



FCC LISTED, REGISTRATION  
NUMBER: 2764.01

Test Report No:  
5027ERM.002A3

ISED LISTED REGISTRATION  
NUMBER: 23595-1

## Test Report

### USA FCC Part 15.247, 15.209, 15.207; & CANADA RSS-247, RSS-Gen

Radio Frequency Devices. Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz

Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices.

(*) Identification of item tested	Smart light switch
(*) Trademark	Deako
(*) Model and /or type reference	DS2023
Other identification of the product	FCC ID: 2AK29- DS2023 IC ID: 22393-DS2023
(*) Features	Bluetooth, Wi-Fi
Manufacturer	Deako Inc. 4201 ROOSEVELT WAY NE, 98105, SEATTLE, WASHINGTON, USA
Test method requested, standard	USA FCC Part 15.247 (06-1-20 Edition): Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz USA FCC Part 15.209 (06-28-21 Edition): Radiated emission limits; general requirements. CANADA RSS-247 Issue 3 (August 2023). CANADA RSS-Gen Issue 5 amendment 1 (March 2019). Guidance for Performing Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid Systems Devices Operating Under Section 15.247 of the FCC Rules. 558074 D01 Meas Guidance v05r02 dated April 2, 2019. ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Domingo Galvez EMC&RF Lab Manager
Date of issue	05-27-2025
Report template No	FDT08_23
	(*) "Data provided by the client"

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## Acronyms

Acronym ID	Acronym Description
	Emission Bandwidth
# of Tx Chains	Number of Transmission Chains
Equipment	Equipment Type
Freq	Frequency
In band Peak Lvl	In band Peak Level
Lvl	Level
MP	Measurement Point
Mod	Modulation
Occ Ch BW	Occupied Channel Bandwidth
PSD	Power Spectrum Density
Peak Power	Maximum Peak Conducted Output Power
Port	Active Port

## Competences and guarantees

DEKRA Certification Inc. is a testing laboratory accredited by A2LA (The American Association for Laboratory Accreditation), to perform the tests indicated in the Certificate 2764.01

DEKRA Certification Inc. is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA Certification Inc. has a calibration and maintenance program for its measurement equipment.

DEKRA Certification Inc. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Certification at the time of performance of the test.

DEKRA Certification Inc. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Certification Inc.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Certification Inc. and the Accreditation Bodies.

## Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Certification internal document PODT000.

Test case	Frequency (MHz)	U (k=2)	Units
RF Power and PSD	5150-5850	0.88	dB
Occupied Bandwidth		1.87	%
Dwell Time		0.01	%
Band Edge		0.64	dB
Radiated Spurious Emission	30-180	4.27	dB
	180-1000	3.14	dB
	1000-18000	3.30	dB
	18000-40000	3.49	dB

## Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
2. The sample consists of the product is a Wi-Fi and Bluetooth connected light switch for residential purposes.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

## Usage of samples

Samples used for testing have been selected by: The client.

Sample S/01 is composed of the following elements and accessories:

Id	Control Number	Description	Model	Serial N°	Date of Reception	Application
S/01	4935/34	Module 3	-	-	1/9/2025	Element Under Test
S/01	4935/01	UART flat grey cable	-	-	12/17/2024	Accessory
S/01	4935/02	Espressif Programmer	-	-	12/17/2024	Accessory
S/01	4935/03	USB Type A (Male) to Micro B (Male) Cable	-	-	12/17/2024	Accessory
S/01	4935/06	Backplate	DS-BP1X-WHNL-UCX	-	12/17/2024	Accessory
S/01	4935/09	assembled Deako Smart Switch Sample 3	-	-	12/17/2024	Accessory

1. Sample S/01, was used for the following test(s): All Conducted and Radiated tests indicated in appendix A and B.

## Test sample description

### Test Sample description (compulsory information for EMC and RF testing services)

Ports.....	Port name and description	Cable			
		Specified length [m]	Attached during test	Shielded	
	Hot In	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Neutral	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Ground	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
Supplementary information to the ports.....	No Data Provided				
Rated power supply .....	Voltage and Frequency	Reference poles			
		L1	L2	L3	N
	<input checked="" type="checkbox"/> AC: 120VAC, 60Hz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> AC:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> DC:				
	<input type="checkbox"/> DC:				
Rated Power .....	No Data Provided				
Clock frequencies.....	40Mhz				
Other parameters .....	No Data Provided				
Software version .....	1				
Hardware version .....	1				
Dimensions in cm (W x H x D) ....:	42.4x80.5x45.7mm				
Mounting position .....	<input type="checkbox"/>	<i>Tabletop equipment</i>			
	<input checked="" type="checkbox"/>	<i>Wall/Ceiling mounted equipment</i>			
	<input type="checkbox"/>	<i>Floor standing equipment</i>			
	<input type="checkbox"/>	<i>Hand-held equipment</i>			
	<input type="checkbox"/>	<i>Other: Automotive</i>			

Modules/parts.....:	Module/parts of test item	Type	Manufacturer
	Plastic Enclosure		Deako
	DC Board		Deako
	AC Card		Deako
Accessories (not part of the test item) .....	Description	Type	Manufacturer
	No Data Provided		
Documents as provided by the applicant.....:	Description	File name	Issue date
	Dekra Work Instructions	Dekra Work Instruments	12/12/24
	Declaration Equipment Data	FDT30_18 Declaration Equipment Data - VA	01/14/2025

**Copy of marking plate:**



<sup>(3)</sup> Only for Medical Equipment

## Identification of the client

Deako Inc.  
4201 ROOSEVELT WAY NE,  
98105, SEATTLE, WASHINGTON,  
USA

## Testing period and place

Test Location	DEKRA Certification Inc.
Date (start)	01-10-2025
Date (finish)	03-10-2025

## Document history

Report number	Date	Description
5027ERM.002	03-31-2025	First release.
5027ERM.002A1	04-18-2025	Second release. The information for BT worst case for radiated spurious emission test is updated in the description of test conditions on page 14 and the occupied BW test result is updated on page 36. The photograph of the other side of pcb is added on the photograph file. This modified test report cancels and replaces the report 5027ERM.002
5027ERM.002A2	05-14-2025	Third release. The antenna gain is updated in the product information in page 14 and 51 and the output power test results for BT and Wi-Fi is also updated. This modified test report cancels and replaces the report 5027ERM.002A1
5027ERM.002A3	05-27-2025	Fourth release. The explanation for the spurious test not measured for the range from 9KHz to 30MHz is provided in page 40 for BT and page 95 for Wi-Fi. This modified test report cancels and replaces the report 5027ERM.002A2

## Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the semi-anechoic chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

## Remarks and comments

The tests have been performed by the technical personnel: Ivy Yousuf Moutushi, Yuqi Wang, Yuri Barone, and Koji Nishimoto.

## Testing verdicts

Fail	F
Not applicable	N/A
Not measured	N/M
Pass	P

## Summary

### Bluetooth Low Energy

Requirement – Test case	FCC PART 15 PARAGRAPH / RSS-247	Verdict	Remark
RSS-247 5.2 (a) / FCC 15.247 (a) (2) 6 dB Bandwidth		Pass	N/A
RSS-247 5.2 (b) / FCC 15.247 (e) Power spectral density		Pass	N/A
RSS-247 5.4 (d) / FCC 15.247 (b) (3) Maximum Peak Conducted output power		Pass	N/A
RSS-247 5.5 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter)		Pass	N/A
FCC 2.1049 / 99dBw Occupied Channel Bandwidth 99%		Pass	N/A
RSS-247 5.5 / FCC 15.247 (d) Emissions compliance (Transmitter) - Radiated		Pass	N/A
<u>Supplementary information and remarks:</u>			
1. None			

### Wi-Fi 2.4GHz

Requirement – Test case	FCC PART 15 PARAGRAPH / RSS-247	Verdict	Remark
RSS-247 5.2 (a) / FCC 15.247 (a) (2) 6 dB Bandwidth		Pass	N/A
RSS-247 5.2 (b) / FCC 15.247 (e) Power spectral density		Pass	N/A
RSS-247 5.4 (d) / FCC 15.247 (b) (1) Maximum Average Conducted Output Power		Pass	N/A
RSS-247 5.5 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter) - Conducted		Pass	N/A
FCC 2.1049 / 99dBw Occupied Channel Bandwidth 99%		Pass	N/A
RSS-247 5.5 / FCC 15.247 (d) Emissions compliance (Transmitter) - Radiated		Pass	N/A
<u>Supplementary information and remarks:</u>			
1. None			

## List of equipment used during the test

### FCC 47 CFR Part 15.247 / RSS-247

#### Conducted Measurements

CONTROL NUMBER	DESCRIPTION	Serial No	LAST CALIBRATION	NEXT CALIBRATION
101	ESPEC CHMBER UNIT	19248	2024-08-13	2026-08-13
1039	FSV40 SIGNAL ANALYSER 40GHZ	101627	2024-07-15	2025-07-15
1107	ETHERNET SNMP THERMOMETER	60038026952	2022-10-18	2025-10-18
1313	WIRELESS MEASUREMENT SOFTWARE R&S WMS32	-	N/A	N/A

#### Radiated Measurements

CONTROL NUMBER	DESCRIPTION	Serial No	LAST CALIBRATION	NEXT CALIBRATION
981	LOW NOISE PREAMPLIFIER	1711156B	2024-02-21	2026-02-21
1014	FSV40 SIGNAL ANALYZER 40GHZ	101626	2024-10-04	2026-10-04
1056	3116C DOUBLE-RIDGED WAVEGUIDE HORN ANTENNAS	213179	2024-07-01	2027-07-01
1057	3115 DOUBLE-RIDGED WAVEGUIDE HORN ANTENNAS	211373	2023-07-18	2026-07-18
1065	3142E BICONILOG ANTENNA	208587	2025-02-03	2028-02-03
1111	ETHERNET SNMP THERMOMETER	60038026577	2022-10-18	2025-10-18
1179	SEMI-ANECHOIC CHAMBER	F169021	N/A	N/A
1314	WIRELESS MEASUREMENT SOFTWARE R&S EMC32	1040-OT102236	N/A	N/A
1374	ESR7 EMI TEST RECEIVER	102390	2024-06-05	2026-06-05
1471	ETHERNET SNMP THERMOMETER	60038026577	2022-10-24	2025-10-24

## Appendix A: Test results. Bluetooth Low Energy 5.1 (1M, 2M)

## Appendix A Content

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## PRODUCT INFORMATION

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Information	Description
Modulation	GFSK
Operation mode 1: Single Antenna Equipment	
- Operating Frequency Range	2.402 GHz to 2.480 GHz
- Nominal Channel Bandwidth	1,2 MHz
- RF Output Power	10dBm
Antenna type	PCB - Inverted F
Antenna gain	2.7 dBi
Nominal Voltage	
- Supply Voltage	120 Vac
- Type of power source	AC voltage
Equipment type	Bluetooth
Geo-location capability	No

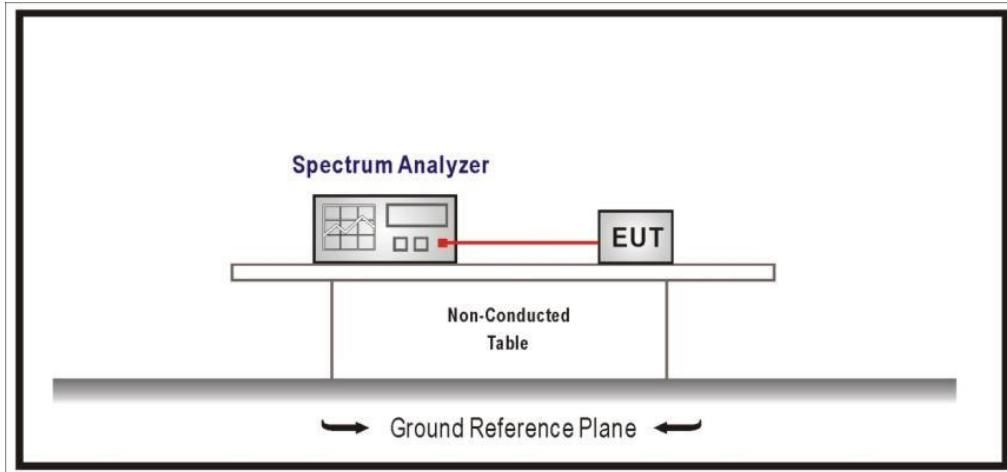
## TEST CONDITIONS

(\*): Data provided by the client.

TEST CONDITIONS	DESCRIPTION
TC#01 <sup>(1)</sup> (1 Mbps)	<p><u>Power supply (V):</u></p> <p><math>V_{nominal} = 120</math> Vac</p> <p>Data Rate: 1 Mbps</p> <p>Bandwidth: 1 MHz</p> <p><u>Test Frequencies for Conducted/ Radiated tests:</u></p> <p>Lowest channel: 2402 MHz</p> <p>Middle channel: 2440 MHz</p> <p>Highest channel: 2480 MHz</p>
TC#02 <sup>(1)</sup> (2 Mbps)	<p><u>Power supply (V):</u></p> <p><math>V_{nominal} = 120</math> Vac</p> <p>Data Rate: 2 Mbps</p> <p>Bandwidth: 2 MHz</p> <p><u>Test Frequencies for Conducted/ Radiated tests:</u></p> <p>Lowest channel: 2402 MHz</p> <p>Middle channel: 2440 MHz</p> <p>Highest channel: 2480 MHz</p>

Note (1): The spurious test is performed for the worst case modulation, which is 2Mbps.

CONDUCTED MEASUREMENTS:



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and 1-18 GHz (Double ridge horn antenna), and 1m for the frequency range 18 GHz- 26 GHz (Double ridge horn antenna).

For radiated emissions in the range 18 - 26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

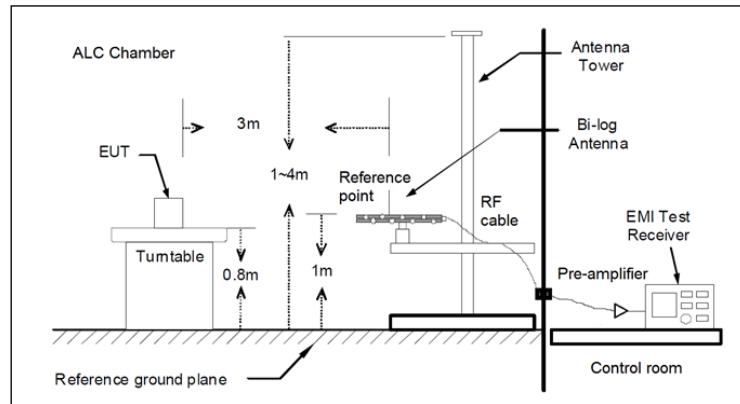


Fig A1: Radiated measurements Setup  $f < 1$  GHz

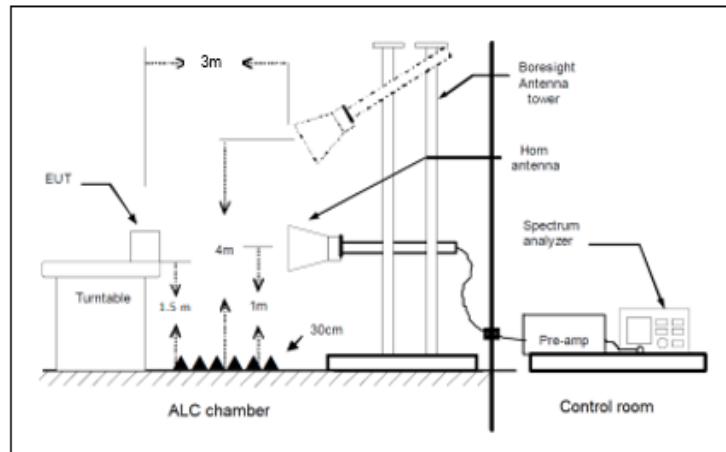


Fig A2: Radiated measurements setup  $1 < f < 18$  GHz

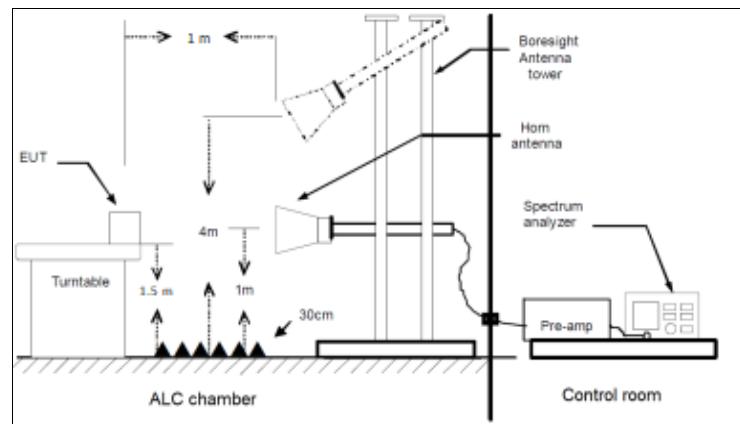


Fig A3: Radiated measurements setup  $f > 18$  GHz

## TEST CASES DETAILS

RSS-247 5.2 (a) / FCC 15.247 (a) (2) 6 dB Bandwidth

### Limits

The minimum 6 dB bandwidth shall be at least 500 kHz.

Modulation: BTLE 5.1 (GFSK 1 Mbit/s)

### Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Emission Bandwidth (MHz)
2402.00000				0.6592
2440.00000	1	1	1	0.6657
2480.00000				0.6628

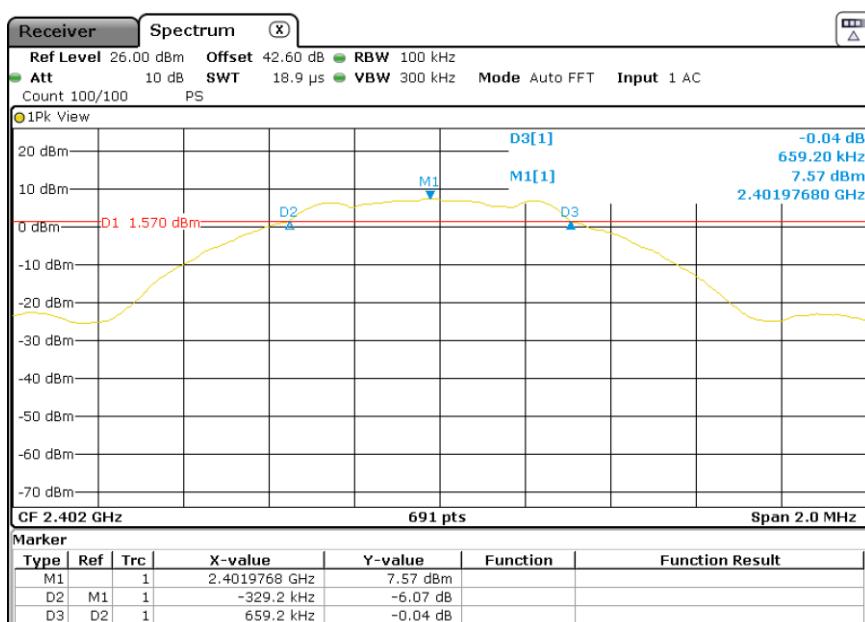
### Verdict

Pass

### Attachments

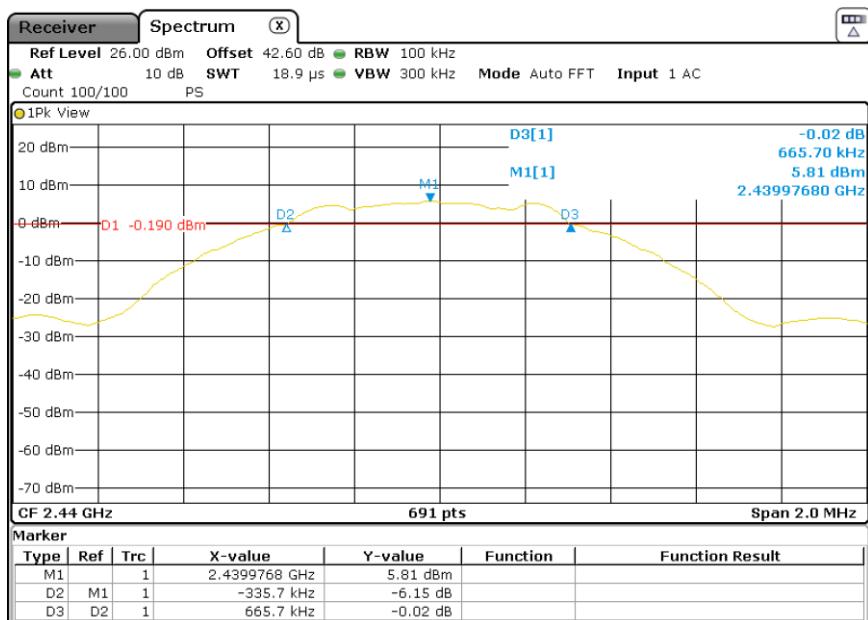
Frequency MHz = 2402.00000, Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

