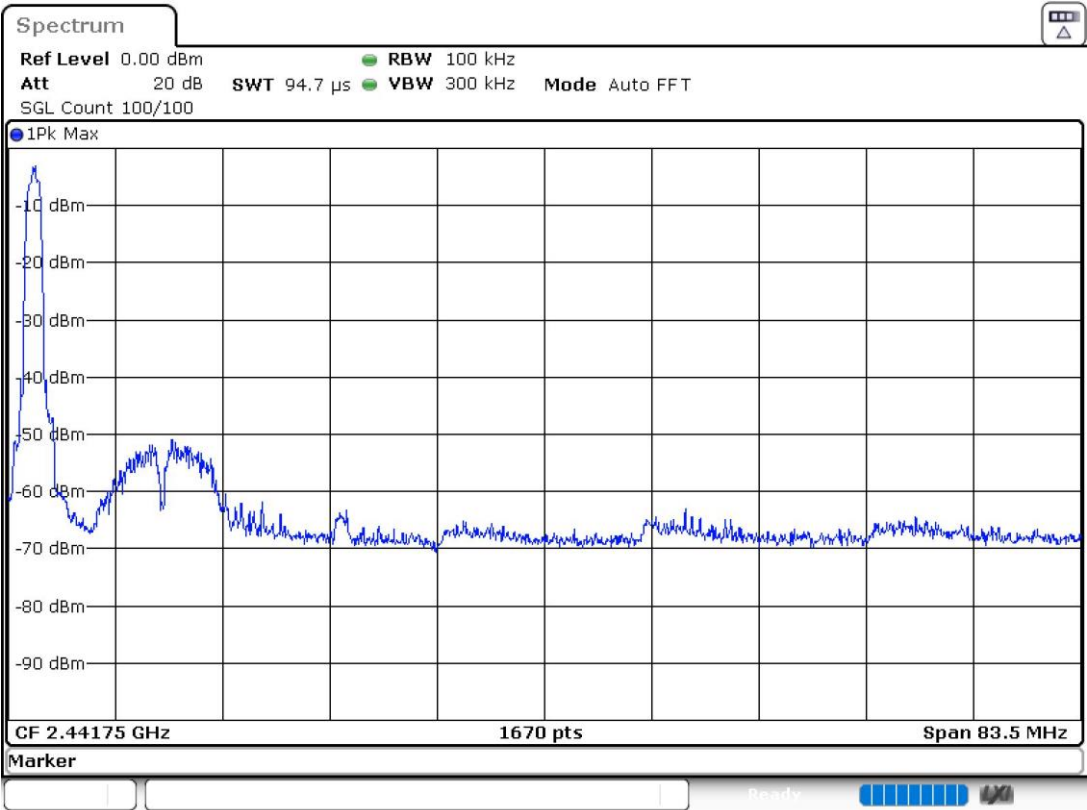


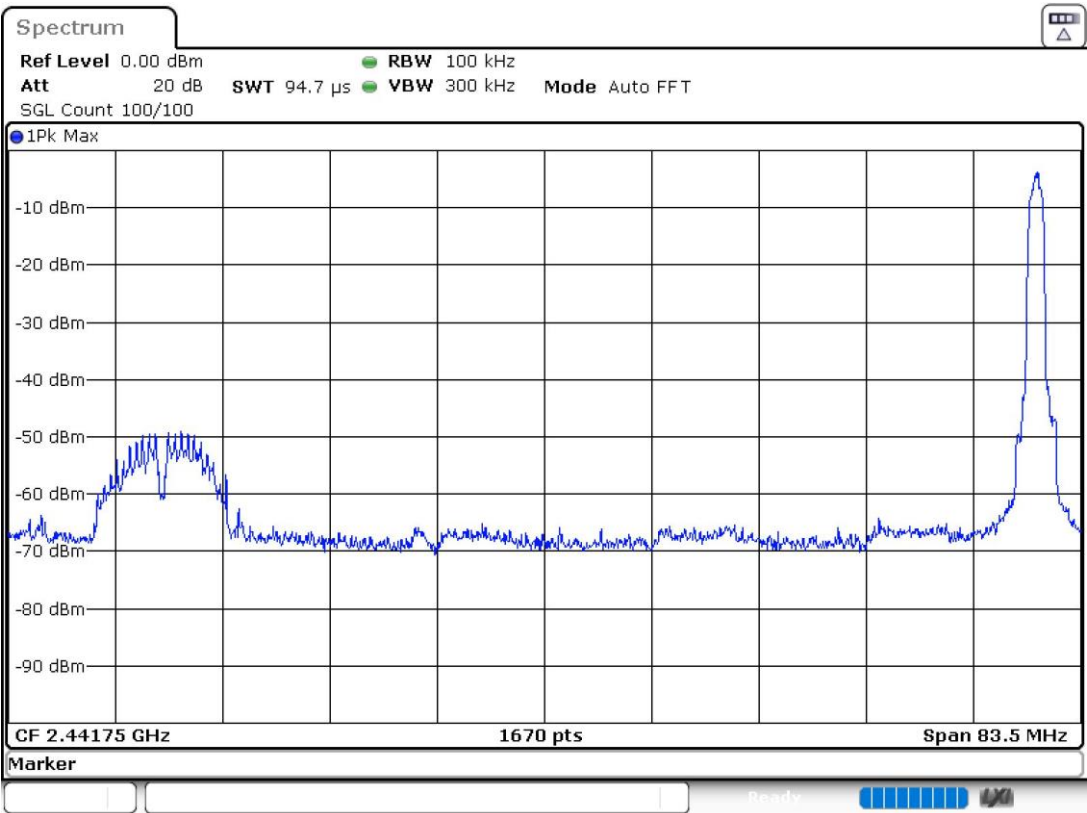
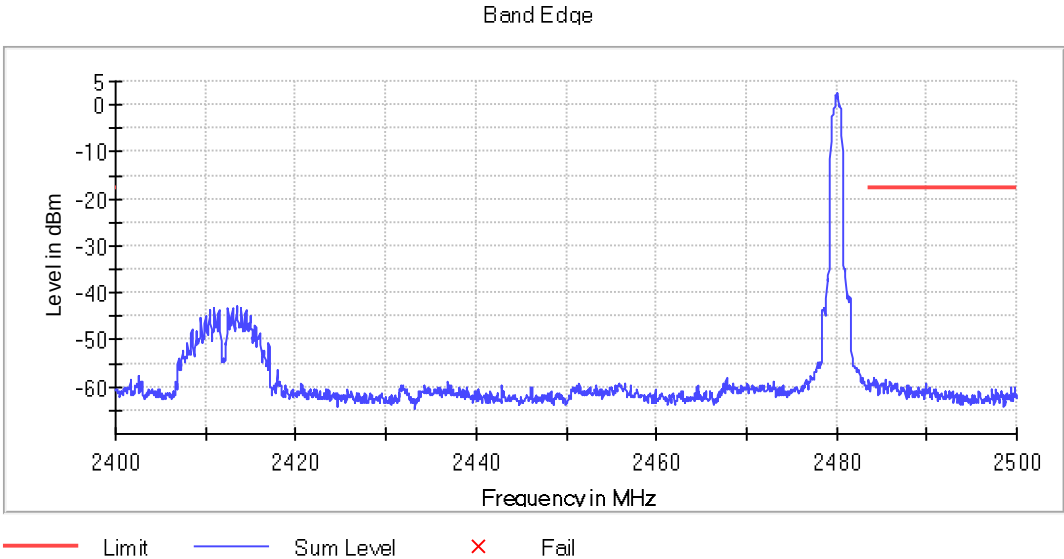


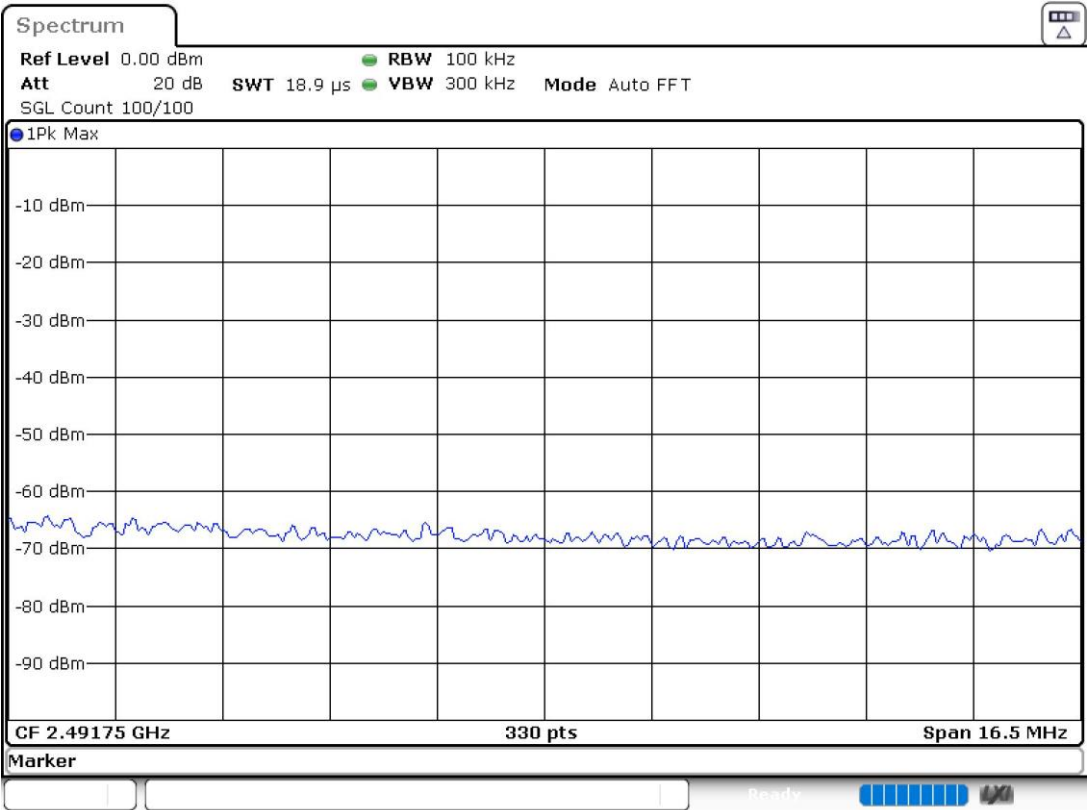
Operation Band MHz = [2400, 2483.5] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2480.00000 Active Port = 1

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

Images:





Modulation: BT (8DPSK 3-DH5)

Results

Radiated measurements were used to show compliance with the limits in the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

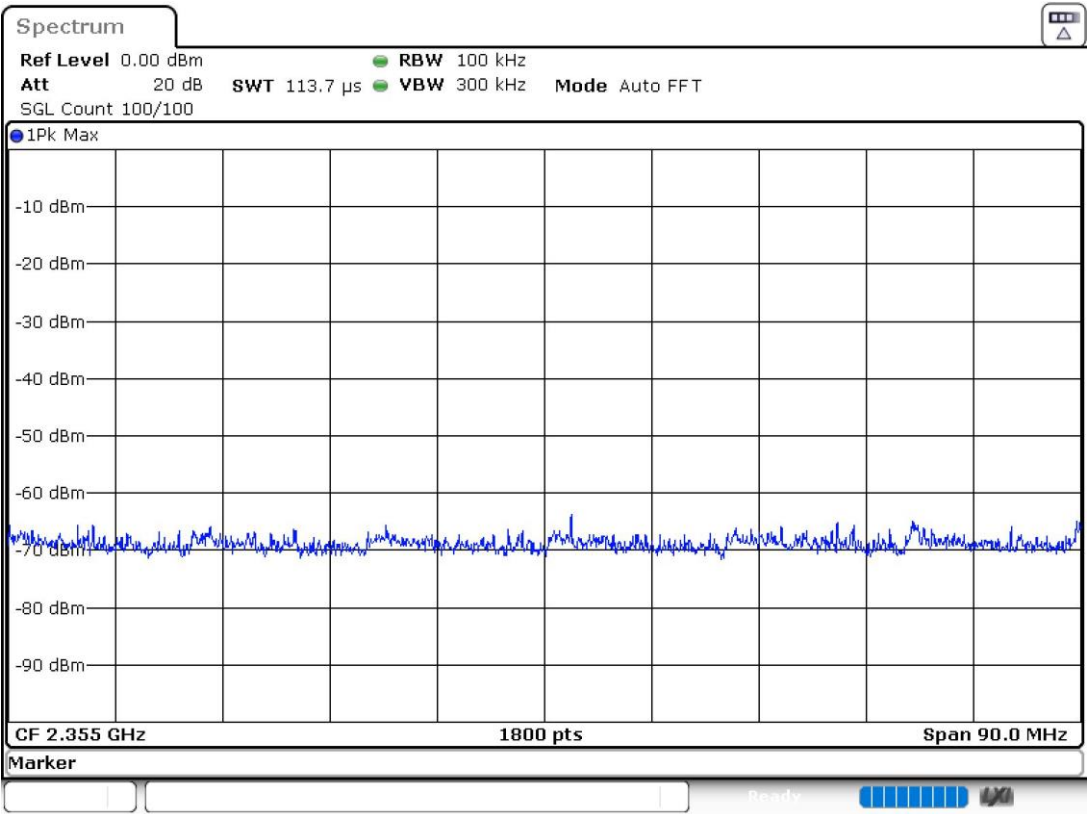
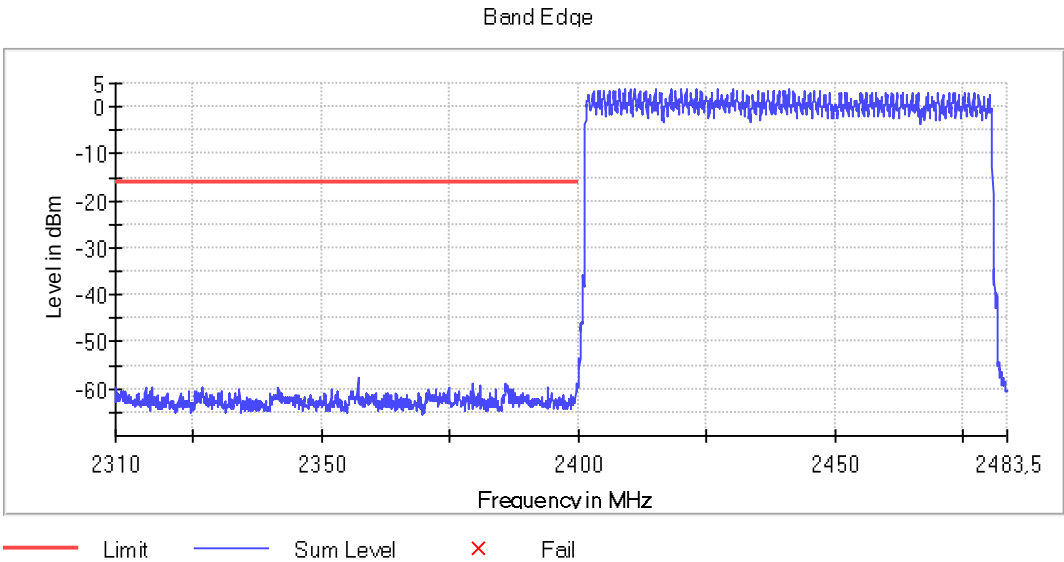
Verdict

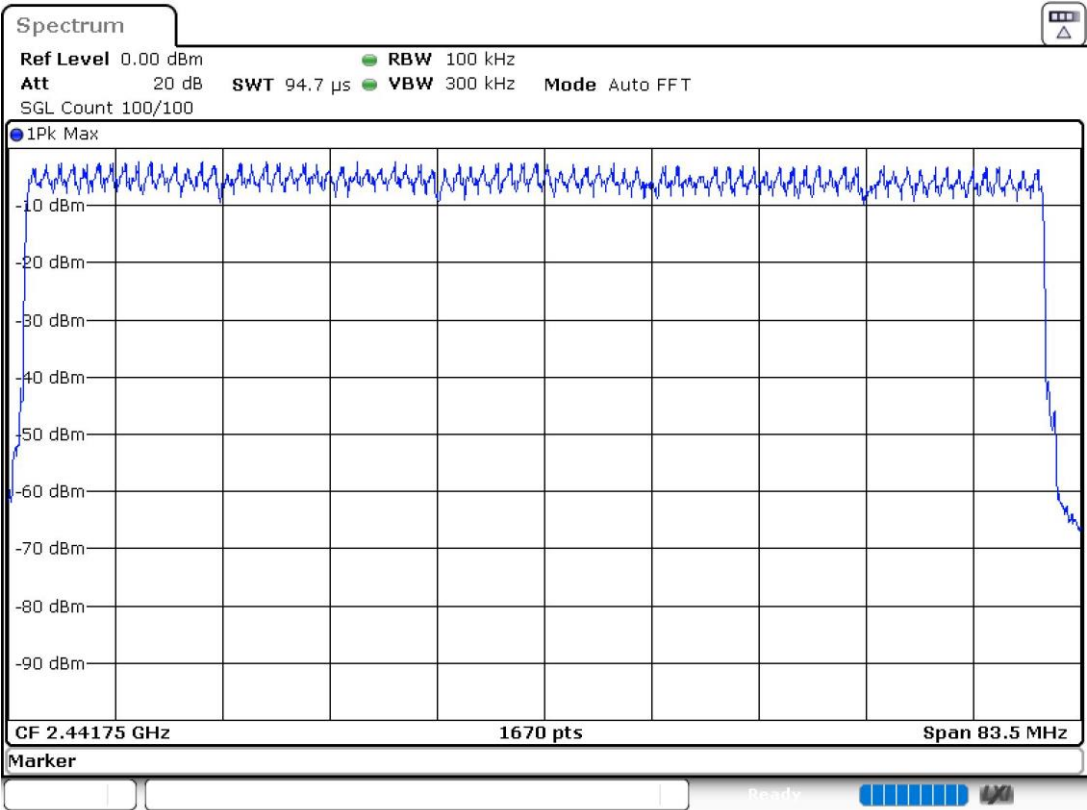
Pass

Attachments

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

Images:





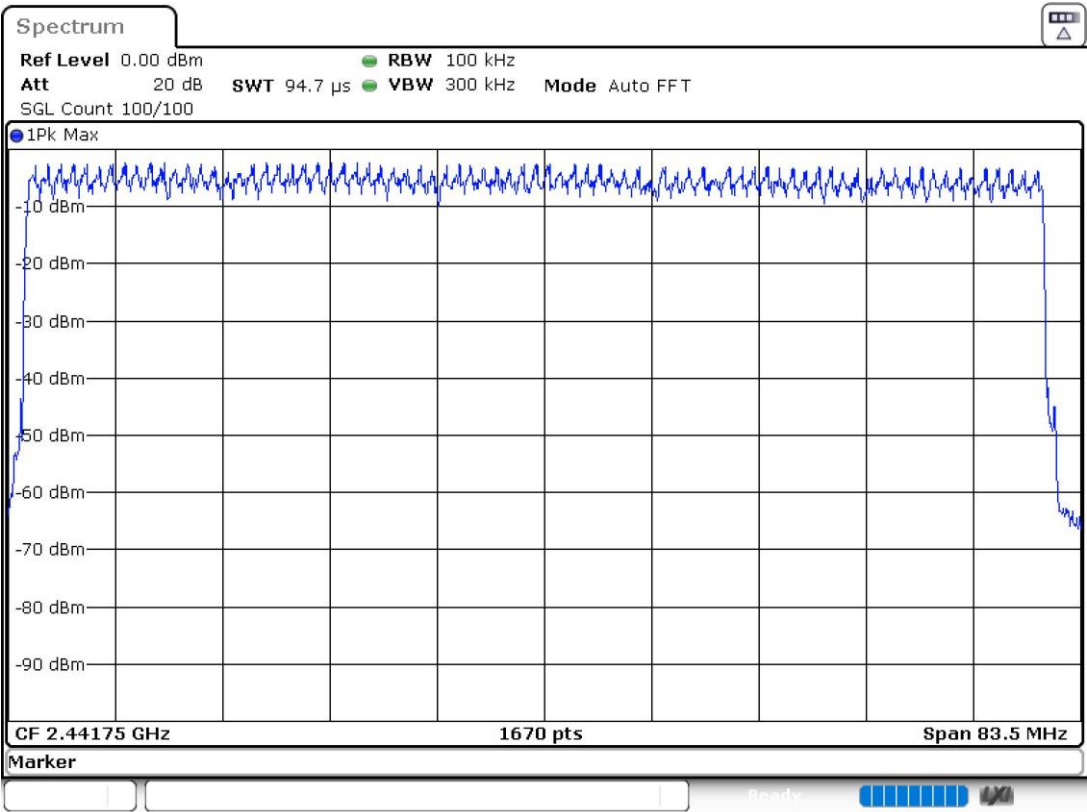
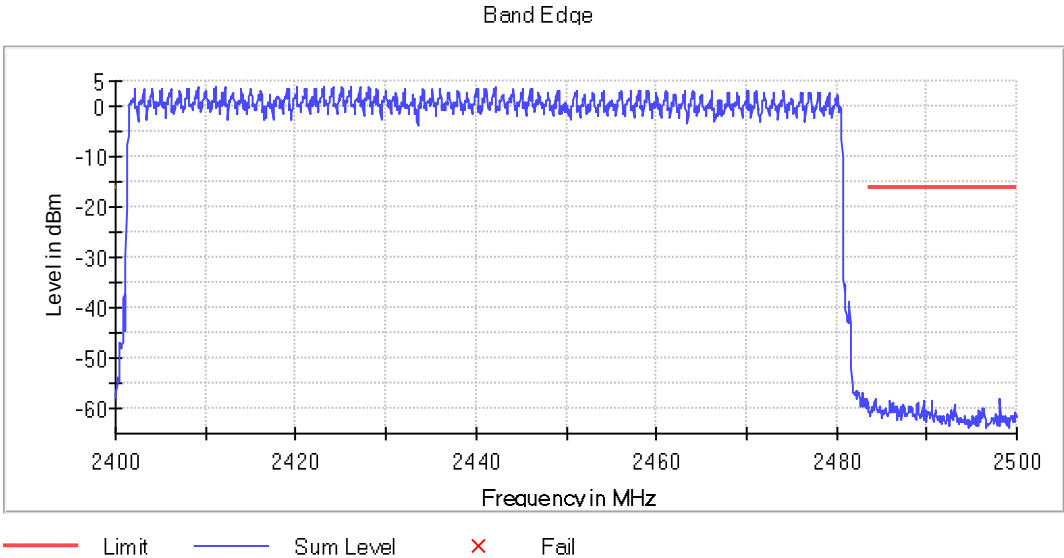
Operation Band MHz = [2400,
2483.5]

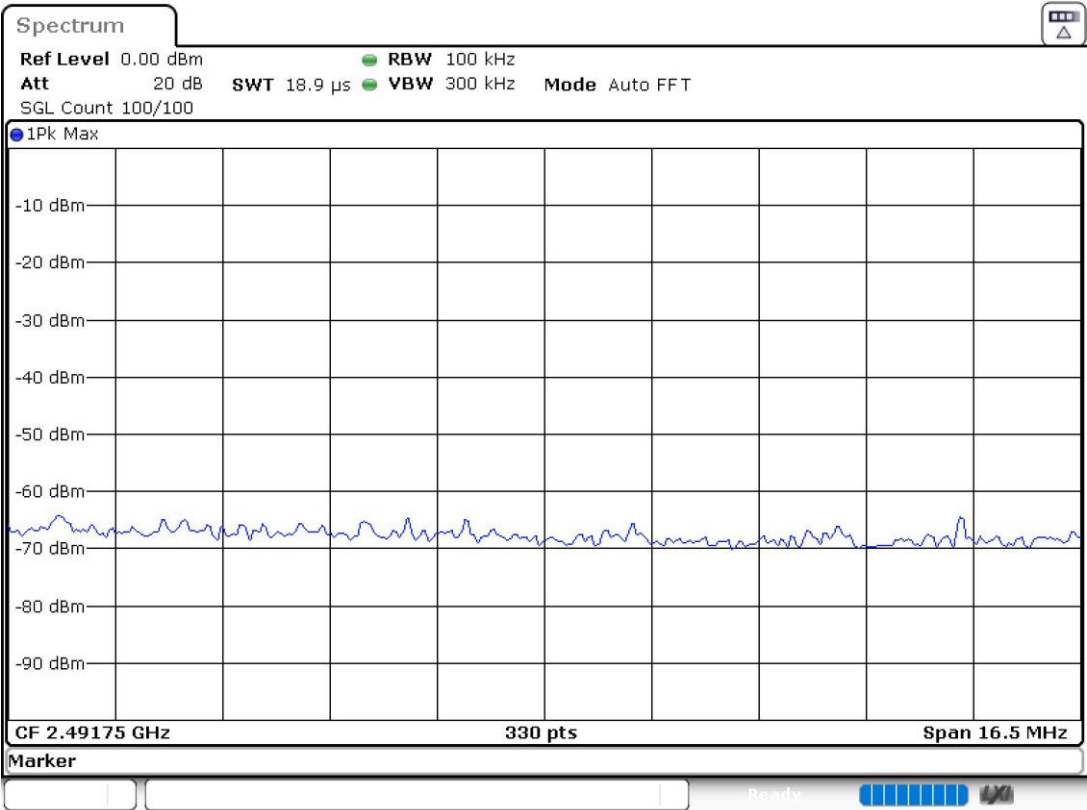
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Modulation = BT (8DPSK 3-DH5)

Active Port = 1

Images:





Operation Band MHz = [2400, 2483.5]

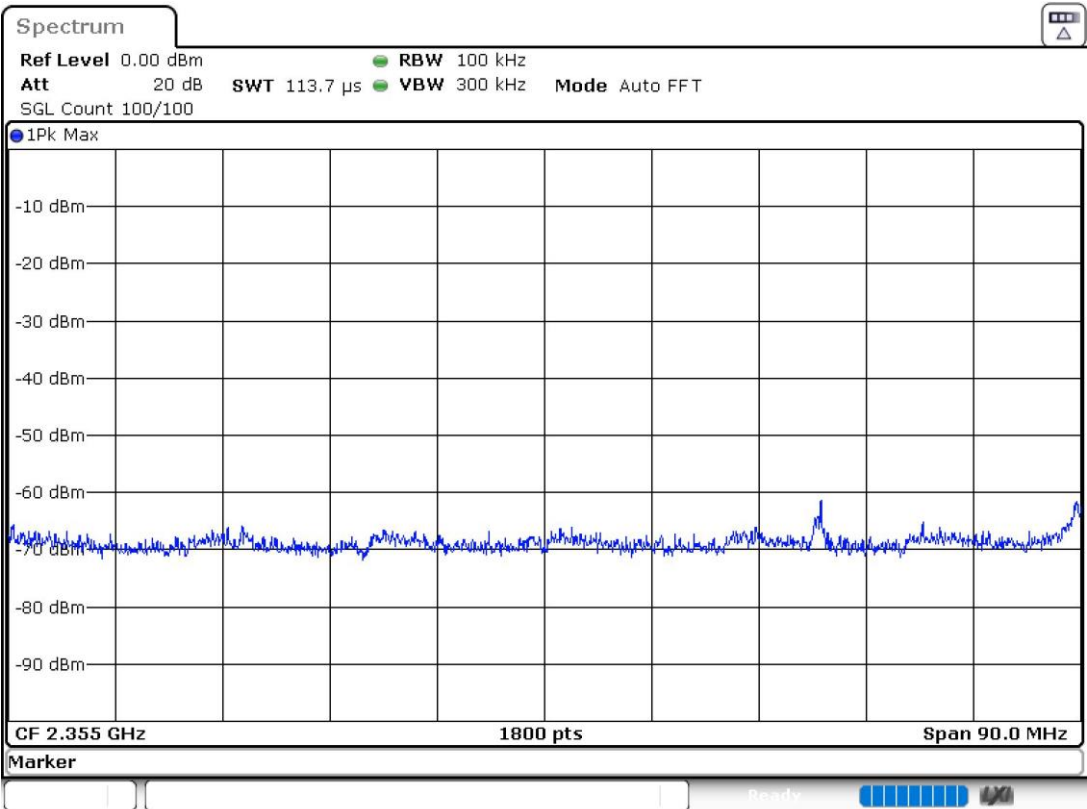
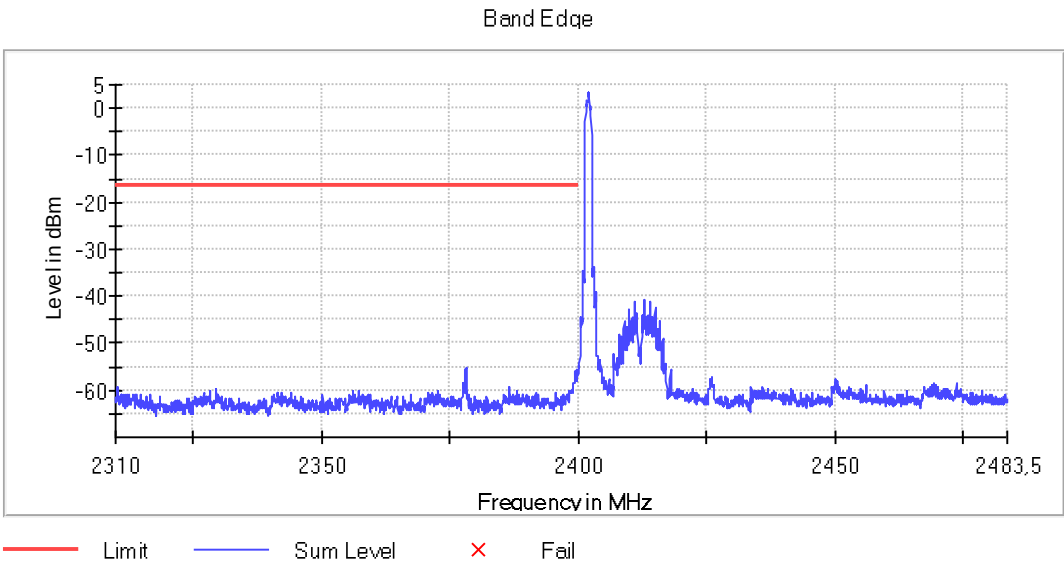
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

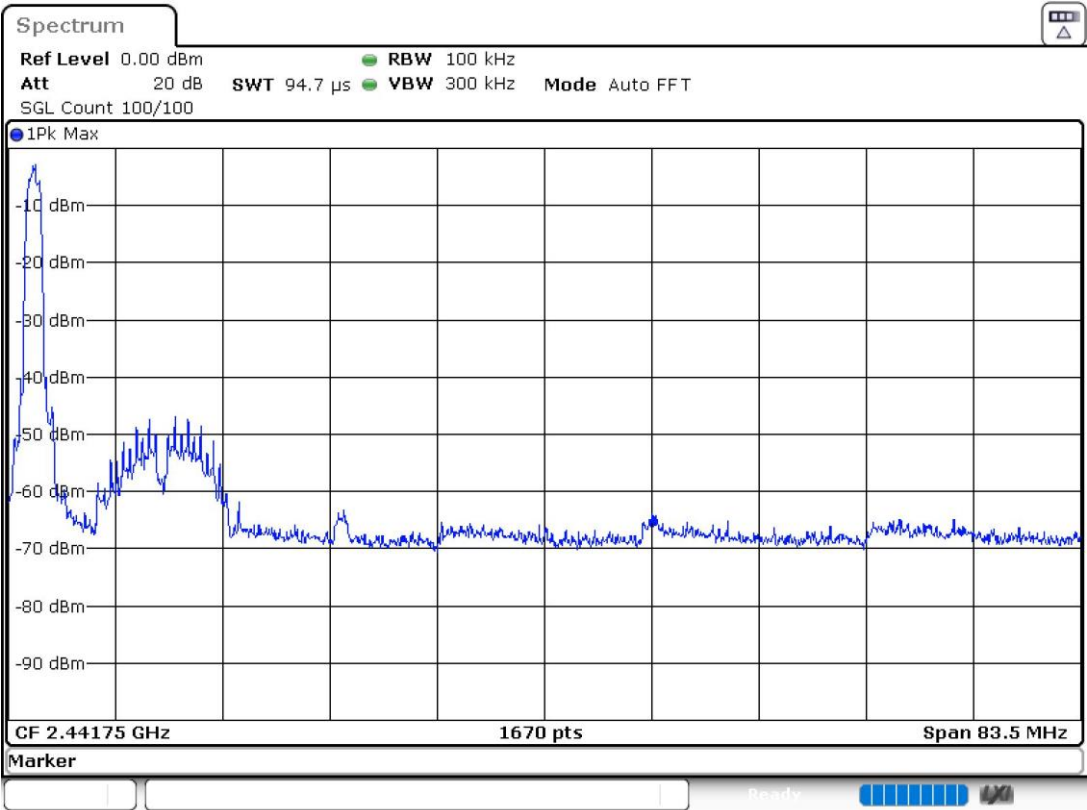
Frequency MHz = 2402.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:





Operation Band MHz = [2400,
2483.5]

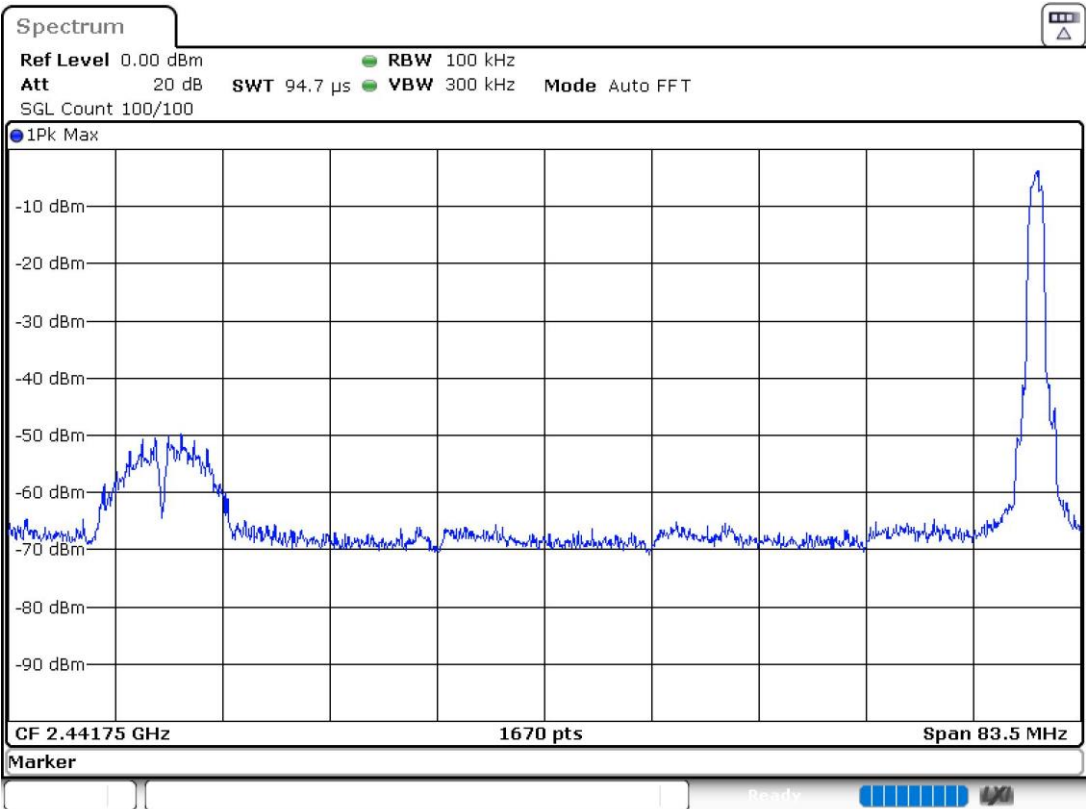
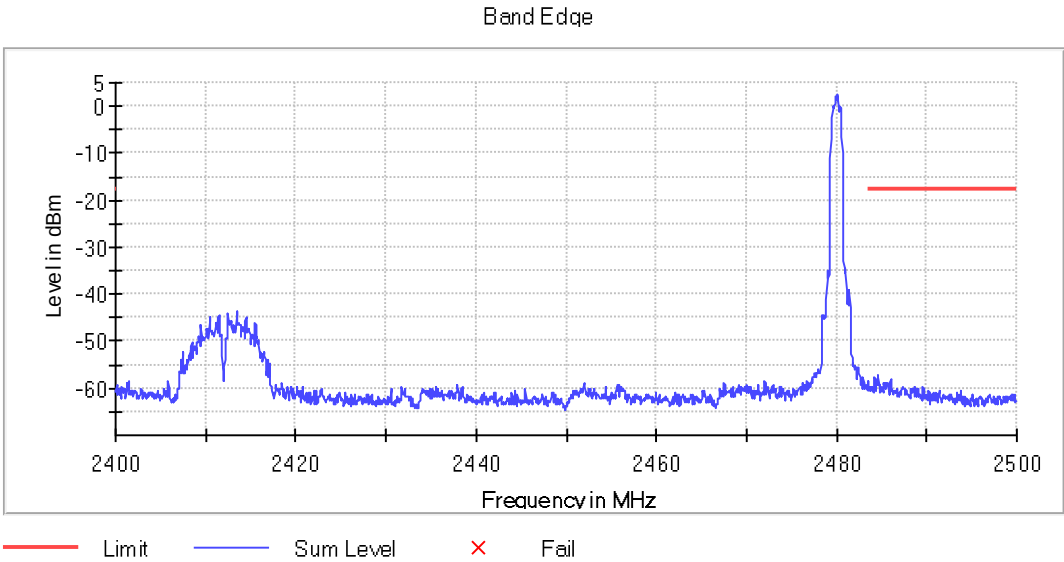
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

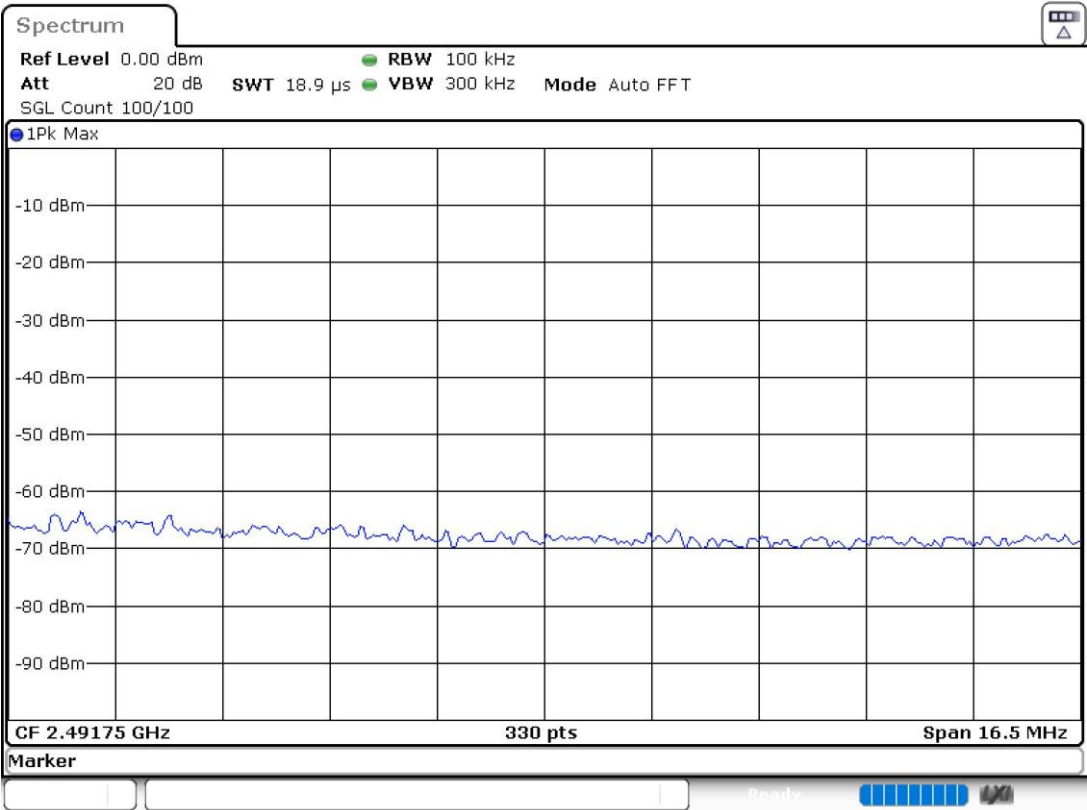
Frequency MHz = 2480.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:





RSS-247 6.6 / FCC 15.247 (d) Emission limitations radiated (Transmitter)

Limits

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

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

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

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

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

Frequency range tested for Radiated emissions:

Start frequency: no radiofrequency signal generated in the device found below 10th sub-harmonic, no further investigation required.

Stop frequency: it has been performed the radiated spurious emissions until 10th harmonic.

Frequency Range GHz = [0.03, 1]

Modulation: The spurious frequencies detected do not depend on either the modulation or the operating channel.

Freq Rng (GHz)	Equipment	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
[0.03, 1]	Frequency Hopping Spread Spectrum systems (DSS)	32.086	14.84	V	PK	1.0	0.0	15.0	-1.1
		32.086	6.11	V	QP	1.0	0.0	15.0	-9.9
		424.741	27.33	H	PK	3.2	0.0	17.4	6.7
		424.741	20.23	H	QP	3.2	0.0	17.4	-0.4
		542.403	25.00	H	PK	3.8	0.0	21.6	-0.5
		542.403	17.15	H	QP	3.8	0.0	21.6	-8.3
		60.215	11.08	V	PK	1.2	0.0	6.6	3.2
		60.215	5.55	V	QP	1.2	0.0	6.6	-2.3

Verdict

Pass

Attachments

Operation Band MHz = [2400, 2483.5]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

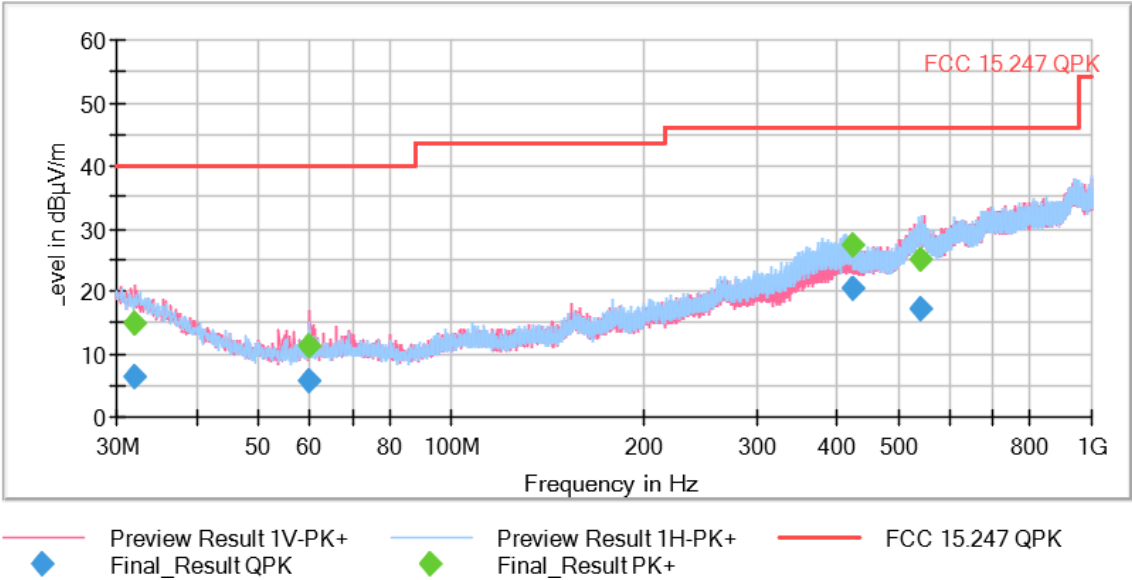
Active Port = 1

Frequency Range GHz = [0.03, 1]

Frequency MHz = The spurious frequencies detected do not depend on the operating channel.

Modulation = The spurious frequencies detected do not depend on the modulation.

Images:



Worst case range measure

Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	48,5 kHz	PK+	100 kHz	1 s	30 dB

Modulation: BT (GFSK 1-DH5)

Results

Freq Rng (GHz)	Equipment	Freq (MHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
[3, 17]	Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	4599.000	41.32	V	PK	-46.7	0.0	30.8	57.2
			7665.500	47.95	V	PK	-45.3	0.0	36.1	57.2
		2441.00000	4599.500	41.50	V	PK	-46.7	0.0	30.8	57.4
			7665.500	48.32	V	PK	-45.3	0.0	36.1	57.5
		2480.00000	4599.000	41.05	V	PK	-46.7	0.0	30.8	57.0
			7666.000	47.25	V	PK	-45.3	0.0	36.1	56.5

Verdict

Pass

Attachments

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

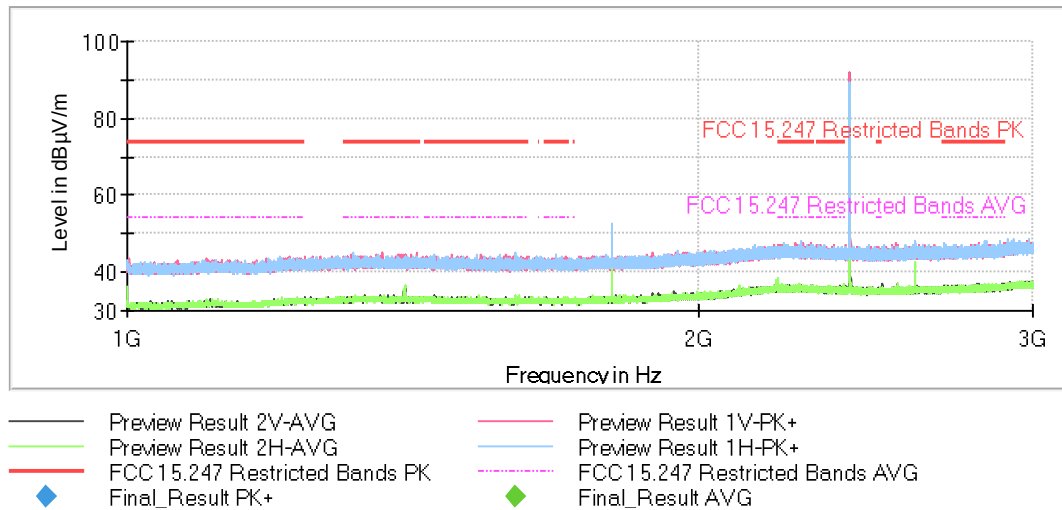
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2402.00000

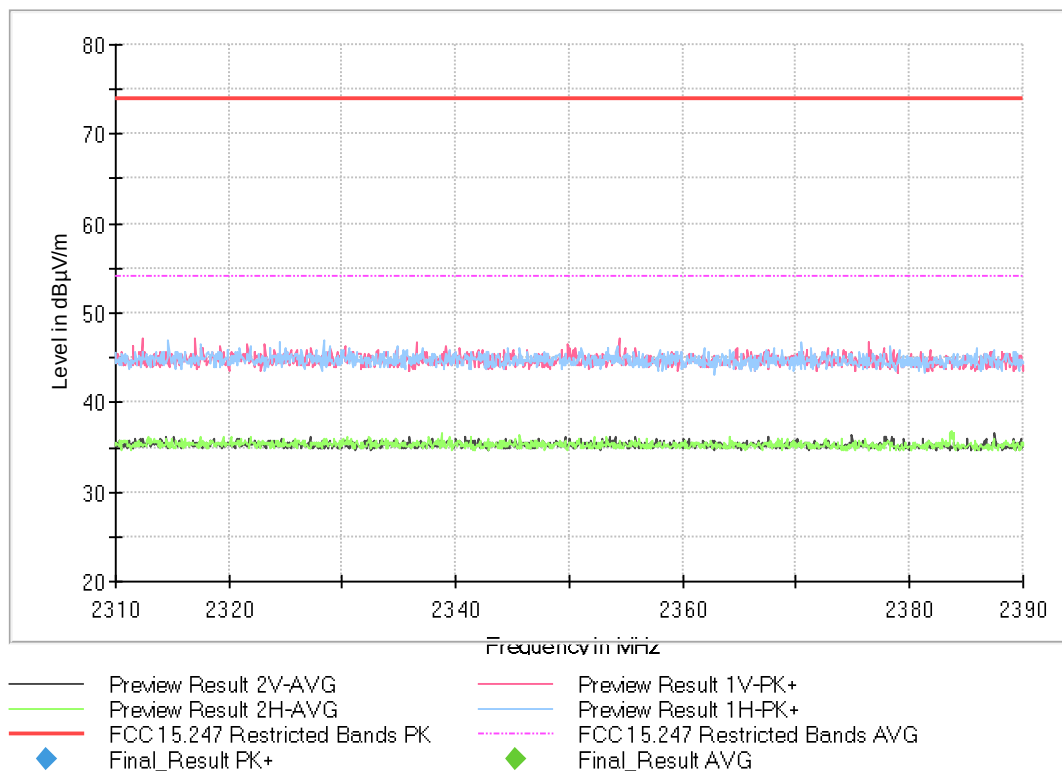
Active Port = 1

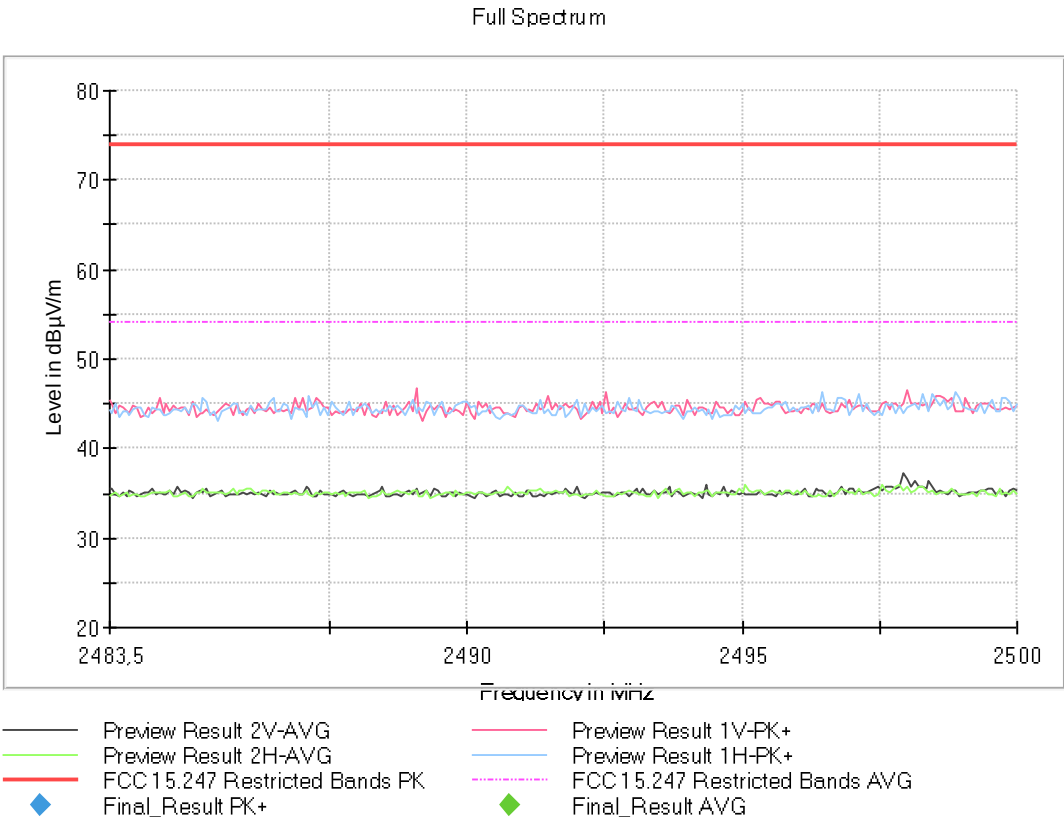
Modulation = BT (GFSK 1-DH5)

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

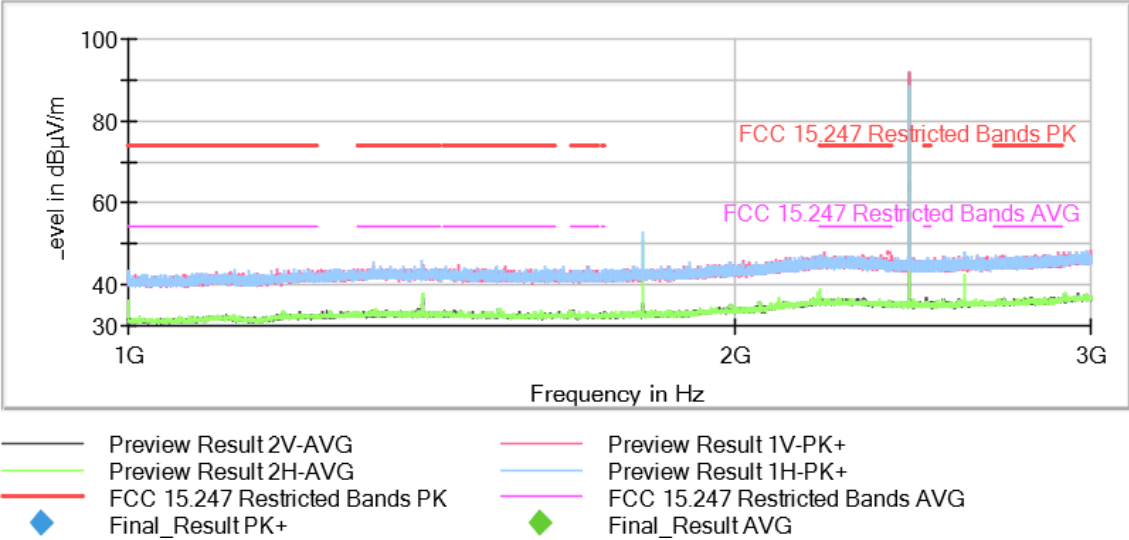
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2441.00000

