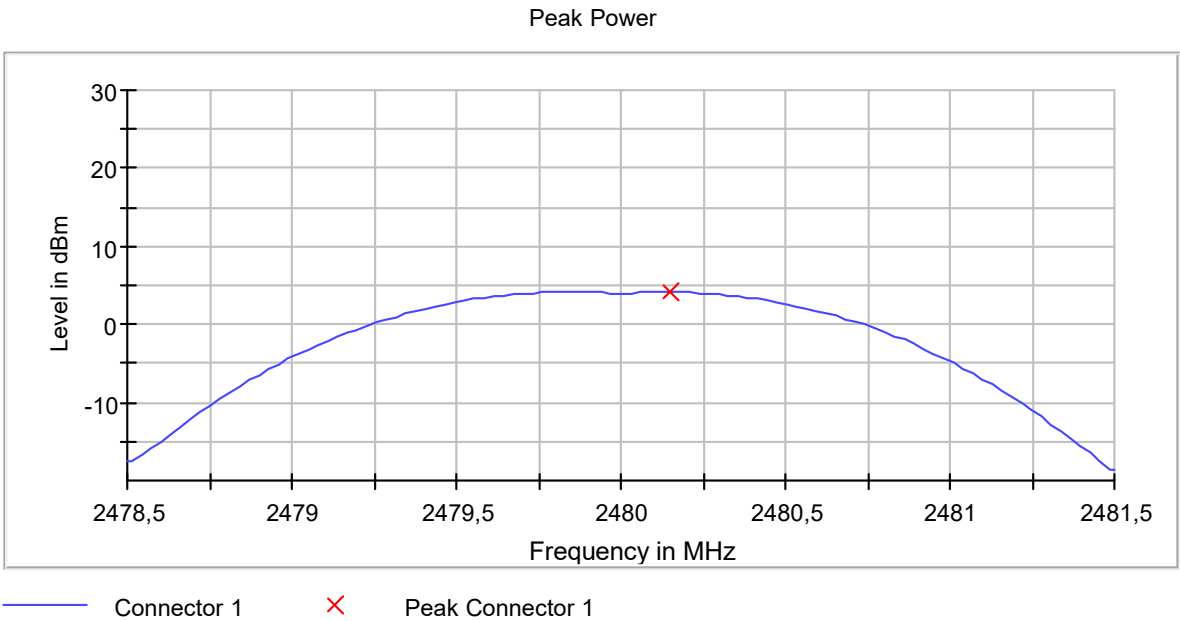
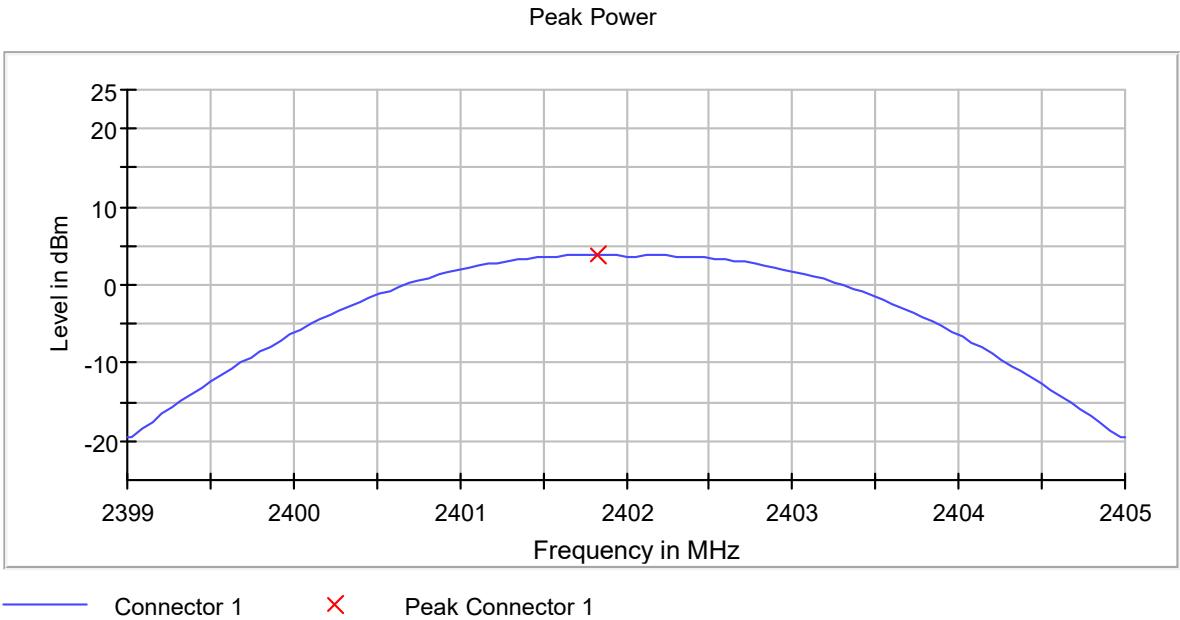


- High Channel:

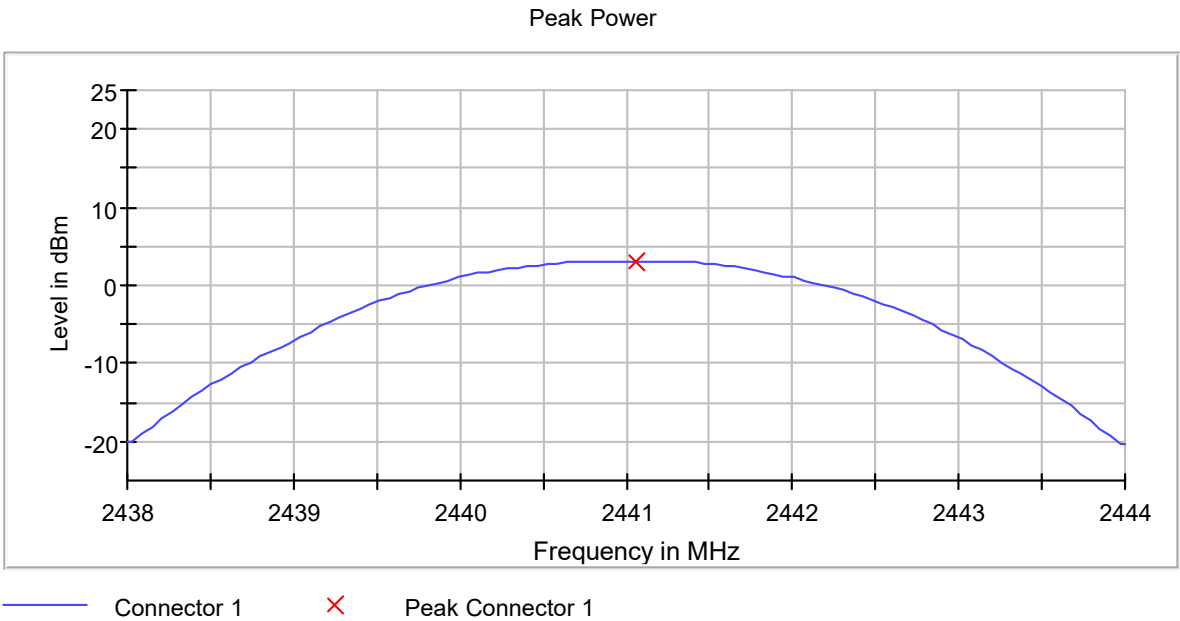


• **PI/4 DQPSK – Peak Output Power**

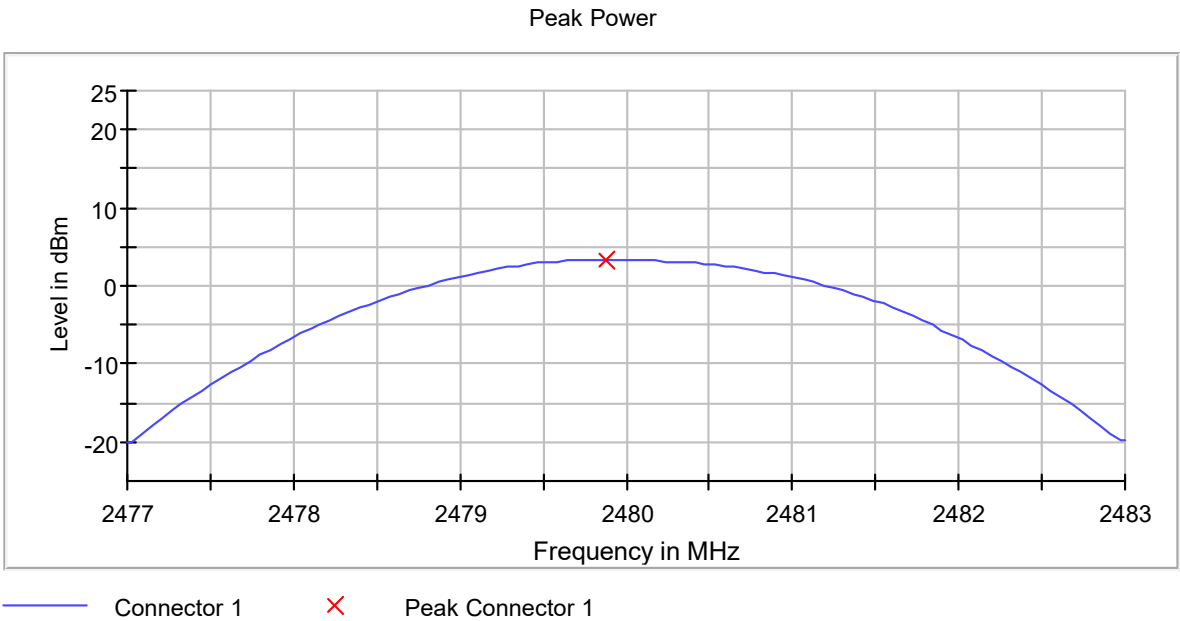
- Low Channel:



- Middle Channel:

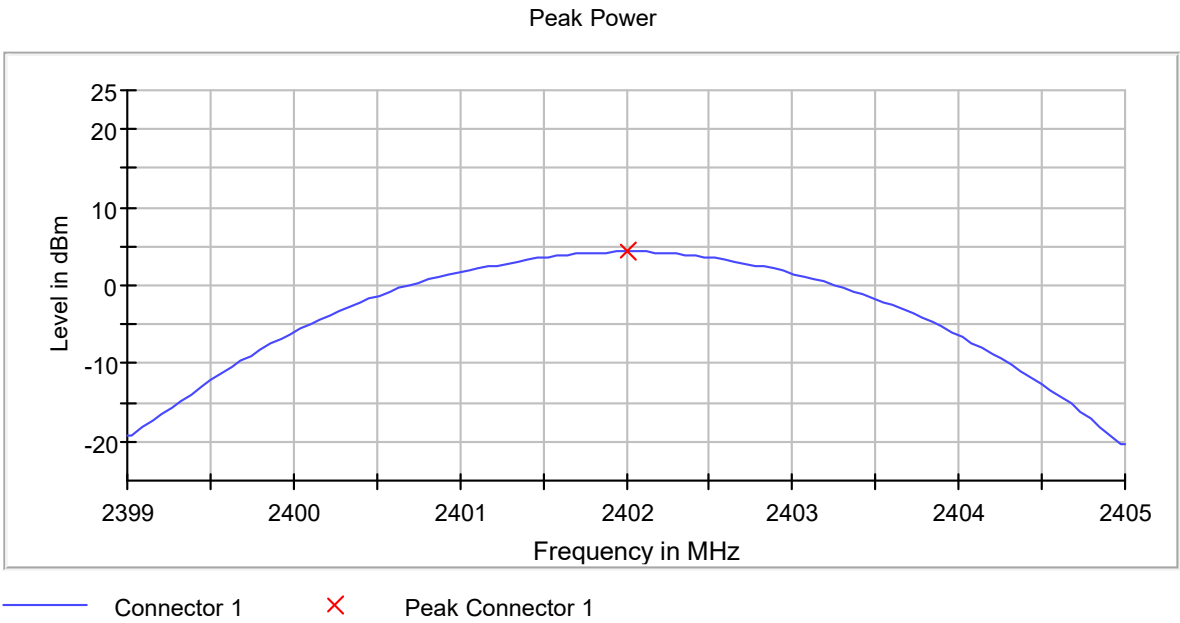


- High Channel:

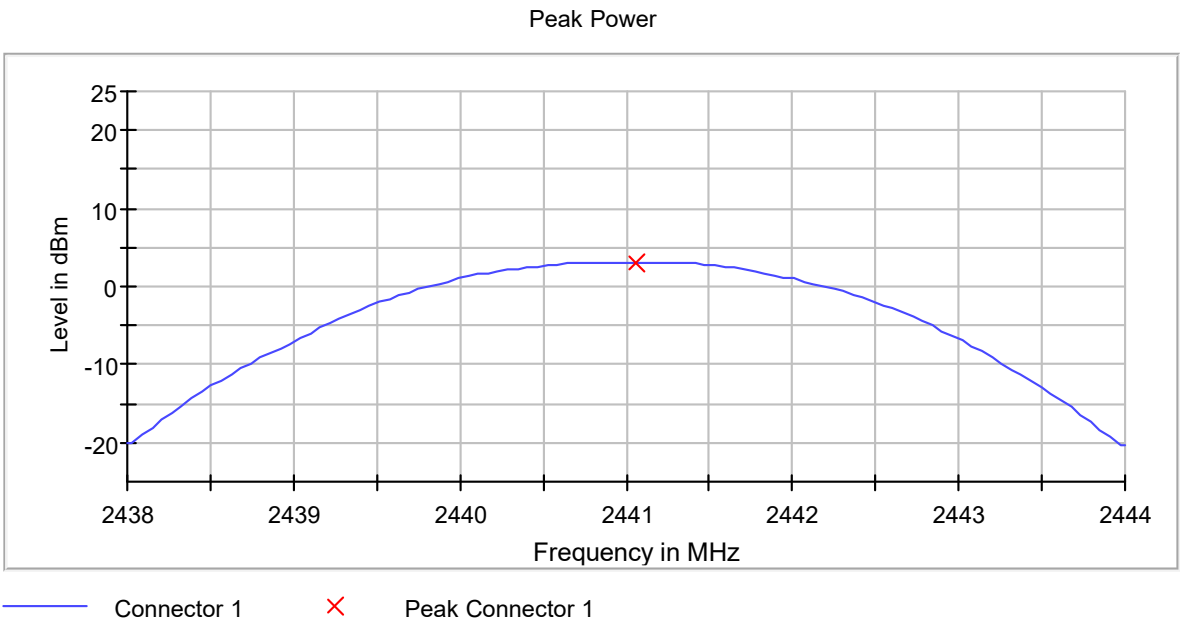


• 8DPSK – Peak Output Power

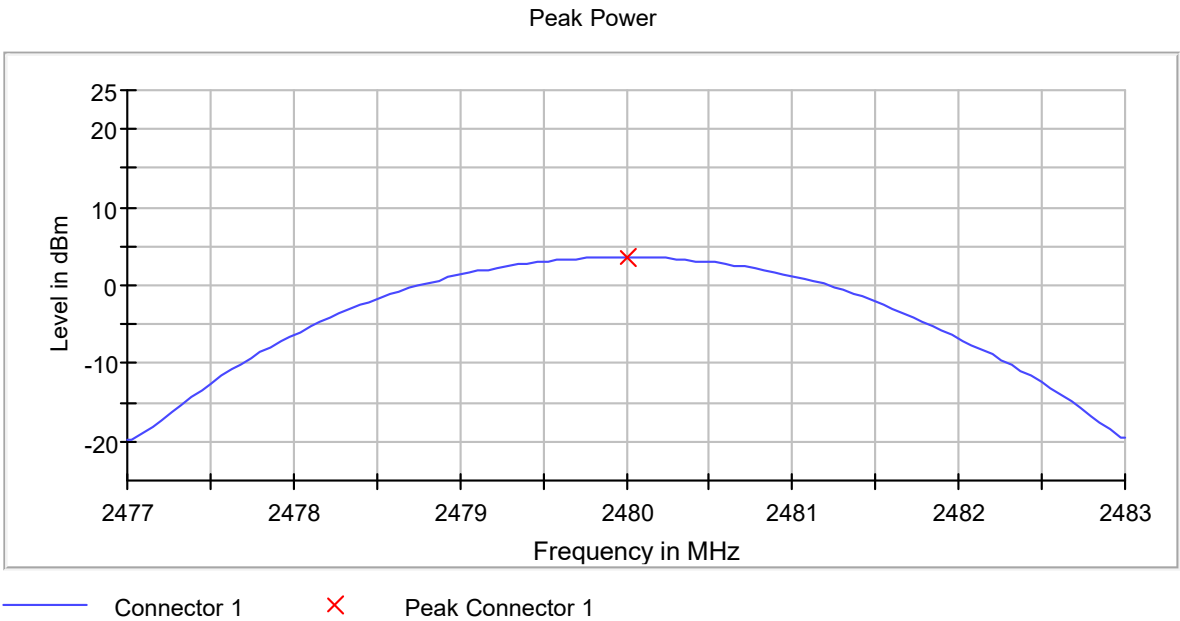
- Low Channel:



- Middle Channel:



- High Channel:



RSS-247 5.5 / FCC 15.247 (d) [Bndedge] Band-edge emissions compliance (Transmitter)

Limits

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

Result

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

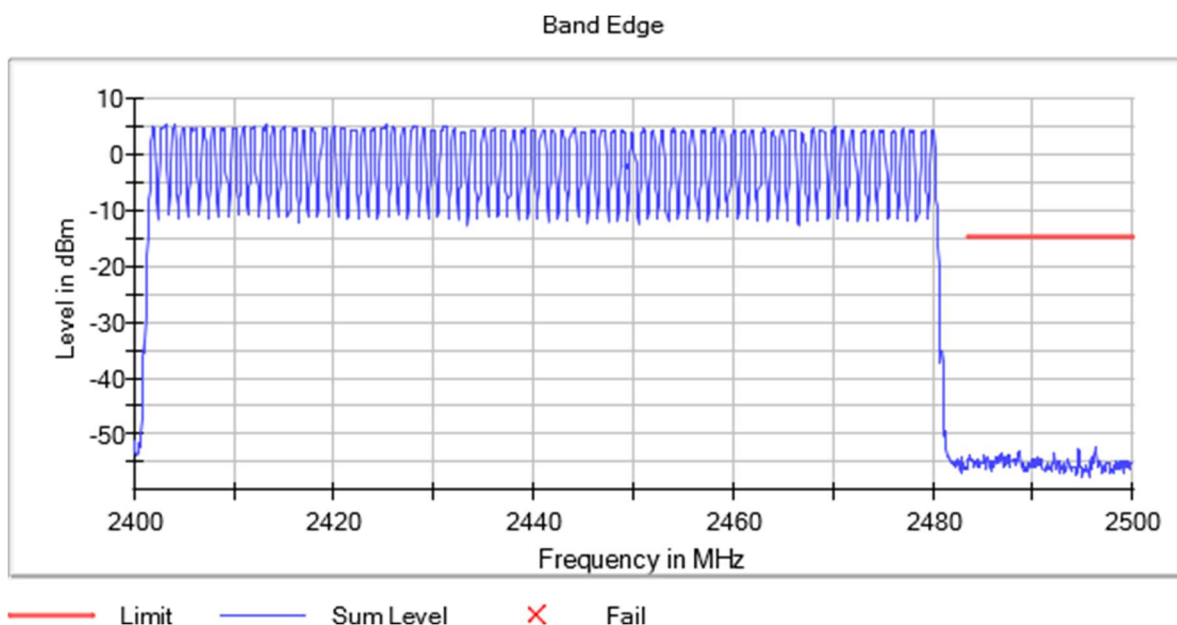
Uncertainty

Measurement uncertainty (dB) $< \pm 1.53$

Attachments

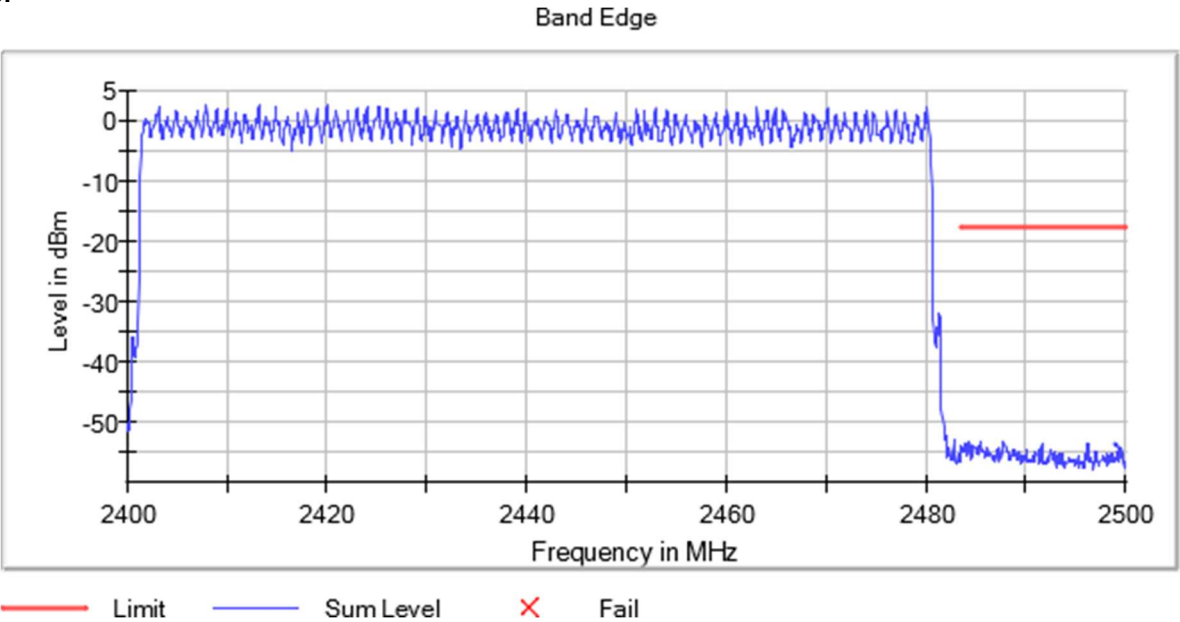
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00, Hopping Mode: ON, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

Images:



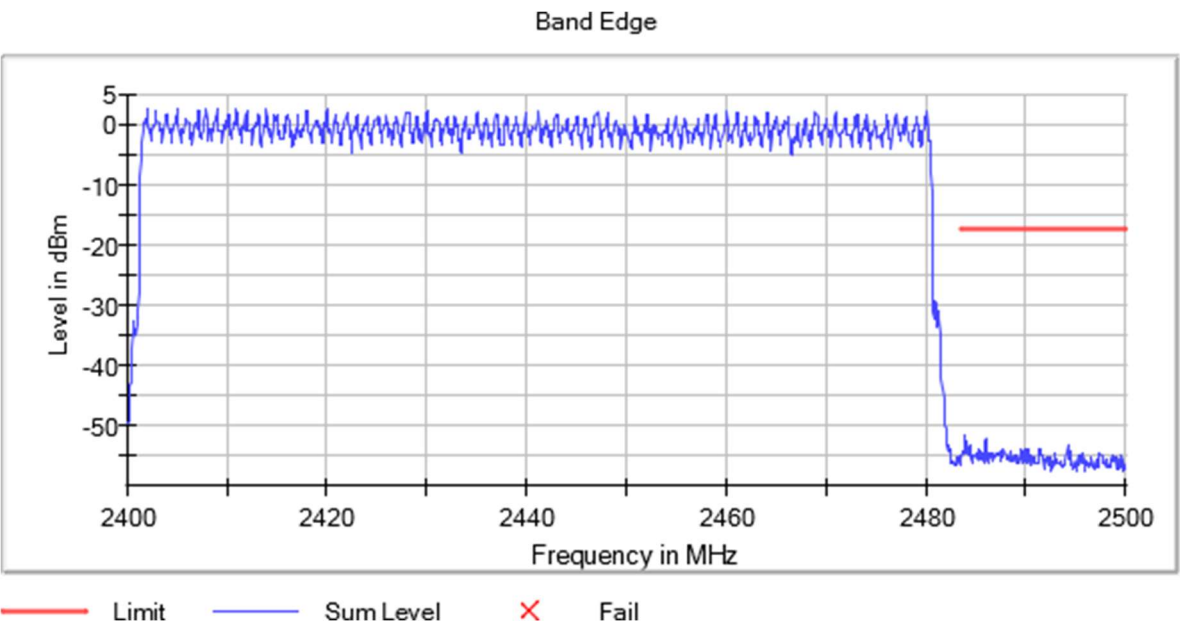
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00, Hopping Mode: ON, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

Images:

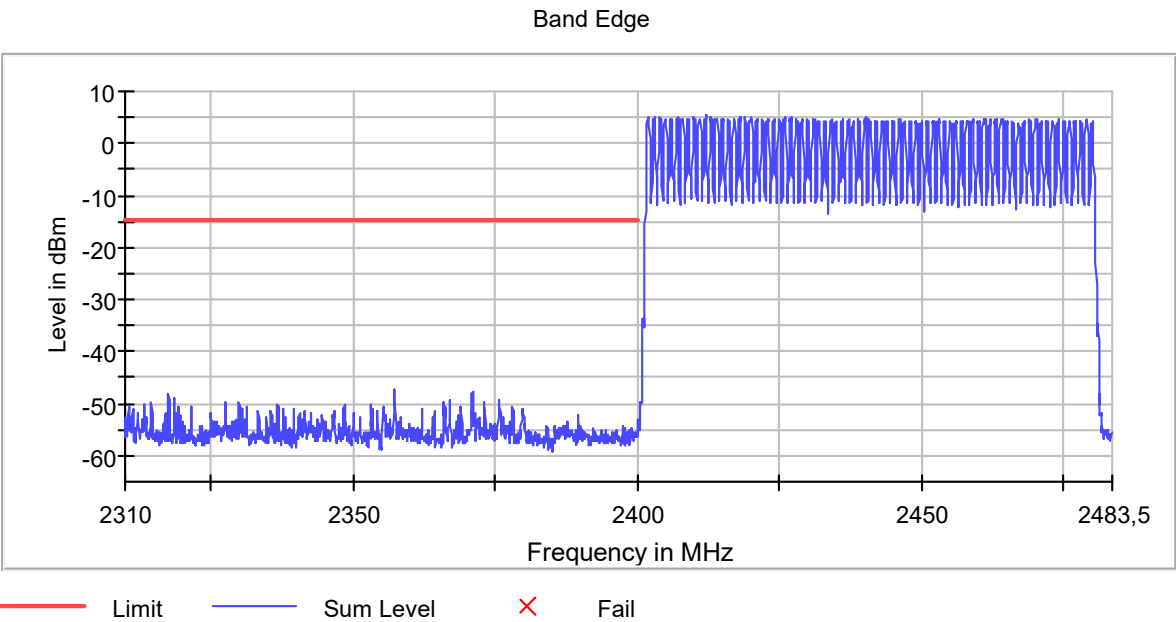


Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00, Hopping Mode: ON, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

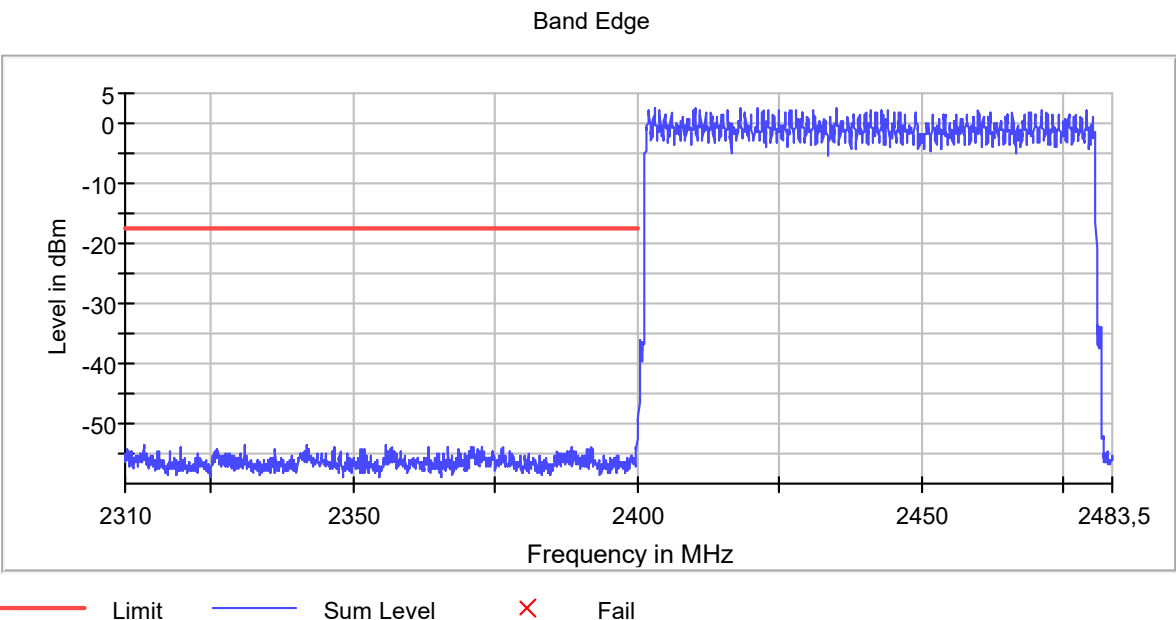
Images:



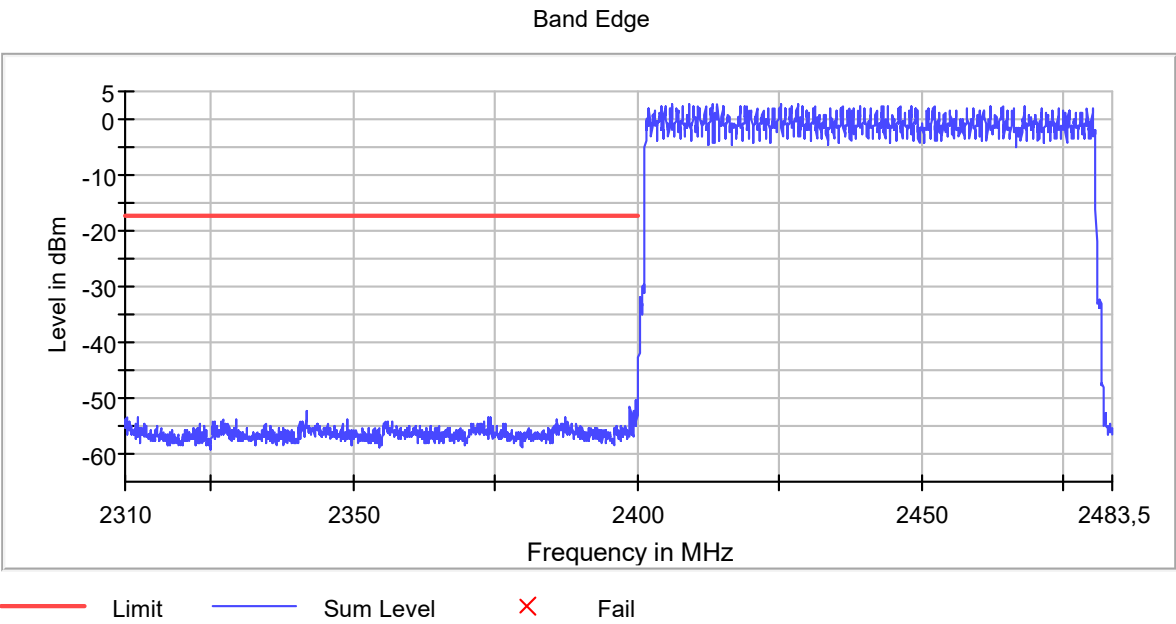
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00, Hopping Mode: ON, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00, Hopping Mode: ON, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

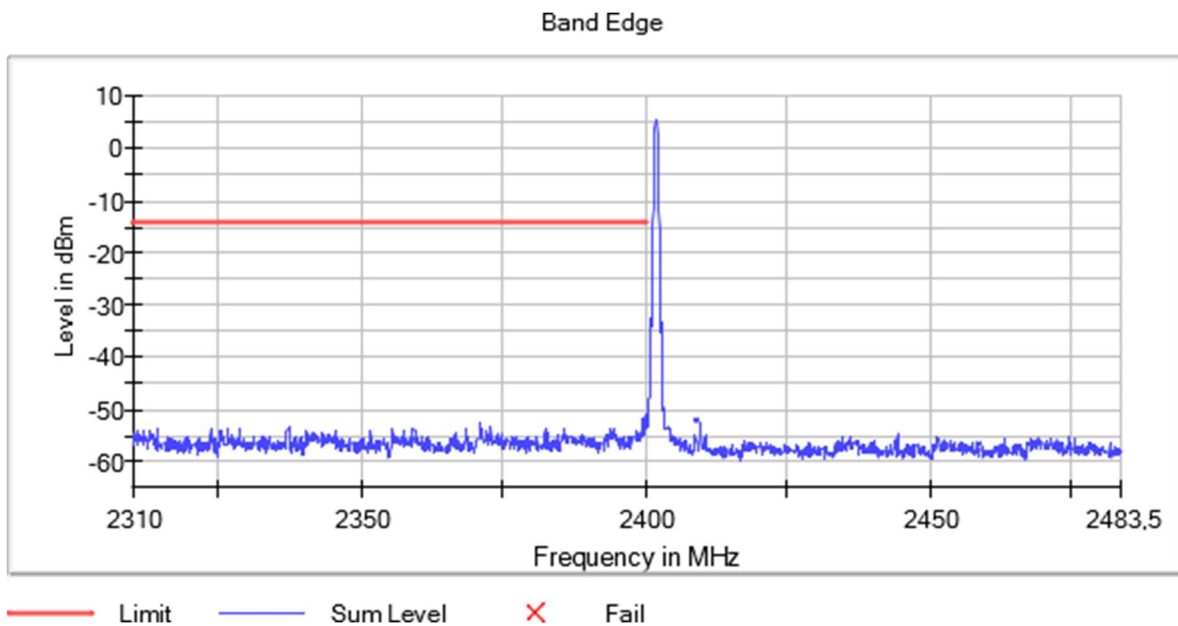


Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00, Hopping Mode: ON, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1



