

ISED CABid: ES1909

Lab. Company Number: 4621A

Test Report No:
85235RRF.001

Test Report

USA FCC Part 15.247, 15.209

CANADA RSS-247, RSS-Gen

(*) Identification of item tested	Instrumentation cluster with connectivity features for motorcycles.
(*) Trademark	BOSCH
(*) Model and /or type reference	TFTc7inch
Other identification of the product	FCC ID: 2AUXS-TFTC7INCH IC: 25847-TFTC7INCH
(*) Features	CAN, LIN, USB, WLAN, BT, GPS, Galileo, BeiDou, SBAS. HW version: 111 SW version: STICC-5.1.1.SWP14.0-0-22_RTA
(*) Manufacturer	Robert Bosch GmbH Robert-Bosch-Platz 1, 70839 Gerlingen, Germany
Test method requested, standard	USA FCC Part 15.247 (10-1-24 Edition): Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz. USA FCC Part 15.209 (10-1-24 Edition): Radiated emission limits; general requirements. CANADA RSS-247 Issue 4 (July 2025). CANADA RSS-Gen Issue 5 amendment 2 (February 2021). 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 C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024: American National Standard for Testing Unlicensed Wireless Devices.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	José Manuel Gómez Galván EMC Consumer & RF Lab. Manager
Date of issue	2026-06-30
Report template No	FDT08_27 (*) "Data provided by the client"


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Acronyms

Acronym ID	Acronym Description
Avg COT	Average Channel Occupancy Time
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
NHC	Number of Hopping Channels
NHp	Number of hops over the period
Occ Ch BW	Occupied Channel Bandwidth
Operation Band	Operation Band
Peak Power	Maximum Peak Conducted Output Power
Pol	Polarization
Port	Active Port
RU	Resource Unit
Unwanted Freq	Unwanted Emissions Frequency
Unwanted Lvl	Unwanted Emissions Level

Competences and guarantees

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DEKRA Testing and Certification S.A.U. is an FCC-recognized accredited testing laboratory with appropriate scope of accreditation that covers the performed tests in this report.

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

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Uncertainty

Uncertainty (factor $k=2$) was calculated according to the DEKRA Testing and Certification S.A.U. internal document PODT000.

The total uncertainty of the measurement system for the radiated emissions of EUT from 30 MHz to 1 GHz is:
Measurement uncertainty $\leq \pm 5,35$ dB with factor ($k = 2$).

The total uncertainty of the measurement system for the radiated emissions of EUT from 1 GHz to 17 GHz is:
Measurement uncertainty $\leq \pm 4,32$ dB with factor ($k = 2$).

The total uncertainty of the measurement system for the radiated emissions of EUT from 17 GHz to 26 GHz is:
Measurement uncertainty $\leq \pm 5,51$ dB with factor ($k = 2$).

The total uncertainty of the measurement system for the conducted testing of EUT is:

RF Peak Output Power: Measurement uncertainty $\leq \pm 0,80$ dB

RF Average Output Power: Measurement uncertainty $\leq \pm 0,99$ dB

Power Spectral Density: Measurement uncertainty $\leq \pm 0,99$ dB

6dB Bandwidth: Measurement uncertainty $\leq \pm 2,84$ %

Occupied Channel Bandwidth: Measurement uncertainty $\leq \pm 1,17$ %

Conducted Band-edge spurious emissions: Measurement uncertainty $\leq \pm 1,76$ 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", "Manufacturer").
2. The sample consists of a Instrumentation cluster with connectivity features for motorcycles. The instrumentation cluster is a device for motorcycle vehicles that performs speed-ometer and odometer functions, and has integrated connectivity and navigation functions. Only for use on motorcycles. • Unit with display functions HMI and hard tell-tales (LEDs). • Linux-based Software for Connectivity and Autosar Based Software for Vehicle Domain. • Connectivity with vehicle through o CAN, LIN • Connectivity with user through o USB, WLAN, BT • Smartphone integration • Navigation and localization system (GPS, Galileo, BeiDou, SBAS, ...) • Switched digital output loads • Analog voltage inputs.

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results. The laboratory is not responsible for such information and it is not covered by accreditation.

Usage of samples

Samples undergoing test have been selected by: The client.

Id	Control Number	Description	Model	Serial N°	Date of Reception	Application
S/01	85235_31.1	Display	TFTc7inch	--	2026-01-29	Element Under Test
S/02	85235_32.1	Display CONDUCTED	TFTc7inch	--	2026-05-06	Element Under Test
S/01 S/02	85235_10.1	EMC USB-Adapter	--	2500108-007	2026-01-29	Auxiliary Element
	85235_11.1	USB-USB Adapter	--	--	2026-01-29	Auxiliary Element
	85235_12.1	Powercord	--	--	2026-01-29	Auxiliary Element
	85235_13.1	USB Cable	--	--	2026-01-29	Auxiliary Element
	85235_14.1	Ethernet Cable	--	--	2026-01-29	Auxiliary Element
	85235_15.1	Ethernet Cable	--	--	2026-01-29	Auxiliary Element
	85235_16.1	D-Link	--	--	2026-01-29	Auxiliary Element
	85235_17.1	D-Link	--	--	2026-01-29	Auxiliary Element
	85235_18.1	USB - SMA Adapter	--	--	2026-01-29	Auxiliary Element
	85235_19.1	Antenna	--	--	2026-01-29	Auxiliary Element
	85235_20.1	USB - SMA Adapter	--	--	2026-01-29	Auxiliary Element
	85235_21.1	Antenna	--	--	2026-01-29	Auxiliary Element
	85235_22.1	USB - SMA Adapter	--	--	2026-01-29	Auxiliary Element
	85235_23.1	Antenna	--	--	2026-01-29	Auxiliary Element
	85235_24.1	VGA -USB Adaptor	--	--	2026-01-29	Auxiliary Element
	85235_25.1	Bag with SMA Adapter (6)	--	--	2026-01-29	Auxiliary Element
	85235_3.1	AC/DC	--	--	2026-01-29	Auxiliary Element
	85235_4.1	AC/DC	--	--	2026-01-29	Auxiliary Element
	85235_5.1	Harness	--	--	2026-01-29	Auxiliary Element
	85235_6.1	VGA - VGA Cable	--	--	2026-01-29	Auxiliary Element

Id	Control Number	Description	Model	Serial Nº	Date of Reception	Application
	85235_7.1	HUB 10 Ports	--	--	2026-01-29	Auxiliary Element
	85235_8.1	Kvaser	--	012674	2026-01-29	Auxiliary Element
	85235_9.1	Raspberry JOY-it	--	--	2026-01-29	Auxiliary Element
	85235_10.1	EMC USB-Adapter	--	2500108-007	2026-01-29	Auxiliary Element
	85235_11.1	USB-USB Adapter	--	--	2026-01-29	Auxiliary Element
	85235_12.1	Powercord	--	--	2026-01-29	Auxiliary Element
	85235_13.1	USB Cable	--	--	2026-01-29	Auxiliary Element
	85235_14.1	Ethernet Cable	--	--	2026-01-29	Auxiliary Element
	85235_15.1	Ethernet Cable	--	--	2026-01-29	Auxiliary Element
	85235_16.1	D-Link	--	--	2026-01-29	Auxiliary Element
	85235_17.1	D-Link	--	--	2026-01-29	Auxiliary Element
	85235_18.1	USB - SMA Adapter	--	--	2026-01-29	Auxiliary Element
	85235_19.1	Antenna	--	--	2026-01-29	Auxiliary Element
	85235_20.1	USB - SMA Adapter	--	--	2026-01-29	Auxiliary Element
	85235_21.1	Antenna	--	--	2026-01-29	Auxiliary Element
	85235_22.1	USB - SMA Adapter	--	--	2026-01-29	Auxiliary Element
	85235_23.1	Antenna	--	--	2026-01-29	Auxiliary Element
	85235_24.1	VGA -USB Adaptor	--	--	2026-01-29	Auxiliary Element
	85235_25.1	Bag with SMA Adapter (6)	--	--	2026-01-29	Auxiliary Element
	85235_3.1	AC/DC	--	--	2026-01-29	Auxiliary Element
	85235_4.1	AC/DC	--	--	2026-01-29	Auxiliary Element
	85235_6.1	VGA - VGA Cable	--	--	2026-01-29	Auxiliary Element
	85235_7.1	HUB 10 Ports	--	--	2026-01-29	Auxiliary Element
	85235_8.1	Kvaser	--	012674	2026-01-29	Auxiliary Element
	85235_9.1	Raspberry JOY-it	--	--	2026-01-29	Auxiliary Element

Notes referenced to samples during the project:

Id	Type
S/01	Radiated
S/02	Conducted

Test sample description

Ports..... :	Port name and description	Cable					
		Specified max length [m]	Attached during test	Shielded			
	Wifi	0,1	[X]	[]			
	BT Smartphone	0,1	[X]	[]			
	BT Headset	0,1	[X]	[]			
	GNSS	0,1	[X]	[]			
	Main connector	2	[X]	[]			
.....		[]	[]				
Supplementary information to the ports..... :							
Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	[]	AC:	[]	[]	[]	[]	[]
	[]	AC:	[]	[]	[]	[]	[]
	[X]	DC: 12 V					
	[]	DC:					
Rated Power							
Clock frequencies..... :							
Other parameters							
Software version	STICC-5.1.1.SWP14.0-0-22_RTA						
Hardware version	111						
Dimensions in cm (W x H x D)							
Mounting position	[]	Table top equipment					
	[]	Wall/Ceiling mounted equipment					
	[]	Floor standing equipment					
	[]	Hand-held equipment					
	[]	Other:					
Modules/parts..... :	Module/parts of test item		Type		Manufacturer		

			
			
			
			
Accessories (not part of the test item)	Description	Type	Manufacturer
			
			
			
			
			
			
Documents as provided by the applicant	Description	File name	Issue date
			
			
			
			

Identification of the client

Robert Bosch GmbH
Robert-Bosch-Platz 1, 70839 Gerlingen, Germany

Testing period and place

Test Location	DEKRA TESTING AND CERTIFICATION S.A.U. C/ Severo Ochoa, 6 - Parque Tecnológico de Andalucía; 29590 Campanillas (Málaga) (Location B)
	DEKRA TESTING AND CERTIFICATION S.A.U. C/ Margarita Salas Boulevard, 26 - Parque Tecnológico de Andalucía; 29590 Campanillas (Málaga) (Location D)
Date (start)	2026-03-02
Date (finish)	2026-05-24

Document history

Report number	Date	Description
85235RRF.001	2026-06-30	First release.

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. = 20 % Max. = 75 %

In the semianechoic chamber, the following limits were not exceeded during the test.

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 20 % Max. = 75 %

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. = 20 % Max. = 75 %

Remarks and comments

The tests have been performed by the technical personnel: Iván Guerrero González, Miguel Manuel López Guzmán, Salvador Cuellar Guerrero and Victoria Olmedo Villalba.

Used instrumentation:

Control No.	Equipment	Model	Manufacturer	Next Calibration
09762	DC POWER SUPPLY 200V/25A	EA-PSI-9200-25-DT	ELEKTRO-AUTOMATIC	--
07759	DIGITAL MULTIMETER	175	FLUKE	2026-11-05
08866	EMI TEST RECEIVER 2Hz-44GHz	ESW44	ROHDE AND SCHWARZ	2026-06-12
06132	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2027-05-12
06126	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2027-04-30
07040	EXTENSION FOR OPEN SWITCH UNIT UP TO 40GHz	OSP-B157Wx	ROHDE AND SCHWARZ	2027-08-26
06092	FUENTE ALIMENTACION DC 30 V / 5 A	U8002A	KEYSIGHT TECHNOLOGIES	--
04612	HORN ANTENNA 1-18GHz	BBHA 9120 D	SCHWARZBECK MESS-ELEKTRONIK	2027-10-15
04657	HORN ANTENNA 18-40GHz	BBHA 9170	SCHWARZBECK	2026-06-12
05641	HYBRID BILOG ANTENNA 30MHz-6GHz	3142E	ETS LINDGREN	2027-10-23
03541	HYBRID BILOG ANTENNA 30MHz-6GHz	JB6	SUNOL SCIENCES CORPORATION	2028-04-17
09360	PRE-AMPLIFIER G>40dB 1-18 GHz	BLMA 0118-1M	BONN ELEKTRONIK	2026-09-19
10573	PRE-AMPLIFIER G>46dB 18-40 GHz	BLMA 1840-5G	BONN ELEKTRONIK	2027-04-07
08788	PREAMPLIFIER 30dB 500MHz-18GHz	BBV 9718 C	SCHWARZBECK	2027-02-19
07414	PREAMPLIFIER BOX	-	INTERNO	2027-01-14
07039	Rohde&Schwarz	OSP-B157W8	ROHDE AND SCHWARZ	2027-08-14
06064	SEMIANECHOIC ABSORBER LINED CHAMBER	SAC-3	Frankonia	--
06329	SHIELDED ROOM	--	FRANKONIA	--
08661	SHIELDED ROOM	-	SIEPEL	--

Control No.	Equipment	Model	Manufacturer	Next Calibration
07794	SIGNAL AND SPECTRUM ANALYZER 10Hz-40GHz	FSV40	ROHDE AND SCHWARZ	2027-06-10
04848	SOFTWARE FOR EMC/RF TESTING	EMC32	ROHDE AND SCHWARZ	--
07552	TEMPERATURE AND HUMIDITY PROBE	HWg-STE	HW GROUP	2027-05-05
07798	WMS32	WMS32	ROHDE AND SCHWARZ	--

Testing verdicts

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

Summary

Appendix A: Bluetooth EDR (Headset).

FCC PART 15 PARAGRAPH/ RSS-247			
Requirement – Test case	Verdict	Remark	Location
FCC 15.247 (a) (1) / RSS-247 6.2.3.1 (a) 20 dB Bandwidth	P	--	D
RSS-247 6.2.3.1 (b) / FCC 15.247 (a) (1) (iii) Time of Occupancy (Dwell Time)	P	--	D
FCC 15.247 (b) / RSS-247 6.2.3.2. Maximum output power and antenna gain	P	--	D
FCC 15.247 (d) / RSS-247 6.6. Band-edge emissions compliance (Transmitter)	P	--	D
FCC 15.247 (a) (1) (iii) / RSS-247 6.2.3.1 (b) Number of hopping channels	P	--	D
FCC 15.247 (d) / RSS-247 6.6. Emission limitations radiated (Transmitter)	P	--	B
<u>Supplementary information and remarks:</u>			
None			

Appendix B: Bluetooth EDR (Smartphone).

FCC PART 15 PARAGRAPH/ RSS-247			
Requirement – Test case	Verdict	Remark	Location
FCC 15.247 (a) (1) / RSS-247 6.2.3.1 (a) 20 dB Bandwidth	P	--	D
RSS-247 6.2.3.1 (b) / FCC 15.247 (a) (1) (iii) Time of Occupancy (Dwell Time)	P	--	D
FCC 15.247 (b) / RSS-247 6.2.3.2. Maximum output power and antenna gain	P	--	D
FCC 15.247 (d) / RSS-247 6.6. Band-edge emissions compliance (Transmitter)	P	--	D
FCC 15.247 (a) (1) (iii) / RSS-247 6.2.3.1 (b) Number of hopping channels	P	--	D
FCC 15.247 (d) / RSS-247 6.6. Emission limitations radiated (Transmitter)	P	--	B
<u>Supplementary information and remarks:</u>			
None			

Appendix C: 802.11bgnax

FCC PART 15 PARAGRAPH/ RSS-247			
Requirement – Test case	Verdict	Remark	Location
FCC 15.247 (a)(2) / RSS-247 6.3.1. (a) 6 dB Bandwidth	P		D
FCC 15.247 (b) / RSS-247 6.3.2. Maximum output power and antenna gain	P		D
FCC 15.247 (d) / RSS-247 6.6 Band-edge emissions compliance (Transmitter)	P		D
FCC 15.247 (e) / RSS-247 6.3.1. (b) Power spectral density	P		D
FCC 15.247 (d) / RSS-247 6.6. Emission limitations radiated (Transmitter)	P		D
<u>Supplementary information and remarks:</u> None			

Appendix A: Test results. Bluetooth EDR (Headset)

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<i>99dBw Occupied Channel Bandwidth 99%</i>	21
<i>RSS-247 6.2.3.1 (a) / FCC 15.247 (a) (1) [20dBW] 20 dB Bandwidth</i>	33
<i>RSS-247 6.2.3.1 (a) / FCC 15.247 (a) (1) [CFS] Carrier Frequency Separation</i>	45
<i>RSS-247 6.2.3.1 (b) / FCC 15.247 (a) (1) (iii) [DwT] Time of Occupancy (Dwell Time)</i>	54
<i>RSS-247 6.2.3.1 (b) / FCC 15.247 (a) (1) (iii) [NHC] Number of hopping channels</i>	75
<i>RSS-247 6.2.3.2 / FCC 15.247 (b) [Pkcp] Maximum Peak Conducted Output Power</i>	84
<i>RSS-247 6.6 / FCC 15.247 (d) [Bndedge] Band-edge emissions compliance (Transmitter)</i>	96
<i>RSS-247 6.6 / FCC 15.247 (d) [RSE] Emission limitations radiated (Transmitter)</i>	126

TEST CONDITIONS

(*): Data provided by the client.

POWER SUPPLY (*):

Vnominal: 12Vdc
Type of Power Supply: External power supply

ANTENNA (*):

Type of Antenna: PCB integrated slot antenna
Maximum Declared Antenna Gain: 3.71 dBi

TEST FREQUENCIES (*):

Modulation	Data rates	Low Channel:	Middle Channel	High Channel
BTEDR GFSK	1-DH5	2402 MHz	2441 MHz	2480 MHz
BTEDR PI/4 DQPSK	2-DH5	2402 MHz	2441 MHz	2480 MHz
BTEDR 8DPSK	3-DH5	2402 MHz	2441 MHz	2480 MHz

During transmitter test the EUT was controlled by a SW tool provided by the client to operate in a continuous transmit mode on the modulation schemes and test channels as required.

CONDUCTED MEASUREMENTS:

The equipment under test was set up in a shielded room and it is connected to the TS8997 using a low loss RF cable. The reading of the spectrum analyser is corrected taking into account the cable loss.



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna (Bilog antenna for the range between 30 MHz to 1000 MHz and 1 GHz-17 GHz Double ridge horn antenna) is situated at a distance of 3 m and at a distance of 1.5 m for the frequency range 17 GHz-26 GHz (17 GHz-40 GHz horn antenna).

