TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: NTT docomo P-07A

To: FCC Part 24: 2008 Subpart E

Test Report Serial No:
RFI/RPT1/RP74681JD01B

This Test Report Is Issued Under The Authority Of Brian Watson, Operations Director: 	
Checked By:	A.HENRIQUES
Signature: 	
Date of Issue:	20 March 2009

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1. Customer Information

Company Name:	Panasonic Mobile Communications Development of Europe Ltd.
Address:	Panasonic House Willoughby Road Bracknell Berkshire RG12 8FP

2. Summary of Testing

2.1. General Information

Specification Reference:	FCC Part 24: 2008 Subpart E (Broadband PCS)
Specification Title:	Code of Federal Regulations, Part 24 (CFR47) Personal Communication Services
Site Registration:	FCC: 209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	14 February to 03 March 2009

2.2. Summary of Test Results

FCC Reference (CFR 47)	Measurement	Port Type	Result
FCC Part 15: Section 15.107	Idle Mode AC Conducted Spurious Emissions	AC Mains	✓
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	✓
FCC Part 24: Section 24.232	Transmitter Effective Isotropic Radiated Power (EIRP)	Antenna	✓
FCC Part 24: Section 24.235	Transmitter Frequency Stability (Temperature & Voltage Variation)	Antenna	✓
FCC Part 24: Section 2.1049/24.238	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)

Brand Name:	NTT docomo
Model Name or Number:	P-07A
IMEI Number(s):	356753020050153
Hardware Version Number:	Rev C
Software Version Number:	B-WN908A-01.02.004 08-2H_CPF_Cv0713528
FCC ID Number:	UCE208014A

Description:	Micro SD Memory Card
Brand Name:	None stated
Model Name or Number:	None stated

Description:	Personal hands free
Brand Name:	NTT docomo
Model Name or Number:	Stereo Earphone Set 01

Description:	DC charger
Brand Name:	NTT docomo
Model Name or Number:	FOMA DC Adaptor 02

Description:	Charge / USB Data cable
Brand Name:	NTT docomo
Model Name or Number:	FOMA USB Cable with Charge Function 02

Description:	3.7V 800 mAh Li-ion Battery
Brand Name:	NTT docomo
Model Name or Number:	P19

Description:	AC Charger
Brand Name:	NTT docomo
Model Name or Number:	FOMA AC Adapter 01 for Global use / MAS-BH0008-A 002

3.2. Description of EUT

The equipment under test was a dual mode UMTS/GSM cellular handset with Bluetooth and RFID

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Technology Tested:	PCS1900		
Type of Radio Device:	Transceiver		
Mode:	GSM/GPRS		
Modulation Type:	GMSK		
Channel Spacing:	200 kHz		
Power Supply Requirement(s):	Nominal	3.7 V	
	Minimum	3.4 V	
	Maximum	4.2 V	
Maximum Output Power (EIRP):	GSM	30.3 dBm	
	GPRS	30.1 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:	Dummy battery
Brand Name:	Not stated
Model Name or Number:	Not stated
Serial Number:	Not stated

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

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

- Idle mode.
- Constantly transmitting at full power on bottom, centre and top channels as required.
- Occupied bandwidth, EIRP and band edge tests were performed with the EUT in GSM single timeslot circuit switched and GPRS Multislot Class 10 with the unit transmitting on two timeslots in the uplink.
- Transmitter radiated spurious emissions were checked in all modes during prescans. 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):

- Connected to a GSM/GPRS system simulator, operating in transceiver mode.
- The Micro SD card was installed during all tests.
- Idle mode and transmitter mode radiated spurious emissions tests were performed with the mains charger connected to the EUT and 120VAC supply as this was found to be the worst case during prescans. All accessories were individually connected and measurements made during prescans to determine the worst case combination.

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6. Measurement Uncertainty* for details.

5.2. Test Results

5.3. 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

Environmental Conditions:

Temperature (°C):	17
Relative Humidity (%):	39

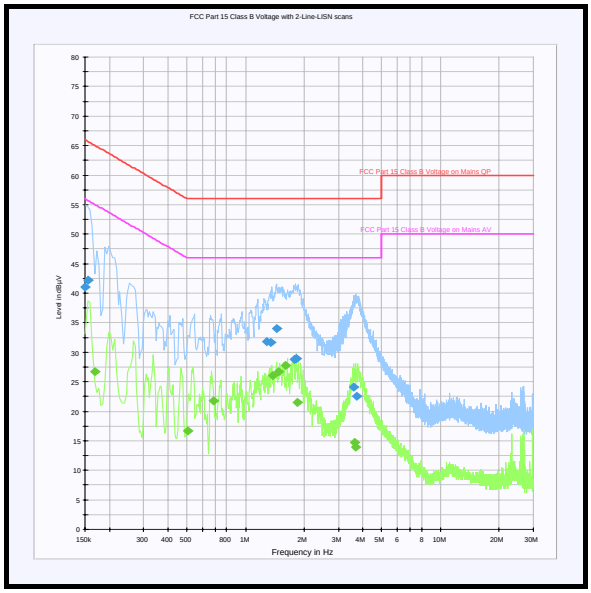
Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Quasi Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.150000	Live	41.0	66.0	25.0	Complied
0.154500	Live	42.2	65.8	23.6	Complied
1.284000	Live	31.8	56.0	24.2	Complied
1.347000	Live	31.7	56.0	24.3	Complied
1.450500	Live	34.0	56.0	22.0	Complied
1.788000	Live	28.9	56.0	27.1	Complied
1.828500	Live	28.9	56.0	27.1	Complied
3.606000	Live	24.1	56.0	31.9	Complied
3.727500	Live	22.6	56.0	33.4	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.168000	Live	26.7	55.1	28.4	Complied
0.505500	Live	16.7	46.0	29.3	Complied
0.681000	Live	21.7	46.0	24.3	Complied
1.383000	Live	26.0	46.0	20.0	Complied
1.477500	Live	26.7	46.0	19.3	Complied
1.599000	Neutral	27.7	46.0	18.3	Complied
1.837500	Live	21.5	46.0	24.5	Complied
3.615000	Live	14.7	46.0	31.3	Complied
3.687000	Live	13.9	46.0	32.1	Complied

Idle Mode Conducted Spurious Emissions (continued)



5.4. Idle Mode Radiated Spurious Emissions

Test Summary:

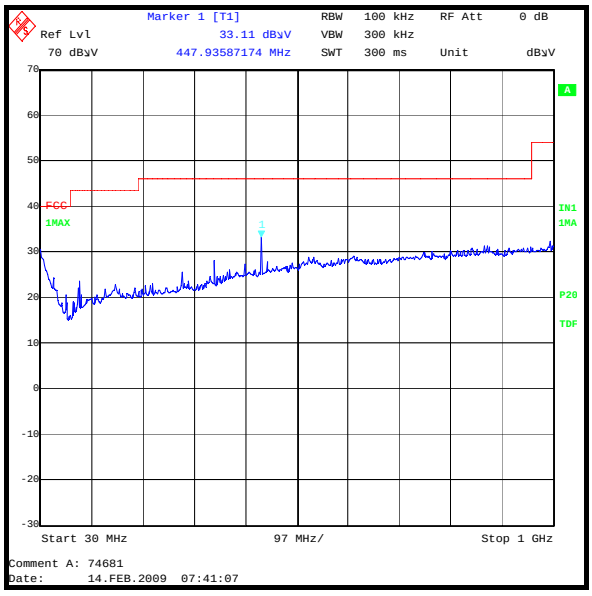
FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes
Frequency Range:	30 MHz to 12.75 GHz

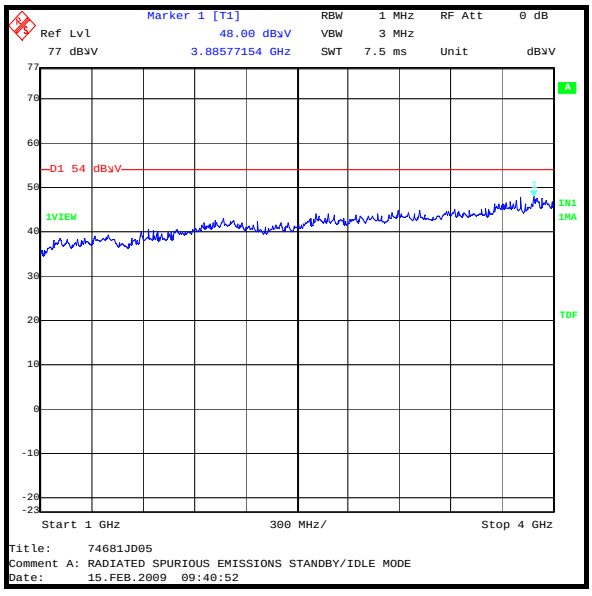
Environmental Conditions:

Temperature (°C):	20
Relative Humidity (%):	23

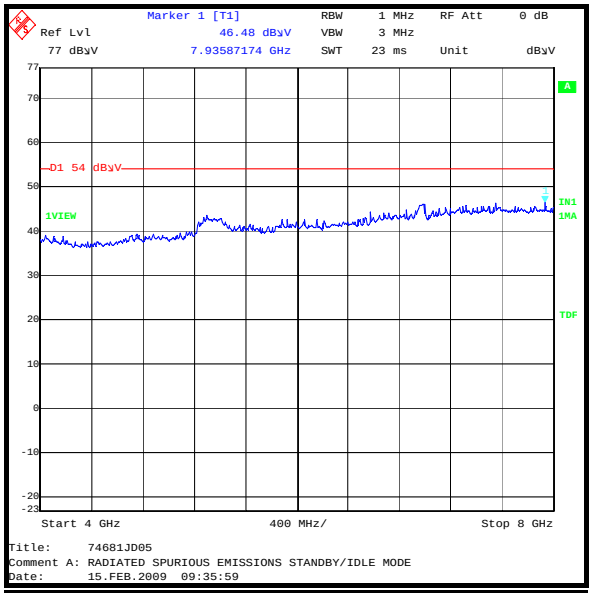
Results:

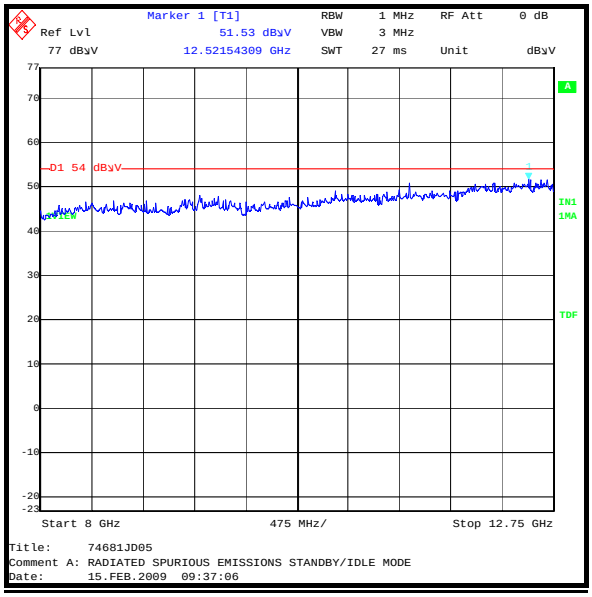
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
447.178	Horizontal	33.9	46.0	12.1	Complied





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

Environmental Conditions:

Temperature (°C):	18
Relative Humidity (%):	42

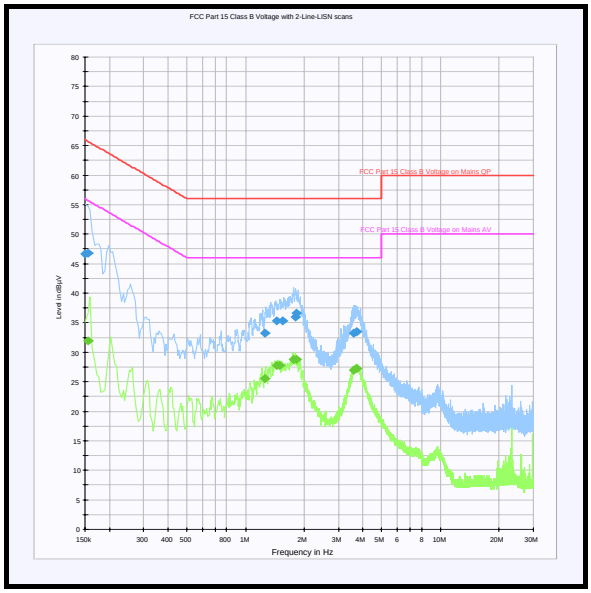
Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Quasi Peak Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.150000	Live	46.6	66.0	19.4	Complied
0.154500	Live	46.7	65.8	19.1	Complied
1.261500	Neutral	33.3	56.0	22.7	Complied
1.441500	Neutral	35.4	56.0	20.6	Complied
1.549500	Neutral	35.3	56.0	20.7	Complied
1.792500	Neutral	36.0	56.0	20.0	Complied
1.819500	Neutral	36.6	56.0	19.4	Complied
3.588000	Neutral	33.3	56.0	22.7	Complied
3.723000	Neutral	33.5	56.0	22.5	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Average Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.154500	Live	32.0	55.8	23.8	Complied
1.261500	Neutral	25.6	46.0	20.4	Complied
1.437000	Neutral	27.7	46.0	18.3	Complied
1.486500	Neutral	27.8	46.0	18.2	Complied
1.761000	Neutral	28.9	46.0	17.1	Complied
1.815000	Neutral	28.7	46.0	17.3	Complied
3.592500	Neutral	26.9	46.0	19.1	Complied
3.723000	Neutral	27.2	46.0	18.8	Complied
0.154500	Live	32.0	55.8	23.8	Complied