### Images:



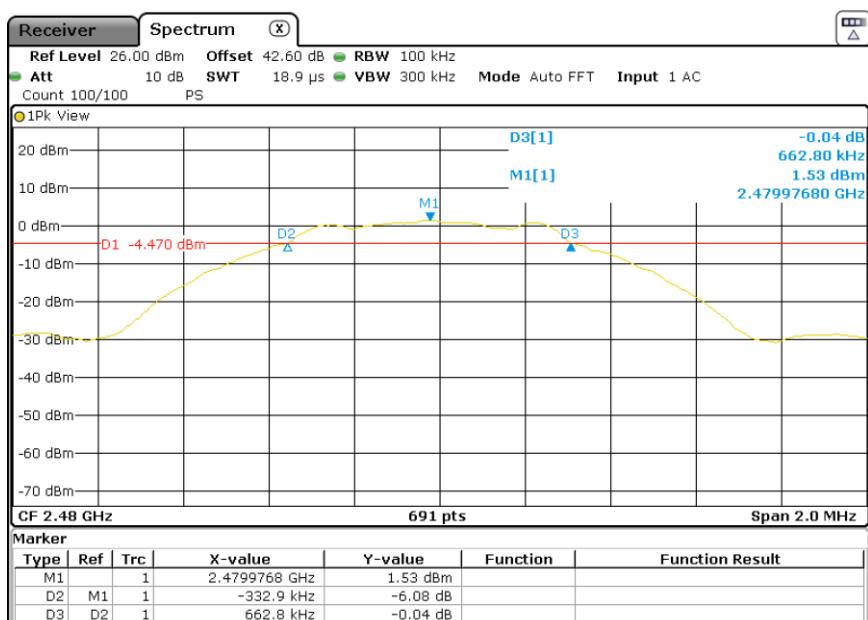
Frequency MHz = 2440.00000, Bandwidth MHz = 1, Modulation = BTLE 5.0 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2480.00000, Bandwidth MHz = 1, Modulation = BTLE 5.0 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: BTLE 5.1 (GFSK 2 Mbit/s)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Emission Bandwidth (MHz)
2402.00000				1.3017
2440.00000	2	1	1	1.2909
2480.00000				1.2851

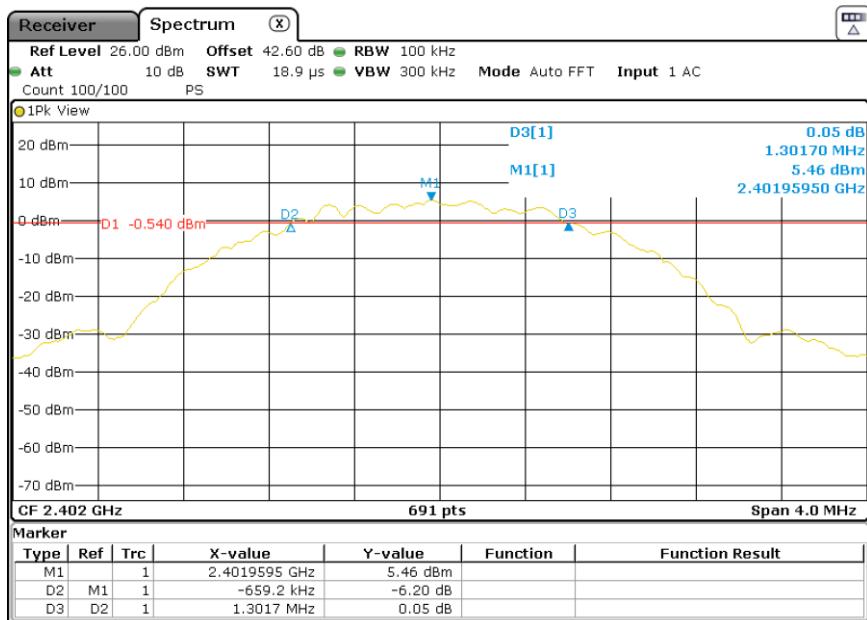
## Verdict

Pass

## Attachments

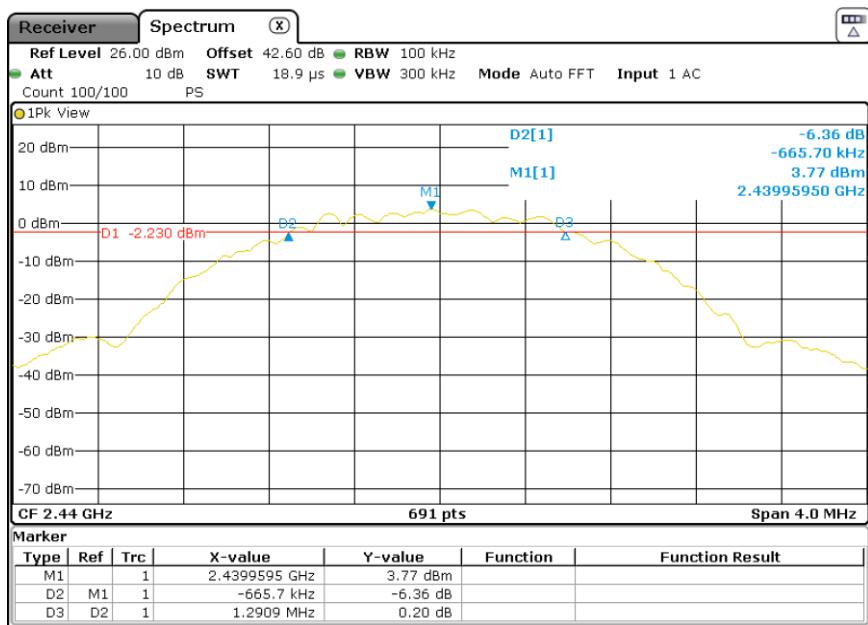
Frequency MHz = 2402.00000, Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



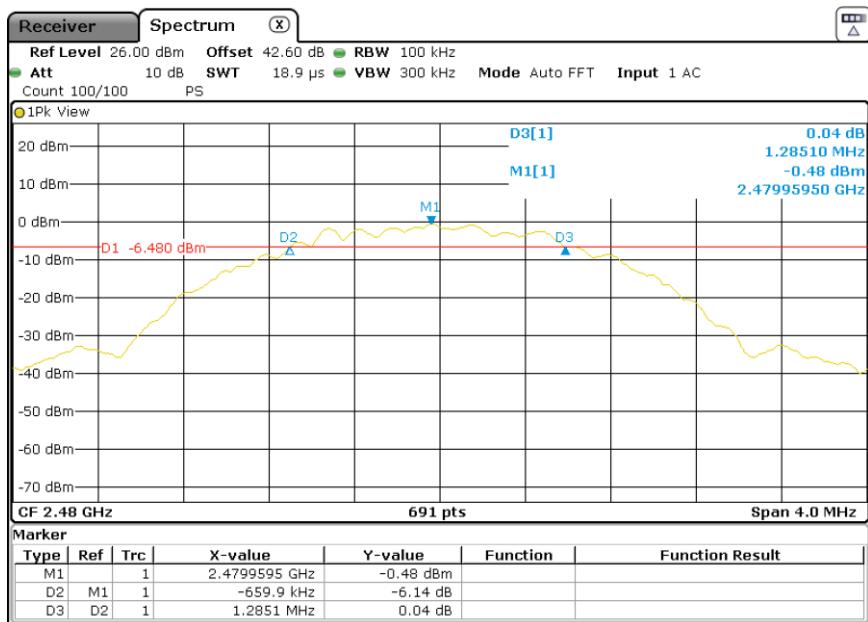
**Frequency MHz = 2440.00000, Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



**Frequency MHz = 2480.00000, Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



RSS-247 5.2 (b) / FCC 15.247 (e) Power spectral density

## Limits

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Modulation: BTLE 5.1 (GFSK 1 Mbit/s)

## Results

Freq (MHz)	Equipment	BW (MHz)	# of Tx Chains	Port	PSD (dBm)
2402.00000					-1.48
2440.00000	Digital Transmission System (DTS)	1	1	1	-2.73
2480.00000					-7.06

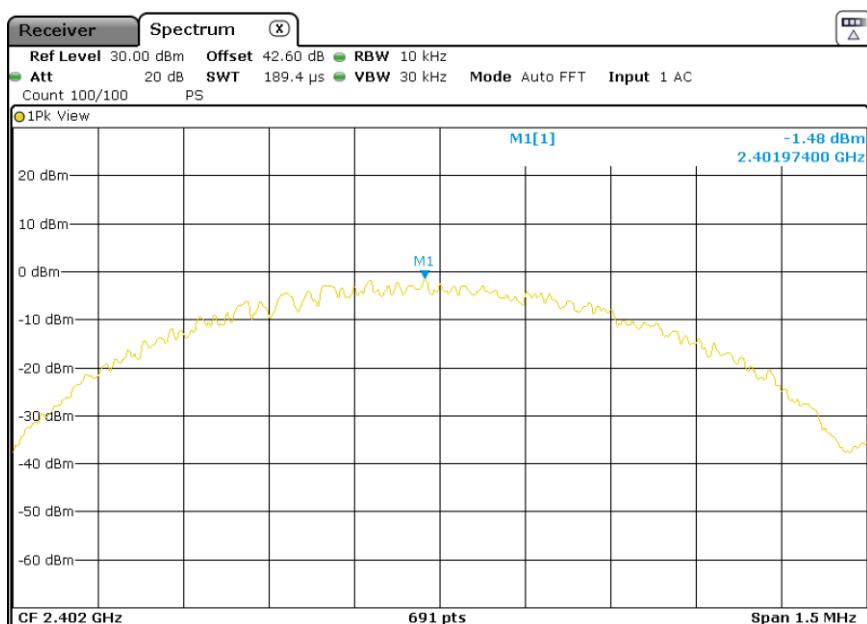
## Verdict

Pass

## Attachments

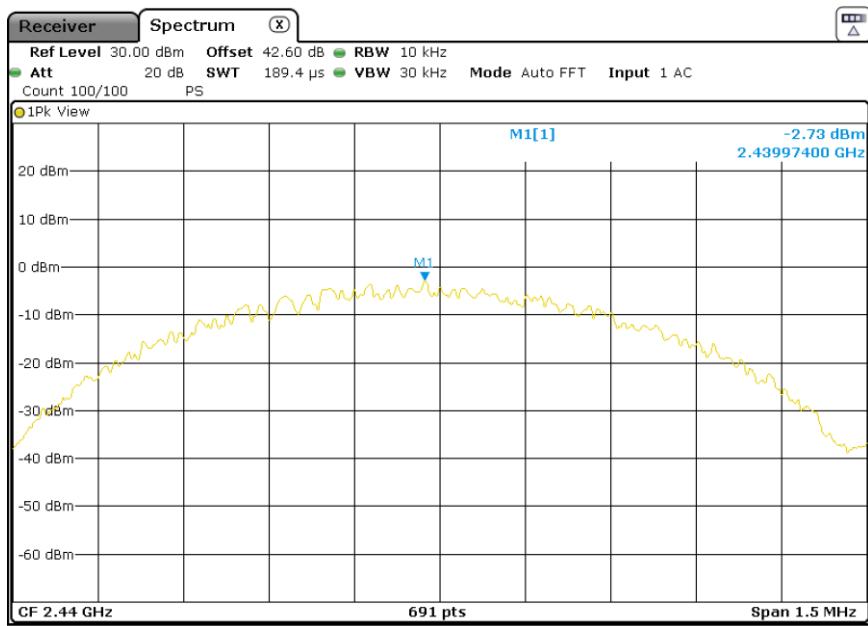
Frequency MHz = 2402.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



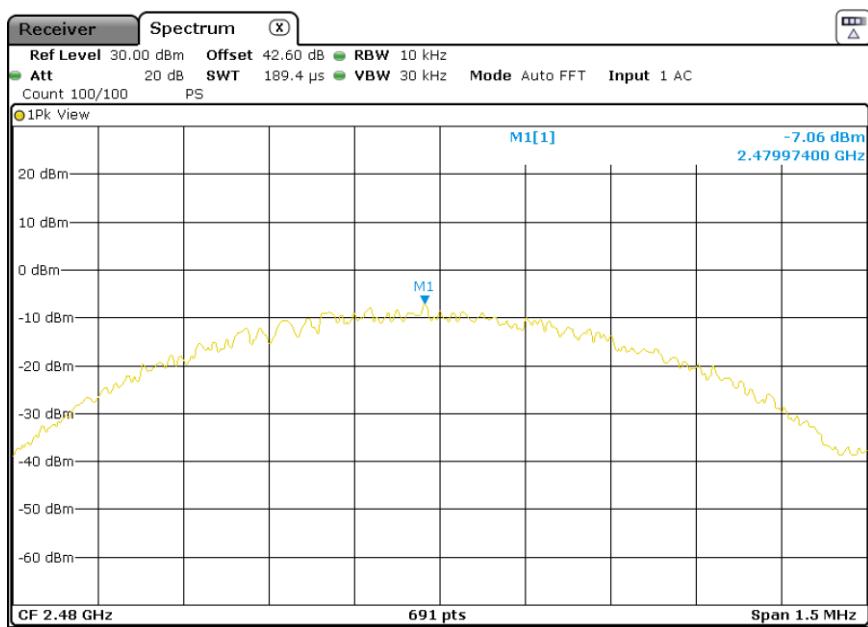
Frequency MHz = 2440.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2480.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: BTLE 5.1 (GFSK 2 Mbit/s)

## Results

Freq (MHz)	Equipment	BW (MHz)	# of Tx Chains	Port	PSD (dBm)
2402.00000	Digital				-4.71
2440.00000	Transmission System (DTS)	2	1	1	-5.96
2480.00000					-10.03

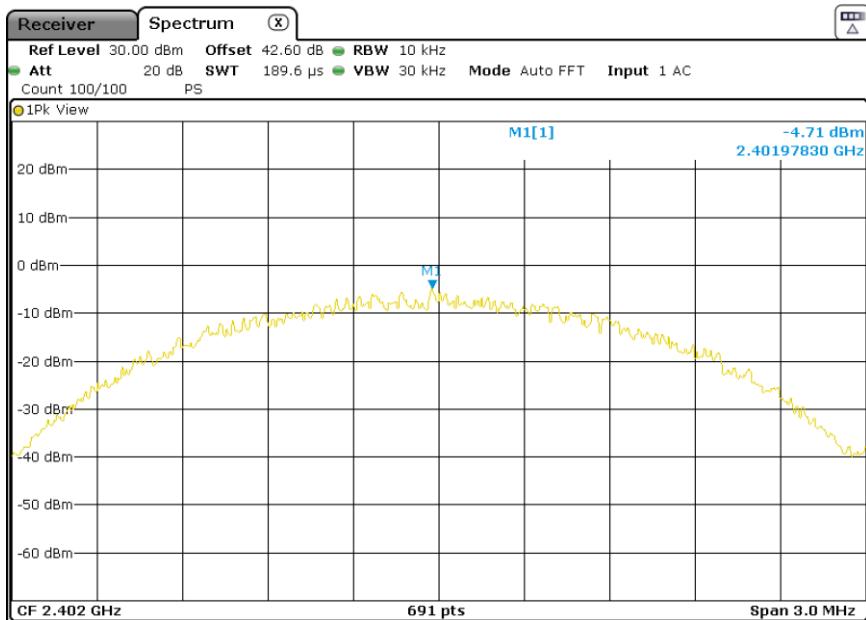
## Verdict

Pass

## Attachments

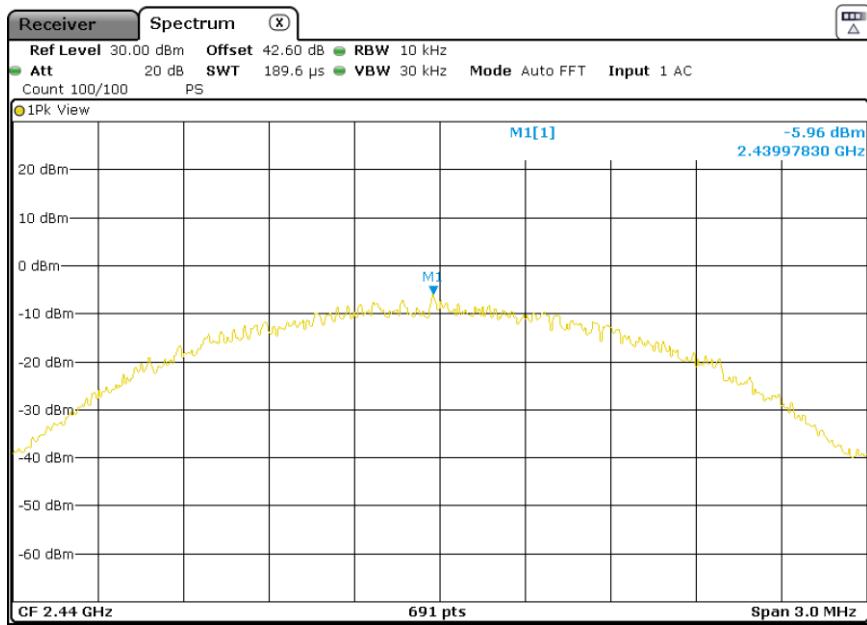
Frequency MHz = 2402.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



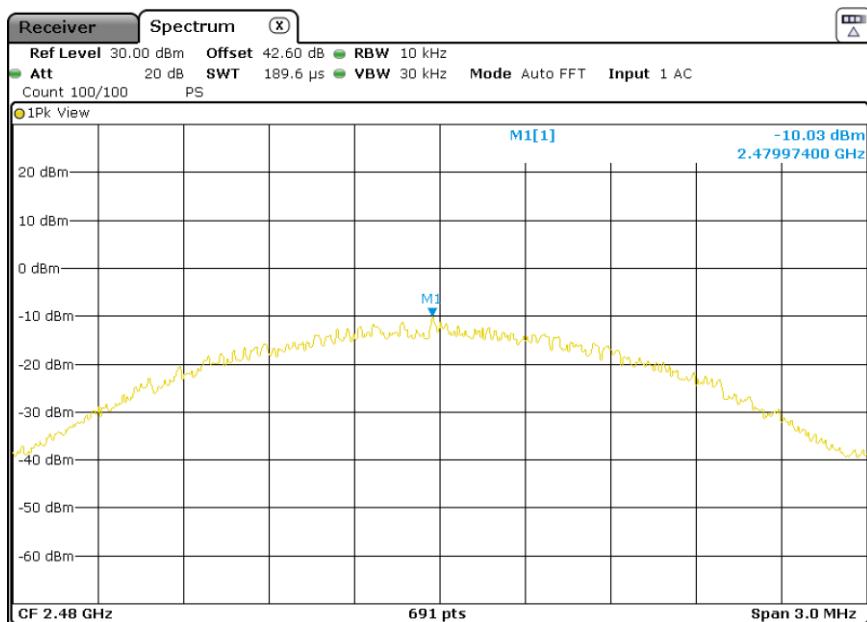
Frequency MHz = 2440.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



Frequency MHz = 2480.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



RSS-247 5.4 (d) / FCC 15.247 (b) (3) Maximum Peak Conducted output power

### Limits

For systems using digital modulation in the 2400-2483.5 MHz band: 1 watt (30 dBm).

The e.i.r.p. shall not exceed 4 W (36 dBm) (Canada).

The maximum peak conducted output power level in the fundamental emission was measured using the method according to point 11.9.1.1 "RBW  $\geq$  DTS bandwidth" of ANSI C.63.10-2013.

