

# TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: NTT docomo P-02A

To: FCC Part 15.247: 2008 (Subpart C)

**Test Report Serial No:**  
RFI/RPT1/RP74300JD07A

This Test Report Is Issued Under The Authority  
Of Steve Flooks, Service Leader:



Checked By: Steve Flooks 	Report Copy No: PDF01
Issue Date: 12 December 2008	Test Dates: 27 November to 01 December 2008

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### **1. Customer Information**

<b>Company Name:</b>	Panasonic Mobile Comms Dev of Europe Ltd
<b>Address:</b>	Panasonic House Willoughby Road Bracknell Berkshire RG12 8FP

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## 2. Equipment Under Test (EUT)

### 2.1. Identification of Equipment Under Test (EUT)

<b>Brand Name:</b>	NTT docomo
<b>Model Name or Number:</b>	P-02A
<b>IMEI Number:</b>	353713020007606
<b>Hardware Version Num:</b>	Rev C++
<b>Software Version:</b>	B-WN907D-01.02.002 08-2H_CPF_Cv061350C
<b>FCC ID Number:</b>	UCE208012A

<b>Description:</b>	128 MB Micro-SD Memory Card
<b>Brand Name:</b>	Not marked
<b>Model Name or Number:</b>	128MB MicroSD
<b>Cable Length &amp; Type:</b>	N/A
<b>Connected to Port:</b>	Dedicated micro-SD card port

<b>Description:</b>	NTT
<b>Brand Name:</b>	Battery
<b>Model Name or Number:</b>	P19
<b>Cable Length &amp; Type:</b>	N/A
<b>Connected to Port:</b>	N/A

<b>Description:</b>	AC charger
<b>Brand Name:</b>	NTT docomo
<b>Model Name or Number:</b>	FOMA AC Adapter 01 for Global use / MAS-BH0008-A 002
<b>Cable Length &amp; Type:</b>	2.0m multicore
<b>Connected to Port:</b>	Charge/Data port

<b>Description:</b>	DC Charger
<b>Brand Name:</b>	NTT docomo
<b>Model Name or Number:</b>	FOMA DC Adapter 02
<b>Cable Length &amp; Type:</b>	Spiral cord / 2.5 metre / Multicore
<b>Connected to Port:</b>	Audio/Charge/Data port

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Description:	Personal Hands-Free
Brand Name:	NTT docomo
Model Name or Number:	Stereo Earphone Set 01
Cable Length & Type:	1.2 metre / multicore
Connected to Port:	Audio/Charge/Data port

Description:	Charge/USB Data cable
Brand Name:	NTT docomo
Model Name or Number:	FOMA USB Cable with Charge Function 02
Cable Length & Type:	0.3 metre / multicore
Connected to Port:	Audio/Charge/Data port

## 2.2. Description of EUT

The equipment under test was a Dual mode Cellular Mobile Telephone with PCS, UMTS FDD V and UMTS Release 5 HSDPA capabilities, incorporating Bluetooth and RFID. The Cellular Mobile Telephone operates on PCS/GPRS1900 MHz Band, UMTS/UMTS Release 5 HSDPA 850 MHz Band, Bluetooth 2400 MHz Band and RFID 13.5 MHz Band.

## 2.3. Modifications Incorporated in the EUT

During the course of testing the EUT was not modified.

## 2.4. Support Equipment

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

Description:	Dummy battery
Model Name or Number:	Panasonic
Serial Number:	Dummy battery #01
Cable Length and Type:	0.25 metre / 2 x single core
Connected to Port:	Battery

Description:	Laptop PC
Model Name or Number:	SONY Vaio PCG-VX7/BD
Serial Number:	Serial number has been partially erased and cannot be read
Cable Length and Type:	N/A
Connected to Port:	USB

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## 2.5. Additional Information Related to Testing

Technology Tested:	Bluetooth		
Type of Unit:	Transceiver		
Mode:	Basic Rate	Enhanced Data Rate	
Modulation:	GFSK	$\pi/4$ -DQPSK	8DQPSK
Packet Type: (Maximum Payload)	DH5	2DH5	3DH5
Data Rate (Mbit/s):	1	2	3
Channel Spacing:	1 MHz		
Transmit Frequency Range:	2402 MHz to 2480 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	0	2402
	Middle	39	2441
	Top	78	2480
Receive Frequency Range:	2402 MHz to 2480 MHz		
Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	0	2402
	Middle	39	2441
	Top	78	2480
Power Supply Requirement:	Nominal Voltage	3.7	(V)
	Minimum Voltage	3.4	(V)
	Maximum Voltage	4.2	(V)

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### **3. Test Specification, Methods and Procedures**

#### **3.1. Test Specification**

<b>Reference:</b>	FCC Part 15.247: 2008 Subpart C
<b>Title:</b>	Code of Federal Regulations (47CFR15) (Intentional Radiators operating within the band 2400 MHz to 2483.5 MHz)

<b>Reference:</b>	FCC Part 15.107 & FCC Part 15.109: 2008 Subpart B
<b>Title:</b>	Code of Federal Regulations (47CFR15) (Unintentional Radiators)

#### **3.2. Methods and Procedures**

The methods and procedures used were as detailed in:

ANSI C63.2 (1996)

Title: American National Standard for Instrumentation - Electromagnetic Noise and Field Strength Instrumentation, 10 Hz to 40 GHz.

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.

ANSI C63.5 (1988)

Title: American National Standard for the Calibration of antennas used for Radiated Emission measurements in Electromagnetic Interference (EMI) control.

ANSI C63.7 (1988)

Title: American National Standard Guide for Construction of Open Area Test Sites for performing Radiated Emission Measurements.

CISPR 16-1: (1999)

Title: Specification For Radio Disturbance and Immunity Measuring Apparatus and Methods. Part 1: Radio Disturbance and Immunity Measuring Apparatus.

DA00-705 (2000)

Title: Filing and Frequency Measurement Guidelines for Frequency Hopping Spread Spectrum Systems.

#### **3.3. Definition of Measurement Equipment**

The measurement equipment used complied with the requirements of the standards referenced in the methods & procedures section above. Appendix 1 contains a list of the test equipment used.

### **4. Deviations from the Test Specification**

There were no deviations from the test specification.

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## **5. Operation and Configuration of the EUT during Testing**

### **5.1. Operating Modes**

The EUT was tested in the following operating modes, unless otherwise stated:

- Idle Mode
- Transmit Mode with Basic Rate and EDR as required.
- Packet sizes tested were DH5 (GFSK) for basic rate and 3DH5 (8DQPSK) for EDR Mode. These packet sizes give the maximum payload.

### **5.2. Configuration and Peripherals**

The EUT was tested in the following configuration:

- For Transmit tests: Standalone, connected via a radio link to a Bluetooth Tester to provide a test mode and normal mode of operation for the sample.
- For Idle mode tests: Standalone, with the Bluetooth mode active but not transmitting. The GSM, 3G and RFID modules were active.
- The Micro SD card was present in the EUT during all tests.
- Receiver/idle and transmitter radiated spurious emissions tests were performed with the mains charger connected to the EUT and 120VAC supply as this was found to present the worst case emissions profile during pre-scans. All accessories were individually connected and measurements made during pre-scans to determine the worst case combination with regards the emissions profile.

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## **6. Summary of Test Results**

Range of Measurements	Specification Reference	Port Type	Result
Idle Mode AC Conducted Emissions (150 kHz to 30 MHz)	C.F.R. 47 FCC Part 15: Section 15.107	AC Mains	Complied
Idle Mode Radiated Spurious Emissions	C.F.R. 47 FCC Part 15: Section 15.109	Antenna	Complied
Transmitter AC Conducted Emissions (150 kHz to 30 MHz)	C.F.R. 47 FCC Part 15: Section 15.207	AC Mains	Complied
Transmitter 20 dB Bandwidth	C.F.R. 47 FCC Part 15: Section 15.247(a)(1)	Antenna	Complied
Transmitter Carrier Frequency Separation	C.F.R. 47 FCC Part 15: Section 15.247(a)(1)	Antenna	Complied
Transmitter Average Time of Occupancy	C.F.R. 47 FCC Part 15: Section 15.247(a)(1)(iii)	Antenna	Complied
Transmitter Maximum Peak Output Power	C.F.R. 47 FCC Part 15: Section 15.247(b)(1)	Antenna	Complied
Transmitter Radiated Emissions	C.F.R. 47 FCC Part 15: Sections 15.247(d) & 15.209(a)	Antenna	Complied
Transmitter Band Edge Radiated Emissions	C.F.R. 47 FCC Part 15: Sections 15.247(d) & 15.209(a)	Antenna	Complied

### **6.1. Location of Tests**

All the measurements described in this report were performed at the premises of RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.

### **6.2. Site Registration Numbers**

FCC: 209735

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## **7. Measurements, Examinations and Derived Results**

### **7.1. General Comments**

This section contains test results only.

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 8 for details of measurement uncertainties.

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## 7.2. Test Results

### 7.2.1. Idle AC Conducted Emissions: Section 15.107(a)

Ambient Temperature: 22°C      Relative Humidity: 38%

#### Quasi-Peak Detector Measurements on Live and Neutral Lines

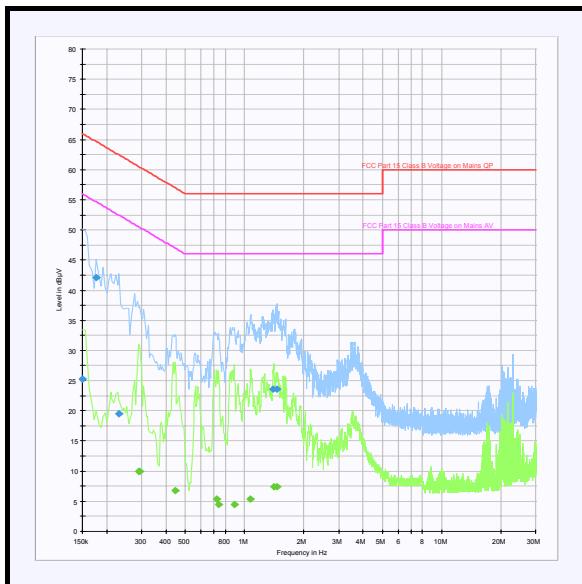
Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.150000	Live	25.3	66.0	40.7	Complied
0.177000	Live	42.1	64.6	22.5	Complied
0.231000	Live	19.5	62.4	42.9	Complied
1.392000	Neutral	23.6	56.0	32.4	Complied
1.464000	Neutral	23.6	56.0	32.4	Complied

#### Average Detector Measurements on Live and Neutral Lines

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.289500	Neutral	10.0	50.5	40.5	Complied
0.294000	Live	10.0	50.4	40.4	Complied
0.442500	Neutral	6.7	47.0	40.3	Complied
0.721500	Neutral	5.3	46.0	40.7	Complied
0.739500	Neutral	4.5	46.0	41.5	Complied
0.883500	Neutral	4.5	46.0	41.5	Complied
1.072500	Live	5.3	46.0	40.7	Complied
1.410000	Neutral	7.4	46.0	38.6	Complied
1.450500	Neutral	7.4	46.0	38.6	Complied

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**Idle Mode Conducted Emissions: Section 15.107(a) (Continued)**

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

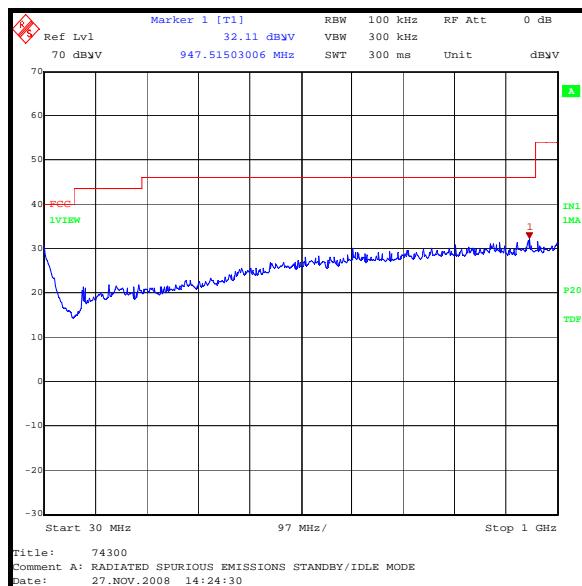
Test of: NTT docomo P-02A  
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### 7.2.2. Idle Mode Radiated Spurious Emissions: Section 15.109

Ambient Temperature: 24°C      Relative Humidity: 31%

#### Results:

Frequency (MHz)	Antenna Polarity	Quasi-Peak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
947.515	Horizontal	32.1	46	13.9	Complied



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

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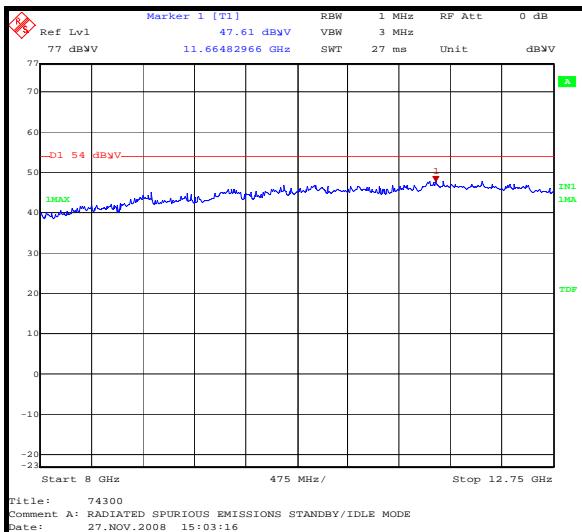
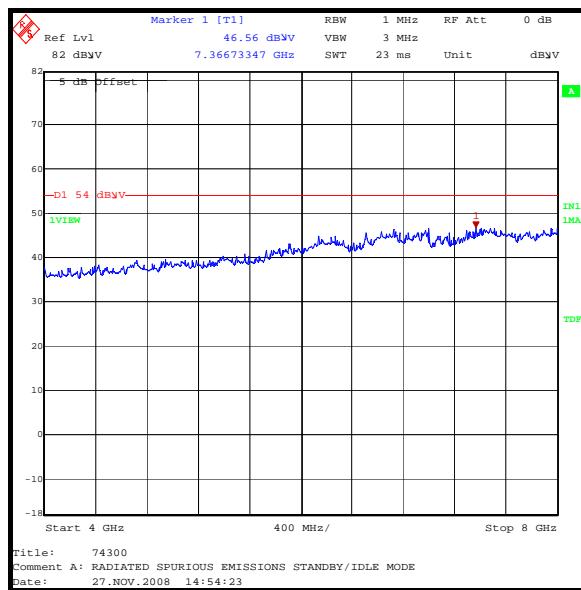
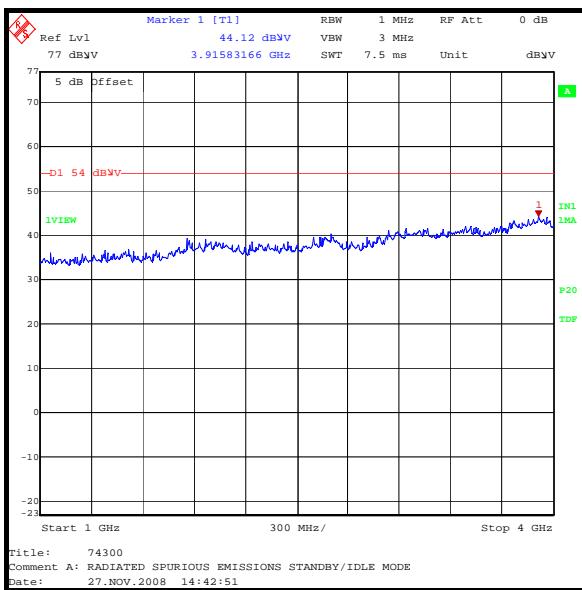
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**7.2.3. Idle Radiated Spurious Emissions: Section 15.109 (Continued)****Electric Field Strength Measurements (Frequency Range: 1 GHz to 12.75 GHz)****Highest Peak Level:**

Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
11.664	Horizontal	44.8	2.8	47.6	54.0	6.4	Complied

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### Idle Mode Radiated Spurious Emissions (Continued)



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

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#### 7.2.4. Transmitter AC Conducted Spurious Emissions: Section 15.207

Ambient Temperature: 22°C      Relative Humidity: 38%

##### Results:

##### Quasi-Peak Detector Measurements on Live and Neutral Lines

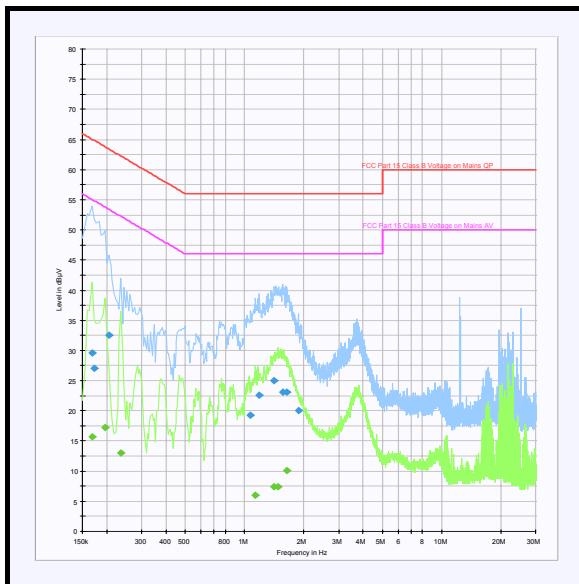
Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.168000	Neutral	29.6	65.1	35.5	Complied
0.172500	Neutral	27.1	64.8	37.7	Complied
0.204000	Live	32.6	63.4	30.8	Complied
1.072500	Live	19.3	56.0	36.7	Complied
1.189500	Neutral	22.6	56.0	33.4	Complied
1.405500	Live	25.0	56.0	31.0	Complied
1.554000	Neutral	23.1	56.0	32.9	Complied
1.644000	Neutral	23.1	56.0	32.9	Complied
1.869000	Neutral	20.0	56.0	36.0	Complied

##### Average Detector Measurements on Live and Neutral Lines

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.168000	Live	15.7	55.1	39.4	Complied
0.195000	Neutral	17.2	53.8	36.6	Complied
0.235500	Neutral	13.0	52.3	39.3	Complied
1.135500	Neutral	6.0	46.0	40.0	Complied
1.410000	Live	7.4	46.0	38.6	Complied
1.482000	Live	7.4	46.0	38.6	Complied
1.644000	Live	10.1	46.0	35.9	Complied

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Transmitter AC Conducted Spurious Emissions: Section 15.207 (Continued)

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

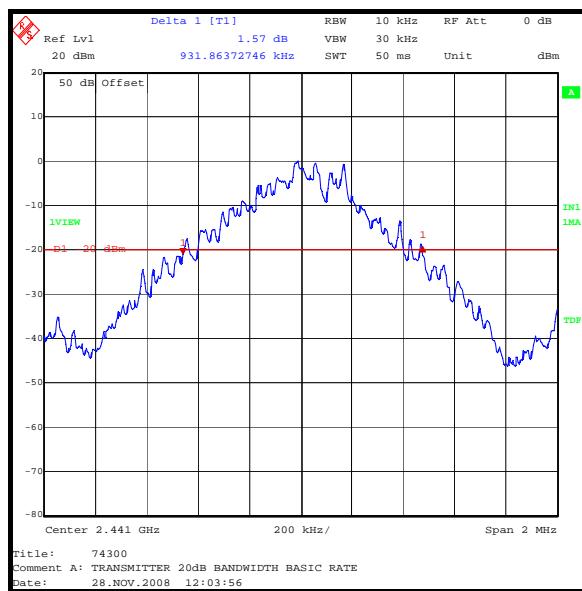
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### 7.2.5. Transmitter 20 dB Bandwidth: Section 15.247(a)(1)

Ambient Temperature: 25°C      Relative Humidity: 28%

## **Basic Rate Results:**

Transmitter 20 dB Bandwidth  
(kHz)

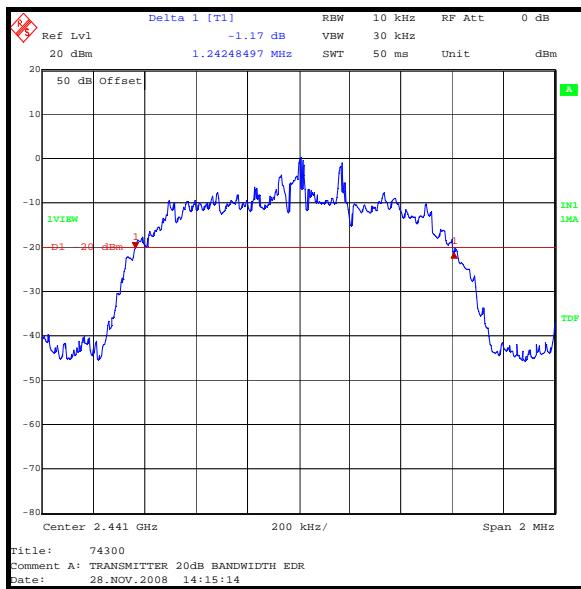


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**Transmitter 20 dB Bandwidth: Section 15.247(a)(1) - Continued****EDR Results:**

Transmitter 20 dB Bandwidth (kHz)	
1242.485	



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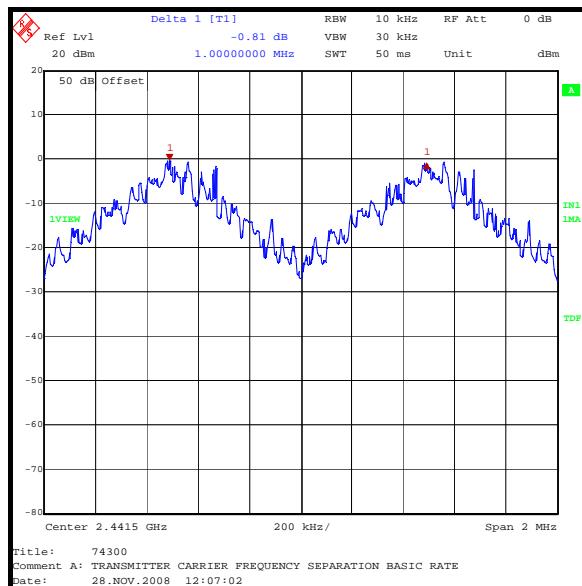
### 7.2.6. Transmitter Carrier Frequency Separation: Section 15.247(a)(1)

Ambient Temperature: 25°C

Relative Humidity: 28%

#### Basic Rate Results:

Transmitter Carrier Frequency Separation (kHz)	Limit ( $2/3$ of 20dB BW) (kHz)	Margin (kHz)	Result
1000.0	621.242	378.758	Complied

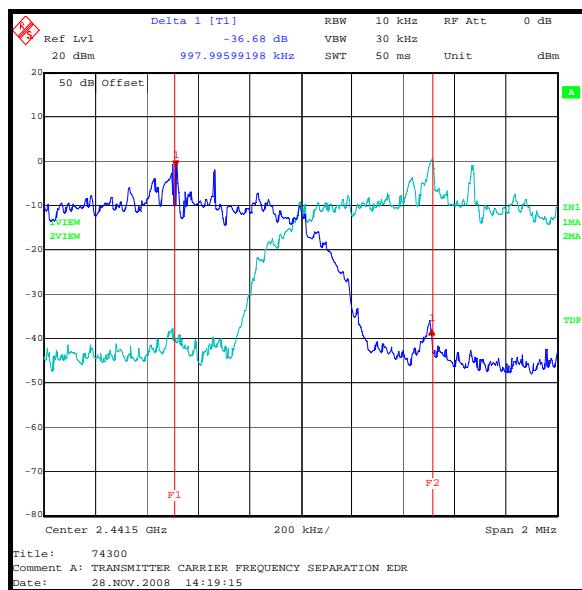


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**Transmitter Carrier Frequency Separation: Section 15.247(a)(1) - Continued**

## EDR Results:

Transmitter Carrier Frequency Separation (kHz)	Limit ( $\frac{2}{3}$ of 20dB BW) (kHz)	Margin (kHz)	Result
997.996	828.323	169.672	Complied



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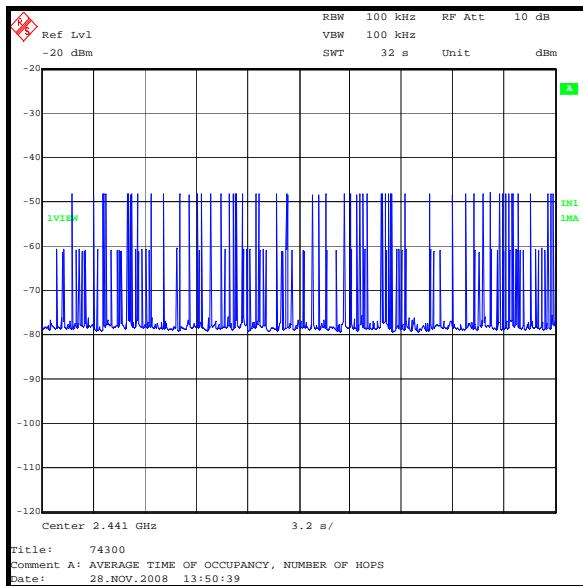
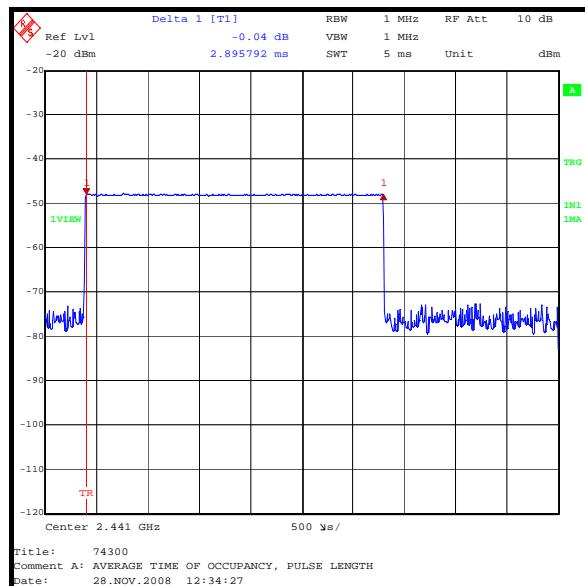
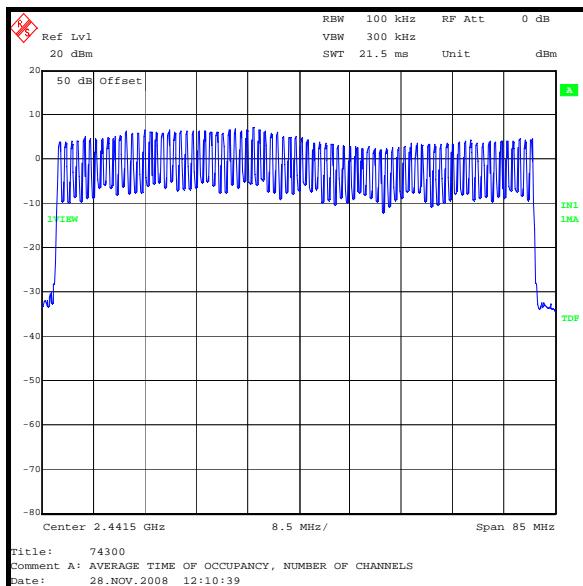
**7.2.7. Transmitter Average Time of Occupancy: Section 15.247(a)(1)(iii)**

Ambient Temperature: 25°C

Relative Humidity: 28%

**Results:**

Emission Width (μs)	Number of Hops in 31.6 Seconds	Average Time of Occupancy (s)	Limit (s)	Margin (s)	Result
2895.792	61	0.177	0.4	0.223	Complied



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**7.2.8. Transmitter Maximum Peak Output Power: (EIRP) Section 15.247(b)(1)**

Ambient Temperature: 25°C

Relative Humidity: 28%

**Basic Rate Results**

Channel	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	-1.5	30.0	31.5	Complied
Middle	-1.7	30.0	31.7	Complied
Top	-1.1	30.0	31.1	Complied

**EDR Results**

Channel	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	-1.8	20.0	21.8	Complied
Middle	-1.0	20.0	21.0	Complied
Top	-1.6	20.0	21.6	Complied

**Note(s):**

1. These tests were performed radiated; therefore the EUT antenna gain is encompassed in the final result and not measurable.

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### **7.2.9. Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a)**

Ambient Temperature: 25°C      Relative Humidity: 28%

## Electric Field Strength Measurements: 30 MHz to 1000 MHz

## Basic Rate/EDR Results

## Top Channel

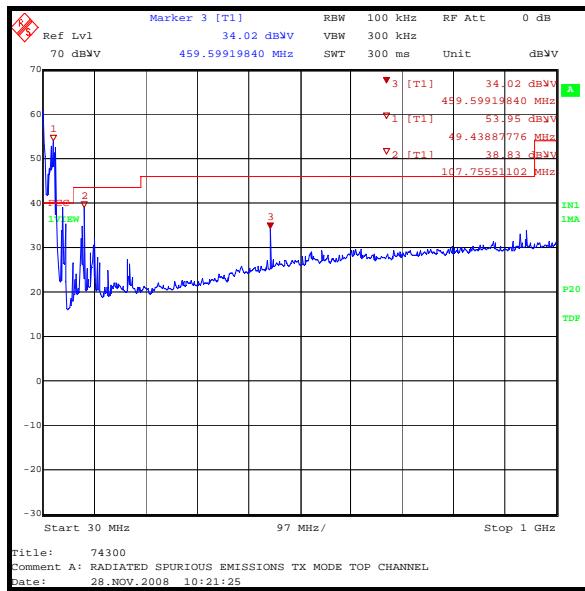
Frequency (MHz)	Antenna Polarity	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
980.561	Vertical	30.9	54	23.1	Complied

**Note(s):**

1. *\*Note: 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.*  
*\*\*Note: 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. *All emissions shown on the plot were investigated and found to be ambient or radiating from the Bluetooth support equipment.*

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### Transmitter Radiated Emissions (Continued)



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

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**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)****Electric Field Strength Measurements: 1 GHz to 26.5 GHz****Basic Rate/EDR Highest Peak Level Results****Top Channel**

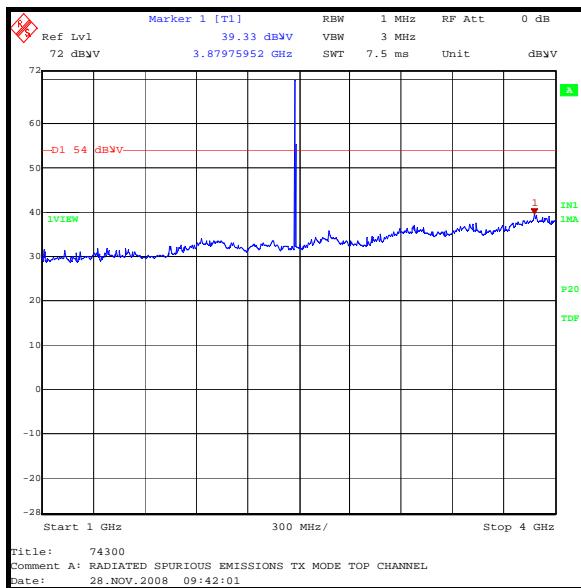
Frequency (GHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
17.747	Vertical	44.9	3.8	48.7	54.0	5.3	Complied

**Note(s):**

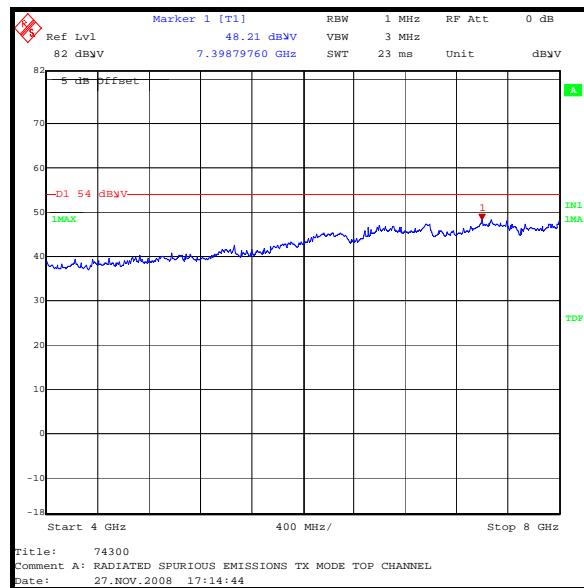
1. *The preliminary scans showed similar emission levels below for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.*

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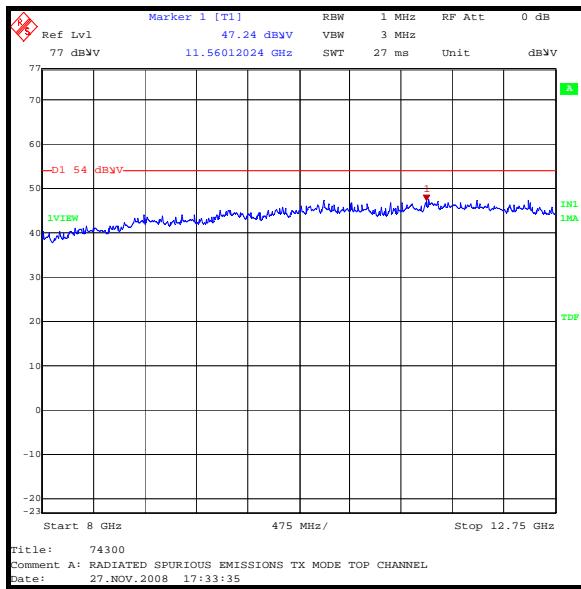
**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**



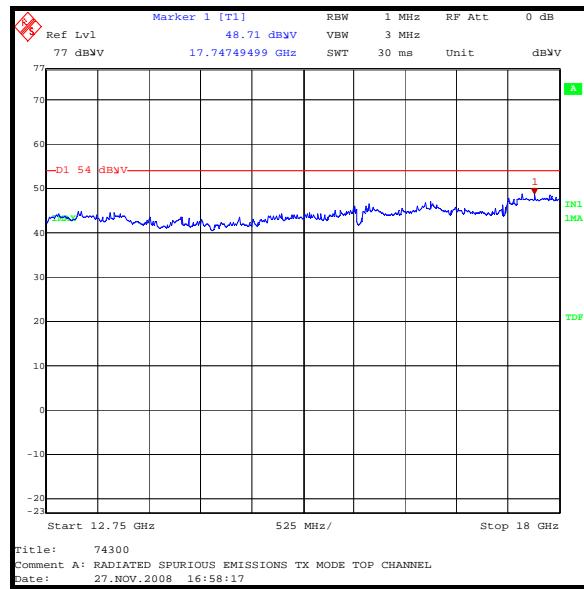
Title: 74300  
 Comment A: RADIATED SPURIOUS EMISSIONS TX MODE TOP CHANNEL  
 Date: 28.NOV.2008 09:42:01



Title: 74300  
 Comment A: RADIATED SPURIOUS EMISSIONS TX MODE TOP CHANNEL  
 Date: 27.NOV.2008 17:14:44



Title: 74300  
 Comment A: RADIATED SPURIOUS EMISSIONS TX MODE TOP CHANNEL  
 Date: 27.NOV.2008 17:33:35



Title: 74300  
 Comment A: RADIATED SPURIOUS EMISSIONS TX MODE TOP CHANNEL  
 Date: 27.NOV.2008 16:58:17

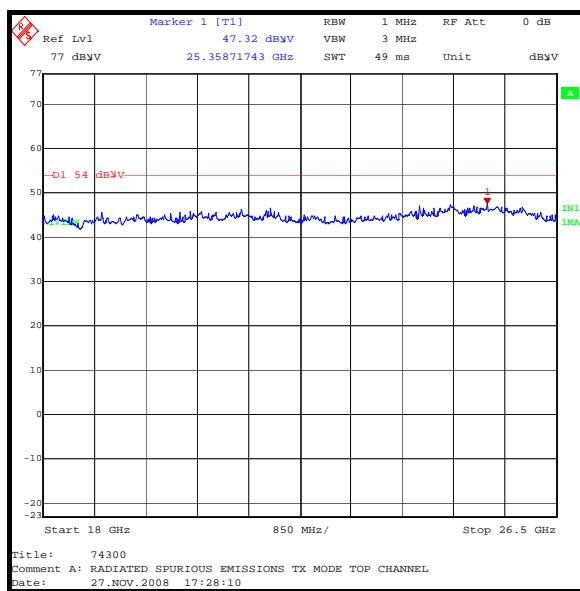
*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: NTT docomo P-02A  
 To: FCC Part 15.247: 2008 (Subpart C)

**Transmitter Radiated Emissions: Section 15.247(d) and 15.209(a) (Continued)**

**Basic Rate/EDR Highest Peak Level Results**

**Top Channel**



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

**Note(s):**

1. \*Note: 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.  
 \*\*Note: 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. The carrier is shown at 2.48 GHz on the 1 to 4 GHz plot

**Test of: NTT docomo P-02A**  
**To: FCC Part 15.247: 2008 (Subpart C)**

### **7.2.10. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a)**

Ambient Temperature: 25°C      Relative Humidity: 28%

## Electric Field Strength Measurements

## Peak Power Level Hopping Mode Basic Rate:

Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2400.0	Vertical	63.7	-7.7	56.0	72.1*	16.1	Complied
2483.5	Vertical	63.1	-8.1	55.0	74.0	19.0	Complied

## Average Power Level Hopping Mode Basic Rate:

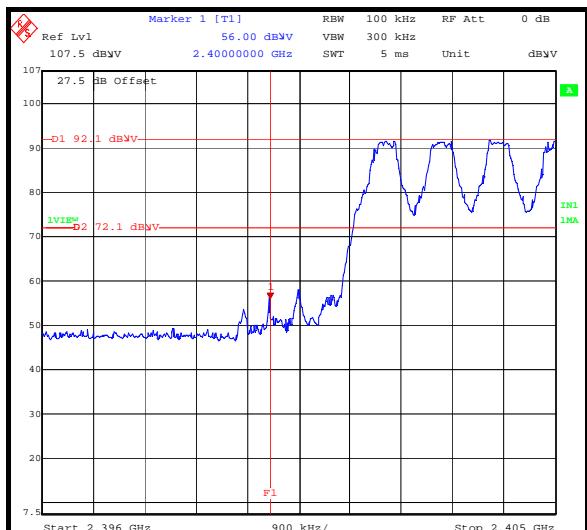
Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2483.5	Vertical	50.3	-8.1	42.2	54.0	11.8	Complied

**Note(s):**

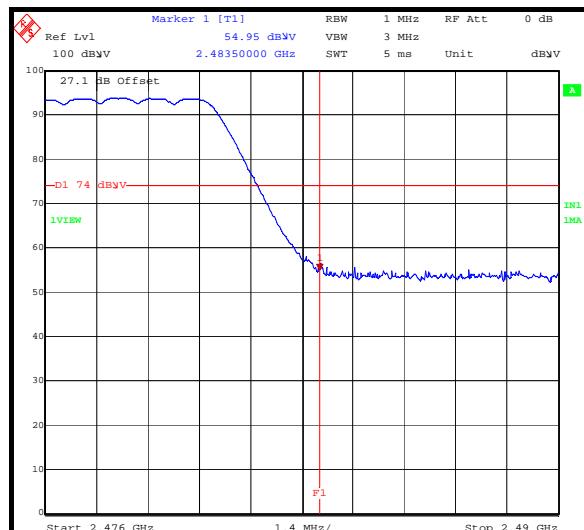
### 1. \* -20 dBc limit

**Test of: NTT docomo P-02A**  
**To: FCC Part 15.247: 2008 (Subpart C)**

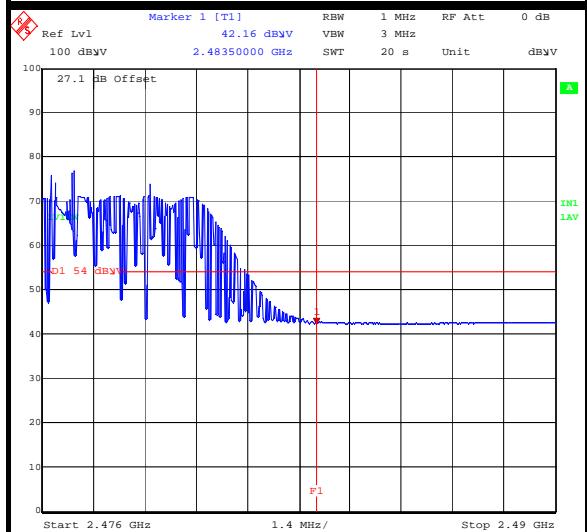
**Transmitter Band Edge Radiated Emissions (Continued)**



Title: 74300  
 Comment A: TX BAND EDGE, HOPPING, BOTTOM CHANNEL, PEAK, BASIC RATE  
 Date: 28.NOV.2008 14:49:42



Title: 74300  
 Comment A: TX BAND EDGE, HOPPING, TOP CHANNEL, PEAK, BASIC RATE  
 Date: 28.NOV.2008 15:05:59



Title: 74300  
 Comment A: TX BAND EDGE, HOPPING, TOP CHANNEL, AVERAGE DET, BASIC RATE  
 Date: 28.NOV.2008 15:12:21

Test of: NTT docomo P-02A  
 To: FCC Part 15.247: 2008 (Subpart C)

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### 7.2.11. Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a)

Ambient Temperature: 25°C

Relative Humidity: 28%

#### Electric Field Strength Measurements

#### Peak Power Level Hopping Mode EDR:

Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2400.0	Vertical	55.9	-7.7	48.2	71.2*	23.0	Complied
2483.5	Vertical	65.0	-8.1	56.9	74.0	17.1	Complied

#### Average Power Level Hopping Mode EDR:

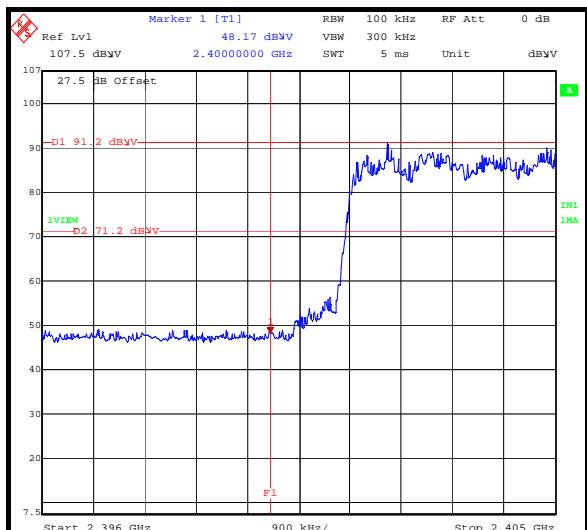
Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	50.9	-8.1	42.8	54.0	11.2	Complied

#### Note(s):

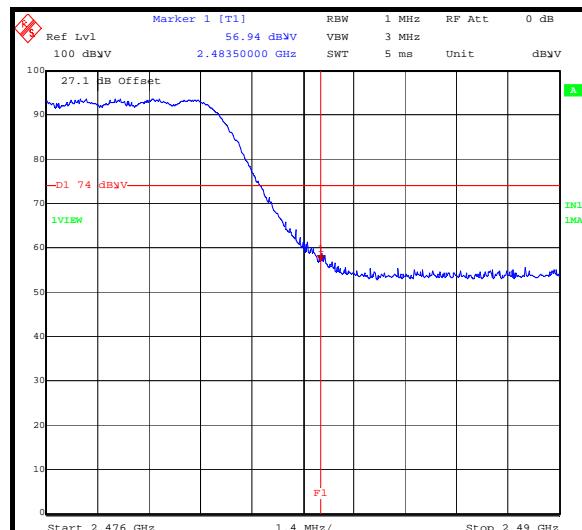
1. \* -20 dBc limit

Test of: NTT docomo P-02A  
 To: FCC Part 15.247: 2008 (Subpart C)

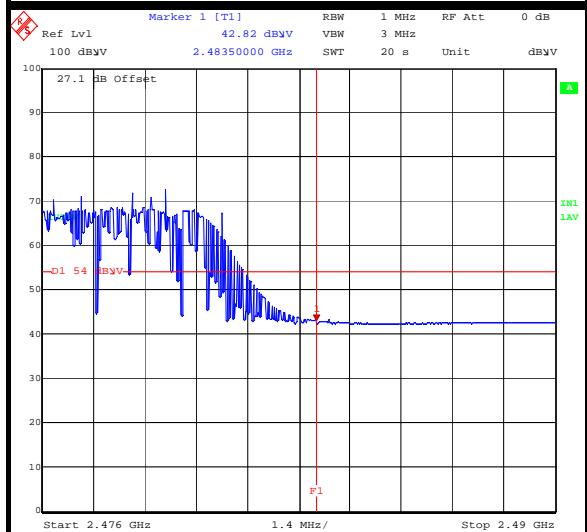
**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: 74300  
 Comment A: TX BAND EDGE, HOPPING, BOTTOM CHANNEL, PEAK, EDR  
 Date: 28.NOV.2008 14:52:23



Title: 74300  
 Comment A: TX BAND EDGE, HOPPING, TOP CHANNEL, PEAK, EDR  
 Date: 28.NOV.2008 15:04:09



Title: 74300  
 Comment A: TX BAND EDGE, HOPPING, TOP CHANNEL, AVERAGE DET, EDR  
 Date: 28.NOV.2008 15:35:13

Test of: NTT docomo P-02A  
 To: FCC Part 15.247: 2008 (Subpart C)

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**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) - Continued**

**Results**

**Peak Power Level Static Mode Basic Rate:**

Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	64.0	-7.7	56.3	72.3*	16.0	Complied
2.4835	Vertical	64.6	-8.1	56.5	74.0	17.5	Complied

**Average Power Level Static Mode Basic Rate:**

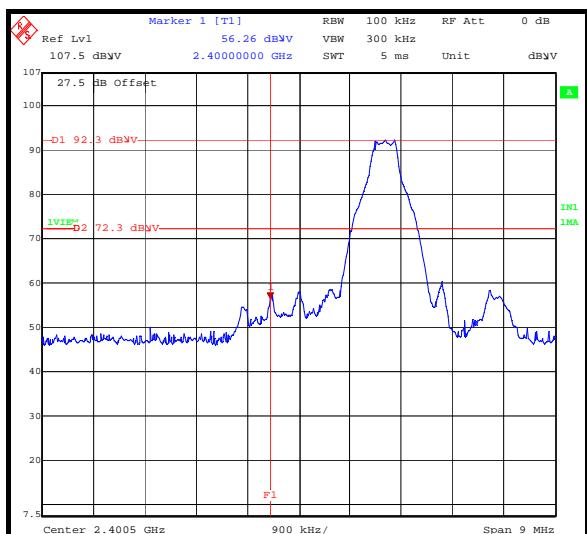
Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	52.7	-8.1	44.6	54.0	9.4	Complied

**Note(s):**

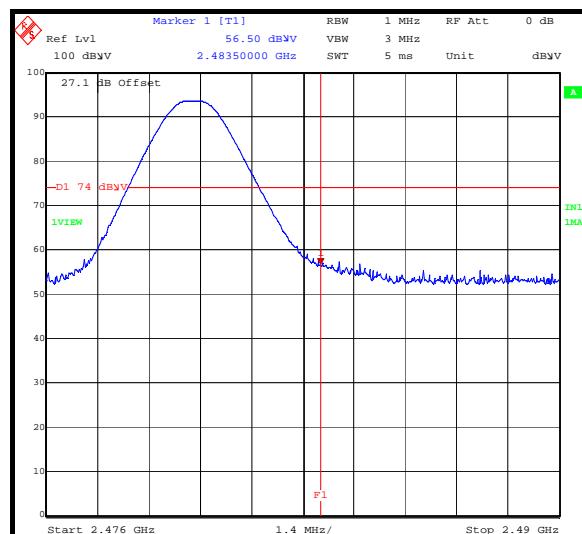
1. \* -20 dBc limit

**Test of: NTT docomo P-02A**  
**To: FCC Part 15.247: 2008 (Subpart C)**

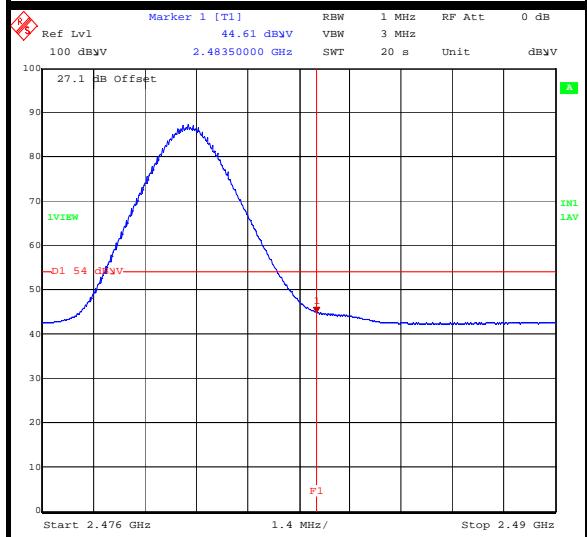
**Transmitter Band Edge Radiated Emissions (Continued)**



Title: 74300  
 Comment A: TX BAND EDGE, STATIC, BOTTOM CHANNEL, PEAK, BASIC RATE  
 Date: 28.NOV.2008 14:44:35



Title: 74300  
 Comment A: TX BAND EDGE, STATIC, TOP CHANNEL, PEAK DET, BASIC RATE  
 Date: 28.NOV.2008 15:17:01



Title: 74300  
 Comment A: TX BAND EDGE, STATIC, TOP CHANNEL, AVERAGE DET, BASIC RATE  
 Date: 28.NOV.2008 15:14:25

Test of: NTT docomo P-02A

To: FCC Part 15.247: 2008 (Subpart C)

**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) - Continued****Results****Peak Power Level Static Mode EDR:**

Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4000	Vertical	55.2	-7.7	47.5	71.9*	24.4	Complied
2.4835	Vertical	68.0	-8.1	59.9	74.0	14.1	Complied

**Average Power Level Static Mode EDR:**

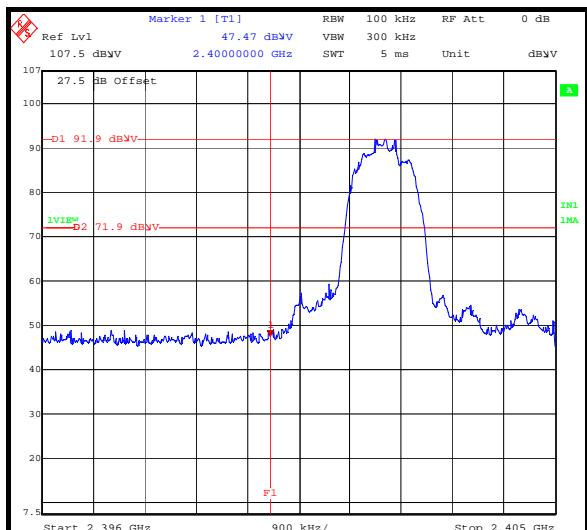
Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Transducer Factor (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
2.4835	Vertical	54.0	-8.1	45.9	54.0	8.1	Complied

**Note(s):**

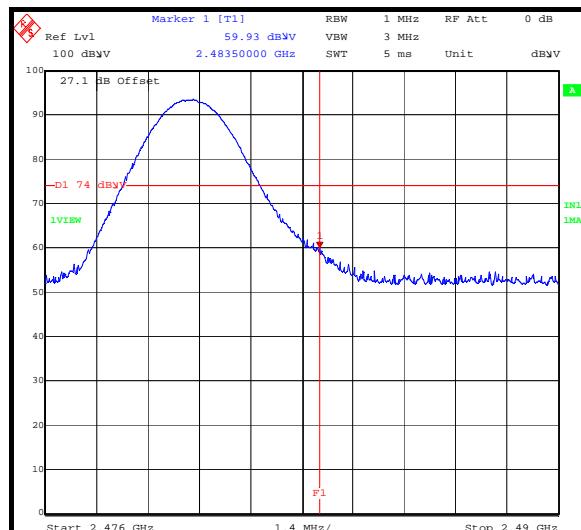
1. \* -20 dBc limit

Test of: NTT docomo P-02A  
 To: FCC Part 15.247: 2008 (Subpart C)

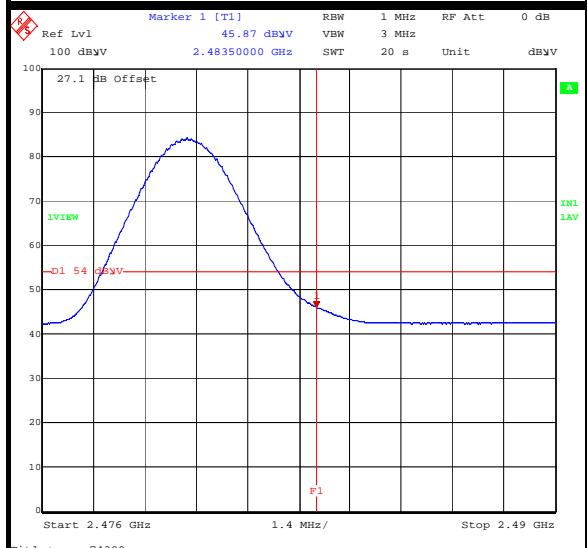
**Transmitter Band Edge Radiated Emissions: Section 15.247(d) & 15.209(a) (Continued)**



Title: 74300  
 Comment A: TX BAND EDGE, STATIC, BOTTOM CHANNEL, PEAK, EDR  
 Date: 28.NOV.2008 14:37:32



Title: 74300  
 Comment A: TX BAND EDGE, STATIC, TOP CHANNEL, PEAK, EDR  
 Date: 28.NOV.2008 15:01:30



Title: 74300  
 Comment A: TX BAND EDGE, STATIC, TOP CHANNEL, AVERAGE DET, EDR  
 Date: 28.NOV.2008 15:28:22

Test of: NTT docomo P-02A  
 To: FCC Part 15.247: 2008 (Subpart C)

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## **8. 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
Transmitter Maximum Peak Output Power	Not Applicable	95%	±2.94 dB
Conducted Emissions Antenna Port	30 MHz to 40 GHz	95%	±0.28 dB
Transmitter Carrier Frequency Separation	Not Applicable	95%	±11.4 ppm
Transmitter Average Time of Occupancy	Not Applicable	95%	±0.3 ns
20 dB Bandwidth	Not Applicable	95%	±11.4 ppm
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	±4.64 dB
Radiated Spurious Emissions	1 GHz to 40 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.

Test of: NTT docomo P-02A  
 To: FCC Part 15.247: 2008 (Subpart C)

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## 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
A1818	Antenna	EMCO	3115	00075692	25 Oct 2008	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	16 Jan 2008	12
A436	Antenna	Flann	20240-20	330	24 Apr 2006	36
C1164	Cable	Rosenberger Micro-Coax	FA210A101 5007070	43188-1	20 Apr 2008	12
C1196	Coax cable	Utiflex	FA147A101 5M2020	3502 27138-11	Calibration before use	-
C1298	10m Cable	Rosenberger	FA210A010 0005050	58941-02	Calibration before use	-
C363	Cable	Rosenberger	RG142	None	20 Apr 2008	12
K0002	Site Reference 4421	Rainford EMC	N/A	N/A	26 Aug 2008	12
M1124	Spectrum Analyser	Rohde & Schwarz	ESIB26	100046K	19 Feb 2008	12
M1253	Spectrum Analyser	HP	8564E	3442A00262	21 Oct 2008	12

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