperature Variation)	Antenna	✓
FCC Part 22: Section 22.355	Transmitter Frequency Stability (Voltage Variation)	Antenna	✓
FCC Part 22: Section 2.1049	Transmitter Occupied Bandwidth	Antenna	✓
FCC Part 22: Section 2.1053/22.917	Transmitter Out of Band Radiated Emissions	Antenna	✓
FCC Part 22: Section 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)

Description:	USB modem
Brand Name:	Option nv
Model Name or Number:	iCon451
Serial Number:	Not stated
IMEI Number(s):	004401441081664 004401441088271 004401441080757 004401441080963
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:	GSM 850		
Type of Radio Device:	USB Modem		
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 (ERP):	30.1 dBm		
Transmit Frequency Range:	824 to 849 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	128	824.2
	Middle	190	836.4
	Top	251	848.8
Receive Frequency Range:	869 to 894 MHz		
Receive Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	128	869.2
	Middle	190	881.4
	Top	251	893.8

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):

- Receiver/idle mode.
- Constantly transmitting at full power on bottom, centre and top channels as required.
- Circuit switched occupied bandwidth, ERP and band edge tests were performed with the EUT in GSM single timeslot circuit switched mode.
- Packet switched occupied bandwidth, ERP 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 ERP 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 ERP were obtained with the laptop PC in its normal operating position, bottom downwards and screen open.
- 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. Receiver/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 (°C):	17
Relative Humidity (%):	36

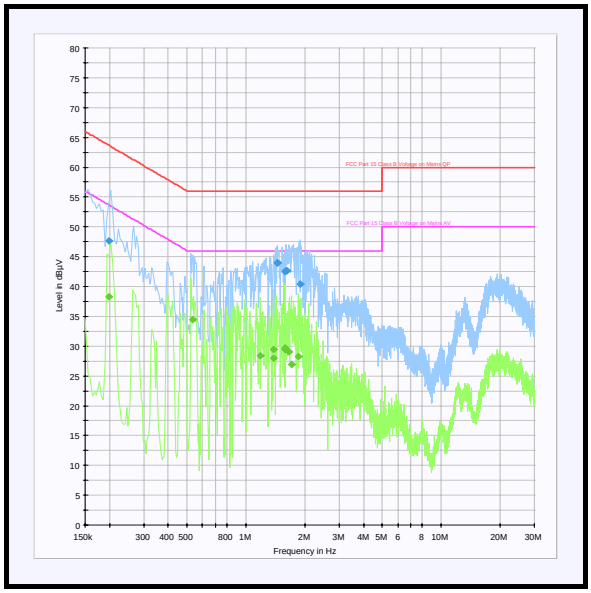
Results: Quasi Peak Detector Measurements

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	Live 1	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

Receiver/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. Receiver/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
EUT Tested (IMEI):	004401441081664

Environmental Conditions:

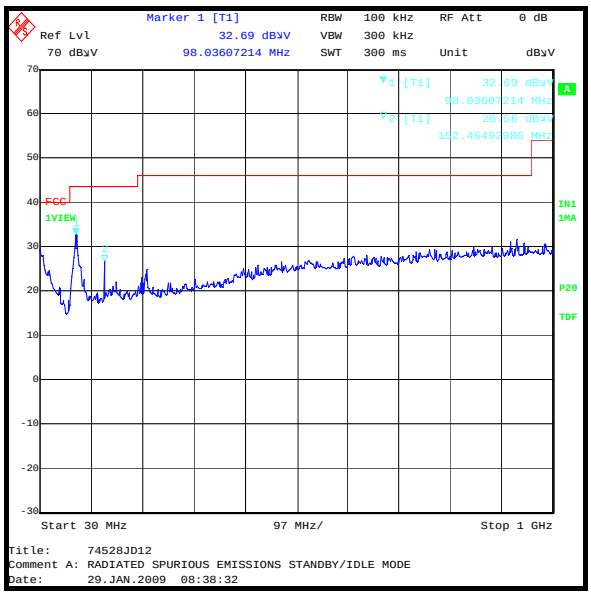
Temperature (°C):	21
Relative Humidity (%):	33

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

Note(s):

1. The emission at 100 MHz was investigated and found to be radiating from the EUT. The emission at 153 MHz was investigated and found to be ambient.