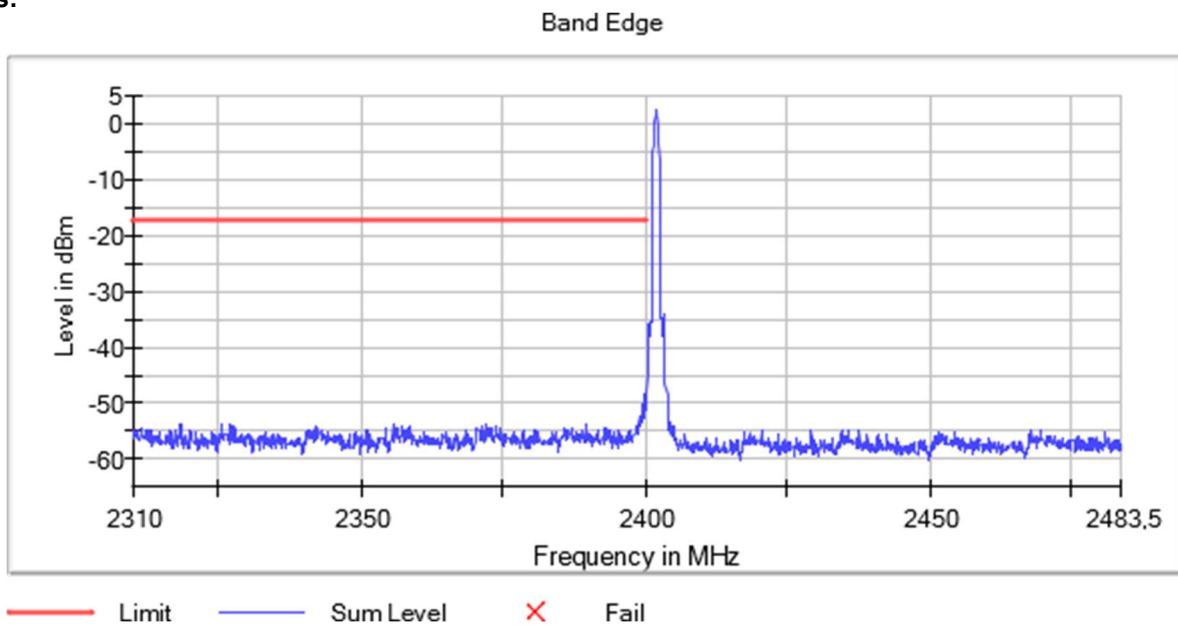
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00, Hopping Mode: OFF, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

Images:



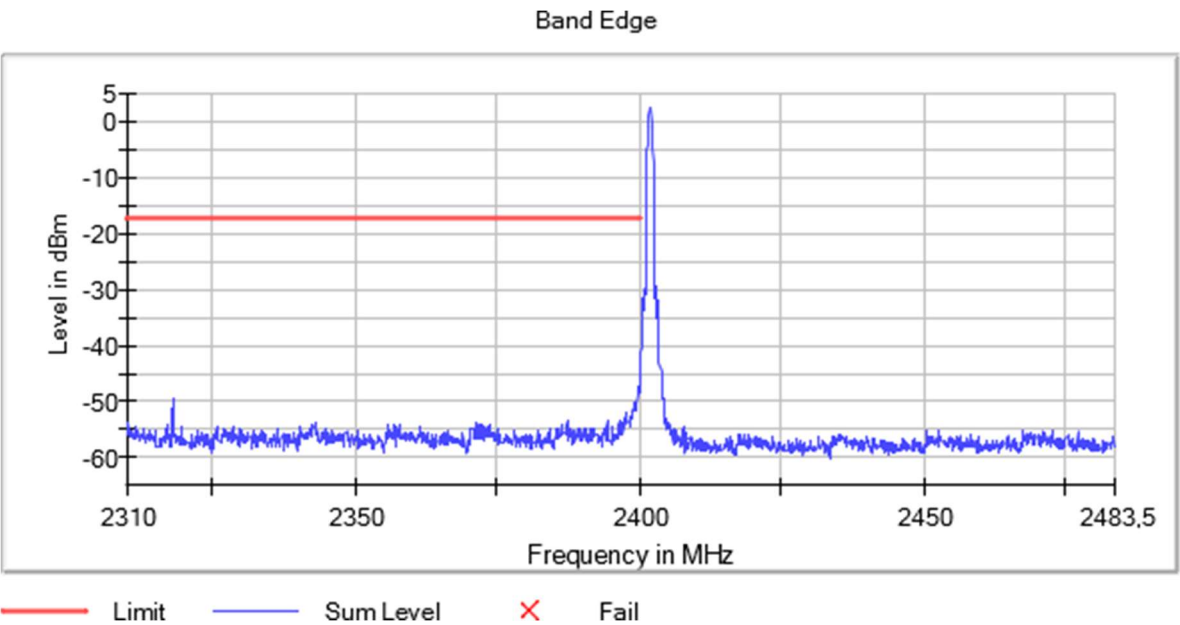
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00, Hopping Mode: OFF, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

Images:

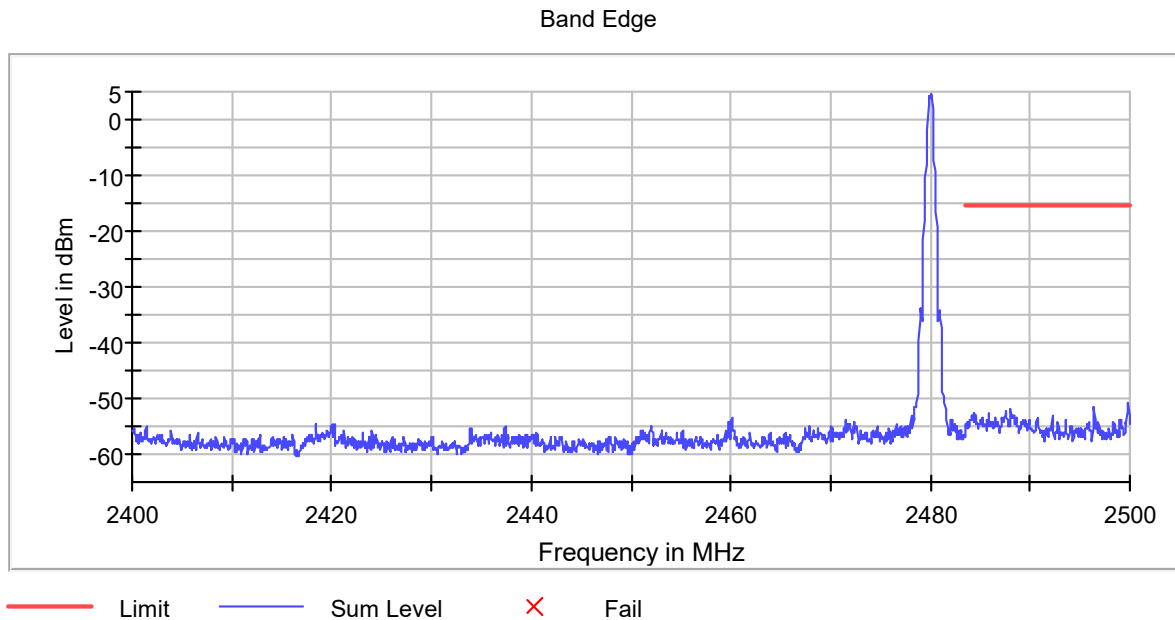


Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00, Hopping Mode: OFF, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

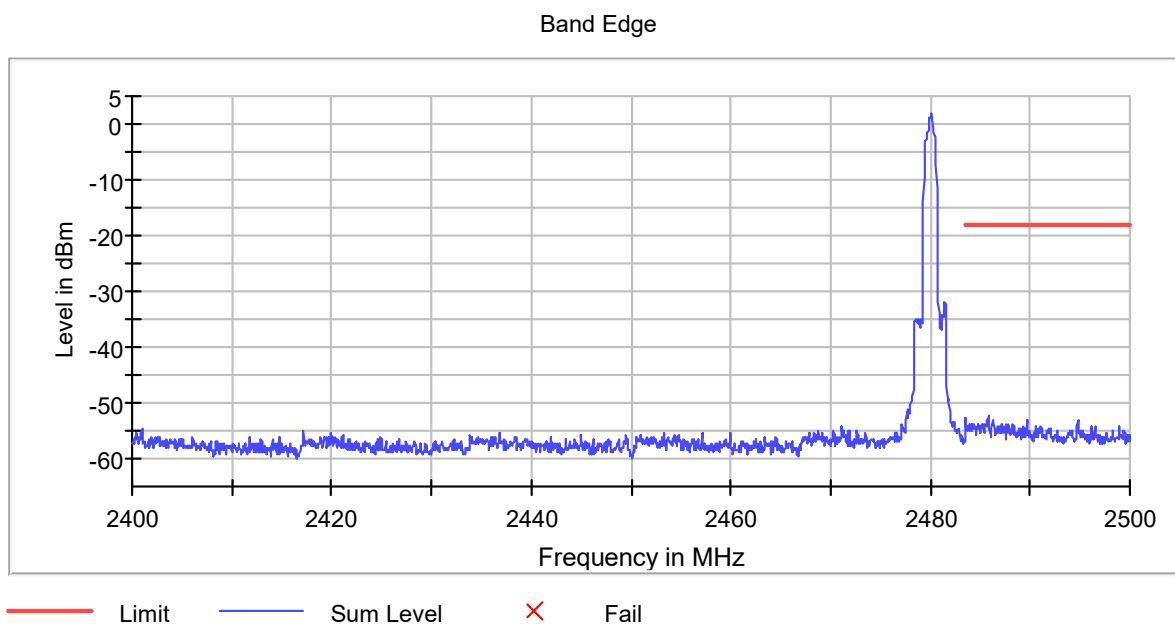
Images:



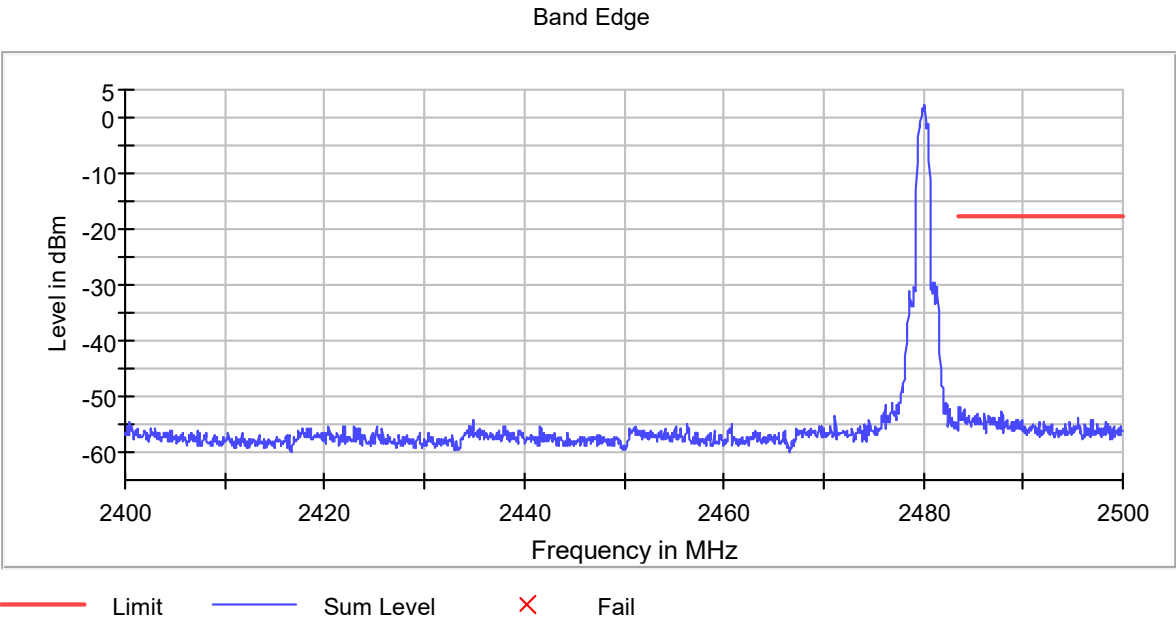
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00, Hopping Mode: OFF, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00, Hopping Mode: OFF, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00, Hopping Mode: OFF, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1



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

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 (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 is specified when measuring with peak detector function.

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

Results

Modulation: BT (GFSK 1-DH5)

Freq (MHz)	Freq Rng (GHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBμV/m)	Pol	Detector
2480.00	[0.03, 1]	31.644150	15.20	V	QP
2480.00	[0.03, 1]	31.644150	20.41	V	PK
2480.00	[0.03, 1]	74.978900	19.15	V	QP
2480.00	[0.03, 1]	74.978900	20.66	V	PK
2402.00	[1, 3]	2378.4770	55.75	H	PK
2402.00	[1, 3]	2378.4770	43.52	H	AVG

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

Freq (MHz)	Freq Rng (GHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBμV/m)	Pol	Detector
2441.00	[0.03, 1]	31.367255	16.72	V	QP
2441.00	[0.03, 1]	31.367255	22.17	V	PK
2441.00	[0.03, 1]	75.016010	18.78	V	QP
2441.00	[0.03, 1]	75.016010	20.35	V	PK
2402.00	[1, 3]	2375.6240	54.84	V	PK
2402.00	[1, 3]	2375.6240	43.49	V	AVG

Modulation: BT (8DPSK 3-DH5)

Freq (MHz)	Freq Rng (GHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBμV/m)	Pol	Detector
2402.00	[0.03, 1]	31.752340	16.69	V	QP
2402.00	[0.03, 1]	31.752340	21.64	V	PK
2402.00	[0.03, 1]	74.998685	20.15	V	QP
2402.00	[0.03, 1]	74.998685	21.65	V	PK

Verdict

Pass

Uncertainty

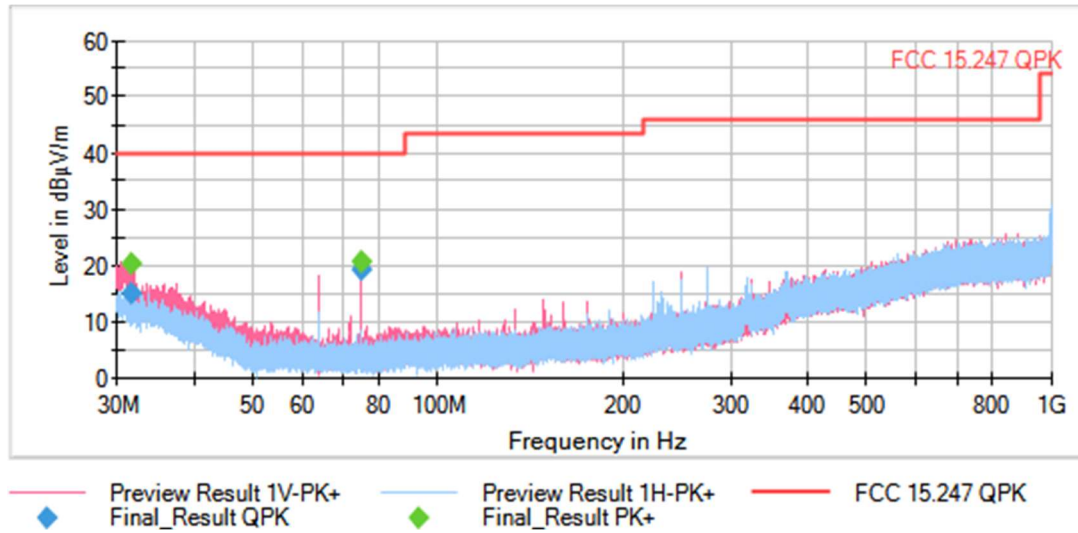
Measurement Uncertainty (dB):

$0.03 \text{ GHz} < f \leq 1 \text{ GHz}$ $< \pm 5.17$
 $1 \text{ GHz} \leq f \leq 3 \text{ GHz}$ $< \pm 4.11$
 $3 \text{ GHz} < f \leq 17 \text{ GHz}$ $< \pm 5.13$
 $17 \text{ GHz} < f \leq 26 \text{ GHz}$ $< \pm 4.81$

Attachments

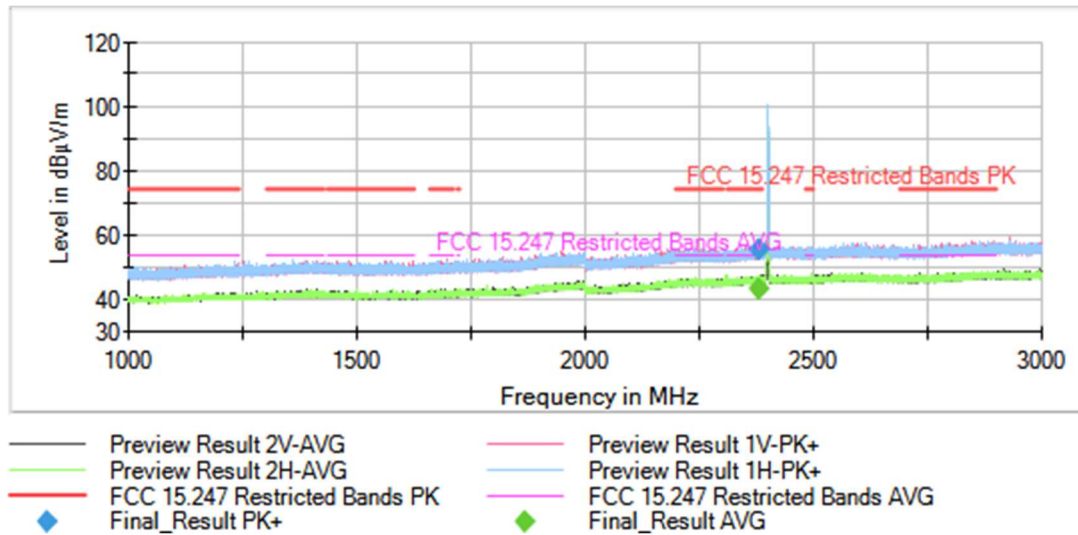
Operation Band MHz = [2400, 2483.5], Frequency MHz = The spurious frequencies detected do not depend neither on the operating channel, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (GFSK 1-DH5), Frequency Range GHz = [0.03, 1], Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

Images:

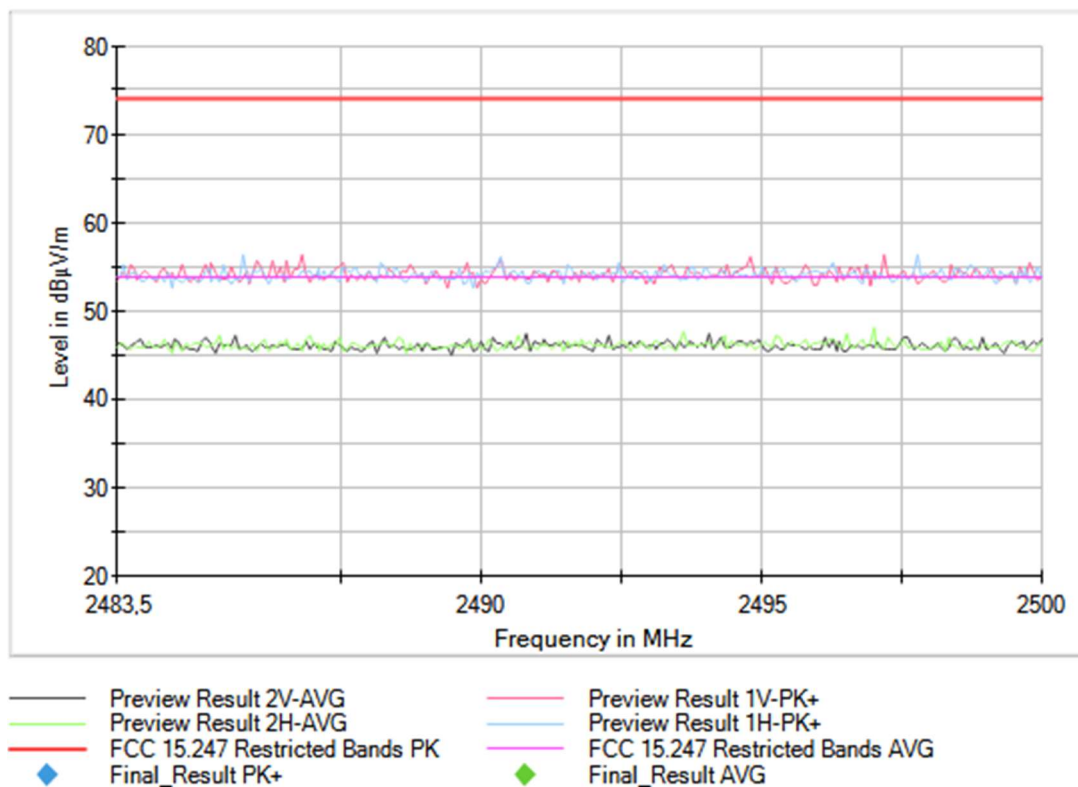


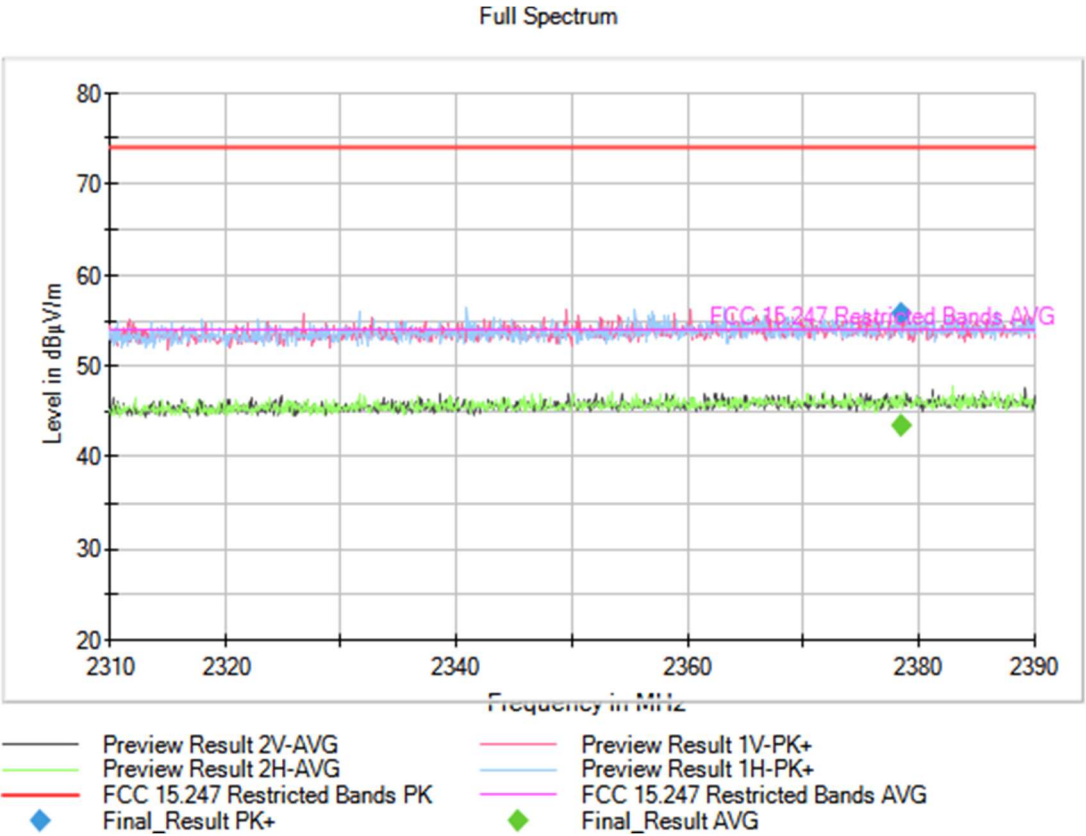
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (GFSK 1-DH5), Frequency Range GHz = [1, 3], Measurement Point = 1

Images:



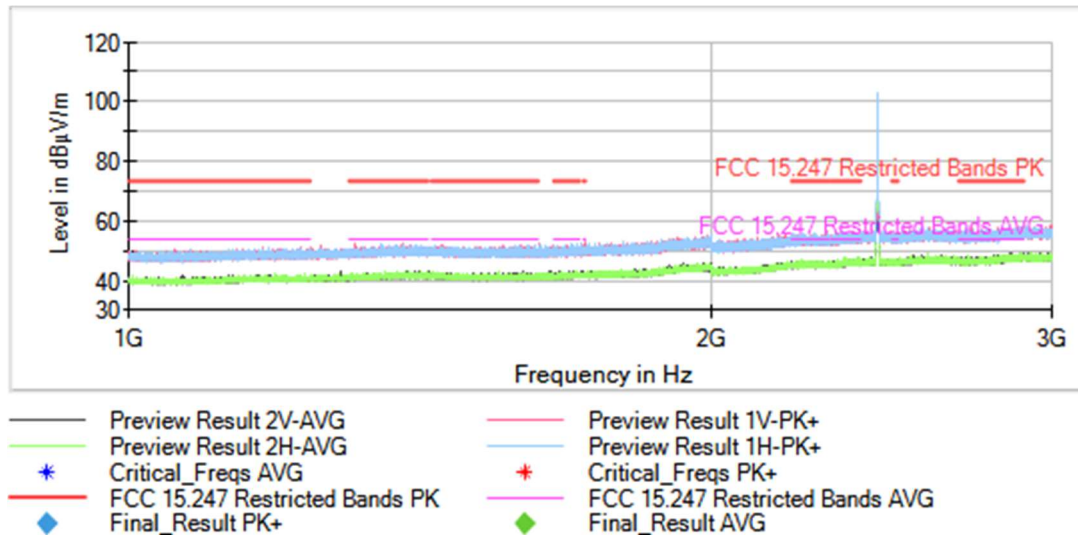
Full Spectrum



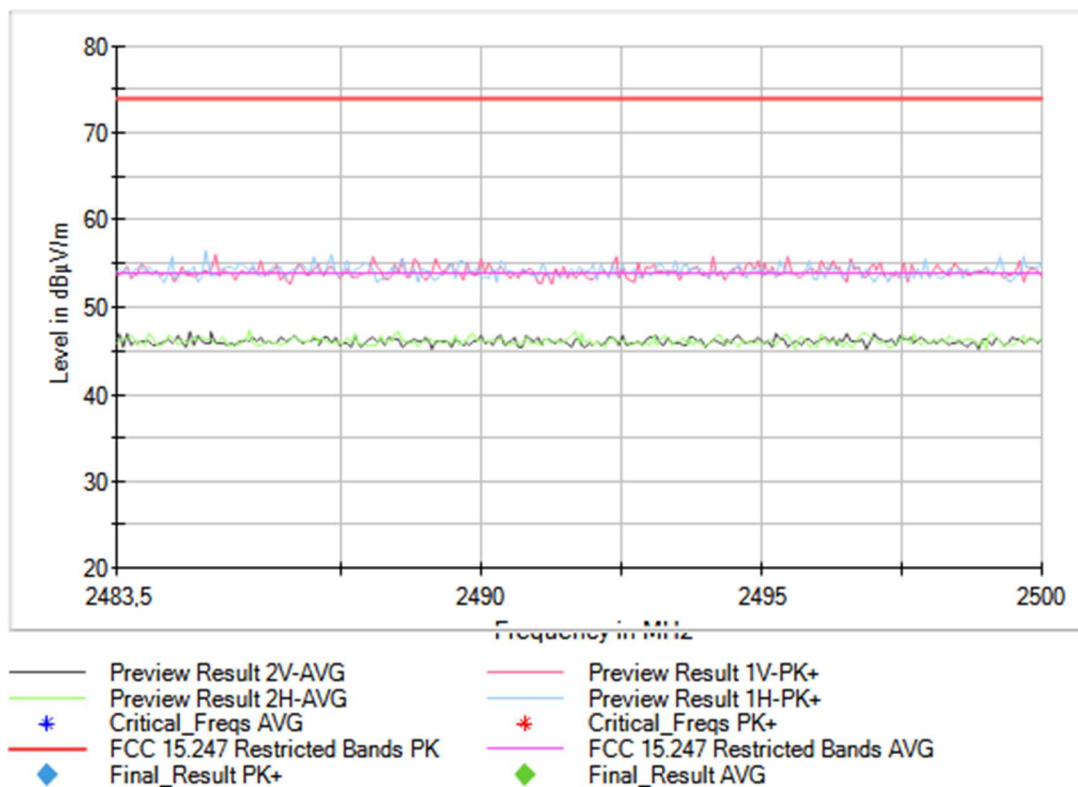


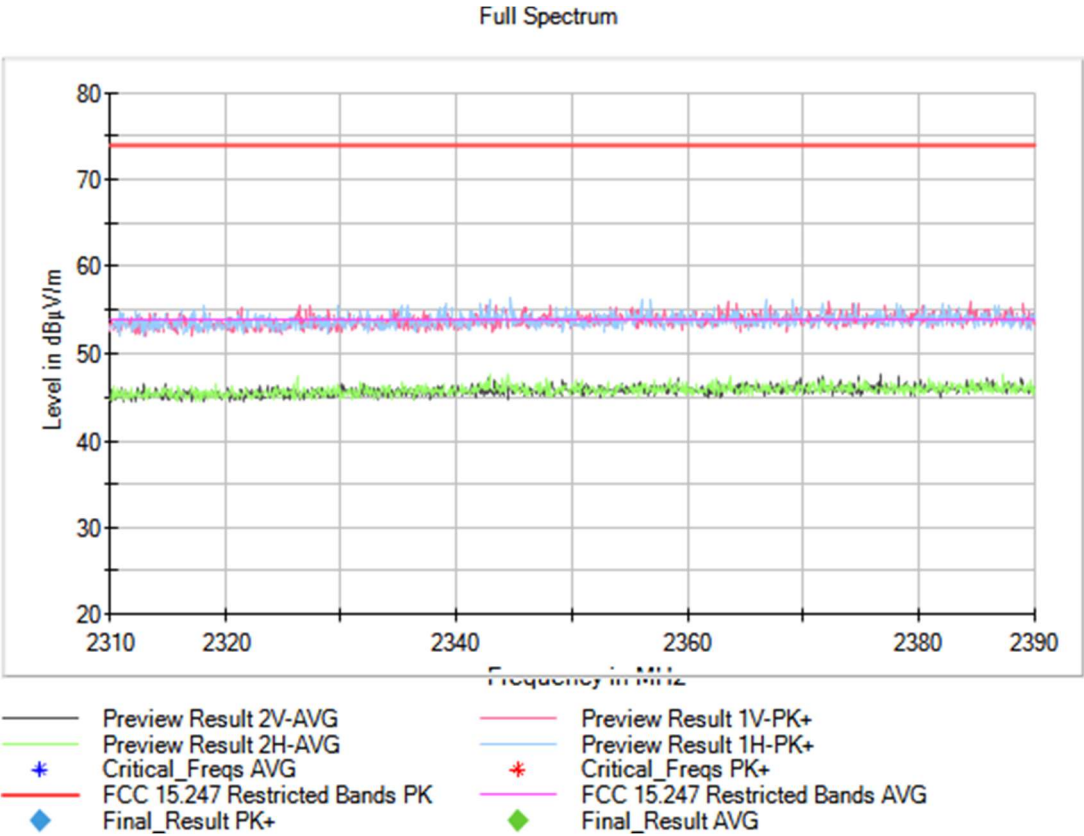
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (GFSK 1-DH5), Frequency Range GHz = [1, 3], Measurement Point = 1

Images:



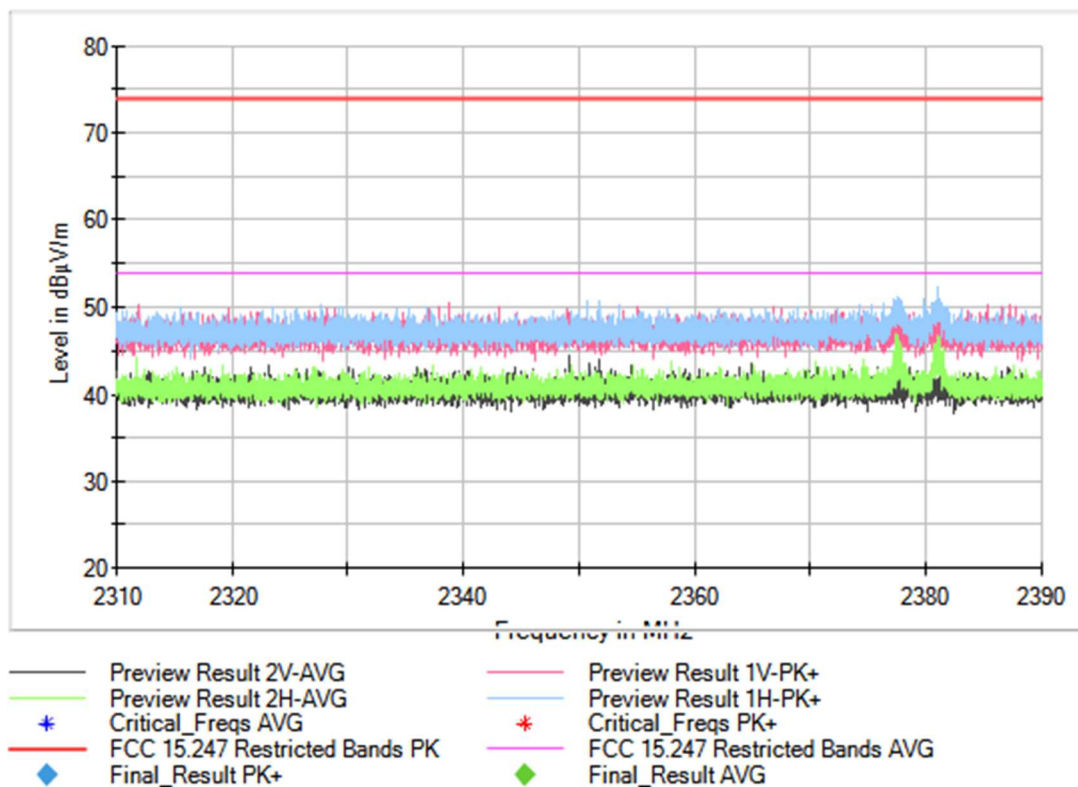
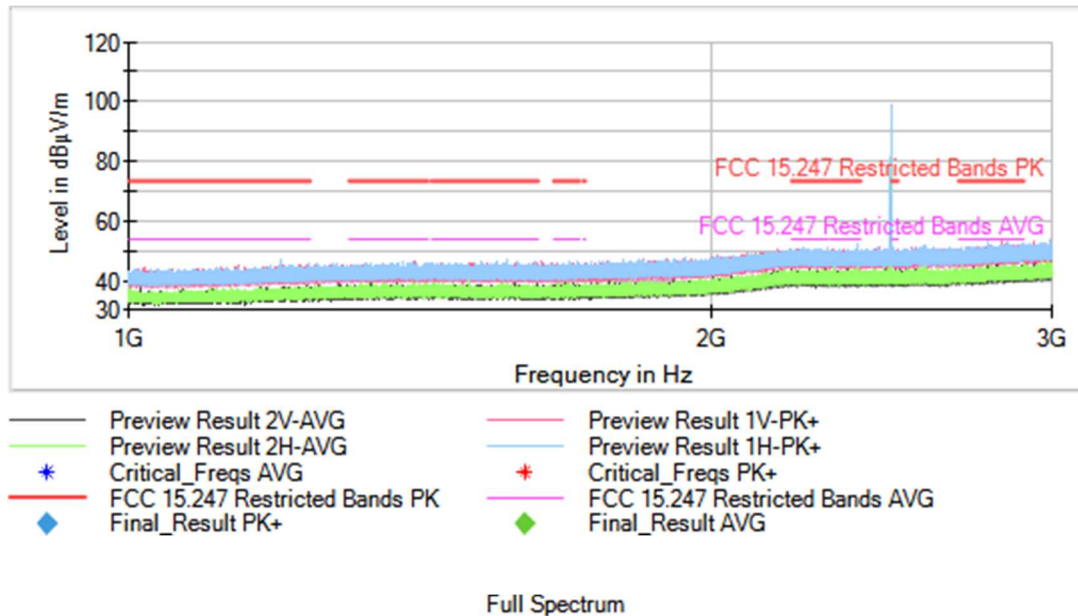
Full Spectrum

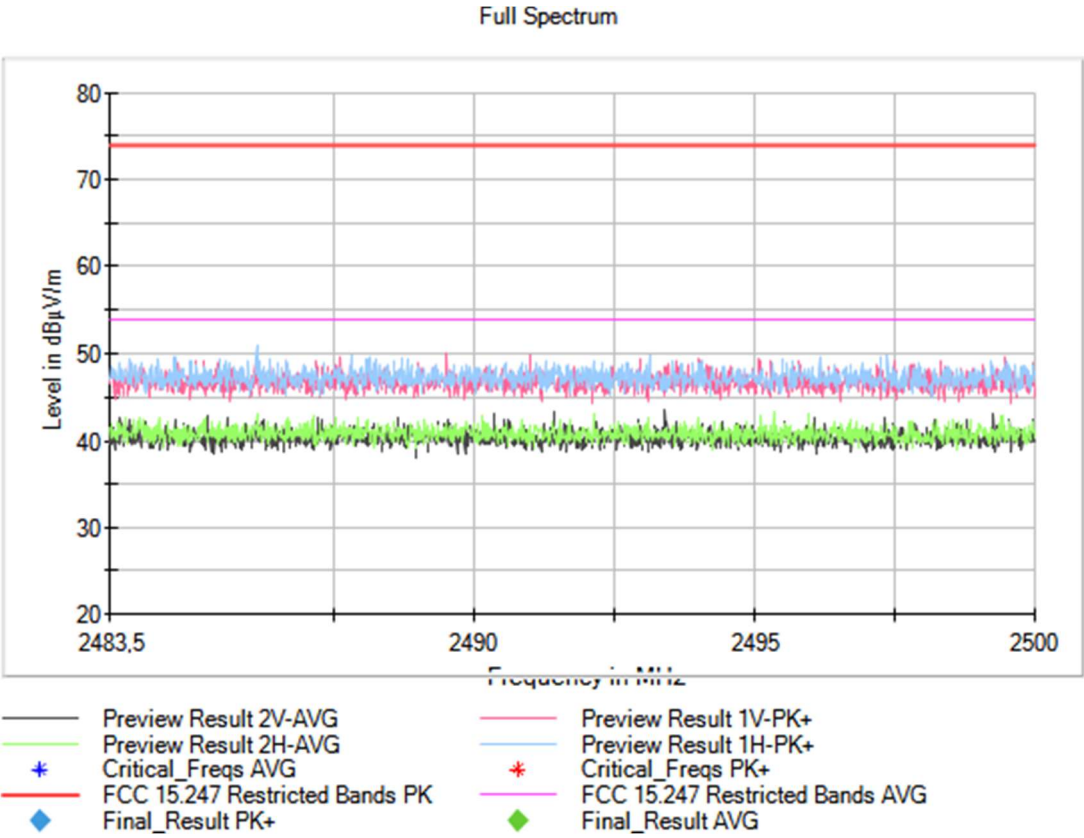




Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (GFSK 1-DH5), Frequency Range GHz = [1, 3], Measurement Point = 1

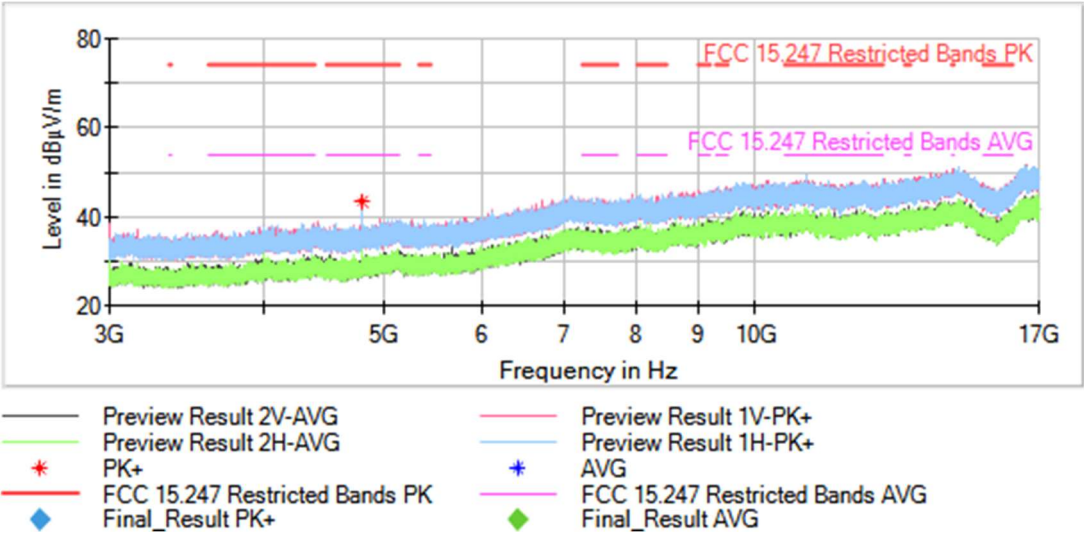
Images:





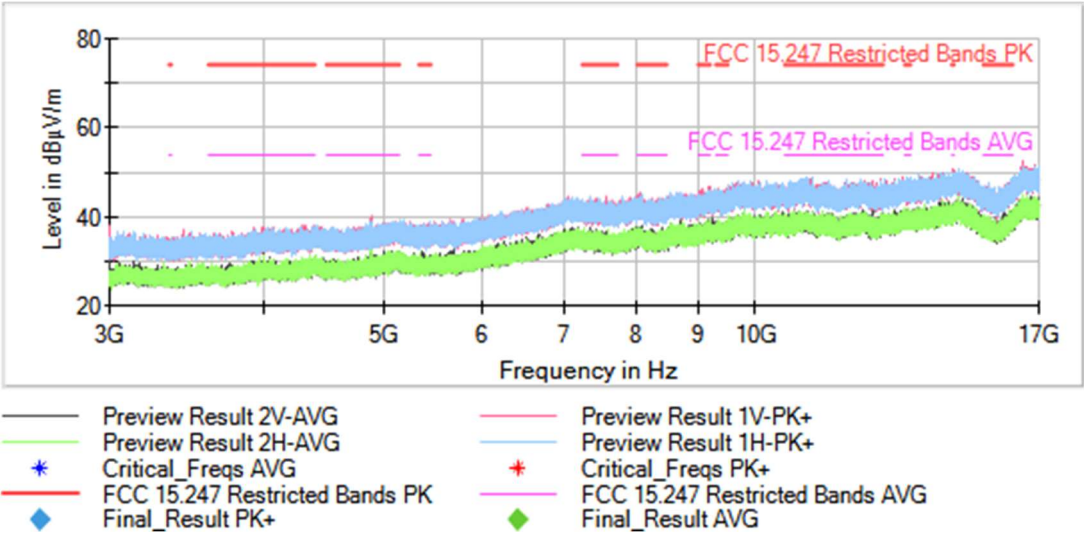
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (GFSK 1-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



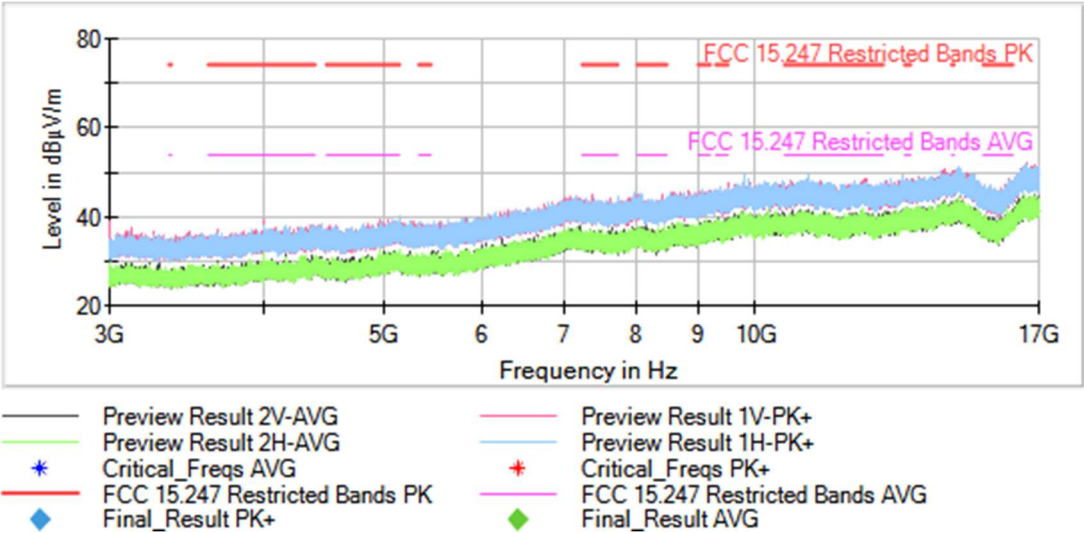
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (GFSK 1-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



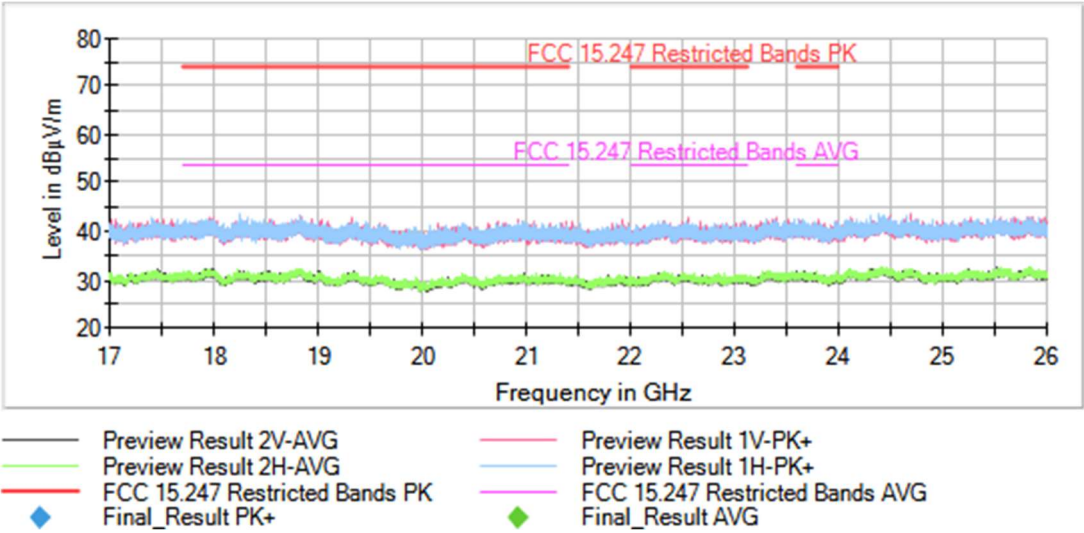
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (GFSK 1-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



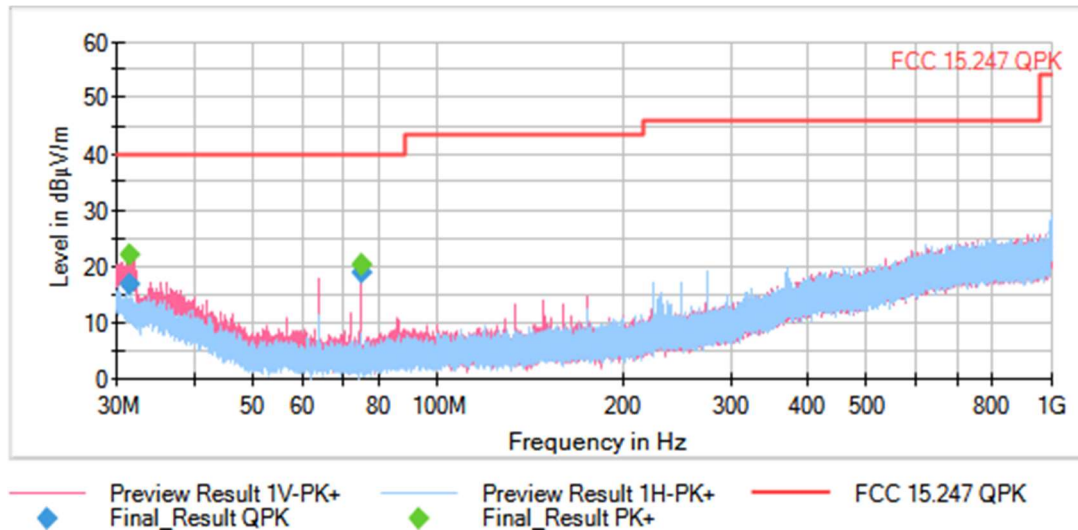
Operation Band MHz = [2400, 2483.5], Frequency MHz = The spurious frequencies detected do not depend neither on the operating channel, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (GFSK 1-DH5), Frequency Range GHz = [17, 26], Measurement Point = 1

Images:



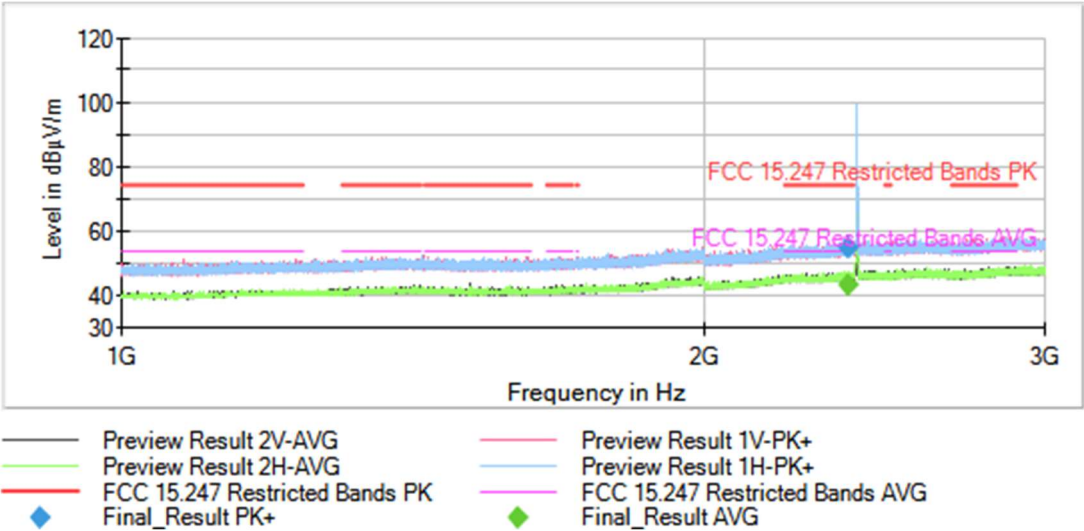
Operation Band MHz = [2400, 2483.5], Frequency MHz = The spurious frequencies detected do not depend neither on the operating channel, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (Pi/4 DQPSK 2-DH5), Frequency Range GHz = [0.03, 1], Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

Images:

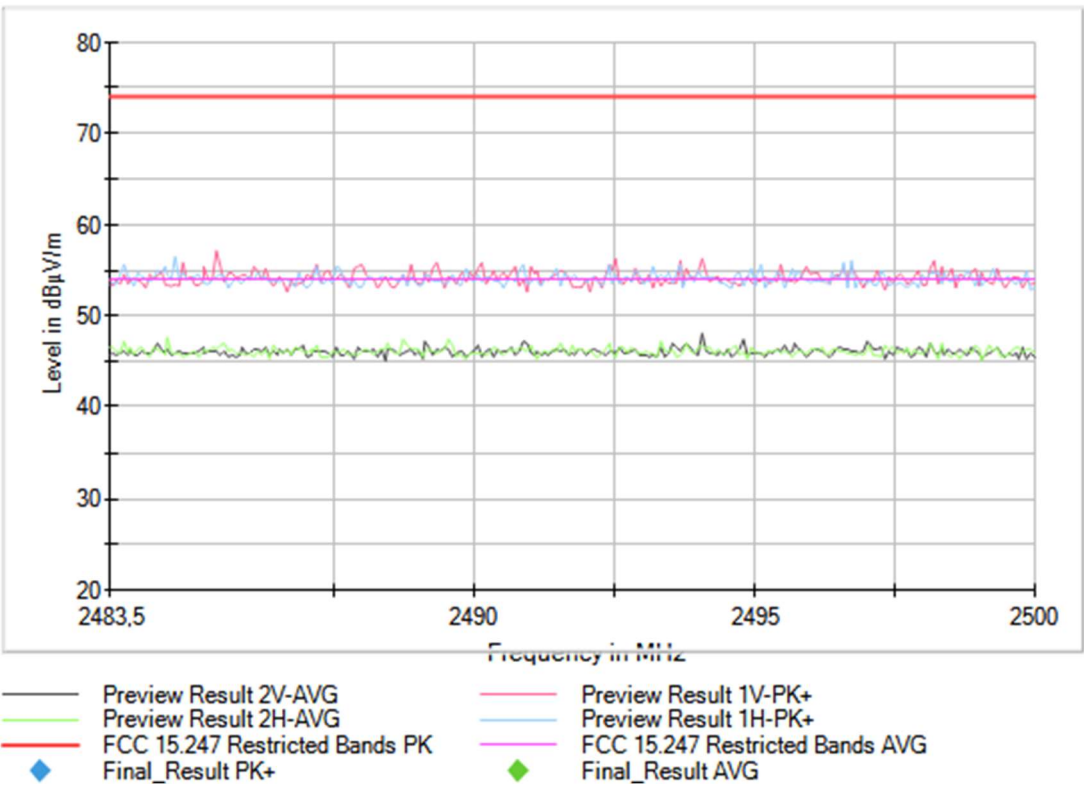


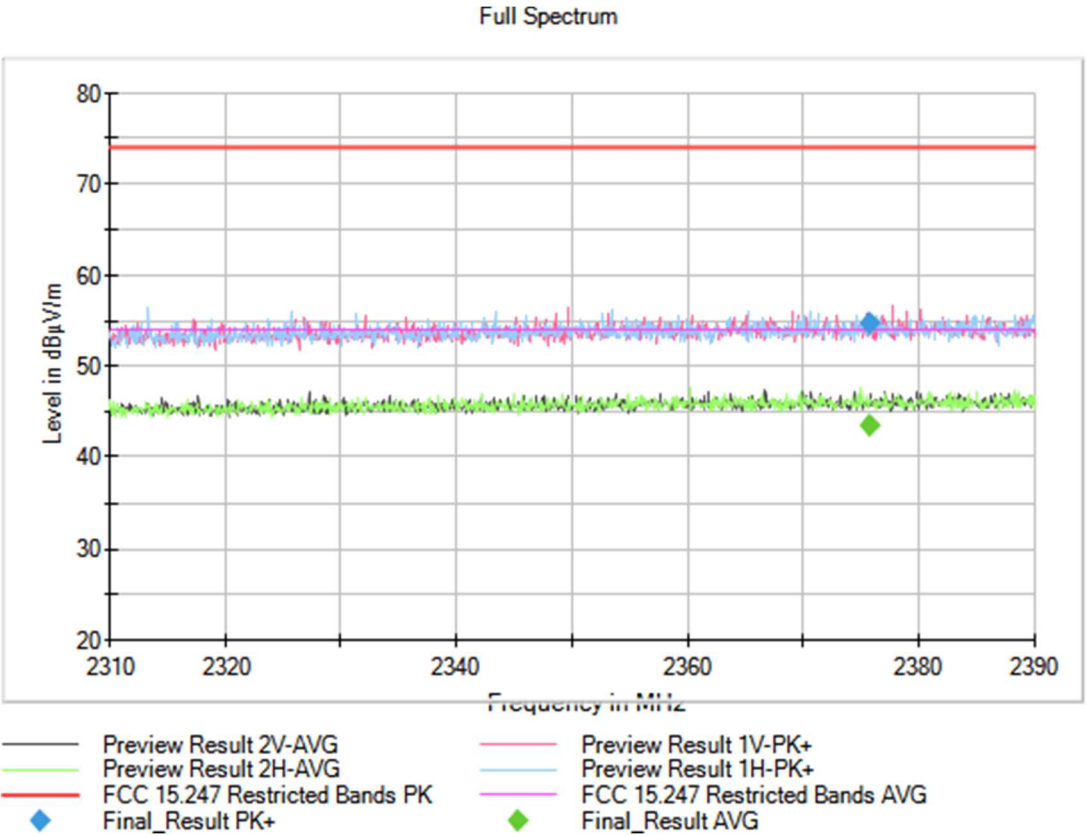
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (Pi/4 DQPSK 2-DH5), Frequency Range GHz = [1, 3], Measurement Point = 1

Images:



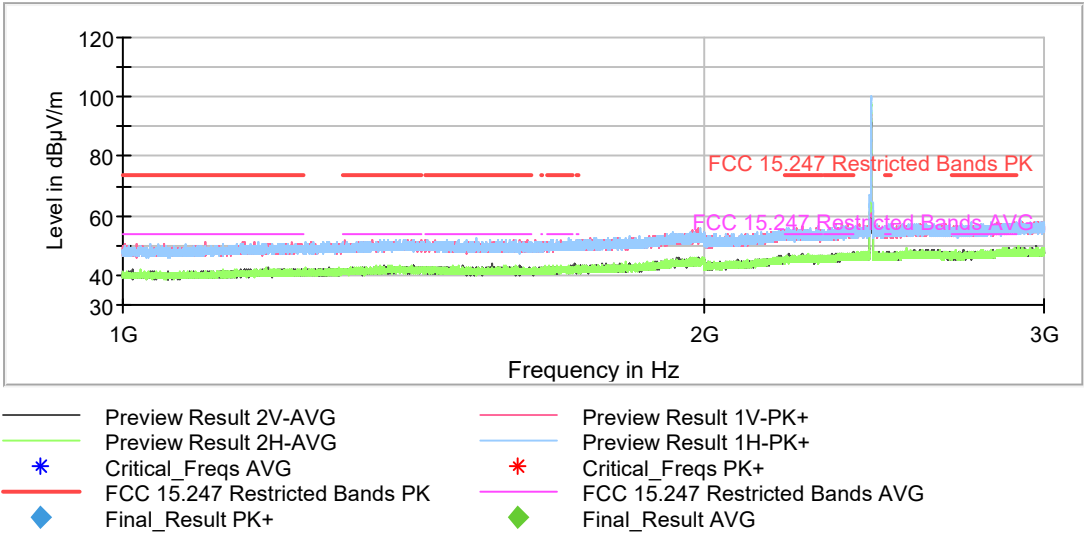
Full Spectrum



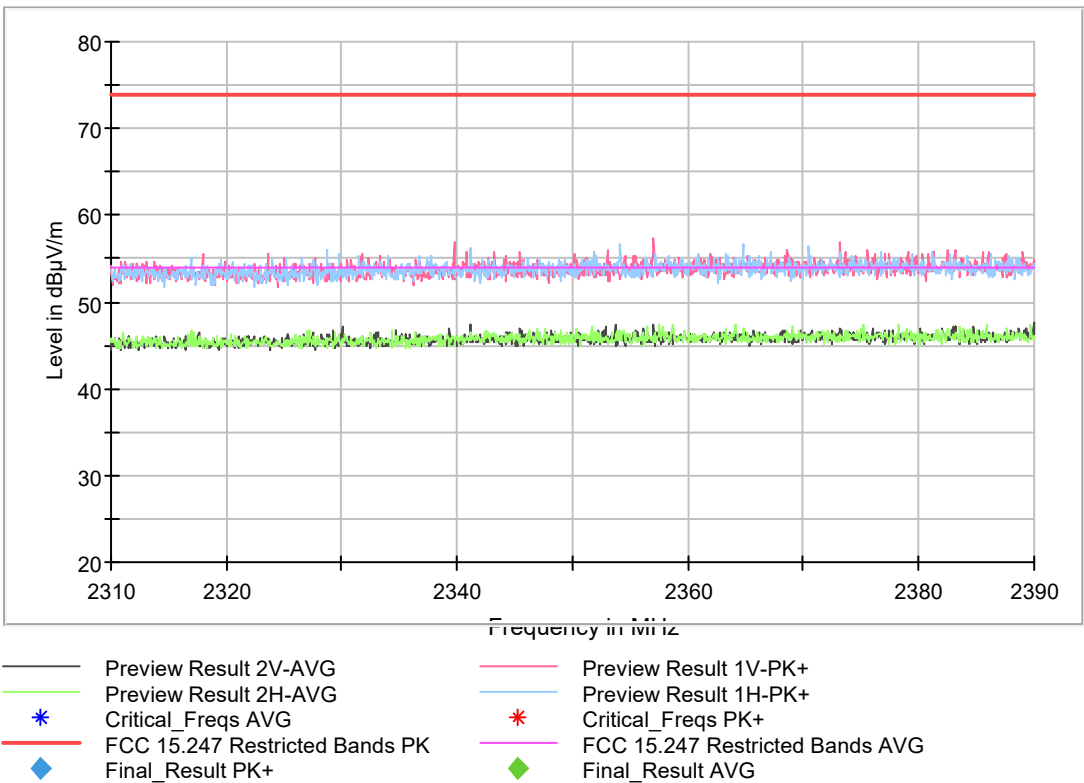


Operation Band MHz = [2400, 2483.5], Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (Pi/4 DQPSK 2-DH5), Frequency Range GHz = [1, 3], Measurement Point = 1

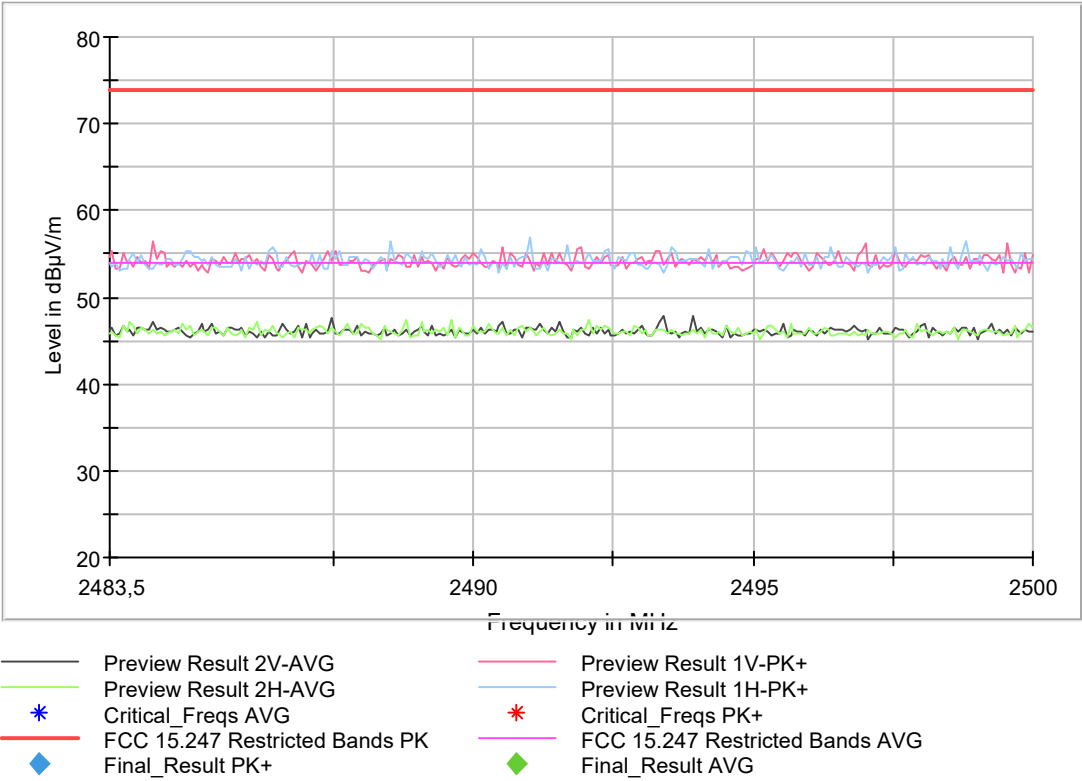
Images:



Full Spectrum

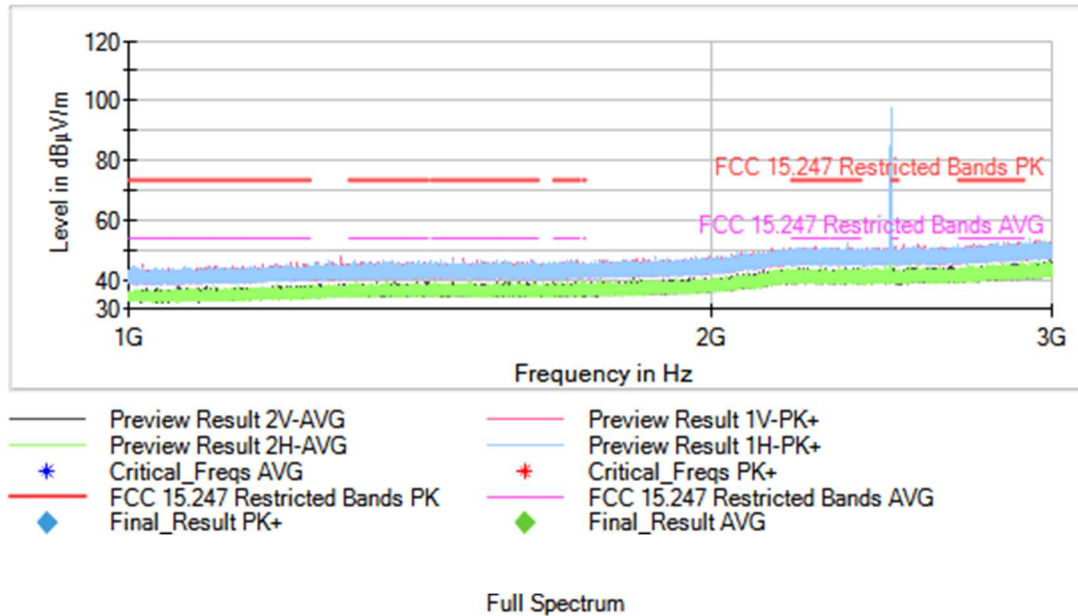


Full Spectrum



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (Pi/4 DQPSK 2-DH5), Frequency Range GHz = [1, 3], Measurement Point = 1

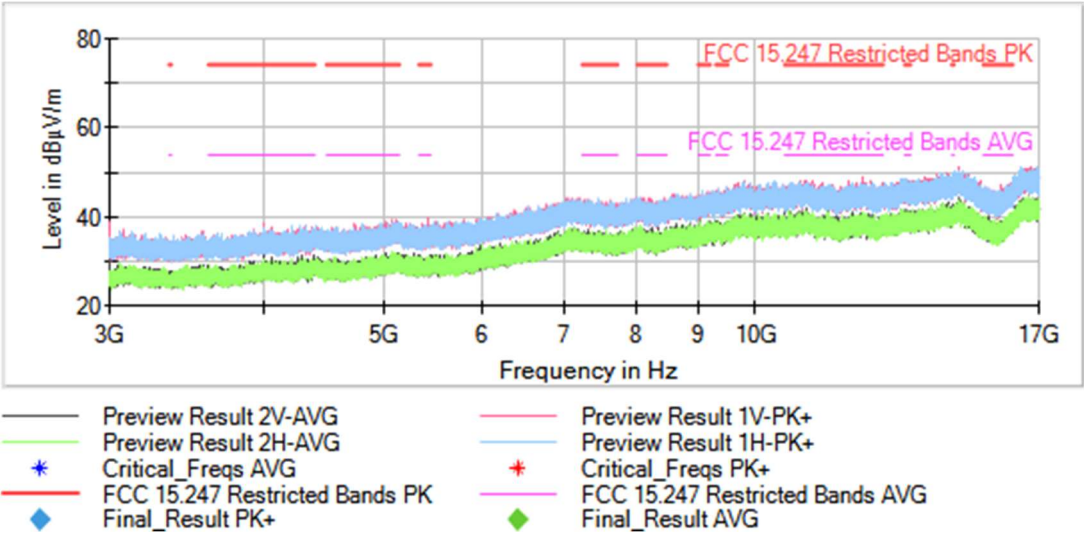
Images:





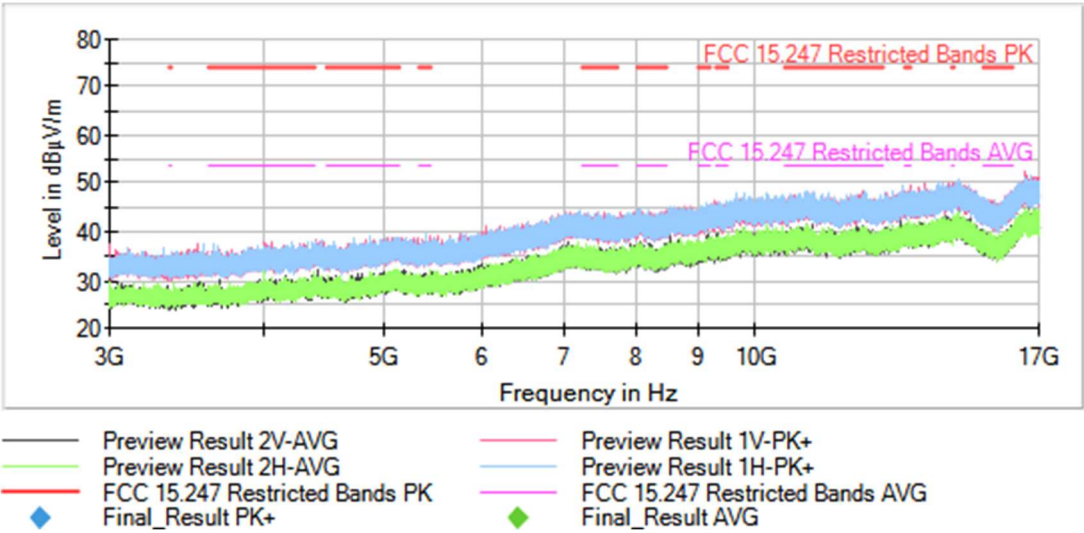
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (Pi/4 DQPSK 2-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



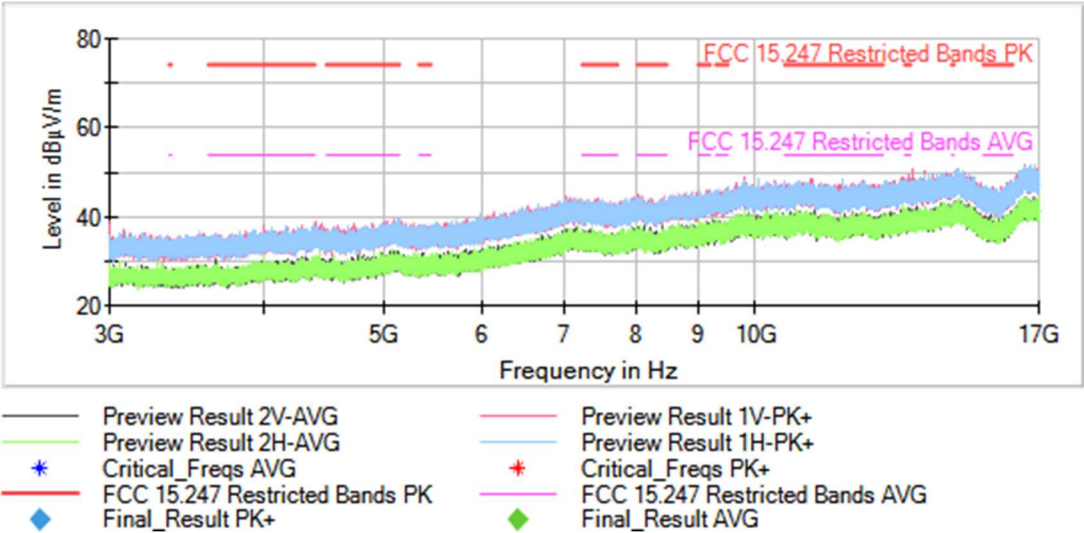
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (Pi/4 DQPSK 2-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



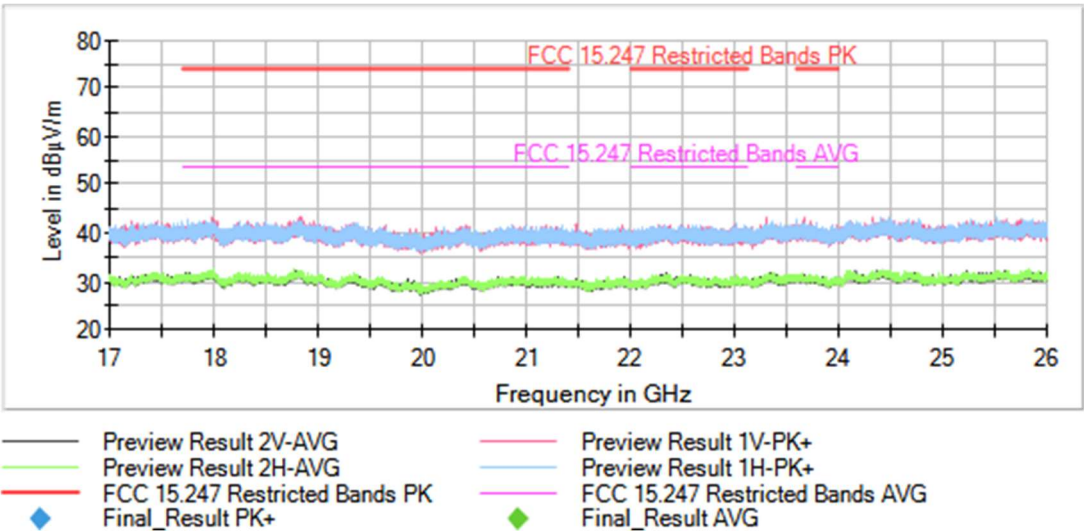
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (Pi/4 DQPSK 2-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



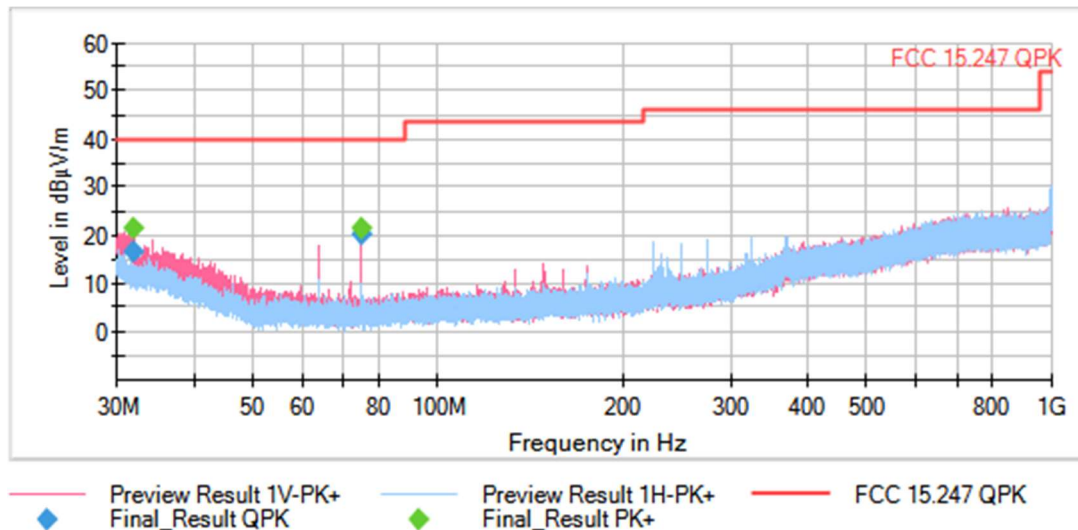
Operation Band MHz = [2400, 2483.5], Frequency MHz = The spurious frequencies detected do not depend neither on the operating channel, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (Pi/4 DQPSK 2-DH5), Frequency Range GHz = [17, 26], Measurement Point = 1

Images:



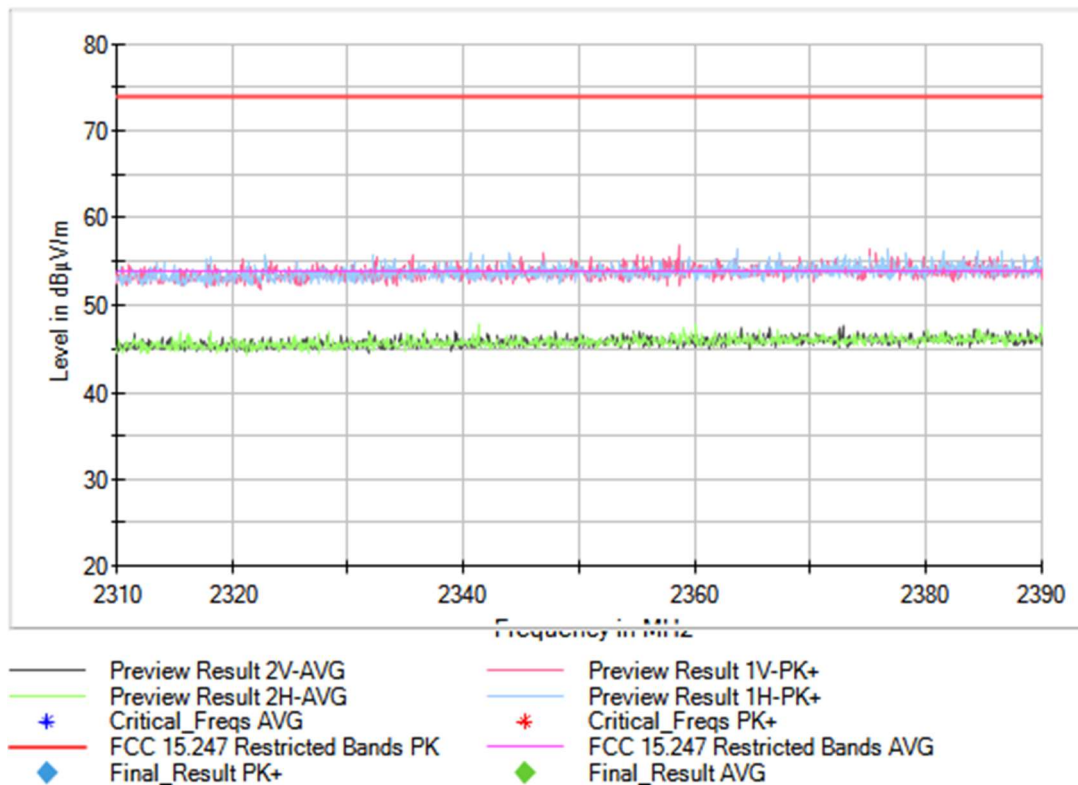
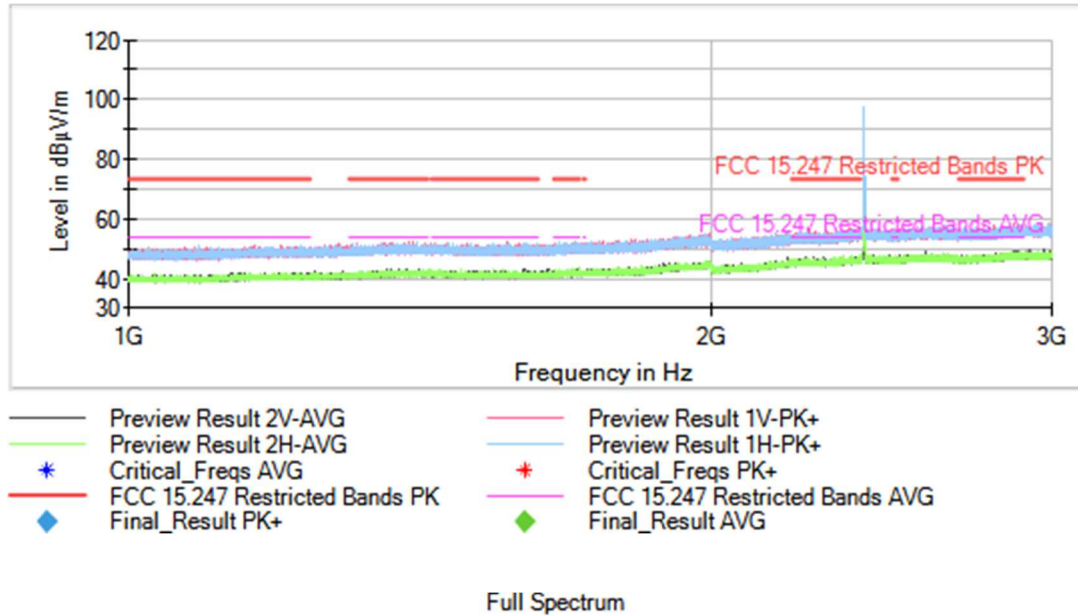
Operation Band MHz = [2400, 2483.5], Frequency MHz = The spurious frequencies detected do not depend neither on the operating channel, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (8DPSK 3-DH5), Frequency Range GHz = [0.03, 1], Number of Transmission Chains = 1, Available Number of Channels = 1, Measurement Point = 1

Images:



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

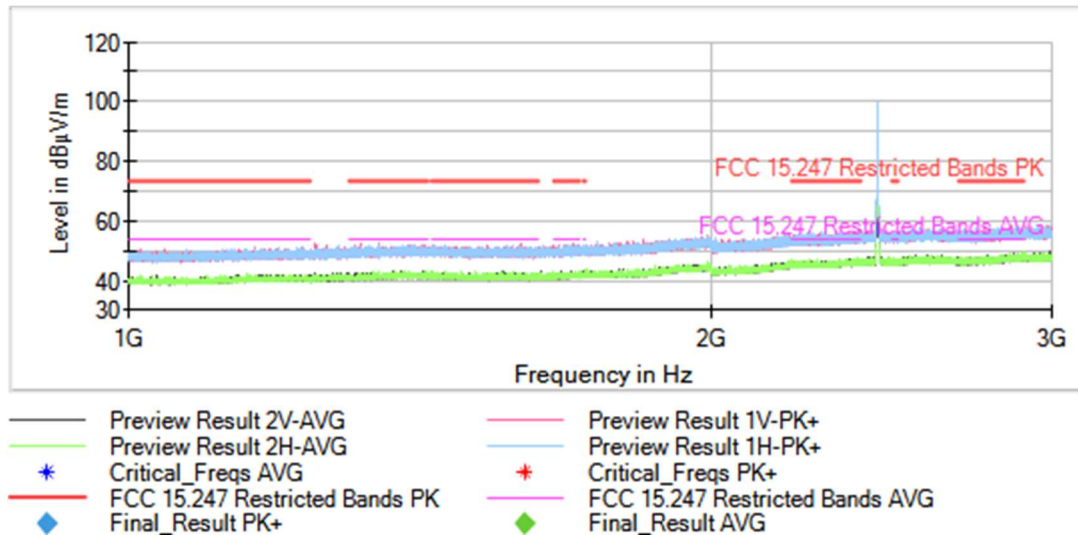
Images:



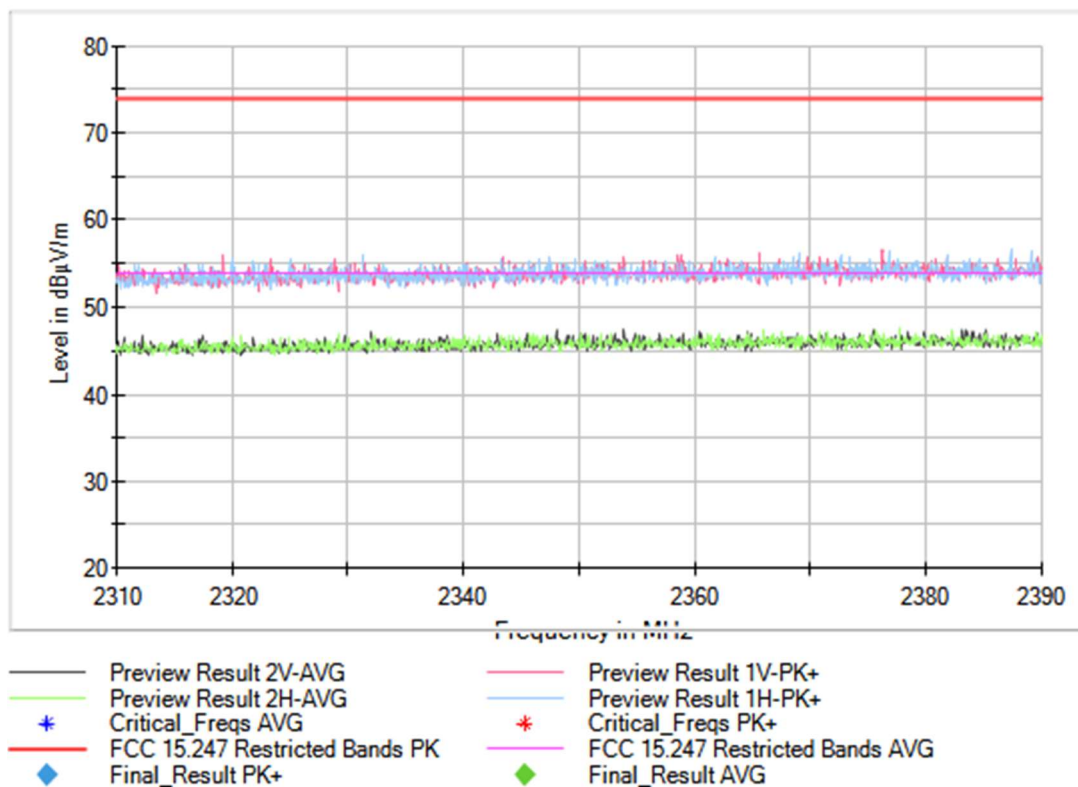


Operation Band MHz = [2400, 2483.5], Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (8DPSK 3-DH5), Frequency Range GHz = [1, 3], Measurement Point = 1

Images:



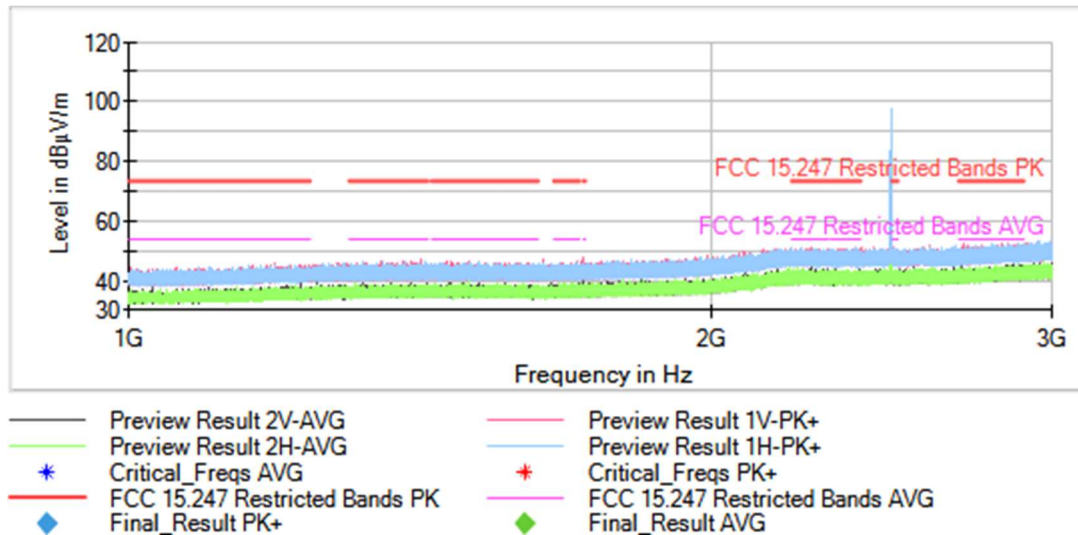
Full Spectrum



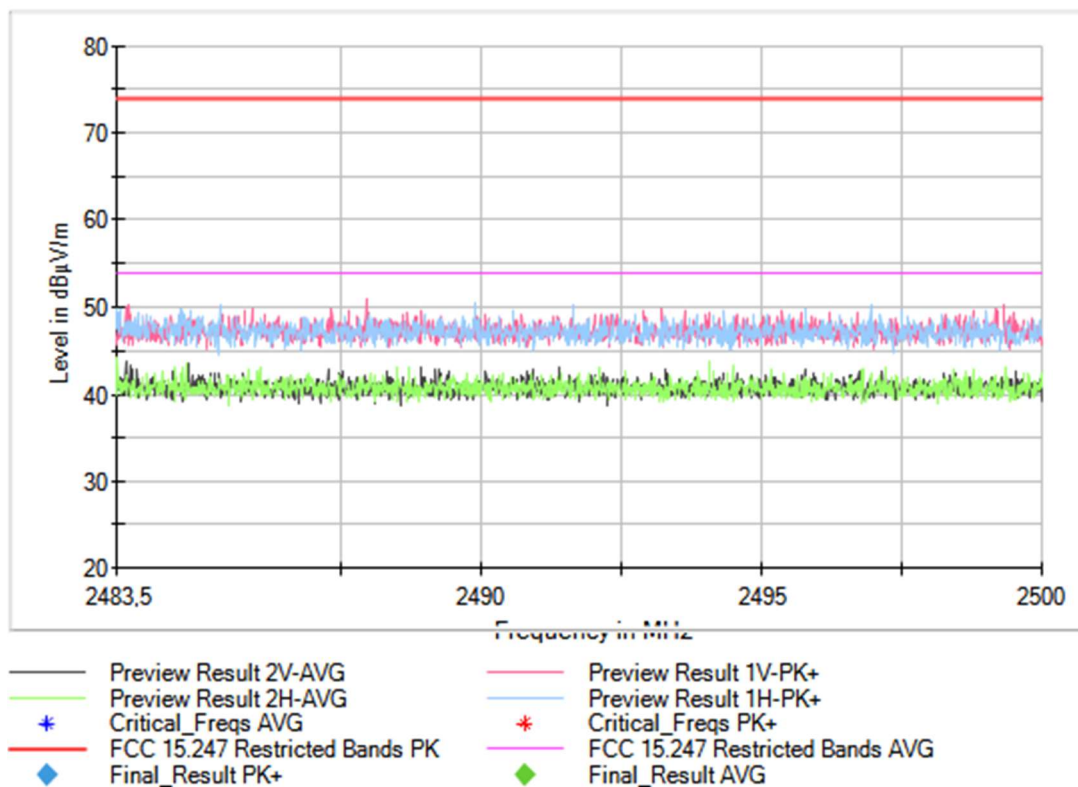


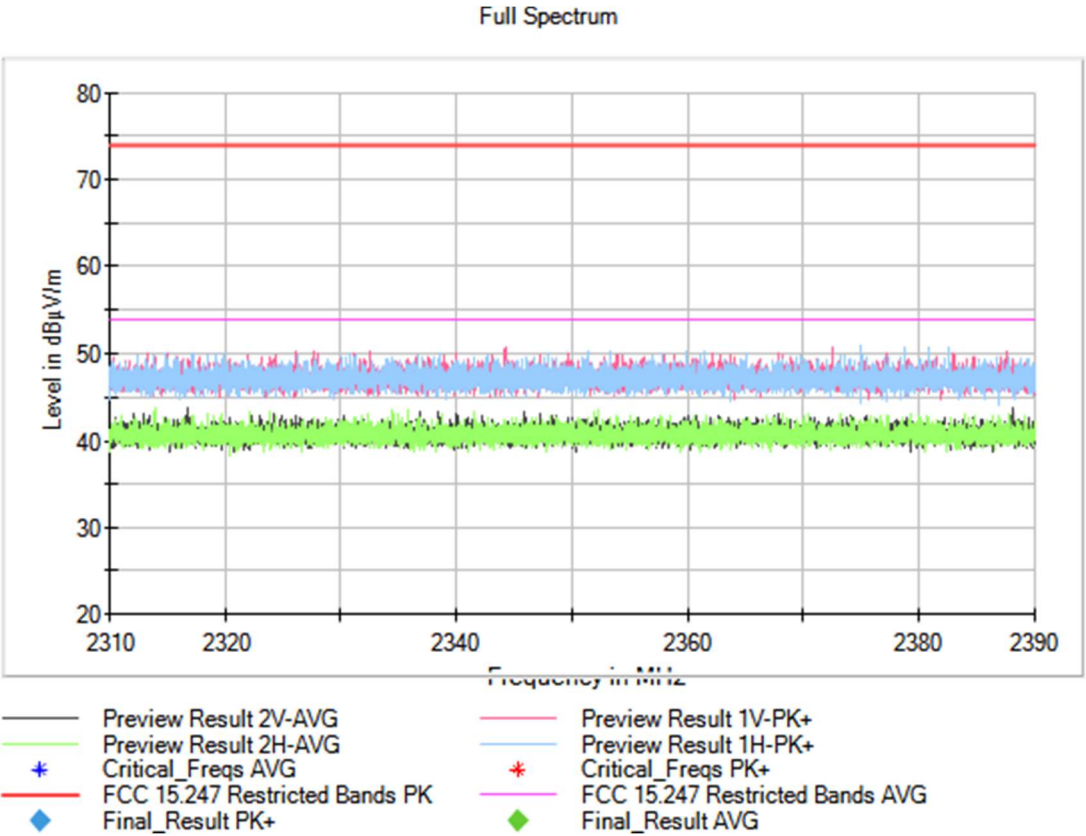
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (8DPSK 3-DH5), Frequency Range GHz = [1, 3], Measurement Point = 1

Images:



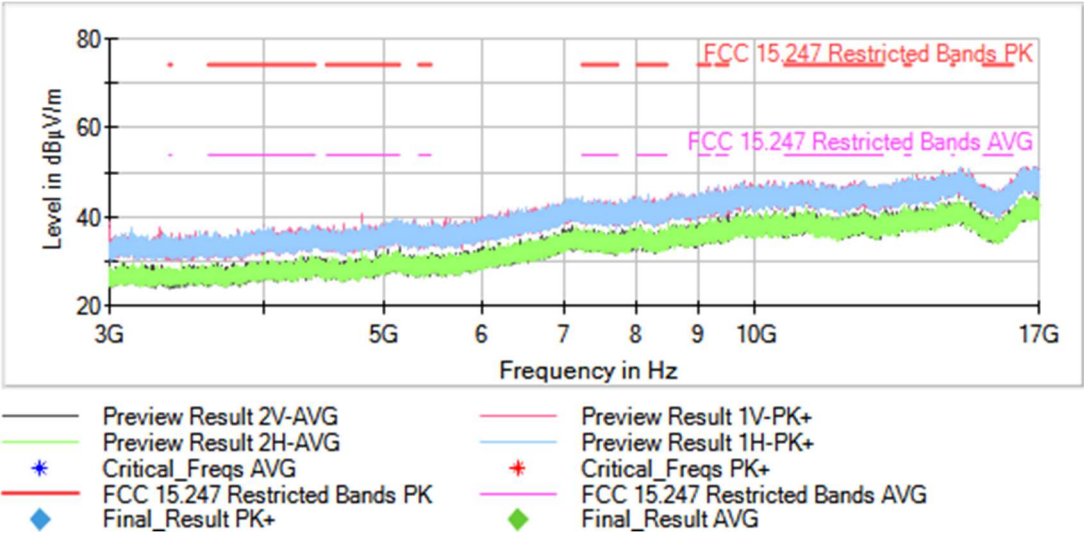
Full Spectrum





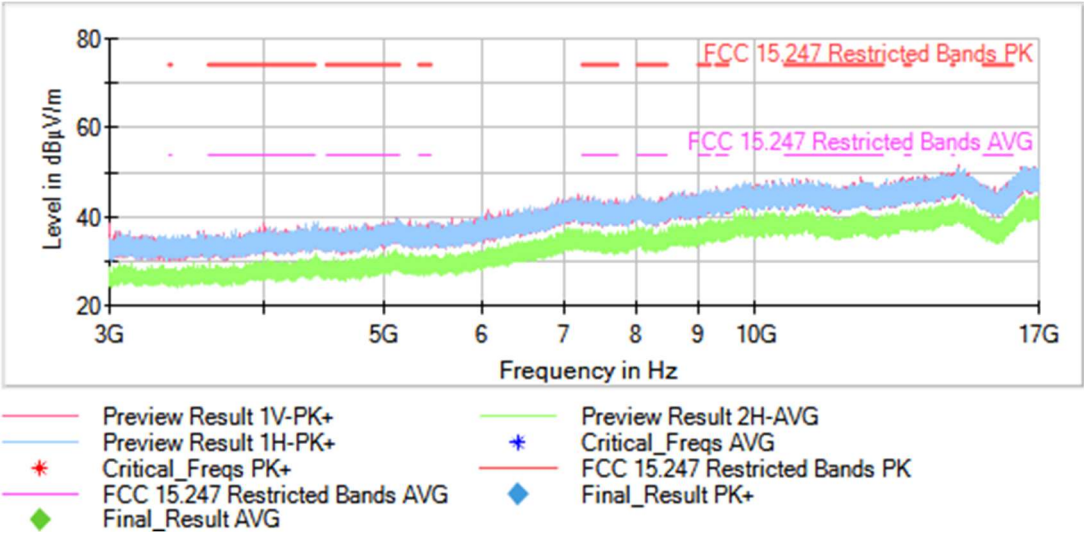
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (8DPSK 3-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



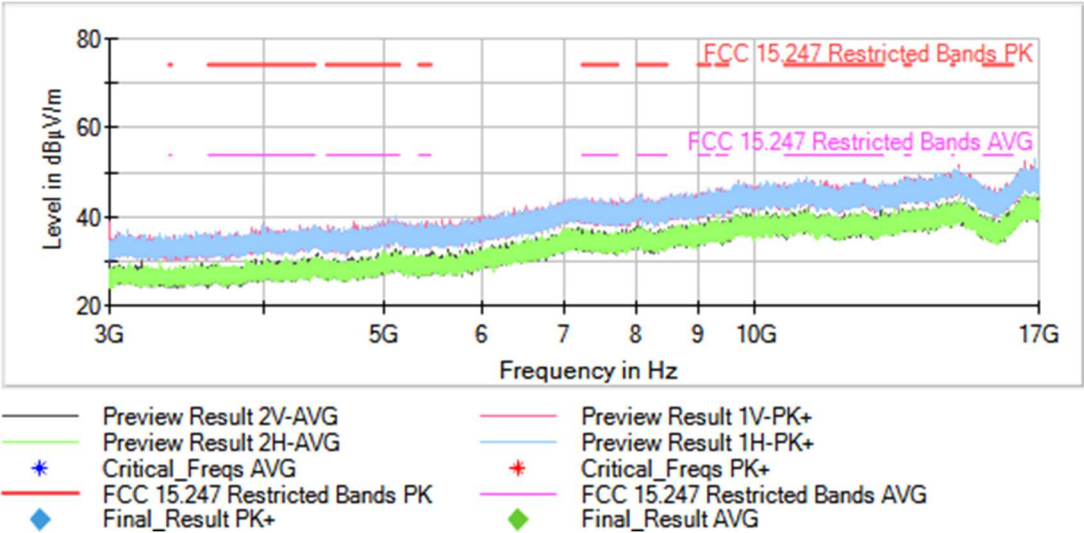
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (8DPSK 3-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (8DPSK 3-DH5), Frequency Range GHz = [3, 17], Measurement Point = 1

Images:



Operation Band MHz = [2400, 2483.5], Frequency MHz = The spurious frequencies detected do not depend neither on the operating channel, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Modulation = BT (8DPSK 3-DH5), Frequency Range GHz = [17, 26], Measurement Point = 1

Images:

