

RADIO REPORT FCC 47 CFR Part 15C ISED Canada RSS-247 Digital transmission systems operating within the 2400.0 MHz - 2483.5 MHz band	
Report Reference No	G0M-2302-1881-TFC247WF-W271-V03
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	    DAkkS - Registration number : D-PL-12092-01-03 (ISED) ISED Testing Laboratory site: 3470A DAkkS - Registration number : D-PL-12092-01-04 (FCC) FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant	u-blox AG
Address	Zürcherstrasse 68 8800 Thalwil Switzerland
Test Specification	47 CFR Part 15C RSS-247, Issue 2, 2017-02 RSS-Gen, Issue 5, Amendment 2, 2021-02
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	MAYA-W2 host-based multiradio modules
Model(s)	MAYA-W271-00B
Additional Model(s)	None
Brand Name(s)	u-blox
Hardware Version(s)	02
Software Version(s)	1.0.0.39.1-18.80.1.p154.38
FCC ID	XPYMAYAW2A
IC	8595A-MAYAW2A
Test Result	PASSED

Possible test case verdicts:		
Required by standard but not tested	N/T	
Not required by standard	N/R	
Not applicable to EUT	N/A	
Test object does meet the requirement	P(PASS)	
Test object does not meet the requirement	F(FAIL)	
Testing:		
Test Lab Temperature	20 °C - 30 °C	
Test Lab Humidity	25 % - 55 %	
Date of receipt of test item	2023-03-02	
Report:		
Compiled by	Radwan Jaafar	
Responsible for test (+ signature) (Responsible for Test)	Radwan Jaafar	
Approved by (+ signature) (Test Lab Engineer)	Wilfried Treffke	
Date of Issue	2024-01-11	
Total number of pages	172	
General Remarks:		
The test results presented in this report relate only to the object tested. The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.		
Additional Comments:		
None		

ADDITIONAL VARIANTS

Additional Variants (not tested and not evaluated variants)		
Not-tested Variant	Description	
1	Product Type Description	Host-based multiradio module
	Model name	MAYA-W261-00B
	Brand name	u-blox
	Hardware Version	02
	Software Version	1.0.0.39.1-18.80.1.p154.38
	FCC ID	XPYMAYAW2A
	IC	8595A-MAYAW2A
	PMN	MAYA-W261-00B
	HVIN	MAYA-W261-00B
	FVIN	N/A
	HMN	N/A
Comment: Those named additional variants above have not been tested. Those additional variants of the series have been declared by the manufacturer. The test report explicitly states that those variants were neither tested nor assessed nor evaluated.		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2023-11-03	Initial Release	
02	2023-11-29	Replaced document: G0M-2302-1881-TFC247WF-W271-V01 Replaced by: G0M-2302-1881-TFC247WF-W271-V02 Reason: Correction of the model name and FVIN of the EUT.	R. Jaafar
03	2024-01-11	Replaced document: G0M-2302-1881-TFC247WF-W271-V02 Replaced by: G0M-2302-1881-TFC247WF-W271-V03 Reason: - Correction of the module name in the plots. - Editorial correction to AC powerline conducted emissions at section 3.5. - Add EIRP test results for IC at section 3.3.	R. Jaafar

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
BPSK	Binary Phase Shift Keying
DSSS	Direct Sequence Spread Spectrum
EUT	Equipment Under Test
FCC	Federal Communications Commission
HT	High Throughput
IEEE 802.11	MAC and PHY Layer for WiFi
ISED	Innovation, Science and Economic Development Canada
OFDM	Orthogonal Frequency Division Multiplexing
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase Shift Keying
RBW	Resolution bandwidth
RMS	Root mean square
VBW	Video bandwidth
V _{NOM}	Nominal supply voltage

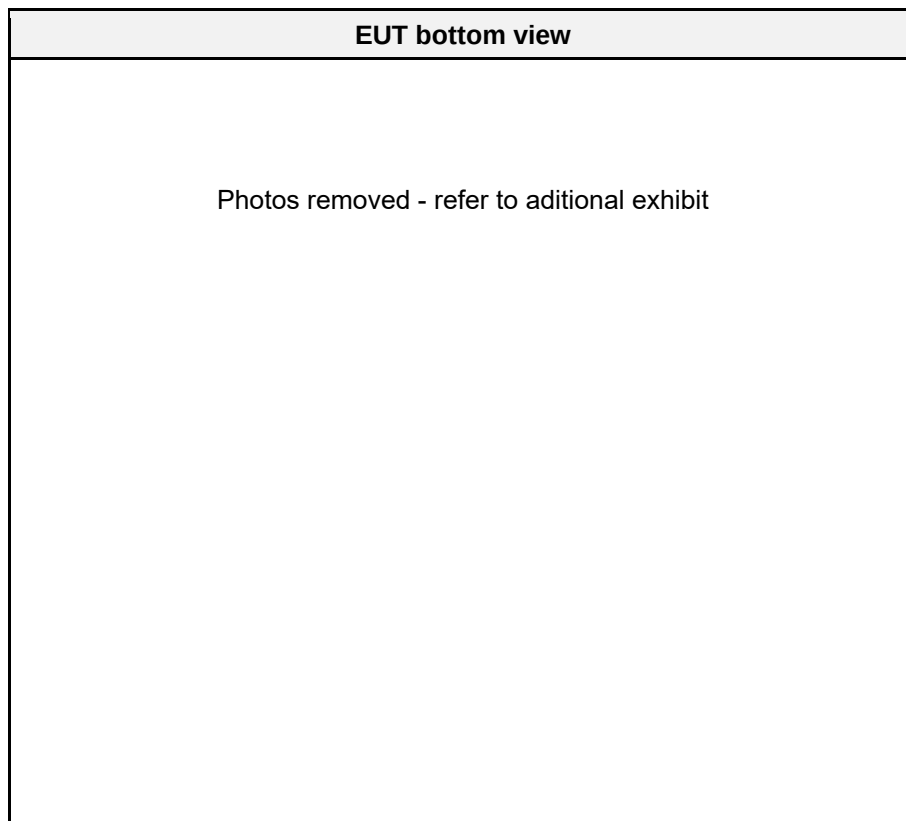
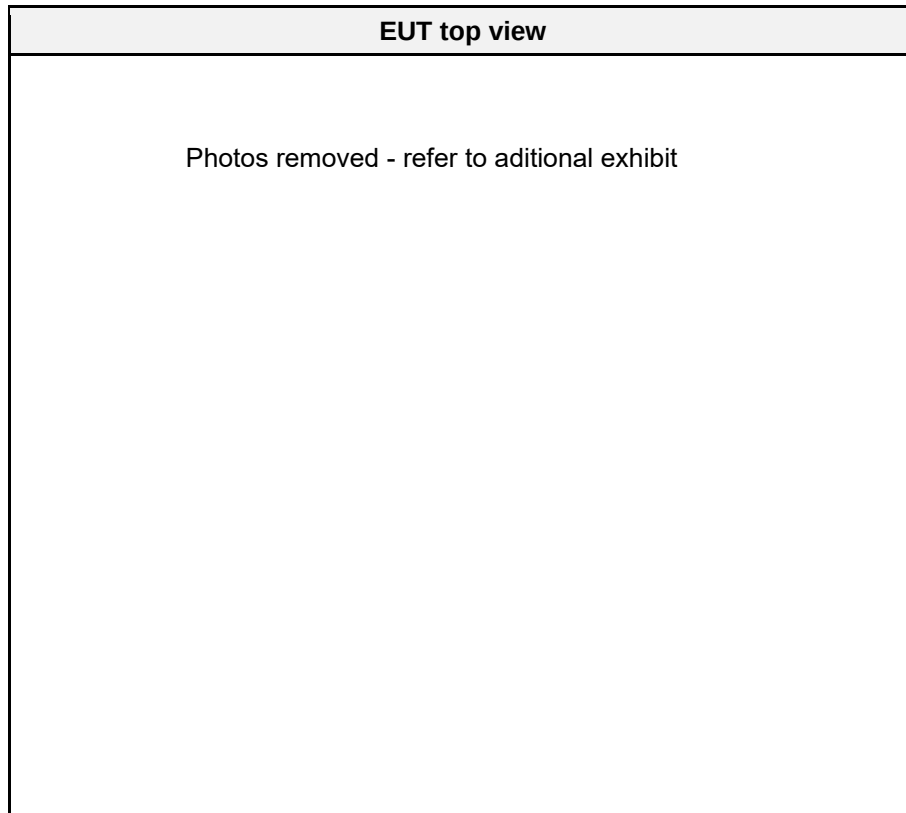
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1 Equipment (Test Item) Under Test

Description	MAYA-W2 host-based multiradio modules		
Model	MAYA-W271-00B		
Additional Model(s)	None		
Brand Name(s)	u-blox		
Sample Identification	EUT	Sample-ID	Serial Number
	conducted, and radiated with external antenna	43093	AM56C1DEB945F940300
	conducted, and radiated with external antenna	43094	AM56C1DEB945FD00300
Hardware Version(s)	02		
Software Version(s)	1.0.0.39.1-18.80.1.p154.38		
PMN	MAYA-W271-00B		
HVIN	MAYA-W271-00B		
FVIN	N/A		
HMN	N/A		
FCC ID	XPYMAYAW2A		
IC	8595A-MAYAW2A		
Equipment type	Radio Module		
Radio type	Transceiver		
Assigned frequency bands	2400.0 MHz - 2483.5 MHz		
Radio technology	IEEE 802.11 b/g/n (HT20 + HT40)		
Modulation	BPSK, QPSK, 16-QAM, 64-QAM		
Number of antenna ports	2		
Antenna	Type	External	
	Model	ANT-DB1-RAF-SMA	
	Manufacturer	Linx Technologies	
	Gain	4.1 dBi (customer declaration)	
Supply Voltage (1 st Port)	V _{NOM}	3.3 VDC	
Supply Voltage (2 nd Port)	V _{NOM}	1.8 VDC	
Operating Temperature	T _{NOM}	20 °C	
AC/DC-Adaptor	Model	None	
Manufacturer	u-blox AG Zürcherstrasse 68 8800 Thalwil Switzerland		

1.1 Photos – Equipment External



EUT overview with external antenna
Photos removed - refer to additional exhibit

External antenna
Photos removed - refer to additional exhibit

Evaluation board top view

Photos removed - refer to additional exhibit

Evaluation board bottom view

Photos removed - refer to additional exhibit

Evaluation board side view

Photos removed - refer to additional exhibit

SPI Cable

Photos removed - refer to additional exhibit

Data cable

Photos removed - refer to additional exhibit

USB C cable

Photos removed - refer to additional exhibit

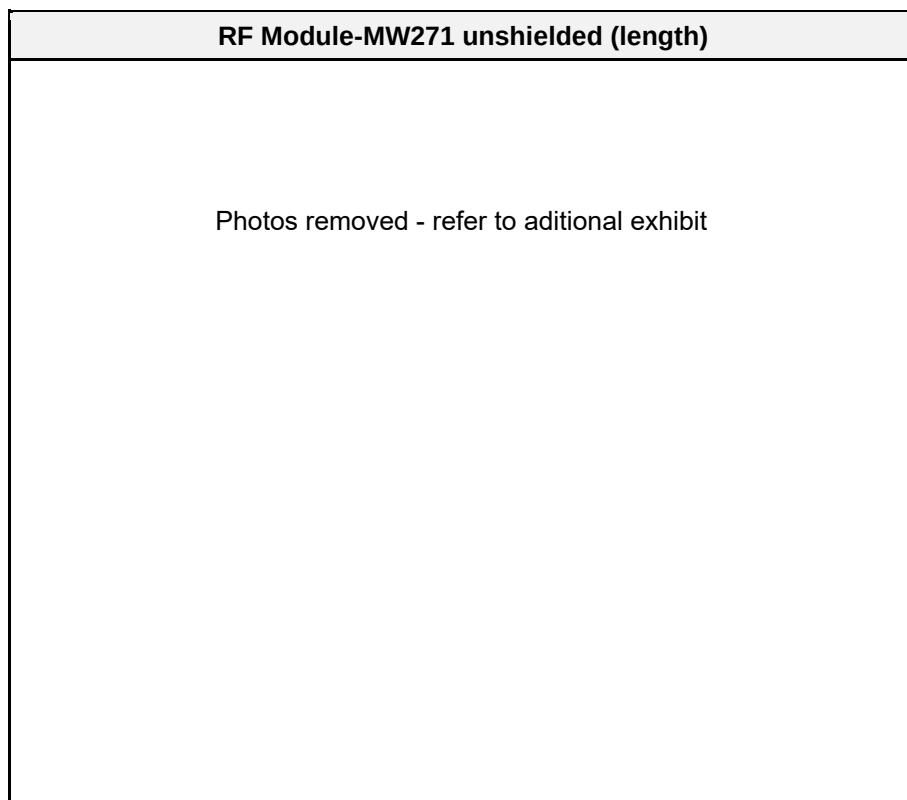
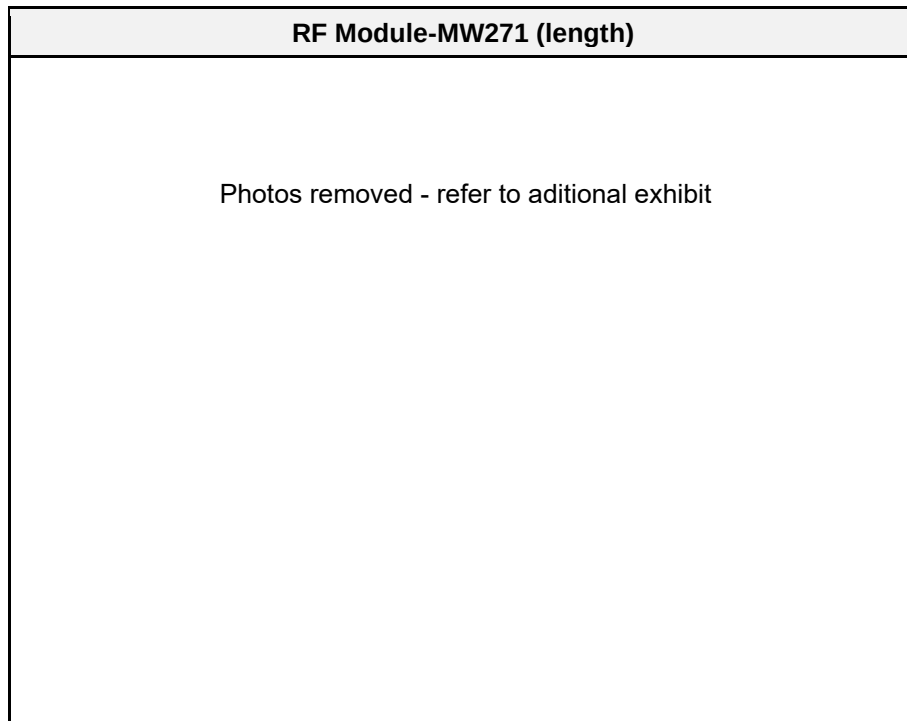
Power adapter

Photos removed - refer to additional exhibit

Cable to connect EUT to external power supply

Photos removed - refer to additional exhibit

1.2 Photos – Equipment Internal



RF Module-MW271 (width)
Photos removed - refer to additional exhibit

Photos removed - refer to additional exhibit

RF Module-MW271 unshielded (width)
Photos removed - refer to additional exhibit

Photos removed - refer to additional exhibit

1.3 Support Equipment

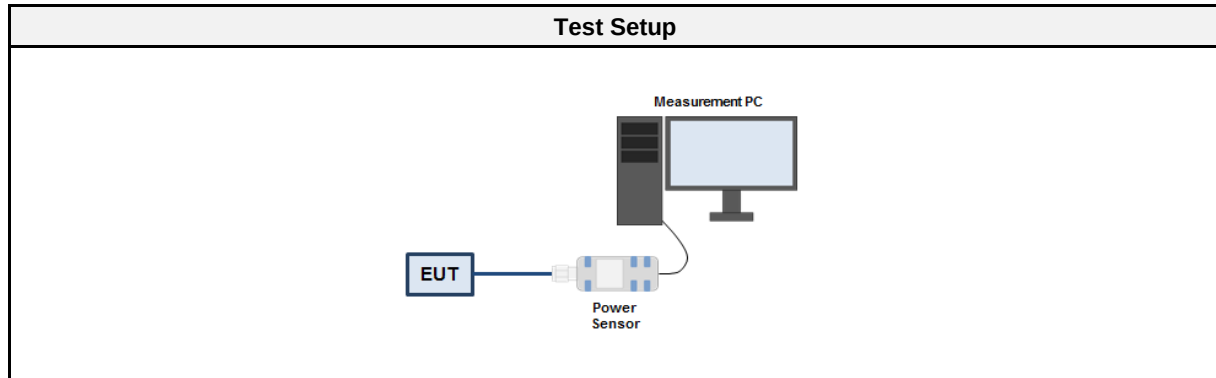
Product Type	Device	Manufacturer	Model	Comment
AE	Notebook	Dell	Latitude E7250	For configuring test modes
AE	Evaluation Board	u-blox		
CBL	USB-C	---	---	Connection between evaluation board and EUT
CBL	Data cable	---	---	
CBL	SBI cable			
CBL	Ethernet	---	---	Connection between evaluation board and notebook
AE	AC/DC Adapter	EDACPOWER ELECT.	EA1045CR	To power the evaluation board
SFT	Terminal	Debian / Linux	---	For test mode activation
Description:				
AE	Auxiliary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
SFT	Software			
Comment:				

1.4 Test mode output power

1.4.1 Information

Test Information	
Measurement Method	ANSI C63.10 11.9, 14.3

1.4.2 Setup



1.4.3 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Power sensor	ETS-Lindgren USA	7002-006	EF00934	2022-07	2023-07

1.4.4 Procedure

Test Procedure
1. EUT set to test mode 2. The peak power is measured with the wideband power sensor 3. The power is measured for the lowest data rate on all three channels 4. For the channel with the highest power the power is also measured for all data rates 5. The data rate with the highest output power is selected for test mode

1.4.5 Results

Results - DSSS			
Data Rate [Mbps]	Power [dBm] Channel 2412 [MHz]	Power [dBm] Channel 2437 [MHz]	Power [dBm] Channel 2462 [MHz]
1	21.6	21.5	21.6
2	21.6	21.6	21.6
5.5	21.5	21.6	21.6
11	21.5	21.5	21.5

Results - OFDM			
Data Rate [Mbps]	Power [dBm] Channel 2412 [MHz]	Power [dBm] Channel 2437 [MHz]	Power [dBm] Channel 2462 [MHz]
6	23.2	23.2	23.1
9	23.1	23.1	23.2
12	23.1	23.1	23.1
18	23.2	23.1	23.1
24	23.2	23.1	23.1
36	23.2	23.2	23.1
48	23.2	23.1	23.1
54	23.2	23.2	23.1

Results - HT20			
MCS	Power [dBm] Channel 2412 [MHz]	Power [dBm] Channel 2437 [MHz]	Power [dBm] Channel 2462 [MHz]
0	23.1	23.2	23.1
1	23.1	23.1	23.1
2	23.2	23.1	23.2
3	23.1	23.1	23.1
4	23.1	23.1	23.1
5	23.2	23.1	23.1
6	23.2	23.1	23.1
7	23.2	23.1	23.1

Results - HT40			
MCS	Power [dBm] Channel 2422 [MHz]	Power [dBm] Channel 2437 [MHz]	Power [dBm] Channel 2452 [MHz]
0	23	23	23
1	23	22.9	22.9
2	23	23	22.9
3	23	22.9	23
4	23	22.9	23
5	23	23	23
6	23	23	22.9
7	23	23	22.9

1.5 Test mode duty cycle

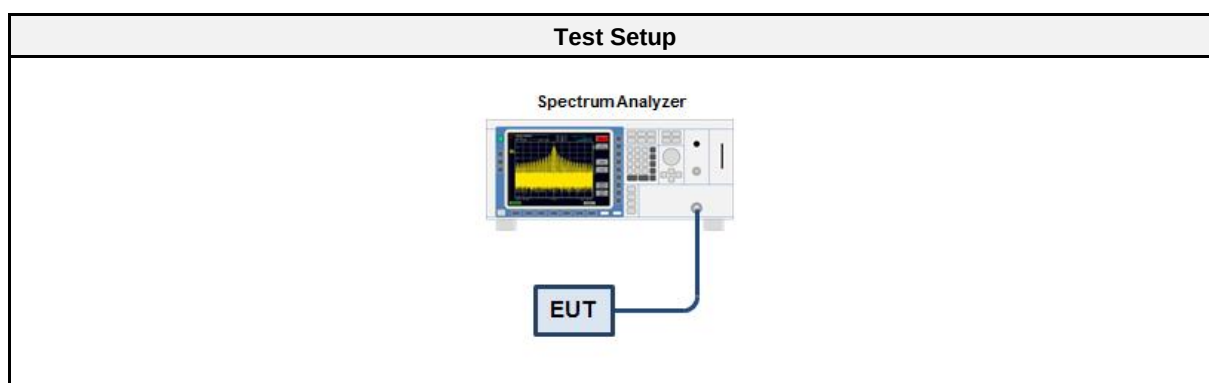
1.5.1 Information

Test Information	
Measurement Method	ANSI C63.10 11.6

1.5.2 Requirements

Requirements	
Duty cycle	Duty cycle correction
$\geq 98 \%$	No correction required
$< 98 \%$	Correction required ($10 \times \log_{10}(1/DC)$)

1.5.3 Setup



1.5.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSU 26	EF01631	2022-08	2023-08

1.5.5 Procedure

Test Procedure
1. EUT set to test mode 2. Span is set to zero span 3. Detector set to peak 4. Sweep time is set long enough to capture at least 5 bursts 5. Envelope peak value of emission spectrum is selected 6. The maximum burst duration T_{ON} is measured using two markers set to the start and the end of the longest burst 7. The minimum idle duration T_{OFF} is measured using two markers set to the start and the end of the shortest idle period 8. The duty cycle is calculated by $DC = T_{ON} / (T_{ON} + T_{OFF})$ 9. The duty cycle correction is calculated by $DC = -10 \times \log_{10}(T_{ON} / (T_{ON} + T_{OFF}))$

1.5.6 Results

Duty Cycle Results		
Mode	Duty Cycle	Correction Factor [dB]
DSSS	99.4	0
OFDM	99.2	0
HT20	99.6	0
HT40	99.2	0

1.6 Test Modes

Mode	Description
DSSS (IEEE 802.11b)	Mode = Transmit Modulation = BPSK Spreading = DSSS Bandwidth = 20 MHz Duty cycle = 99.4% Data rate = 1 Mbps (2412) Data rate = 1 Mbps (2437) Data rate = 1 Mbps (2462)
OFDM (IEEE 802.11g)	Mode = Transmit Modulation = OFDM Bandwidth = 20 MHz Duty cycle = 99.2% Data rate = 6 Mbps (2412) Data rate = 6 Mbps (2437) Data rate = 6 Mbps (2462)
HT20 (IEEE 802.11n)	Mode = Transmit Modulation = OFDM Bandwidth = 20 MHz Duty cycle = 99.6% MCS (1 Simultaneous Tx) = 2 (2412) MCS (1 Simultaneous Tx) = 2 (2437) MCS (1 Simultaneous Tx) = 2 (2462)
HT40 (IEEE 802.11n)	Mode = Transmit Modulation = OFDM Bandwidth = 40 MHz Duty cycle = 99.2% MCS (1 Simultaneous Tx) = 0 (2422) MCS (1 Simultaneous Tx) = 0 (2437) MCS (1 Simultaneous Tx) = 0 (2452)
Receive	Mode = Receive
Note: The power setting in Table (1.8 Power setting) applies for the respective test mode and frequency.	
Comment: The above settings were found as worst case by evaluation of the output power.	

1.7 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx	1	2412
F2	Tx	3	2422
F3	Tx / Rx	6	2437
F4	Tx	9	2452
F5	Tx	11	2462

1.8 Power Setting

Channel	Frequency [MHz]	Power setting* [dBm]
DSSS (IEEE 802.11b)		
1	2412	19
6	2437	19
11	2462	19
Note: Power level 19 also applies to the other frequencies in the band.		
OFDM (IEEE 802.11g)		
1	2412	16
2,3	2417, 2422	17
4	2427	18
5, 6, 7	2432, 2437, 2442	19
8	2447	18
9-10	2452-2457	17
11	2462	16
HT20 (IEEE 802.11n)		
1	2412	16
2, 3	2417, 2422	17
4, 5	2427, 2432	18
6, 7, 8	2437, 2442, 2447	19
9	2452	18
10	2457	17
11	2462	16
HT40 (IEEE 802.11n)		
3	2422	14
4	2427	10
5	2432	11
6	2437	12
7	2442	11
8	2447	10
9	2452	14
*Comment: The power setting corresponds to the applicant's plan, and were assessed during preliminary tests. Conducted peak/average output power, power spectral density, and spurious emission were evaluated to determine the suitable power setting for each tested mode and frequency.		

1.9 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dB μ V. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB/m)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Field strength limit:

This is the FCC Class B radiated emission limit (in units of dB μ V/m). The FCC limits are given in units of μ V/m. The following formula is used to convert the units of μ V/m to dB μ V/m:

$$\text{Field strength limit (dB}\mu\text{V/m)} = 20 \cdot \log (\mu\text{V/m})$$

Example only for radiated field strength:

Reading + AF	= Net Reading	:	Net reading	- Field strength limit	= Margin
+21.5 dB μ V	+ 26 dB/m	:	47.5 dB μ V/m	- 57.0 dB μ V/m	= -9.5

2 Result Summary

FCC 47 CFR Part 15C, ISED RSS-247				
Product Standard Reference	Requirement	Reference Method	Result	Remarks
ISED RSS-Gen, Issue 5 A2 (section 6.7)	Occupied Bandwidth	ANSI C63.10-2013	N/R	Informational only
FCC § 15.247(a)(2) ISED RSS-247, Issue 2 (section 5.2)	6 dB Bandwidth	ANSI C63.10-2013	PASS	
FCC § 15.247(b) ISED RSS-247, Issue 2 (section 5.4)	Maximum peak conducted power	ANSI C63.10-2013	PASS	
FCC § 15.247(e) ISED RSS-247, Issue 2 (section 5.2)	Power spectral density	ANSI C63.10-2013	PASS	
FCC § 15.207 ISED RSS-247, Issue 2 (section 3.1)	AC power line conducted emissions	ANSI C63.10-2013	PASS	
FCC § 15.247(d) ISED RSS-247, Issue 2 (section 5.5)	Band edge compliance	ANSI C63.10-2013	PASS	
FCC § 15.247(d) ISED RSS-247, Issue 2 (section 5.5)	Conducted spurious emissions	ANSI C63.10-2013	PASS	
FCC § 15.247(d) FCC § 15.209 ISED RSS-Gen, Issue 5 A2 (section 6.13)	Transmitter radiated spurious emissions	ANSI C63.10-2013	PASS	
ISED RSS-247, Issue 2 (section 3.1)	Receiver radiated spurious emissions	ANSI C63.4-2014	PASS	
Comment: The Decision Rule is applied on the basis of ETSI TR 102 273 and ETSI TR 100 028. These standards provide guidance on how to calculate and apply measurement uncertainty whilst providing maximum uncertainties allowance. In all cases due consideration will be given to ILAC-G8:09/2019. Where a result is considered conditional in respect of its proximity to the limit line, the customer would be made aware of situation so that they can make an informed decision on how to proceed.				

Possible Test Case Verdicts	
PASS	Test object does meet the requirements
FAIL	Test object does not meet the requirements
N/T	Required by standard but not tested
N/R	Not required by standard for the test object

3 Test Conditions and Results

3.1 Test Conditions and Results - Occupied bandwidth

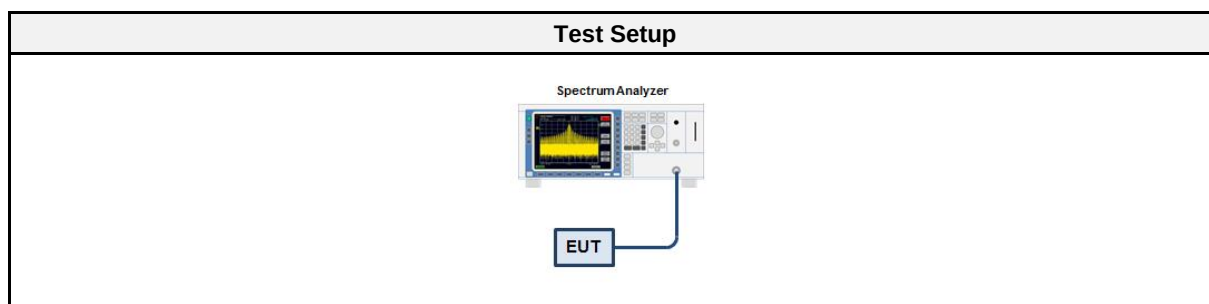
3.1.1 Information

Test Information	
Reference	ISED RSS-Gen, Issue 5 A2 (section 6.7)
Measurement Method	ANSI C63.10 6.9.3
Measurement Uncertainty	$\pm 1.26 \%$
Test Sample ID	43093
Operator	Ehsan Sohrabi
Date	2023-07-10

3.1.2 Limits

Limits
None (Informational only)

3.1.3 Setup



3.1.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyser	R&S	FSU 26	EF01631	2022-08	2023-08
Cable (CAABF)	Gigalane	GIGALANE 1730	EF00779	2023-03	2024-03

3.1.5 Procedure

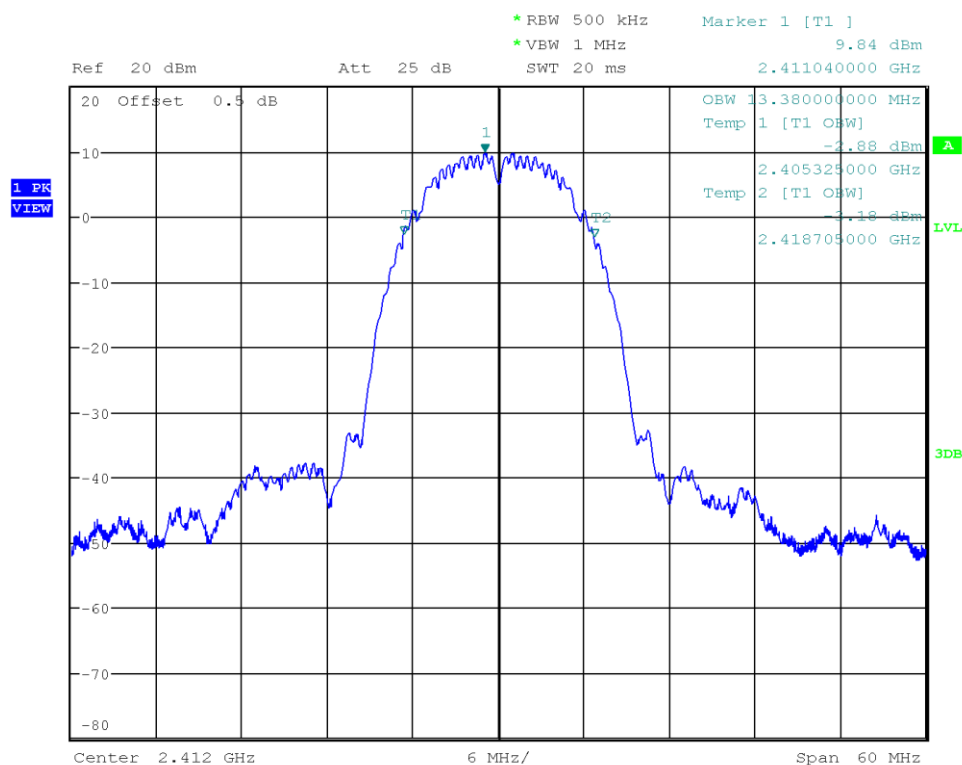
Test Procedure
- EUT transmitter is activated in test mode under normal conditions - The spectrum analyzer is set to peak detection and maximum hold with a span twice the emission spectrum - The resolution bandwidth is set to the range of 1 % to 5 % of the occupied bandwidth - The occupied bandwidth is measured with the build-in analyzer function

3.1.6 Results

Test Results		
Mode	Frequency [MHz]	Bandwidth [MHz]
DSSS	2412	13.380
DSSS	2437	13.395
DSSS	2462	13.410
OFDM	2412	18.705
OFDM	2437	18.660
OFDM	2462	18.645
HT20	2412	18.660
HT20	2437	18.540
HT20	2462	18.525
HT40	2422	36.588
HT40	2437	36.468
HT40	2452	36.552

Occupied Bandwidth

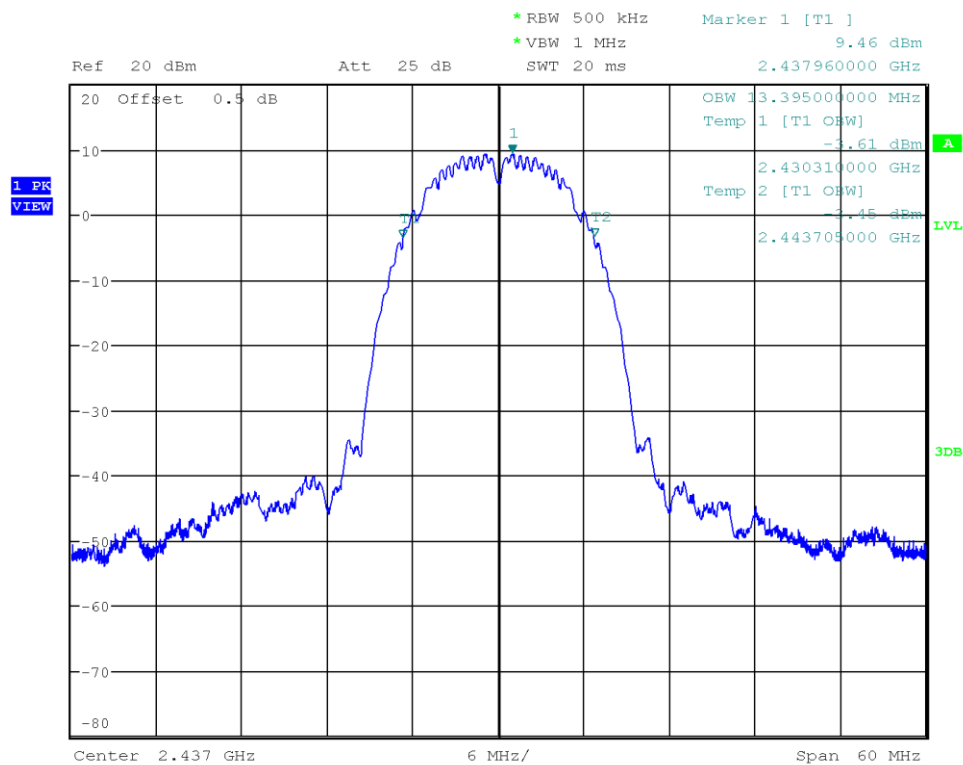
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 b, Channel: 1, 2412
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Occupied Bandwidth [MHz]: 13.380



Date: 10.JUL.2023 14:08:29

Occupied Bandwidth

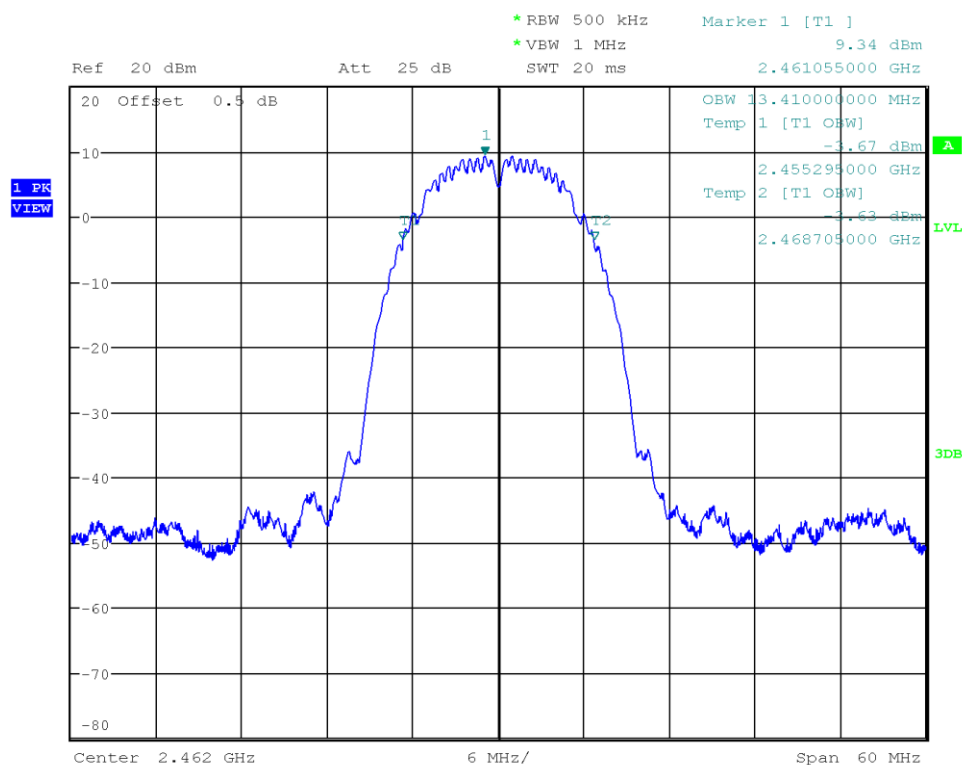
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 b, Channel: 6, 2437
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Occupied Bandwidth [MHz]: 13.395



Date: 10.JUL.2023 14:11:38

Occupied Bandwidth

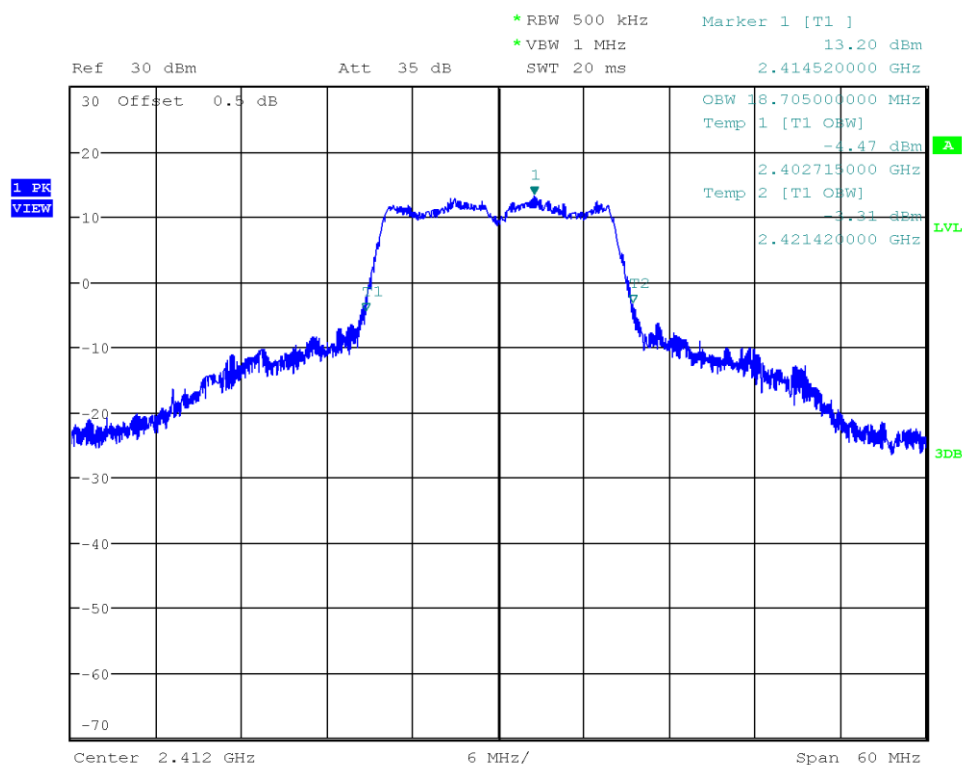
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 b, Channel: 11, 2462
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Occupied Bandwidth [MHz]: 13.410



Date: 10.JUL.2023 14:14:06

Occupied Bandwidth

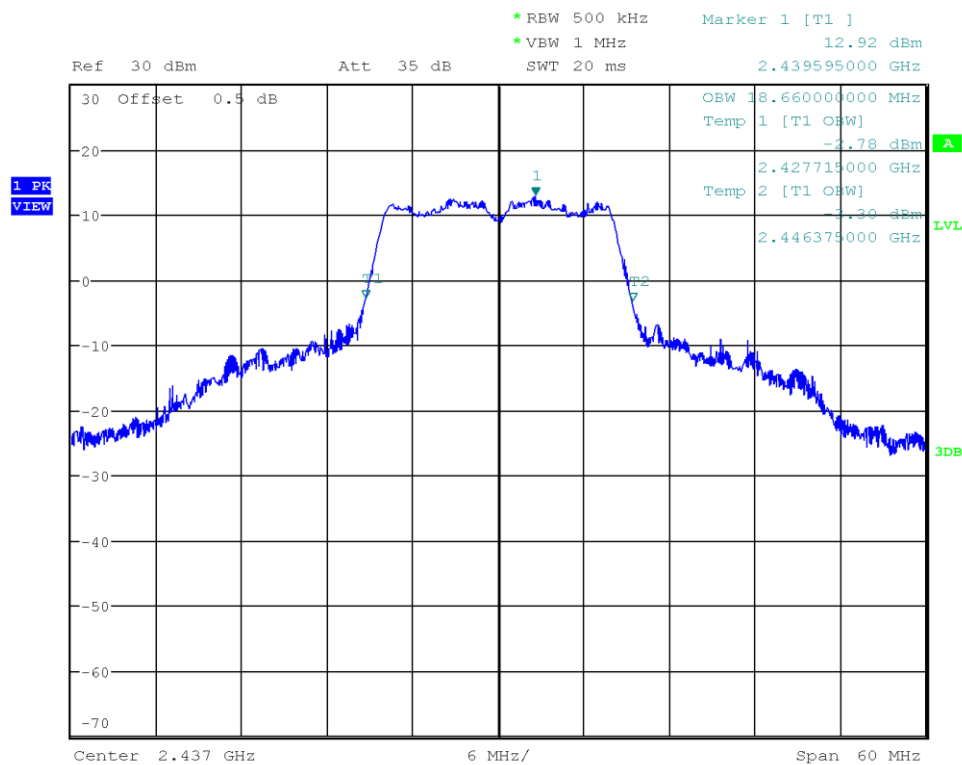
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 g, Channel: 1, 2412
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Occupied Bandwidth [MHz]: 18.705



Date: 10.JUL.2023 14:20:42

Occupied Bandwidth

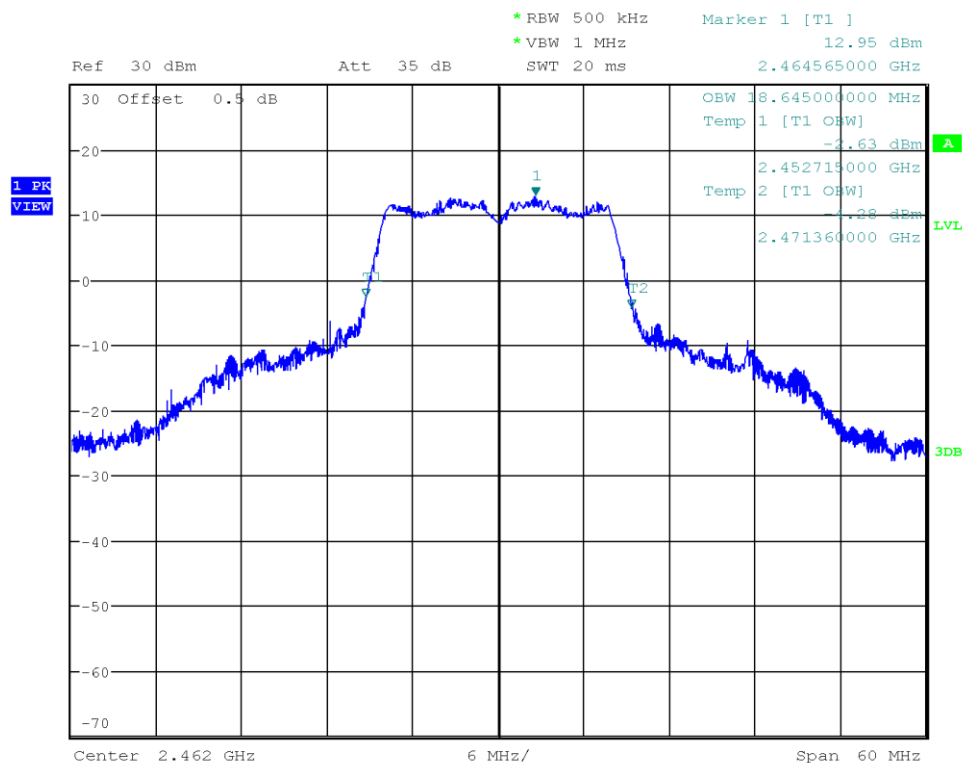
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 g, Channel: 6, 2437
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Occupied Bandwidth [MHz]: 18.660



Date: 10.JUL.2023 14:22:44

Occupied Bandwidth

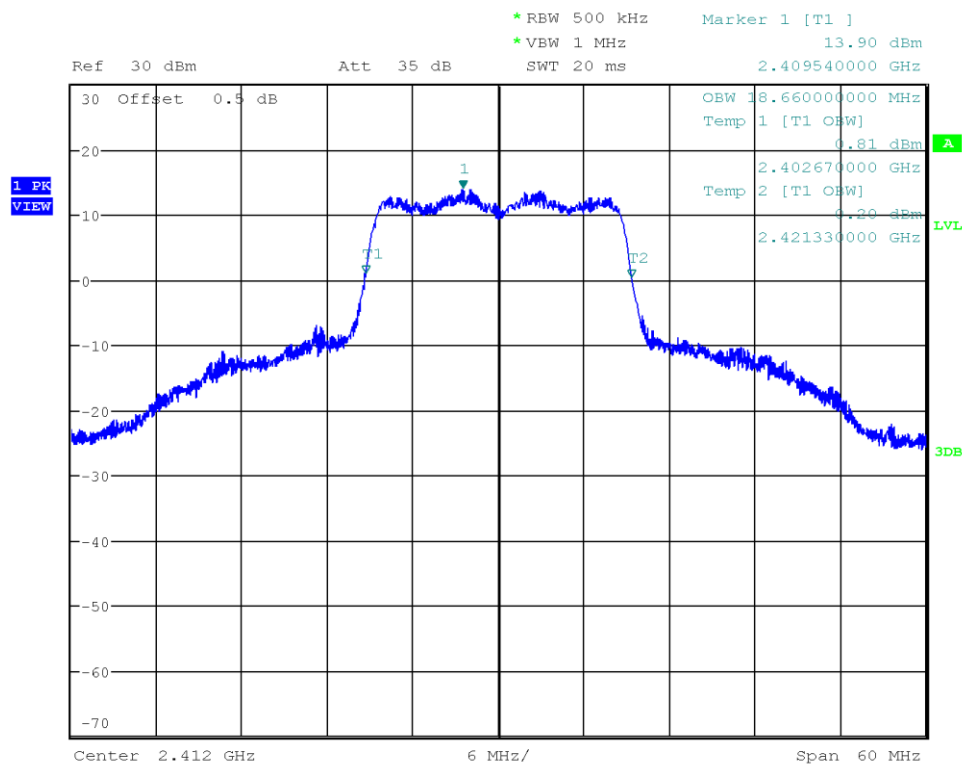
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 g, Channel: 11, 2462
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Occupied Bandwidth [MHz]: 18.645



Date: 10.JUL.2023 14:30:34

Occupied Bandwidth

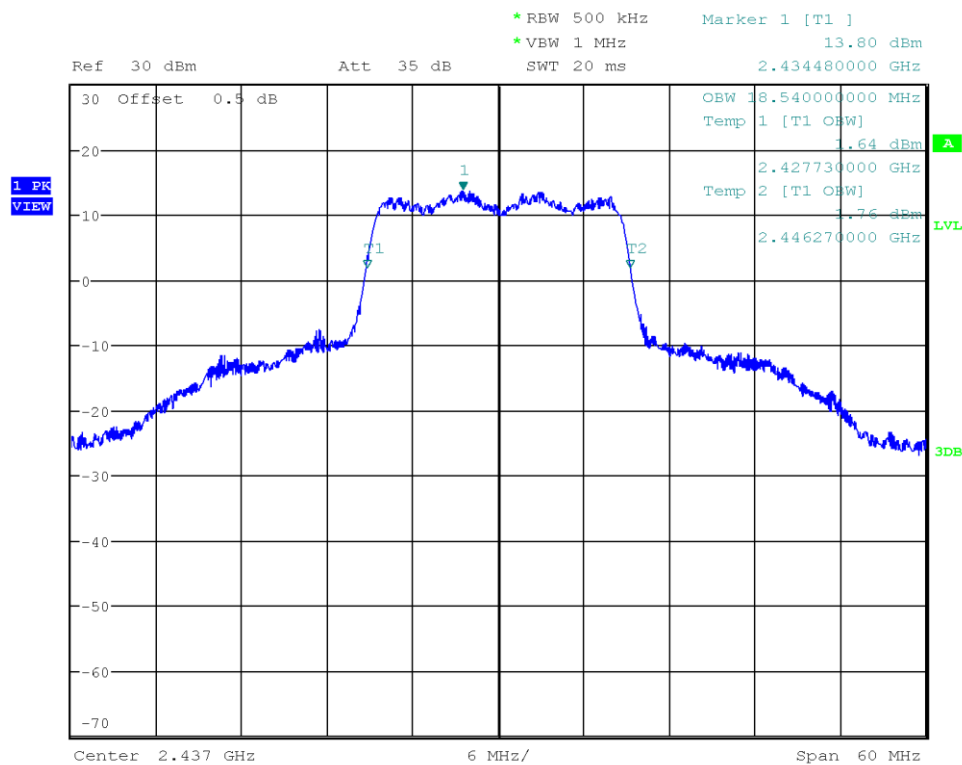
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 n HT20, Channel: 1, 2412
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Occupied Bandwidth [MHz]: 18.660



Date: 10.JUL.2023 14:35:47

Occupied Bandwidth

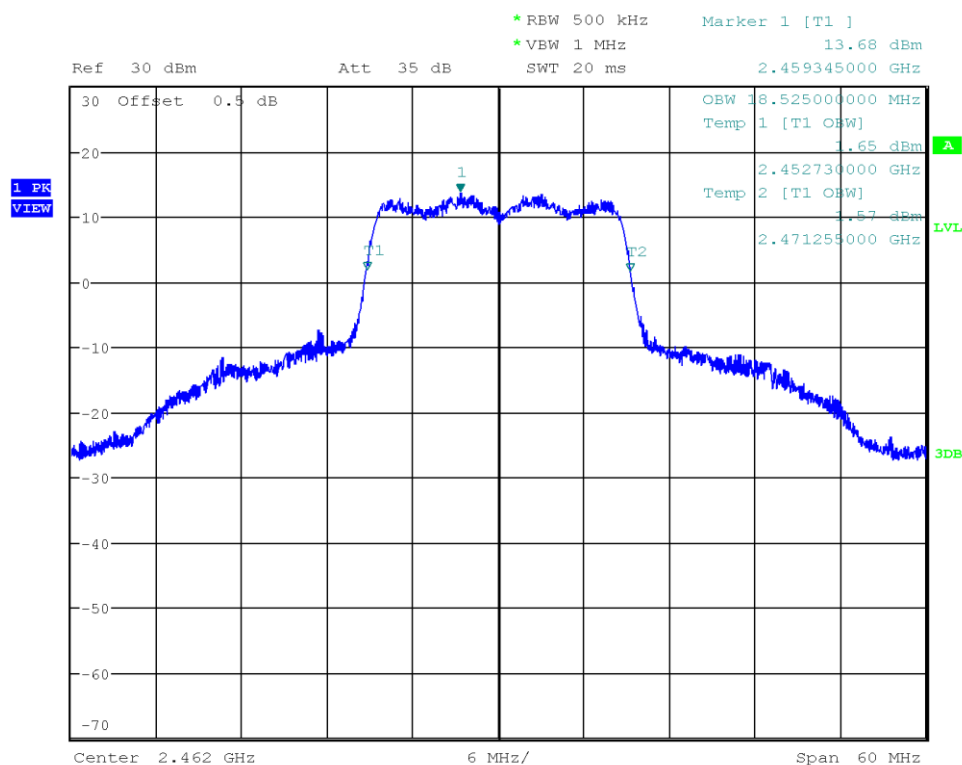
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 n HT20, Channel: 6, 2437
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Occupied Bandwidth [MHz]: 18.540



Date: 10.JUL.2023 14:39:07

Occupied Bandwidth

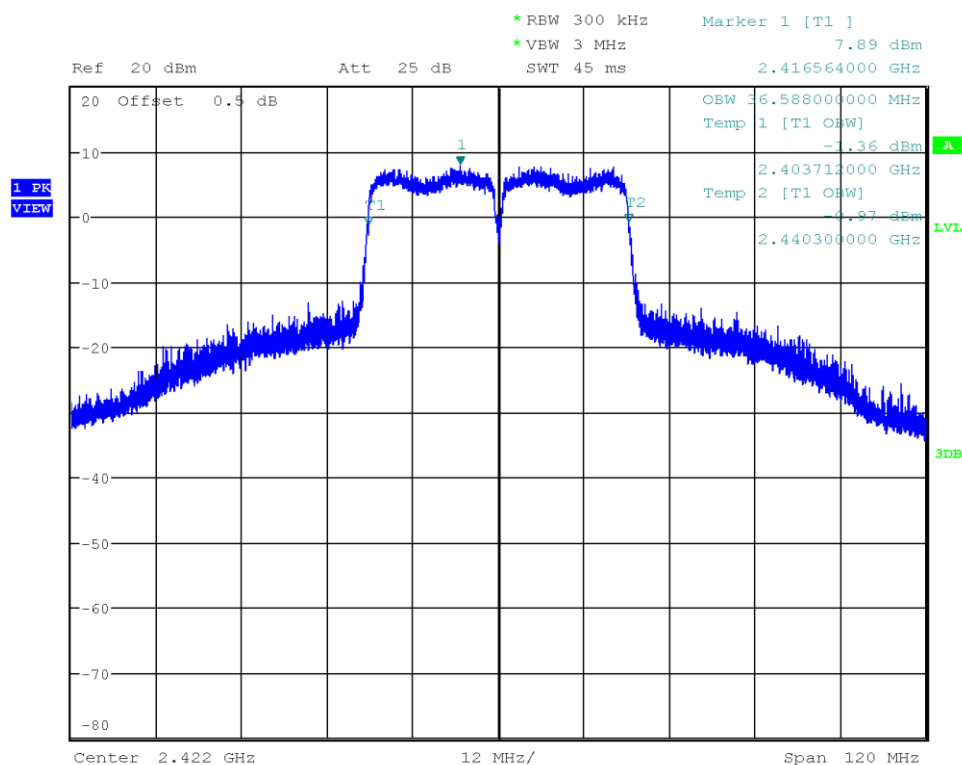
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 n HT20, Channel: 11, 2462
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Occupied Bandwidth [MHz]: 18.525



Date: 10.JUL.2023 14:41:46

Occupied Bandwidth

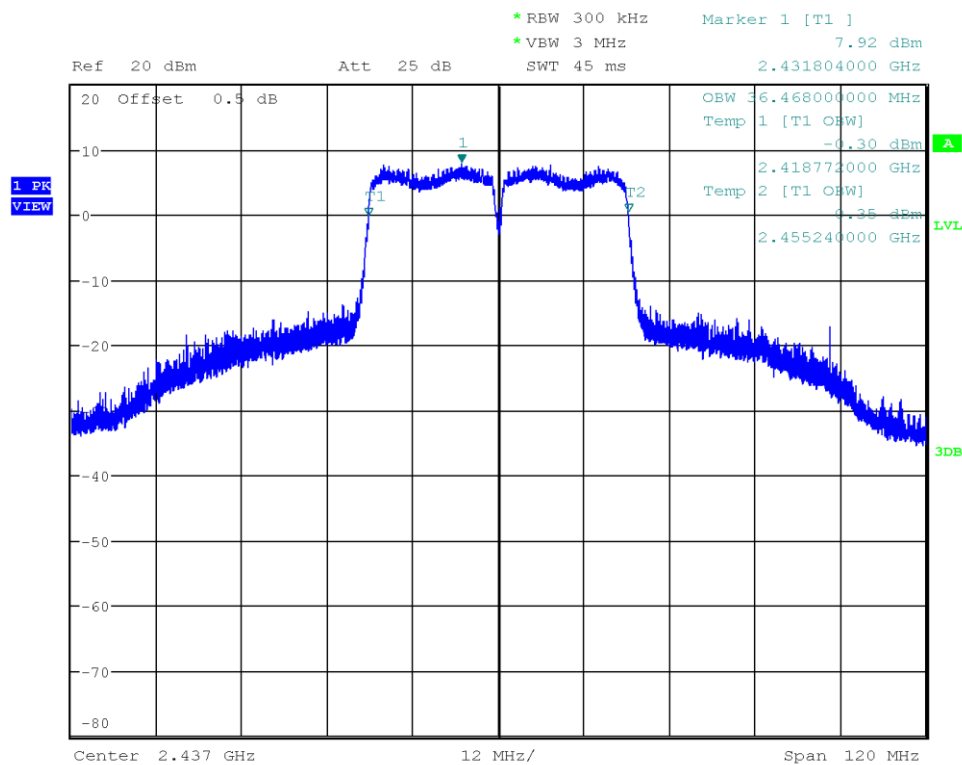
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 n HT40, Channel: 3, 2422
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Occupied Bandwidth [MHz]: 36.588



Date: 10.JUL.2023 15:11:54

Occupied Bandwidth

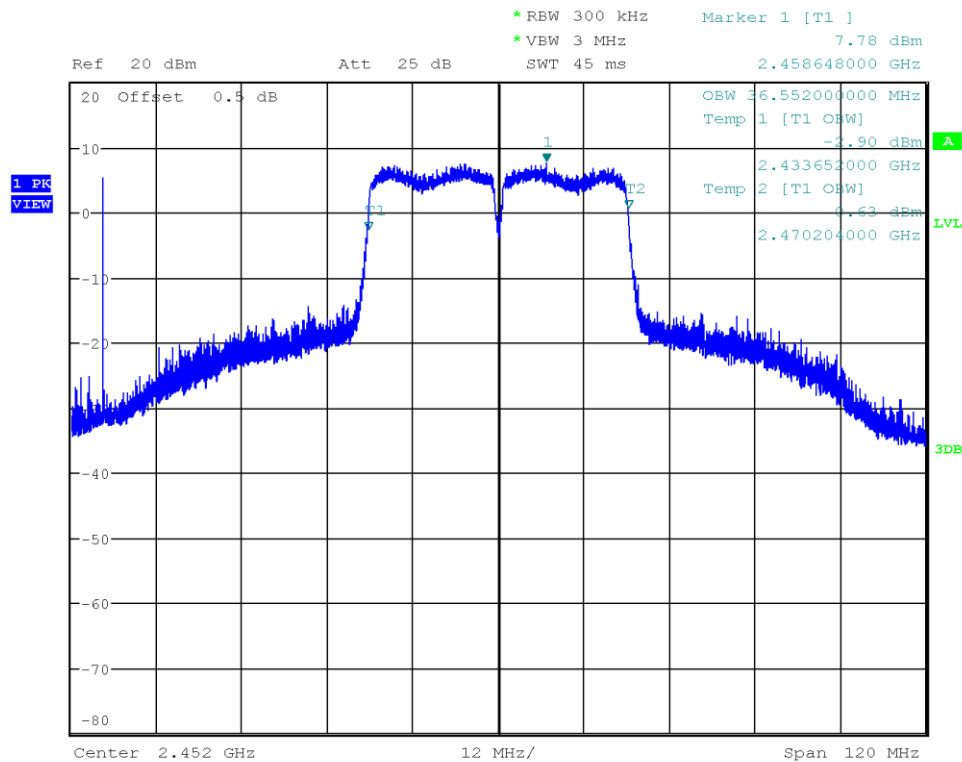
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 n HT40, Channel: 6, 2437
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Occupied Bandwidth [MHz]: 36.468



Date: 10.JUL.2023 15:28:46

Occupied Bandwidth

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: IEEE 802.11 n HT40, Channel: 9, 2452
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Occupied Bandwidth [MHz]: 36.552



Date: 10.JUL.2023 15:30:41

3.2 Test Conditions and Results - 6 dB bandwidth

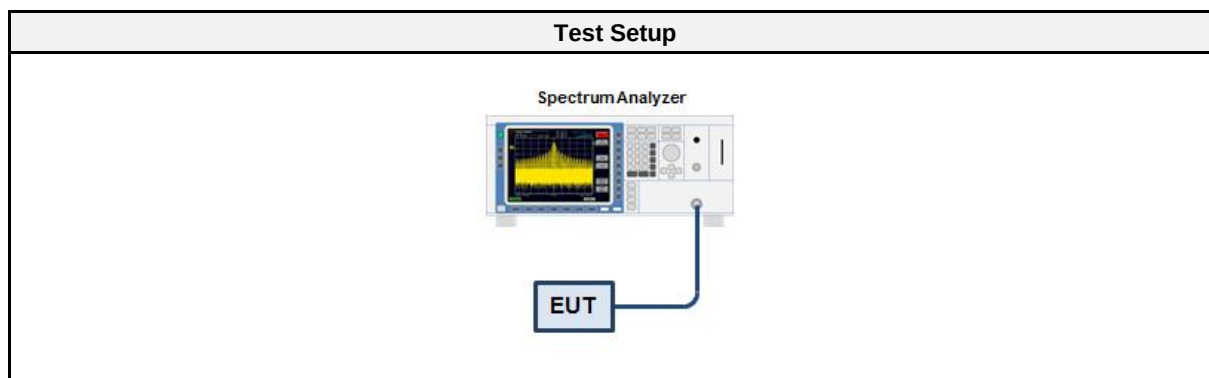
3.2.1 Information

Test Information	
Reference	FCC § 15.247(a)(2); ISSED RSS-247, Issue 2 (section 5.2)
Measurement Method	ANSI C63.10 11.8
Measurement Uncertainty	± 1.26 %
Operator	Ehsan Sohrabi
Date	2023-07-10

3.2.2 Limits

Limits
≥ 500kHz

3.2.3 Setup



3.2.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyser	R&S	FSU 26	EF01631	2022-08	2023-08
Cable (CAABF)	Gigalane	GIGALANE 1730	EF00779	2023-03	2024-03

3.2.5 Procedure

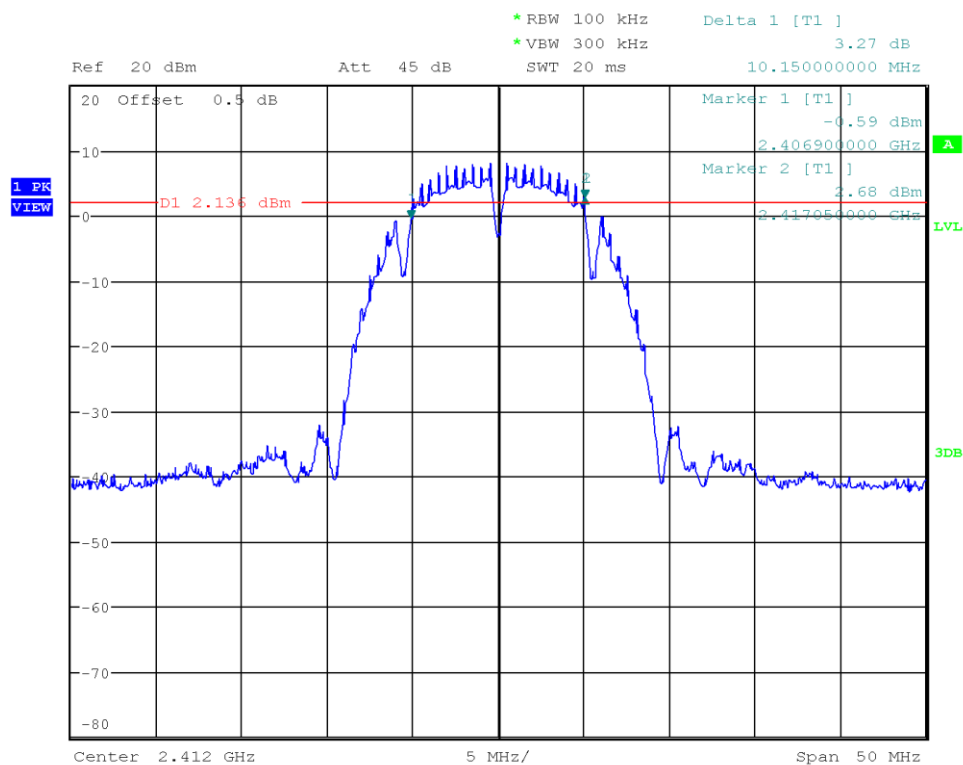
Test Procedure
1. EUT set to test mode 2. Span set to at least twice the emission spectrum 3. Detector set to peak and max hold and RBW is set to 100 kHz 4. Envelope peak value of emission spectrum is selected 5. Marker on envelope of spectrum is set to level of -6 dB to the left of the peak 6. Marker on envelope of spectrum is set to level of -6 dB to the right of the peak 7. 6 dB Bandwidth is determined by marker frequency separation

3.2.6 Results

Test Results				
Mode	Frequency [MHz]	Bandwidth Port 1 [kHz]	Limit [kHz]	Verdict
DSSS	2412	10150	500	PASS
DSSS	2437	10100	500	PASS
DSSS	2462	10150	500	PASS
OFDM	2412	16400	500	PASS
OFDM	2437	16400	500	PASS
OFDM	2462	16400	500	PASS
HT20	2412	17500	500	PASS
HT20	2437	17350	500	PASS
HT20	2462	17350	500	PASS
HT40	2422	35790	500	PASS
HT40	2437	35770	500	PASS
HT40	2452	35050	500	PASS

DTS (6 dB) Bandwidth

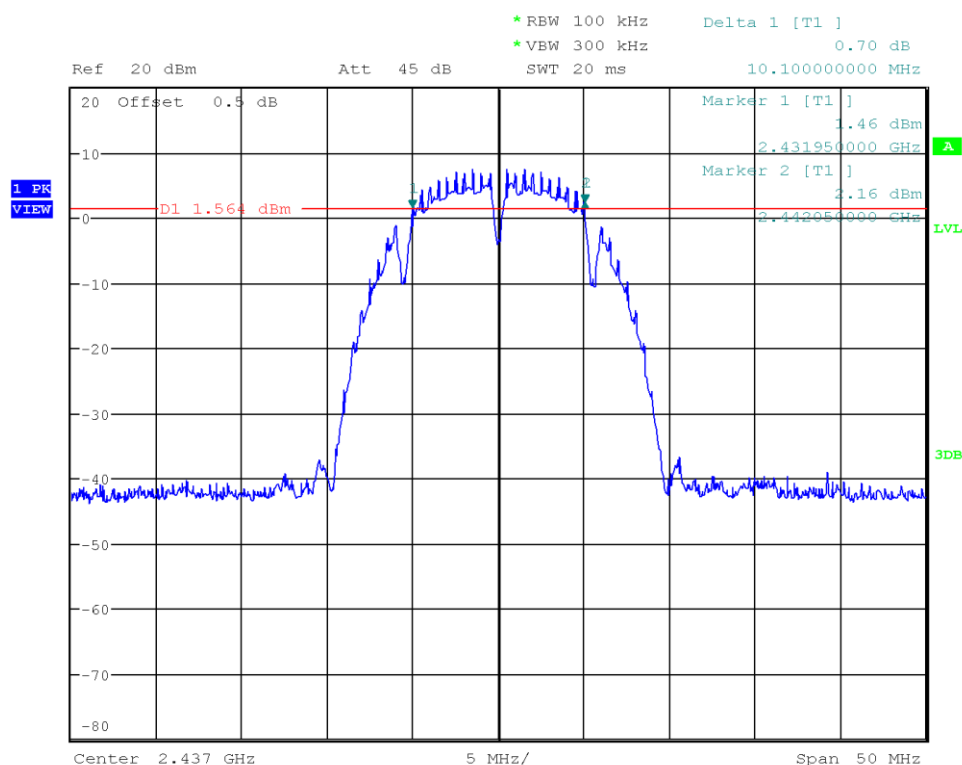
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 b, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Lower Frequency [MHz]: 2406.900
 Upper Frequency [MHz]: 2417.050
 6 dB Bandwidth [kHz]: 10150



Date: 10.JUL.2023 15:48:32

DTS (6 dB) Bandwidth

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 b, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Lower Frequency [MHz]: 2431.950
 Upper Frequency [MHz]: 2442.050
 6 dB Bandwidth [kHz]: 10100



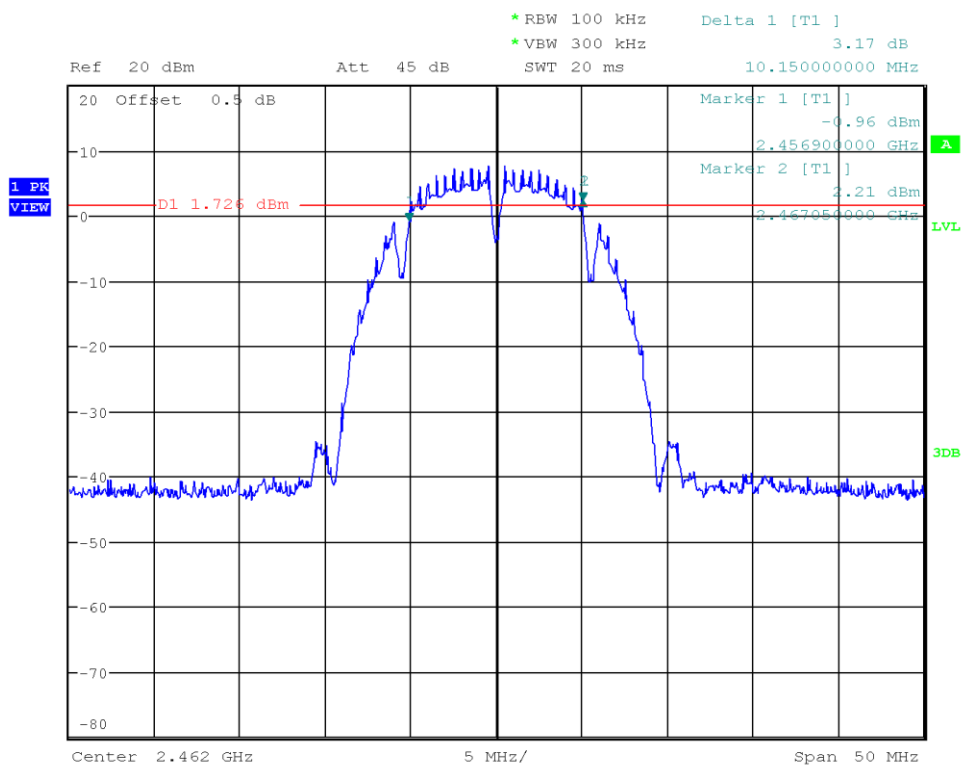
Date: 10.JUL.2023 15:50:07

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

DTS (6 dB) Bandwidth

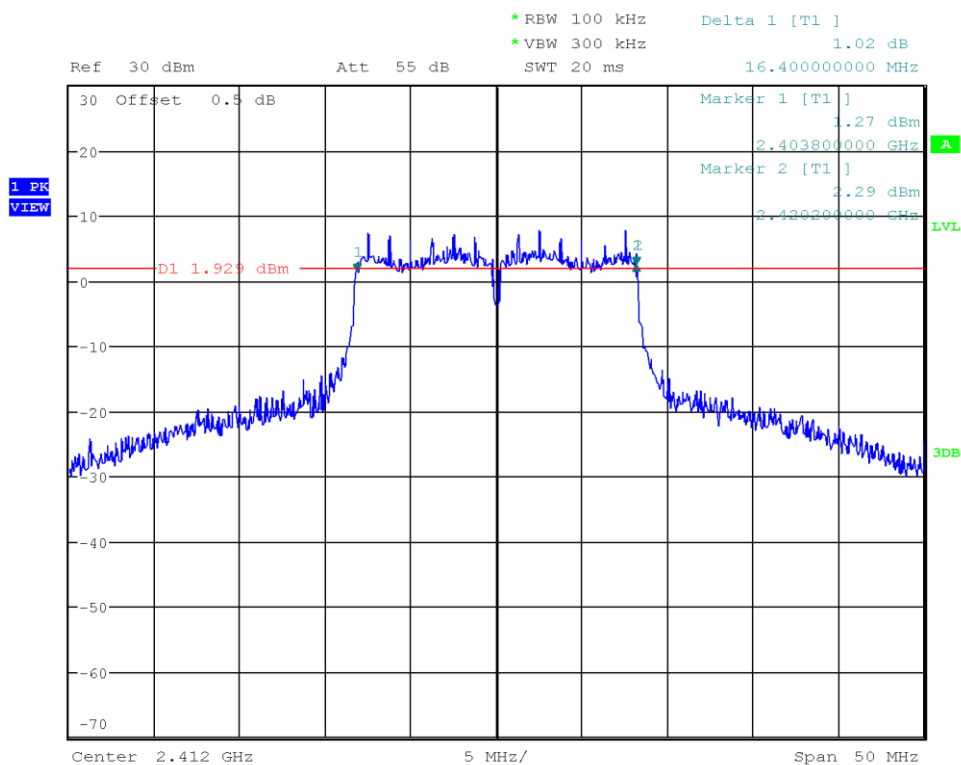
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 b, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Lower Frequency [MHz]: 2456.900
 Upper Frequency [MHz]: 2467.050
 6 dB Bandwidth [kHz]: 10150



Date: 10.JUL.2023 15:51:34

DTS (6 dB) Bandwidth

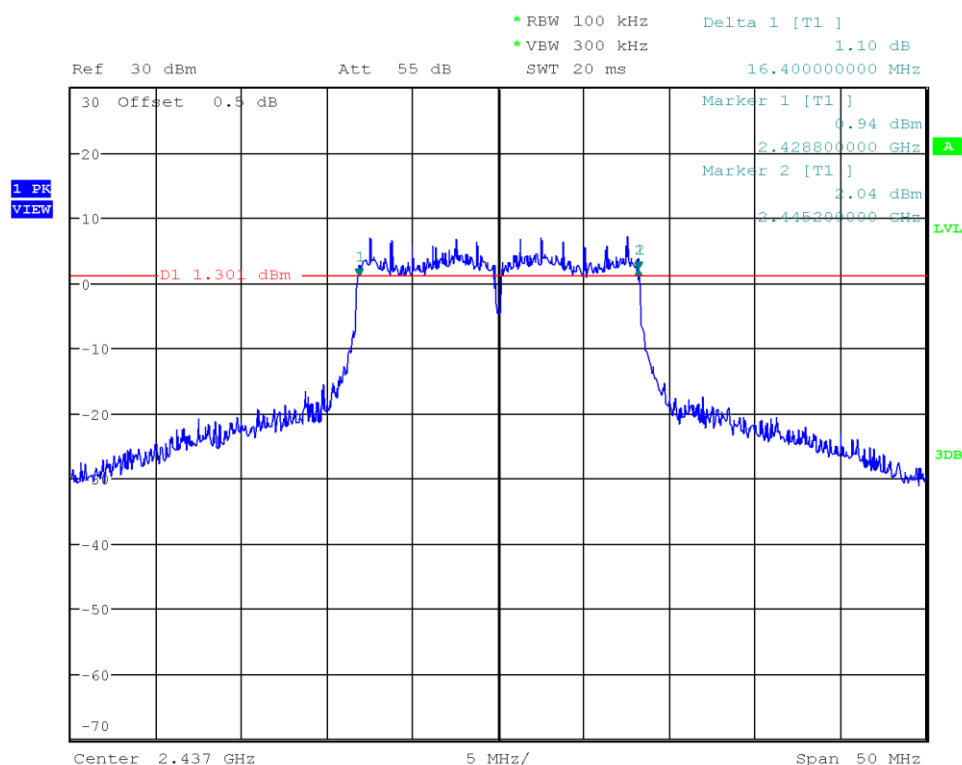
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 g, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Lower Frequency [MHz]: 2403.800
 Upper Frequency [MHz]: 2420.200
 6 dB Bandwidth [kHz]: 16400



Date: 10.JUL.2023 15:53:16

DTS (6 dB) Bandwidth

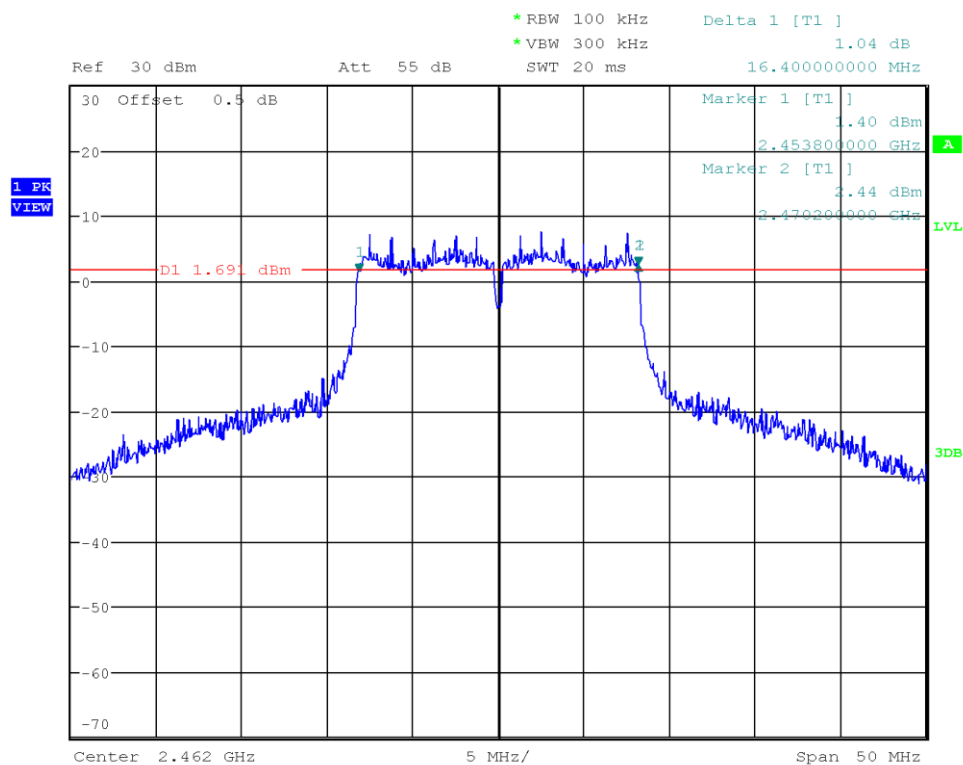
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 g, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Lower Frequency [MHz]: 2428.800
 Upper Frequency [MHz]: 2445.200
 6 dB Bandwidth [kHz]: 16400



Date: 10.JUL.2023 15:54:38

DTS (6 dB) Bandwidth

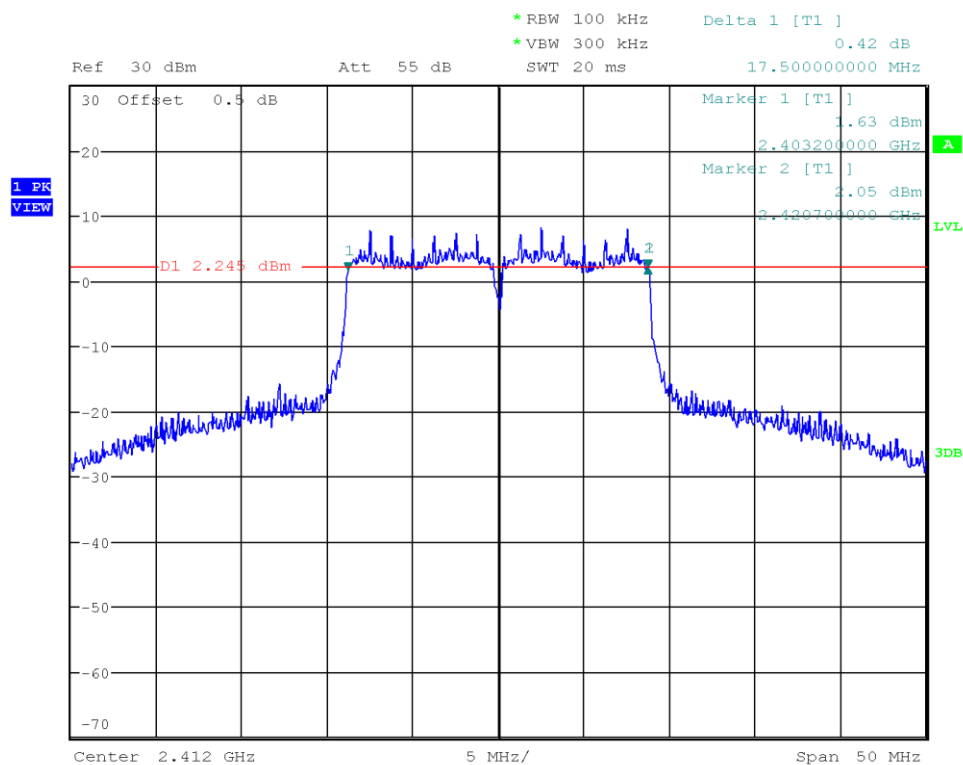
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 g, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Lower Frequency [MHz]: 2453.800
 Upper Frequency [MHz]: 2470.200
 6 dB Bandwidth [kHz]: 16400



Date: 10.JUL.2023 15:56:22

DTS (6 dB) Bandwidth

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 n HT20, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Lower Frequency [MHz]: 2403.200
 Upper Frequency [MHz]: 2420.700
 6 dB Bandwidth [kHz]: 17500



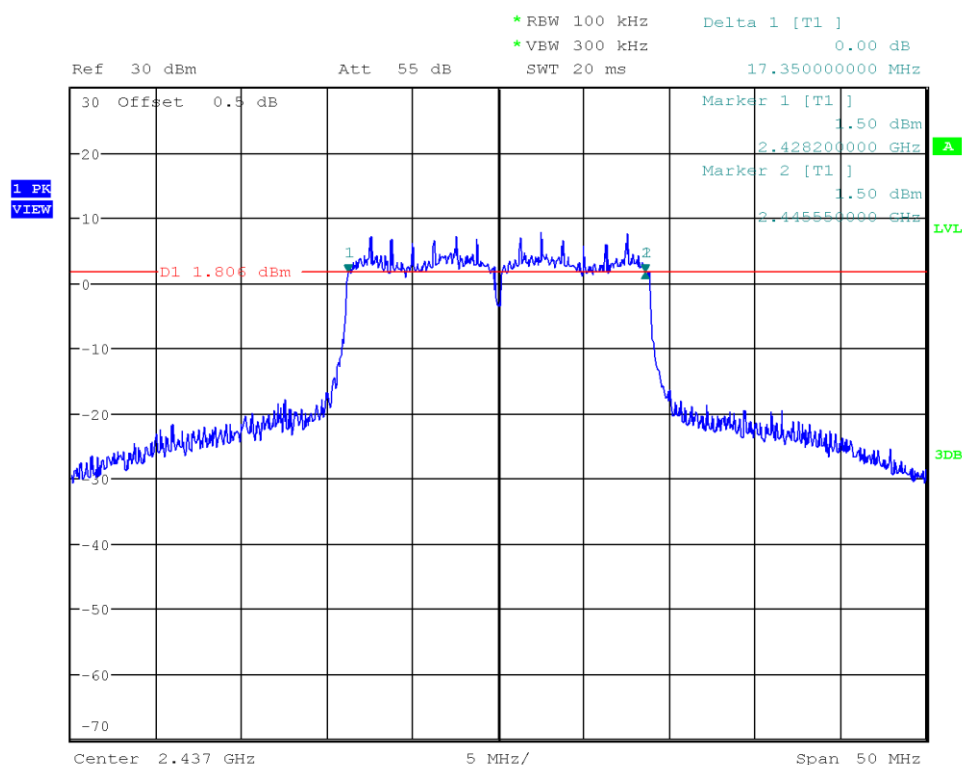
Date: 10.JUL.2023 15:59:15

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

DTS (6 dB) Bandwidth

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 n HT20, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Lower Frequency [MHz]: 2428.200
 Upper Frequency [MHz]: 2445.550
 6 dB Bandwidth [kHz]: 17350



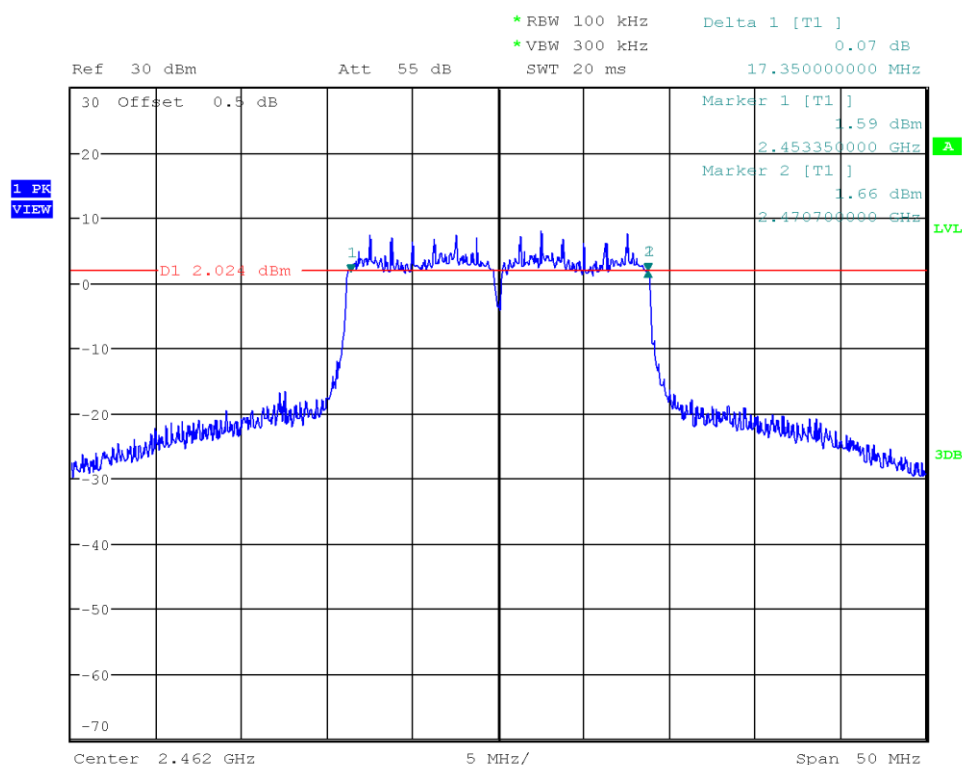
Date: 10.JUL.2023 16:00:39

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

DTS (6 dB) Bandwidth

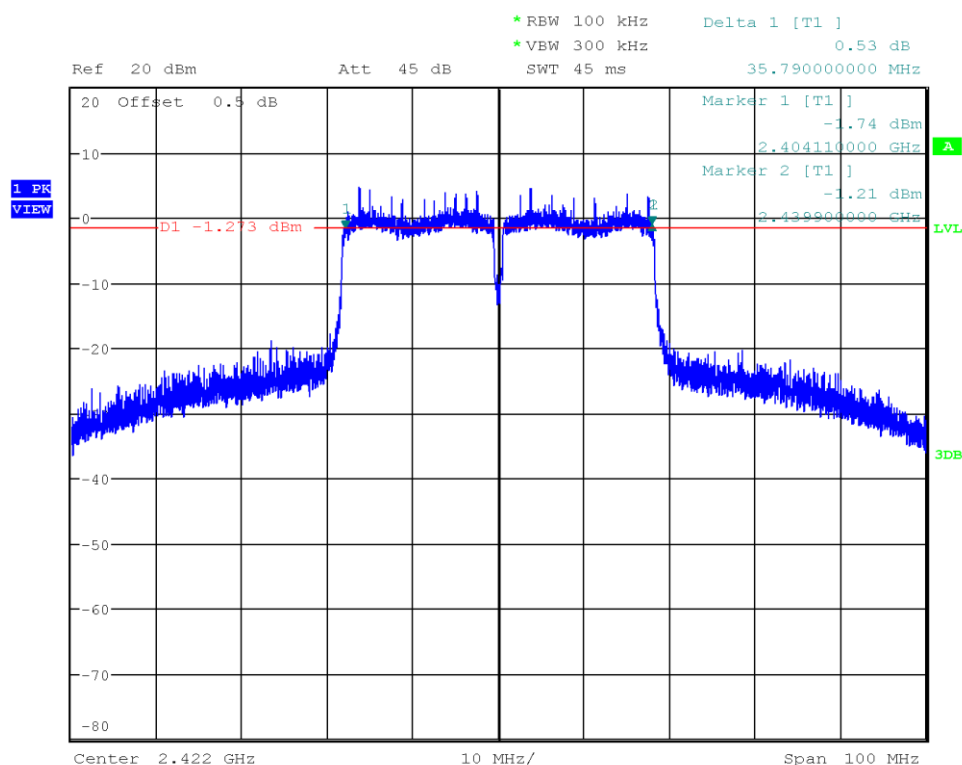
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 n HT20, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Lower Frequency [MHz]: 2453.350
 Upper Frequency [MHz]: 2470.700
 6 dB Bandwidth [kHz]: 17350



Date: 10.JUL.2023 16:01:59

DTS (6 dB) Bandwidth

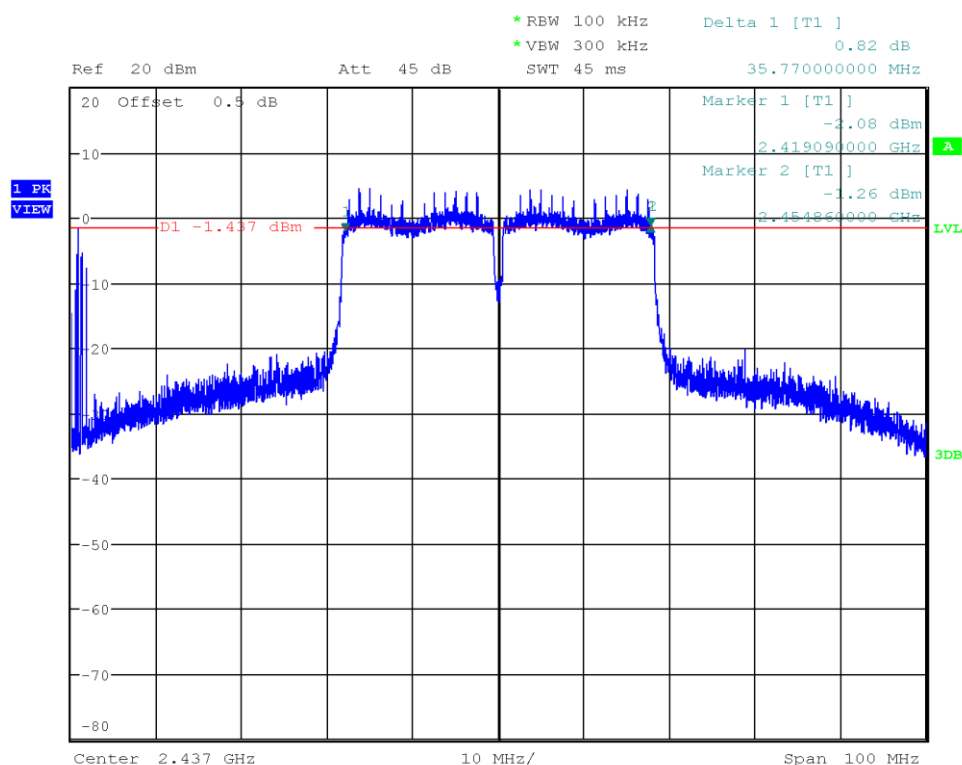
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 n HT40, Channel: 3, 2422 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Lower Frequency [MHz]: 2404.110
 Upper Frequency [MHz]: 2439.900
 6 dB Bandwidth [kHz]: 35790



Date: 10.JUL.2023 16:04:28

DTS (6 dB) Bandwidth

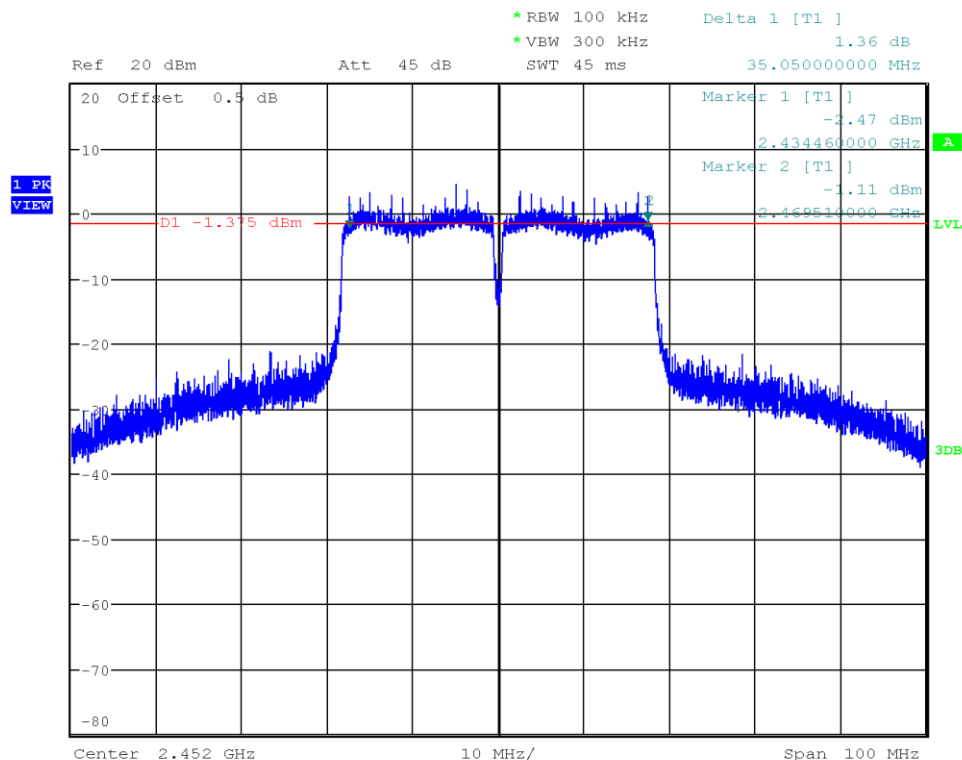
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 n HT40, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Lower Frequency [MHz]: 2419.090
 Upper Frequency [MHz]: 2454.860
 6 dB Bandwidth [kHz]: 35770



Date: 10.JUL.2023 16:06:23

DTS (6 dB) Bandwidth

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: IEEE 802.11 n HT40, Channel: 9, 2452 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Lower Frequency [MHz]: 2434.460
 Upper Frequency [MHz]: 2469.510
 6 dB Bandwidth [kHz]: 35050



Date: 10.JUL.2023 16:07:41

3.3 Test Conditions and Results - Maximum peak conducted output power

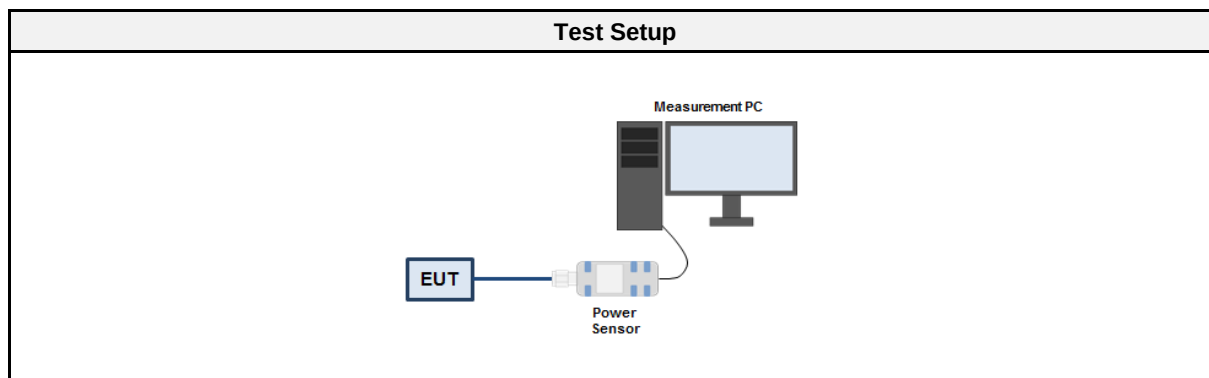
3.3.1 Information

Test Information	
Reference	FCC § 15.247(b); ISCED RSS-247, Issue 2 (section 5.4)
Measurement Method	ANSI C63.10 11.9.1
Measurement Uncertainty	± 2.86 dB
Operator	Ehsan Sohrabi
Date	2023-07-04
Note	Power level according to section 1.8 Power setting. Worst cases were considered.

3.3.2 Limits

Limits
1 W (30 dBm)
FCC: The conducted output power limit specified above is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in the table, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
ISED: The e.i.r.p. shall not exceed 4 W, except fixed point-to-point systems in the bands 2400-2483.5 MHz and 5725-5850 MHz are permitted to have an e.i.r.p. higher than 4 W provided that the higher e.i.r.p. is achieved by employing higher gain directional antennas and not higher transmitter output powers.

3.3.3 Setup



3.3.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Power sensor	ETS-Lindgren USA	7002-006	EF00934	2022-07	2023-07

3.3.5 Procedure

Test Procedure
1. EUT set to test mode (Communication tester is used if needed) 2. The EUT antenna port is connected to a wideband power sensor 3. The peak power is measured with the power sensor 4. If the EUT has more than one transmit chain the procedure is repeated for each transmit chain and the power is summed up

3.3.6 Results

Test Results DSSS - FCC				
Channel [MHz]	Channel [MHz]	Channel [MHz]	Channel [MHz]	Channel [MHz]
2412	17.5	0.056	1.0	PASS
2437	17.4	0.055	1.0	PASS
2462	17.5	0.056	1.0	PASS

Test Results OFDM - FCC				
Channel [MHz]	Channel [MHz]	Channel [MHz]	Channel [MHz]	Channel [MHz]
2412	15.4	0.035	1.0	PASS
2437	19.1	0.081	1.0	PASS
2462	15.2	0.033	1.0	PASS

Test Results HT20 - FCC				
Channel [MHz]	Channel [MHz]	Channel [MHz]	Channel [MHz]	Channel [MHz]
2412	15.4	0.035	1.0	PASS
2437	19.0	0.079	1.0	PASS
2462	15.2	0.033	1.0	PASS

Test Results HT40 - FCC				
Channel [MHz]	Channel [MHz]	Channel [MHz]	Channel [MHz]	Channel [MHz]
2422	13.2	0.021	1.0	PASS
2437	11.4	0.014	1.0	PASS
2452	13	0.020	1.0	PASS

Test Results DSSS - ISED							
Channel [MHz]	Conducted Power [dBm]	Conducted Power [W]	Conducted Limit [W]	EIRP Power [dBm]	EIRP Power [W]	EIRP Limit [W]	Verdict
2412	17.5	0.056	1.0	21.6	0.144	4.0	PASS
2437	17.4	0.055	1.0	21.5	0.141	4.0	PASS
2462	17.5	0.056	1.0	21.6	0.144	4.0	PASS

Test Results OFDM - ISED							
Channel [MHz]	Conducted Power [dBm]	Conducted Power [W]	Conducted Limit [W]	EIRP Power [dBm]	EIRP Power [W]	EIRP Limit [W]	Verdict
2412	15.4	0.035	1.0	19.5	0.089	4.0	PASS
2437	19.1	0.081	1.0	23.2	0.208	4.0	PASS
2462	15.2	0.033	1.0	19.3	0.085	4.0	PASS

Test Results HT20 - ISED							
Channel [MHz]	Conducted Power [dBm]	Conducted Power [W]	Conducted Limit [W]	EIRP Power [dBm]	EIRP Power [W]	EIRP Limit [W]	Verdict
2412	15.4	0.035	1.0	19.5	0.089	4.0	PASS
2437	19.0	0.079	1.0	23.1	0.204	4.0	PASS
2462	15.2	0.033	1.0	19.3	0.085	4.0	PASS

Test Results HT40 - ISED							
Channel [MHz]	Conducted Power [dBm]	Conducted Power [W]	Conducted Limit [W]	EIRP Power [dBm]	EIRP Power [W]	EIRP Limit [W]	Verdict
2412	13.2	0.021	1.0	17.3	0.053	4.0	PASS
2437	11.4	0.014	1.0	15.5	0.035	4.0	PASS
2462	13	0.020	1.0	17.1	0.051	4.0	PASS

3.4 Test Conditions and Results - Power spectral density

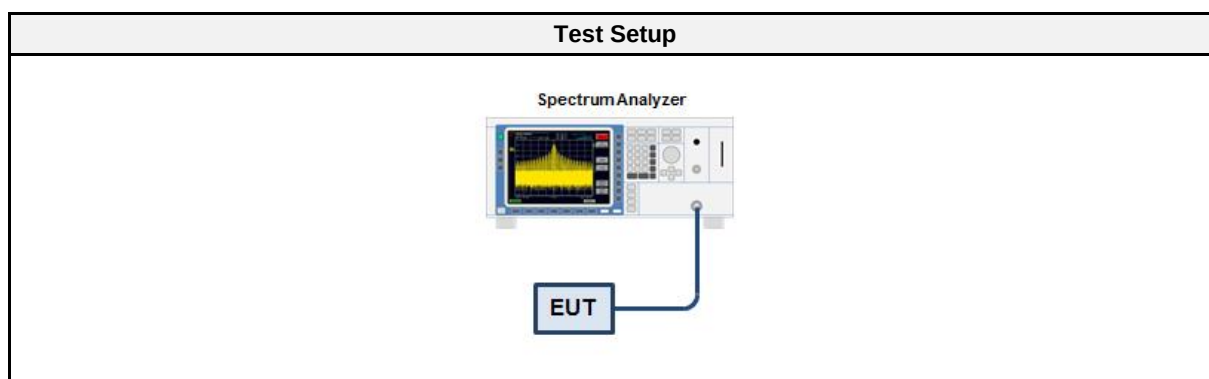
3.4.1 Information

Test Information	
Reference	FCC § 15.247(e); ISSED RSS-247, Issue 2 (section 5.2)
Measurement Method	ANSI C63.10 11.10.2, 14.3.2
Measurement Uncertainty	± 2.86 dB
Operator	Ehsan Sohrabi
Date	2023-07-07
Note	Power level according to section 1.8 Power setting. Worst cases were considered.

3.4.2 Limits

Limits
8 dBm / 3 kHz

3.4.3 Setup



3.4.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyser	R&S	FSU 26	EF01631	2022-08	2023-08
Cable (CAABF)	Gigalane	GIGALANE 1730	EF00779	2023-03	2024-03

3.4.5 Procedure

Test Procedure
1. EUT set to test mode 2. The analyzer is set to DTS channel center frequency with a span of 1.5 times the DTS bandwidth 3. The RBW is set to 100 kHz with VBW $\geq$ RBW and the detector is set to peak with max hold 4. After the trace has stabilized a marker is set to the envelope maximum 5. If the power spectral density is above the limit the RBW is reduced (not lower than 3 kHz) and the measurement is repeated 6. If the EUT has more than one transmit chain the procedure is repeated for each transmit chain

3.4.6 Results

Test Results - DSSS			
Channel [MHz]	PSD [dBm/RBW]	Limit [dBm/3kHz]	Verdict
2412	7.346	8.0	PASS
2437	7.715	8.0	PASS
2462	7.590	8.0	PASS

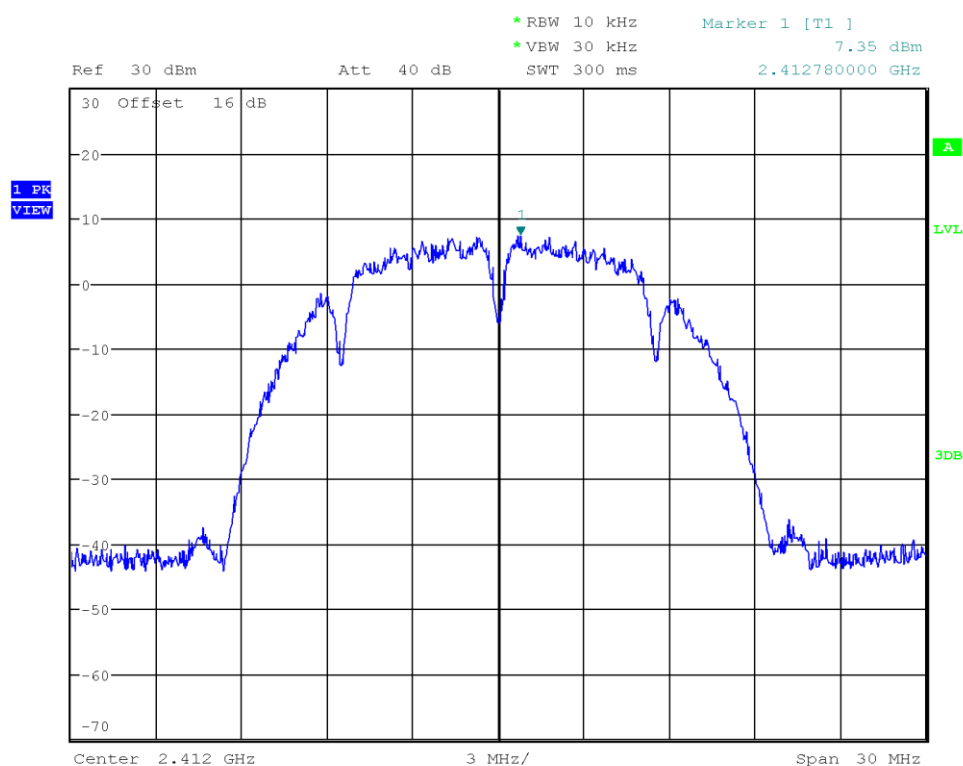
Test Results - OFDM			
Channel [MHz]	PSD [dBm/RBW]	Limit [dBm/3kHz]	Verdict
2412	3.661	8.0	PASS
2437	6.776	8.0	PASS
2462	7.890	8.0	PASS

Test Results – HT20			
Channel [MHz]	PSD [dBm/RBW]	Limit [dBm/3kHz]	Verdict
2412	7.640	8.0	PASS
2437	7.785	8.0	PASS
2462	3.480	8.0	PASS

Test Results – HT40			
Channel [MHz]	PSD [dBm/RBW]	Limit [dBm/3kHz]	Verdict
2422	6.923	8.0	PASS
2437	5.567	8.0	PASS
2452	7.650	8.0	PASS

Peak Power Spectral Density

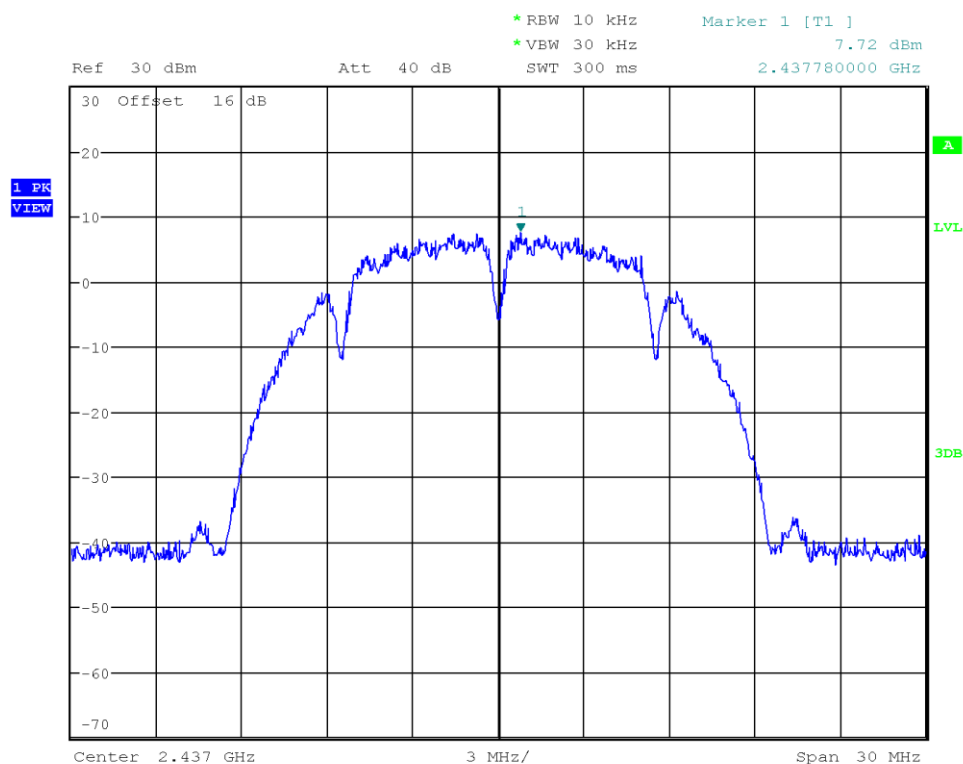
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 b, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2412.780
 Spectral Density [dBm/RBW]: 7.346
 Resolution Bandwidth [kHz]: 10 kHz



Date: 3.NOV.2023 15:39:55

Peak Power Spectral Density

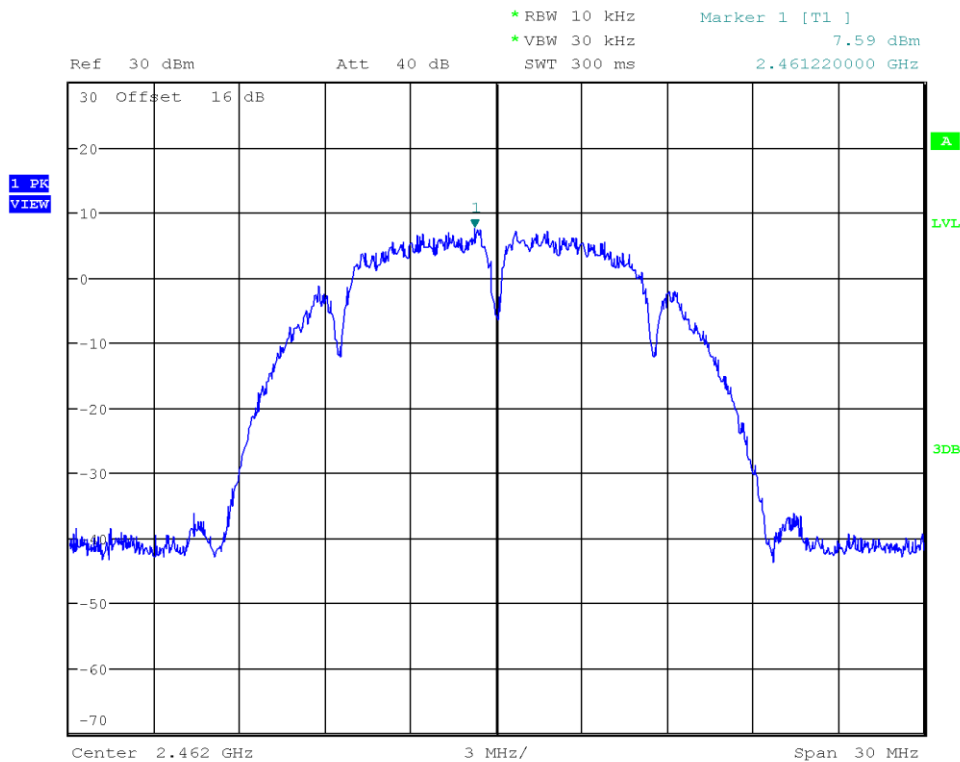
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 b, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2437.780
 Spectral Density [dBm/RBW]: 7.715
 Resolution Bandwidth [kHz]: 10 kHz



Date: 3.NOV.2023 15:34:43

Peak Power Spectral Density

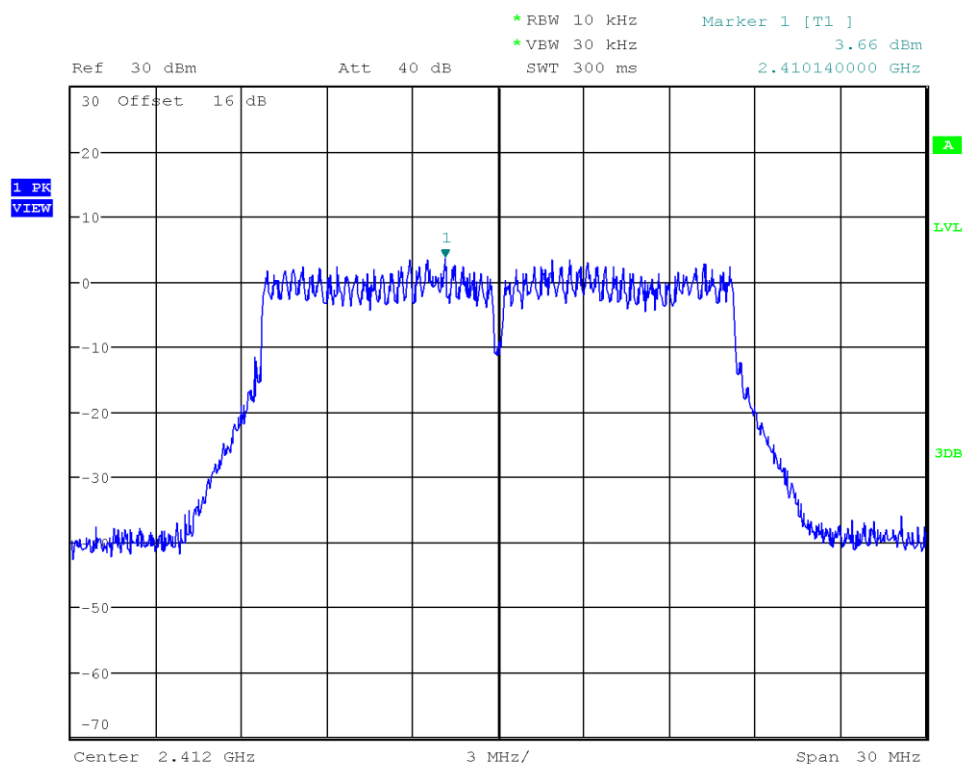
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 b, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2461.220
 Spectral Density [dBm/RBW]: 7.590
 Resolution Bandwidth [kHz]: 10 kHz



Date: 3.NOV.2023 15:42:27

Peak Power Spectral Density

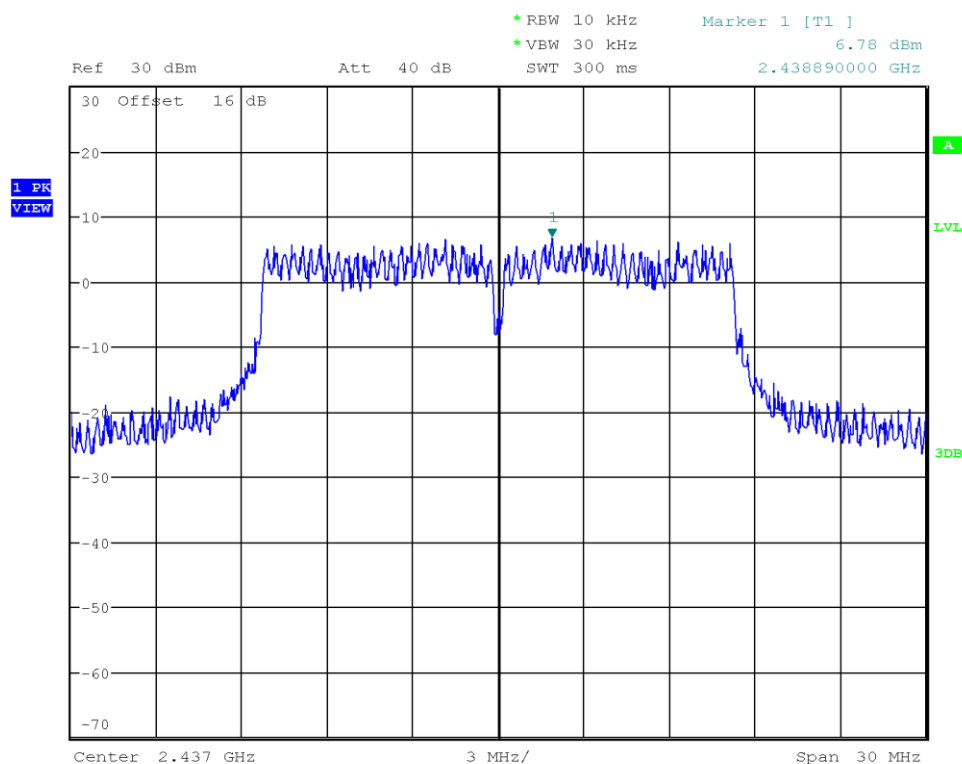
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 g, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2410.140
 Spectral Density [dBm/RBW]: 3.661
 Resolution Bandwidth [kHz]: 10 kHz



Date: 3.NOV.2023 15:56:11

Peak Power Spectral Density

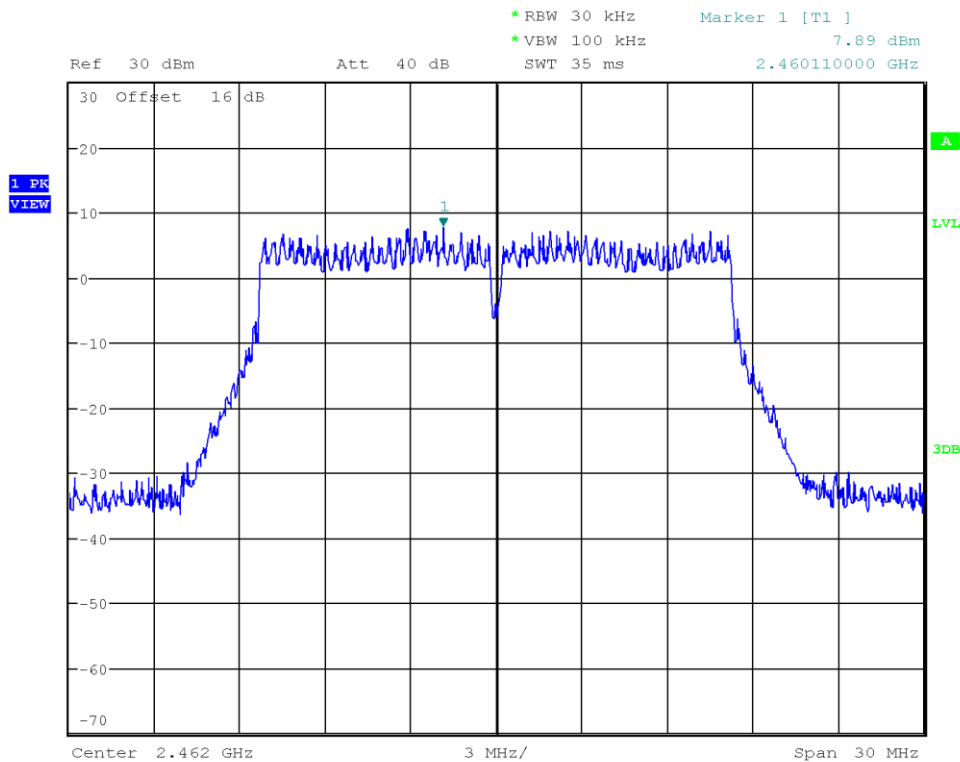
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 g, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2438.890
 Spectral Density [dBm/RBW]: 6.776
 Resolution Bandwidth [kHz]: 10 kHz



Date: 3.NOV.2023 16:02:07

Peak Power Spectral Density

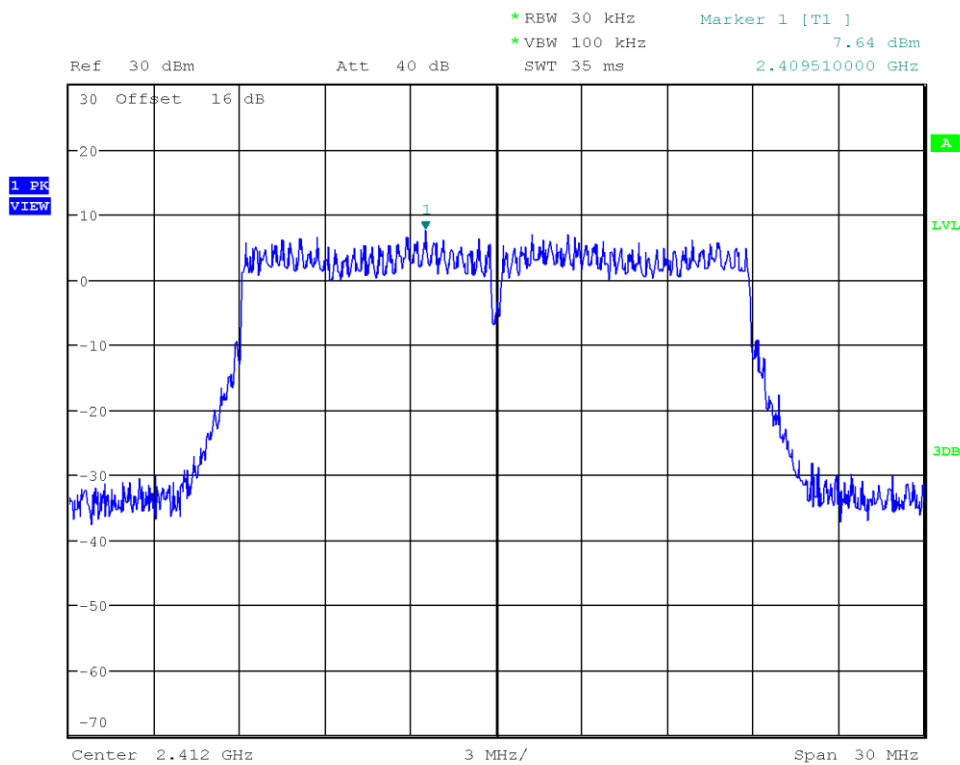
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 g, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2460.110
 Spectral Density [dBm/RBW]: 7.890
 Resolution Bandwidth [kHz]: 30 kHz



Date: 3.NOV.2023 16:06:34

Peak Power Spectral Density

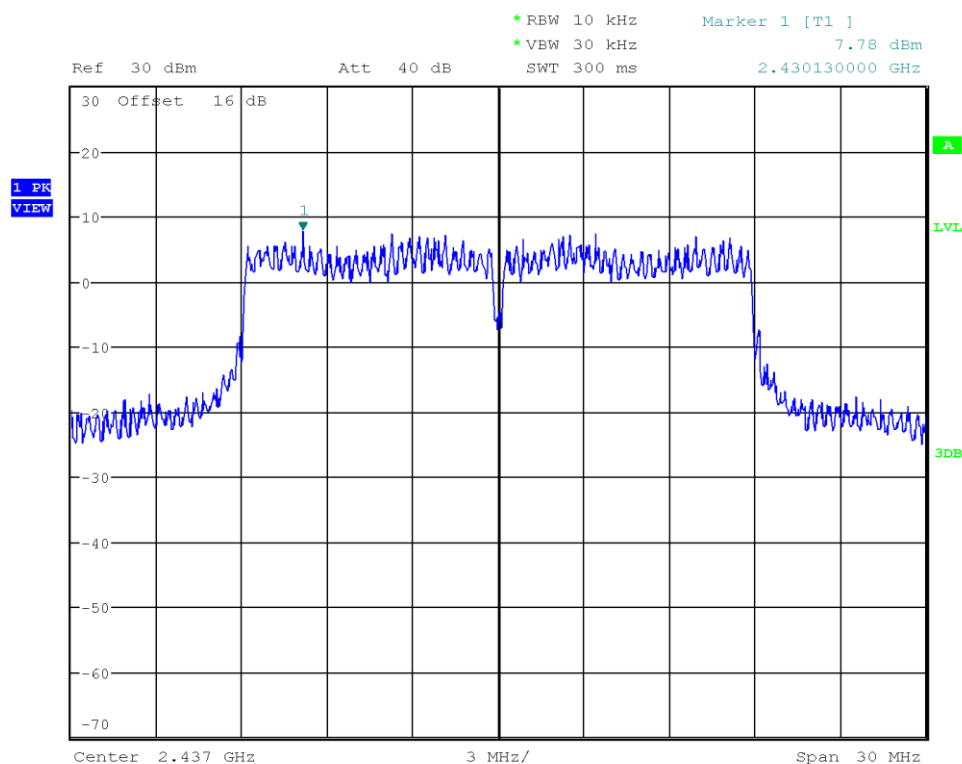
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 n HT20, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2409.510
 Spectral Density [dBm/RBW]: 7.640
 Resolution Bandwidth [kHz]: 30 kHz



Date: 3.NOV.2023 16:19:17

Peak Power Spectral Density

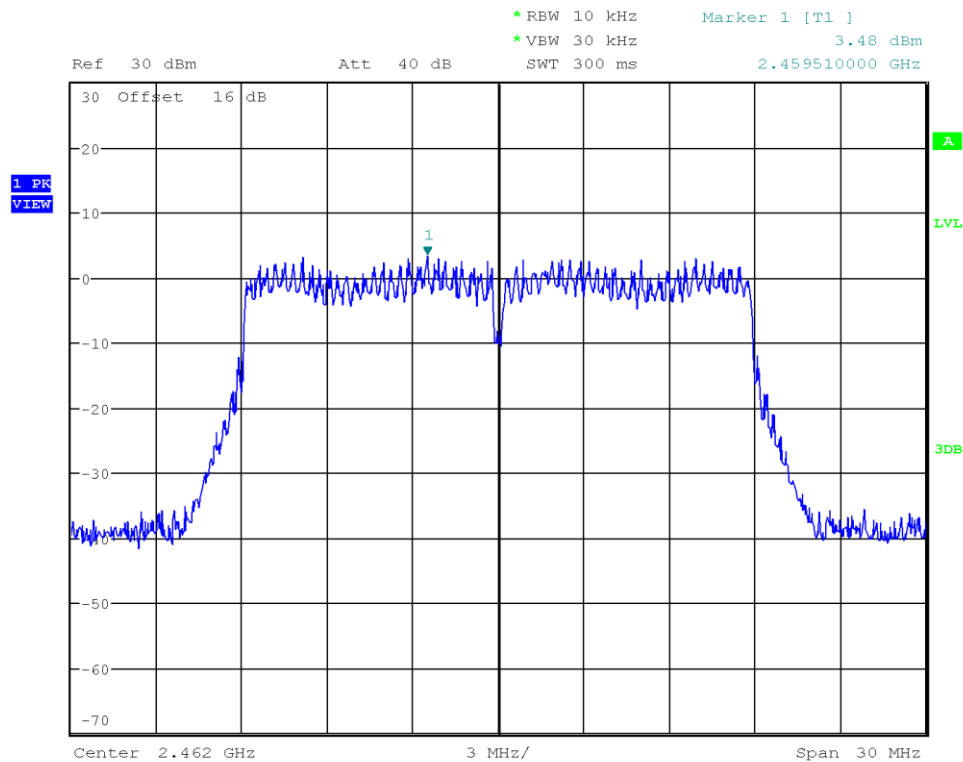
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 n HT20, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2430.130
 Spectral Density [dBm/RBW]: 7.785
 Resolution Bandwidth [kHz]: 10 kHz



Date: 3.NOV.2023 16:21:50

Peak Power Spectral Density

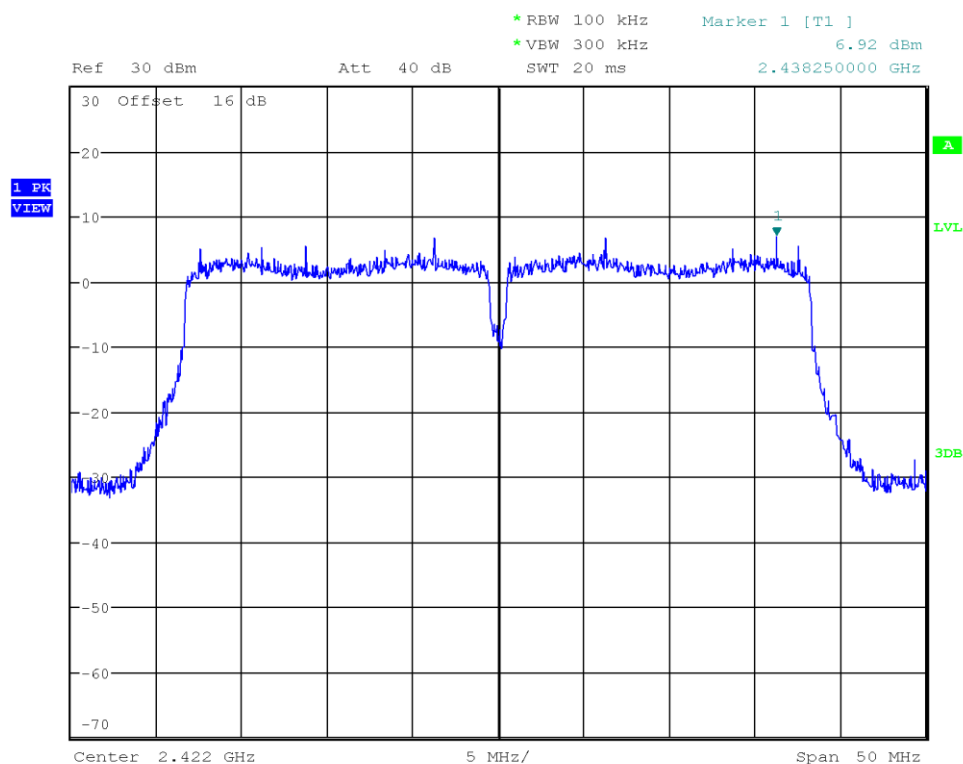
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 n HT20, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2459.510
 Spectral Density [dBm/RBW]: 3.480
 Resolution Bandwidth [kHz]: 10 kHz



Date: 3.NOV.2023 16:23:34

Peak Power Spectral Density

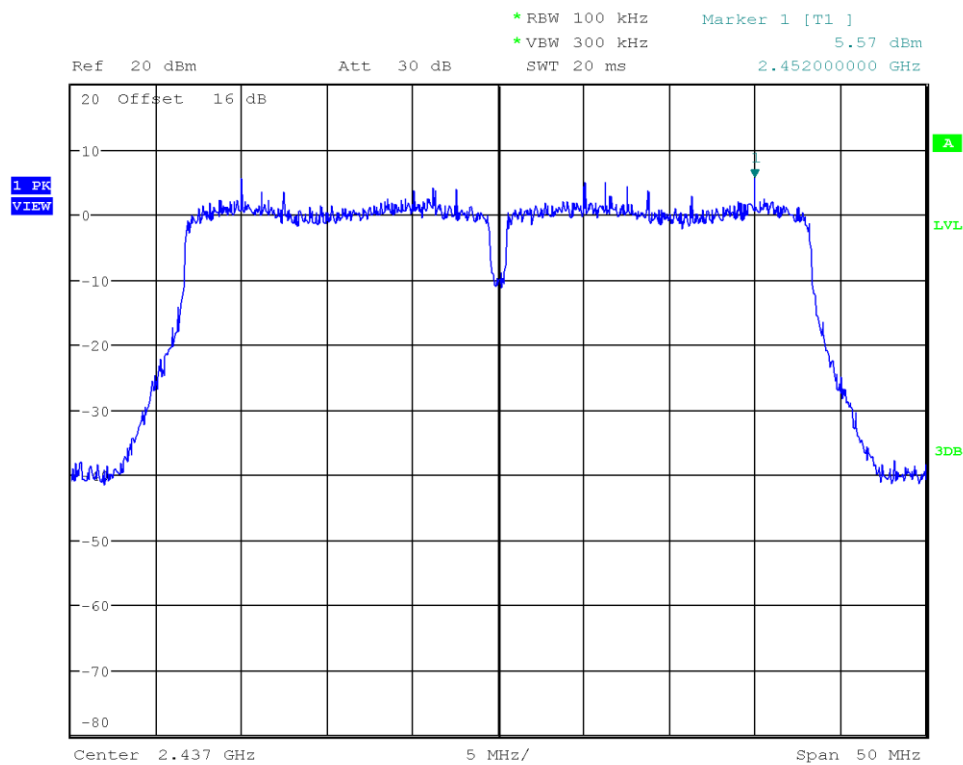
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 n HT40, Channel: 3, 2422 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2438.250
 Spectral Density [dBm/RBW]: 6.923
 Resolution Bandwidth [kHz]: 100 kHz



Date: 3.NOV.2023 16:39:55

Peak Power Spectral Density

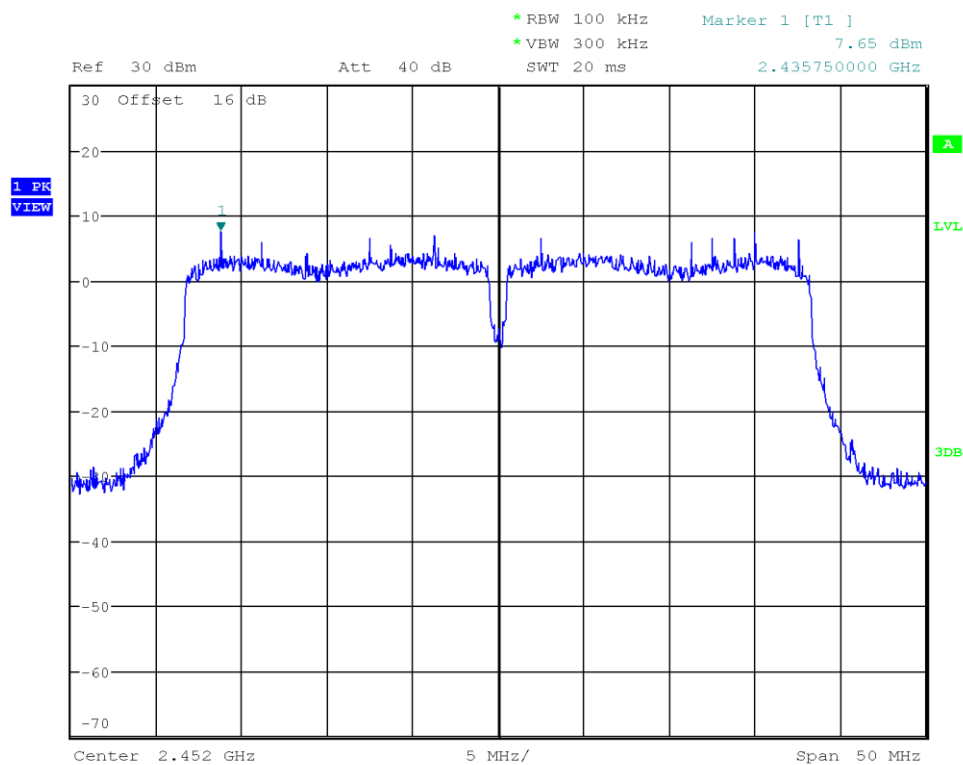
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 n HT40, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2452.000
 Spectral Density [dBm/RBW]: 5.567
 Resolution Bandwidth [kHz]: 100 kHz



Date: 3.NOV.2023 16:41:51

Peak Power Spectral Density

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 45392
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: IEEE 802.11 n HT40, Channel: 9, 2452 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Godson Offorji
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-11-03
 Peak Frequency [MHz]: 2435.750
 Spectral Density [dBm/RBW]: 7.650
 Resolution Bandwidth [kHz]: 100 kHz



Date: 3.NOV.2023 16:43:47

3.5 Test Conditions and Results - AC powerline conducted emissions

3.5.1 Information

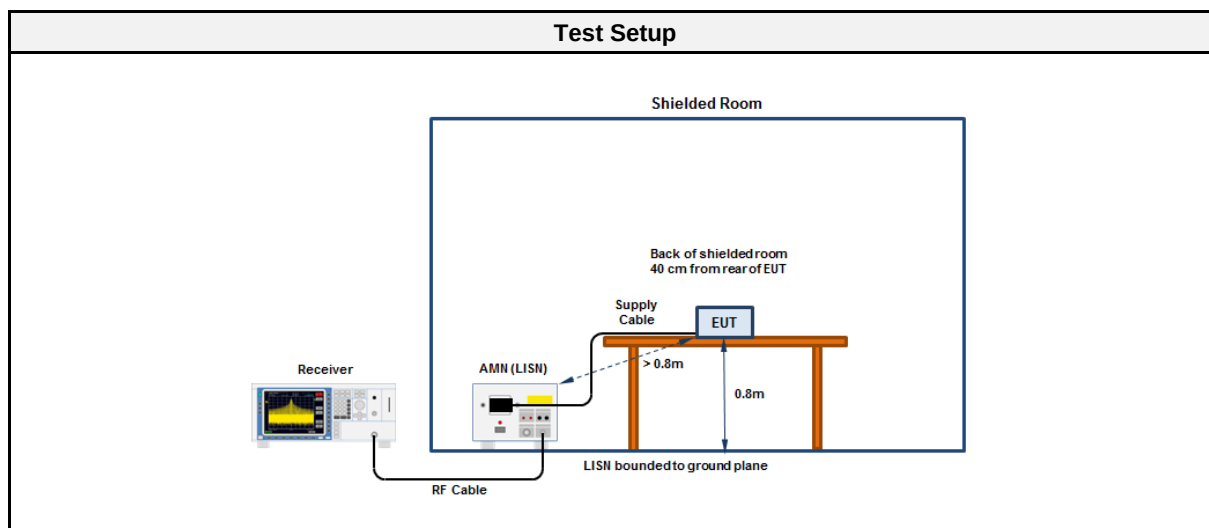
Test Information	
Reference	FCC § 15.207; ISED RSS-247, Issue 2 (section 3.1)
Measurement Method	ANSI C63.10 6.2
Measurement Uncertainty	± 3.82 dB
Operator	Ehsan Sohrabi
Date	2023-07-28

3.5.2 Limits

Limits		
Frequency [MHz]	Quasi-Peak [dB μ V]	Average [dB μ V]
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50

* Limit decreases linearly with the logarithm of the frequency

3.5.3 Setup

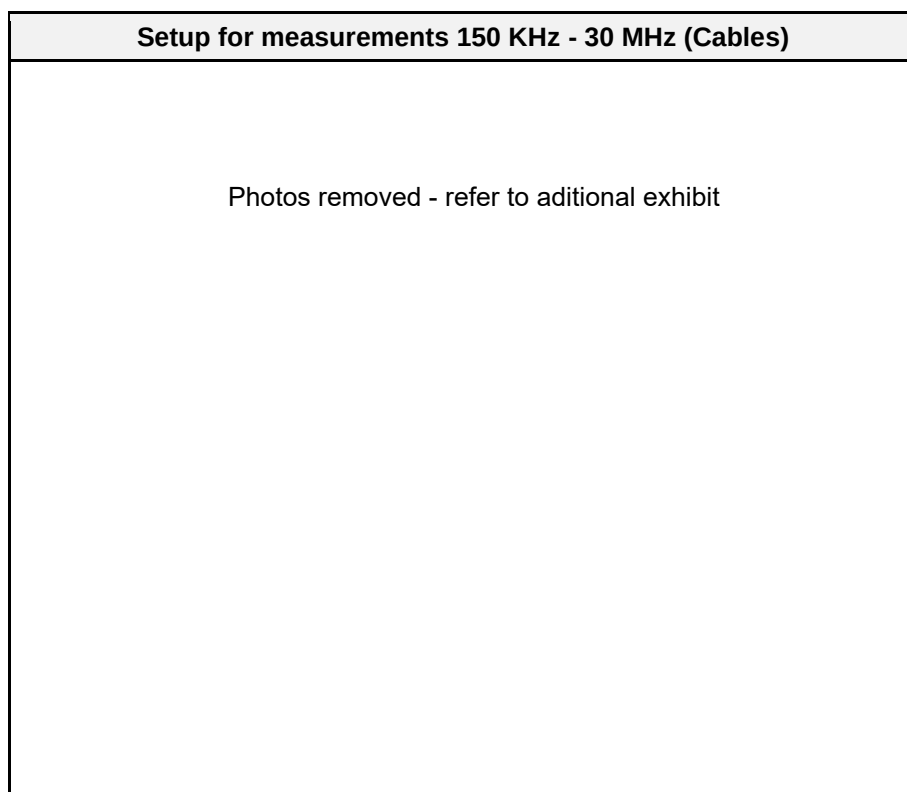
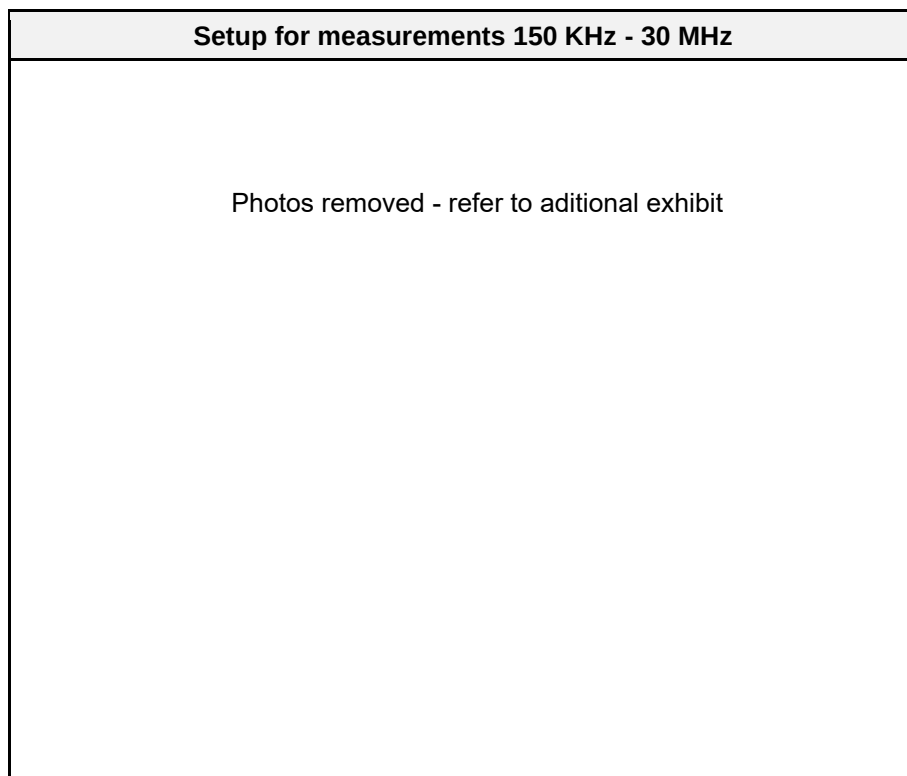


3.5.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2020.1.8

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	R&S	ESR7	EF00943	2022-07	2023-07
Pulse Limiter	R&S	ESH3-Z2	EF01222	2021-07	2023-07
LISN	Schwarzbeck	NSLK 8127 RC	EF01592	2023-06	2024-06

3.5.5 Setup Photos



EUT Setup
Photos removed - refer to additional exhibit

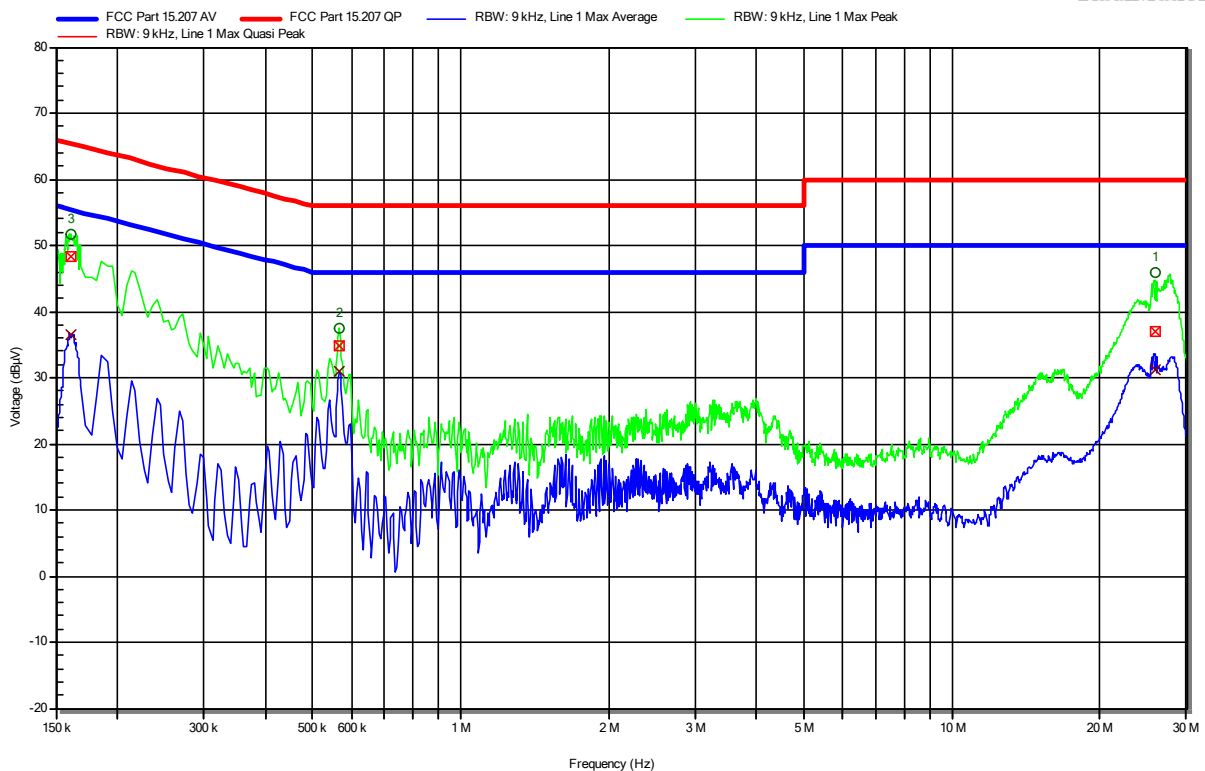
Photos removed - refer to additional exhibit

**Conducted emissions at the mains power port
according to 47 CFR Part 15.247, RSS-247**

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Test Date: 2023-07-28
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 3.3 VDC and 1.8 VDC
 LISN: Schwarzbeck NSLK 8127 RC L1
 Operational Mode: Tx, IEEE 802.11g, CH6, 2437 MHz, OFDM, 6Mbps, DC=99%, Power level 19
 EUT Configuration:
 Applied to Port: 120 VAC / 60 Hz

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RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	25.908 MHz	36.99 dBμV	60 dBμV	-23.01 dB	Pass	Line 1
2	565.35 kHz	34.72 dBμV	56 dBμV	-21.28 dB	Pass	Line 1
3	160.8 kHz	48.35 dBμV	65.42 dBμV	-17.08 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	25.908 MHz	31.18 dBμV	50 dBμV	-18.82 dB	Pass	Line 1
2	565.35 kHz	30.96 dBμV	46 dBμV	-15.04 dB	Pass	Line 1
3	160.8 kHz	36.41 dBμV	55.42 dBμV	-19.02 dB	Pass	Line 1

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

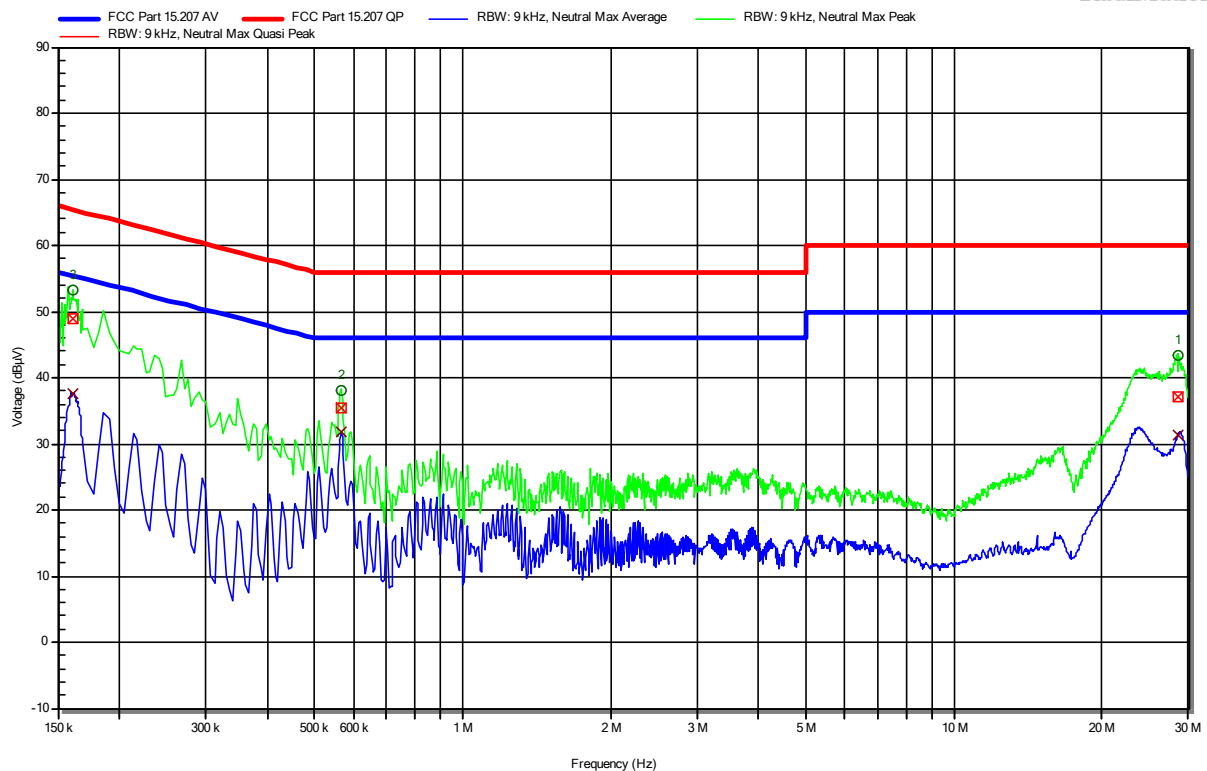
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

**Conducted emissions at the mains power port
according to 47 CFR Part 15.247, RSS-247**

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Test Date: 2023-07-28
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 3.3 VDC and 1.8 VDC
 LISN: Schwarzbeck NSLK 8127
 Operational Mode: Tx, IEEE 802.11g, CH6, 2437 MHz, OFDM, 6Mbps, DC=99%, Power level 19
 EUT Configuration:
 Applied to Port: 120 VAC / 60 Hz

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RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	28.626 MHz	37.17 dBµV	60 dBµV	-22.83 dB	Pass	Neutral
2	564.9 kHz	35.49 dBµV	56 dBµV	-20.51 dB	Pass	Neutral
3	160.8 kHz	48.85 dBµV	65.42 dBµV	-16.58 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	28.626 MHz	31.41 dBµV	50 dBµV	-18.59 dB	Pass	Neutral
2	564.9 kHz	31.7 dBµV	46 dBµV	-14.3 dB	Pass	Neutral
3	160.8 kHz	37.55 dBµV	55.42 dBµV	-17.88 dB	Pass	Neutral

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

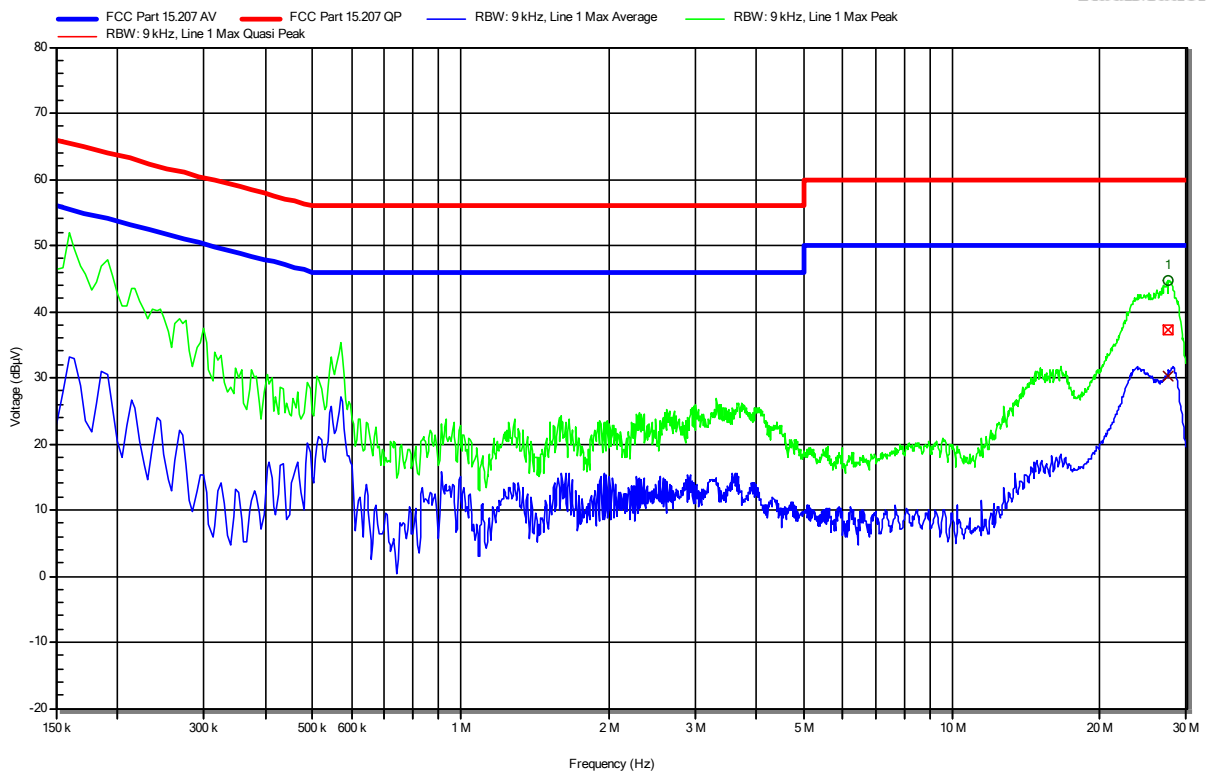
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

**Conducted emissions at the mains power port
according to 47 CFR Part 15.247, RSS-247**

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Test Date: 2023-07-28
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 3.3 VDC and 1.8 VDC
 LISN: Schwarzbeck NSLK 8127 RC L1
 Operational Mode: Rx, IEEE 802.11g, CH6, 2437 MHz
 EUT Configuration:
 Applied to Port: 120 VAC / 60 Hz

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RadiMation



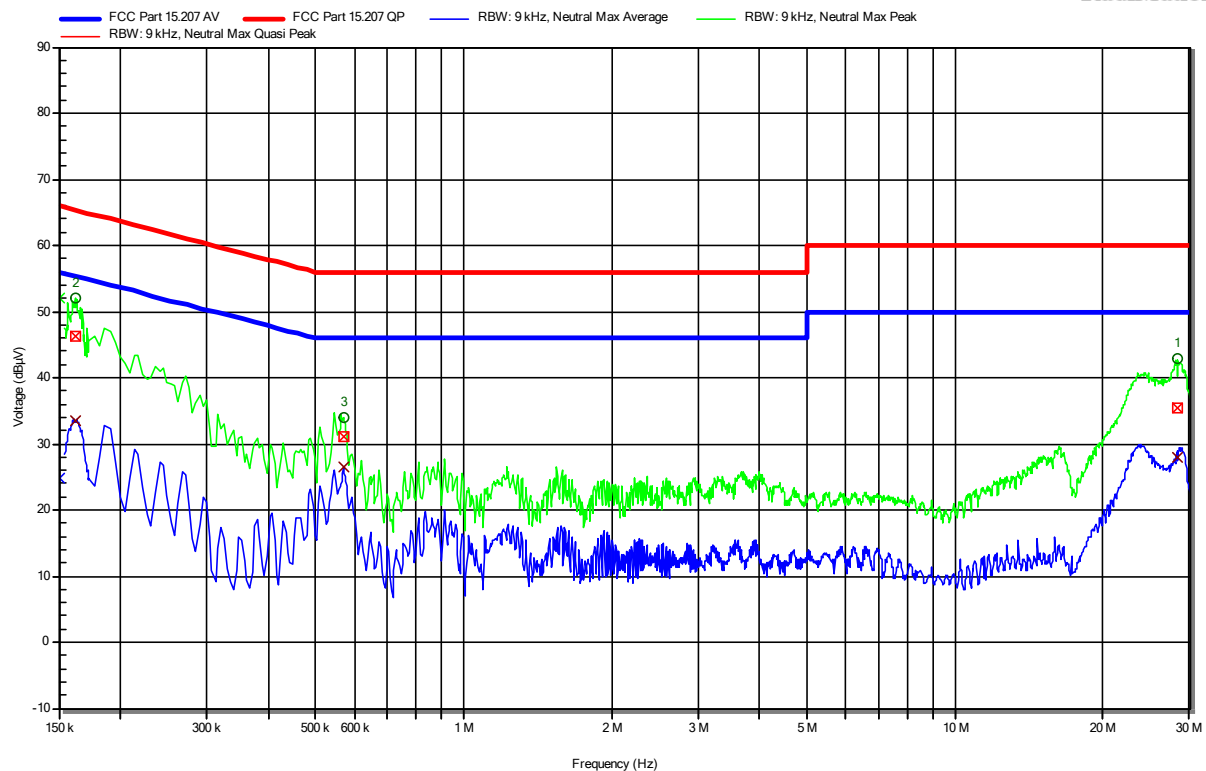
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	27.438 MHz	37.33 dBµV	60 dBµV	-22.67 dB	Pass	Line 1
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	27.438 MHz	30.14 dBµV	50 dBµV	-19.86 dB	Pass	Line 1

**Conducted emissions at the mains power port
according to 47 CFR Part 15.247, RSS-247**

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Test Date: 2023-07-28
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 3.3 VDC and 1.8 VDC
 LISN: Schwarzbeck NSLK 8127
 Operational Mode: Rx, IEEE 802.11g, CH6, 2437 MHz
 EUT Configuration:
 Applied to Port: 120 VAC / 60 Hz

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RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	28.406 MHz	35.41 dBµV	60 dBµV	-24.59 dB	Pass	Neutral
2	161.7 kHz	46.37 dBµV	65.38 dBµV	-19.01 dB	Pass	Neutral
3	568.5 kHz	31.16 dBµV	56 dBµV	-24.84 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	28.406 MHz	27.85 dBµV	50 dBµV	-22.15 dB	Pass	Neutral
2	161.7 kHz	33.55 dBµV	55.38 dBµV	-21.83 dB	Pass	Neutral
3	568.5 kHz	26.43 dBµV	46 dBµV	-19.57 dB	Pass	Neutral

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

3.6 Test Conditions and Results - Band-edge compliance

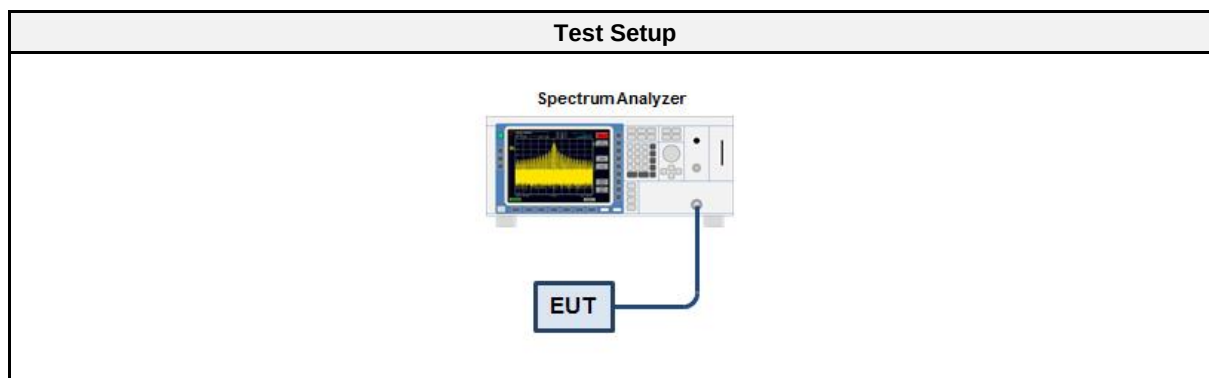
3.6.1 Information

Test Information	
Reference	FCC § 15.247(d); ISED RSS-247, Issue 2 (section 5.5)
Measurement Uncertainty	± 3.64 dB
Measurement Method	ANSI C63.10 11.13
Operator	Ehsan Sohrabi
Date	2023-07-10
Note	Power level according to section 1.8 Power setting. Worst cases were considered.

3.6.2 Limits

Limits	
Power Measurement	Out-of-band attenuation [dB]
Peak	20
RMS	30

3.6.3 Setup



3.6.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyser	R&S	FSU 26	EF01631	2022-08	2023-08
Cable (CAABF)	Gigalane	GIGALANE 1730	EF00779	2023-03	2024-03

3.6.5 Procedure

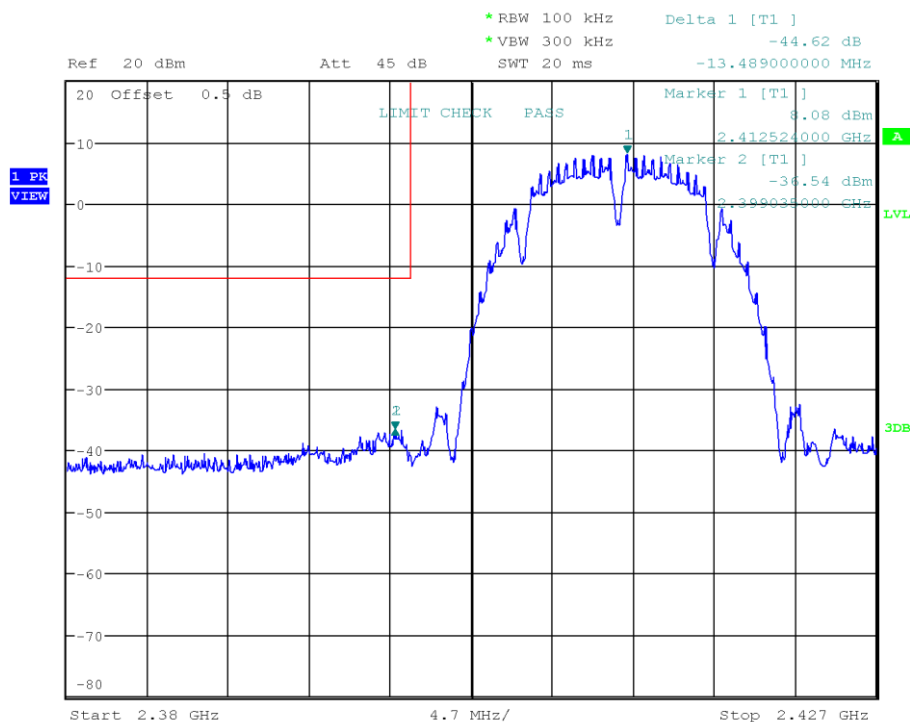
Test Procedure
1. EUT set to test mode (Communication tester is used if needed) 2. Span set around lower band edge and detector is set to peak and max hold 3. Resolution bandwidth is set to 100 kHz 4. Markers are set to peak emission levels within frequency band and outside frequency band 5. Band edge attenuation is determined from level difference

3.6.6 Results

Test Results					
Port	Mode	Channel [MHz]	Out-of-band Attenuation [dB]	Limit [dB]	Verdict
1	DSSS	2412	-44.62	-20	PASS
1	DSSS	2462	-47.39	-20	PASS
1	OFDM	2412	-25.49	-20	PASS
1	OFDM	2462	-32.33	-20	PASS
1	HT20	2412	-24.64	-20	PASS
1	HT20	2462	-32.07	-20	PASS
1	HT40	2422	-26.86	-20	PASS
1	HT40	2452	-28.41	-20	PASS

Emissions in nonrestricted frequency bands at the Band-edge

Project Number:	G0M-2302-1881
Applicant:	u-blox AG
Model Description:	Host-based multiradio module
Model:	MAYA-W271-00B
Test Sample ID:	43093
Reference Standards:	FCC 15.247, RSS-247
Reference Method:	ANSI C63.10:2013, Section 11.11
Operational Mode:	IEEE 802.11 b, Channel: 1, 2412 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Radwan Jaafar
Test Site:	Eurofins Product Service GmbH
Test Date:	2023-07-10
Note:	Data Rate = 1 Mbps (worst case)
Band-edge	Lower
In-band Frequency [MHz]:	2412.524
Max. in-band Level [dBm/100 kHz]:	8.082
Out-of-band Frequency [MHz]:	2399.035
Max. out-of-band Level [dBm/100 kHz]:	-36.541
Attenuation [dB]:	-44.62



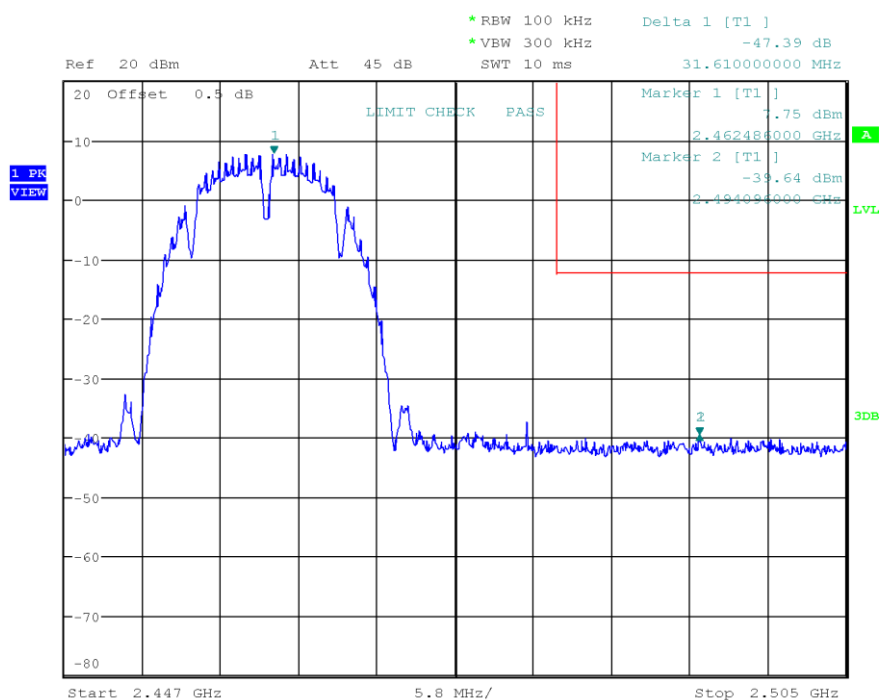
Date: 10.JUL.2023 16:18:47

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Emissions in nonrestricted frequency bands at the Band-edge

Project Number:	G0M-2302-1881
Applicant:	u-blox AG
Model Description:	Host-based multiradio module
Model:	MAYA-W271-00B
Test Sample ID:	43093
Reference Standards:	FCC 15.247, RSS-247
Reference Method:	ANSI C63.10:2013, Section 11.11
Operational Mode:	IEEE 802.11 b, Channel: 11, 2462 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Radwan Jaafar
Test Site:	Eurofins Product Service GmbH
Test Date:	2023-07-10
Note:	Data Rate = 1 Mbps (worst case)
Band-edge	Upper
In-band Frequency [MHz]:	2462.486
Max. in-band Level [dBm/100 kHz]:	7.746
Out-of-band Frequency [MHz]:	2494.096
Max. out-of-band Level [dBm/100 kHz]:	-39.642
Attenuation [dB]:	-47.39



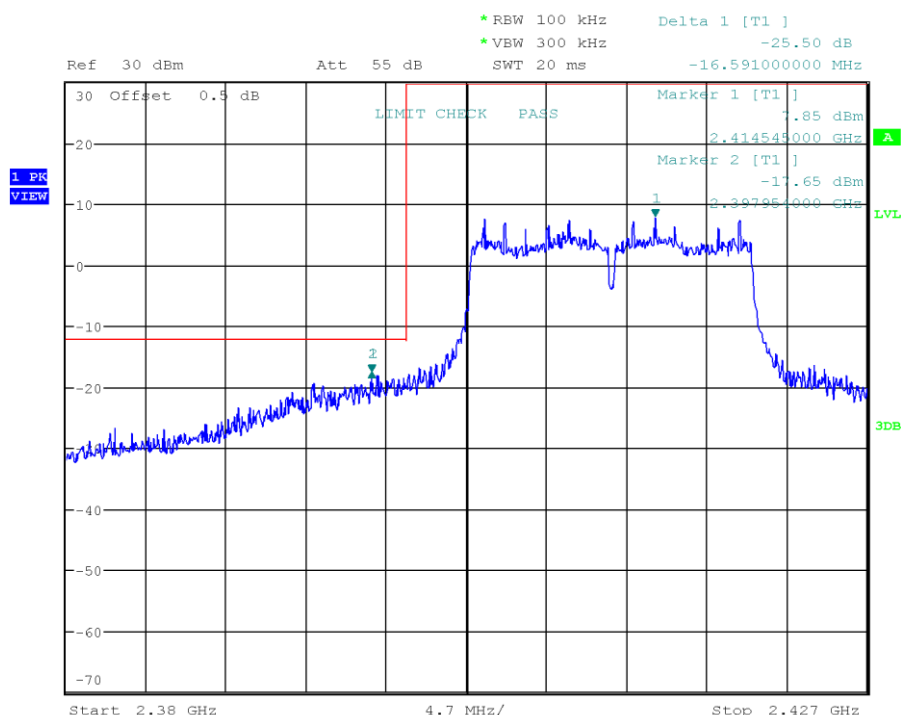
Date: 10.JUL.2023 16:22:45

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Emissions in nonrestricted frequency bands at the Band-edge

Project Number:	G0M-2302-1881
Applicant:	u-blox AG
Model Description:	Host-based multiradio module
Model:	MAYA-W271-00B
Test Sample ID:	43093
Reference Standards:	FCC 15.247, RSS-247
Reference Method:	ANSI C63.10:2013, Section 11.11
Operational Mode:	IEEE 802.11 g, Channel: 1, 2412 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Radwan Jaafar
Test Site:	Eurofins Product Service GmbH
Test Date:	2023-07-10
Note:	Data Rate = 6 Mbps (worst case)
Band-edge	Lower
In-band Frequency [MHz]:	2414.545
Max. in-band Level [dBm/100 kHz]:	7.85
Out-of-band Frequency [MHz]:	2397.954
Max. out-of-band Level [dBm/100 kHz]:	-17.645
Attenuation [dB]:	-25.49



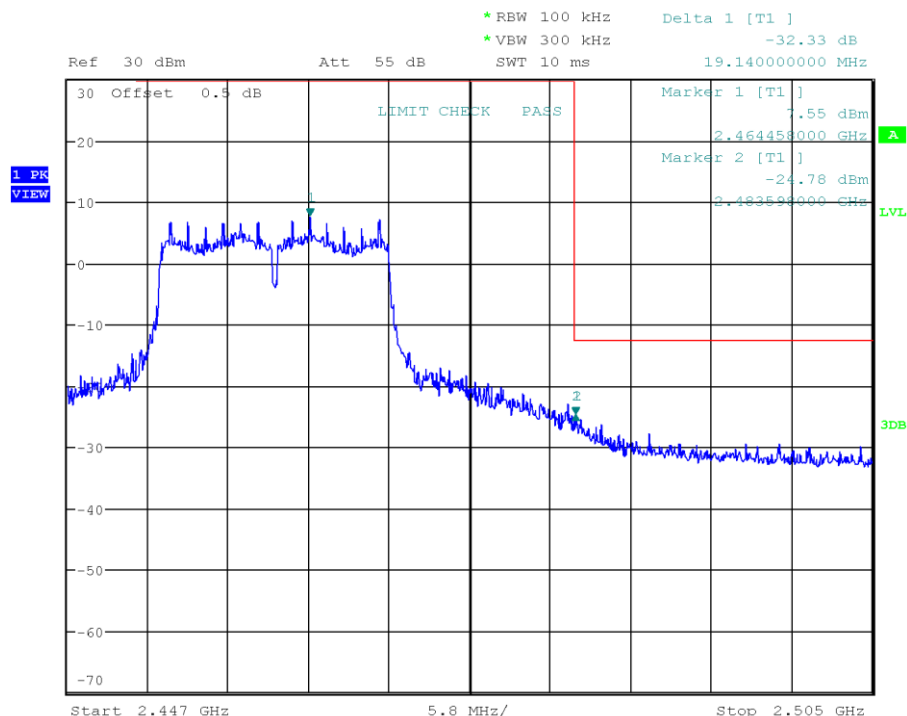
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Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Emissions in nonrestricted frequency bands at the Band-edge

Project Number:	G0M-2302-1881
Applicant:	u-blox AG
Model Description:	Host-based multiradio module
Model:	MAYA-W271-00B
Test Sample ID:	43093
Reference Standards:	FCC 15.247, RSS-247
Reference Method:	ANSI C63.10:2013, Section 11.11
Operational Mode:	IEEE 802.11 g, Channel: 11, 2462 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Radwan Jaafar
Test Site:	Eurofins Product Service GmbH
Test Date:	2023-07-10
Note:	Data Rate = 6 Mbps (worst case)
Band-edge	Upper
In-band Frequency [MHz]:	2464.458
Max. in-band Level [dBm/100 kHz]:	7.55
Out-of-band Frequency [MHz]:	2483.598
Max. out-of-band Level [dBm/100 kHz]:	-24.784
Attenuation [dB]:	-32.33



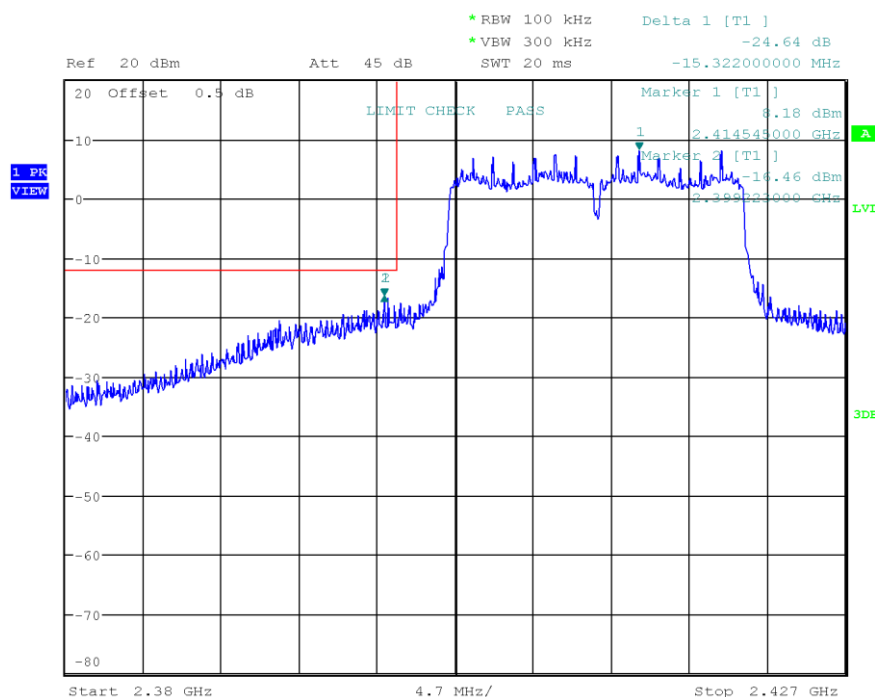
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Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Emissions in nonrestricted frequency bands at the Band-edge

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 n HT20, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data Rate = MCS 2 (worst case)
 Band-edge: Lower
 In-band Frequency [MHz]: 2414.545
 Max. in-band Level [dBm/100 kHz]: 8.18
 Out-of-band Frequency [MHz]: 2399.223
 Max. out-of-band Level [dBm/100 kHz]: -16.463
 Attenuation [dB]: -24.64



Date: 10.JUL.2023 16:31:06

Test Report No.: G0M-2302-1881-TFC247WF-W271-V03

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Project Number:	G0M-2302-1881
Applicant:	u-blox AG
Model Description:	Host-based multiradio module
Model:	MAYA-W271-00B
Test Sample ID:	43093
Reference Standards:	FCC 15.247, RSS-247
Reference Method:	ANSI C63.10:2013, Section 11.11
Operational Mode:	IEEE 802.11 n HT20, Channel: 11, 2462 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Radwan Jaafar
Test Site:	Eurofins Product Service GmbH
Test Date:	2023-07-10
Note:	Data Rate = MCS 2 (worst case)
Band-edge	Upper
In-band Frequency [MHz]:	2464.458
Max. in-band Level [dBm/100 kHz]:	7.979
Out-of-band Frequency [MHz]:	2483.54
Max. out-of-band Level [dBm/100 kHz]:	-24.093
Attenuation [dB]:	-32.07

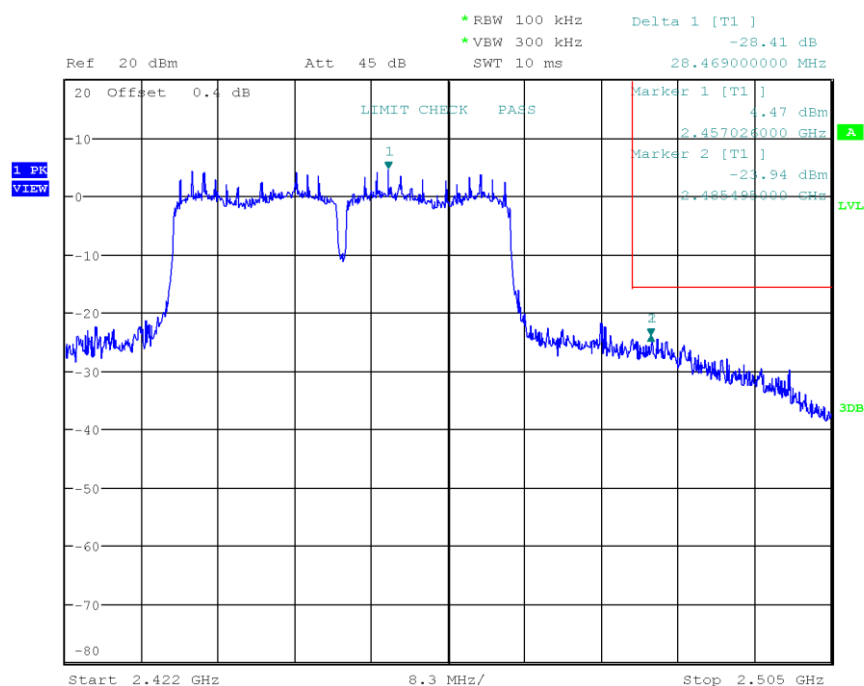


Project Number:	G0M-2302-1881
Applicant:	u-blox AG
Model Description:	Host-based multiradio module
Model:	MAYA-W271-00B
Test Sample ID:	43093
Reference Standards:	FCC 15.247, RSS-247
Reference Method:	ANSI C63.10:2013, Section 11.11
Operational Mode:	IEEE 802.11 n HT40, Channel: 3, 2422 MHz
Operating Conditions:	Tnom/Vnom
Operator:	Radwan Jaafar
Test Site:	Eurofins Product Service GmbH
Test Date:	2023-07-28
Note:	Data Rate = MCS 0 (worst case)
Band-edge	Lower
In-band Frequency [MHz]:	2405.776
Max. in-band Level [dBm/100 kHz]:	4.568
Out-of-band Frequency [MHz]:	2397.28
Max. out-of-band Level [dBm/100 kHz]:	-22.294
Attenuation [dB]:	-26.86



Emissions in nonrestricted frequency bands at the Band-edge

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 n HT40, Channel: 9, 2452 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-28
 Note: Data Rate = MCS 0 (worst case)
 Band-edge: Upper
 In-band Frequency [MHz]: 2457.026
 Max. in-band Level [dBm/100 kHz]: 4.472
 Out-of-band Frequency [MHz]: 2485.495
 Max. out-of-band Level [dBm/100 kHz]: -23.938
 Attenuation [dB]: -28.41



Date: 28.JUL.2023 14:07:44

3.7 Test Conditions and Results - Conducted spurious emissions

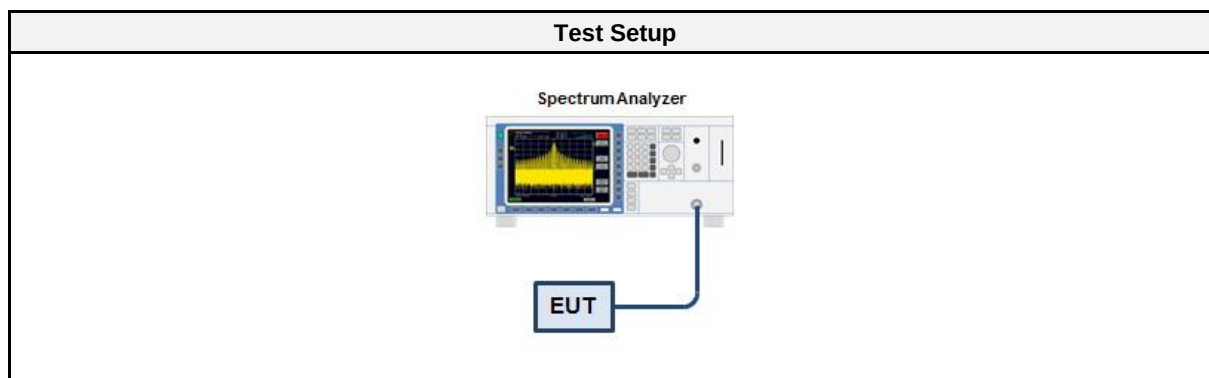
3.7.1 Information

Test Information	
Reference	FCC § 15.247(d); ISED RSS-247, Issue 2 (section 5.5)
Measurement Uncertainty	± 4.25 dB
Measurement Method	ANSI C63.10 11.11
Operator	Ehsan Sohrabi
Date	2023-07-10
Note	Power level according to section 1.8 Power setting. Worst cases were considered.

3.7.2 Limits

Limits	
Power Measurement	Out-of-band attenuation [dB]
Peak	20
RMS	30

3.7.3 Setup



3.7.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyser	R&S	FSU 26	EF01631	2022-08	2023-08
Cable (CAABY)	Sucoflex	SUCOFLEX 1102EA	EF00779	2023-03	2024-03

3.7.5 Procedure

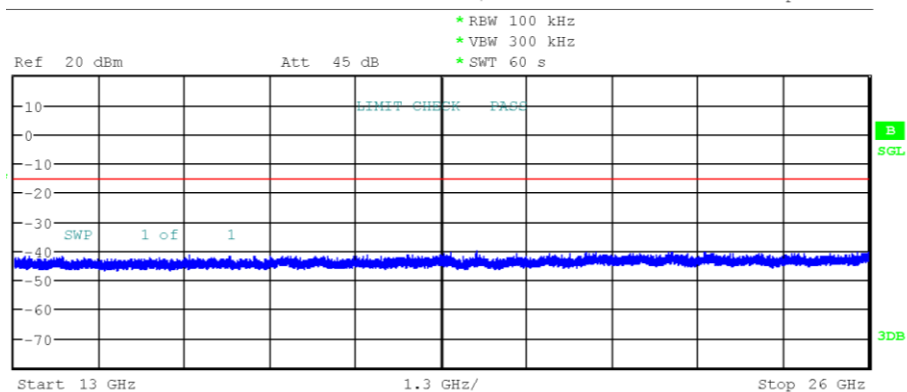
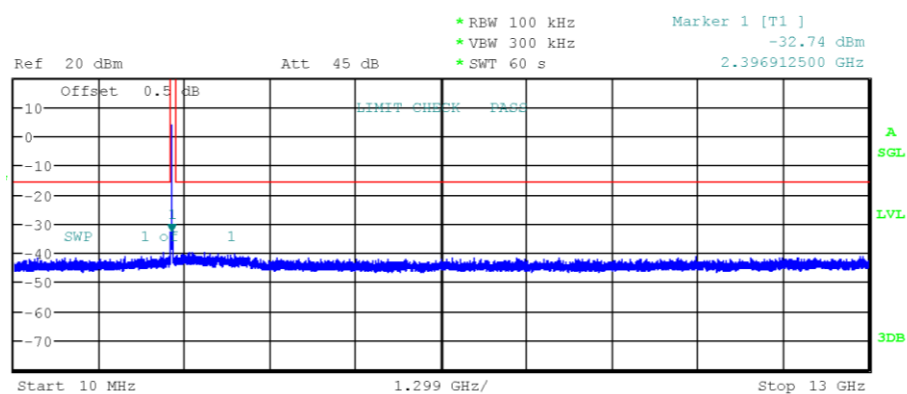
Test Procedure
1. EUT set to test mode (Communication tester is used if needed) 2. Span set around lower band edge and detector is set to peak and max hold 3. Resolution bandwidth is set to 100 kHz 4. Markers are set to peak emission levels outside frequency band

3.7.6 Results

Test Results			
Port	Mode	Channel [MHz]	Verdict
1	DSSS	2412	PASS
1	DSSS	2437	PASS
1	DSSS	2462	PASS
1	OFDM	2412	PASS
1	OFDM	2437	PASS
1	OFDM	2462	PASS
1	HT20	2412	PASS
1	HT20	2437	PASS
1	HT20	2462	PASS
1	HT40	2422	PASS
1	HT40	2437	PASS
1	HT40	2452	PASS

Conducted Spurious Emissions

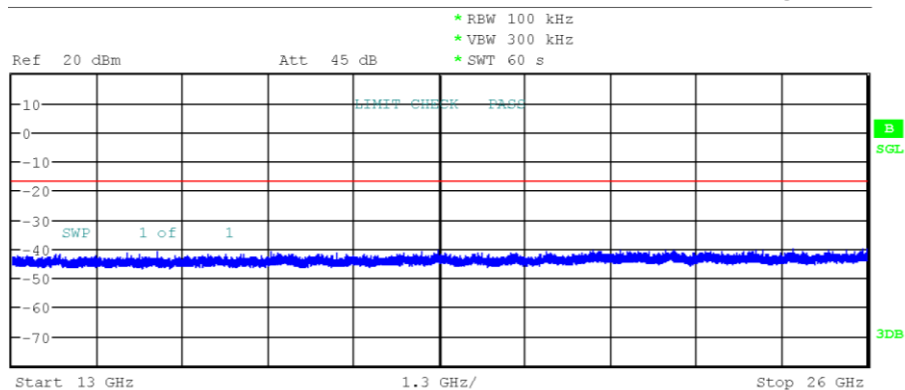
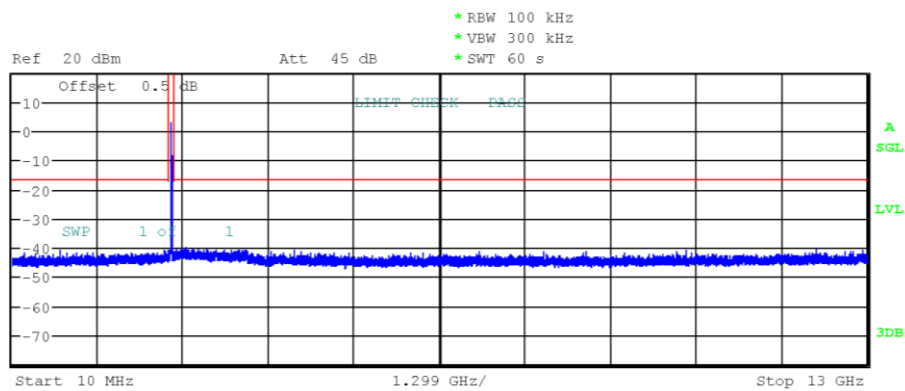
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 b, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Max. in-band Frequency [MHz]: 2413.5
 Max. in-band Level [dBm/100 kHz]: 4.6
 Out-of-band Limit [dBm/100 kHz]: -15.4



10.JUL.2023 17:10:05

Conducted Spurious Emissions

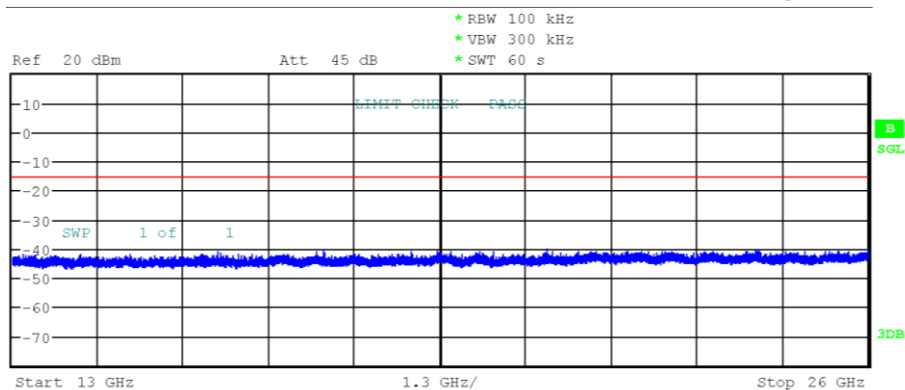
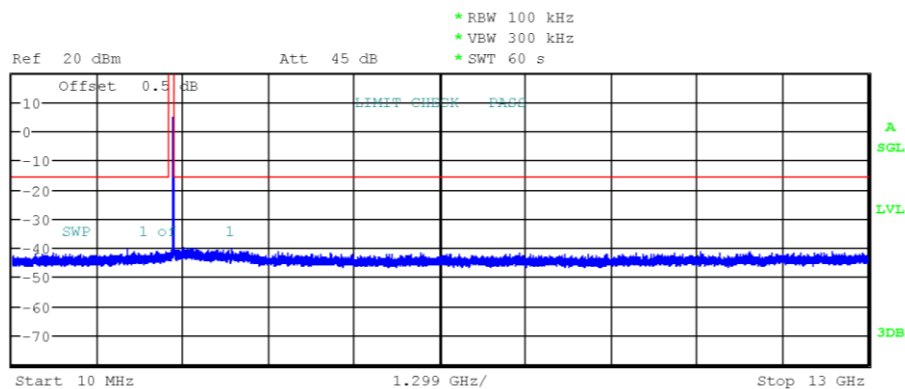
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 b, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Max. in-band Frequency [MHz]: 2435.5
 Max. in-band Level [dBm/100 kHz]: 3.6
 Out-of-band Limit [dBm/100 kHz]: -16.4



10.JUL.2023 17:29:04

Conducted Spurious Emissions

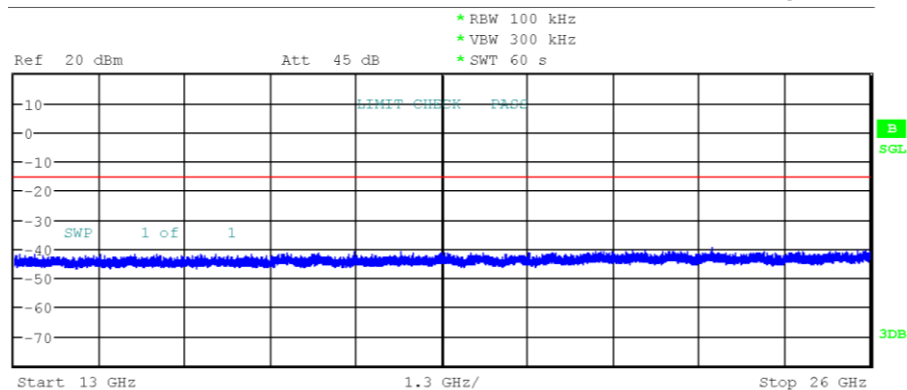
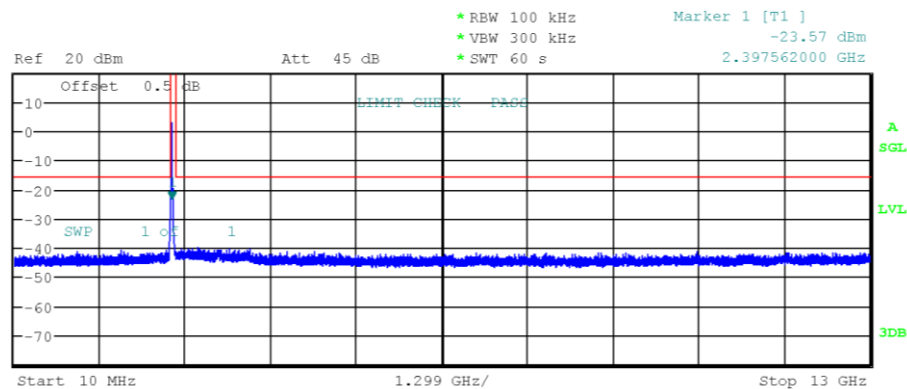
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 b, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 1 Mbps (worst case)
 Max. in-band Frequency [MHz]: 2461.5
 Max. in-band Level [dBm/100 kHz]: 4.8
 Out-of-band Limit [dBm/100 kHz]: -15.2



10.JUL.2023 17:32:15

Conducted Spurious Emissions

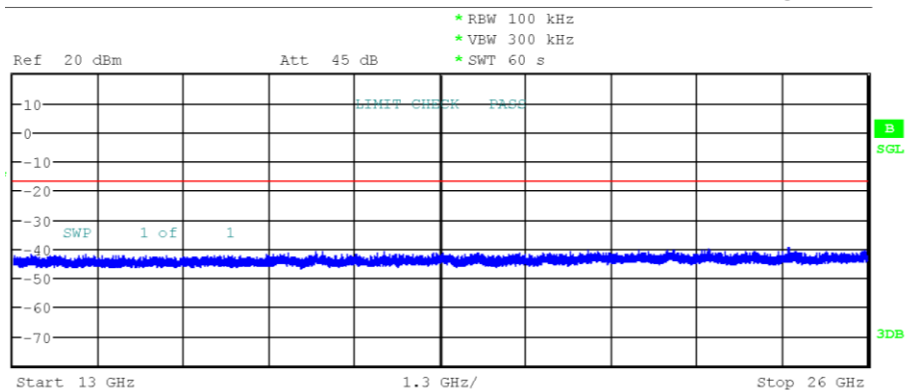
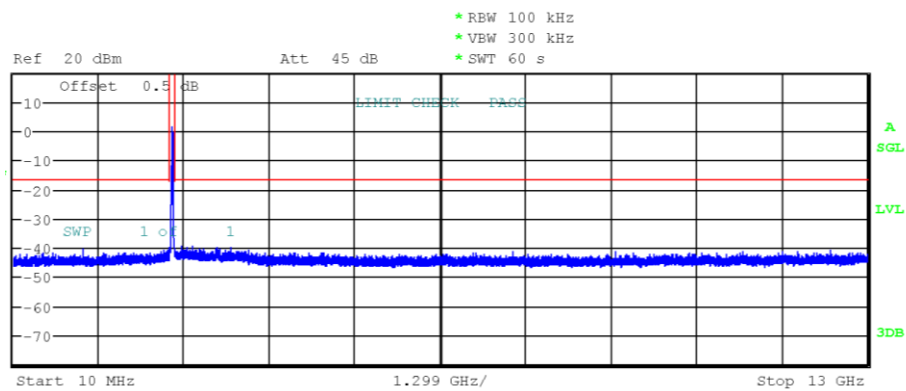
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 g, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Max. in-band Frequency [MHz]: 2419.5
 Max. in-band Level [dBm/100 kHz]: 4.9
 Out-of-band Limit [dBm/100 kHz]: -15.1



10.JUL.2023 17:37:07

Conducted Spurious Emissions

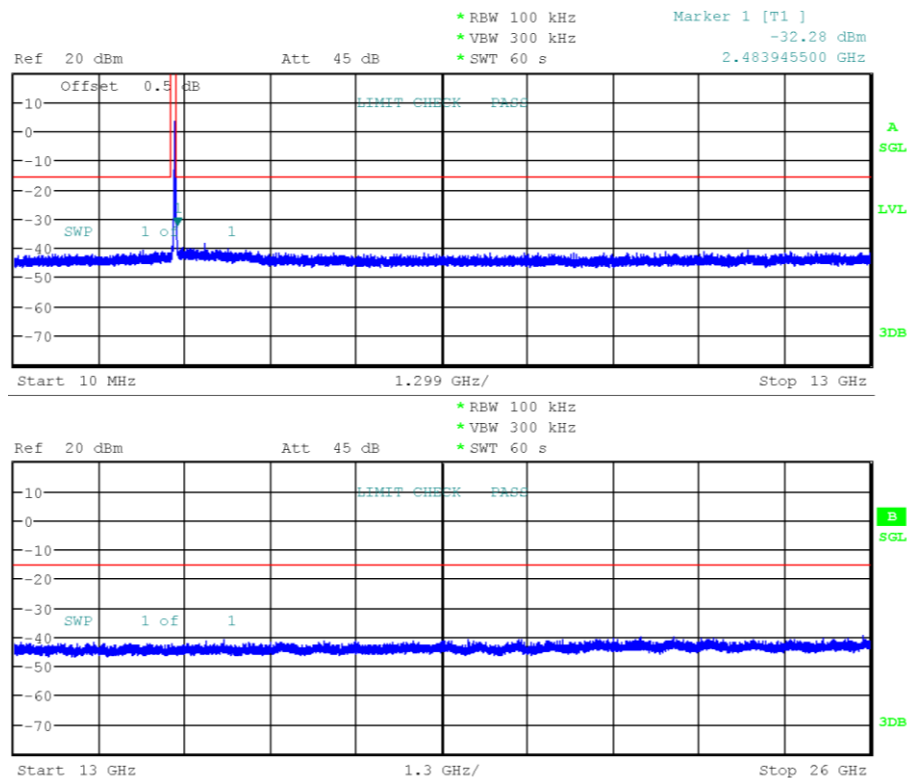
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 g, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Max. in-band Frequency [MHz]: 2439.5
 Max. in-band Level [dBm/100 kHz]: 3.2
 Out-of-band Limit [dBm/100 kHz]: -16.8



10.JUL.2023 17:40:16

Conducted Spurious Emissions

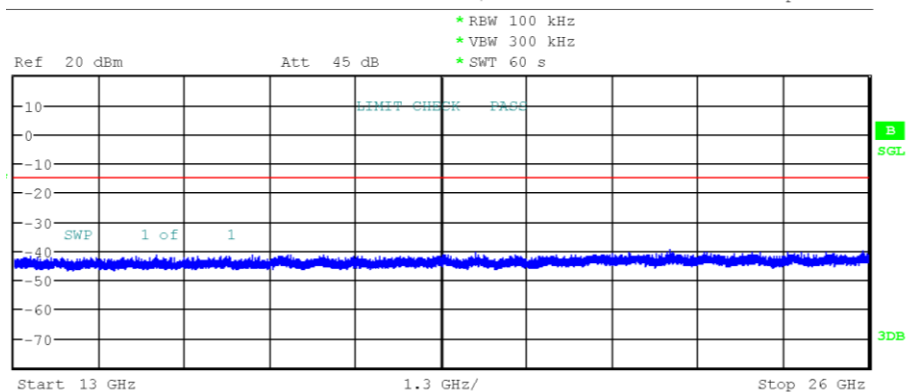
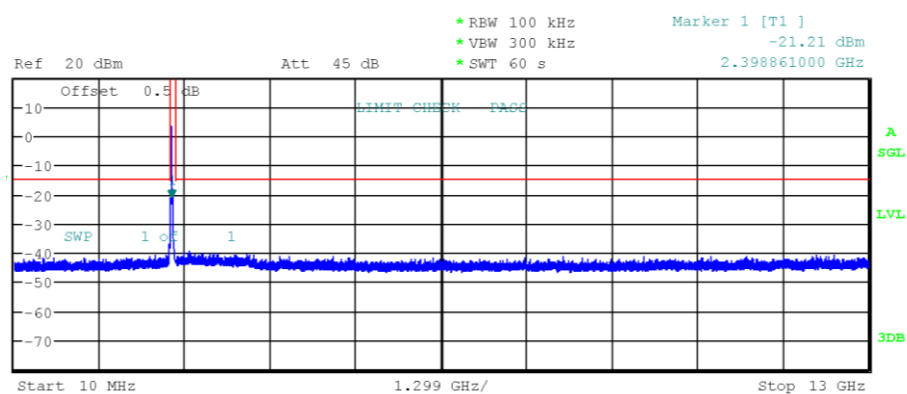
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 g, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = 6 Mbps (worst case)
 Max. in-band Frequency [MHz]: 2464.5
 Max. in-band Level [dBm/100 kHz]: 4.6
 Out-of-band Limit [dBm/100 kHz]: -15.4



10.JUL.2023 17:48:46

Conducted Spurious Emissions

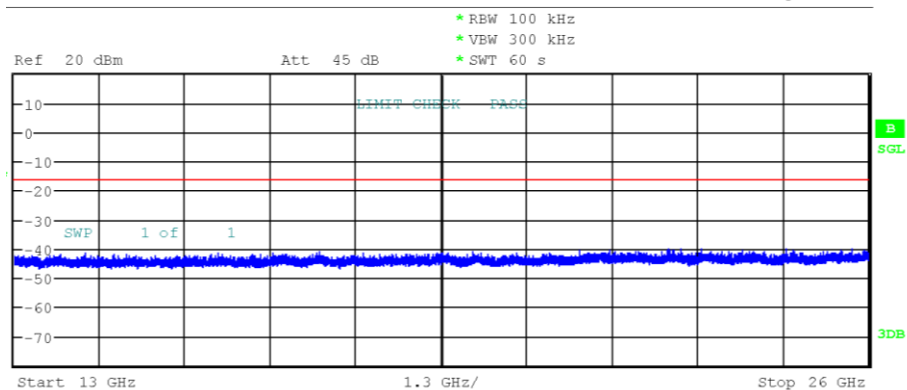
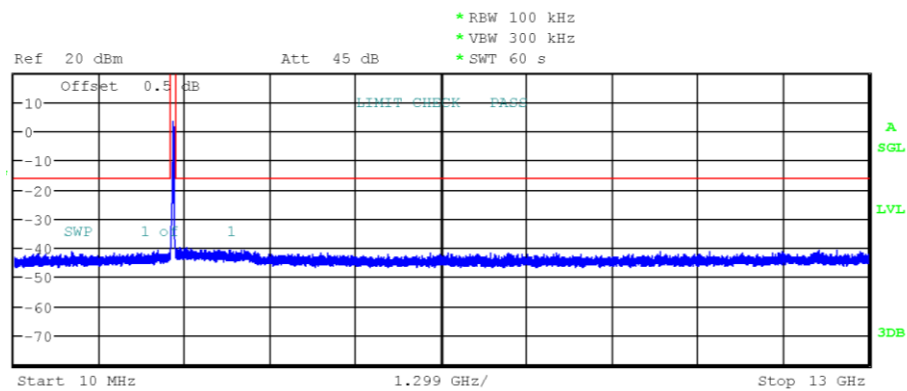
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 n HT20, Channel: 1, 2412 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Max. in-band Frequency [MHz]: 2419.5
 Max. in-band Level [dBm/100 kHz]: 5.3
 Out-of-band Limit [dBm/100 kHz]: -14.7



10.JUL.2023 17:54:14

Conducted Spurious Emissions

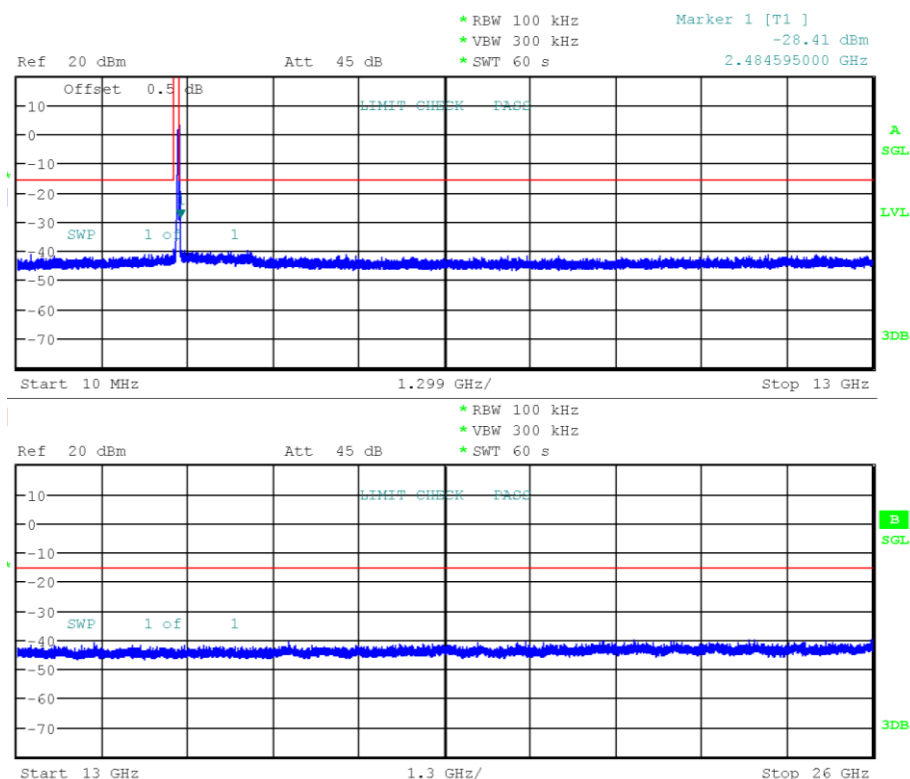
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 n HT20, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Max. in-band Frequency [MHz]: 2429.5
 Max. in-band Level [dBm/100 kHz]: 4.1
 Out-of-band Limit [dBm/100 kHz]: -15.9



10.JUL.2023 17:59:30

Conducted Spurious Emissions

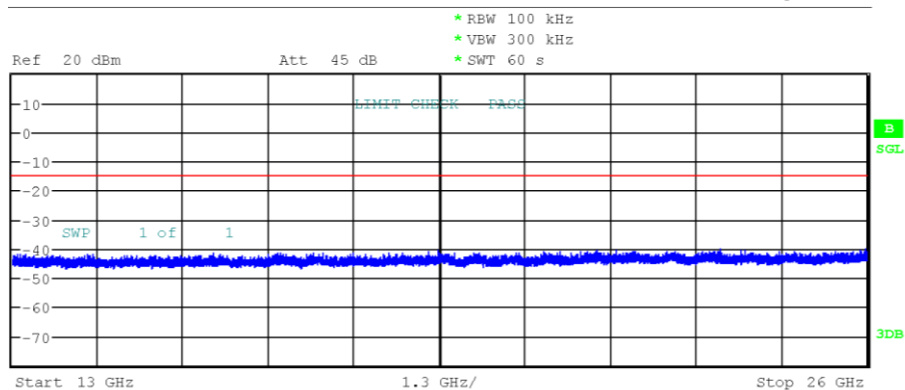
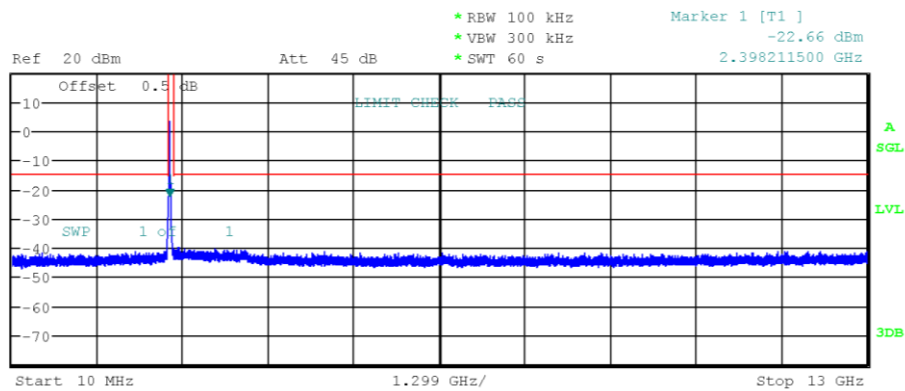
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 n HT20, Channel: 11, 2462 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 2 (worst case)
 Max. in-band Frequency [MHz]: 2464.5
 Max. in-band Level [dBm/100 kHz]: 4.8
 Out-of-band Limit [dBm/100 kHz]: -15.2



10.JUL.2023 18:03:06

Conducted Spurious Emissions

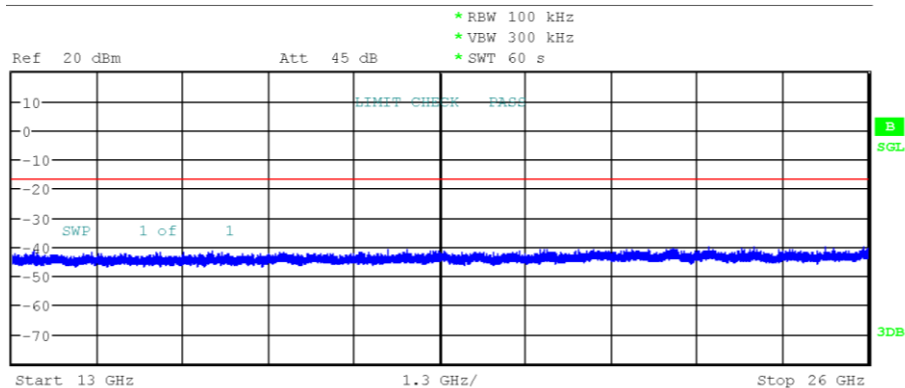
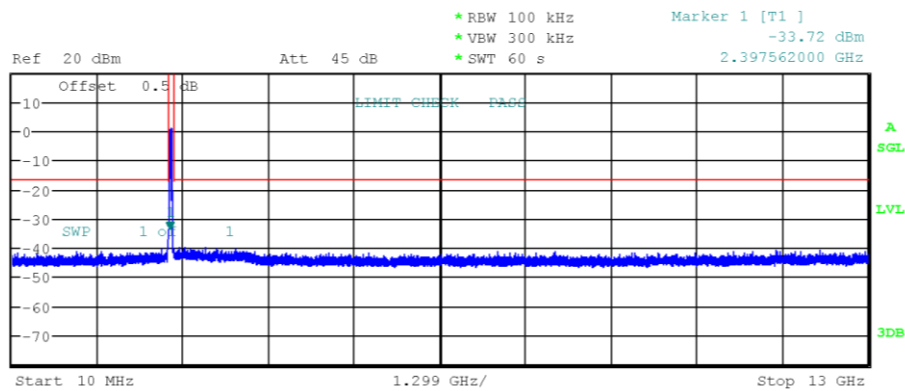
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 n HT40, Channel: 3, 2422 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Max. in-band Frequency [MHz]: 2419.5
 Max. in-band Level [dBm/100 kHz]: 5.1
 Out-of-band Limit [dBm/100 kHz]: -14.9



10.JUL.2023 18:08:28

Conducted Spurious Emissions

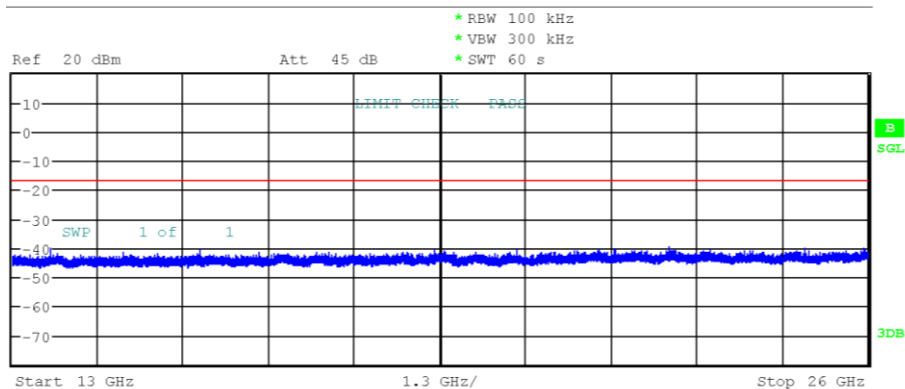
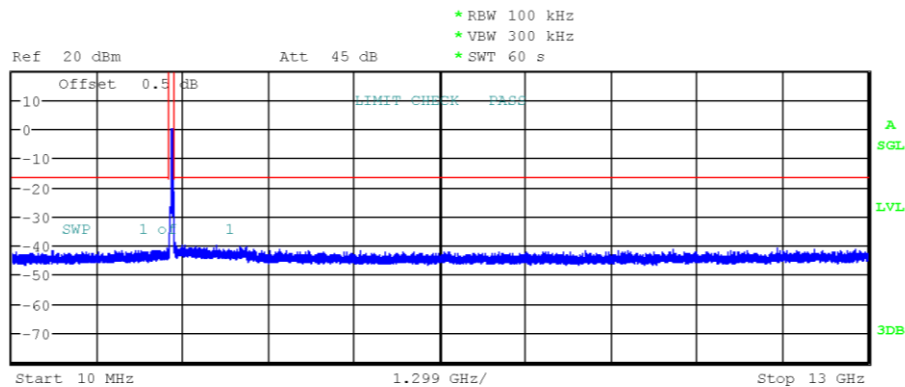
Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 n HT40, Channel: 6, 2437 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Max. in-band Frequency [MHz]: 2425.8
 Max. in-band Level [dBm/100 kHz]: 3.5
 Out-of-band Limit [dBm/100 kHz]: -16.5



10.JUL.2023 18:11:49

Conducted Spurious Emissions

Project Number: G0M-2302-1881
 Applicant: u-blox AG
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43093
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: IEEE 802.11 n HT40, Channel: 9, 2452 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Radwan Jaafar
 Test Site: Eurofins Product Service GmbH
 Test Date: 2023-07-10
 Note: Data rate = MCS 0 (worst case)
 Max. in-band Frequency [MHz]: 2444.5
 Max. in-band Level [dBm/100 kHz]: 3.7
 Out-of-band Limit [dBm/100 kHz]: -16.3



10.JUL.2023 18:18:54

3.8 Test Conditions and Results - Transmitter radiated emissions

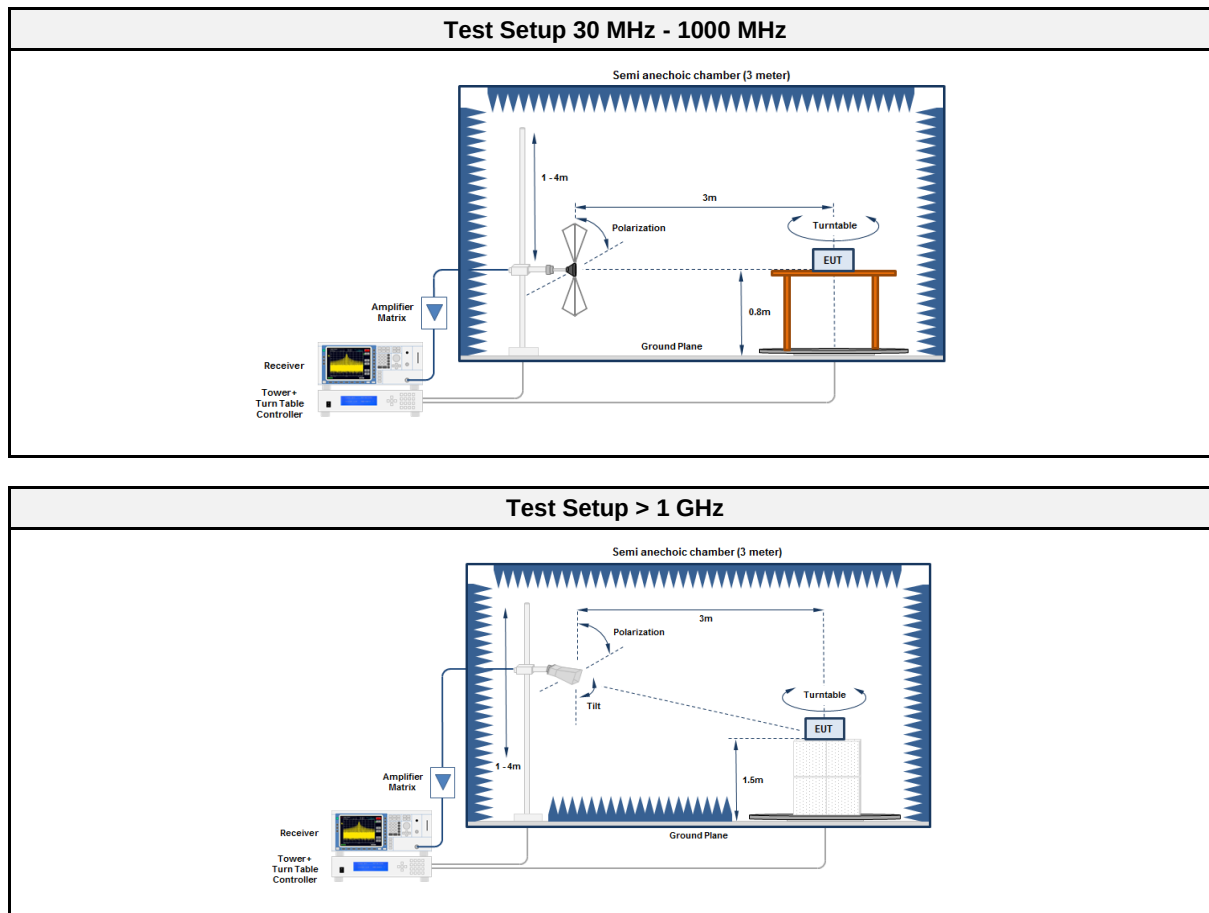
3.8.1 Information

Test Information	
Reference	FCC § 15.247(d); FCC § 15.209; ISSED RSS-Gen, Issue 5 A2 (section 6.13)
Measurement Uncertainty	± 5.95 dB
Measurement Method	ANSI C63.10 6.4, 6.5, 6.6, 11.12
Operator	Godson Offorji + Ehsan Sohrabi
Date	2023-07-17 – 2023-07-26

3.8.2 Limits

Limits			
Frequency range [MHz]	Detector	Field strength [µV/m]	Measurement distance [m]
0.009 - 0.09	Average	2400/F[kHz]	300
0.09 - 0.110	Quasi-Peak	2400/F[kHz]	300
0.110 - 0.490	Average	2400/F[kHz]	300
0.490 - 1.705	Quasi-Peak	24000/F[kHz]	30
1.705 - 30.0	Quasi-Peak	30	30
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.8.3 Setup



3.8.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2020.1.8

Test Equipment 30 MHz - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2022-11	2025-11
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2023-02	2024-02
Antenna	Schwarzbeck	VULB 9168	EF01824	2022-10	2023-10

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC2	EF01616	2022-10	2023-10
Spectrum analyzer	R&S	FSW43	EF00896	2022-08	2023-08
Antenna	Schwarzbeck	BBHA 9120B	EF01678	2021-03	2024-03
Antenna	Schwarzbeck	HWRD 650	EF01679	2021-03	2024-03
Antenna	Amplifier Research	AT4560	EF00302	2021-06	2023-06

3.8.5 Procedure

Test Procedure 30 MHz - 1000 MHz	
1.	EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground
2.	EUT set to test mode
3.	The receiver is set to peak detection with max hold
4.	The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m
5.	All significant emissions are measured again using the corresponding final detector

Test Procedure > 1 GHz	
1.	EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground
2.	EUT set to test mode
3.	The receiver is set to peak detection with max hold
4.	The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m
5.	All significant emissions are measured again using the corresponding final detector

3.8.6 Results

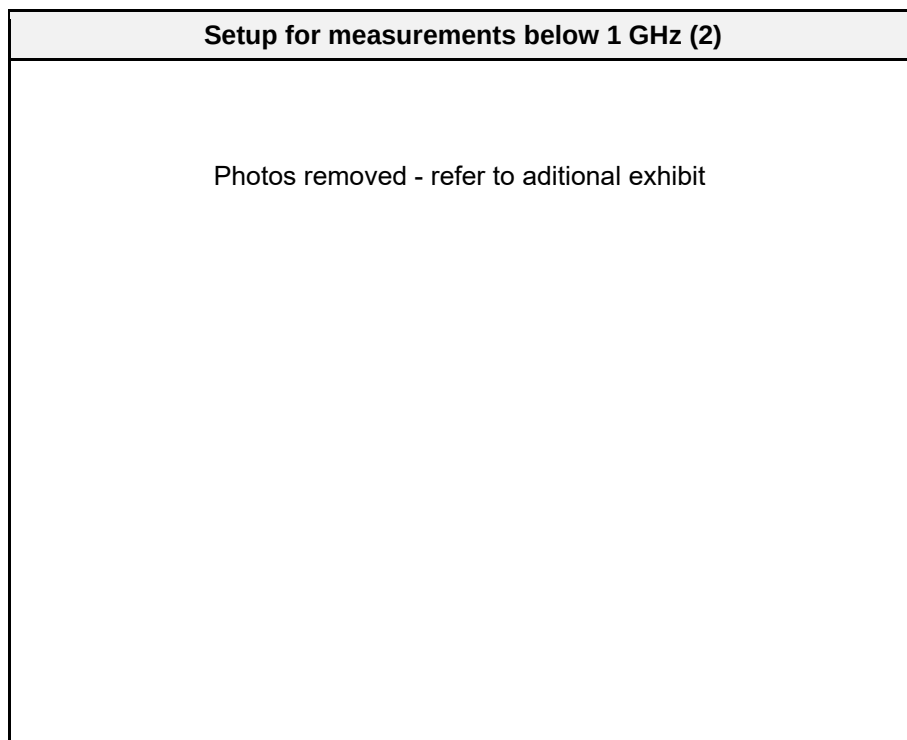
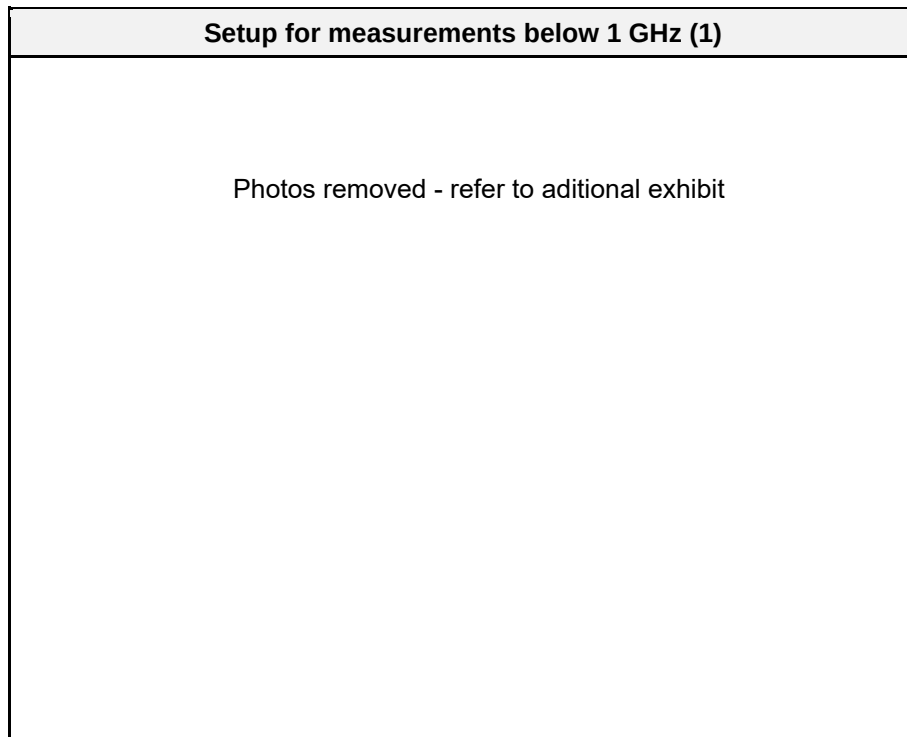
Test Results – DSSS						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2412	4824	44.98	pk	ver	74.00	-29.02
2412	4824	42.68	avg	ver	54.00	-11.32
2437	4874	46.07	pk	ver	74.00	-27.93
2437	4874	43.85	avg	ver	54.00	-10.15
2462	4924	49.77	pk	ver	74.00	-24.23
2462	4924	47.15	avg	ver	54.00	-06.85
2462	7388	46.54	pk	ver	74.00	-27.46
2462	7388	42.11	avg	ver	54.00	-11.89

Test Results – OFDM						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2412	2388	68.11	pk	ver	74.00	-05.89
2412	2388	51.06	avg	ver	54.00	-02.94
2437	2387	54.60	pk	ver	74.00	-19.40
2437	2387	45.89	avg	ver	54.00	-08.11
2437	2484.4	63.16	pk	ver	74.00	-10.84
2437	2484.4	46.65	avg	ver	54.00	-07.35
2437	4874.5	44.21	pk	ver	74.00	-29.79
2437	4874.5	34.48	avg	ver	54.00	-19.52
2437	7310.8	45.21	pk	ver	74.00	-28.79
2437	7310.8	38.05	avg	ver	54.00	-15.95

Test Results - HT20						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2437	2389.5	57.84	pk	ver	74.00	-16.16
2437	2389.5	46.71	avg	ver	54.00	-07.29
2437	2484.6	61.60	pk	ver	74.00	-12.40
2437	2484.6	47.13	avg	ver	54.00	-06.87
2462	2484.3	67.23	pk	ver	74.00	-06.77
2462	2484.3	51.66	avg	ver	54.00	-02.34
2462	2500	52.89	pk	ver	74.00	-21.11
2462	2500	42.76	avg	ver	54.00	-11.24

Test Results - HT40						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2422	2494.7	50.26	pk	ver	74.00	-23.74
2422	2494.7	38.38	avg	ver	54.00	-15.62
2437	2389.9	57.66	pk	ver	74.00	-16.34
2437	2389.9	46.83	avg	ver	54.00	-07.17
2437	2483.9	62.55	pk	ver	74.00	-11.45
2437	2483.9	50.18	avg	ver	54.00	-03.82
2452	2484.7	65.07	pk	ver	74.00	-08.93
2452	2484.7	47.13	avg	ver	54.00	-06.87
2452	2485.4	68.24	pk	ver	74.00	-05.76
2452	2485.4	46.21	avg	ver	54.00	-07.79
2452	2500	63.11	pk	ver	74.00	-10.89
2452	2500	51.38	avg	ver	54.00	-02.62

3.8.7 Setup Photos



EUT Test Setup below 1 GHz

Photos removed - refer to additional exhibit

Setup for measurements above 1 GHz

Photos removed - refer to additional exhibit

EUT Test Setup above 1 GHz

Photos removed - refer to additional exhibit

3.9 Test Conditions and Results - Receiver radiated emissions

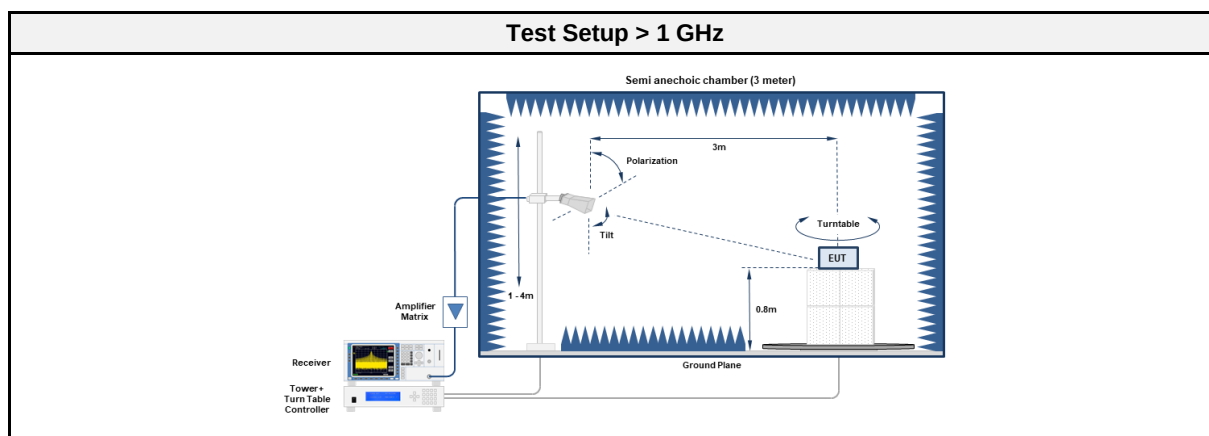
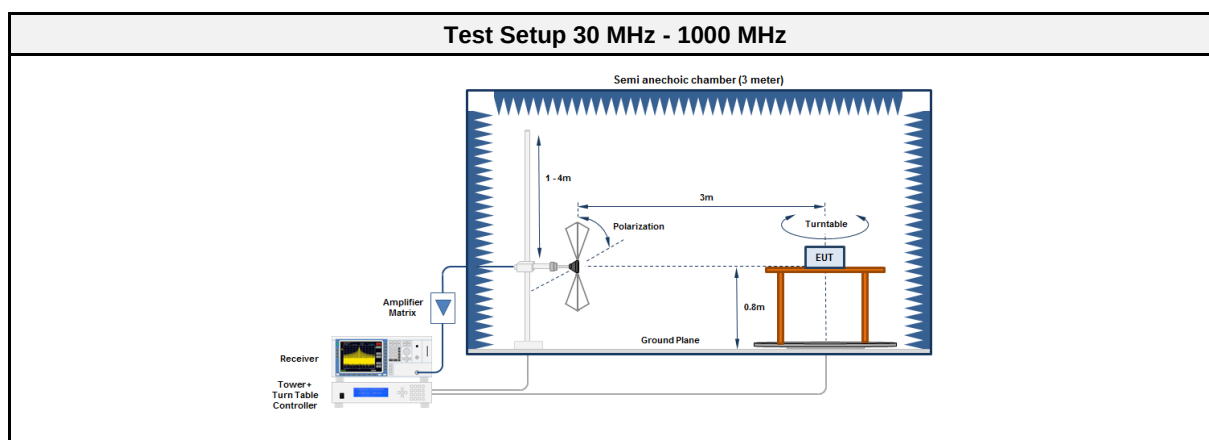
3.9.1 Information

Test Information	
Reference	ISED RSS-247, Issue 2 (section 3.1)
Measurement Uncertainty	± 5.95 dB
Measurement Method	ANSI C63.4-2014 8.1-8.3
Operator	Ehsan Sohrabi
Date	2023-06-27

3.9.2 Limits

Limits			
Frequency range [MHz]	Detector	Field strength [$\mu\text{V/m}$]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.9.3 Setup



3.9.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2020.1.8

Test Equipment 30 MHz - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2021-02	2024-02
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2023-01
Antenna	Schwarzbeck	VULB 9168	EF01824	2022-10	2023-10

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF01011	2022-06	2025-06
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2023-01
Antenna	Schwarzbeck	BBHA 9120D	EF01561	2021-11	2024-11
Antenna	Schwarzbeck	HWRD 650	EF01679	2021-03	2024-03

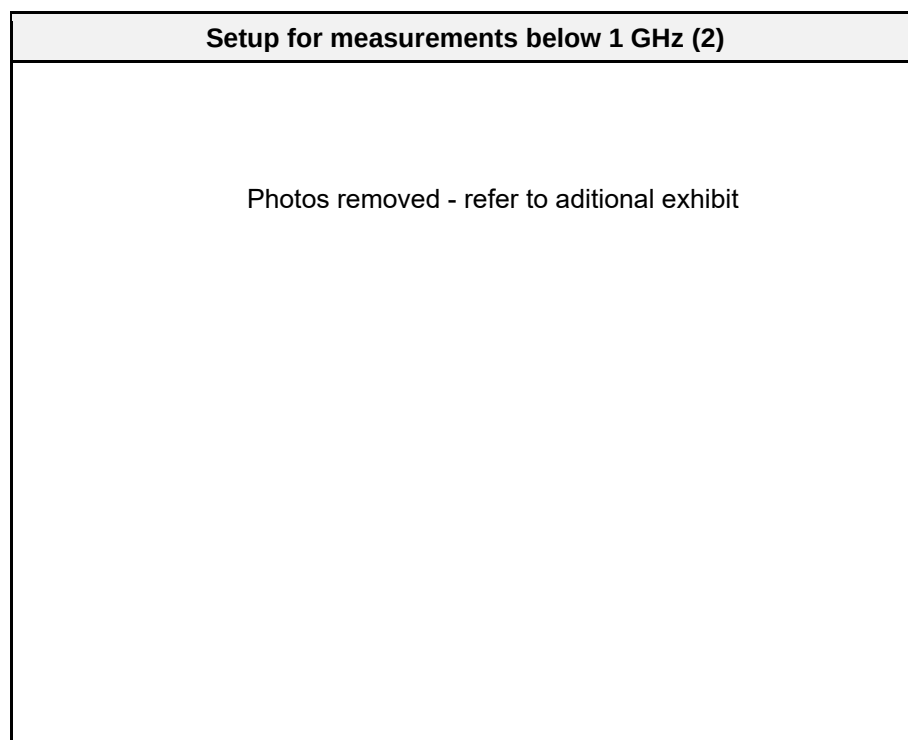
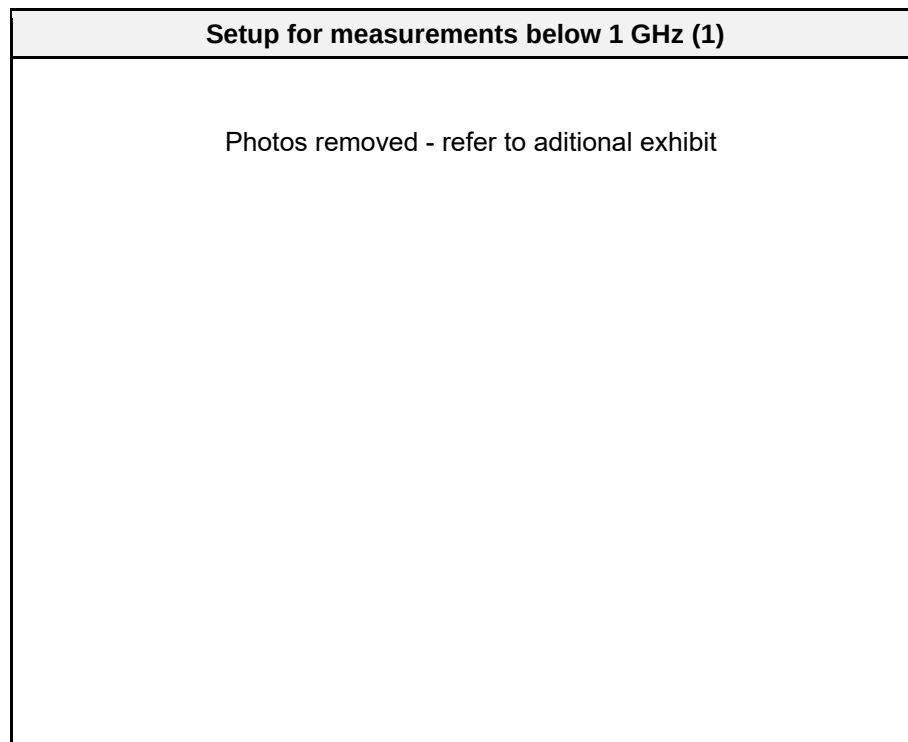
3.9.5 Procedure

Test Procedure	
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT is set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector	

3.9.6 Results

Test Results						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2437	639.977	39.80	pk	ver	46.00	-06.20
2437	639.977	35.70	qpk	ver	46.00	-10.32
2437	1280	40.84	pk	ver	74.00	-33.16
2437	1280	35.04	avg	ver	53.98	-18.94
2437	6471	48.44	pk	ver	74.00	-25.56
2437	6471	37.40	avg	ver	53.98	-16.58

3.9.7 Setup Photos



EUT Test Setup
Photos removed - refer to additional exhibit

Setup for measurements above 1 GHz (1)
Photos removed - refer to additional exhibit

Setup for measurements above 1 GHz (2)

Photos removed - refer to additional exhibit

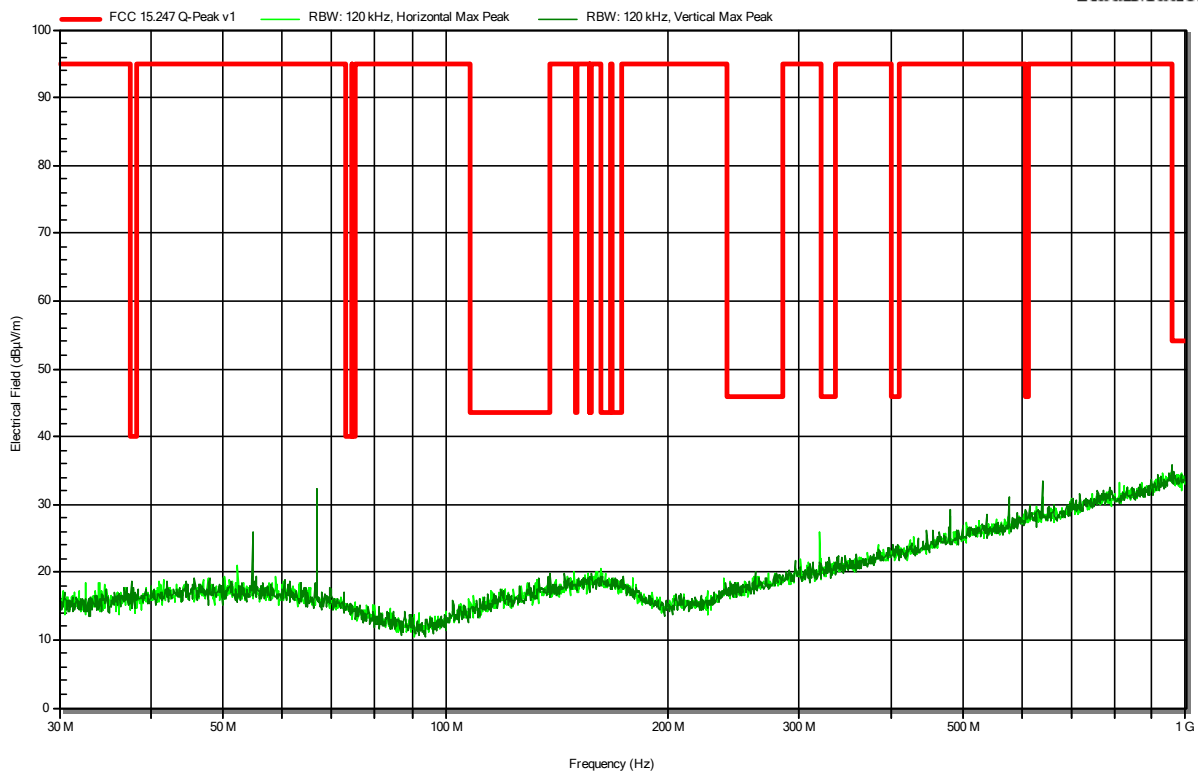
ANNEX A Transmitter spurious emissions

Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Sohrabi
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 20 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch1, 2412 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-26

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RadiMation

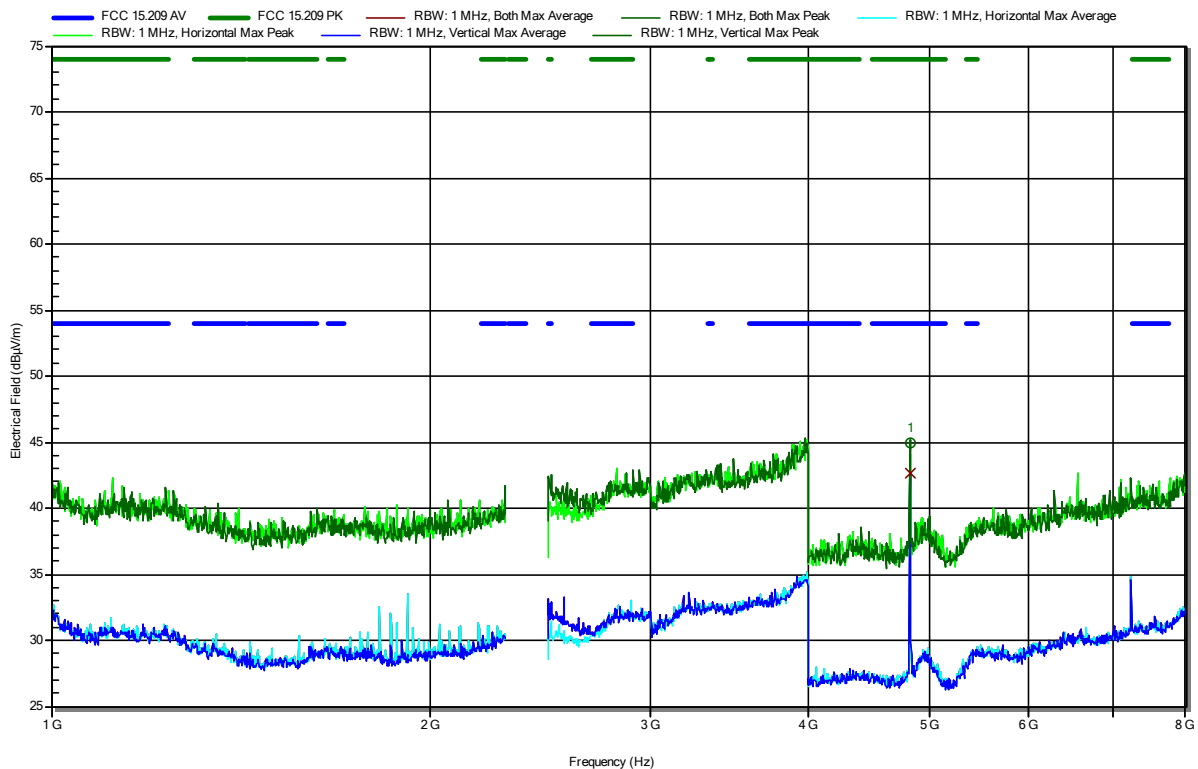


Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Godson Offorji
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 23 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch1, 2412 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-17

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RadiMation



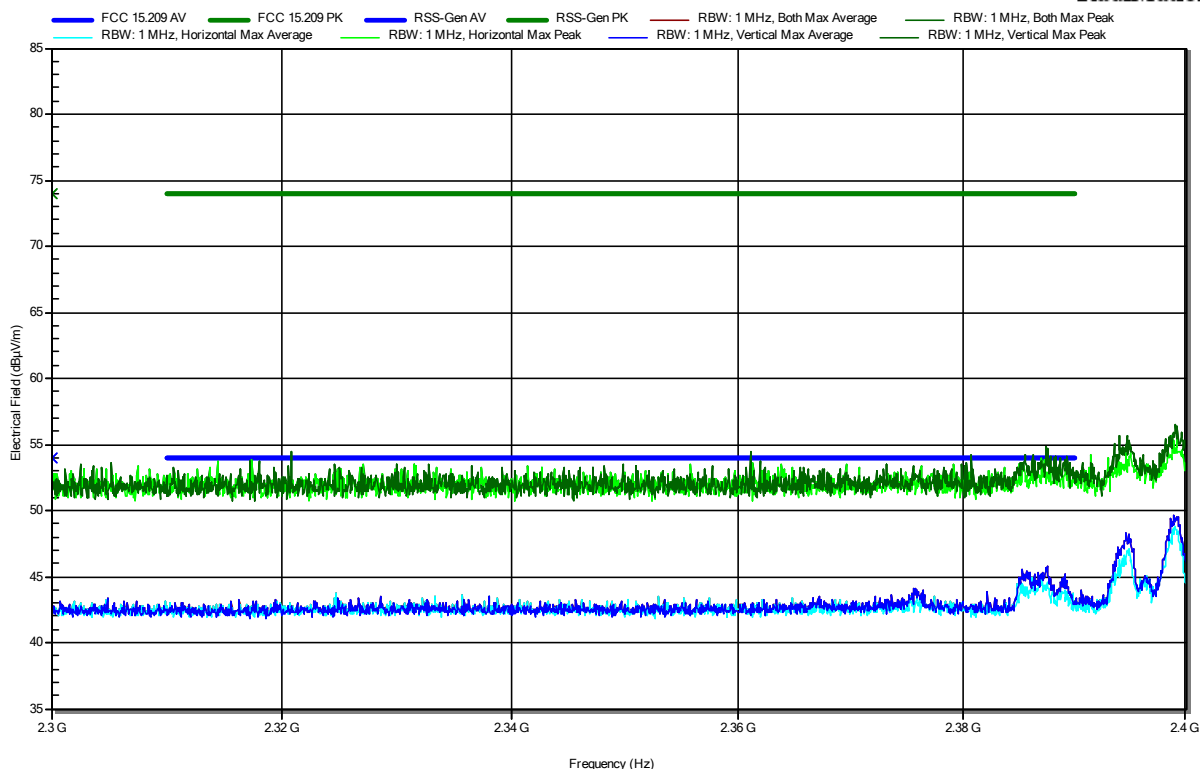
Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
4.824 GHz	44.98 dBμV/m	74 dBμV/m	-29.02 dB	Pass	Vertical
Frequency	Average	Average Limit	Average Difference	Average Status	Polarization
4.824 GHz	42.68 dBμV/m	54 dBμV/m	-11.32 dB	Pass	Vertical

Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Godson Offorji
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 23 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch1, 2412 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-17
 Note: lower bandedge

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RadiMation

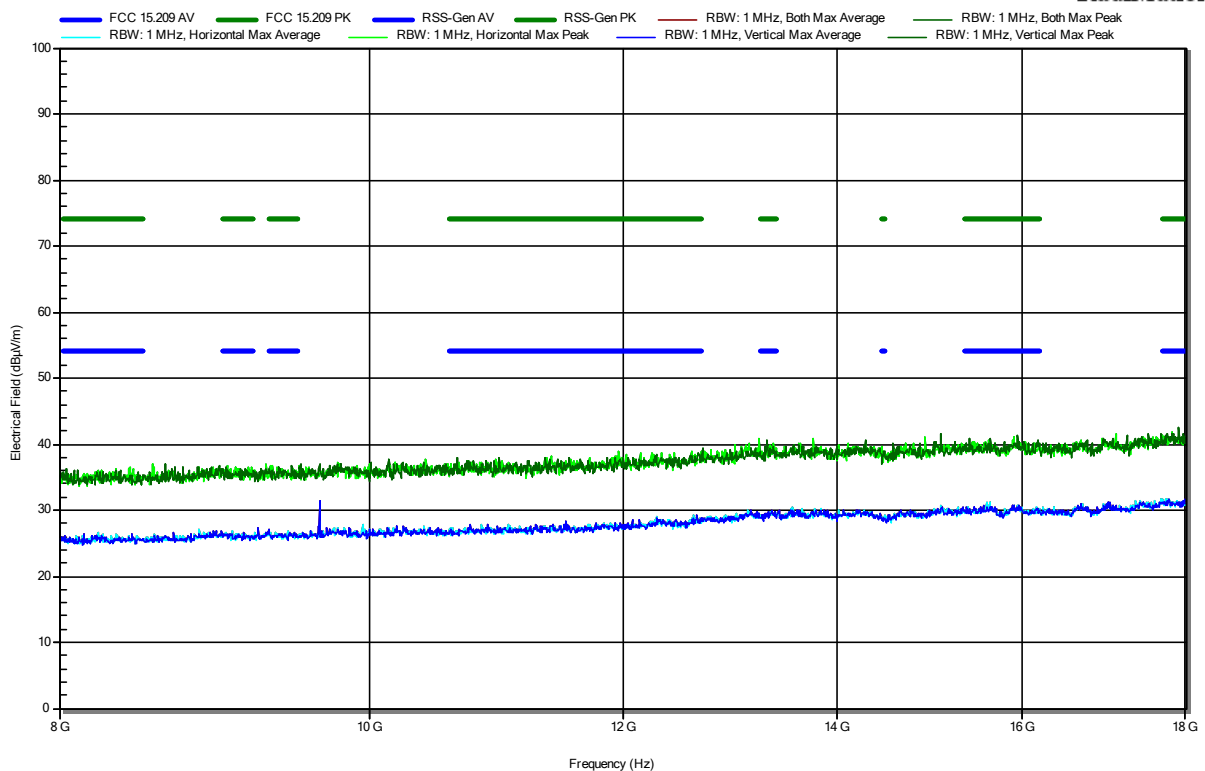


Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Godson Offorji
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 23 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch1, 2412 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-17

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RadiMation

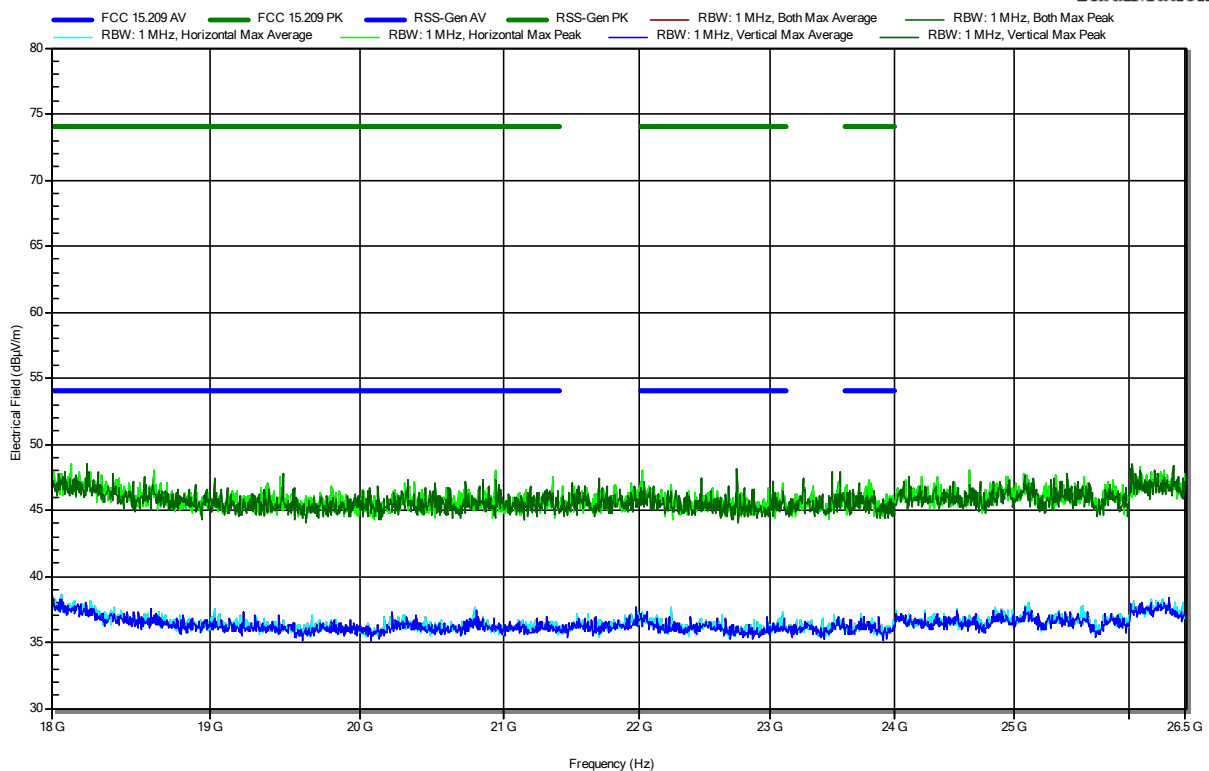


Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Godson Offorji
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 23 °Celsius, Vnom: 3.3 VDC
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch1, 2412 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-17

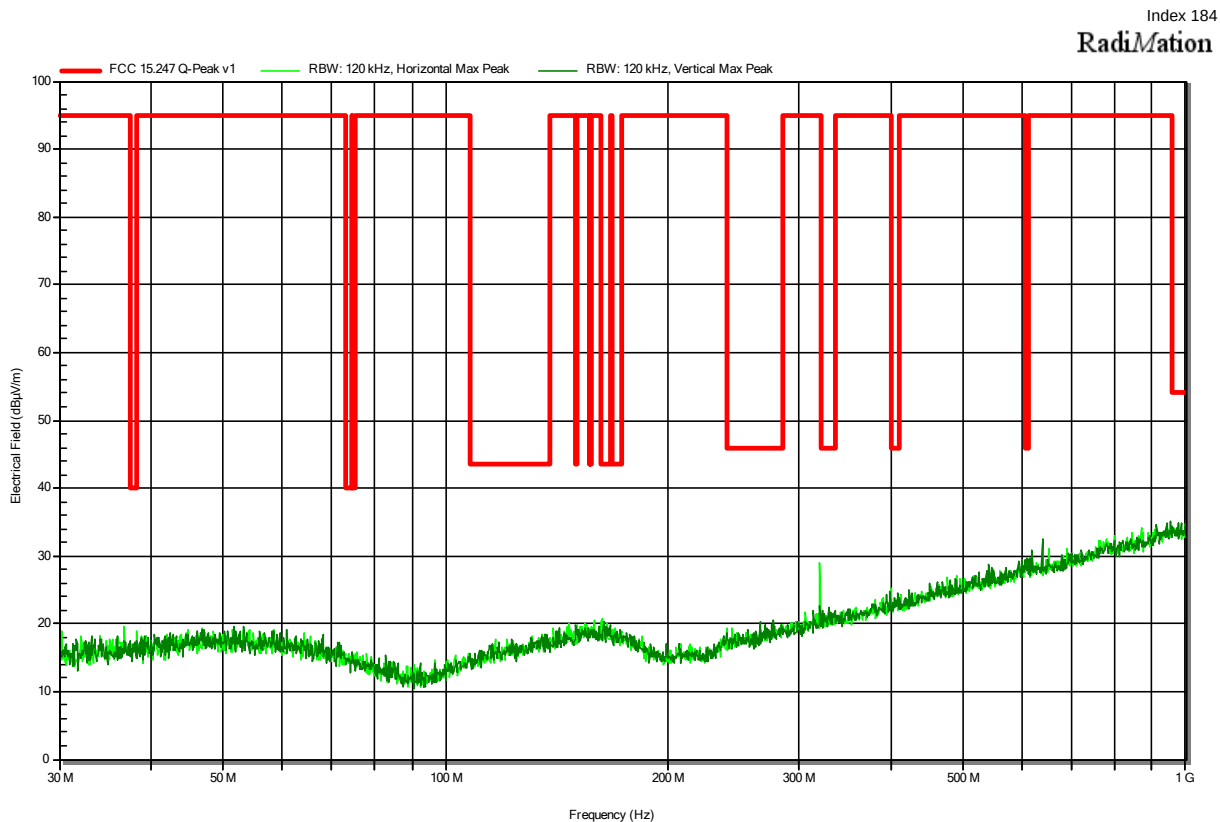
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RadiMation



Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Sohrabi
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 20 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch6, 2437 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-26

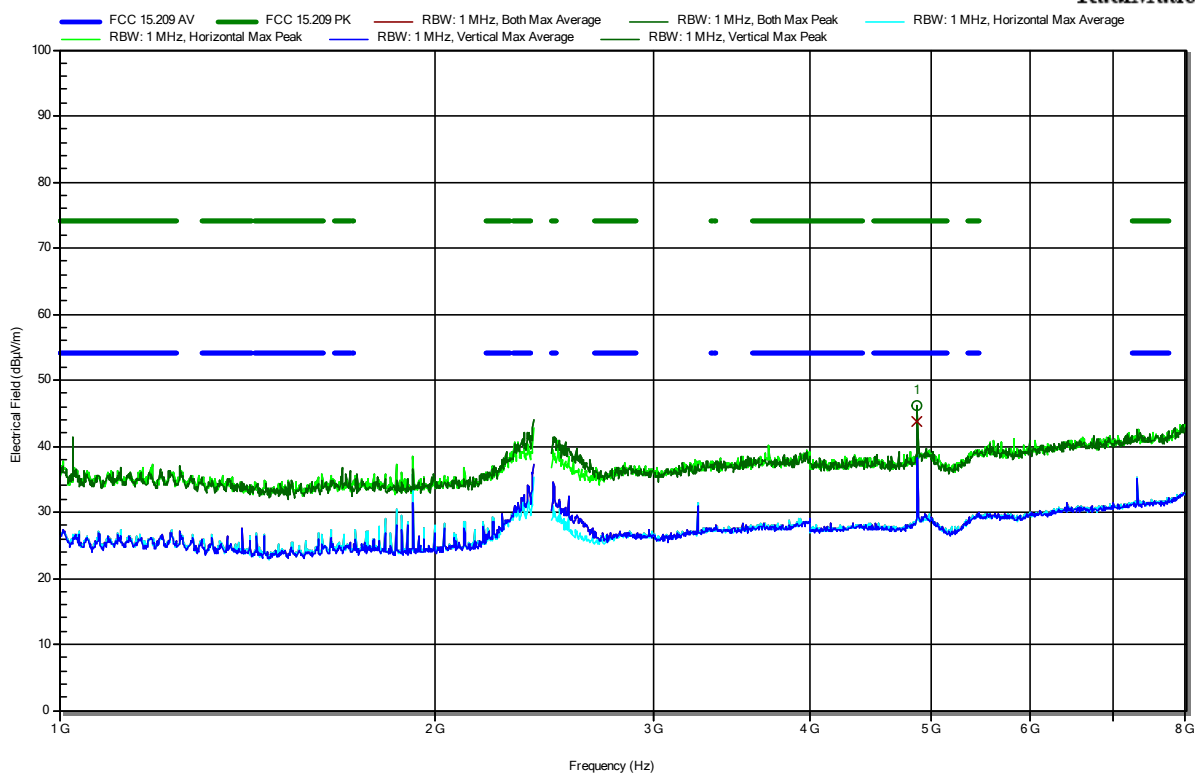


Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Godson Offorji
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 23 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch6, 2437 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-17

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RadiMation



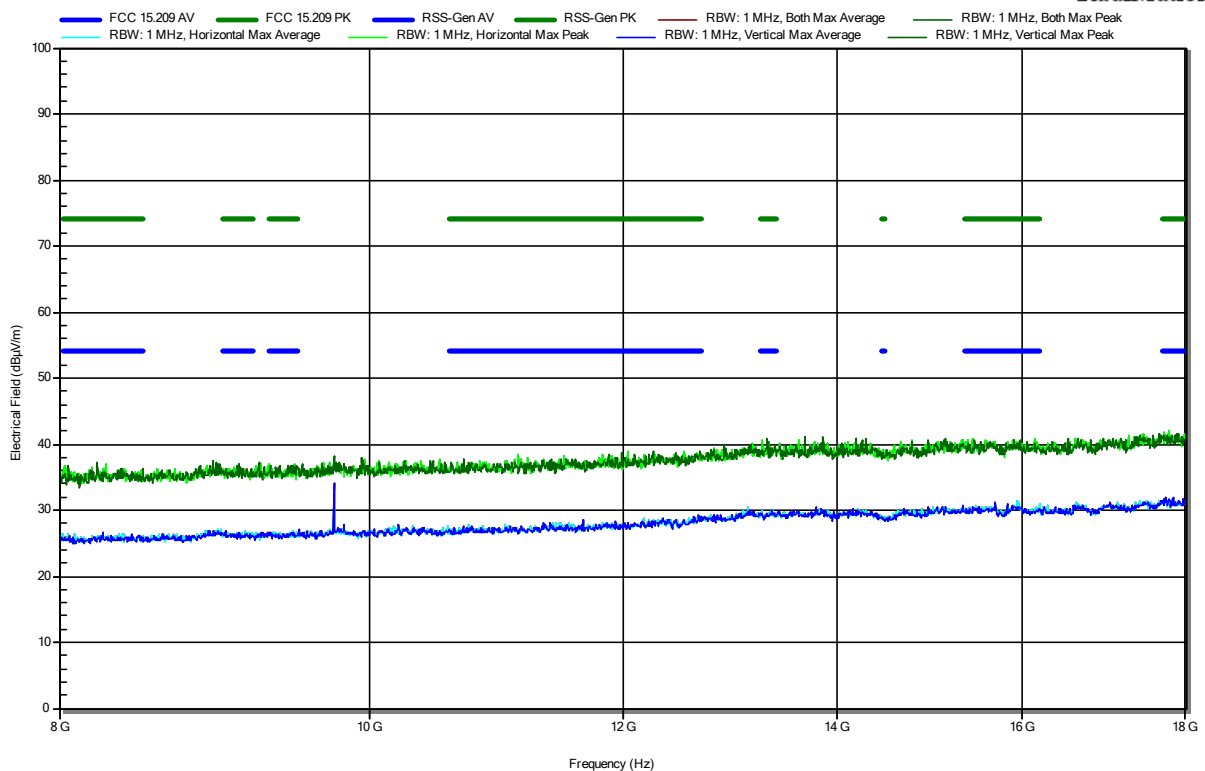
Frequency 4.874 GHz	Peak 46.07 dBμV/m	Peak Limit 74 dBμV/m	Peak Difference -27.93 dB	Peak Status Pass	Polarization Vertical
Frequency 4.874 GHz	Average 43.85 dBμV/m	Average Limit 54 dBμV/m	Average Difference -10.15 dB	Average Status Pass	Polarization Vertical

Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Godson Offorji
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 23 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch6, 2437 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-17

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RadiMation

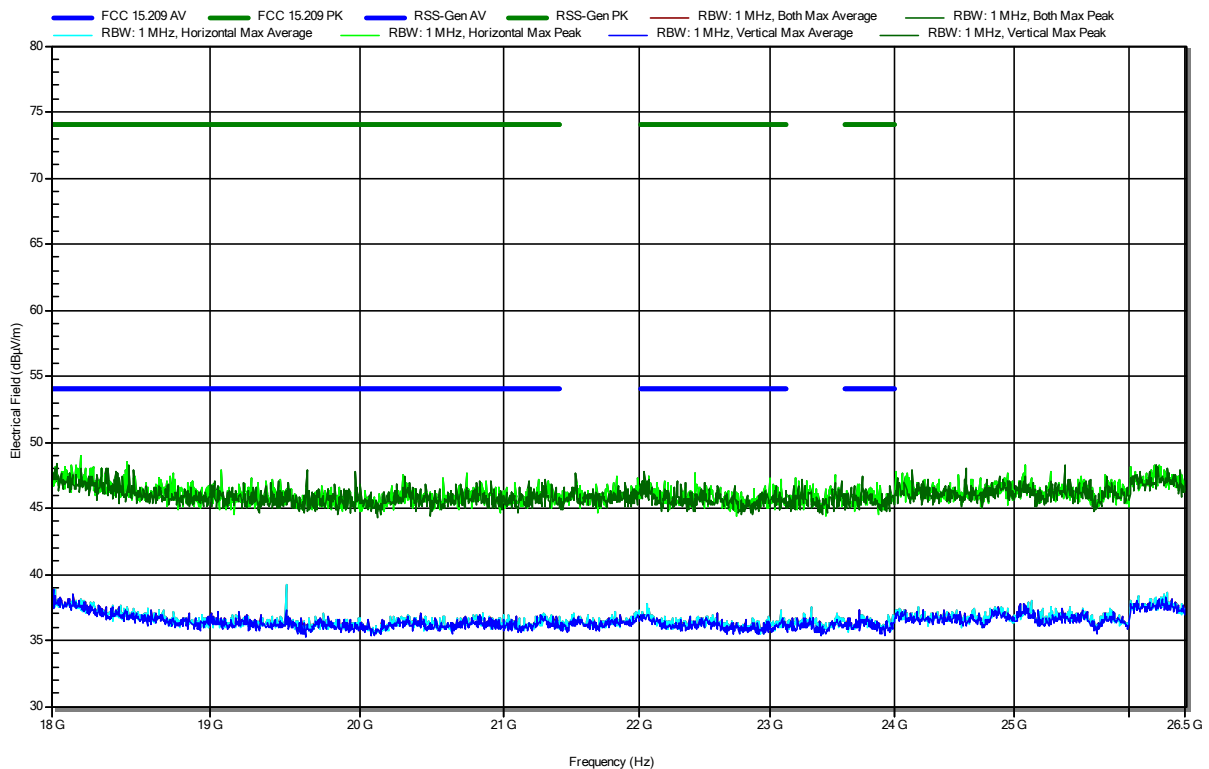


Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Godson Offorji
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 23 °Celsius, Vnom: 3.3 VDC
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch6, 2437 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-17

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RadiMation

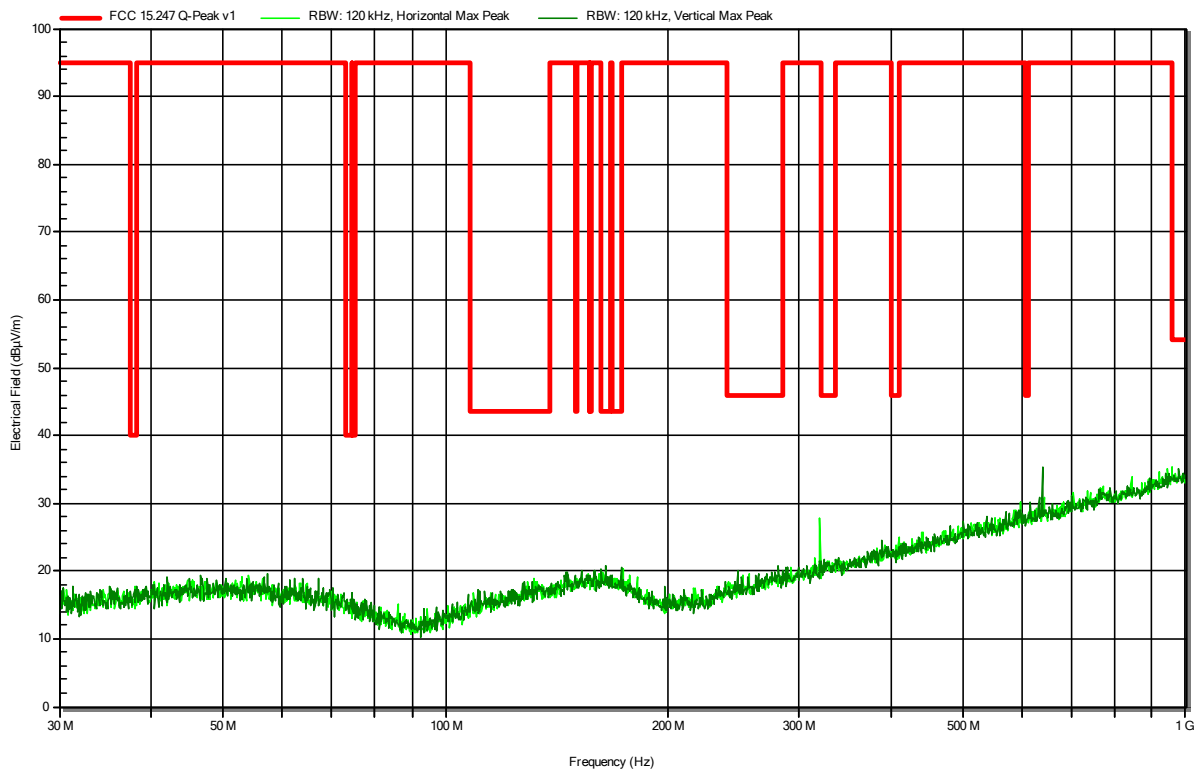


Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Sohrabi
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 20 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch11, 2462 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-26
 Note:

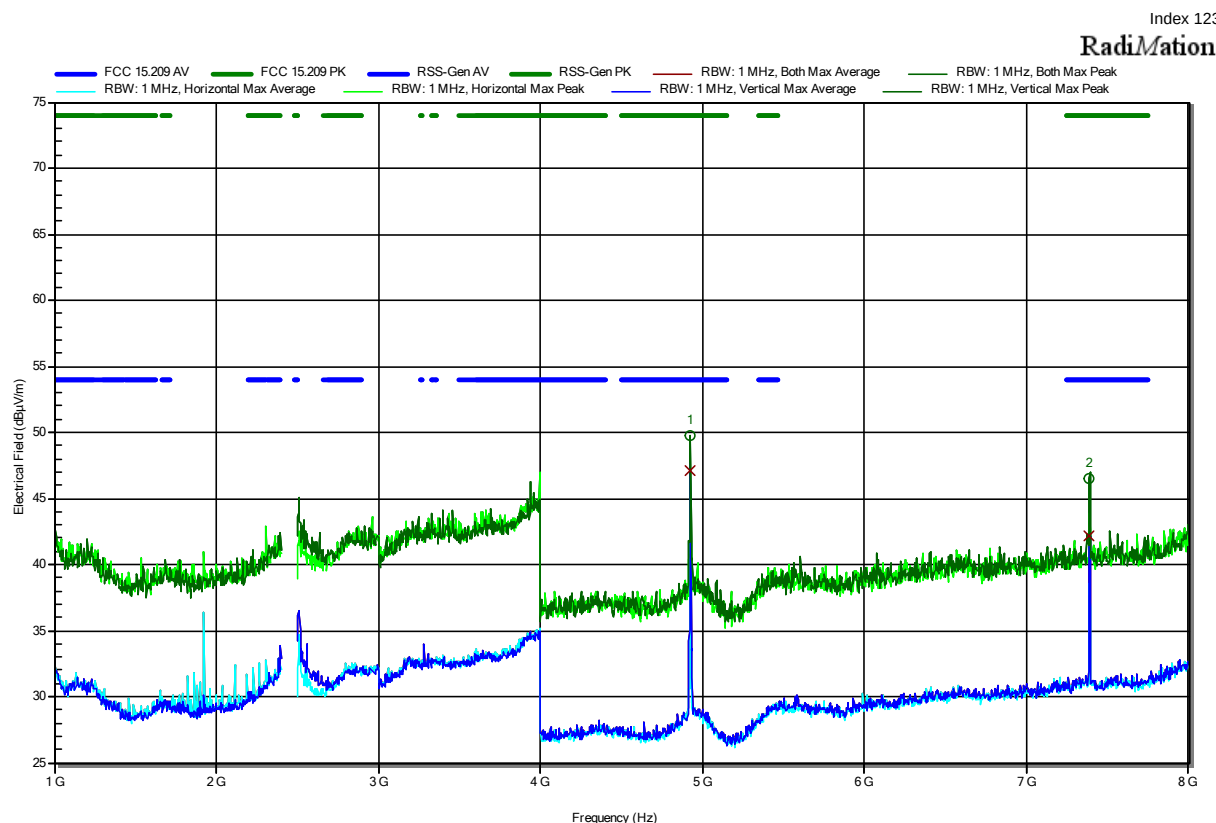
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RadiMation



Radiated Spurious Emissions according to 47 CFR Part 15.247

Project Number: G0M-2302-1881
 Applicant: u-blox Malmö AB
 Model Description: Host-based multiradio module
 Model: MAYA-W271-00B
 Test Sample ID: 43094
 Test Site: Eurofins Product Service GmbH
 Operator: Godson Offorji
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 23 °Celsius, Vnom: 3.3 VDC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11b, Ch11, 2462 GHz, 1 Mbps, BPSK, DC=99%, P=19 dBm
 Test Date: 2023-07-18
 Note:



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
4.924 GHz	49.77 dBµV/m	74 dBµV/m	-24.23 dB	Pass	Vertical
7.388 GHz	46.54 dBµV/m	74 dBµV/m	-27.46 dB	Pass	Vertical

Frequency	Average	Average Limit	Average Difference	Average Status	Polarization
4.924 GHz	47.15 dBµV/m	54 dBµV/m	-6.85 dB	Pass	Vertical
7.388 GHz	42.11 dBµV/m	54 dBµV/m	-11.89 dB	Pass	Vertical