



TEST REPORT

Test Report No. : UL-RPT-RP10299547JD05A V2.0

Manufacturer : Cambridge Temperature Concepts
Model No. : WWO-CTCBLE
FCC ID : WWO-CTCBLE
Technology : *Bluetooth – Low Energy*
Test Standard(s) : FCC Parts 15.207, 15.209(a) & 15.247

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2. The results in this report apply only to the sample(s) tested.
3. The 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:

14 July 2015

Checked by:

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Engineer, Radio Laboratory

Issued by :

pp

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Table of Contents

1. Customer Information.....	4
2. Summary of Testing.....	5
2.1. General Information	5
2.2. Summary of Test Results	5
2.3. Methods and Procedures	6
2.4. Deviations from the Test Specification	6
3. Equipment Under Test (EUT)	7
3.1. Identification of Equipment Under Test (EUT)	7
3.2. Description of EUT	7
3.3. Modifications Incorporated in the EUT	7
3.4. Additional Information Related to Testing	8
3.5. Support Equipment	8
4. Operation and Monitoring of the EUT during Testing	9
4.1. Operating Modes	9
4.2. Configuration and Peripherals	9
5. Measurements, Examinations and Derived Results	10
5.1. General Comments	10
5.2. Test Results	11
5.2.1. Receiver/Idle Mode Radiated Spurious Emissions	11
5.2.2. Transmitter Minimum 6 dB Bandwidth	15
5.2.3. Transmitter Maximum Peak Output Power	17
5.2.4. Transmitter Radiated Emissions	19
5.2.5. Transmitter Band Edge Radiated Emissions	25
6. Measurement Uncertainty	27
7. Report Revision History	28

1. Customer Information

Company Name:	Cambridge Temperature Concepts
Address:	23 Science Park Cambridge Cambridgeshire CB4 0EY United Kingdom

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.247
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart C (Intentional Radiators) - Section 15.247
	47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart B (Unintentional Radiators) - Section 15.109
Specification Reference:	47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart C (Intentional Radiators) - Section 15.209
Site Registration:	209735
Location of Testing:	UL VS LTD, Unit 3 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, RG24 8AH, United Kingdom
Test Dates:	29 April 2014 to 10 July 2015

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.109	Receiver/Idle Mode Radiated Emissions	✓
Part 15.247(a)(2)	Transmitter Minimum 6 dB Bandwidth	✓
Part 15.247(e)	Transmitter Power Spectral Density	Note 1
Part 15.247(b)(3)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/15.209(a)	Transmitter Radiated Emissions	✓
Part 15.247(d)/15.209(a)	Transmitter Band Edge Radiated Emissions	✓
Key to Results		
✓ = Complied	✗ = Did not comply	

Note(s):

1. In accordance with FCC KDB 558074 Section 10.1, PSD is not required if the maximum conducted output power is less than the PSD limit of 8 dBm / 3 kHz. The PSD level is therefore deemed to be equal to the measured total output power.

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
Reference:	ANSI C63.10 (2009)
Title:	American National Standard for Testing Unlicensed Wireless Devices
Reference:	KDB 558074 D01 v03r03 June 9, 2015
Title:	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247

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:	DuoFertility
Model Name or Number:	WWO-CTCBLE
Test Sample Serial Number:	13B136E44DCA (<i>Radiated sample #1</i>)
Hardware Version Number:	2.2
Software Version Number:	01
FCC ID:	WWO-CTCBLE

Brand Name:	DuoFertility
Model Name or Number:	WWO-CTCBLE
Test Sample Serial Number:	8CE51E4994D2 (<i>Radiated sample #2</i>)
Hardware Version Number:	2.2
Software Version Number:	01
FCC ID:	WWO-CTCBLE

Brand Name:	DuoFertility
Model Name or Number:	WWO-CTCBLE
Test Sample Serial Number:	F73D0924E6E7 (<i>Conducted sample</i>)
Hardware Version Number:	2.2
Software Version Number:	01
FCC ID:	WWO-CTCBLE

3.2. Description of EUT

The equipment under test was a wearable sensor with a *Bluetooth* Low Energy wireless transceiver built in it. The EUT contains an integral antenna with 0 dBi gain.

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:	Bluetooth® Low Energy (Digital Transmission System)				
Type of Unit:	Transceiver				
Channel Spacing:	2 MHz				
Modulation:	GFSK				
Data Rate:	1 Mbps				
Power Supply Requirement(s):	Nominal	3 VDC			
Maximum Conducted Output Power:	-8.2 dBm				
Antenna Gain:	0 dBi				
Transmit Frequency Range:	2402 MHz to 2480 MHz				
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)		
	Bottom	0	2402		
	Middle	19	2440		
	Top	39	2480		
Receive Frequency Range:	2402 MHz to 2480 MHz				
Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)		
	Bottom	0	2402		
	Top	39	2480		

3.5. Support Equipment

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

Description:	Test Laptop
Brand Name:	ZooStorm
Model Name or Number:	W251EL
Serial Number:	NKW251ELQ002H00873

Description:	RS232 to USB Interface
Brand Name:	StarTech
Model Name or Number:	ICUSB2321F
Serial Number:	608291055

Description:	Test jig / PCB for interface with EUT
Brand Name:	Not marked or stated
Model Name or Number:	Not marked or stated
Serial Number:	Not marked or stated

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

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

- Receive/Idle Mode.
- Transmitting at maximum power in *Bluetooth LE* mode with a modulated carrier, maximum data length available and Pseudorandom Bit Sequence 9.

4.2. Configuration and Peripherals

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

- Controlled using a software application on the test laptop supplied by the customer. The application was used to enable continuous transmission and idle mode (enabled but not transmitting) and to select the test channels as required.
- Powered by 2 fully charged AA batteries. The battery voltage was monitored throughout testing.

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. Receiver/Idle Mode Radiated Spurious Emissions

Test Summary:

Test Engineer:	Sandeep Bharat	Test Date:	01 May 2014
Test Sample Serial Number:	8CE51E4994D2		

FCC Reference:	Part 15.109
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4
Frequency Range:	30 MHz to 1000 MHz

Environmental Conditions:

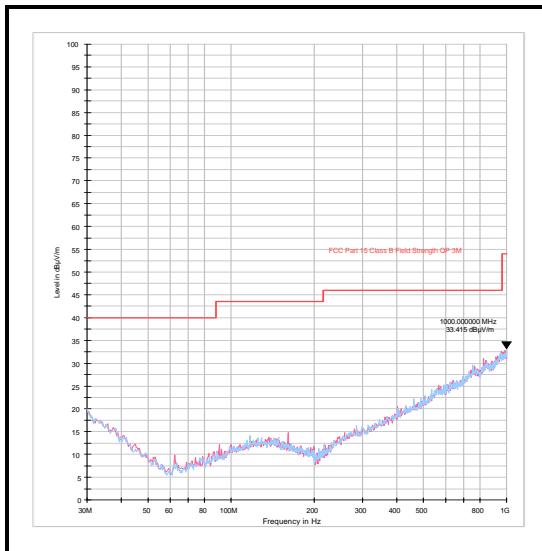
Temperature (°C):	25
Relative Humidity (%):	35

Note(s):

1. The final measured value, for the given emission, in the table below 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 below.
3. Measurements below 1 GHz were performed in a semi-anechoic chamber (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:

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
1000.000	Vertical	33.4	54.0	20.6	Complied

Receiver/Idle Mode Radiated Spurious Emissions (continued)**Test Equipment Used:**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1622	Thermohygrometer	JM Handelspunkt	30.5015.06	None stated	31 Dec 2014	12
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	26 Nov 2014	12
G0543	Amplifier	Sonoma	310N	230801	18 May 2014	3
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	15 Feb 2015	12
A259	Antenna	Chase	CBL6111	1513	01 Apr 2015	12
A1834	Attenuator	Hewlett Packard	8491B	10444	15 Nov 2014	12

Receiver/Idle Mode Radiated Spurious Emissions (continued)**Test Summary:**

Test Engineer:	Sandeep Bharat	Test Date:	30 April 2014
Test Sample Serial Number:	8CE51E4994D2		

FCC Reference:	Part 15.109
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range:	1 GHz to 12.75 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	38

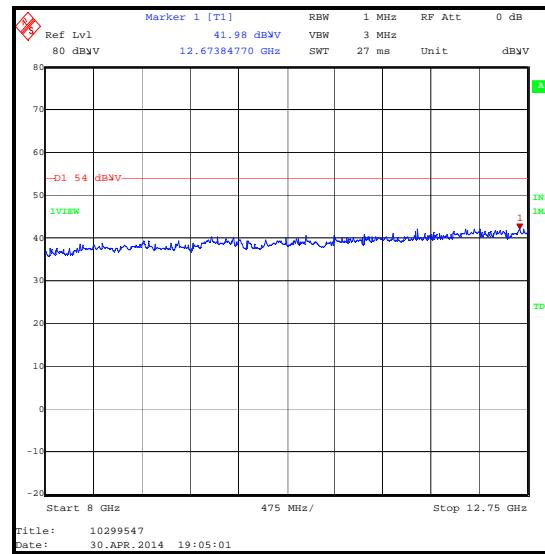
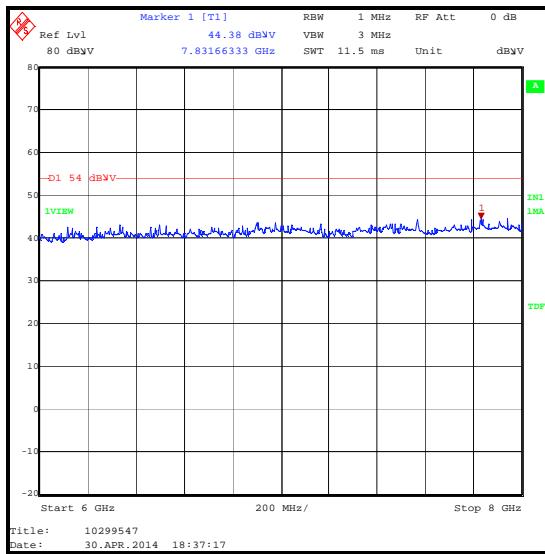
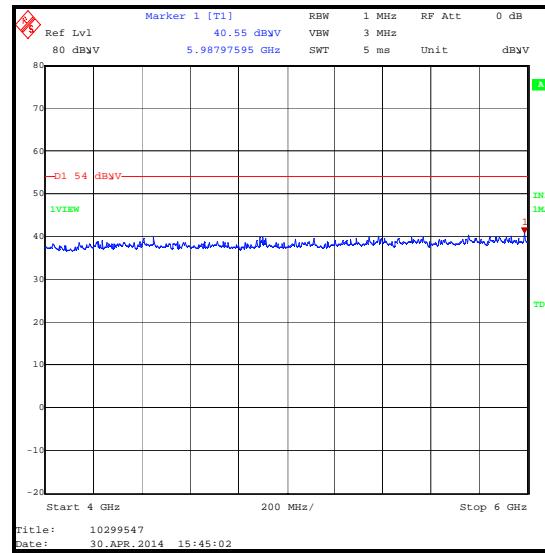
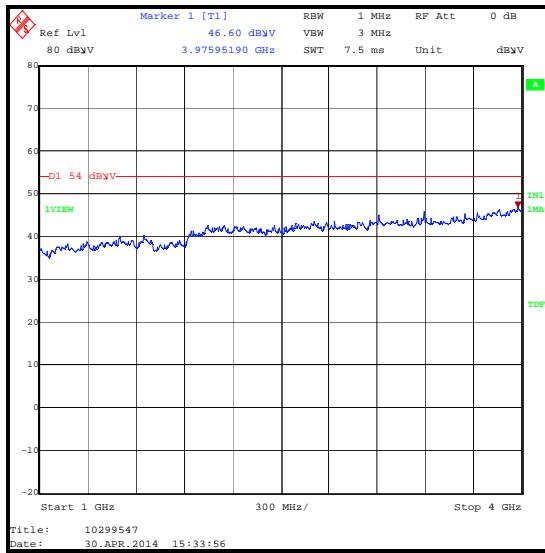
Note(s):

1. The final measured value, for the given emission, in the table below 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 below. 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 (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 (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:

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
3975.952	Vertical	46.6	54.0	7.4	Complied

Receiver/Idle Mode Radiated Spurious Emissions (continued)



Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1656	Thermohygrometer	JM Handelpunkt	30.5015.13	None stated	14 Mar 2015	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	14 Nov 2014	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	01 Oct 2014	12
L1118	Pre Amplifier	Hewlett Packard	8449B	3008A02100	13 Jan 2015	12
A1818	Antenna	EMCO	3115 3115	00075692	14 Nov 2014	12
A253	Antenna	Flann	12240-20	128	14 Nov 2014	12
A254	Antenna	Flann	14240-20	139	14 Nov 2014	12
A255	Antenna	Flann	16240-20	519	14 Nov 2014	12

5.2.2. Transmitter Minimum 6 dB Bandwidth**Test Summary:**

Test Engineer:	Sandeep Bharat	Test Date:	29 April 2014
Test Sample Serial Number:	F73D0924E6E7		

FCC Reference:	Part 15.247(a)(2)
Test Method Used:	As detailed in FCC KDB 558074 Section 8.2 Option 2

Environmental Conditions:

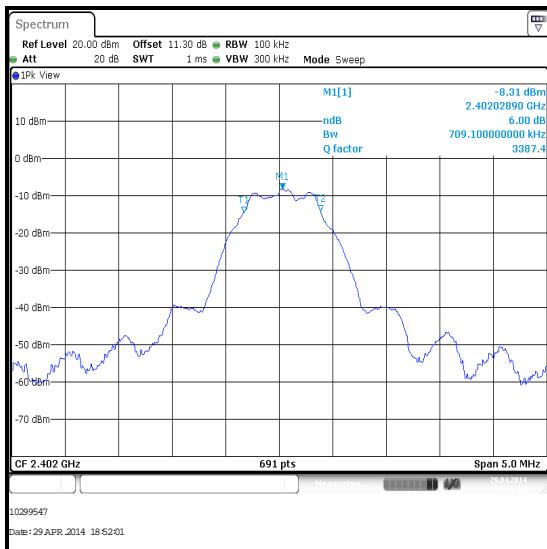
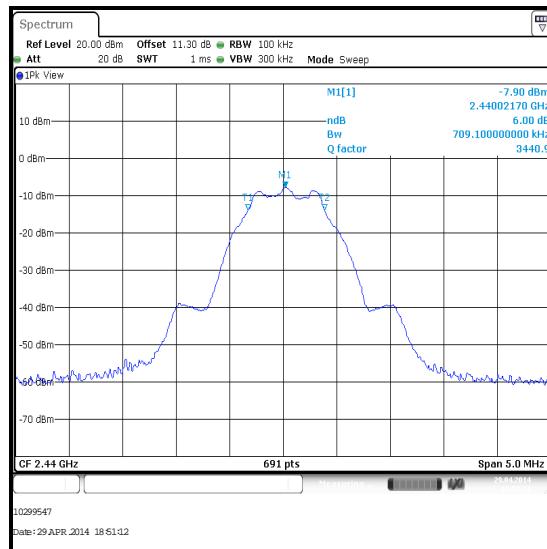
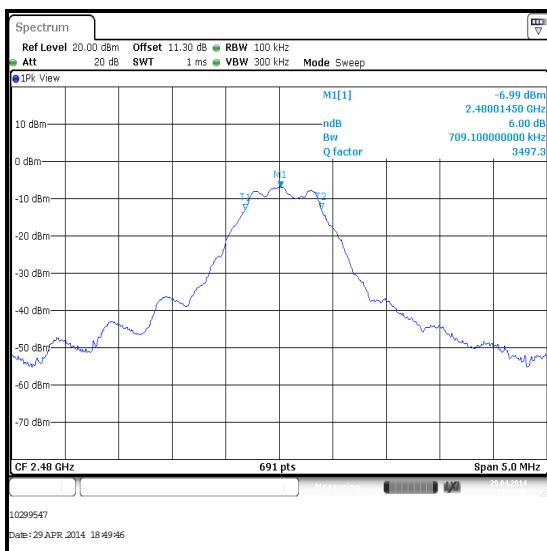
Temperature (°C):	25
Relative Humidity (%):	47

Note(s):

1. 6 dB DTS bandwidth tests were performed using a spectrum analyser in accordance with FCC KDB 558074 Section 8.2 Option 2 measurement procedure.
2. The spectrum analyser was connected to the RF port on the EUT using suitable attenuation and RF cable.

Results:

Channel	6 dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Result
Bottom	709.100	≥500	209.100	Complied
Middle	709.100	≥500	209.100	Complied
Top	709.100	≥500	209.100	Complied

Transmitter Minimum 6 dB Bandwidth (continued)**Results:****Bottom Channel****Middle Channel****Top Channel****Test Equipment Used:**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1657	Thermohygrometer	JM Handelpunkt	30.5015.13	None stated	14 Mar 2015	12
A2140	Attenuator	AtlanTecRF	AN18-10	090918-14	25 Apr 2015	12
M1835	Signal Analyser	Rohde & Schwarz	FSV 30	103050	26 Mar 2015	12

5.2.3. Transmitter Maximum Peak Output Power**Test Summary:**

Test Engineer:	David Doyle	Test Date:	10 July 2015
Test Sample Serial Number:	13B136E44DCA		

FCC Reference:	Part 15.247(b)(3)
Test Method Used:	As detailed in FCC KDB 558074 Section 9.1.1

Environmental Conditions:

Temperature (°C):	26
Relative Humidity (%):	39

Note(s):

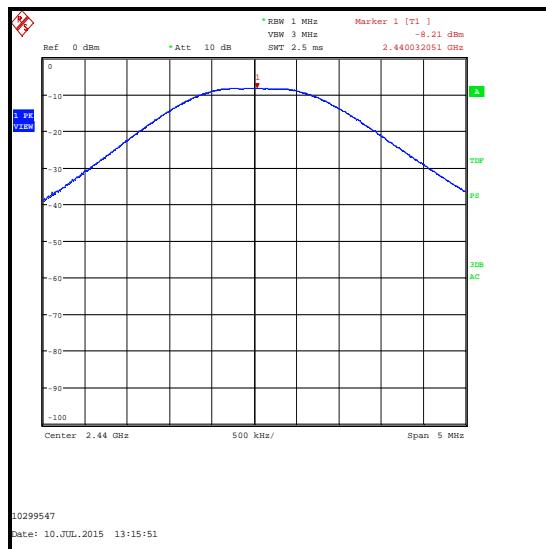
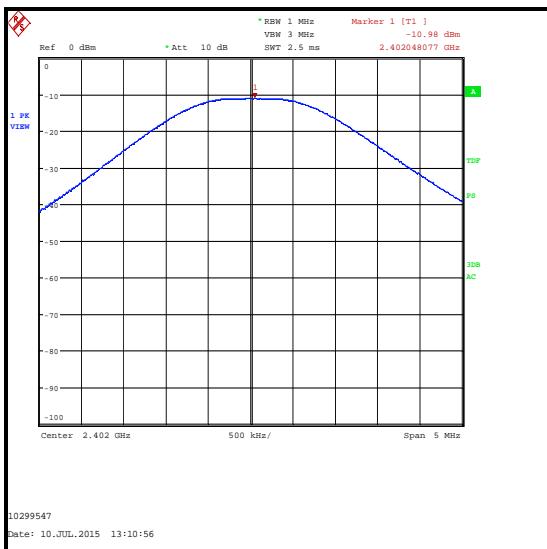
1. Radiated power tests were performed using a spectrum analyser in accordance with the conducted output power method in FCC KDB 558074 Section 9.1.1 with the $RBW > DTS$ bandwidth. A resolution bandwidth of 1 MHz was used and the video bandwidth was set to 3 MHz.
2. The declared antenna gain was subtracted from the EIRP to obtain the conducted power.

