



TEST REPORT FROM RFI GLOBAL SERVICES LTD



Test of: NTT docomo P-05C

FCC ID: UCE211039A

To: FCC Part 24: 2010 Subpart E

Test Report Serial No:
RFI-RPT-RP81001JD10B V2.0

Version 2.0 supersedes all previous versions

This Test Report Is Issued Under The Authority Of Chris Guy, Head of Global Approvals:	
	
Checked By:	Ian Watch
Signature:	
Date of Issue:	14 April 2011

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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) 2010: Part 24 Subpart E (Personal Communication Services)
Specification Reference:	47CFR15.107 and 47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart B (Unintentional Radiators) - Sections 15.107 and 15.109
Site Registration:	209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	13 March 2011 to 04 April 2011

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.107(a)	Receiver/Idle Mode AC Conducted Spurious Emissions	
Part 15.109	Receiver/Idle Mode Radiated Spurious Emissions	
Part 24.232	Transmitter Effective Isotropic Radiated Power (EIRP)	
Part 2.1046	Transmitter Conducted Output Power	Note 1
Parts 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		

Note 1: The measurement was performed to support SAR tests.

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:	NTT docomo
Model Name or Number:	P-05C
IMEI:	355320040013412 (<i>Radiated sample #1</i>) 355320040013420 (<i>Radiated sample #2</i>) 355320040012406 (<i>Conducted sample</i>)
Hardware Version Number:	Rev C
Software Version Number:	B-D11SL1-00.01.037 D11SL1_Cv58091405
FCC ID:	UCE211039A

Brand Name:	NTT docomo
Description:	Battery
Model Name or Number:	P20*

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

Brand Name:	NTT docomo
Description:	DC Charger
Model Name or Number:	FOMA DC Adapter 02

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

Brand Name:	NTT docomo
Description:	Personal Hands-Free
Model Name or Number:	Stereo Earphone Set 01

3.2. Description of EUT

The equipment under test was a dual mode cellular mobile telephone with *Bluetooth*, WLAN and RFID.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Technology Tested:	PCS1900		
Type of Radio Device:	Transceiver		
Mode:	GSM/GPRS		
Modulation Type:	GMSK		
Channel Spacing:	200 kHz		
Antenna Gain:	-0.7 dBi		
Power Supply Requirement(s):	Nominal	3.7 V	
	Minimum	3.4 V	
	Maximum	4.2 V	
Maximum Output Power (EIRP):	GSM	29.3 dBm	
	GPRS	26.7 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:	Generic
Brand Name:	Micro SD memory card
Model Name or Number:	Not marked or stated

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

Description:	Buffalo
Brand Name:	USB Hub
Model Name or Number:	BSH4U01

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, 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 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 sample with IMEI 355320040013420 was used for AC conducted emissions tests. The sample with IMEI 355320040013412 was used for spurious emissions and EIRP tests. The sample with IMEI 355320040012406 was used for all other measurements.
- The SDRAM card was present in the EUT during all testing.
- The dummy battery was fitted for frequency stability measurements.
- Idle mode and transmitter mode radiated spurious emissions tests were performed with the AC charger connected to the EUT as this was found to be the worst case during pre-scans. All accessories were individually connected and measurements made during pre-scans to determine the worst case combination.
- Connected to a GSM/GPRS 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**5.2.1. Receiver/Idle Mode AC Conducted Spurious Emissions****Test Summary:**

Test Engineer:	Patrick Jones	Test Date:	16 March 2011
Test Sample Serial No:	355320040013420		

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

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	29

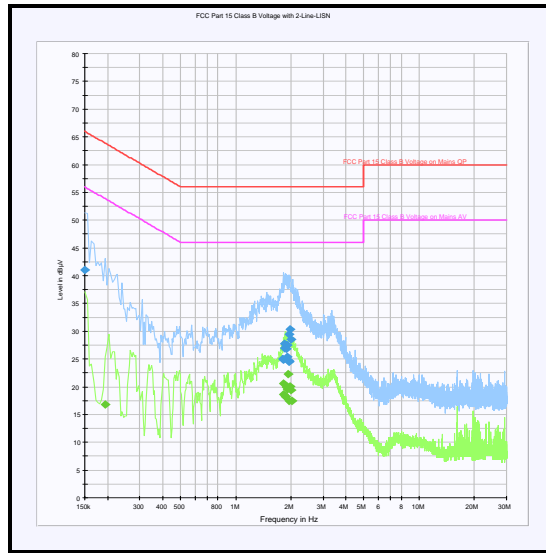
Results: Quasi Peak

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.150000	Neutral	41.0	66.0	25.0	Complied
1.806000	Live	25.0	56.0	31.0	Complied
1.833000	Live	24.9	56.0	31.1	Complied
1.842000	Live	27.0	56.0	29.0	Complied
1.851000	Live	27.8	56.0	28.2	Complied
1.878000	Live	27.4	56.0	28.6	Complied
1.891500	Live	26.9	56.0	29.1	Complied
1.900500	Live	25.4	56.0	30.6	Complied
1.918500	Live	27.4	56.0	28.6	Complied
1.923000	Live	24.7	56.0	31.3	Complied
1.945500	Live	24.7	56.0	31.3	Complied
1.954500	Live	29.5	56.0	26.5	Complied
1.963500	Live	24.5	56.0	31.5	Complied
1.986000	Live	30.4	56.0	25.6	Complied
1.999500	Live	28.6	56.0	27.4	Complied

Receiver/Idle Mode AC Conducted Spurious Emissions (continued)**Results: Average**

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.195000	Neutral	16.8	53.8	37.0	Complied
1.824000	Live	18.6	46.0	27.4	Complied
1.828500	Live	20.6	46.0	25.4	Complied
1.860000	Live	18.2	46.0	27.8	Complied
1.864500	Live	18.2	46.0	27.8	Complied
1.896000	Live	20.0	46.0	26.0	Complied
1.905000	Live	19.5	46.0	26.5	Complied
1.941000	Live	22.2	46.0	23.8	Complied
1.963500	Live	17.5	46.0	28.5	Complied
1.968000	Live	20.1	46.0	25.9	Complied
1.995000	Live	19.4	46.0	26.6	Complied
2.026500	Live	17.5	46.0	28.5	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.

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

Test Engineer:	Andrew Edwards	Test Date:	13 March 2011
Test Sample Serial No:	355320040013412		

FCC Part:	15.109
Test Method Used:	As detailed in ANSI C63.4 Section 8
Frequency Range:	30 MHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	26
Relative Humidity (%):	23

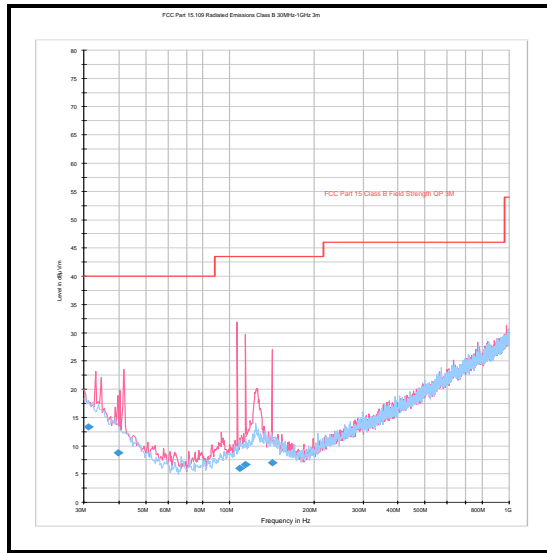
Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
31.096	Vertical	13.4	40.000	26.600	Complied
39.935	Vertical	8.8	40.000	31.200	Complied
108.644	Vertical	6.0	43.500	37.500	Complied
114.099	Vertical	6.6	43.500	36.900	Complied
141.440	Vertical	7.0	43.500	36.500	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:	30 March 2011
Test Sample IMEI:	355320040013412		

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):	26
Relative Humidity (%):	21

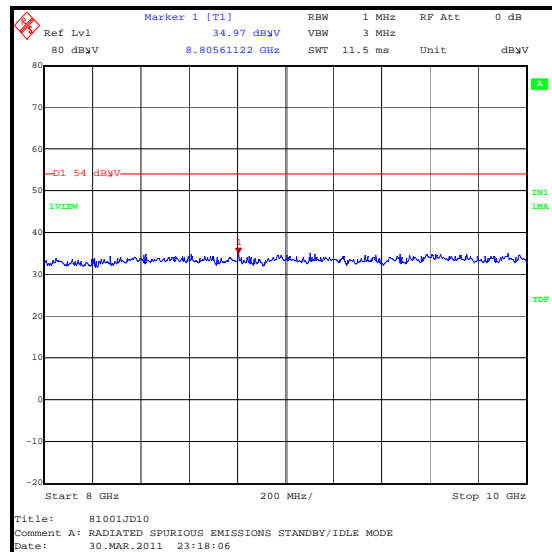
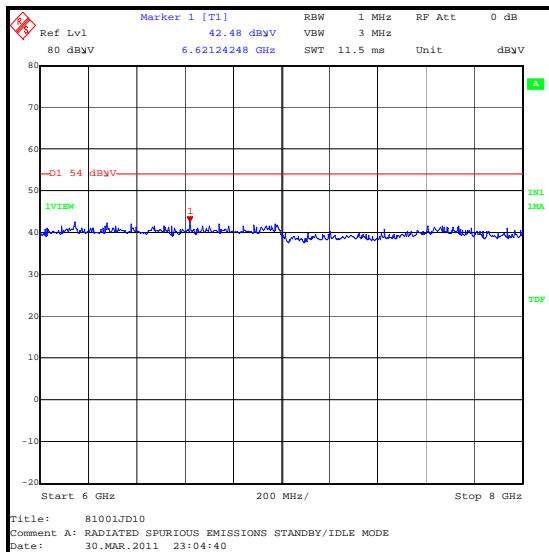
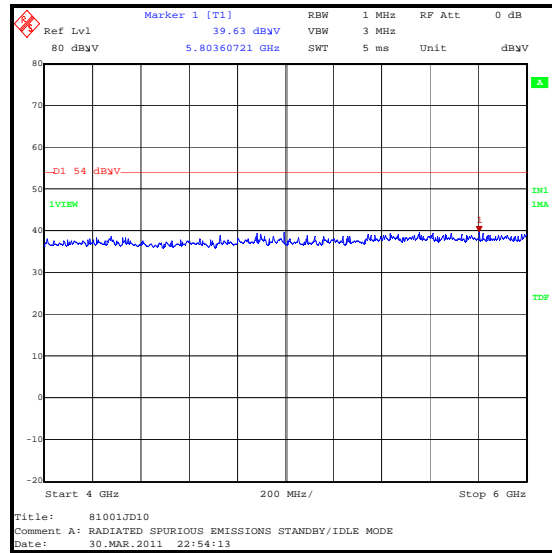
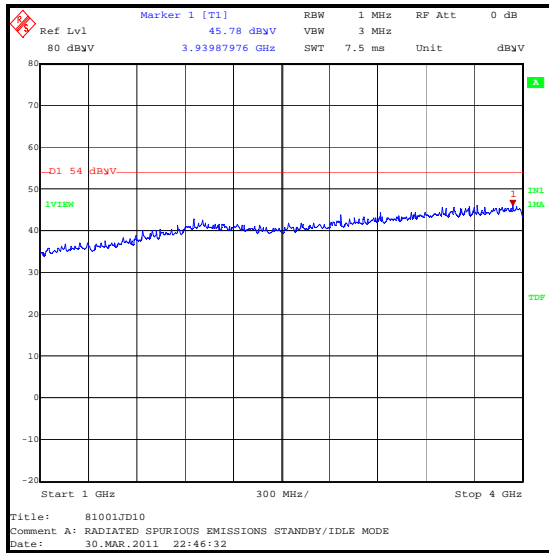
Results:

Frequency (MHz)	Antenna Polarity	Peak Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
3939.880	Vertical	45.8	54.0	8.2	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 because this is the more onerous 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 Effective Isotropic Radiated Power (EIRP)**Test Summary:**

Test Engineer:	Andrew Edwards	Test Date:	01 April 2011
Test Sample IMEI:	355320040013412		

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

Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	21

Results: GSM Circuit Switched

Channel	Frequency (MHz)	Antenna Polarity	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1850.2	Horizontal	28.3	33.0	4.7	Complied
Middle	1879.8	Horizontal	29.3	33.0	3.7	Complied
Top	1909.8	Horizontal	28.7	33.0	4.3	Complied

Results: GPRS

Channel	Frequency (MHz)	Antenna Polarity	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1850.2	Horizontal	25.3	33.0	7.7	Complied
Middle	1879.8	Horizontal	26.5	33.0	6.5	Complied
Top	1909.8	Horizontal	26.7	33.0	6.3	Complied

5.2.4. Transmitter Conducted Output Power

Test Engineer:	Naseer Mirza	Test Date:	15 March 2011
Test Sample IMEI:	355320040012406		

FCC Part:	2.1046
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.1 referencing FCC CFR Part 2.1046(a)

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	32

Results: GSM Circuit Switched

Channel	Frequency (MHz)	Maximum Peak Conducted Power (dBm)	Maximum Average Conducted Power (dBm)
Bottom	1850.2	27.4	27.2
Middle	1879.8	26.2	26.0
Top	1909.8	24.1	23.9

Results: GPRS

Channel	Frequency (MHz)	Maximum Peak Conducted Power (dBm)	Maximum Average Conducted Power (dBm)
Bottom	1850.2	25.5	25.3
Middle	1879.8	24.6	24.4
Top	1909.8	22.7	22.5

Note(s):

1. Conducted power measurements were performed to support SAR tests.

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

Test Engineer:	Andrew Edwards	Test Date:	01 April 2011
Test Sample IMEI:	355320040012406		

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):	26
Ambient Relative Humidity (%):	29

Results: Bottom Channel (1850.2 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
-30	35	1850.199965	1850.0	0.199965	Complied
-20	25	1850.199975	1850.0	0.199975	Complied
-10	17	1850.199983	1850.0	0.199983	Complied
0	22	1850.200022	1850.0	0.200022	Complied
10	12	1850.200012	1850.0	0.200012	Complied
20	18	1850.200018	1850.0	0.200018	Complied
30	28	1850.199972	1850.0	0.199972	Complied
40	30	1850.199970	1850.0	0.199970	Complied
50	11	1850.200011	1850.0	0.200011	Complied

Results: Top Channel (1909.8 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
-30	45	1909.799955	1910.0	0.200045	Complied
-20	30	1909.799970	1910.0	0.200030	Complied
-10	25	1909.799975	1910.0	0.200025	Complied
0	23	1909.800023	1910.0	0.199977	Complied
10	14	1909.800014	1910.0	0.199986	Complied
20	16	1909.800016	1910.0	0.199984	Complied
30	24	1909.799976	1910.0	0.200024	Complied
40	34	1909.799966	1910.0	0.200034	Complied
50	17	1909.799983	1910.0	0.200017	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. Temperature was monitored throughout the test with a calibrated digital thermometer.

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

Test Engineer:	Andrew Edwards	Test Date:	01 April 2011
Test Sample IMEI:	355320040012406		

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 (%):	26

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	31	1850.199969	1850.0	0.199969	Complied
4.2	14	1850.199986	1850.0	0.199986	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	22	1909.799978	1910.0	0.200022	Complied
4.2	17	1909.799983	1910.0	0.200017	Complied

Note(s):

1. A dummy battery was placed on the EUT and the dummy battery cables connected to a bench power supply.
2. Voltage was monitored throughout the test with a calibrated digital voltmeter.

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

Test Engineer:	Andrew Edwards	Test Date:	04 April 2011
Test Sample IMEI:	355320040012406		

FCC Part:	2.1049
Test Method Used:	As detailed in ANSI C63.4 Section 13.7 referencing FCC CFR Part 2.1049

Environmental Conditions:

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

Results: GSM Circuit Switched

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

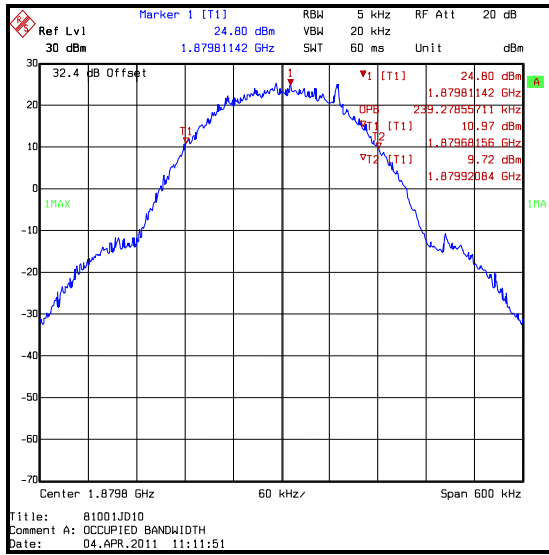
Results: GPRS

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

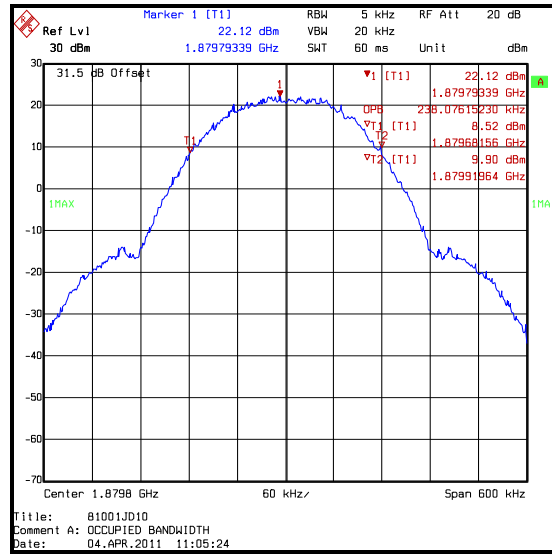
Note(s):

1. In lieu of the test method detailed in ANSI C63.4 Section 13.7, the 99% occupied bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser.

Transmitter Occupied Bandwidth (continued)



GSM



GPRS

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

Test Engineer:	Nick Steele & Andrew Edwards	Test Date:	30 March 2011 & 04 April 2011
Test Sample IMEI:	355320040013412		

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):	26
Relative Humidity (%):	21

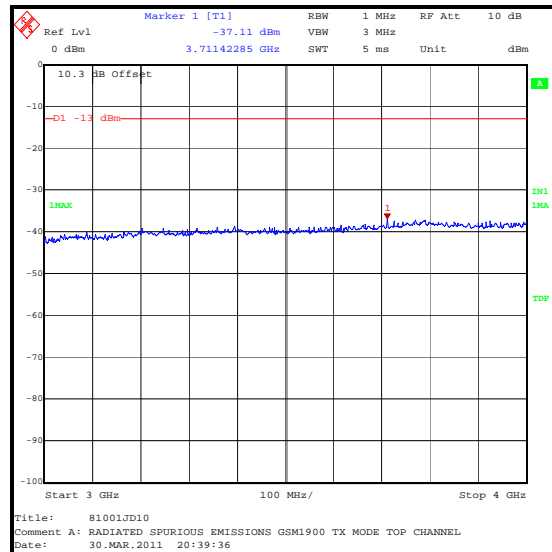
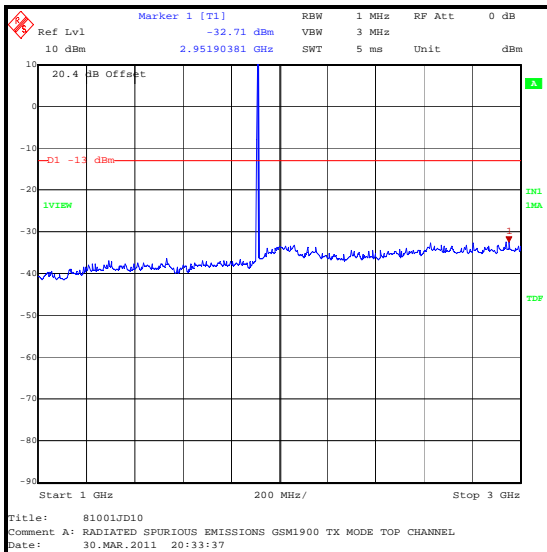
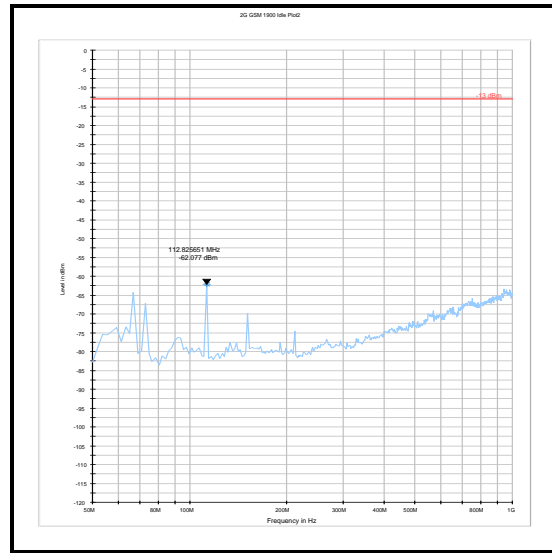
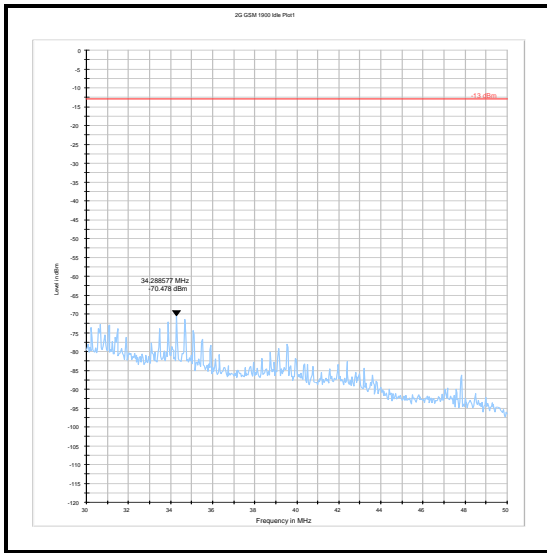
Results:

Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
2951.904	-32.7	-13.0	19.7	Complied

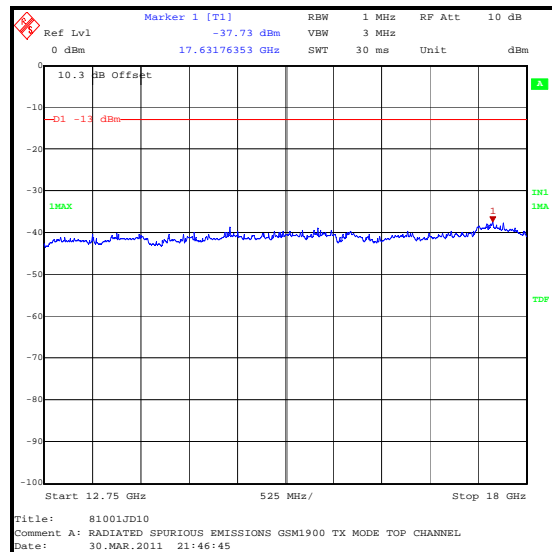
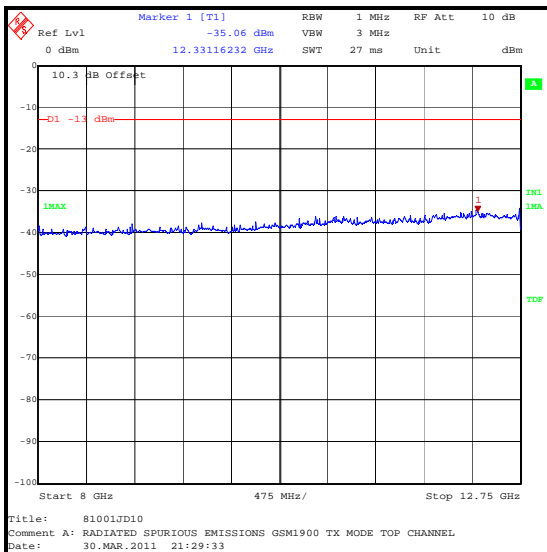
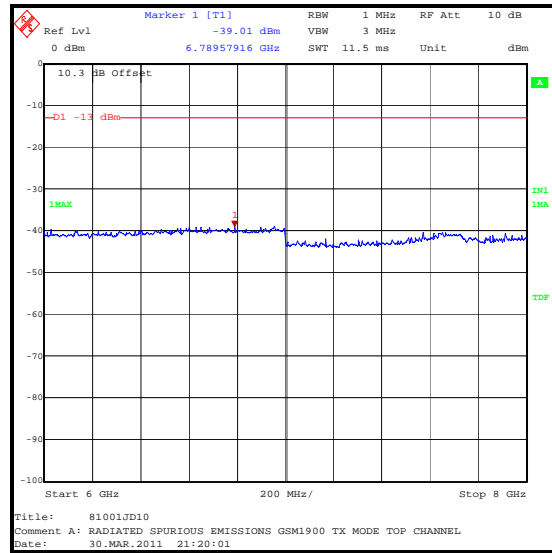
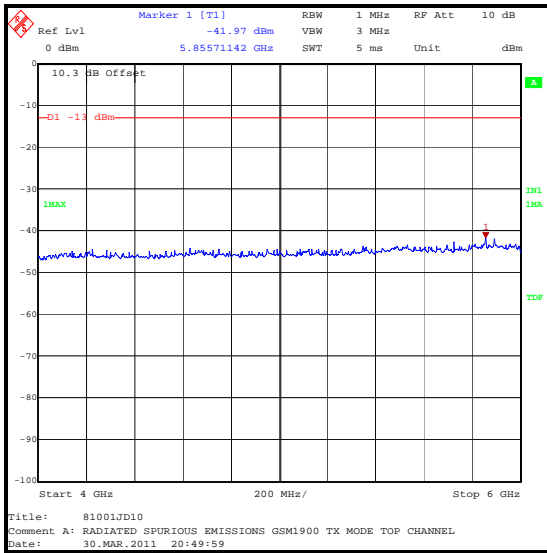
Note(s):

1. No spurious emissions were detected above the noise floor of the measuring receiver; the highest peak noise floor reading of the measuring receiver was recorded.
2. The uplink and downlink traffic channels are shown on the 1 GHz to 4 GHz plot.
3. All emissions shown on the pre-scan plots were investigated and found to be below the measurement system noise floor or ambient.
4. 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.
5. 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.

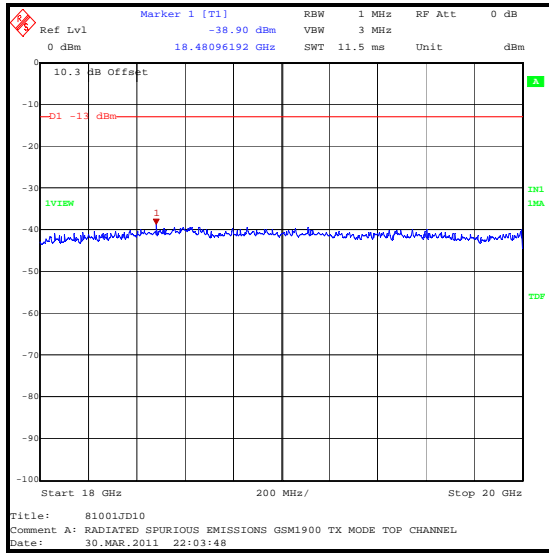
Transmitter Out of Band Radiated Emissions (continued)



Transmitter Out of Band Radiated Emissions (continued)



Transmitter Out of Band Radiated Emissions (continued)



5.2.9. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	Andrew Edwards	Test Date:	04 April 2011
Test Sample IMEI:	355320040012406		

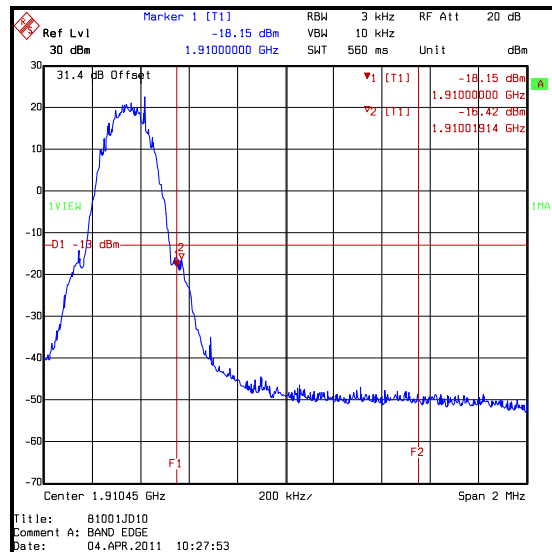
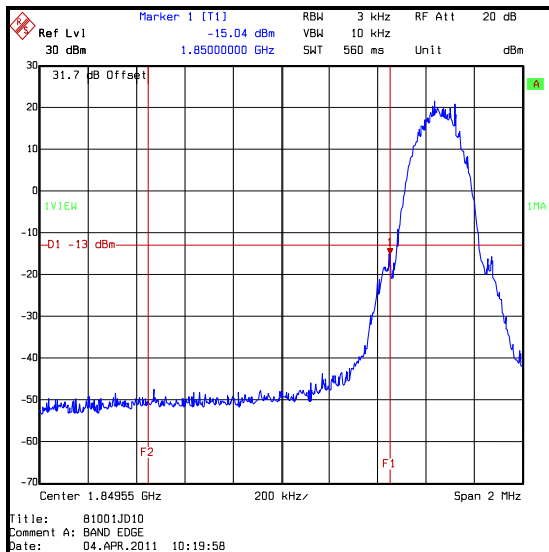
FCC Part:	2.1053 & 24.238
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 24.238

Environmental Conditions:

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

Results: GSM Circuit Switched

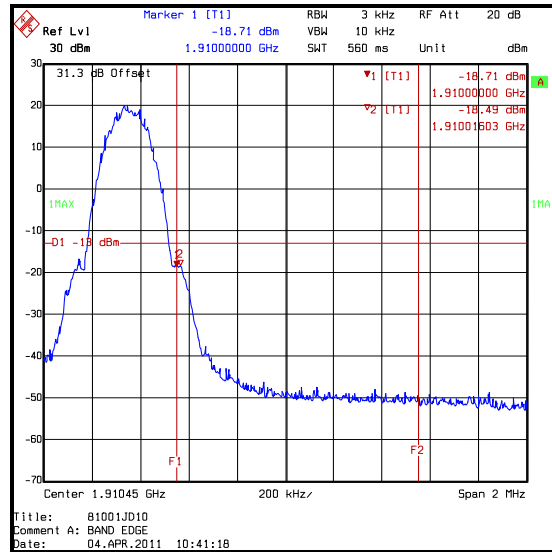
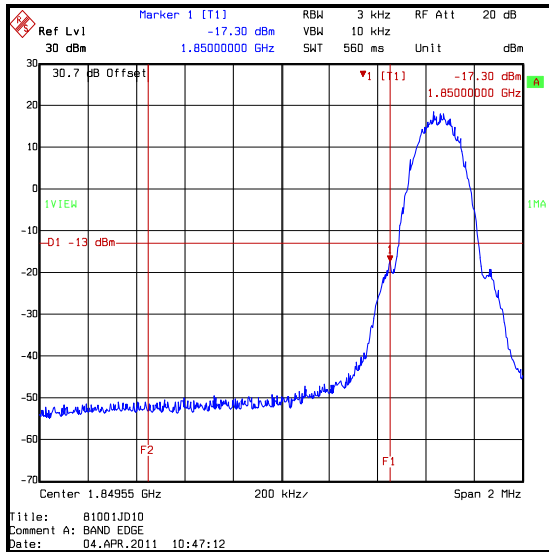
Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
1850	-15.0	-13.0	2.0	Complied
1910	-18.2	-13.0	5.2	Complied
1910.018	-16.4	-13.0	3.4	Complied



Transmitter Band Edge Radiated Emissions (continued)

Results: GPRS

Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
1850	-17.3	-13.0	4.3	Complied
1910	-18.7	-13.0	5.7	Complied
1910.016	-18.5	-13.0	5.5	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
Conducted Output Power	1850 to 1910 MHz	95%	±0.27 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)
A1069	LISN	Rohde & Schwarz	ESH3-Z5	837469/012	13 Apr 2011	12
A1391	Attenuator	Huber & Suhner	757987	6810.17.B	09 Feb 2012	12
A1393	Attenuator	Huber & Suhner	757456	6820.17.B	06 Jul 2011	12
A1400	Attenuator	Weinschel	WA46-10	A127	18 Mar 2012	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	06 Jun 2011	12
A1537	RF Coupler	Hewlett Packard	778D	1144A05122	Calibrated before use	-
A1818	Antenna	EMCO	3115	00075692	05 Sep 2011	12
A1830	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100668	05 Mar 2012	12
A1834	Attenuator	Hewlett Packard	8491B	10444	30 Jun 2011	12
A253	Antenna	Flann	12240-20	128	05 Sep 2011	12
A254	Antenna	Flann	14240-20	139	05 Sep 2011	12
A255	Antenna	Flann	16240-20	519	05 Sep 2011	12
A256	Antenna	Flann	18240-20	400	05 Sep 2011	12
A436	Antenna	Flann	20240-20	330	05 Sep 2011	12
A553	Antenna	Chase	CBL6111A	1593	26 Mar 2012	12
G0543	Amplifier	Sonoma	310N	230801	30 Jun 2011	12
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	25 Apr 2011	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	05 Sep 2011	12
L1021	Comms Tester	Rohde & Schwarz	CMU 200	111379	11 Jan 2012	12
M1124	Spectrum Analyser	Rohde & Schwarz	ESI26	100046K	22 Apr 2011	12
M1223	Environmental Chamber	Votsch	VT4002	58566072720010	Calibrated before use	-
M1249	Thermometer	Fluke	52II	88800049	05 Jul 2011	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	28 Jun 2011	12
M1269	Multimeter	Fluke	179	90250210	15 Jul 2011	12
M127	Spectrum Analyser	Rohde & Schwarz	FSEB 30	842 659/016	15 Sep 2011	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	04 Feb 2012	12
S0537	Power Supply	TTI	EL302D	249928	Calibrated before use	-

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