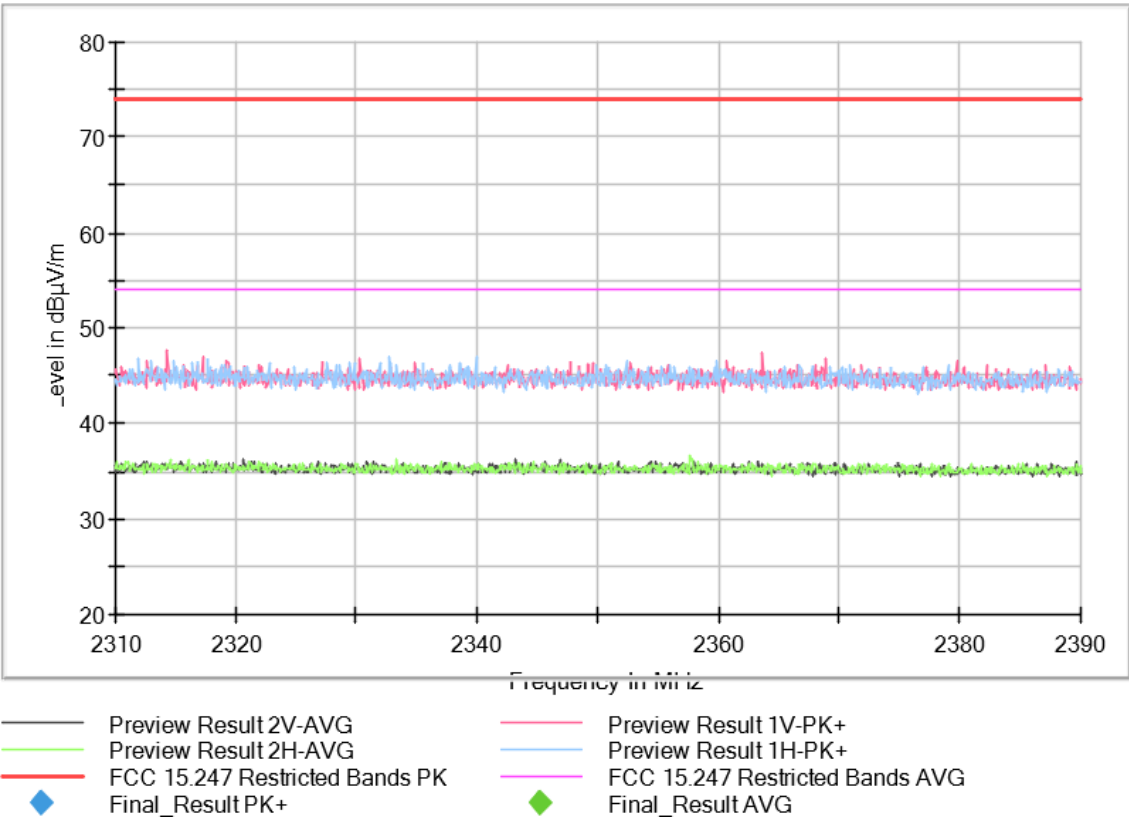
Active Port = 1

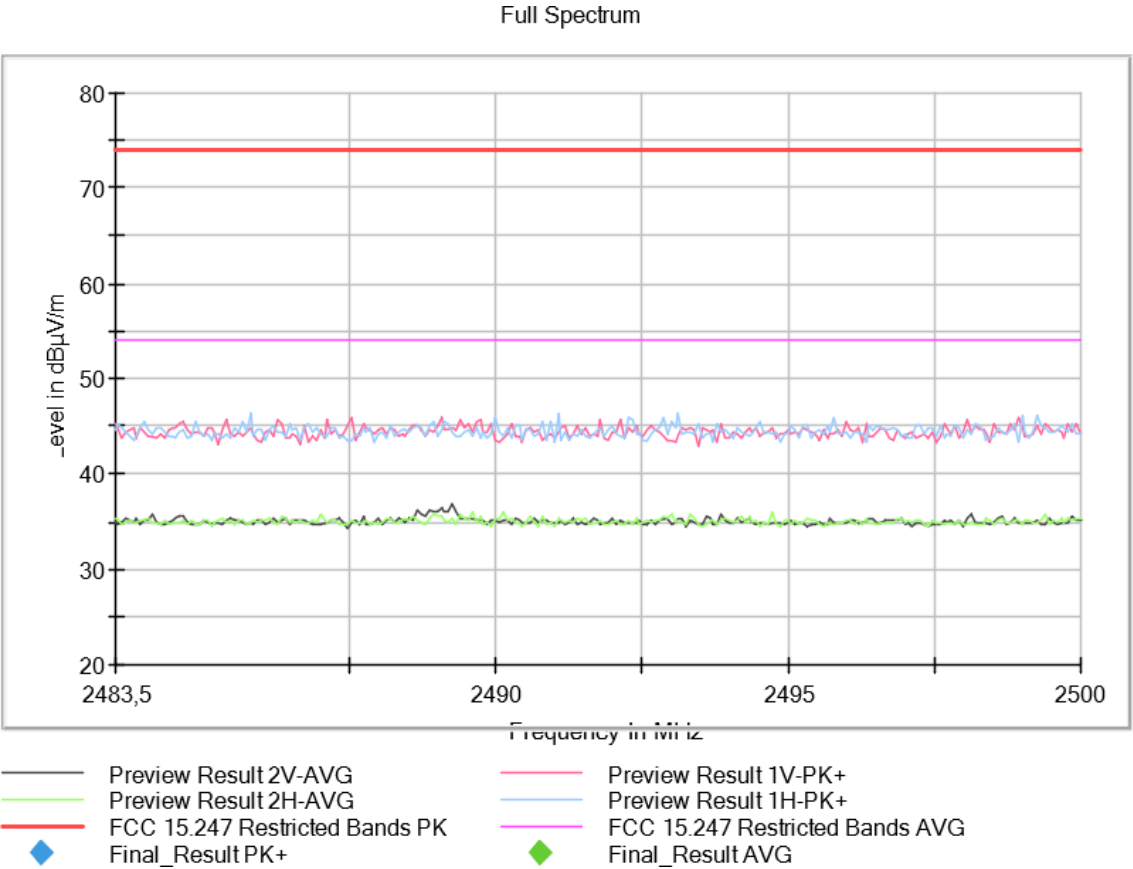
Modulation = BT (GFSK 1-DH5)

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

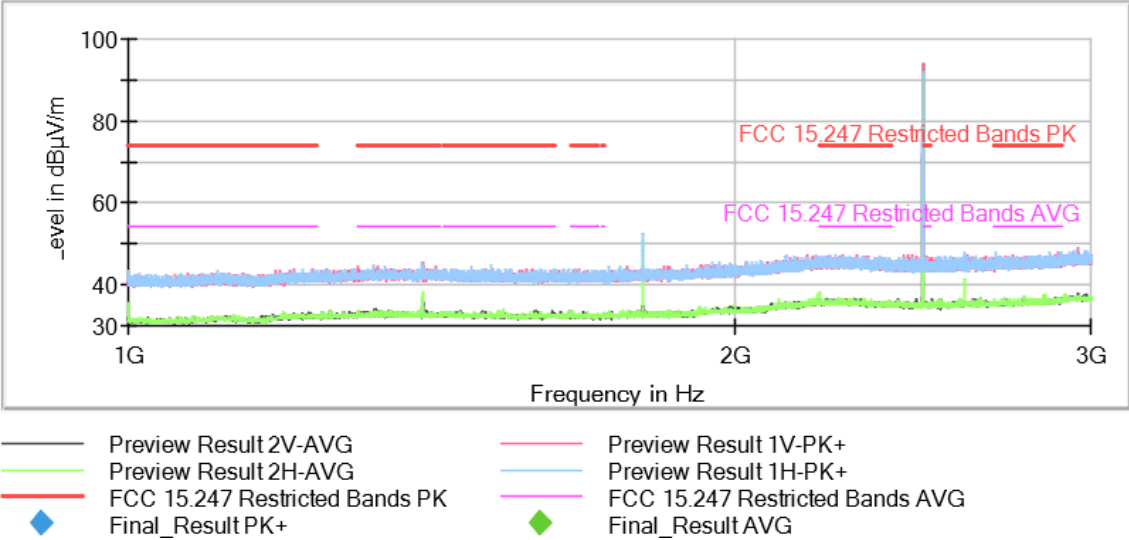
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2480.00000

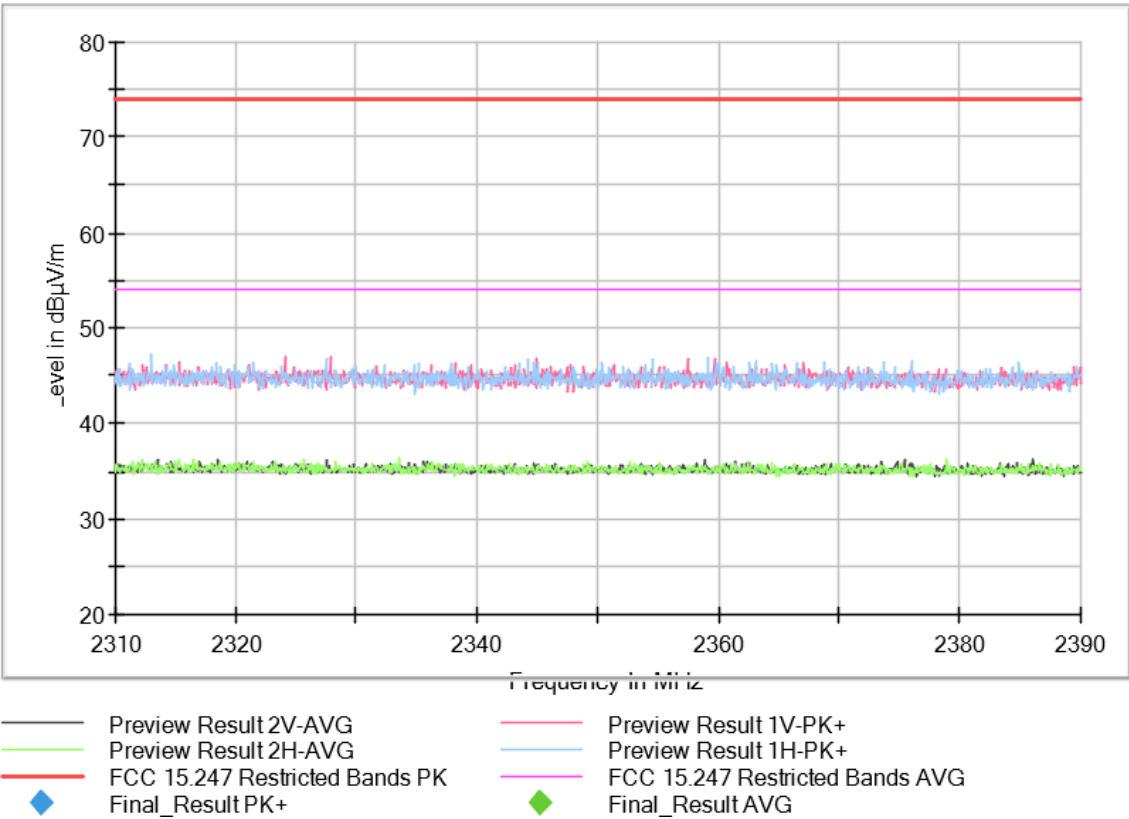
Active Port = 1

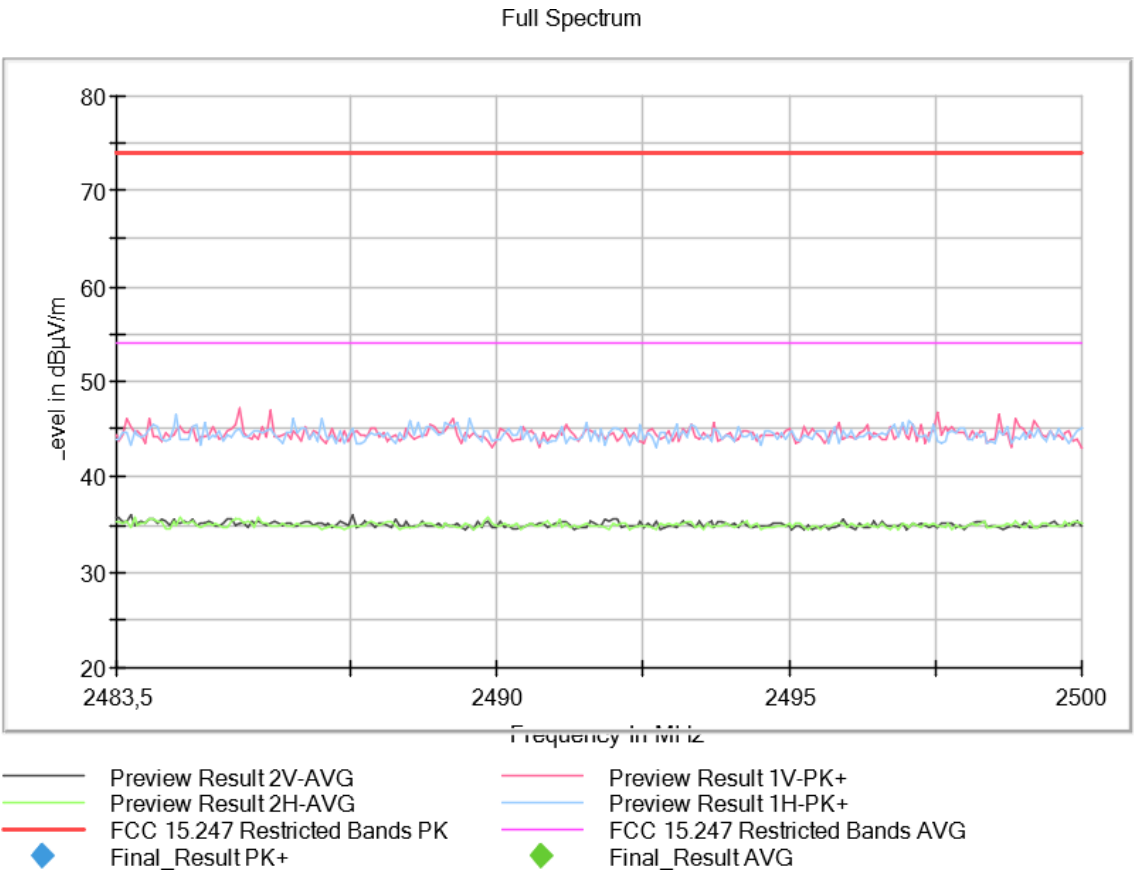
Modulation = BT (GFSK 1-DH5)

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

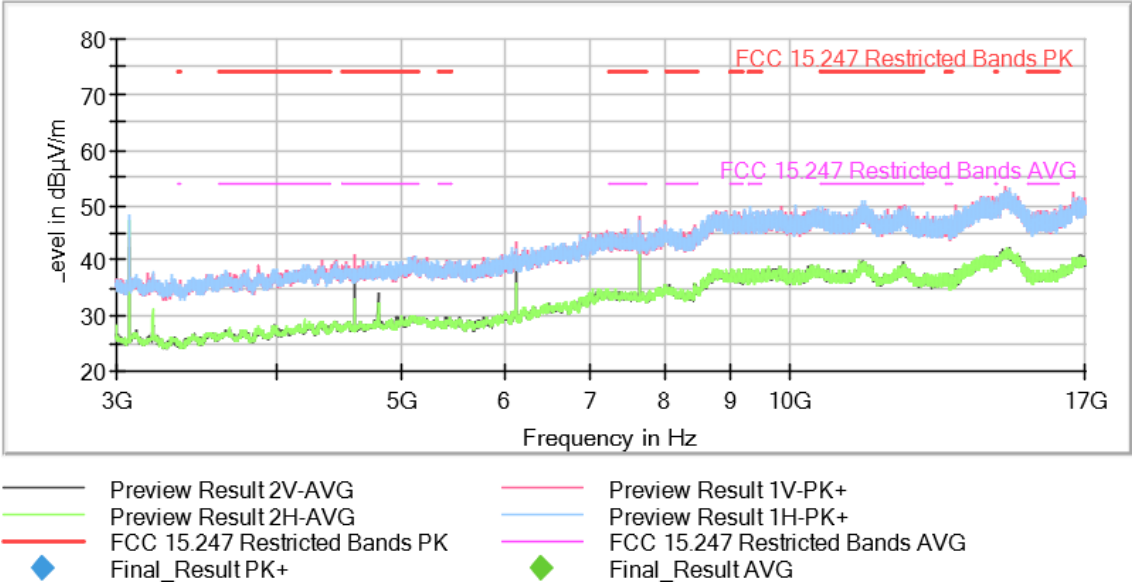
Active Port = 1

Frequency Range GHz = [3, 17]

Frequency MHz = 2402.00000

Modulation = BT (GFSK 1-DH5)

Images:



Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

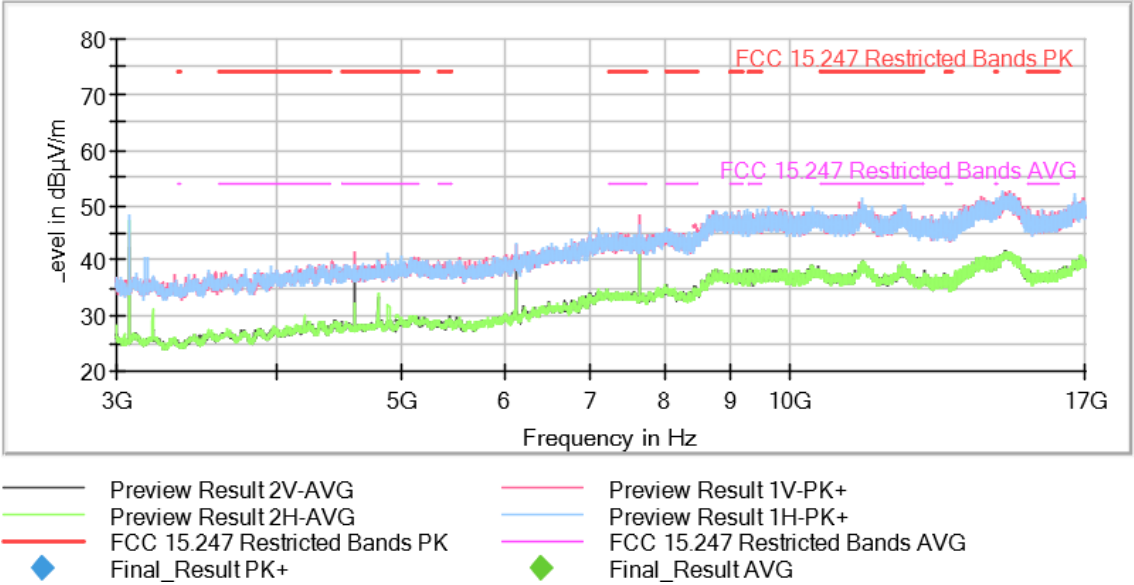
Active Port = 1

Frequency Range GHz = [3, 17]

Frequency MHz = 2441.00000

Modulation = BT (GFSK 1-DH5)

Images:



Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

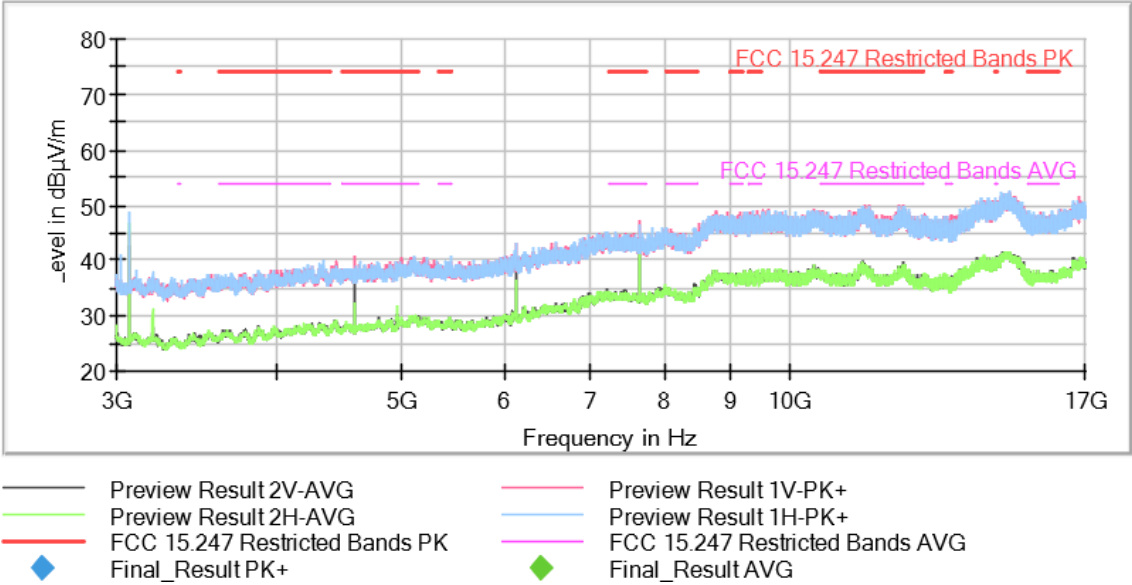
Active Port = 1

Frequency Range GHz = [3, 17]

Frequency MHz = 2480.00000

Modulation = BT (GFSK 1-DH5)

Images:



Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

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

Results

Freq Rng (GHz)	Equipment	Freq (MHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
[3, 17]	Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	4599.500	40.81	V	PK	-46.7	0.0	30.8	56.7
			7666.000	48.08	V	PK	-45.3	0.0	36.1	57.3
		2441.00000	4599.500	41.42	V	PK	-46.7	0.0	30.8	57.3
			7666.000	48.56	V	PK	-45.3	0.0	36.1	57.8
		2480.00000	4598.500	40.41	V	PK	-46.7	0.0	30.8	56.3
			7666.000	47.28	V	PK	-45.3	0.0	36.1	56.5

Verdict

Pass

Attachments

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

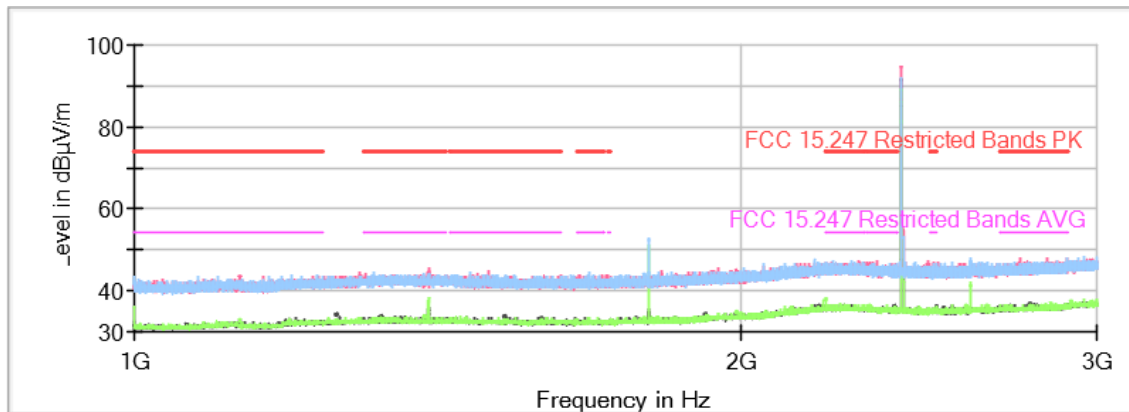
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2402.00000

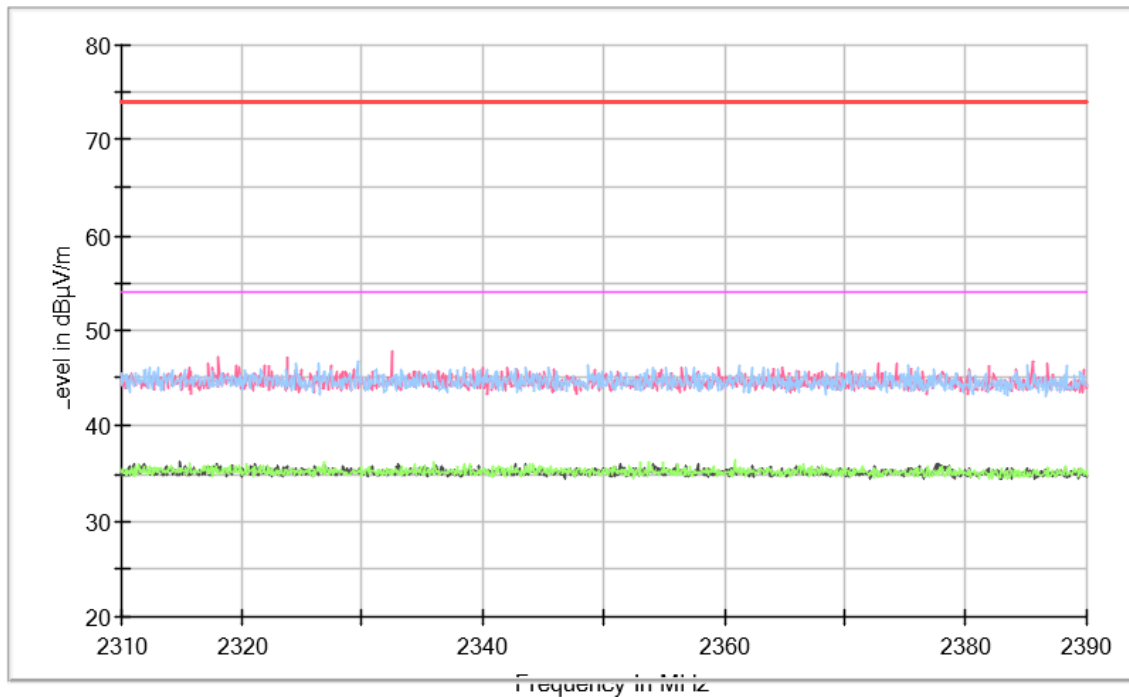
Active Port = 1

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

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

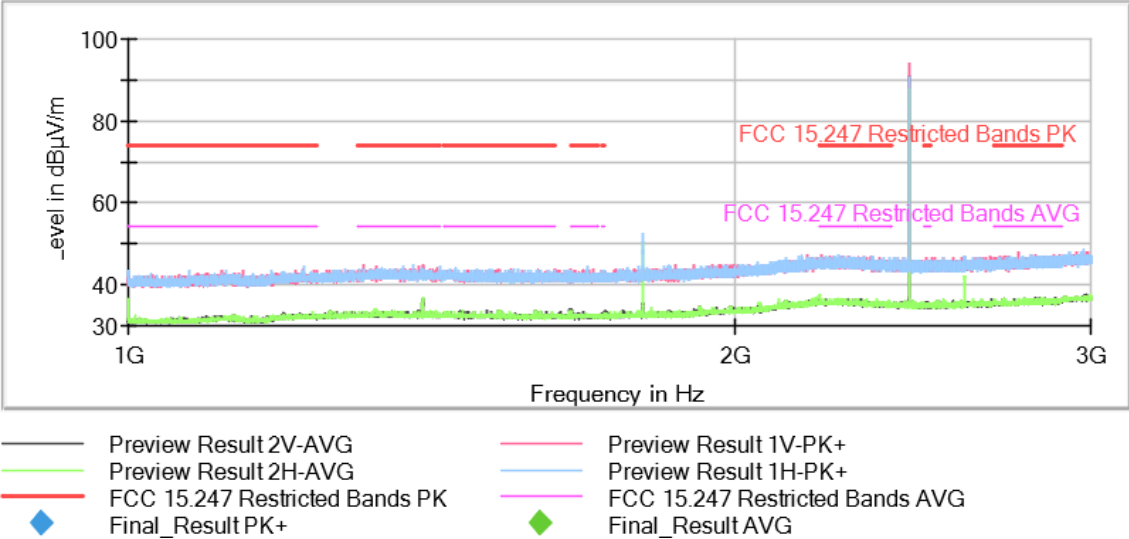
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2441.00000