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

Receiver/Idle Mode Radiated Spurious Emissions (continued)

Test Summary:

FCC Part:	15.109
Frequency Range:	1 GHz to 5 GHz
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes
EUT Tested (IMEI):	004401441081664

Environmental Conditions:

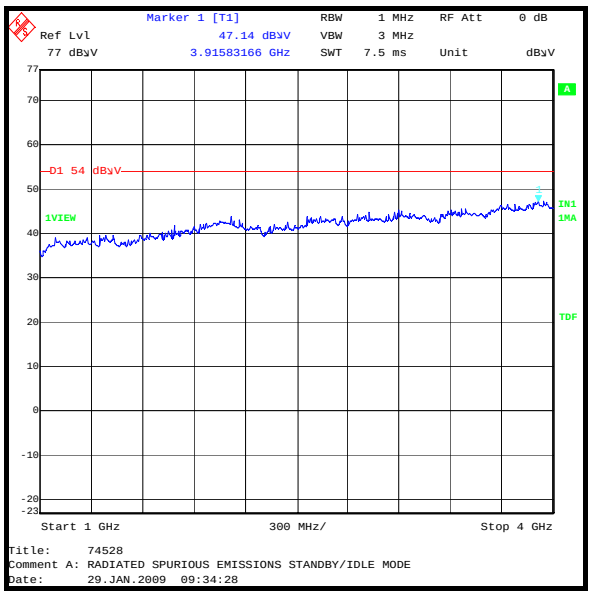
Temperature Range (°C):	21 to 24
Relative Humidity Range (%):	33 to 22

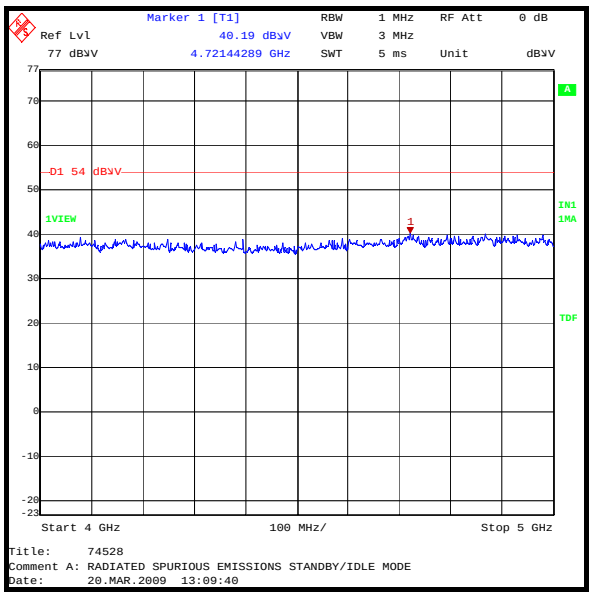
Results: Highest Peak Level

Frequency (GHz)	Antenna Polarity	Detector Level (dBµV/m)	Transducer Factor (dB)	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
3.915	Horizontal	41.5	5.6	47.1	54.0	6.9	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.





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

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 (°C):	17
Relative Humidity (%):	36