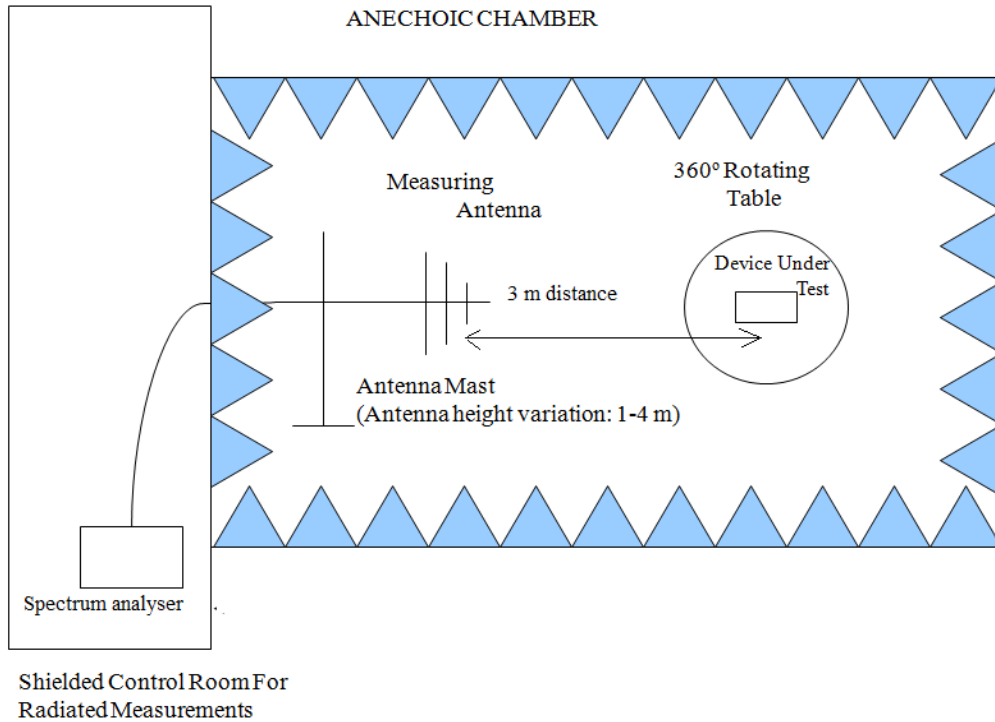
For radiated emissions in the range 17 GHz-26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

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 (Bilog antenna and Double ridge horn antenna) was varied from 1 to 4 meters to find the maximum radiated emission.

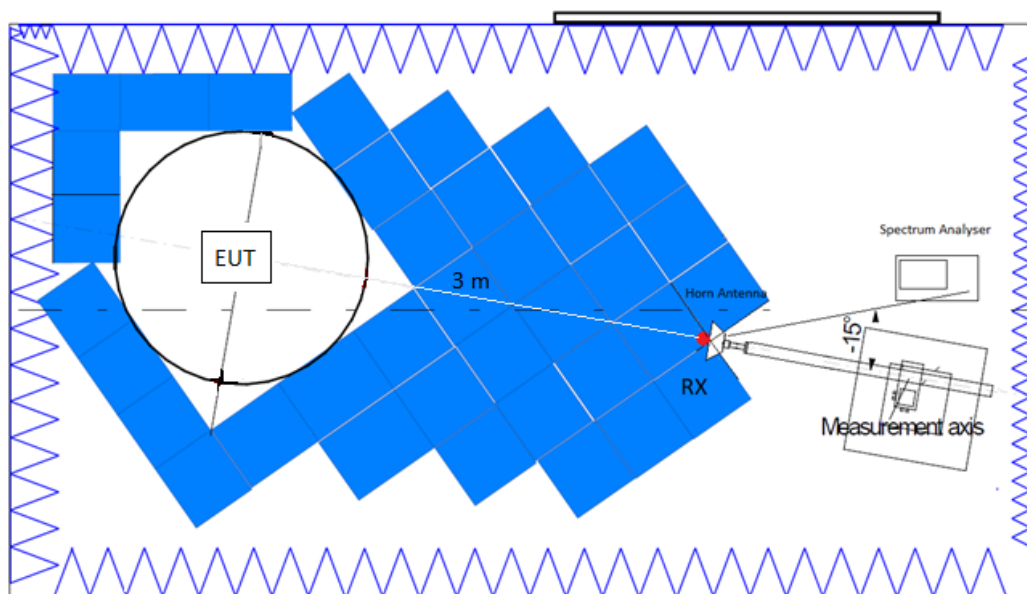
Measurements were made in both horizontal and vertical planes of polarization.

A resolution bandwidth/video bandwidth of 100 kHz / 300 kHz was used for frequencies below 1 GHz and 1 MHz / 3 MHz for frequencies above 1 GHz.

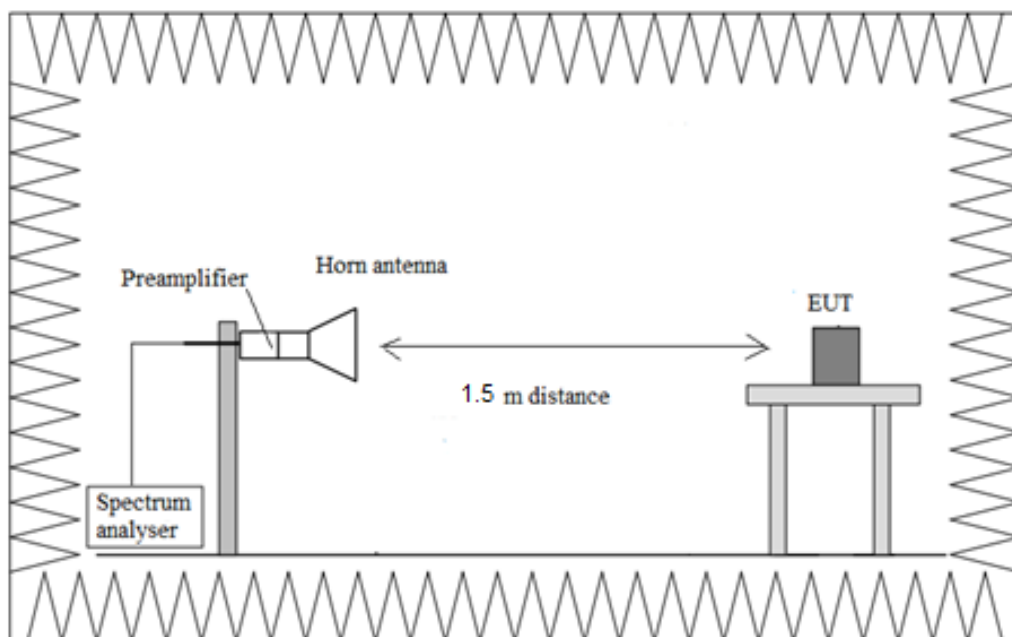
Radiated measurements setup from 30 MHz to 1 GHz:



Radiated measurements setup from 1 GHz to 17 GHz:



Radiated measurements setup $f > 17$ GHz:



SAMPLE CALCULATION

For radiated measurements:

Values measures by the test receiver / analyzer are converted to field strength, in dBuV/m, at the regulatory distance using the following calculation:

$$\text{Unwanted Lvl (dBuV/m)} = \text{Raw Rec (dBuV)} + \text{Preamp (dB)} + \text{Trd Corre. (dB/m)} + \text{SigPath (dB)}$$

Where,

Raw Rec (dBuV): Measured voltage in the receiver / spectrum analyzer in dBuV

Preamp (dB): Path loses due to preamplifier

Trd Corr. (dB/m): Antenna factor in dB/m

SigPath (dB) = Cable loss (dB) – External Gain amplifier (dB) – Distance factor (dB)

Cable loss (dB): Cable loss

External Gain amplifier (dB): Gain from external amplifier (when used)

Distance factor (dB): Distance factor in dB. When measurement distance is different to limit distance

The field strength, calculated by this way is compared with the regulatory limit.

TEST CASES DETAILS

99dBw Occupied Channel Bandwidth 99%

Limits

RSS-Gen 6.7 / FCC 2.1049 - Occupied Channel Bandwidth 99%

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.

Modulation: BT (GFSK 1-DH5)

Results

Operation Band (MHz)	Equipment	Freq (MHz)	Port	Occ Ch BW (MHz)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1	0.860
		2441.00000		0.860
		2480.00000		0.860

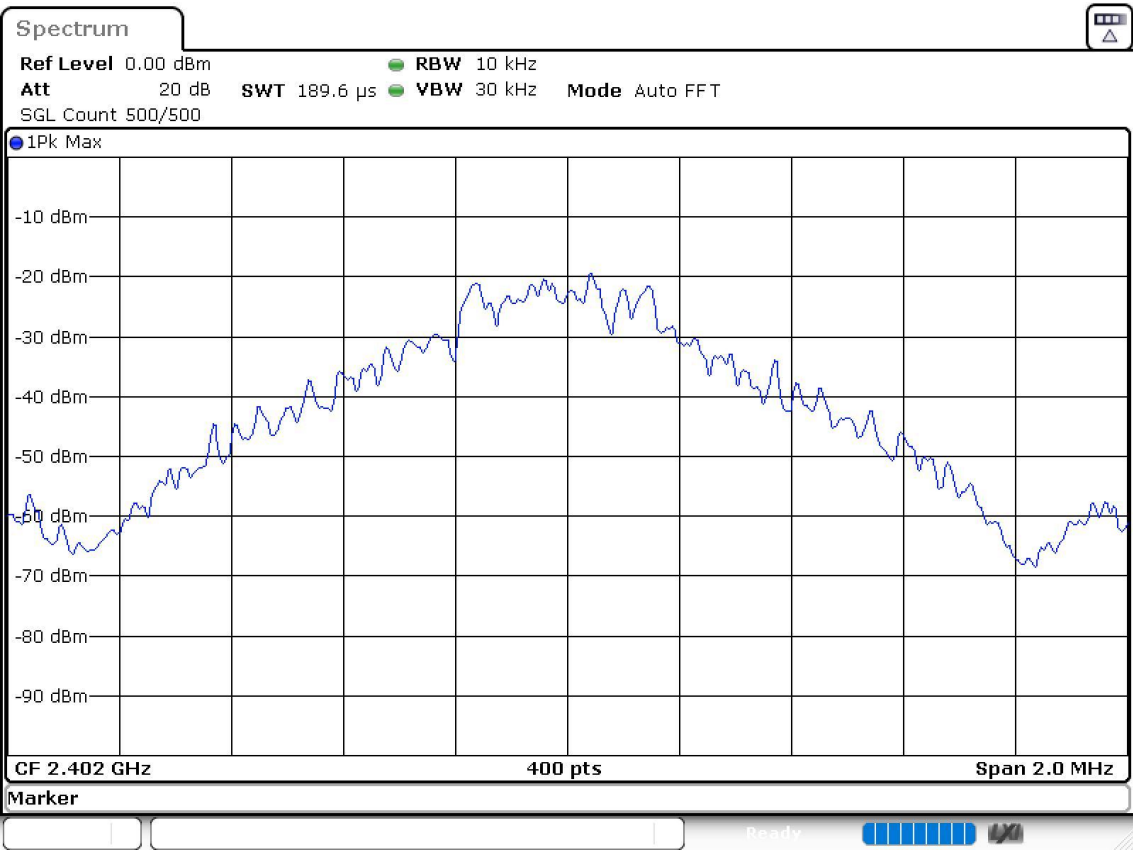
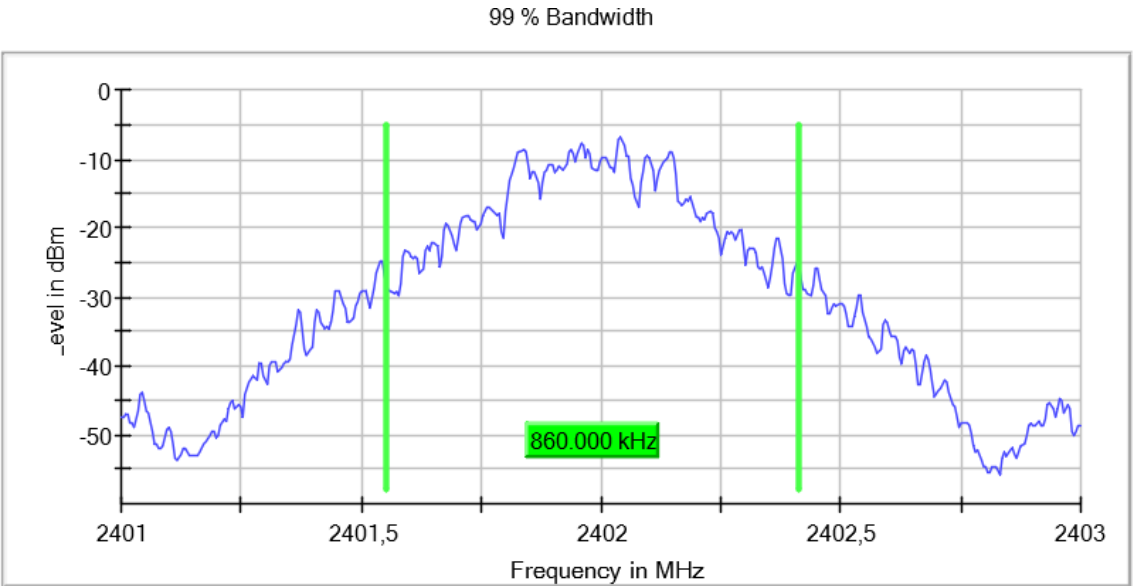
Verdict

Pass

Attachments

Operation Band MHz = [2400, 2483.5] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Frequency MHz = 2402.00000 Active Port = 1
Modulation = BT (GFSK 1-DH5)

Images:



Operation Band MHz = [2400, 2483.5]

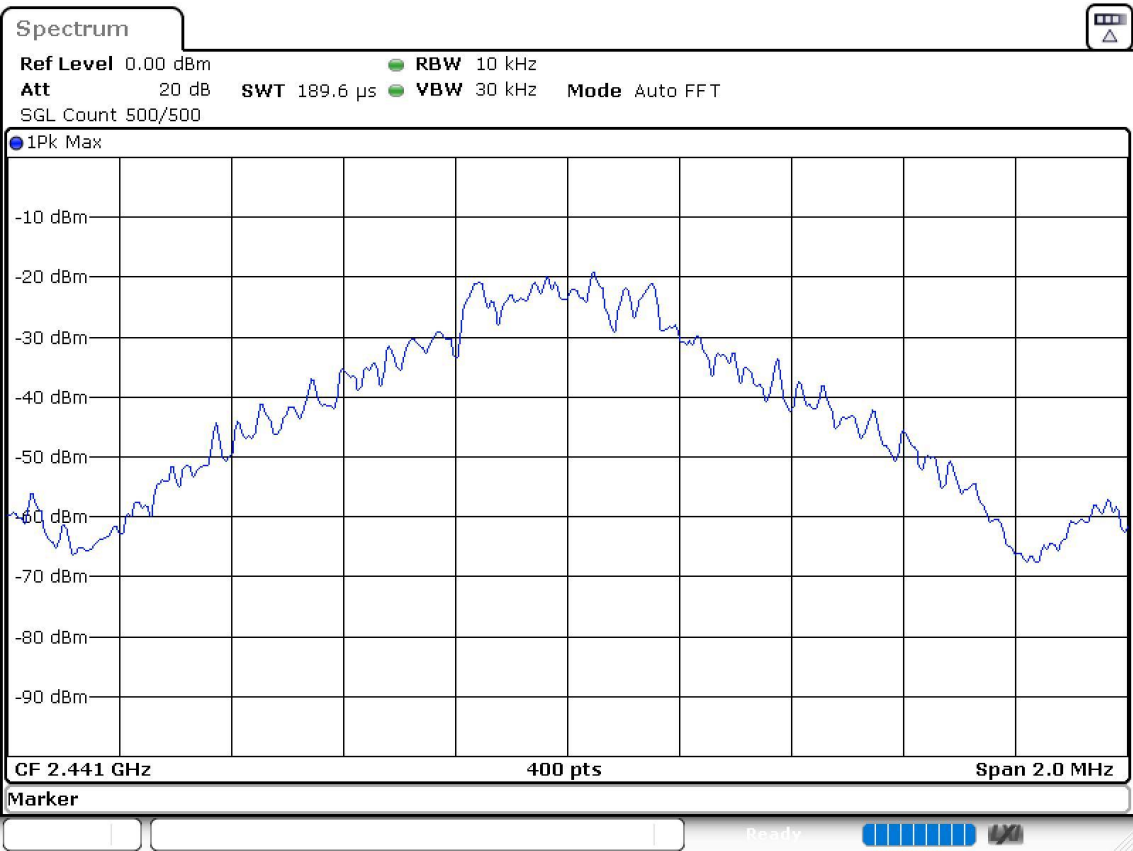
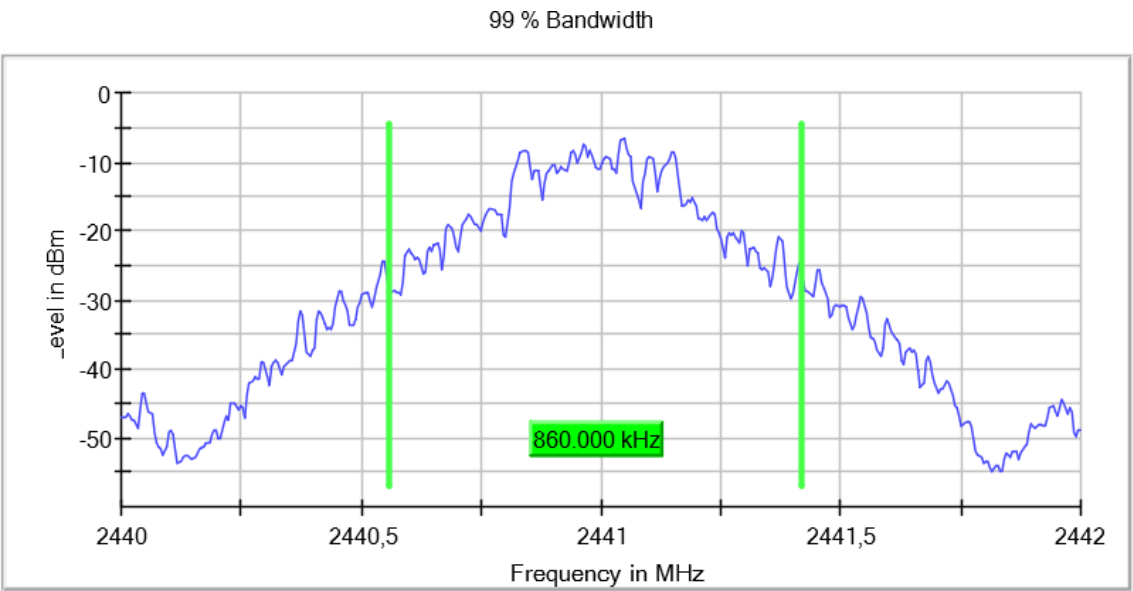
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2441.00000

Active Port = 1

Modulation = BT (GFSK 1-DH5)

Images:



Operation Band MHz = [2400,
2483.5]

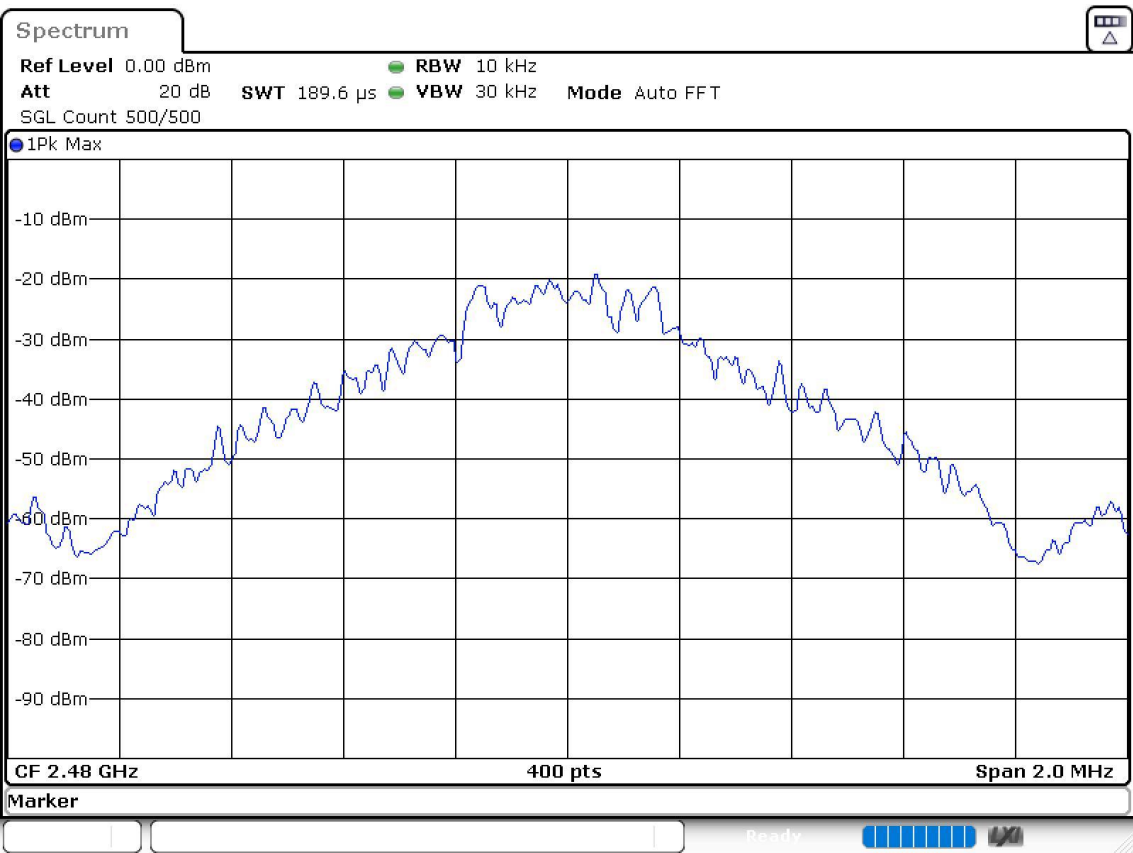
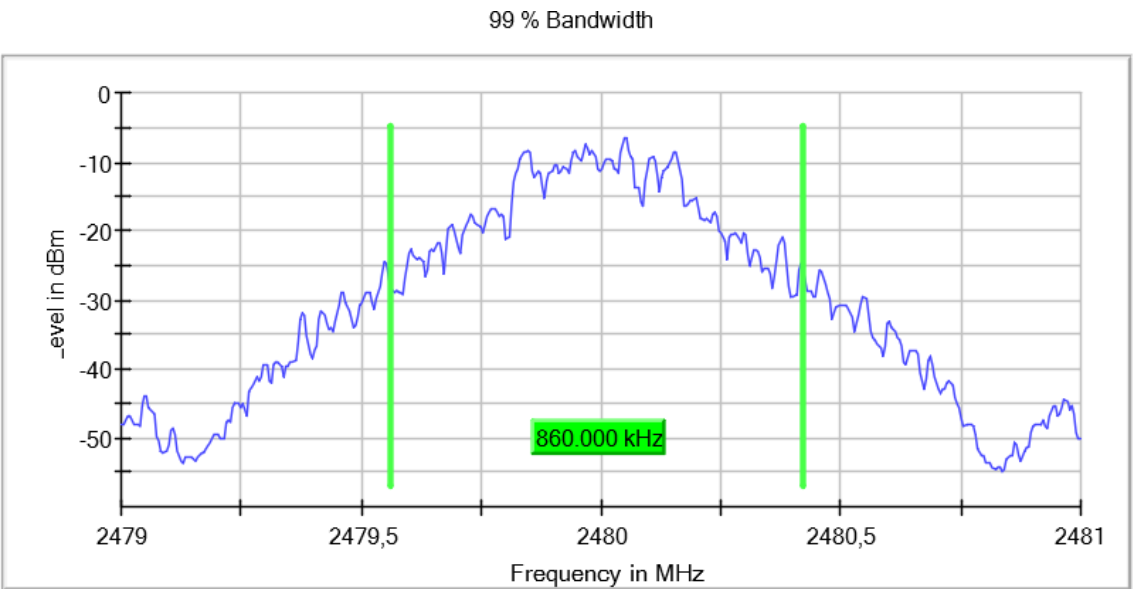
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2480.00000

Active Port = 1

Modulation = BT (GFSK 1-DH5)

Images:



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

Results

Operation Band (MHz)	Equipment	Freq (MHz)	Port	Occ Ch BW (MHz)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1	1.205
		2441.00000		1.210
		2480.00000		1.210

Verdict

Pass

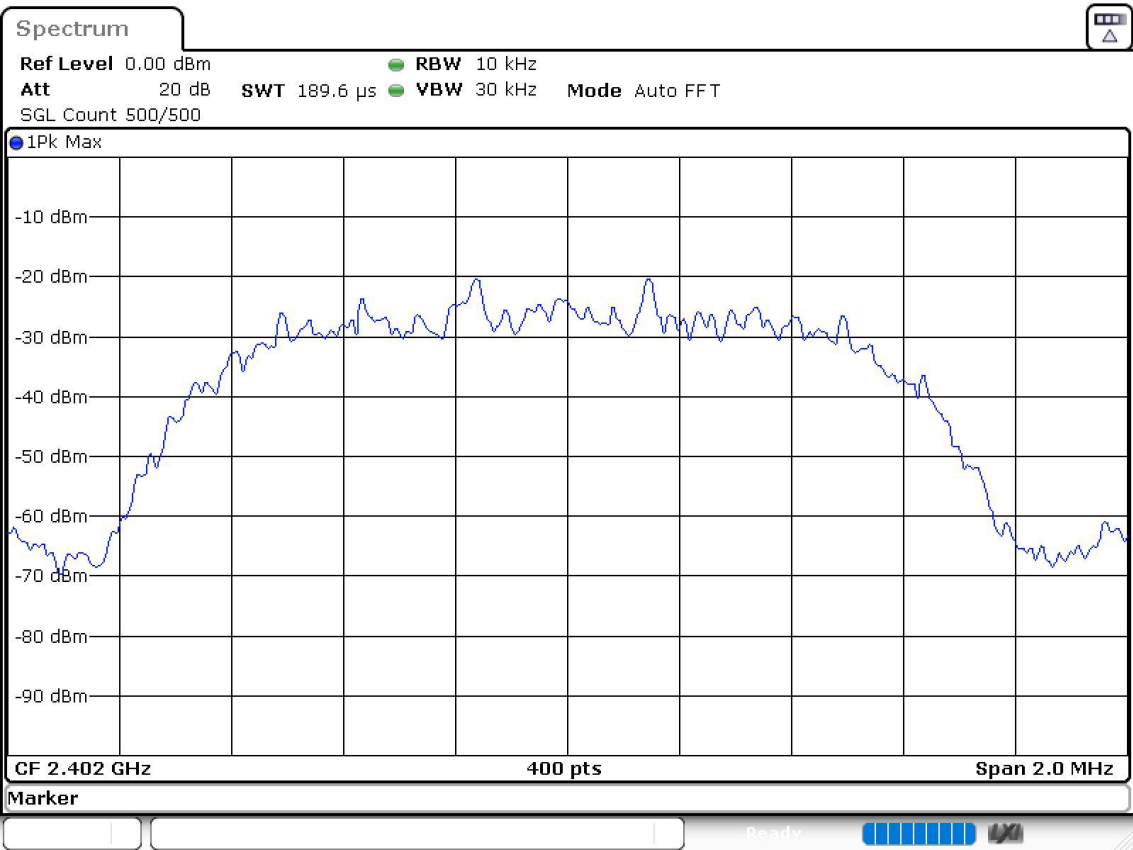
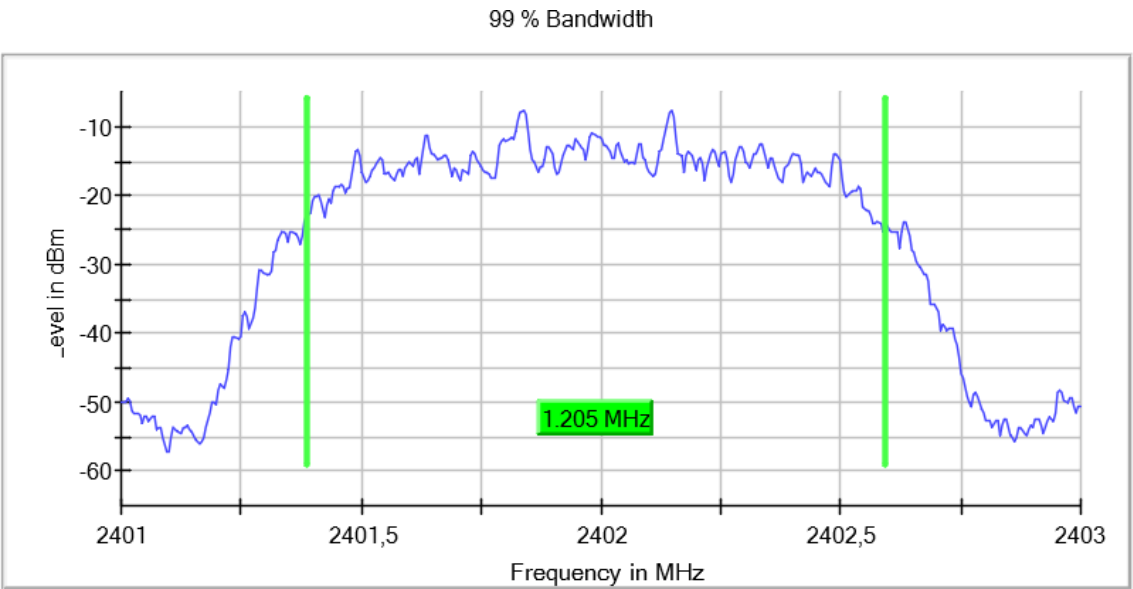
Attachments

Operation Band MHz = [2400, 2483.5] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2402.00000 Active Port = 1

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

Images:

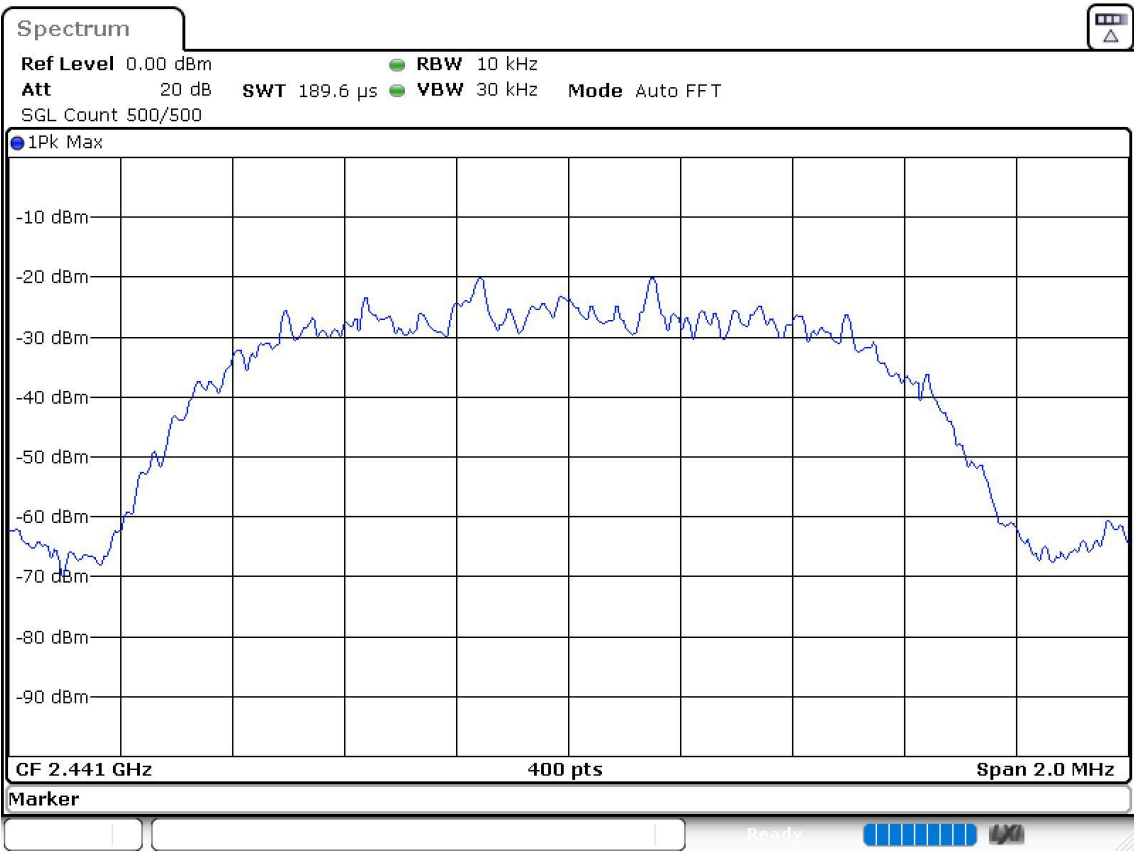
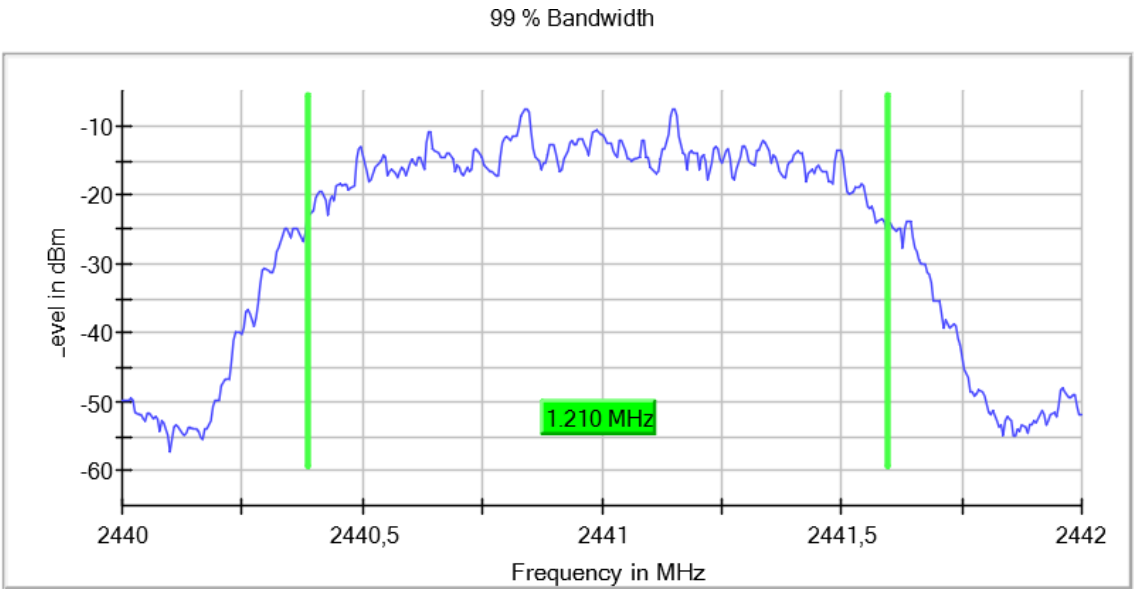


Operation Band MHz = [2400, 2483.5] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2441.00000 Active Port = 1