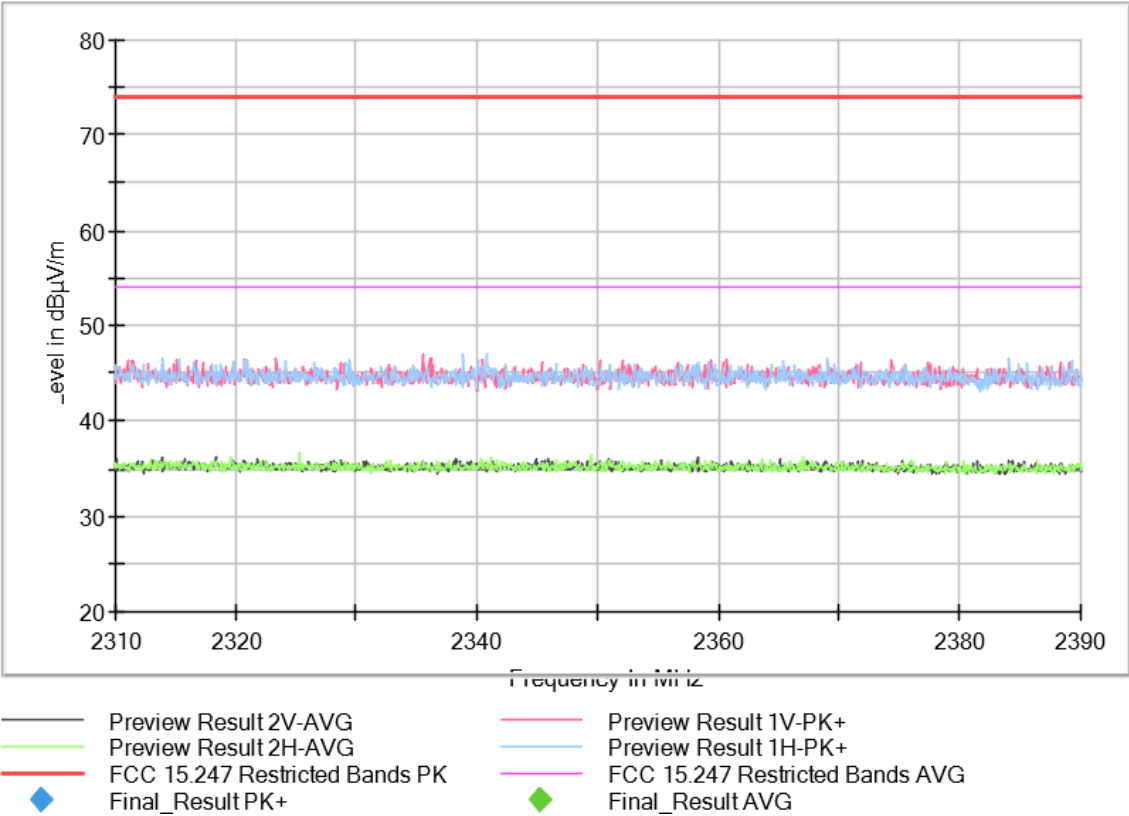
Active Port = 1

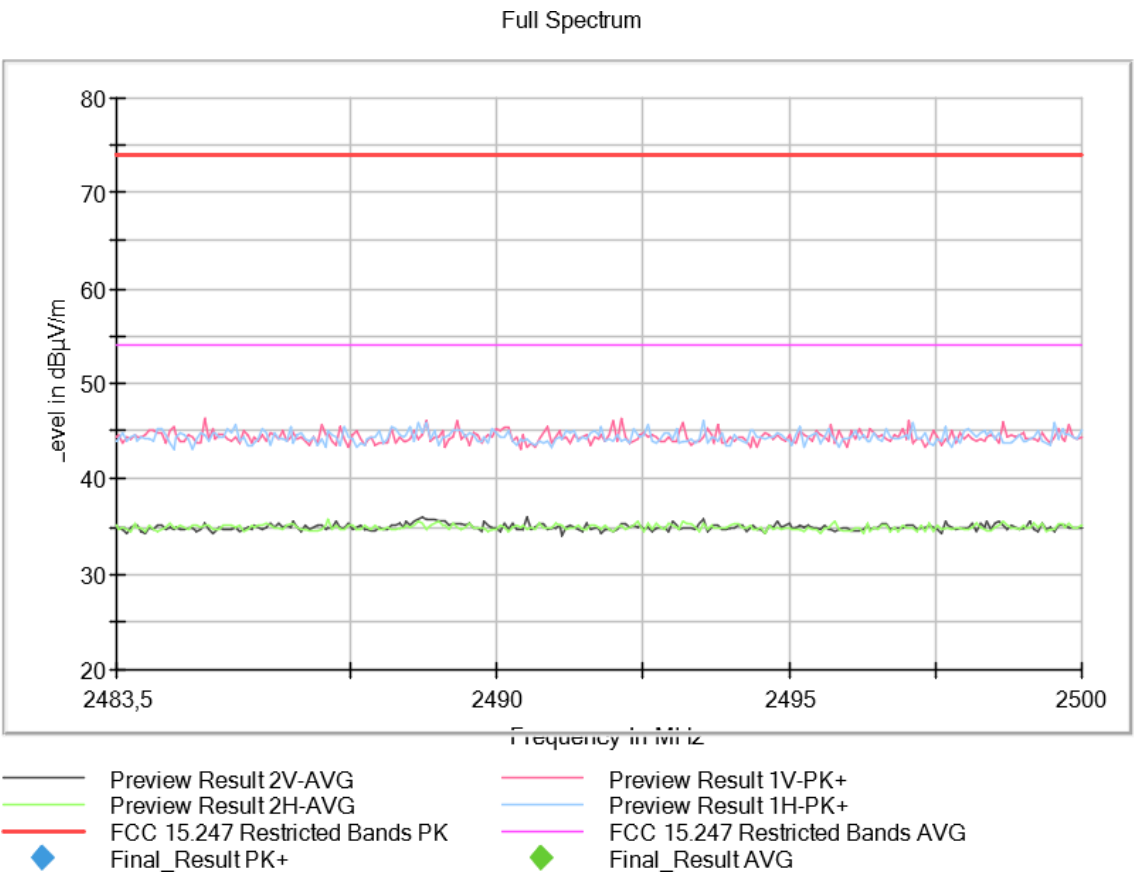
Modulation = BT (Pi/4 DQPSK 2-DH5)

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

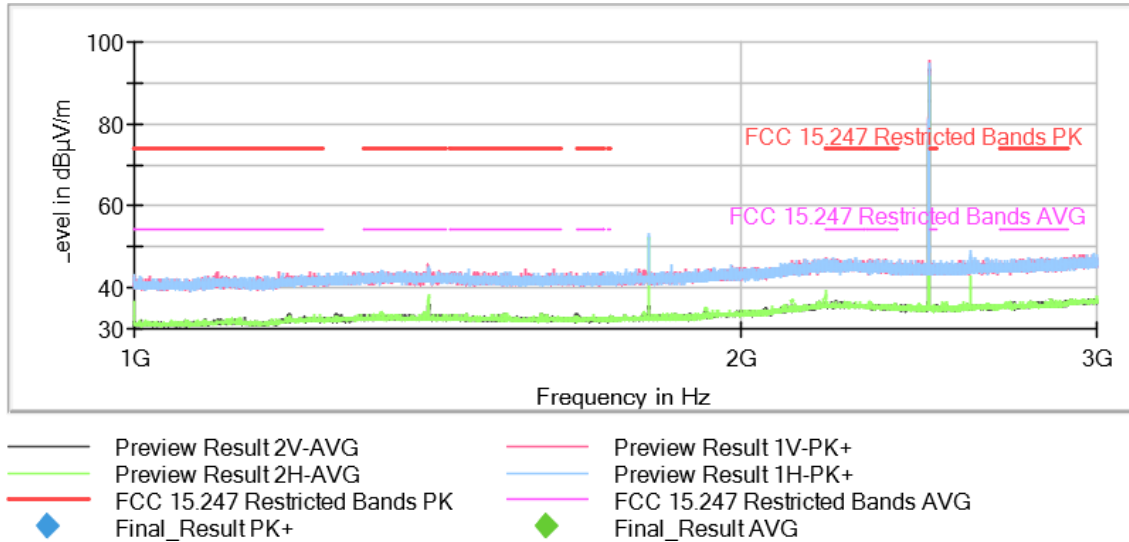
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2480.00000

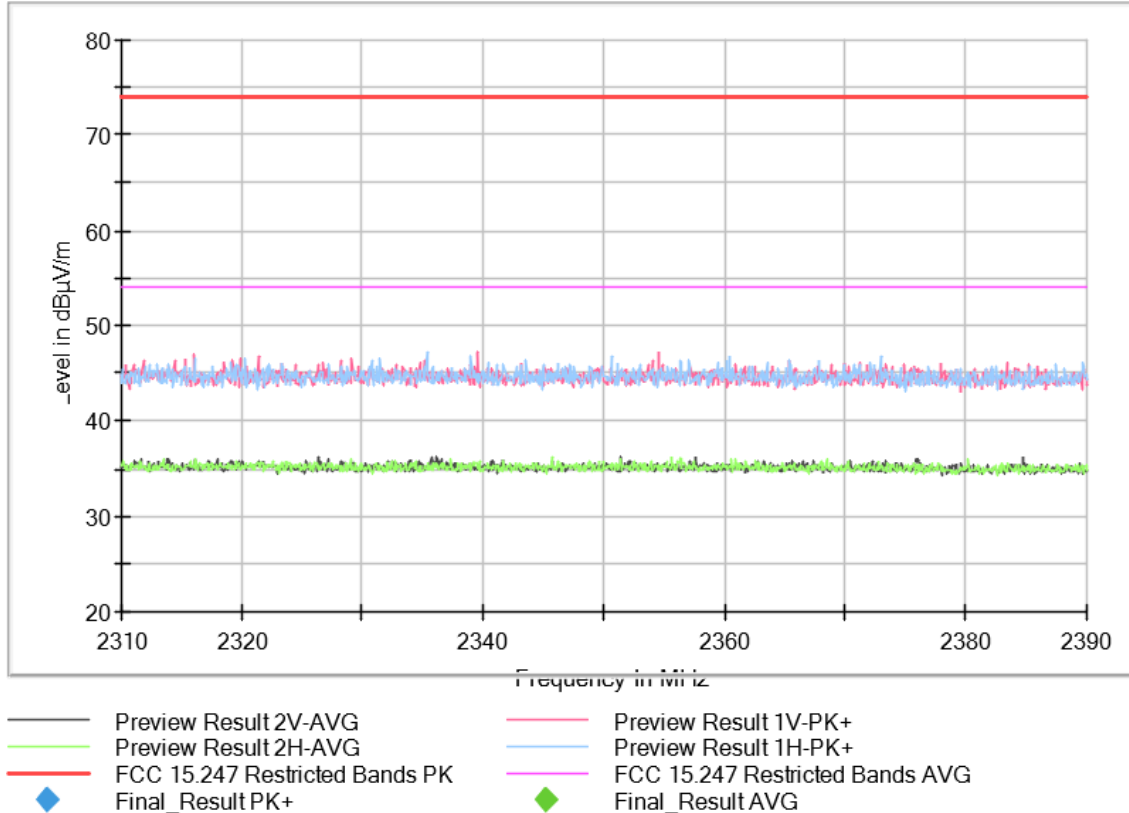
Active Port = 1

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

Images:



Full Spectrum





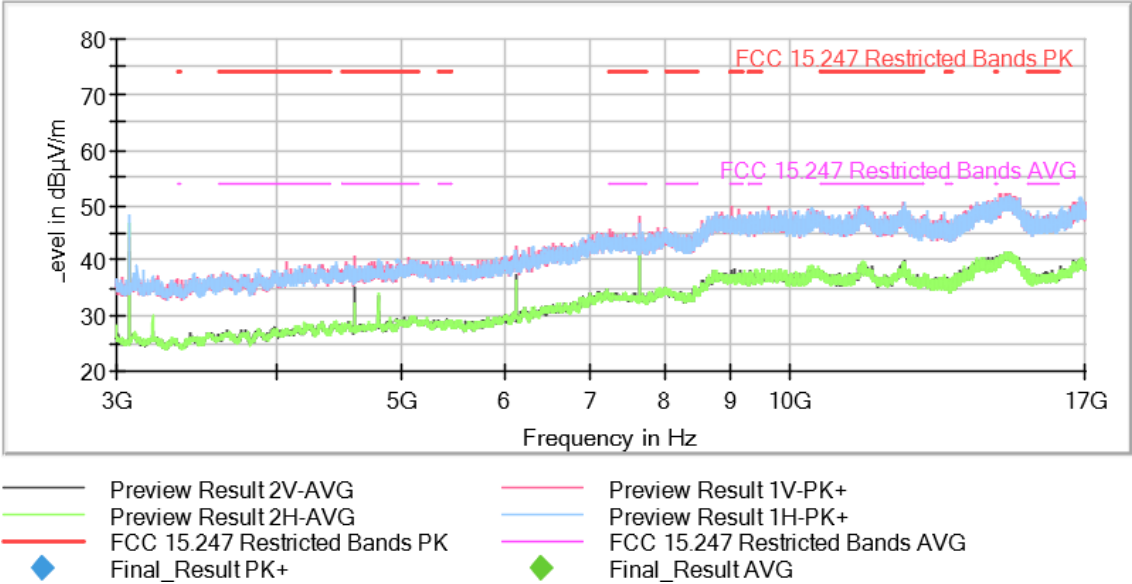
Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Active Port = 1

Frequency Range GHz = [3, 17]
Frequency MHz = 2402.00000
Modulation = BT (Pi/4 DQPSK 2-DH5)

Images:



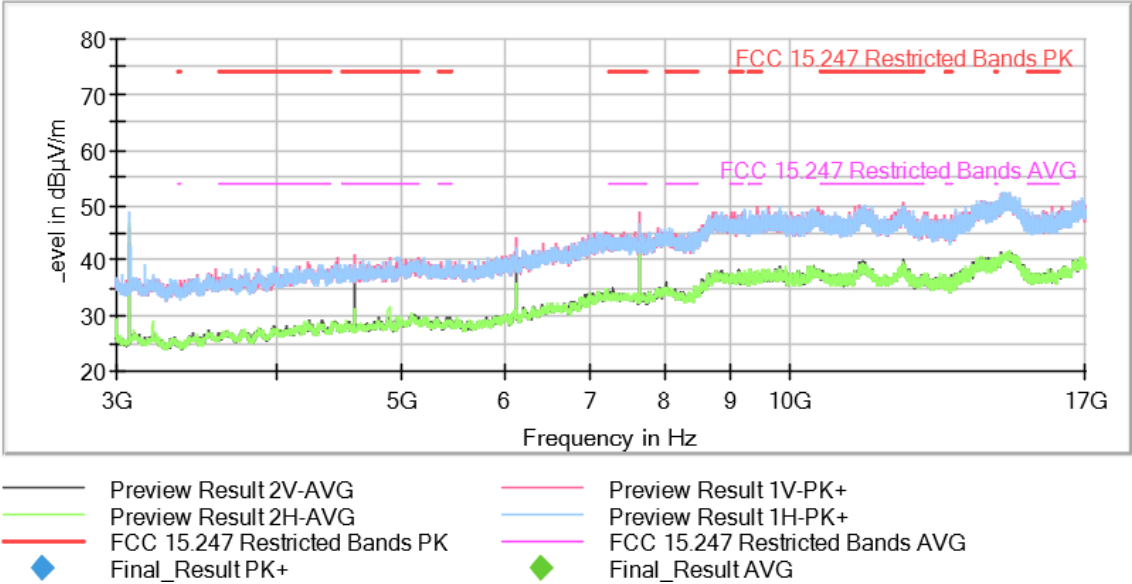
Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Active Port = 1

Frequency Range GHz = [3, 17]
Frequency MHz = 2441.00000
Modulation = BT (Pi/4 DQPSK 2-DH5)

Images:



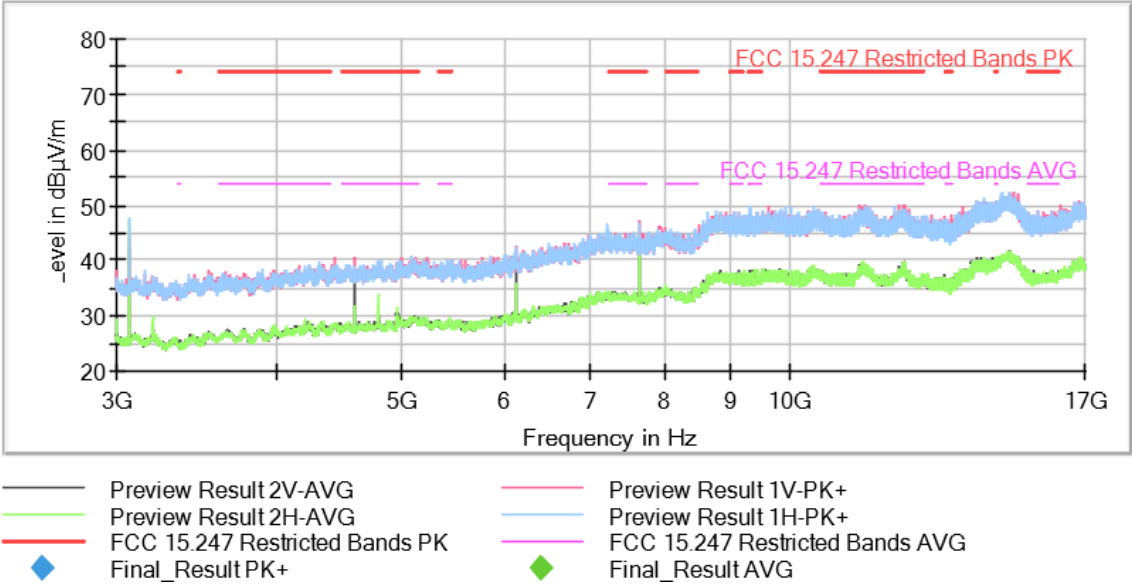
Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Active Port = 1

Frequency Range GHz = [3, 17]
Frequency MHz = 2480.00000
Modulation = BT (Pi/4 DQPSK 2-DH5)

Images:



Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Modulation: BT (8DPSK 3-DH5)

Results

Freq Rng (GHz)	Equipment	Freq (MHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
[3, 17]	Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	4599.000	41.08	V	PK	-46.7	0.0	30.8	57.0
			7665.500	46.90	H	PK	-45.3	0.0	36.1	56.1
		2441.00000	4599.000	40.80	V	PK	-46.7	0.0	30.8	56.7
			7665.500	47.54	V	PK	-45.3	0.0	36.1	56.7
		2480.00000	4599.000	40.77	V	PK	-46.7	0.0	30.8	56.7
			7666.000	46.97	V	PK	-45.3	0.0	36.1	56.2

Verdict

Pass

Attachments

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

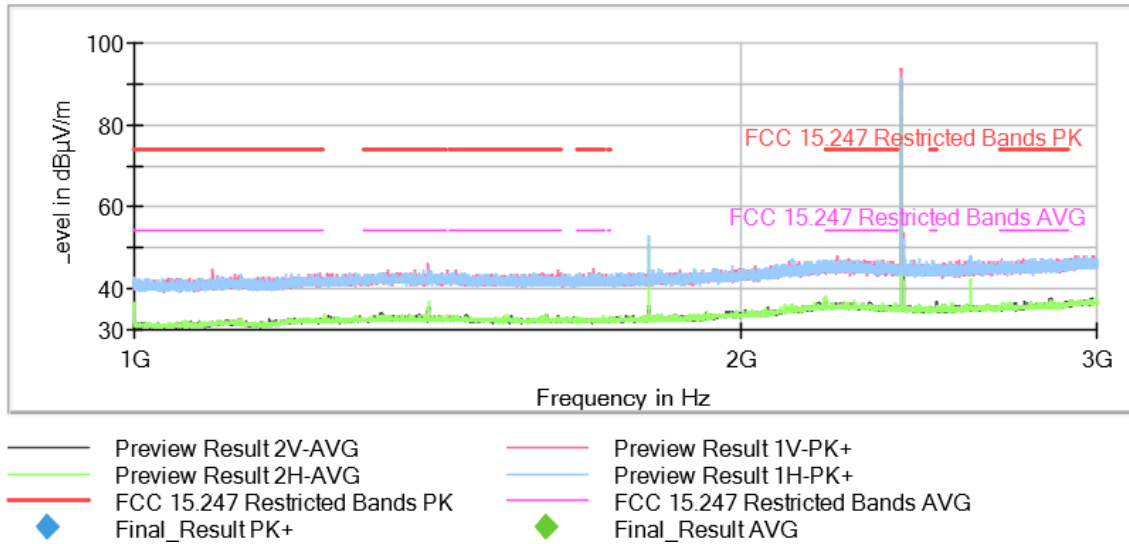
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2402.00000

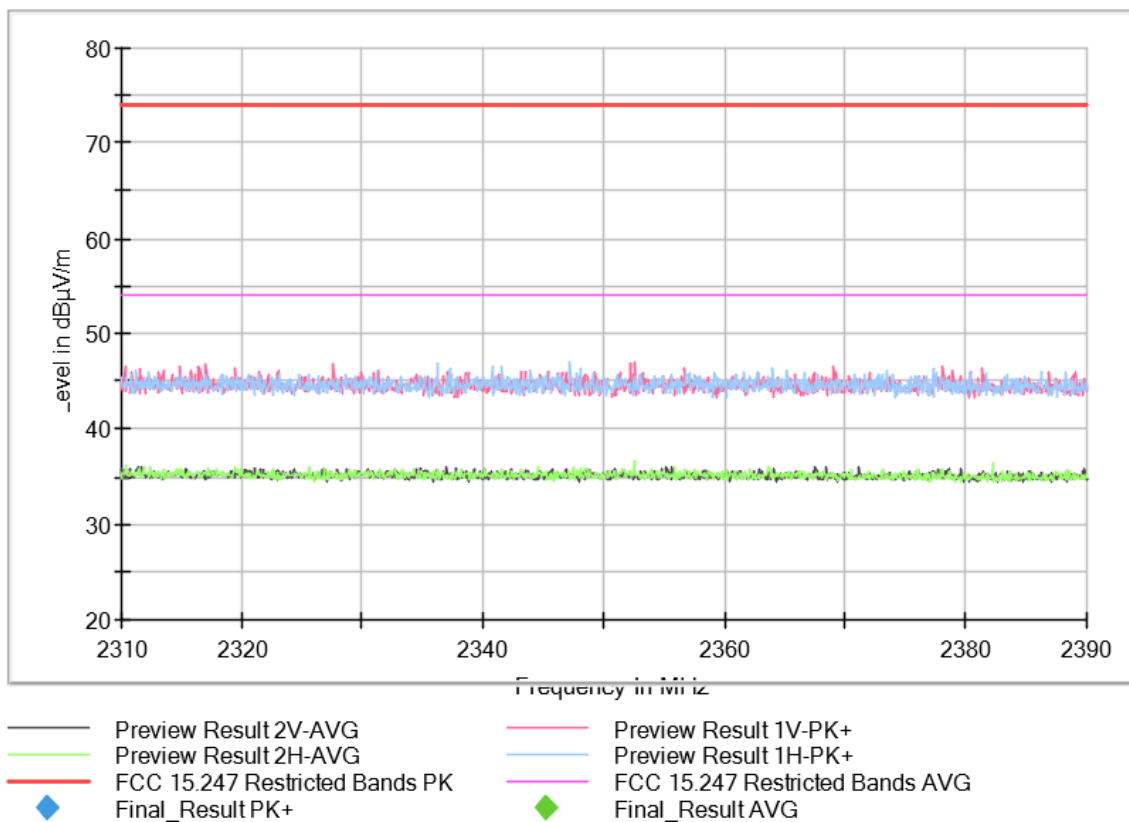
Active Port = 1

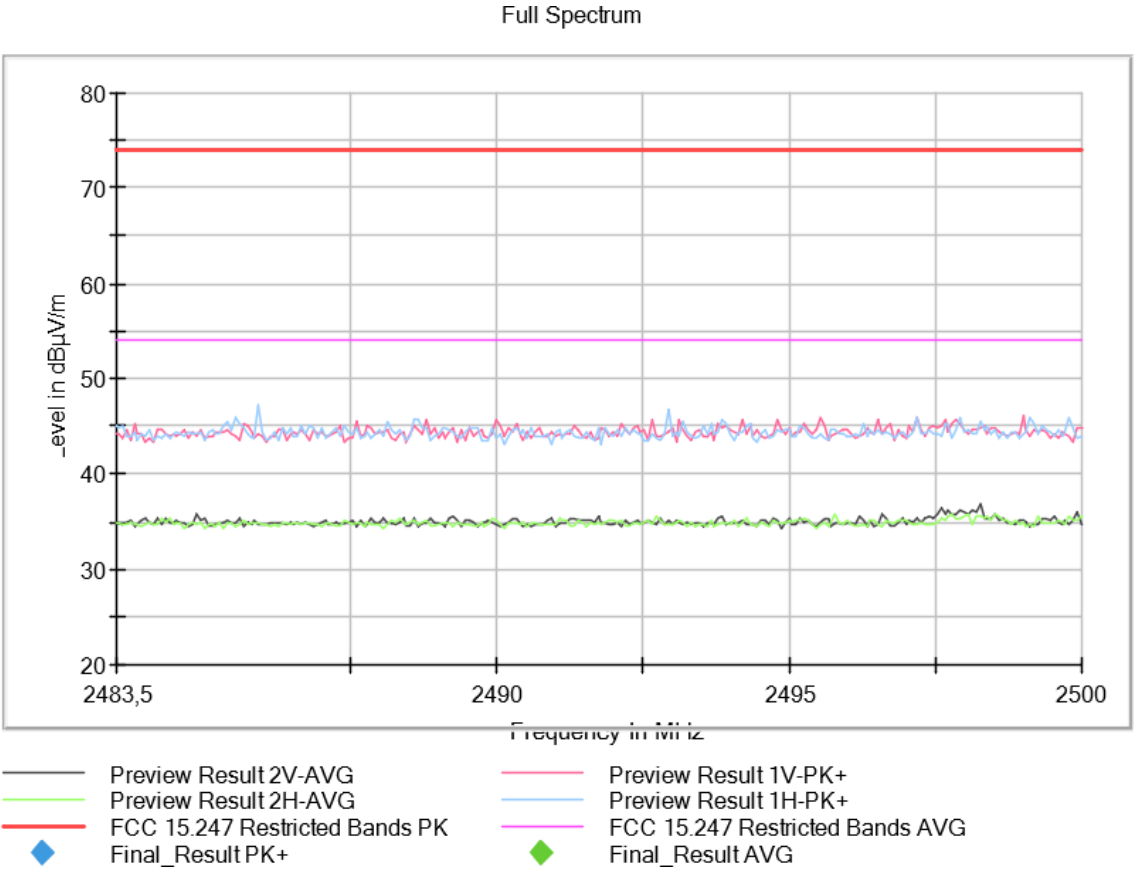
Modulation = BT (8DPSK 3-DH5)

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

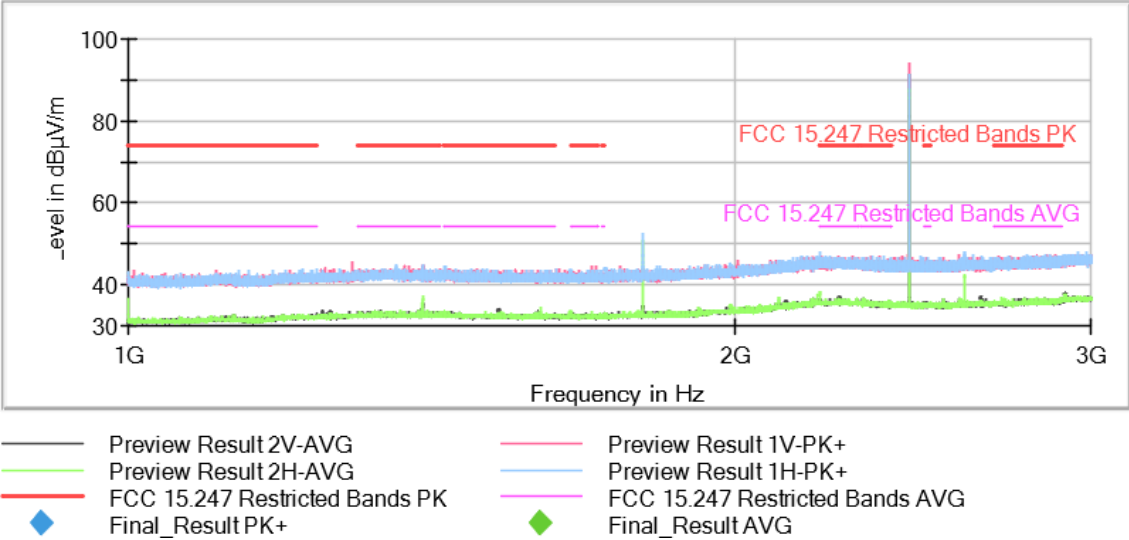
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2441.00000