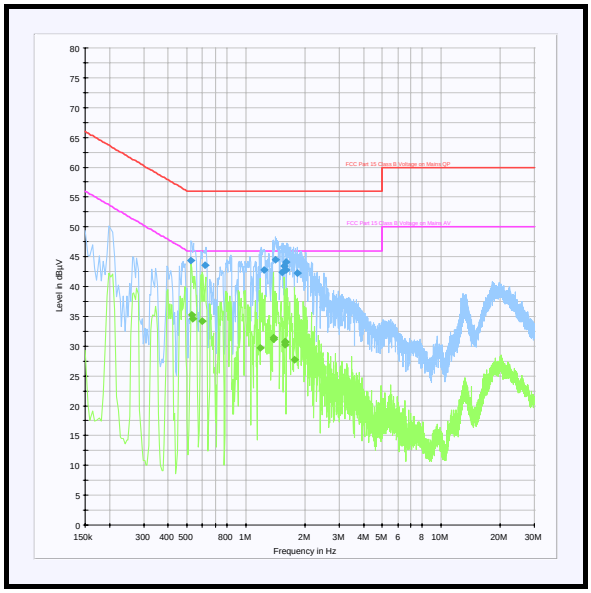
Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Quasi Peak Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.523500	Live 1	44.3	56.0	11.7	Complied
0.618000	Live 1	43.5	56.0	12.5	Complied
1.239000	Neutral	42.7	56.0	13.3	Complied
1.423500	Live 1	44.5	56.0	11.5	Complied
1.536000	Live 1	42.3	56.0	13.7	Complied
1.572000	Live 1	43.4	56.0	12.6	Complied
1.599000	Live 1	42.8	56.0	13.2	Complied
1.608000	Neutral	44.1	56.0	11.9	Complied
1.828500	Live 1	42.2	56.0	13.8	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.528000	Neutral	35.3	46.0	10.8	Complied
0.532500	Live 1	34.6	46.0	11.4	Complied
0.595500	Neutral	34.2	46.0	11.8	Complied
1.189500	Neutral	29.7	46.0	16.3	Complied
1.383000	Neutral	31.2	46.0	14.8	Complied
1.387500	Neutral	31.4	46.0	14.6	Complied
1.581000	Neutral	30.7	46.0	15.3	Complied
1.585500	Neutral	30.7	46.0	15.3	Complied
1.590000	Live 1	30.2	46.0	15.8	Complied
1.774500	Neutral	27.7	46.0	18.3	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.

5.6. 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
EUT Tested (IMEI):	004401441080757

Environmental Conditions:

Temperature (°C):	22 to 24
Relative Humidity (%):	31 to 32

Results: GSM

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter (dBm)	Limit (dBm)	Margin (dBm)	Result
Bottom	824.2	Horizontal	29.5	38.5	9.0	Complied
Middle	836.4	Horizontal	30.1	38.5	8.4	Complied
Top	848.8	Horizontal	30.1	38.5	8.4	Complied

Results: GPRS

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter (dBm)	Limit (dBm)	Margin (dBm)	Result
Bottom	824.2	Horizontal	26.7	38.5	11.8	Complied
Middle	836.4	Horizontal	27.2	38.5	11.3	Complied
Top	848.8	Horizontal	27.3	38.5	11.2	Complied

Results: EGPRS/8PSK

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter (dBm)	Limit (dBm)	Margin (dBm)	Result
Bottom	824.2	Horizontal	24.2	38.5	14.3	Complied
Middle	836.4	Horizontal	25.3	38.5	13.2	Complied
Top	848.8	Horizontal	25.4	38.5	13.1	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:	22.355
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.2 referencing FCC CFR Part 2.1055
EUT Tested (IMEI):	004401441081664

Environmental Conditions:

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

Results: Middle Channel (836.4 MHz)

Temperature (°C)	Measured Frequency (MHz)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Margin (ppm)	Result
-30	836.399984	-16	0.0191	2.5	2.48	Complied
-20	836.399978	-22	0.0263	2.5	2.47	Complied
-10	836.399975	-25	0.0299	2.5	2.47	Complied
0	836.399988	-12	0.0143	2.5	2.49	Complied
10	836.400033	33	0.0395	2.5	2.46	Complied
20	836.399986	-14	0.0167	2.5	2.48	Complied
30	836.399986	-14	0.0167	2.5	2.48	Complied
40	836.400016	16	0.0191	2.5	2.48	Complied
50	836.400028	28	0.0335	2.5	2.47	Complied

5.8. 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
EUT Tested (IMEI):	004401441081664

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	30

Results: Middle Channel (836.4 MHz)

Supply Voltage (V)	Measured Frequency (MHz)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Margin (ppm)	Result
4.25	836.399983	-17	0.0203	2.5	2.48	Complied
5.75	836.399973	-27	0.0323	2.5	2.47	Complied

5.9. Transmitter Occupied Bandwidth

Test Summary:

FCC Part:	2.1049
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:

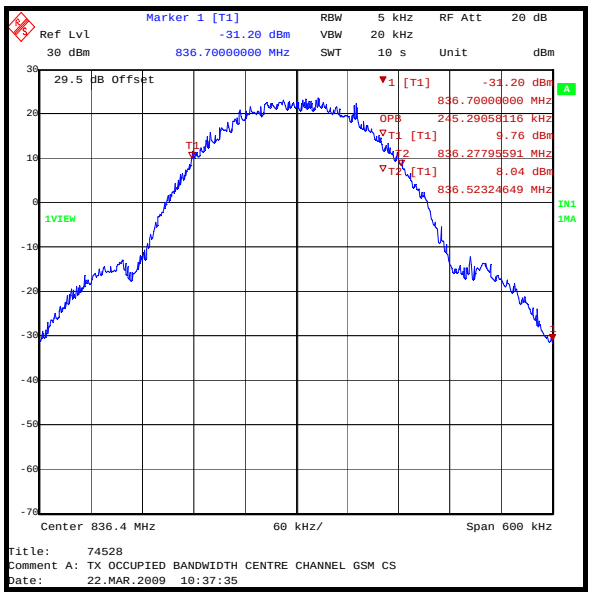
Temperature (°C):	22
Relative Humidity (%):	24

Results: GSM

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



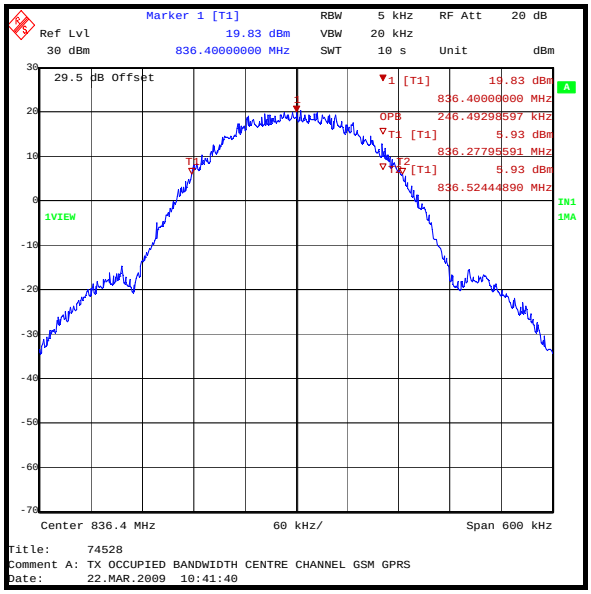
Transmitter Occupied Bandwidth (continued)

Results: GPRS

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	246.493

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.



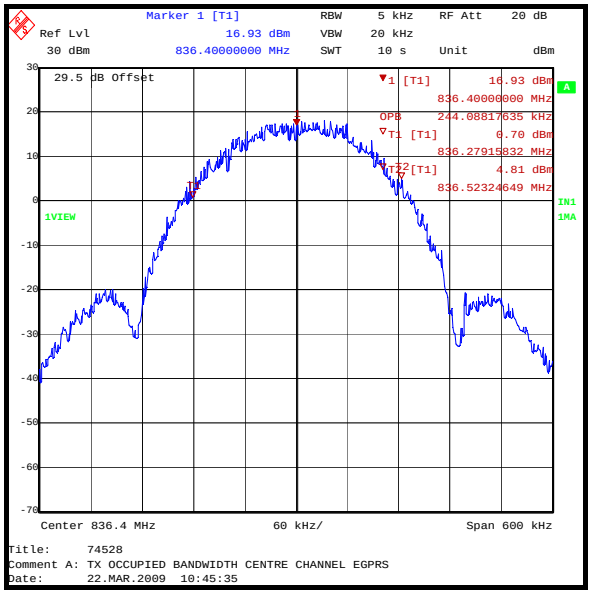
Transmitter Occupied Bandwidth (continued)

Results: EGPRS / 8PSK

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



5.10. Transmitter Out of Band Radiated Emissions

Test Summary:

FCC Part:	2.1053 & 22.917
Test Method Used:	As detailed in ANSI C63.4 Section8 and relevant annexes referencing FCC CFR Part 2.1049
EUT Tested (IMEI):	004401441088271

Environmental Conditions:

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

Note(s):

1. The plots shown are pre-scans and for indication purposes only. For final measurements, see accompanying tables.
2. The uplink and downlink traffic channels and downlink control channel are shown on the 30 MHz to 1 GHz plot
3. Pre-scans were performed in GSM circuit switched mode at maximum power on the top channel as this produced the highest ERP. 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.
4. Final measurements were performed on the bottom, centre and top channels. Appropriate use of RF attenuators and filters was made 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.
7. The band edge result was obtained by using a spectrum analyser with measurement bandwidth >1% of the emission bandwidth in the 1 MHz bands outside and adjacent to the band edges.

Results: GSM Bottom Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1648.490	-22.1	-13.0	9.1	Complied

Results: GSM Middle Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1672.790	-21.3	-13.0	8.3	Complied

Results: GSM Top Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1697.685	-19.9	-13.0	6.9	Complied

Transmitter Out of Band Radiated Emissions (continued)

Results: GPRS Bottom Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1648.350	-26.6	-13.0	13.6	Complied

Results: GPRS Middle Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1672.790	-25.9	-13.0	12.9	Complied

Results: GPRS Top Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1697.505	-24.2	-13.0	11.2	Complied

Transmitter Out of Band Radiated Emissions (continued)

Results: EGPRS / 8PSK Bottom Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1648.490	-28.5	-13.0	15.5	Complied

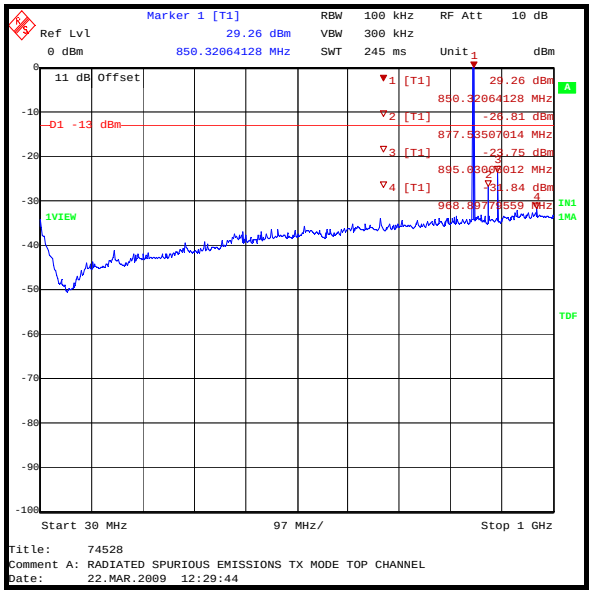
Results: EGPRS / 8PSK Middle Channel

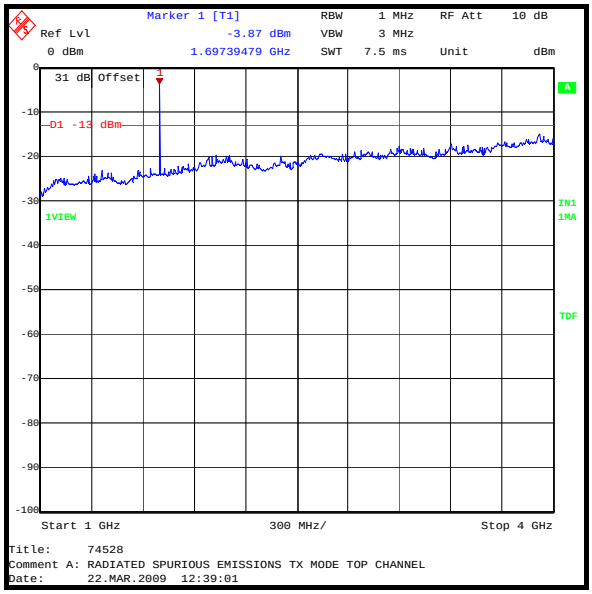
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1672.790	-26.3	-13.0	13.3	Complied

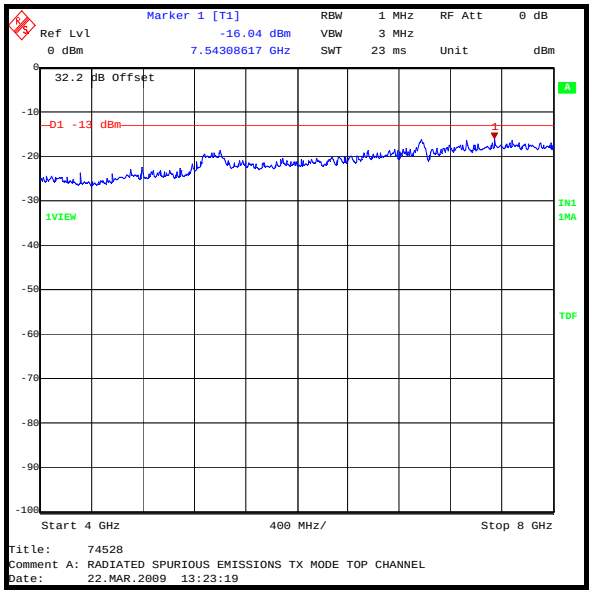
Results: EGPRS / 8PSK Top Channel

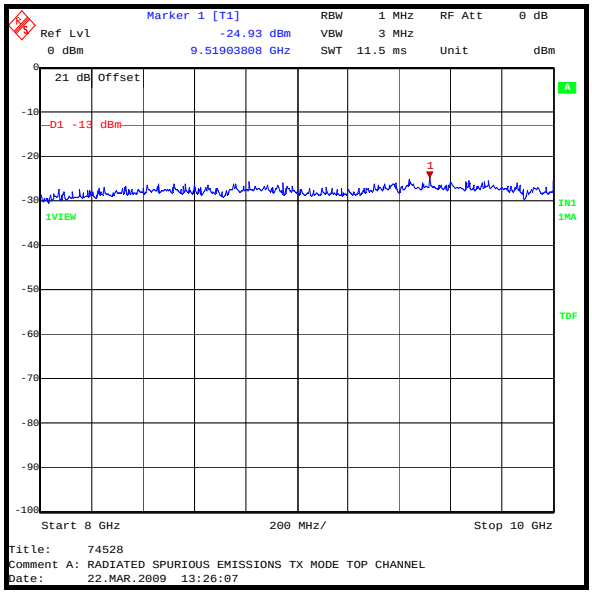
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1697.545	-24.6	-13.0	11.6	Complied

Transmitter Out of Band Radiated Emissions (continued)









5.11. Transmitter Radiated Emissions at Band Edges

Test Summary:

FCC Part:	2.1053 & 22.917
Test Method Used:	As detailed in ANSI C63.4 Section13 and relevant annexes referencing FCC CFR Part 2.1049
EUT Tested (IMEI):	004401441080757

Environmental Conditions:

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

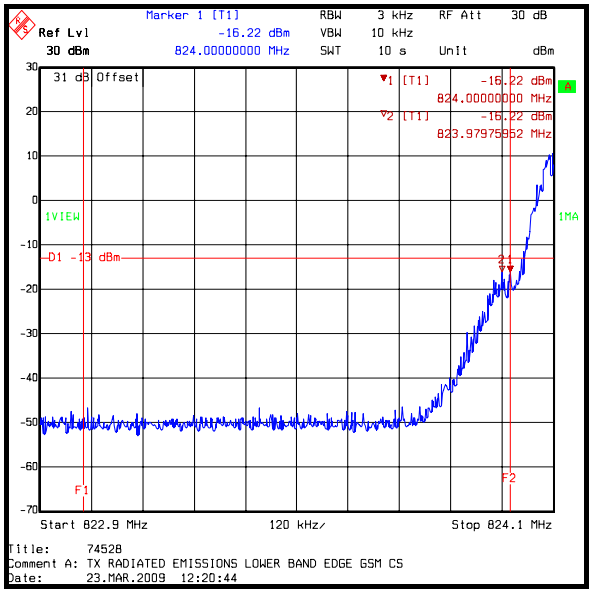
Results: GSM Bottom Band Edge

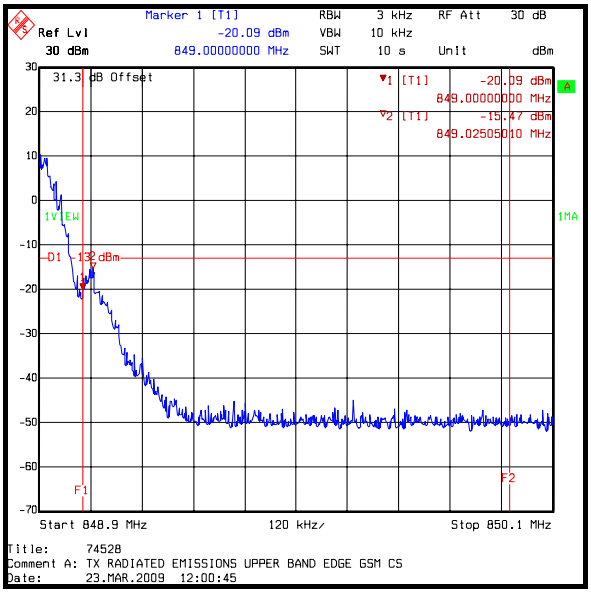
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-16.2	-13.0	3.2	Complied

Results: GSM Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-20.1	-13.0	7.1	Complied

Transmitter Radiated Emissions at Band Edges (continued)





Transmitter Radiated Emissions at Band Edges (continued)

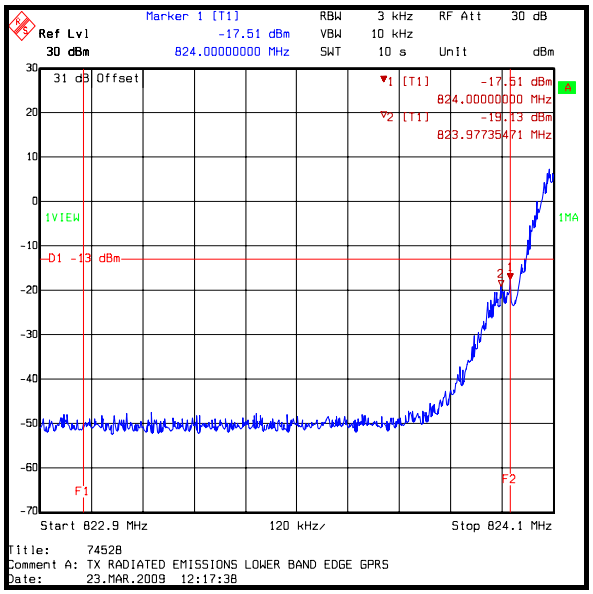
Results: GPRS Bottom Band Edge

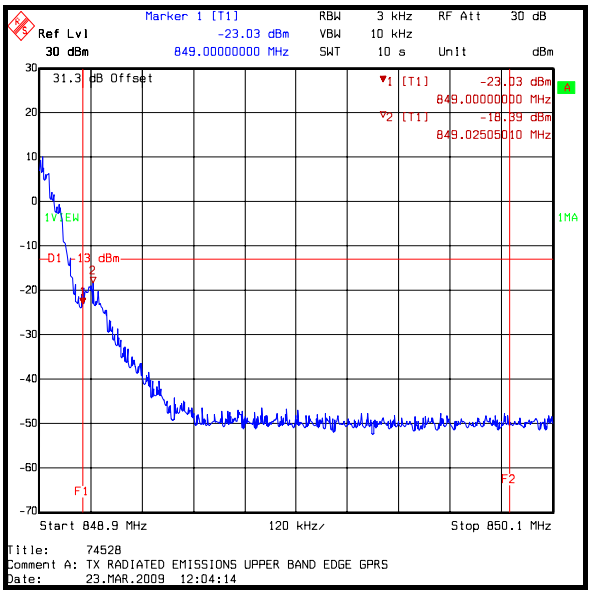
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-17.5	-13.0	4.5	Complied

Results: GPRS Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-23.0	-13.0	10.0	Complied

Transmitter Radiated Emissions at Band Edges (continued)





Transmitter Radiated Emissions at Band Edges (continued)

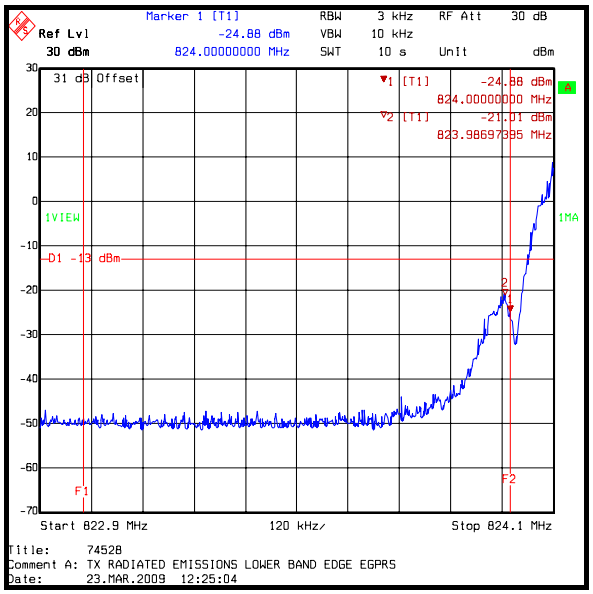
Results: EGPRS/8PSK Bottom Band Edge

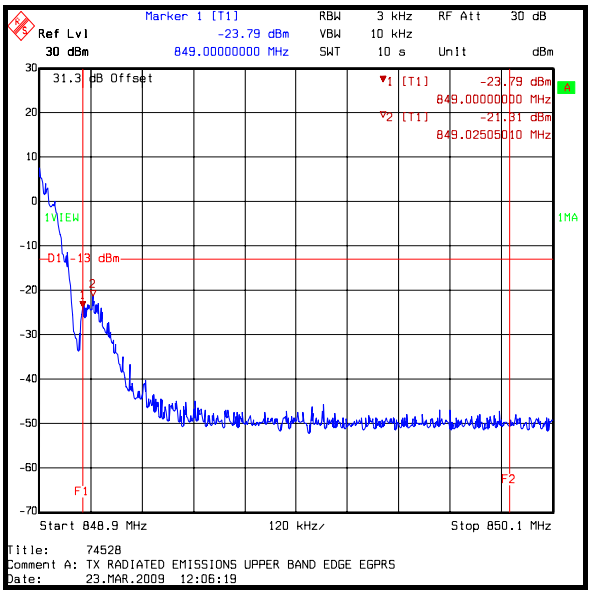
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-24.9	-13.0	11.9	Complied

Results: EGPRS/8PSK Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-23.8	-13.0	10.8	Complied

Transmitter Radiated Emissions at Band Edges (continued)





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)	824 to 849 MHz	95%	±2.94 dB
Frequency Stability	824 to 849 MHz	95%	±11.4 Hz
Occupied Bandwidth	824 to 849 MHz	95%	±11.4 Hz
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	-
A1391	Attenuator	HUBER + SUHNER AG	757987	6810.17.B	Calibrated before use	-
A1392	Attenuator	HUBER + SUHNER AG	757456	6820.17.B	Calibrated before use	-
A1534	Pre Amplifier	Hewlett Packard	8449B OPT H02	3008A00405	Calibrated before use	-
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	-
L0990	R&S CMU 200	R&S	CMU 200	S220447	18 Feb 2009	12
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
M1269	Multimeter	Fluke	179	90250210	09 Apr 2008	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.