



FCC LISTED, REGISTRATION
NUMBER: 2764.01

ISED LISTED REGISTRATION
NUMBER: 23595-1

Test Report No:
5159ERM.002A1

Test Report

USA FCC Part 15.247, 15.205, 15.207, 15.209;

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

CANADA RSS-247, RSS-Gen

Digital Transmission Systems, Frequency Hopping Systems and License-Exempt Local Area Network Devices in 902-928 MHz, 2400-2483.5 MHz, 5150-5350MHz, and 5470-5895 MHz bands.

(*) Identification of item tested	Automotive Front Passenger Display Module (FPDM)
(*) Trademark	Harman
(*) Model and /or type reference	FPDM WL MCA
(*) Derived model not tested	--
Other identification of the product	FCC ID: 2AHPN-BE2886 IC ID: 6434C-BE2886
(*) Features	Bluetooth v4.1
Manufacturer	Harman International Industries, Inc 30001 Cabot Drive, Novi, MI 48377, USA
Test method requested, standard	USA FCC Part 15.247 (11-18-2024): Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz. USA FCC Part 15.205 (11-18-2024): Restricted bands of operation. USA FCC Part 15.209 (11-18-2024) Edition: Radiated emission limits; general requirements. USA FCC Part 15.207 (11-18-2024 Edition): Conducted limits; general requirements. CANADA RSS-247 Issue 4 (July 2025). CANADA RSS-Gen Issue 5 (April 2018)/A1 (March 2019)/A2 (Feb 2021). Guidance for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices 789033 D02 General U-NII Test Procedures New Rules v02r01 dated Dec 14, 2017. ANSI C63.10-2020/Cor1-2023: 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	2025-09-24
Report template No	FDT08_25 (*) "Data provided by the client"

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Acronyms

Acronym ID	Acronym Description
Avg COT	Average Channel Occupancy Time
BW	Bandwidth
Detector	Detector used
Ebw	Emission Bandwidth
Equipment	Equipment Type
Freq	Frequency
Freq Rng	Frequency Range
Freq Sep	Frequency Separation
Inband Peak Lvl	Inband Peak Level
Lvl	Level
MP	Measurement Point
Mod	Modulation
Mode	MIMO Mode
NHC	Number of Hopping Channels
NHp	Number of hops over the period
Occ Ch BW	Occupied Channel Bandwidth
Pol	Polarization
Port	Active Port
Unwanted Freq	Unwanted Emissions Frequency
Unwanted Lvl	Unwanted Emissions Level

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 and CAB ID US0215.

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 Inc. internal document PODT000.

Test case	Frequency (MHz)	U ($k=2$)	Units
RF Power and PSD	2402-2483	0.88	dB
Occupied Bandwidth		1.87	%
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 a This device is an original equipment manufacturer (OEM) application and is installed by the OEM during vehicle assembly. Device is not available by normal means in the consumer market. This device is a stylized display module for use by the front seat passenger and includes a Bluetooth radio for connecting to headphones with Bluetooth capability.

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 undergoing test have been selected by: The client.

The sample(s) is composed of the following elements, accessories and auxiliary equipment:

Id	Control Number	Description	Manufacturer / Model	Serial N°	Date of Reception	Application
S/01	4382/37	Automotive Infotainment Unit with Bluetooth/WLAN	Harman / FPDM WL MCA	T0014038670399	2025-04-29	Element Under Test
S/01	4382/24	Automotive Front Passenger Display MY25	Harman / EJ DCSD MY25	C1421D0000406688 71B0734E0010	2025-04-29	Accessory
S/01	4382/36	Automotive Infotainment Unit	Harman / R1 EXT NA 3B MY22	T0012231371481	2025-04-29	Accessory
S/01	4382/48	Harness	Harman	---	2025-04-29	Accessory
S/01	4382/71	PCAN-USB Adapter	PEAK-System Technik GmbH / IPEH-002021	427599	2025-04-29	Accessory
S/01	4382/106	USB Type A male to female	---	---	2025-04-29	Accessory
S/01	4382/54	BR to ETH Adapter + Power cable	Harman	---	2025-04-29	Accessory
S/01	4382/79	Ethernet cable	5E	---	2025-04-29	Accessory
S/01	4382/60	USB2.0 to Fast Ethernet Adpater	TRENDnet / U2-ET100	RA2EU56101065	2025-04-29	Accessory
S/01	4382/72	MATenet cable	---	---	2025-04-29	Accessory
S/01	4382/92	HSD LVDS cable	---	---	2025-04-29	Accessory
S/01	4382/93	FPDM Harness	---	---	2025-04-29	Accessory
S/02	4382/43	Automotive Infotainment Unit with Bluetooth/WLAN	Harman / FPDM WL MCA	T0014038570408	2025-04-29	Element Under Test
S/02	4382/24	Automotive Front Passenger Display MY25	Harman / DCSD MY25	C1421D0000406688 71B0734E0010	2025-04-29	Accessory
S/02	4382/36	Automotive Infotainment Unit	Harman / R1 EXT NA 3B MY22	T0012231371481	2025-04-29	Accessory
S/02	4382/48	Harness	Harman / MY 25	---	2025-04-29	Accessory
S/01	4382/71	PCAN-USB Adapter	PEAK-System Technik GmbH / IPEH-002021	427599	2025-04-29	Accessory
S/01	4382/106	USB Type A male to female	---	---	2025-04-29	Accessory
S/02	4382/54	BR to ETH Adapter + Power cable	Harman / MY 25	---	2025-04-29	Accessory
S/02	4382/79	Ethernet cable	5E	---	2025-04-29	Accessory
S/02	4382/60	USB2.0 to Fast Ethernet Adpater	TRENDnet / U2-ET100	RA2EU56101065	2025-04-29	Accessory
S/02	4382/72	MATenet cable	---	---	2025-04-29	Accessory
S/02	4382/92	HSD LVDS cable	---	---	2025-04-29	Accessory
S/02	4382/93	FPDM Harness	---	---	2025-04-29	Accessory

Notes referenced to samples during the project.

Id	Note
S/01	Sample S/01, was used for the following test(s): All Radiated tests indicated in appendix A.
S/02	Sample S/02, was used for the following test(s): All Conducted tests indicated in appendix A.

Test sample description

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

Ports..... :	Port name and description		Cable				
			Specified max length [m]	Attached during test	Shielded	Coupled to patient ⁽³⁾	
	No Data Provided		.....	[ ]	[ ]	[ ]	
				[]	[]	[]	
				[]	[]	[]	
				[]	[]	[]	
				[]	[]	[]	
Supplementary information to the ports..... :	No Data Provided						
Rated power supply :	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	[]	AC:	[]	[]	[]	[]	[]
	[]	AC:	[]	[]	[]	[]	[]
	[X]	DC: 12V nominal Car battery, 8V to 16V max					
[]	DC:						
Rated Power :	9-16 DC, 5A max						
Clock frequencies :	No Data Provided						
Other parameters..... :	No Data Provided						
Software version :	No Data Provided						
Hardware version..... :	PV						
Dimensions in cm (W x H x D)..... :	609mm (H) x 135mm (W) x 70mm						
Mounting position..... :	[]	Table top equipment					
	[]	Wall/Ceiling mounted equipment					
	[]	Floor standing equipment					
	[]	Hand-held equipment					
	[X]	Other: Display module for use by the front seat passenger					
Modules/parts :	Module/parts of test item		Type		Manufacturer		
	No Data Provided		.....		.....		
							
							
							
Accessories (not part of the test item) :	Description		Type		Manufacturer		
	FPDM Power Harness		.....		.....		
	P-CAN Adapter		.....		.....		
	OABR Board		.....		.....		
	LAN cable With USB 2.0 to Fast Ethernet Adapter		.....		.....		
							

Documents as provided by the applicant :	Description	File name	Issue date
	Declaration Equipment Data	FDT30	2025/05/28
			
			

(3) Only for Medical Equipment

Identification of the client

Harman International Industries, Inc
30001 Cabot Drive,
Novi, MI 48377,
USA

Testing period and place

Test Location	DEKRA Certification Inc. 405 Glenn Dr. Suite 12, Sterling, VA 20164 United States of America
Date (start)	2025-05-28
Date (finish)	2025-05-28

Document history

Report number	Date	Description
5159ERM.002	2025-07-11	First release.
5159ERM.002A1	2025-09-24	Second release. RSS-247 issue number and year were updated. The sample list was updated at page 5. This revised test report cancels and replaces test report 5159ERM.002.

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. = 60 %
Air pressure	Min. = 860mbar Max. = 1060mbar

In the semianechoic chamber, 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. = 860mbar Max. = 1060mbar

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. = 860mbar Max. = 1060mbar

Remarks and comments

The tests have been performed by the technical personnel: Fahim Tahiree, Prudhvi Kothapalli, Yuri Barone, Koji Nishimoto and Victor Albrecht.

Testing verdicts

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

Summary

Requirement – Test case	FCC PART 15 PARAGRAPH / RSS-247	Verdict	Remark
RSS-Gen 8.8 / FCC 15.207 - Continuous conducted emission on Power leads		N/A	Refer 1
RSS-Gen / RSS-247 - [99dBW] Transmitter 99% Occupied Bandwidth		P	--
RSS-247 / FCC 15.247 - [20dBW] 20 dB Bandwidth		P	--
RSS-247 / FCC 15.247 - [CFS] Carrier Frequency Separation		P	--
RSS-247 / FCC 15.247 - [DwT] Time of Occupancy (Dwell Time)		P	--
RSS-247 / FCC 15.247 - [NHC] Number of hopping channels		P	--
RSS-247 / FCC 15.247 - [Pkcp] Maximum Average Conducted Output Power		P	Refer 2
RSS-247 / FCC 15.247 - [Bndedge] Band-edge emissions compliance (Transmitter)		P	--
RSS-247 / FCC 15.247 - [RSE] Emission limitations radiated (Transmitter)		P	--

Supplementary information and remarks:

- According with the requirements of FCC Rules and Regulations, title 47, Chapter I, Subchapter A, Part 15, Subpart C, §15.207 Conducted limits, (c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.
- Test case applicable to BTEDR

List of equipment used during the test

Test Equipment for Conducted emission, and Radiated emission testing:

Conducted Measurements

Control Num	Equipment	Manufacturer	Serial	Model	Next calibration
00129	SHIELDED CHAMBER	ETS LINDGREN	J1071B	DR-S201-4X7-LH	---
01014	FSV40 SIGNAL ANALYZER 40GHZ	RHODE & SCHWARZ	101626	FSV40	2025-10-04
01107	ETHERNET SNMP THERMOMETER	HW GROUP	60038026952	HWg-STE Plain	2025-10-18
01313	WIRELESS MEASUREMENT SOFTWARE R&S WMS32	RHODE & SCHWARZ	---	---	---

Radiated Measurements

Control Num	Equipment	Manufacturer	Serial	Model	Next calibration
0981	LOW NOISE PREAMPLIFIER	BONN ELEKTRONIK	1711156B	BLMA0118-2A	2026-02-21
01014	FSV40 SIGNAL ANALYZER 40GHZ	RHODE & SCHWARZ	101626	FSV40	2025-10-04
01056	3116C DOUBLE-RIDGED WAVEGUIDE HORN ANTENNA (18-40GHz)	ETS LINDGREN	00213179	3116C	2026-02-23
01057	3115 DOUBLE-RIDGED WAVEGUIDE HORN ANTENNA (750 MHz-18 GHz)	ETS LINDGREN	00211373	3115	2026-07-18
01062	ACTIVE LOOP ANTENNA	ETS LINDGREN	00208517	6502	2026-07-25
01065	3142E BICONILOG ANTENNA	ETS LINDGREN	00208587	3142E	2028-02-03
01108	ETHERNET SNMP THERMOMETER	HW GROUP	60038026954	HWg-STE Plain	2025-10-18
01111	ETHERNET SNMP THERMOMETER	HW GROUP	60038026577	HWg-STE Plain	2025-10-24
01179	SEMI-ANECHOIC CHAMBER	FRANKONIA	F169021	SAC 3plus 'L'	---
01213	CONTROL ROOM	FRANKONIA	F169021-1	CR	---
01314	WIRELESS MEASUREMENT SOFTWARE R&S EMC32	RHODE & SCHWARZ	1040-OT102236	---	---
01374	ESR7 EMI TEST RECEIVER	ROHDE & SCHWARZ	102390	ESR7	2026-06-05
01472	ETHERNET SNMP THERMOMETER	HW GROUP	60038038794	HWg-STE Plain	2025-10-24
01473	ETHERNET SNMP THERMOMETER	HW GROUP	60038038777	HWg-STE Plain	2025-10-24
01481	SEMI-ANECHOIC CHAMBER	FRANKONIA	-	SAC-3 Square L	---
01566	FRANKONIA TRANSPARENT RF SQUARE TEST TABLE	FRANKONIA	RFSqtab01	RF Sq table	
01567	FRANKONIA TRANSPARENT RF SQUARE TEST TABLE	FRANKONIA	RFSqtab02	RF Sq table	---
01564	CONTROL ROOM 2	FRANKONIA	F219025-1	CR	---

Appendix A:

Test results. BTEDR

Appendix A

TEST RESULTS. BTEDR 11

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PRODUCT INFORMATION

The following information is provided by the client

Information	Description
Modulation	GFSK, $\pi/4$ -DQPSK, 8-DPSK
Operation mode 1:	
Operating Frequency Range	2402MHz - 2483.5MHz (Basic Rate EDR with 3 Mbps Baud rate over UART)
Nominal Channel Bandwidth	962.0 kHz
RF Output Power	0.0068 W
Antenna type	non-removable Internal PCB trace antenna
Antenna gain	4.91 dBi for 2402 MHz, 4.89 dBi for 2441 MHz, 7.06 dBi for 2480 MHz
Nominal Voltage	
- Supply Voltage	12 Vdc
- Type of power source	DC power supply
Equipment type	Bluetooth Classic

DESCRIPTION OF TEST CONDITIONS

During transmitter test the EUT was being controlled by the SW tool to operate in a continuous transmit mode on the test channel as required and in each of the different modulation modes.

BLUETOOTH BR/EDR

TEST CONDITIONS	DESCRIPTION
TC/01	<u>Power supply (V):</u> V_{nominal}: 12 Vdc <u>Temperature:</u> T_{nominal}: +15 to +35 °C <u>Modulation:</u> GFSK <u>Test Frequencies for conducted/Radiated tests:</u> Lowest range: 2402 MHz Middle channel: 2441 MHz Highest range: 2480 MHz
TC/02	<u>Power supply (V):</u> V_{nominal}: 12 Vdc <u>Temperature:</u> T_{nominal}: +15 to +35 °C <u>Modulation:</u> π/4-DQPSK <u>Test Frequencies for Conducted/Radiated tests:</u> Lowest range: 2402 MHz Middle channel: 2441 MHz Highest range: 2480 MHz
TC/03	<u>Power supply (V):</u> V_{nominal}: 12 Vdc <u>Temperature:</u> T_{nominal}: +15 to +35 °C <u>Modulation:</u> 8-DPSK <u>Test Frequencies for Conducted/Radiated tests:</u> Lowest range: 2402 MHz Middle channel: 2441 MHz Highest range: 2480 MHz

Test cases details

FCC 47 CFR Part 15.247 / RSS-247

RSS-Gen / RSS-247 - [99dBW] Transmitter 99% Occupied Bandwidth

Limits

CANADA RSS-247 Issue 4 (July 2025):

2.4 RSS-Gen compliance

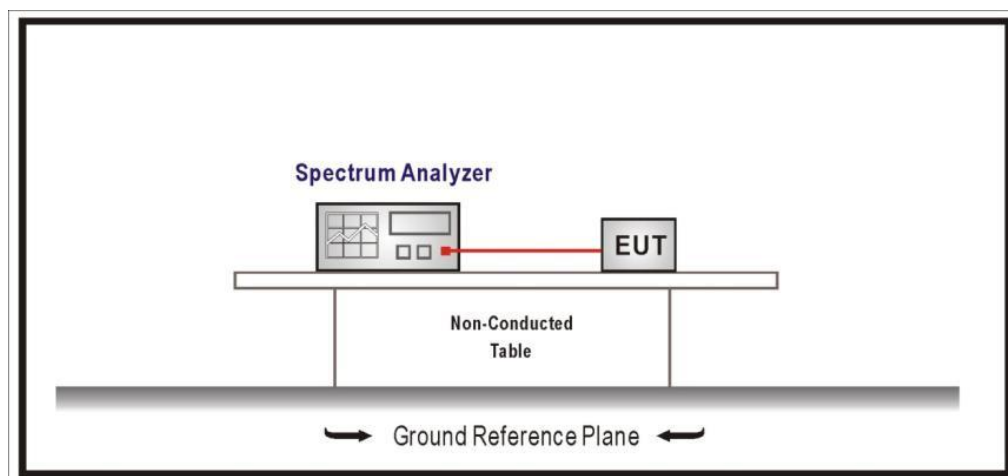
Equipment being certified under this standard shall also comply with the general requirements set out in Radio Standards Specification RSS-Gen, General Requirements for Compliance of Radio Apparatus. Where contradictions exist between this standard and RSS-Gen, this standard shall take precedence.

CANADA RSS-Gen Issue 5 (April 2018)/A1 (March 2019)/A2 (Feb 2021):

6.7 Occupied bandwidth (or 99% emission bandwidth) and x dB bandwidth

The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

Test Setup:



Results

Modulation: BT (GFSK 1-DH3)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Occ Ch BW (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	2402.00000	1	0.870
		2441.00000		0.865
		2480.00000		0.865

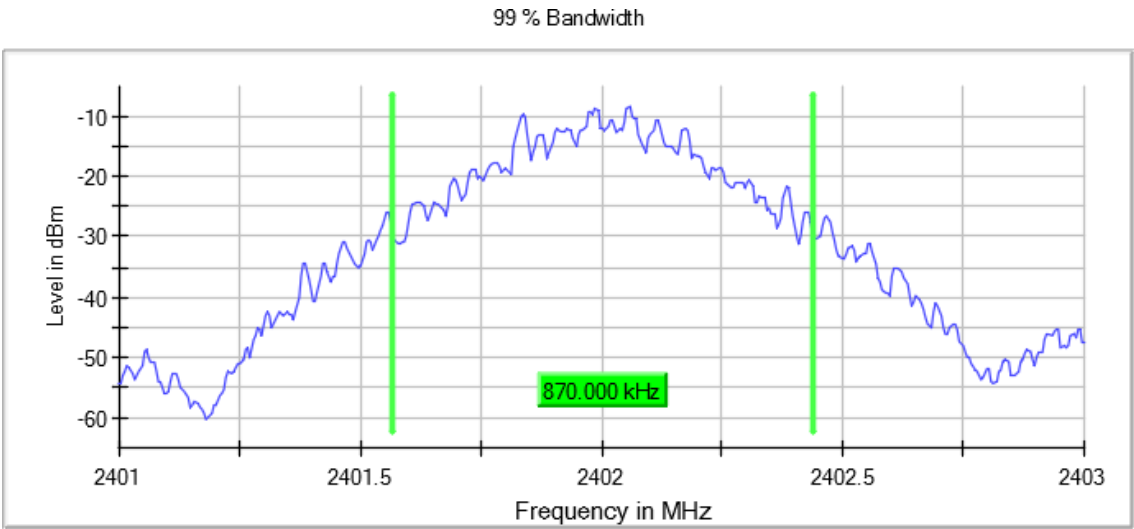
Verdict

Pass

Attachments

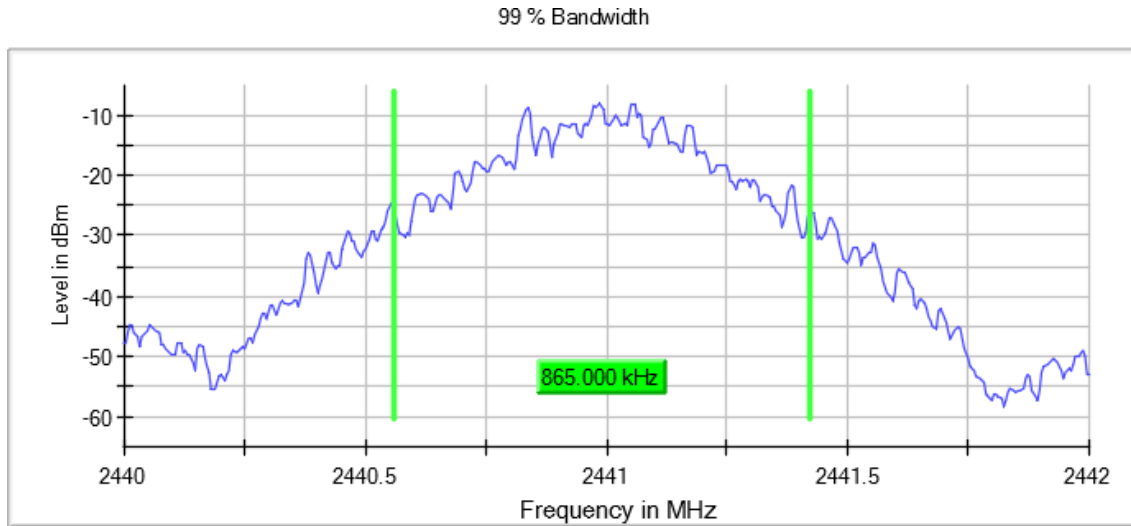
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:



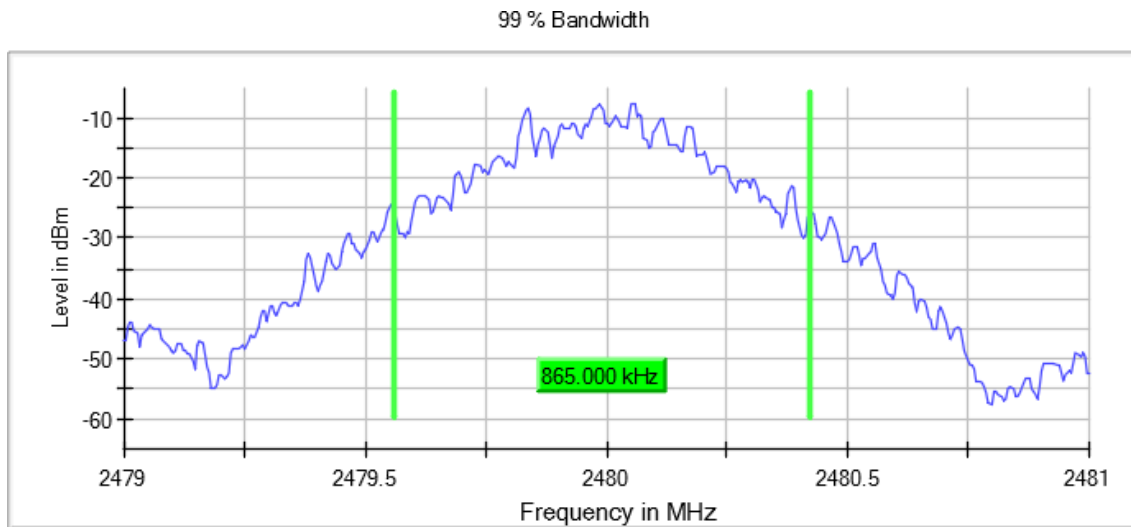
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



Results

Modulation: BT (Pi/4 DQPSK 2-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Occ Ch BW (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	2402.00000	1	1.160
		2441.00000		1.160
		2480.00000		1.160

Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS)

Modulation = BT (Pi/4 DQPSK 2-DH5)

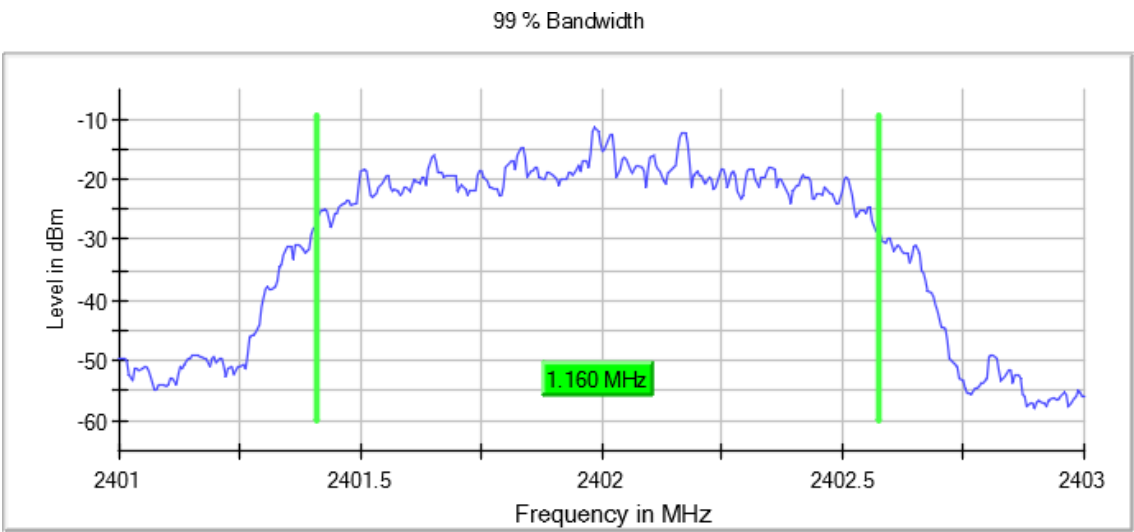
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2402.00000

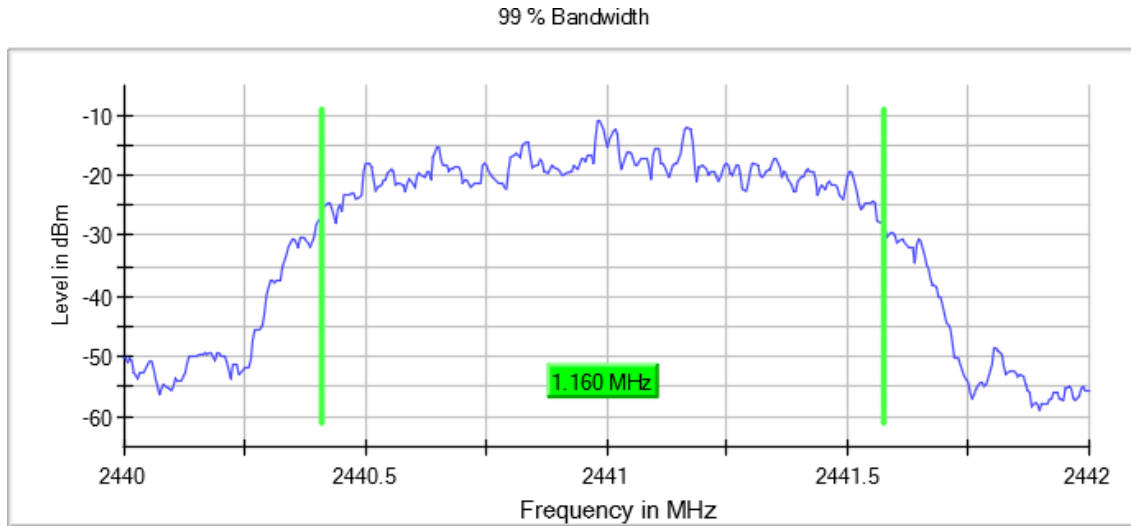
Active Port = 1

Images:



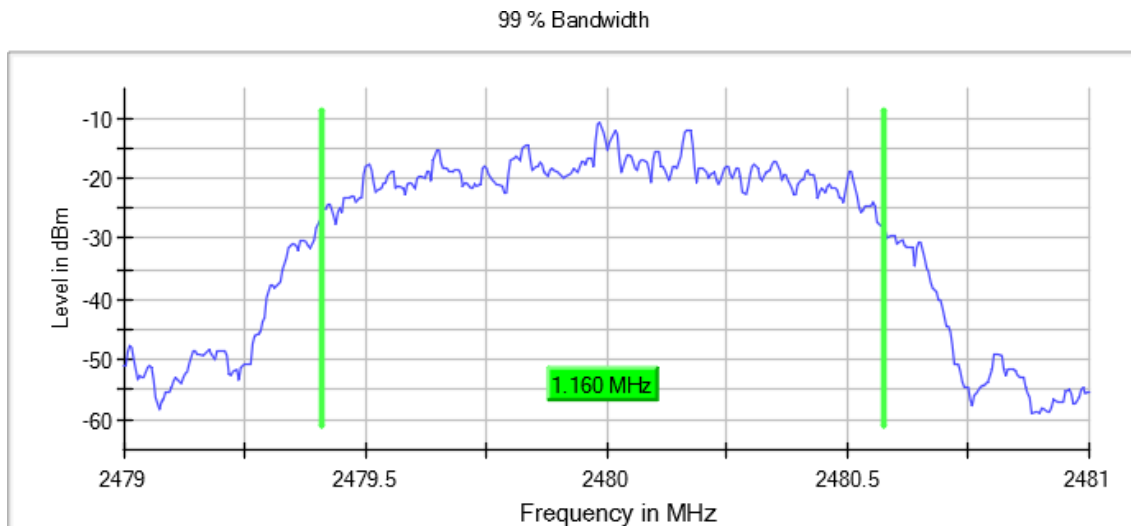
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



Results

Modulation: BT (8DPSK 3-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Occ Ch BW (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	2402.00000	1	1.170
		2441.00000		1.170
		2480.00000		1.170

Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS)

Modulation = BT (8DPSK 3-DH5)

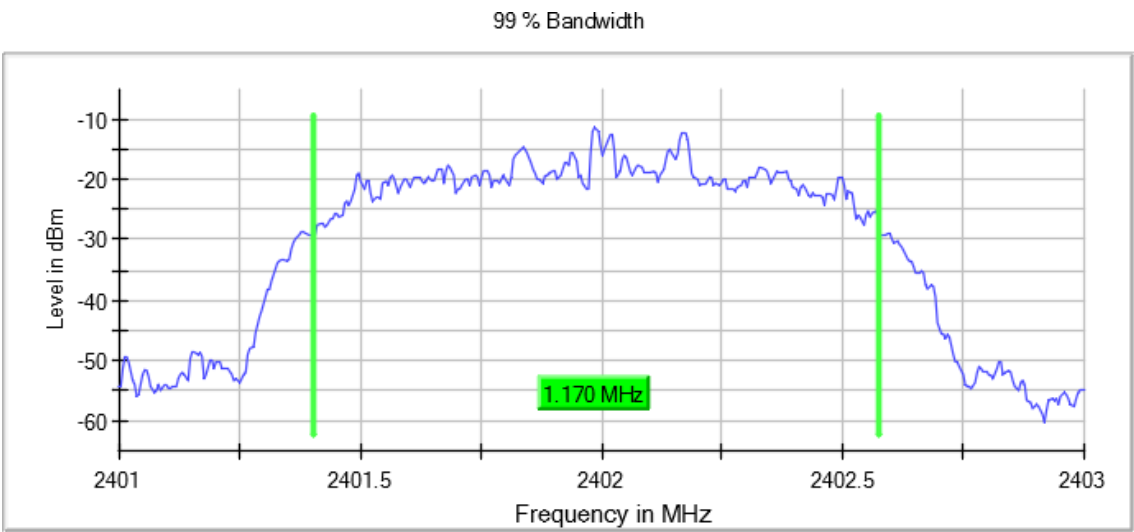
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2402.00000

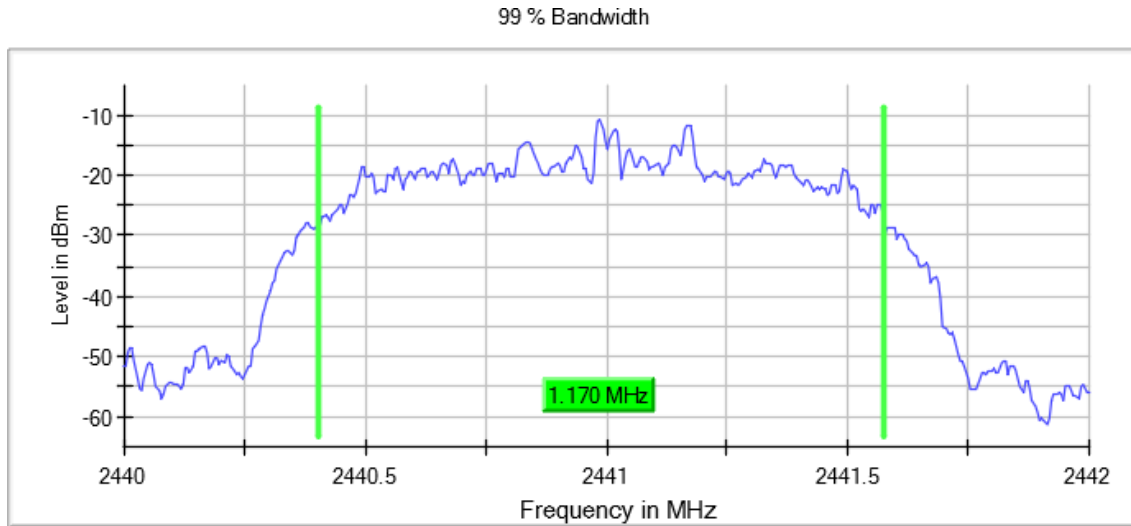
Active Port = 1

Images:



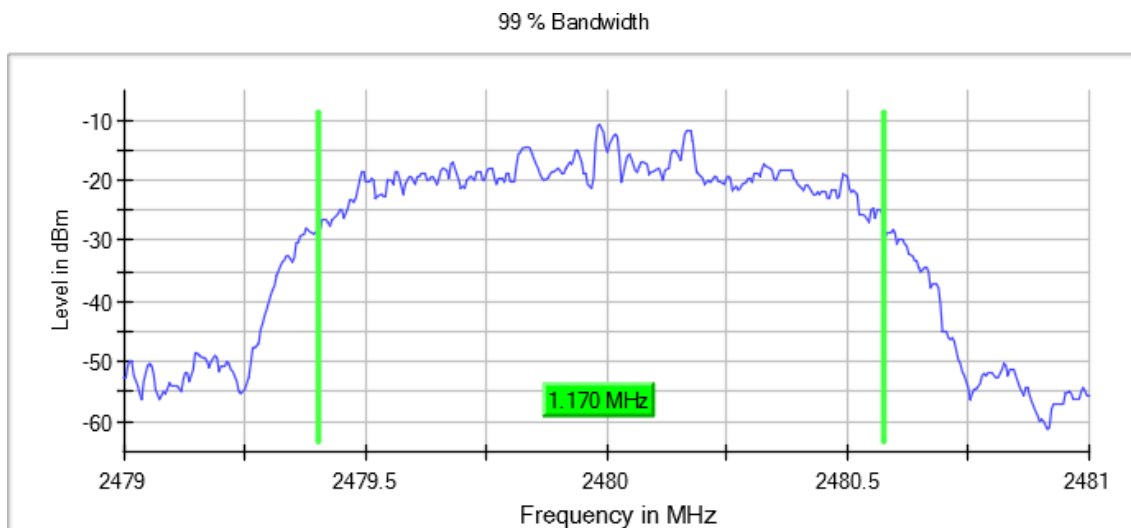
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



RSS-247 / FCC 15.247 - [20dBW] 20 dB Bandwidth

Limits

USA FCC Part 15.407 (11-18-2024):

FCC 15.247:

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions.

(1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

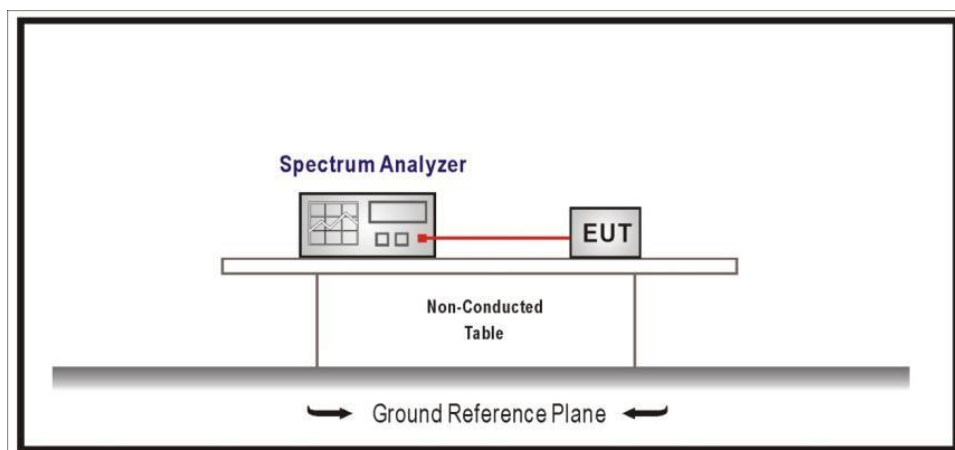
CANADA RSS-247 Issue 4 (July 2025):

6.2.1 General requirements for bandwidth and hopping channels applicable to all bands

The following bandwidth and hopping channel requirements shall apply to FHS operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz:

- a. the bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped. The system's RF bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hop set. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Test Setup:



Results

Modulation: BT (GFSK 1-DH3)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Ebw (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	2402.00000	1	0.935
		2441.00000		0.935
		2480.00000		0.935

Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS)

Modulation = BT (GFSK 1-DH3)

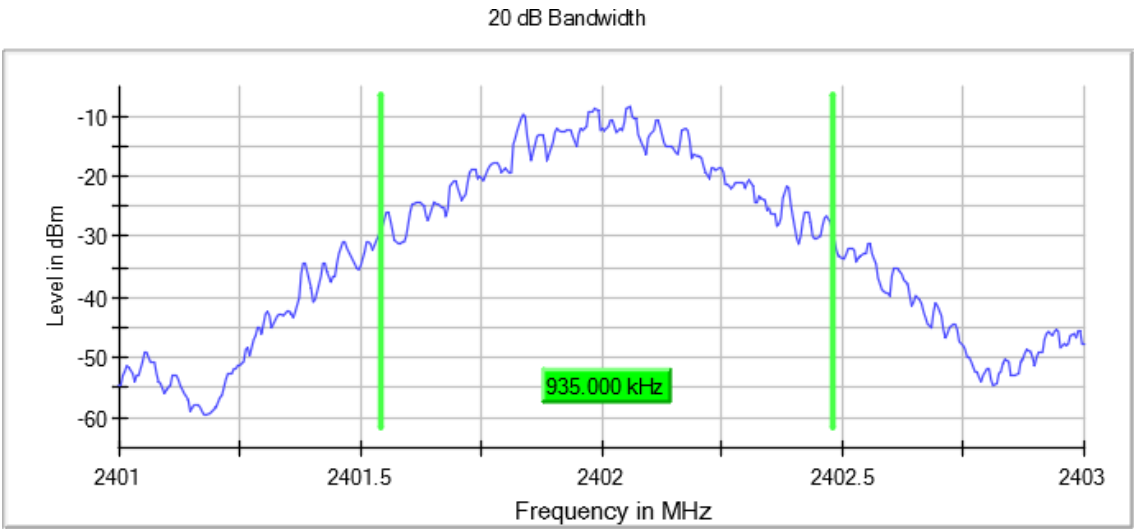
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2402.00000

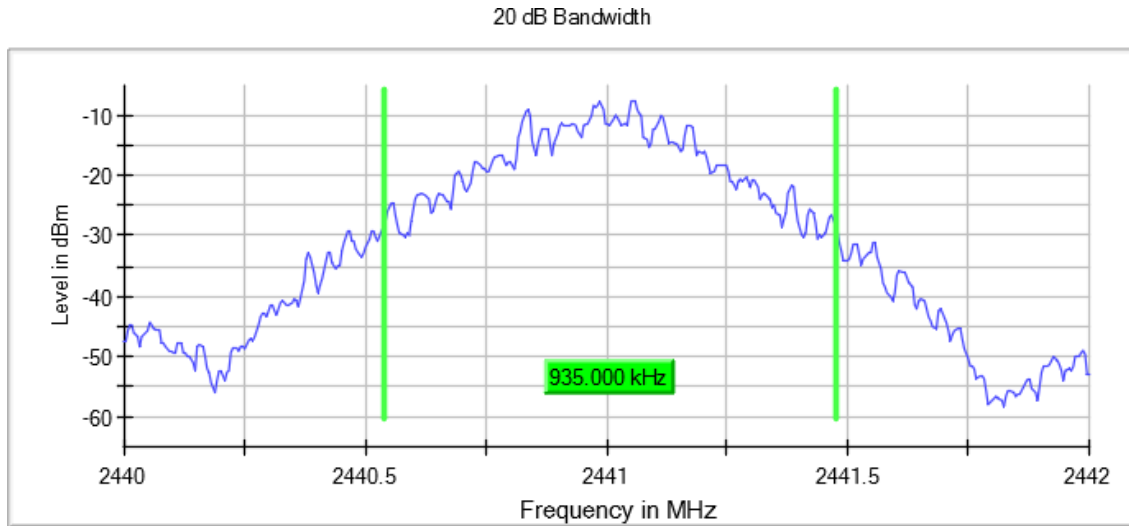
Active Port = 1

Images:



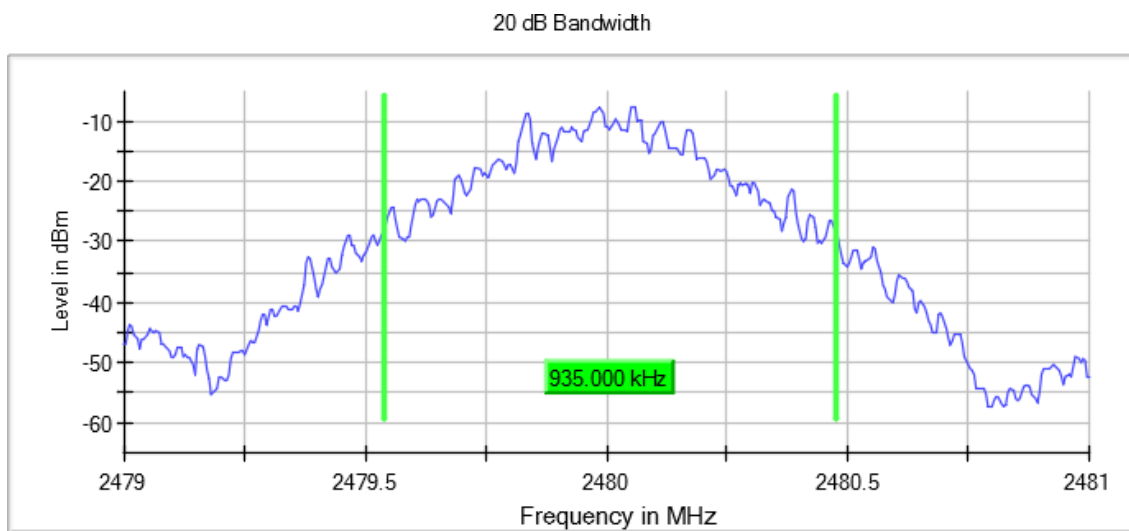
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



Results

Modulation: BT (Pi/4 DQPSK 2-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Ebw (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	2402.00000	1	1.310
		2441.00000		1.315
		2480.00000		1.315

Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS)

Modulation = BT (Pi/4 DQPSK 2-DH5)

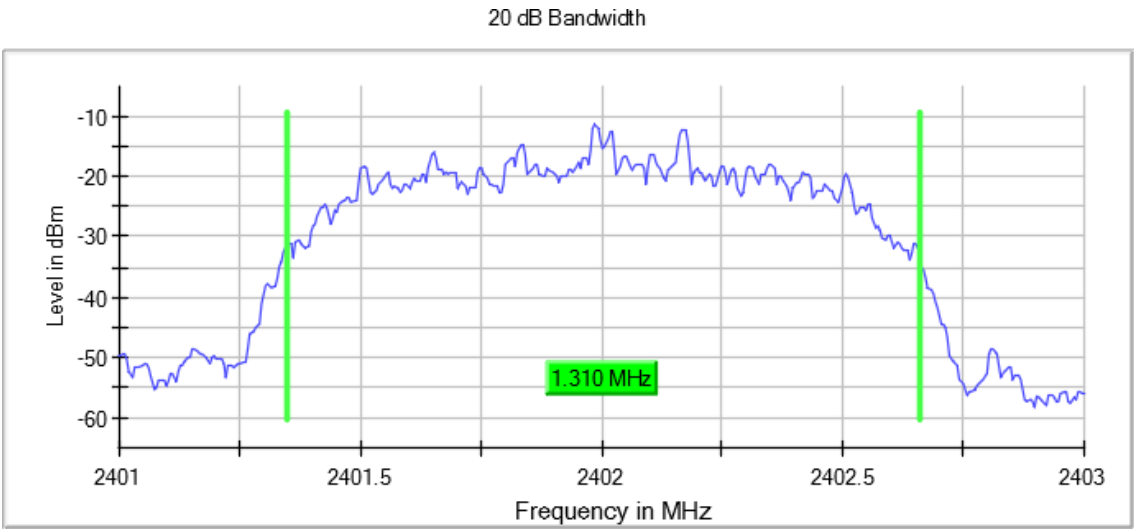
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2402.00000

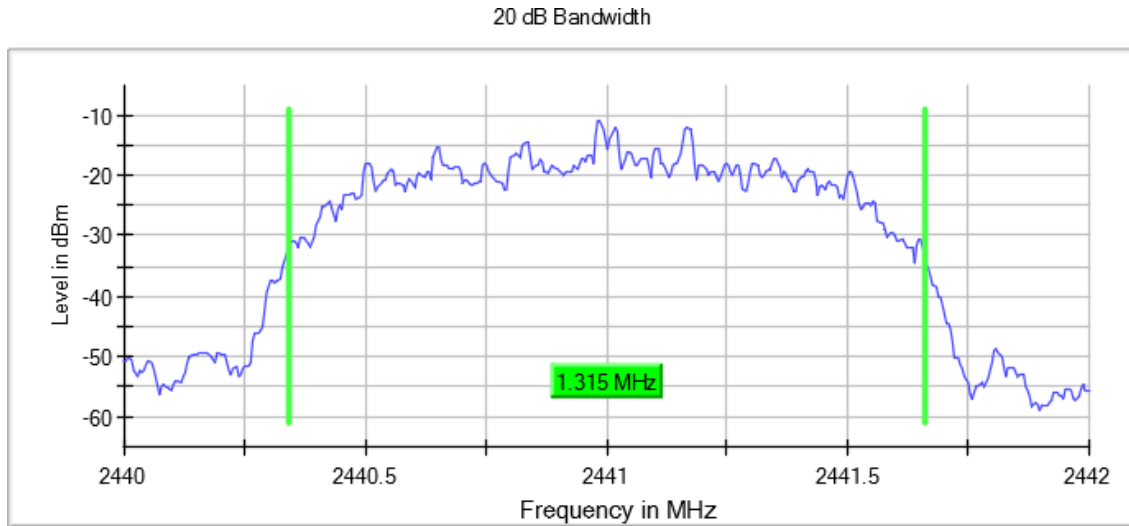
Active Port = 1

Images:



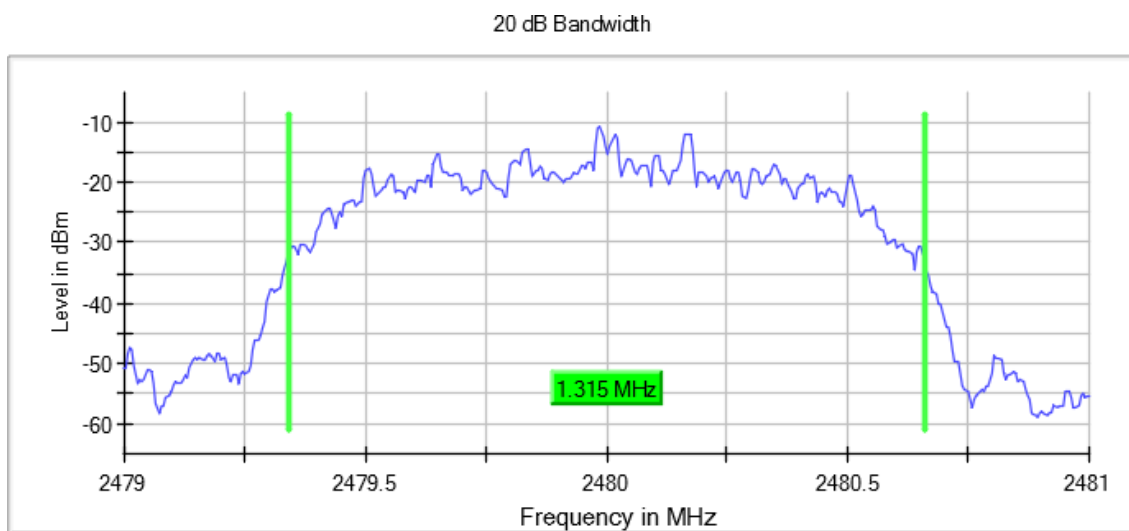
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



Results

Modulation: BT (8DPSK 3-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Ebw (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	2402.00000	1	1.270
		2441.00000		1.265
		2480.00000		1.270

Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS)

Modulation = BT (8DPSK 3-DH5)

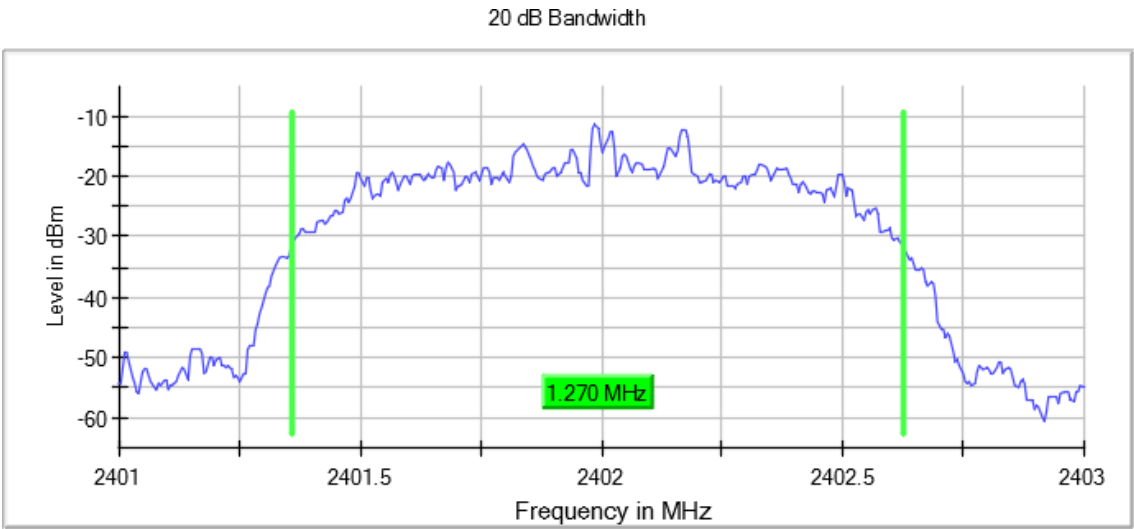
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2402.00000

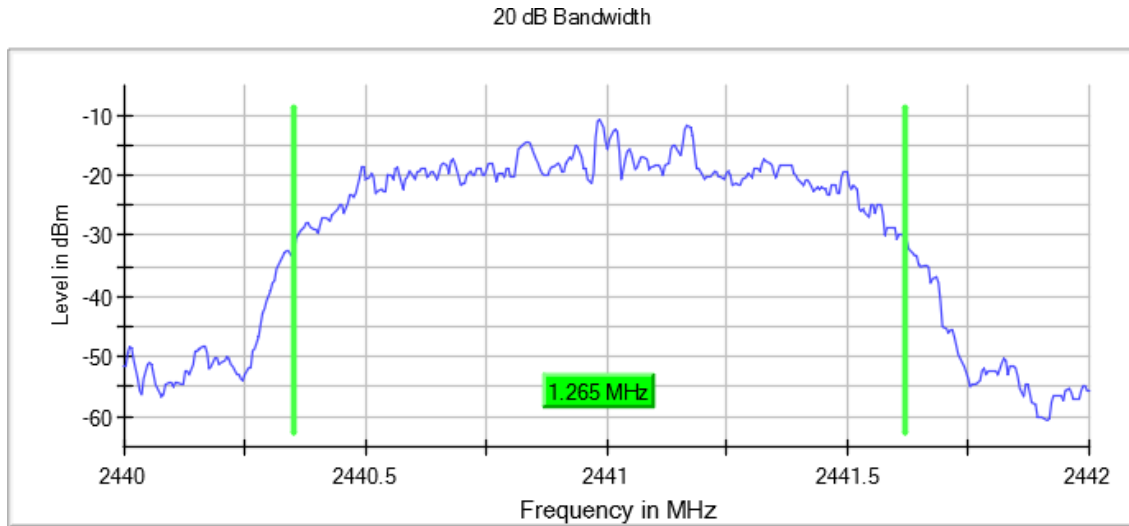
Active Port = 1

Images:



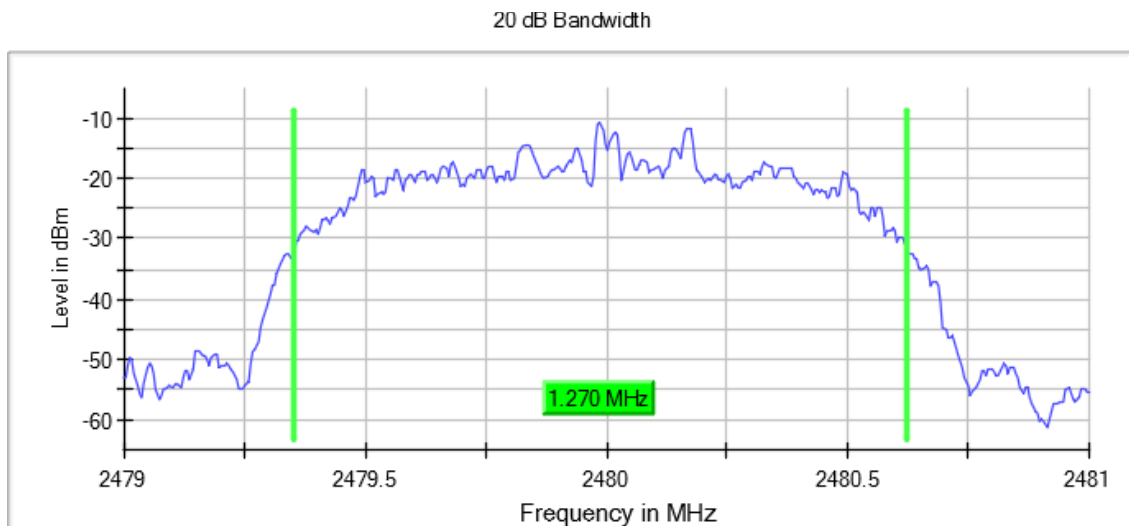
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



RSS-247 / FCC 15.247 - [CFS] Carrier Frequency Separation

Limits

USA FCC Part 15.407 (11-18-2024):

FCC 15.247:

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions.

(1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

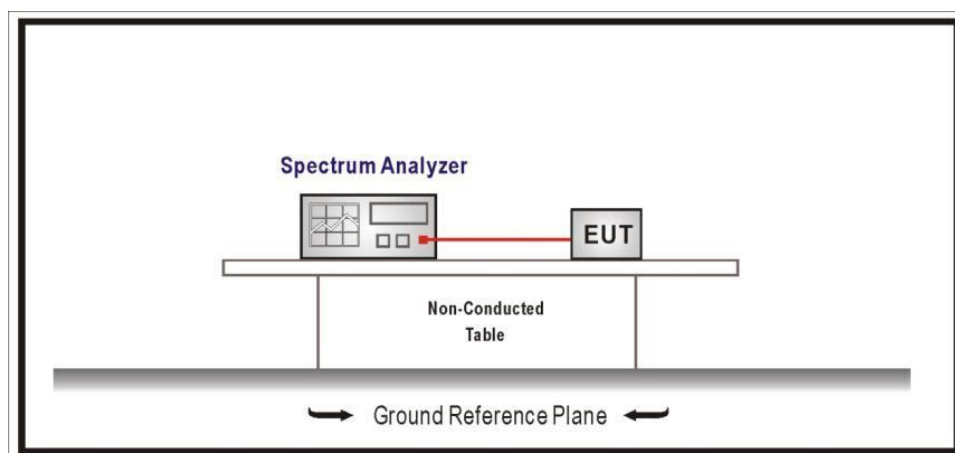
CANADA RSS-247 Issue 4 (July 2025):

6.2.1 General requirements for bandwidth and hopping channels applicable to all bands

The following bandwidth and hopping channel requirements shall apply to FHS operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz:

- b. the hopping channel carrier frequencies shall be separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

TEST SETUP:



Results

Modulation: BT (GFSK 1-DH3)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	Freq Sep (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	1	0.98

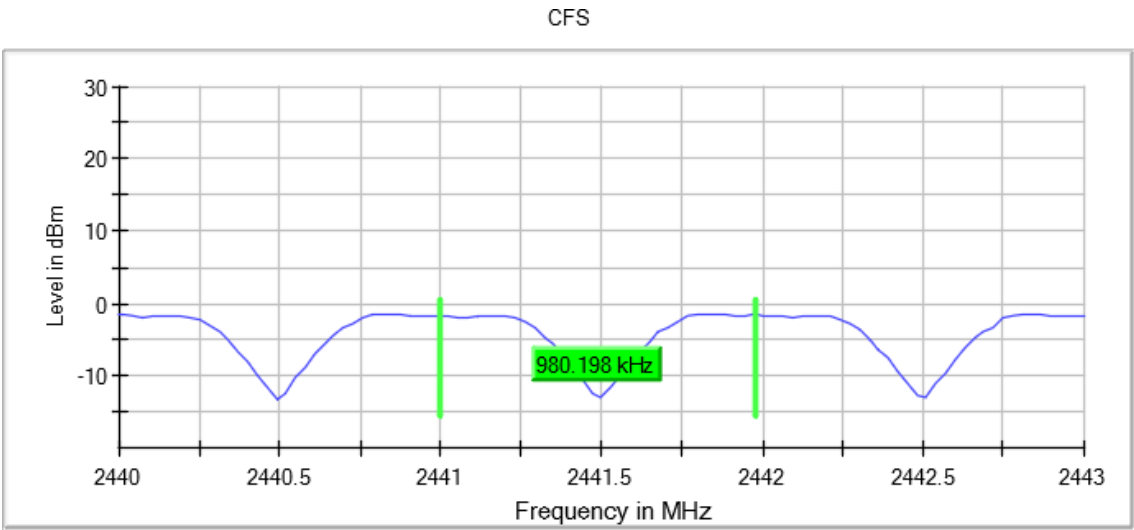
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) MIMO Mode = SISO
Active Port = 1

Images:



Results

Modulation: BT (Pi/4 DQPSK 2-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	Freq Sep (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	1	1.01

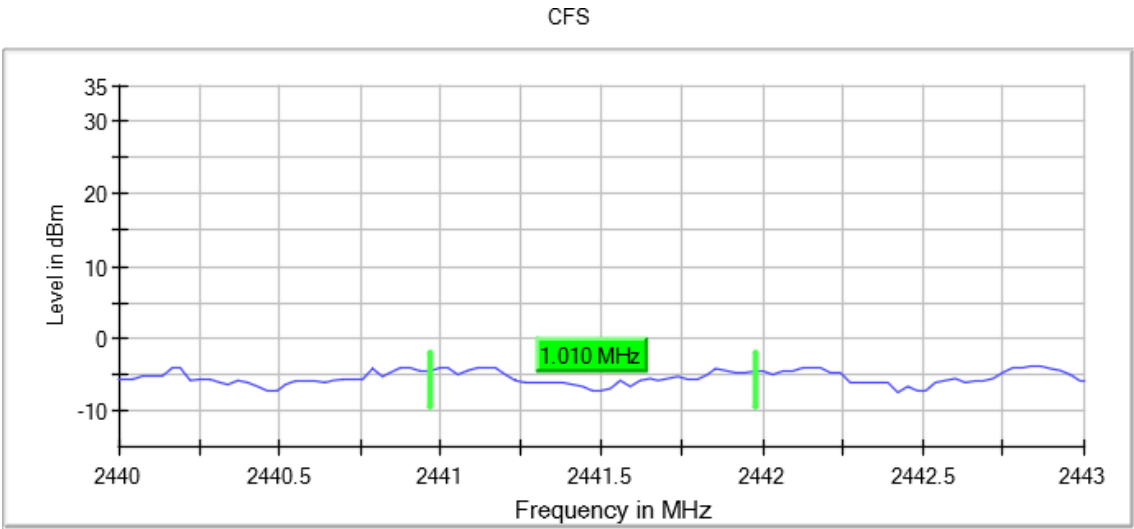
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) MIMO Mode = SISO
Active Port = 1

Images:



Results

Modulation: BT (8DPSK 3-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	Freq Sep (MHz)
Direct Sequence Spread Spectrum (DSSS)	1	1	1.01

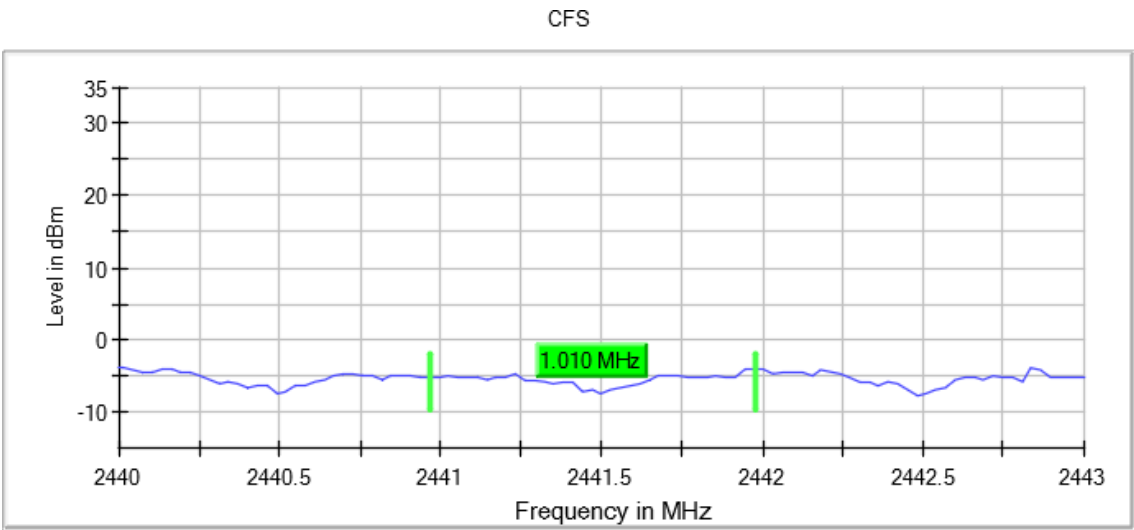
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) MIMO Mode = SISO
Active Port = 1

Images:



RSS-247 / FCC 15.247 - [DwT] Time of Occupancy (Dwell Time)

Limits

USA FCC Part 15.407 (11-18-2024):

FCC 15.247:

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions.

(1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

(iii) Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

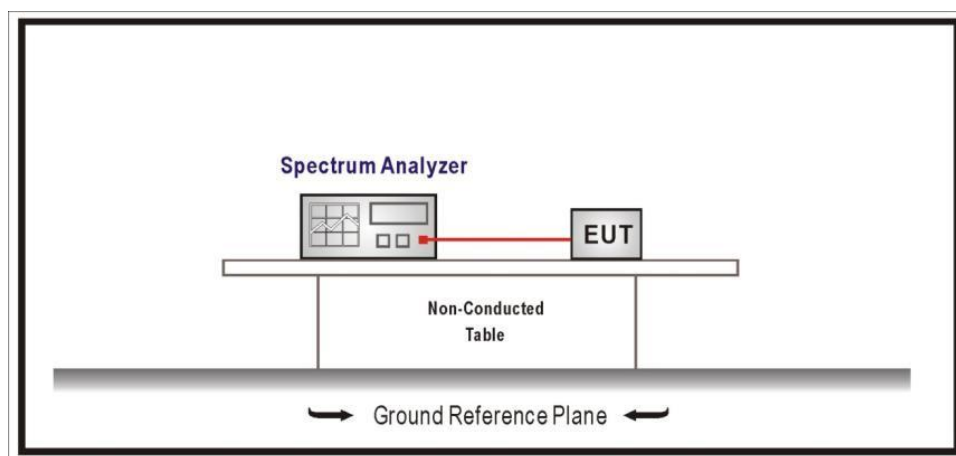
CANADA RSS-247 Issue 4 (July 2025):

6.2.3.1 Bandwidth and hopping channels

The following bandwidth and hopping channel requirements shall apply:

- b. FHS operating in the band 2400-2483.5 MHz shall use at least 15 hopping channels. The average time of occupancy on any channel shall not be greater than 0.4 s within a period of 0.4 s, multiplied by the number of hopping channels employed. Transmissions on particular hopping frequencies may be avoided or suppressed provided that at least 15 hopping channels are used.

TEST SETUP:



$$\text{DH1 time slot} = \text{Pulse Duration} \times (1600/(2 \times 79)) \times \text{A period time}/1000$$

$$\text{DH3 time slot} = \text{Pulse Duration} \times (1600/(4 \times 79)) \times \text{A period time}/1000$$

$$\text{DH5 time slot} = \text{Pulse Duration} \times (1600/(6 \times 79)) \times \text{A period time}/1000$$

$$\text{A period time} = 0.4 \times 79 = 31.6 \text{ seconds}$$

Results

Modulation: BT (GFSK 1-DH3)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	NHp	Avg COT (ms)
Direct Sequence Spread Spectrum (DSSS)	1	1	6	9.88

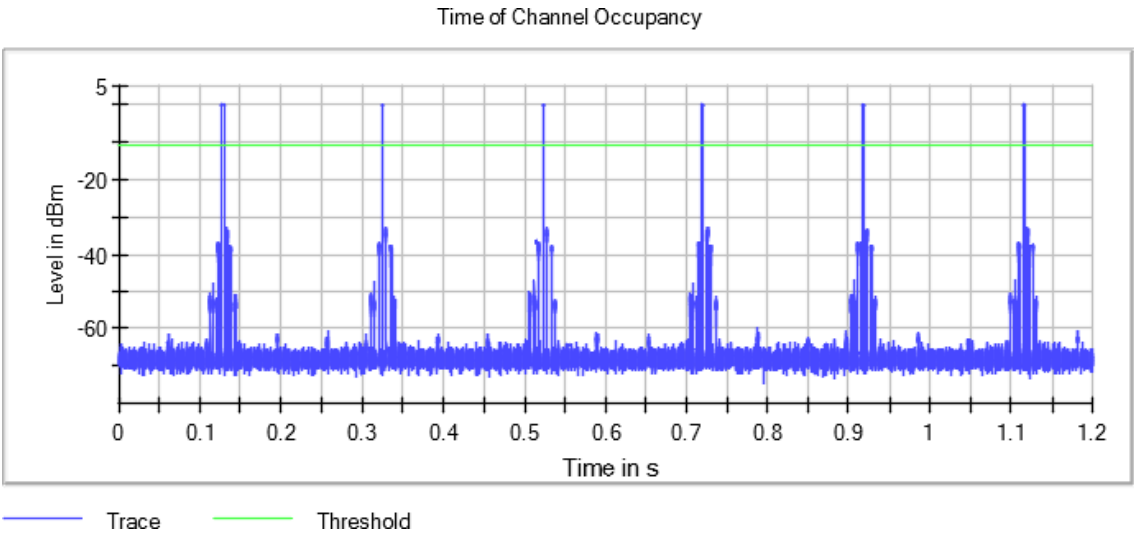
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) MIMO Mode = SISO
Active Port = 1

Images:



Results

Modulation: BT (Pi/4 DQPSK 2-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	NHp	Avg COT (ms)
Direct Sequence Spread Spectrum (DSSS)	1	1		9.88

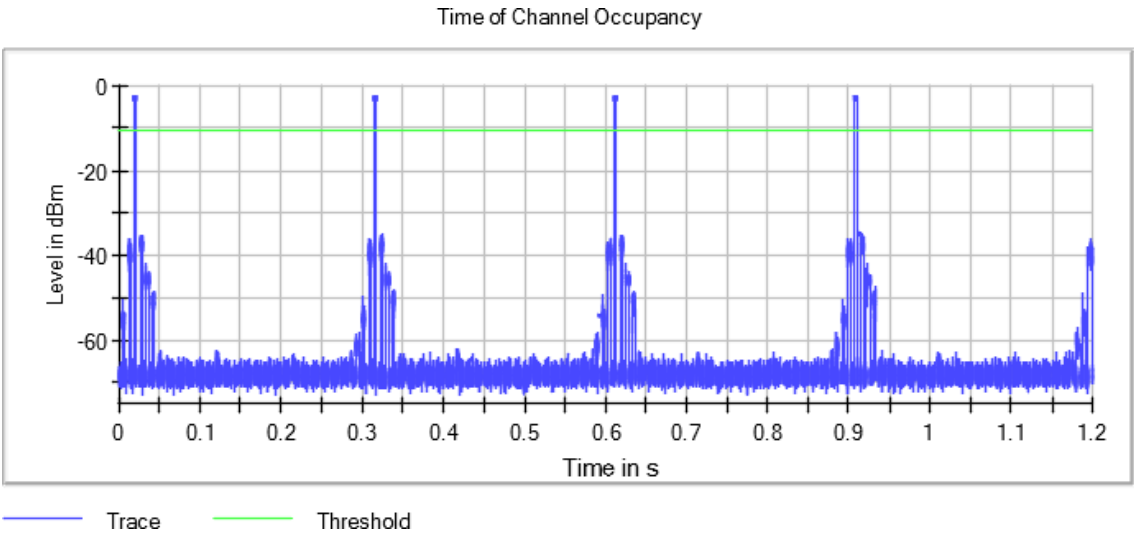
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) MIMO Mode = SISO
Active Port = 1

Images:



Results

Modulation: BT (8DPSK 3-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	NHp	Avg COT (ms)
Direct Sequence Spread Spectrum (DSSS)	1	1		9.52

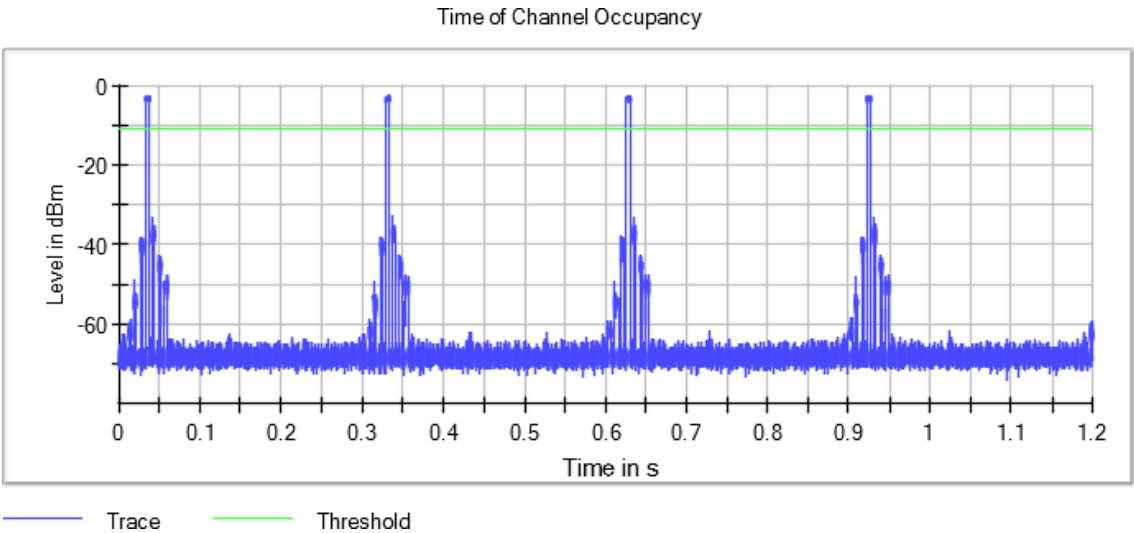
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) MIMO Mode = SISO
Active Port = 1

Images:



Tables:
Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Center Frequency	2.44100 GHz	2.44100 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
Sweeptime	1.200 s	1.200 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s

RSS-247 / FCC 15.247 - [NHC] Number of hopping channels

Limits

USA FCC Part 15.407 (11-18-2024):

FCC 15.247:

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions.

(1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

(iii) Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

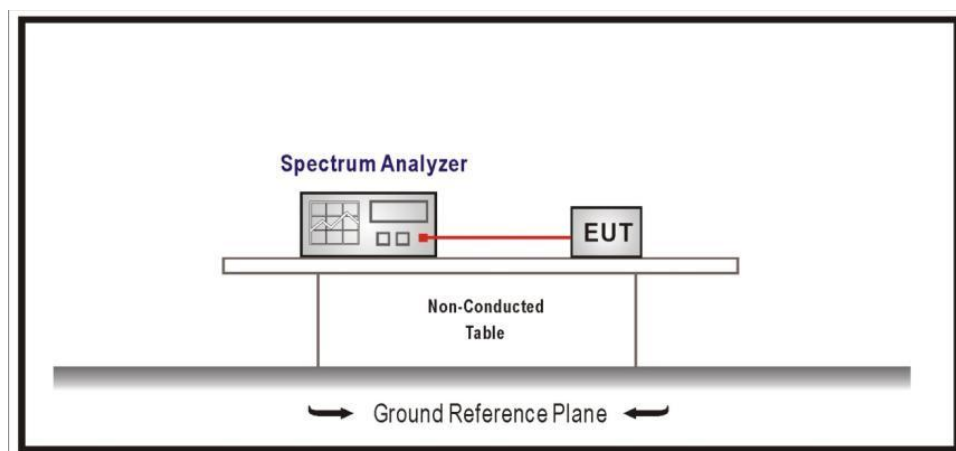
CANADA RSS-247 Issue 4 (July 2025):

6.2.3.1 Bandwidth and hopping channels

The following bandwidth and hopping channel requirements shall apply:

- b. FHS operating in the band 2400-2483.5 MHz shall use at least 15 hopping channels. The average time of occupancy on any channel shall not be greater than 0.4 s within a period of 0.4 s, multiplied by the number of hopping channels employed. Transmissions on particular hopping frequencies may be avoided or suppressed provided that at least 15 hopping channels are used.

Test Setup:



Results

Modulation: BT (GFSK 1-DH3)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	NHC
Direct Sequence Spread Spectrum (DSSS)	1	1	79

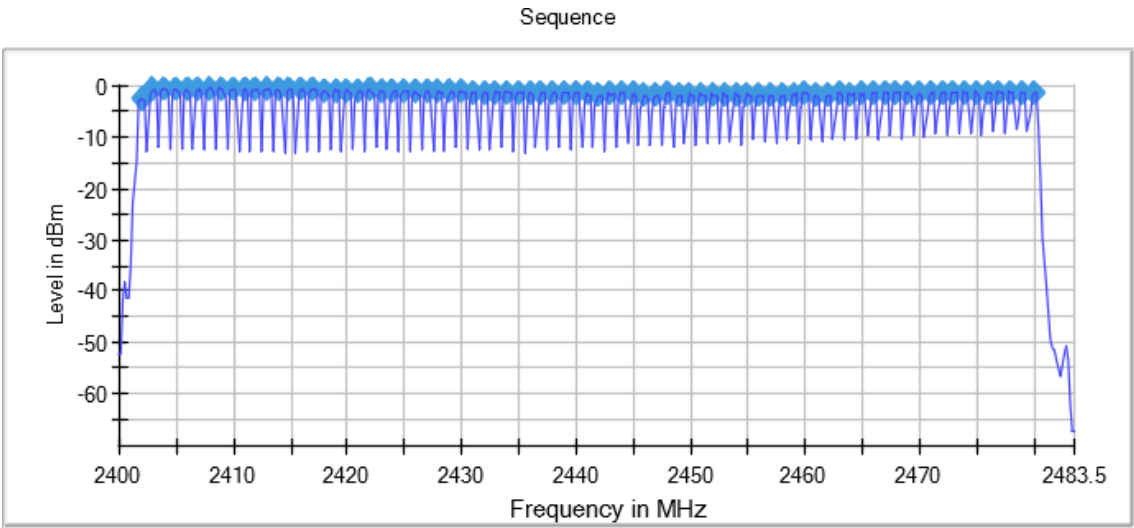
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) MIMO Mode = SISO
Active Port = 1

Images:



Results

Modulation: BT (Pi/4 DQPSK 2-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	NHC
Direct Sequence Spread Spectrum (DSSS)	1	1	79

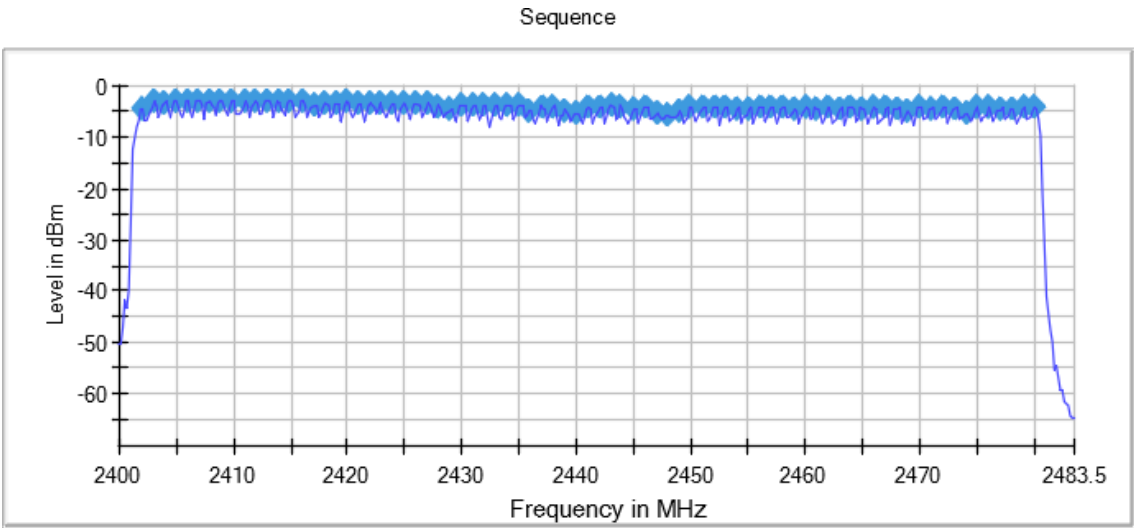
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) MIMO Mode = SISO
Active Port = 1

Images:



Results

Modulation: BT (8DPSK 3-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Port	NHC
Direct Sequence Spread Spectrum (DSSS)	1	1	79

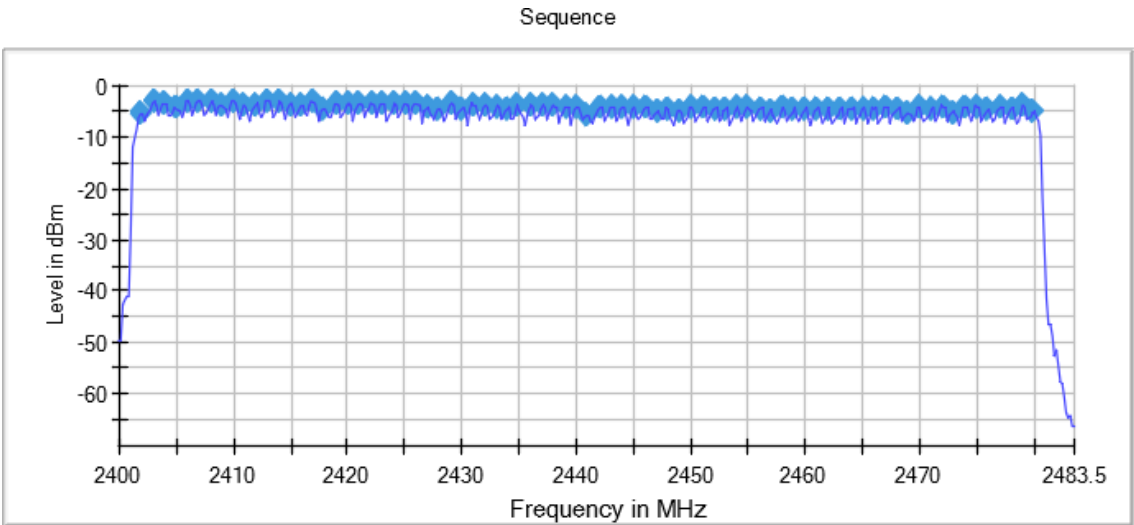
Verdict

Pass

Attachments

Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) MIMO Mode = SISO
Active Port = 1

Images:



Tables:
Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	200.000 kHz	<= 299.000 kHz
VBW	200.000 kHz	>= 200.000 kHz
SweepPoints	418	~ 418
SweepTime	1.060 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	107 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.44 dB	0.50 dB

RSS-247 / FCC 15.247 - [Pkcp] Maximum Peak Conducted Output Power

Limits

USA FCC Part 15.407 (11-18-2024):

FCC 15.247:

(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following.

(1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

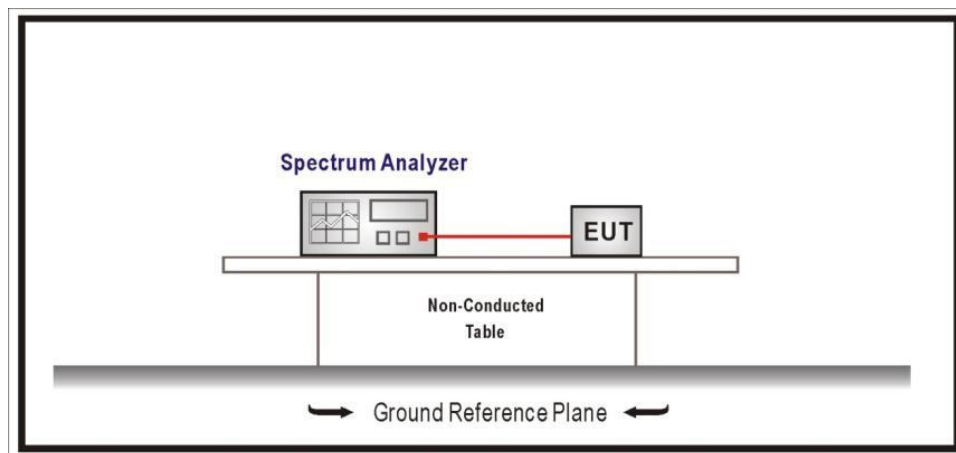
CANADA RSS-247 Issue 4 (July 2025):

6.3.2 Transmitter output power and e.i.r.p. requirements

For DTS operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W, and the e.i.r.p. shall not exceed 4 W, except as provided in section 6.5 a) and b).

As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power.

TEST SETUP:



The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power

Maximum declared antenna gain (BTEDR): 4.1 dBi (LC=2402MHz)
4.89 dBi (MC=2441MHz)
7.06 dBi (HC=2480MHz)

Power Directional Gain: = Antenna gain + $10\log(N_{ANT})$

Modulation: BT (GFSK 1-DH3)
Results

Freq (MHz)	BW (MHz)	Peak Power (dBm)	Maximum EIRP power (dBm)
2402.00000	1	-2.1	2.81
2441.00000	1	-1.4	3.49
2480.00000	1	-1.2	5.86

Modulation: BT (Π/4 DQPSK 2-DH5)
Results

Freq (MHz)	BW (MHz)	Peak Power (dBm)	Maximum EIRP power (dBm)
2402.00000	1	-3.0	1.91
2441.00000	1	-2.1	2.79
2480.00000	1	-2.3	4.76

Modulation: BT (8DPSK 3-DH5)
Results

Freq (MHz)	BW (MHz)	Peak Power (dBm)	Maximum EIRP power (dBm)
2402.00000	1	-2.6	2.31
2441.00000	1	-2.1	2.79
2480.00000	1	-1.9	5.16

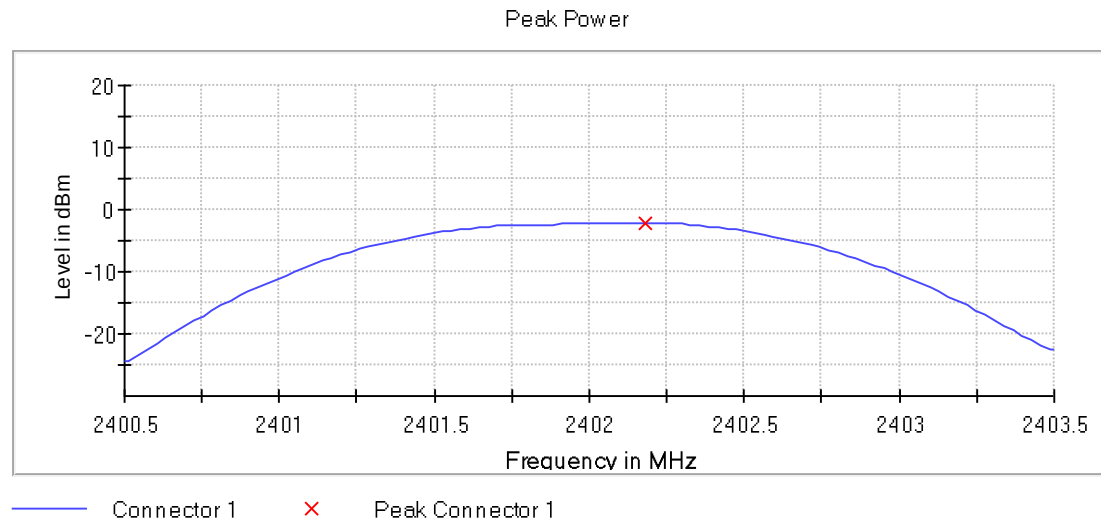
Verdict

Pass

Attachments

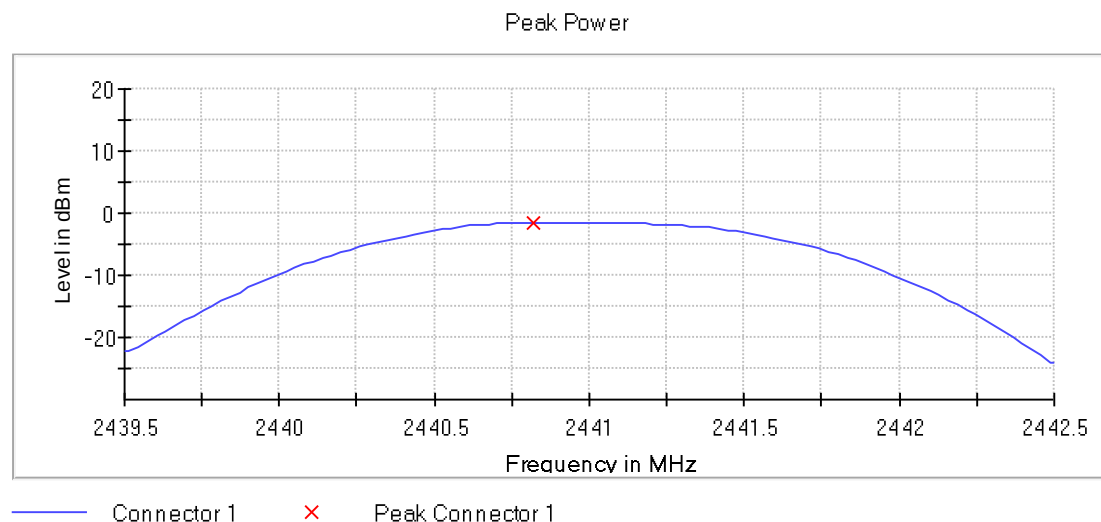
Frequency MHz = 2402.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT (GFSK 1-DH3)

Images:



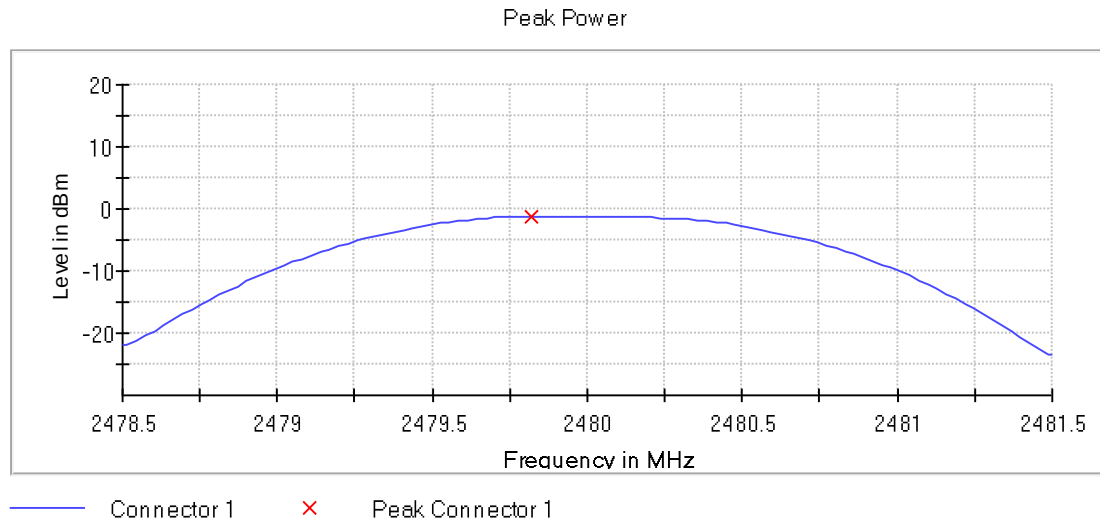
Frequency MHz = 2441.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT (GFSK 1-DH3)

Images:



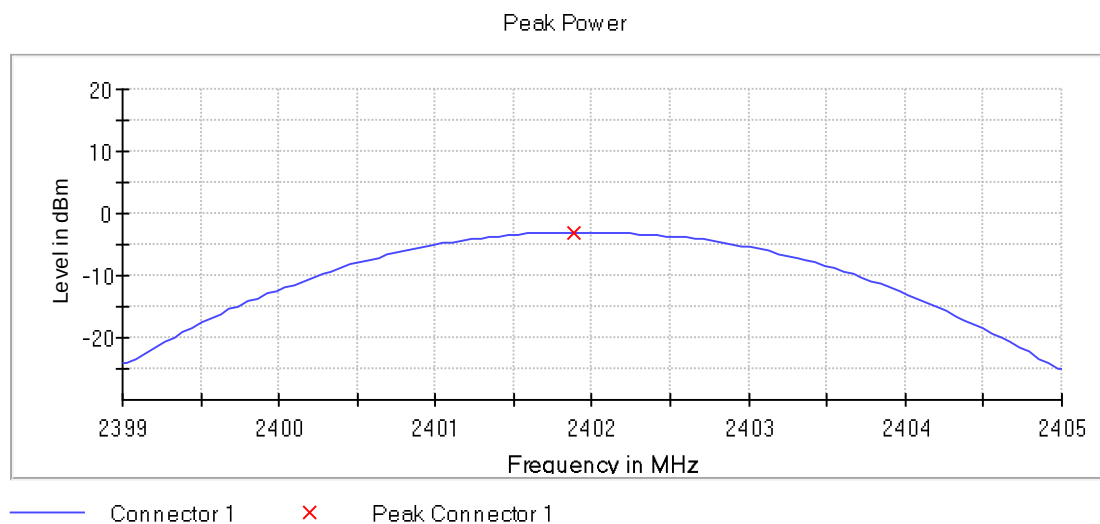
Frequency MHz = 2480.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT (GFSK 1-DH3)

Images:



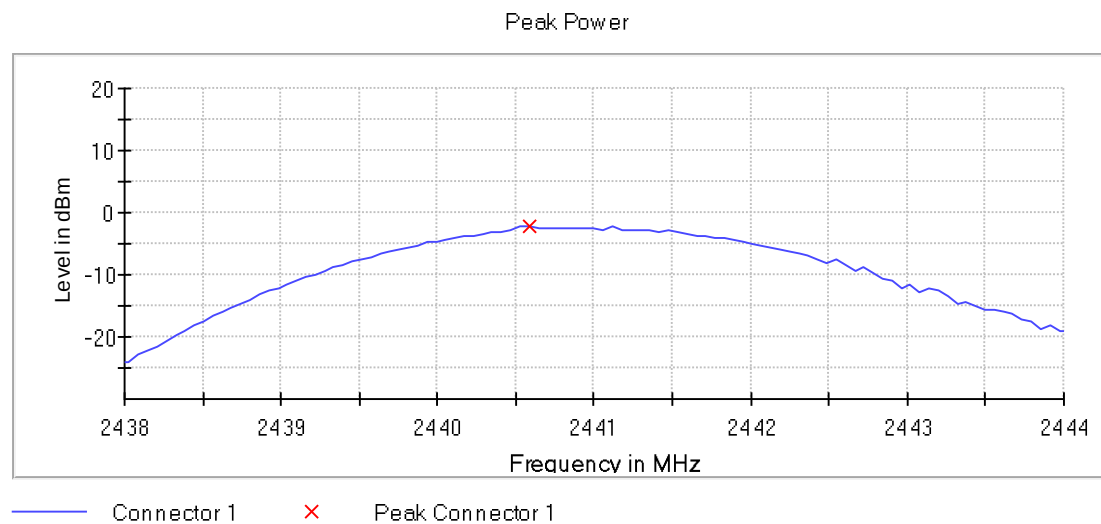
Frequency MHz = 2402.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT ($\pi/4$ DQPSK 2-DH5)

Images:



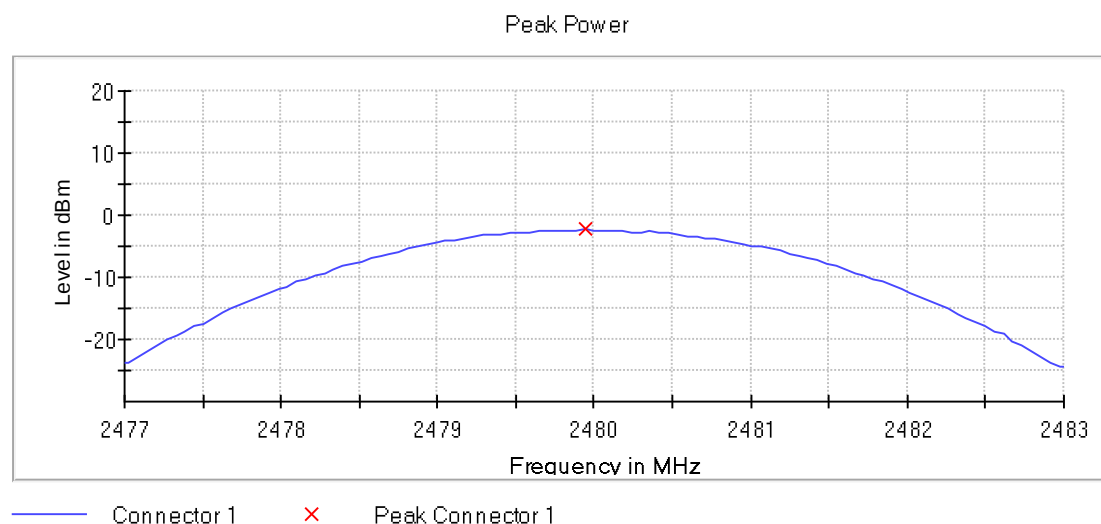
Frequency MHz = 2441.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT ($\pi/4$ DQPSK 2-DH5)

Images:



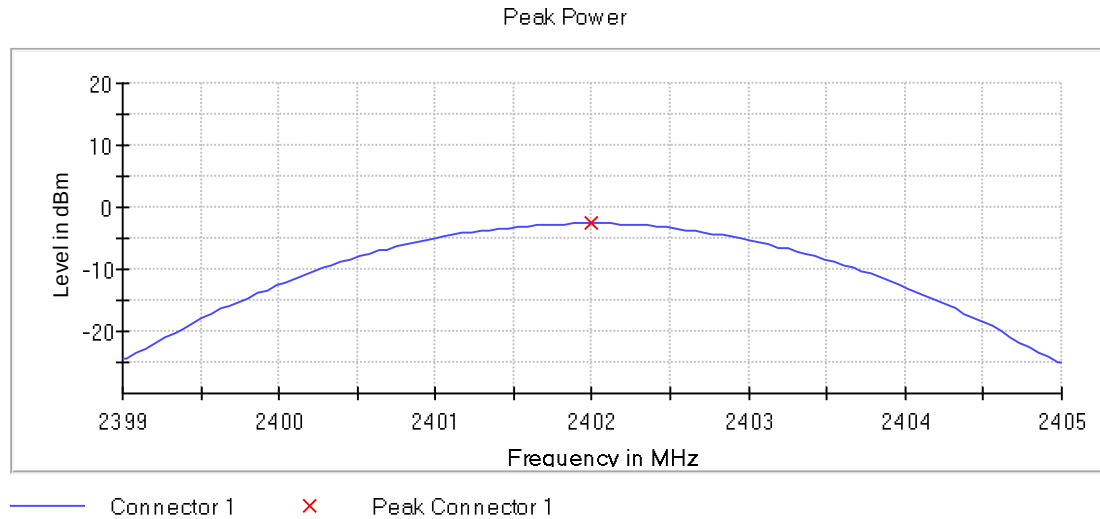
Frequency MHz = 2480.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT ($\pi/4$ DQPSK 2-DH5)

Images:



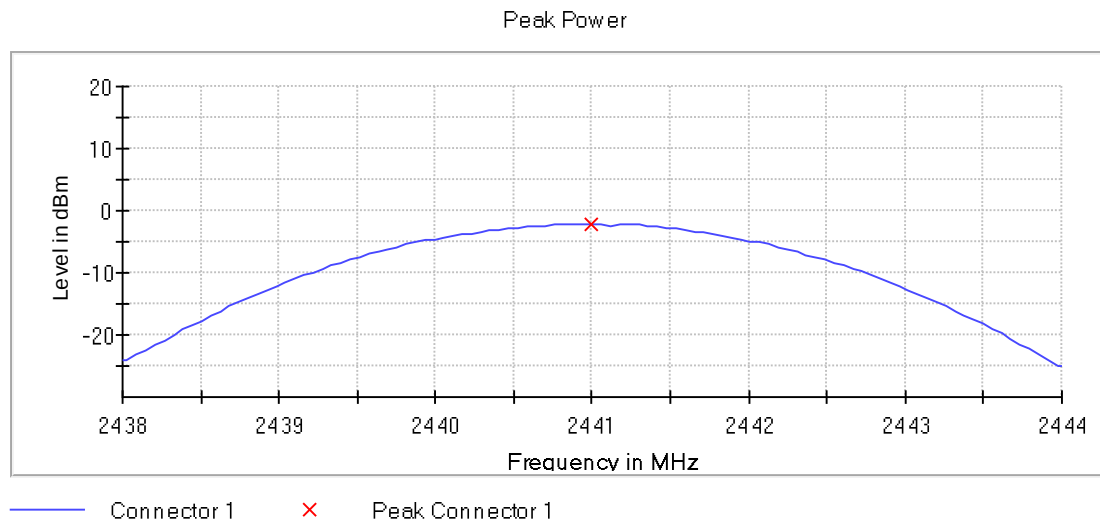
Frequency MHz = 2402.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5)

Images:



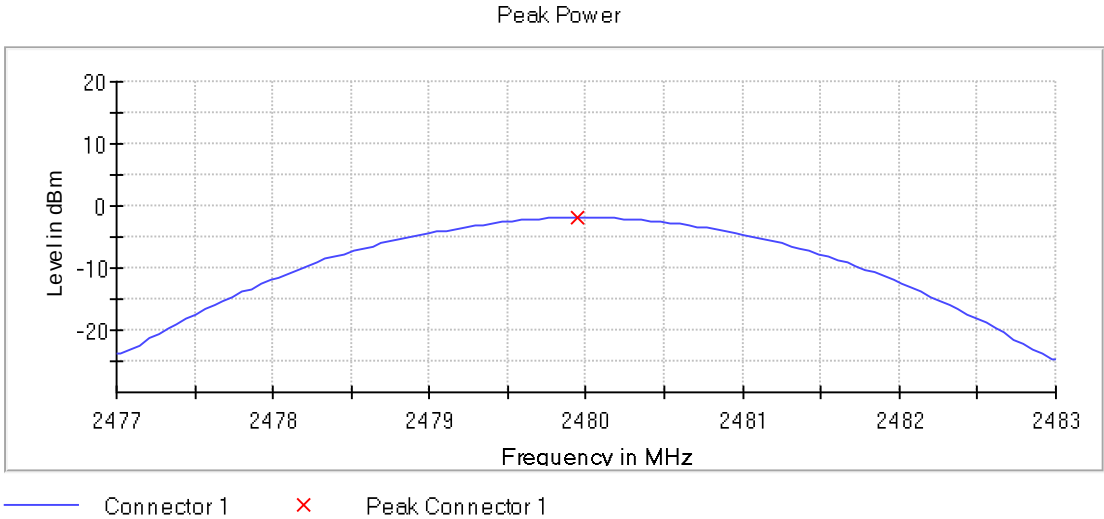
Frequency MHz = 2441.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5)

Images:



Frequency MHz = 2480.00000, Equipment Type = Direct Sequence Spread Spectrum (DSSS), Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5)

Images:



Spectrum Analyzer Parameters

Setting	Instrument Value
Start Frequency	2.39900 GHz
Stop Frequency	2.40500 GHz
Span	6.000 MHz
RBW	2.000 MHz
VBW	10.000 MHz
SweepPoints	101
Sweeptime	953.450 ns
Reference Level	10.000 dBm
Attenuation	30.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.50 dB
Run	4 / max. 150
Stable	3 / 3
Max Stable Difference	0.02 dB

RSS-247 / FCC 15.247 - [Bndedge] Band-edge emissions compliance (Transmitter)

Limits

USA FCC Part 15.407 (11-18-2024):

FCC 15.247:

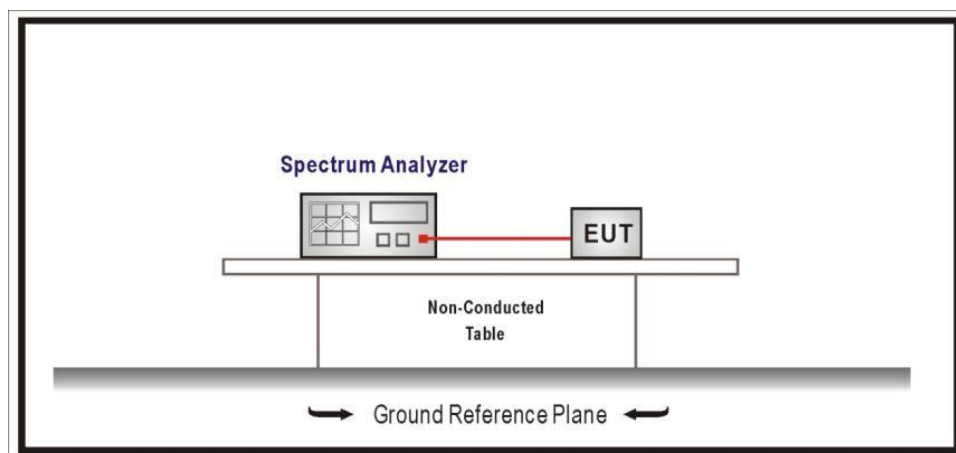
(d)) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains 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, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Secs. 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Secs. 15.205(a), must also comply with the radiated emission limits specified in Secs. 15.209(a) (see Secs. 15.205(c)).

CANADA RSS-247 Issue 4 (July 2025):

6.6 Unwanted Emissions

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum device, digitally modulated device, or hybrid system is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 6.3.2, the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

Test Setup:



Results

Modulation: BT (GFSK 1-DH3)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Inband Peak Lvl (dBm)	Freq (MHz)	Lvl (dBm)
Direct Sequence Spread Spectrum (DSSS)	1	0.00000	1		2499.175000	-61.5
					2399.975000	-52.7
					2322.125000	-53.0
					2499.125000	-61.5
					2322.175000	-53.2
					2494.025000	-62.2
					2323.025000	-53.4
					2483.975000	-62.3
					2498.075000	-62.4
					2323.975000	-53.4
					2318.025000	-53.5
					2496.975000	-62.5
					2322.975000	-53.6
					2497.025000	-62.5
					2498.125000	-62.6
					2318.075000	-53.6
					2323.125000	-53.8
					2492.975000	-62.7
					2488.025000	-62.7
					2322.925000	-53.8
					2324.025000	-53.8
					2489.925000	-62.7
					2483.925000	-62.7
					2319.025000	-53.8
					2498.975000	-62.7
					2319.975000	-53.8
					2319.925000	-53.8
					2496.075000	-62.7
				2497.975000	-62.8	
				2316.975000	-53.9	
				2399.975000	-52.9	
				2399.925000	-53.6	
				2399.875000	-57.3	
				2399.175000	-60.6	

Equipment	BW (MHz)	Freq (MHz)	Port	Inband Peak Lvl (dBm)	Freq (MHz)	Lvl (dBm)
					2399.125000	-60.9
					2399.825000	-61.2
					2399.475000	-61.9
					2399.525000	-62.3
					2399.225000	-62.3
					2399.425000	-62.4
					2399.075000	-62.5
					2399.275000	-62.6
					2399.375000	-63.0
					2399.775000	-63.1
					2399.725000	-63.3
					2483.675000	-66.8
		2480.00000			2483.625000	-67.1
					2483.975000	-67.4
					2483.725000	-67.7
					2483.575000	-67.9
					2483.525000	-68.0
					2483.925000	-68.1
					2484.225000	-68.2
					2484.125000	-68.2
					2484.275000	-68.2
					2484.625000	-68.2
					2484.925000	-68.7
					2483.775000	-68.8
					2484.175000	-68.9
					2488.375000	-69.0

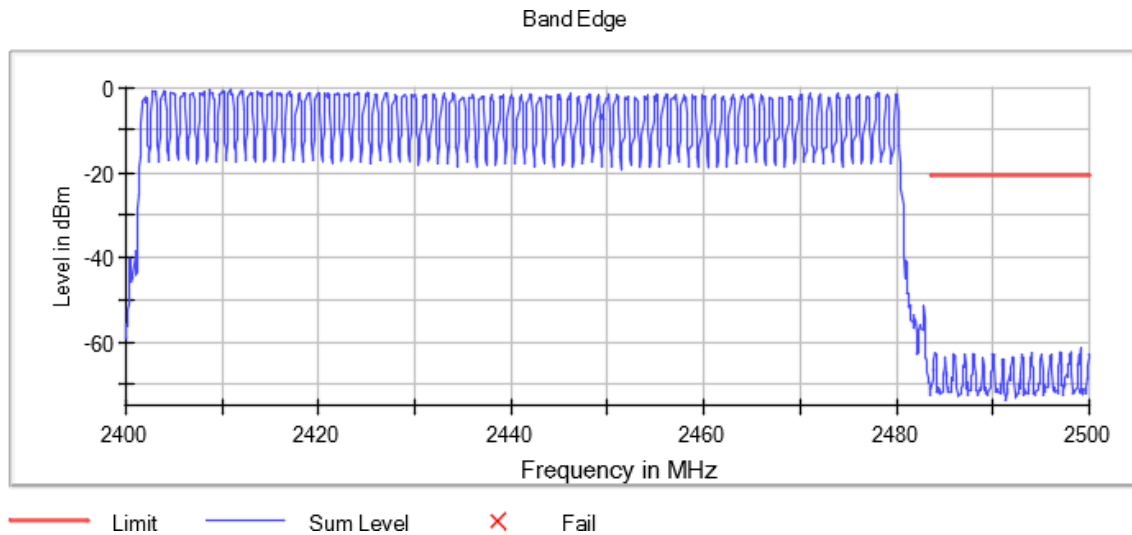
Verdict

Pass

Attachments

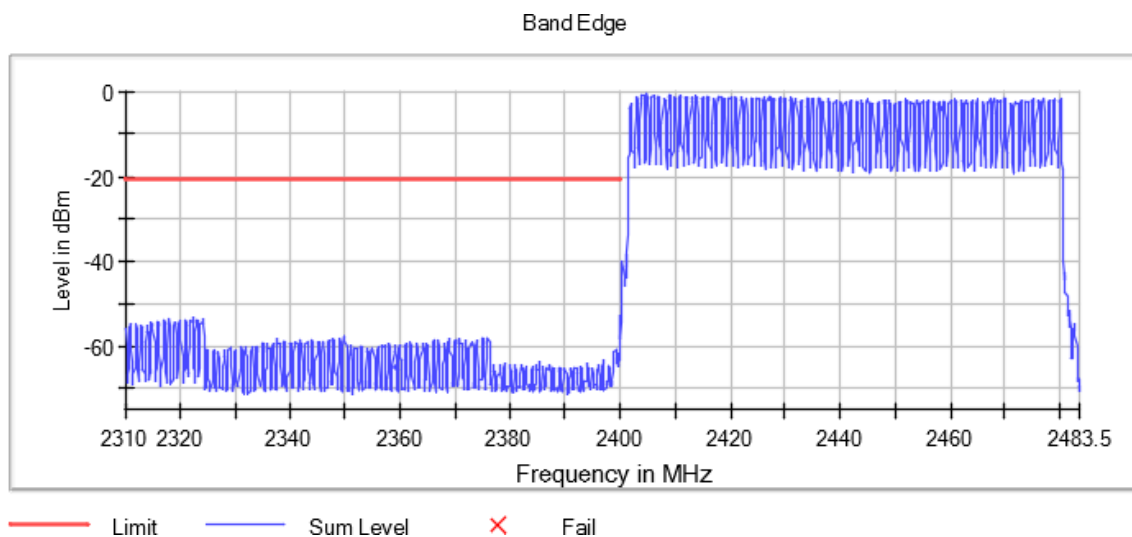
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 0.00000
MIMO Mode = SISO Active Port = 1

Images:



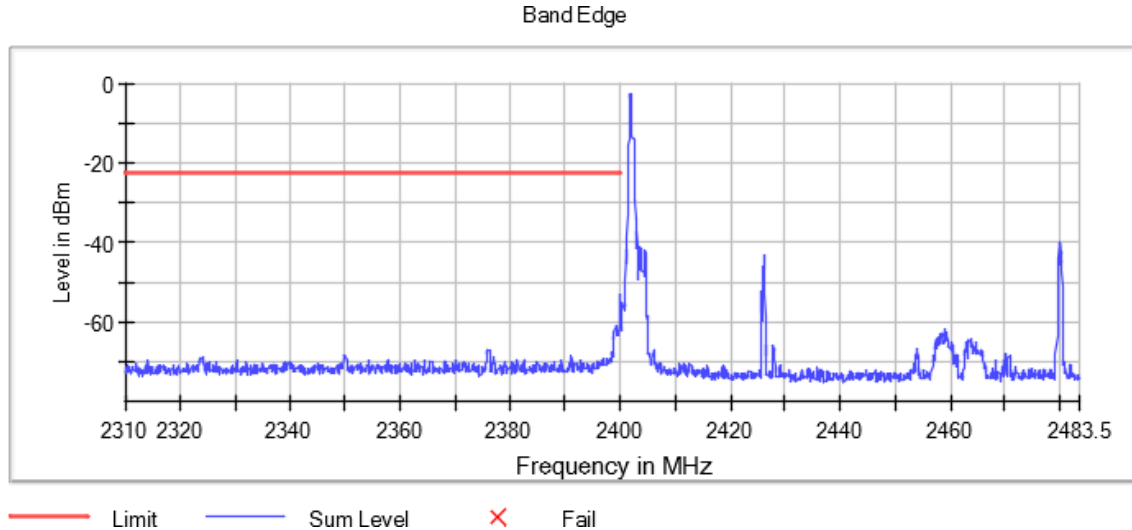
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 0.00000
MIMO Mode = SISO Active Port = 1

Images:



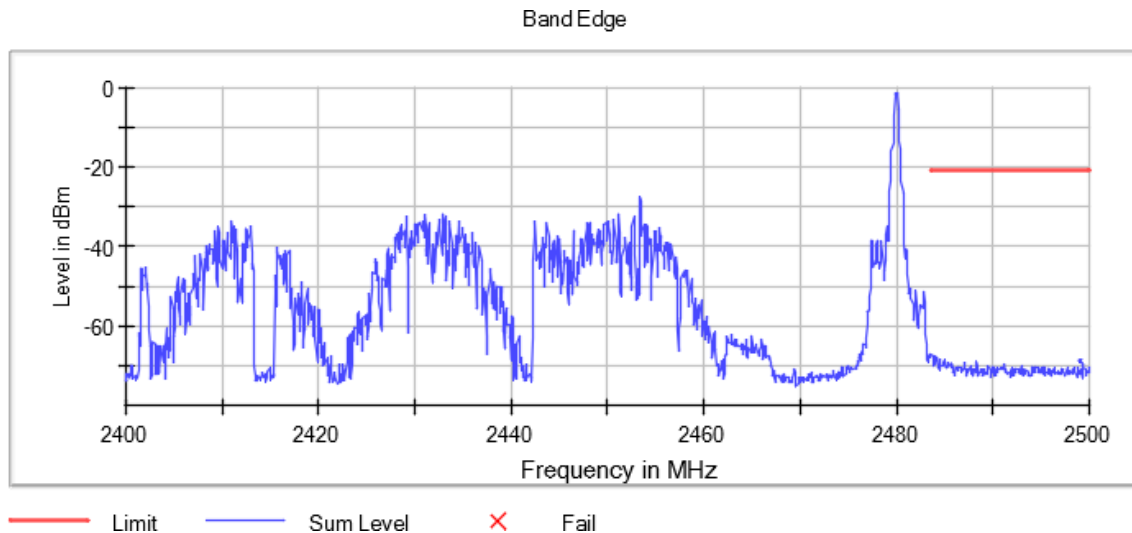
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



Results

Modulation: BT (Pi/4 DQPSK 2-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Inband Peak Lvl (dBm)	Freq (MHz)	Lvl (dBm)
Direct Sequence Spread Spectrum (DSSS)	1	0.00000	1		2496.025000	-63.2
					2399.525000	-50.8
					2399.475000	-51.3
					2495.975000	-63.5
					2399.975000	-51.8
					2484.825000	-64.4
					2399.575000	-52.0
					2484.775000	-64.6
					2399.875000	-53.7
					2498.975000	-65.2
					2496.075000	-65.6
					2399.375000	-53.9
					2486.975000	-65.8
					2399.425000	-54.2
					2399.625000	-54.2
					2499.025000	-65.8
					2487.025000	-66.0
					2399.675000	-54.2
					2483.825000	-66.1
					2399.825000	-54.4
					2483.775000	-66.1
					2399.775000	-54.4
					2399.325000	-54.8
					2488.725000	-66.1
					2399.925000	-55.1
					2488.675000	-66.2
					2492.175000	-66.7
					2399.725000	-55.6
				2492.375000	-66.7	
				2399.125000	-56.7	
				2399.975000	-44.8	
				2399.925000	-46.5	
				2399.475000	-47.5	
				2399.525000	-47.6	

Equipment	BW (MHz)	Freq (MHz)	Port	Inband Peak Lvl (dBm)	Freq (MHz)	Lvl (dBm)
					2399.625000	-49.5
					2399.675000	-50.0
					2399.425000	-50.7
					2399.575000	-50.7
					2399.875000	-51.3
					2399.825000	-51.4
					2399.775000	-51.5
					2399.725000	-51.8
					2399.275000	-53.0
					2399.325000	-53.0
					2399.375000	-53.9
					2483.625000	-67.4
		2480.00000			2483.575000	-67.4
					2485.525000	-67.9
					2483.525000	-67.9
					2485.475000	-68.2
					2483.675000	-68.2
					2483.725000	-68.9
					2493.325000	-69.0
					2486.125000	-69.2
					2486.075000	-69.3
					2483.875000	-69.4
					2483.775000	-69.5
					2487.075000	-69.5
					2484.475000	-69.6
					2484.425000	-69.6

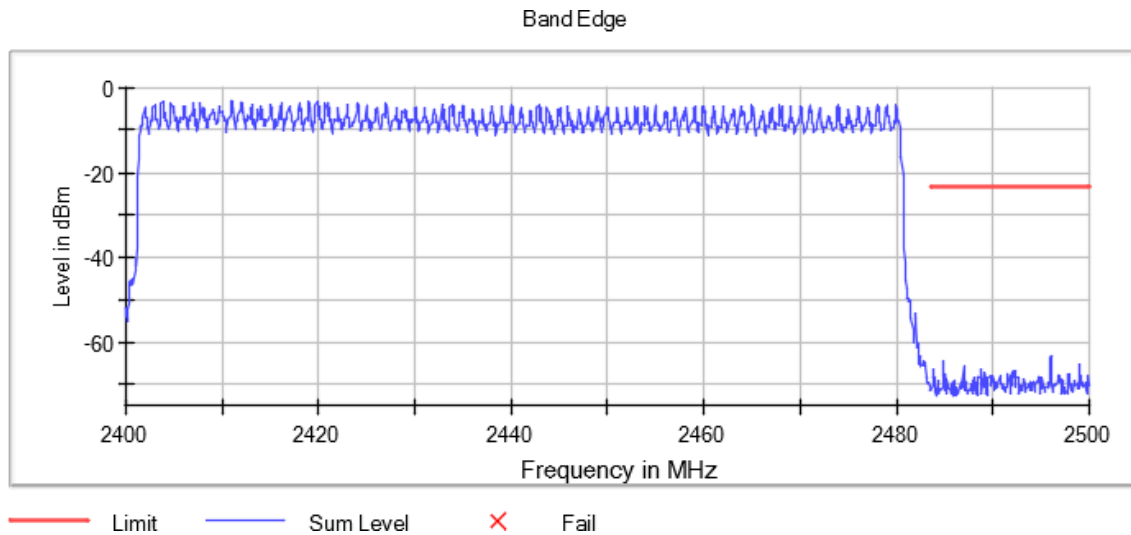
Verdict

Pass

Attachments

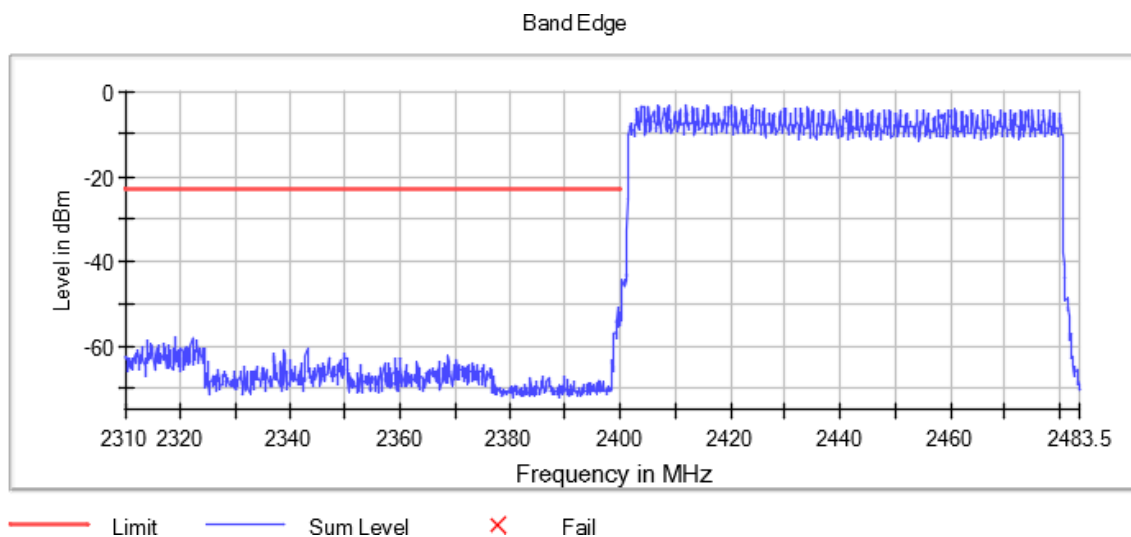
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 0.00000
MIMO Mode = SISO Active Port = 1

Images:



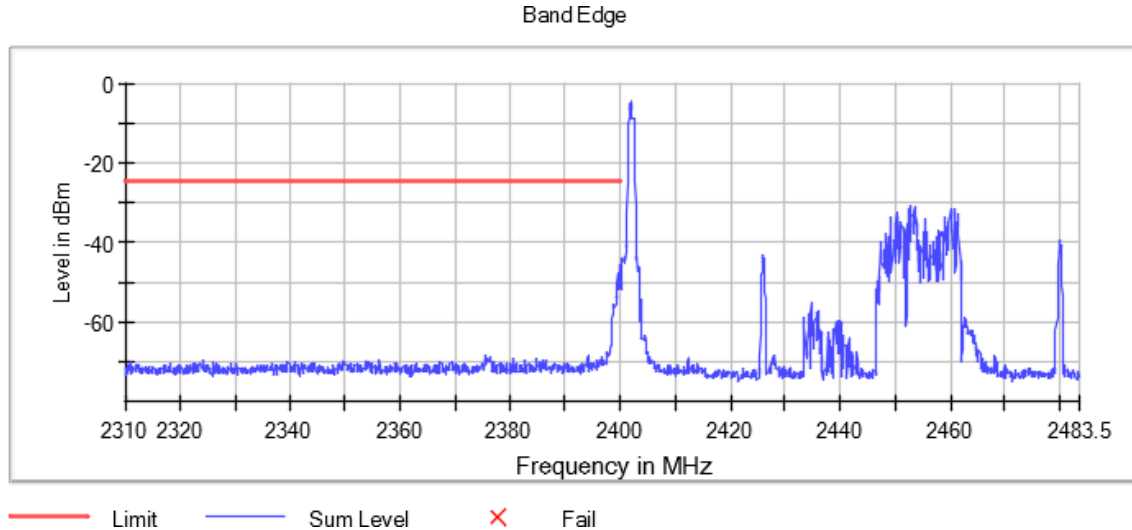
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 0.00000
MIMO Mode = SISO Active Port = 1

Images:



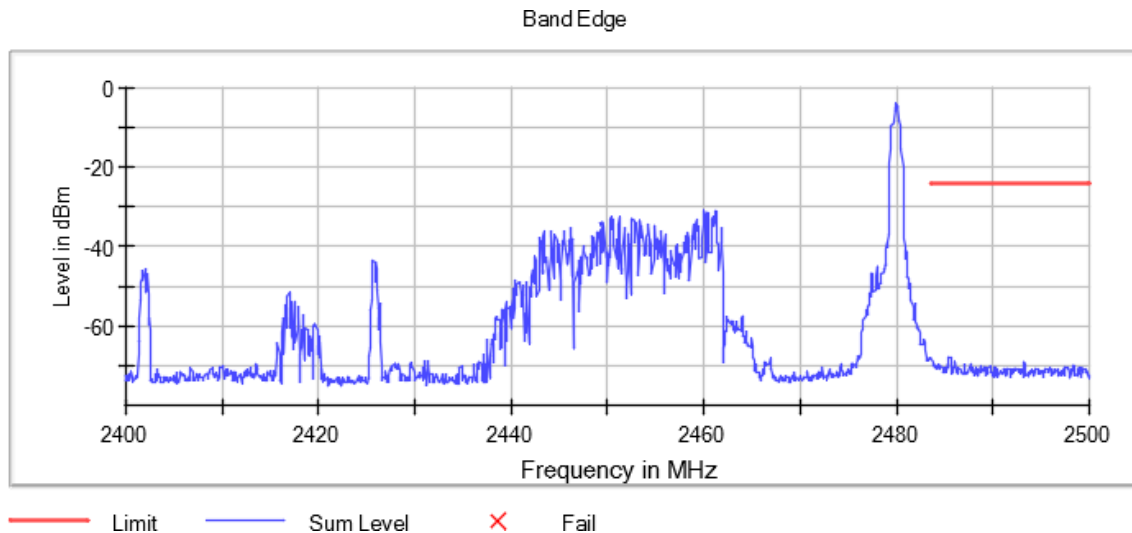
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



Results

Modulation: BT (8DPSK 3-DH5)

MIMO Mode: SISO

Results

Equipment	BW (MHz)	Freq (MHz)	Port	Inband Peak Lvl (dBm)	Freq (MHz)	Lvl (dBm)
Direct Sequence Spread Spectrum (DSSS)	1	0.00000	1		2491.175000	-65.0
					2399.975000	-47.1
					2399.925000	-47.7
					2491.125000	-65.1
					2399.875000	-51.3
					2499.975000	-65.1
					2500.000000	-65.1
					2399.625000	-51.9
					2487.725000	-65.7
					2399.575000	-52.5
					2485.725000	-65.8
					2399.325000	-53.1
					2485.975000	-66.0
					2399.825000	-53.1
					2399.275000	-53.2
					2499.925000	-66.1
					2399.775000	-53.2
					2486.025000	-66.1
					2399.675000	-53.2
					2496.875000	-66.1
					2485.675000	-66.2
					2399.525000	-53.8
					2399.375000	-54.4
					2488.325000	-66.3
					2399.475000	-55.0
					2488.275000	-66.4
					2399.225000	-55.2
					2485.925000	-66.4
				2485.775000	-66.5	
				2399.725000	-55.2	
				2399.975000	-44.1	
				2399.925000	-46.4	
				2399.475000	-47.4	
				2399.525000	-47.5	

Equipment	BW (MHz)	Freq (MHz)	Port	Inband Peak Lvl (dBm)	Freq (MHz)	Lvl (dBm)
					2399.825000	-49.7
					2399.775000	-49.8
					2399.875000	-50.6
					2399.425000	-50.8
					2399.575000	-51.2
					2399.725000	-51.7
					2399.625000	-52.3
					2399.375000	-52.4
					2399.675000	-52.8
					2399.275000	-53.1
					2399.225000	-53.2
		2480.00000			2483.575000	-66.5
					2483.625000	-67.2
					2484.475000	-68.1
					2483.675000	-68.3
					2484.725000	-68.3
					2483.525000	-68.3
					2483.925000	-68.6
					2484.525000	-68.7
					2484.125000	-68.7
					2498.475000	-68.8
					2498.425000	-68.8
					2485.425000	-68.9
					2496.025000	-68.9
					2485.375000	-68.9
					2495.975000	-69.0

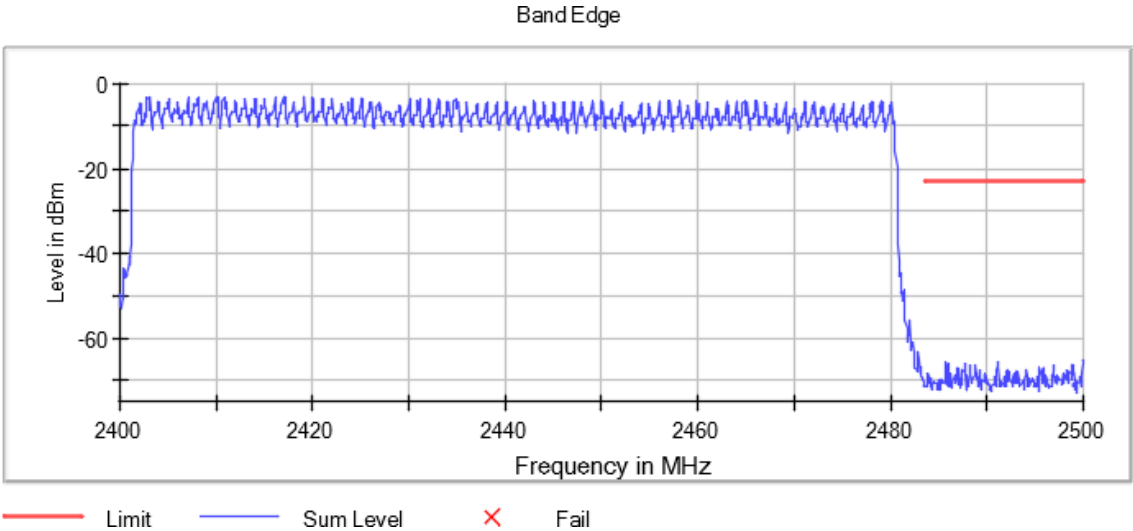
Verdict

Pass

Attachments

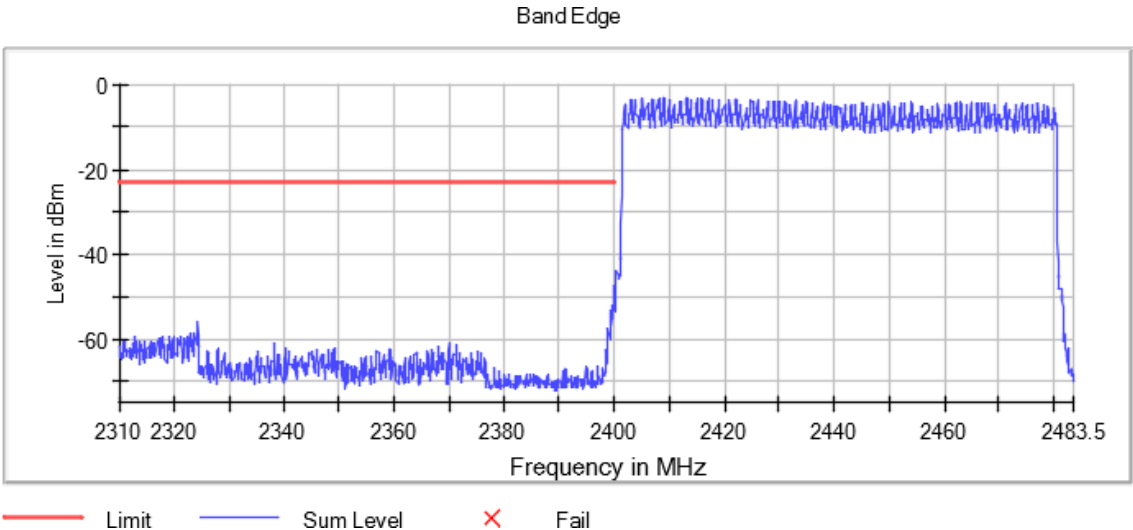
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Modulation = BT (8DPSK 3-DH5) Frequency MHz = 0.00000
MIMO Mode = SISO Active Port = 1

Images:



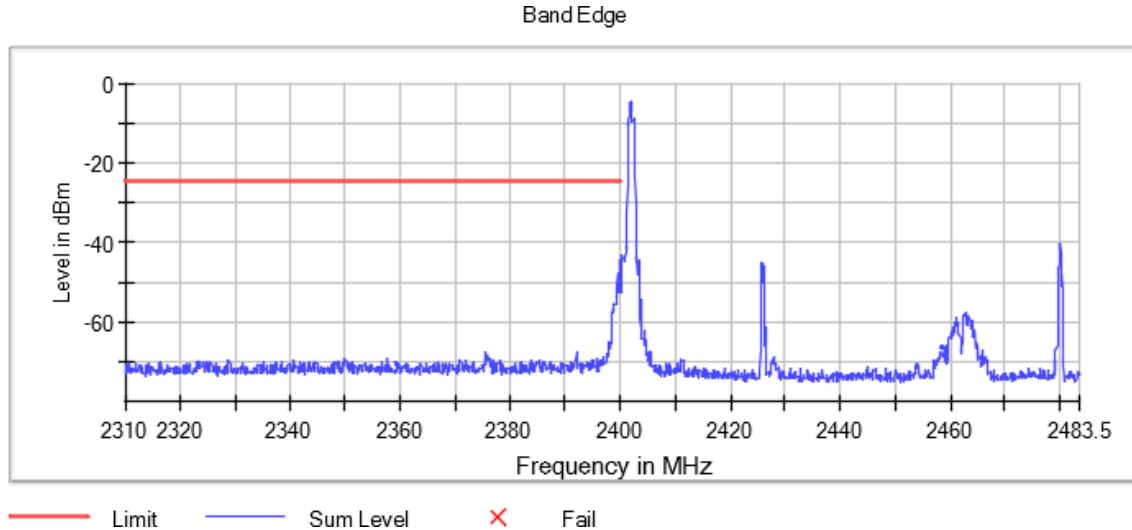
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 0.00000
MIMO Mode = SISO Active Port = 1

Images:



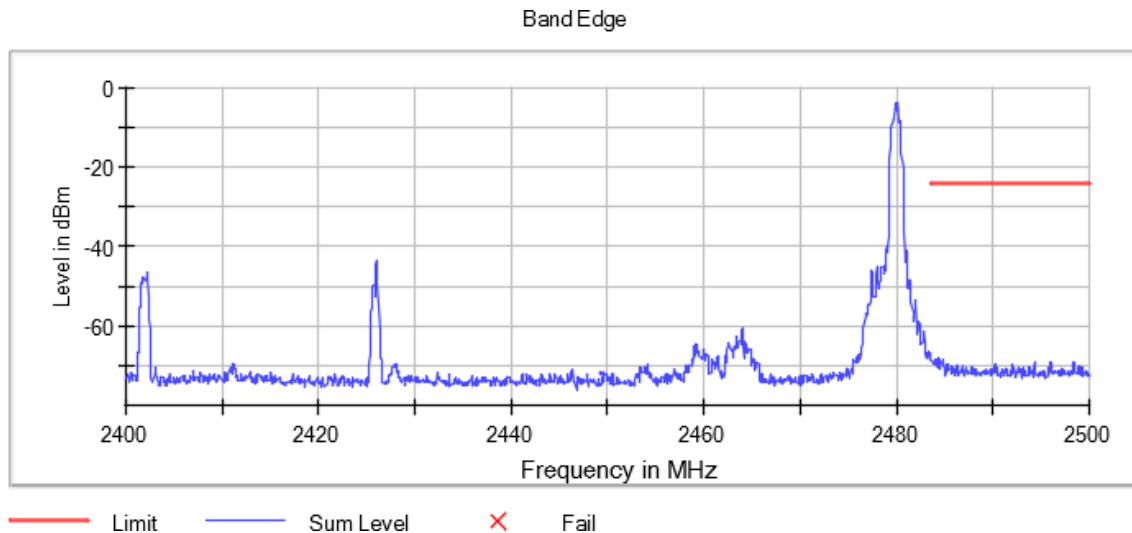
Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:



Equipment Type = Direct Sequence Spread Spectrum (DSSS) Bandwidth MHz = 1
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:



Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
Start Frequency	2.31000 GHz	2.31000 GHz
Stop Frequency	2.40000 GHz	2.40000 GHz
Span	90.000 MHz	90.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	1.800 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	14 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Spectrum Analyzer Parameters 2

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670
SweepTime	1.670 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	126 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

RSS-247 / FCC 15.247 - [RSE] Emission limitations radiated (Transmitter)

Limits

USA FCC Part 15.407 (05-05-2025):

FCC Rules and Regulations 47 CFR Part 15, Subpart E, Secs. 15.407:

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Secs. 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Secs. 15.205(a), must also comply with the radiated emission limits specified in Secs. 15.209(a) (see Secs. 15.205(c)).

FCC Rules and Regulations 47 CFR Part 15, Subpart C, Secs. 15.209:

(a) the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table.

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/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 ⁽¹⁾	40	3
88 - 216	150 ⁽¹⁾	43.5	3
216 - 960	200 ⁽¹⁾	46	3
Above 960	500	54	3

Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., Secs. 15.231 and 15.241

(d) The emission limits shown in the above table are based on measurements employing a 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.

(f) In accordance with Secs. 15.33(a), in some cases the emissions from an intentional radiator must be measured to beyond the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator because of the incorporation of a digital device. If measurements above the tenth harmonic are so required, the radiated emissions above the tenth harmonic shall comply with the general radiated emission limits applicable to the incorporated digital device, as shown in Secs. 15.109 and as based on the frequency of the emission being measured, or, except for emissions contained in the restricted frequency bands shown in Secs. 15.205, the limit on spurious emissions specified for the intentional radiator, whichever is the higher limit. Emissions which must be measured above the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator and which fall within the restricted bands shall comply with the general radiated emission limits in Secs. 15.109 that are applicable to the incorporated digital device.

• FCC Rules and Regulations 47 CFR Part 15, Subpart C, Secs. 15.109:

(g) As an alternative to the radiated emission limits shown in paragraphs (a) and (b) of this section, digital devices may be shown to comply with the standards contained in the Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment—Radio Disturbance Characteristics—Limits and Methods of Measurement" (incorporated by reference, see § 15.38). In addition:

(2) If, in accordance with § 15.33 of this part, measurements must be performed above 1000 MHz, compliance above 1000 MHz shall be demonstrated with the emission limit in paragraph (a) or (b) of this section, as appropriate. Measurements above 1000 MHz may be performed at the distance specified in the CISPR 22 publications for

measurements below 1000 MHz provided the limits in paragraphs (a) and (b) of this section are extrapolated to the new measurement distance using an inverse linear distance extrapolation factor (20 dB/decade), e.g., the radiated limit above 1000 MHz for a Class B digital device is 150 µV/m, as measured at a distance of 10 meters.

Frequency range (MHz)	Class A limits		Class B limits	
	AVG Limit for 3 m ⁽¹⁾ (dBµV/m)	PK Limit for 3 m ^(1,2) (dBµV/m)	AVG Limit for 3 m ⁽¹⁾ (dBµV/m)	PK Limit for 3 m ^(1,2) (dBµV/m)
1000 - 3000	60	80	54	74
3000 - 6000	60	80	54	74
6000 - 40000 ⁽³⁾	60	80	54	74

- Limits are specified by FCC at a distance of 10m and extrapolated here for 3m by adding inverse linear distance (1/d) proportionality factor of 20dB/decade, used per §15.31(f)(1)
- Frequencies above 1 GHz, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test, as per §15.35(b)
- According with the CISPR 22 (third Edition) There are no limits in the frequency range of 6 - 40 GHz, so expand the frequency range beyond 6GHz using the same limits.

• **FCC Rules and Regulations 47 CFR Part 15, Subpart C, Secs. 15.205:**

- (1) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

(MHz)	(MHz)	(MHz)	(GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	⁽²⁾
13.36-13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

² Above 38.6

CANADA RSS-247 Issue 4 (July 2025):

2.4 RSS-Gen compliance

Equipment being certified under this standard shall also comply with the general requirements set out in Radio Standards Specification RSS-Gen, General Requirements for Compliance of Radio Apparatus. Where contradictions exist between this standard and RSS-Gen, this standard shall take precedence.

CANADA RSS-247 Issue 4 (July 2025):

RSS-Gen Issue 5, Secs 8.9:

Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

General field strength limits at frequencies above 30 MHz

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

General field strength limits at frequencies below 30 MHz

Frequency Range (MHz)	Field strength (µA/m)	Field strength (dBµA/m)	Measurement distance (m)
0.009-0.490 ⁽¹⁾	6.37/F(kHz)	-	300
0.490-1.705	63.7/F(kHz)	-	30
1.705 - 30.0	0.08	-	30

- The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

RSS-Gen Issue 5, Secs 8.10:

Restricted frequency bands, identified in table 7, are designated primarily for safety-of-life services (distress calling and certain aeronautical activities), certain satellite downlinks, radio astronomy and some government uses.

- c) Unwanted emissions that do not fall within the restricted frequency bands listed in table 7 shall comply either with the limits specified in the applicable RSS or with those specified in table 5 and table 6.

Table 7 – Restricted frequency bands

(MHz)	(MHz)	(MHz)	(GHz)
0.090-0.110	16.42-16.423	1435-1626.5	13.25-13.4
0.495-0.505	16.69475-16.69525	1645.5-1646.5	14.47-14.5
2.1735-2.1905	16.80425-16.80475	1660-1710	15.35-16.2
3.020 - 3.026	25.5-25.67	1718.8-1722.2	17.7-21.4
4.125-4.128	37.5-38.25	2200-2300	22.01-23.12
4.17725-4.17775	73-74.6	2310-2390	23.6-24.0
4.20725-4.20775	74.8-75.2	2483.5-2500	31.2-31.8
5.677 - 5.683	108-121.94	2655-2900	36.43-36.5
6.215-6.218	123-138	3260-3267	Above 38.6
6.26775-6.26825	149.9-150.05	3332-3339	
6.31175-6.31225	156.52475-156.52525	3345.8-3358	
8.291-8.294	156.7-156.9	3500-4400	
8.362-8.366	162.0125-167.17	4.5-5.15	
8.37625-8.38675	167.72-173.2	5.35-5.46	
8.41425-8.41475	240-285	7.25-7.75	
12.29-12.293	322-335.4	8.025-8.5	
12.51975-12.52025	399.9-410	9.0-9.2	
12.57675-12.57725	608-614	9.3-9.5	
13.36-13.41	960-1427	10.6-12.7	

TEST SETUP:

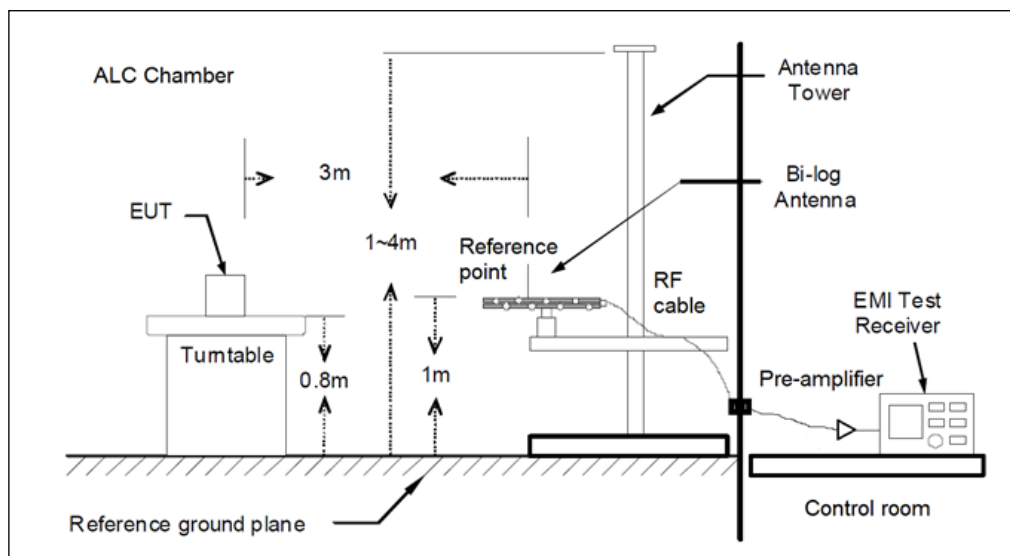
All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency ranges 30-1000 MHz (Bilog antenna) and 1-18 GHz (Double ridge horn antennas) and at 1m for the frequency range 18-40 GHz (Double ridge horn antennas).

For radiated emissions in the range 18-40 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.

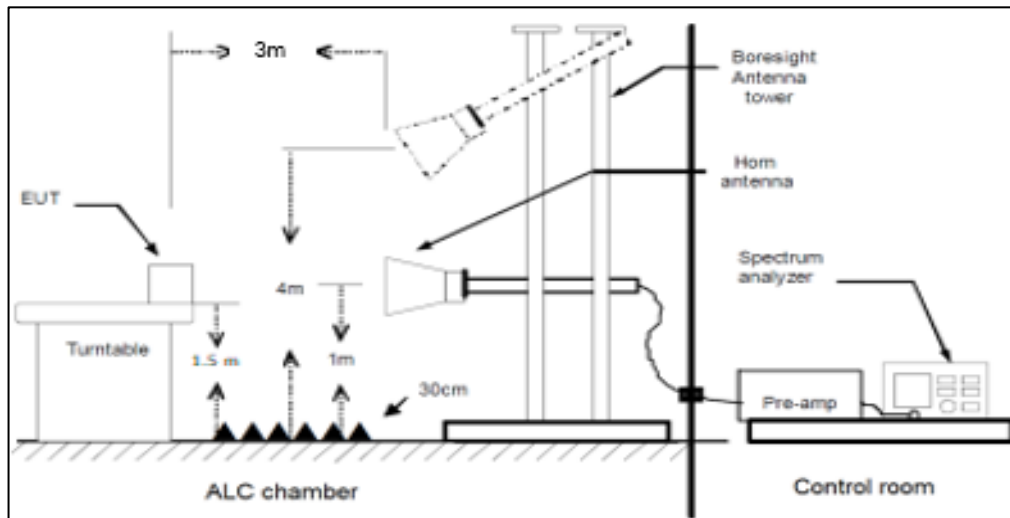
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

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

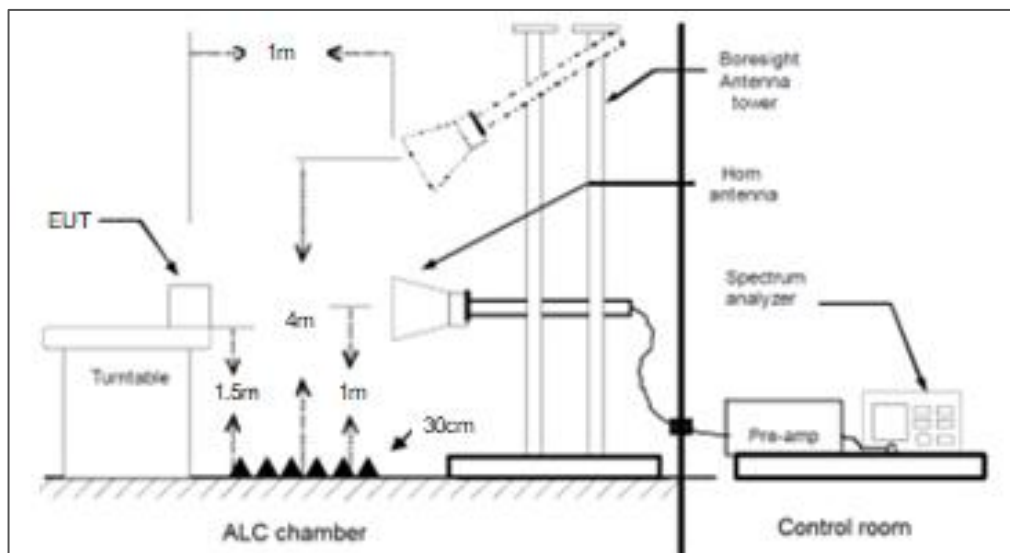
The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.



Radiated measurements Setup $f < 1$ GHz



Radiated measurements setup $1 < f < 18$ GHz



Radiated measurements setup $f > 18$ GHz

Results

Modulation: BT (GFSK 1-DH3)

MIMO Mode: SISO

Results

Freq Rng (GHz)	Equipment	Freq (MHz)	Port	Freq (MHz)	Lvl (dBµV/m)	Pol	Detector
[0.03, 1]	Direct Sequence Spread Spectrum Direct Sequence Spread Spectrum (DSSS)	2402.00000	1	126.272	16.20	H	QP
				273.567	32.30	H	QP
				326.238	27.90	H	QP
				37.906	16.80	H	QP
				399.909	31.40	H	QP
				975.605	32.80	H	QP
[1, 18]		2441.00000		2402.500	86.70	V	AVG
				5000.000	37.60	V	AVG
		2480.00000		15880.000	40.20	H	AVG
				2441.000	92.50	V	AVG
				2480.000	94.80	V	AVG
				5000.000	37.50	V	AVG
[18, 26]		2402.00000		22264.500	40.30	V	AVG
		2441.00000		22823.000	40.80	H	AVG
		2480.00000		19395.000	39.90	H	AVG

Verdict

Pass

Attachments

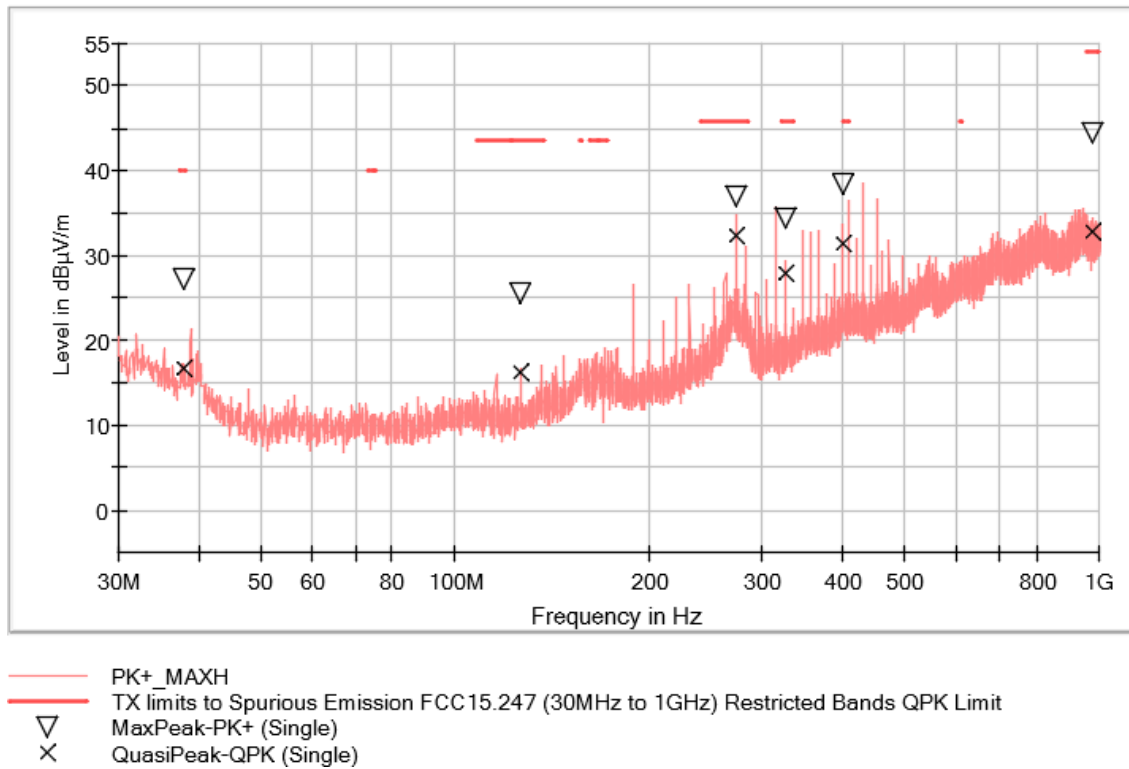
Frequency Range GHz = [0.03, 1] Equipment Type = Direct Sequence Spread Spectrum (DSSS)

Modulation = BT (GFSK 1-DH3) Frequency MHz = 2402.00000

MIMO Mode = SISO Active Port = 1

Images:

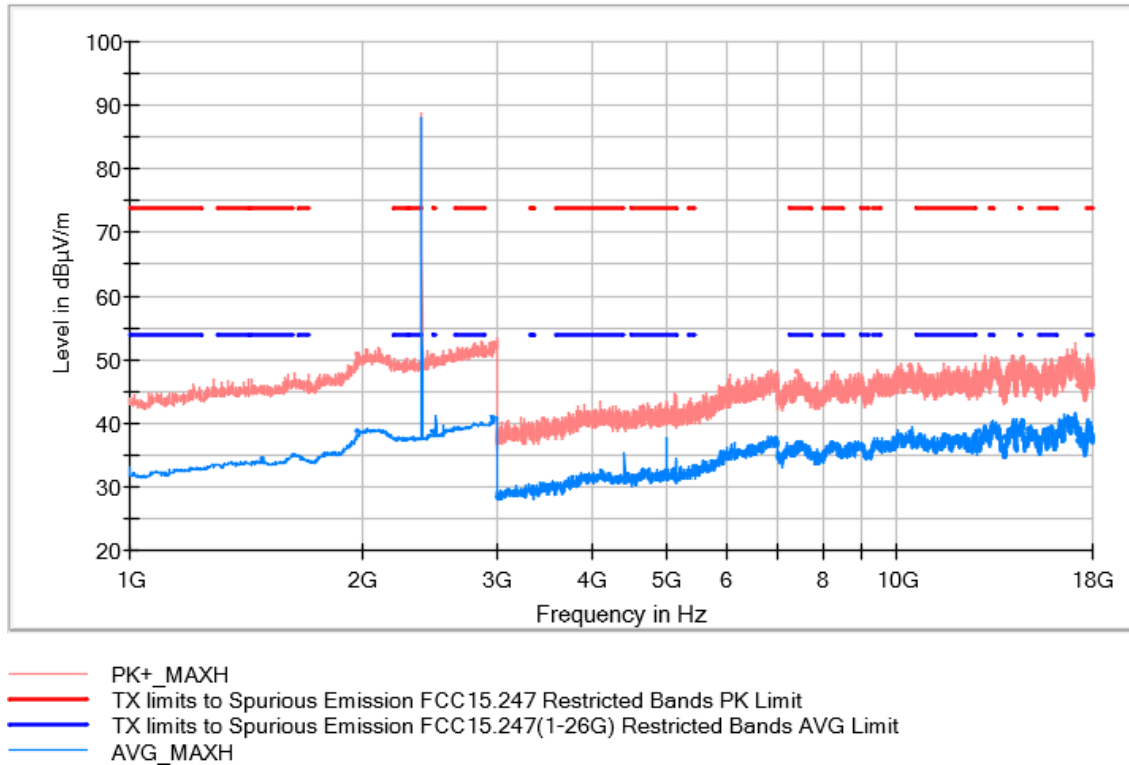
RF_FCC_15.247_E Field_30MHz_1GHz



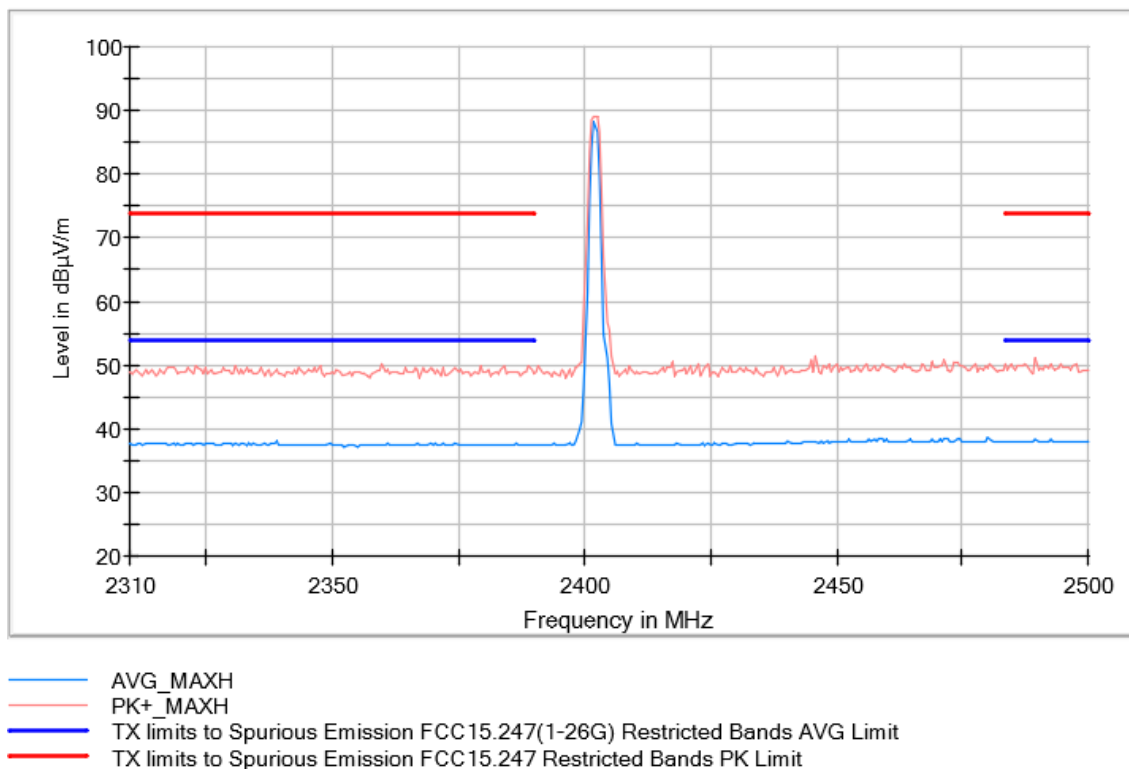
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



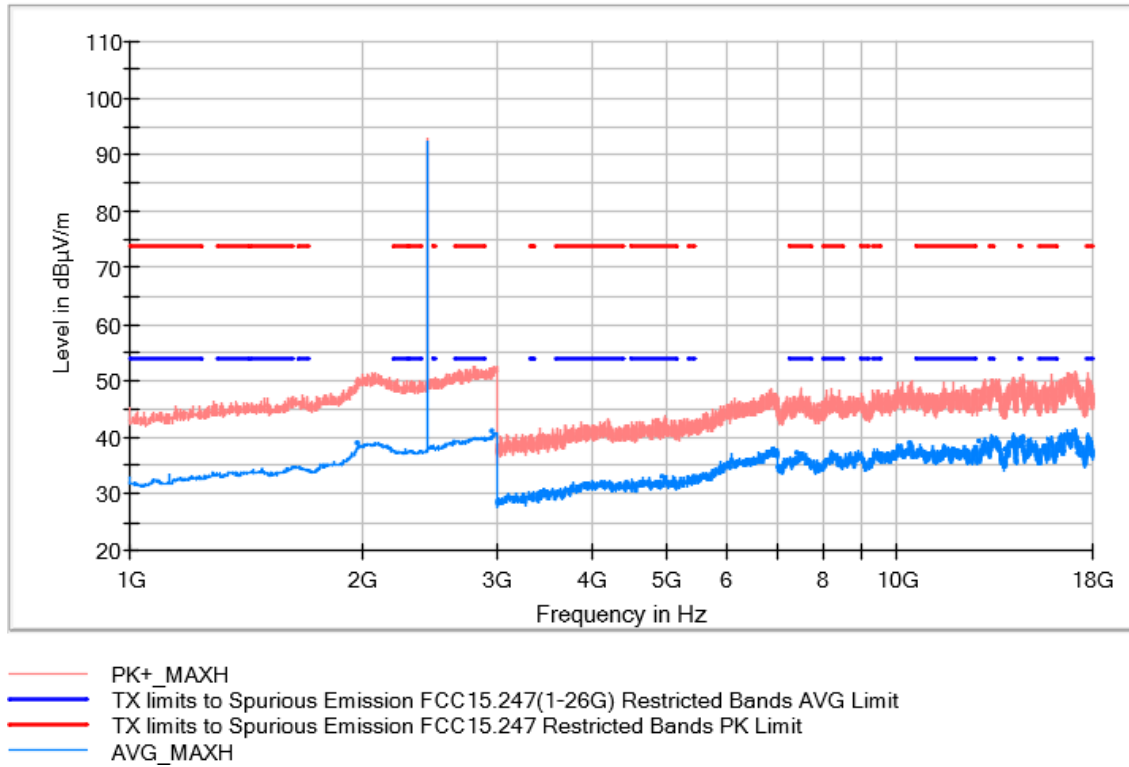
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.5GHz_HPF



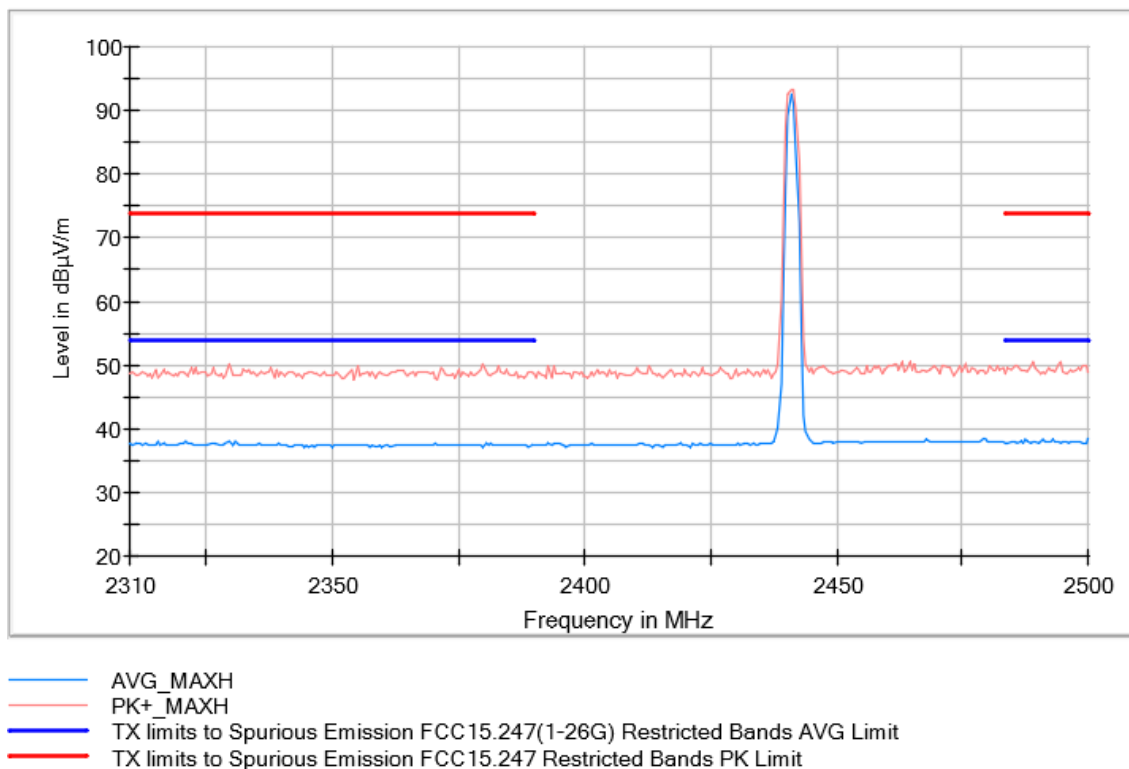
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



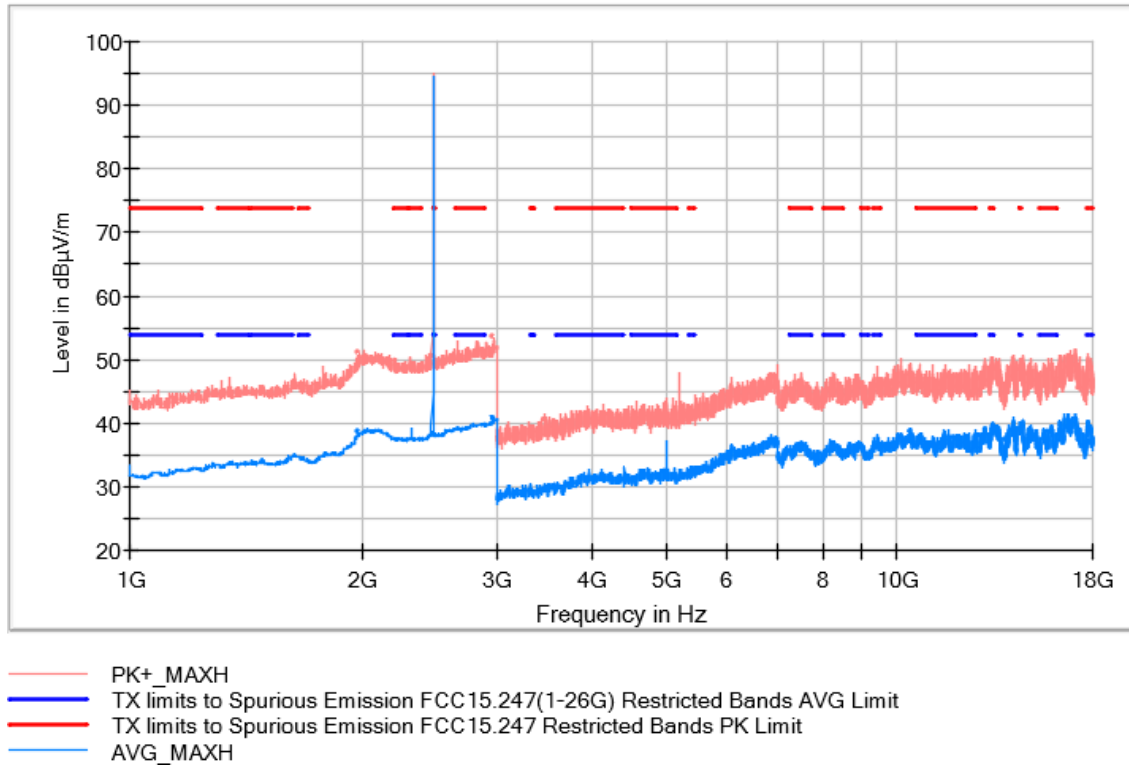
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.5GHz_HPF



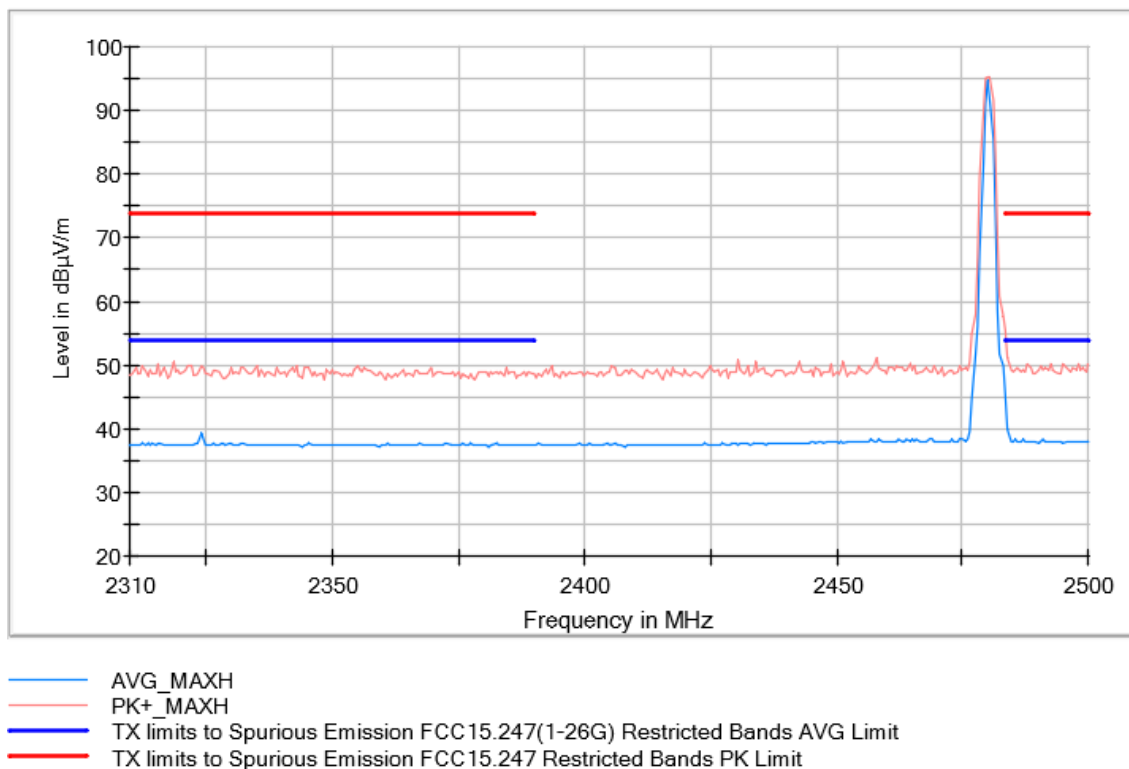
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



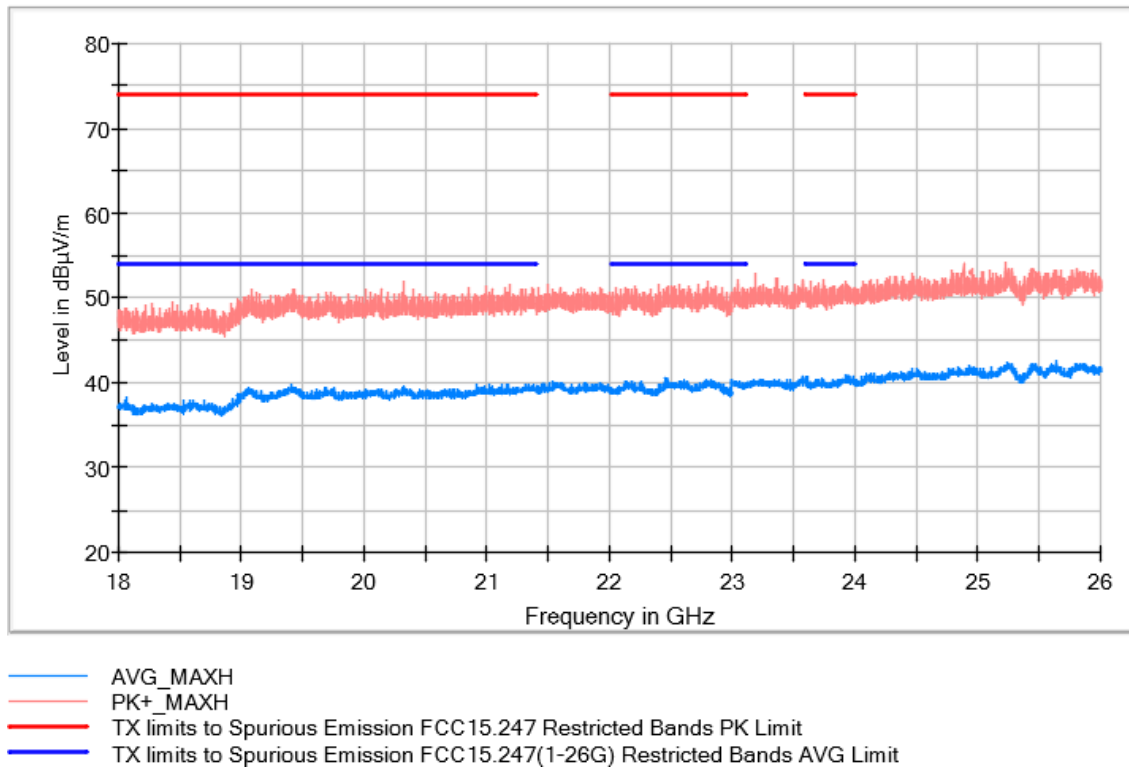
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.58GHz_HPF



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:

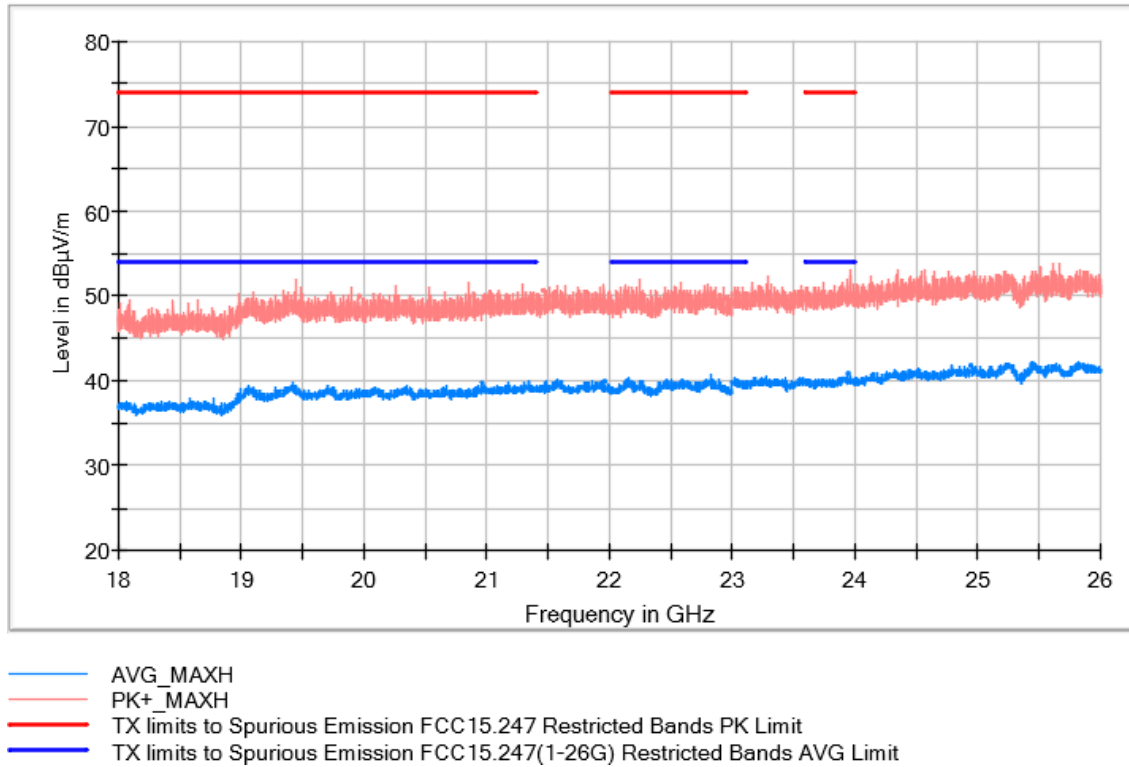
RF_FCC_15.247_E Field_18GHz_26GHz



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:

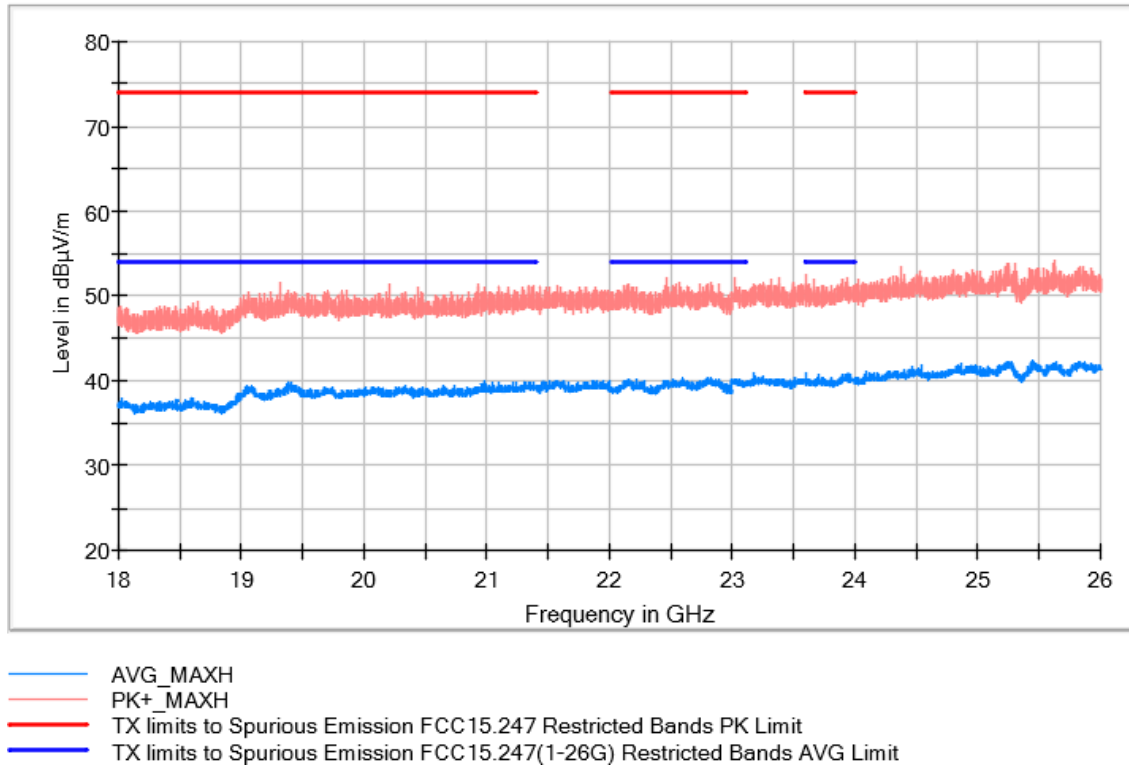
RF_FCC_15.247_E Field_18GHz_26GHz



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (GFSK 1-DH3) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_18GHz_26GHz



Results

Modulation: BT (Pi/4 DQPSK 2-DH5)

MIMO Mode: SISO

Results

Freq Rng (GHz)	Equipment	Freq (MHz)	Port	Freq (MHz)	Lvl (dBμV/m)	Pol	Detector
[1, 18]	Direct Sequence Spread Spectrum (DSSS)	2402.00000	1	2402.000	84.10	V	AVG
				5000.000	35.10	V	AVG
		2441.00000		2441.000	87.50	H	AVG
				5000.000	35.20	V	AVG
		2480.00000		2480.000	93.10	V	AVG
				5000.000	34.40	V	AVG
[18, 26]		2402.00000		22849.000	40.40	H	AVG
		2441.00000		22465.500	40.60	H	AVG
		2480.00000		19423.000	40.00	V	AVG

Verdict

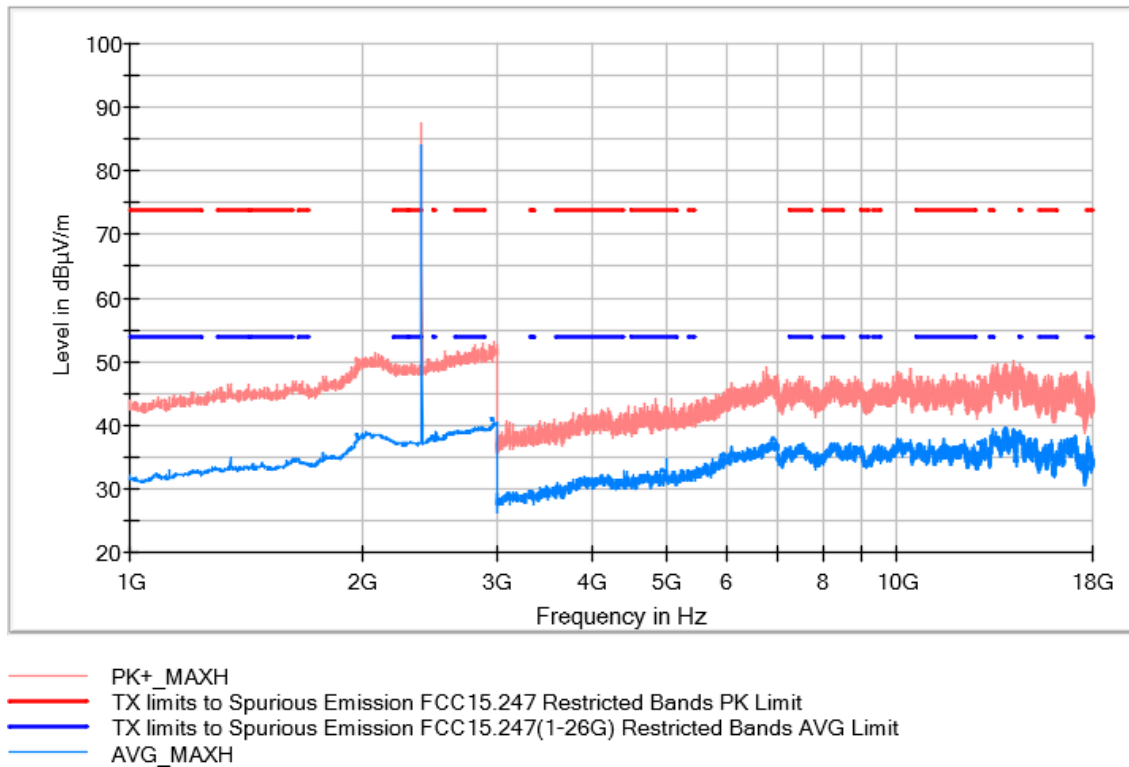
Pass

Attachments

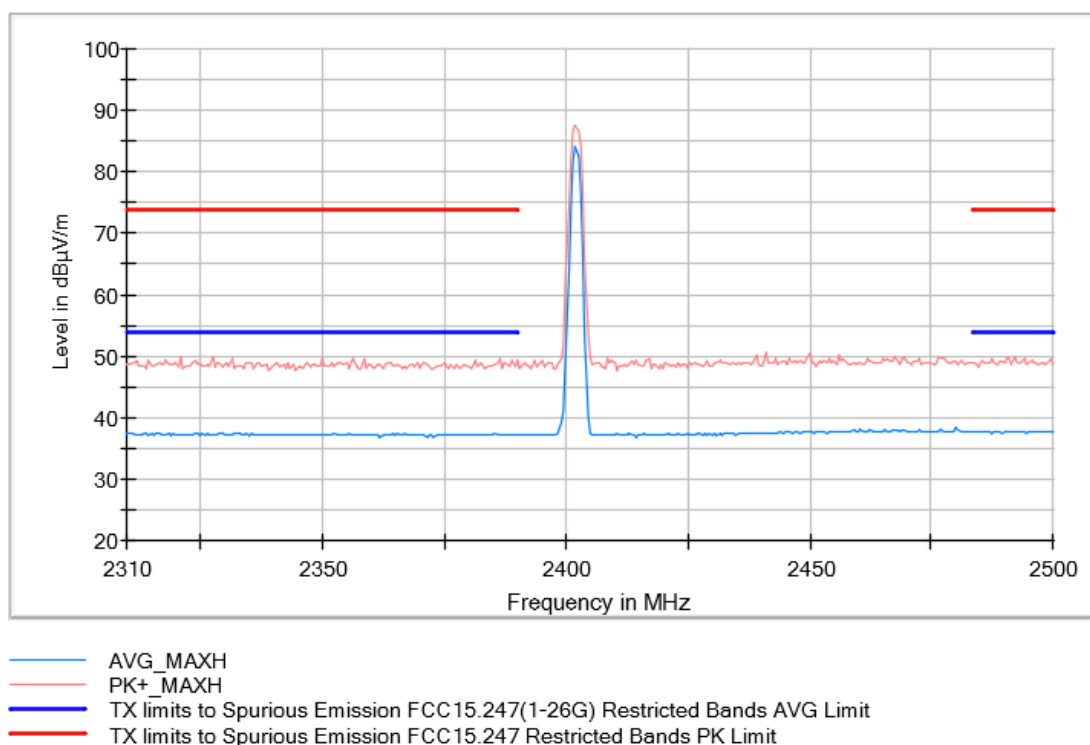
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



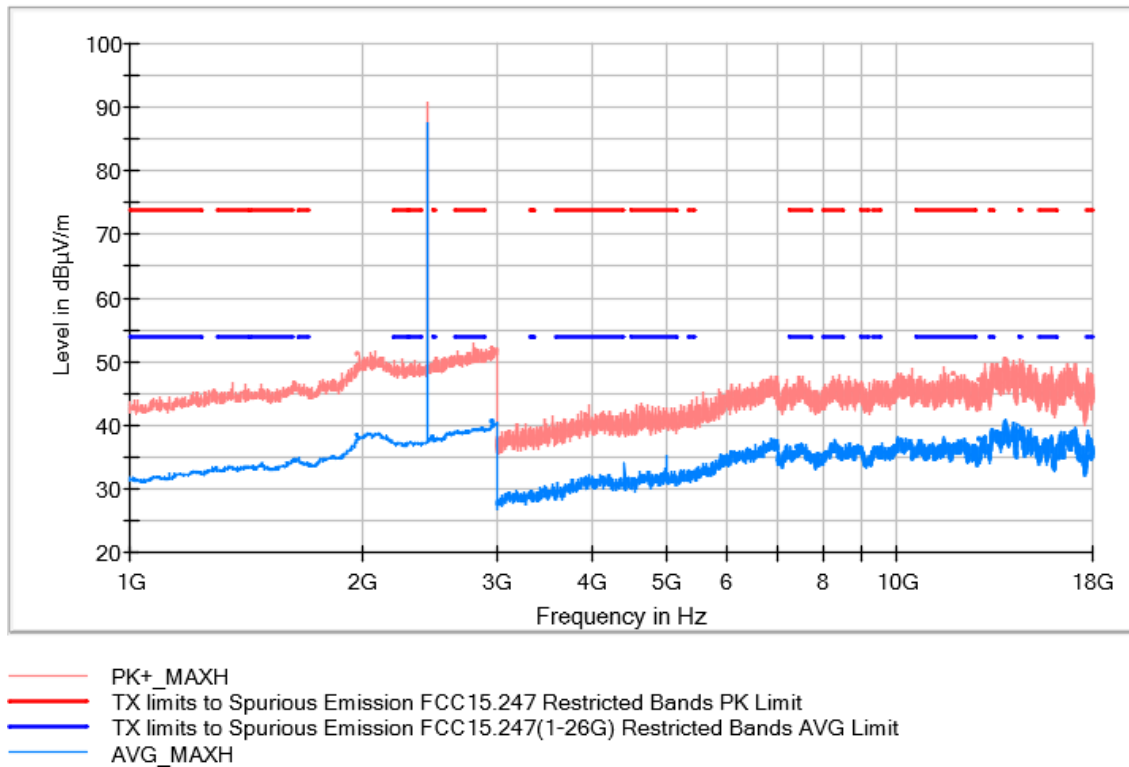
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.5GHz_HPF



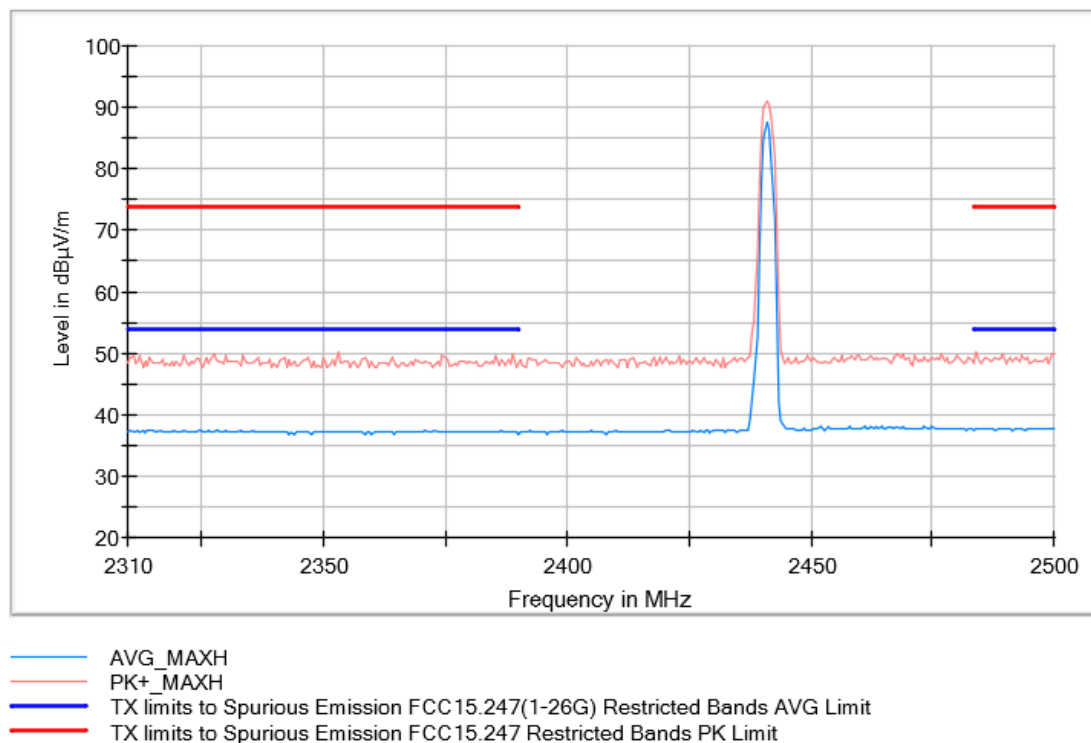
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



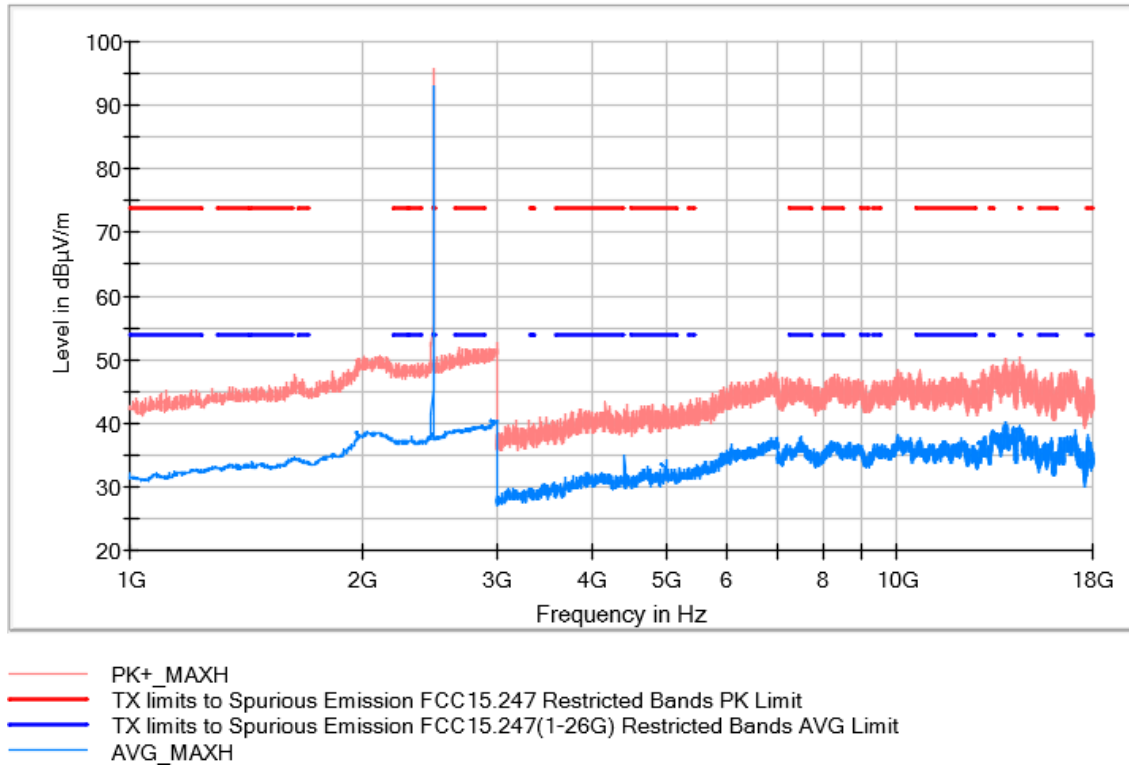
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.5GHz_HPF



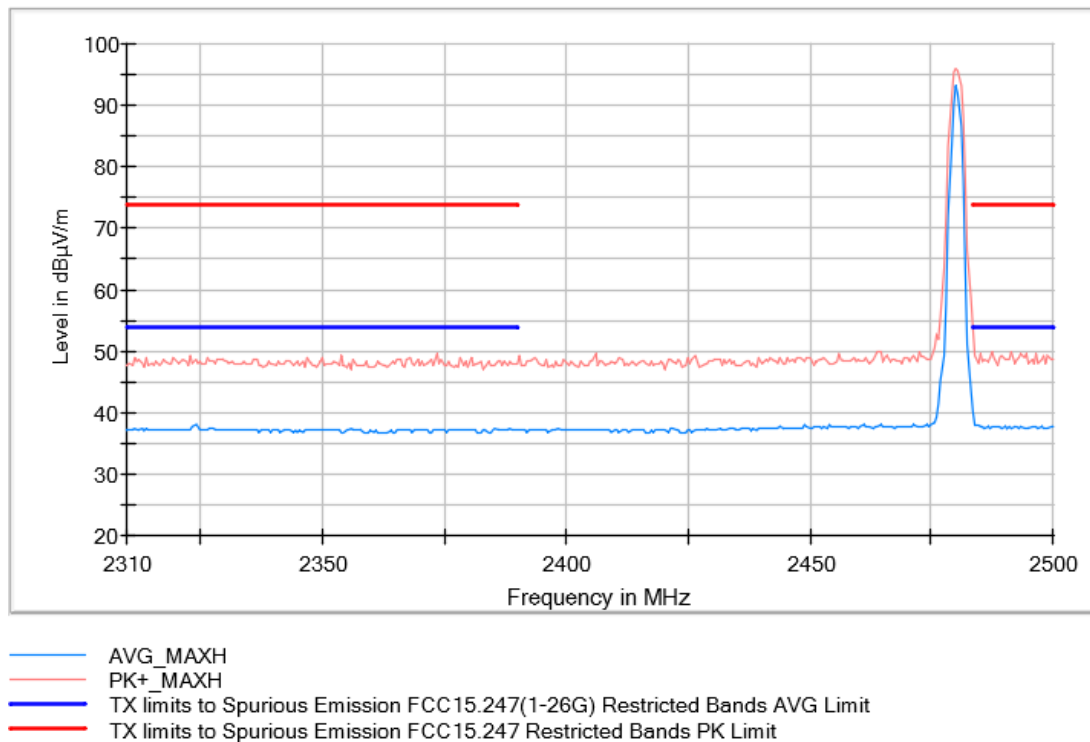
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



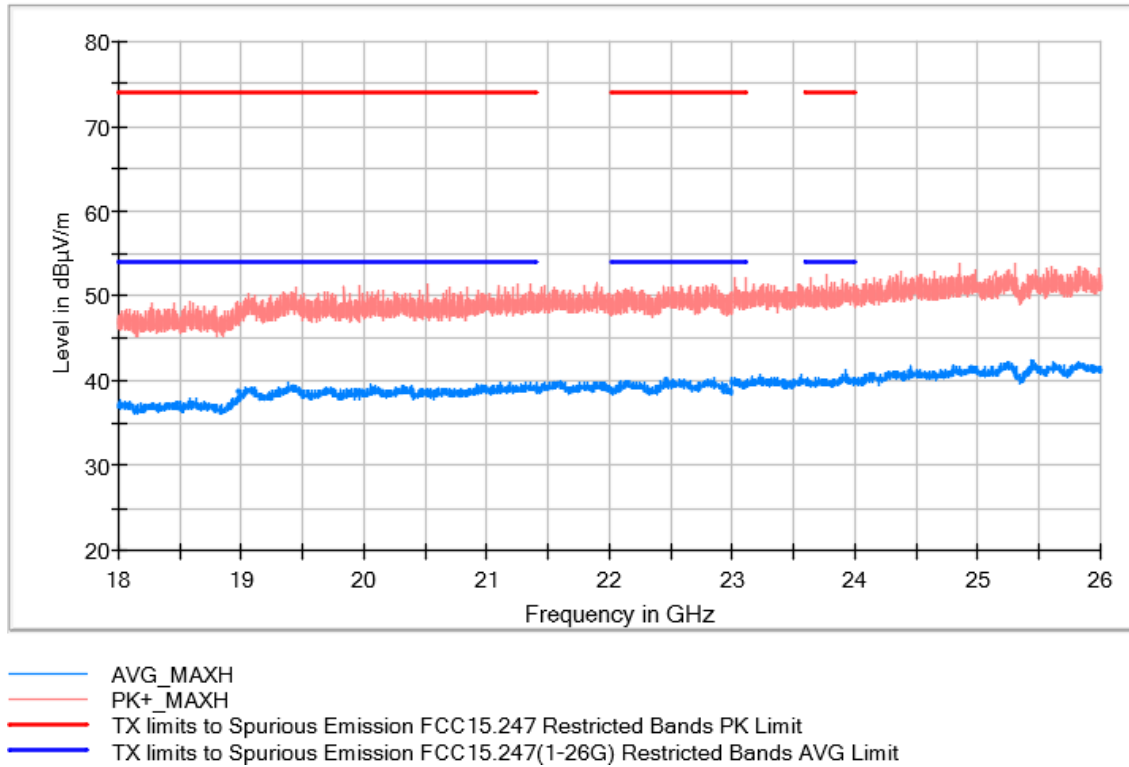
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.5GHz_HPF



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:

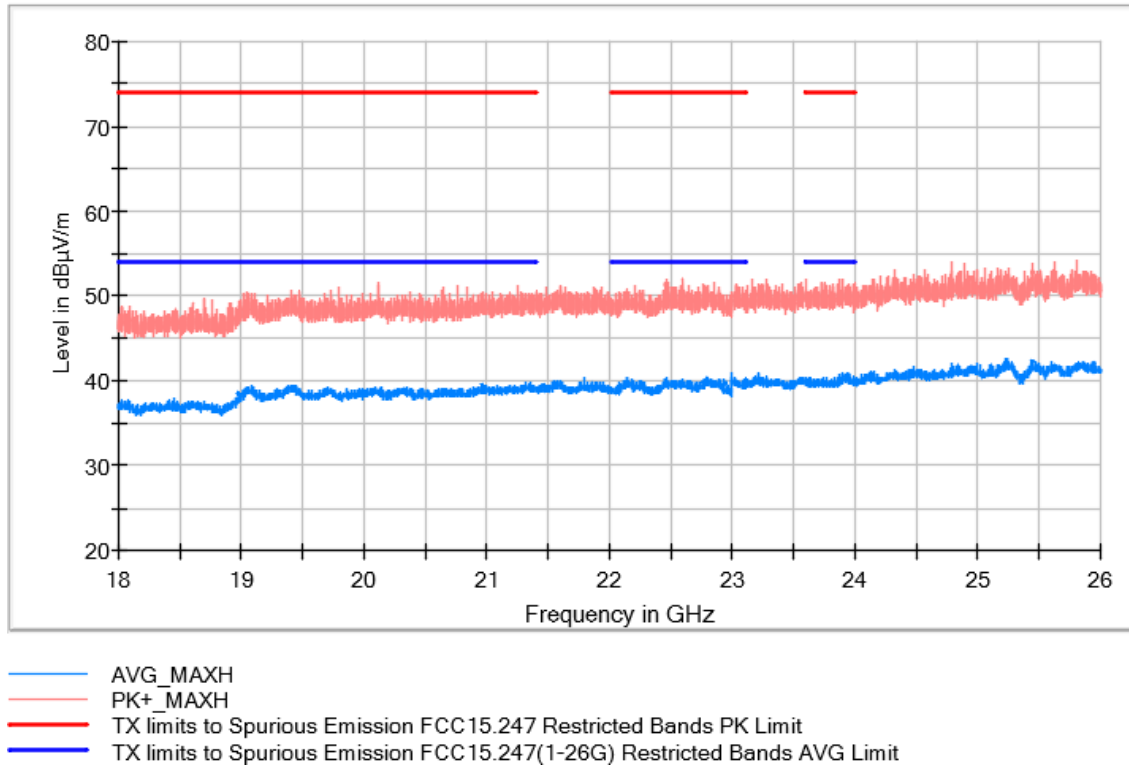
RF_FCC_15.247_E Field_18GHz_26GHz



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:

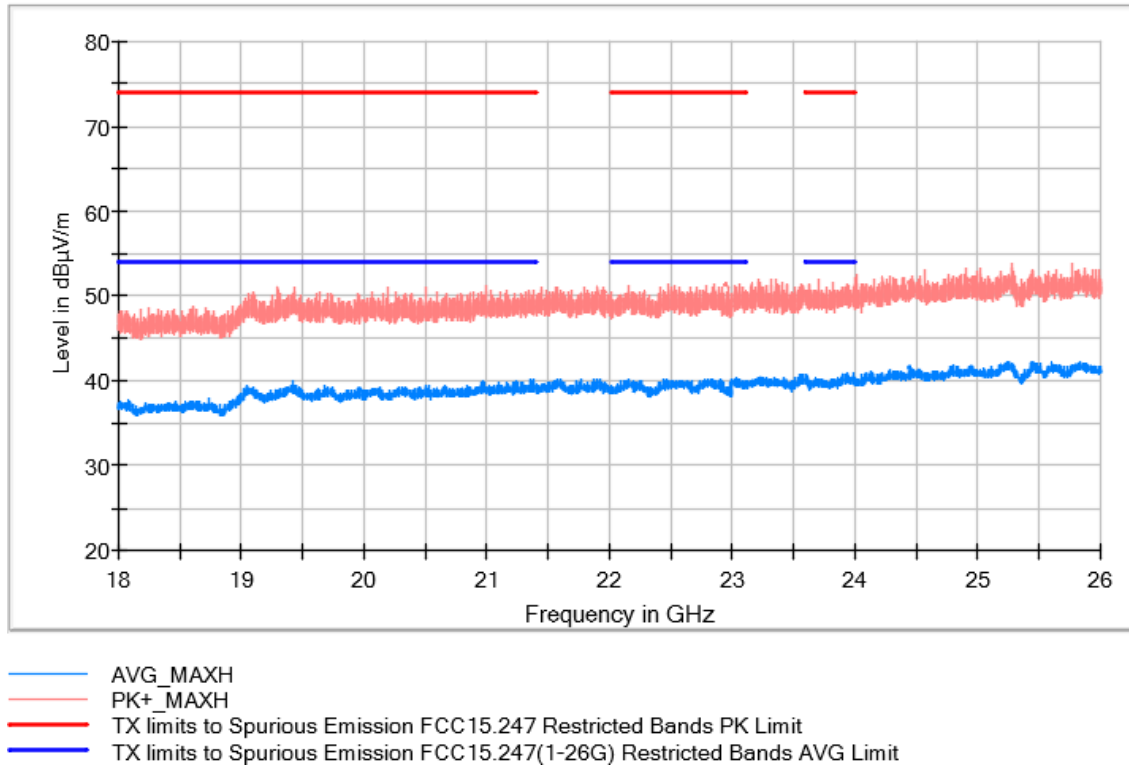
RF_FCC_15.247_E Field_18GHz_26GHz



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (Pi/4 DQPSK 2-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_18GHz_26GHz



Results

Modulation: BT (8DPSK 3-DH5)

MIMO Mode: SISO

Results

Freq Rng (GHz)	Equipment	Freq (MHz)	Port	Freq (MHz)	Lvl (dBμV/m)	Pol	Detector
[1, 18]	Direct Sequence Spread Spectrum (DSSS)	2402.00000	1	2402.000	83.70	V	AVG
				5000.000	34.90	V	AVG
		2441.00000		2441.000	88.10	V	AVG
				5000.000	35.90	V	AVG
		2480.00000		2480.000	92.80	V	AVG
				5000.000	34.70	V	AVG
[18, 26]		2402.00000		23018.000	40.60	V	AVG
		2441.00000		19085.500	39.70	H	AVG
		2480.00000		19401.500	39.80	V	AVG

Verdict

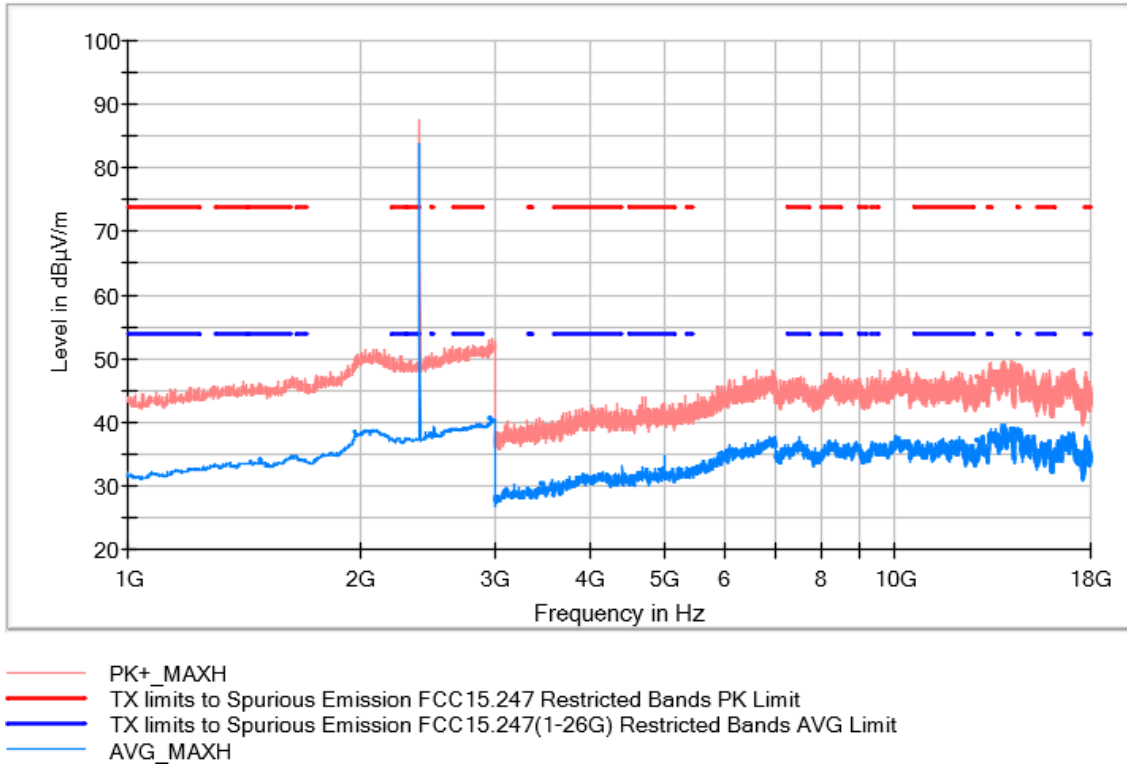
Pass

Attachments

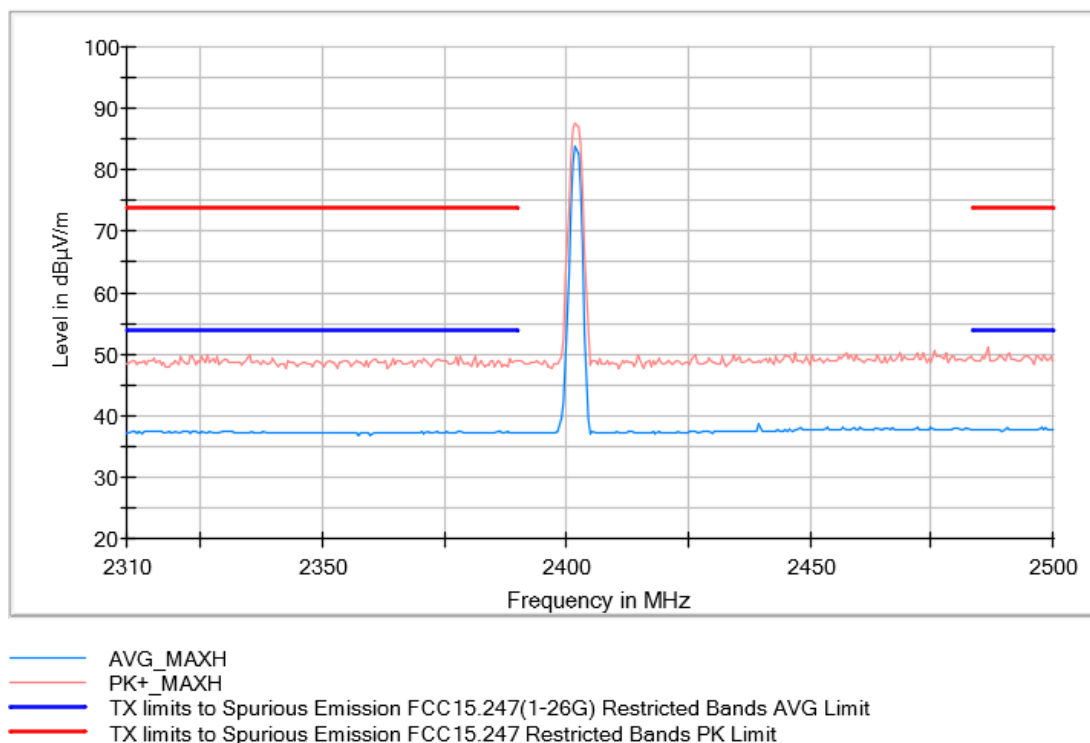
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



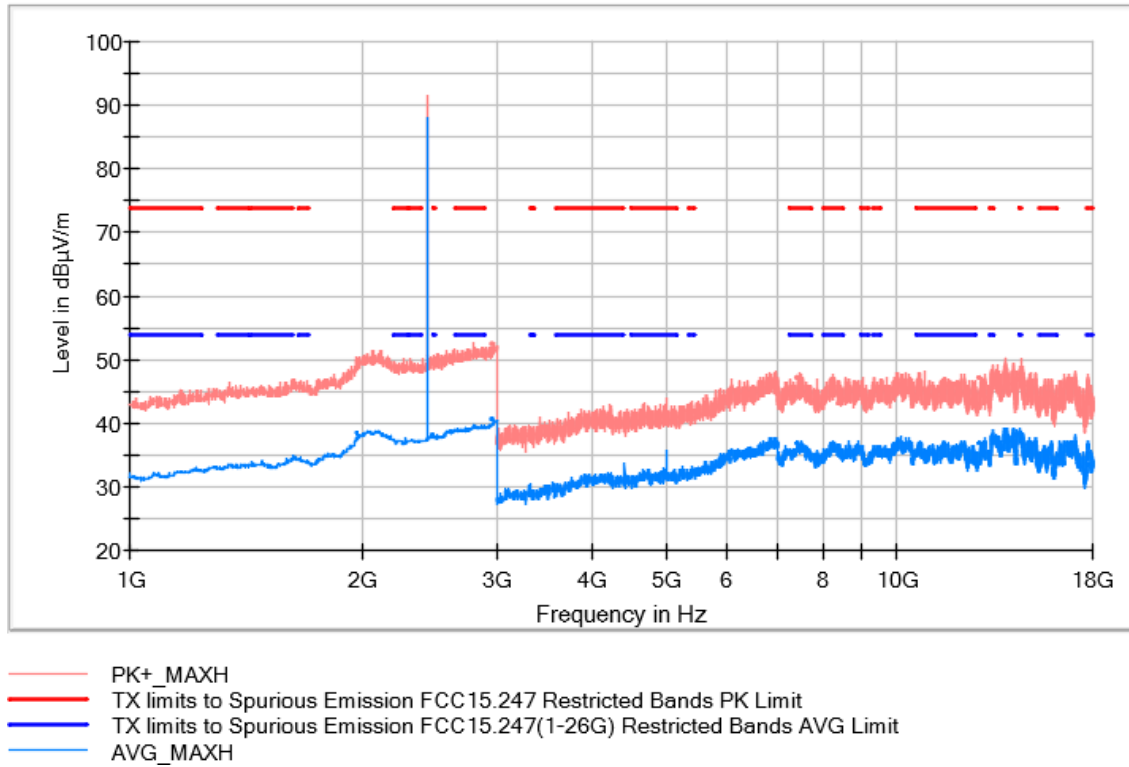
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.5GHz_HPF



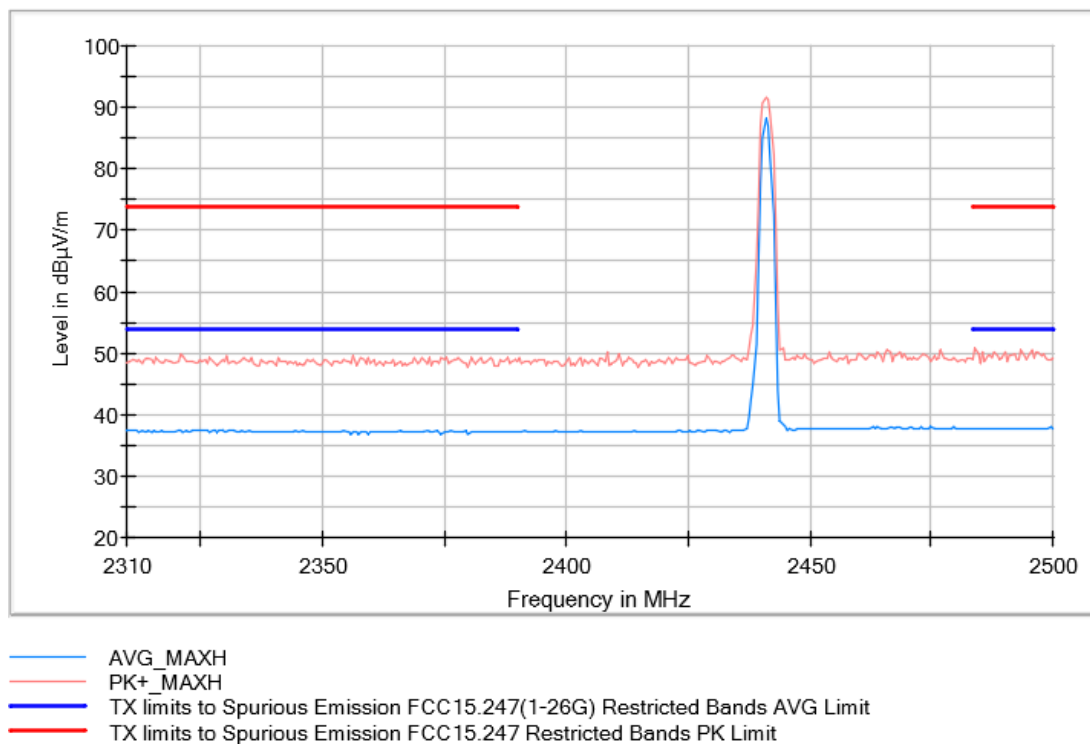
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



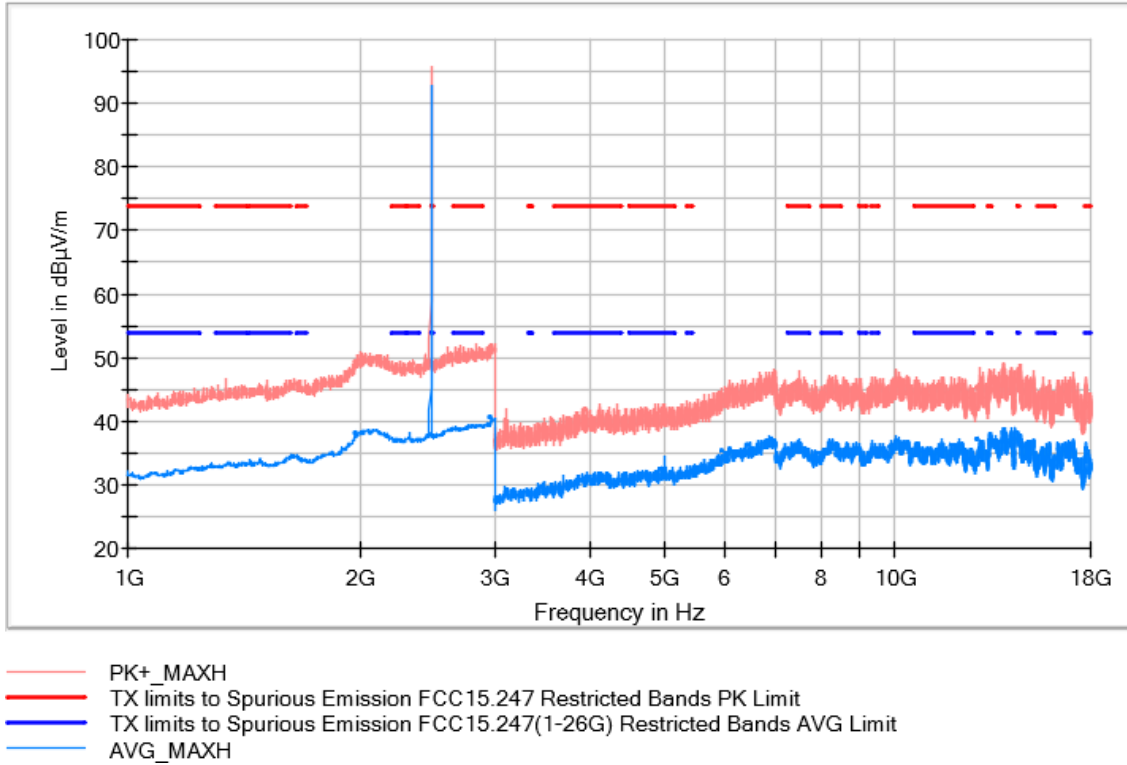
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.5GHz_HPF



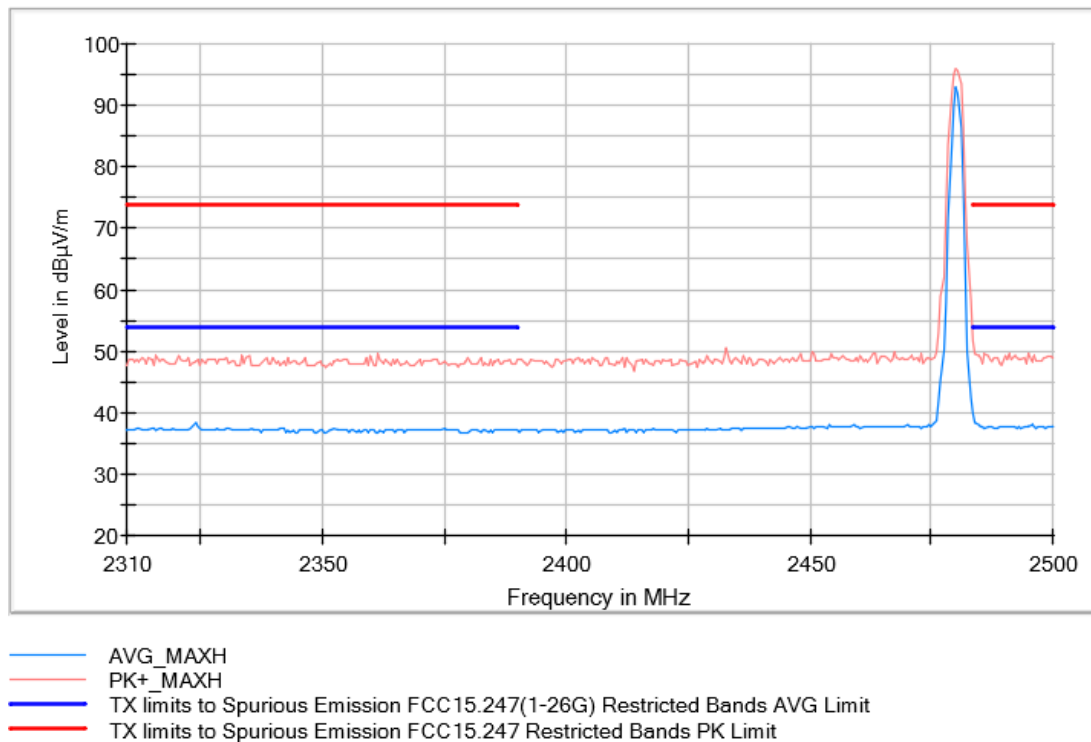
Frequency Range GHz = [1, 18] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_1GHz_18GHz_HPF



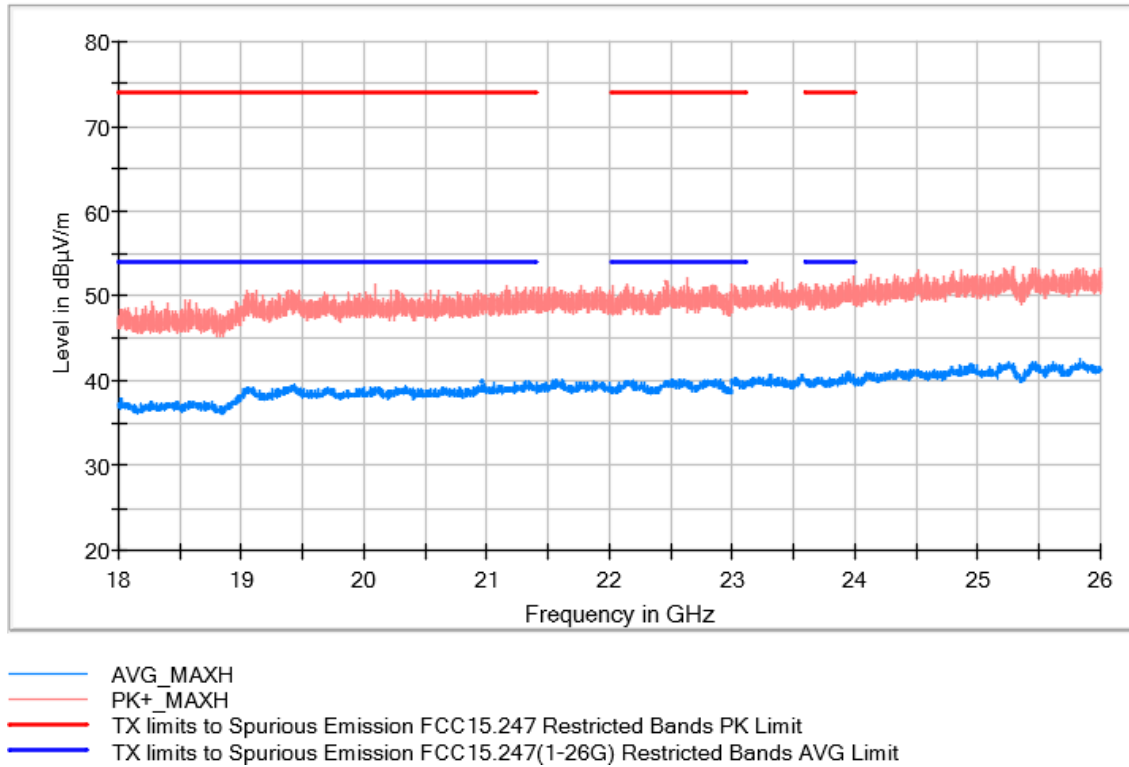
Restricted Band_RF_FCC_15.247_E Field_2.3GHz_2.5GHz_HPF



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

Images:

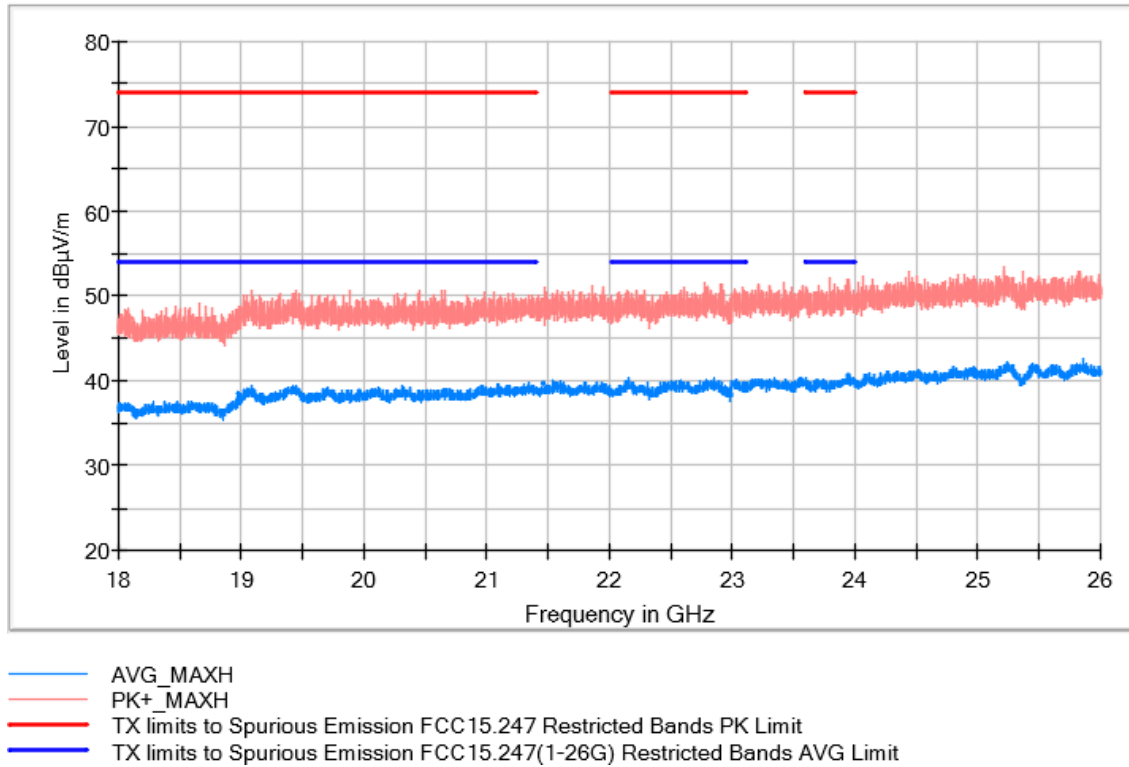
RF_FCC_15.247_E Field_18GHz_26GHz



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_18GHz_26GHz



Frequency Range GHz = [18, 26] Equipment Type = Direct Sequence Spread Spectrum (DSSS)
Modulation = BT (8DPSK 3-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

Images:

RF_FCC_15.247_E Field_18GHz_26GHz