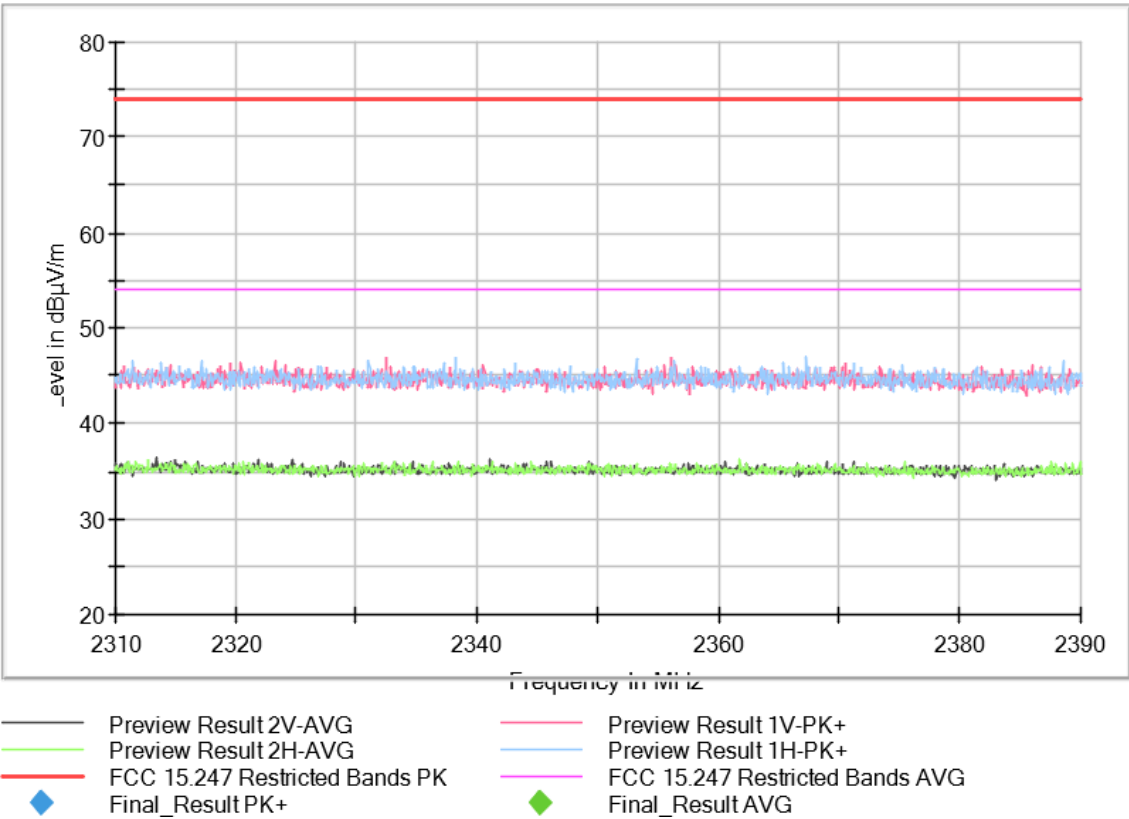
Active Port = 1

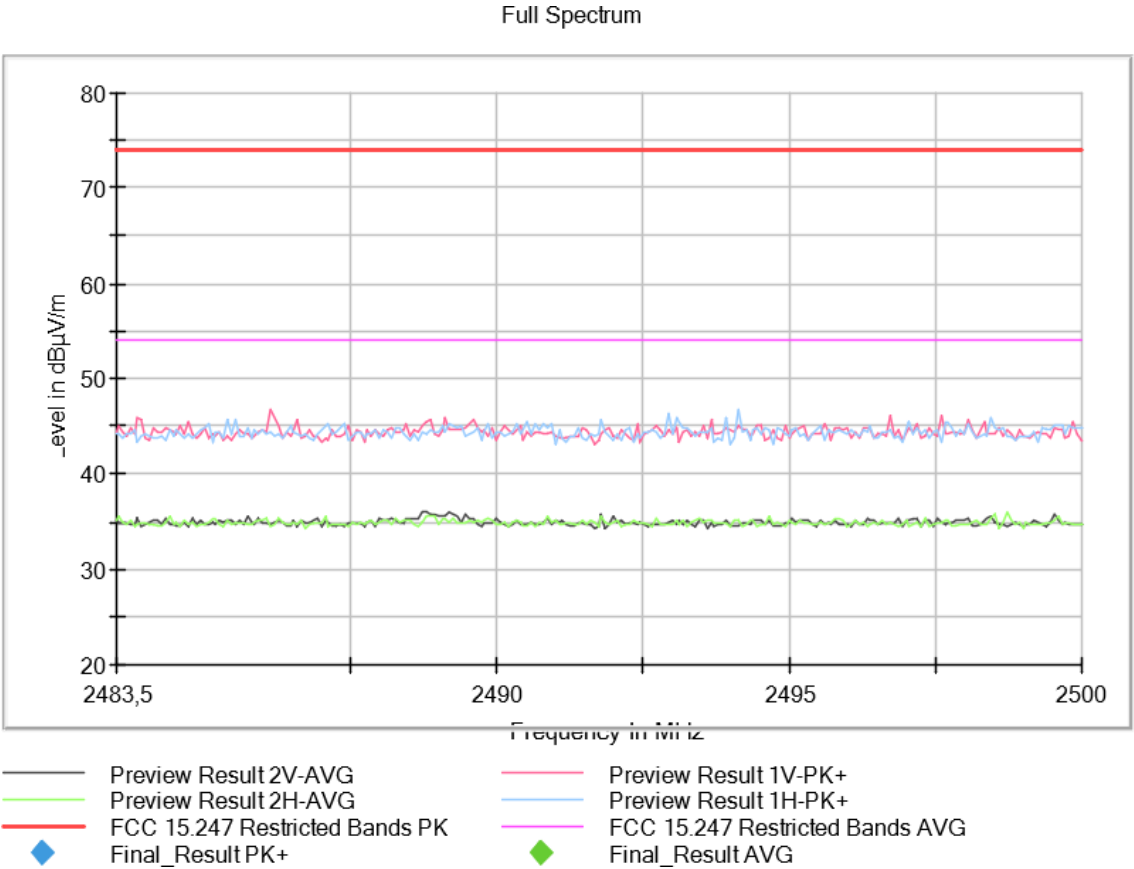
Modulation = BT (8DPSK 3-DH5)

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [1, 3]

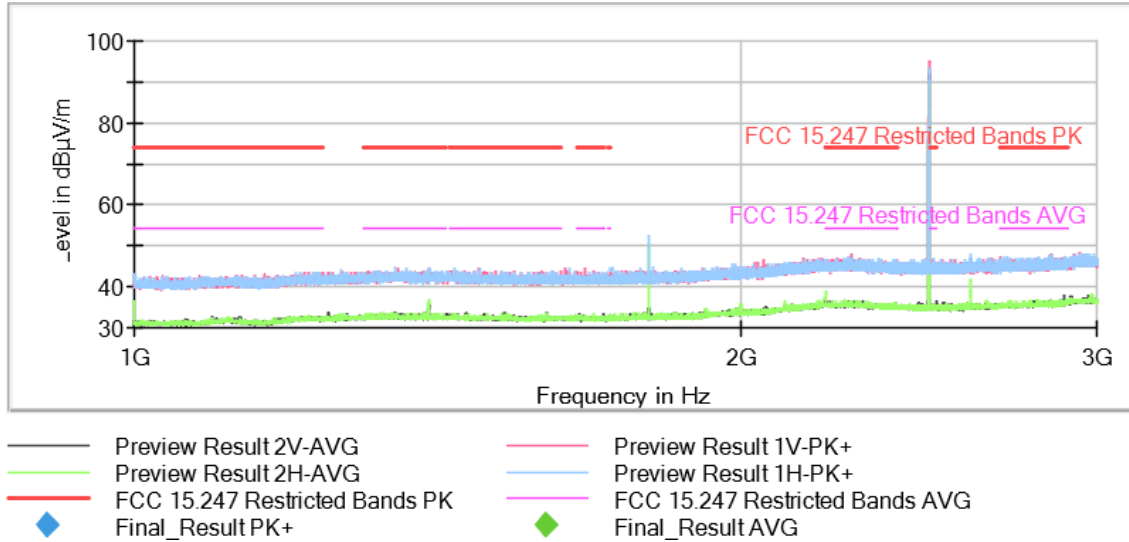
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2480.00000

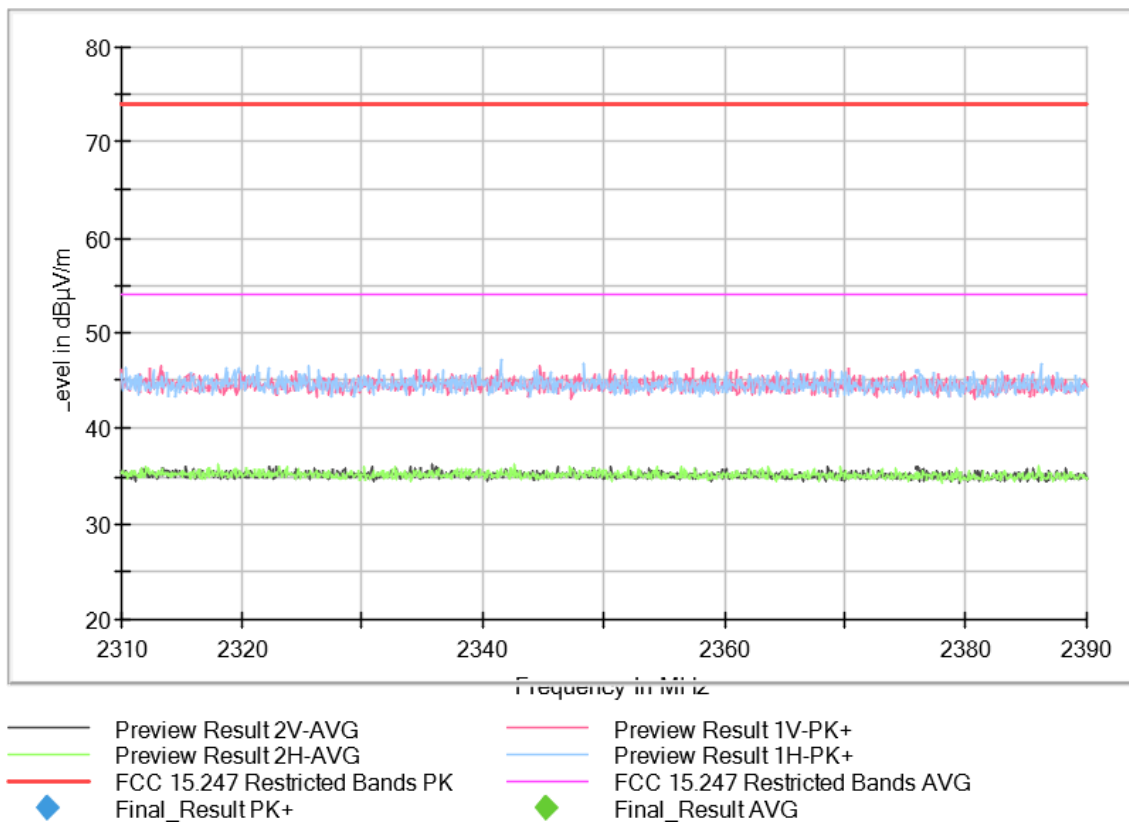
Active Port = 1

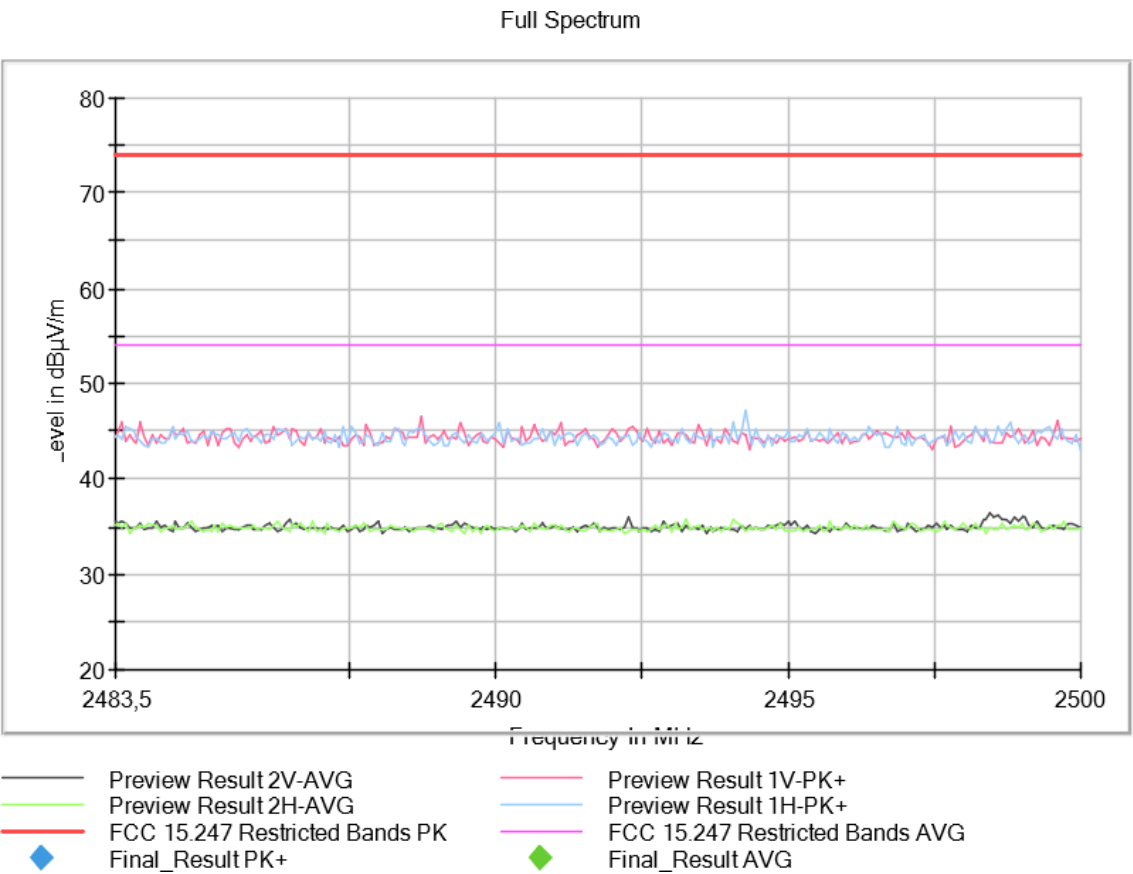
Modulation = BT (8DPSK 3-DH5)

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1 GHz - 3 GHz	66,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [3, 17]

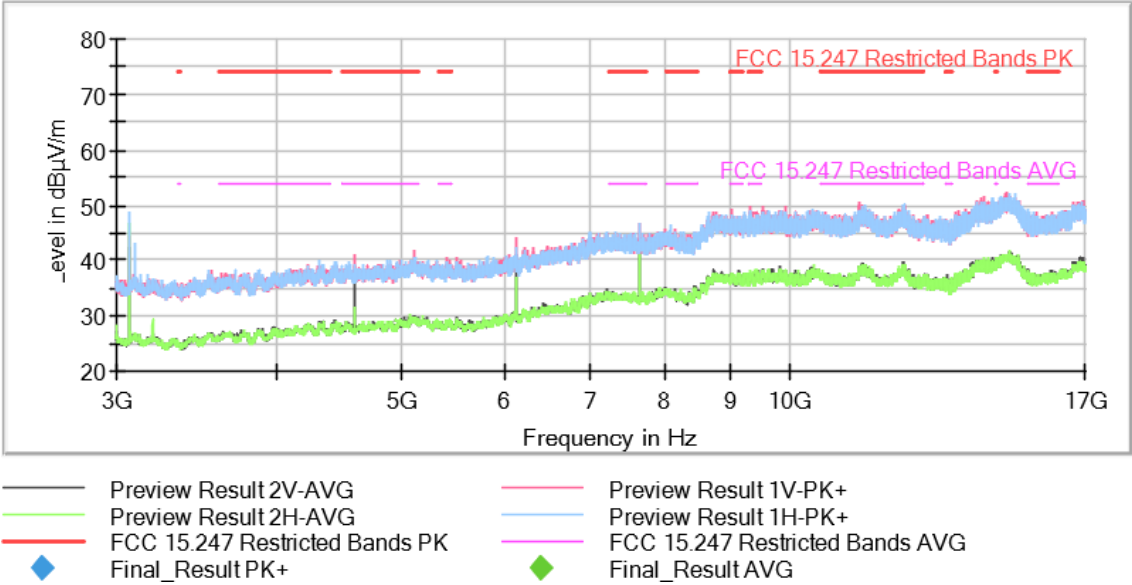
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2402.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:



Tables:

Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [3, 17]

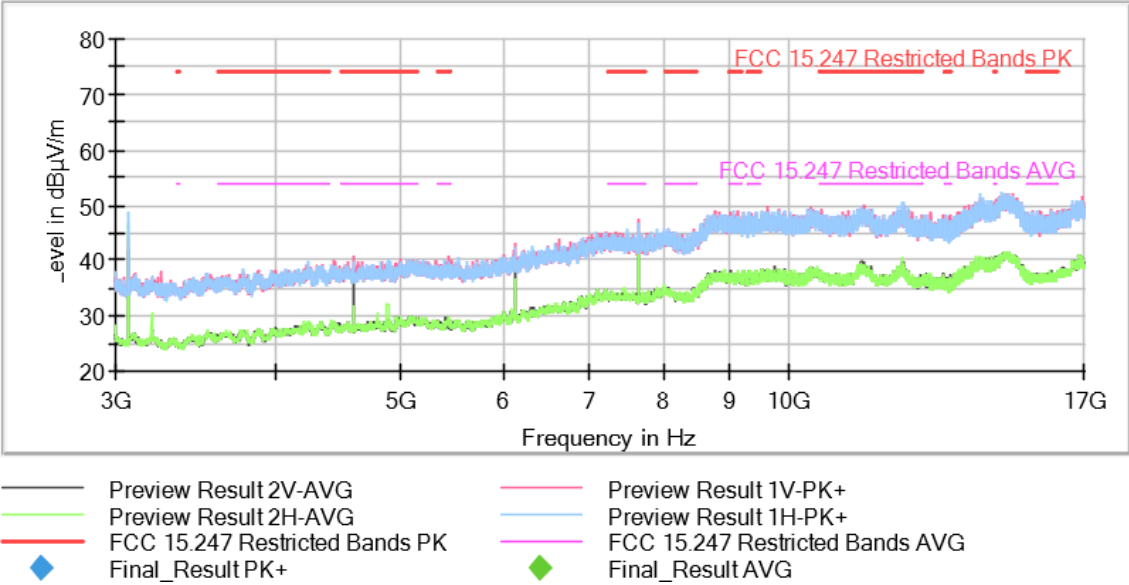
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2441.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:



Tables:

Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band MHz = [2400, 2483.5]

Frequency Range GHz = [3, 17]

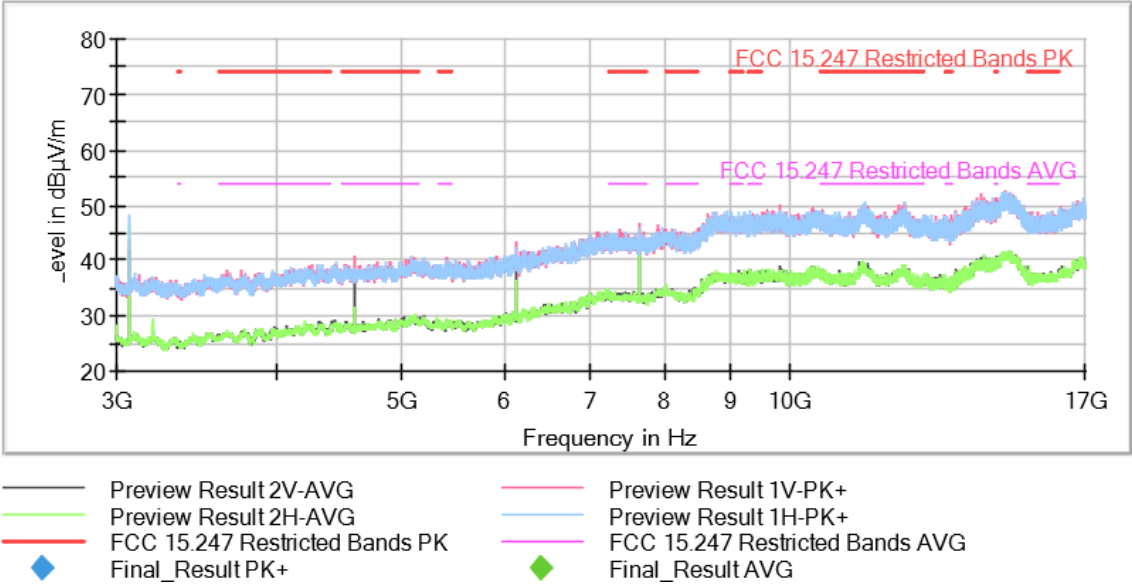
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2480.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:



Tables:

Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
3 GHz - 17 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency Range GHz = [17, 26]

Modulation: The spurious frequencies detected do not depend on either the modulation or the operating channel.

MIMO Mode: SISO

Results

No spurious frequencies detected at less than 20 dB below the limit.

Verdict

Pass

Attachments

Operation Band MHz = [2400, 2483.5]

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

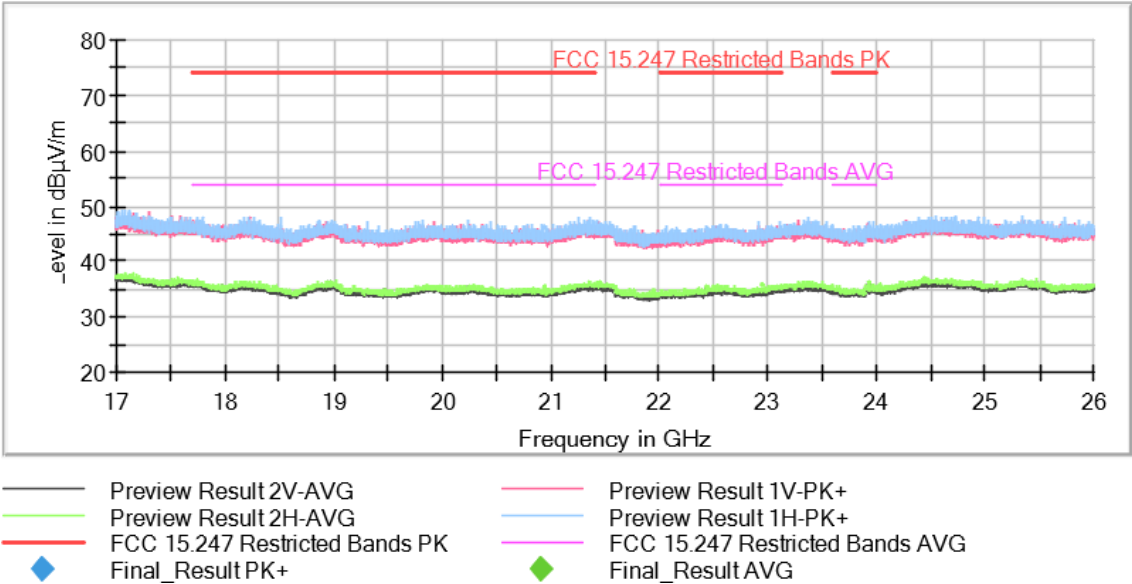
Active Port = 1

Frequency Range GHz = [17, 26]

Frequency MHz = The spurious frequencies detected do not depend on the operating channel.

Modulation = The spurious frequencies detected do not depend on the modulation.

Images:



Worst case range measure

Tables:
Spectrum Analyzer Parameters

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
17 GHz - 26 GHz	500 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Appendix C: Test results. Bluetooth EDR. Smartphone

TEST CONDITIONS	192
SAMPLE CALCULATION	195
TEST CASES DETAILS	196
<i>Occupied Channel Bandwidth 99%</i>	196
<i>RSS-247 6.2.3.1 (a) / FCC 15.247 (a) (1) 20 dB Bandwidth</i>	208
<i>RSS-247 6.2.3.1 (a) / FCC 15.247 (a) (1) Carrier Frequency Separation</i>	220
<i>RSS-247 6.2.3.1 (b) / FCC 15.247 (a) (1) (iii) Time of Occupancy (Dwell Time)</i>	229
<i>RSS-247 6.2.3.1 (b) / FCC 15.247 (a) (1) (iii) Number of hopping channels</i>	241
<i>RSS-247 6.3.2 / FCC 15.247 (b) Maximum Peak Conducted Output Power</i>	247
<i>RSS-247 6.6 / FCC 15.247 (d) Band-edge emissions compliance (Transmitter)</i>	259
<i>RSS-247 6.6 / FCC 15.247 (d) Emission limitations radiated (Transmitter)</i>	286

TEST CONDITIONS

(*): Data provided by the client.

POWER SUPPLY (*):

Vnominal: 12Vdc
Type of Power Supply: External DC (vehicle battery).

ANTENNA (*):

Type of Antenna: Internal antenna
Maximum Declared Antenna Gain: 2.4dBi

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).

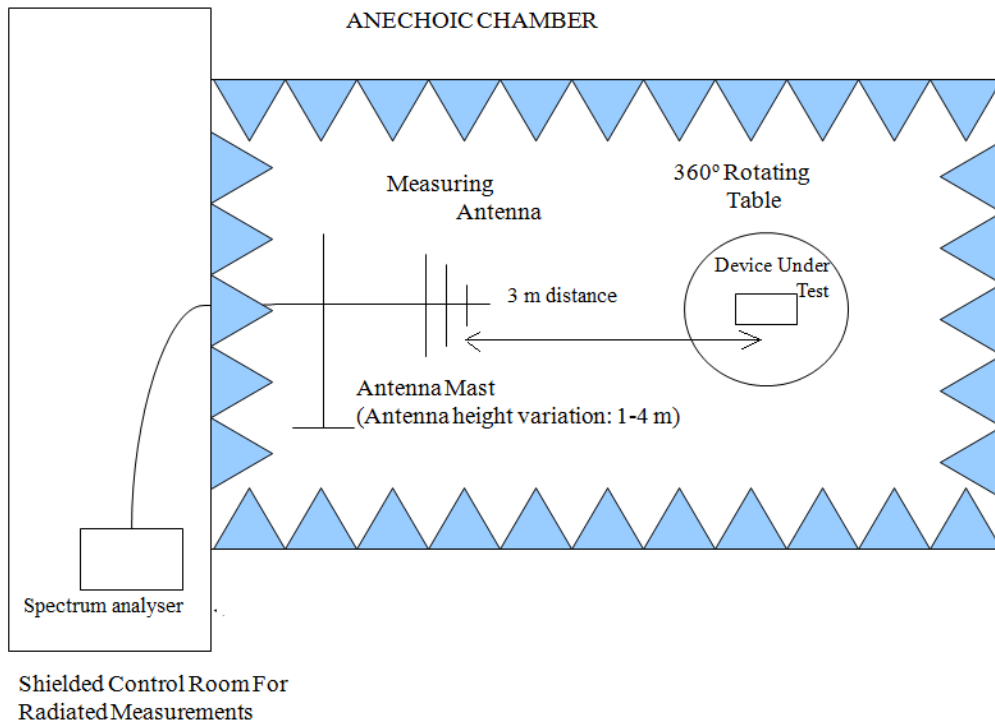
For radiated emissions in the range 17 GHz-26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

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.

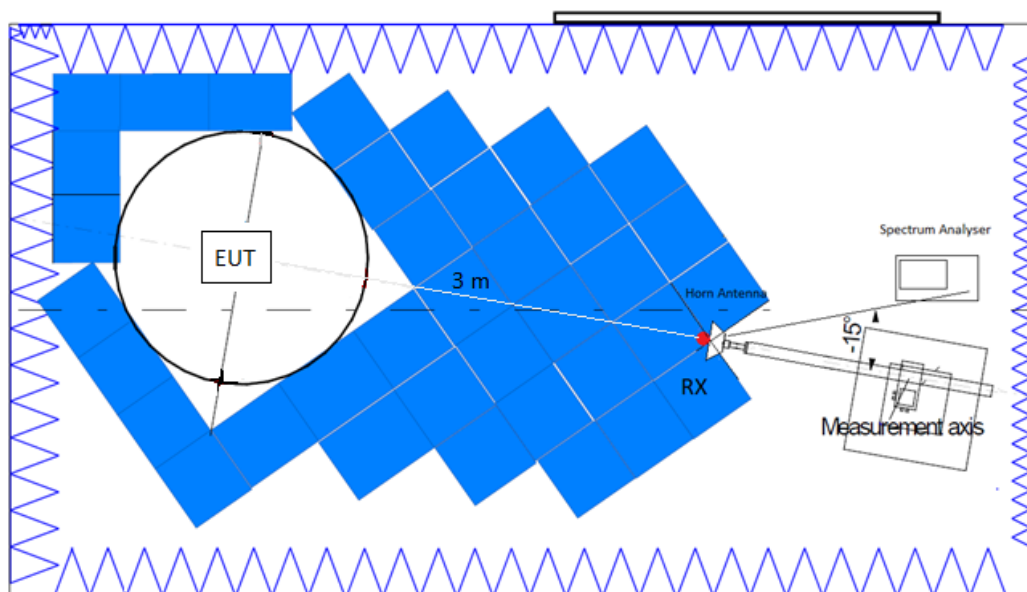
Measurements were made in both horizontal and vertical planes of polarization.

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.

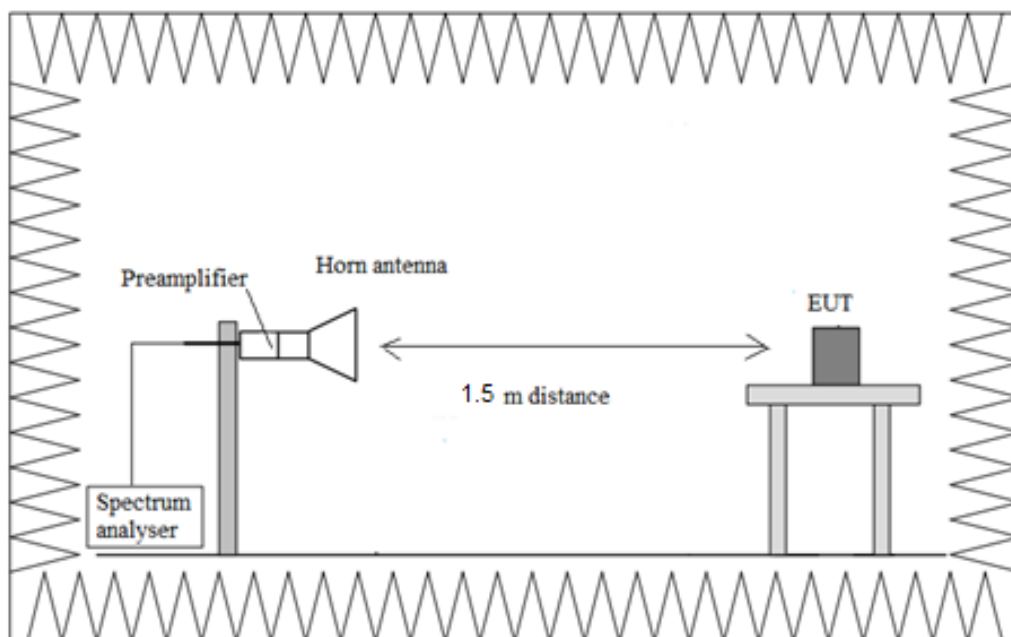
Radiated measurements setup from 30 MHz to 1 GHz:



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

Occupied Channel Bandwidth 99%

Specification

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

Equipment	Freq (MHz)	Occ Ch BW (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	0.875
	2441.00000	0.875
	2480.00000	0.875

Attachments

Operation Band MHz = [2400,
2483.5]

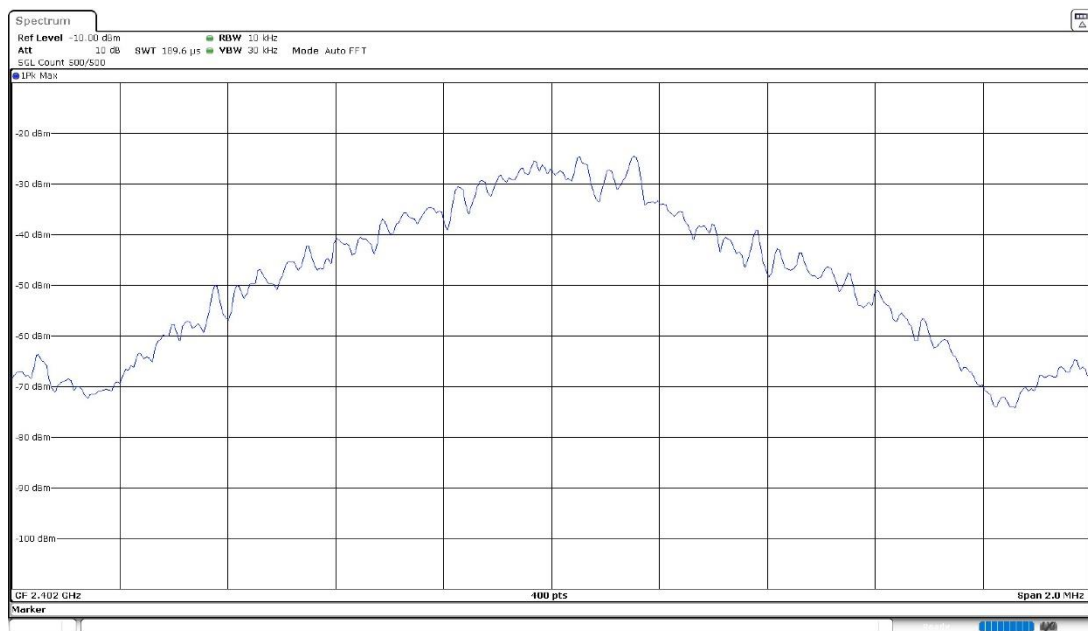
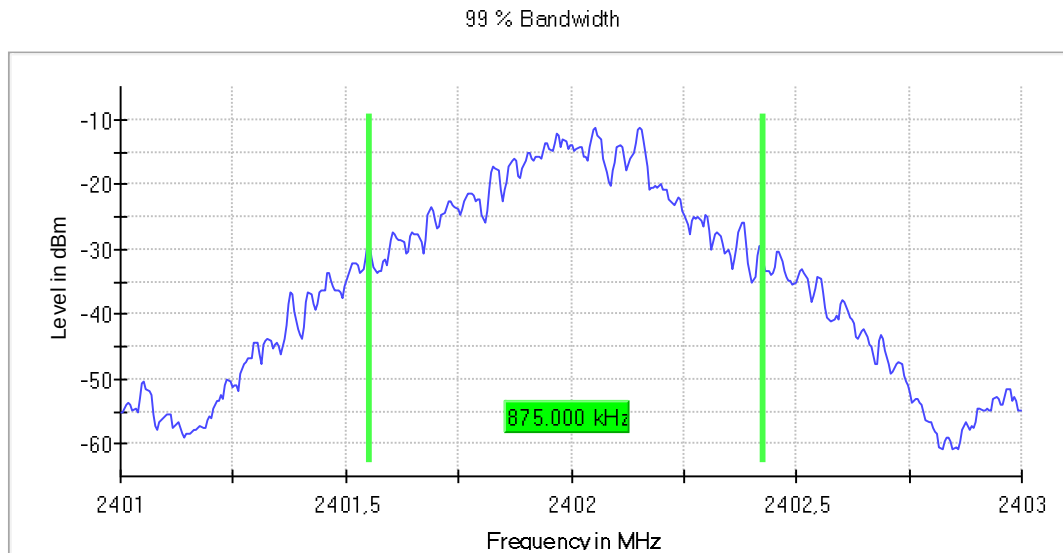
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2402.00000

Active Port = 1

Modulation = BT (GFSK 1-DH5)

Images:



Operation Band MHz = [2400,
2483.5]

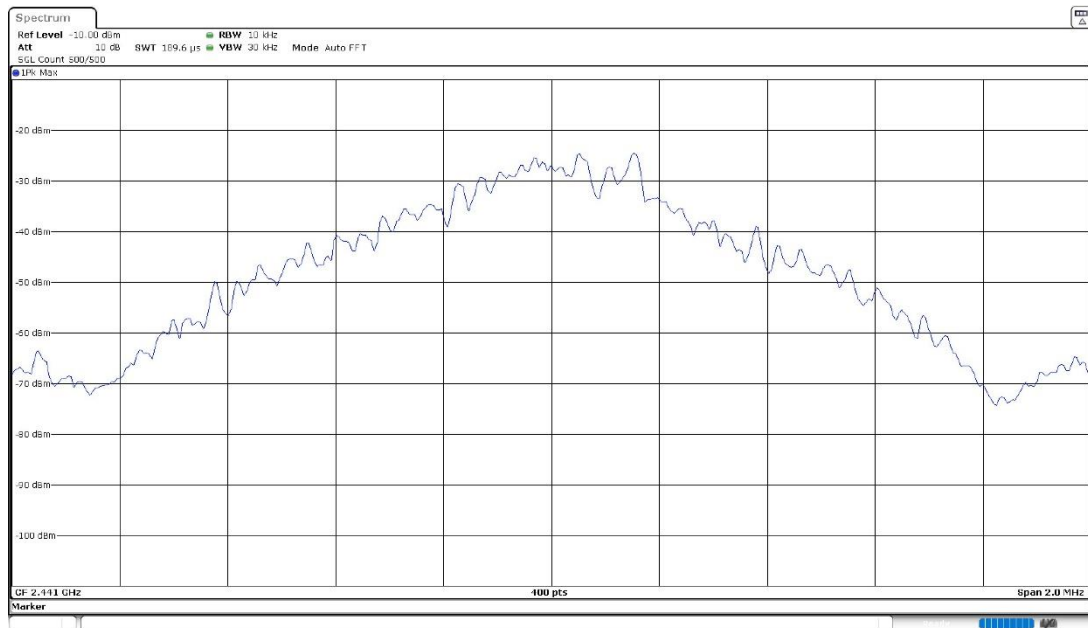
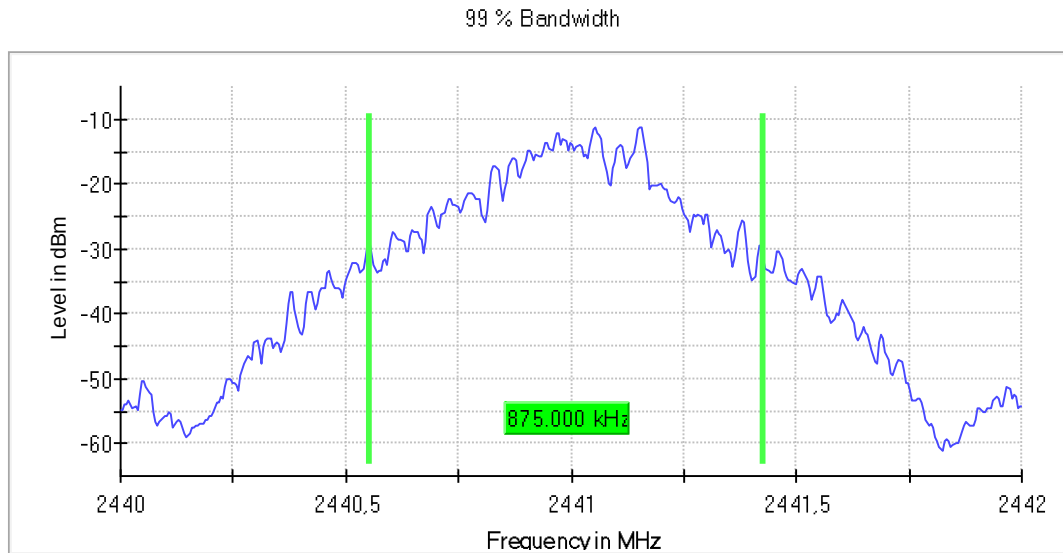
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2441.00000

Active Port = 1

Modulation = BT (GFSK 1-DH5)

Images:



Operation Band MHz = [2400,
2483.5]

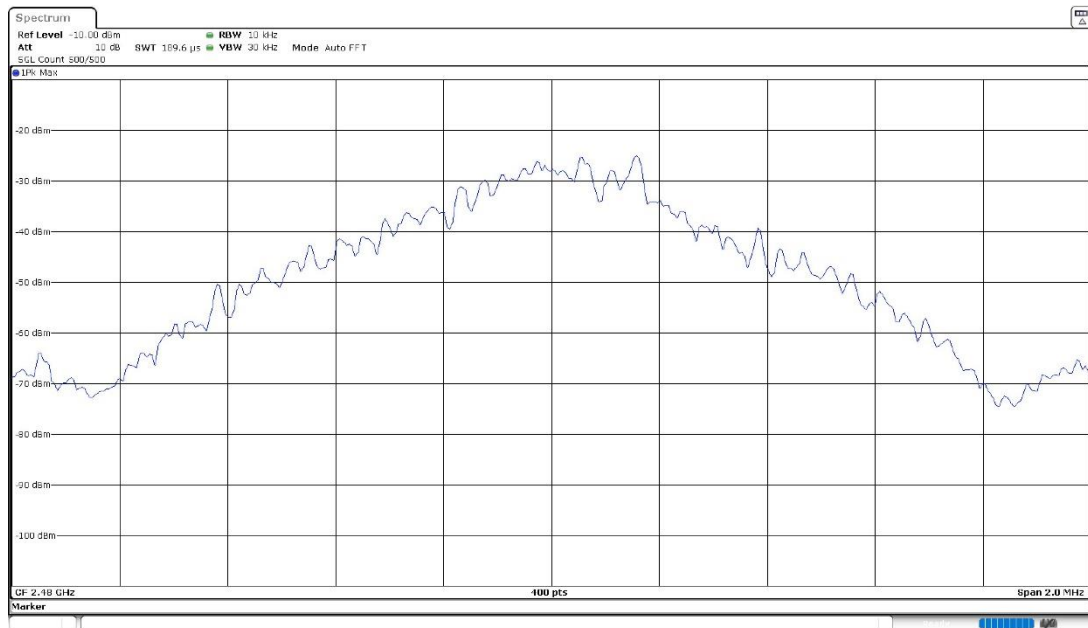
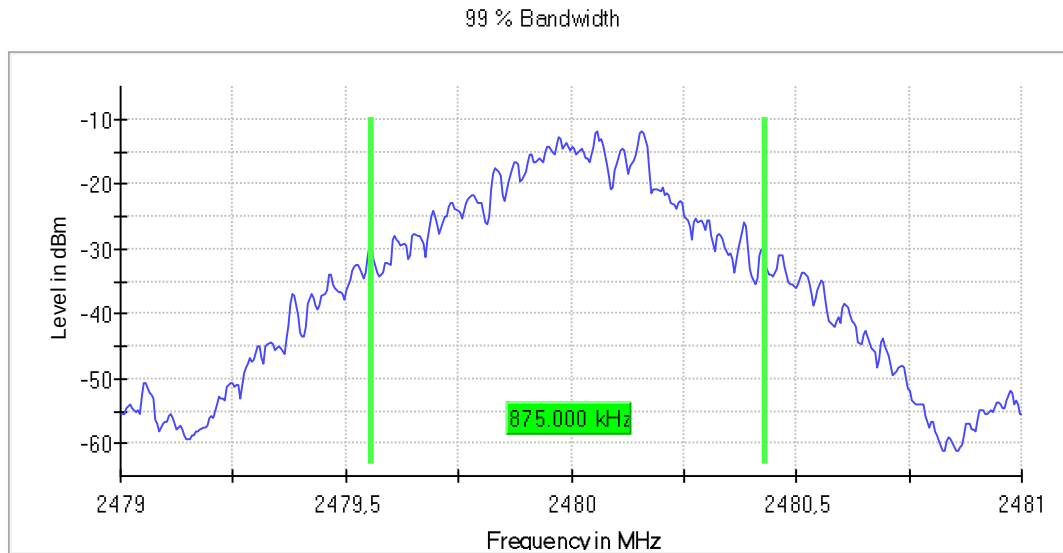
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2480.00000

Active Port = 1

Modulation = BT (GFSK 1-DH5)

Images:



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

Results

Equipment	Freq (MHz)	Occ Ch BW (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1.205
	2441.00000	1.200
	2480.00000	1.195

Verdict

Pass

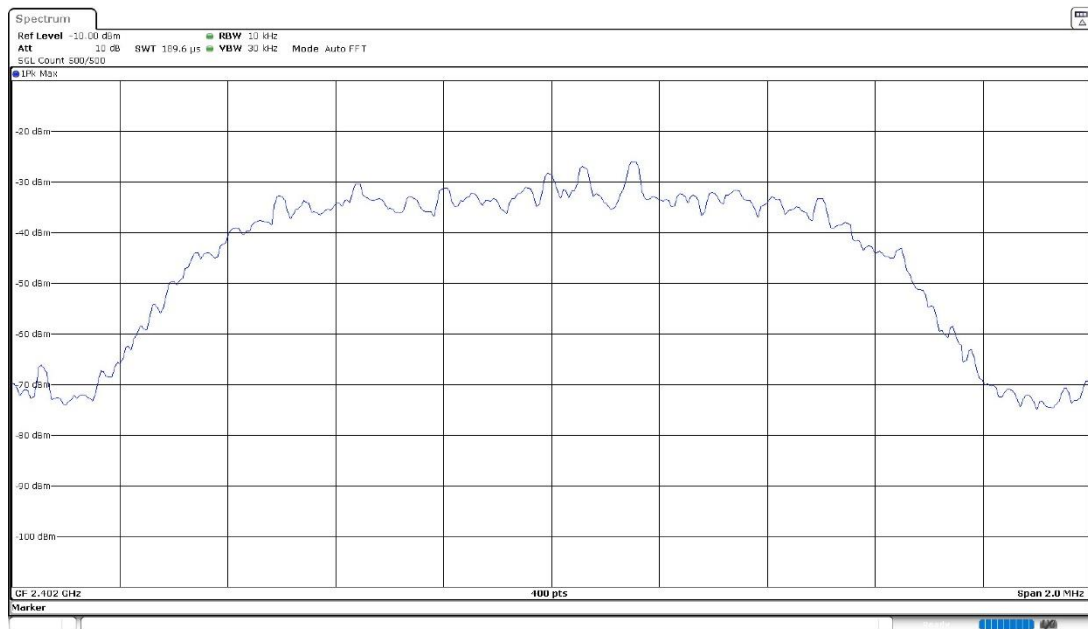
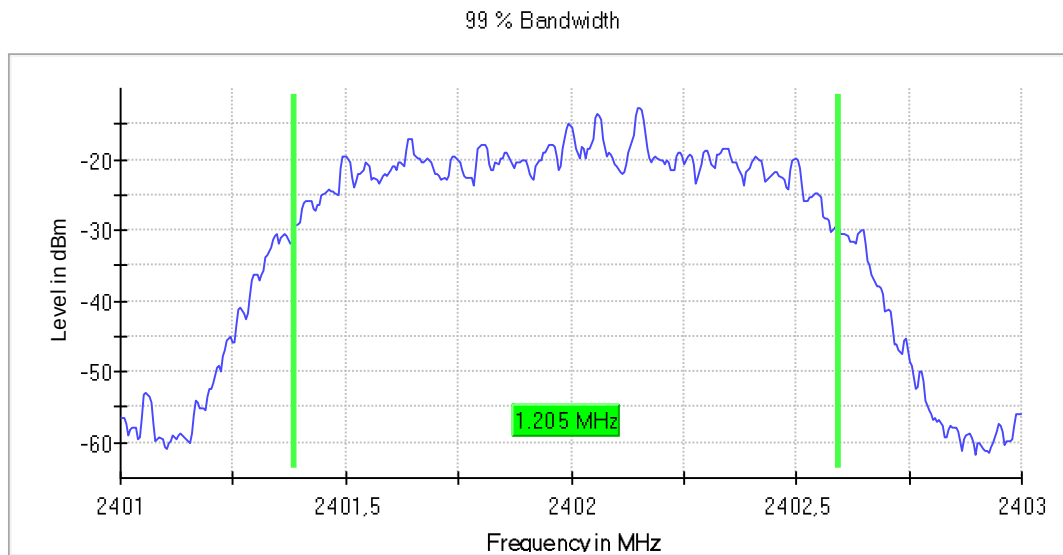
Attachments

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:

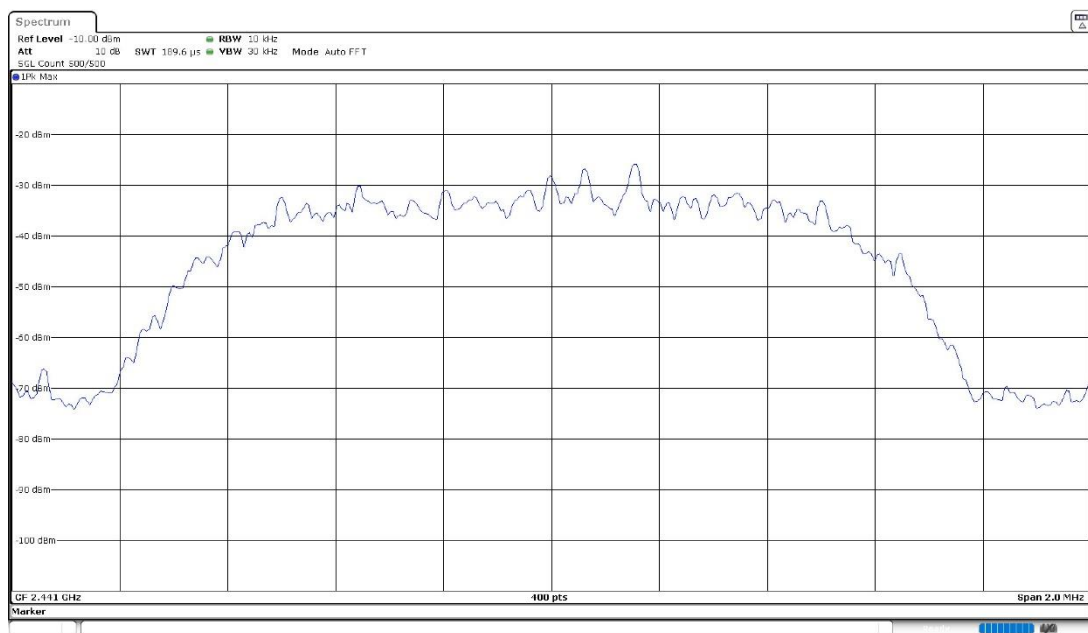
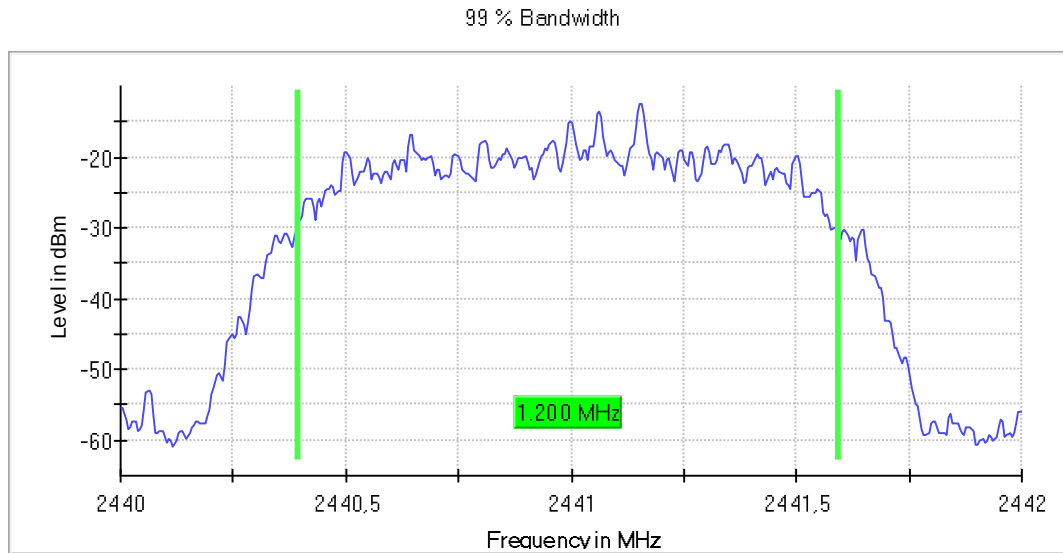


Operation Band MHz = [2400, 2483.5] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2441.00000 Active Port = 1

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

Images:

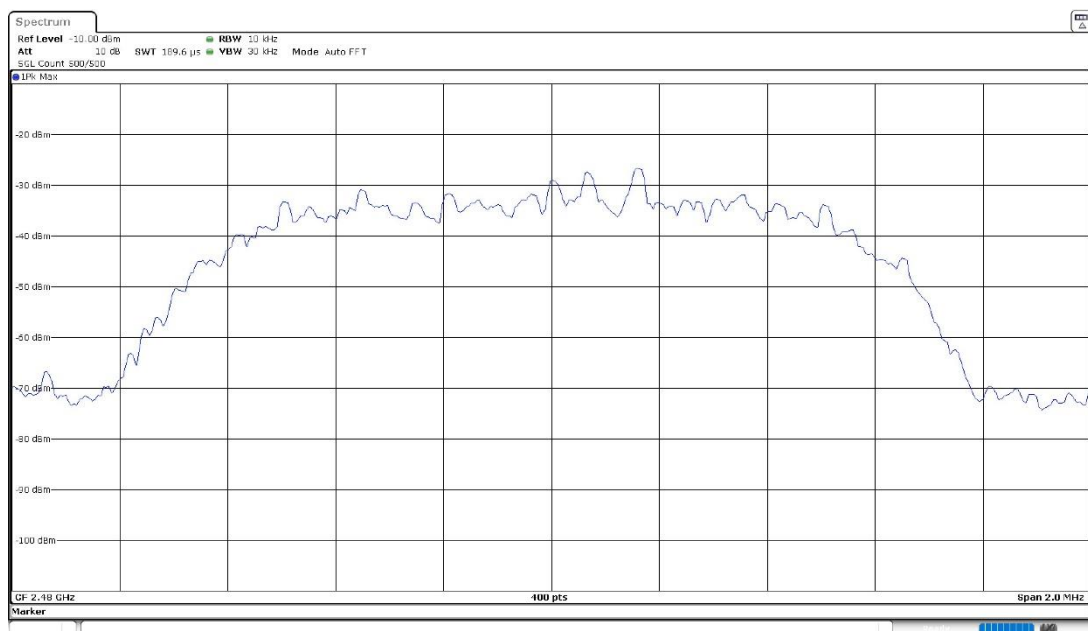
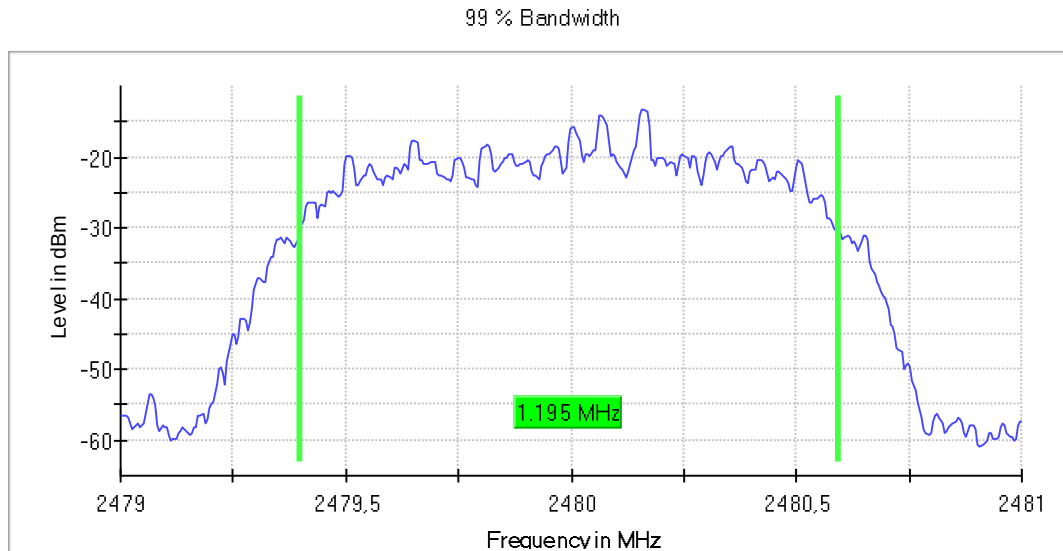


Operation Band MHz = [2400, 2483.5] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2480.00000 Active Port = 1

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

Images:



Modulation: BT (8DPSK 3-DH5)

Results

Equipment	Freq (MHz)	Occ Ch BW (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1.200
	2441.00000	1.040
	2480.00000	1.200

Verdict

Pass

Attachments

Operation Band MHz = [2400,
2483.5]

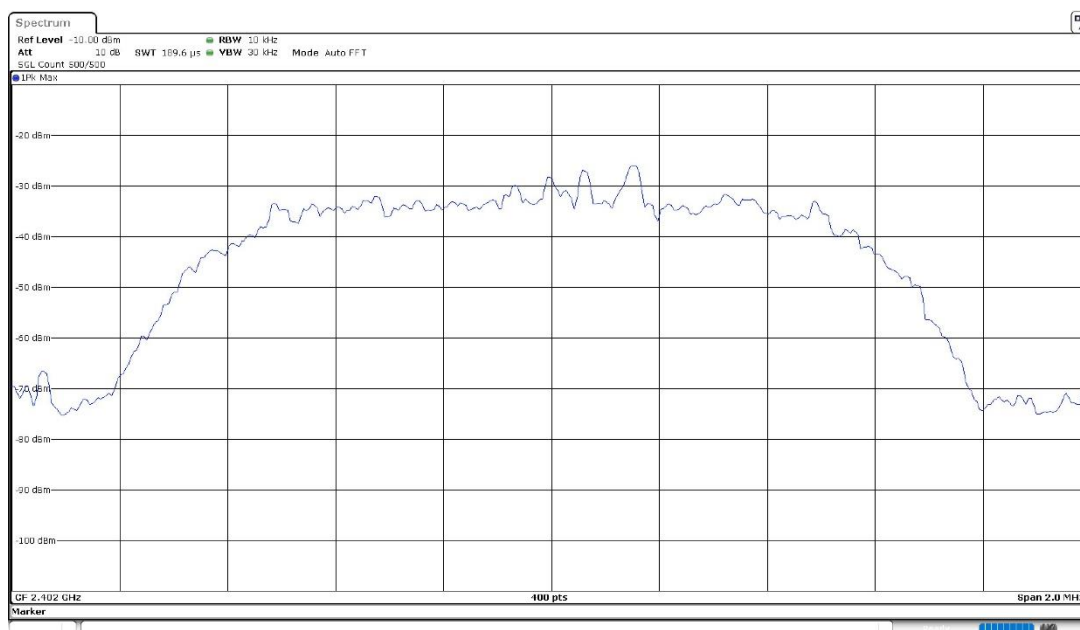
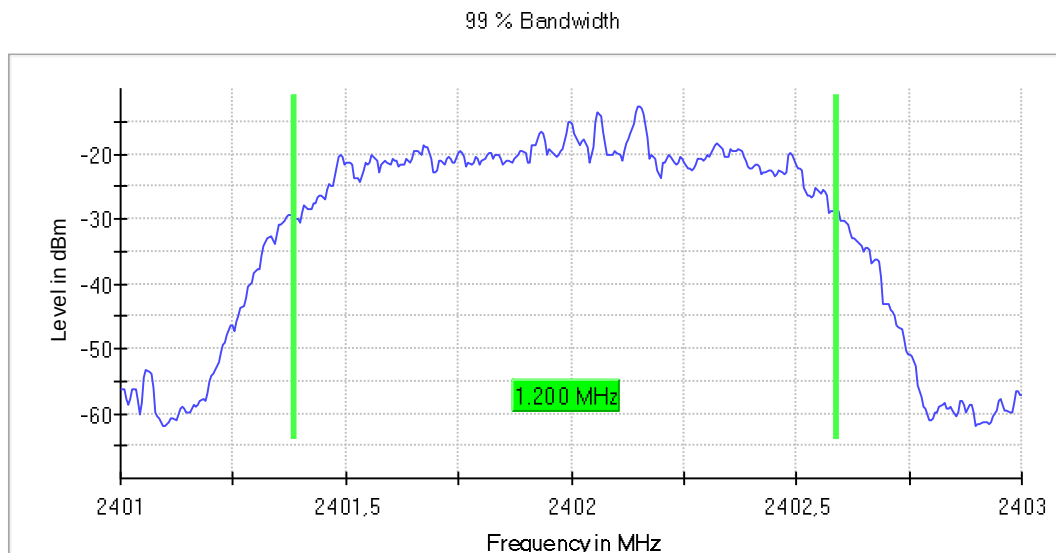
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2402.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:



Operation Band MHz = [2400,
2483.5]

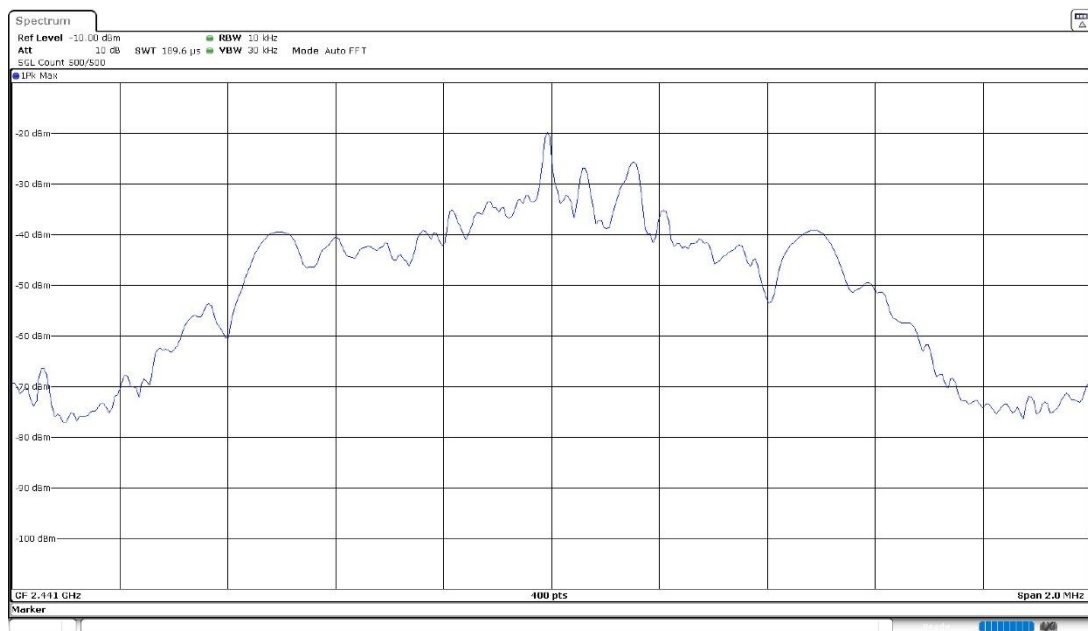
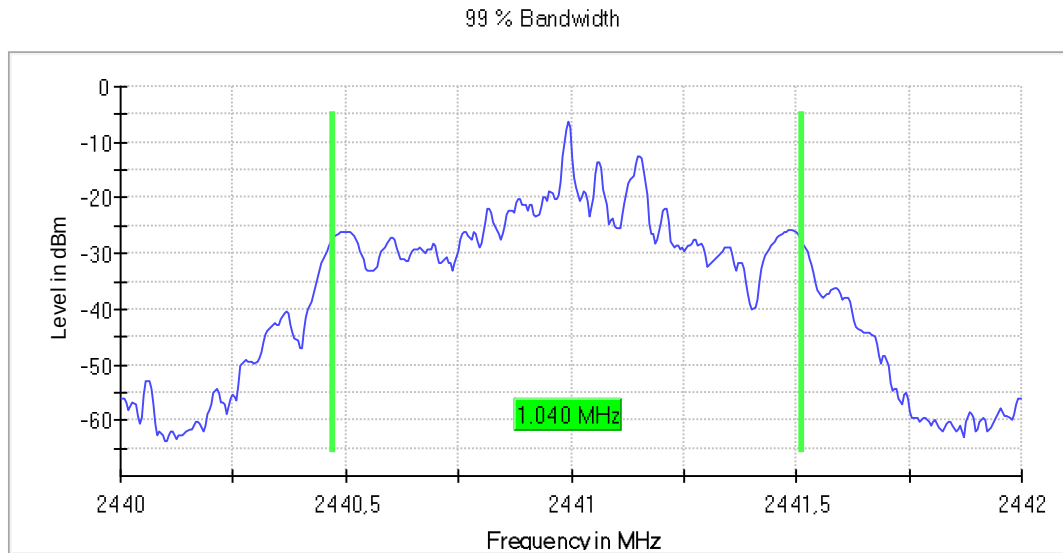
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

Frequency MHz = 2441.00000

Active Port = 1

Modulation = BT (8DPSK 3-DH5)

Images:



Operation Band MHz = [2400,
2483.5]

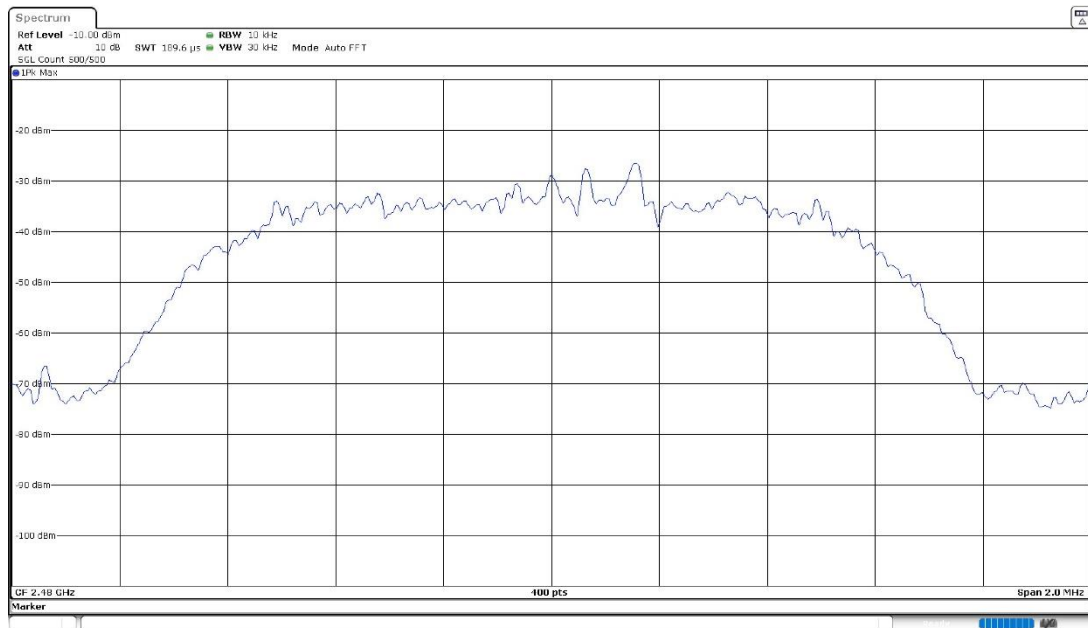
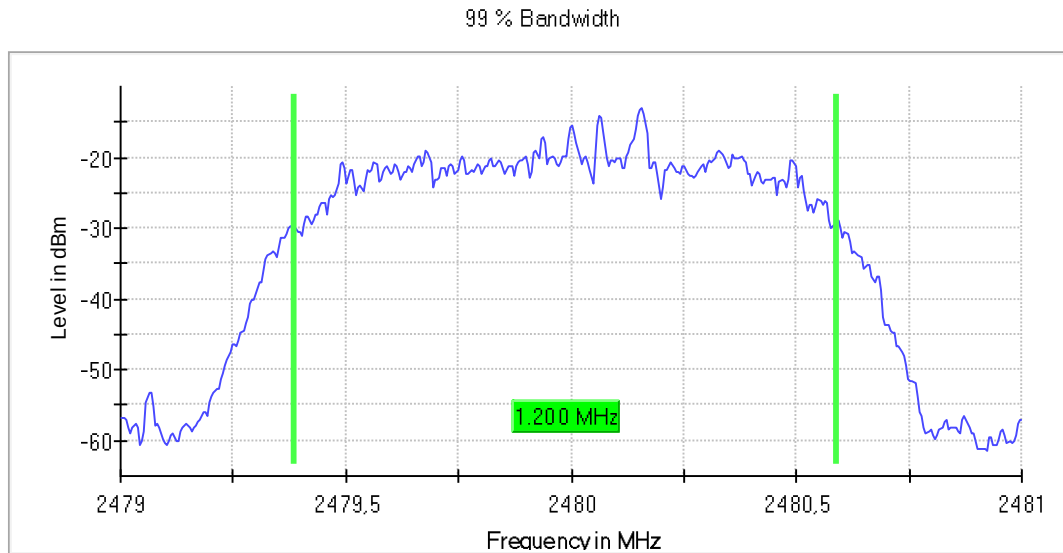
Equipment Type = Frequency Hopping Spread Spectrum systems
(DSS)

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) 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)	20 dB Bandwidth (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	0.930
	2441.00000	0.925
	2480.00000	0.930

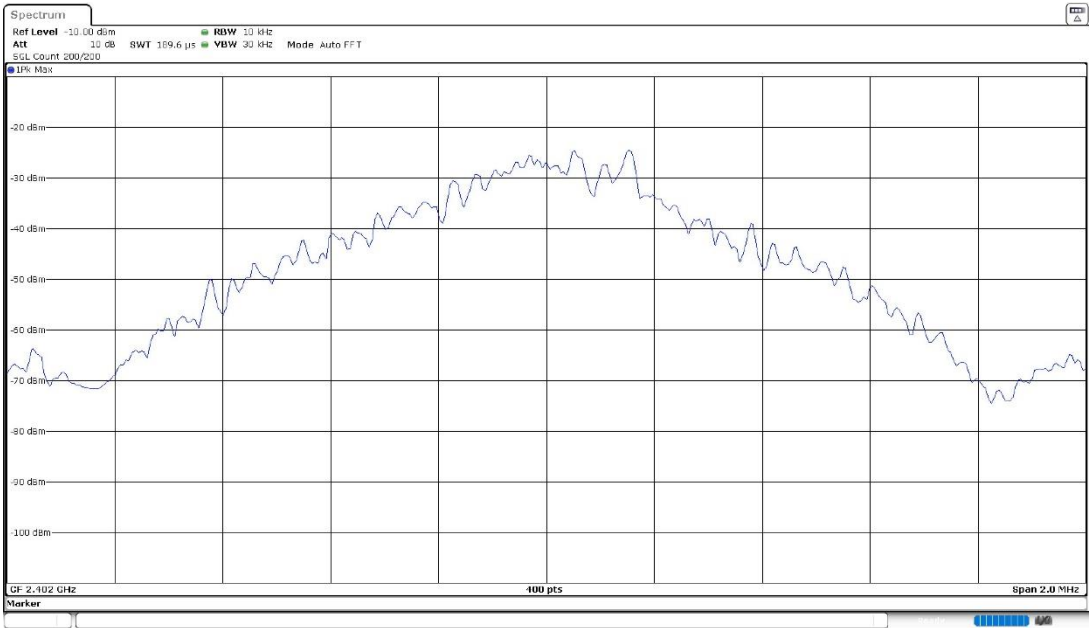
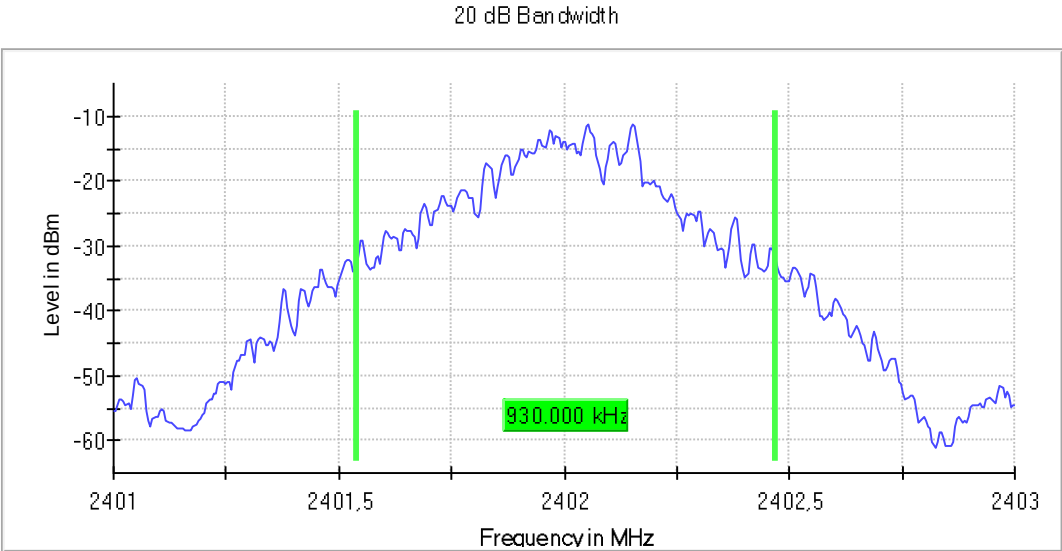
Verdict

Pass

Attachments

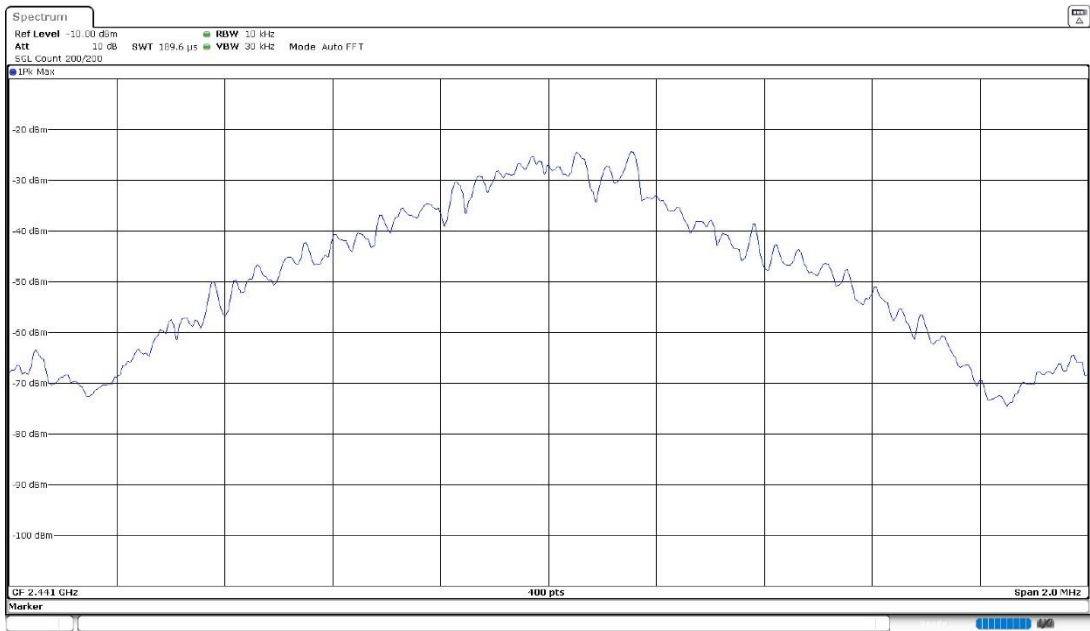
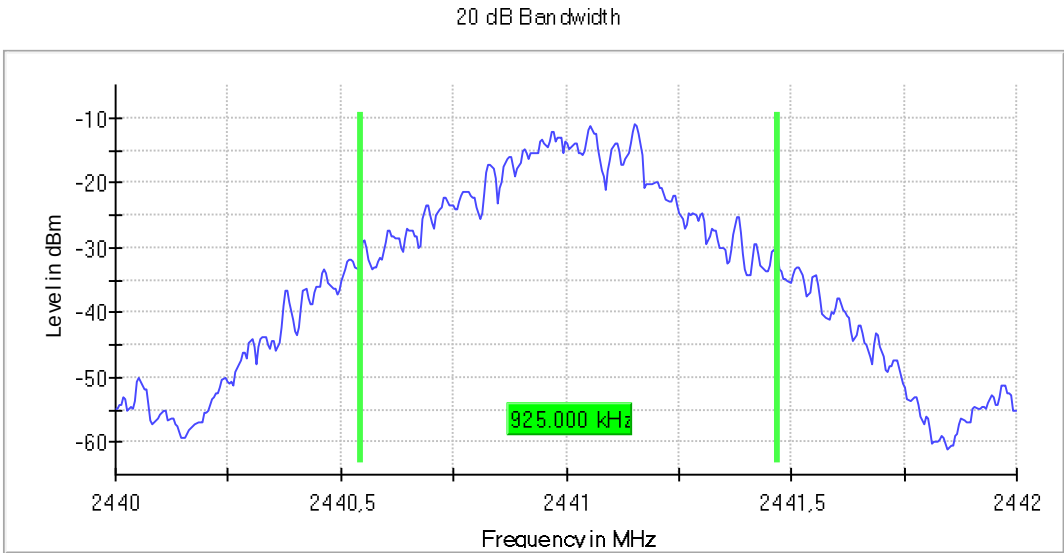
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2402.00000
Active Port = 1 Modulation = BT (GFSK 1-DH5)

Images:



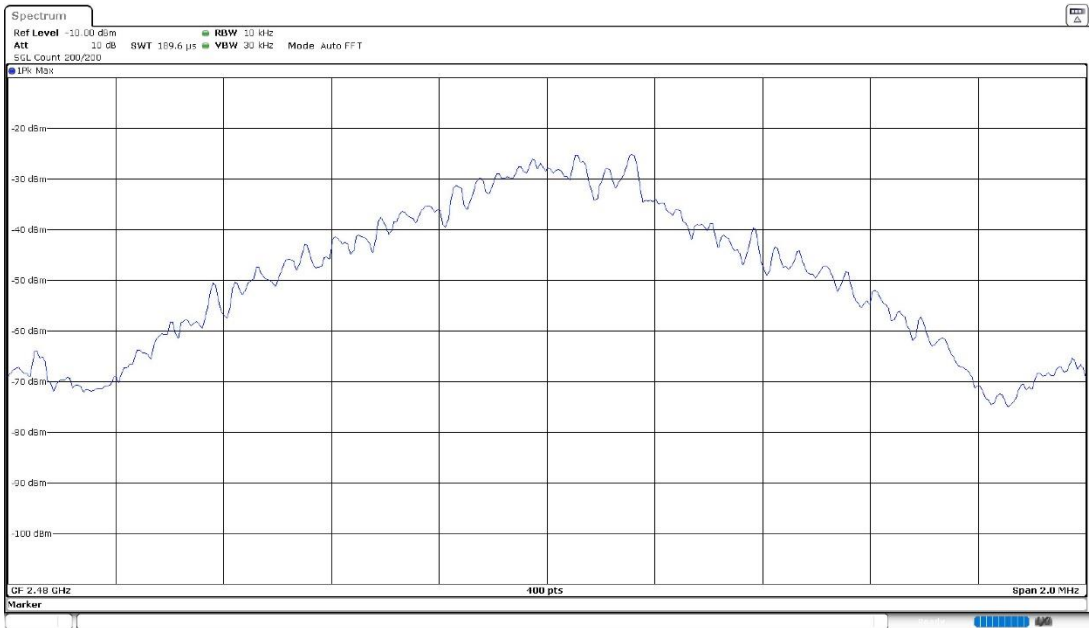
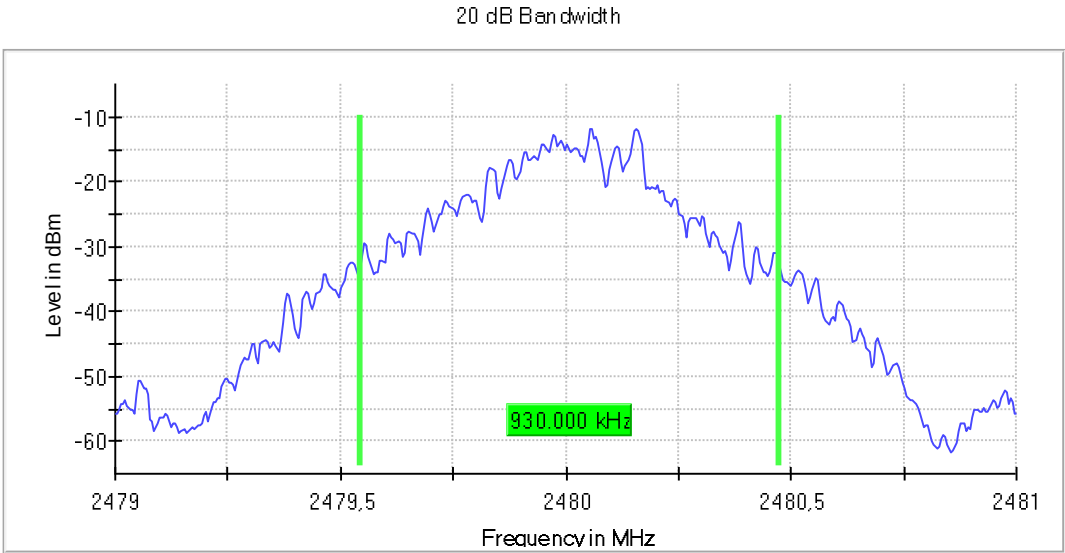
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2441.00000
Active Port = 1 Modulation = BT (GFSK 1-DH5)

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)	20 dB Bandwidth (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1.325
	2441.00000	1.320
	2480.00000	1.320

Verdict

Pass

Attachments

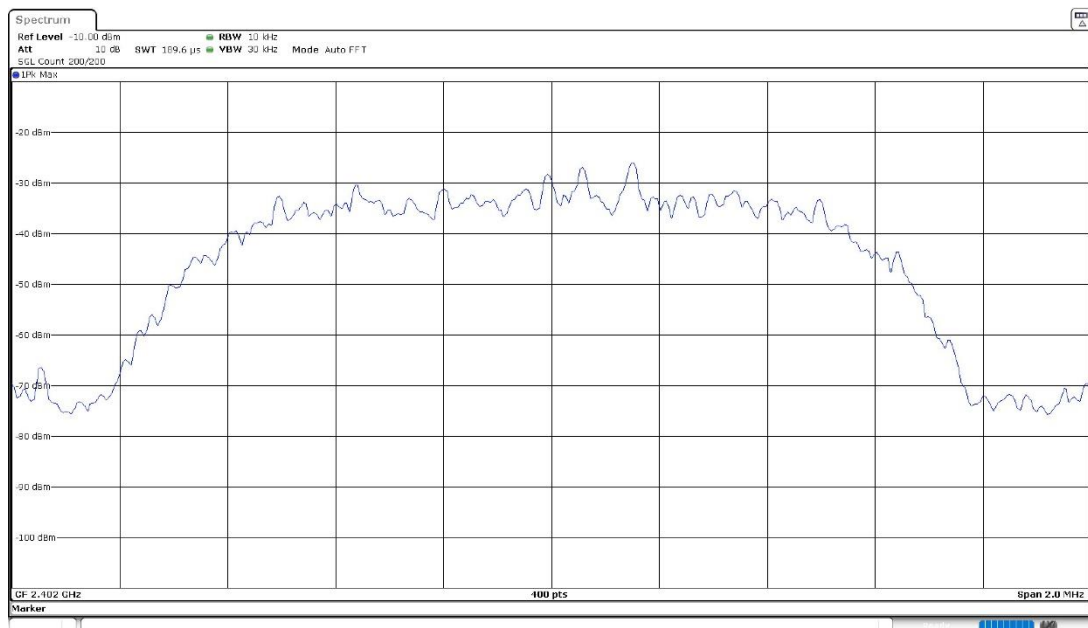
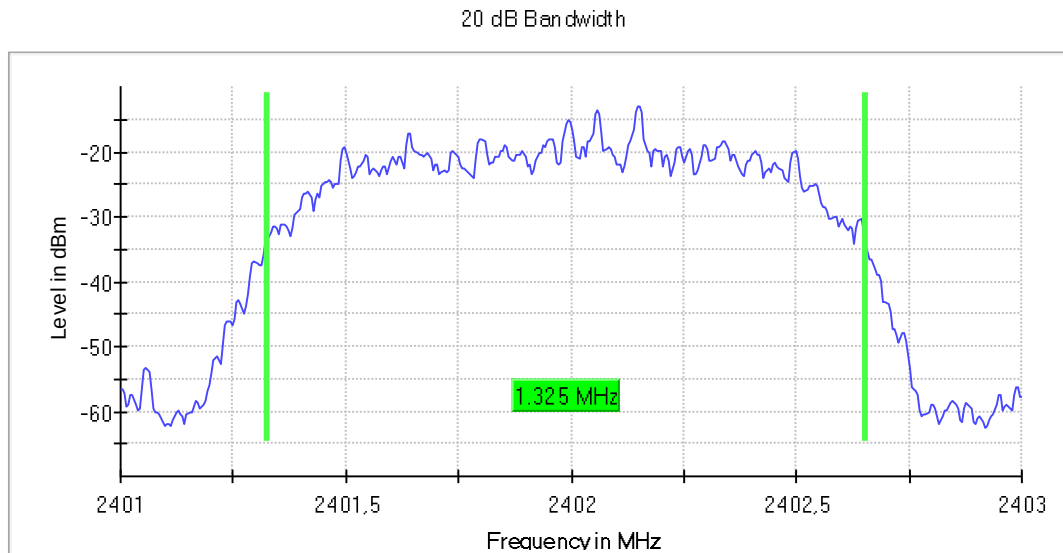
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Active Port = 1

Frequency MHz = 2402.00000

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

Images:



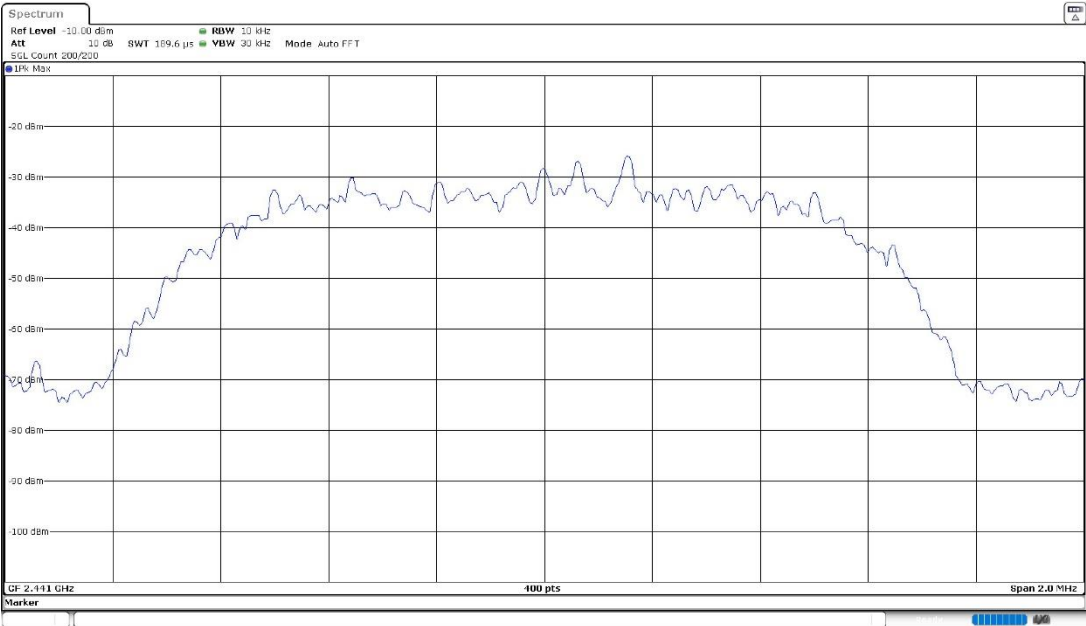
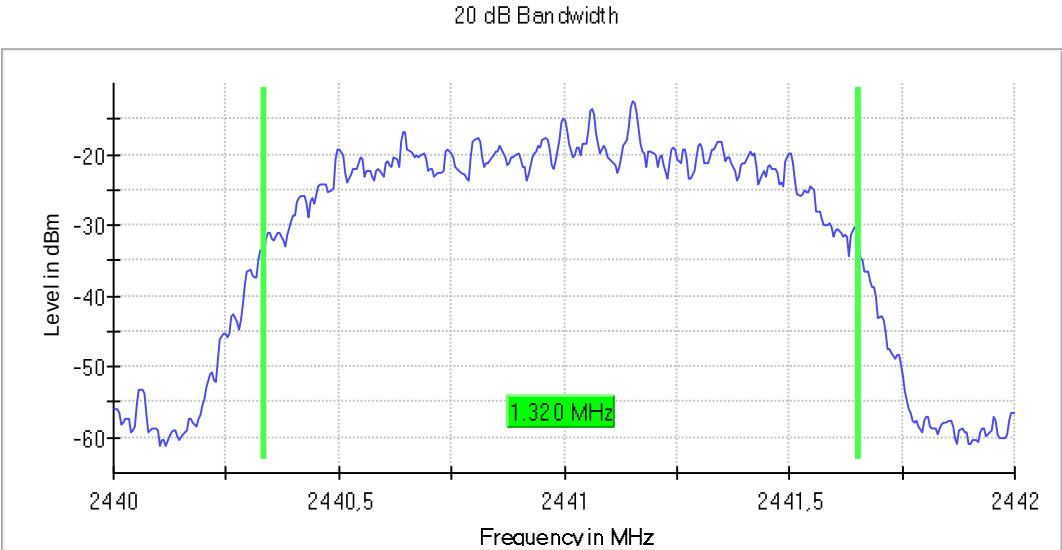
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Active Port = 1

Frequency MHz = 2441.00000

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

Images:



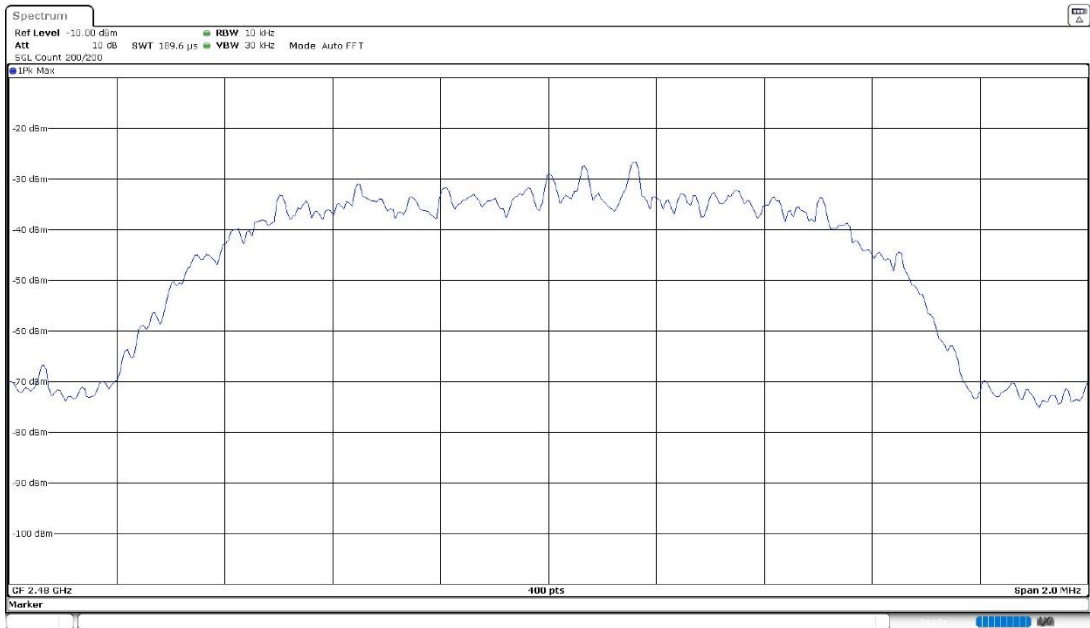
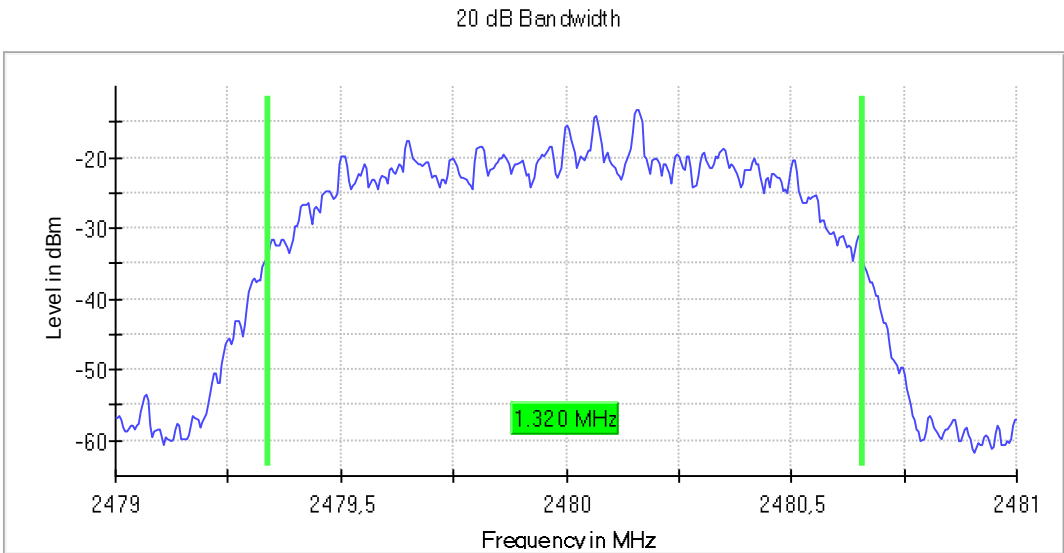
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Frequency MHz = 2480.00000

Active Port = 1

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

Images:



Modulation: BT (8DPSK 3-DH5)

Results

Equipment	Freq (MHz)	20 dB Bandwidth (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1.275
	2441.00000	1.275
	2480.00000	1.275

Verdict

Pass

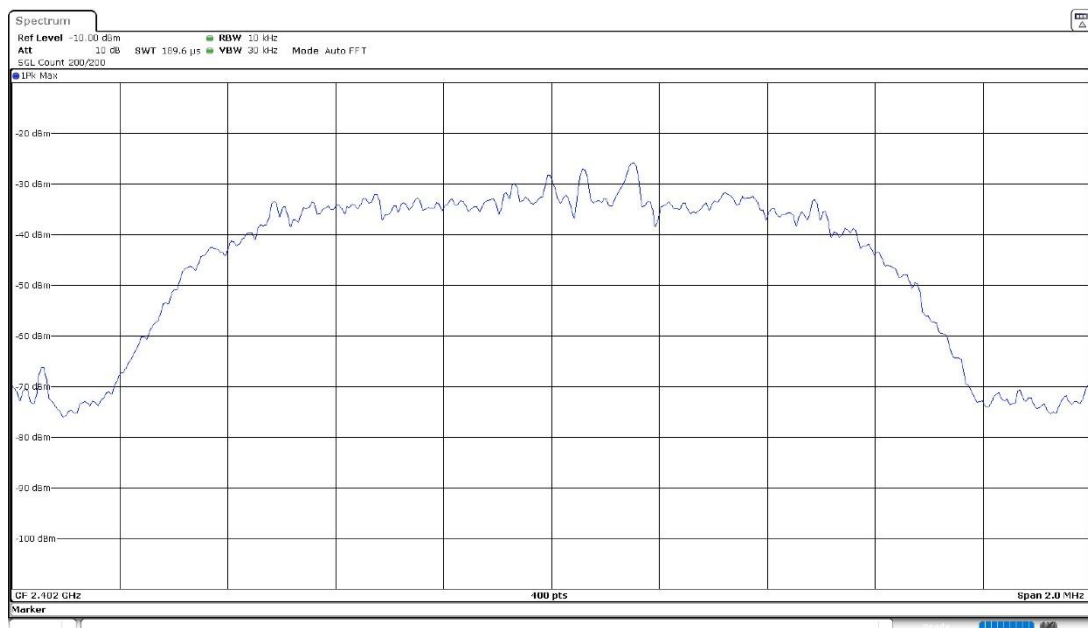
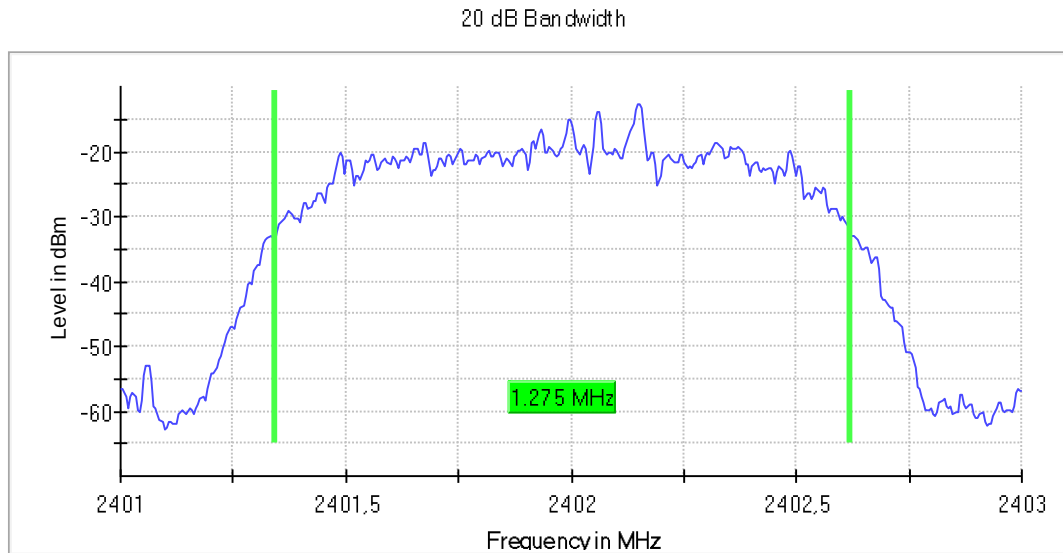
Attachments

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2402.00000

Active Port = 1

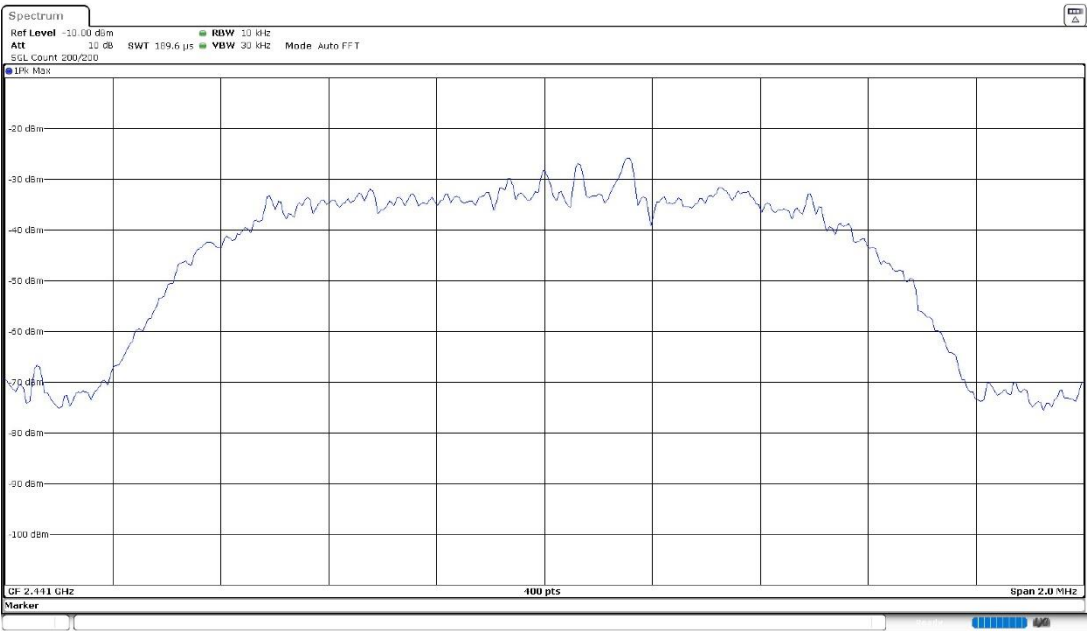
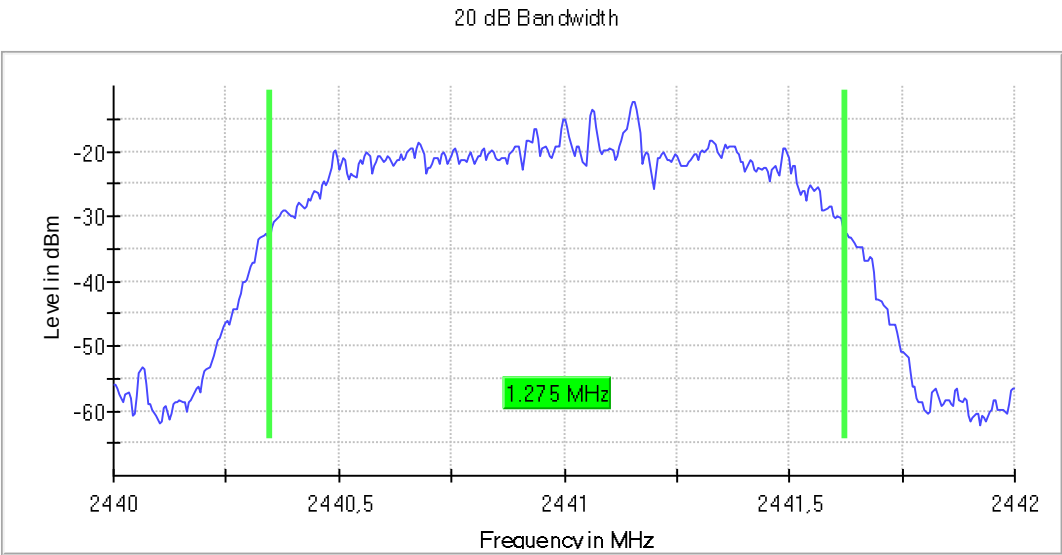
Modulation = BT (8DPSK 3-DH5)

Images:



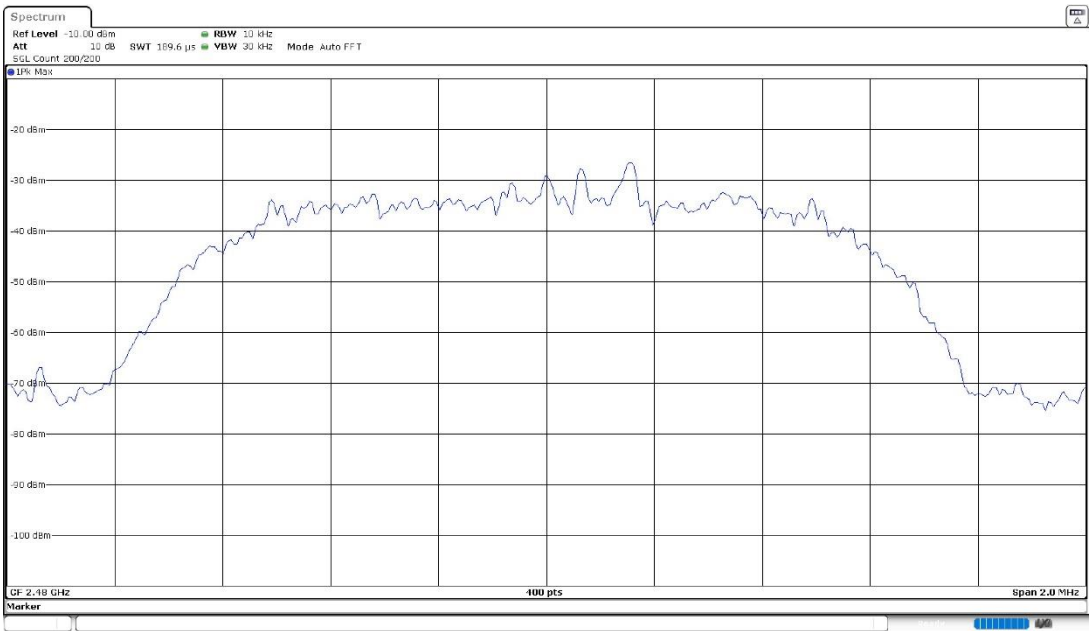
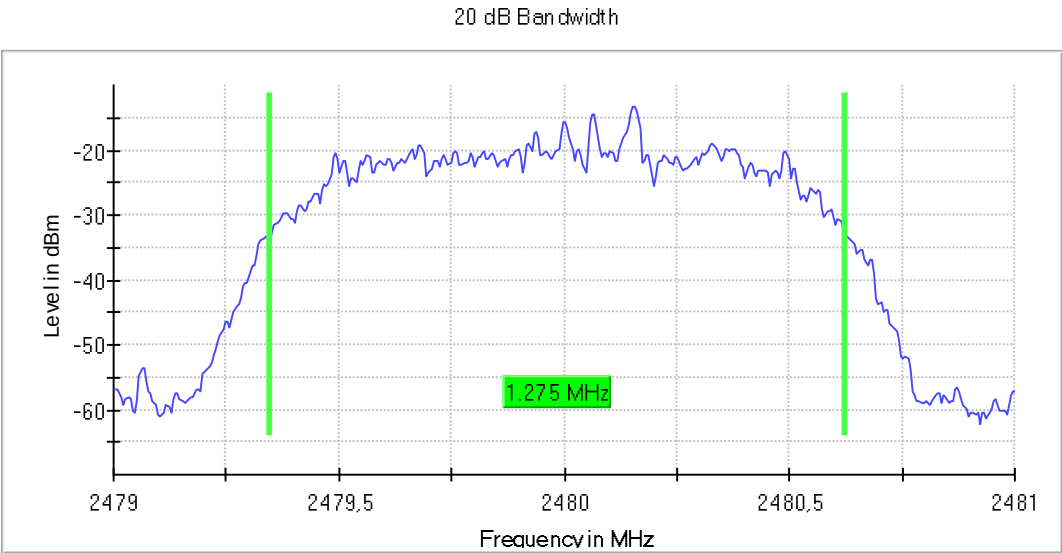
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Frequency MHz = 2441.00000
Active Port = 1 Modulation = BT (8DPSK 3-DH5)

Images:



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

Images:



RSS-247 6.2.3.1 (a) / FCC 15.247 (a) (1) 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	Freq Sep (MHz)
Frequency Hopping Spread Spectrum systems (DSS)	0.98

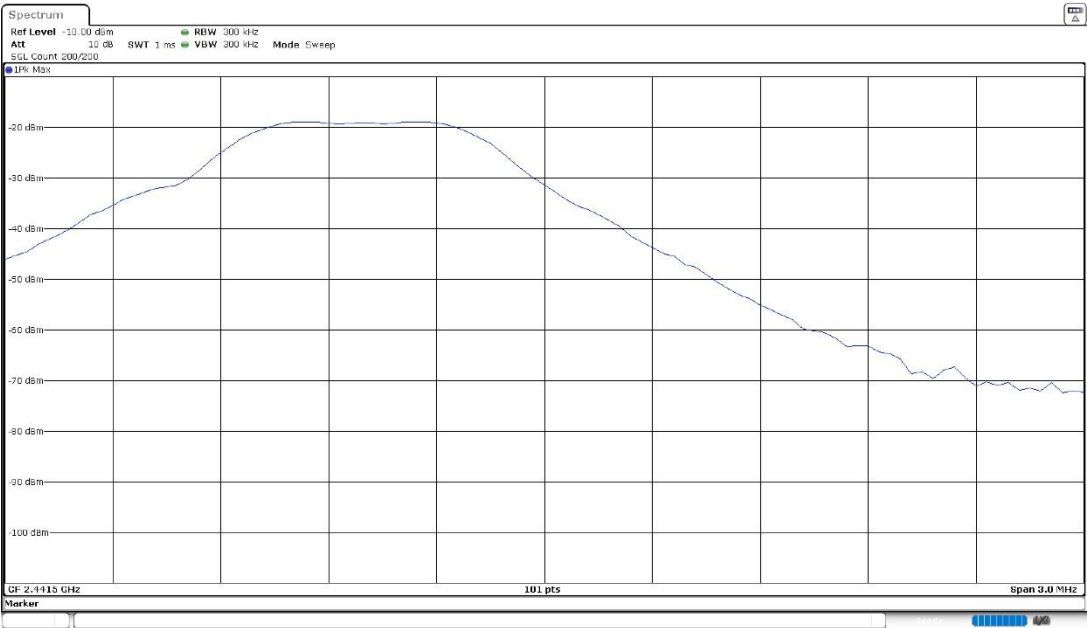
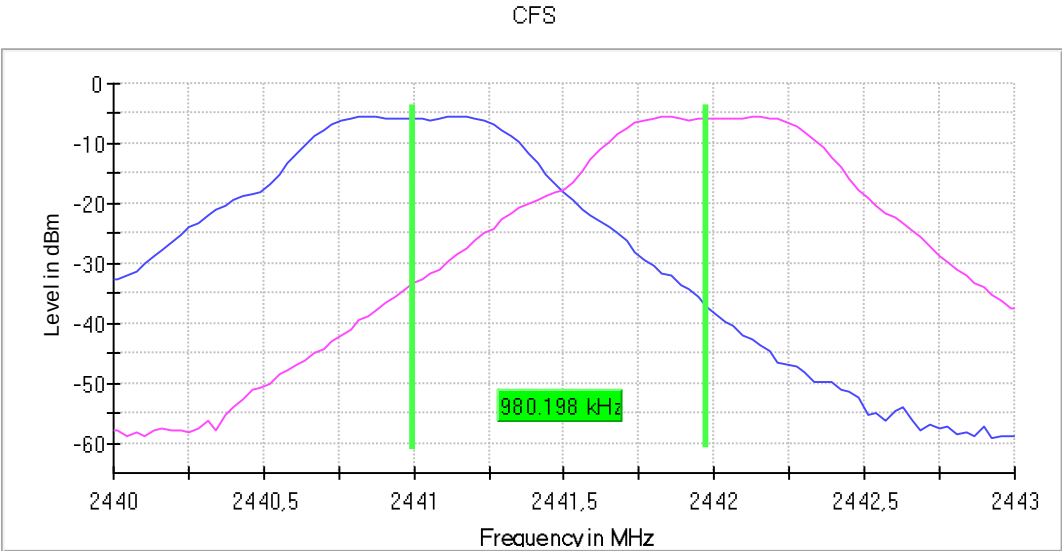
Verdict

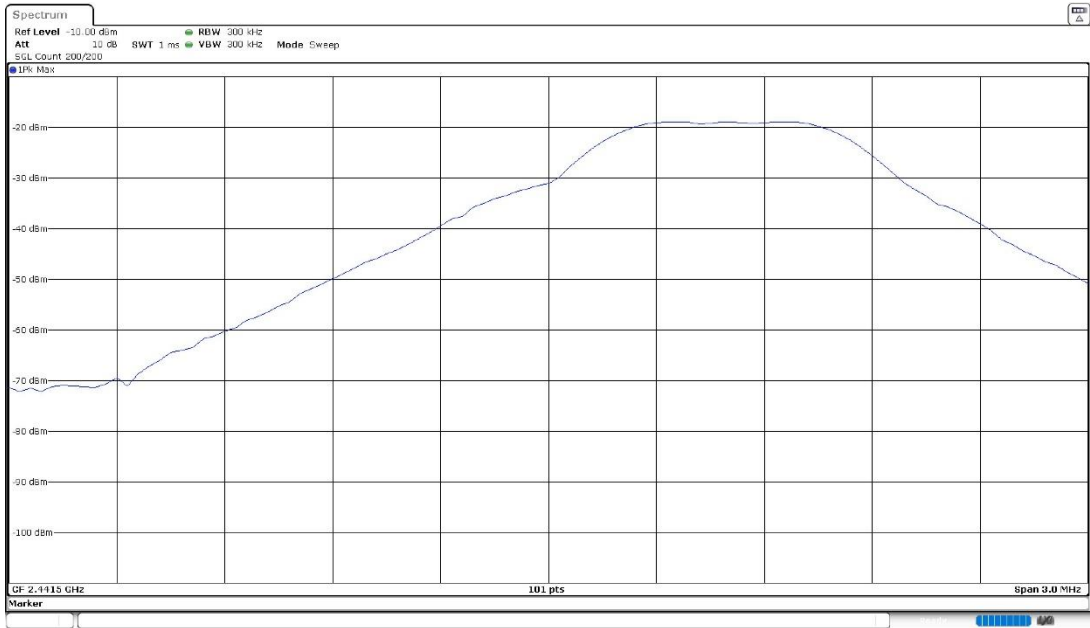
Pass

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

Verdict

Pass

Attachments

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

Images:

