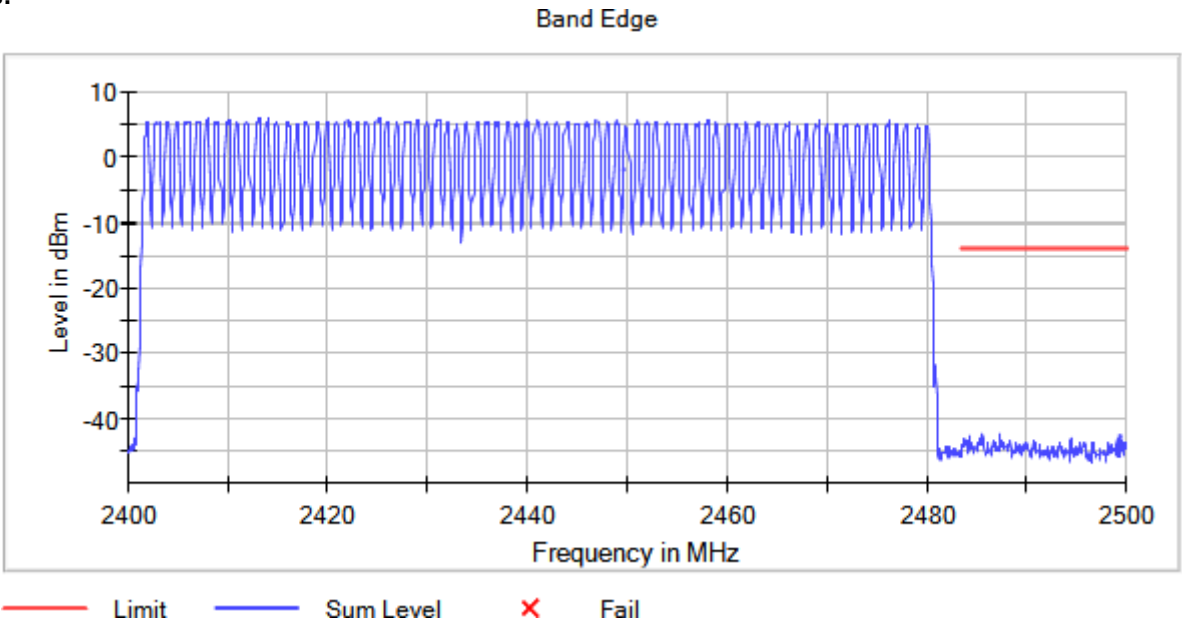


Attachments

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH5) Frequency MHz = 0.00000
MIMO Mode = SISO Active Port = 1

Images:



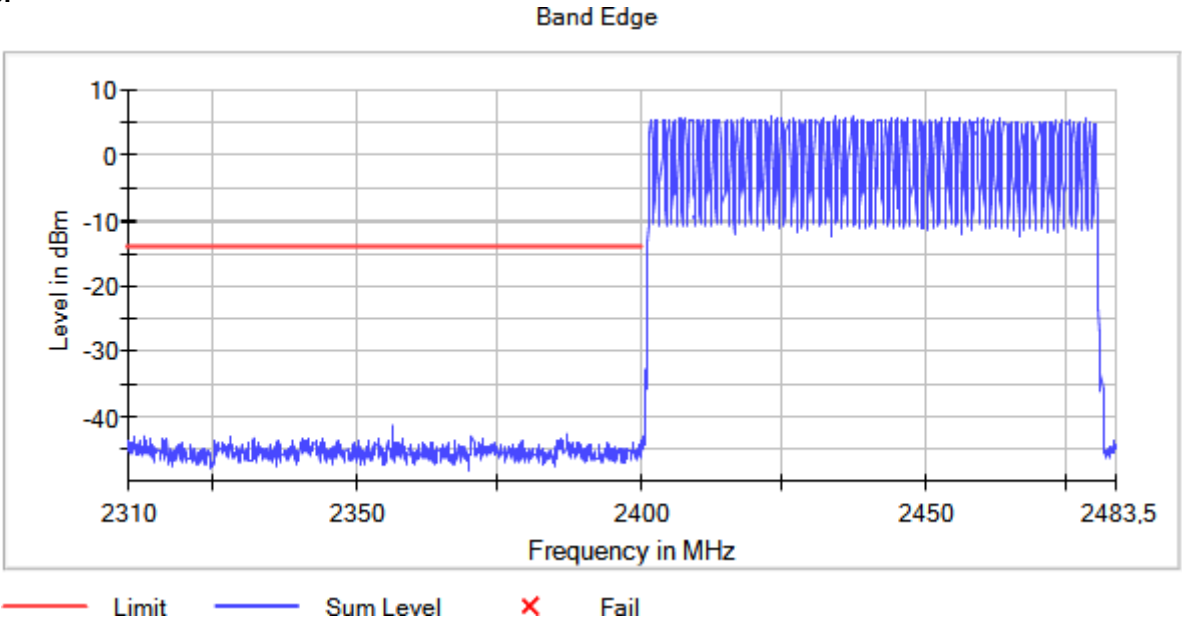
Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS) Bandwidth MHz = 1
Modulation = BT (GFSK 1-DH5) Frequency MHz = 0.00000
MIMO Mode = SISO Active Port = 1

Images:



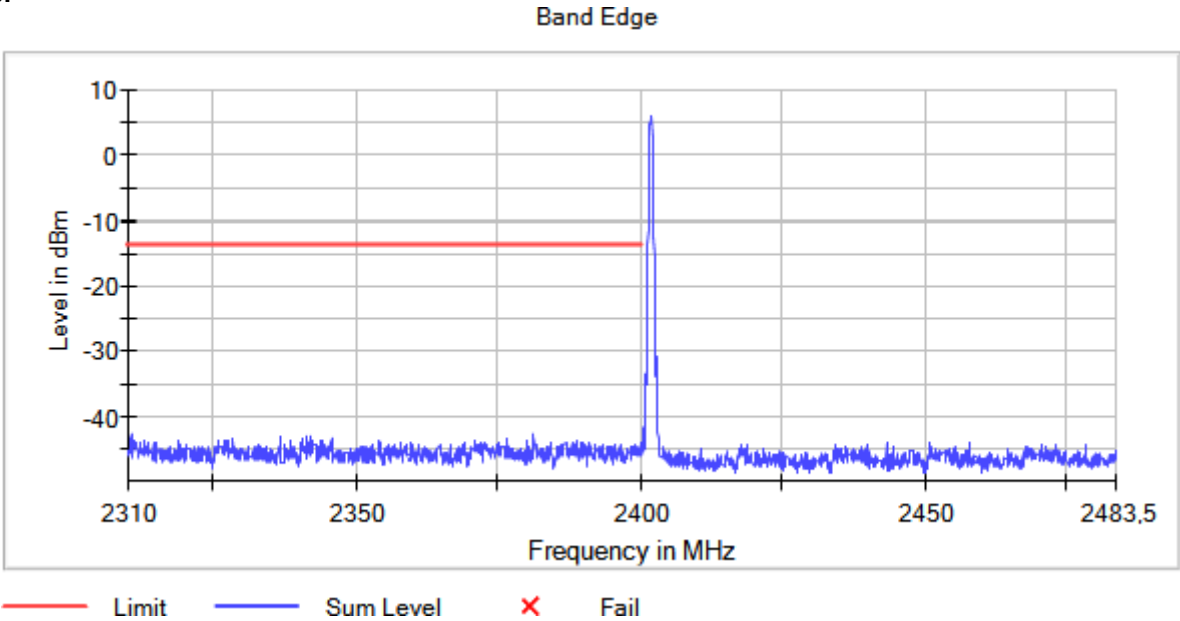
Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

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

Images:



Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Modulation = BT (GFSK 1-DH5)

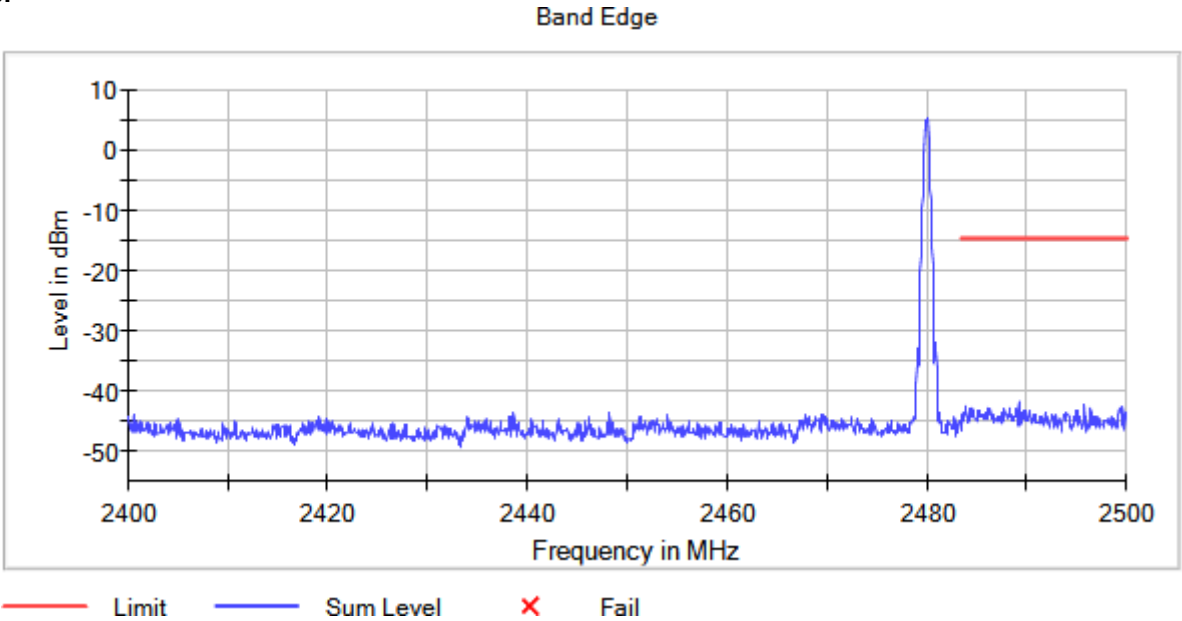
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2480.00000

Active Port = 1

Images:



Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

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

MIMO Mode: SISO

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.

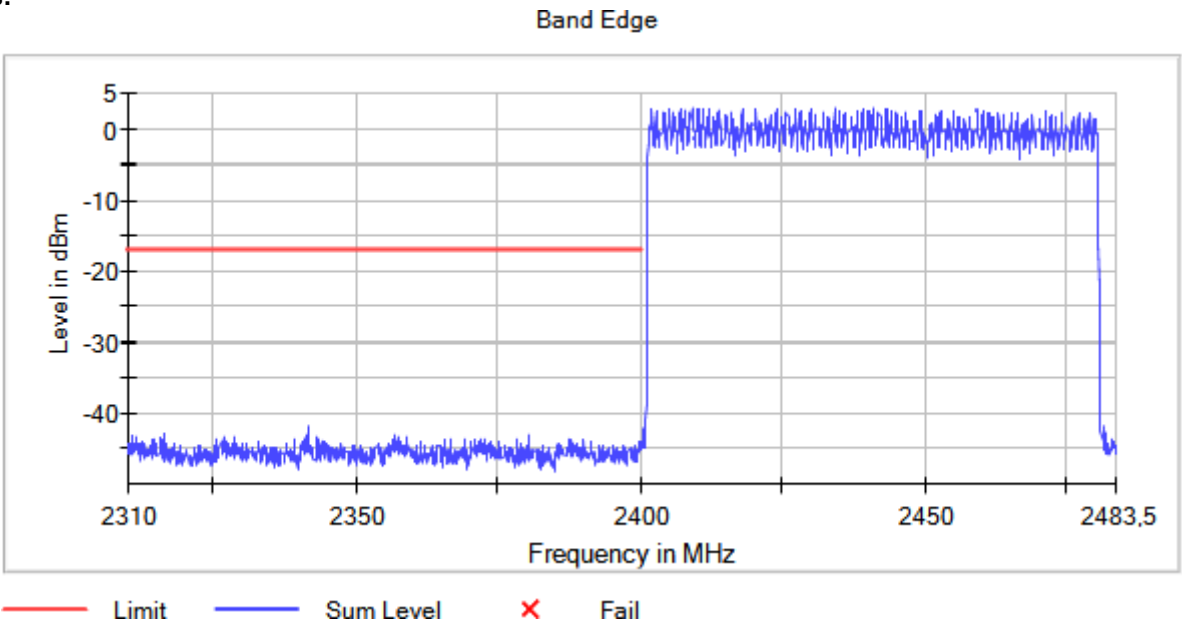
Verdict

Pass

Attachments

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

Images:



Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB

Setting	Instrument Value	Target Value
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	AUTO
Preamplifier	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

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

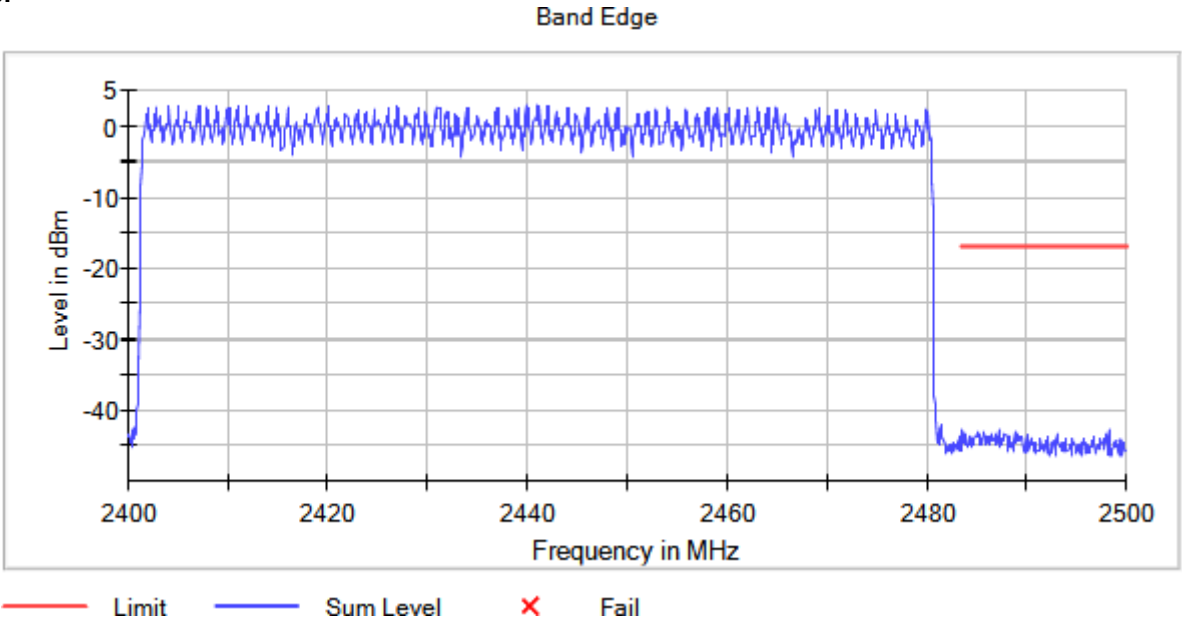
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 0.00000

Active Port = 1

Images:



Tables:
Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

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

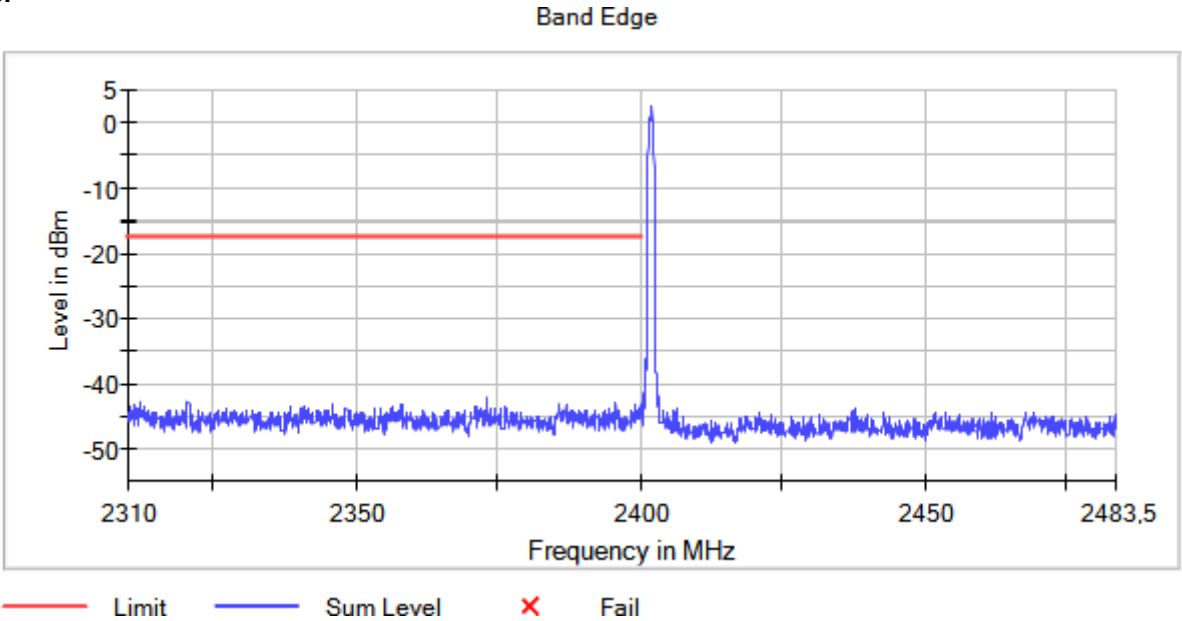
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2402.00000

Active Port = 1

Images:



Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

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

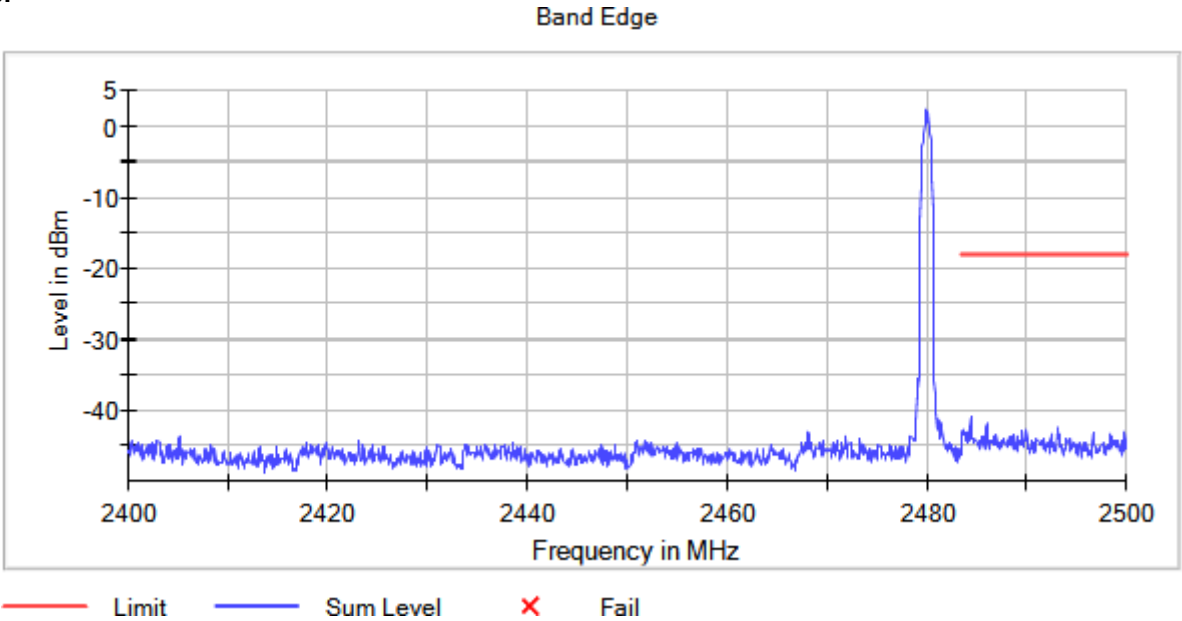
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2480.00000

Active Port = 1

Images:



Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
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Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Modulation: BT (8DPSK 3-DH5)

MIMO Mode: SISO

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.

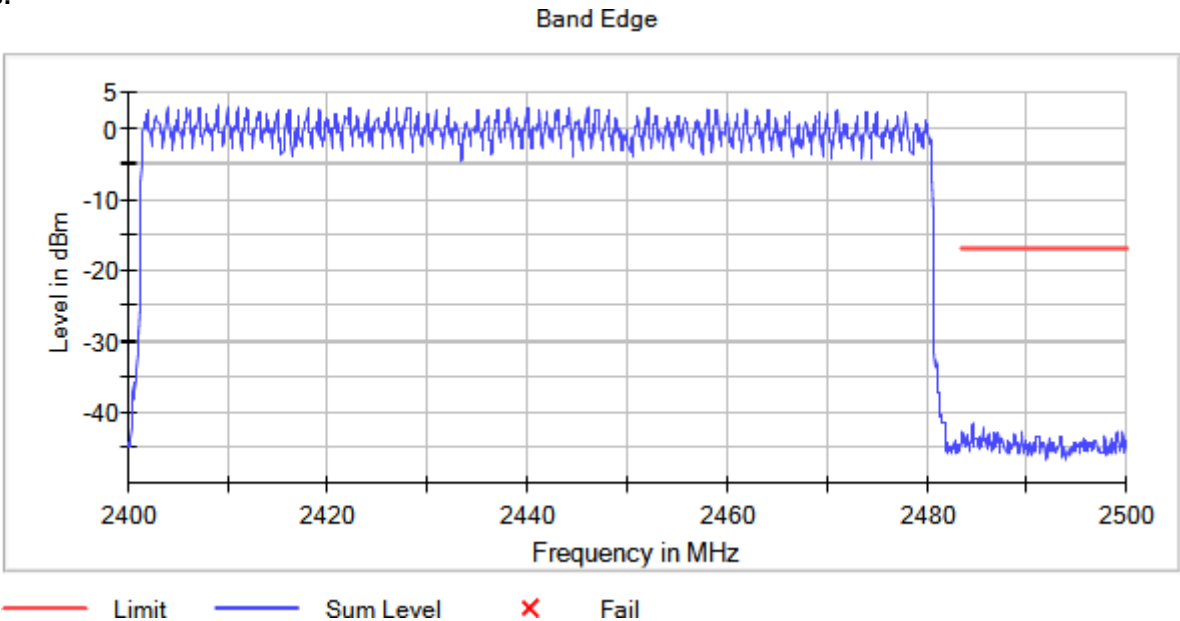
Verdict

Pass

Attachments

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

Images:



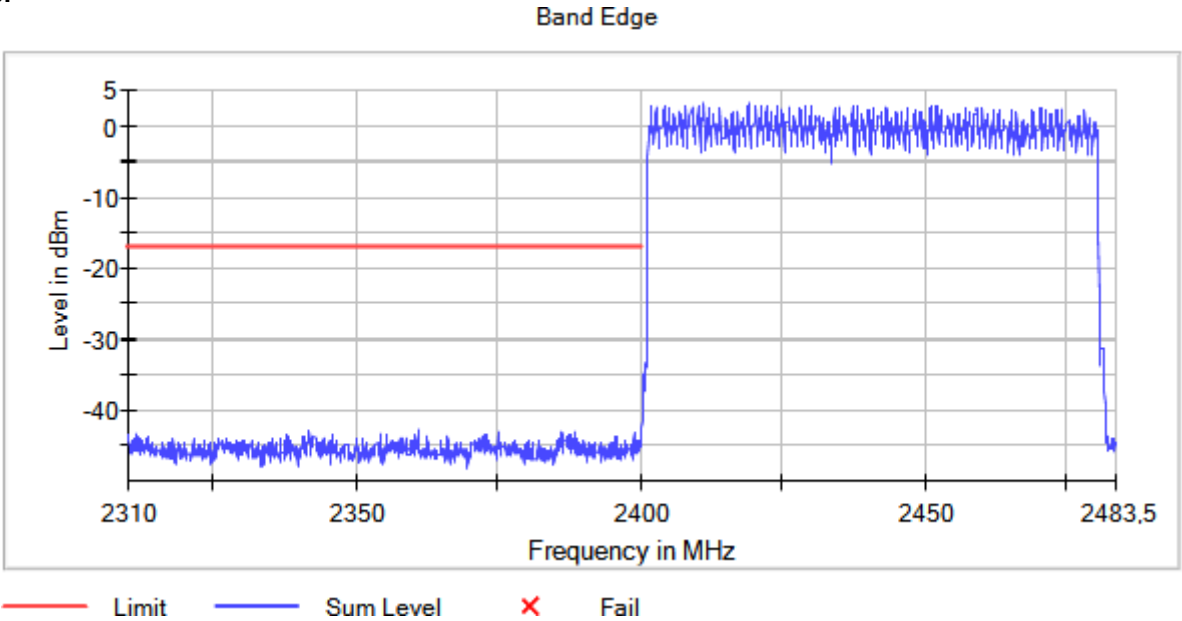
Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
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Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

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

Images:



Tables:
Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Modulation = BT (8DPSK 3-DH5)

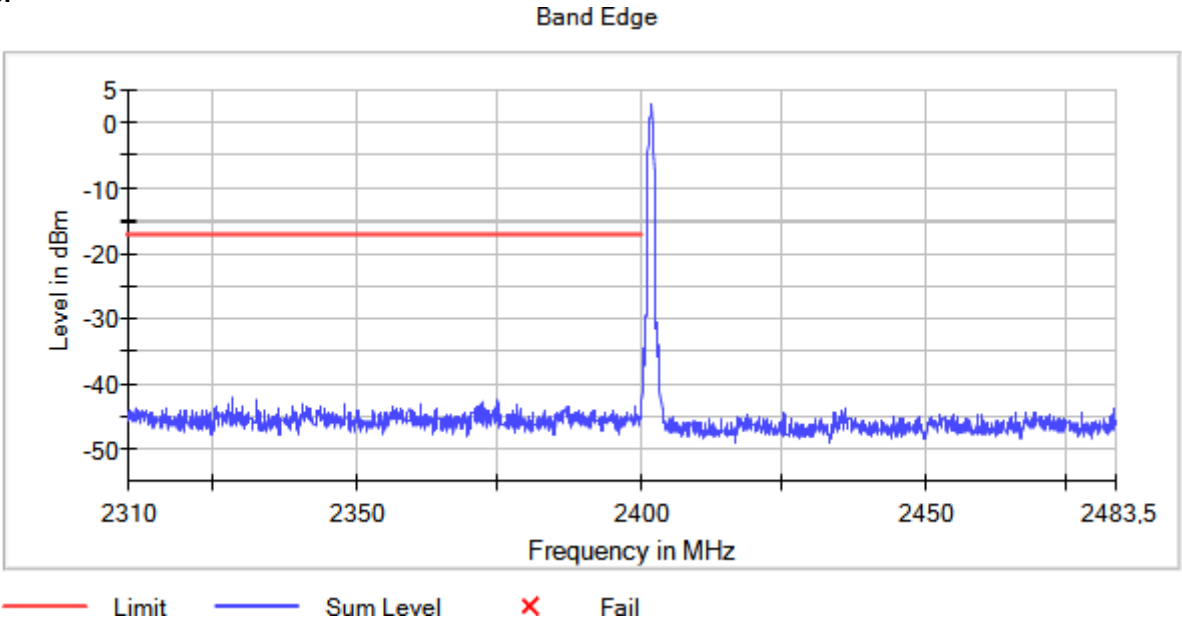
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2402.00000

Active Port = 1

Images:



Tables:
Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)

