TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: P-05B

To: FCC Part 22: 2009 Subpart H

Test Report Serial No:
RFI-RPT-RP77278JD01A_V2.0

Version 2.0 supersedes all previous versions

This Test Report Is Issued Under The Authority Of Brian Watson, COO Payments and Consultancy:	pp R. Graham
Checked By:	R. Graham
Signature:	R. Graham
Date of Issue:	10 May 2010

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields.

RFI Global Services Ltd
Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG
Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001
Email: info@rfi-global.com Website: www.rfi-global.com

Registered in England and Wales. Company number:2117901

This page has been left intentionally blank.

Table of Contents

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:	47CFR22
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2009: 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:	15 April 2010 to 26 April 2010

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
FCC 15.107	Receiver/Idle Mode AC Conducted Spurious Emissions	✓
FCC 15.109	Receiver/Idle Mode Radiated Spurious Emissions	✓
FCC 15.207	Transmitter AC Conducted Spurious Emissions	✓
FCC 22.913(a)	Transmitter Effective Radiated Power (ERP)	✓
FCC 22.355	Transmitter Frequency Stability (Temperature & Voltage Variation)	✓
FCC 2.1049	Transmitter Occupied Bandwidth	✓
FCC 2.1053 / 22.917	Transmitter Out of Band Radiated Emissions	✓
FCC 2.1053 / 22.917	Transmitter Band Edge Radiated Emissions	✓

Key to Results

✓ = Complied ✗ = Did not comply

2.3. Methods and Procedures

Reference:	ANSI/TIA-603-C-2004
Title:	Land Mobile Communications Equipment, Measurements and performance Standards
Reference:	ANSI C63.4 (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.
Reference:	ANSI C63.10 (2009)
Title:	American National Standard Methods for Testing Unlicensed Wireless Devices.

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:	UMTS Band V handset with RFID
Brand Name:	NTT docomo
Model Name or Number:	P-05B
IMEI Number:	358863030008097
Hardware Version Number:	Rev C
Software Version Number:	B-D01CS1-01.01.001 D01CS1_Cv58032203
FCC ID Number:	UCE210026A

Description:	UMTS Band V handset with RFID
Brand Name:	NTT docomo
Model Name or Number:	P-05B
IMEI Number:	358863030008071
Hardware Version Number:	Rev C
Software Version Number:	B-D01CS1-01.01.001 D01CS1_Cv58032203
FCC ID Number:	UCE210026A

Description:	Battery
Brand Name:	NTT
Model Name or Number:	P21

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

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

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

Description:	Personal Hands-Free
Brand Name:	NTT docomo
Model Name or Number:	Stereo Earphone Set 01 (EB-M70090)

3.2. Description of EUT

The equipment under test was a UMTS Band V handset with 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:	UMTS		
Type of Radio Device:	Transceiver		
Mode:	UMTS FDD V and UMTS Release 5 HSDPA		
Modulation Type:	QPSK (UMTS / HSDPA)		
Channel Spacing:	5 MHz		
Power Supply Requirement(s):	Nominal	3.7 V	
	Minimum	3.4 V	
	Maximum	4.2 V	
Transmit Frequency Range:	824 MHz to 849 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	4132	826.6
	Middle	4182	836.4
	Top	4233	846.6
Receive Frequency Range:	869 MHz to 894 MHz		
Receive Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	4357	871.4
	Middle	4407	881.4
	Top	4458	891.6

3.5. Support Equipment

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

Description:	Micro SD memory card
Brand Name:	Not Stated
Model Name or Number:	Not Stated

Description:	USB HUB
Brand Name:	Buffalo
Model Name or Number:	BSH3U01

Description:	Test USIM
Brand Name:	Rohde & Schwarz
Model Name or Number:	3GPP UICC/USIM V 2.0.0
Serial Number	89525352500190000346F

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):

- Receiver/Idle Mode
- Constantly transmitting at full power on bottom, middle and top channels as required.
- Occupied bandwidth, ERP and band edge tests were performed with the EUT in Voice (RMC/12.2 kbps) or HSDPA (Sets 1 to 4) modes.
- Transmitter radiated spurious emissions were checked in all modes during pre-scans. Voice (RMC/12.2 kbps) 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 UMTS Band V system simulator, operating in transceiver mode.
- Transmit mode radiated spurious emission tests were performed with the PHF connected to the EUT as this was found to be the worst case during the pre-scans. All accessories were individually connected and measurements made during pre-scans to determine the worst case combination.
- Idle mode radiated spurious emission tests were performed with the AC charger connected to the EUT via 120VAC 60Hz supply as this was found to be the worst case during the pre-scans. All accessories were individually connected and measurements made during pre-scans 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

5.2.1. Receiver/Idle Mode AC Conducted Spurious Emissions

Test Summary:

FCC Part:	15.107(a)
Test Method Used:	ANSI C63.10 Section 6.2

Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	25

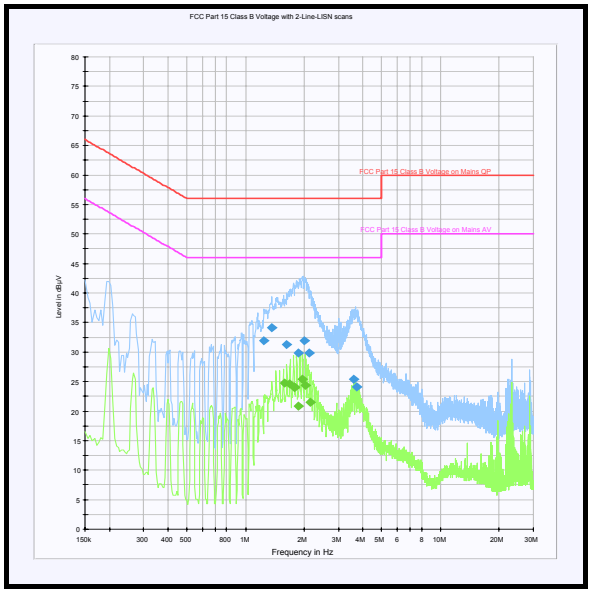
Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
1.234500	Live	31.9	56.0	24.1	Complied
1.360500	Live	34.1	56.0	21.9	Complied
1.621500	Neutral	31.2	56.0	24.8	Complied
1.855500	Neutral	29.8	56.0	26.2	Complied
1.995000	Live	31.9	56.0	24.1	Complied
2.125500	Live	29.8	56.0	26.2	Complied
3.592500	Live	25.4	56.0	30.6	Complied
3.700500	Live	24.2	56.0	31.8	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
1.581000	Neutral	24.8	46.0	21.2	Complied
1.675500	Neutral	24.6	46.0	21.4	Complied
1.783500	Neutral	24.1	46.0	21.9	Complied
1.788000	Neutral	23.9	46.0	22.1	Complied
1.873500	Neutral	20.8	46.0	25.2	Complied
1.954500	Live	25.5	46.0	20.5	Complied
2.022000	Live	24.4	46.0	21.6	Complied
2.157000	Live	21.5	46.0	24.5	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:

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

Environmental Conditions:

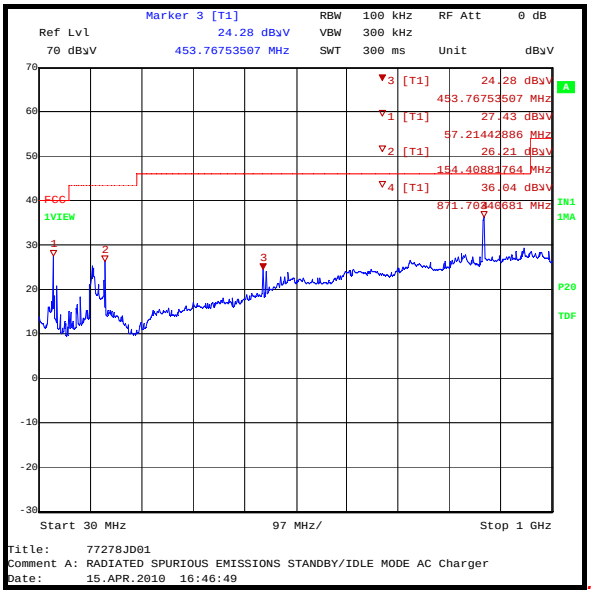
Temperature (°C):	27
Relative Humidity (%):	20

Results: Quasi Peak Detector Measurements

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
55.185	Vertical	16.0	40.0	24.0	Complied
138.068	Vertical	20.1	43.5	23.4	Complied
153.299	Vertical	24.9	43.5	18.6	Complied
453.229	Vertical	25.2	46.0	20.8	Complied

Note(s):

1. Measurements were performed with the test antenna in the vertical and horizontal planes and the EUT in the X, Y and Z planes. The highest level was recorded



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:	ANSI C63.10 Section 6.6

Environmental Conditions:

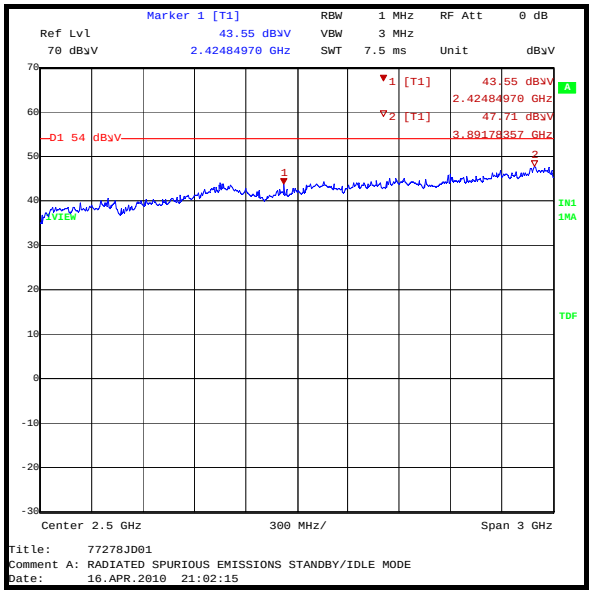
Temperature (°C):	28
Relative Humidity (%):	19

Results: Highest Peak Level

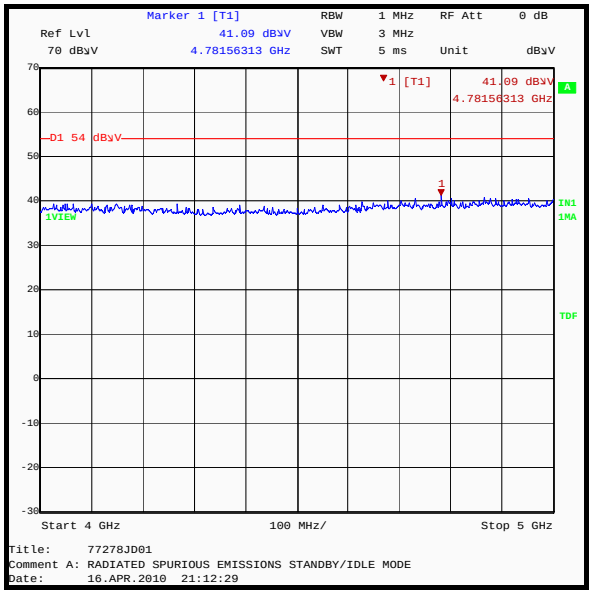
Frequency (GHz)	Antenna Polarity	Detector Level (dBµV/m)	Transducer Factor (dB)	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
4781.563	Vertical	42.9	-1.8	41.1	54.0	12.9	Complied

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.
2. Measurements were performed with the test antenna in the vertical and horizontal planes and the EUT in the X, Y and Z planes. The highest level was recorded.



1 GHz to 4 GHz



4 GHz to 5 GHz

5.2.3. Transmitter AC Conducted Spurious Emissions

Test Summary:

FCC Part:	15.107(a)
Test Method Used:	ANSI C63.10 Section 6.2

Environmental Conditions:

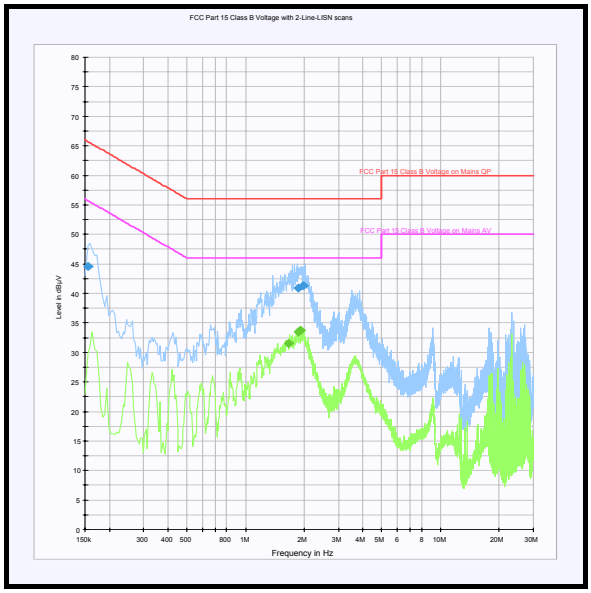
Temperature (°C):	27
Relative Humidity (%):	25

Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.154500	Neutral	44.5	65.8	21.3	Complied
1.860000	Neutral	40.9	56.0	15.1	Complied
1.972500	Neutral	41.3	56.0	14.7	Complied

Results: Average Detector Measurements

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
1.657500	Neutral	31.6	46.0	14.4	Complied
1.864500	Neutral	33.4	46.0	12.6	Complied
1.900500	Neutral	33.8	46.0	12.2	Complied



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

5.2.4. Transmitter Effective Radiated Power (ERP)

Test Summary:

FCC Part:	22.913(a)
Test Method Used:	As detailed in 3GPP TS 34.121-1 V8.6.0 (2009-03) and ANSI TIA-603-C-2004 Section 2

Environmental Conditions:

Temperature (°C):	28
Relative Humidity (%):	19

Results: Peak

Modes		**HSDPA**				**Voice**			
Sets		**1**	**2**	**3**	**4**	**RMC 12.2kbps**			
Band	**Channel**	**Power (dBm)**	**Power (dBm)**	**Power (dBm)**	**Power (dBm)**	**Power (dBm)**	**Limit (dBm)**	**Margin**	**Result**
850	4132	22.1	22.6	23.0	23.0	21.7	38.5	15.5	Complied
	4182	22.3	22.8	23.2	23.3	22.1	38.5	15.2	Complied
	4233	22.8	23.4	24.1	24.1	22.7	38.5	14.4	Complied
ßc		2	12	15	15				
ßd		15	15	8	4				
ΔACK, ΔNACK, ΔCQI		8	8	8	8				

Results: Average

Modes		**HSDPA**				**Voice**			
Sets		**1**	**2**	**3**	**4**	**RMC 12.2kbps**			
Band	**Channel**	**Power (dBm)**	**Power (dBm)**	**Power (dBm)**	**Power (dBm)**	**Power (dBm)**	**Limit (dBm)**	**Margin**	**Result**
850	4132	19.2	16.4	15.4	15.4	19.2	38.5	19.3	Complied
	4182	19.1	16.4	15.4	15.4	19.3	38.5	19.2	Complied
	4233	19.8	17.0	16.4	16.3	19.9	38.5	18.6	Complied
ßc		2	12	15	15				
ßd		15	15	8	4				
ΔACK, ΔNACK, ΔCQI		8	8	8	8				

Note(s):

1. All modes were compared on each channel and the highest power recorded was subtracted from the limit to show the margin.

5.2.5. Conducted Average Power Measurement

Modes		HSDPA				WCDMA
Sets		1	2	3	4	Voice / RMC12.2kbps
Band	Channel	Power (dBm)	Power (dBm)	Power (dBm)	Power (dBm)	Power (dBm)
850	4132	22.8	20.0	19.0	19.0	22.8
	4183	23.1	20.4	19.4	19.4	23.3
	4233	22.8	20.0	19.4	19.3	22.9
ßc		2	12	15	15	
ßd		15	15	8	4	
ΔACK, ΔNACK, ΔCQI		8	8	8	8	

5.2.6. 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

Environmental Conditions:

Ambient Temperature (°C):	29
Ambient Relative Humidity (%):	26

Results: Middle Channel (836.4 MHz)

Temperature (°C)	Measured Frequency (MHz)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Margin (ppm)	Result
-30	836.399965	-35	0.04	2.5	2.46	Complied
-20	836.399972	-28	0.03	2.5	2.47	Complied
-10	836.400039	39	0.05	2.5	2.45	Complied
0	836.400041	41	0.05	2.5	2.45	Complied
10	836.400038	38	0.05	2.5	2.45	Complied
20	836.400039	39	0.05	2.5	2.45	Complied
30	836.400029	29	0.03	2.5	2.47	Complied
40	836.400039	39	0.05	2.5	2.45	Complied
50	836.400042	42	0.05	2.5	2.45	Complied

5.2.7. 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

Environmental Conditions:

Temperature (°C):	29
Relative Humidity (%):	26

Results:

Supply Voltage (V)	Measured Frequency (MHz)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Margin (ppm)	Result
3.4	836.400038	38	0.05	2.5	2.45	Complied
4.2	836.400039	39	0.05	2.5	2.45	Complied

5.2.8. 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 (see note below)

Environmental Conditions:

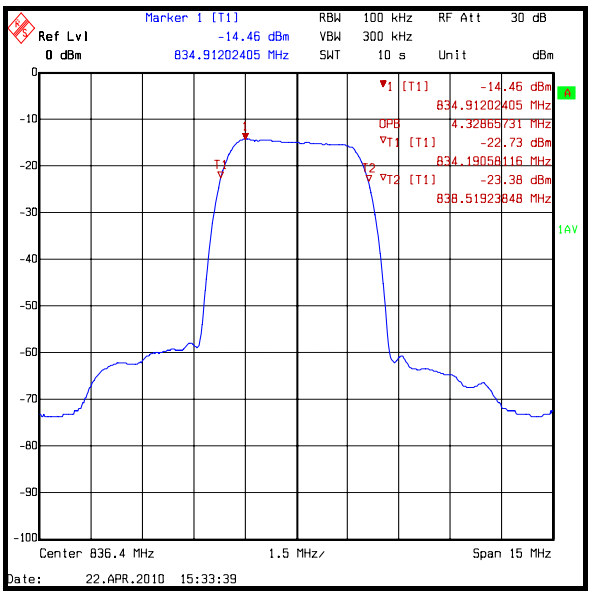
Temperature (°C):	25
Relative Humidity (%):	19

Results: RMC/Voice

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4328.7

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



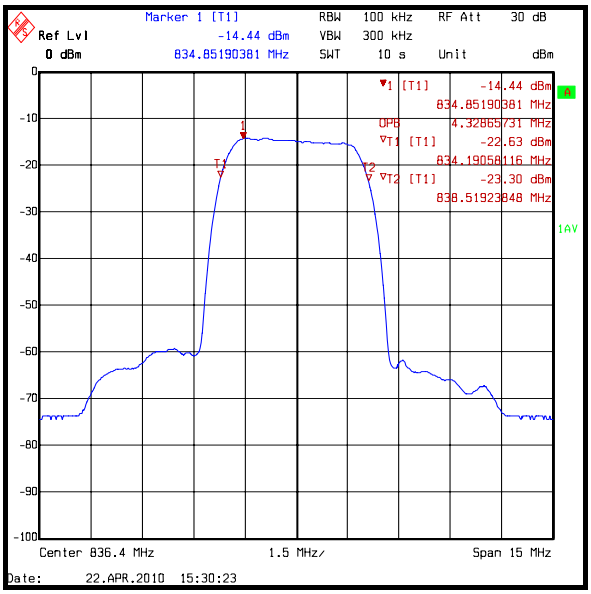
Transmitter Occupied Bandwidth (continued)

Results: HSDPA 1

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4328.7

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



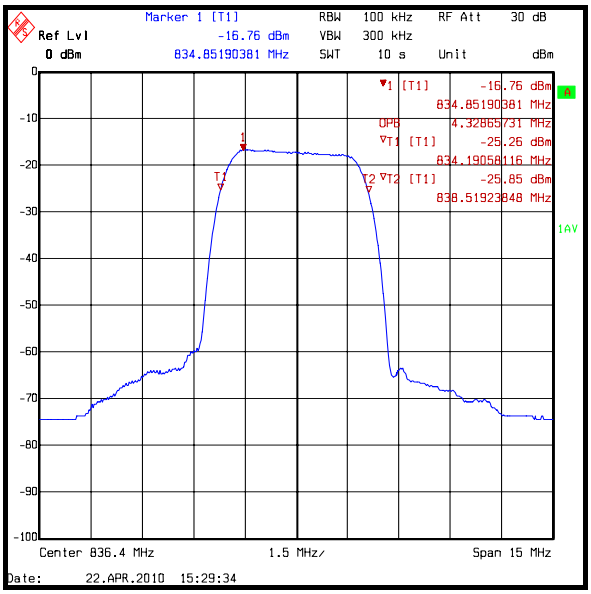
Transmitter Occupied Bandwidth (continued)

Results: HSDPA 2

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4328.7

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



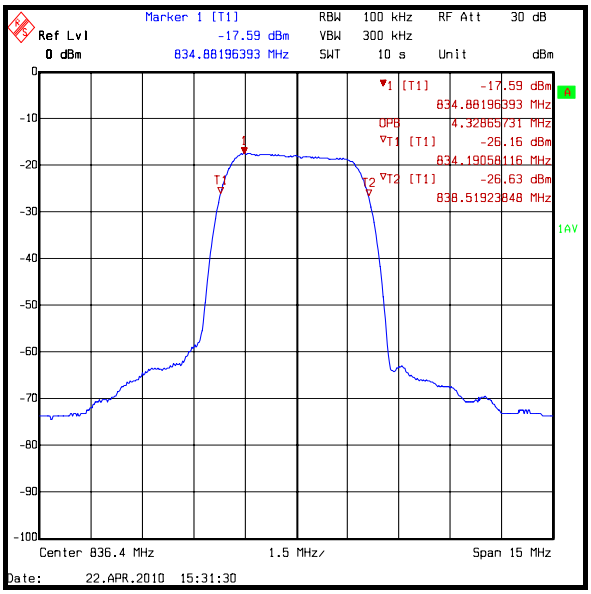
Transmitter Occupied Bandwidth (continued)

Results: HSDPA 3

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4328.7

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



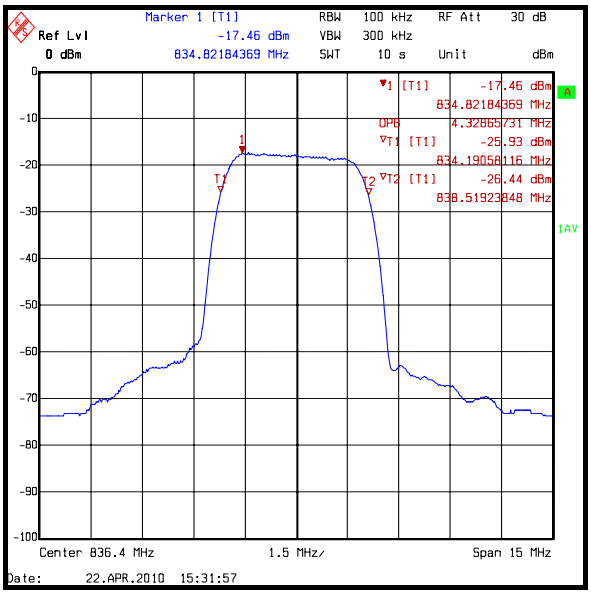
Transmitter Occupied Bandwidth (continued)

Results: HSDPA 4

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Middle	836.4	4328.7

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



5.2.9. Transmitter Out of Band Radiated Emissions

Test Summary:

FCC Part:	2.1053 & 22.917
Frequency Range:	30 MHz to 10 GHz
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Part 2.1053
Modulation:	Voice / RMC 12.2 kbps

Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	20

Results: Bottom Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
2482.260	-26.6	-13.0	13.6	Complied

Results: Middle Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
2505.684	-27.4	-13.0	14.4	Complied

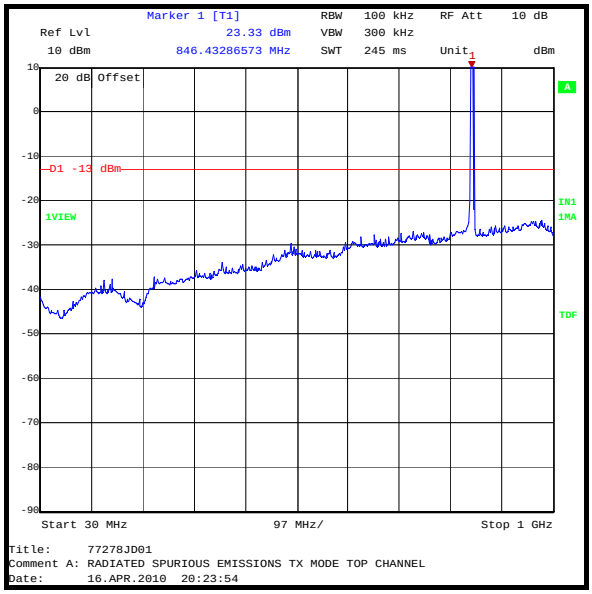
Results: Top Channel

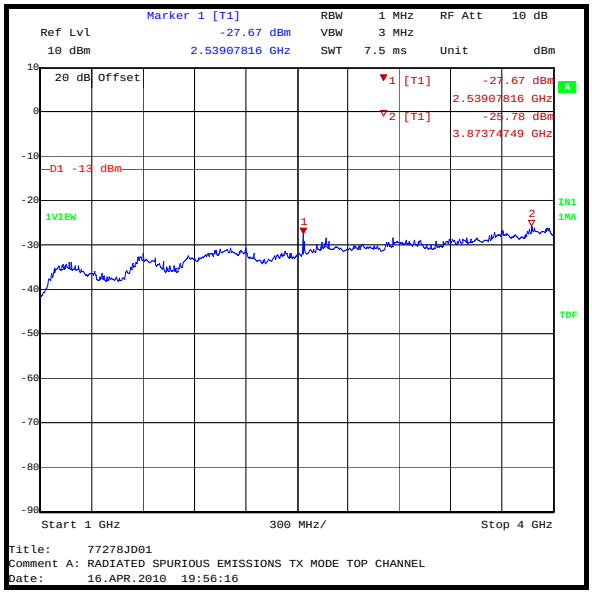
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
2537.548	-26.4	-13.0	13.4	Complied

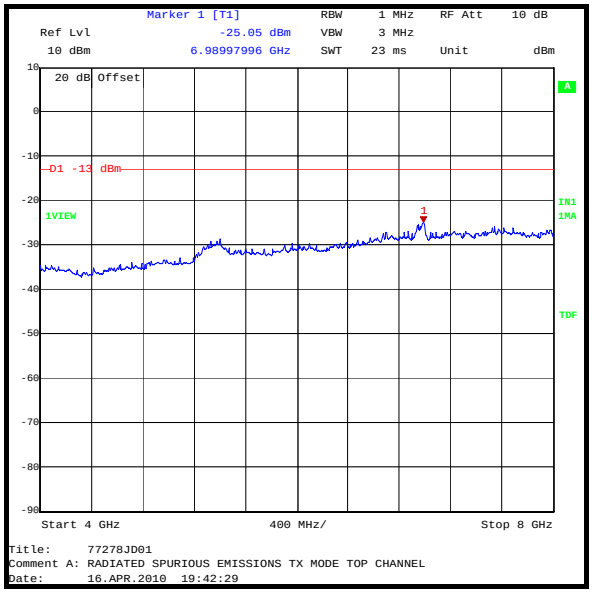
Note(s):

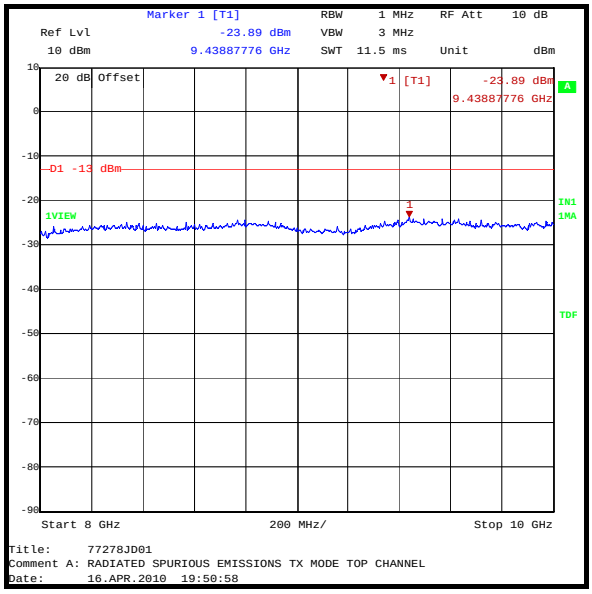
1. The uplink and downlink traffic channels are shown on the 30 MHz to 1 GHz plot.
2. Measurements were performed with the test antenna in the horizontal and vertical planes. The highest levels were recorded in the tables above.

Transmitter Out of Band Radiated Emissions (continued)









5.2.10. Transmitter Radiated Emissions at Band Edges

Test Summary:

FCC Part:	2.1053 & 22.917
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 22.917
Modulation:	RMC/Voice

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	21

Results: RMC/Voice - Bottom Band Edge

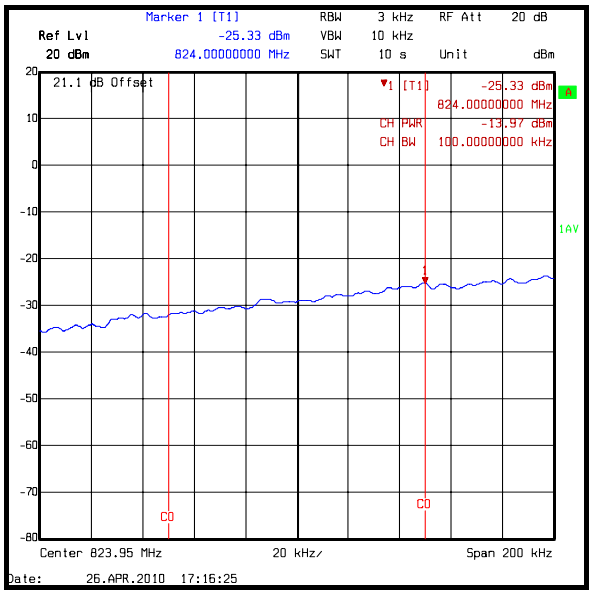
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-14.0	-13.0	1.0	Complied

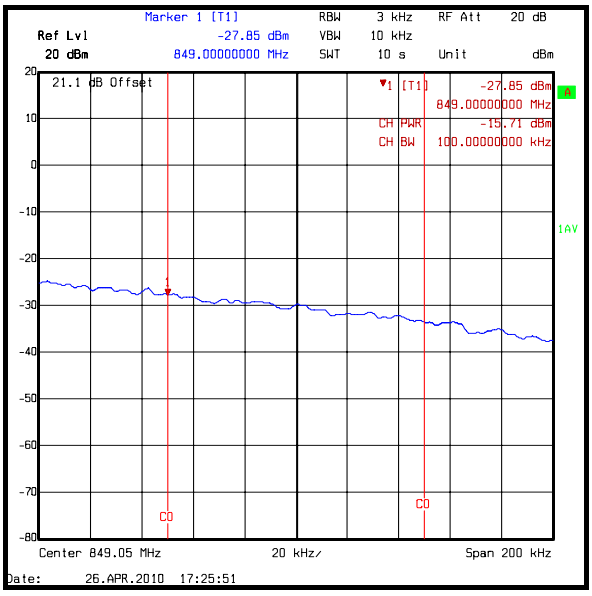
Results: RMC/Voice - Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-15.7	-13.0	2.7	Complied

Note(s):

1. The band edge result was obtained by integrating the 100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.





Transmitter Radiated Emissions at Band Edges (continued)

Results: HSDPA 1 - Bottom Band Edge

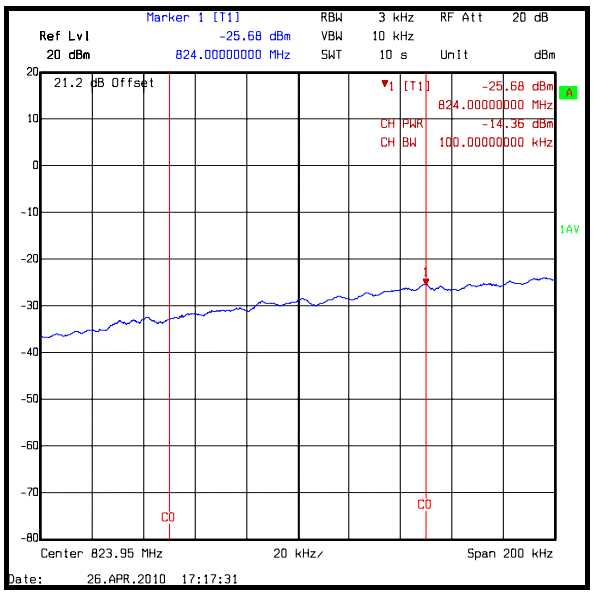
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
824	-14.4	-13.0	1.4	Complied

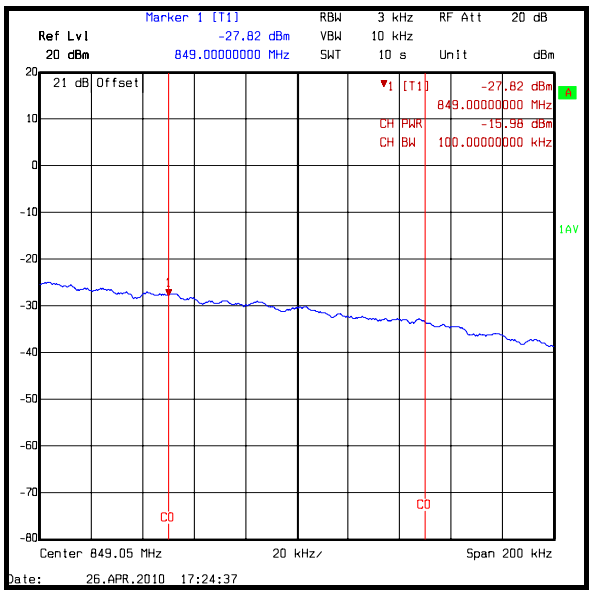
Results: HSDPA 1 - Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
849	-16.0	-13.0	3.0	Complied

Note(s):

1. The band edge result was obtained by integrating the100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.





Transmitter Radiated Emissions at Band Edges (continued)

Results: HSDPA 2 - Bottom Band Edge

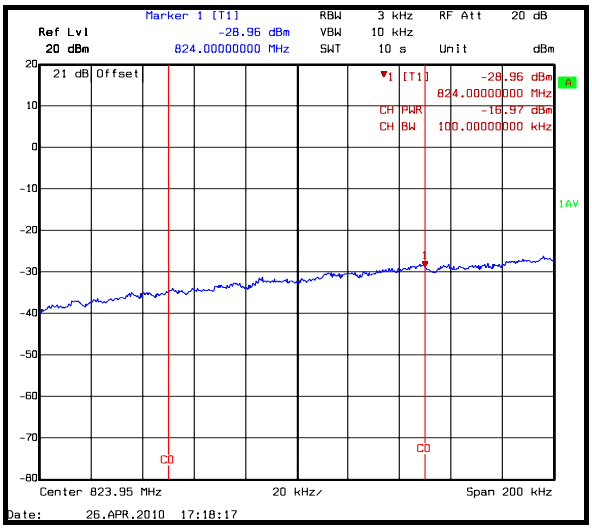
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-17.0	-13.0	4.0	Complied

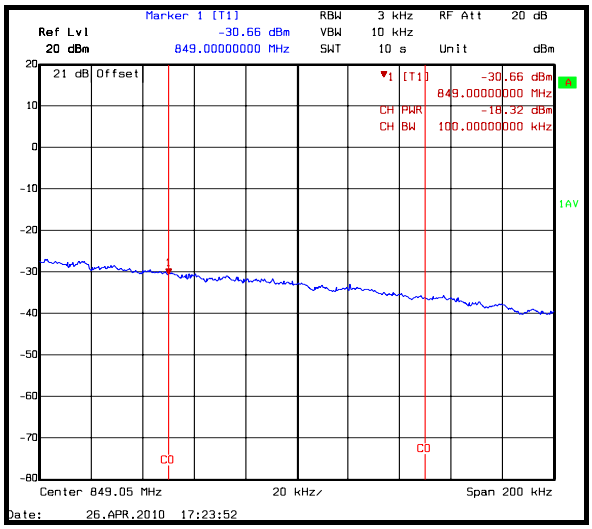
Results: HSDPA 2 - Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
8249	-18.3	-13.0	5.3	Complied

Note(s):

1. The band edge result was obtained by integrating the100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.





Transmitter Radiated Emissions at Band Edges (continued)

Results: HSDPA 3 - Bottom Band Edge

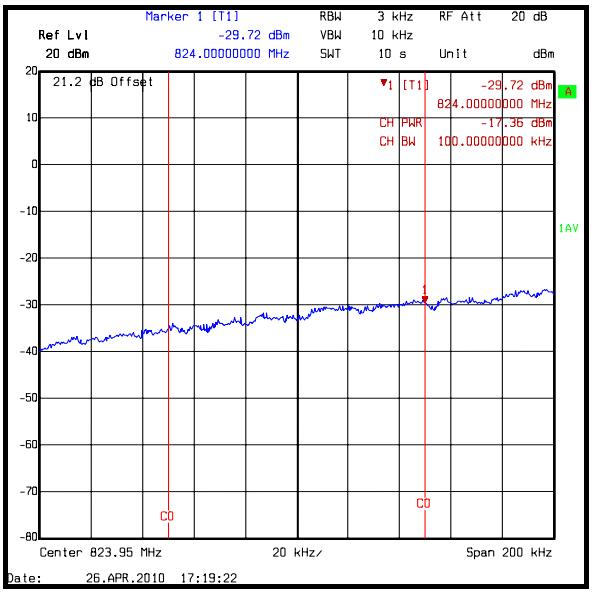
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-17.4	-13.0	4.4	Complied

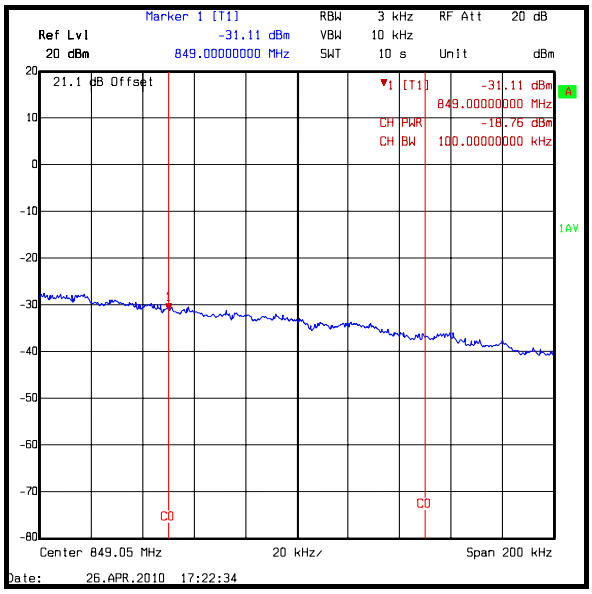
Results: HSDPA 3 - Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-18.8	-13.0	5.8	Complied

Note(s):

1. The band edge result was obtained by integrating the100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.





Transmitter Radiated Emissions at Band Edges (continued)

Results: HSDPA 4 - Bottom Band Edge

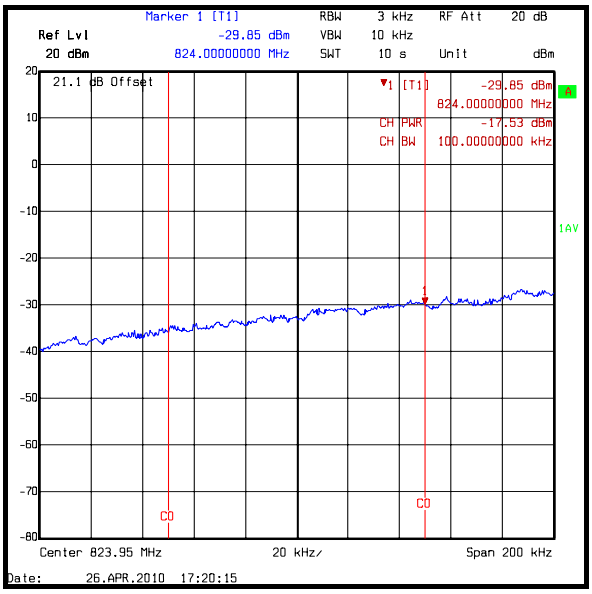
Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
824	-17.5	-13.0	4.5	Complied

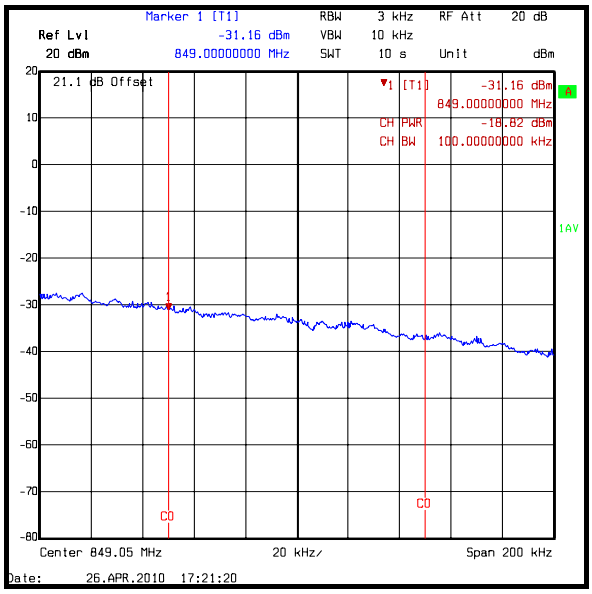
Results: HSDPA 4 - Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dBm)	Result
849	-18.8	-13.0	5.8	Complied

Note(s):

1. The band edge result was obtained by integrating the 100 kHz strip immediately adjacent to the band edge using a channel power function of the measurement analyser.





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 Radiated Power (ERP)	824 to 849 MHz	95%	±2.94 dB
Frequency Stability	824 to 849 MHz	95%	±0.92 ppm
Occupied Bandwidth	824 to 849 MHz	95%	±0.92 ppm
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	±3.53 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)
A067	LISN	Rohde & Schwarz	ESH3-Z5	890603/002	03 Jun 2009	12
A1393	Attenuator	Huber + Suhner AG	757456	6820.17.B	Calibrated before use	-
A1534	Pre Amplifier	Hewlett Packard	8449B OPT H02	3008A00405	Calibrated before use	-
A1537	Dual Directional Coupler	Hewlett Packard	778D	1144A05122	Calibrated before use	-
A1818	Antenna	EMCO	3115	00075692	27 Nov 2009	12
A1932	High Pass Filter	AtlanTecRF	AFH-02000	20r-JFBD04-002	07 Oct 2009	12
A288	Antenna	Chase	CBL6111A	1589	16 Mar 2010	12
E013	Environmental Chamber	Sanyo	ATMOS chamber	None	Calibrated before use	-
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	01 Sep 2009	12
L1005	Wireless Comms Test Set	Rohde & Schwarz	CMU200	116284	Calibration not required	-
M1068	Thermometer	Iso-Tech	RS55	93102884	01 Oct 2009	12
M1124	Spectrum Analyser	Rohde & Schwarz	ESIB26	100046K	09 Mar 2009	14
M127	Spectrum Analyser	Rohde & Schwarz	FSEB 30	842 659/016	10 Jul 2009	12
M1346	Digital Multimeter	Fluke	73III	90770264	17 Jul 2009	12
M1379	Spectrum Analyser	Rohde & Schwarz	ESIB7	100330	20 Aug 2009	12
S0537	EL302D Dual Power Supply	TTI	EL302D	249928	Calibrated before use	-

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