TEST REPORT

Test Report No. : UL-RPT-RP10144616JD21A V3.0

Manufacturer	:	Bang & Olufsen a/s
Model No.	:	BeoSound Moment
FCC ID	:	TTUBSMOMENT
Technology	:	WLAN (802.11 b/g/n)
Test Standard(s)	:	FCC Parts 15.109, 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 3.0 supersedes all previous versions.

Date of Issue: 10 June 2015

Checked by:

Steven White
Project Lead, Radio Laboratory

Issued by :

John Newell
Quality Manager,
UL VS LTD

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

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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 AC Conducted Spurious Emissions 16
5.2.3. Transmitter Minimum 6 dB Bandwidth 19
5.2.4. Transmitter Duty Cycle 24
5.2.5. Transmitter Power Spectral Density 29
5.2.6. Transmitter Maximum Output Power 35
5.2.7. Transmitter Radiated Emissions 45
5.2.8. Transmitter Band Edge Radiated Emissions 51

6. Measurement Uncertainty **60**

7. Report Revision History **61**

1. Customer Information

Company Name:	Bang & Olufsen a/s
Address:	Peter Bangs Vej 15 7600 Struer Denmark

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:	47CFR15.109
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:	12 March 2014 to 04 June 2015

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.109	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.207	Transmitter AC Conducted Spurious Emissions	✓
Part 15.247(a)(2)	Transmitter Minimum 6 dB Bandwidth	✓
Part 15.35(c)	Transmitter Duty Cycle	Note 1
Part 15.247(e)	Transmitter Power Spectral Density	✓
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. The measurement was performed to assist in the calculation of the level of maximum conducted output power, power spectral density and spurious emissions.

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 v03r02 June 5, 2014
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:	Jukebox
Model Name or Number:	BeoSound Moment
Test Sample Serial Number:	23840403 *(Radiated sample)*
Hardware Version:	8200359
Software Version:	0.2.0_484
FCC ID:	TTUBSMOMENT

Brand Name:	Jukebox
Model Name or Number:	BeoSound Moment
Test Sample Serial Number:	23840405 *(Conducted sample)*
Hardware Version:	8200359
Software Version:	0.2.0_484
FCC ID:	TTUBSMOMENT

3.2. Description of EUT

The Equipment Under Test was a Tablet for use with music streaming device with WLAN.

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:	WLAN (IEEE 802.11b,g,n) / Digital Modulation System		
Type of Unit:	Transceiver		
Modulation Type:	DBPSK, DQPSK, BPSK, QPSK, 16QAM & 64QAM		
Data Rates:	802.11b	1, 2, 5.5 & 11 Mbit/s	
	802.11g	6, 9, 12, 18, 24, 36, 48 & 54 Mbit/s	
	802.11n	MCS0 to MCS7	
Power Supply Requirement(s):	Nominal	5 VDC	
Maximum Conducted Output Power:	14.6 dBm		
Declared Antenna Gain:	0 dBi		
Channel Spacing:	20 MHz		
Transmit Frequency Range:	2412 MHz to 2462 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	1	2412
	Middle	6	2437
	Top	11	2462
Receive Frequency Range:	2412 MHz to 2462 MHz		
Receive Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	1	2412
	Middle	6	2437
	Top	11	2462

3.5. Support Equipment

No support equipment was used to exercise the EUT during testing.

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

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

- Continuously transmitting with a modulated carrier at maximum power on the bottom, middle and top channels as required using the supported data rates/modulation types.
- Receive/Idle Mode – EUT active but not transmitting.

4.2. Configuration and Peripherals

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

- Controlled using a test application built into the EUT. The application was used to enable a continuous transmission mode and to select the test channels, data rates and modulation schemes as required.
- RF cables and attenuators connecting the test equipment to the EUT ports were calibrated before use and the calibration data incorporated into the conducted measurement results.
- All supported modes and channel widths were initially investigated on one channel. The modes that produced the highest output power, highest power spectral density, narrowest and widest bandwidths were:
    - Highest output power
        - 802.11b – DQPSK / 2 Mbit/s
        - 802.11b – DQPSK / 11 Mbit/s
        - 802.11g – BPSK / 9 Mbit/s
        - 802.11n – 64QAM / 52 Mbit/s / MCS5
    - Highest power spectral density
        - 802.11b – DQPSK / 2 Mbit/s
        - 802.11b – DQPSK / 11 Mbit/s
        - 802.11g – 64QAM / 48 Mbit/s
        - 802.11n – 16QAM / 58.5 Mbit/s / MCS6
    - Narrowest bandwidth (DTS bandwidth / 6 dB)
        - 802.11b – DQPSK / 11 Mbit/s
        - 802.11g – BPSK / 12 Mbit/s
        - 802.11n – BPSK / 6.5 Mbit/s / MCS0
- Transmitter spurious emissions were performed with the EUT transmitting with a data rate of 2 Mbit/s, as this was found to have the highest power level and therefore deemed to be worst case.

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:	David Doyle	**Test Date:**	18 March 2014
Test Sample Serial Number:	23840403		

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 (℃):	20
Relative Humidity (%):	31

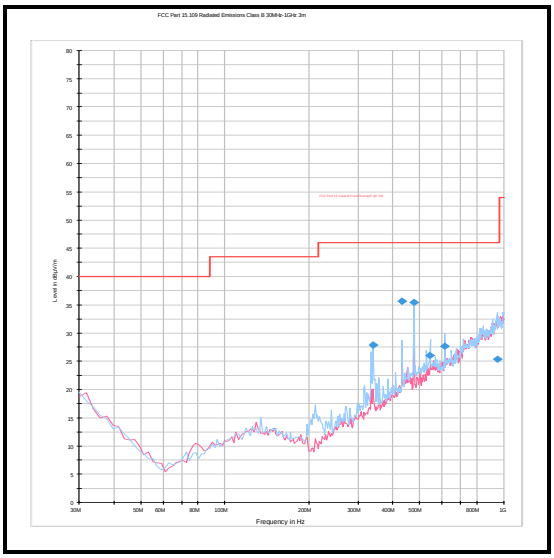
Note(s):

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. Measurements below 1 GHz were performed in a semi-anechoic chamber (UL VS LTD 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 (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
340.017	Horizontal	27.8	46.0	18.2	Complied
432.005	Horizontal	35.6	46.0	10.4	Complied
475.945	Horizontal	35.4	46.0	10.6	Complied
543.933	Horizontal	26.0	46.0	20.0	Complied
612.046	Horizontal	27.7	46.0	18.3	Complied

Receiver/Idle Mode Radiated Spurious Emissions (continued)



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

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	11 Feb 2015	12
A490	Antenna	Chase	CBL6111A	1590	18 Apr 2014	12
A1834	Attenuator	Hewlett Packard	8491B	10444	15 Nov 2014	12

Receiver/Idle Mode Radiated Spurious Emissions (continued)

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	14 March 2014
Test Sample Serial Number:	23840403		

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 12.5 GHz

Environmental Conditions:

Temperature (℃):	24
Relative Humidity (%):	37

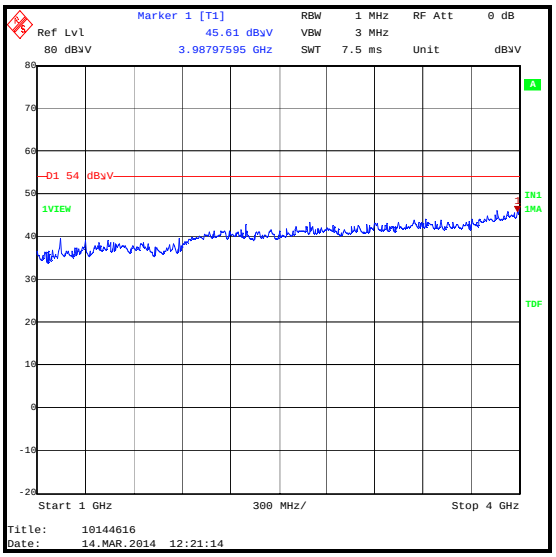
Note(s):

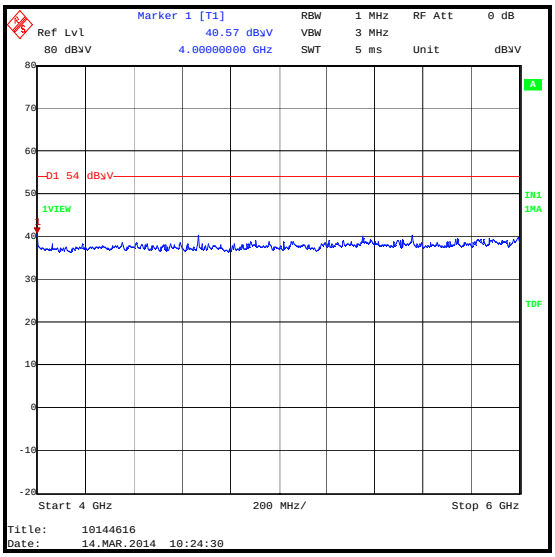
1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. No spurious emissions were detected above the noise floor of the measuring receiver therefore the highest peak noise floor reading of the measuring receiver was recorded 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 (UL VS LTD 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 (UL VS LTD 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.

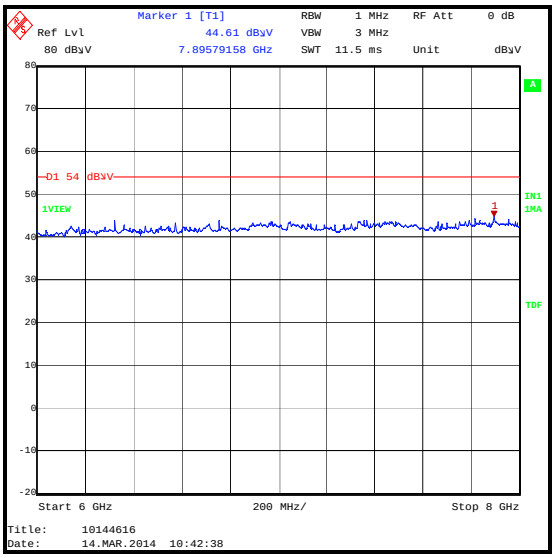
Results:

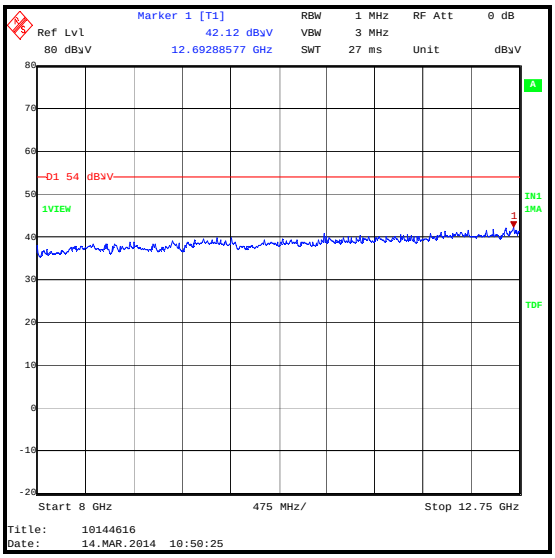
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
3987.976	Vertical	45.6	54.0	8.4	Complied

Receiver/Idle Mode Radiated Spurious Emissions (continued)









Receiver/Idle Mode Radiated Spurious Emissions (continued)

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A253	Antenna	Flann Microwave	12240-20	128	14 Nov 2014	12
A254	Antenna	Flann Microwave	14240-20	139	14 Nov 2014	12
A255	Antenna	Flann Microwave	16240-20	519	14 Nov 2014	12
A1818	Antenna	EMCO	3115	00075692	14 Nov 2014	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	01 Oct 2014	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	14 Nov 2014	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	14 Nov 2014	12
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	Not stated	24 May 2014	12

5.2.2. Transmitter AC Conducted Spurious Emissions

Test Summary:

Test Engineer:	Sandeep Bharat	**Test Date:**	04 June 2015
Test Sample Serial Number:	23840403		

FCC Reference:	Part 15.207
Test Method Used:	As detailed in ANSI C63.10 Section 6.2 referencing ANSI C63.4

Environmental Conditions:

Temperature (℃):	23
Relative Humidity (%):	37

Results: Live / Quasi Peak

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.209	Live	45.2	63.3	18.1	Complied
0.654	Live	41.0	56.0	15.0	Complied
0.672	Live	40.6	56.0	15.4	Complied
2.841	Live	35.0	56.0	21.0	Complied
4.853	Live	34.3	56.0	21.7	Complied
5.757	Live	37.8	60.0	22.2	Complied

Results: Live / Average

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.200	Live	37.5	53.6	16.1	Complied
0.681	Live	31.4	46.0	14.6	Complied
2.841	Live	25.4	46.0	20.6	Complied
4.934	Live	25.7	46.0	20.3	Complied
5.438	Live	29.6	50.0	20.4	Complied
8.529	Live	30.6	50.0	19.4	Complied

Transmitter AC Conducted Spurious Emissions (continued)

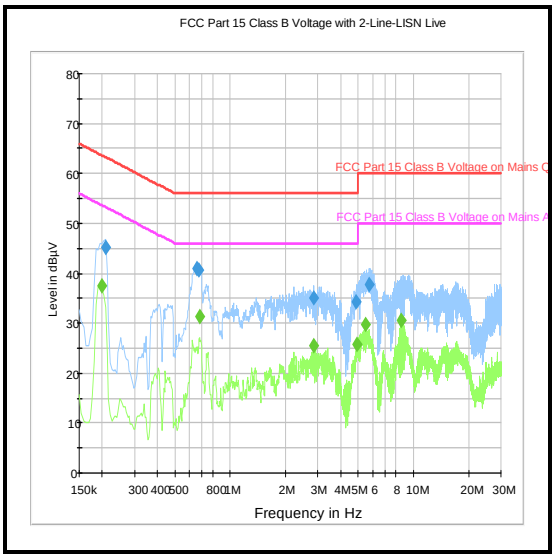
Results: Neutral / Quasi Peak

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.204	Neutral	45.9	63.4	17.5	Complied
0.672	Neutral	41.6	56.0	14.4	Complied
3.026	Neutral	35.2	56.0	20.8	Complied
4.875	Neutral	33.9	56.0	22.1	Complied
5.820	Neutral	38.1	60.0	21.9	Complied
8.898	Neutral	35.3	60.0	24.7	Complied

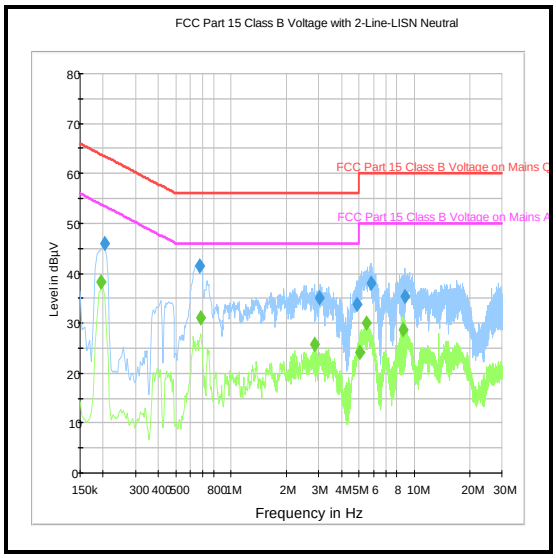
Results: Neutral / Average

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.195	Neutral	38.2	53.8	15.6	Complied
0.681	Neutral	31.0	46.0	15.0	Complied
2.841	Neutral	25.8	46.0	20.2	Complied
5.037	Neutral	24.2	50.0	25.8	Complied
5.496	Neutral	30.1	50.0	19.9	Complied
8.646	Neutral	28.7	50.0	21.3	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	14 Aug 2015	12
A1830	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100668	02 Mar 2016	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	14 Oct 2015	12

5.2.3. Transmitter Minimum 6 dB Bandwidth

Test Summary:

Test Engineer:	David Doyle	**Test Dates:**	12 March 2014 & 23 June 2014
Test Sample Serial Number:	23840405		

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

Environmental Conditions:

Temperature (℃):	25 to 26
Relative Humidity (%):	32 to 40

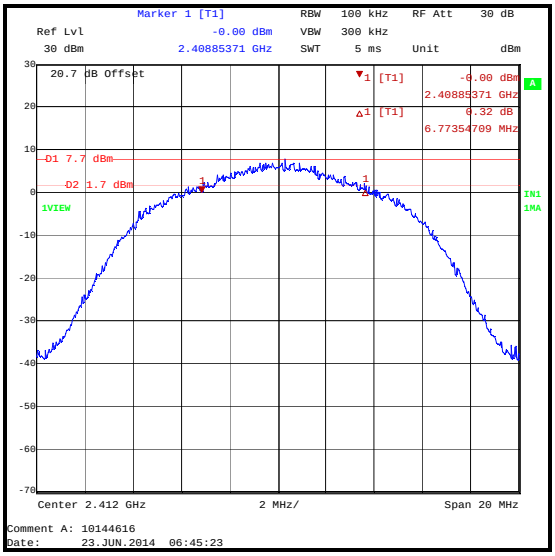
Note(s):

1. All configurations supported by the EUT were investigated on one channel in accordance with KDB 558074 Section 8.1 Option 1 measurement procedure. The data rates that produced the narrowest bandwidth and therefore deemed worst case were:
   - 802.11b – DQPSK / 11 Mbit/s
   - 802.11g – BPSK / 12 Mbit/s
   - 802.11n – BPSK / 6.5 Mbit/s / MCS0
2. Final measurements were performed using the above configurations on the bottom, middle and top channels.
3. Plots for all data rates are archived on the UL VS LTD IT server and available for inspection upon request.
4. The spectrum analyser was connected to the RF port on the EUT using suitable attenuation and RF cable.

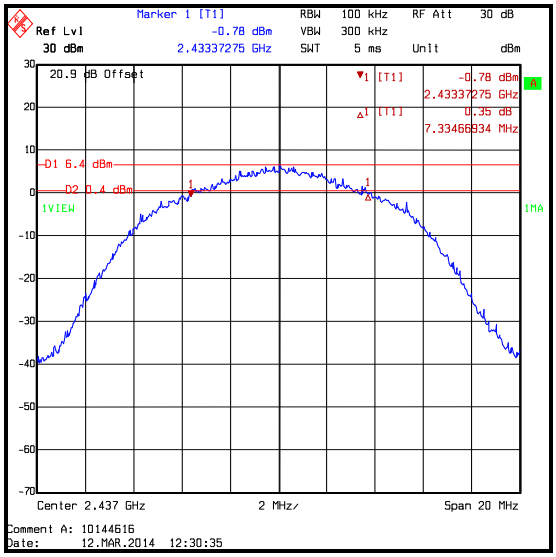
Transmitter Minimum 6 dB Bandwidth (continued)

Results: 802.11b / 20 MHz / DQPSK / 11 Mbit/s

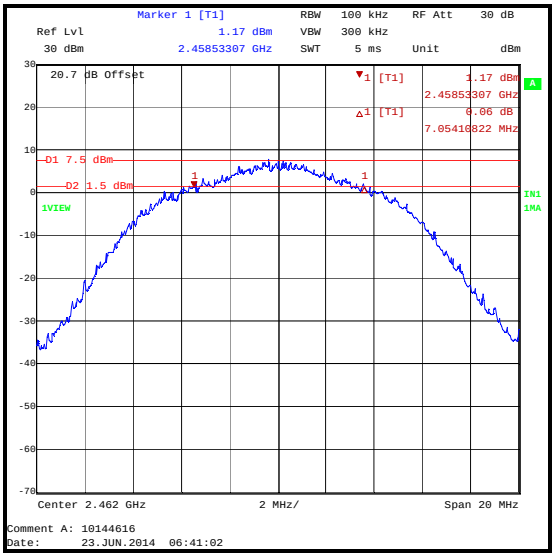
Channel	6 dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Result
Bottom	6773.547	≥500	5992.986	Complied
Middle	7334.669	≥500	6834.669	Complied
Top	7054.108	≥500	6674.349	Complied



Bottom Channel



Middle Channel

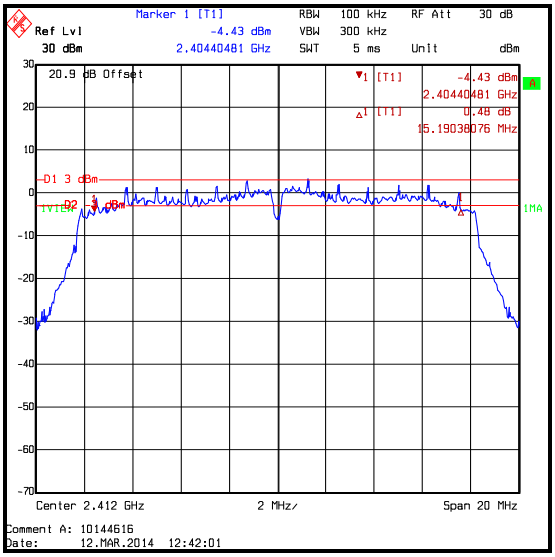


Top Channel

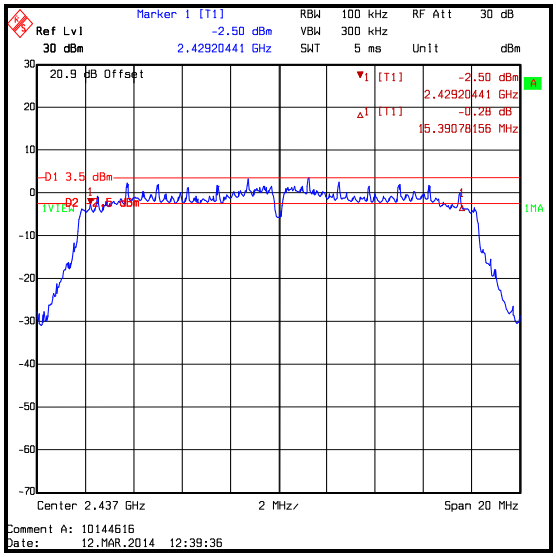
Transmitter Minimum 6 dB Bandwidth (continued)

Results: 802.11g / BPSK / 12 Mbit/s

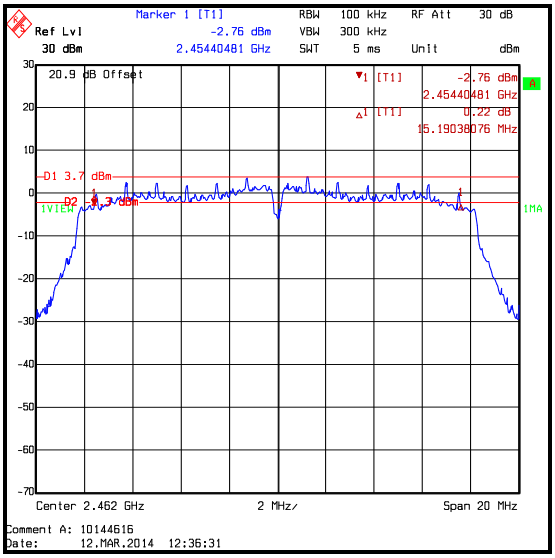
Channel	6 dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Result
Bottom	15190.381	≥500	14690.381	Complied
Middle	15390.782	≥500	14890.782	Complied
Top	15190.381	≥500	14690.381	Complied



Bottom Channel



Middle Channel

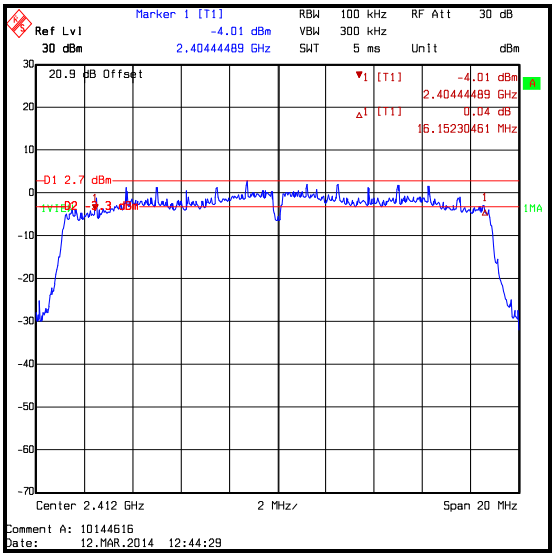


Top Channel

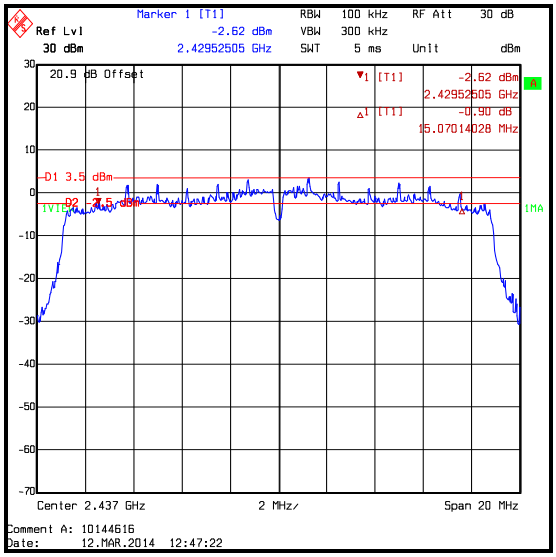
Transmitter Minimum 6 dB Bandwidth (continued)

Results: 802.11n / BPSK / 6.5 Mbit/s / MCS0

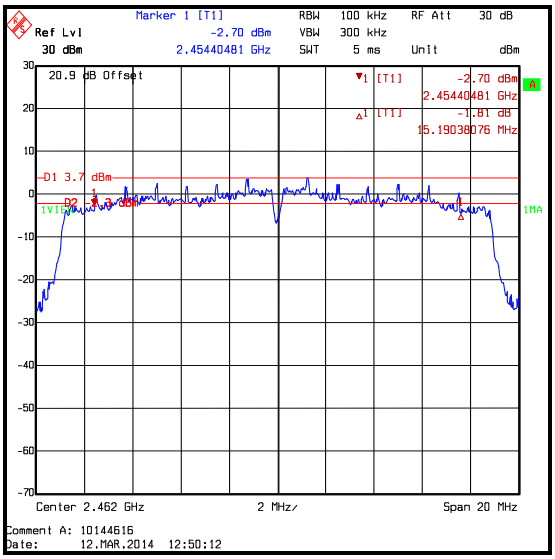
Channel	6 dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Result
Bottom	16152.305	≥500	15652.305	Complied
Middle	15070.140	≥500	14570.140	Complied
Top	15190.381	≥500	14690.381	Complied



Bottom Channel



Middle Channel



Top Channel

Transmitter Minimum 6 dB Bandwidth (continued)

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1657	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	14 Mar 2015	12
M127	Spectrum Analyser	Rohde & Schwarz	FSEB 30	842 659/016	19 Aug 2014	12
A2142	Attenuator	AtlanTecRF	AN18-20	081120-23	10 May 2014	12
M1379	Test Receiver	Rohde & Schwarz	ESIB7	100330	02 Dec 2014	12
A1393	Attenuator	Huber & Suhner	6820.17.B	757456	02 May 2015	12

5.2.4. Transmitter Duty Cycle

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	13 March 2014
Test Sample Serial Number:	23840405		

FCC Reference:	Part 15.35(c)
Test Method Used:	As detailed in FCC KDB 558074 Section 6.0 and Notes below

Environmental Conditions:

Temperature (℃):	25
Relative Humidity (%):	33

Note(s):

1. In order to assist with the determination of the average level of fundamental and spurious emissions field strength, measurements were made of duty cycle to determine the transmission duration and the silent period time of the transmitter. The transmitter duty cycle was measured using a spectrum analyser in the time domain and calculated as shown below:

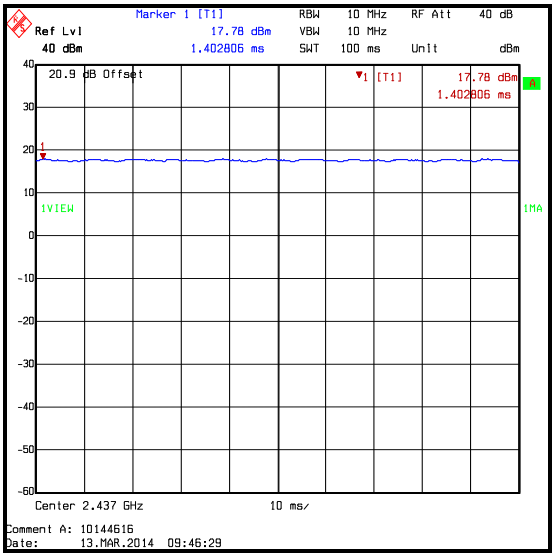
   10 log (1 / (On Time / [Period or 100 ms whichever is the lesser]))

   802.11b / 11 Mbit/s duty cycle is 10 log (1 / (1.297/1.1.397)) = 0.3 dB
   802.11g / 12 Mbit/s duty cycle is 10 log (1 / (1.047/1.155)) = 0.4 dB
   802.11n / 6.5 Mbit/s duty cycle is 10 log (1 / (1.926/2.028)) = 0.2 dB

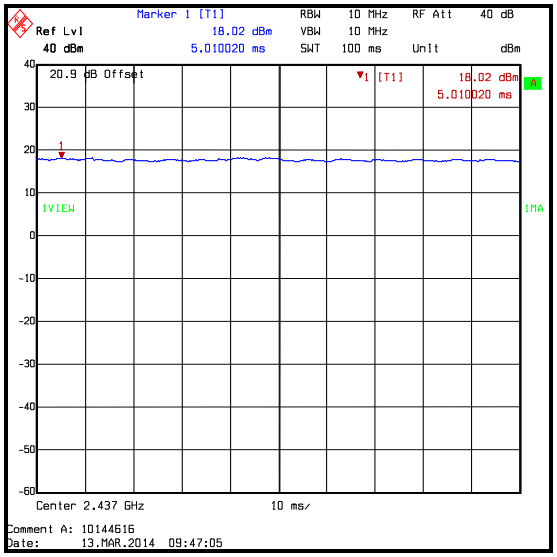
2. For 802.11b 1 Mbit/s and 802.11b 2 Mbit/s, the duty cycle was measured to be greater than 98%.
3. Where the duty cycle was found to be to be greater than 98%, additional measurements were made over a period of 100 ms and are shown below.

Transmitter Duty Cycle (continued)

Results: 802.11b / 20 MHz



1 Mbit/s / 100 ms Sweep time



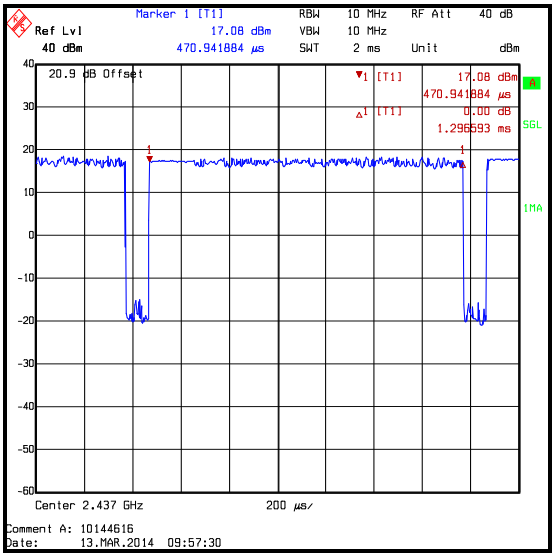
2 Mbit/s / 100 ms Sweep Time

Transmitter Duty Cycle (continued)

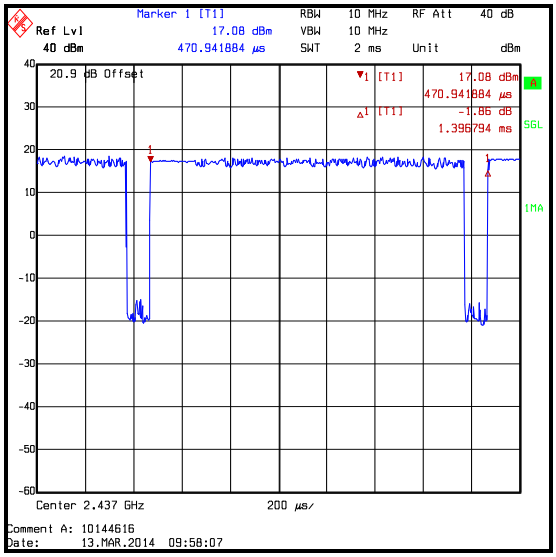
Results: 802.11b / 20 MHz / DQPSK / 11 Mbit/s

Pulse Duration (ms)	Duty Cycle (dB)
1.297	0.3

Period (ms)
1.397



TX on time



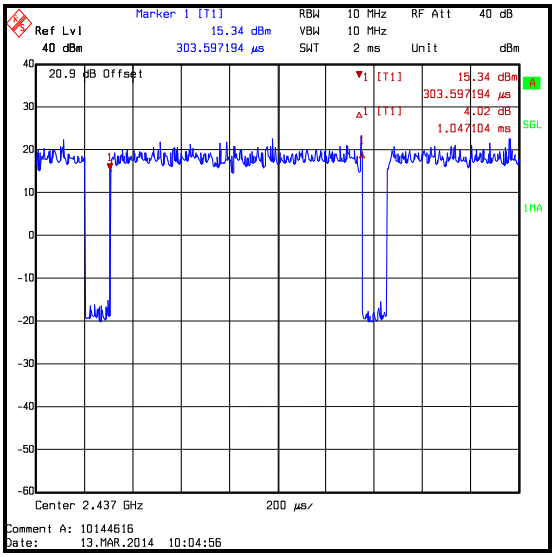
TX on + off time / period

Transmitter Duty Cycle (continued)

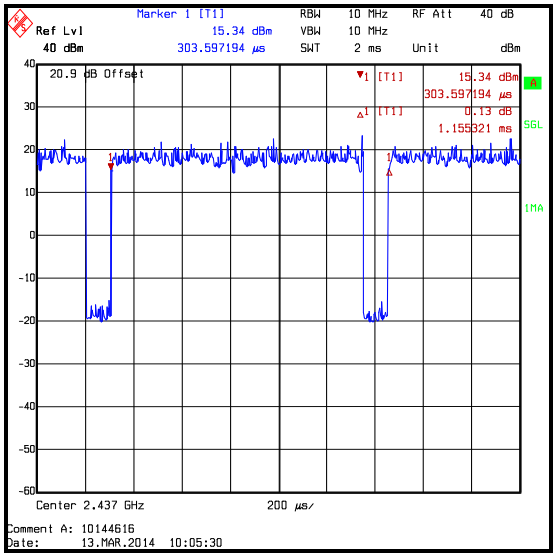
Results: 802.11g / 20 MHz / BPSK / 12 Mbit/s

Pulse Duration (ms)	Duty Cycle (dB)
1.047	0.4

Period (ms)
1.155



TX on time



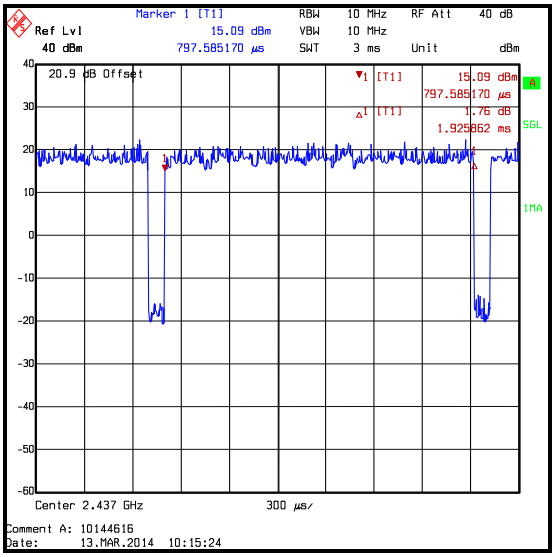
TX on + off time / period

Transmitter Duty Cycle (continued)

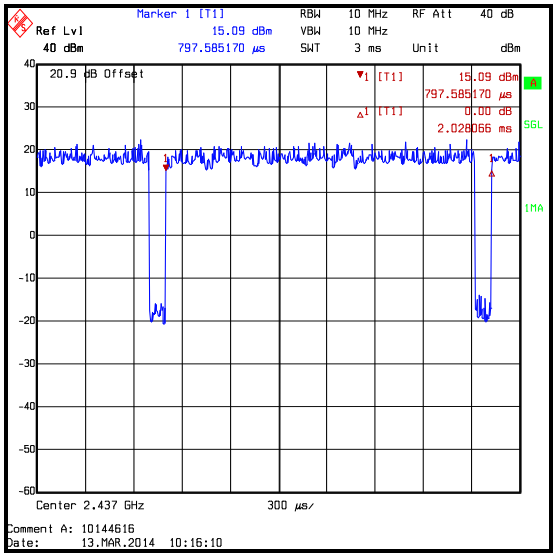
Results: 802.11n / 20 MHz / BPSK / 6.5 Mbit/s / MCS0

Pulse Duration (ms)	Duty Cycle (dB)
1.926	0.2

Period (ms)
2.028



TX on time



TX on + off time / period

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1657	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	14 Mar 2015	12
M127	Spectrum Analyser	Rohde & Schwarz	FSEB 30	842 659/016	19 Aug 2014	12
A2142	Attenuator	AtlanTecRF	AN18-20	081120-23	10 May 2014	12

5.2.5. Transmitter Power Spectral Density

Test Summary:

Test Engineer:	David Doyle	**Test Dates:**	13 March 2014 to 28 March 2014
Test Sample Serial Number:	23840405		

FCC Reference:	Part 15.247(e)
Test Method Used:	As detailed in FCC KDB 558074 Sections 10.2 & 10.6 and Notes below

Environmental Conditions:

Temperature (℃):	25
Relative Humidity (%):	33

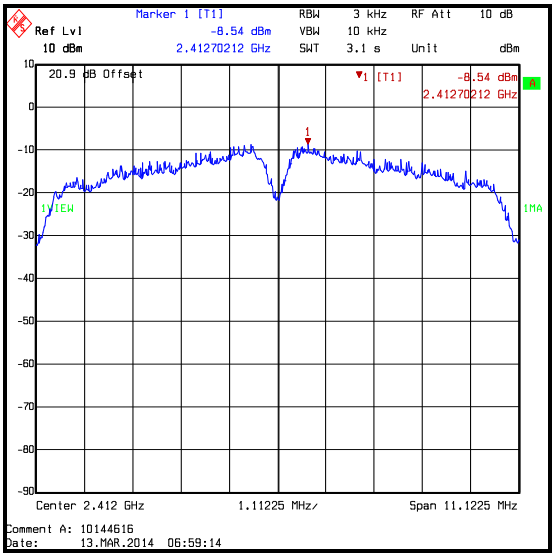
Note(s):

1. All configurations supported by the EUT were initially investigated on one channel. The data rates that produced the highest Power Spectral Density and therefore deemed worst case were:
   - 802.11b – DQPSK / 2 Mbit/s
   - 802.11b – DQPSK / 11 Mbit/s
   - 802.11g – 64QAM / 48 Mbit/s
   - 802.11n – 16QAM / 58.5 Mbit/s / MCS6
2. Final measurements were performed using the above configurations on the bottom, middle and top channels.
3. For 802.11b data rates 1 Mbit/s and 2 Mbit/s, the EUT was transmitting at 100% duty cycle and testing was performed in accordance with KDB 558074 Section 10.2 Method PKPSD. The spectrum analyser resolution bandwidth was set to 3 kHz and video bandwidth 10 kHz. A peak detector was used and sweep time set to auto. The trace mode was Max Hold and the trace was left to stabilize. The span was set to 1.5 times the DTS bandwidth. The highest peak of the measured signal was recorded.
4. For 802.11b (data rate 11 Mbit/s), 802.11g and 802.11n, the EUT was transmitting at <98% duty cycle and testing was performed in accordance with KDB 558074 Section 10.6 Method AVGPSD-2 Alternative. The spectrum analyser resolution bandwidth was set to 3 kHz and video bandwidth 10 kHz. An RMS detector with single sweep and a long sweep time was used. The span was set to 1.5 times the DTS bandwidth. The highest peak of the measured signal was recorded. The calculated duty cycle in Section 5.2.3 of this report was added to the measured average power spectral density in order to compute the average power spectral density during the actual transmission time.
5. The spectrum analyser was connected to the RF port on the EUT using suitable attenuation and RF cable. An RF level offset was entered on the spectrum analyser to compensate for the loss of the attenuator and RF cable.

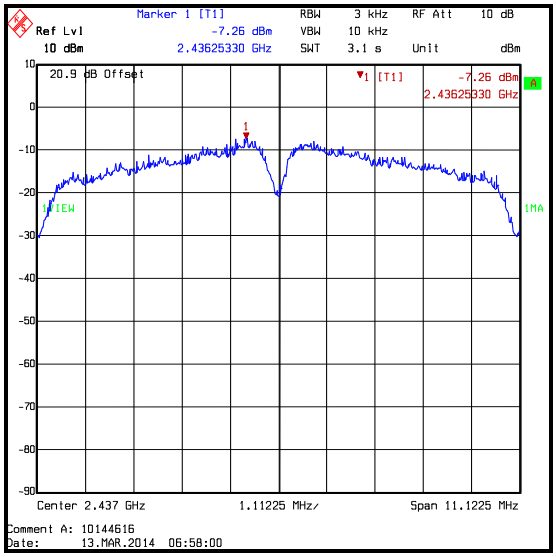
Transmitter Power Spectral Density (continued)

Results: 802.11b / 20 MHz / DQPSK / 2 Mbit/s

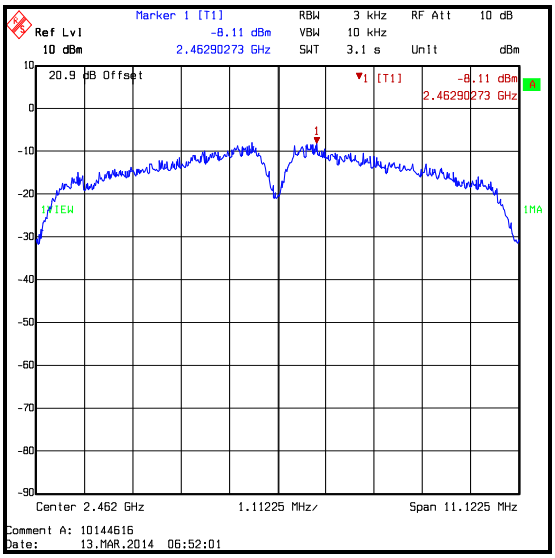
Channel	Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-8.5	8.0	16.5	Complied
Middle	-7.3	8.0	15.3	Complied
Top	-8.1	8.0	16.1	Complied



Bottom Channel



Middle Channel

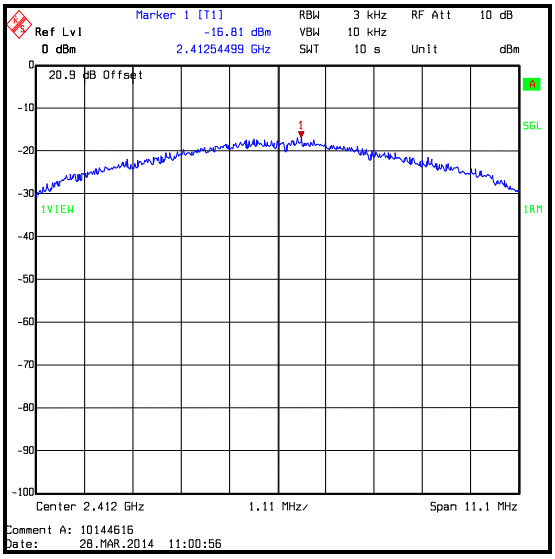


Top Channel

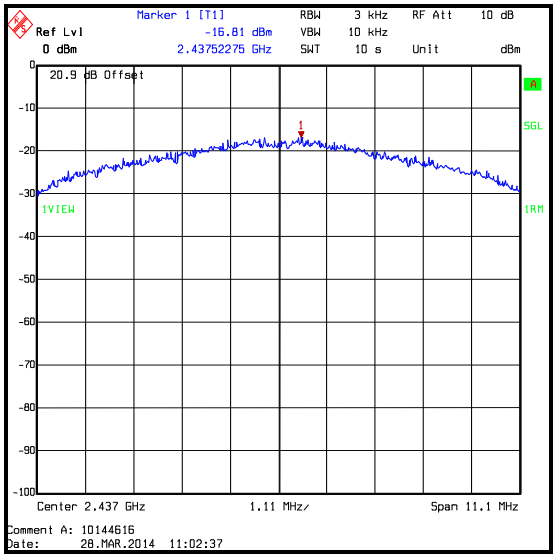
Transmitter Power Spectral Density (continued)

Results: 802.11b / 20 MHz / DQPSK / 11 Mbit/s

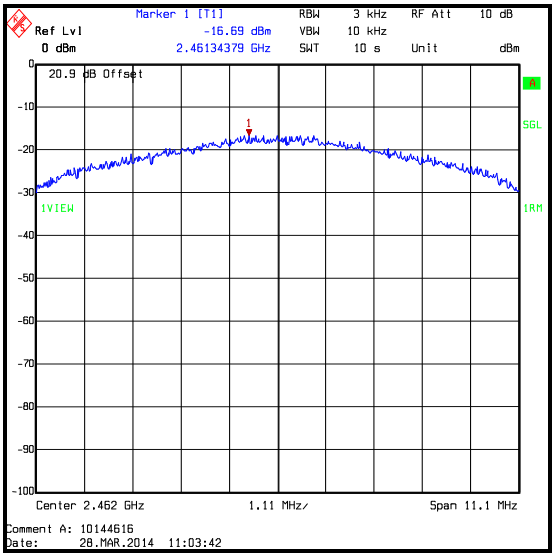
Channel	Output Power (dBm/3 kHz)	Duty cycle correction (dB)	Corrected Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-16.8	0.3	-16.5	8.0	24.5	Complied
Middle	-16.8	0.3	-16.5	8.0	24.5	Complied
Top	-16.7	0.3	-16.4	8.0	24.4	Complied



Bottom Channel



Middle Channel

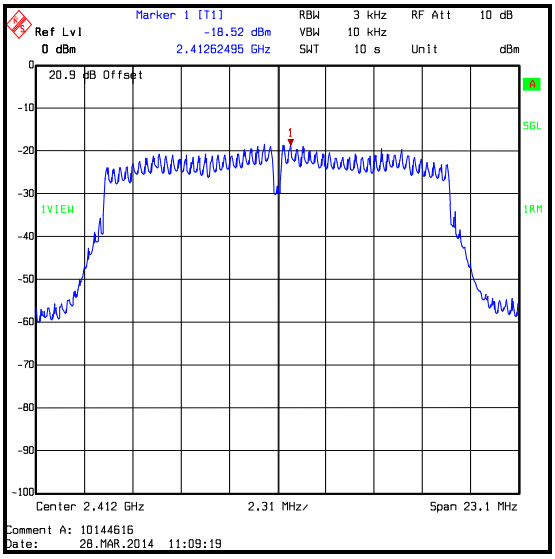


Top Channel

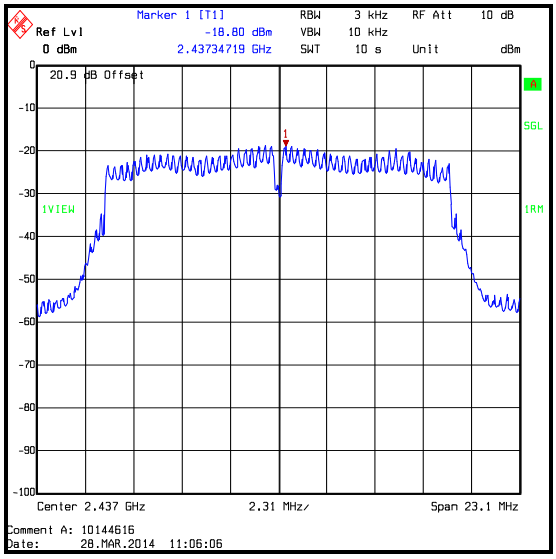
Transmitter Power Spectral Density (continued)

Results: 802.11g / 64QAM / 48 Mbit/s

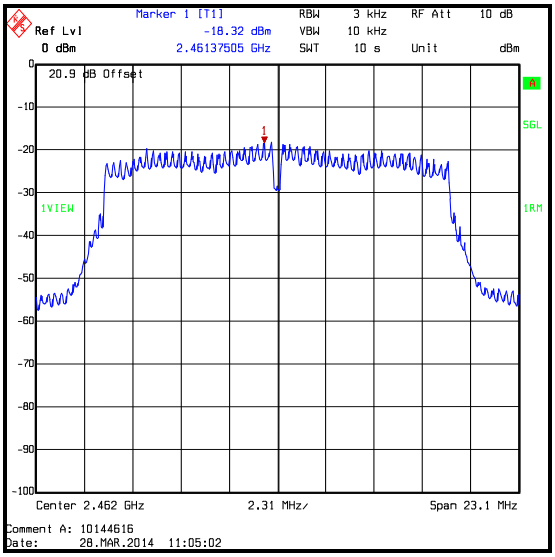
Channel	Output Power (dBm/3 kHz)	Duty cycle correction (dB)	Corrected Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-18.5	0.4	-18.1	8.0	26.1	Complied
Middle	-18.8	0.4	-18.4	8.0	26.4	Complied
Top	-18.3	0.4	-17.9	8.0	25.9	Complied



Bottom Channel



Middle Channel

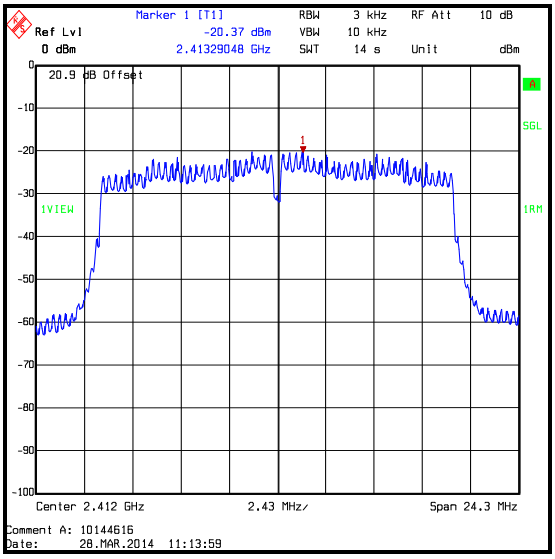


Top Channel

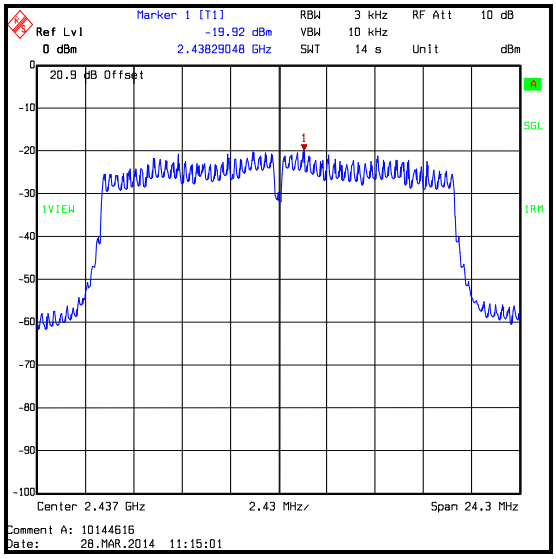
Transmitter Power Spectral Density (continued)

Results: 802.11n / 64QAM / 58.5 Mbit/s / MCS6

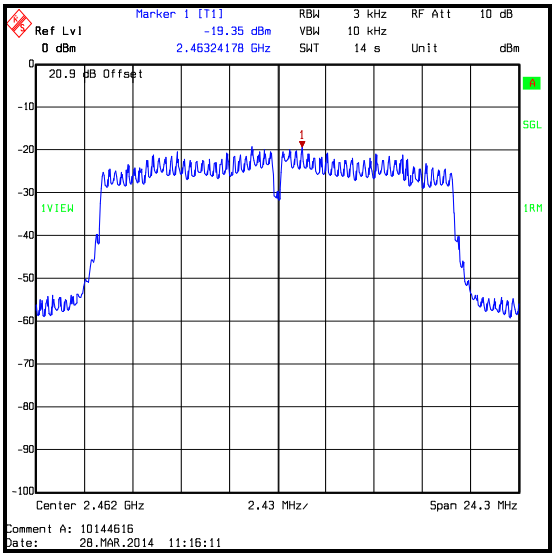
Channel	Output Power (dBm/3 kHz)	Duty cycle correction (dB)	Corrected Output Power (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)	Result
Bottom	-20.4	0.2	-20.2	8.0	28.2	Complied
Middle	-19.9	0.2	-19.7	8.0	27.7	Complied
Top	-19.4	0.2	-19.2	8.0	27.2	Complied



Bottom Channel



Middle Channel



Top Channel

Transmitter Power Spectral Density (continued)

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1657	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	14 Mar 2015	12
M127	Spectrum Analyser	Rohde & Schwarz	FSEB 30	842 659/016	19 Aug 2014	12
A2142	Attenuator	AtlanTecRF	AN18-20	081120-23	10 May 2014	12
M260	Signal Generator	Rohde & Schwarz	SMP02	829076/008	25 Jun 2014	12
M199	Power Meter	Rohde & Schwarz	NRVS	827023/075	15 May 2014	12
M1267	Power Sensor	Rohde & Schwarz	NRV-Z52	100155	14 May 2014	12

5.2.6. Transmitter Maximum Output Power

Test Summary:

Test Engineer:	David Doyle	**Test Dates:**	28 March 2014 & 23 June 2014
Test Sample Serial Number:	23840405		

FCC Reference:	Part 15.247(b)(3)
Test Method Used:	As detailed in FCC KDB 558074 Sections 9.2.2.2 & 9.2.2.5 and Notes below

Environmental Conditions:

Temperature (℃):	25 to 26
Relative Humidity (%):	31 to 40

Note(s):

1. All configurations supported by the EUT were investigated on one channel in accordance with KDB 558074 Section 9.2.2.5 measurement procedure AVGSA-2 Alternative. The spectrum analyser's integration function was used to integrate across the 99% occupied bandwidth. For 802.11b, the resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. For 802.11g and 802.11n, the resolution bandwidth was set to 300 kHz and video bandwidth 1 MHz. An RMS detector was used and sweep time set manually to perform a single sweep. The span was set to 1.5 times the 99% occupied emission bandwidth. The data rates that produced the highest power and therefore deemed worst case were:
    - 802.11b – DQPSK / 2 Mbit/s
    - 802.11b – DQPSK / 11 Mbit/s
    - 802.11g – BPSK/ 9 Mbit/s
    - 802.11n – 64QAM / 52 Mbit/s / MCS5
2. Final measurements were performed using the above configurations on the bottom, middle and top channels.
3. For 802.11b data rate of 2 Mbit/s, the EUT was transmitting at 100% duty cycle and testing was performed in accordance with KDB 558074 Section 9.2.2.2. The spectrum analyser's integration function was used to integrate across the DTS bandwidth. The spectrum analyser resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A rms detector was used and sweep time set to auto. The trace was averaged over 100 sweeps. The span was set to 1.5 times the DTS bandwidth. The channel power measured signal was recorded.
4. For 802.11b data rate of 11 Mbit/s, 802.11g and 802.11n, the EUT was transmitting at <98% duty cycle and testing was performed in accordance with KDB 558074 Section 9.2.2.5 Method AVGSA-2. The spectrum analyser's channel power measurement function was used to integrate across the 99% occupied bandwidth. The resolution bandwidth was set to 1% of the occupied bandwidth (rounded up to the nearest RBW available on the analyser) and video bandwidth to three times the RBW. A single sweep with RMS detector and sweep time set to 10 seconds was used. The span was set to 1.5 times the OBW. The calculated duty cycle in Section 5.2.3 of this test report was added to the measured power in order to compute the average power during the actual transmission time.
5. The spectrum analyser was connected to the RF port on the EUT using suitable attenuation and RF cable. An RF level offset was entered on the spectrum analyser to compensate for the loss of the attenuator and RF cable.

Transmitter Maximum Output Power (continued)

Results: 802.11b / 20 MHz / DQPSK / 2 Mbit/s

Conducted Power Limit Comparison

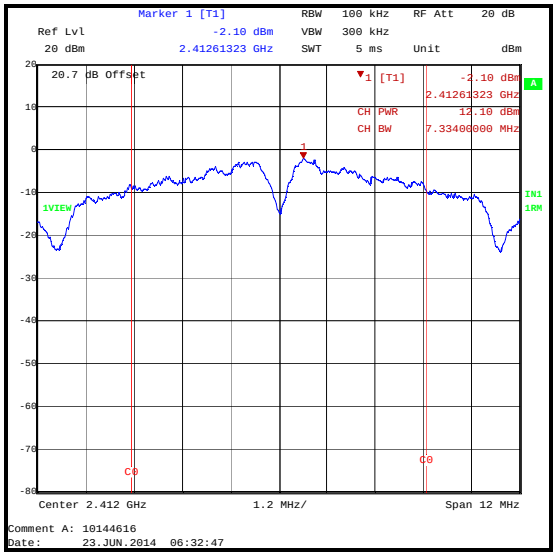
Channel	Conducted Power (dBm)	Conducted Power Limit (dBm)	Margin (dB)	Result
Bottom	12.1	30.0	17.9	Complied
Middle	11.8	30.0	18.2	Complied
Top	12.3	30.0	17.7	Complied

De Facto EIRP Limit Comparison

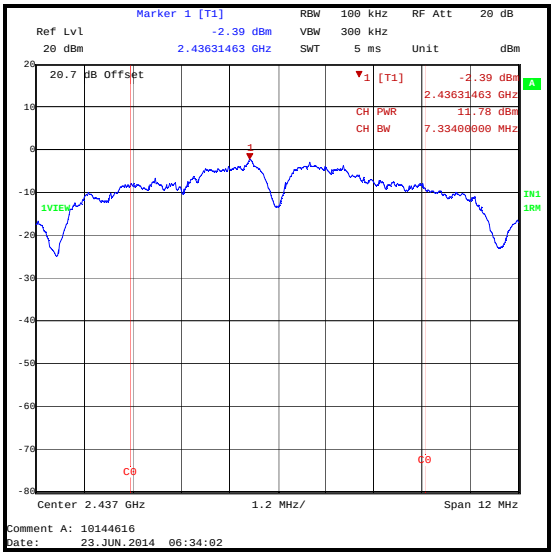
Channel	Conducted Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	12.1	0.0	12.1	36.0	23.9	Complied
Middle	11.8	0.0	11.8	36.0	24.2	Complied
Top	12.3	0.0	12.3	36.0	23.7	Complied

Transmitter Maximum Output Power (continued)

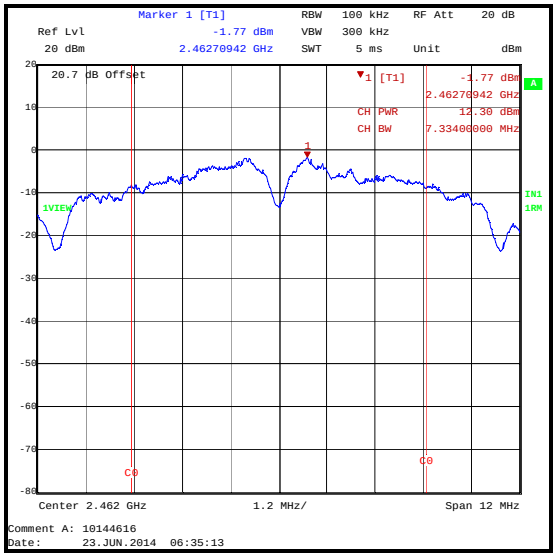
Results: 802.11b / 20 MHz / DQPSK / 2 Mbit/s



Bottom Channel



Middle Channel



Top Channel

Transmitter Maximum Output Power (continued)

Results: 802.11b / DQPSK / 11 Mbit/s

Conducted Power Limit Comparison

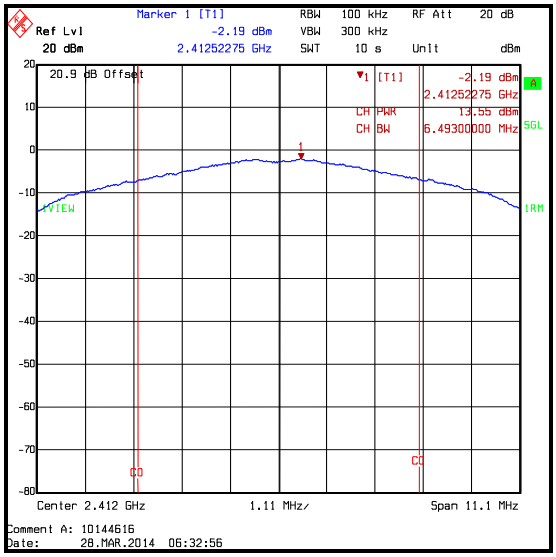
Channel	Conducted Power (dBm)	Duty cycle correction (dB)	Corrected Conducted Power (dBm)	Conducted Power Limit (dBm)	Margin (dB)	Result
Bottom	13.6	0.3	13.9	30.0	16.1	Complied
Middle	13.7	0.3	14.0	30.0	16.0	Complied
Top	14.3	0.3	14.6	30.0	15.4	Complied

De Facto EIRP Limit Comparison

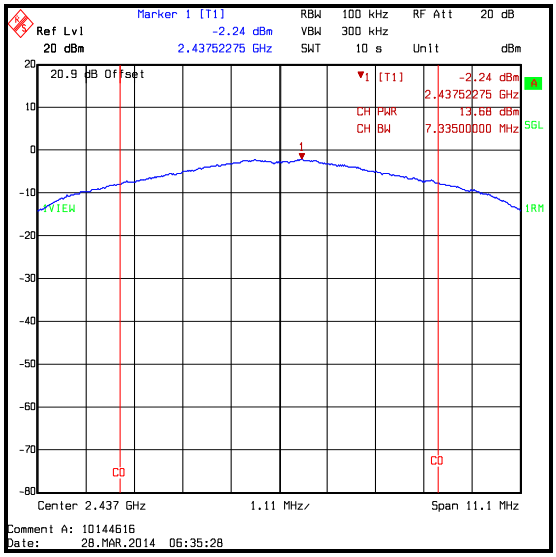
Channel	Conducted Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	13.9	0.0	13.9	36.0	22.1	Complied
Middle	14.0	0.0	14.0	36.0	22.0	Complied
Top	14.6	0.0	14.6	36.0	21.4	Complied

Transmitter Maximum Output Power (continued)

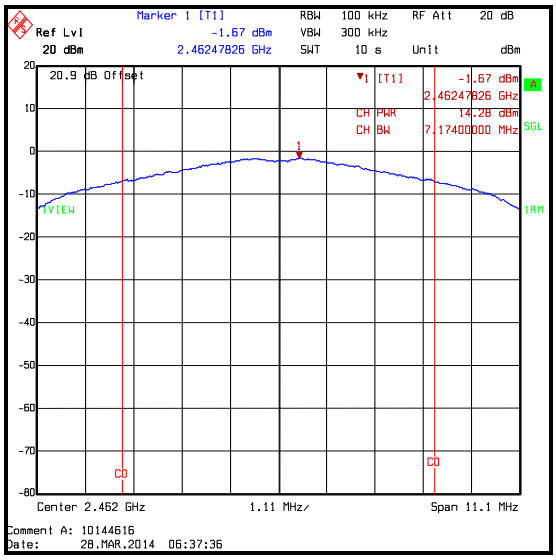
Results: 802.11b / DQPSK / 11 Mbit/s



Bottom Channel



Middle Channel



Top Channel

Transmitter Maximum Output Power (continued)

Results: 802.11g / BPSK / 9 Mbit/s

Conducted Power Limit Comparison

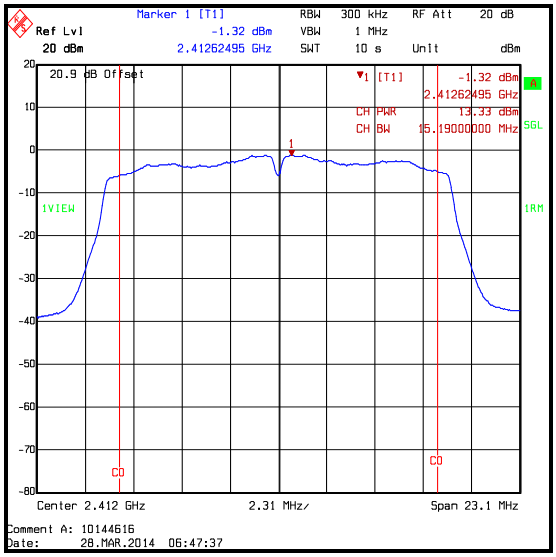
Channel	Conducted Power (dBm)	Duty cycle correction (dB)	Corrected Conducted Power (dBm)	Conducted Power Limit (dBm)	Margin (dB)	Result
Bottom	13.3	0.4	13.7	30.0	16.3	Complied
Middle	13.3	0.4	13.7	30.0	16.3	Complied
Top	13.7	0.4	14.1	30.0	15.9	Complied

De Facto EIRP Limit Comparison

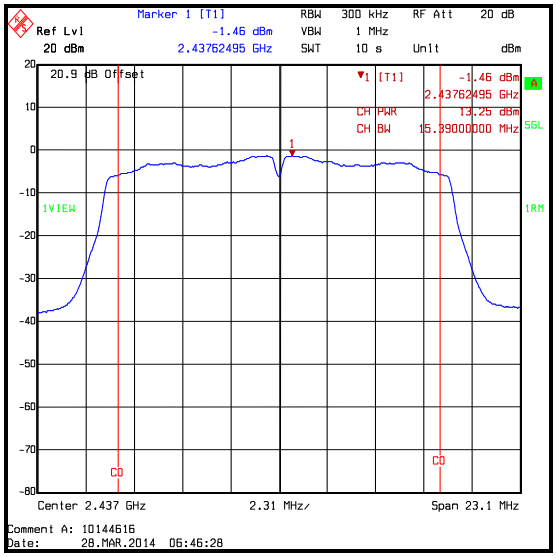
Channel	Conducted Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	13.7	0.0	13.7	36.0	22.3	Complied
Middle	13.7	0.0	13.7	36.0	22.3	Complied
Top	14.1	0.0	14.1	36.0	21.9	Complied

Transmitter Maximum Output Power (continued)

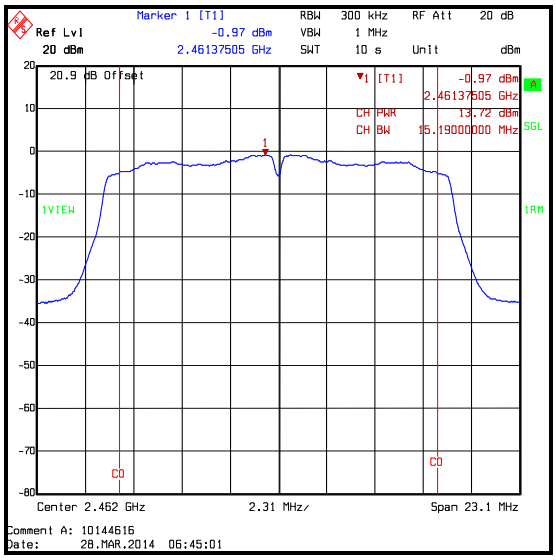
Results: 802.11g / BPSK / 9 Mbit/s



Bottom Channel



Middle Channel



Top Channel

Transmitter Maximum Output Power (continued)

Results: 802.11n / 64QAM / MCS5 / 52 Mbit/s

Conducted Power Limit Comparison

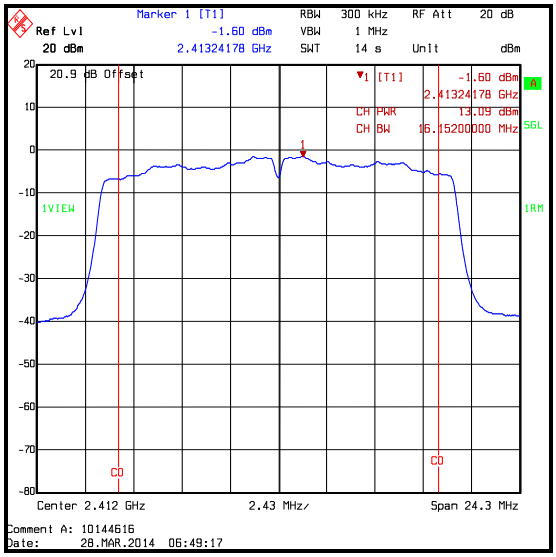
Channel	Conducted Power (dBm)	Duty cycle correction (dB)	Corrected Conducted Power (dBm)	Conducted Power Limit (dBm)	Margin (dB)	Result
Bottom	13.1	0.2	13.3	30.0	16.7	Complied
Middle	12.8	0.2	13.0	30.0	17.0	Complied
Top	13.4	0.2	13.6	30.0	16.4	Complied

De Facto EIRP Limit Comparison

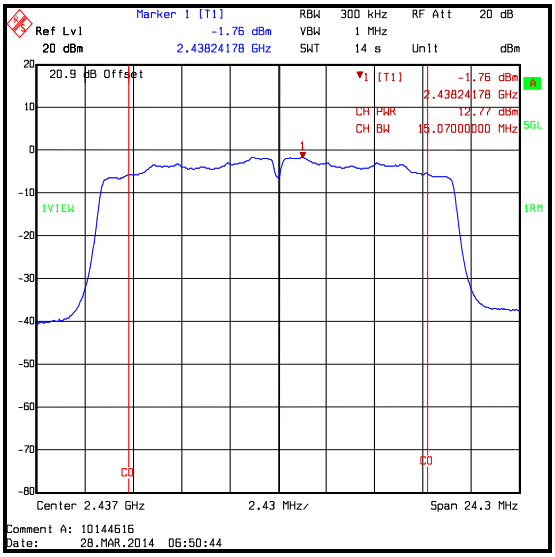
Channel	Conducted Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	13.3	0.0	13.3	36.0	22.7	Complied
Middle	13.0	0.0	13.0	36.0	23.0	Complied
Top	13.6	0.0	13.6	36.0	22.4	Complied

Transmitter Maximum Output Power (continued)

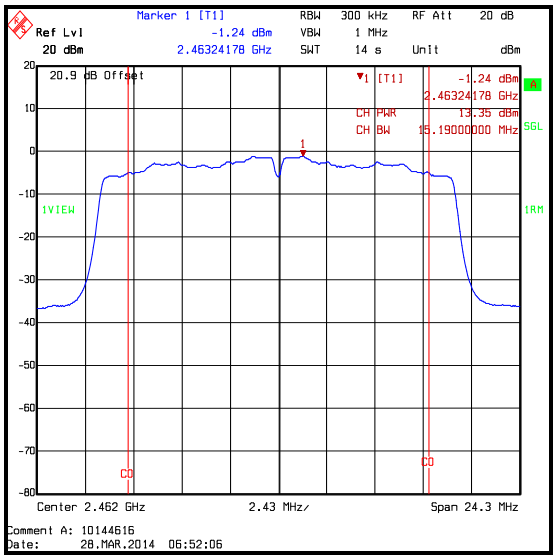
Results: 802.11n / 64QAM / MCS5 / 52 Mbit/s



Bottom Channel



Middle Channel



Top Channel

Transmitter Maximum Output Power (continued)

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1657	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	14 Mar 2015	12
M127	Spectrum Analyser	Rohde & Schwarz	FSEB 30	842 659/016	19 Aug 2014	12
A2142	Attenuator	AtlanTecRF	AN18-20	081120-23	Calibrated before use	-
M1379	Test Receiver	Rohde & Schwarz	ESIB7	100330	02 Dec 2014	12
A1393	Attenuator	Huber & Suhner	6820.17.B	757456	02 May 2015	12
M260	Signal Generator	Rohde & Schwarz	SMP02	829076/008	25 Jun 2014	12
M199	Power Meter	Rohde & Schwarz	NRVS	827023/075	15 May 2014	12
M1267	Power Sensor	Rohde & Schwarz	NRV-Z52	100155	14 May 2014	12

5.2.7. Transmitter Radiated Emissions

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	17 March 2014
Test Sample Serial Number:	23840403		

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 (℃):	21
Relative Humidity (%):	36

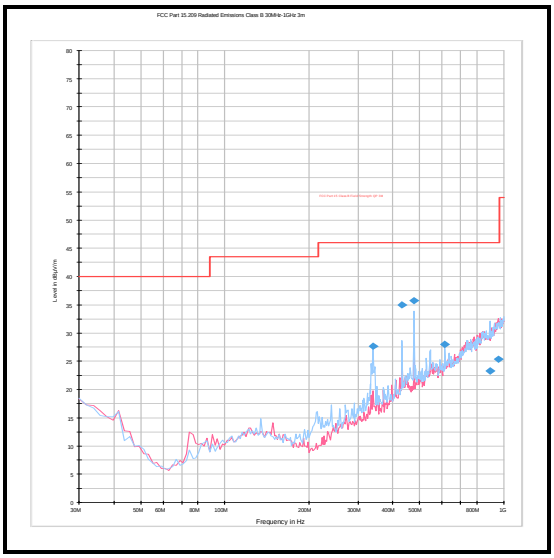
Note(s):

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. 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.
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: Top Channel / 802.11b / 20 MHz / 2 Mbit/s

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
611.988	Horizontal	28.0	46.000	18.000	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	11 Feb 2015	12
A490	Antenna	Chase	CBL6111A	1590	18 Apr 2014	12
A1834	Attenuator	Hewlett Packard	8491B	10444	15 Nov 2014	12

Transmitter Radiated Emissions

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	14 March 2014
Test Sample Serial Number:	23840403		

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

Environmental Conditions:

Temperature (℃):	25
Relative Humidity (%):	37

Note(s):

1. Prescans were performed with the EUT transmitting on the top channel / 802.11b / 20 MHz / 2 Mbits mode. The preliminary scans showed similar emission levels, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel in this mode only.
2. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
3. The emission shown approximately at 2462 MHz on the 1 GHz to 4 GHz plot is the EUT fundamental.
4. 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 receiver therefore the highest peak and average noise floor readings of the measuring receiver were recorded as shown in the tables below.
5. 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: Peak Top Channel / 802.11b / 20 MHz / 2 Mbit/s

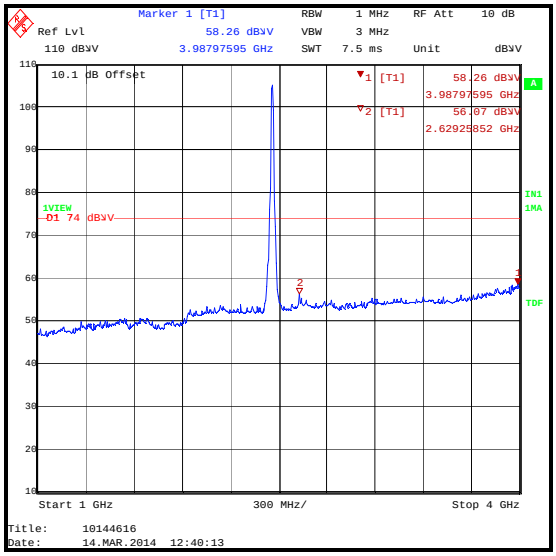
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
3987.976	Horizontal	58.3	74.0	15.7	Complied

Results: Average Top Channel / 802.11b / 20 MHz / 2 Mbit/s

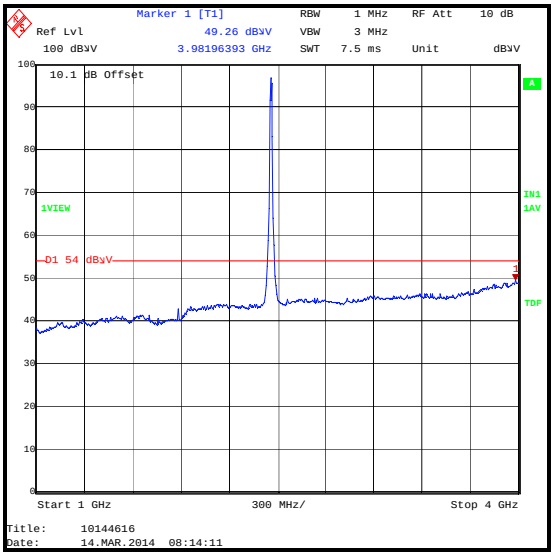
Frequency (MHz)	Antenna Polarity	Average Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
3981.964	Horizontal	49.3	54.0	4.7	Complied

Transmitter Radiated Emissions (continued)

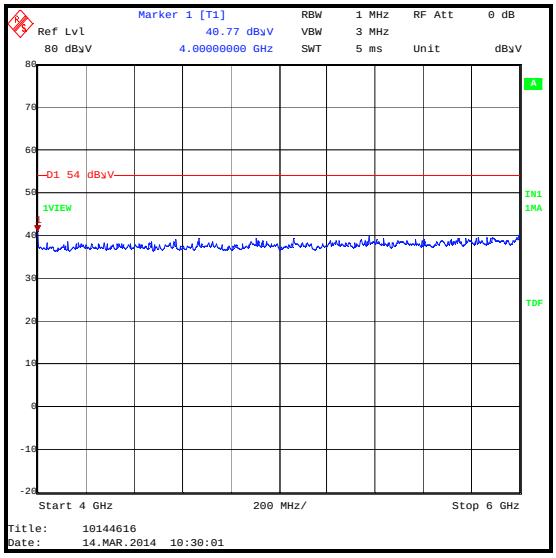
Results:

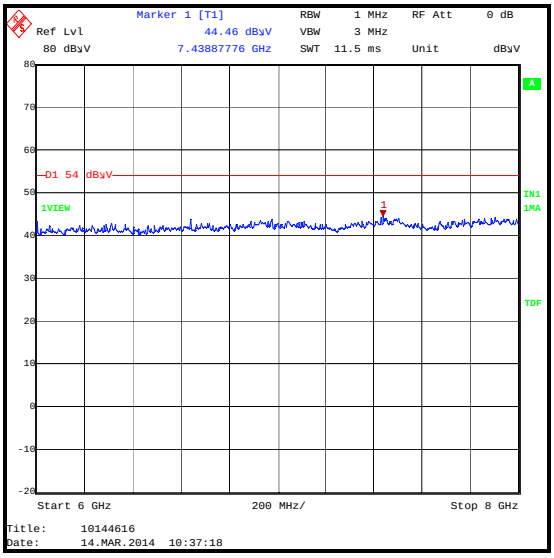


Peak detector



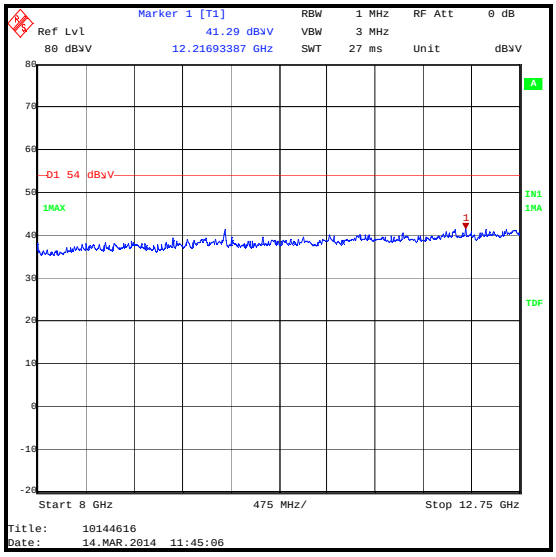
Average detector

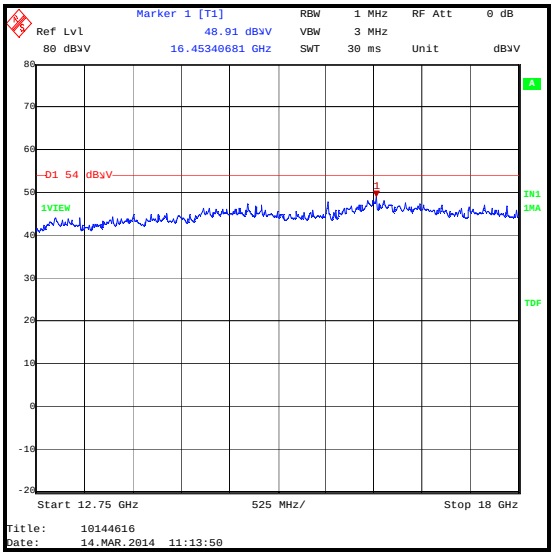


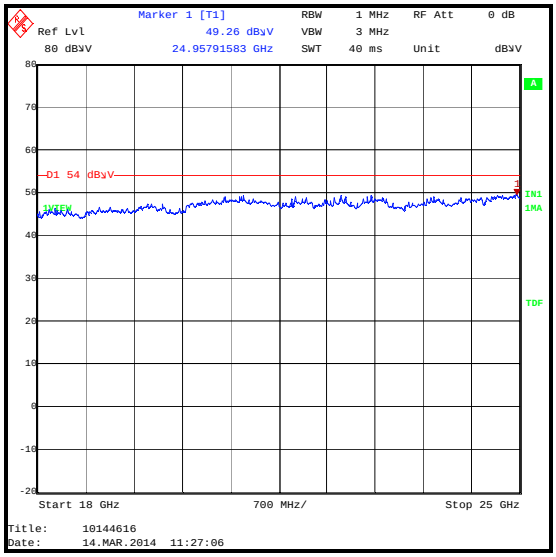


Transmitter Radiated Emissions (continued)

Results:







Transmitter Radiated Emissions (continued)

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A253	Antenna	Flann Microwave	12240-20	128	14 Nov 2014	12
A254	Antenna	Flann Microwave	14240-20	139	14 Nov 2014	12
A255	Antenna	Flann Microwave	16240-20	519	14 Nov 2014	12
A256	Antenna	Flann Microwave	18240-20	400	14 Nov 2014	12
A436	Antenna	Flann Microwave	20240-20	330	14 Nov 2014	12
A1818	Antenna	EMCO	3115	00075692	14 Nov 2014	12
A1396	Attenuator	Huber & Suhner	6810.17.B	757987	10 May 2014	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	01 Oct 2014	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	14 Nov 2014	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	14 Nov 2014	12
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	Not stated	14 Mar 2015	12

5.2.8. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	David Doyle	**Test Dates:**	14 March 2014, 10 April 2014 & 23 January 2015
Test Sample Serial Number:	23840403		

FCC Reference:	Parts 15.247(d) & 15.209(a)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10 and Notes below

Environmental Conditions:

Temperature (℃):	22 to 25
Relative Humidity (%):	33 to 37

Note(s):

1. All configurations supported by the EUT were investigated on one channel. The data rates that produced the highest power and widest bandwidth were therefore deemed worst case :
   - 802.11b – DQPSK / 2 Mbit/s & DQPSK / 11 Mbit/s
   - 802.11g – 64QAM / 48 Mbit/s
   - 802.11n – 64QAM / 58.5 Mbit/s / MCS6 & 64QAM / 65 Mbit/s / MCS7
2. Final measurements were performed with the above configurations.
3. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
4. The maximum conducted (average) output power was previously measured. In accordance with FCC KDB 558074 Section 11.1(b), the lower band edge measurement was performed with a peak detector and the -30 dBc limit applied.
5. ** -30 dBc limit.
6. $Result includes the duty cycle correction factor.
7. 802.11b / DQPSK / 2 Mbit/s plots incorrectly show a -20 dBc limit line. The results table shows the correct -30 dBc limit.
8. There is a restricted band 10 MHz below the lower band edge. The test receiver was set up as follows: a RBW set to 1 MHz, the VBW set to 3, with the sweep time set to auto couple. Peak and average measurements were performed with their own appropriate detectors. Markers were placed on the highest point on each trace.

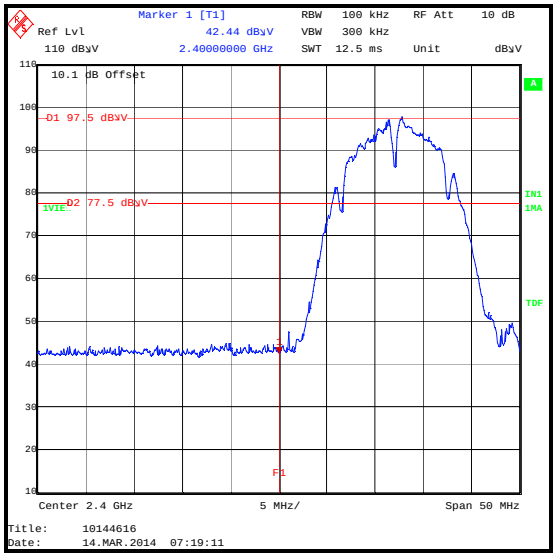
Transmitter Band Edge Radiated Emissions (continued)

Results: Peak / 802.11b / DQPSK / 2 Mbit/s

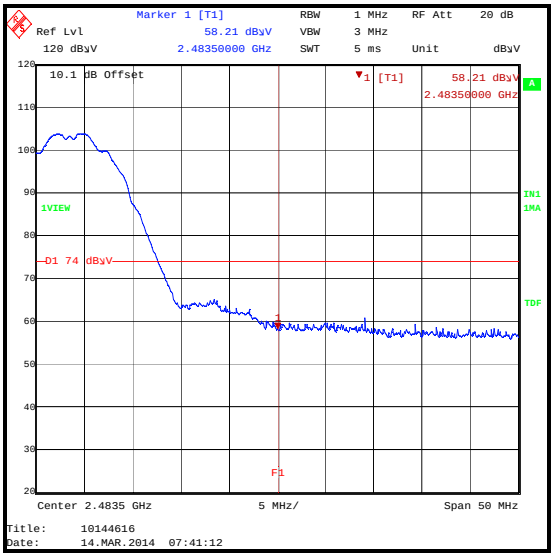
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2341.538	54.4	74.0	19.6	Complied
2400	42.2	67.5**	25.3	Complied
2483.5	58.2	74.0	15.8	Complied

Results: Average / 802.11b / DQPSK / 2 Mbit/s

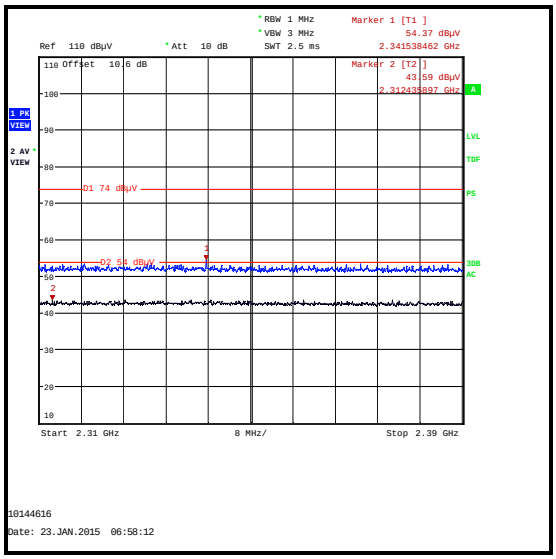
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	45.6	54.0	8.4	Complied



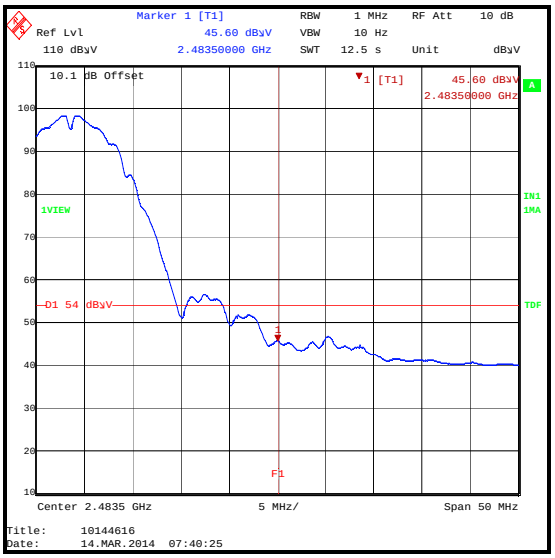
Lower Band Edge Peak Measurement



Upper Band Edge Peak Measurement



2310 MHz to 2390 MHz Restricted Band Plot



Upper Band Edge Average Measurement

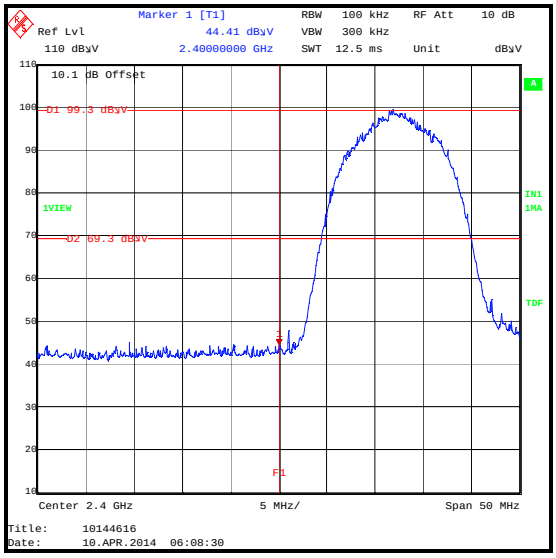
Transmitter Band Edge Radiated Emissions (continued)

Results: Peak / 802.11b / DQPSK / 11 Mbit/s

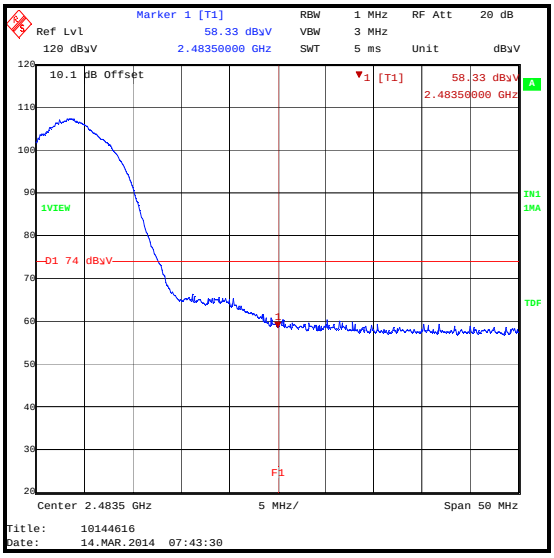
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2335.897	54.1	74.0	19.9	Complied
2400	44.4	69.3**	24.9	Complied
2483.5	58.3	74.0	15.7	Complied

Results: Average / 802.11b / DQPSK / 11 Mbit/s

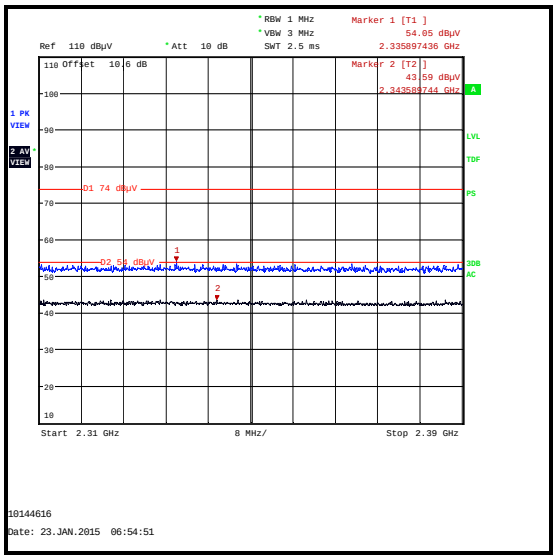
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	44.3$	54.0	9.7	Complied



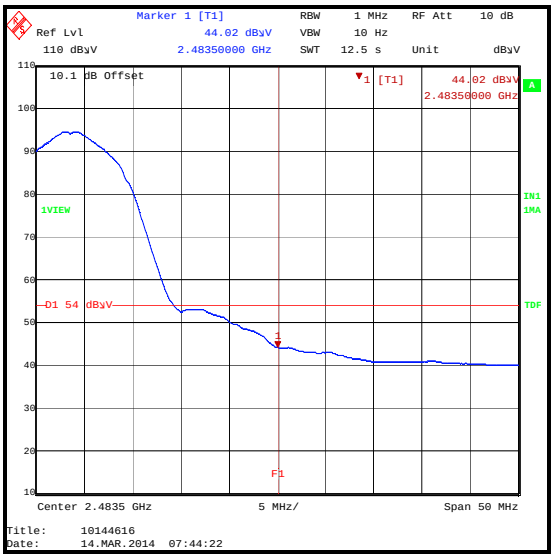
Lower Band Edge Peak Measurement



Upper Band Edge Peak Measurement



2310 MHz to 2390 MHz Restricted Band Plot



Upper Band Edge Average Measurement

Transmitter Band Edge Radiated Emissions (continued)

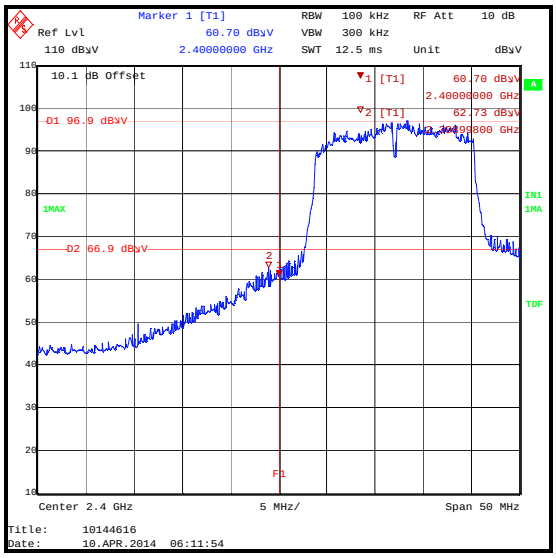
Results: Peak / 802.11g / 64QAM / 48 Mbit/s

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390.000	64.0	74.0	10.0	Complied
2398.998	62.7	66.9**	4.2	Complied
2400	60.7	66.9**	6.2	Complied
2483.5	71.1	74.0	2.9	Complied

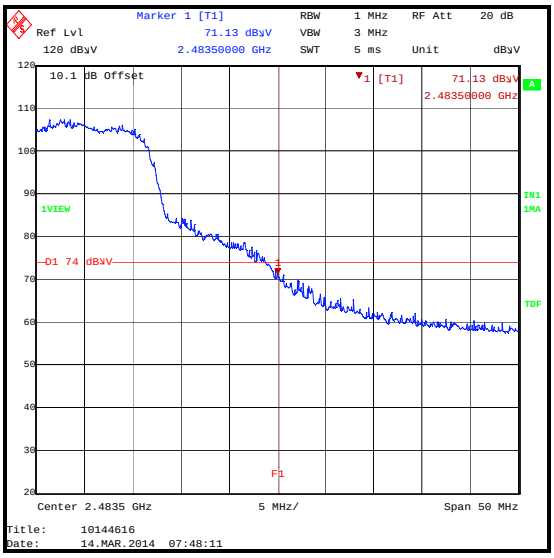
Results: Average / 802.11g / 64QAM / 48 Mbit/s

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390.000	50.6$	54.0	3.4	Complied
2483.5	48.1$	54.0	5.9	Complied

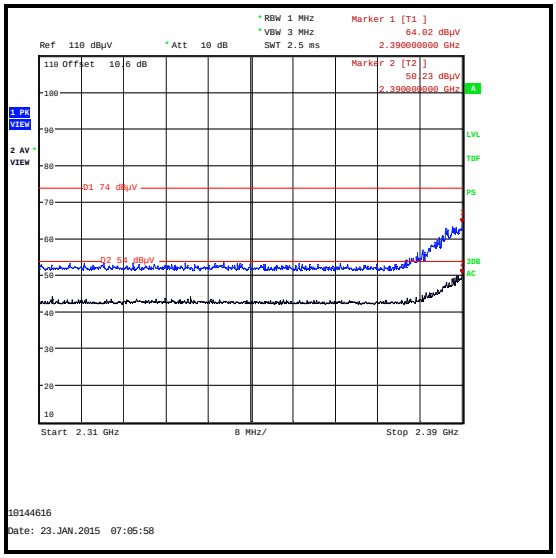
Transmitter Band Edge Radiated Emissions (continued)



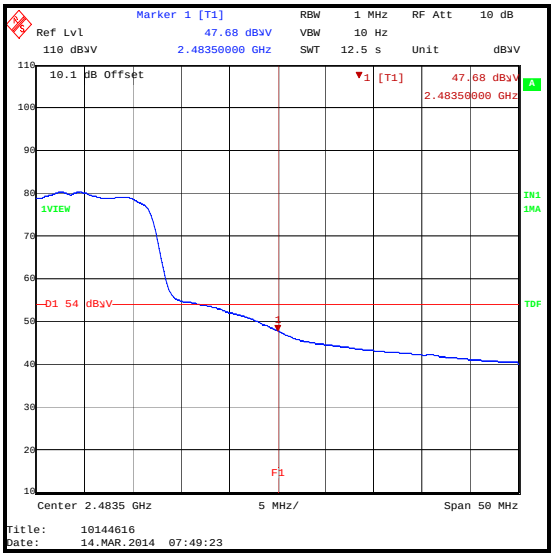
Lower Band Edge Peak Measurement



Upper Band Edge Peak Measurement



2310 MHz to 2390 MHz Restricted Band Plot



Upper Band Edge Average Measurement

Transmitter Band Edge Radiated Emissions (continued)

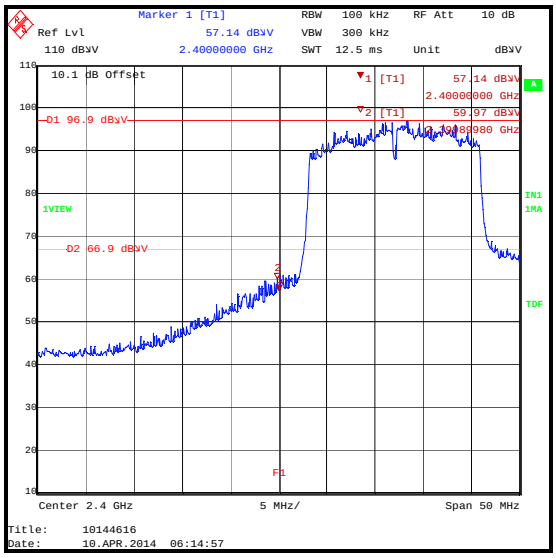
Results: Peak / 802.11n / 64QAM / 58.5 Mbit/s / MCS6

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2389.615	65.4	74.0	8.6	Complied
2399.900	60.0	66.9**	6.9	Complied
2400	57.1	66.9**	9.8	Complied
2483.5	73.7	74.0	0.3	Complied
2483.951	73.8	74.0	0.2	Complied

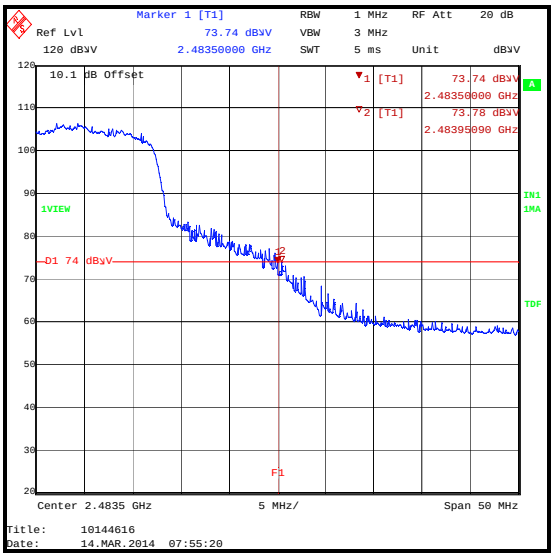
Results: Average / 802.11n / 64QAM / 58.5 Mbit/s / MCS6

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2389.359	50.7$	54.0	3.3	Complied
2483.5	48.0$	54.0	6.0	Complied

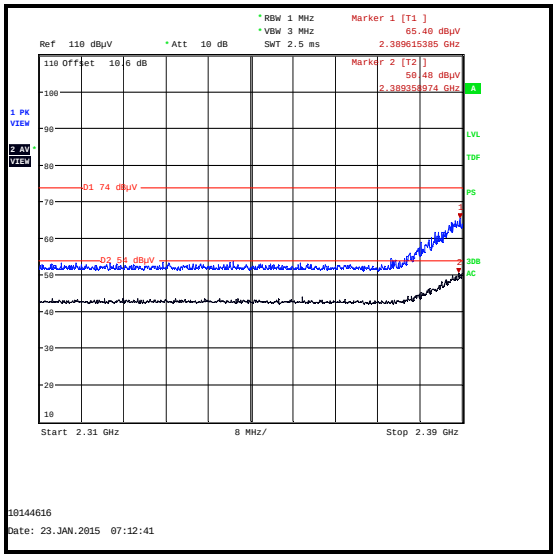
Transmitter Band Edge Radiated Emissions (continued)



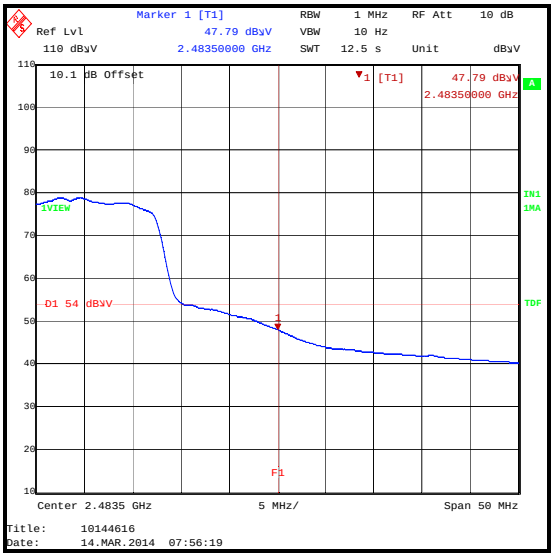
Lower Band Edge Peak Measurement



Upper Band Edge Peak Measurement



2310 MHz to 2390 MHz Restricted Band Plot



Upper Band Edge Average Measurement

Transmitter Band Edge Radiated Emissions (continued)

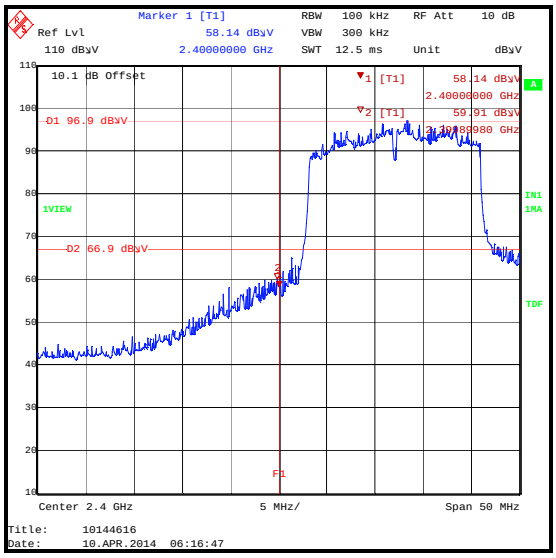
Results: Peak / 802.11n / 64QAM / 65 Mbit/s / MCS7

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2389.615	65.0	74.0	9.0	Complied
2399.900	59.9	66.9**	7.0	Complied
2400	58.1	66.9**	8.8	Complied
2483.5	70.6	74.0	3.4	Complied
2483.901	73.9	74.0	0.1	Complied

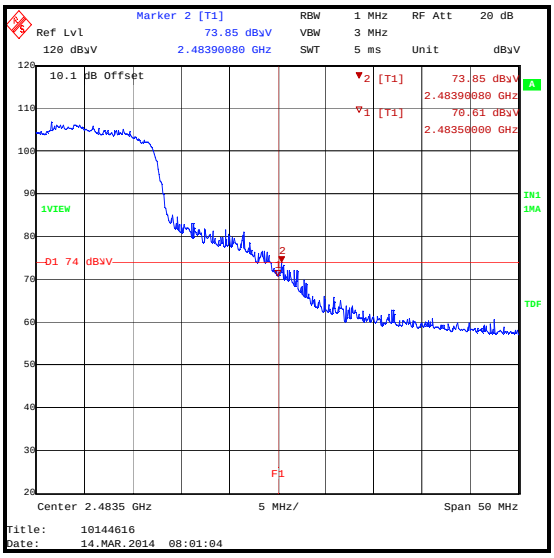
Results: Average / 802.11n / 64QAM / 65 Mbit/s / MCS7

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2389.872	51.9$	54.0	2.1	Complied
2483.5	45.6$	54.0	8.4	Complied

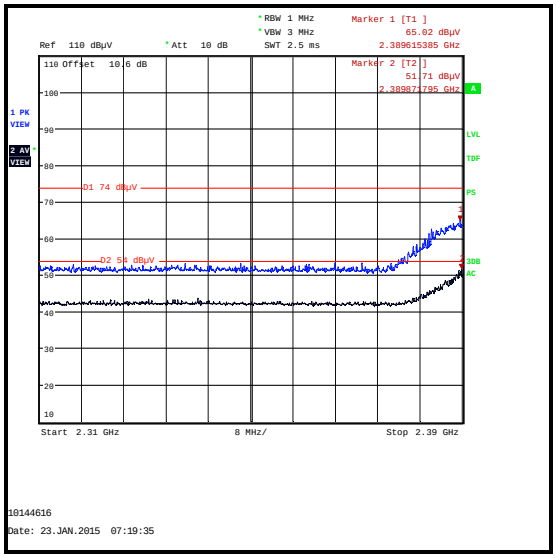
Transmitter Band Edge Radiated Emissions (continued)



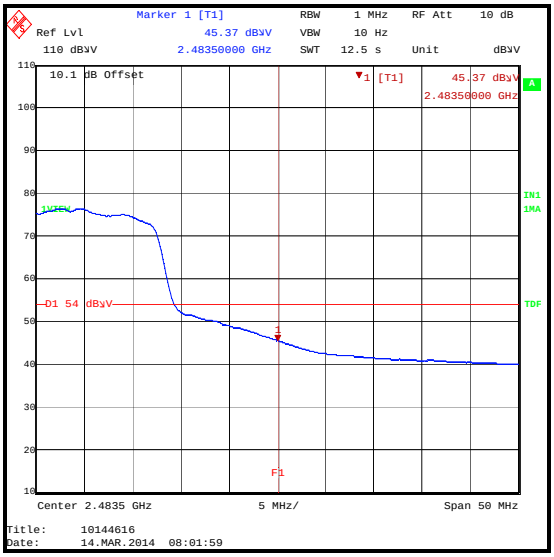
Lower Band Edge Peak Measurement



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	None stated	14 Mar 2015	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	13 Feb 2015	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	21 Dec 2015	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	06 Oct 2015	12
A1396	Attenuator	Huber & Suhner	6810.17.B	757987	02 May 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 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
Conducted Maximum Output Power	2.4 GHz to 2.4835 GHz	95%	±1.13 dB
AC Conducted Spurious Emissions	150 kHz to 30 MHz	95%	±4.69 dB
Spectral Power Density	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 25 GHz	95%	±2.94 dB
Duty Cycle	2.4 GHz to 2.4835 GHz	95%	±1.14 %

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	7 9 49 to 56	-	Changed description of EUT Section 4.2. Removed last bullet point Inserted emission levels for the 2310 MHz to 2390 MHz restricted band into results tables
3.0	5 16 to 18	15.207	Transmitter AC Conducted Spurious Emissions Added

---END OF REPORT---