



TEST REPORT

Test Report No. : UL-RPT-RP90385JD11A V2.0

Manufacturer : Panasonic Mobile Communications Development of Europe Ltd

Model No. : NTT docomo Wireless Charger Pad P02 & PSU P02

FCC ID : UCE312057A

Test Standard(s) : FCC Parts 15.207 & 15.209

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2. The results in this report apply only to the sample(s) tested.
3. This sample tested is in compliance with the above standard(s).
4. The test results in this report are traceable to the national or international standards.
5. Version 2.0 supersedes all previous versions.

Date of Issue: 28 November 2012

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This laboratory is accredited by UKAS. The tests reported herein have been performed in accordance with its' terms of accreditation.

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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:	47CFR15.207 and 47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2012: Part 15 Subpart C (Intentional Radiators) - Sections 15.207 and 15.209
Site Registration:	209735
Location of Testing:	RFI Global Services Ltd trading as UL, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	17 November 2012 to 21 November 2012

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.207	Transmitter AC Conducted Emissions	
Part 15.209	Transmitter Radiated Emissions	
Key to Results		
 = Complied  = Did not comply		

2.3. Methods and Procedures

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:	Charger Pad Type Number: P02
Serial Number:	No, 1
Hardware Version Number:	Not marked or stated
Software Version Number:	N/A

Brand Name:	NTT docomo
Model Name or Number:	Charger PSU Type Number: P02
Serial Number:	No, 1
Hardware Version Number:	Not marked or stated
Software Version Number:	N/A

3.2. Description of EUT

The equipment under test was a Wireless Charger and associated PSU for a mobile phone.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Tested Technology:	Wireless Charger	
Mode	Charging	
Power Supply Requirement:	Nominal	120 VAC 60 Hz
Modulation Type:	AM	
Transmit Frequency Range:	125 kHz to 131 kHz	

3.5. Support Equipment

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

Description:	Multi-Mode LTE/UMTS/GSM Mobile Phone with WLAN, Bluetooth and RFID
Brand Name:	NTT docomo
Model Name or Number:	EB-4063
IMEI:	353740050011927

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

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

- Charging mode.
- Transmitting/charging in the 125 kHz to 131 kHz frequency range.

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- Tests were performed with the mobile phone handset located in its' normal position on the wireless charging pad.
- Connected to a 120 VAC 60 Hz single phase supply.
- AC conducted emissions tests were performed with the EUT connected to a 120 VAC 60 Hz single phase supply via a LISN.

5. Measurements, Examinations and Derived Results

5.1. General Comments

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

In accordance with UKAS requirements all the measurement equipment is on a calibration schedule. All equipment was within the calibration period on the date of testing.

5.2. Test Results**5.2.1. Transmitter AC Conducted Spurious Emissions****Test Summary:**

Test Engineer:	Nick Steele	Test Date:	21 November 2012
Test Sample Serial Number:	No, 1		

FCC Reference:	Part 15.207
Test Method Used:	As detailed in ANSI C63.4 Section 7

Environmental Conditions:

Temperature (°C):	19
Relative Humidity (%):	46

Results: Live / Quasi Peak

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.416	Live	36.3	57.5	21.2	Complied
0.524	Live	36.0	56.0	20.0	Complied
0.627	Live	40.8	56.0	15.2	Complied
0.726	Live	39.5	56.0	16.5	Complied
0.830	Live	38.5	56.0	17.5	Complied
0.938	Live	35.7	56.0	20.3	Complied

Results: Live / Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.416	Live	21.4	47.5	26.1	Complied
0.830	Live	22.1	46.0	23.9	Complied
4.038	Live	17.2	46.0	28.8	Complied
4.871	Live	17.4	46.0	28.6	Complied
13.691	Live	20.7	50.0	29.3	Complied
15.135	Live	20.3	50.0	29.7	Complied

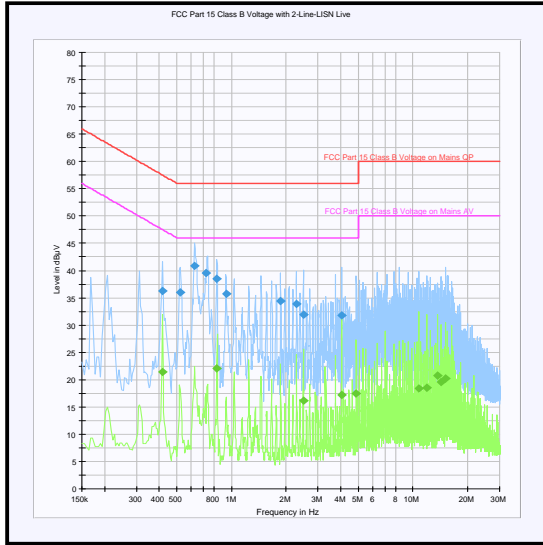
Transmitter AC Conducted Spurious Emissions (continued)**Results: Neutral / Quasi Peak**

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.524	Neutral	37.4	56.0	18.6	Complied
0.627	Neutral	41.7	56.0	14.3	Complied
0.740	Neutral	38.7	56.0	17.3	Complied
0.830	Neutral	39.6	56.0	16.4	Complied
0.933	Neutral	40.7	56.0	15.3	Complied
1.037	Neutral	38.1	56.0	17.9	Complied

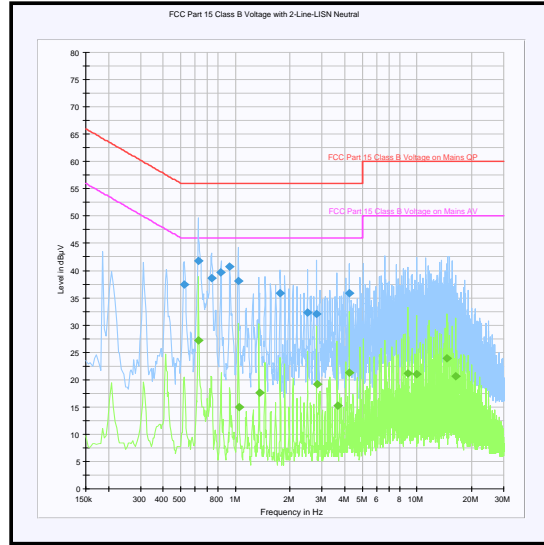
Results: Neutral / Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.623	Neutral	27.2	46.0	18.8	Complied
1.356	Neutral	17.6	46.0	28.4	Complied
2.814	Neutral	19.2	46.0	26.8	Complied
4.250	Neutral	21.3	46.0	24.7	Complied
8.925	Neutral	21.2	50.0	28.8	Complied
14.627	Neutral	23.9	50.0	26.1	Complied

Transmitter AC Conducted Spurious Emissions (continued)



Live



Neutral

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

Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A649	LISN	Rohde & Schwarz	ESH3-Z5	825562/008	19 Feb 2013	12
A1830	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100668	25 Feb 2013	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	09 Aug 2013	12

5.2.2. Transmitter Radiated Spurious Emissions**Test Summary:**

Test Engineer:	Nick Steele	Test Date:	17 November 2012
Test Sample Serial Number:	No, 1		

FCC Reference:	Part 15.209
Test Method Used:	As detailed in ANSI C63.4 Section 8
Frequency Range:	9 kHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	26
Relative Humidity (%):	34

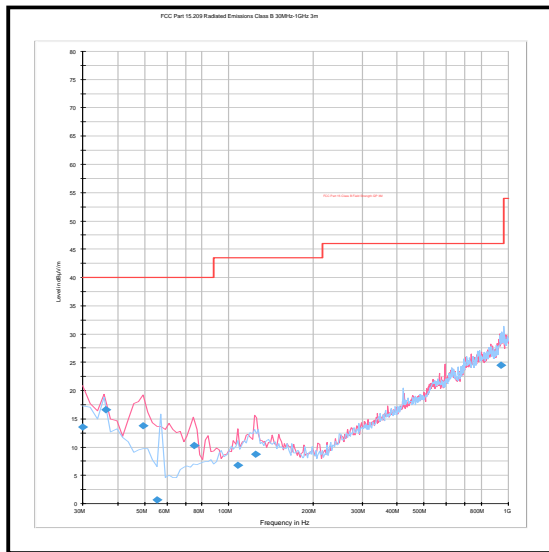
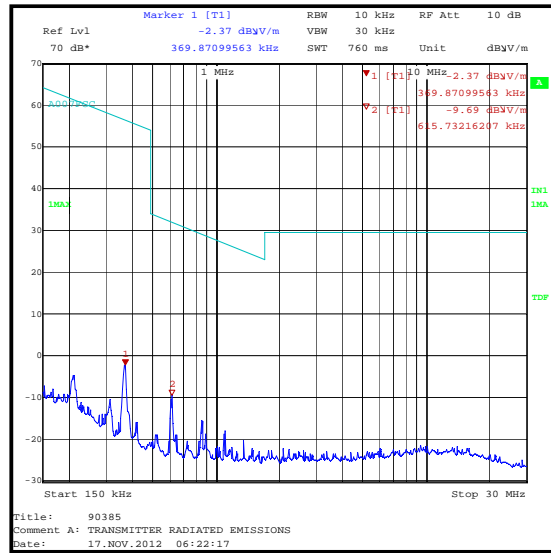
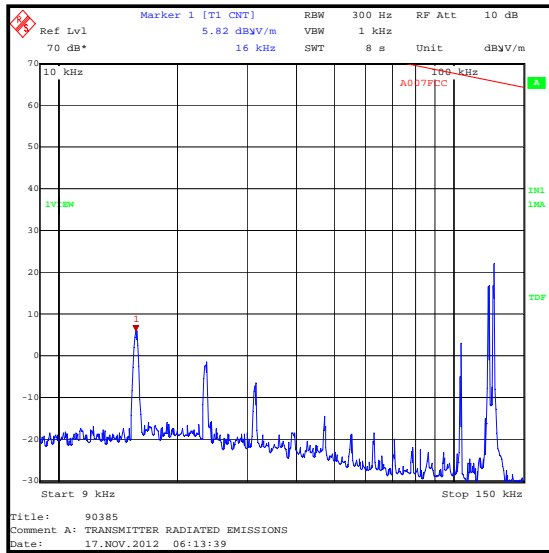
Note(s):

- Limits below 30 MHz are specified at a test distance of 30 metres, whilst below 0.49 MHz they are specified at a distance of 300 metres. However, as specified by FCC Section 15.31 (f)(2), measurements may be performed at a closer distance and the measured value corrected to the specified measurement distance by using the square of an inverse linear distance extrapolation factor (40 dB/decade).
- A transducer factor on the measuring instrument was used to extrapolate the results at 3 metres to a distance of 30 metres where required. A distance extrapolation factor of 40 dB was used.
- The emission shown at approximately 125 kHz is the charger frequency of the EUT. All other emissions on the 9 kHz to 150 kHz plot were investigated and found to be radiating from the test suite turntable.
- The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
- 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.
- Measurements in the range 30 MHz to 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.

Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
75.012	Vertical	10.3	40.0	29.7	Complied
124.504	Vertical	8.8	43.5	34.7	Complied

Transmitter Radiated Spurious Emissions (continued)



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

Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
K0001	5m RSE Chamber	Rainford	N/A	N/A	24 Oct 2013	12
A007	Mag Loop Antenna	Rohde & Schwarz	HFH2-Z2	880 458/020	20 Apr 2013	12
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	1000275	03 Feb 2013	12
A1834	Attenuator	Hewlett Packard	8491B	10444	29 Jan 2013	12
A553	Antenna	Chase	CBL6111A	1593	15 Feb 2013	12
G0543	Amplifier	Sonoma	310N	230801	02 Jan 2013	3

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
Radiated Spurious Emissions	0.009 MHz to 1000 MHz	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.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version
2.0	-	-	Update to transmit frequency range as requested by Customer