Results:

Channel	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	-11.0	36.0	47.0	Complied
Middle	-8.2	36.0	44.2	Complied
Top	-11.2	36.0	47.2	Complied

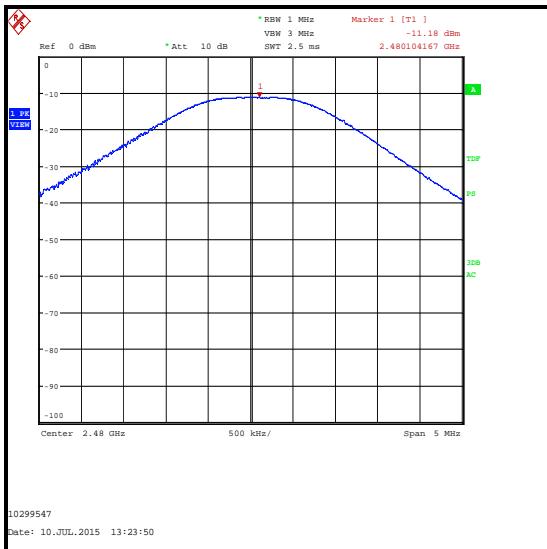
Channel	EIRP (dBm)	Declared Antenna Gain (dBi)	Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	-11.0	0	-11.0	30.0	41.0	Complied
Middle	-8.2	0	-8.2	30.0	38.2	Complied
Top	-11.2	0	-11.2	30.0	41.2	Complied

Transmitter Maximum Peak Output Power (continued)



Bottom Channel

Middle Channel



Top Channel

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	23 Apr 2016	12
M1874	Signal Analyser	Rohde & Schwarz	ESU26	100553	12 Jun 2016	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	01 May 2016	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	21 Dec 2015	12
A1818	Antenna	EMCO	3115	00075692	20 Dec 2015	12

5.2.4. Transmitter Radiated Emissions

Test Summary:

Test Engineer:	Sandeep Bharat	Test Date:	01 May 2014
Test Sample Serial Number:	13B136E44DCA		

FCC Reference:	Parts 15.247(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4
Frequency Range	30 MHz to 1000 MHz

Environmental Conditions:

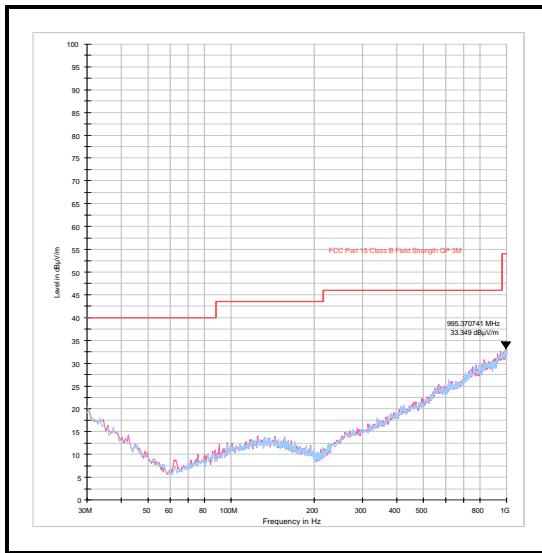
Temperature (°C):	25
Relative Humidity (%):	35

Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. The preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.
3. 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 below.
4. Measurements below 1 GHz were performed in a semi-anechoic chamber (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:

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
995.371	Vertical	33.3	54.0	20.7	Complied

Transmitter Radiated Emissions (continued)**Test Equipment Used:**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1622	Thermohygrometer	JM Handelspunkt	30.5015.06	None stated	31 Dec 2014	12
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	26 Nov 2014	12
G0543	Amplifier	Sonoma	310N	230801	18 May 2014	3
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	15 Feb 2015	12
A259	Antenna	Chase	CBL6111	1513	01 Apr 2015	12
A1834	Attenuator	Hewlett Packard	8491B	10444	15 Nov 2014	12

Transmitter Radiated Emissions (continued)**Test Summary:**

Test Engineer:	Sandeep Bharat	Test Date:	30 April 2014
Test Sample Serial Number:	13B136E44DCA		

FCC Reference:	Parts 15.247(d) & 15.209(a)
Test Method Used:	As detailed in FCC KDB 558074 Sections 11 & 12 referencing ANSI C63.10 Sections 6.3 & 6.6 and ANSI C63.4
Frequency Range	1 GHz to 25 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	38

Note(s):

1. The final measured value, for the given emission, in the table below 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. The emission shown on the 1 GHz to 4 GHz plot is the EUT fundamental.
4. *In accordance with ANSI C63.10 Section 6.6.4.2, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
5. The reference level for the emission in the non-restricted band was established by following KDB 558074 Section 11.2 procedure.
6. **-20 dBc limit applies in non-restricted bands as the conducted output power measurements were performed using a peak detector.
7. Pre-scans above 1 GHz were performed in a fully anechoic chamber (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 (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 Radiated Emissions (continued)**Results: Peak / Bottom Channel**

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
4804.551	Horizontal	48.3	54.0*	5.7	Complied
7206.031	Horizontal	52.9	64.9**	12.0	Complied

Results: Peak / Middle Channel

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
4879.529	Horizontal	47.8	54.0*	6.2	Complied
7319.970	Horizontal	53.6	54.0*	0.4	Complied

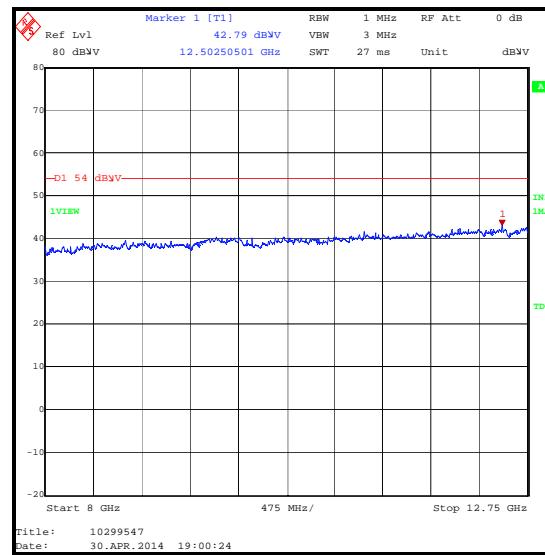
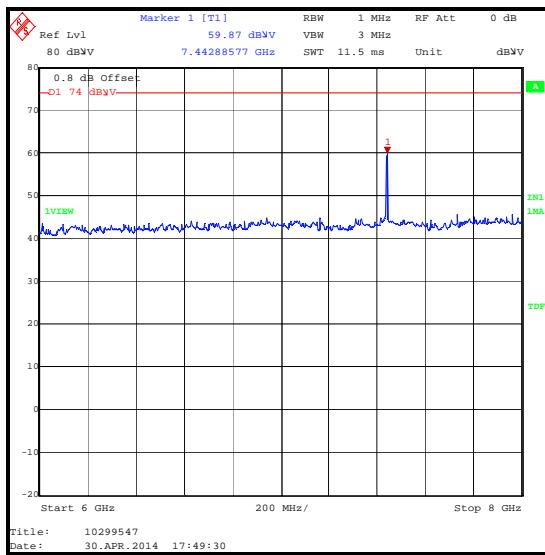
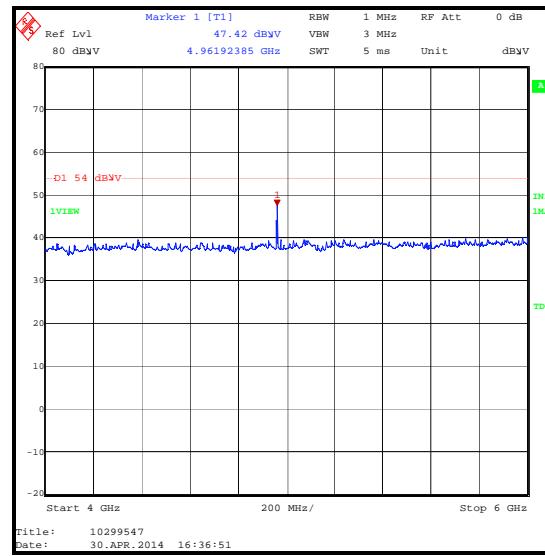
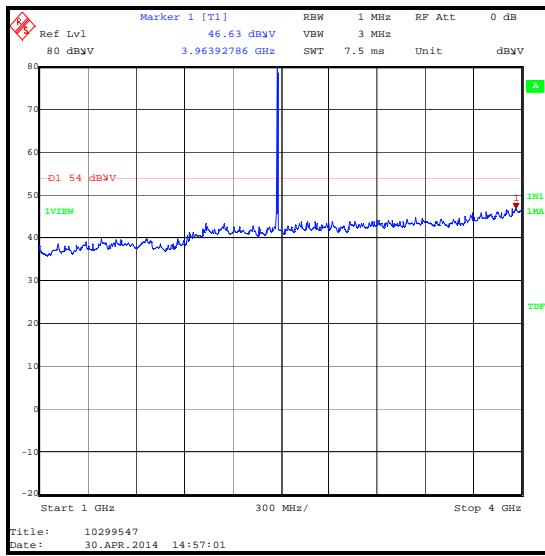
Results: Peak / Top Channel

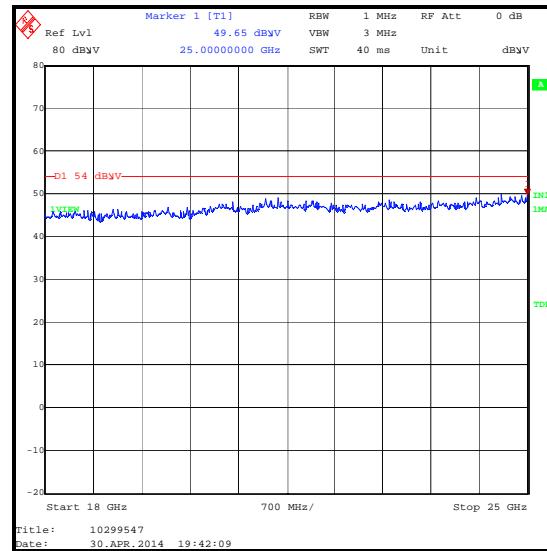
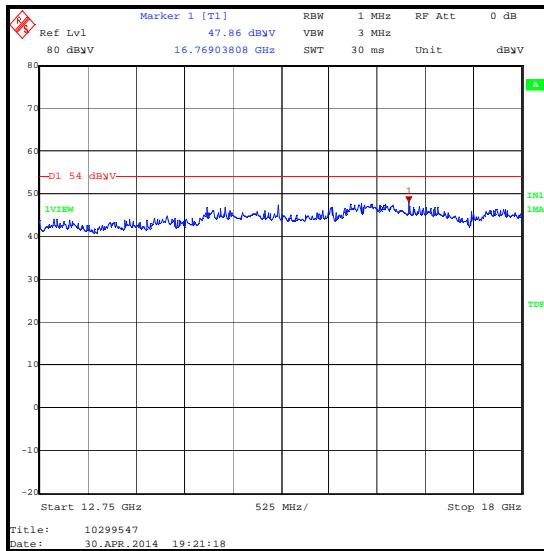
Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
4960.090	Horizontal	48.2	54.0*	5.8	Complied
7440.631	Horizontal	60.3	74.0	13.7	Complied

Results: Average / Top Channel

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
7439.970	Horizontal	35.6	54.0	18.4	Complied

Transmitter Radiated Emissions (continued)



Transmitter Radiated Emissions (continued)

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

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	14 Mar 2015	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	14 Nov 2014	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	01 Oct 2014	12
L1118	Pre Amplifier	Hewlett Packard	8449B	3008A02100	13 Jan 2015	12
A1981	High Pass Filter	AtlanTecRF	AFH-05000	09110200090	12 Apr 2015	12
A1818	Antenna	EMCO	3115 3115	00075692	14 Nov 2014	12
A253	Antenna	Flann	12240-20	128	14 Nov 2014	12
A254	Antenna	Flann	14240-20	139	14 Nov 2014	12
A255	Antenna	Flann	16240-20	519	14 Nov 2014	12
A256	Antenna	Flann	18240-20	400	14 Nov 2014	12
A436	Antenna	Flann	20240-20	330	14 Nov 2014	12

5.2.5. Transmitter Band Edge Radiated Emissions**Test Summary:**

Test Engineer:	Sandeep Bharat	Test Dates:	30 April 2014 & 25 November 2014
Test Sample Serial Number:	13B136E44DCA		

FCC Reference:	Parts 15.247(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.2 & KDB 558074 Section 11

Environmental Conditions:

Temperature (°C):	23 to 24
Relative Humidity (%):	38 to 50

Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. The maximum peak conducted output power was previously measured. In accordance with FCC KDB 558074 Section 11.1(a), the lower band edge measurement was performed with a peak detector and the -20 dBc limit applied.
3. * -20 dBc limit.

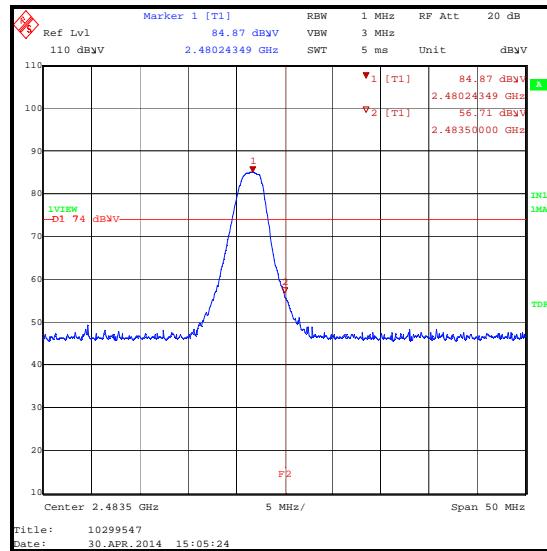
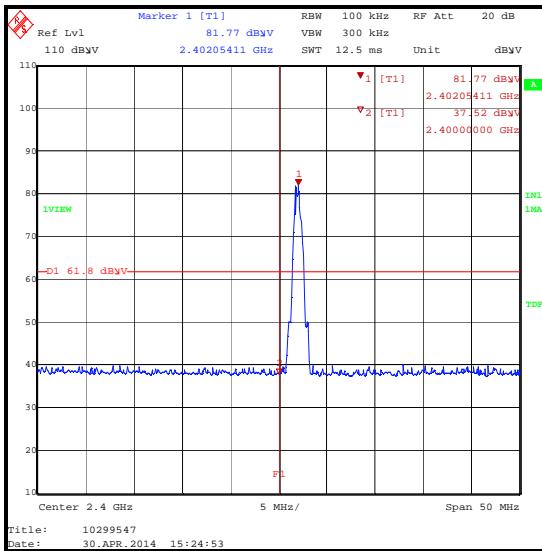
Results: Peak

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2376.410	42.9	74.0	31.1	Complied
2400.0	37.5	61.8*	24.3	Complied
2483.5	56.7	74.0	17.3	Complied

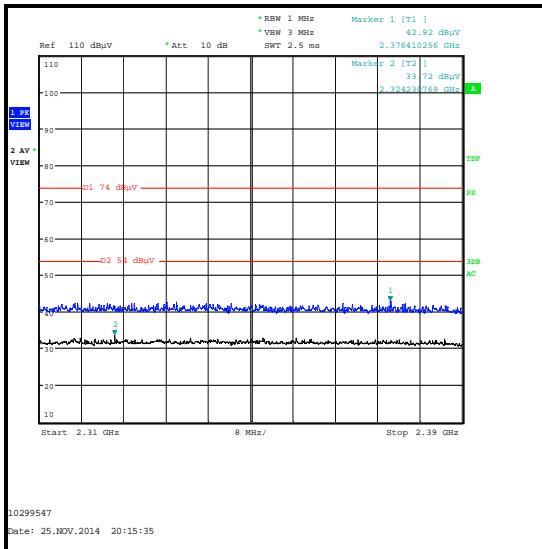
Results: Average

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2324.231	33.7	54.0	20.3	Complied
2483.5	33.9	54.0	20.1	Complied

Transmitter Band Edge Radiated Emissions (continued)

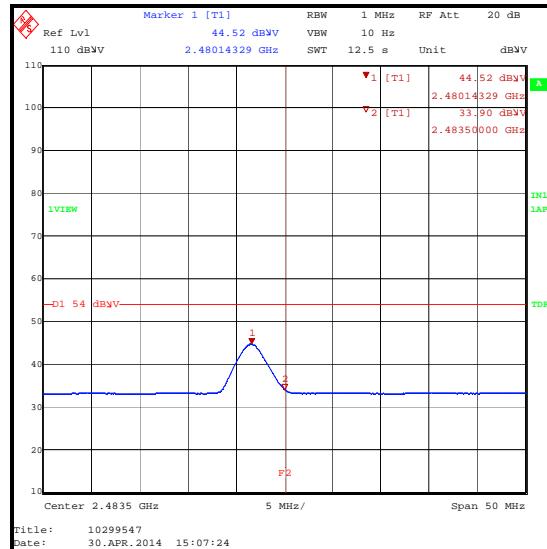


Lower Band Edge Peak Measurement



2310 MHz – 2390 MHz Restricted Band Plot

Upper Band Edge Peak Measurement



Upper Band Edge Average Measurement

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1656	Thermohygrometer	JM Handelpunkt	30.5015.13	None stated	14 Mar 2015	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	19 Dec 2014	12
M1874	Test Receiver	Rohde & Schwarz	ESU26	100553	13 May 2015	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	06 Oct 2015	12
L1118	Pre Amplifier	Hewlett Packard	8449B	3008A02100	13 Jan 2015	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	18 May 2015	12
A1818	Antenna	EMCO	3115 3115	00075692	19 Dec 2014	12

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 measured (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
Maximum Peak Output Power	2.4 GHz to 2.4835 GHz	95%	±2.94 dB
Minimum 6 dB Bandwidth	2.4 GHz to 2.4835 GHz	95%	±3.92%
Radiated Spurious Emissions	30 MHz to 1 GHz	95%	±5.65 dB
Radiated Spurious Emissions	1 GHz to 26.5 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.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version
2.0	-	-	Sections 2.1, 2.3, 5.2.3 & 6.0 updated