Transmitter AC Conducted Spurious Emissions (continued)



5.6. Transmitter Effective 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

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	23

Results: GSM Circuit Switched

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter (dBm)	Limit (dBm)	Margin (dBm)	Result
Bottom	1850.2	Vertical	29.4	33.0	3.6	Complied
Middle	1879.8	Horizontal	30.3	33.0	2.7	Complied
Top	1909.8	Horizontal	30.3	33.0	2.7	Complied

Results: GPRS

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter (dBm)	Limit (dBm)	Margin (dBm)	Result
Bottom	1850.2	Horizontal	28.7	33.0	4.3	Complied
Middle	1879.8	Horizontal	30.1	33.0	2.9	Complied
Top	1909.8	Vertical	28.9	33.0	4.1	Complied

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

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	30

Results: Bottom Channel (1850.2 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
-30	-29	1850.199971	1850.0	0.199971	Complied
-20	-44	1850.199952	1850.0	0.199952	Complied
-10	-37	1850.199963	1850.0	0.199963	Complied
0	-26	1850.199974	1850.0	0.199974	Complied
10	-33	1850.199967	1850.0	0.199967	Complied
20	-24	1850.199976	1850.0	0.199976	Complied
30	-37	1850.199963	1850.0	0.199963	Complied
40	-26	1850.199974	1850.0	0.199926	Complied
50	-48	1850.199952	1850.0	0.019952	Complied

Results: Top Channel (1909.8 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
-30	-25	1909.799975	1910.0	0.200025	Complied
-20	-42	1909.799958	1910.0	0.200042	Complied
-10	-56	1909.799944	1910.0	0.200056	Complied
0	-38	1909.799962	1910.0	0.200038	Complied
10	-46	1909.799954	1910.0	0.200046	Complied
20	-31	1909.799969	1910.0	0.200031	Complied
30	-51	1909.799949	1910.0	0.200049	Complied
40	-38	1909.799962	1910.0	0.200038	Complied
50	-54	1909.799946	1910.0	0.200054	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

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	30

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	-46	1850.199954	1850	0.199954	Complied
4.2	-33	1850.199967	1850	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	-41	1909.799959	1910	0.200041	Complied
4.2	-35	1909.799965	1910	0.200035	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 (see note below)
Modulation:	GSM

Environmental Conditions:

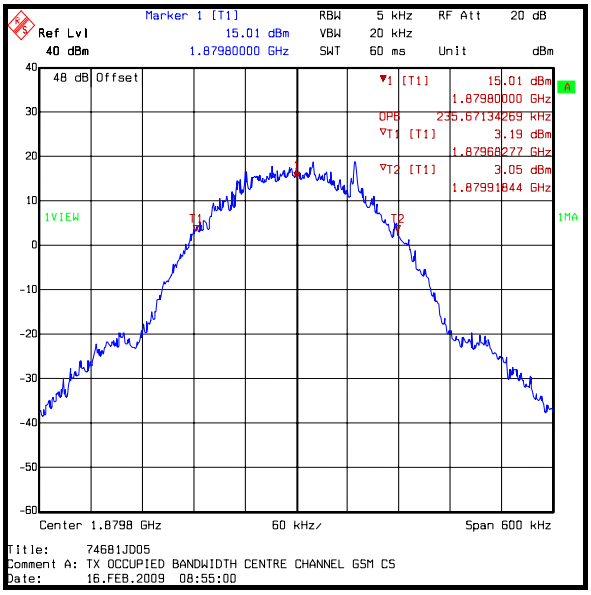
Temperature (°C):	21
Relative Humidity (%):	28

Results:

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	1879.8	235.671

Note(s):

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



Transmitter Occupied Bandwidth (continued)

Test Summary:

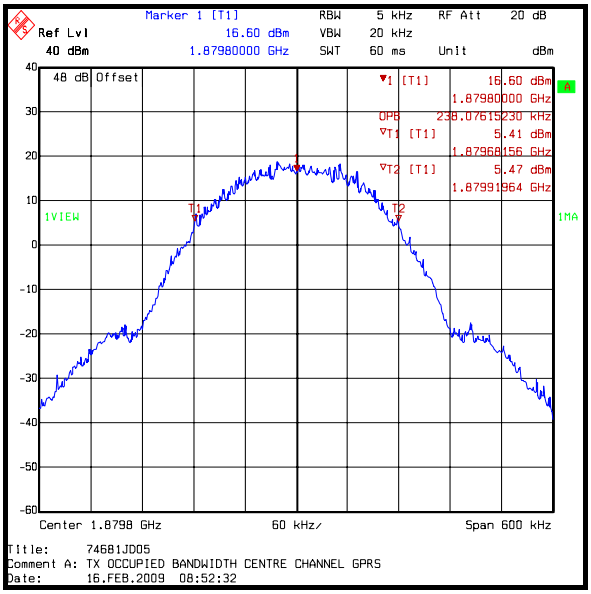
FCC Part:	24.238
Test Method Used:	As detailed in ANSI C63.4 Section13.1.7 and relevant annexes referencing FCC CFR Part 2.1049 (see note below)
Modulation:	GPRS

Results:

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	1879.8	238.076

Note(s):

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



5.10. Transmitter Out of Band Radiated Emissions

Test Summary:

FCC Part:	2.1053 & 24.238
Frequency Range:	30 MHz to 20 GHz
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 (%):	23

Results: Bottom Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
3700.410	-28.6	-13.0	15.6	Complied
5550.571	-28.4	-13.0	15.4	Complied
9250.930	-30.6	-13.0	17.6	Complied

Results: Middle Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
3759.589	-28.2	-13.0	15.2	Complied
5639.470	-32.4	-13.0	19.4	Complied
9398.950	-27.7	-13.0	14.7	Complied