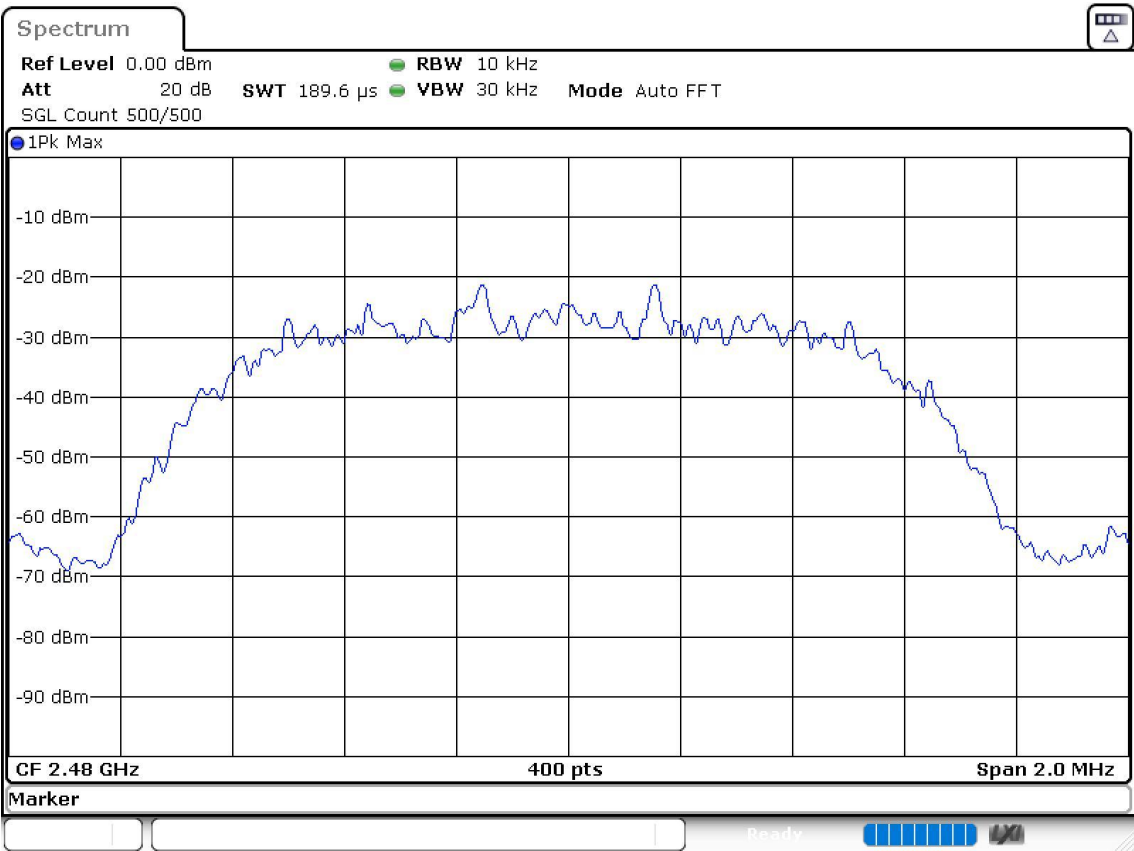
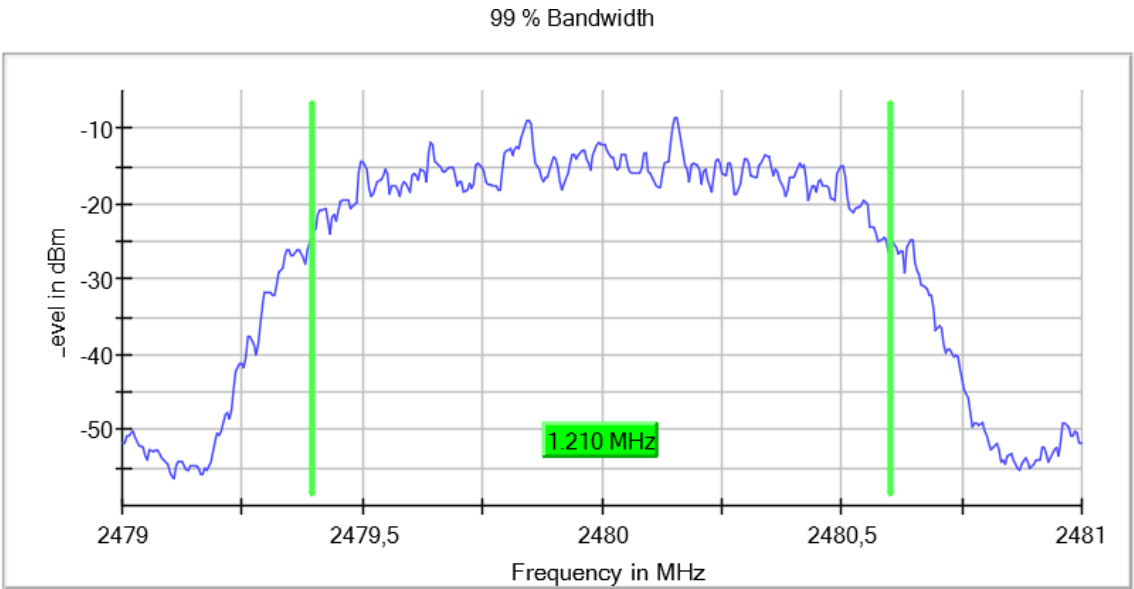
Modulation = BT (Pi/4 DQPSK 2-DH5)

Images:



Operation Band MHz = [2400, 2483.5] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Frequency MHz = 2480.00000 Active Port = 1
Modulation = BT (Pi/4 DQPSK 2-DH5)

Images:



Modulation: BT (8DPSK 3-DH5)

Results

Operation Band (MHz)	Equipment	Freq (MHz)	Port	Occ Ch BW (MHz)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1	1.210
		2441.00000		1.210
		2480.00000		1.210

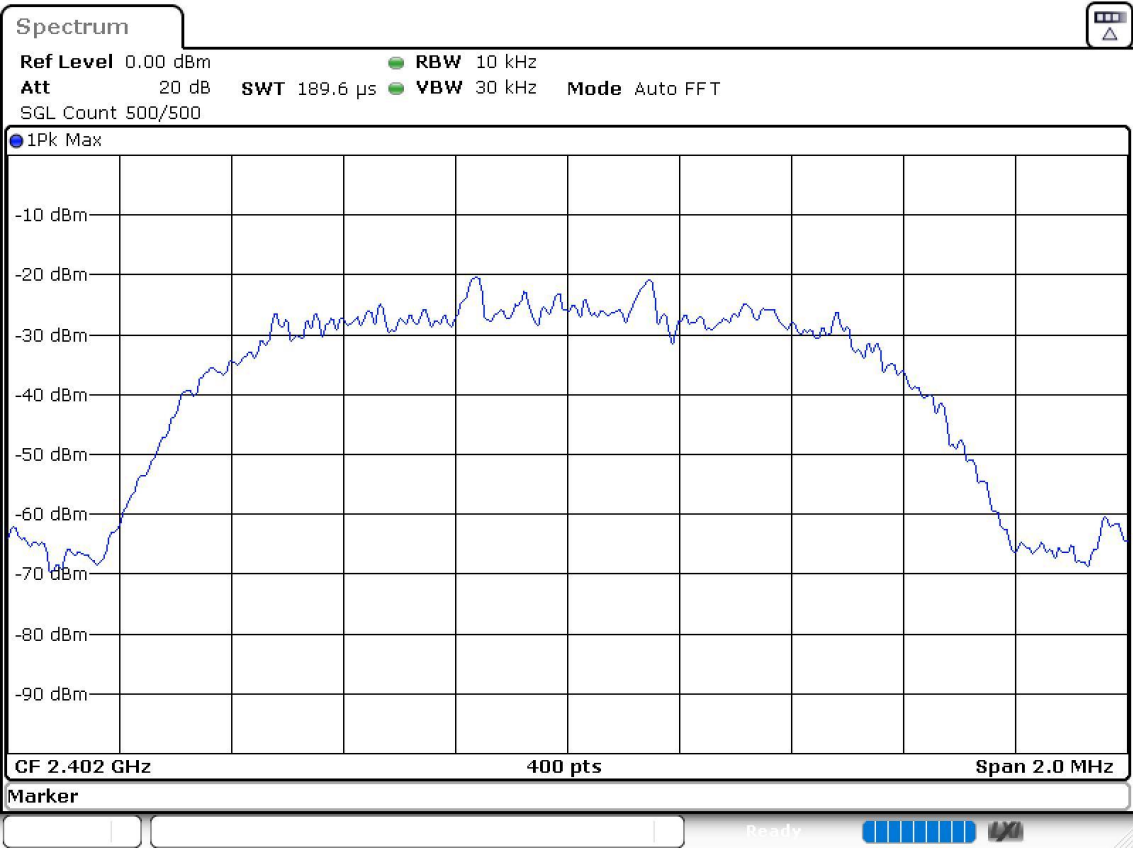
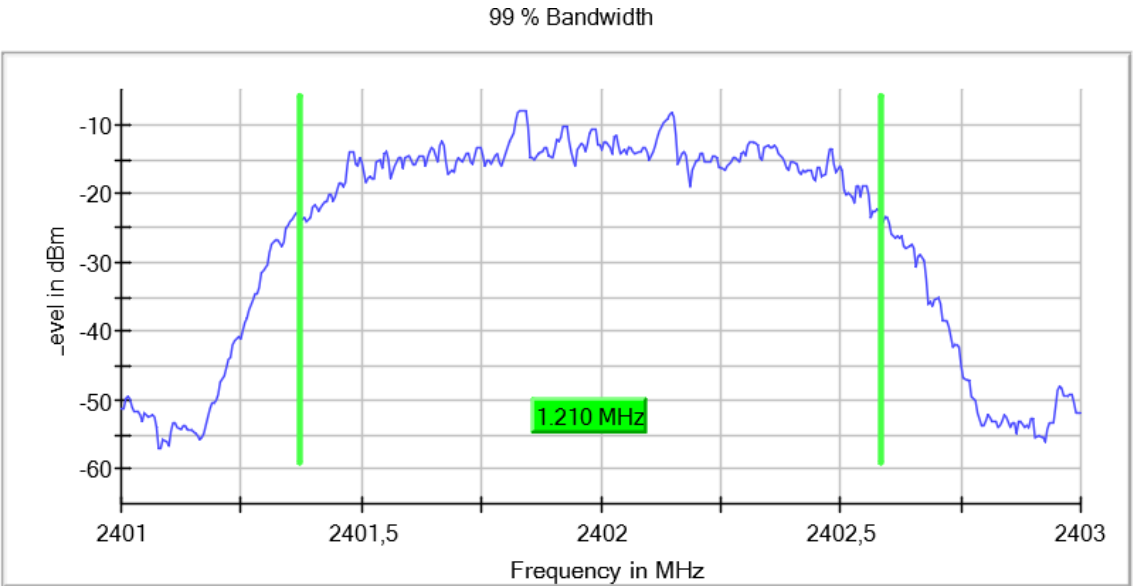
Verdict

Pass

Attachments

Operation Band MHz = [2400, 2483.5] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Frequency MHz = 2402.00000 Active Port = 1
Modulation = BT (8DPSK 3-DH5)

Images:



Operation Band MHz = [2400,
2483.5]

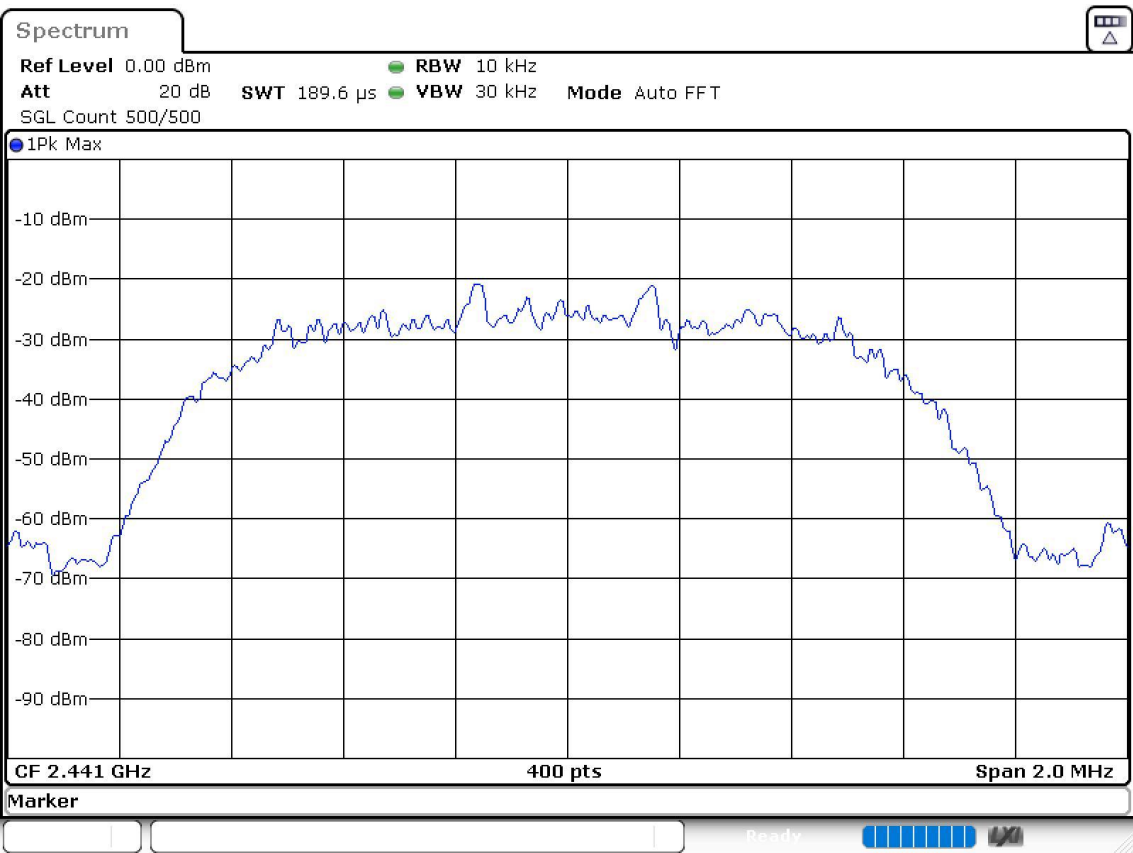
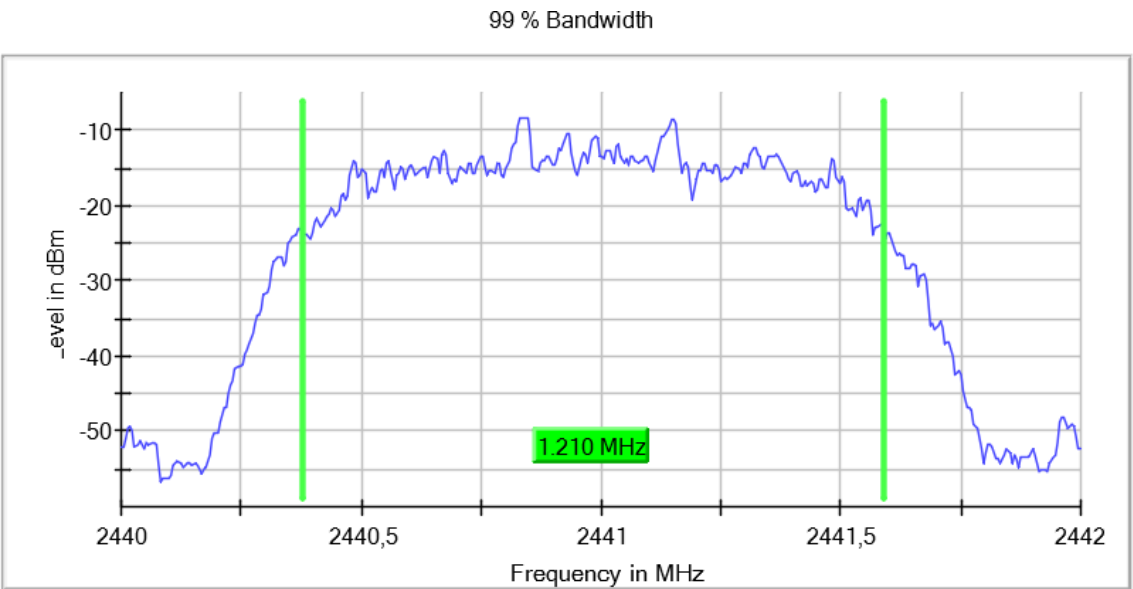
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2441.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:



Operation Band MHz = [2400,
2483.5]

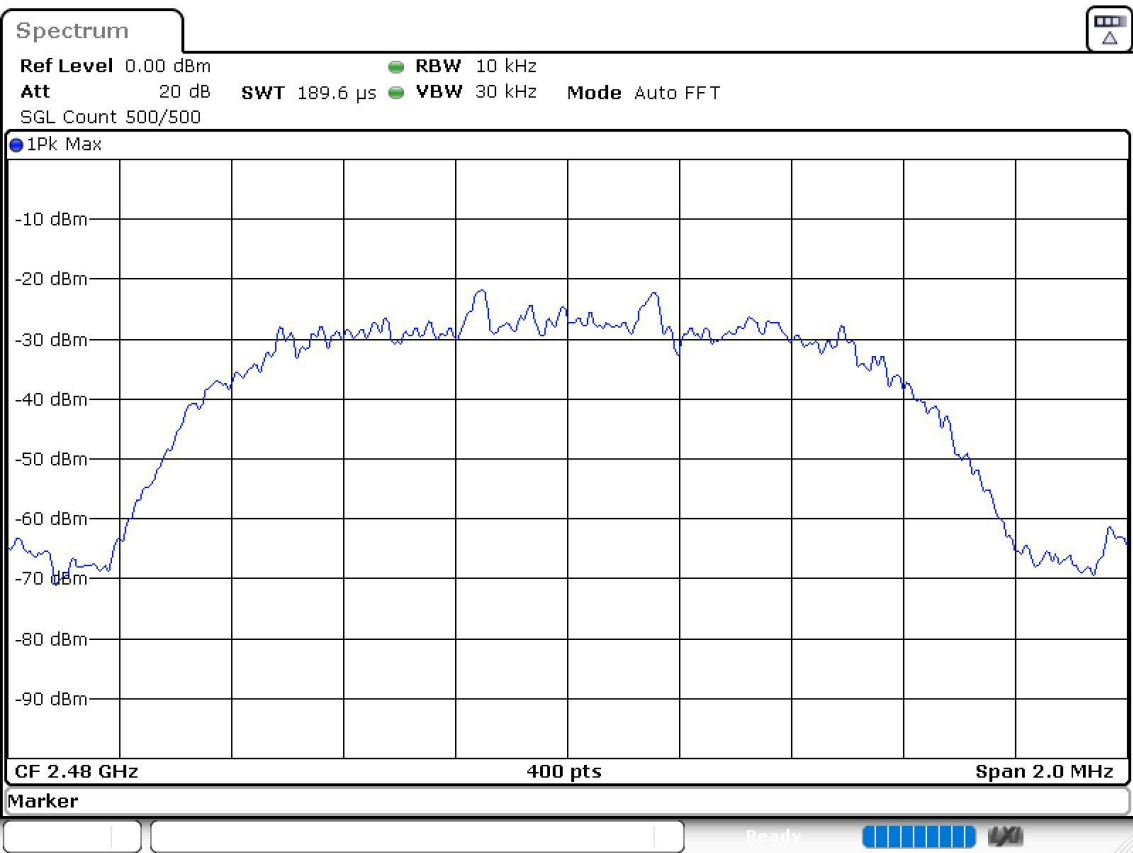
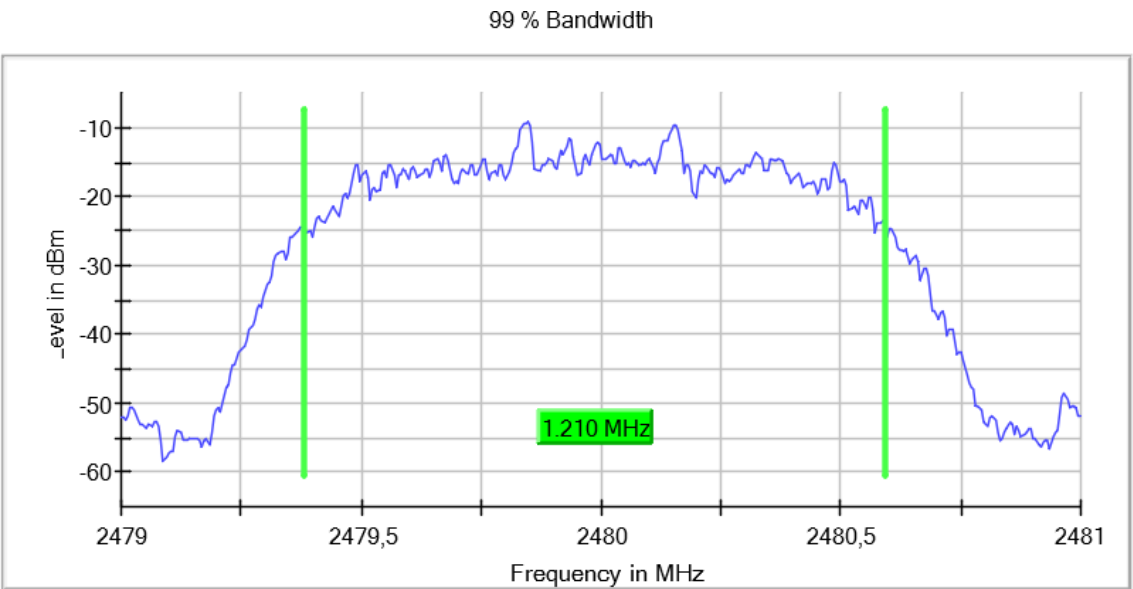
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2480.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:



RSS-247 6.2.3.1 (a) / FCC 15.247 (a) (1) [20dBW] 20 dB Bandwidth

Limits

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.