Maximum declared antenna gain: 2.7 dBi

Modulation: BTLE 5.1 (GFSK 1 Mbit/s)

### Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Peak Power (dBm)	Maximum EIRP power (dBm)
2402.00000				5.84	8.54
2440.00000	1	1	1	4.22	6.92
2480.00000				-0.01	2.69

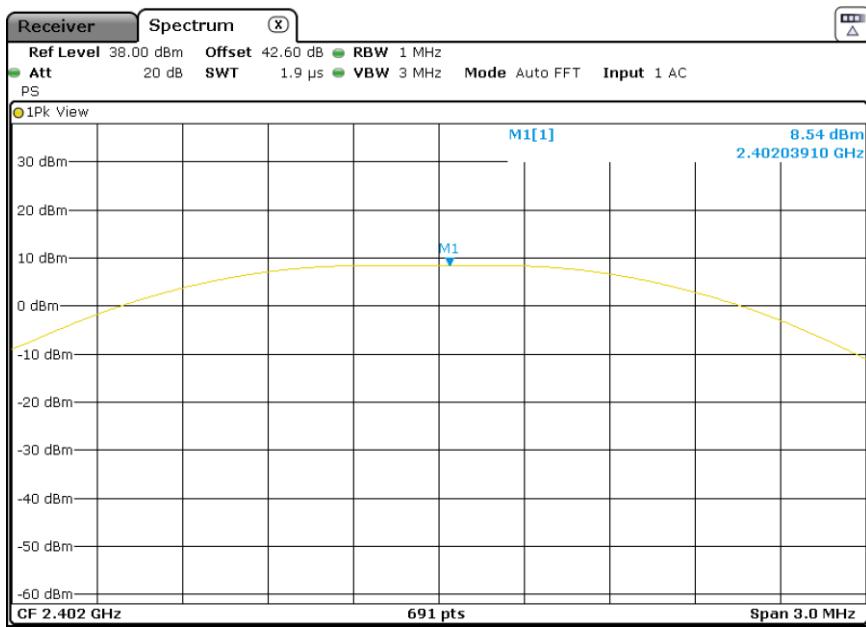
### Verdict

Pass

### Attachments

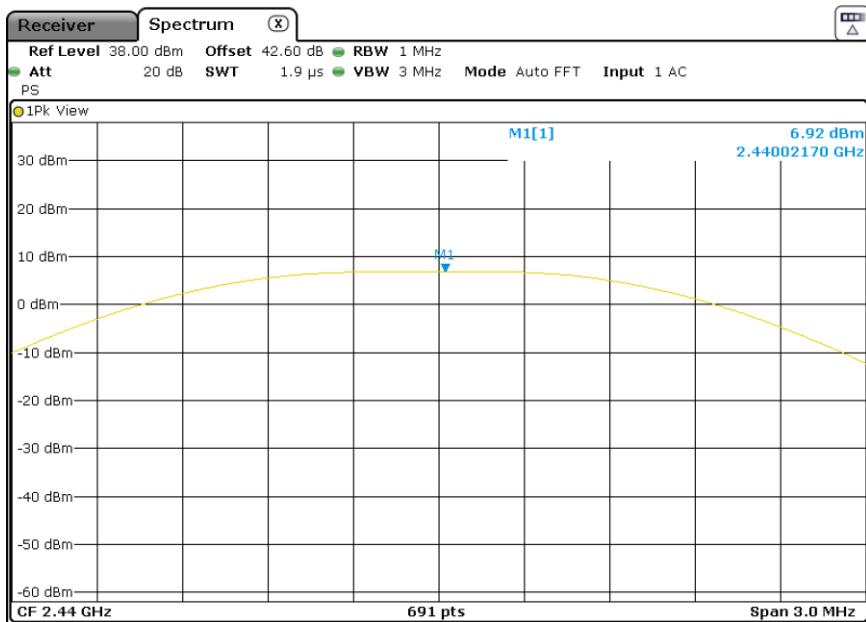
Frequency MHz = 2402.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

### Images:



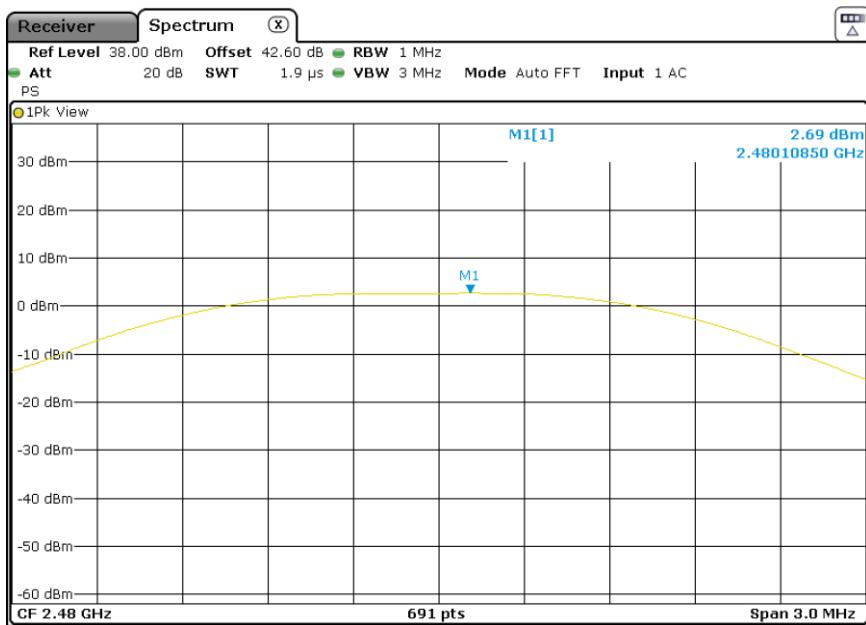
Frequency MHz = 2440.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2480.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: BTLE 5.1 (GFSK 2 Mbit/s)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Peak Power (dBm)	Maximum EIRP power (dBm)
2402.00000				6.58	9.28
2440.00000	2	1	1	4.35	7.05
2480.00000				0.29	2.99

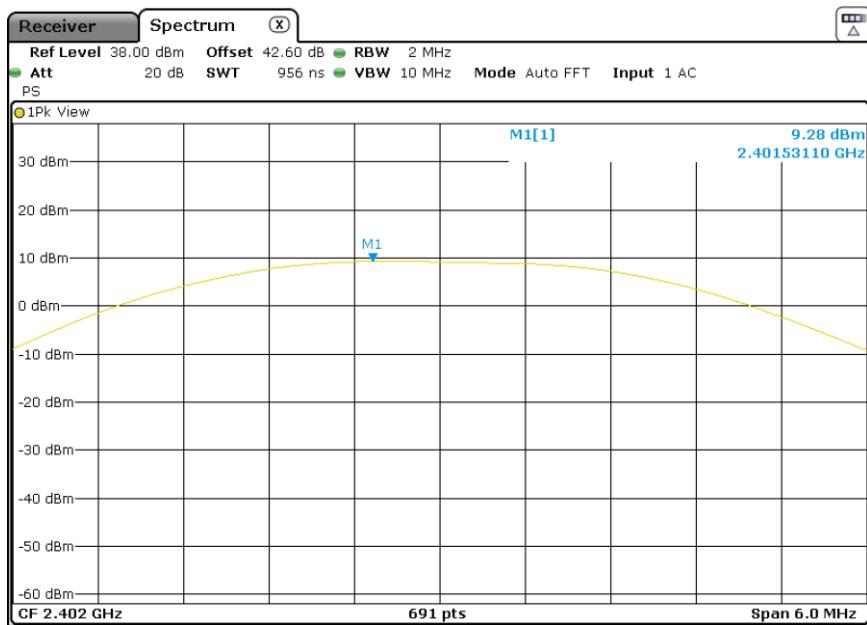
## Verdict

Pass

## Attachments

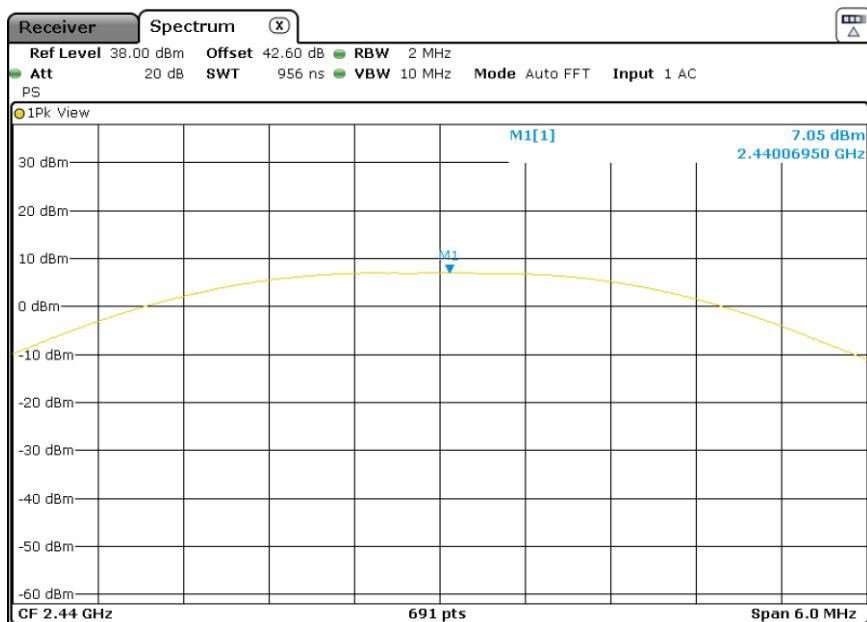
Frequency MHz = 2402.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



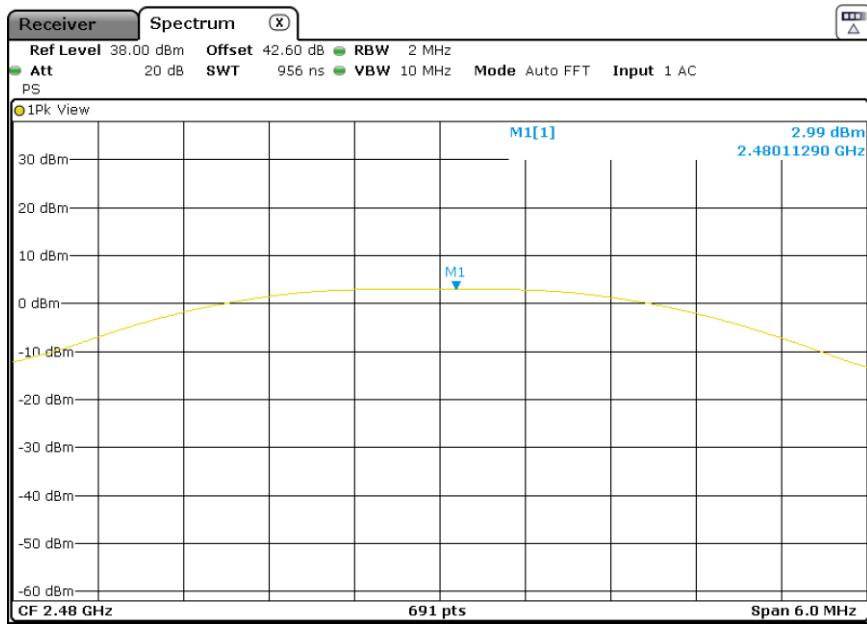
Frequency MHz = 2440.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

#### Images:



**Frequency MHz = 2480.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



## RSS-247 5.5 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter)

### Limits

In any 100 kHz bandwidths outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Modulation: BTLE 5.1 (GFSK 1 Mbit/s)

### Results

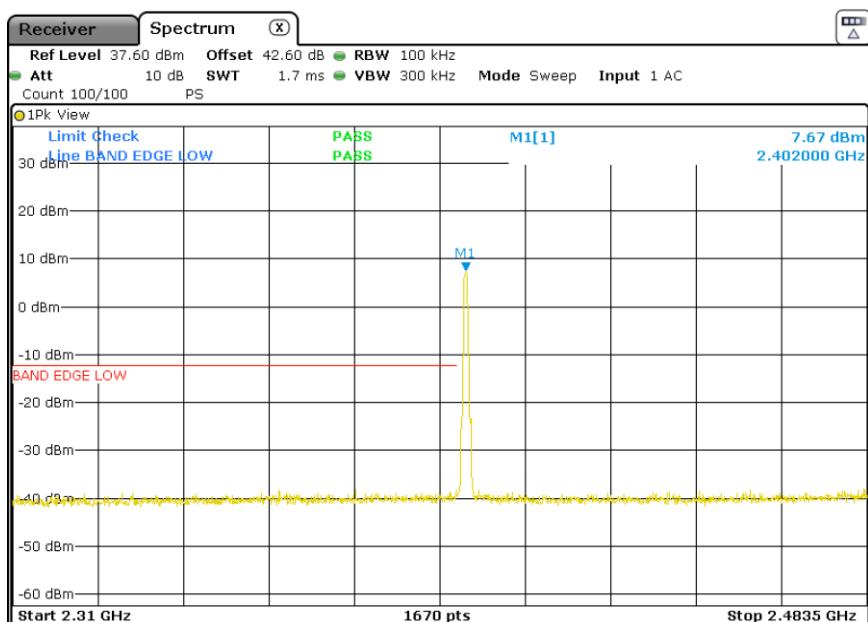
### Verdict

Pass

### Attachments

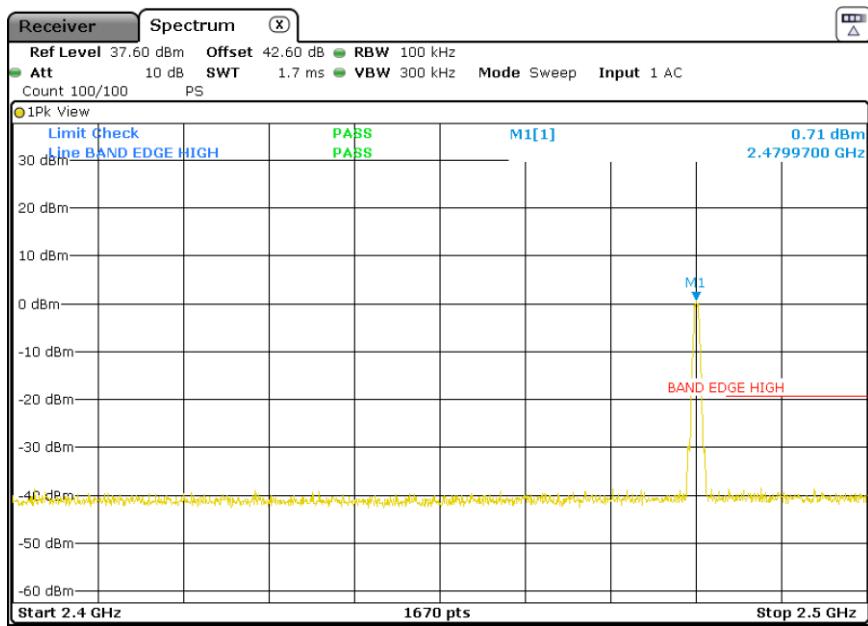
**Frequency MHz = 2402.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Measurement Point = 1, Active Port = 1**

### Images:



Frequency MHz = 2480.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Measurement Point = 1, Active Port = 1

Images:



Modulation: BTLE 5.1 (GFSK 2 Mbit/s)

## Results

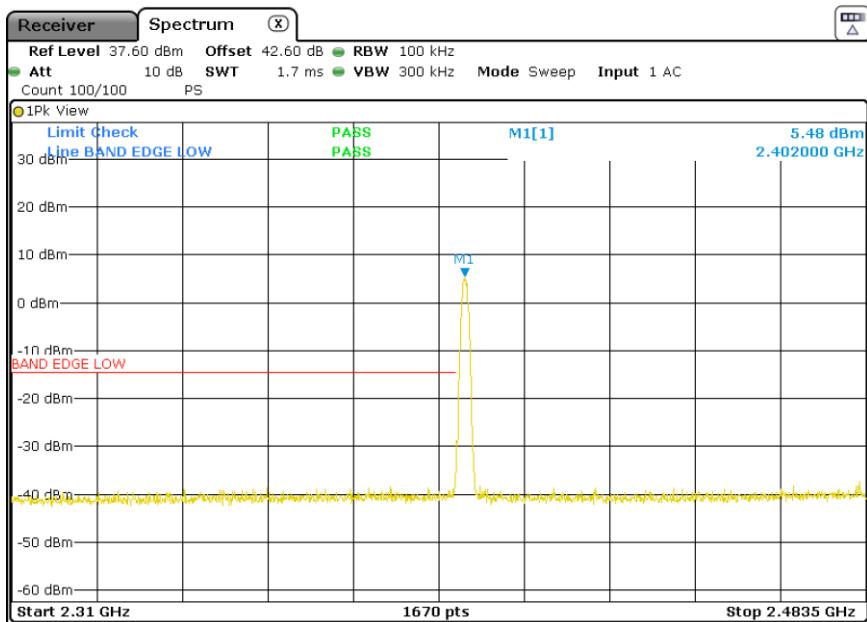
### Verdict

Pass

### Attachments

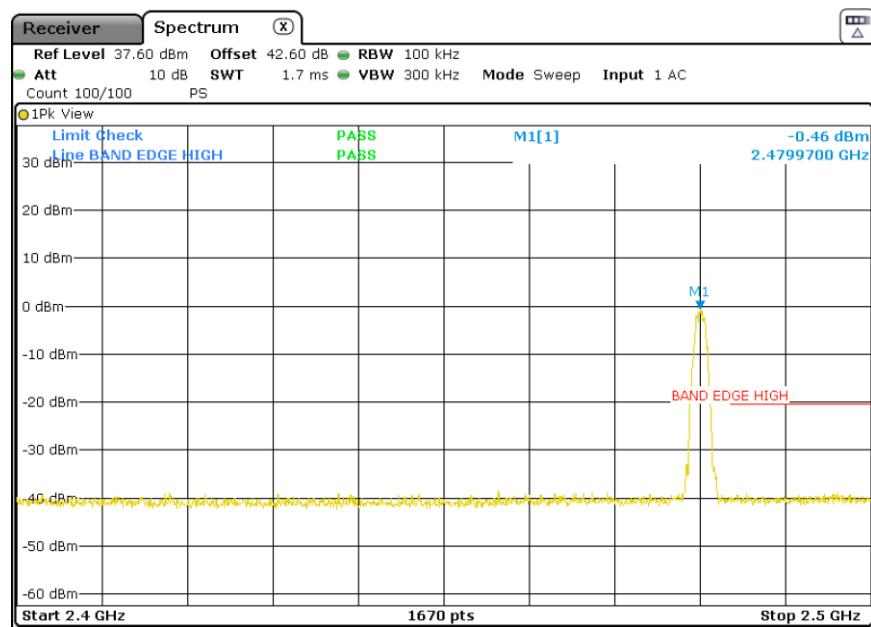
**Frequency MHz = 2402.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Measurement Point = 1, Active Port = 1**

### Images:



**Frequency MHz = 2480.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Measurement Point = 1, Active Port = 1**

### Images:



99dBw Occupied Channel Bandwidth 99%

## Limits

No Limit has been set to this test case

Modulation: BTLE 5.1 (GFSK 1 Mbit/s)

## Results

Freq (MHz)	Equipment	BW (MHz)	# of Tx Chains	Port	Occ Ch BW (MHz)
2402.00000	Digital				1.039
2440.00000	Transmission	1	1	1	1.039
2480.00000	System (DTS)				1.053

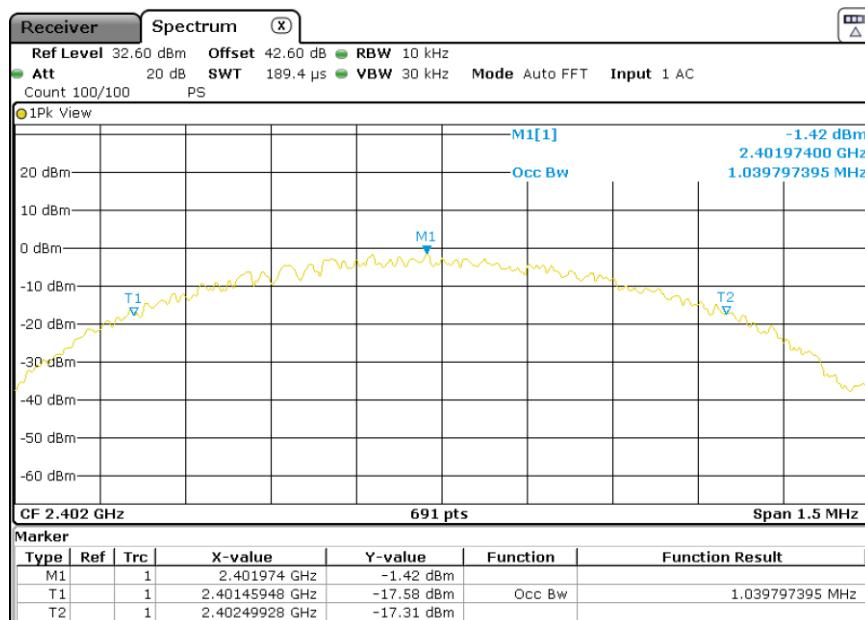
## Verdict

Pass

## Attachments

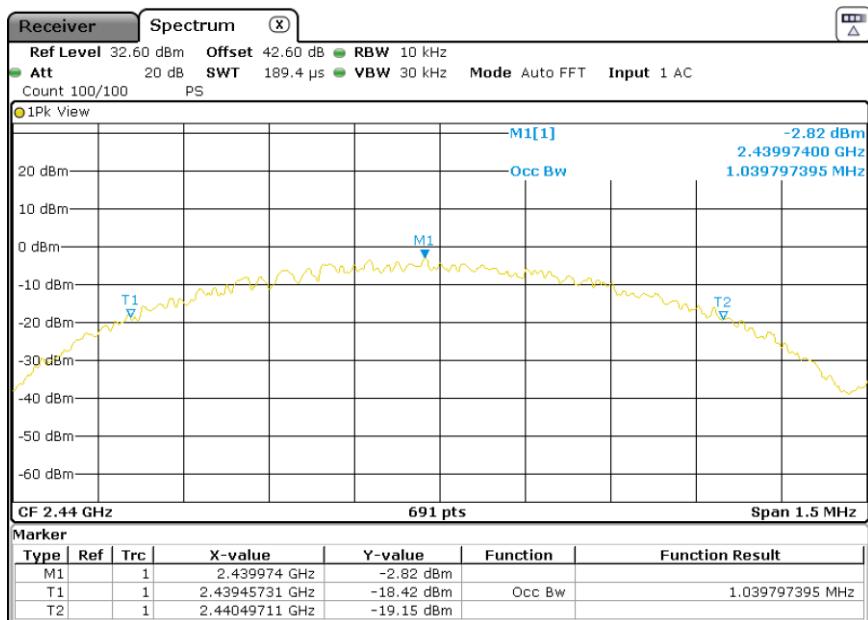
Frequency MHz = 2402.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



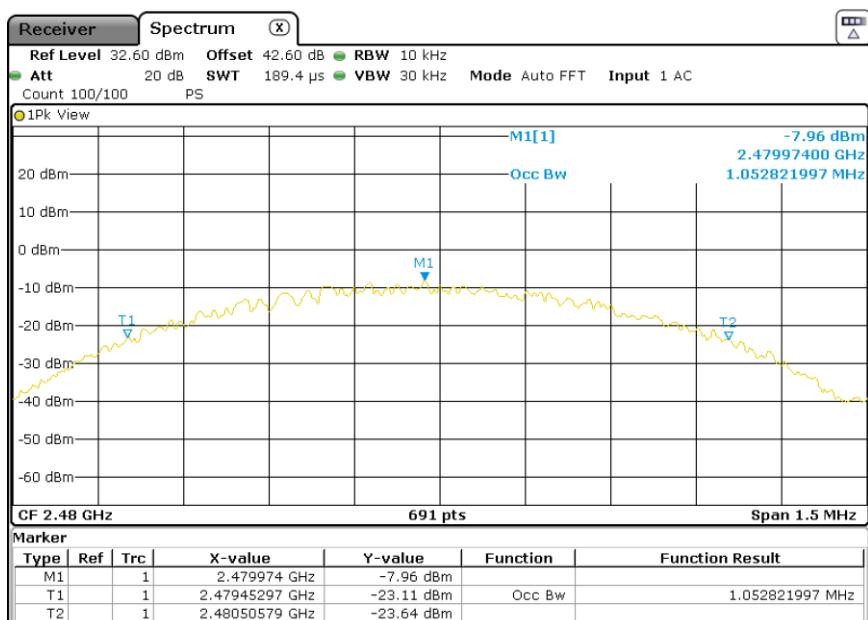
Frequency MHz = 2440.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2480.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 1, Modulation = BTLE 5.1 (GFSK 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: BTLE 5.1 (GFSK 2 Mbit/s)

## Results

Freq (MHz)	Equipment	BW (MHz)	# of Tx Chains	Port	Occ Ch BW (MHz)
2402.00000	Digital				2.090
2440.00000	Transmission System (DTS)	2	1	1	2.107
2480.00000					2.171

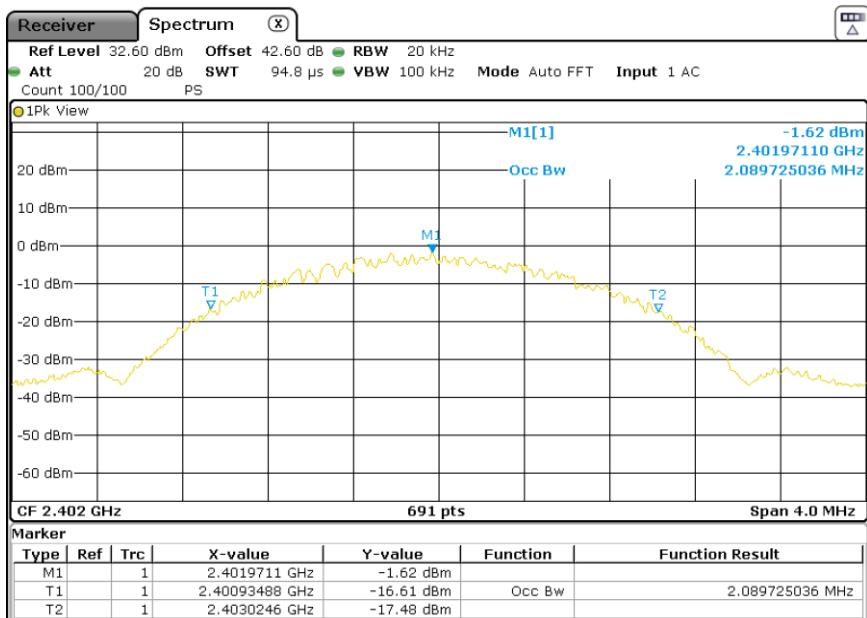
## Verdict

Pass

## Attachments

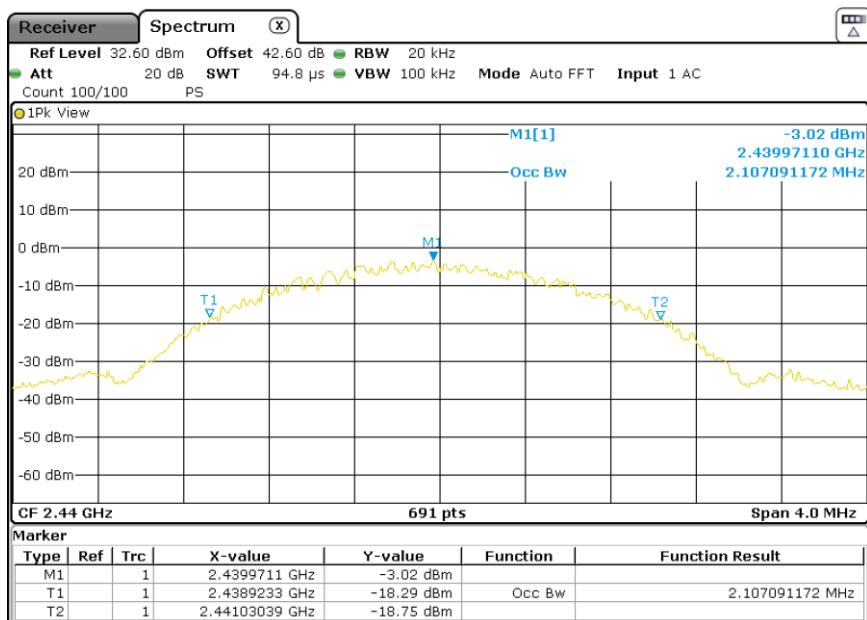
**Frequency MHz = 2402.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1**

## Images:



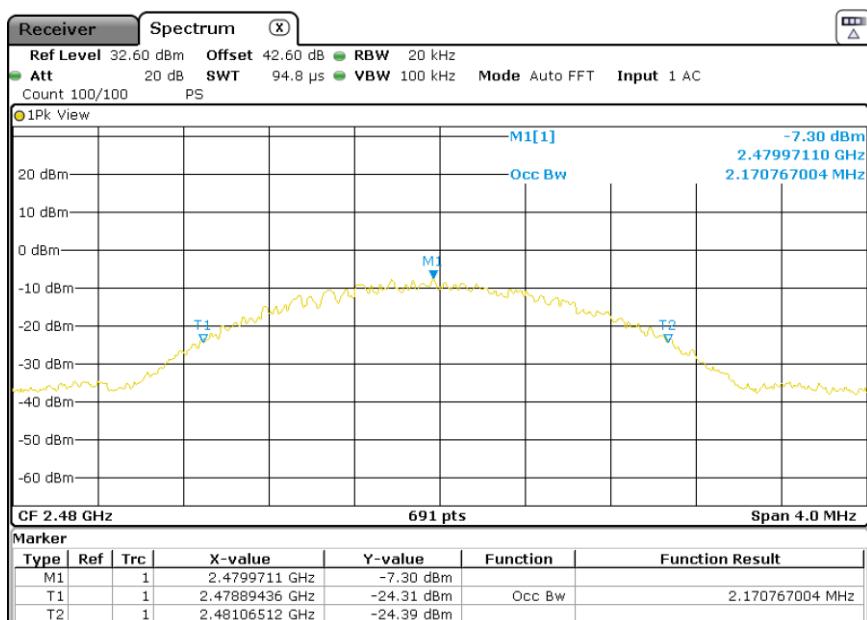
Frequency MHz = 2440.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2480.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 2, Modulation = BTLE 5.1 (GFSK 2 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



**RSS-247 5.5 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter) - Radiated  
Limits**

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

Frequency Range (MHz)	Field strength ( $\mu$ V/m)	Field strength (dB $\mu$ V/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 25000	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

RSS-247. Attenuation below the general field strength limits specified in RSS-Gen is not required

**Verdict**

Pass

**Modulation: BTLE 5.1 (GFSK 2 Mbit/s)**

**Frequency range 9KHz – 30 MHz**

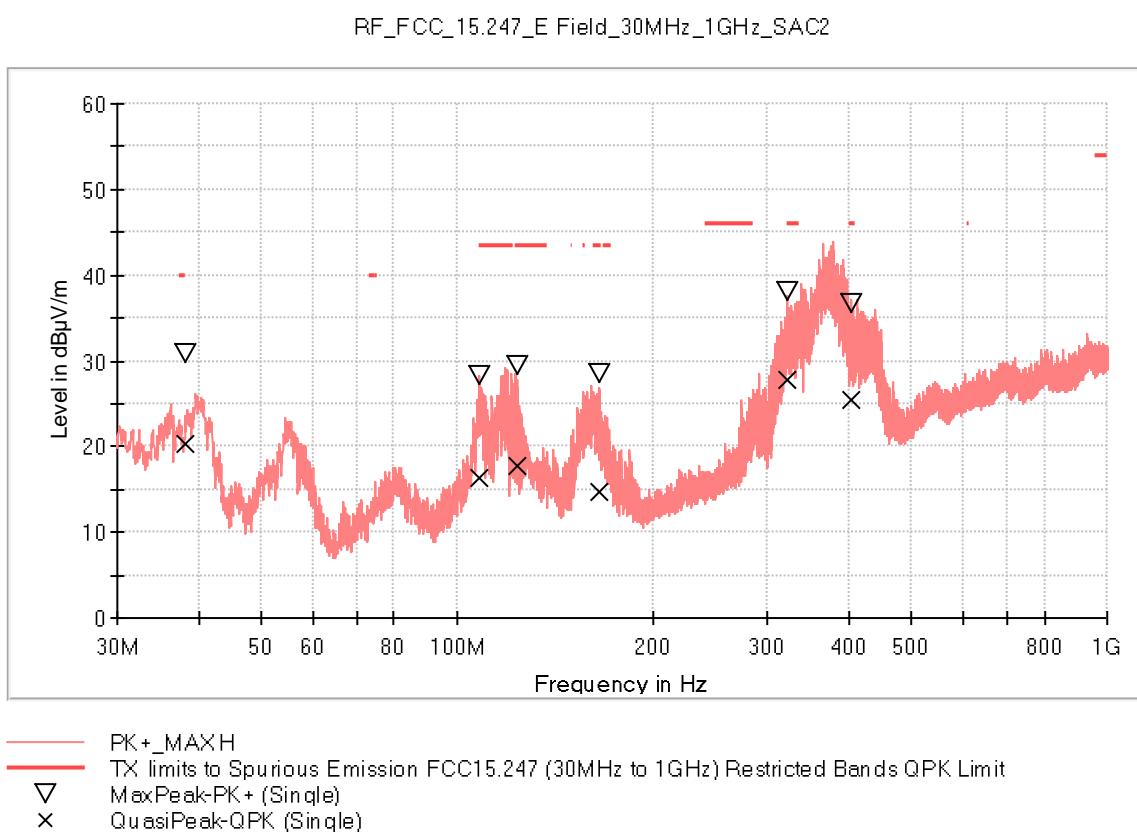
No radiofrequency signal generated in the device found below 10<sup>0</sup> sub-harmonic, no further investigation required.

The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT.

**Results**

**Frequency range 30 - 1000 MHz**

**Middle Channel**

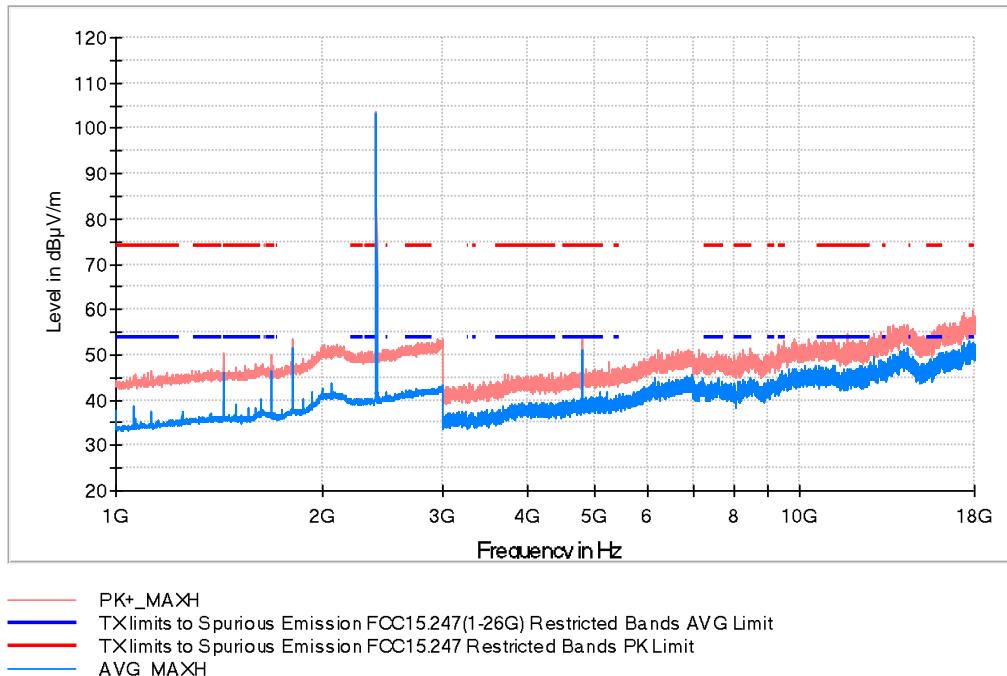


Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Pol	Margin - QPK (dB)	Limit - QPK (dBµV/m)
38.196500	30.9	20.4	V	19.6	40.0
108.424500	28.2	16.3	V	27.2	43.5
123.605000	29.4	17.7	V	25.9	43.5
165.218000	28.4	14.7	H	28.8	43.5
322.843000	38.2	27.7	H	18.3	46.0
402.577000	36.6	25.5	V	20.5	46.0

**Frequency range 1 - 18 GHz**

**Lowest Channel**

RF\_FCC\_15.247\_E Field\_1GHz\_18GHz\_HPF(SAC2)

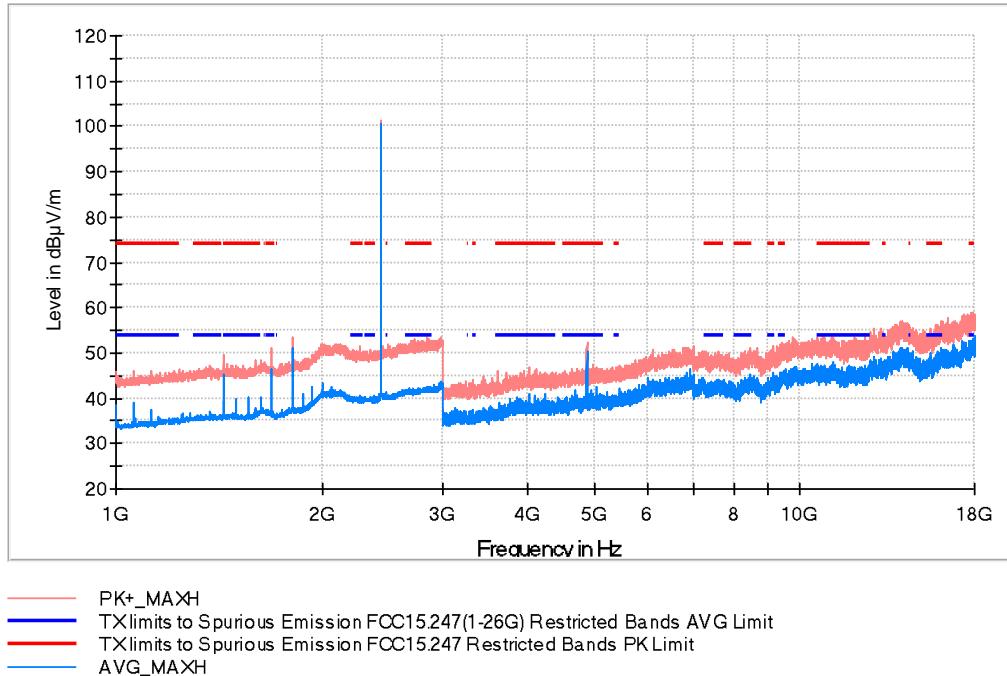


Frequency (MHz)	PK+_MAXH (dB $\mu$ V/m)	AVG_MAXH (dB $\mu$ V/m)	Pol	Margin - AVG (dB)	Limit - AVG (dB $\mu$ V/m)	Comment
1687.500000	50.1	46.6	V	7.4	54.0	
2402.000000	103.7	103.2	V	---	---	Fundamental
4804.000000	53.3	51.1	V	2.9	54.0	2nd Harmonic

**Frequency range 1 - 18 GHz**

**Middle Channel**

RF\_FCC\_15.247\_E Field\_1GHz\_18GHz\_HPF(SAC2)

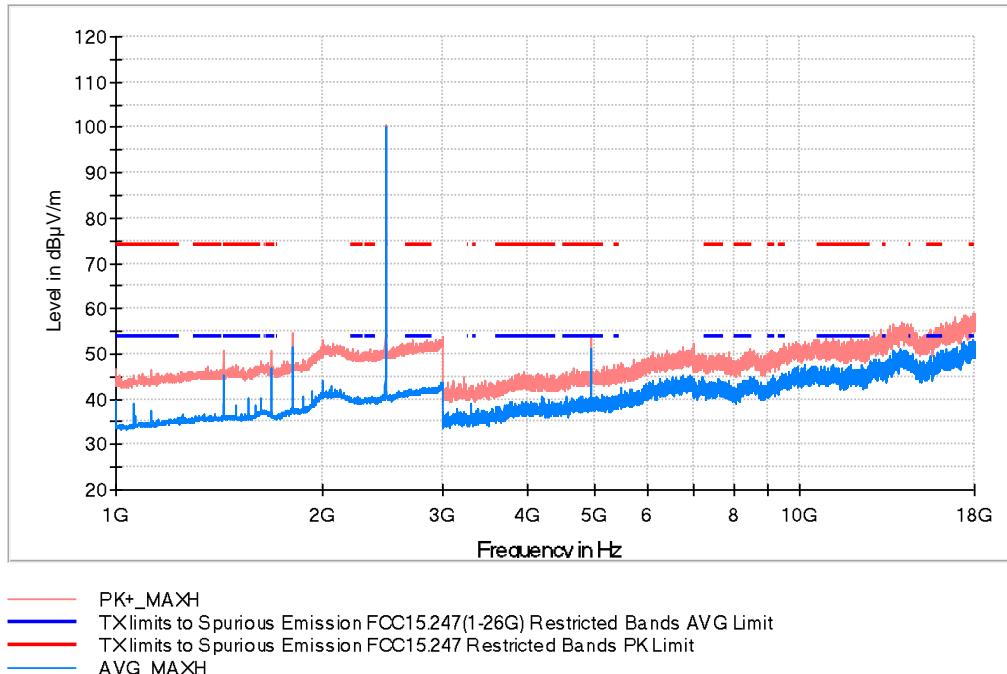


Frequency (MHz)	PK+_MAXH (dB $\mu$ V/m)	AVG_MAXH (dB $\mu$ V/m)	Pol	Margin - AVG (dB)	Limit - AVG (dB $\mu$ V/m)	Comment
1687.500000	51.0	46.5	V	7.5	54.0	
2440.000000	101.2	100.7	V	---	---	Fundamental
4880.000000	52.3	50.5	V	3.5	54.0	2nd Harmonic

**Frequency range 1 - 18 GHz**

**Highest Channel**

RF\_FCC\_15.247\_E Field\_1GHz\_18GHz\_HPF(SAC2)

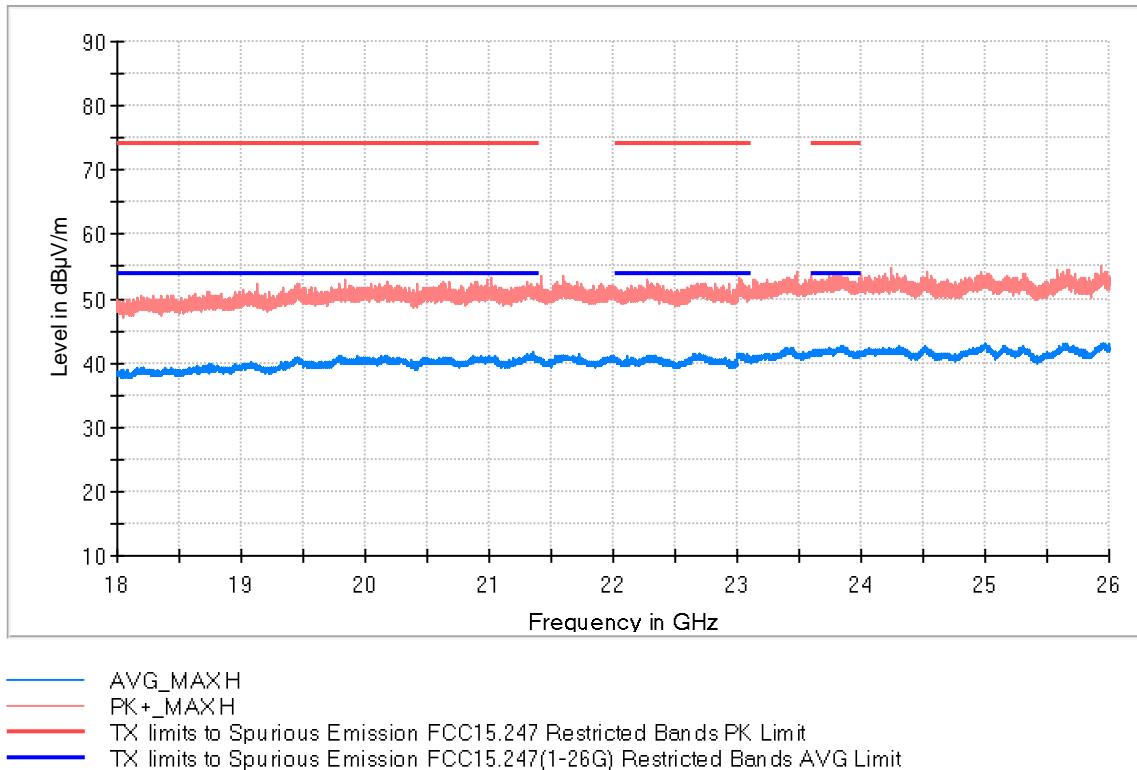


Frequency (MHz)	PK+_MAXH (dB $\mu$ V/m)	AVG_MAXH (dB $\mu$ V/m)	Pol	Margin - AVG (dB)	Limit - AVG (dB $\mu$ V/m)	Comment
1687.500000	50.7	46.8	V	7.2	54.0	
2480.000000	100.7	100.2	V	---	---	Fundamental
4960.000000	54.3	51.1	V	2.9	54.0	2nd Harmonic