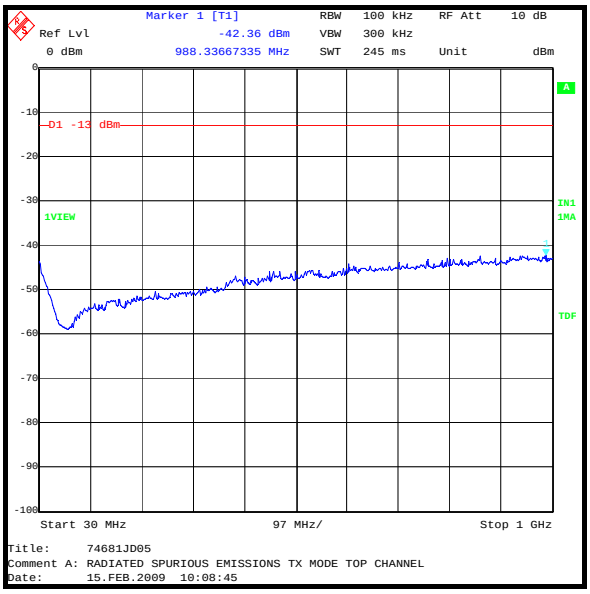
Results: Top Channel

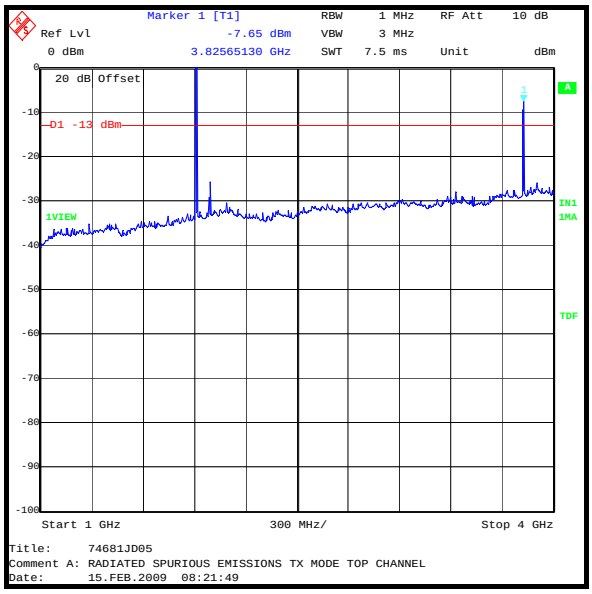
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
3819.690	-29.7	-13.0	16.7	Complied
5729.409	-30.9	-13.0	17.9	Complied
9549.068	-28.9	-13.0	15.8	Complied

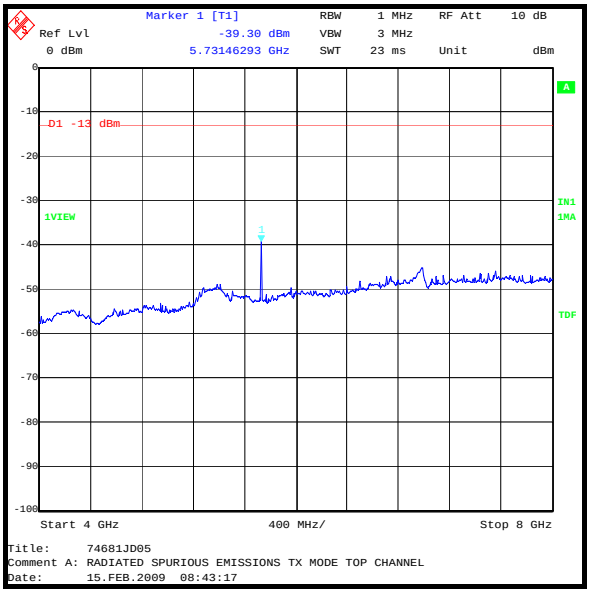
Note(s):

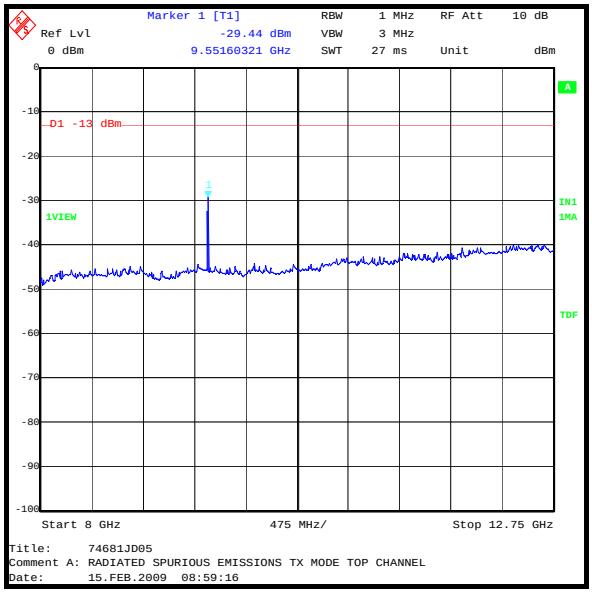
1. The uplink traffic channel is shown on the 1 GHz to 4 GHz plot at approximately 1909 MHz and downlink traffic channel at approximately 1990 MHz

Transmitter Out of Band Radiated Emissions (continued)

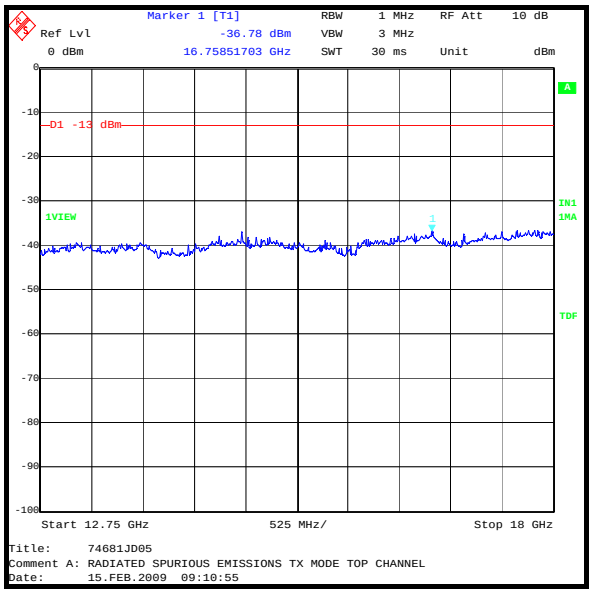


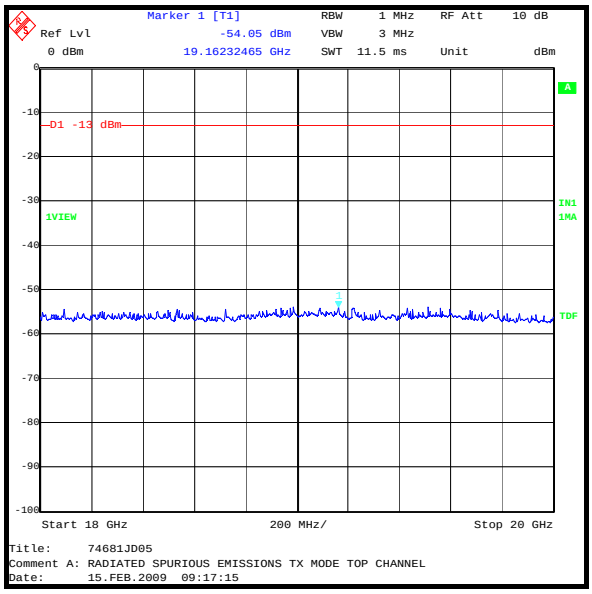






Transmitter Out of Band Radiated Emissions (continued)





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

5.11. 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
Modulation:	GSM

Environmental Conditions:

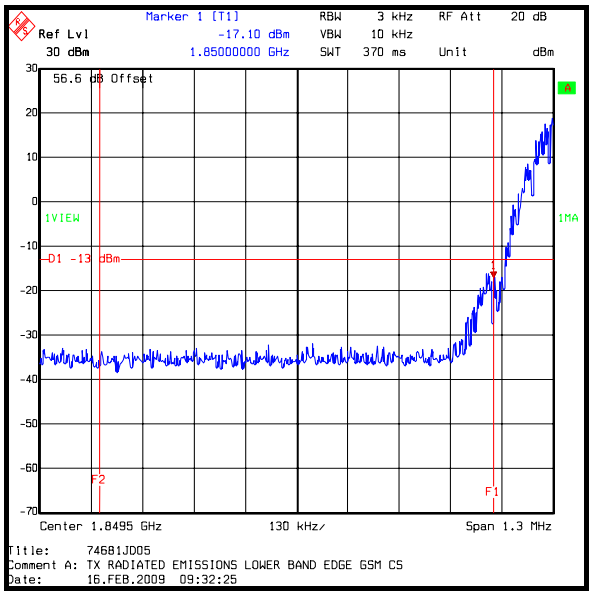
Temperature (°C):	21
Relative Humidity (%):	28

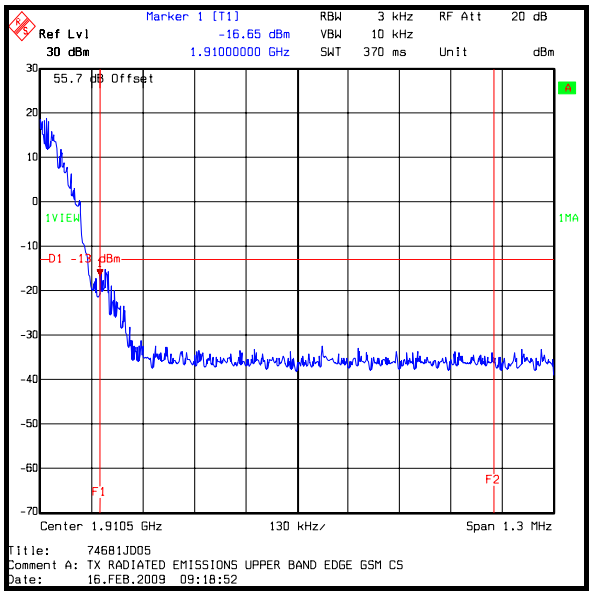
Results: Bottom Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1850	-17.1	-13.0	4.1	Complied

Results: Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1910	-16.7	-13.0	3.7	Complied





Transmitter Radiated Emissions at Band Edges (continued)

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
Modulation:	GPRS

Environmental Conditions:

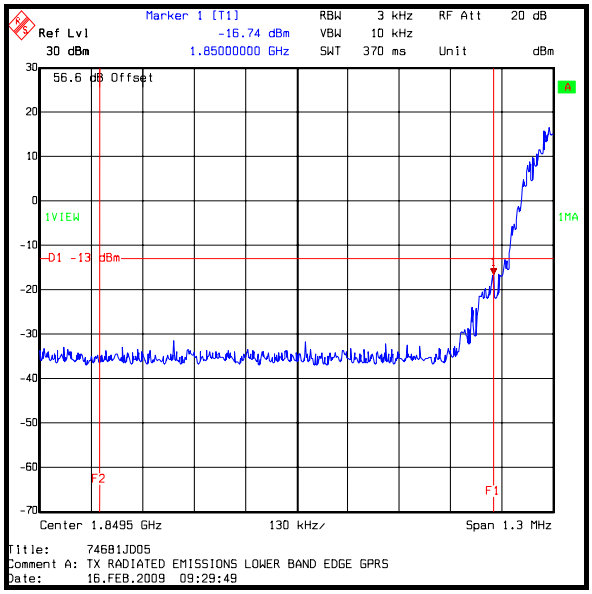
Temperature (°C):	21
Relative Humidity (%):	28

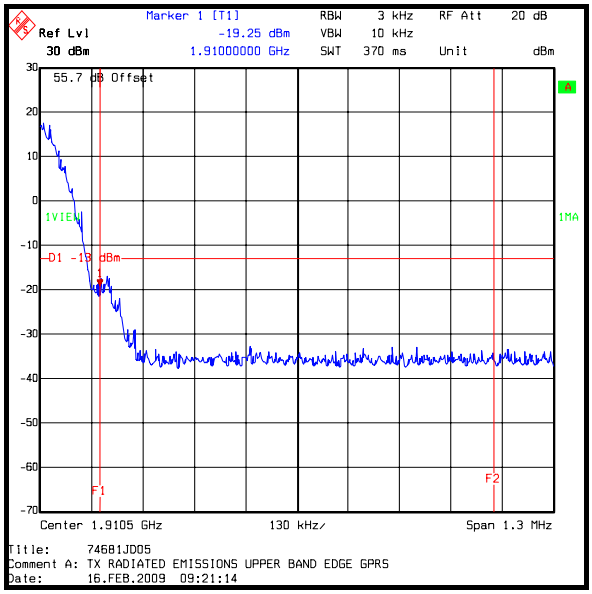
Results: Bottom Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1850	-16.7	-13.0	3.7	Complied

Results: Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
1910	-19.3	-13.0	6.3	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)	Not applicable	95%	±2.94 dB
Frequency Stability	Not applicable	95%	±11.4 ppm
Occupied Bandwidth	824 to 849 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	LISN	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	-
A1393	Attenuator	Huber + Suhner	757456	6820.17.B	Calibrated before use	-
A1396	Attenuator	Huber + Suhner	757987	6810.17.B	Calibrated before use	-
A1534	Pre Amplifier	Hewlett Packard	8449B OPT H02	3008A00405	Calibrated before use	-
A1818	Antenna	EMCO	3115	00075692	25 Oct 2008	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	05 Jan 2009	12
E013	Environmental Chamber	Sanyo	ATMOS chamber	None	Calibration before use	-
E0516	Environmental Chamber	TAS	LT1000	23880706	Calibration before use	-
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	26 Aug 2008	12
L0990	Telecommunications Test Set	Rohde & Schwarz	CMU 200	S220447	18 Feb 2009	12
M1068	Thermometer	Iso-Tech	RS55	93102884	09 Jul 2008	12
M1124	Spectrum Analyser	Rohde & Schwarz	ESIB26	100046K	19 Feb 2009	12
M1242	Spectrum Analyser	Rohde & Schwarz	FSEM30	845986/022	09 Dec 2008	12
M1269	Multimeter	Fluke	179	90250210	09 Apr 2008	12
M127	Spectrum Analyser	Rohde & Schwarz	FSEB30	842 659/016	21 Aug 2008	12
M1379	Test Receiver	Rohde & Schwarz	ESIB7	100330	14 Aug 2008	12

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