Modulation: BT (GFSK 1-DH5)

Results

Equipment	Freq (MHz)	Port	Ebw (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1	0.930
	2441.00000		0.930
	2480.00000		0.930

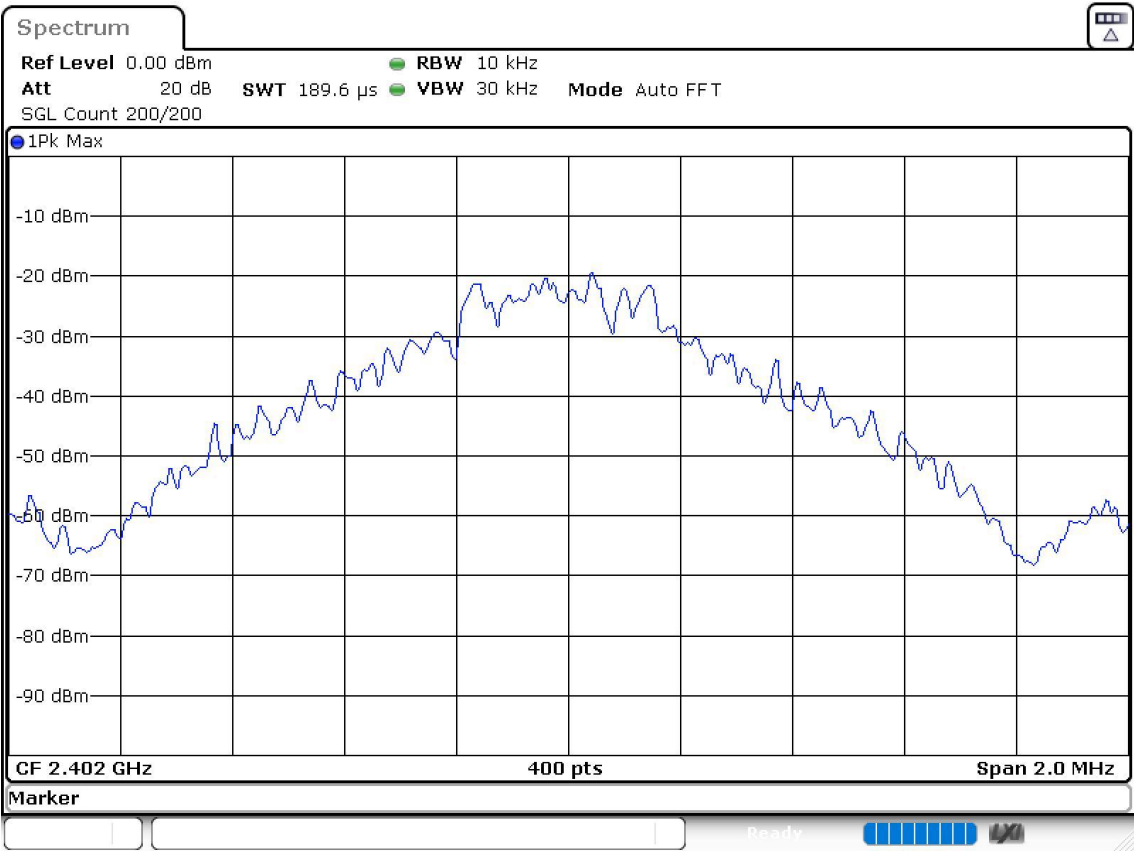
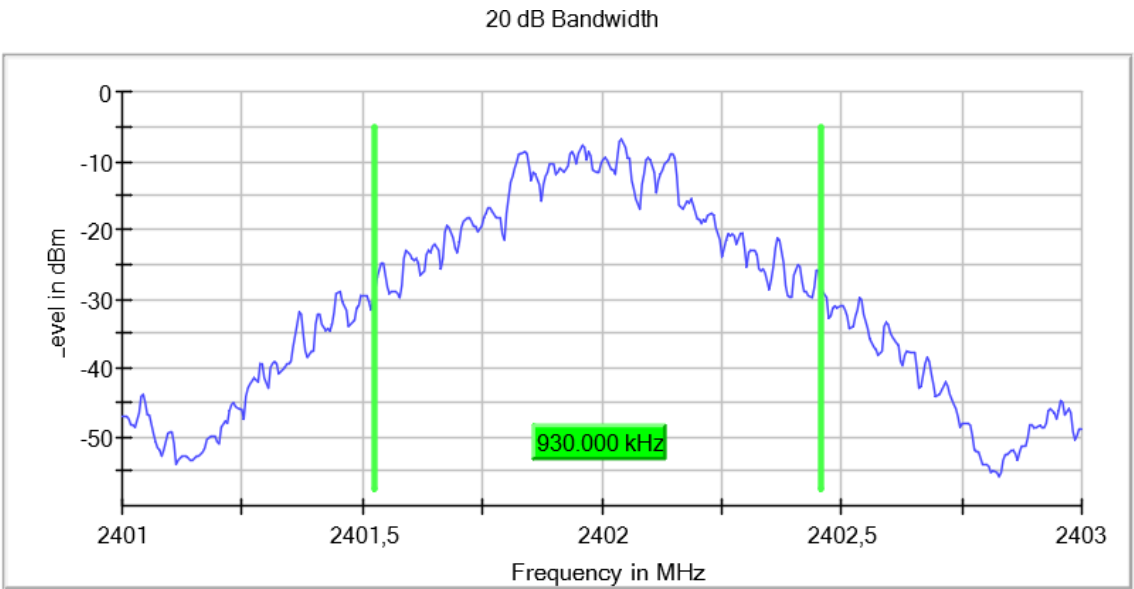
Verdict

Pass

Attachments

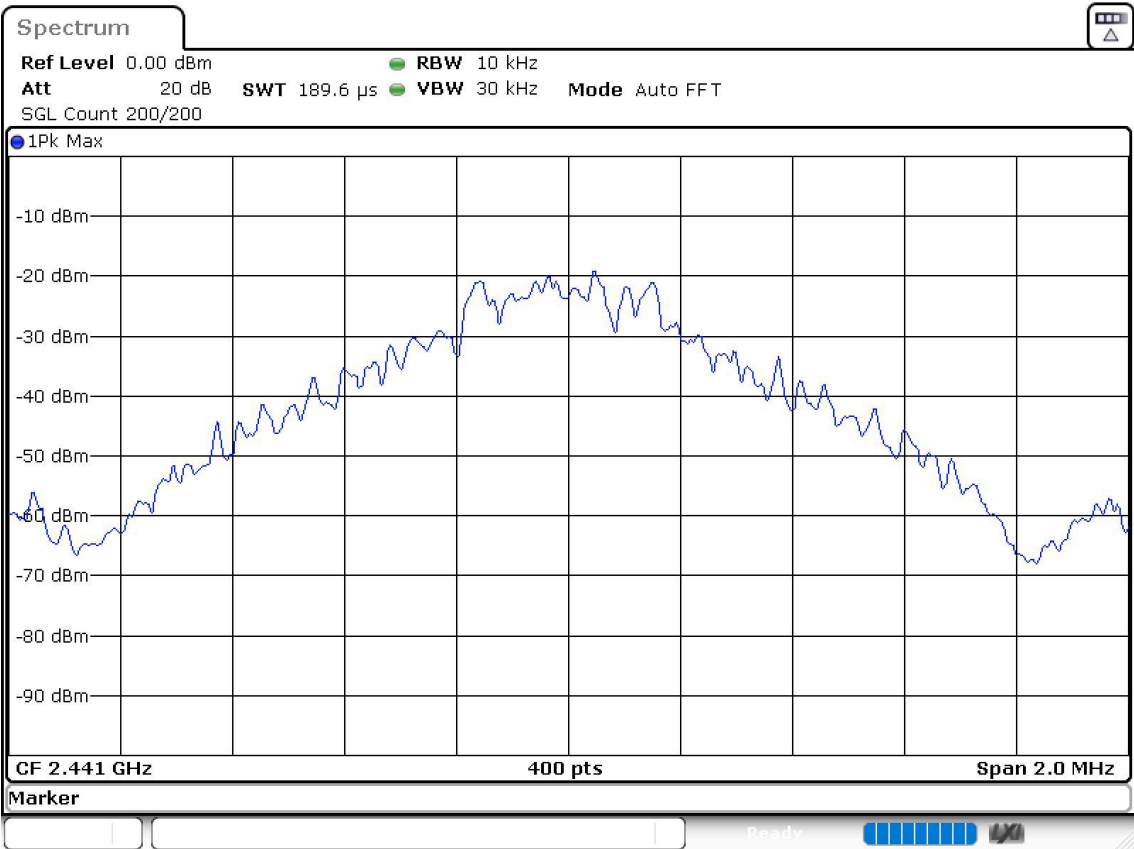
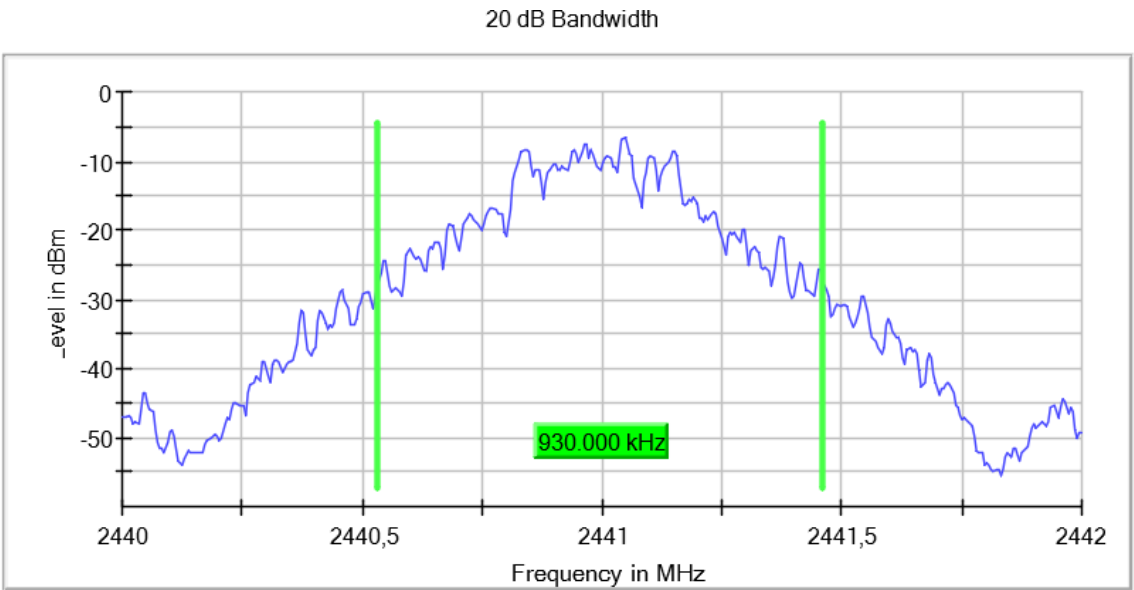
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2402.00000
Active Port = 1 Modulation = BT (GFSK 1-DH5)

Images:



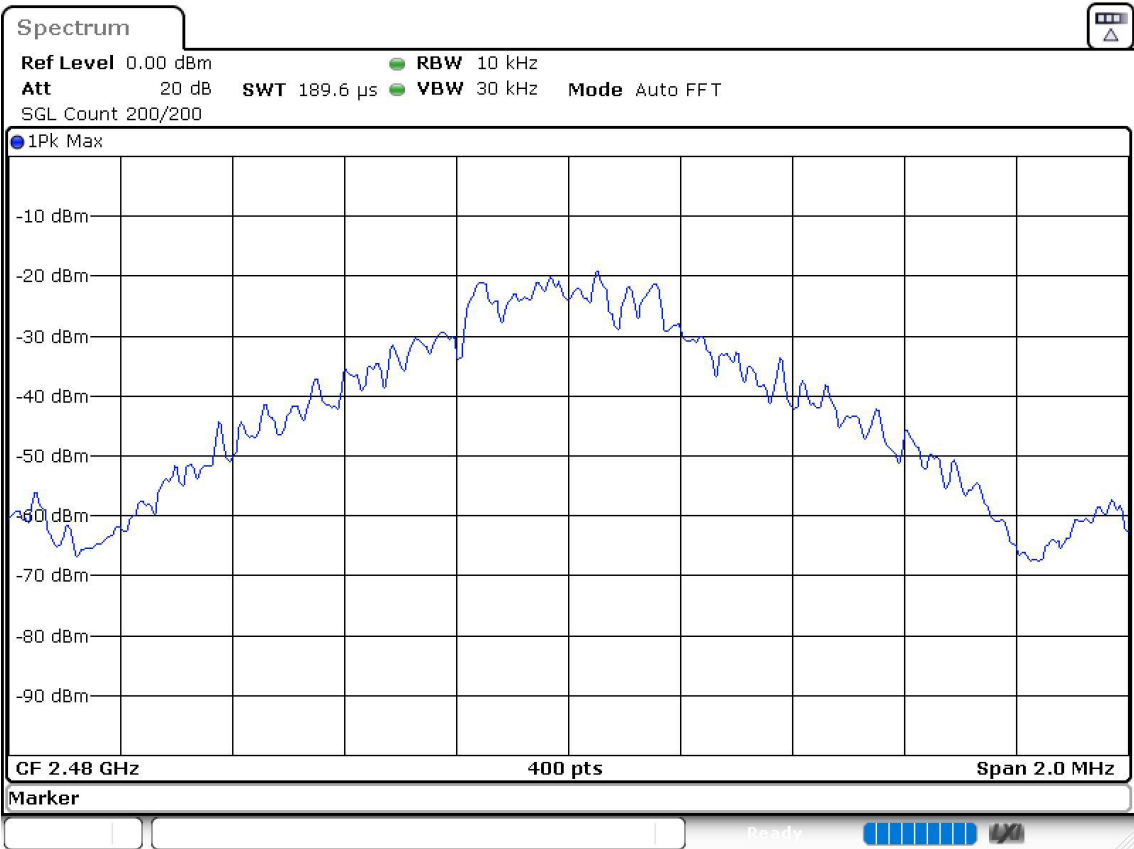
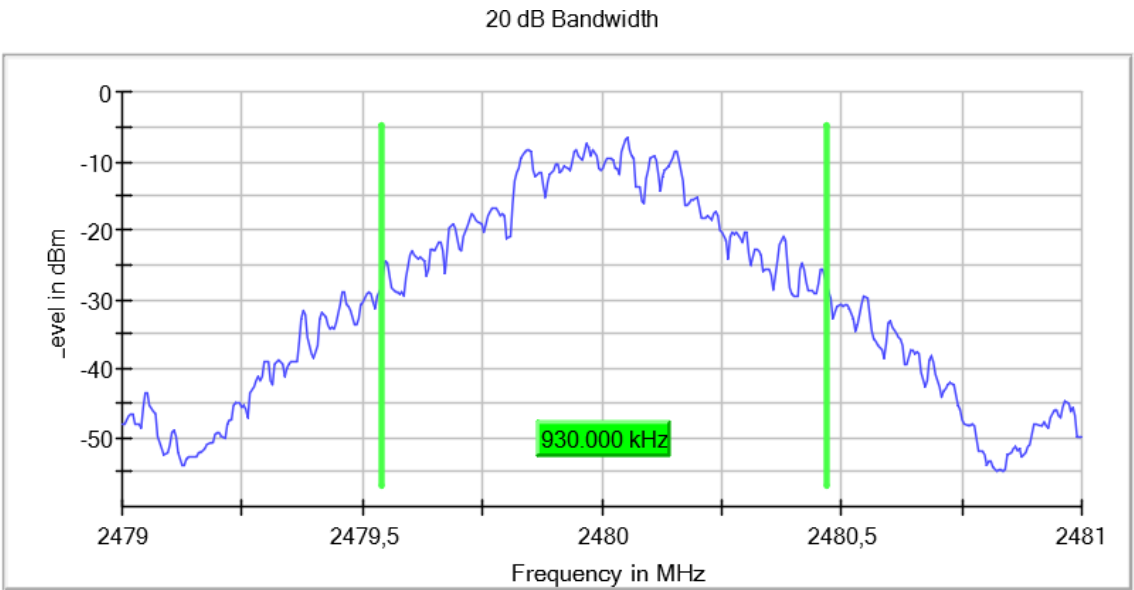
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2441.00000
Active Port = 1 Modulation = BT (GFSK 1-DH5)

Images:



Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2480.00000
Active Port = 1 Modulation = BT (GFSK 1-DH5)

Images:



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

Results

Equipment	Freq (MHz)	Port	Ebw (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1	1.325
	2441.00000		1.330
	2480.00000		1.325

Verdict

Pass

Attachments

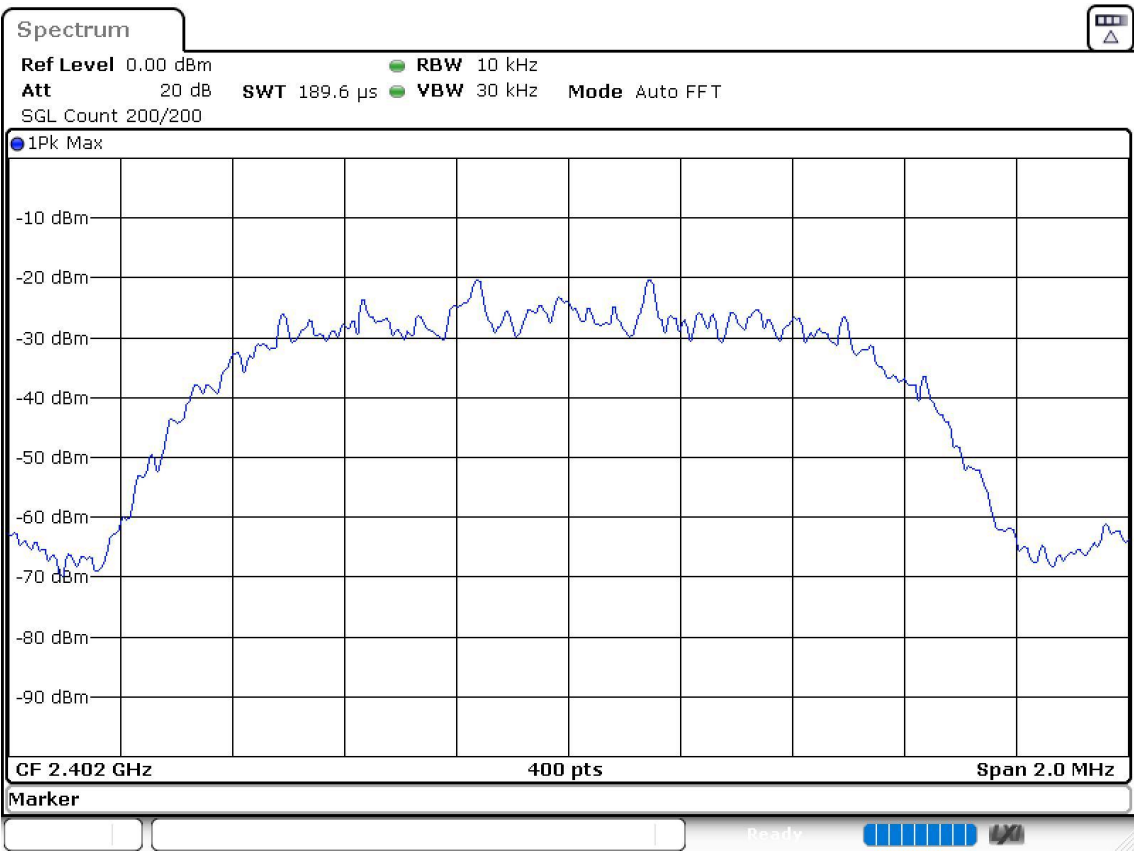
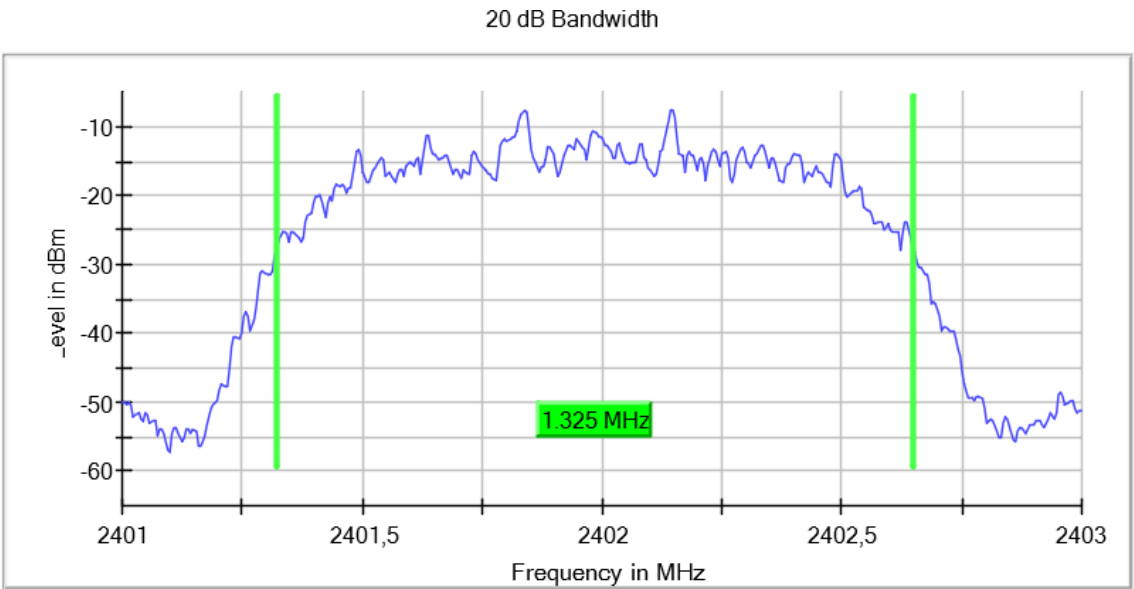
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Active Port = 1

Frequency MHz = 2402.00000

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

Images:



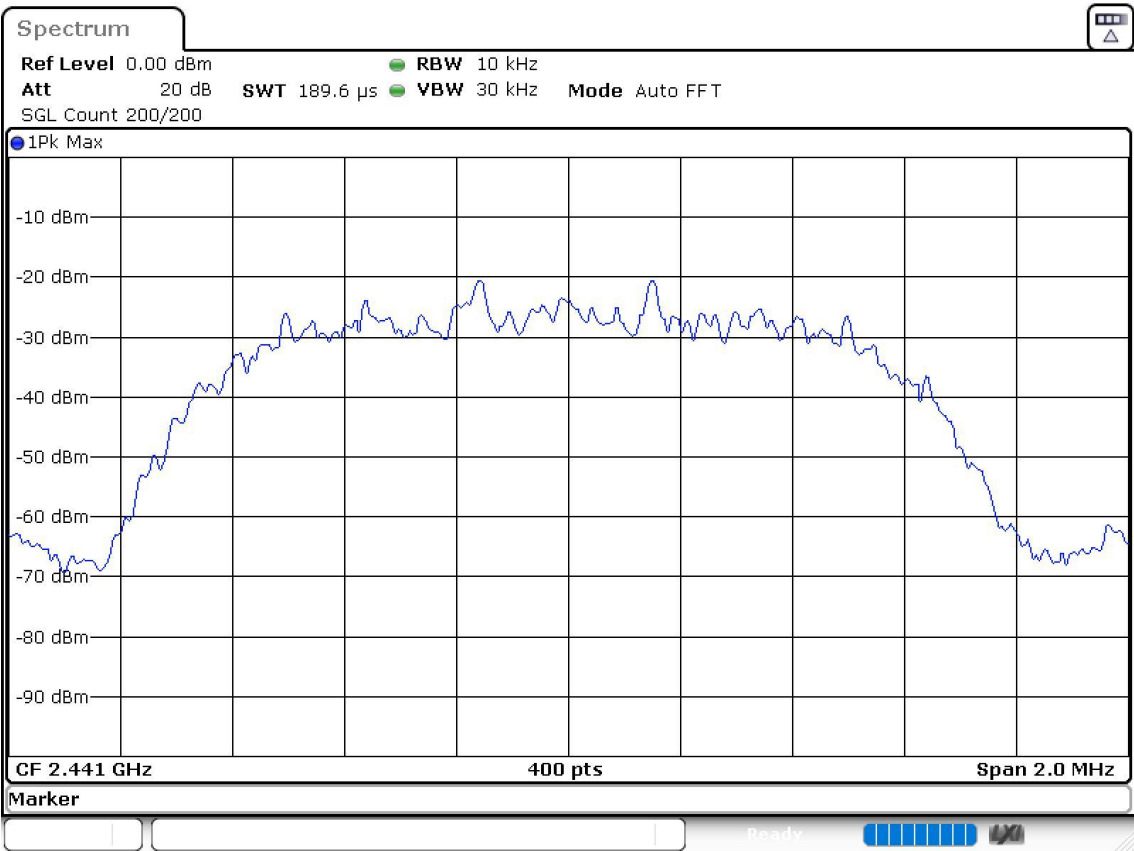
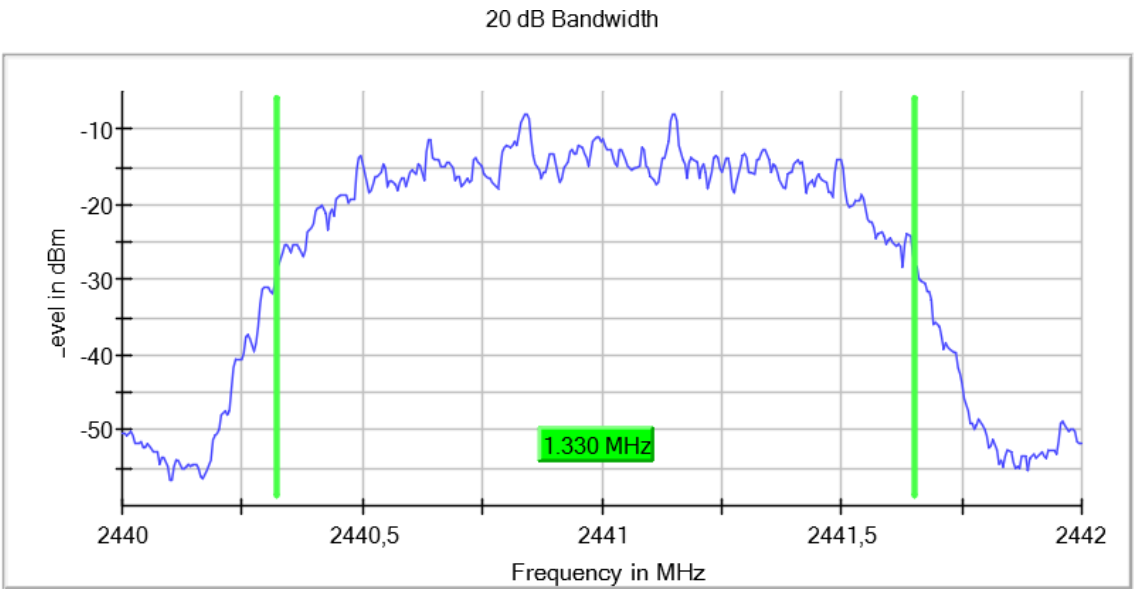
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Active Port = 1

Frequency MHz = 2441.00000

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

Images:



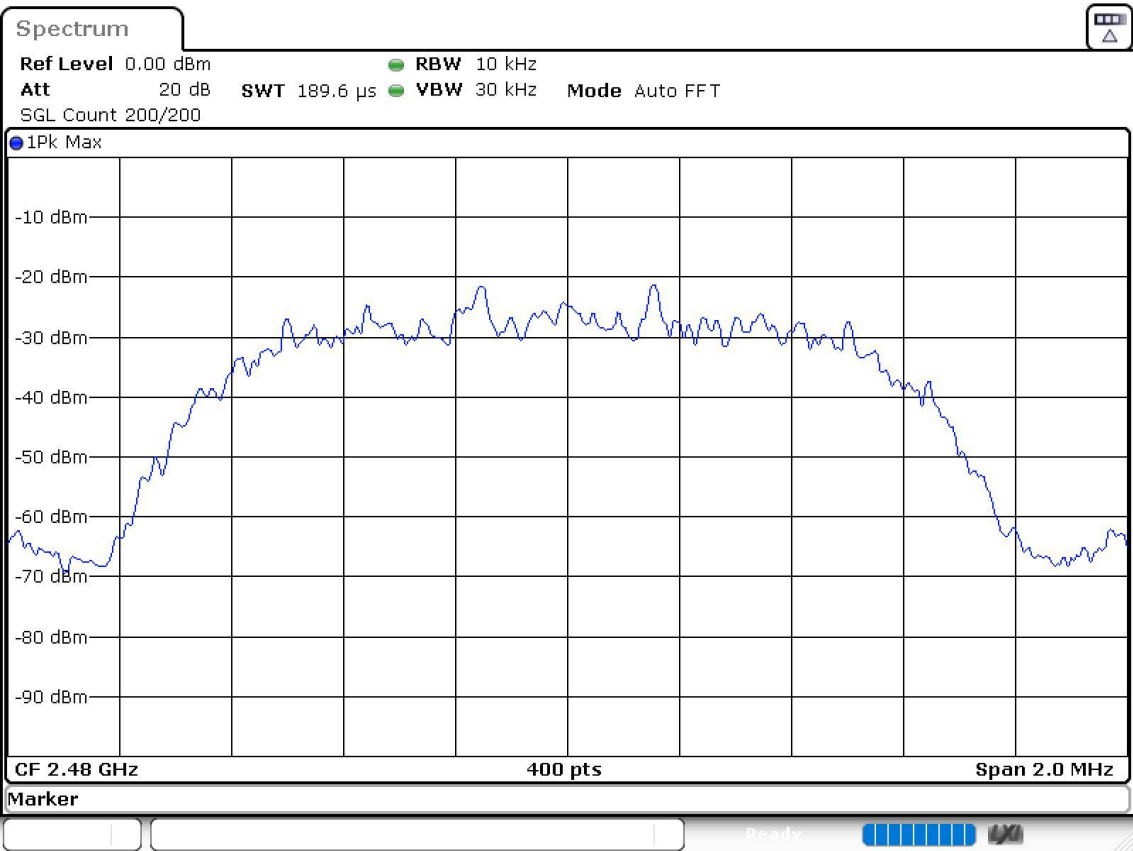
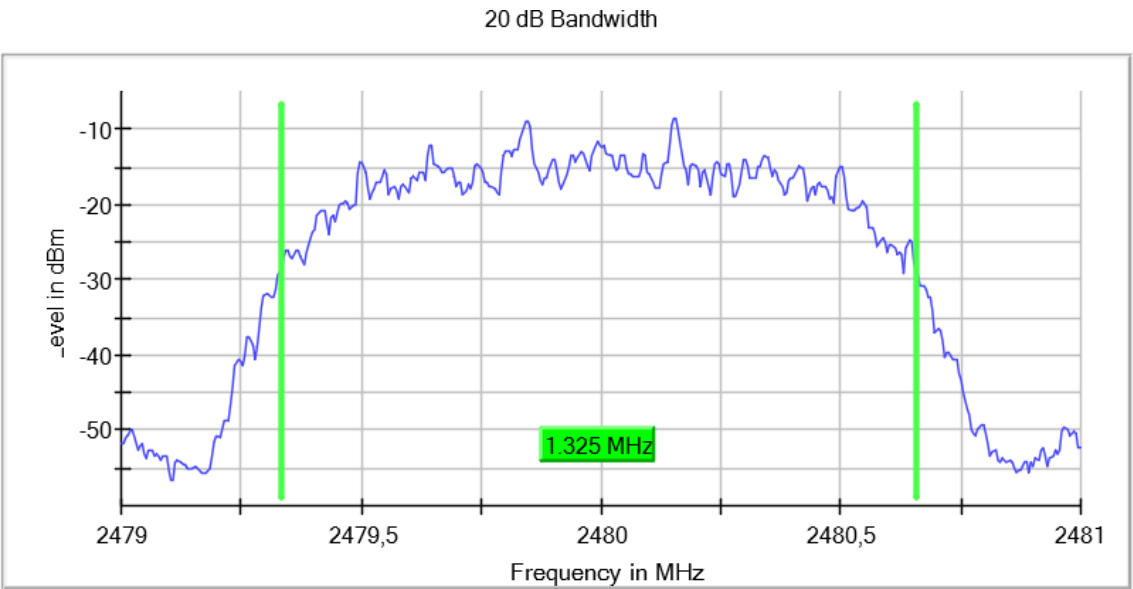
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Active Port = 1

Frequency MHz = 2480.00000

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

Images:



Modulation: BT (8DPSK 3-DH5)

Results

Equipment	Freq (MHz)	Port	Ebw (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1	1.350
	2441.00000		1.345
	2480.00000		1.345

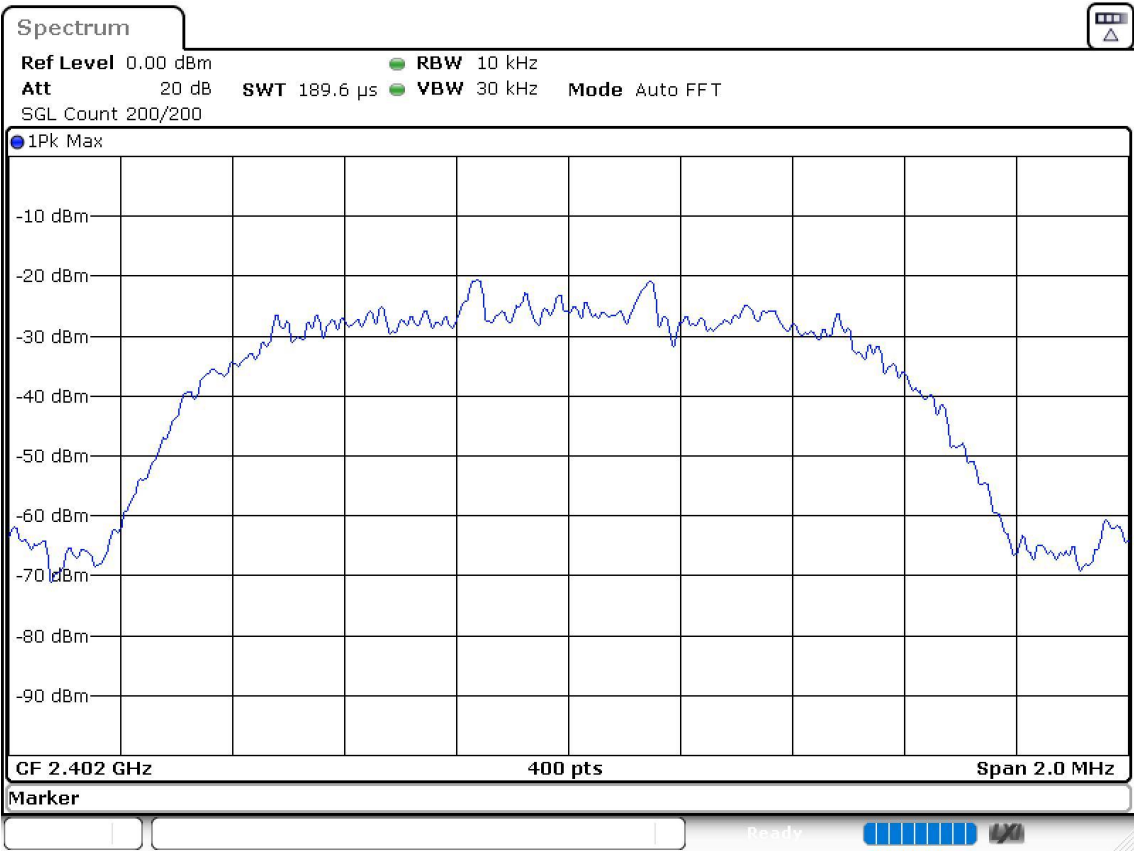
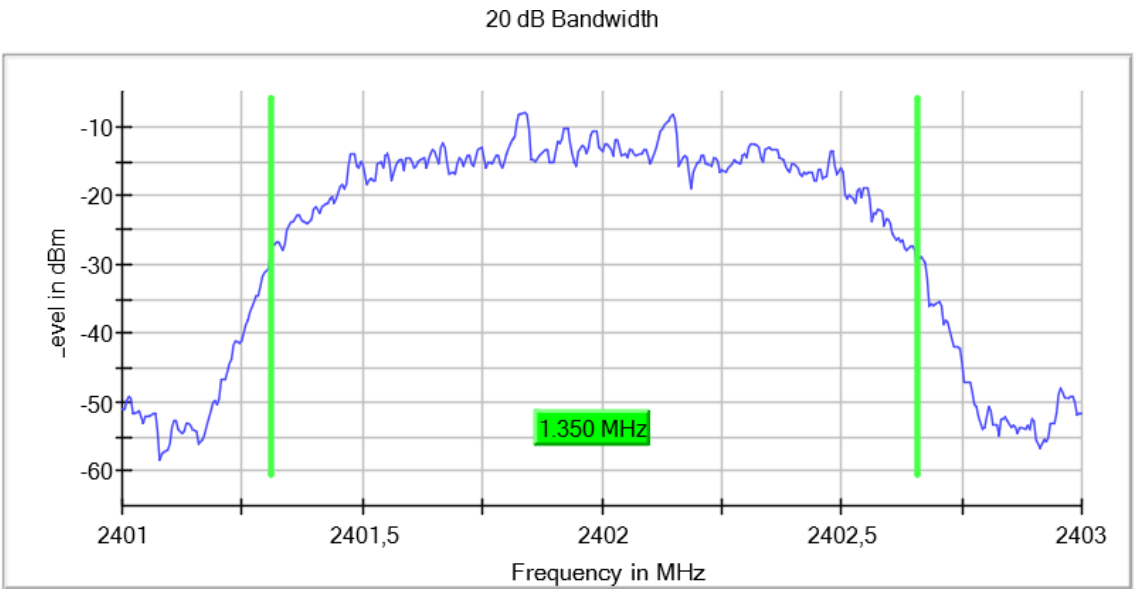
Verdict

Pass

Attachments

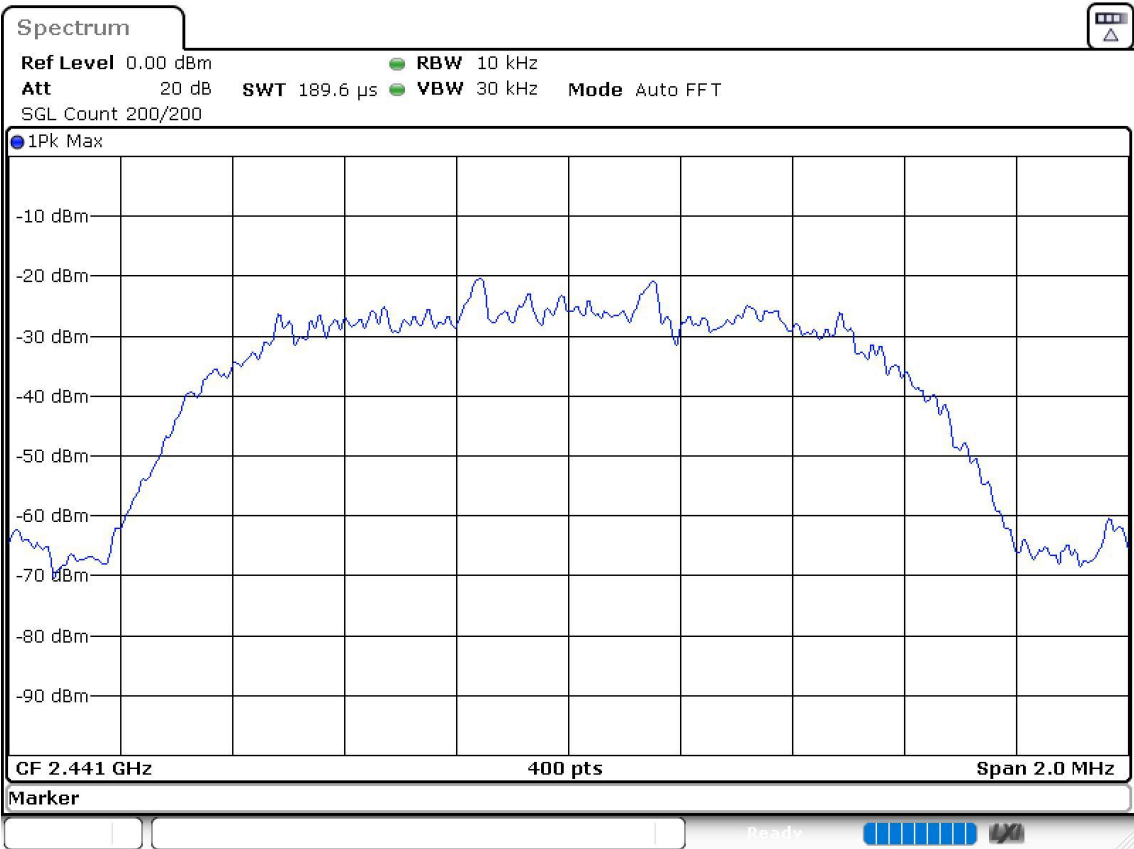
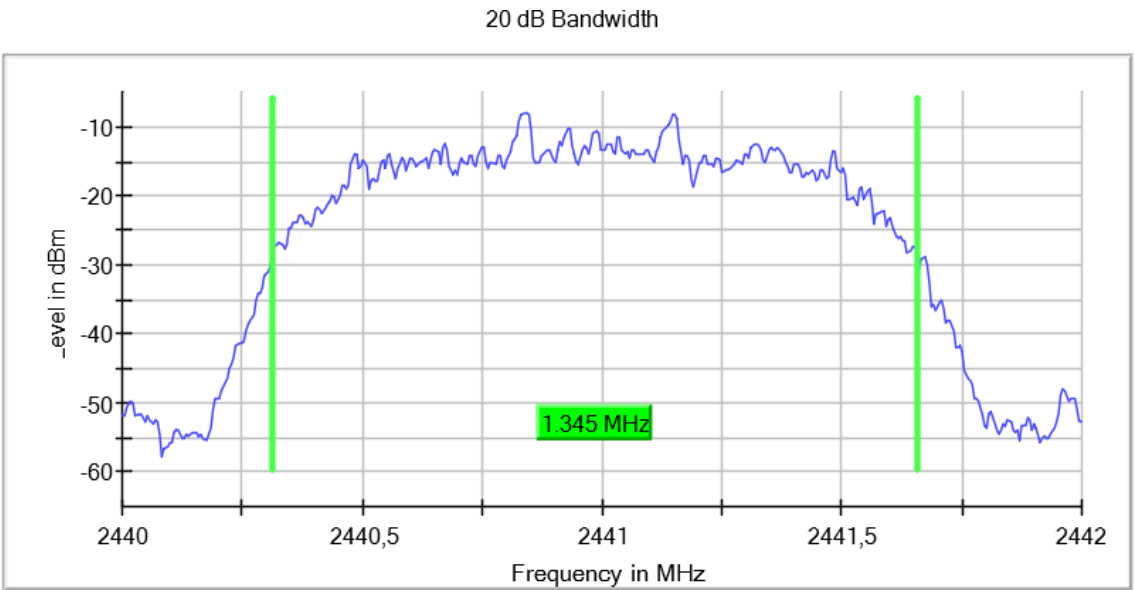
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2402.00000
Active Port = 1 Modulation = BT (8DPSK 3-DH5)

Images:



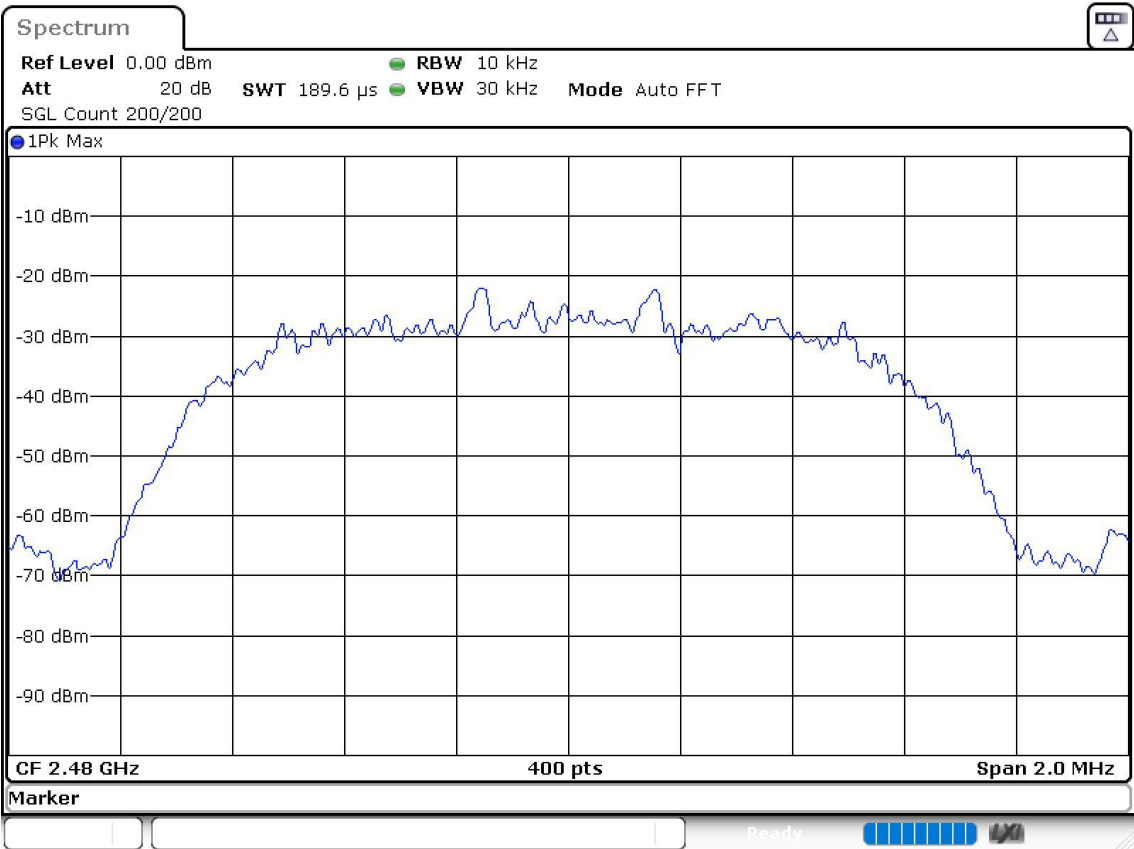
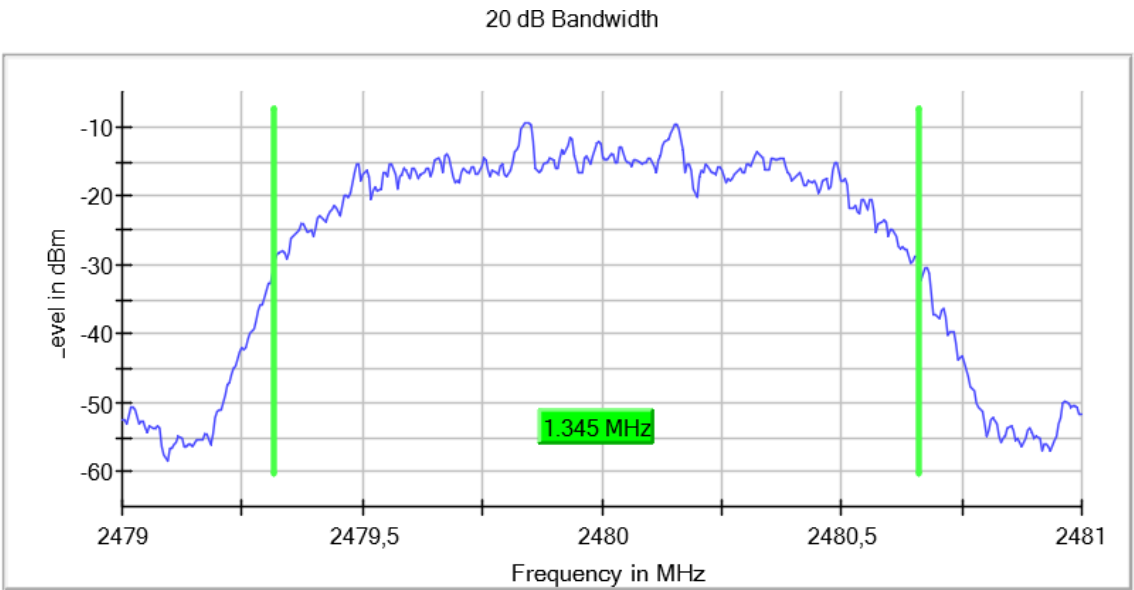
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2441.00000
Active Port = 1 Modulation = BT (8DPSK 3-DH5)

Images:



Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2480.00000
Active Port = 1 Modulation = BT (8DPSK 3-DH5)

Images:



RSS-247 6.2.3.1 (a) / FCC 15.247 (a) (1) [CFS] Carrier Frequency Separation

Limits

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.

Modulation: BT (GFSK 1-DH5)

Results

Equipment	Port	Freq Sep (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	1	1.01

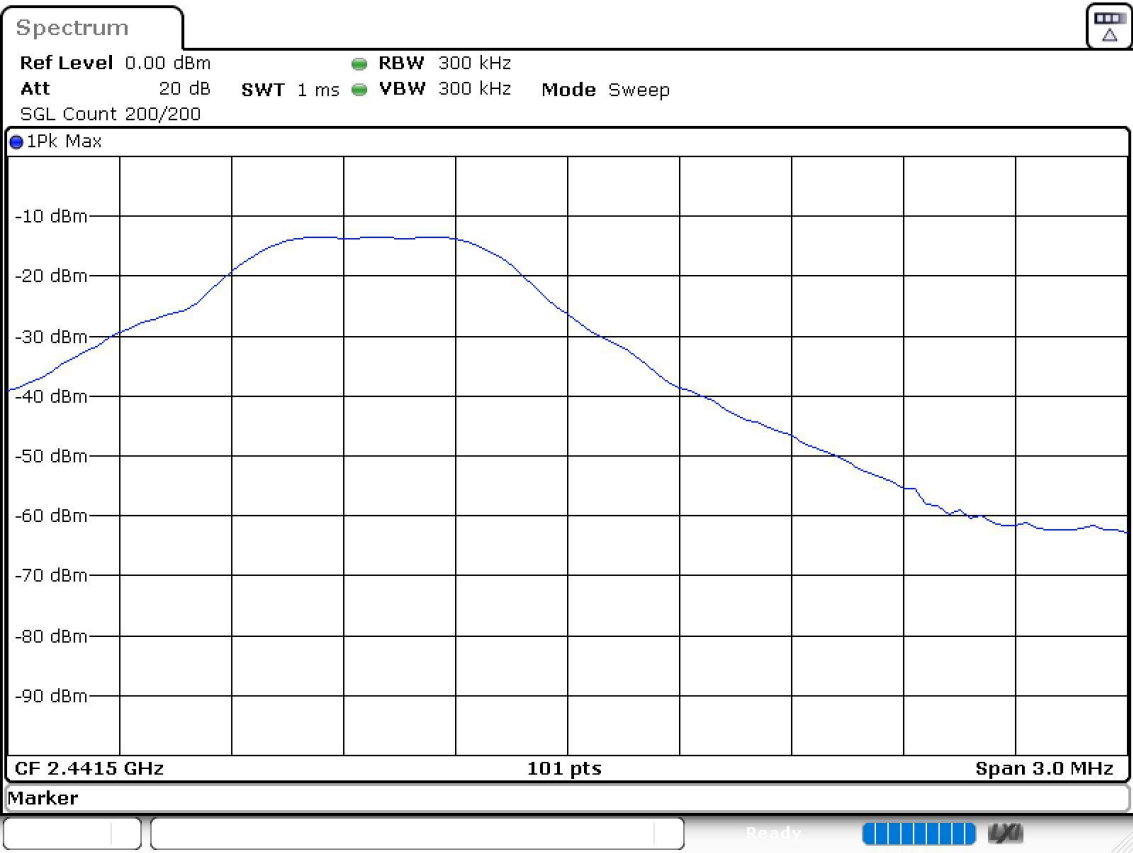
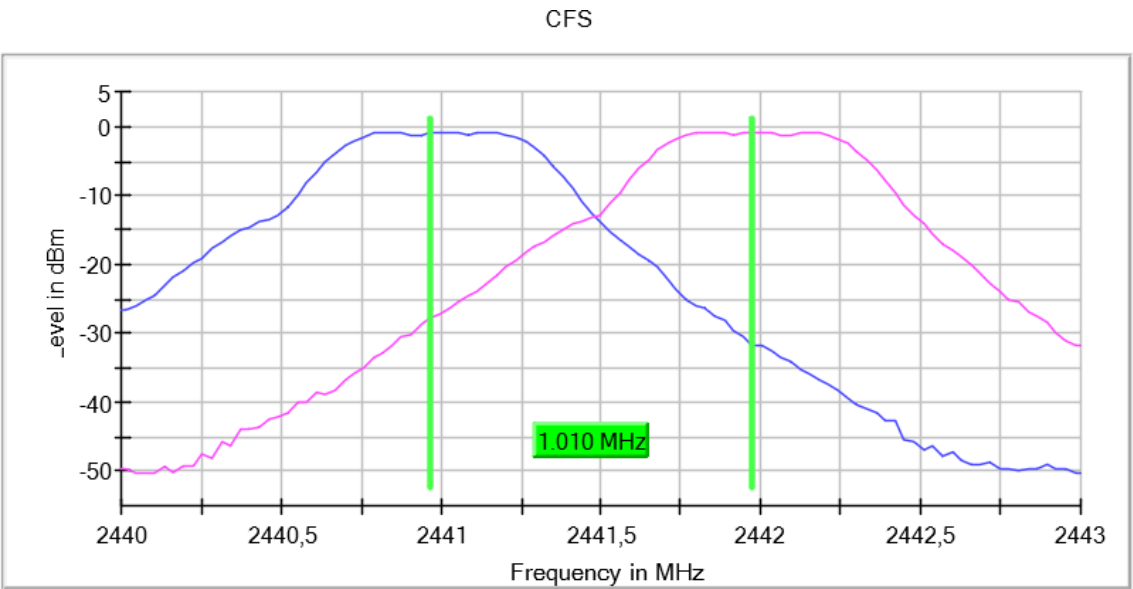
Verdict

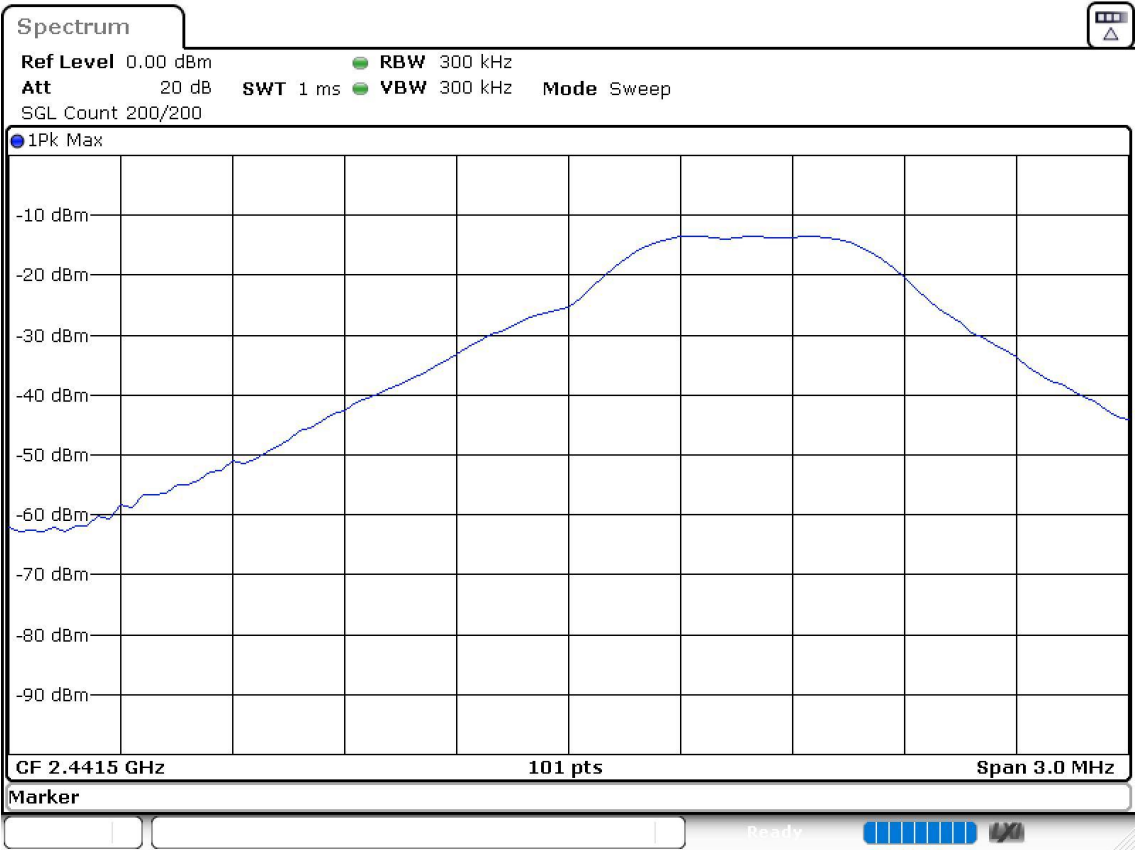
Pass

Attachments

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Active Port = 1
Modulation = BT (GFSK 1-DH5)

Images:





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

Results

Equipment	Port	Freq Sep (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	1	0.98

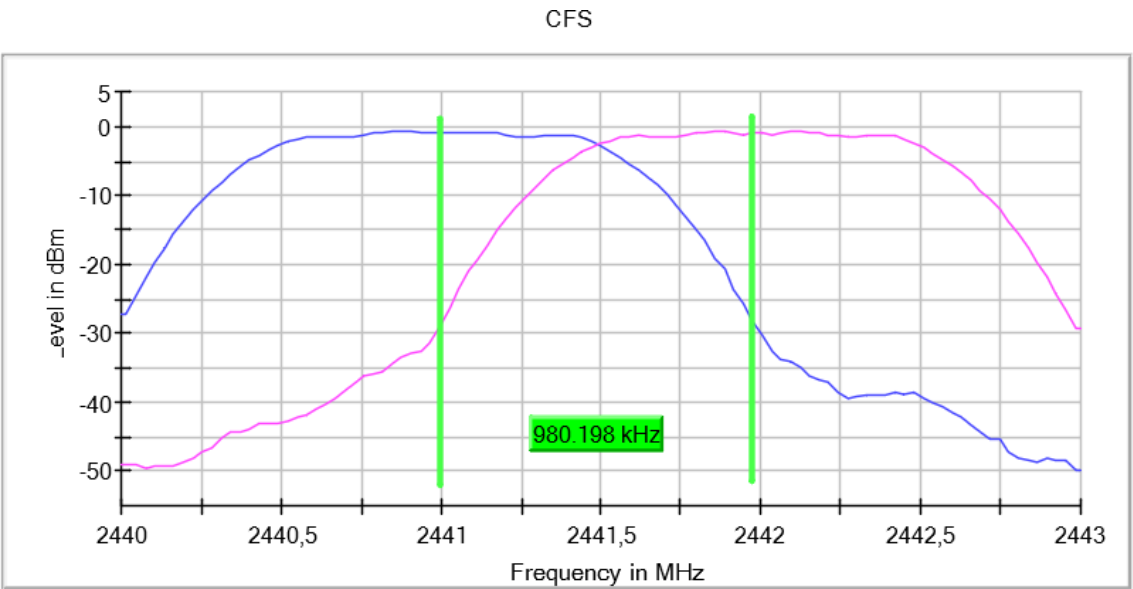
Verdict

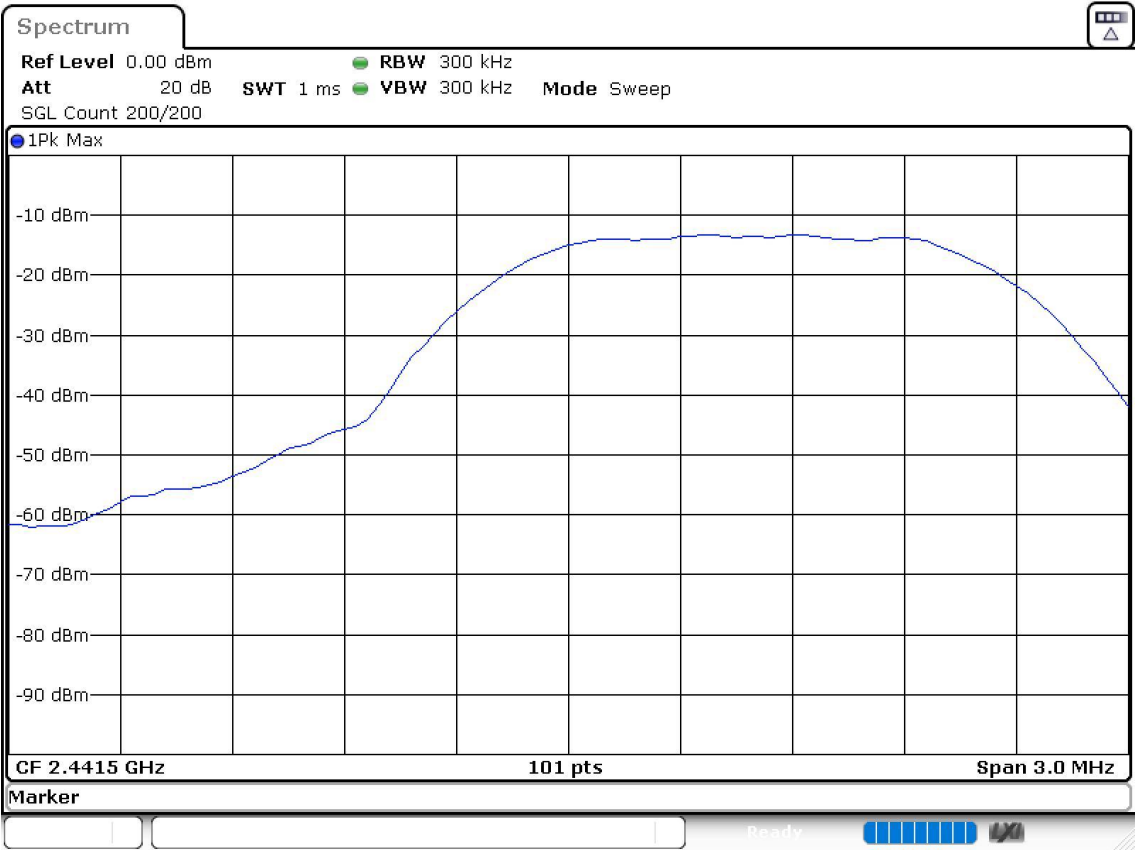
Pass

Attachments

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Active Port = 1
Modulation = BT (Pi/4 DQPSK 2-DH5)

Images:





Modulation: BT (8DPSK 3-DH5)

Results

Equipment	Port	Freq Sep (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	1	0.98

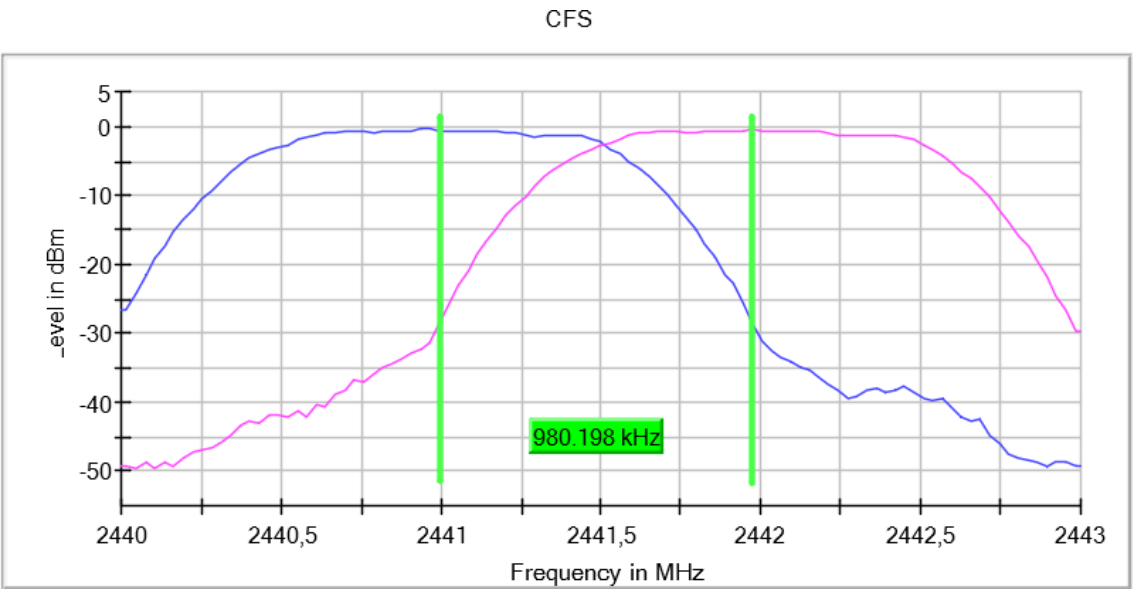
Verdict

Pass

Attachments

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Active Port = 1
Modulation = BT (8DPSK 3-DH5)

Images:





RSS-247 6.2.3.1 (b) / FCC 15.247 (a) (1) (iii) [DwT] Time of Occupancy (Dwell Time)

Limits

The average time of occupancy on any channel shall not be greater than 0.4 seconds (400 ms) within a period of 0.4 seconds multiplied by the number of hopping channels employed = 0.4 x 79= 31.6 seconds.

Modulation: BT (GFSK 1-DH5)

Results

Equipment	Port	Freq (MHz)	NHp	Avg COT (ms)
Frequency Hopping Spread Spectrum systems (DSS)	1	2402.00000	100	289.78
		2441.00000	98	283.92
		2480.00000	106	307.19

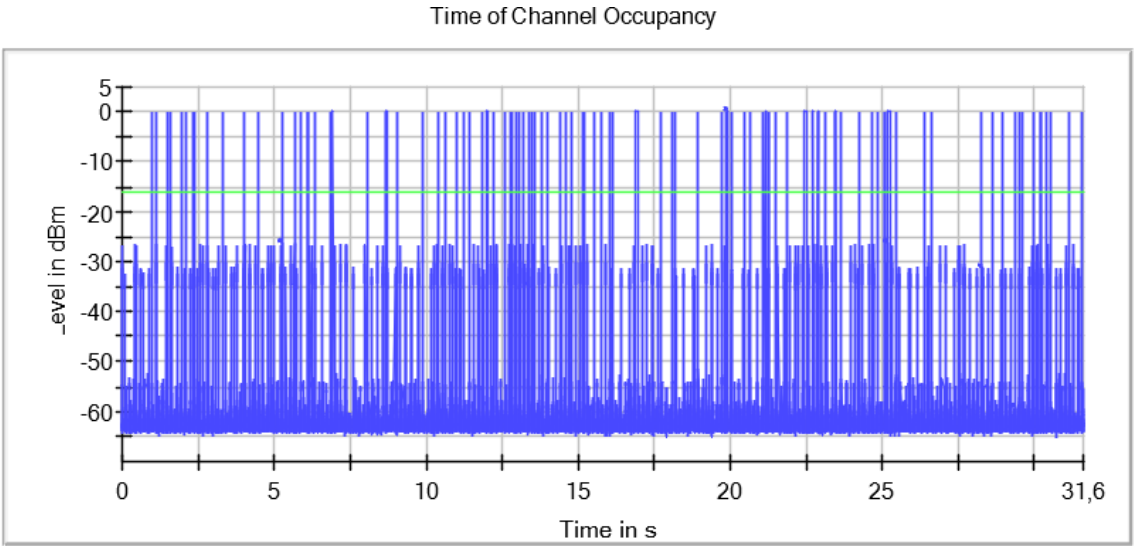
Verdict

Pass

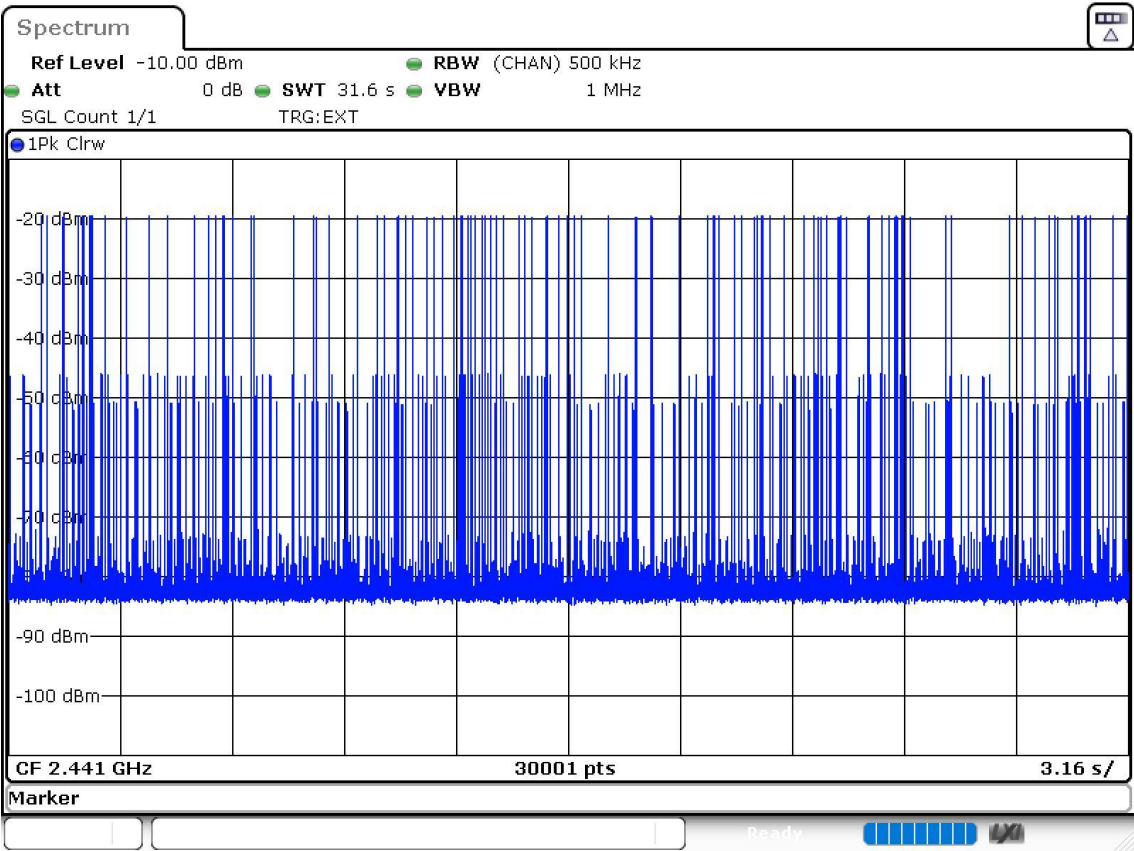
Attachments

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Active Port = 1
Modulation = BT (GFSK 1-DH5) Frequency MHz = 2402.00000

Images:



Trace Threshold



Tables:
Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Center Frequency	2.40200 GHz	2.40200 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 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
Preamplifier	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s