Modulation = BT (8DPSK 3-DH5)

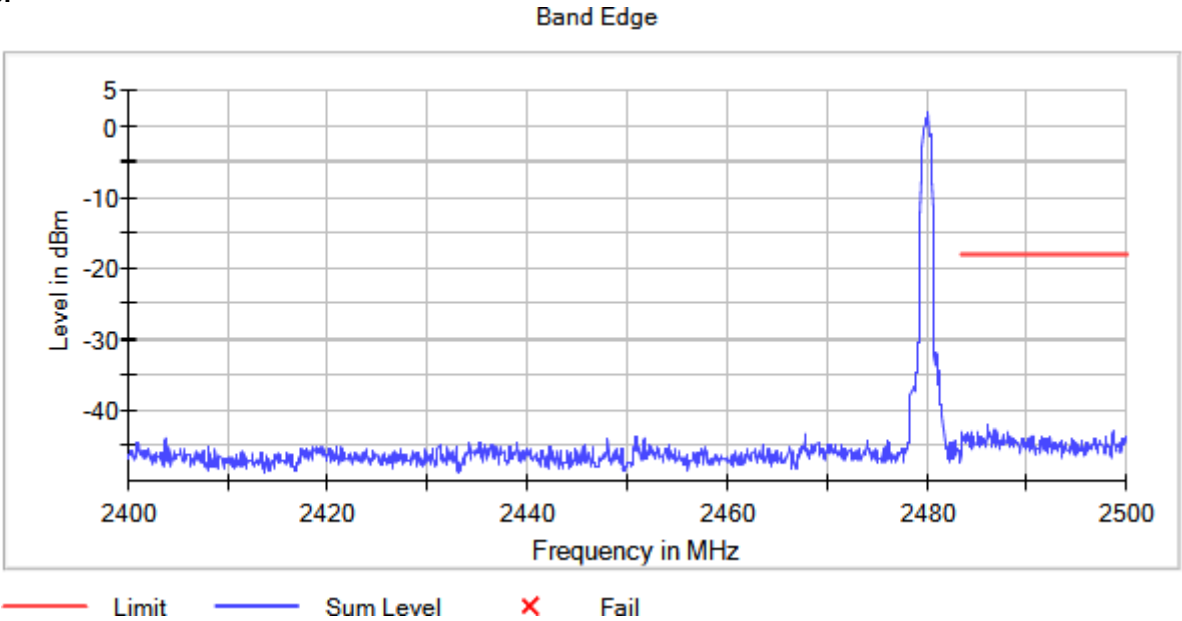
MIMO Mode = SISO

Bandwidth MHz = 1

Frequency MHz = 2480.00000

Active Port = 1

Images:



Tables:

Spectrum Analyzer Parameters 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

RSS-247 5.5 / FCC 15.247 (d) [RSE] Emission limitations radiated (Transmitter)

Limits

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

Frequency Range (MHz)	Field strength (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	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, 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.

Modulation: BT (GFSK 1-DH5)

MIMO Mode: SISO

Results

Frequency range 30 MHz – 1 GHz:

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

Freq Rng (GHz)	Equipment	Freq (MHz)	Port	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
[0.03, 1]	Frequency Hopping Spread Spectrum systems (DSS)	2480.00000	1	39.1665	32.80	H	QP
				66.2295	27.67	V	QP
				95.960	25.01	V	QP
				339.139	28.74	H	QP

Freq Rng (GHz)	Equipment	Freq (MHz)	Port	Unwanted Freq (MHz)	Unwanted Lvl (dBμV/m)	Pol	Detector
				855.6155	30.41	V	QP
				998.254	40.98	V	QP
[1, 17]	Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1	1008.420	59.23	V	PK
				1693.040	57.19	V	PK
				1008.420	47.54	V	AVG
				1693.040	42.42	V	AVG
		2441.00000		1016.600	56.81	V	PK
				1694.620	54.54	V	PK
				1016.600	42.46	V	AVG
				1694.620	40.81	V	AVG
		2480.00000		1016.160	57.92	V	PK
				1692.680	54.88	V	PK
				1016.160	43.69	V	AVG
				1692.680	40.81	V	AVG

Verdict

Pass

Attachments

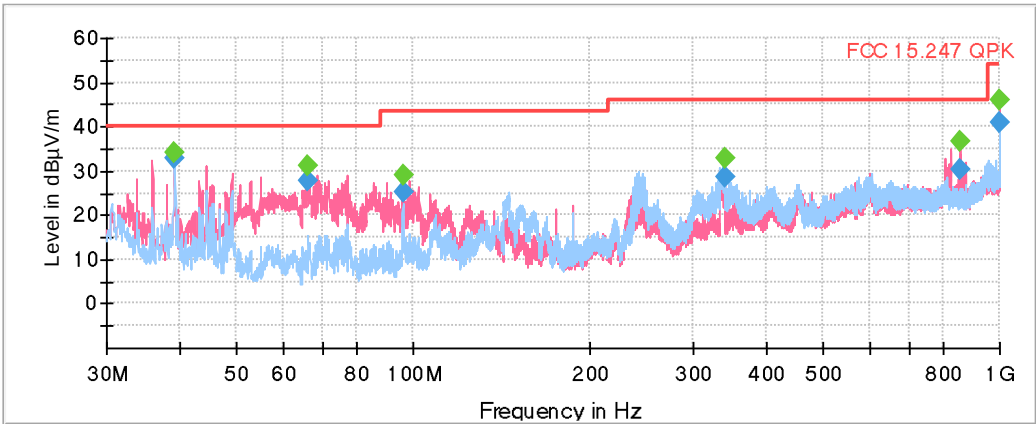
The setting for each range of frequency is indicated in the following tables:

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44] 30 MHz - 1 GHz	30,312 kHz	PK+	100 kHz	1 s	0 dB
Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44] 1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB
Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44] 3 GHz - 17 GHz	140 kHz	PK+ ; AVG	1 MHz	1 s	30 dB
Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44] 17 GHz - 26 GHz	300 kHz	PK+ ; AVG	1 MHz	0,3 s	0 dB

Frequency Range GHz = [0.03, 1] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
The spurious frequencies detected do not depend on either the modulation or the operating channel.

MIMO Mode = SISO Active Port = 1

Images:

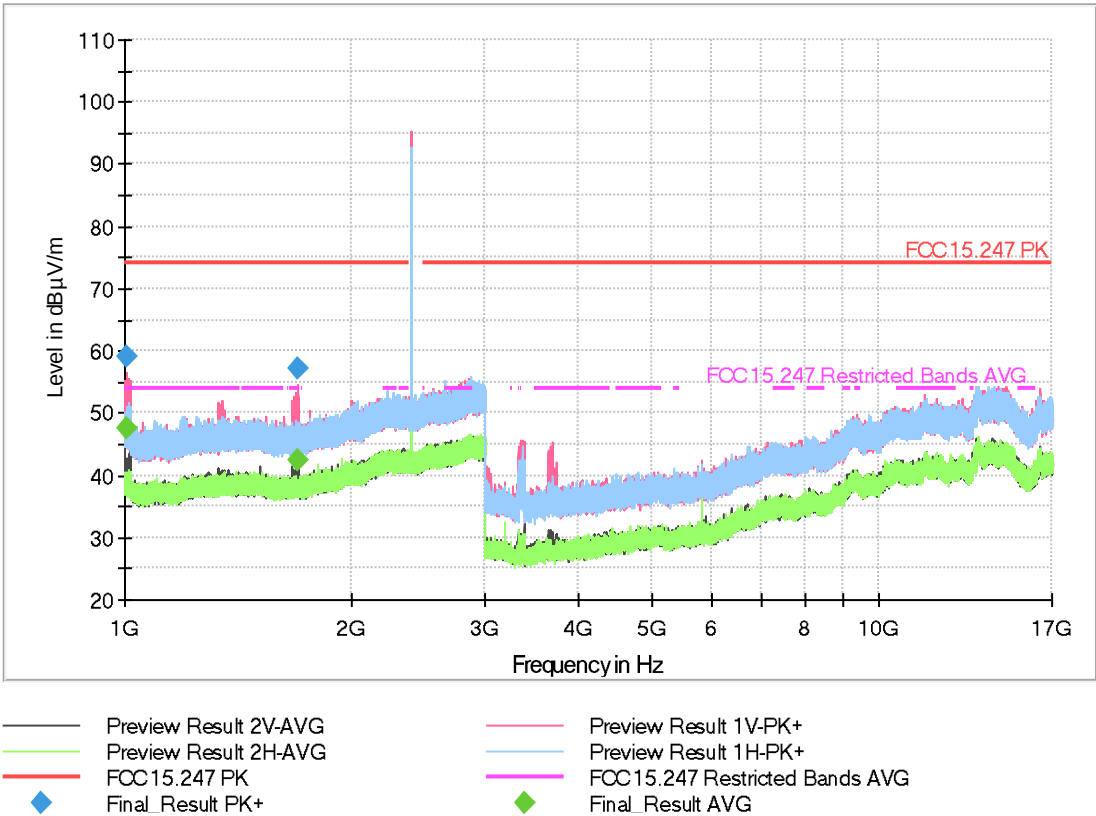


— Preview Result 2V-AVG — Preview Result 1V-PK+ — Preview Result 2H-AVG
— Preview Result 1H-PK+ — FOC 15.247 QPK ◆ FinaL_Result QPK
◆ FinaL_Result PK+

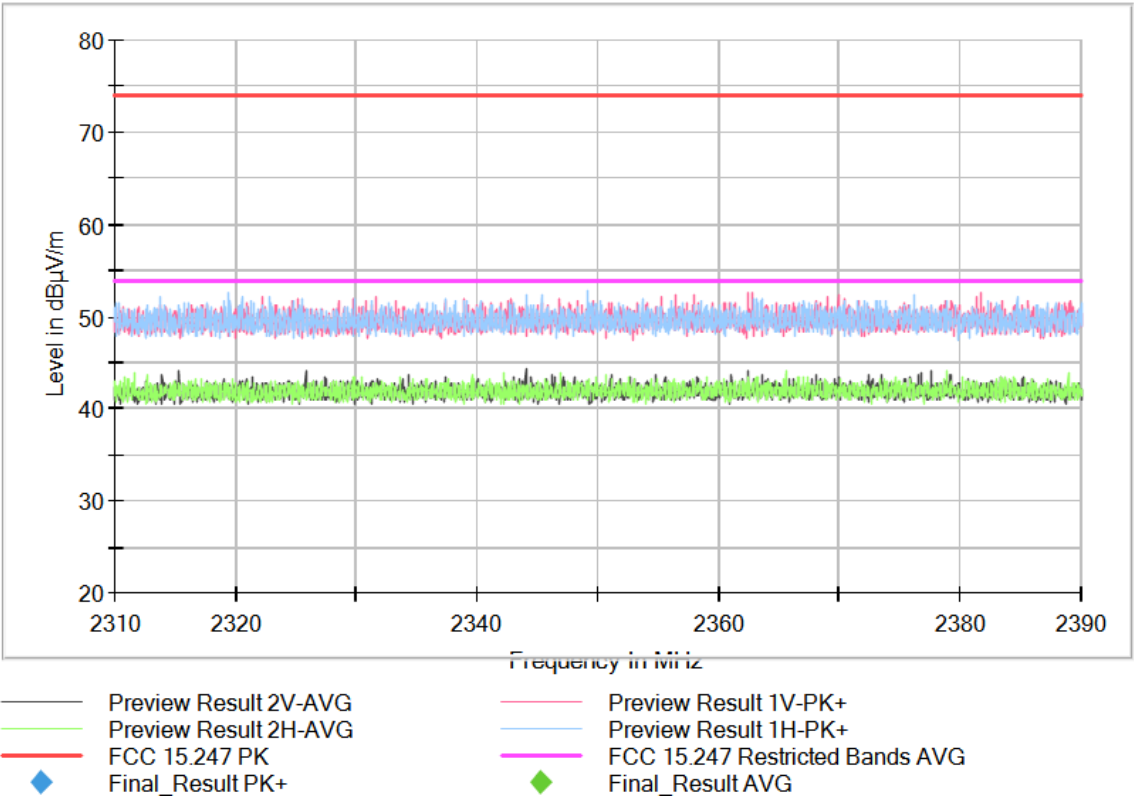
Attachments

Frequency Range GHz = [1, 17] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Modulation = BT (GFSK 1-DH5) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

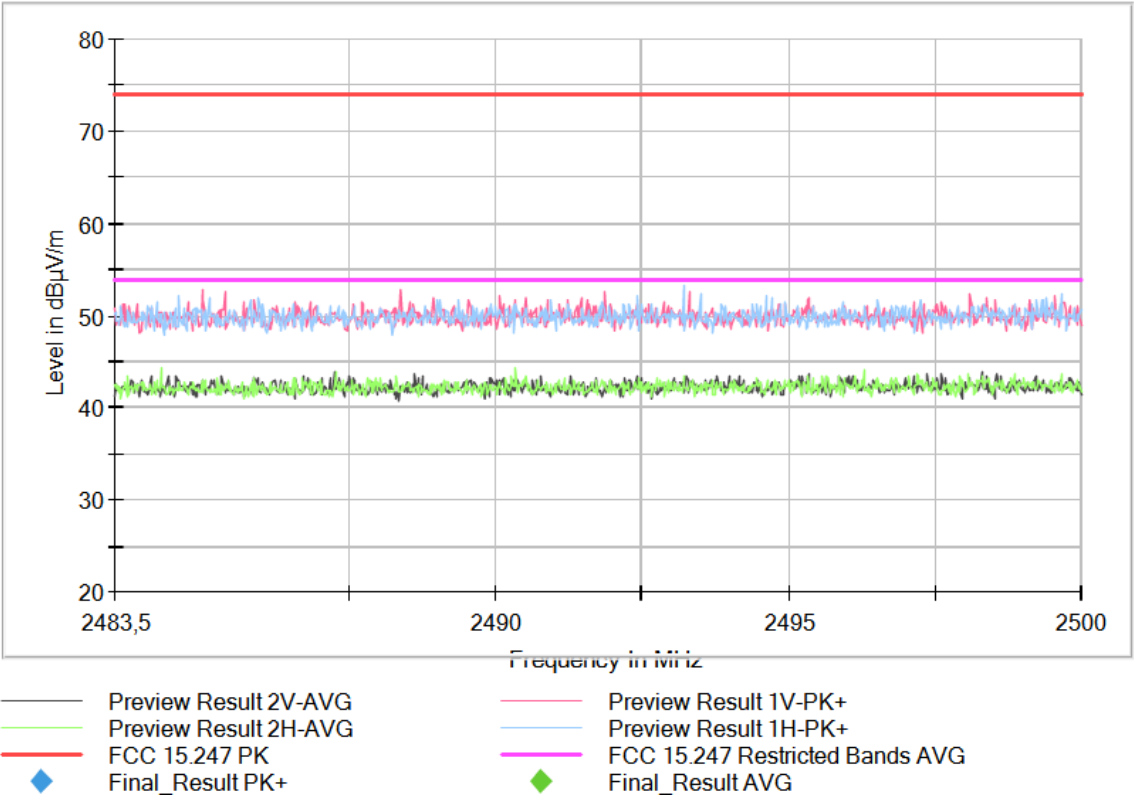
Images:



Full Spectrum

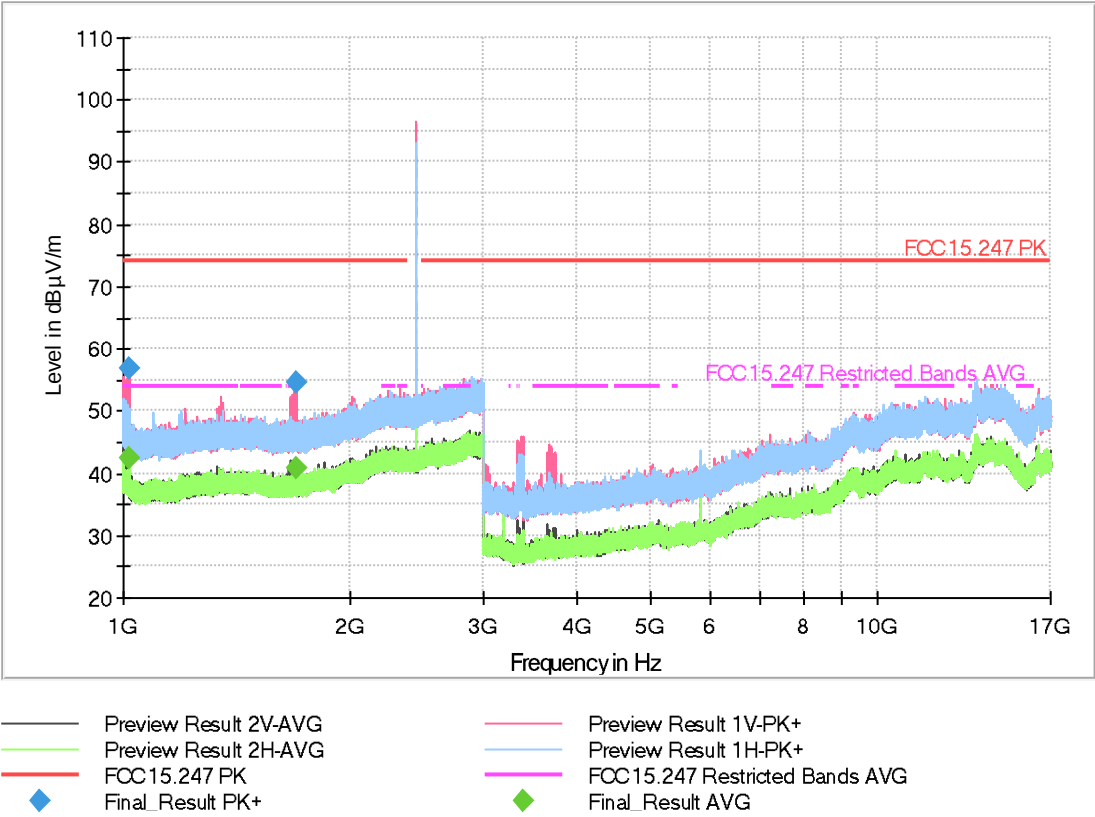


Full Spectrum

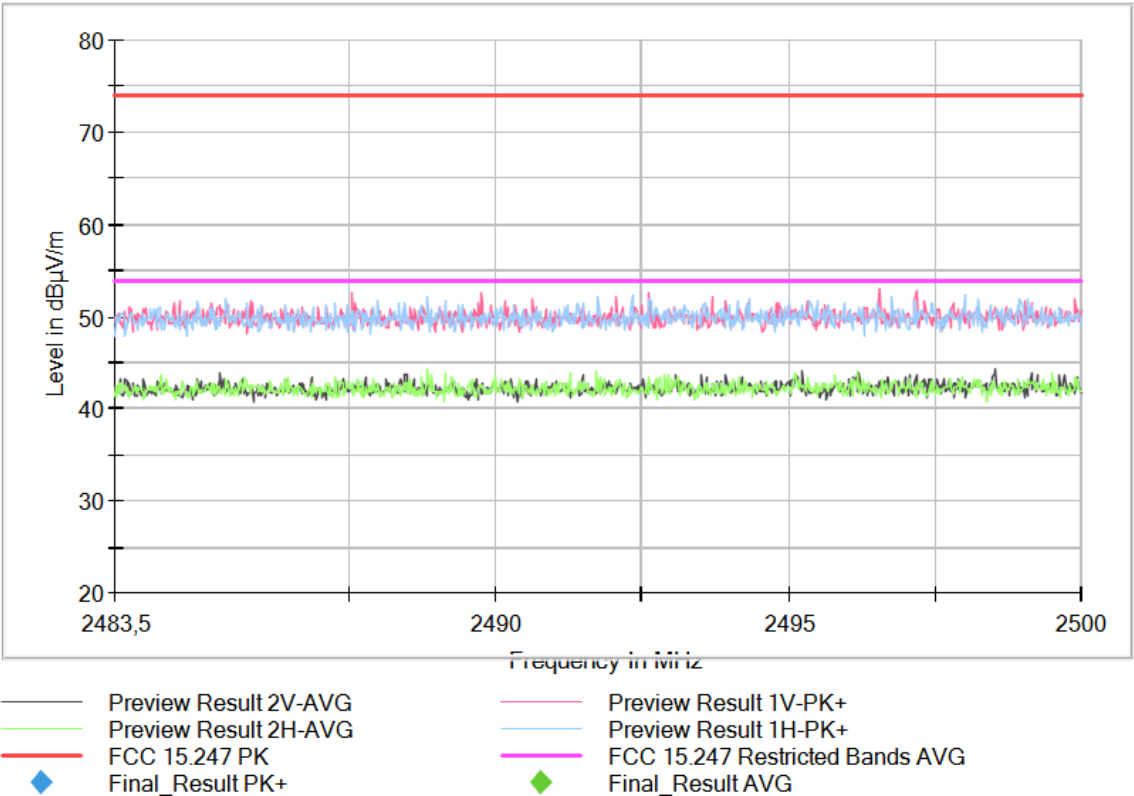


Frequency Range GHz = [1, 17] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Modulation = BT (GFSK 1-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

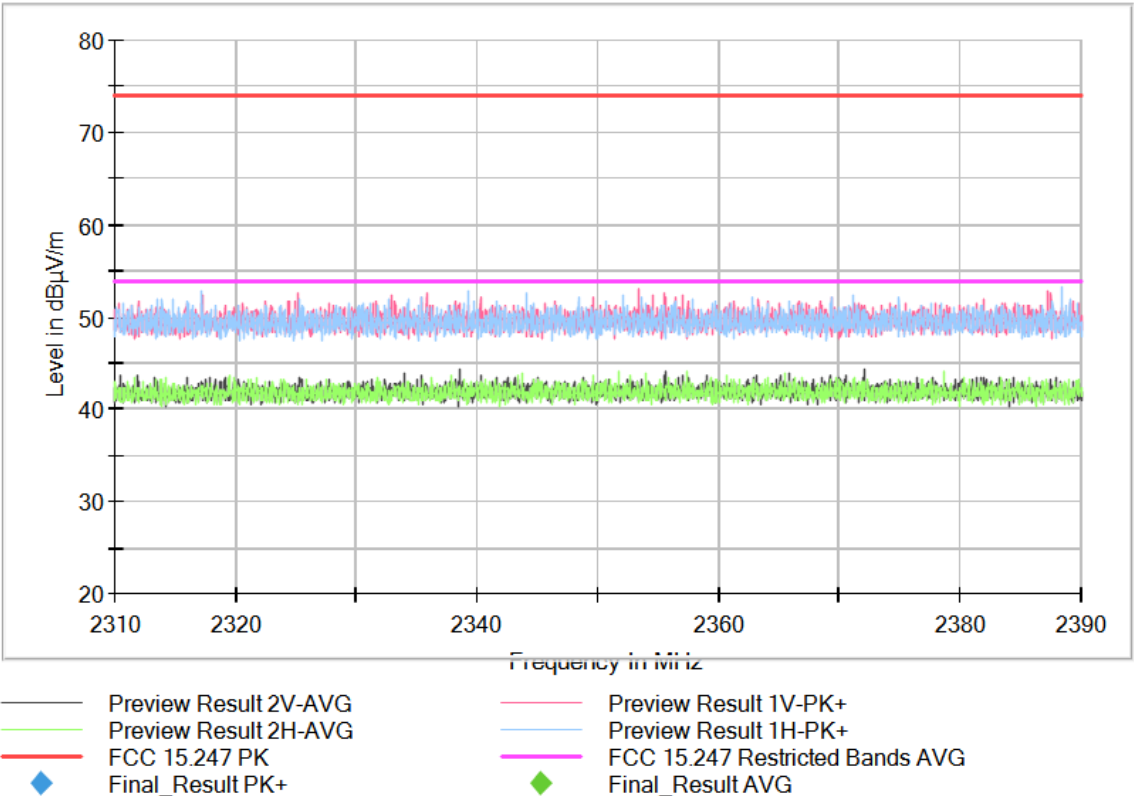
Images:



Full Spectrum

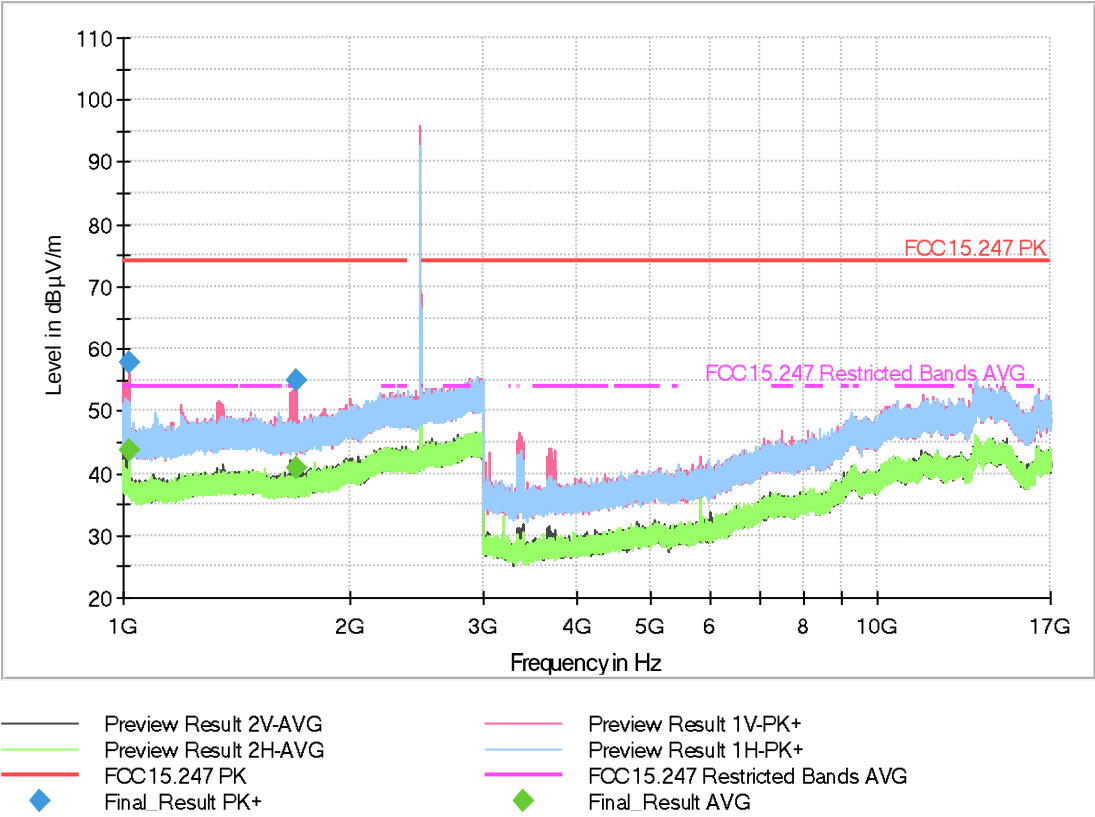


Full Spectrum

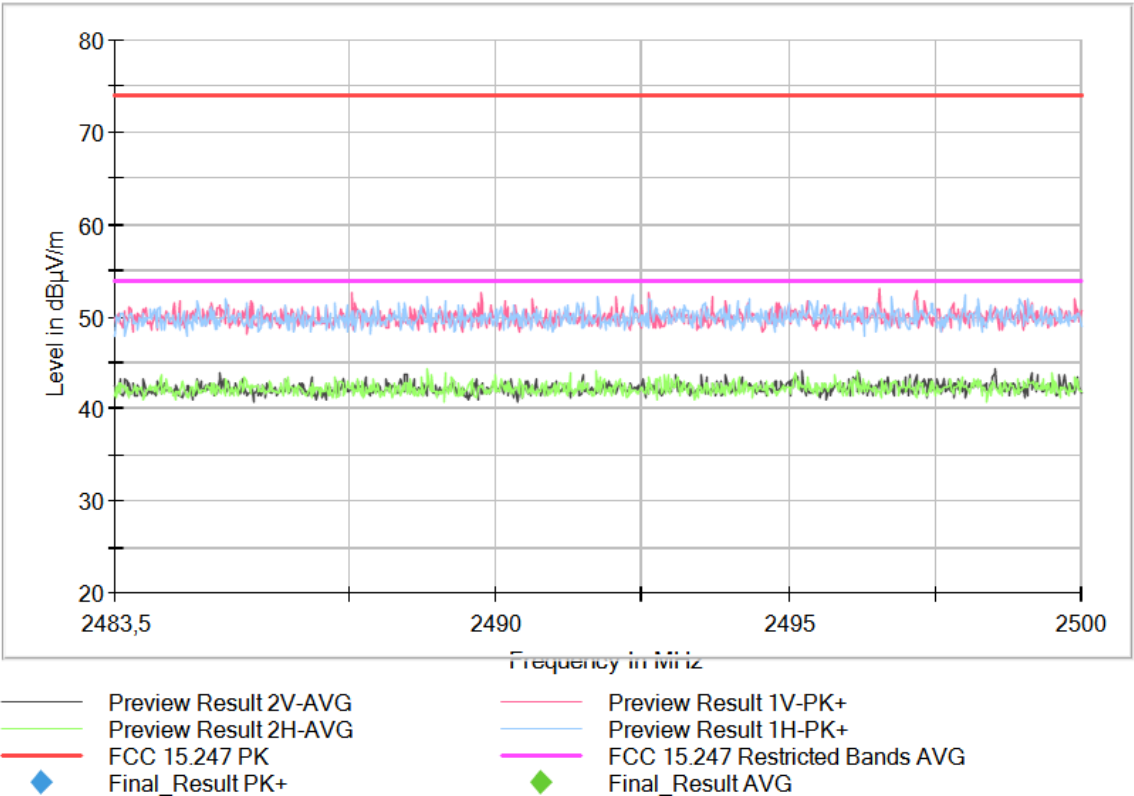


Frequency Range GHz = [1, 17] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Modulation = BT (GFSK 1-DH5) Frequency MHz = 2480.00000
MIMO Mode = SISO Active Port = 1

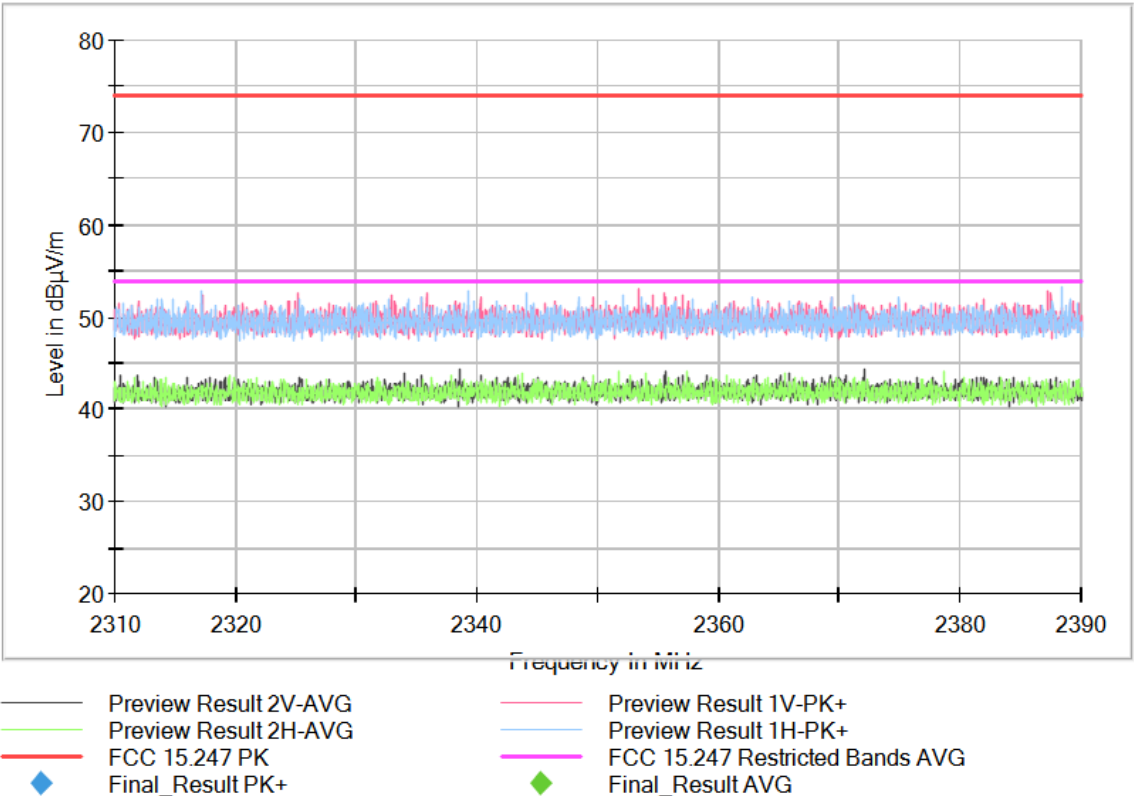
Images:



Full Spectrum



Full Spectrum



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

MIMO Mode: SISO

Results

Freq Rng (GHz)	Equipment	Freq (MHz)	Port	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
[1, 17]	Frequency Hopping Spread Spectrum systems (DSS)	2402.00000	1	1002.360	57.69	V	PK
				1686.560	56.28	V	PK
				1002.360	43.38	V	AVG
				1686.560	41.93	V	AVG
		2441.00000		1009.860	57.63	V	PK
				1686.440	55.33	V	PK
				1009.860	43.12	V	AVG
				1686.440	41.05	V	AVG
		2480.00000		1011.940	57.79	V	PK
				1011.940	43.67	V	AVG

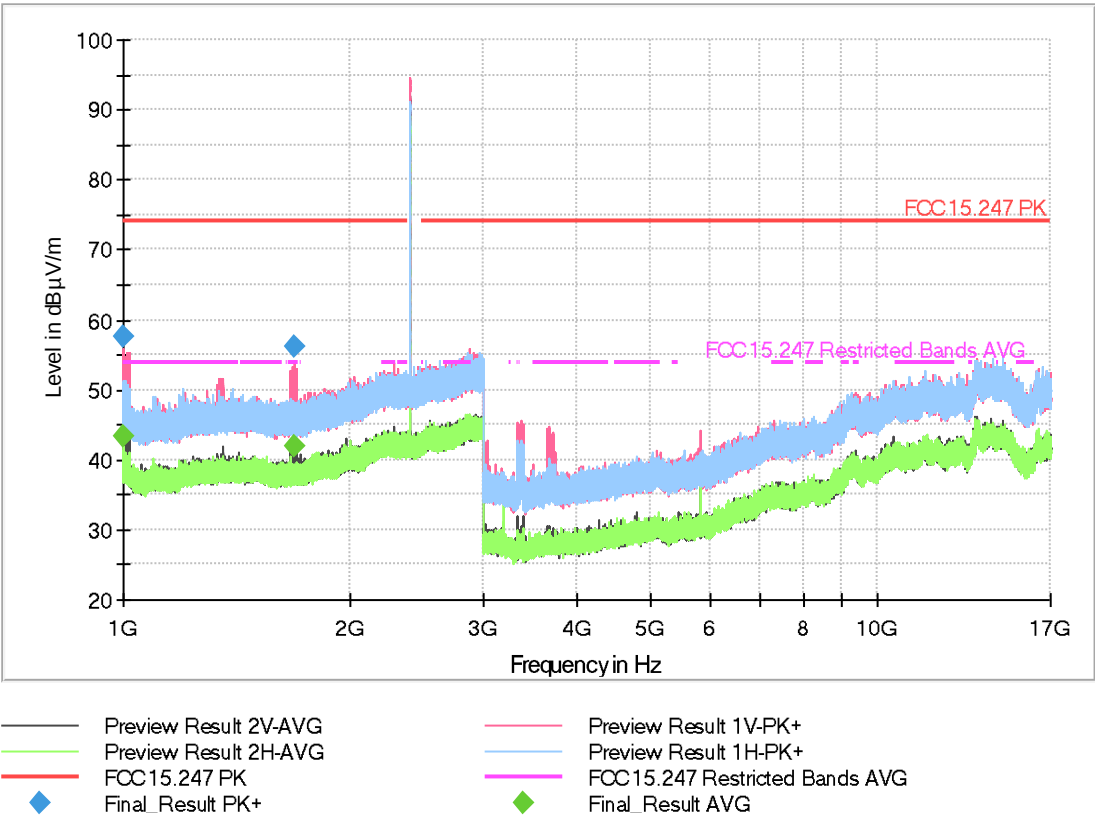
Verdict

Pass

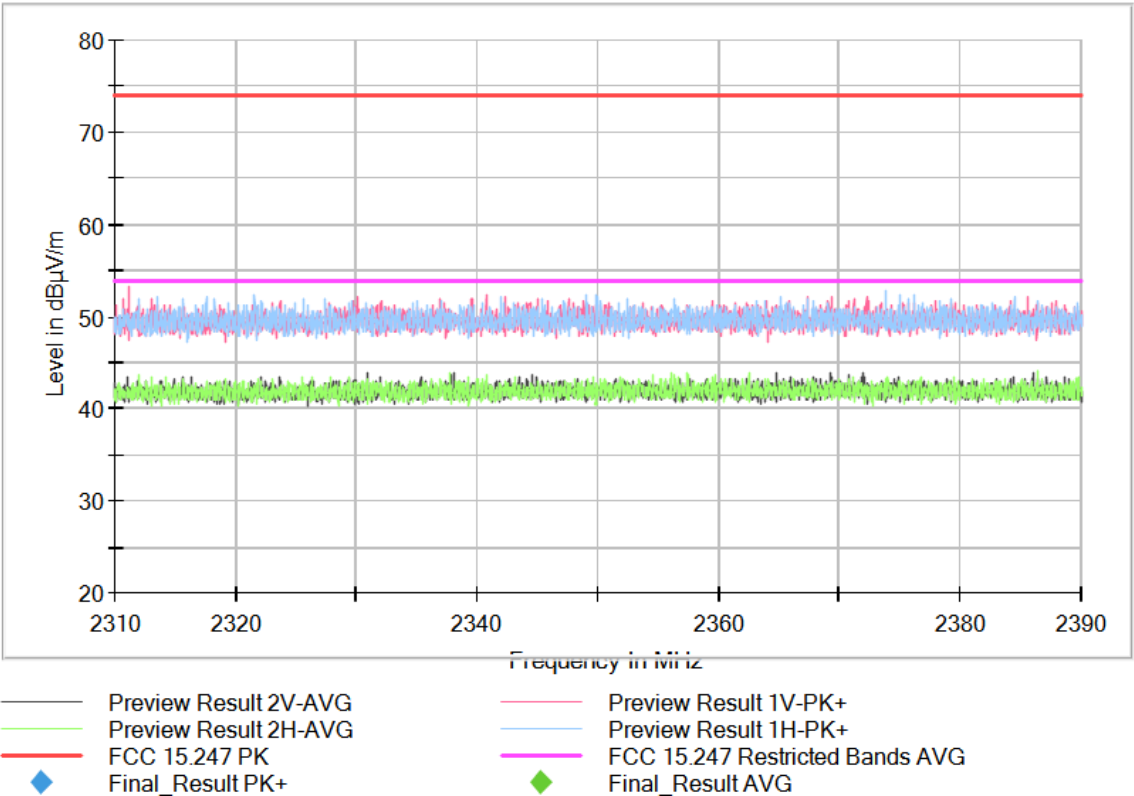
Attachments

Frequency Range GHz = [1, 17] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Modulation = BT (Pi/4 DPSK 2-DH5) Frequency MHz = 2402.00000
MIMO Mode = SISO Active Port = 1

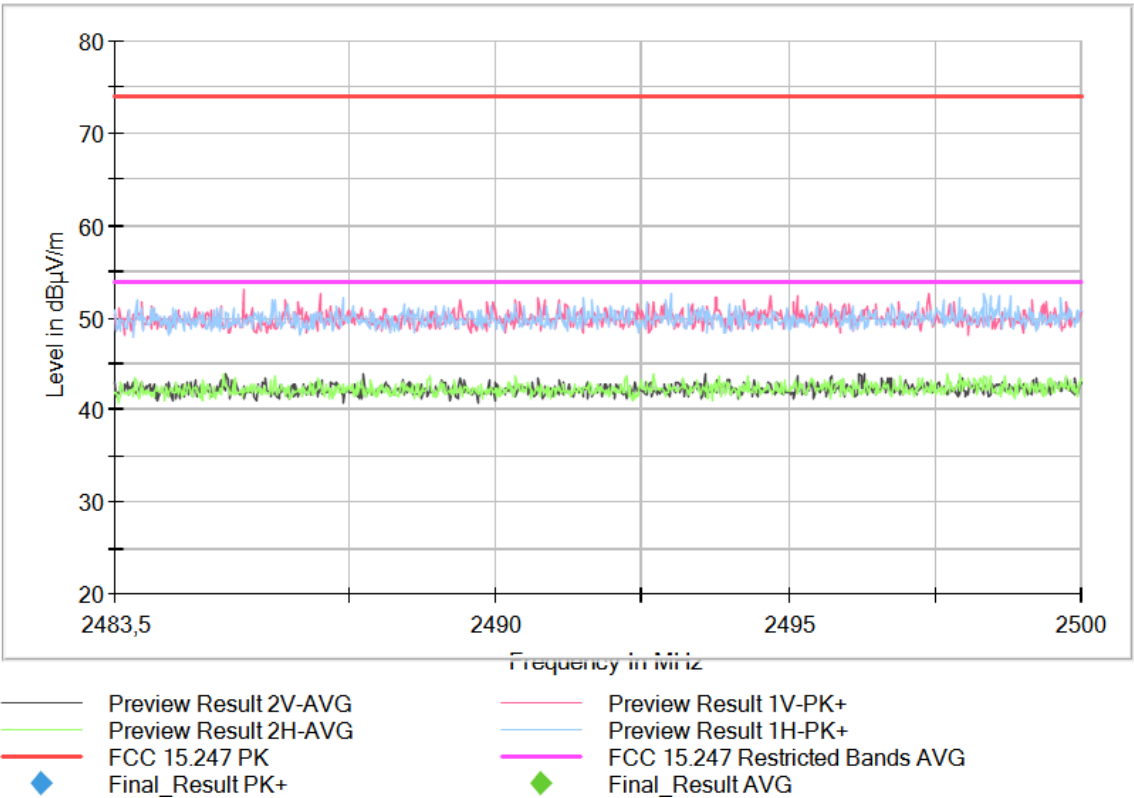
Images:



Full Spectrum

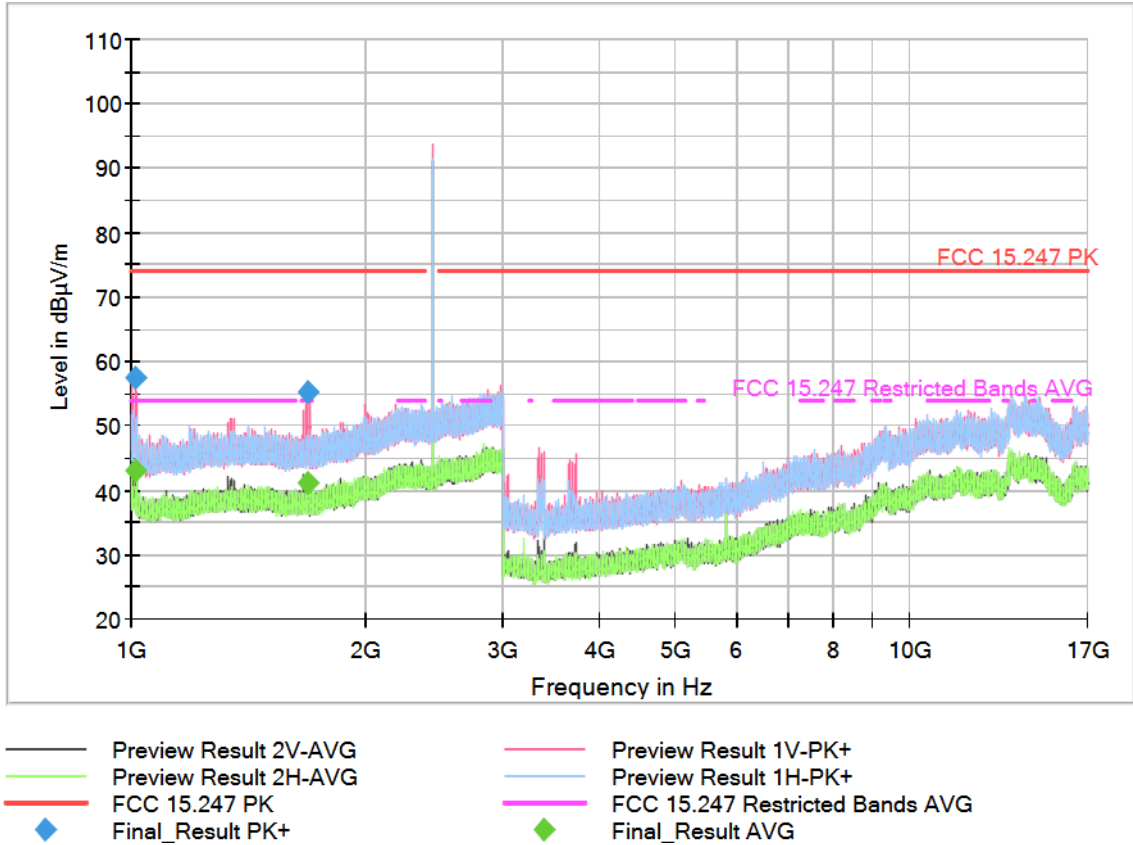


Full Spectrum



Frequency Range GHz = [1, 17] Equipment Type = Frequency Hopping Spread Spectrum systems (DSS)
Modulation = BT (Pi/4 DPSK 2-DH5) Frequency MHz = 2441.00000
MIMO Mode = SISO Active Port = 1

Images:



Full Spectrum

