TEST REPORT

Test Report No. : UL-RPT-RP10885493JD05A

Manufacturer	:	Intelclinic Sp. z o.o
Model No.	:	Neuroon
FCC ID	:	2AF73-NEUR1
Technology	:	*Bluetooth* – Low Energy
Test Standard(s)	:	FCC Parts 15.207, 15.209(a) & 15.247

1. This test report shall not be reproduced in full or partial, without the written approval of UL VS LTD.
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 1.0

Date of Issue: 25 November 2015

Checked by:

Sarah Williams
Engineer, Radio Laboratory

Company Signatory:

Steven White
Service Lead, Radio Laboratory
UL VS LTD

0644

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:	Intelclinic Sp. z o.o
Address:	Niegolewskiego 17/1 01-570 Warsaw Poland

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
Specification Reference:	47CFR15.207 and 47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart C (Intentional Radiators) - Sections 15.207 and 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:	14 November 2015 to 20 November 2015

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.207	Transmitter AC Conducted 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 C63.10-2013
Title:	American National Standard of Procedures for Compliance Testing of 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:	Neuroon
Model Name or Number:	Neuroon
Test Sample Serial Number:	UL ID #24 *(Radiated sample)*
Hardware Version:	7.1
Software Version:	2.0
FCC ID:	2AF73-NEUR1

Brand Name:	Neuroon
Model Name or Number:	Neuroon
Test Sample Serial Number:	01643260000299 *(Conducted sample with RF port)*
Hardware Version:	7.1
Software Version:	2.0
FCC ID:	2AF73-NEUR1

3.2. Description of EUT

The equipment under test was an electronic sleeping mask, incorporating *Bluetooth* Low Energy wireless technology.

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	3.8 VDC	
Maximum Conducted Output Power:	0.9 dBm		
Antenna Gain:	5.05 dBi		
Transmit Frequency Range:	2402 MHz to 2480 MHz		
Transmit Channels Tested:	**Channel ID**	**RF Channel**	**Channel Frequency (MHz)**
	Bottom	0	2402
	Middle	19	2440
	Top	39	2480

3.5. Support Equipment

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

Description:	USB cable
Brand Name:	Not marked or stated
Model Name or Number:	Not marked or stated
Serial Number:	Not marked or stated

Description:	USB Plug
Brand Name:	Motorola
Model Name or Number:	0C40500K0301
Serial Number:	UL Asset number A2484

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

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

- Transmitting at maximum power in *Bluetooth* LE mode with modulation, maximum possible data length available and Pseudorandom Bit Sequence 9.

4.2. Configuration and Peripherals

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

- The EUT was controlled by pressing a button on it. The customer uploaded their firmware to the EUT prior to testing starting. The instructions on how to operate this product were provided and are in document “Instructions for testing (radio tests, conducted and radiated) v3”. Channels, packet lengths and other settings were then configured as required.
- The conducted sample was provided with an SMA connector fitted.
- The radiated sample (UL ID #24) was fitted into the face mask to represent the end product.
- The EUT had powered via two re-chargeable lithium-ion batteries, operating at 3.8 Volts each. The batteries were fully charged before testing commenced and monitored throughout testing.
- For Radiated tests the EUT was connected to a USB cable and USB plug.
- The EUT conducted sample was used for 6 dB bandwidth and maximum peak output power.
- The EUT radiated sample was used for AC conducted emissions and radiated spurious emissions tests.

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:	Kiren Mistry	**Test Date:**	18 November 2015
Test Sample Serial Number:	UL ID #24		

FCC Reference:	Part 15.207
Test Method Used:	ANSI C63.10 Section 6.2

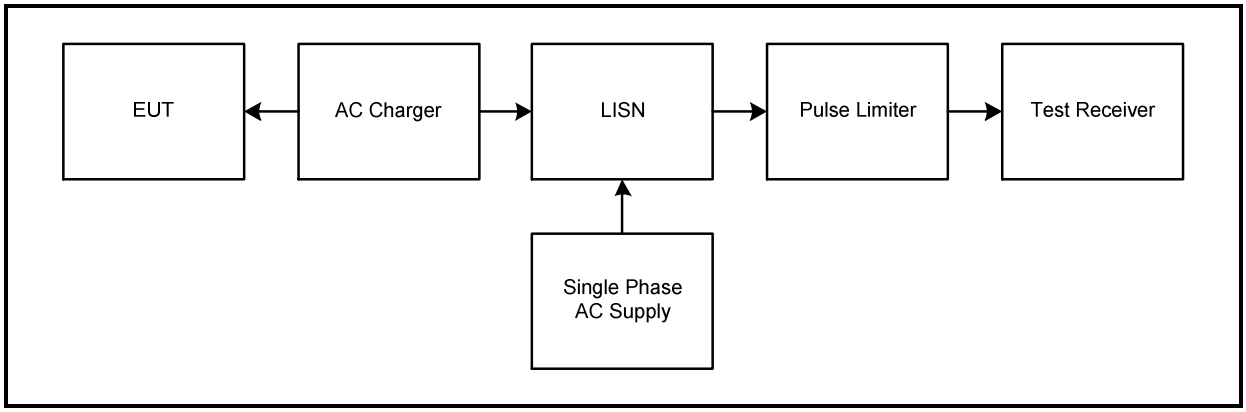
Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	46

Note(s):

1. The EUT was plugged into a USB cable which is connected to an AC charger. The AC charger was connected to 120 VAC 60 Hz single phase supply via a LISN.
2. Pre-scans were performed and markers placed on the highest live and neutral measured levels. Final measurements were performed on the marker frequencies and the results entered into the tables below.
3. A pulse limiter was fitted between the LISN and the test receiver.

Test setup:



Transmitter AC Conducted Spurious Emissions (continued)

Results: Live / Quasi Peak

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.308	Live	43.1	60.0	16.9	Complied
0.920	Live	36.2	56.0	19.8	Complied
2.346	Live	35.1	56.0	20.9	Complied
3.876	Live	48.9	56.0	7.1	Complied
4.997	Live	43.0	56.0	13.0	Complied
11.504	Live	46.3	60.0	13.7	Complied

Results: Live / Average

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.308	Live	34.2	50.0	15.8	Complied
0.713	Live	28.5	46.0	17.5	Complied
0.807	Live	27.6	46.0	18.4	Complied
3.876	Live	37.4	46.0	8.6	Complied
4.592	Live	36.5	46.0	9.5	Complied
11.108	Live	35.0	50.0	15.0	Complied

Transmitter AC Conducted Spurious Emissions (continued)

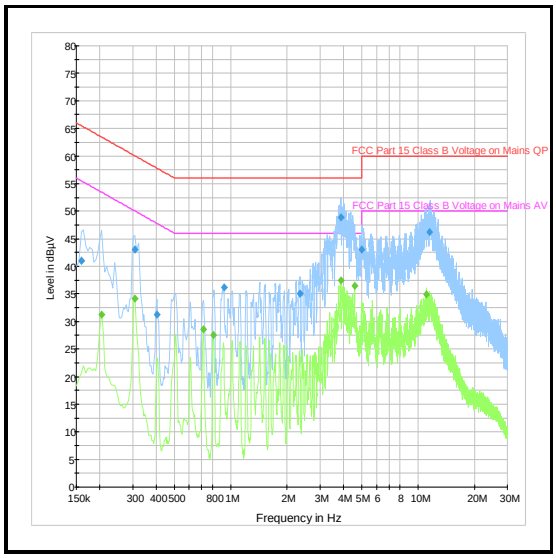
Results: Neutral / Quasi Peak

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.159	Neutral	40.2	65.5	25.3	Complied
0.308	Neutral	42.0	60.0	18.0	Complied
0.402	Neutral	33.9	57.8	23.9	Complied
0.812	Neutral	30.8	56.0	25.2	Complied
3.980	Neutral	46.5	56.0	9.5	Complied
11.522	Neutral	42.8	60.0	17.2	Complied

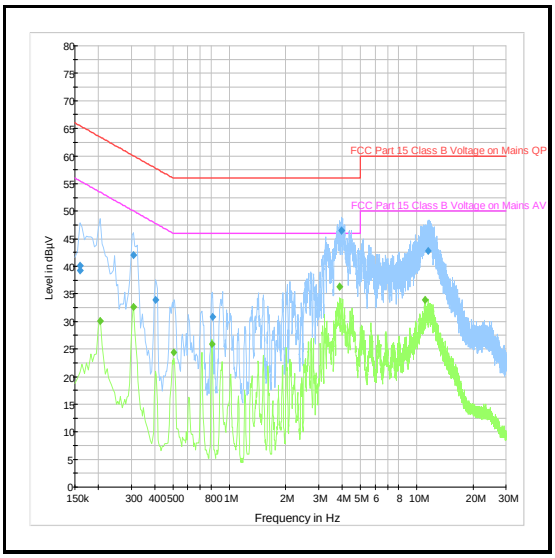
Results: Neutral / Average

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.204	Neutral	30.1	53.4	23.3	Complied
0.308	Neutral	32.6	50.0	17.4	Complied
0.506	Neutral	24.4	46.0	21.6	Complied
0.807	Neutral	25.9	46.0	20.1	Complied
3.876	Neutral	36.3	46.0	9.7	Complied
11.112	Neutral	33.9	50.0	16.1	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:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1625	Thermohygrometer	JM Handelspunkt	30.5015.06	None stated	07 Jan 2016	12
A067	LISN	Rohde & Schwarz	ESH3-Z5	890603/002	27 Aug 2016	12
A1830	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100668	02 Mar 2016	12
M1379	Test Receiver	Rohde & Schwarz	ESIB7	100330	08 Dec 2015	12

5.2.2. Transmitter Minimum 6 dB Bandwidth

Test Summary:

Test Engineer:	Andrew Edwards	**Test Date:**	16 November 2015
Test Sample Serial Number:	01643260000299		

FCC Reference:	Part 15.247(a)(2)
Test Method Used:	FCC KDB 558074 Section 8.1 Option 1

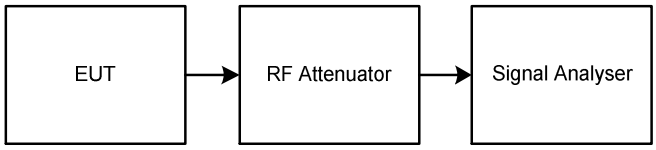
Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	41

Note(s):

1. 6 dB DTS bandwidth tests were performed using a signal analyser in accordance with KDB 558074 Section 8.1 Option 1 measurement procedure. The signal analyser resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and the trace mode was Max Hold. The DTS bandwidth was measured at 6 dB down from the peak of the signal.
2. The signal analyser was connected to the RF port on the EUT using suitable attenuation and RF cable.

Test setup:

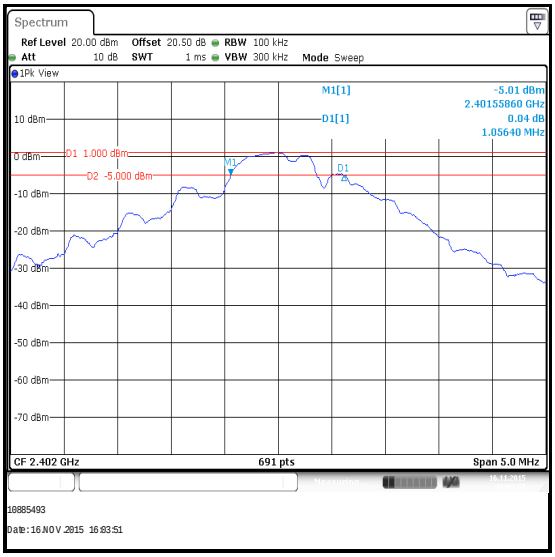


Results:

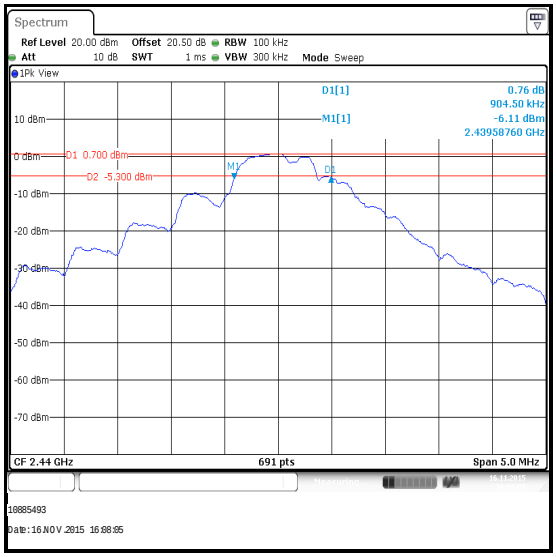
Channel	6 dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Result
Bottom	1056.400	≥500	556.400	Complied
Middle	904.500	≥500	404.500	Complied
Top	767.000	≥500	267.000	Complied

Transmitter Minimum 6 dB Bandwidth (continued)

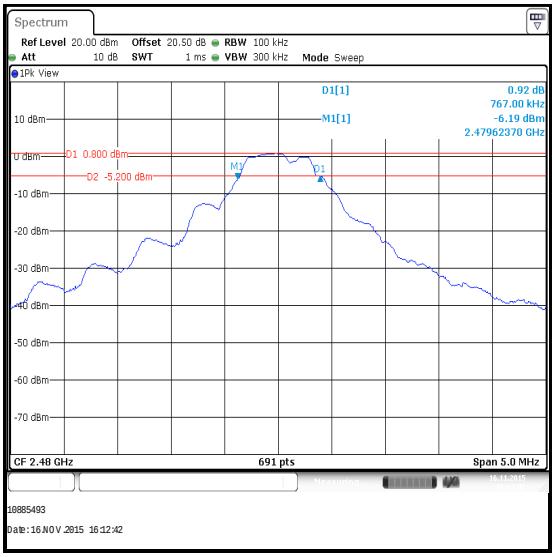
Results:



Bottom Channel



Middle Channel



Top Channel

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1783	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	23 Apr 2016	12
M1835	Signal Analyser	Rohde & Schwarz	FSV30	103050	18 Feb 2016	12
A2143	Attenuator	AtlanTechRF	AN18-20	081120-23	Calibrated before use	-

5.2.3. Transmitter Maximum Peak Output Power

Test Summary:

Test Engineer:	Andrew Edwards	**Test Date:**	16 November 2015
Test Sample Serial Number:	01643260000299		

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

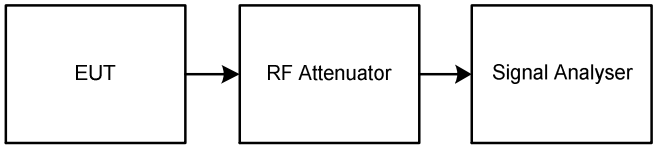
Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	34

Note(s):

1. Conducted power tests were performed using a signal analyser in accordance with FCC KDB 558074 Section 9.1.1 RBW > *DTS bandwidth* procedure. The resolution bandwidth was set to 3 MHz and video bandwidth to 10 MHz. A peak detector was used, sweep time set to auto and trace mode was Max Hold. The span was set to 3 times the resolution bandwidth (10 MHz). A marker was placed at the peak of the signal and the results recorded in the table below.
2. The signal analyser was connected to the RF port on the EUT using suitable attenuation and RF cable. An RF level offset was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.
3. The conducted power was added to the declared antenna gain to obtain the EIRP.

Test setup:



Transmitter Maximum Peak Output Power (continued)

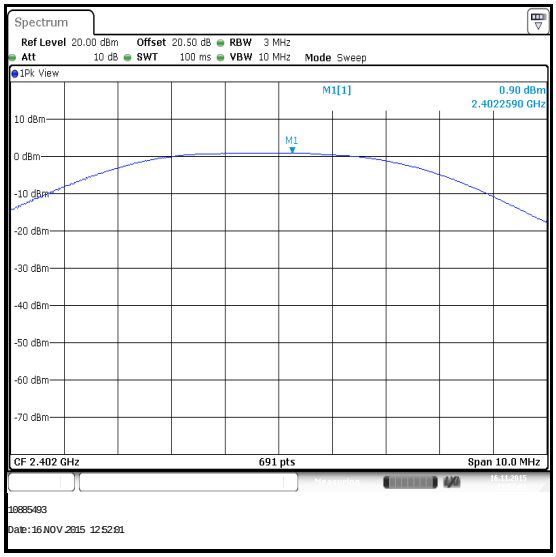
Results:

Channel	Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
Bottom	0.9	30.0	29.1	Complied
Middle	0.7	30.0	29.3	Complied
Top	0.7	30.0	29.3	Complied

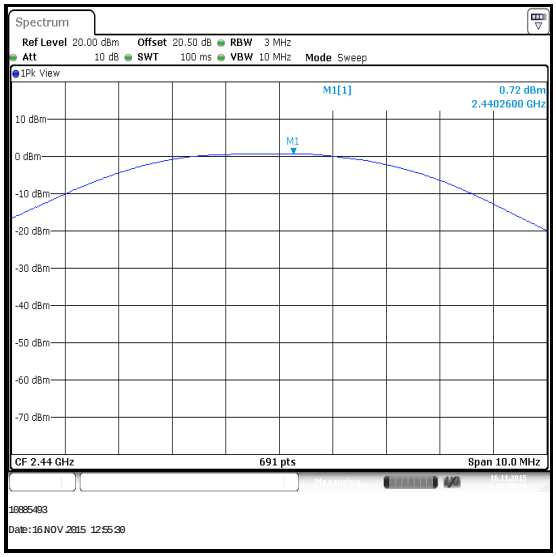
Channel	Conducted Peak Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	0.9	5.05	5.95	36.0	30.05	Complied
Middle	0.7	5.05	5.75	36.0	30.25	Complied
Top	0.7	5.05	5.75	36.0	30.25	Complied

Transmitter Maximum Peak Output Power (continued)

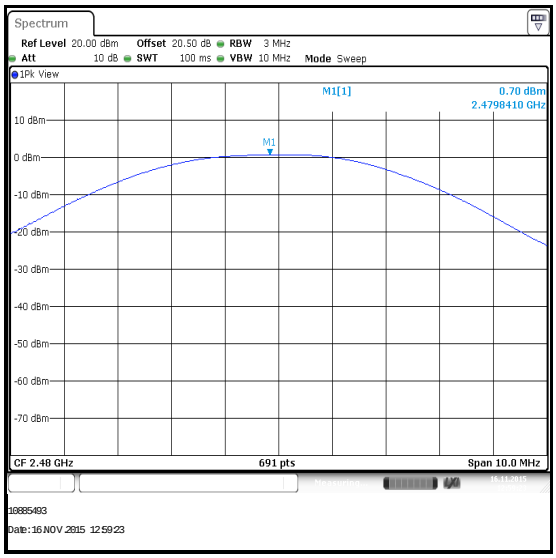
Results:



Bottom Channel



Middle Channel



Top Channel

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1783	Thermohygrometer	JM Handelspunkt	30.5015.13	Not stated	23 Apr 2016	12
M1835	Signal Analyser	Rohde & Schwarz	FSV30	103050	18 Feb 2016	12
A2143	Attenuator	AtlanTechRF	AN18-20	081120-23	Calibrated before use	-
A2425	RF Power Sensor	Dare Instruments	RPR3006W	13I00030SN 072	16 Dec 2015	12
G0614	Signal Generator	Rohde & Schwarz	SMB100A	177687	01 May 2017	36

5.2.4. Transmitter Radiated Emissions

Test Summary:

Test Engineer:	Kiren Mistry	**Test Date:**	20 November 2015
Test Sample Serial Number:	UL ID #24		

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

Environmental Conditions:

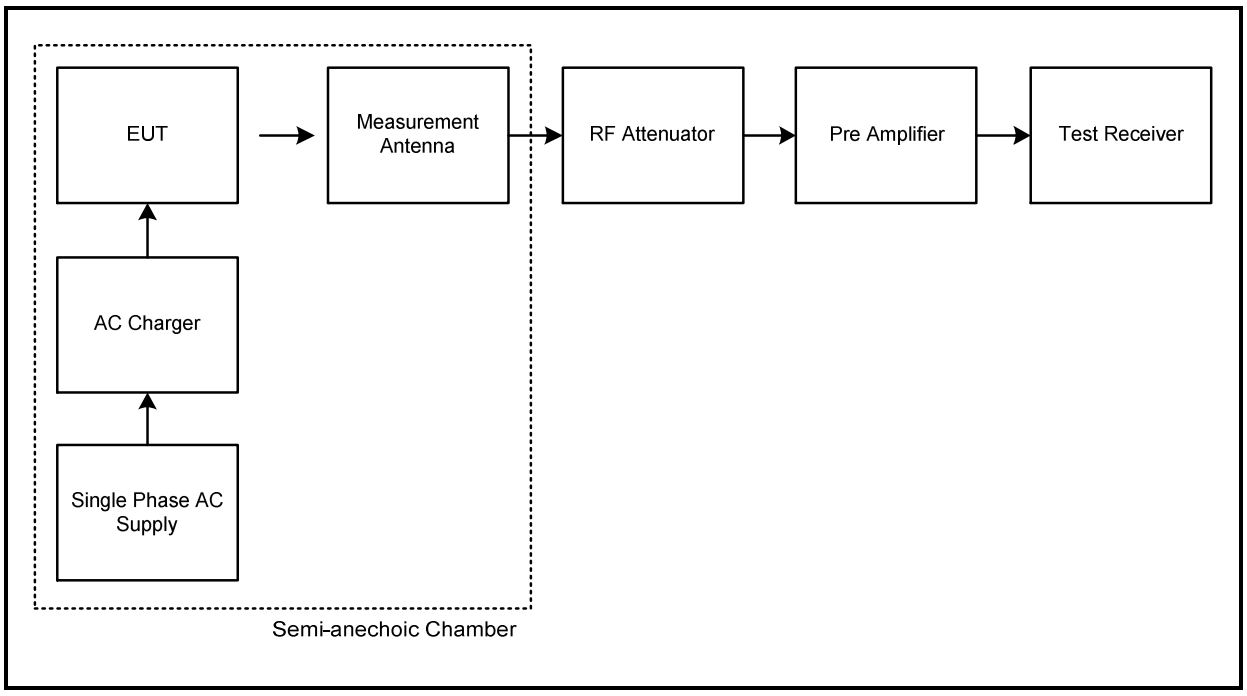
Temperature (°C):	23
Relative Humidity (%):	43

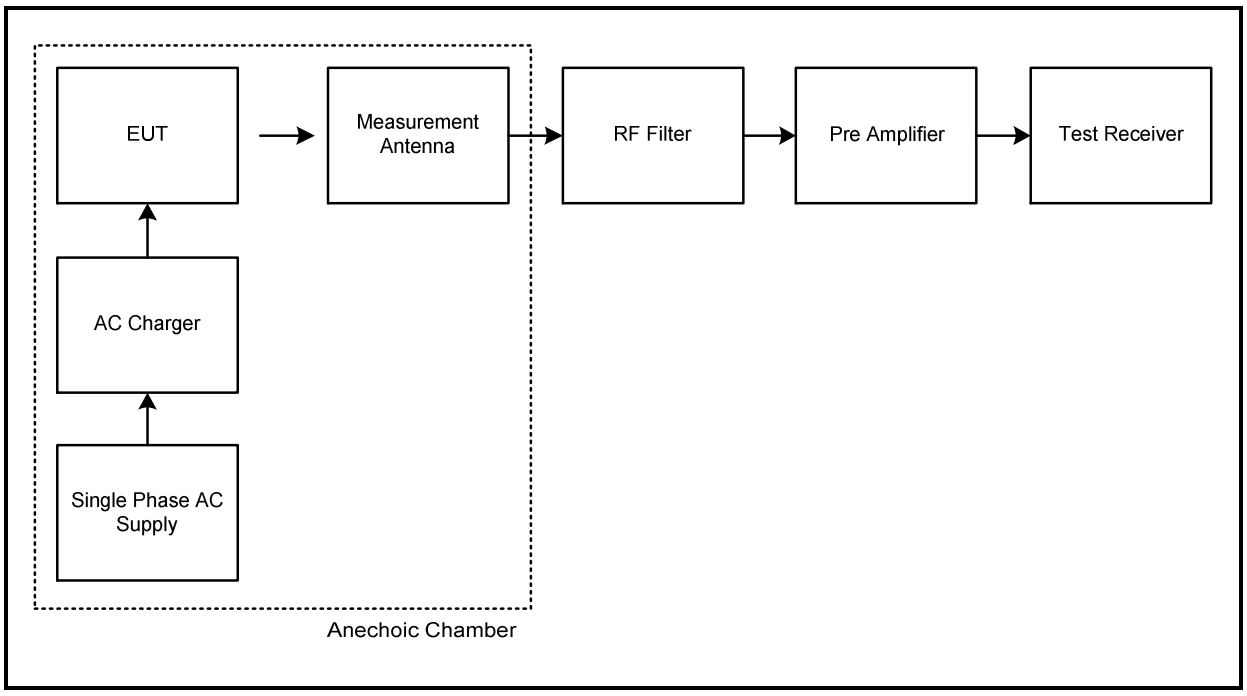
Note(s):

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 middle channel only.
3. All emissions shown on the pre-scans were investigated and found to be ambient, or > 20 dB below the appropriate limit or below the noise floor of the measurement system, 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.
5. Pre-scans were performed and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
6. Final measurements were performed on the marker frequencies and the results entered into the table below. The test receiver resolution bandwidth was set to 120 kHz, using a CISPR quasi-peak detector and span big enough to see the whole emission.

Transmitter Radiated Emissions (continued)

Test setup for radiated measurements:

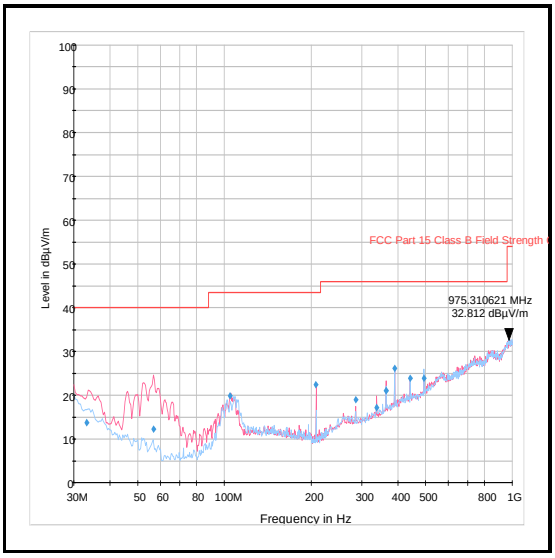




Transmitter Radiated Emissions (continued)

Results: Middle Channel

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
975.311	Horizontal	32.8	54.0	21.2	Complied



Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1945	Thermohygrometer	JM Handelspunkt	30.5015.01	0112	23 Apr 2016	12
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	19 Mar 2016	12
G0543	Amplifier	Sonoma	310N	230801	10 Feb 2016	3
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	19 Mar 2016	12
A490	Antenna	Chase	CBL6111A	1590	30 Apr 2016	12
A1834	Attenuator	Hewlett Packard	8491B	10444	05 Mar 2016	12

Transmitter Radiated Emissions (continued)

Test Summary:

Test Engineers:	Andrew Edwards & Kiren Mistry	**Test Dates:**	14 November 2015, 16 November 2015 & 17 November 2015
Test Sample Serial Number:	UL ID #24		

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

Environmental Conditions:

Temperature (°C):	23 to 24
Relative Humidity (%):	43 to 60

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. 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 1.5 m above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
5. Pre-scans were performed and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.
6. In accordance with ANSI C63.10 Section 6.6.4.3, Note 1, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
7. The reference level for the emission in the non-restricted band was established by following KDB 558074 Section 11.2 procedure.
8. *-20 dBc limit applies in non-restricted bands, in accordance with KDB 558074 Section 11.1(a), as the conducted output power measurements were performed using a peak detector.

Transmitter Radiated Emissions (continued)

Results: Bottom Channel

Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
2311.538	Vertical	49.4	54.0	4.6	Complied
2367.436	Vertical	48.2	54.0	5.8	Complied
4803.987	Horizontal	52.1	54.0	1.9	Complied
7206.026	Horizontal	54.9	63.0*	8.1	Complied
9608.170	Horizontal	48.2	63.0*	14.8	Complied

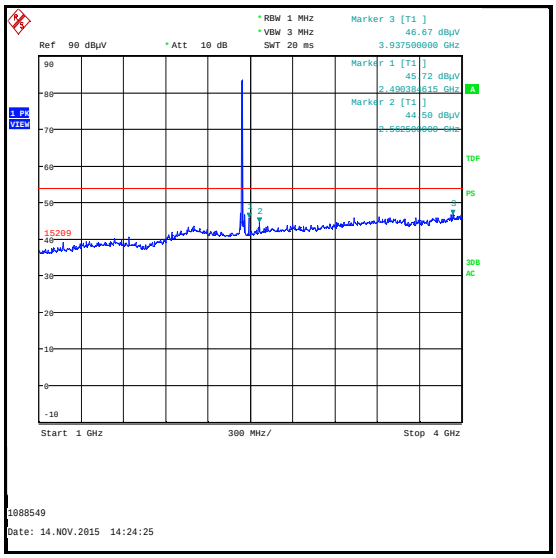
Results: Middle Channel

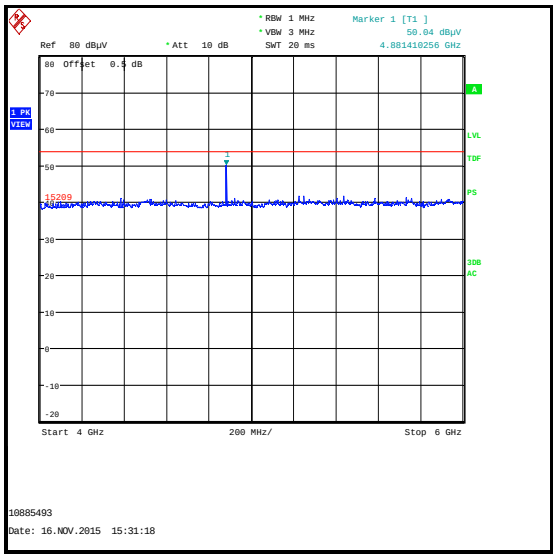
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
2489.904	Vertical	47.4	54.0	6.6	Complied
2489.928	Vertical	45.1	54.0	8.9	Complied
2490.096	Vertical	39.9	54.0	14.1	Complied
4876.936	Horizontal	48.6	54.0	5.4	Complied
7320.513	Horizontal	49.7	54.0	4.3	Complied
9759.952	Horizontal	41.9	63.1*	21.2	Complied

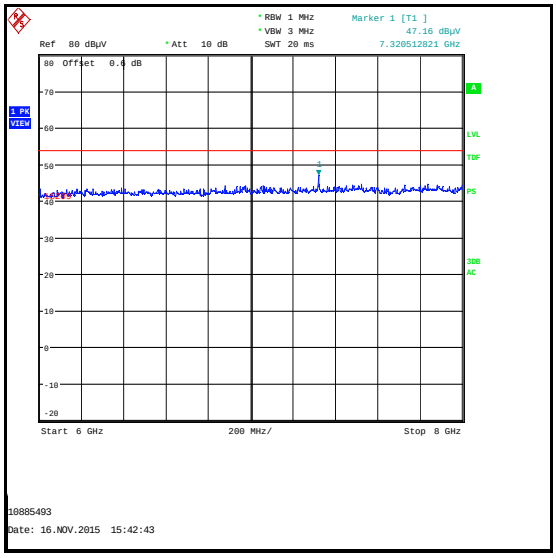
Results: Top Channel

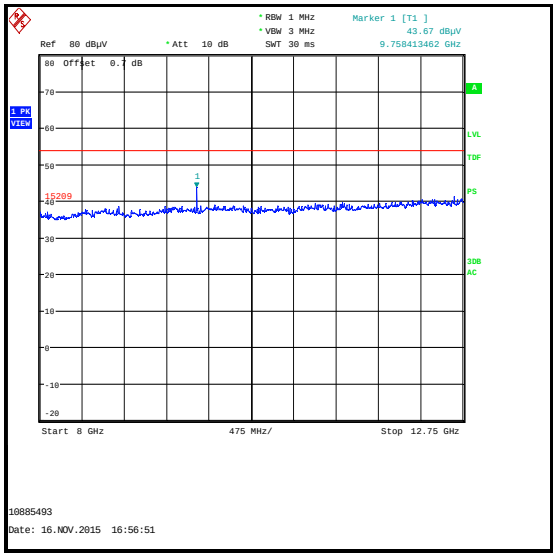
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
2558.782	Vertical	40.7	62.2*	21.5	Complied
4959.903	Horizontal	50.6	54.0	3.4	Complied
7440.002	Horizontal	48.3	54.0	5.7	Complied
9919.952	Horizontal	44.1	62.2*	18.1	Complied

Transmitter Radiated Emissions (continued)

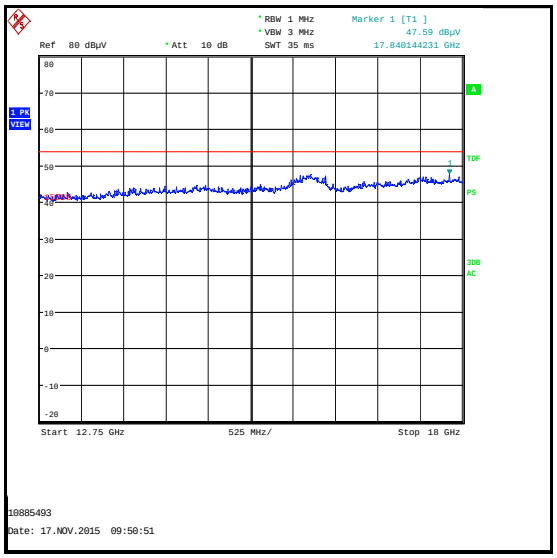


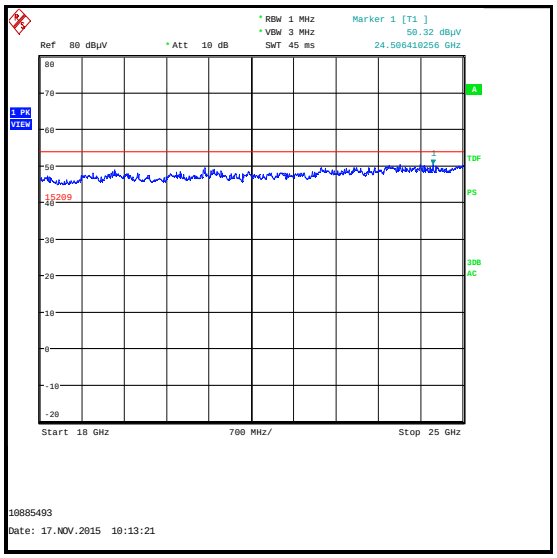






Transmitter Radiated Emissions (continued)





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	23 Apr 2016	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	01 May 2016	12
A1534	Pre Amplifier	Hewlett Packard	3449B	3008A00405	21 Dec 2015	12
M1874	Test Receiver	Rohde & Schwarz	ESU26	100553	12 Jun 2016	12
A1818	Antenna	EMCO	3115	00075692	20 Dec 2015	12
A253	Antenna	Flann Microwave	12240-20	128	20 Dec 2015	12
A254	Antenna	Flann Microwave	14240-20	139	20 Dec 2015	12
A255	Antenna	Flann Microwave	16240-20	519	20 Dec 2015	12
A256	Antenna	Flann Microwave	18240-20	400	20 Dec 2015	12
A436	Antenna	Flann Microwave	20240-20	330	20 Dec 2015	12
A1975	High Pass Filter	AtlanTecRF	AFH-03000	090424010	17 Apr 2016	12

5.2.5. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	Andrew Edwards	**Test Date:**	14 November 2015
Test Sample Serial Number:	UL ID #24		

FCC Reference:	Parts 15.247(d) & 15.209(a)
Test Method Used:	ANSI C63.10 Section 6.10.4, 6.10.5 & KDB 558074 Section 11

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	60

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. There is a restricted band 10 MHz below the lower band edge. The test receiver was set up as follows: the RBW set to 1 MHz, the VBW set to 3 MHz, with the sweep time set to auto couple. Peak and average measurements were performed with their respective detectors. Markers were placed on the highest point on each trace.
4. * -20 dBc limit.

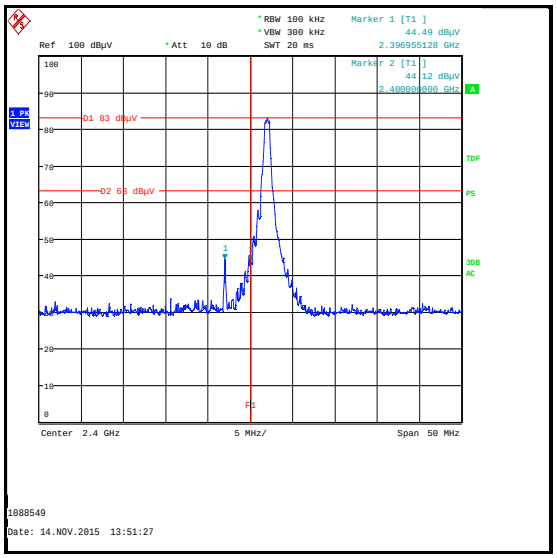
Results: Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2311.538	49.4	74.0	24.6	Complied
2367.436	48.2	74.0	25.8	Complied
2396.955	44.5	63.0*	18.5	Complied
2400.0	44.1	63.0*	18.9	Complied
2483.5	45.1	74.0	28.9	Complied
2489.930	48.7	74.0	25.3	Complied

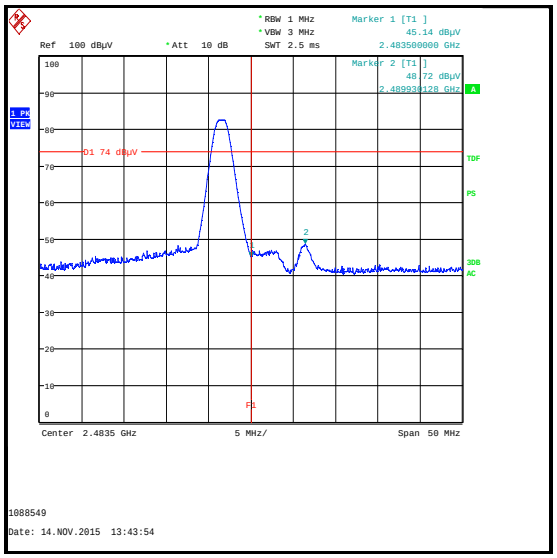
Results: Average

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2311.795	38.6	54.0	15.4	Complied
2367.564	37.5	54.0	16.5	Complied
2483.5	39.9	54.0	14.1	Complied
2489.690	45.7	54.0	8.3	Complied

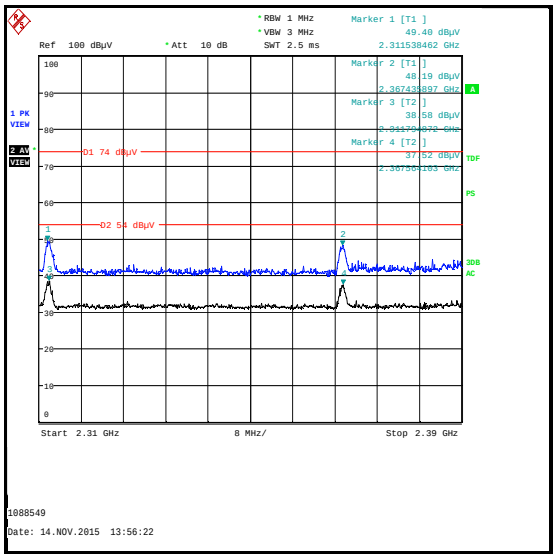
Transmitter Band Edge Radiated Emissions (continued)



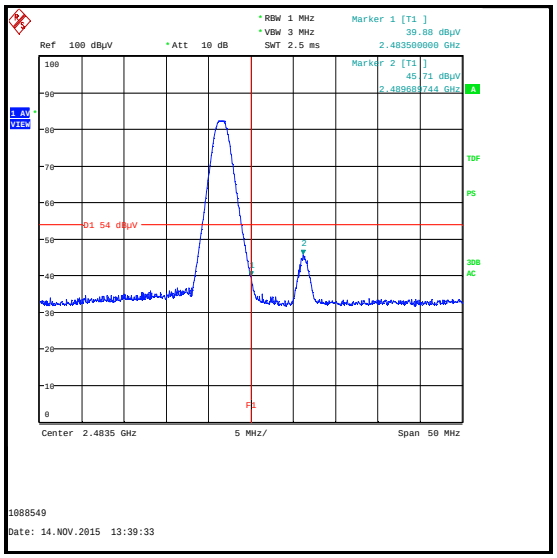
Lower Band Edge Peak Measurement



Upper Band Edge Peak Measurement



2310 MHz to 2390 MHz Restricted Band Plot



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 Handelspunkt	30.5015.13	Not stated	23 Apr 2016	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	01 May 2016	12
M1874	Test Receiver	Rohde & Schwarz	ESU26	100553	12 Jun 2016	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	21 Dec 2015	12
A1818	Antenna	EMCO	3115	00075692	20 Dec 2015	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
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±4.69 dB
Conducted Maximum Peak Output Power	2.4 GHz to 2.4835 GHz	95%	±1.13 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

--- END OF REPORT ---