**Frequency range 18 - 26 GHz**

**Lowest Channel**

RF\_FCC\_15.247\_E Field\_18GHz\_26GHz

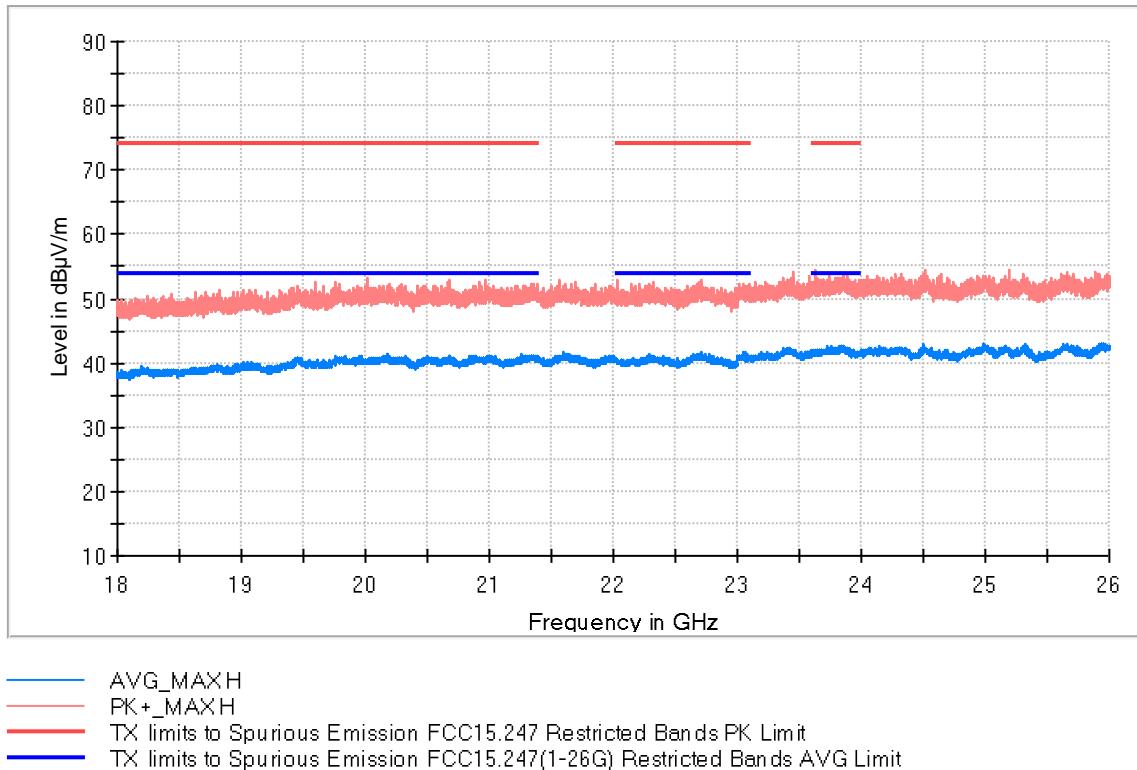


Frequency (MHz)	PK+_MAXH (dB $\mu$ V/m)	AVG_MAXH (dB $\mu$ V/m)	Pol	Margin - AVG (dB)	Limit - AVG (dB $\mu$ V/m)
23845.000000	52.4	42.6	H	11.4	54.0

**Frequency range 18 - 26 GHz**

**Middle Channel**

RF\_FCC\_15.247\_E Field\_18GHz\_26GHz

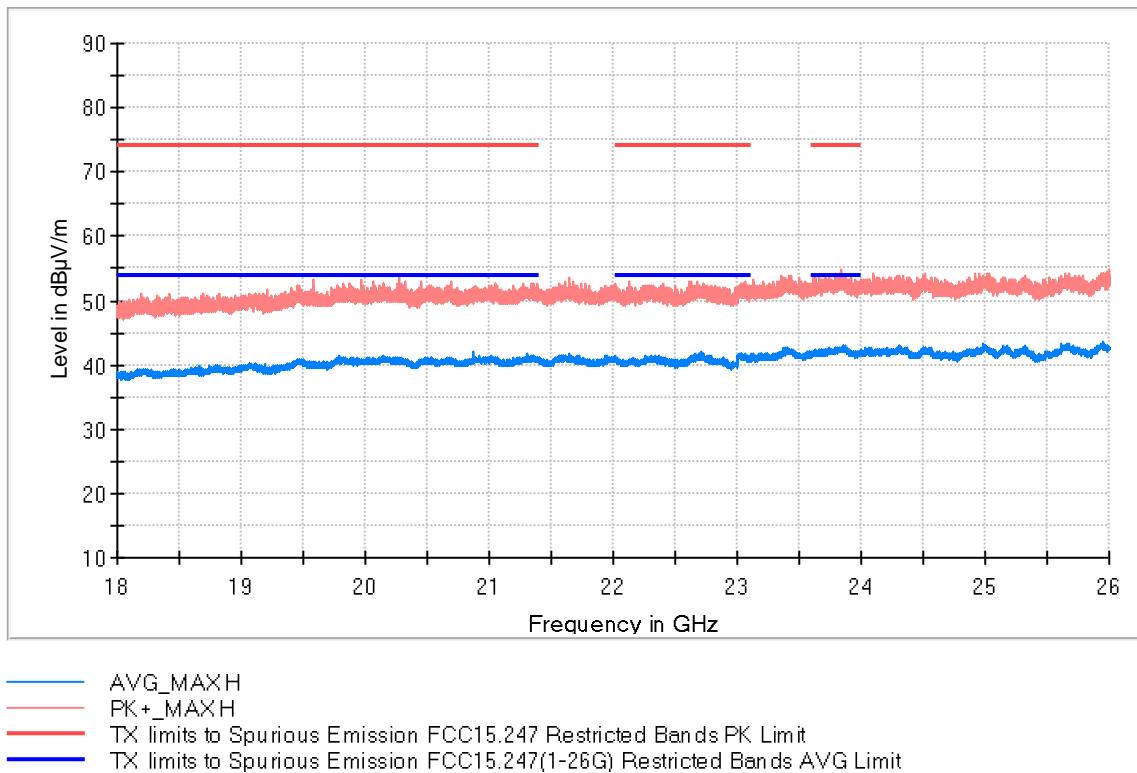


Frequency (MHz)	PK+_MAXH (dB $\mu$ V/m)	AVG_MAXH (dB $\mu$ V/m)	Pol	Margin - AVG (dB)	Limit - AVG (dB $\mu$ V/m)
22708.000000	50.9	41.7	V	12.3	54.0

**Frequency range 18 - 26 GHz**

**Highest Channel**

RF\_FCC\_15.247\_E Field\_18GHz\_26GHz

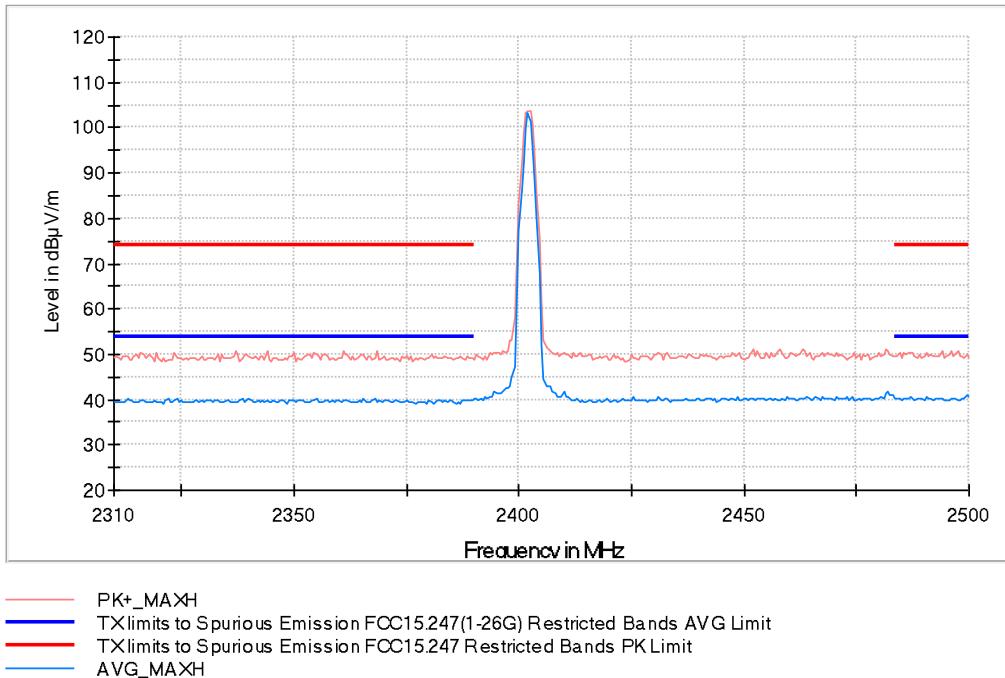


Frequency (MHz)	PK+_MAXH (dB $\mu$ V/m)	AVG_MAXH (dB $\mu$ V/m)	Pol	Margin - AVG (dB)	Limit - AVG (dB $\mu$ V/m)
23859.500000	51.8	43.1	V	10.9	54.0

## Restricted Bands (2.31 GHz - 2.5 GHz)

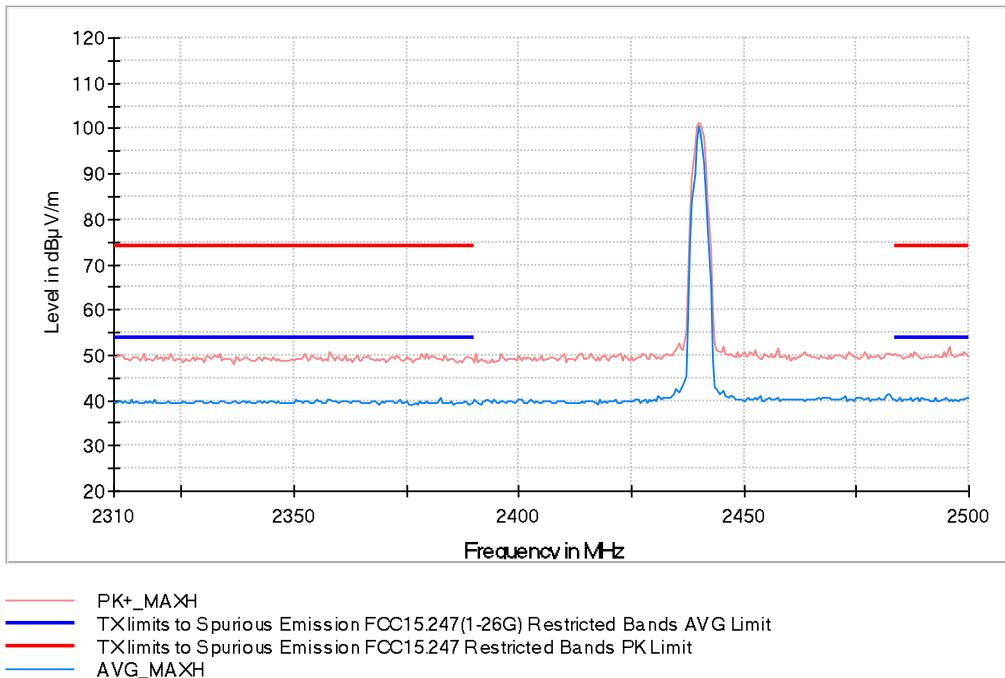
### Lowest Channel

Copy of RF\_FCC\_15.247\_E Field\_1GHz\_18GHz\_HPF(SAC2)



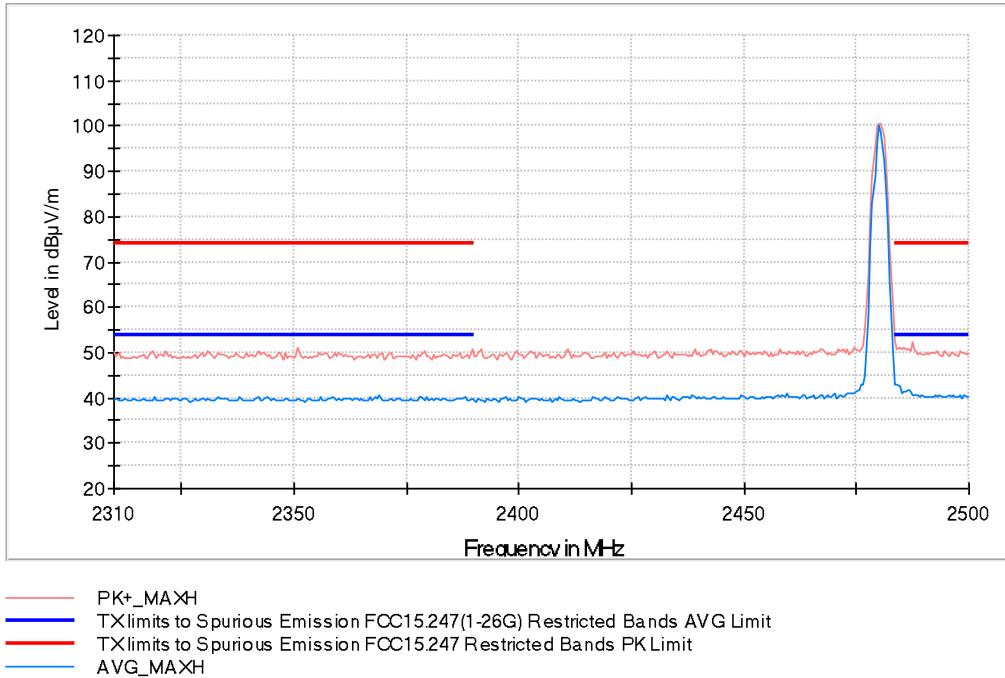
### Middle Channel

Copy of RF\_FCC\_15.247\_E Field\_1GHz\_18GHz\_HPF(SAC2)



## Highest Channel

Copy of RF\_FCC\_15.247\_E Field\_1GHz\_18GHz\_HPF(SAC2)



## Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamplifier
30 MHz - 1 GHz	48.5 kHz	PK+	100 kHz	1 s	20 dB
1 GHz - 3 GHz	500 kHz	PK+; AVG	1 MHz	1 s	20 dB
3 GHz - 18 GHz	500 kHz	PK+; AVG	1 MHz	1 s	20 dB
18 GHz - 26 GHz	500 kHz	PK+; AVG	1 MHz	1 s	20 dB

## Appendix B: Test results. Wi-Fi 2.4GHz

## Appendix B Content

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## PRODUCT INFORMATION

---

Information	Description
Modulation	Other forms of modulation
Maximum RF Output Power	20dBm
Operation mode	
- Operating Frequency Range	2.400 GHz to 2.4835 GHz
- Nominal Channel Bandwidth	20 MHz 40 MHz
Antenna type	PCB - Inverted F
Antenna gain	2.7 dBi
Nominal Voltage	
- Supply Voltage	120 Vac
- Type of power source	AC voltage
Equipment type	Wi-Fi 2.4 GHz b/g/n20/n40
Geo-location capability	No

## TEST CONDITIONS

(\*): Data provided by the client.

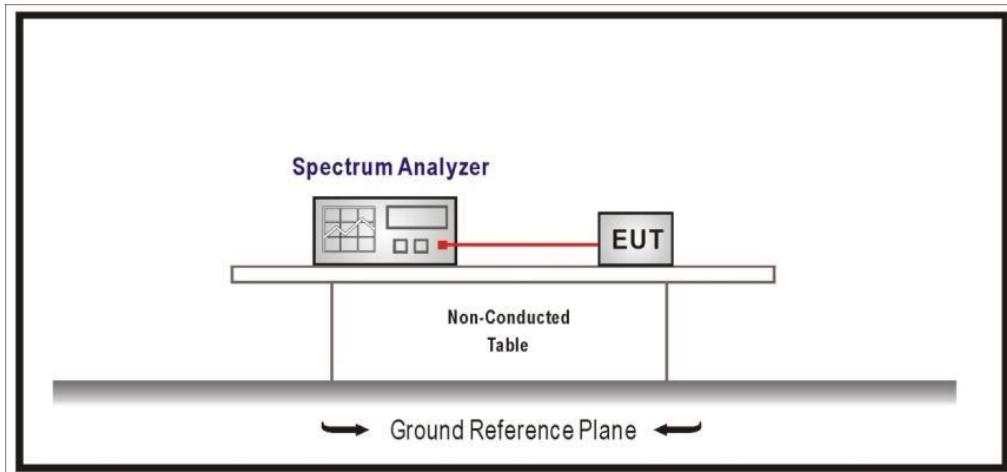
TEST CONDITIONS	DESCRIPTION
TC#01 <sup>(1)</sup> <b>(b mode)</b>	<p><u>Power supply (V):</u> <math>V_{nominal} = 120</math> Vac</p> <p><u>Channel Bandwidth:</u> 20 MHz</p> <p><u>Test Frequencies for Conducted/Radiated tests (SISO A):</u></p> <p>Lowest channel: 2412 MHz Middle channel: 2437 MHz Highest channel: 2462 MHz</p>
TC#02 <sup>(1)</sup> <b>(g mode)</b>	<p><u>Power supply (V):</u> <math>V_{nominal} = 120</math> Vac</p> <p><u>Channel Bandwidth:</u> 20 MHz</p> <p><u>Test Frequencies for Conducted/Radiated tests (SISO A):</u></p> <p>Lowest channel: 2412 MHz Middle channel: 2437 MHz Highest channel: 2462 MHz</p>

TEST CONDITIONS	DESCRIPTION
TC#03 <sup>(1)</sup> <b>(n mode)</b>	<p><u>Power supply (V):</u> <math>V_{nominal} = 120</math> Vac</p> <p><u>Channel Bandwidth:</u> 20 MHz</p> <p><u>Test Frequencies for Conducted tests (SISO A):</u></p> <p>Lowest channel: 2412 MHz Middle channel: 2437 MHz Highest channel: 2462 MHz</p> <p><u>Channel Bandwidth:</u> 40 MHz</p> <p><u>Test Frequencies for Conducted tests (SISO A):</u></p> <p>Lowest channel: 2422 MHz Middle channel: 2437 MHz Highest channel: 2452 MHz</p>

Note (1): For spurious emissions for OFDM modes 802.11g, 802.11n20 and 802.11n40 a preliminary scan was performed to determine the worst case. The following tables and plots show the results for the worst case in DSSS modulation (802.11b) and OFDM modulation (802.11g).

The data rates of 1Mb/s for 802.11b, 6Mb/s for 802.11g, MCS0 for 802.11n20 and 802.11n40 were selected based on preliminary testing that identified those rates corresponding to the worst cases.

CONDUCTED MEASUREMENTS:



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and 1-18 GHz (Double ridge horn antenna), and 1m for the frequency range 18 GHz- 26 GHz (Double ridge horn antenna).

For radiated emissions in the range 18 - 26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

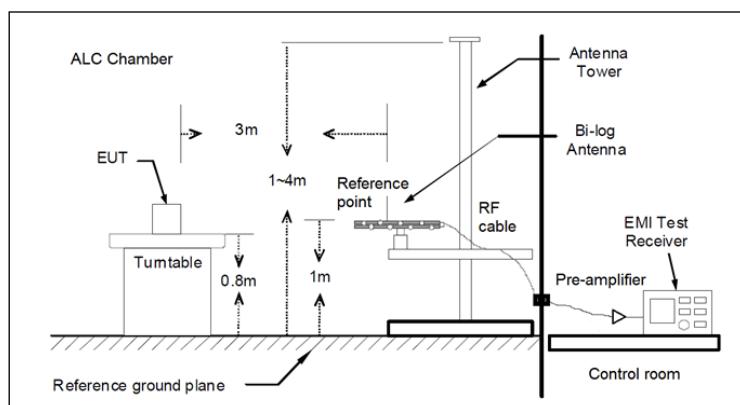


Fig A1: Radiated measurements Setup f < 1 GHz

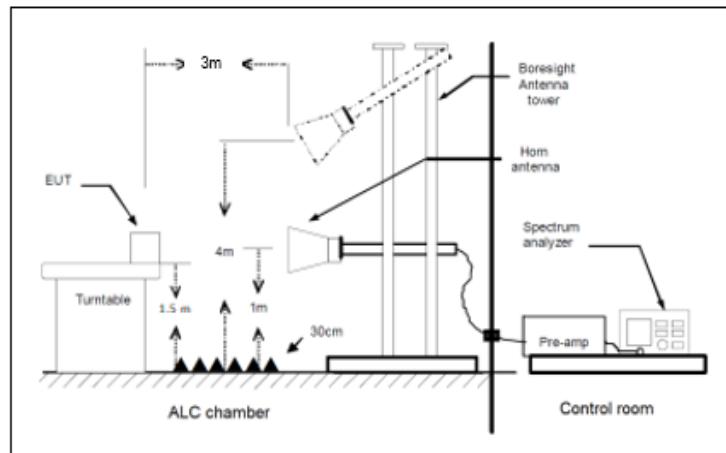


Fig A2: Radiated measurements setup  $1 < f < 18$  GHz

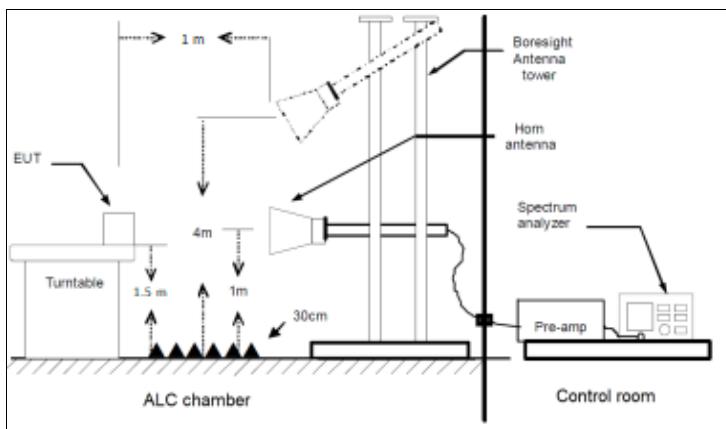


Fig A3: Radiated measurements setup  $f > 18$  GHz

## TEST CASES DETAILS

RSS-247 5.2 (a) / FCC 15.247 (a) (2) 6 dB Bandwidth

### Limits

The minimum 6 dB bandwidth shall be at least 500 kHz.

Modulation: 802.11b (DSSS 1 Mbit/s)

### Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Emission Bandwidth (MHz)
2412.00000				9.500
2437.00000	20	1	1	9.150
2462.00000				9.900

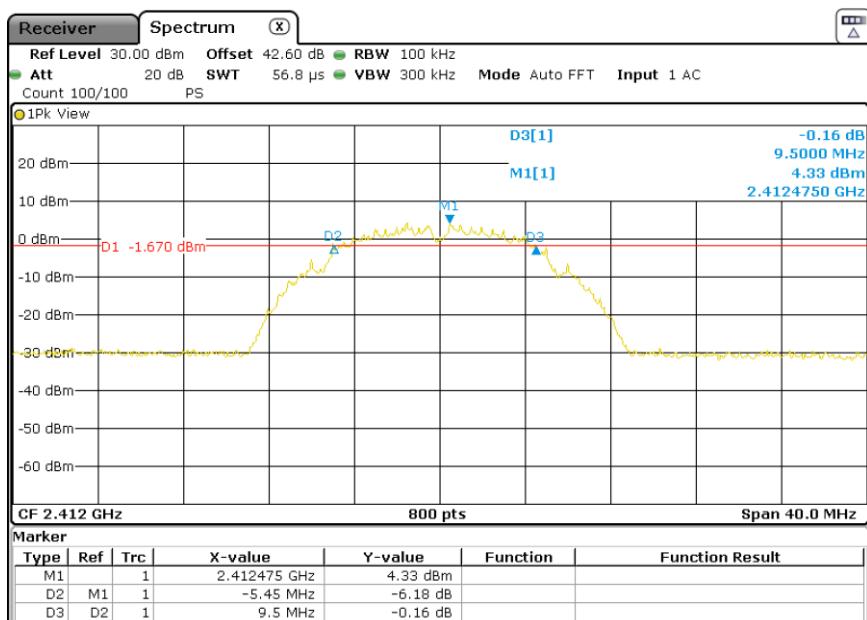
### Verdict

Pass

### Attachments

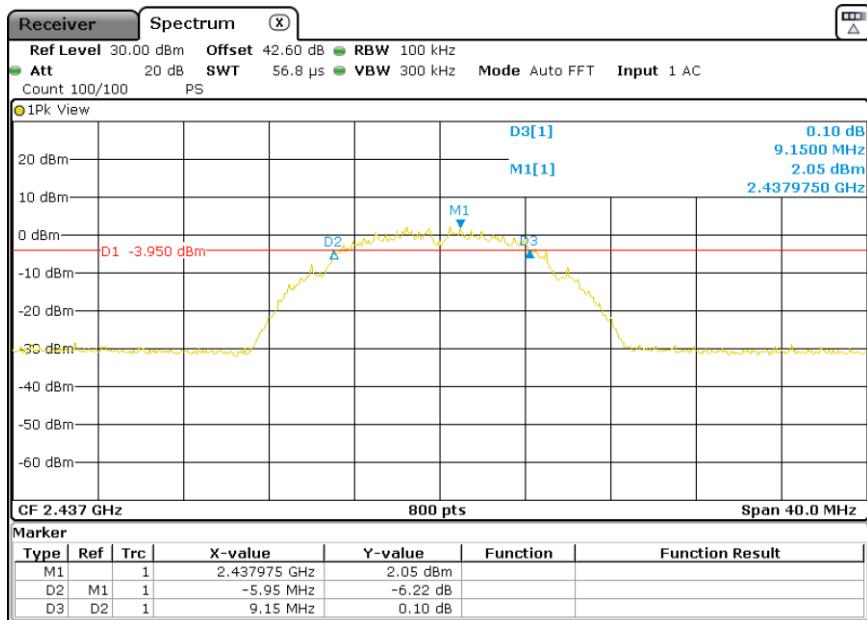
Frequency MHz = 2412.00000, Bandwidth MHz = 20, Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

### Images:



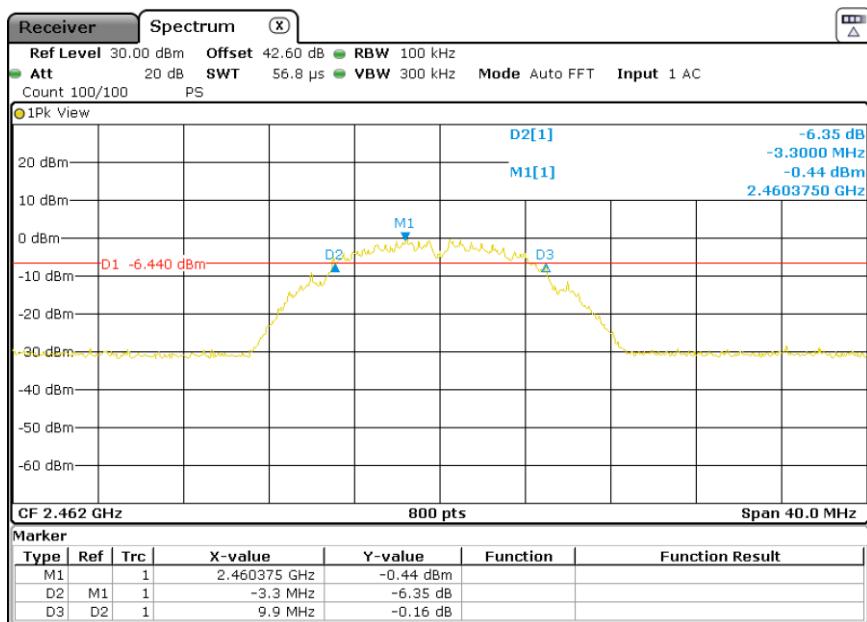
Frequency MHz = 2437.00000, Bandwidth MHz = 20, Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2462.00000, Bandwidth MHz = 20, Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: 802.11g (OFDM 6 Mbit/s)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Emission Bandwidth (MHz)
2412.00000				16.250
2437.00000	20	1	1	15.750
2462.00000				15.200

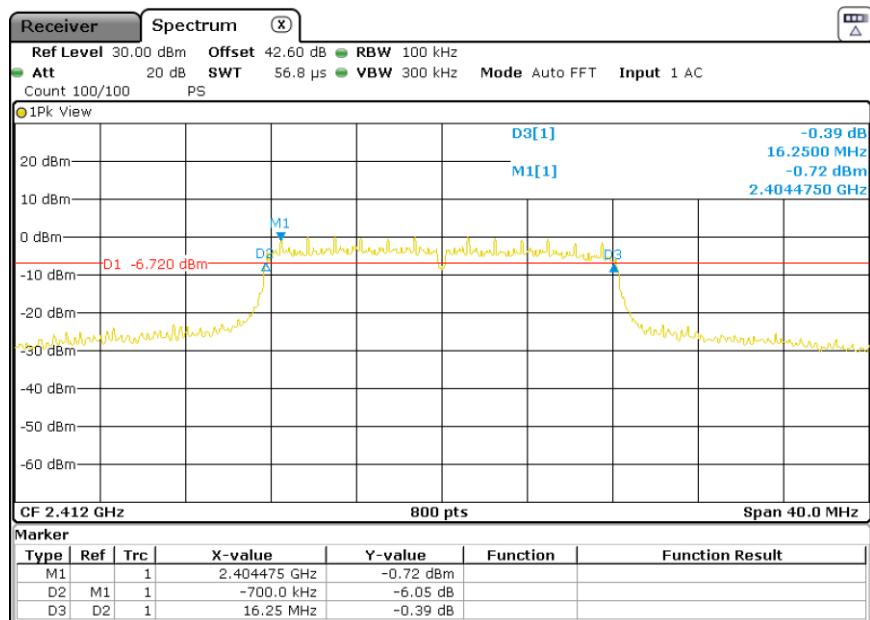
## Verdict

Pass

## Attachments

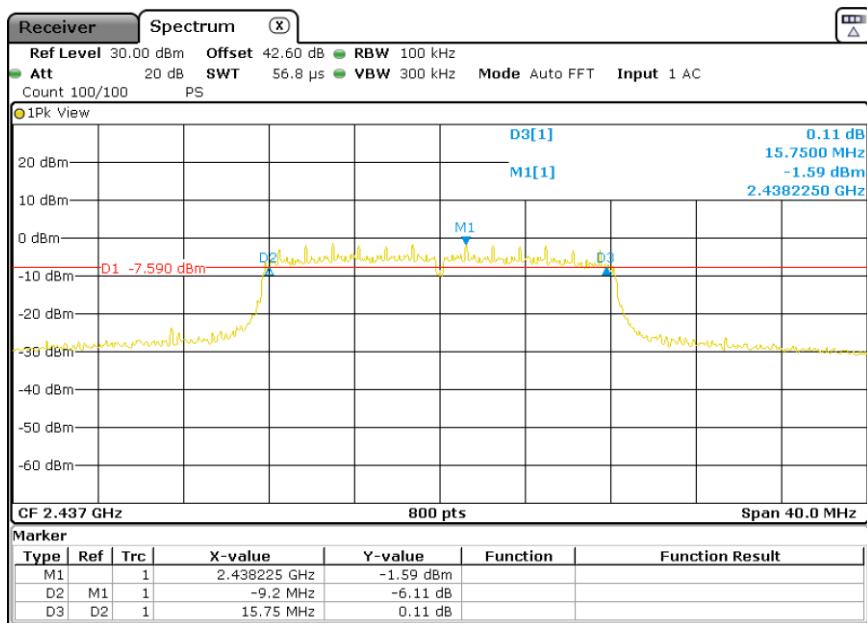
Frequency MHz = 2412.00000, Bandwidth MHz = 20, Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



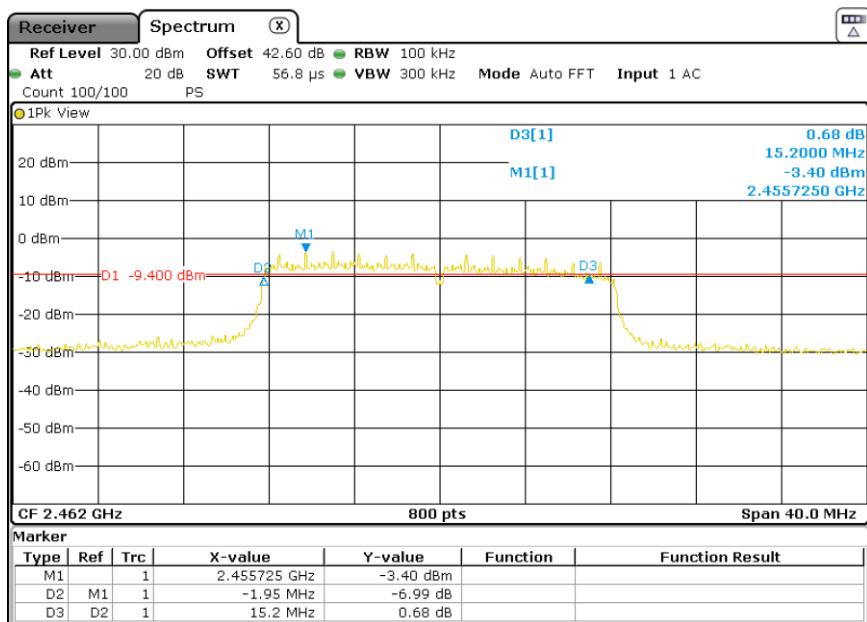
Frequency MHz = 2437.00000, Bandwidth MHz = 20, Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2462.00000, Bandwidth MHz = 20, Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: 802.11n HT20 (OFDM MCS0)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Emission Bandwidth (MHz)
2412.00000				16.650
2437.00000	20	1	1	16.250
2462.00000				15.700

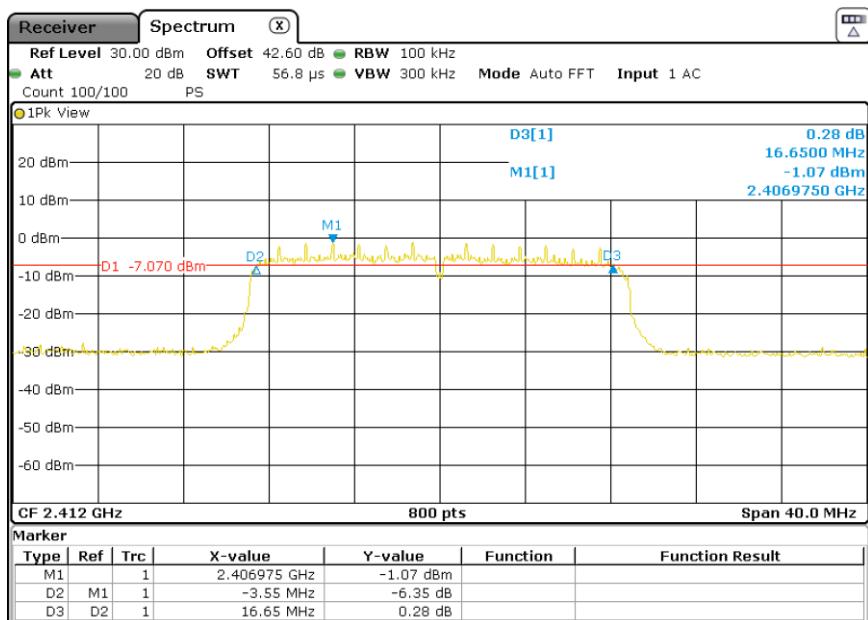
## Verdict

Pass

## Attachments

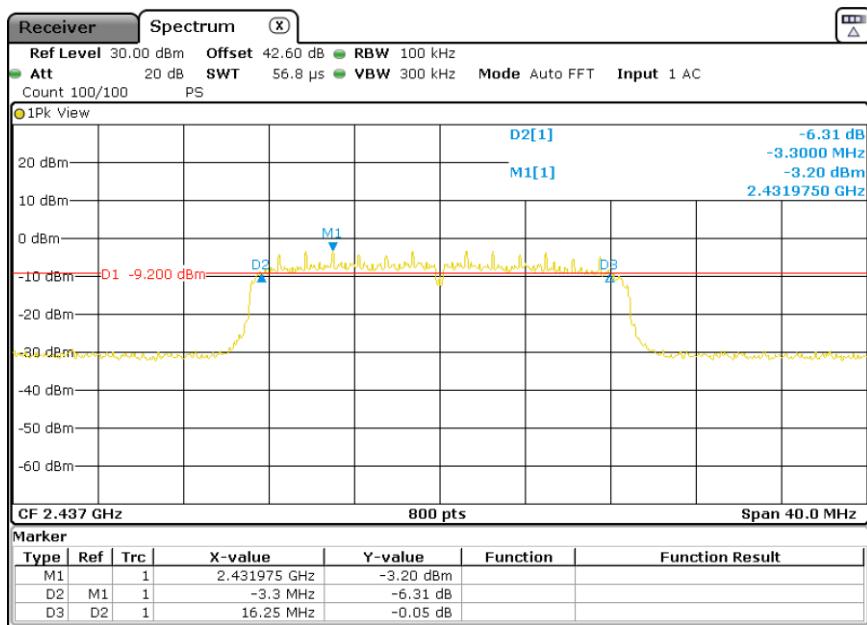
Frequency MHz = 2412.00000, Bandwidth MHz = 20, Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

## Images:



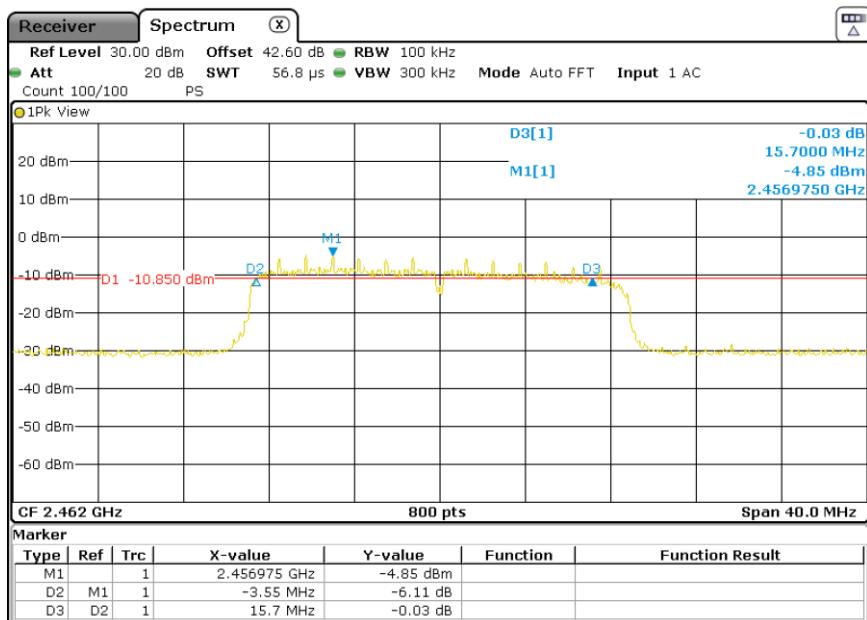
**Frequency MHz = 2437.00000, Bandwidth MHz = 20, Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



**Frequency MHz = 2462.00000, Bandwidth MHz = 20, Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



Modulation: 802.11n HT40 (OFDM MCS0)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Emission Bandwidth (MHz)
2422.00000				33.309
2437.00000	40	1	1	31.377
2452.00000				33.582

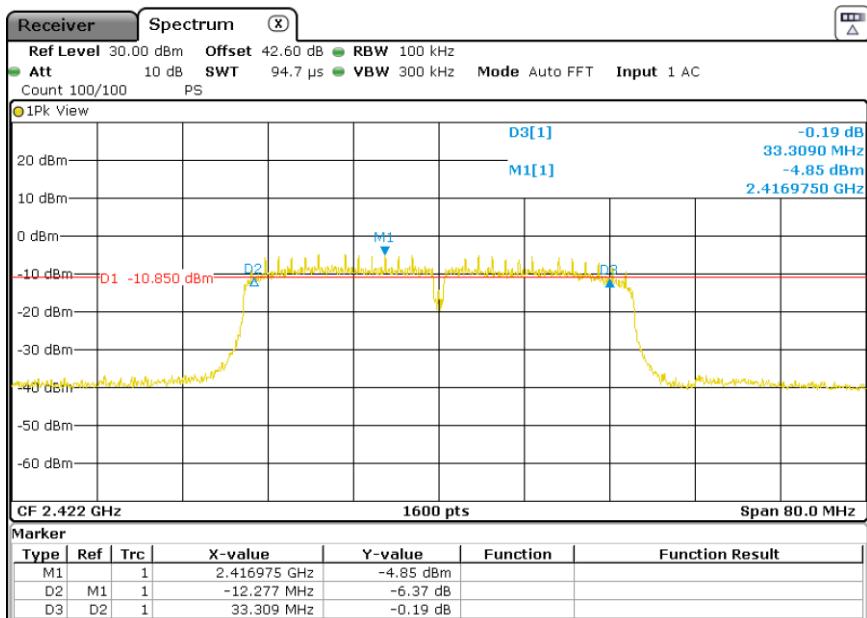
## Verdict

Pass

## Attachments

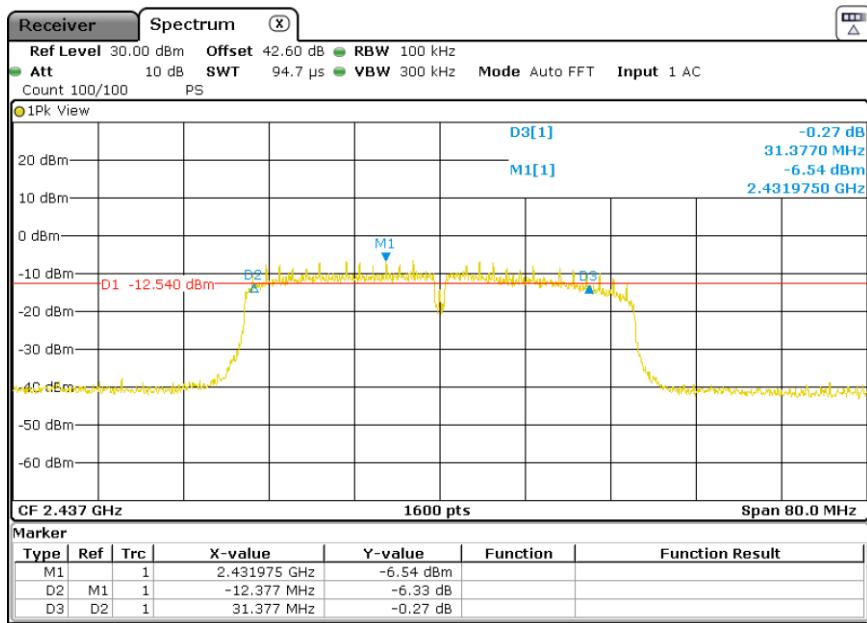
Frequency MHz = 2422.00000, Bandwidth MHz = 40, Modulation = 802.11n HT40 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

## Images:



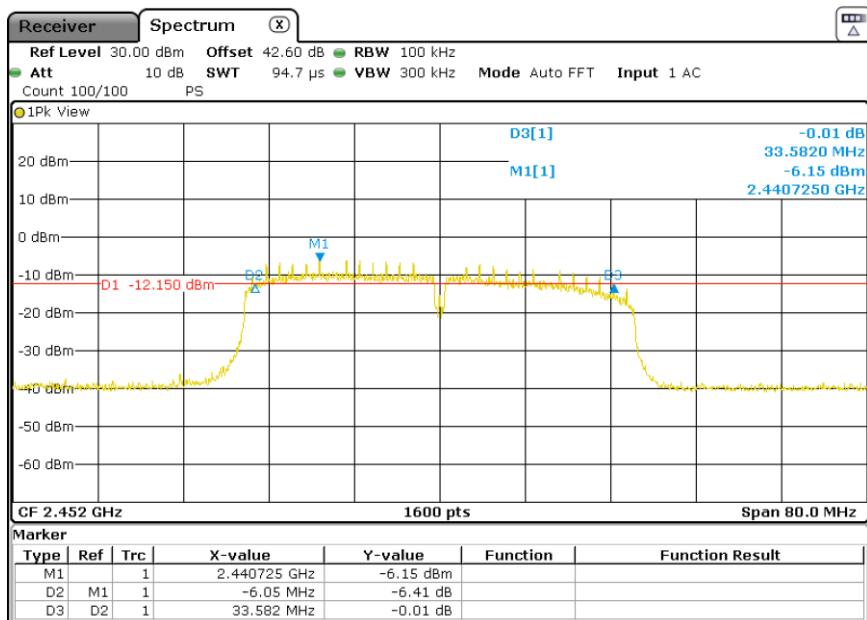
Frequency MHz = 2437.00000, Bandwidth MHz = 40, Modulation = 802.11n HT40 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2452.00000, Bandwidth MHz = 40, Modulation = 802.11n HT40 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

Images:



## RSS-247 5.2 (b) / FCC 15.247 (e) Power spectral density

### Limits

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Modulation: 802.11b (DSSS 1 Mbit/s)

### Results

Freq (MHz)	Equipment	BW (MHz)	# of Tx Chains	Port	PSD (dBm)
2412.00000	Digital				4.16
2437.00000	Transmission	20	1	1	1.34
2462.00000	System (DTS)				-0.46

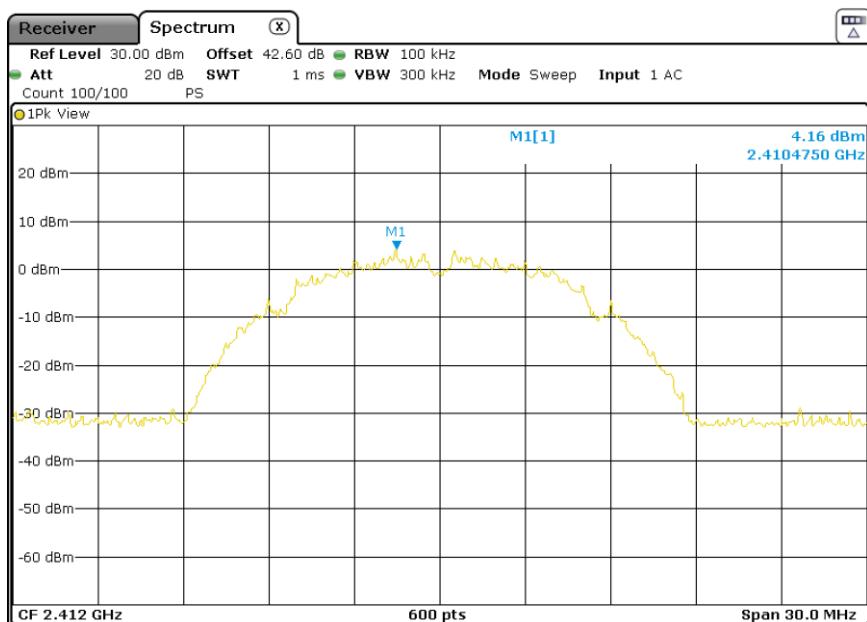
### Verdict

Pass

### Attachments

**Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1**

### Images:



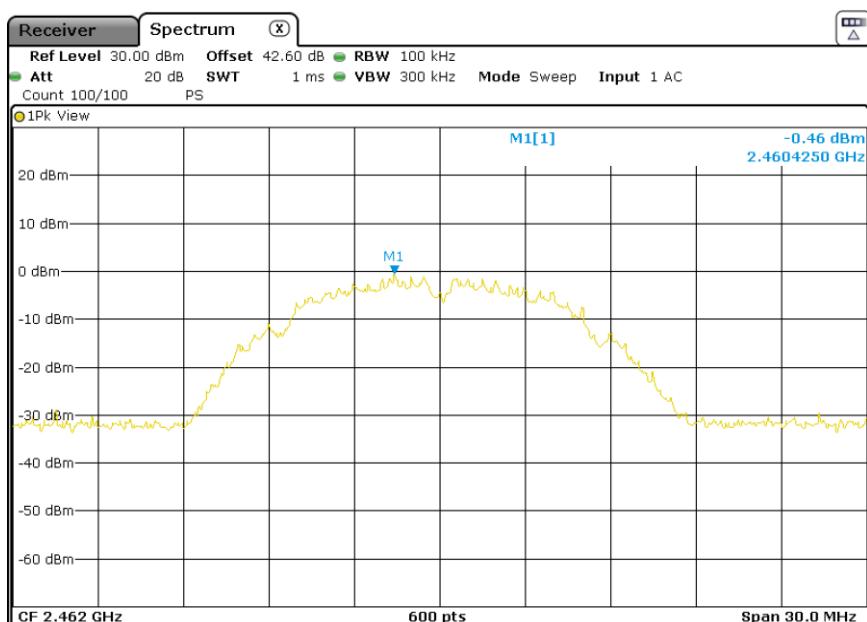
Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20,  
Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20,  
Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: 802.11g (OFDM 6 Mbit/s)

## Results

Freq (MHz)	Equipment	BW (MHz)	# of Tx Chains	Port	PSD (dBm)
2412.00000	Digital				0.06
2437.00000	Transmission	20	1	1	-2.09
2462.00000	System (DTS)				-4.26

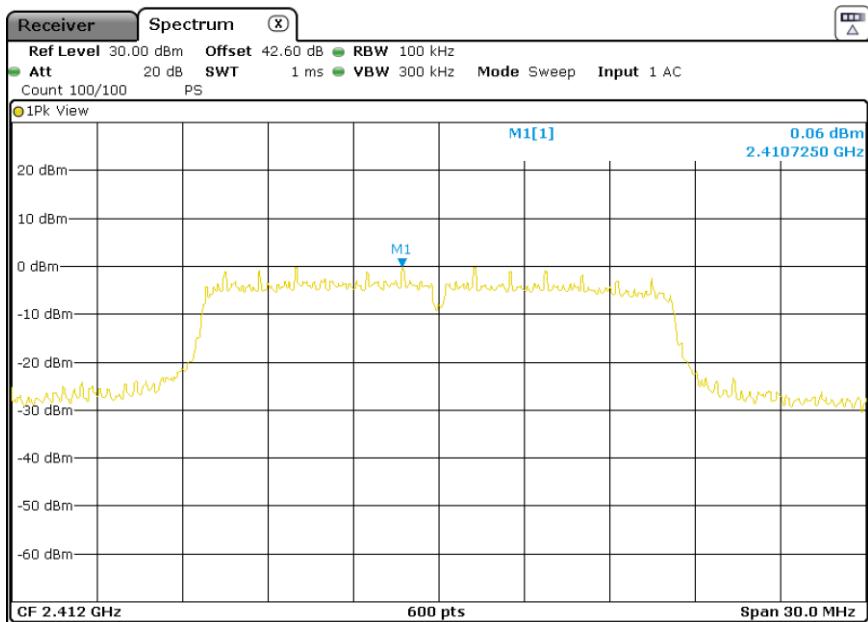
## Verdict

Pass

## Attachments

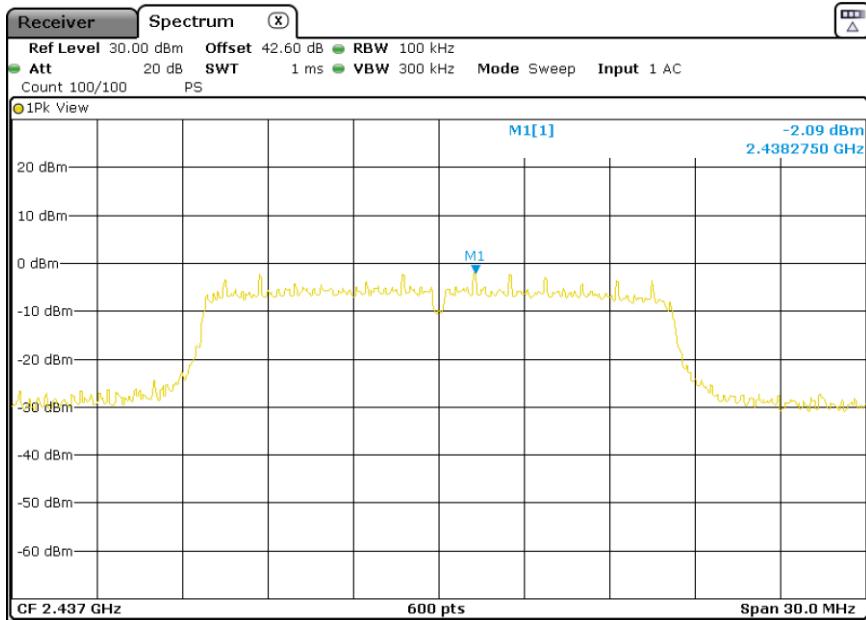
Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



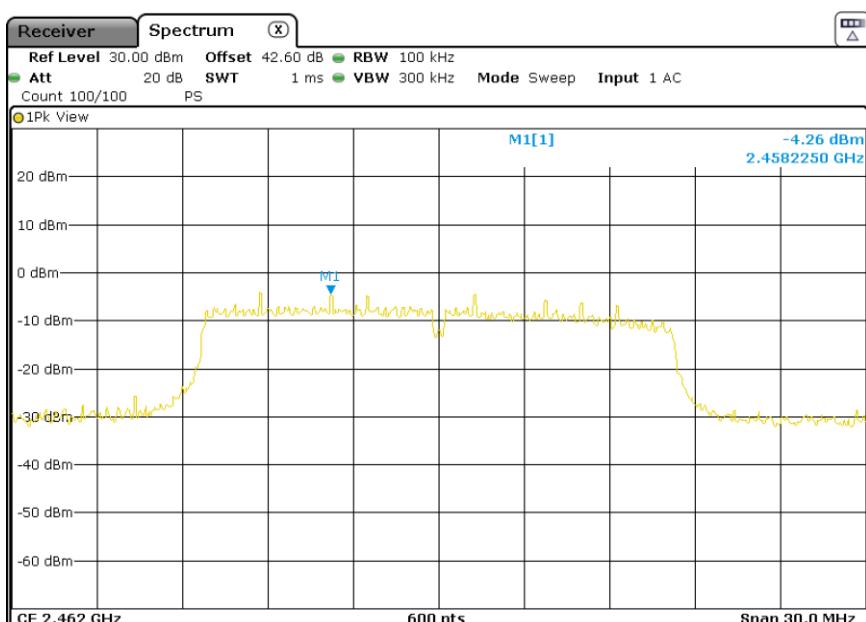
Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20,  
Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20,  
Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: 802.11n HT20 (OFDM MCS0)

## Results

Freq (MHz)	Equipment	BW (MHz)	# of Tx Chains	Port	PSD (dBm)
2412.00000	Digital				-1.53
2437.00000	Transmission	20	1	1	-3.88
2462.00000	System (DTS)				-5.55

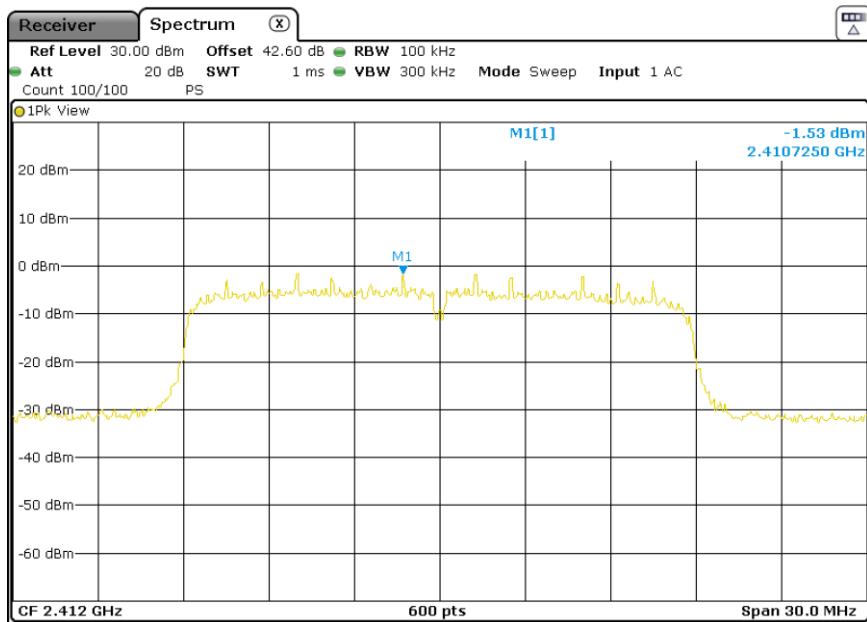
## Verdict

Pass

## Attachments

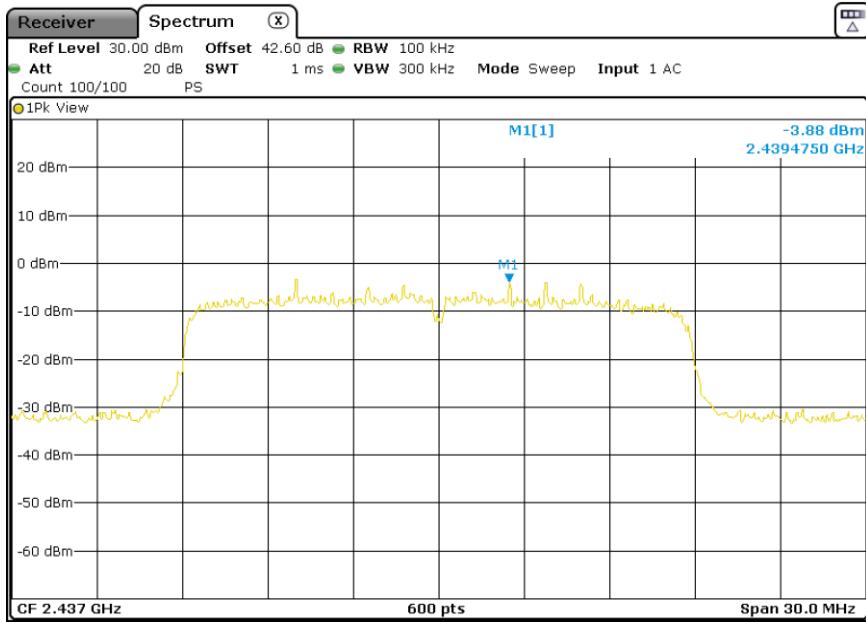
Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

## Images:



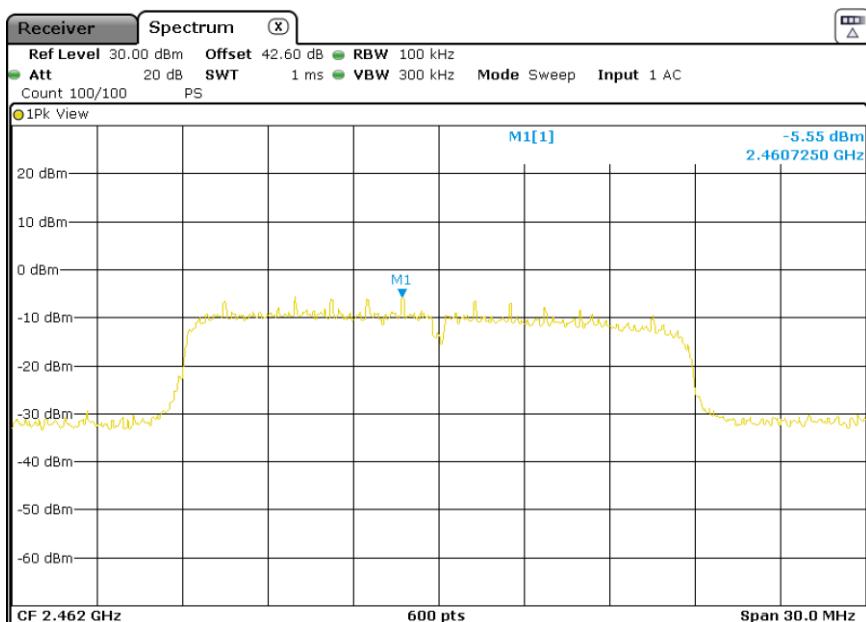
Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20,  
Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20,  
Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: 802.11n HT40 (OFDM MCS0)

## Results

Freq (MHz)	Equipment	BW (MHz)	# of Tx Chains	Port	PSD (dBm)
2422.00000	Digital				-4.87
2437.00000	Transmission	40	1	1	-6.08
2452.00000	System (DTS)				-6.16

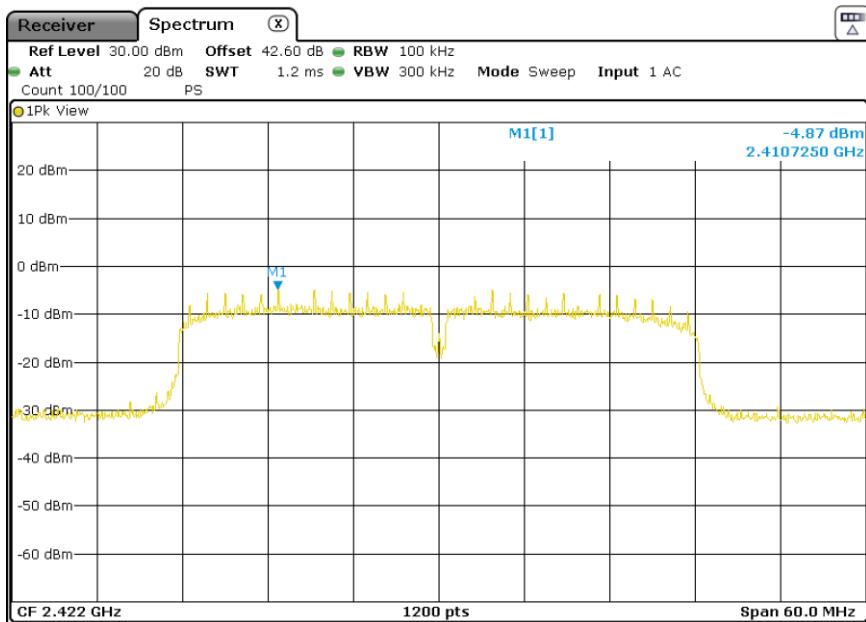
## Verdict

Pass

## Attachments

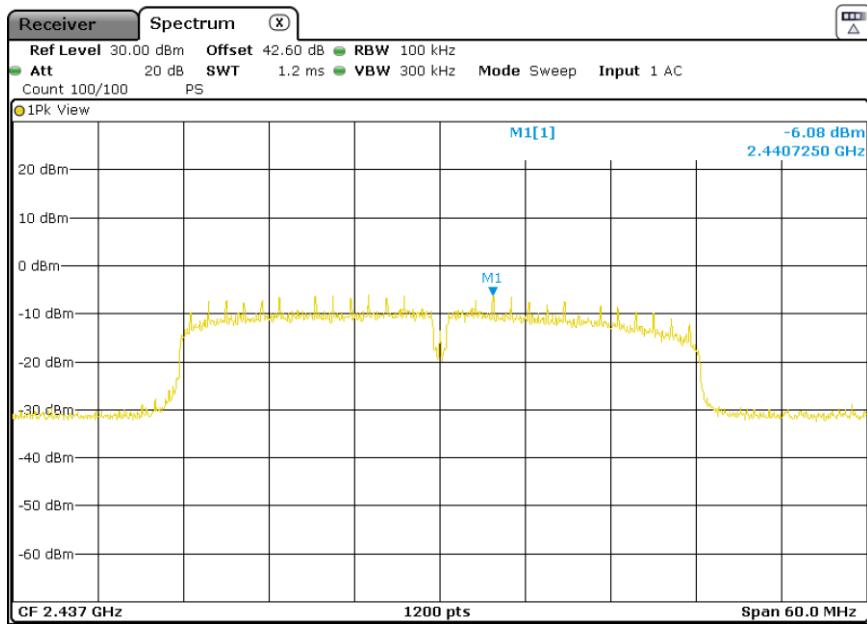
Frequency MHz = 2422.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 40, Modulation = 802.11n HT40 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

## Images:



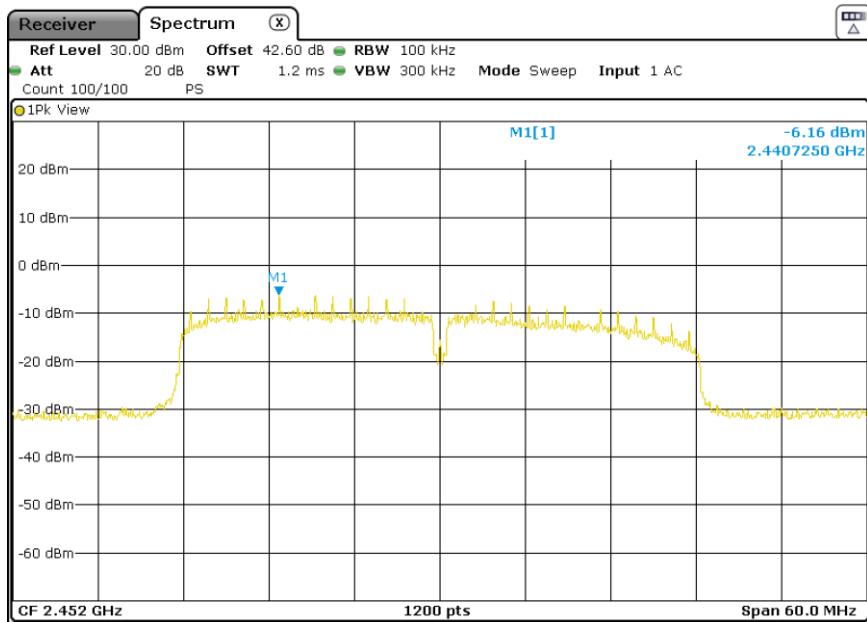
**Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 40, Modulation = 802.11n HT40 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



**Frequency MHz = 2452.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 40, Modulation = 802.11n HT40 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



RSS-247 5.4 (d) / FCC 15.247 (b) (1) Maximum Average Conducted Output Power

## Limits

For systems using digital modulation in the 2400 -2483.5 MHz band: 1 watt (30 dBm).

The e.i.r.p. shall not exceed 4 W (36 dBm) (RSS-247).

Maximum declared antenna gain: 2.7 dBi

Modulation: 802.11b (DSSS 1 Mbit/s)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Avg Power (dBm)	Maximum EIRP power (dBm)
2412.00000				8.63	11.33
2437.00000	20	1	1	7.01	9.71
2462.00000				4.59	7.29

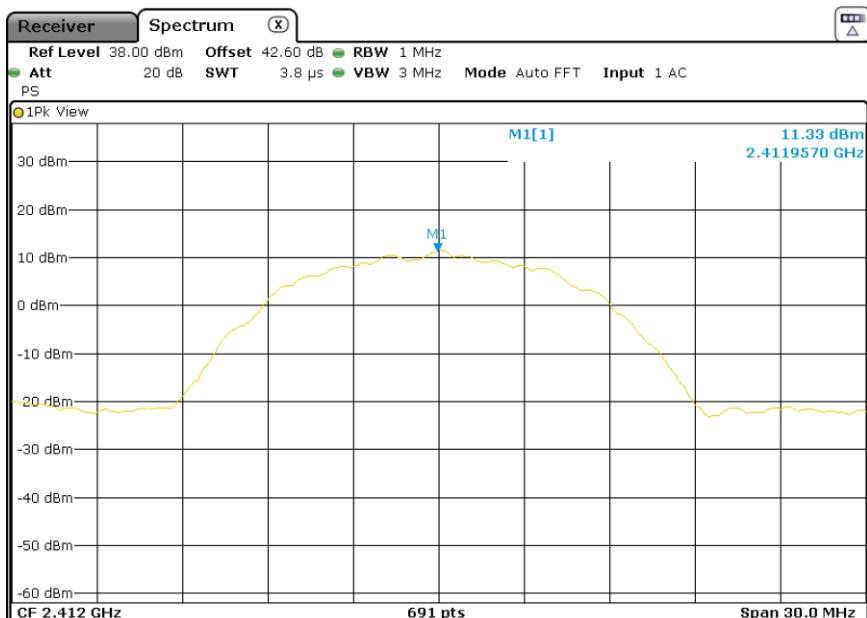
## Verdict

Pass

## Attachments

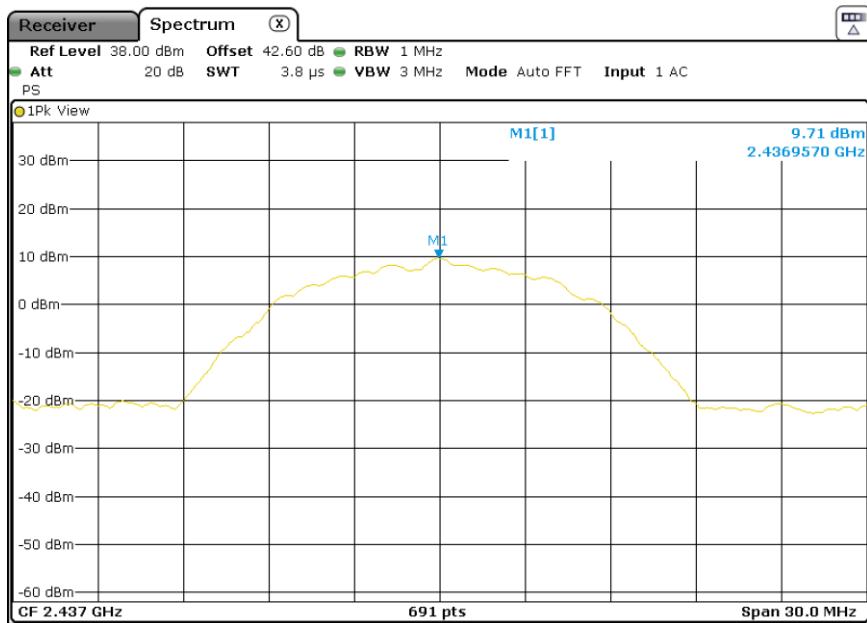
Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



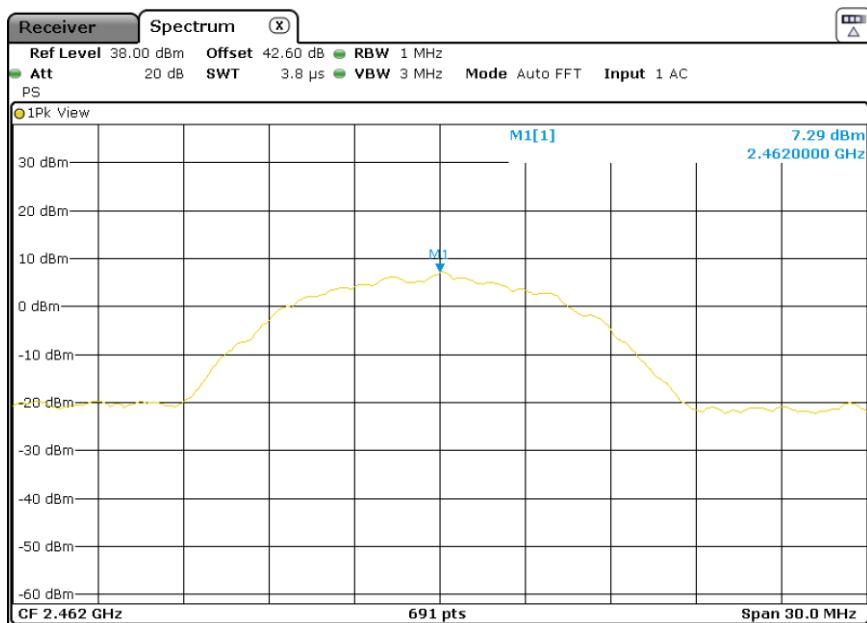
**Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



**Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



Modulation: 802.11g (OFDM 6 Mbit/s)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Avg Power (dBm)	Maximum EIRP power (dBm)
2412.00000				5.51	8.21
2437.00000	20	1	1	3.43	6.13
2462.00000				1.68	4.38

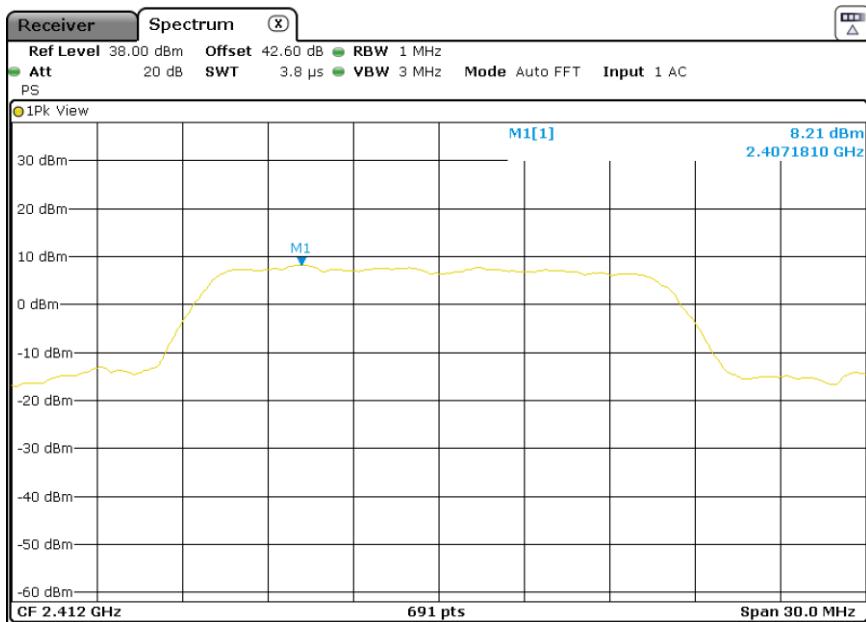
## Verdict

Pass

## Attachments

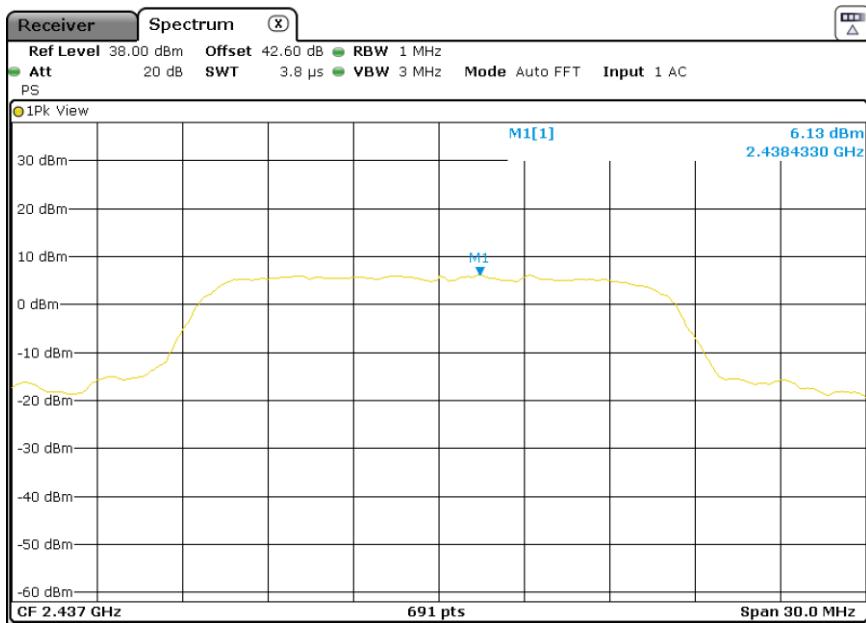
Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

## Images:



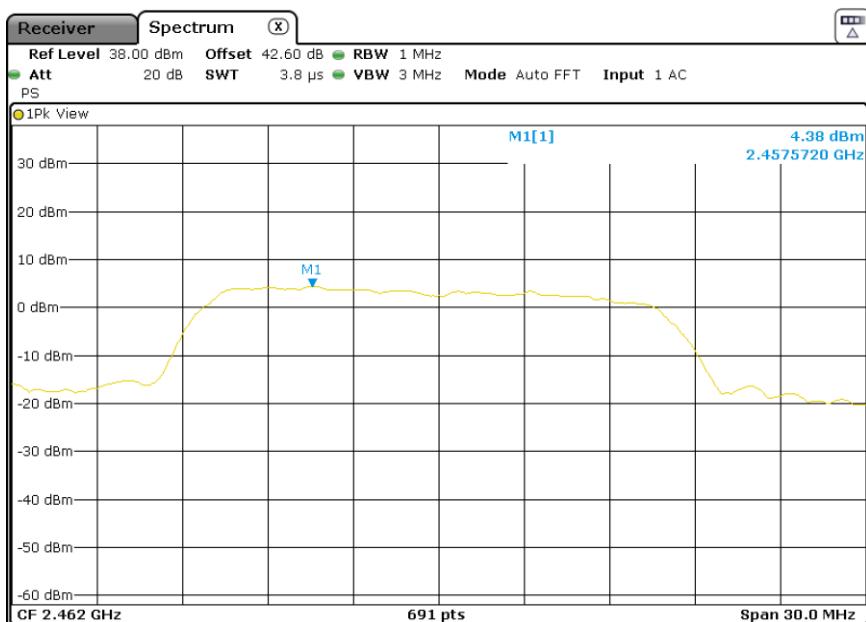
Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20,  
Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20,  
Modulation = 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1, Active Port = 1

Images:



Modulation: 802.11n HT20 (OFDM MCS0)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Avg Power (dBm)	Maximum EIRP power (dBm)
2412.00000				3.44	6.14
2437.00000	20	1	1	1.83	4.53
2462.00000				-0.01	2.69

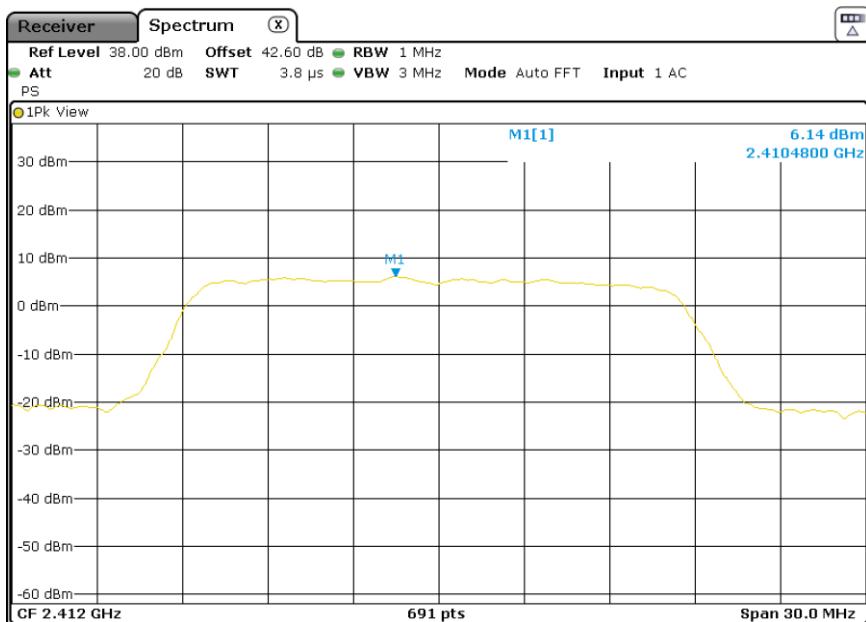
## Verdict

Pass

## Attachments

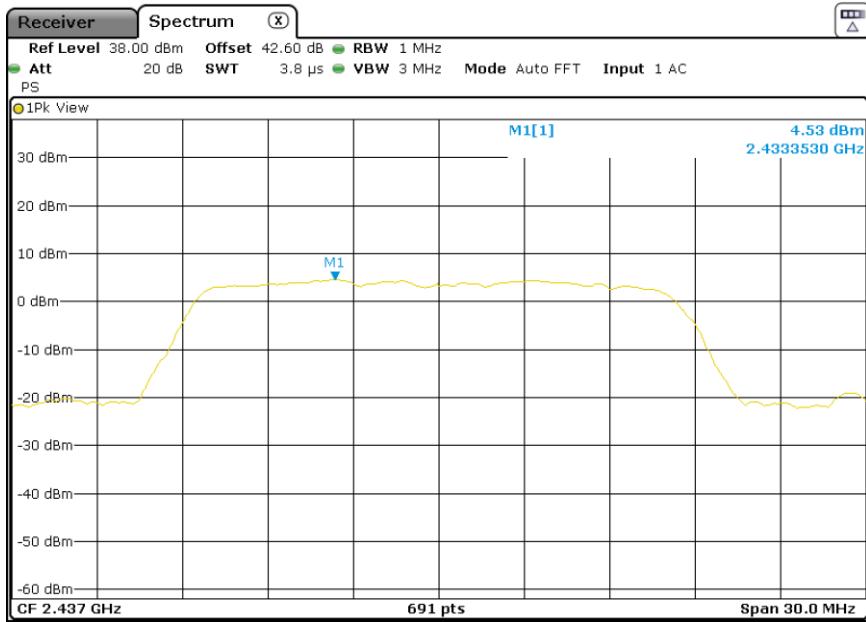
**Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1**

## Images:



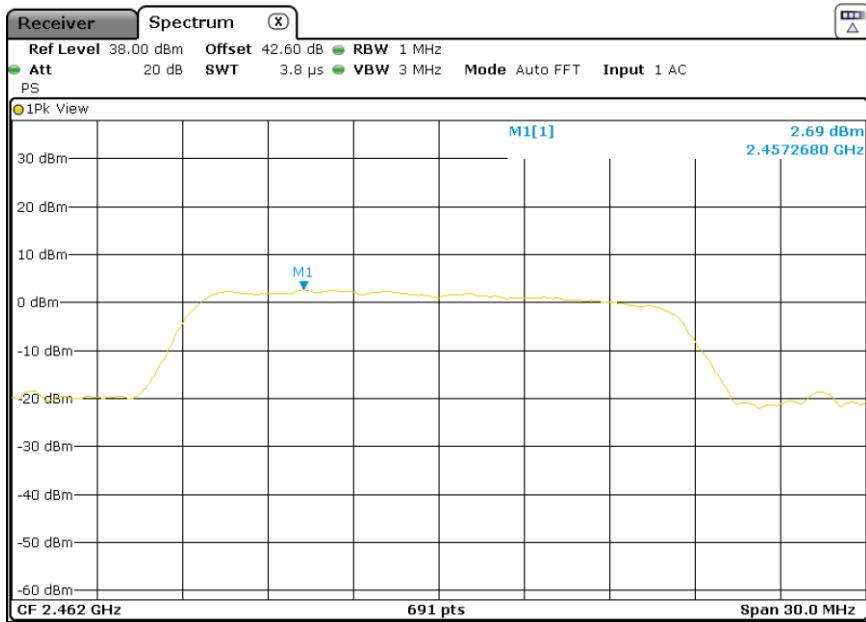
**Frequency MHz = 2437.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



**Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 20, Modulation = 802.11n HT20 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



Modulation: 802.11n HT40 (OFDM MCS0)

## Results

Freq (MHz)	BW (MHz)	# of Tx Chains	Port	Avg Power (dBm)	Maximum EIRP power (dBm)
2422.00000				0.18	2.88
2437.00000	40	1	1	-0.91	1.79
2452.00000				-1.32	1.38

## Verdict

Pass

## Attachments

Frequency MHz = 2422.00000, Equipment Type = Digital Transmission System (DTS), Bandwidth MHz = 40, Modulation = 802.11n HT40 (OFDM MCS0), Number of Transmission Chains = 1, Active Port = 1

## Images:

