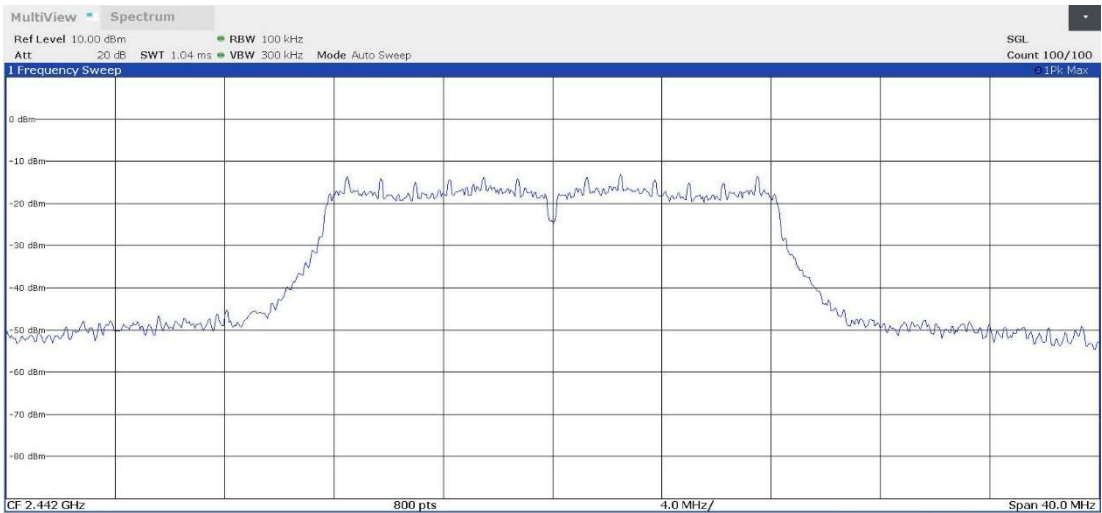
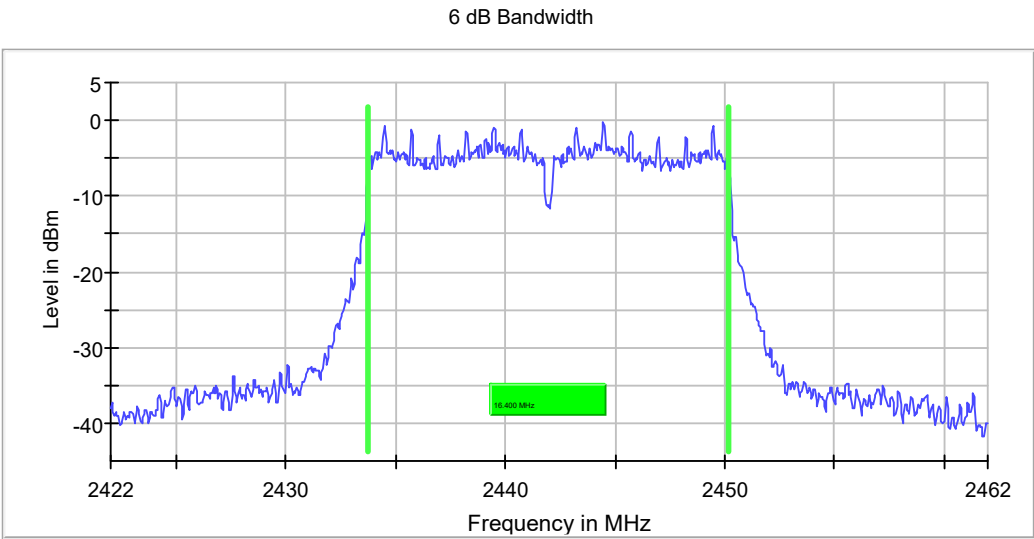


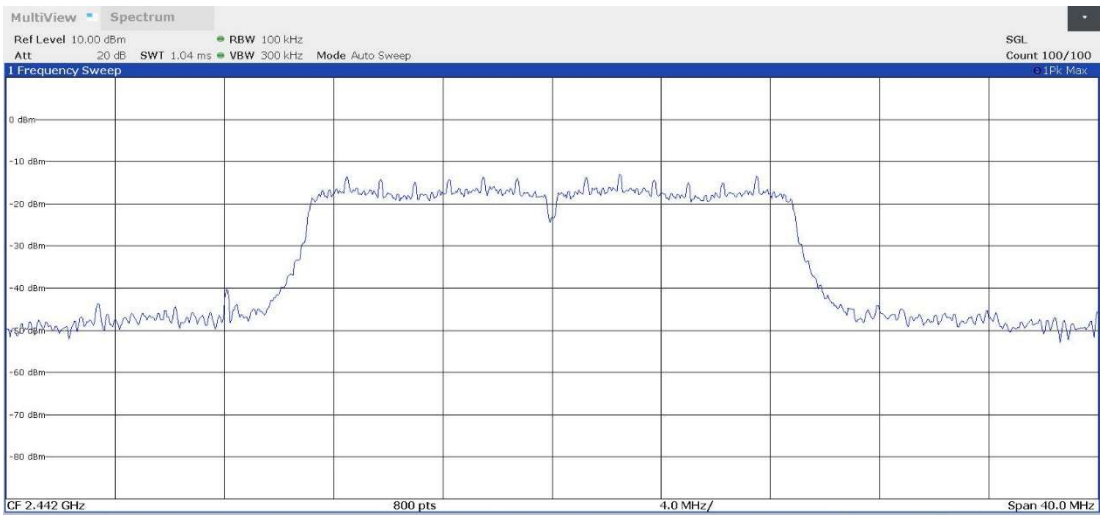
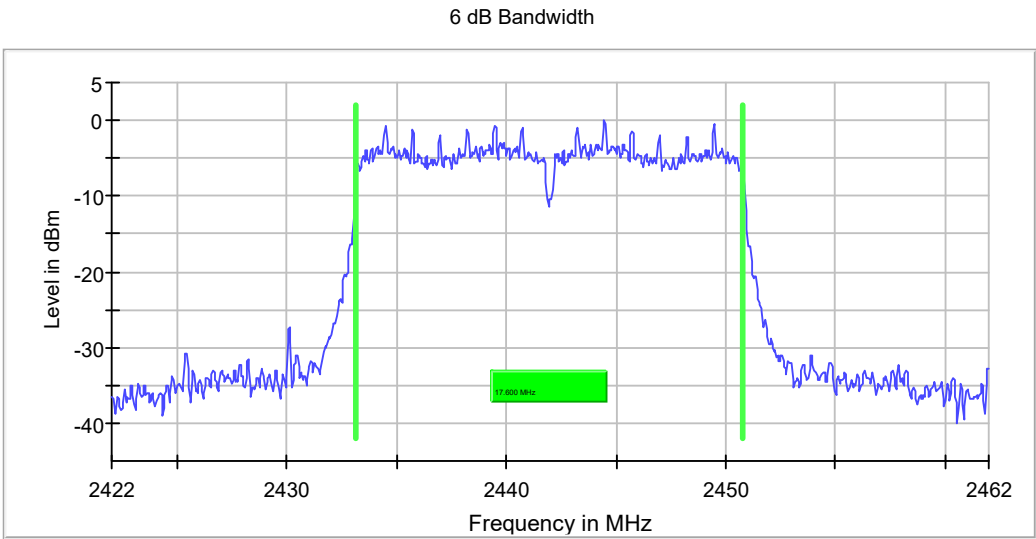
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



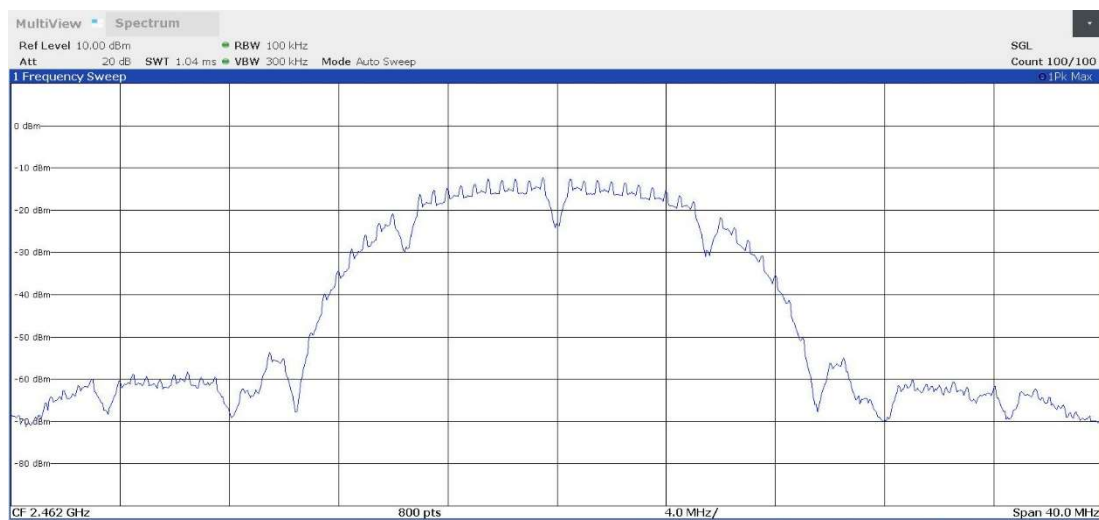
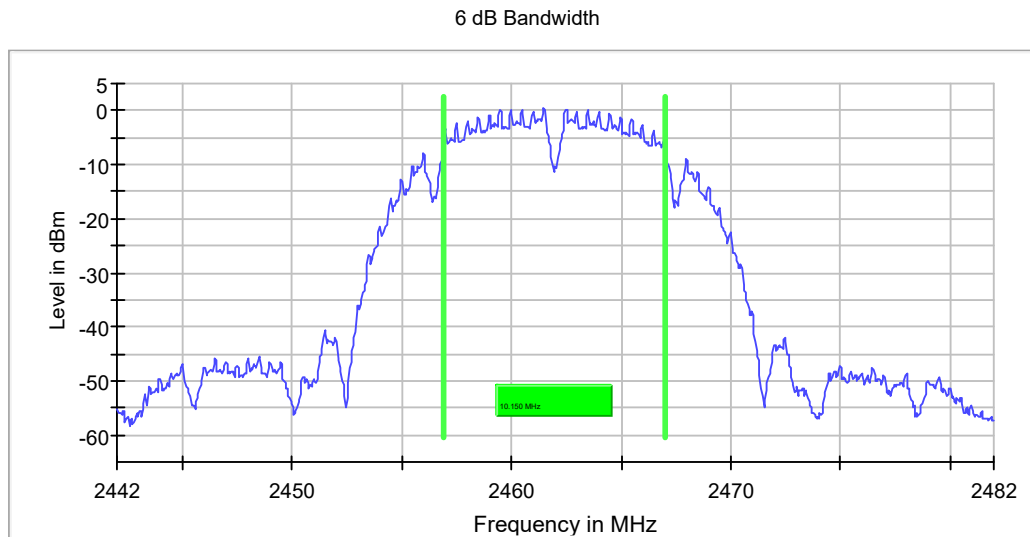
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



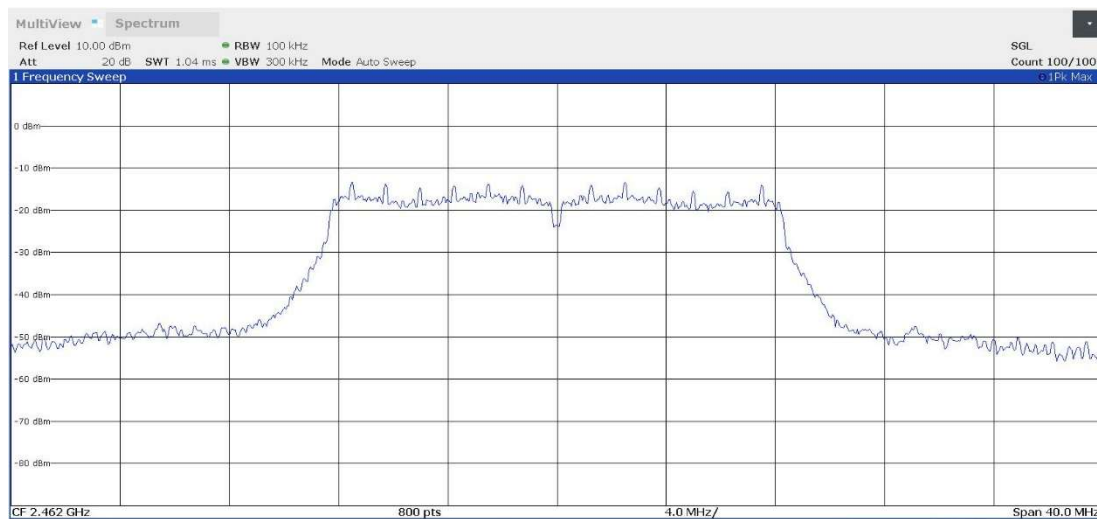
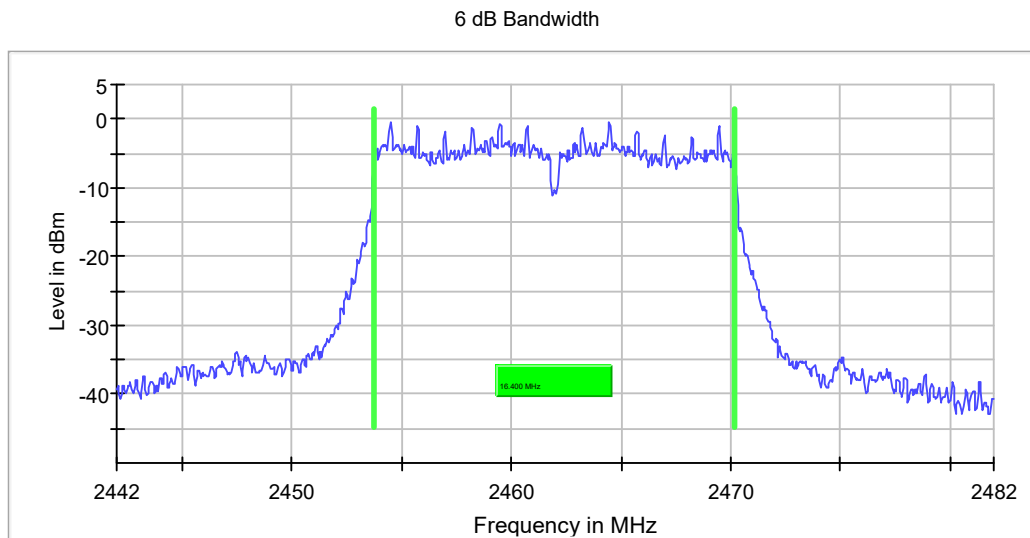
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



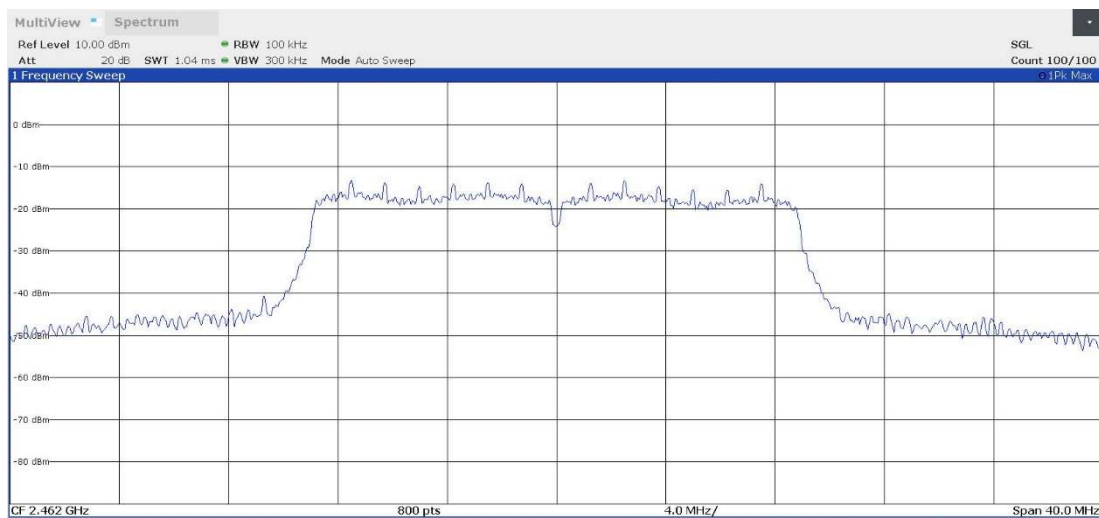
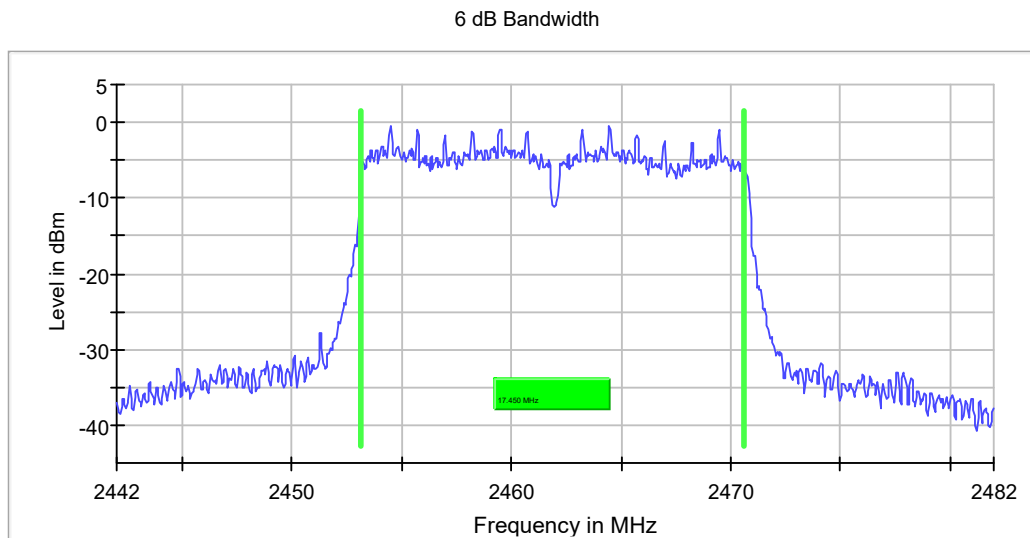
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



RSS-247 5.4 (d) / FCC 15.247 (b) Maximum output power and antenna gain

Limits

For systems using digital modulation in the 2400-2483.5 MHz band: 1 watt (30 dBm).
The e.i.r.p. shall not exceed 4 W (36 dBm) (Canada).

Results

The maximum peak conducted output power level of the fundamental emission was measured according to clause 11.9.1.1 "RBW $\geq$ DTS bandwidth" of ANSI C63.10-2013.

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

Maximum Declared Antenna Gain: -2.5 dBi

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Modulation: 802.11b (DSSS 1 Mbit/s)

Operation Band (MHz)	Equipment	Peak Conducted Output Power (dBm)	Maximum EIRP Power (dBm)
2412.00	Digital Transmission System (DTS)	13.172	10.672
2442.00		13.661	11.161
2462.00		12.636	10.136

Modulation: 802.11g (OFDM 6 Mbit/s)

Operation Band (MHz)	Equipment	Peak Conducted Output Power	Maximum EIRP Power (dBm)
2412.00	Digital Transmission System (DTS)	18.237	15.737
2442.00		18.517	16.017
2462.00		18.112	15.612

Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Operation Band (MHz)	Equipment	Peak Conducted Output Power	Maximum EIRP Power (dBm)
2412.00	Digital Transmission System (DTS)	18.259	15.759
2442.00		18.520	16.020
2462.00		18.164	15.664

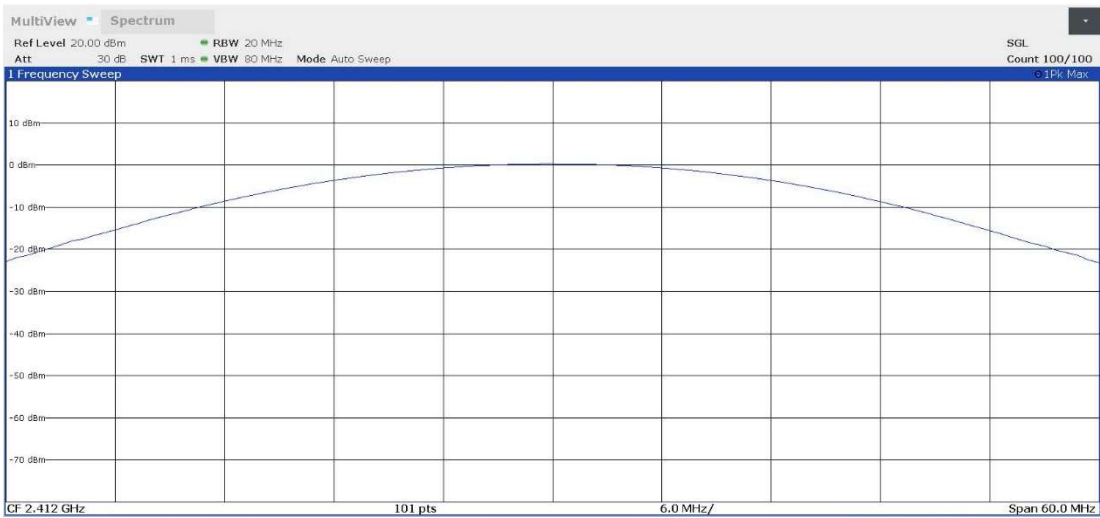
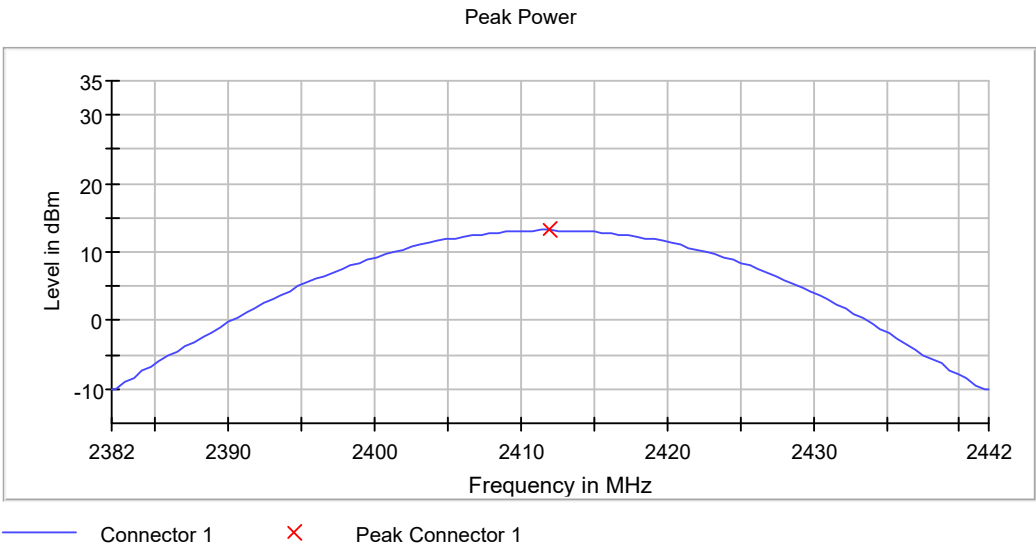
Verdict

Pass

Attachments

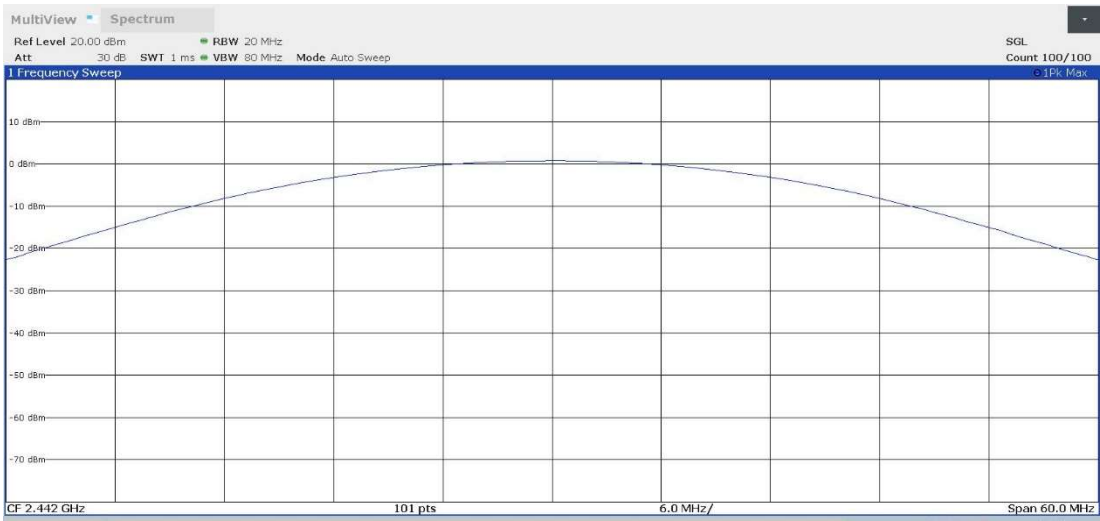
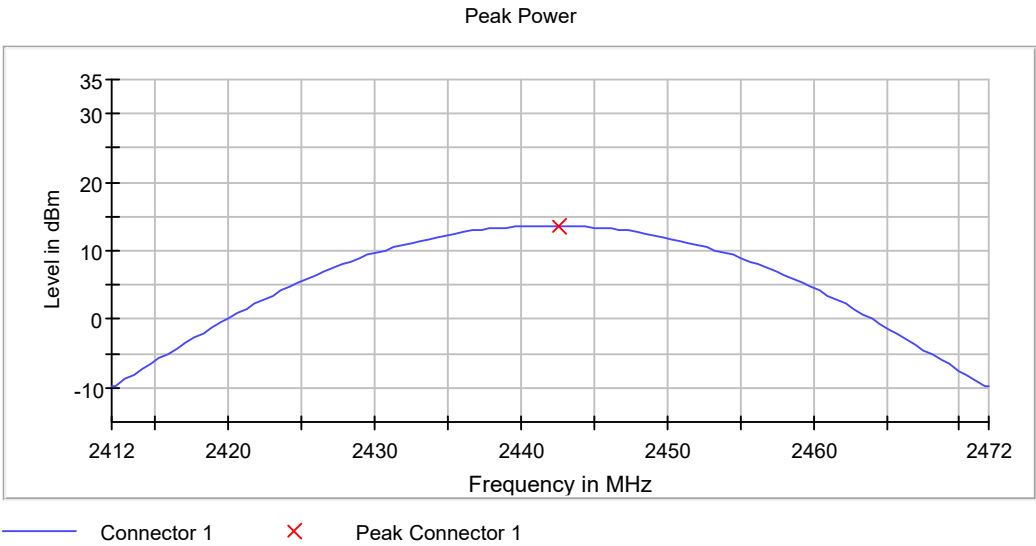
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



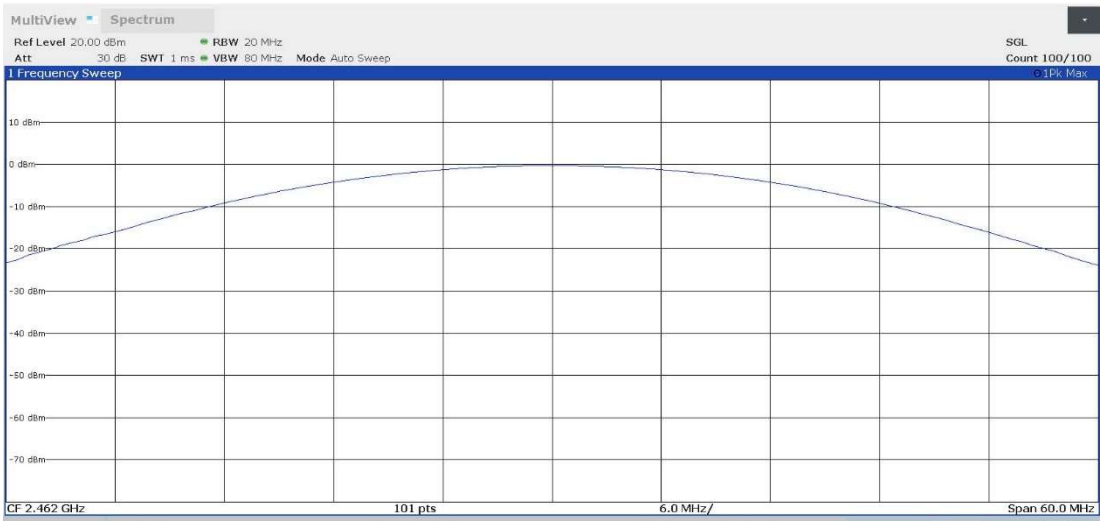
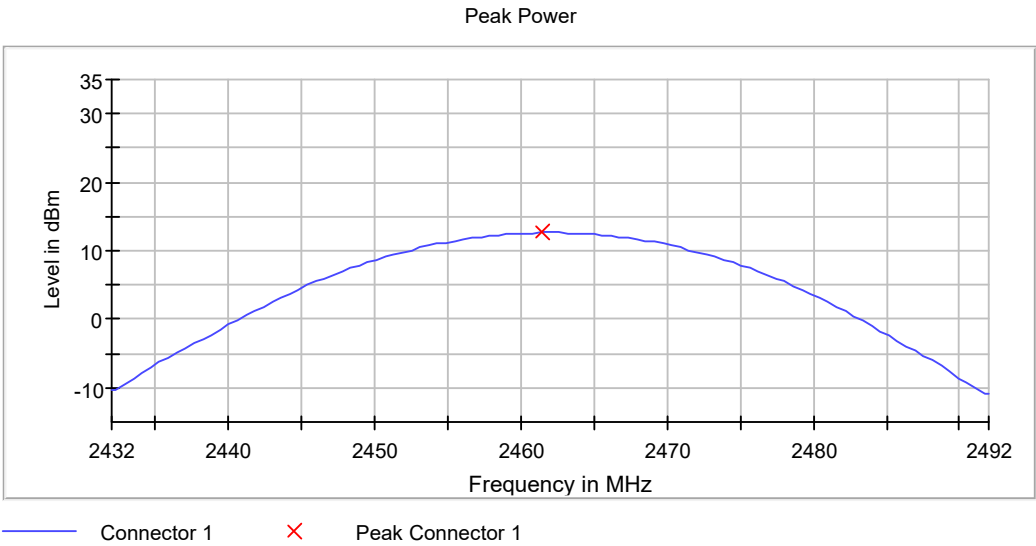
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



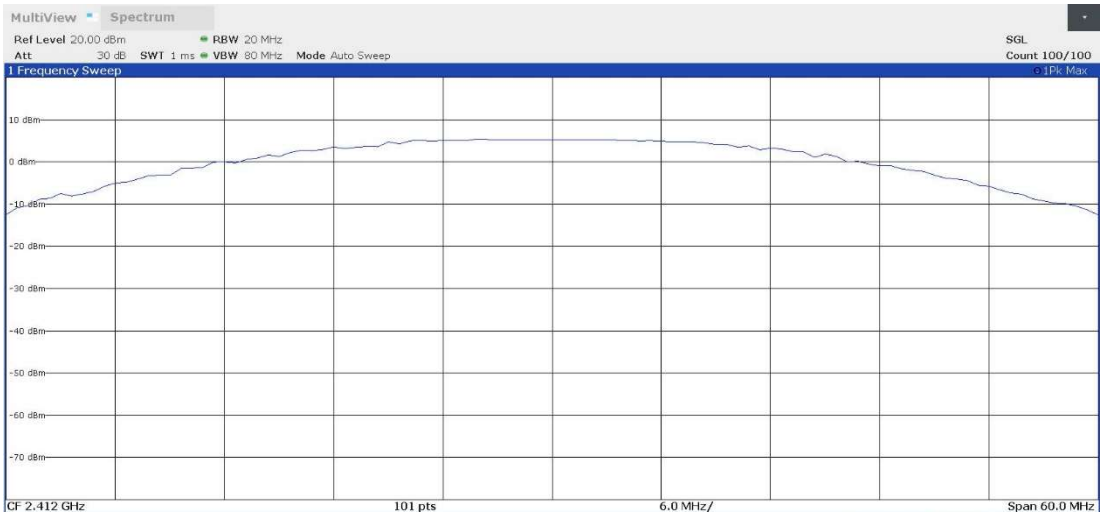
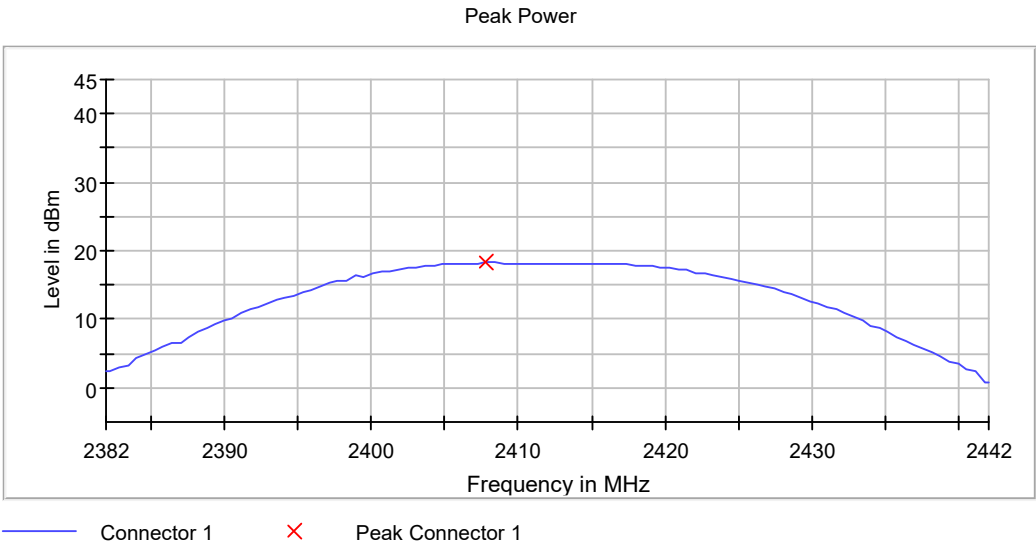
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



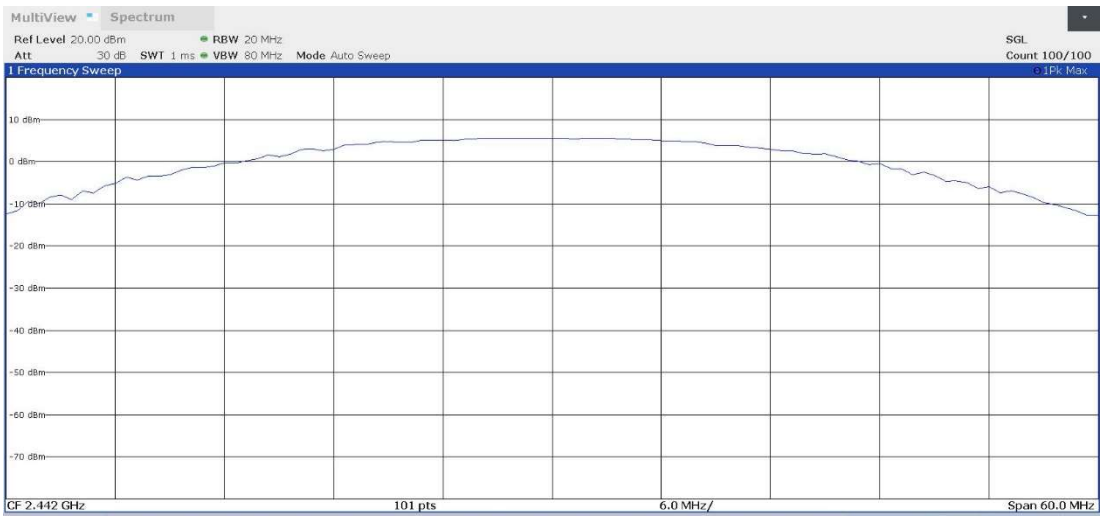
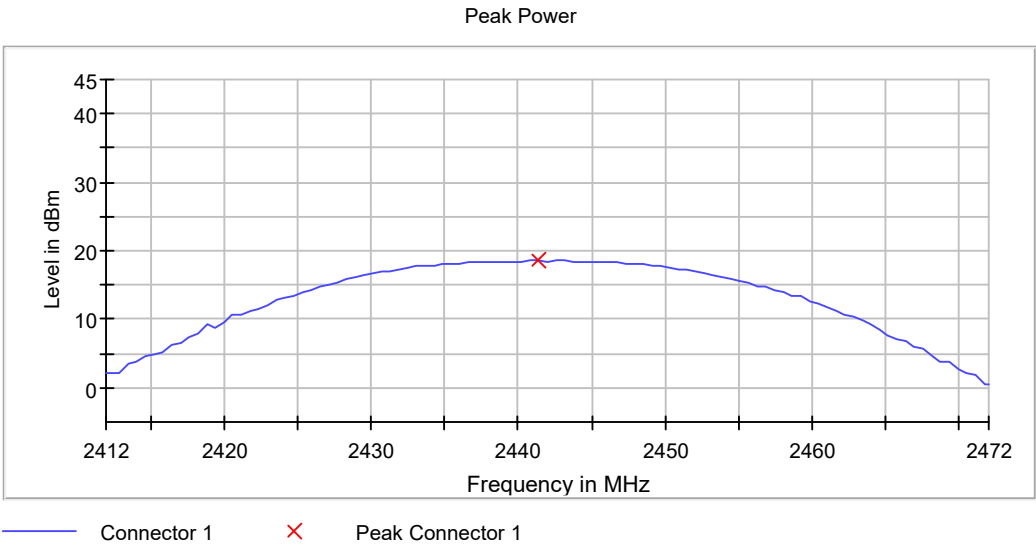
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



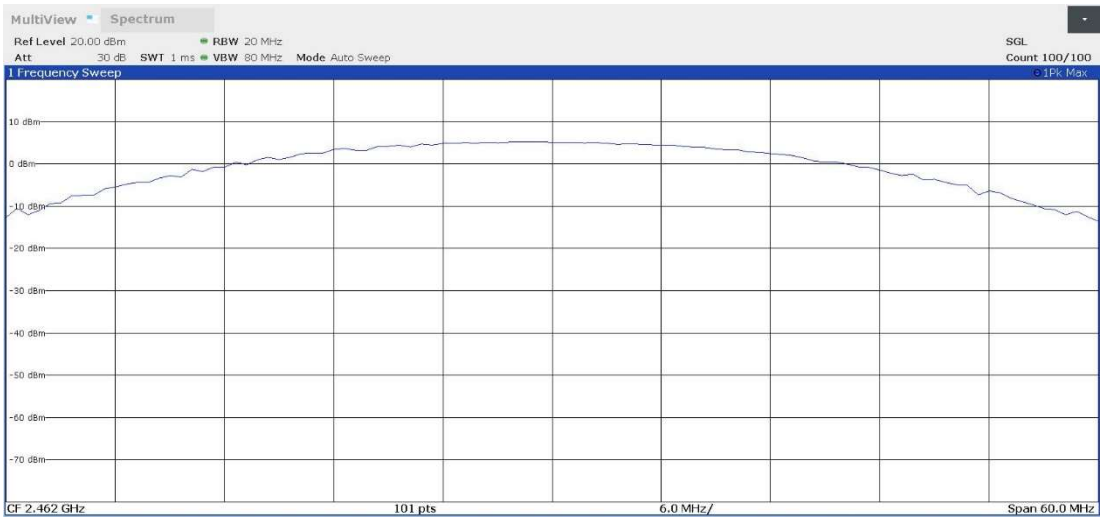
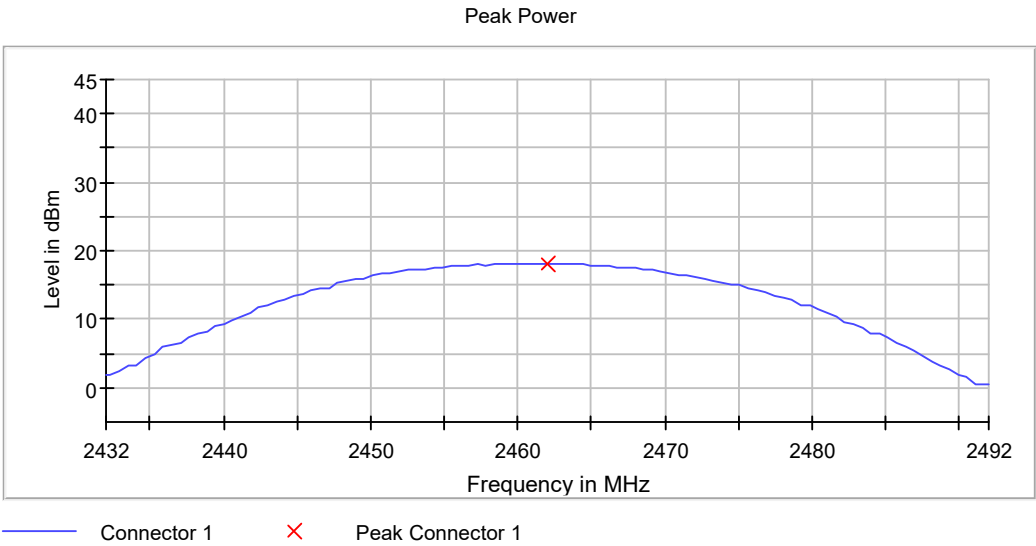
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



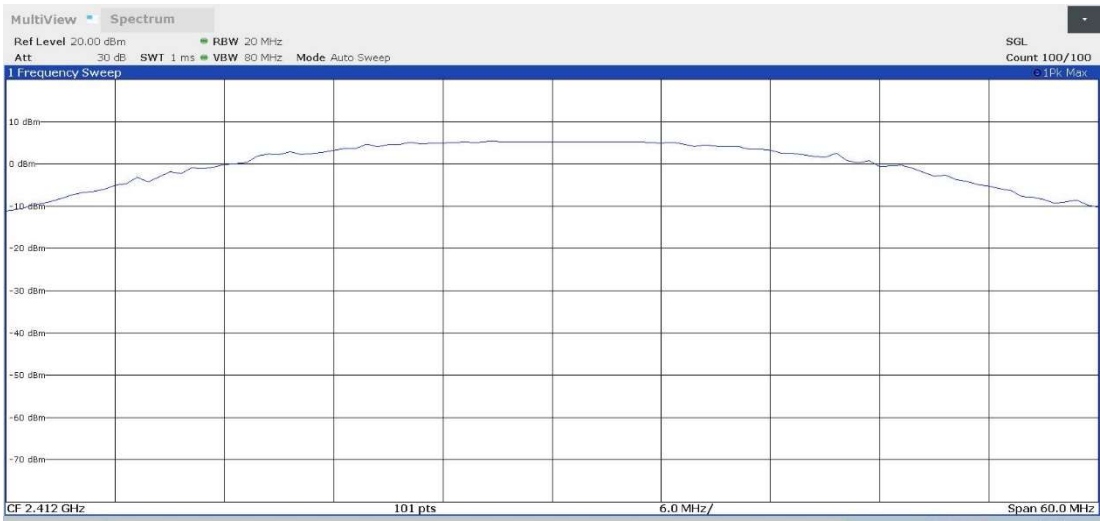
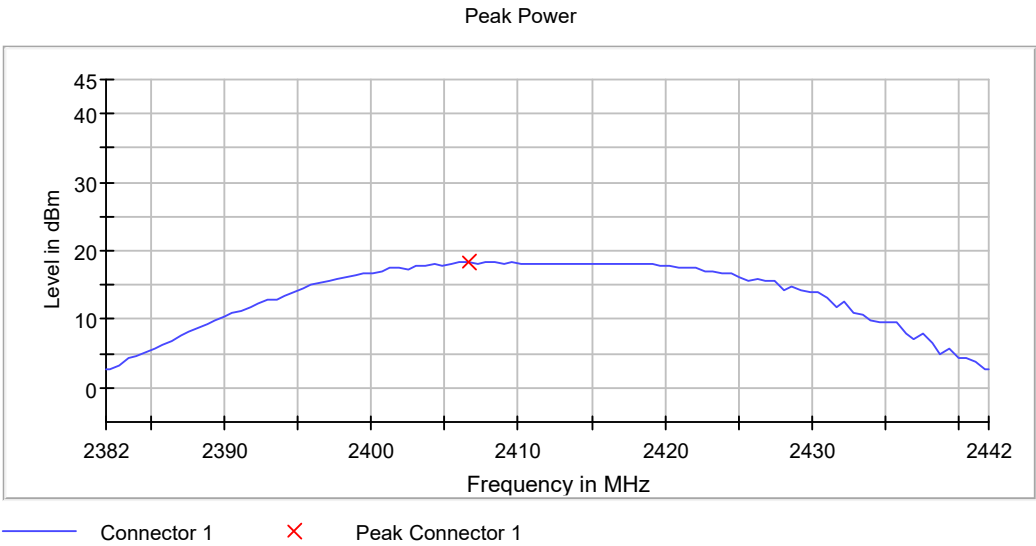
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



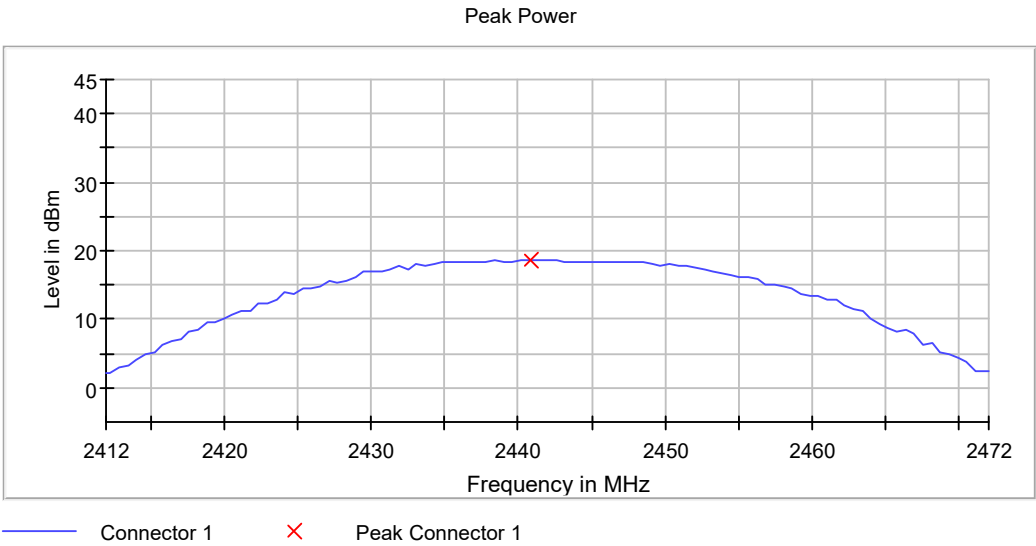
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



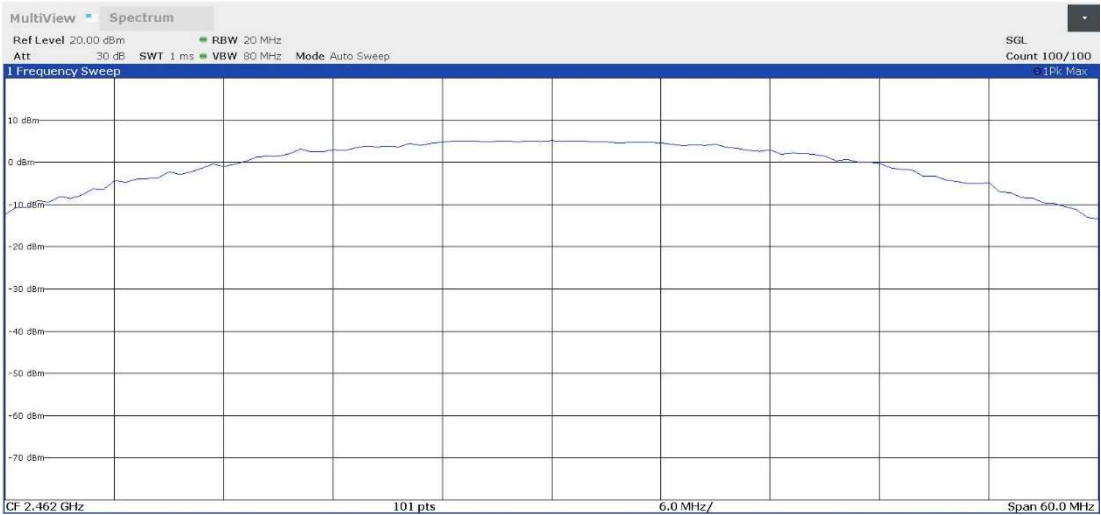
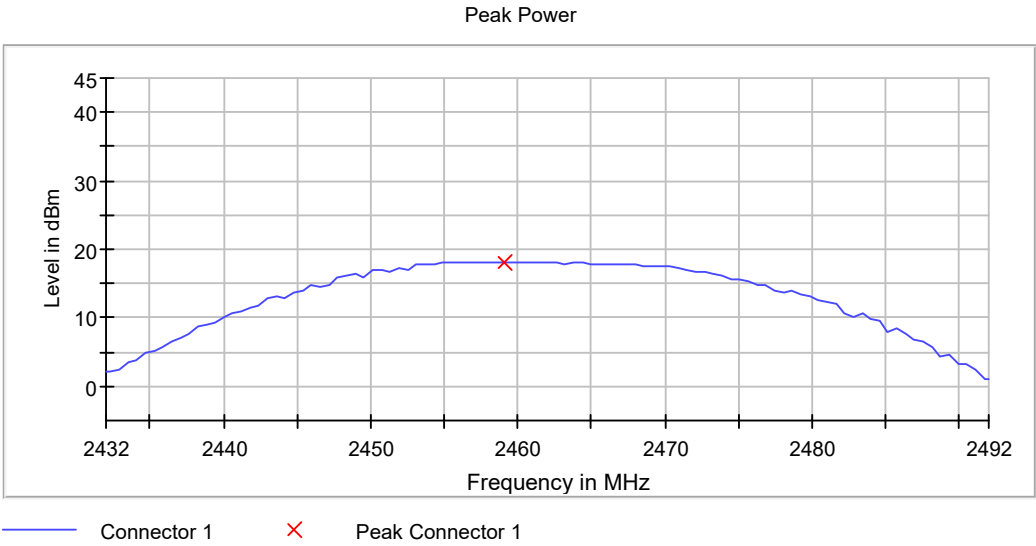
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



RSS-247 5.2 (b) / FCC 15.247 (e) Power spectral density

Limits

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Results

Modulation: 802.11b (DSSS 1 Mbit/s)

Freq (MHz)	Equipment	PSD (dBm)
2412.00	Digital Transmission System (DTS)	0.414
2442.00		1.388
2462.00		0.621

Modulation: 802.11g (OFDM 6 Mbit/s)

Freq (MHz)	Equipment	PSD (dBm)
2412.00	Digital Transmission System (DTS)	-0.354
2442.00		-0.229
2462.00		-0.471

Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Freq (MHz)	Equipment	PSD (dBm)
2412.00	Digital Transmission System (DTS)	-0.297
2442.00		-0.149
2462.00		-0.518

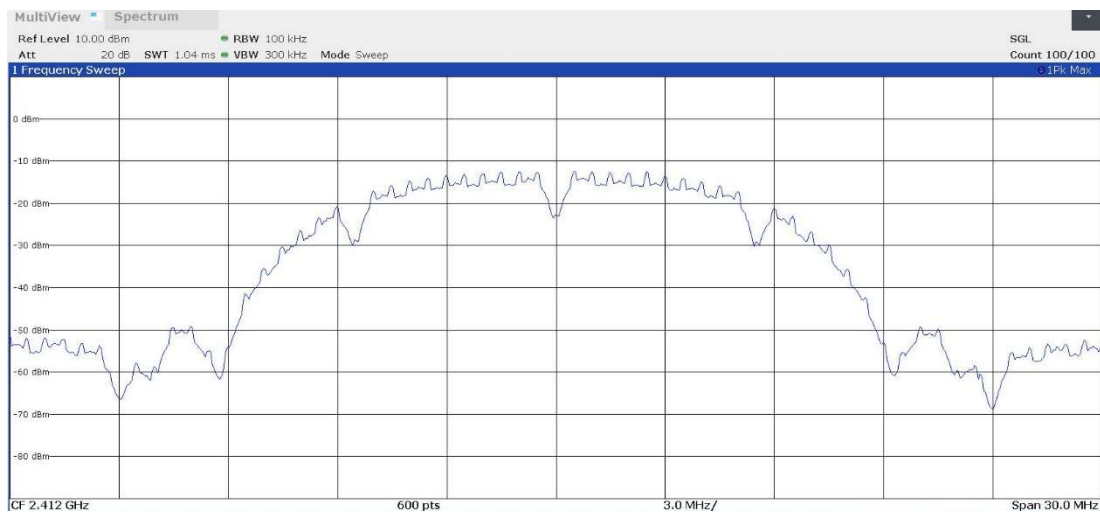
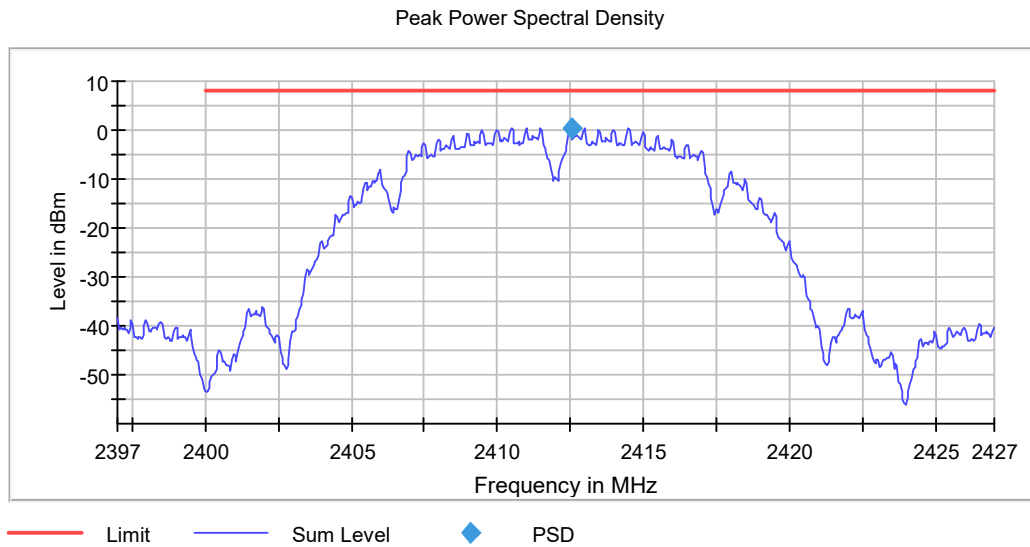
Verdict

Pass

Attachments

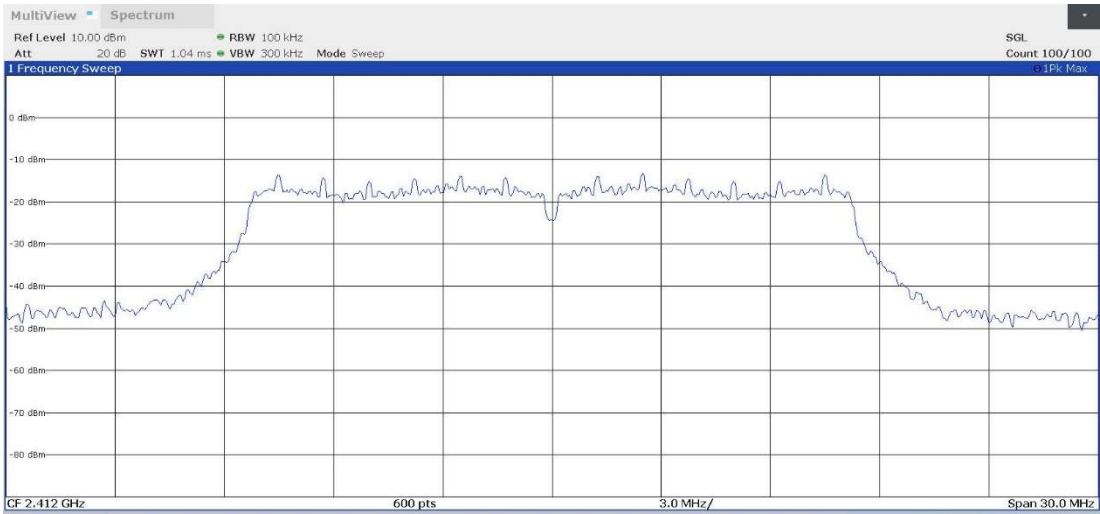
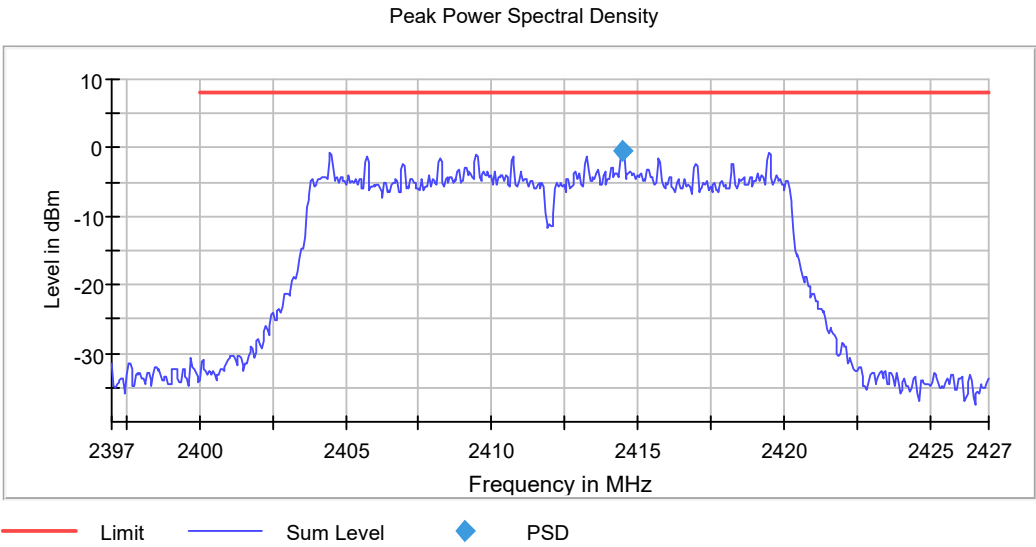
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



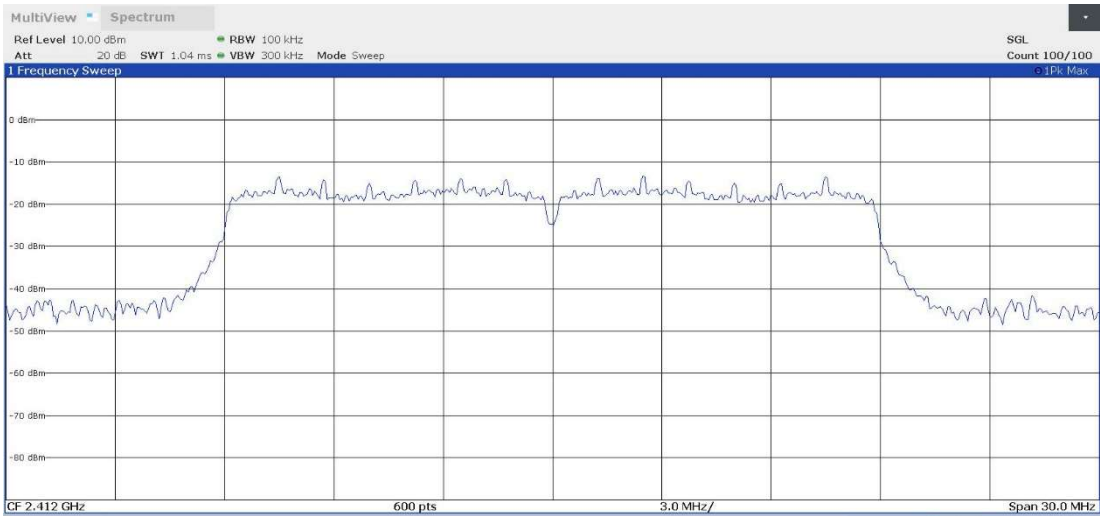
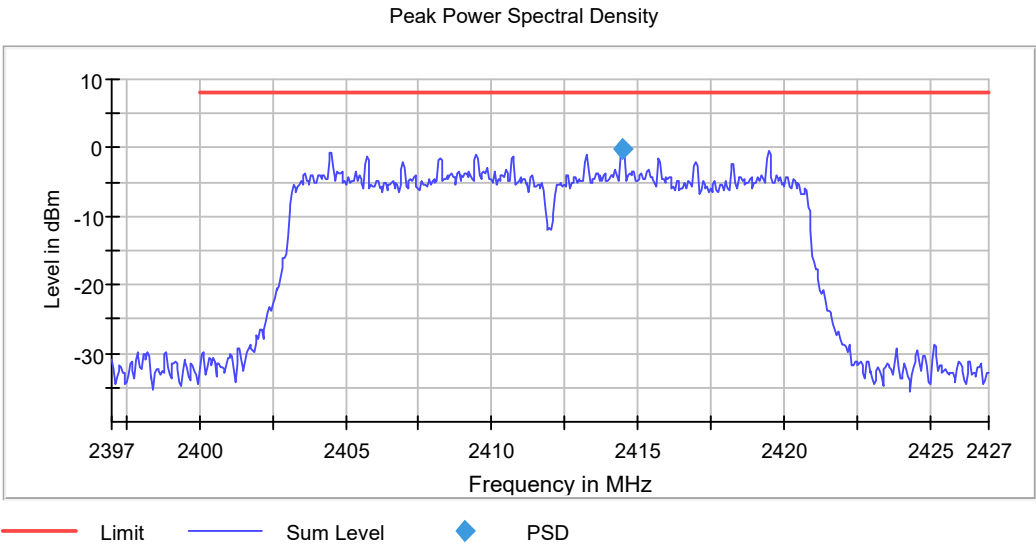
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



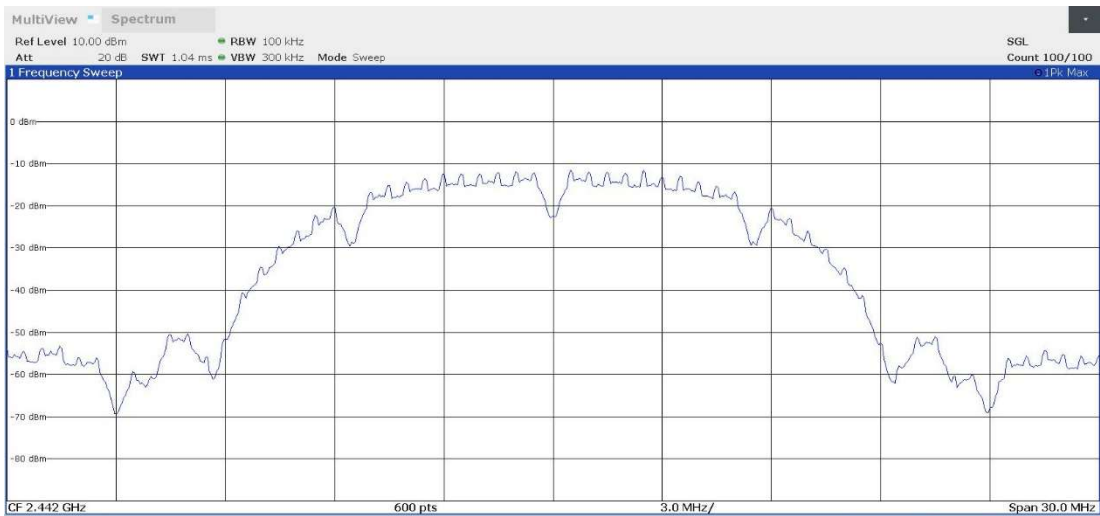
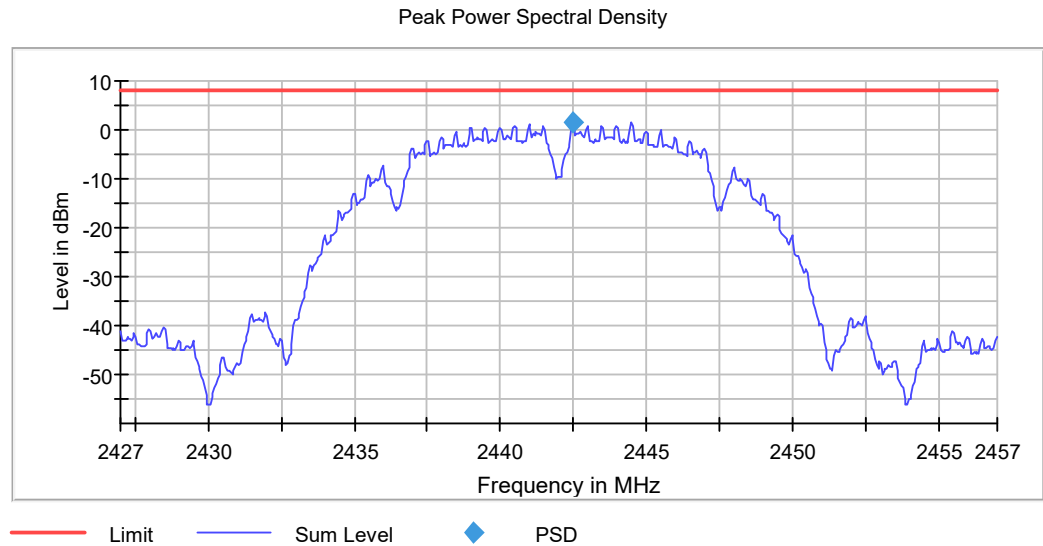
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



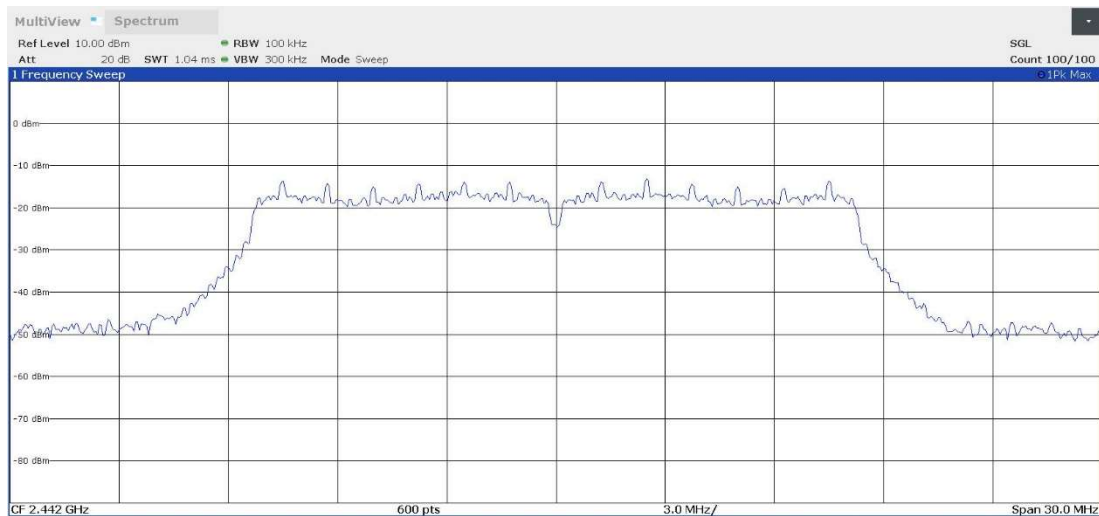
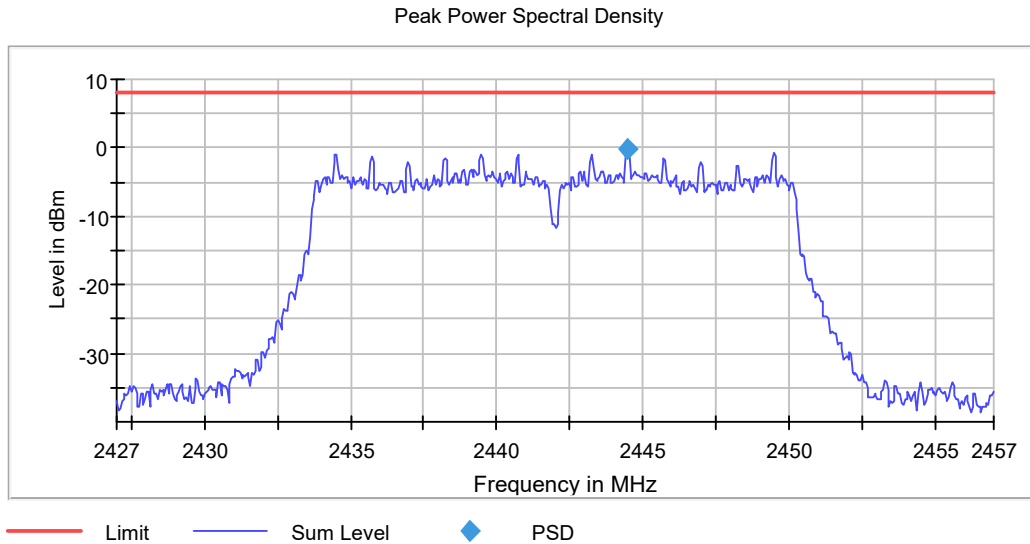
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



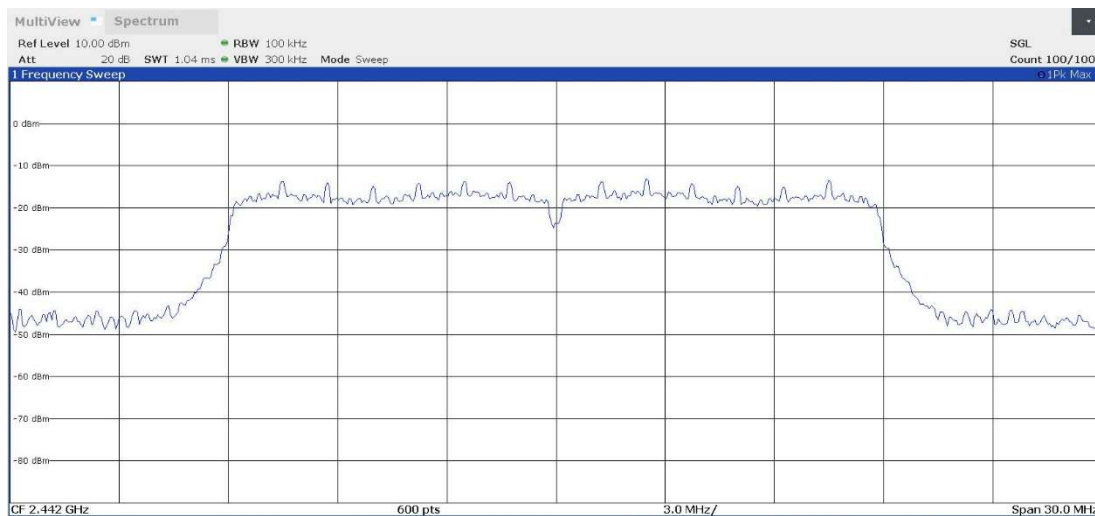
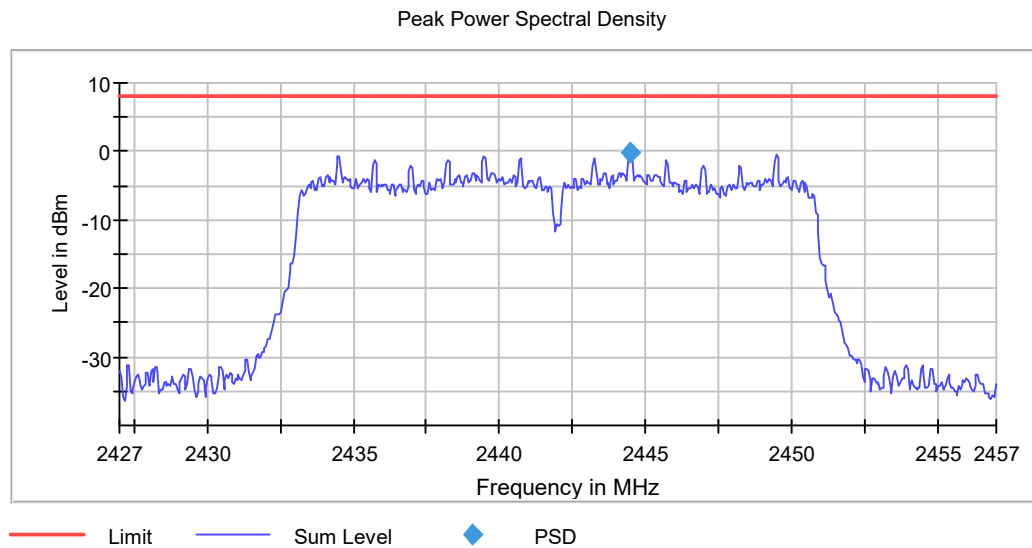
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



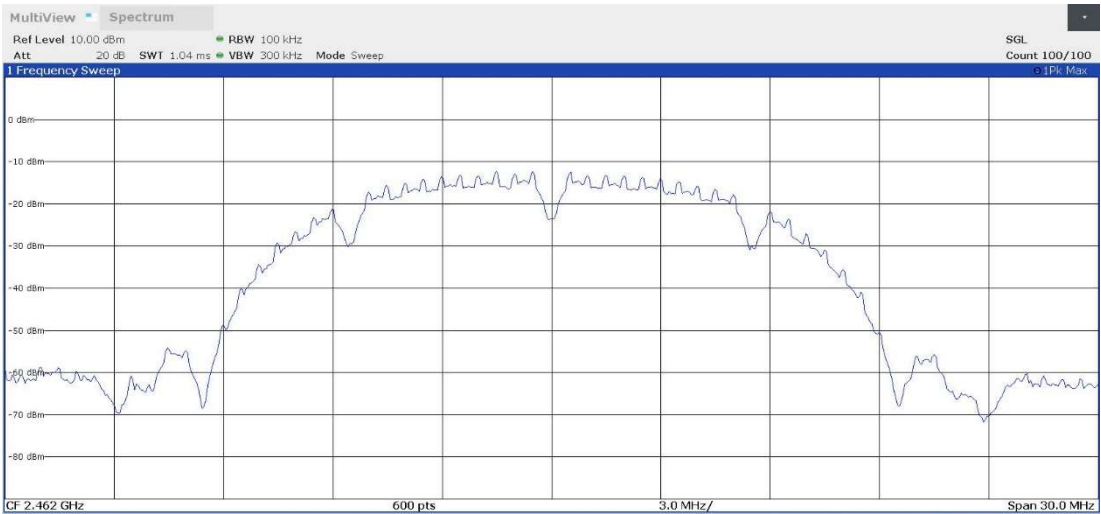
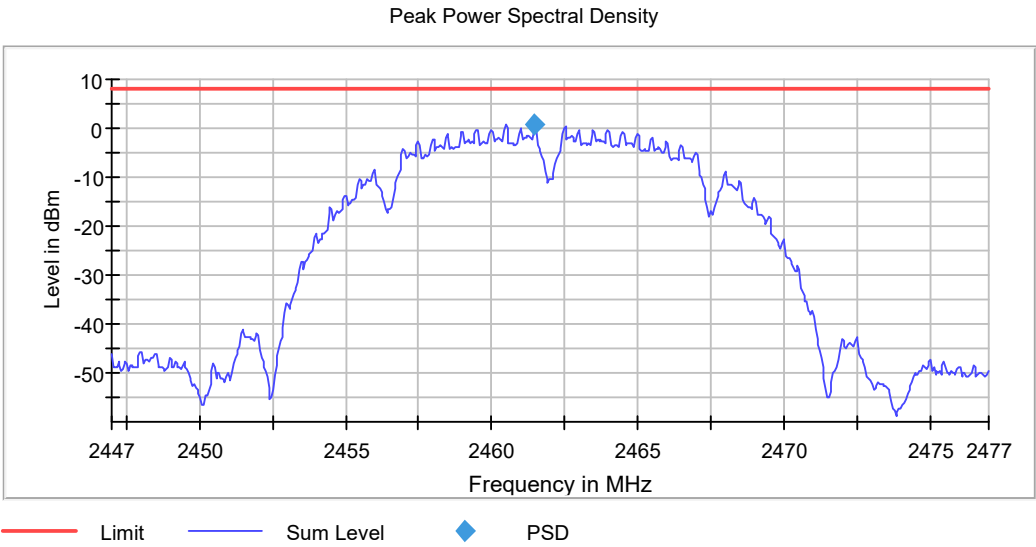
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



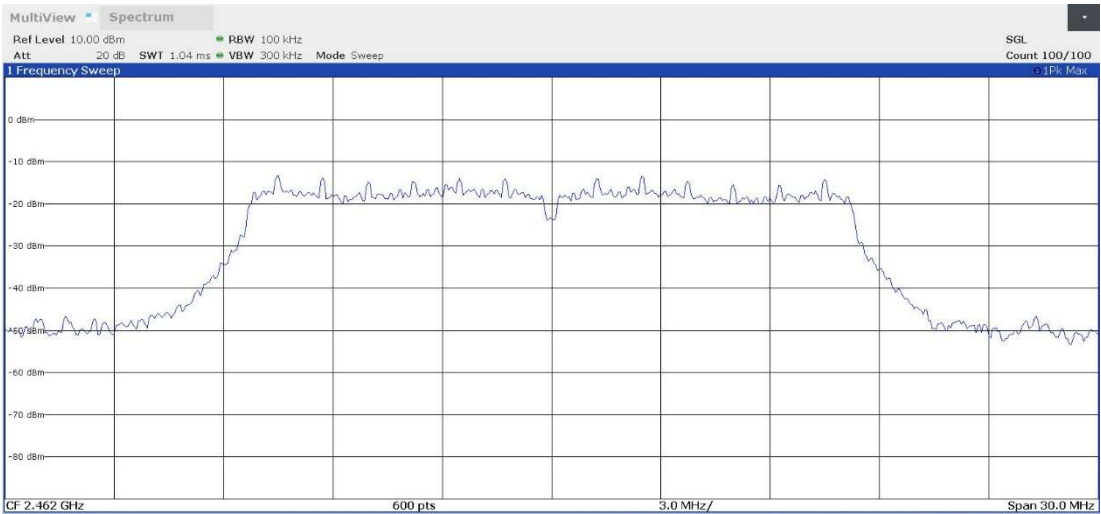
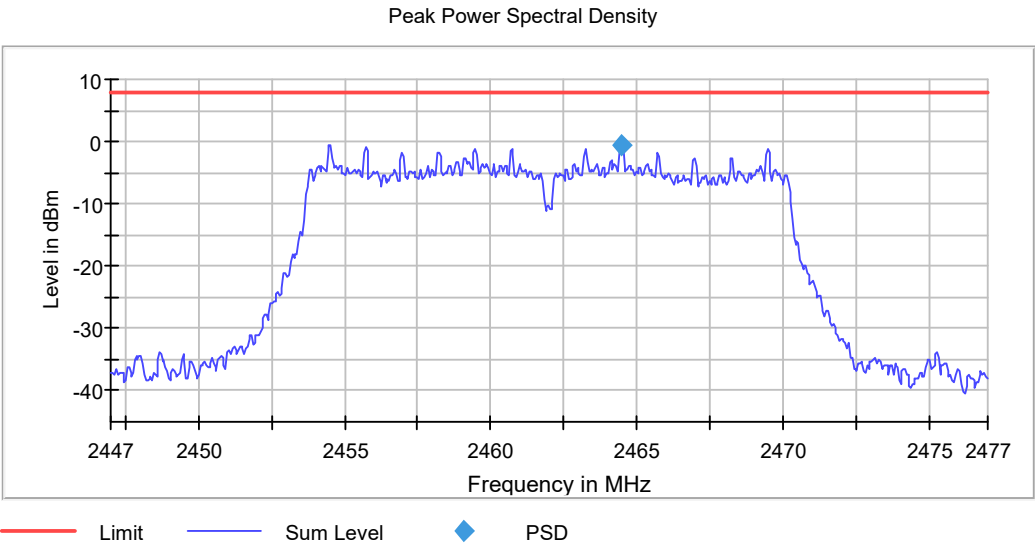
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



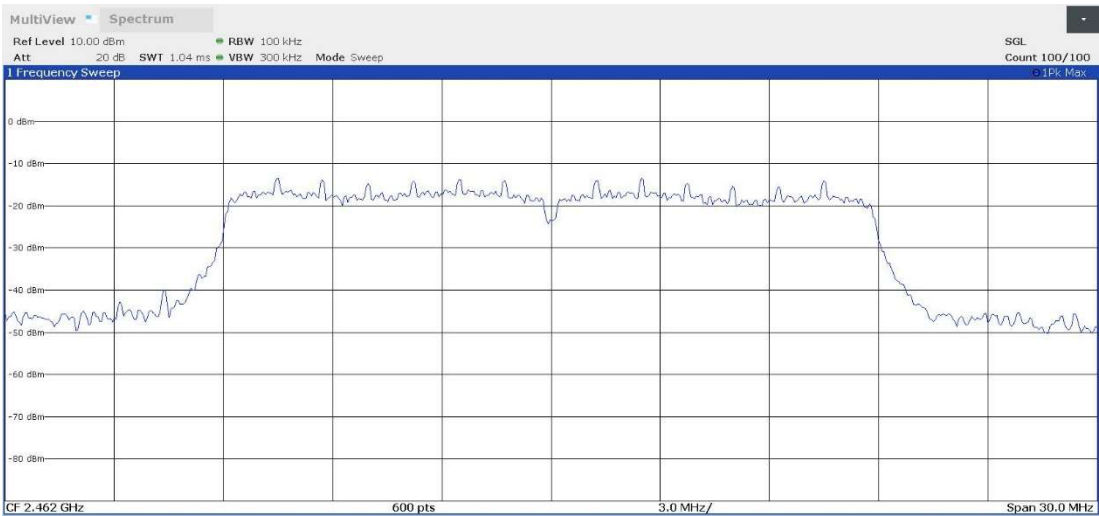
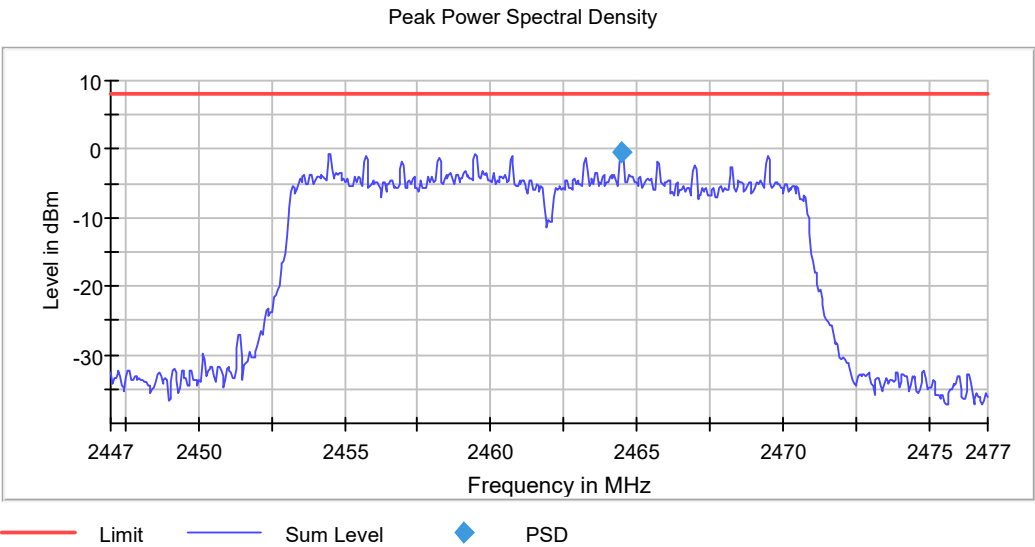
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



RSS-247 5.5 / FCC 15.247 (d) 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.

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.

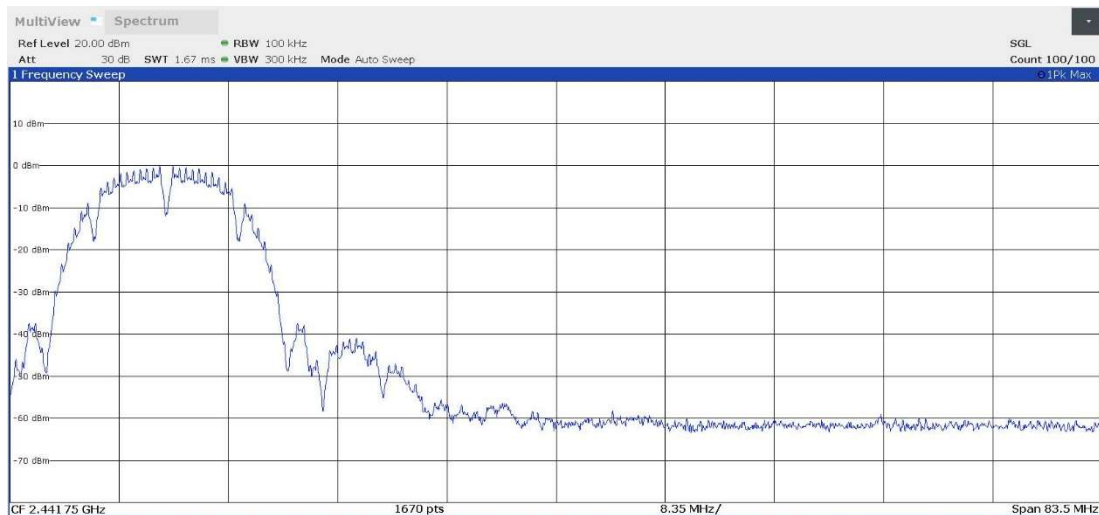
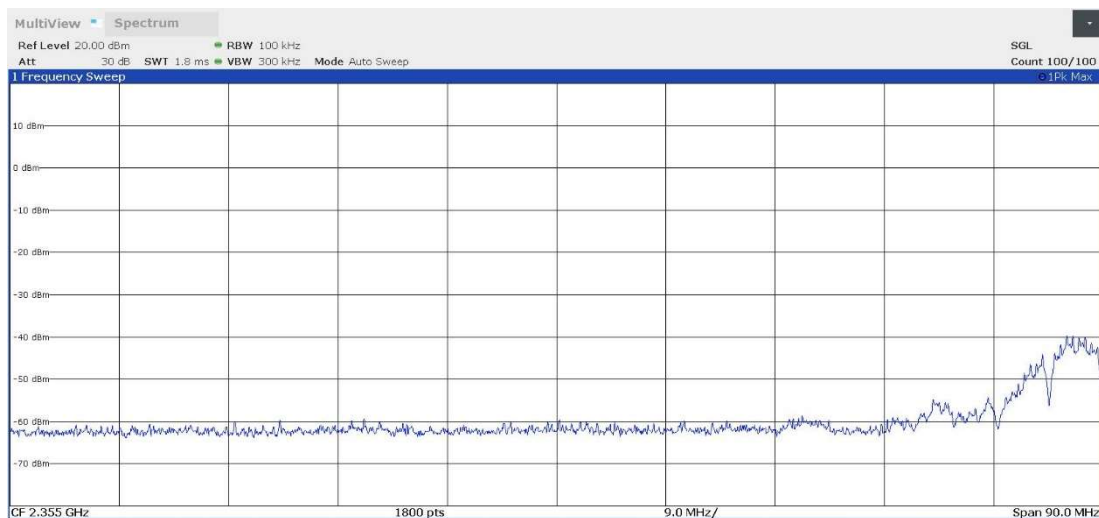
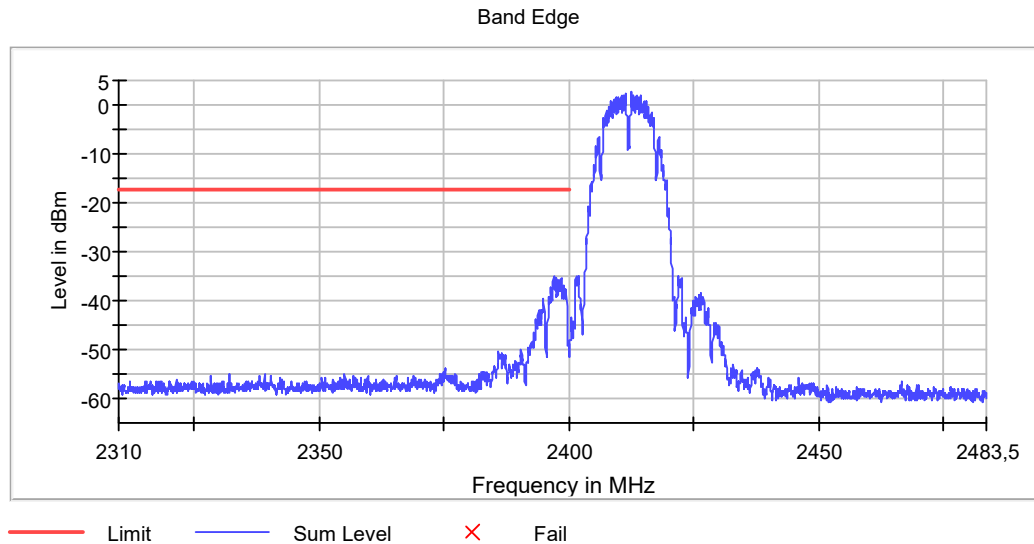
Verdict

Pass

Attachments

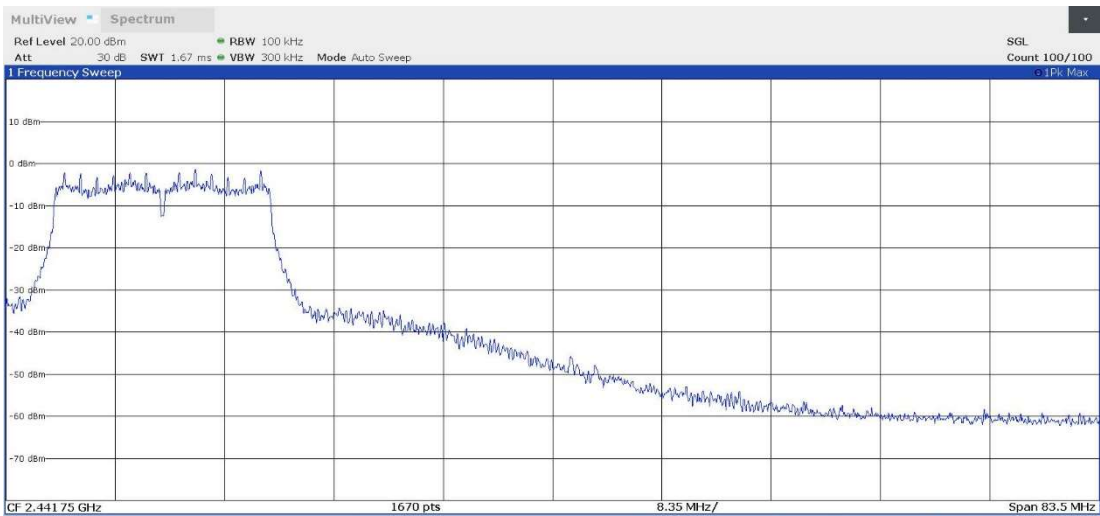
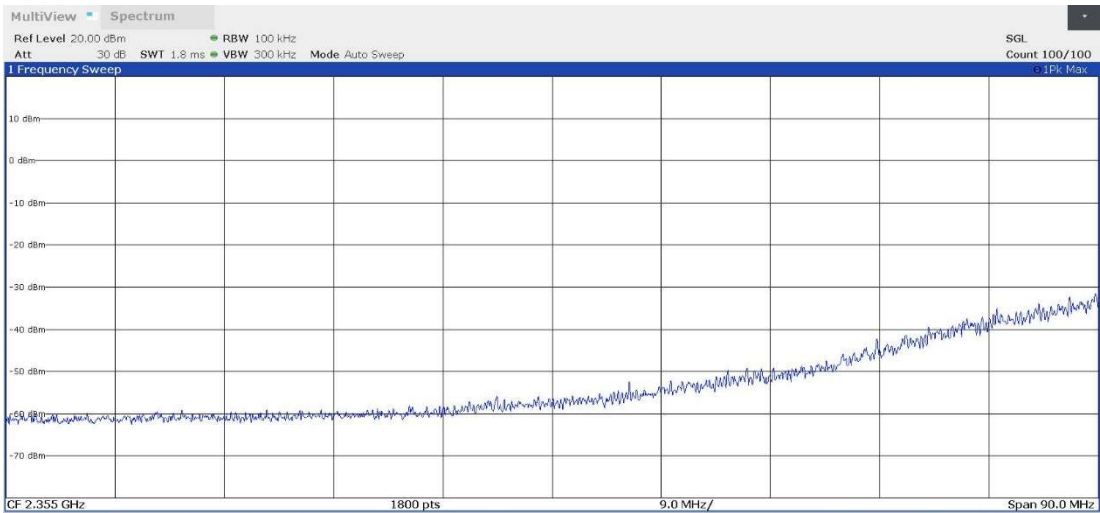
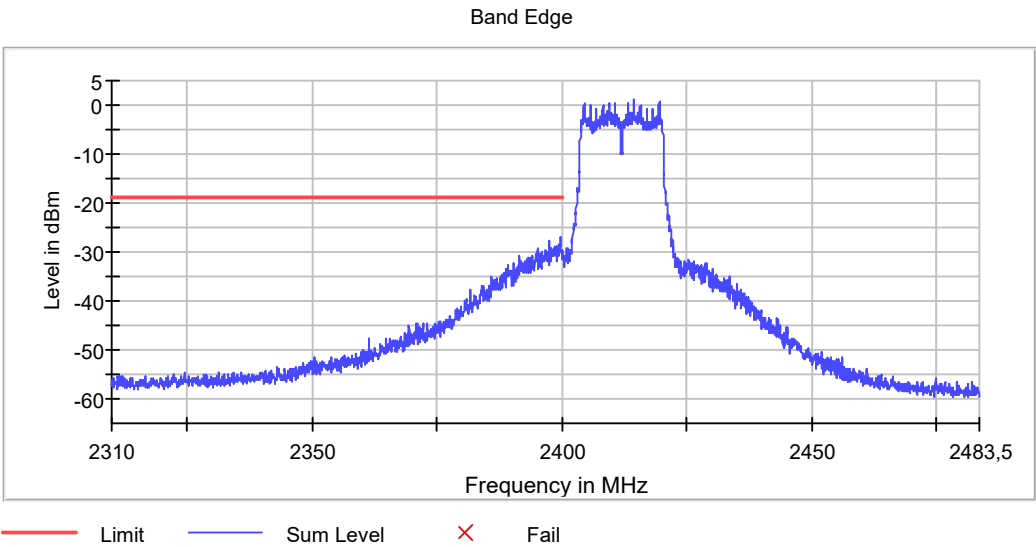
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



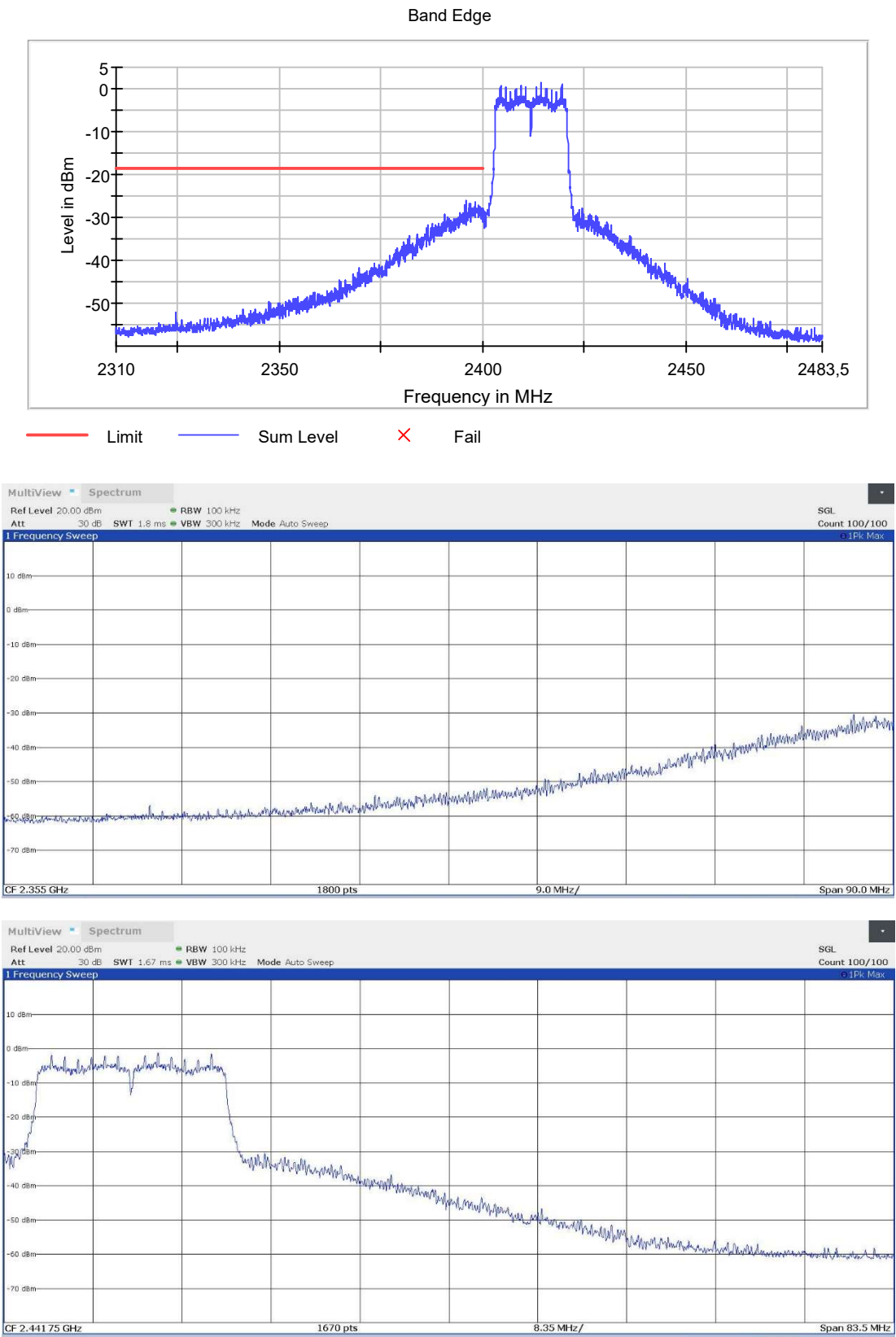
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



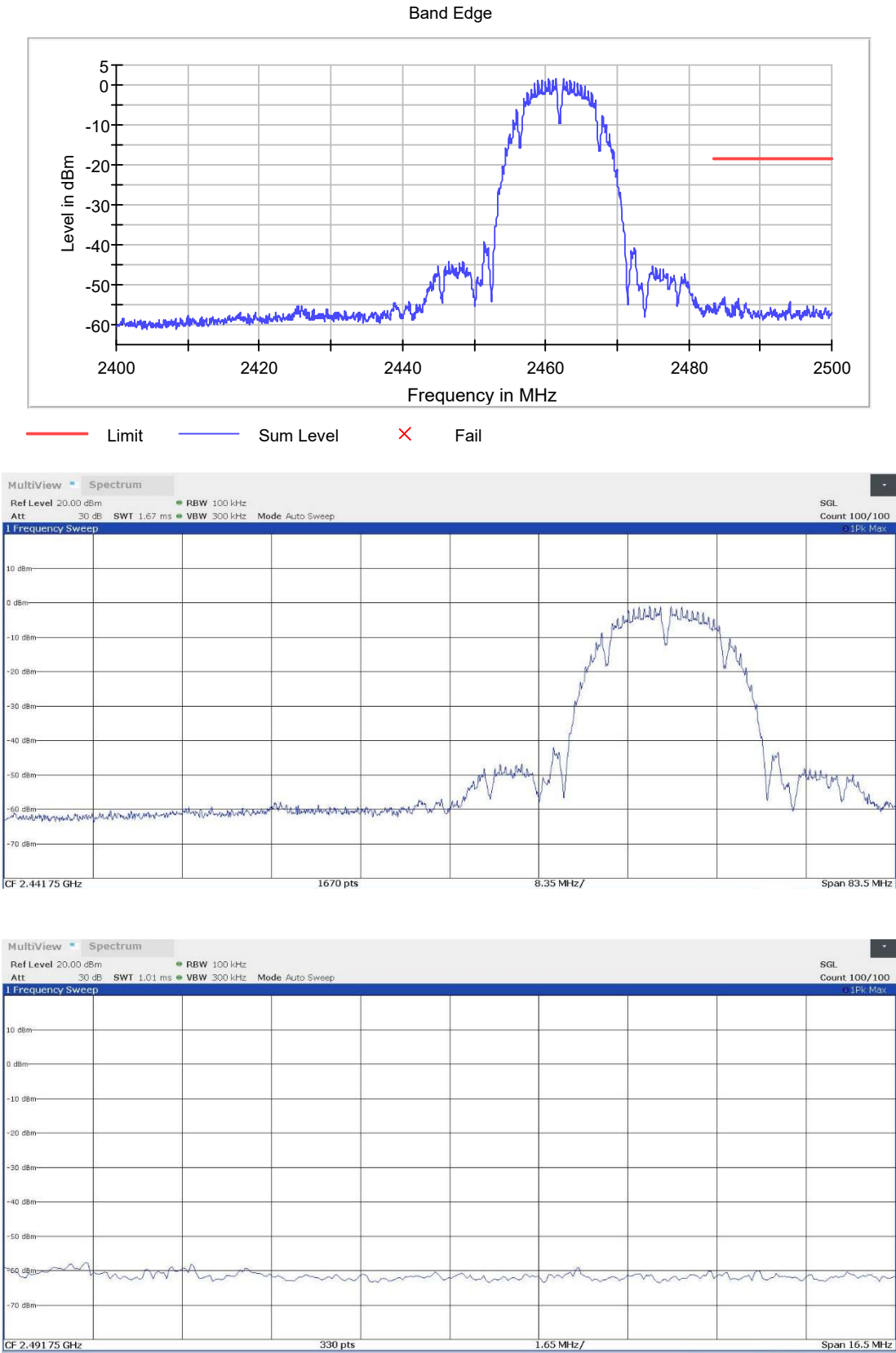
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



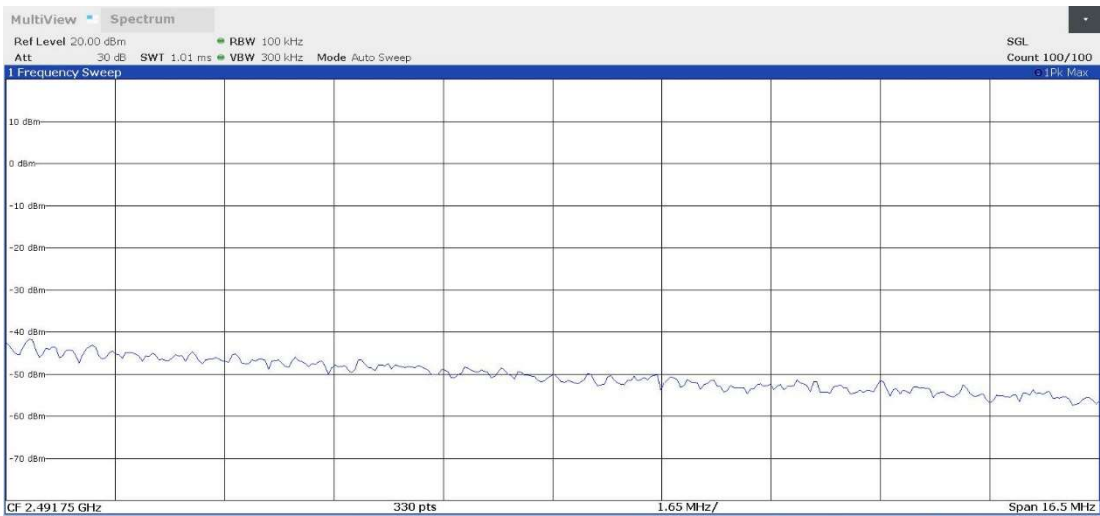
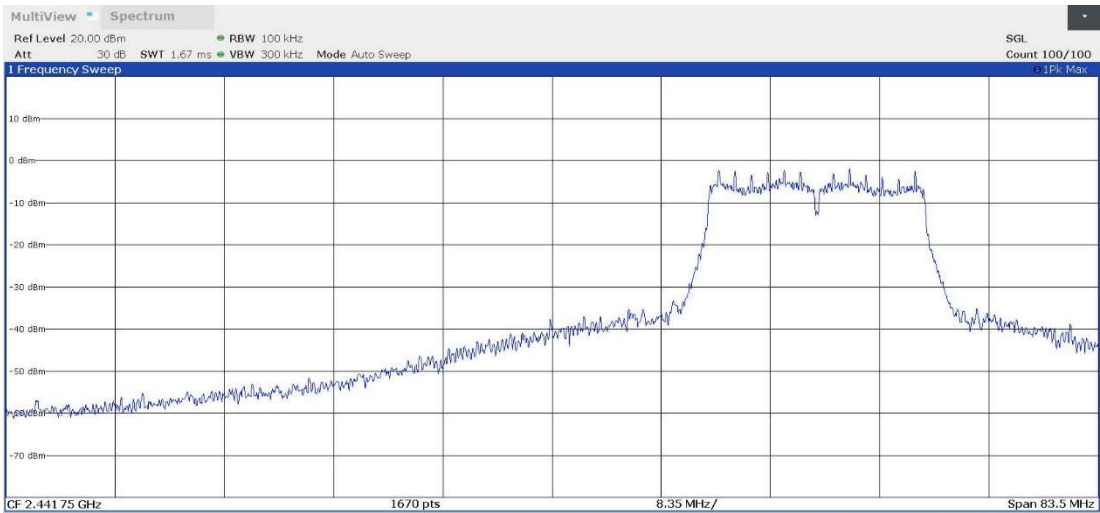
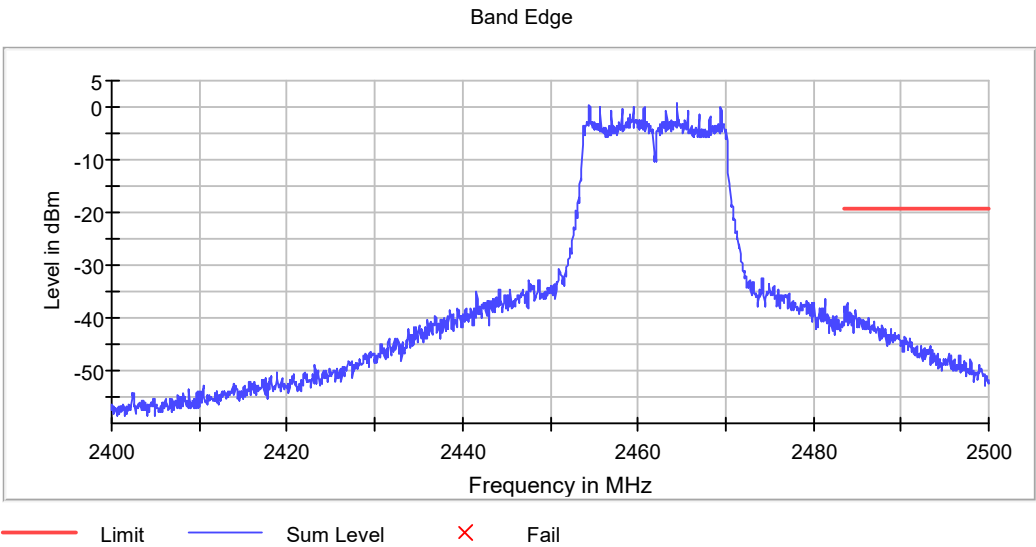
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Number of Transmission Chains = 1

Plots:



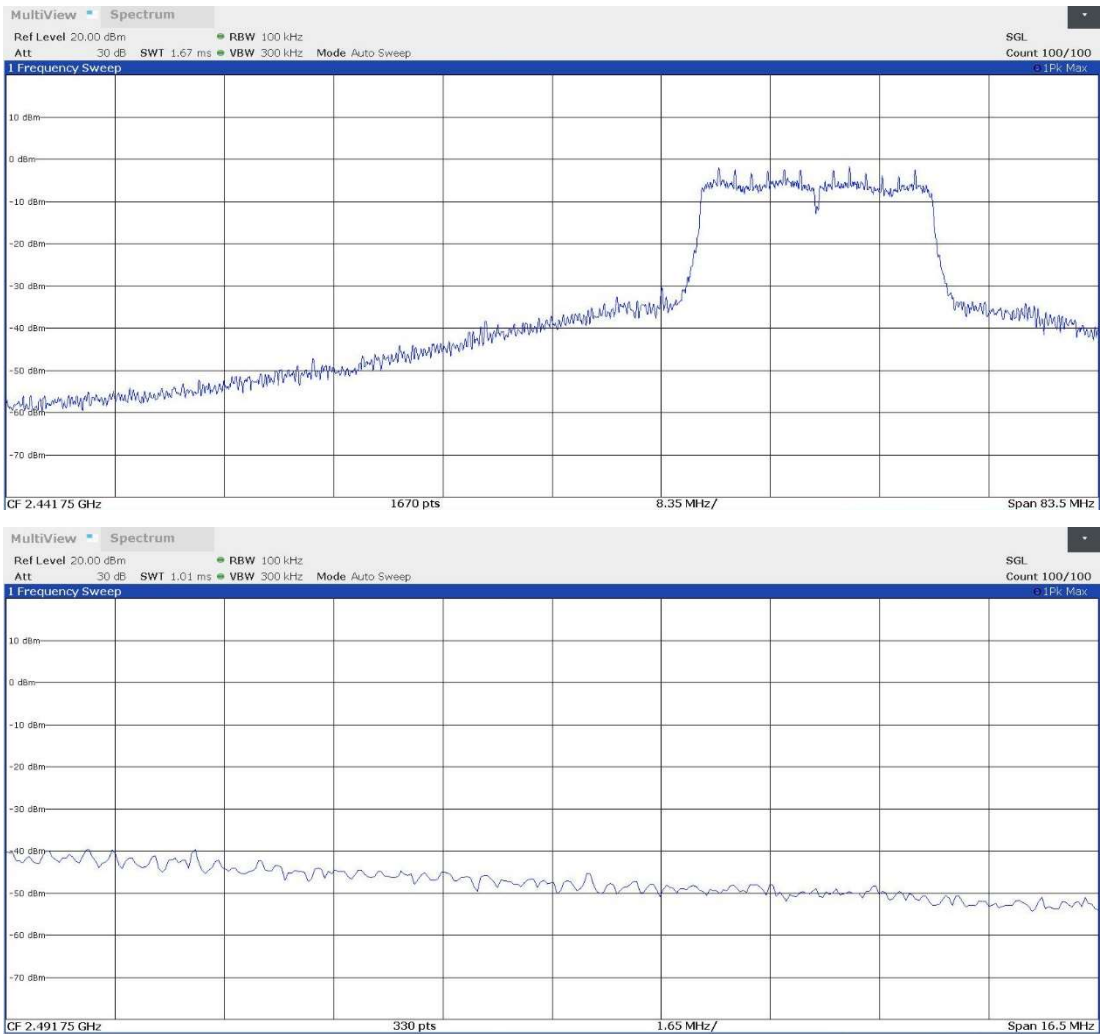
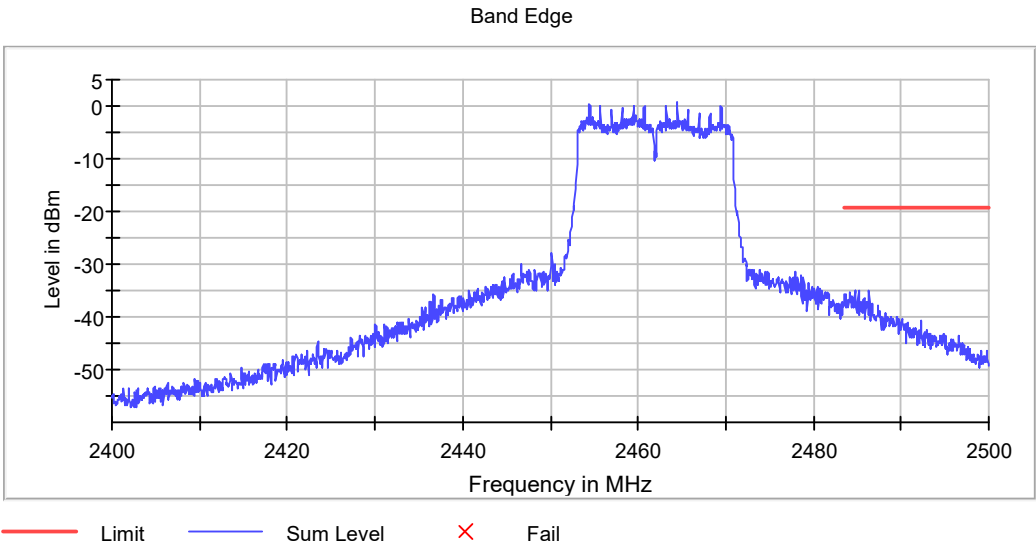
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11g (OFDM 6 Mbit/s), Number of Transmission Chains = 1

Plots:



Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Number of Transmission Chains = 1

Plots:



RSS-247 5.5 / 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.

Results

The results in the next tables show the maximum measured levels in the 1 – 26 GHz range including the restricted bands 2.31 – 2.39 GHz and 2.4835 – 2.5 GHz.

Spurious frequencies with peak levels above the average limit (54 dB $\mu\text{V/m}$ at 3 m) are measured with average detector for compliance checking with the average limit.

Modulation: 802.11b (DSSS 1 Mbit/s)

* Duty Cycle correction factor: 0 dB

Freq (MHz)	Freq Rng (GHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Corrected Unwanted Lvl (dBµV/m)	Pol	Detector
2412.00	[1, 3]	1616.80	53.21	---	H	PK
2412.00	[3, 17]	3370.16 (*)	41.79	---	V	PK
		4020.74	40.10	---	H	PK
		4991.36	43.51	---	V	PK
		5877.56 (*)	45.05	---	H	PK
		7320.26	49.96	---	H	PK
2442.00	[3, 17]	3664.16	44.57	---	H	PK
		4992.34	44.20	---	V	PK
		5689.82 (*)	44.56	---	H	PK
2462.00	[3, 17]	4999.62	45.15	---	V	PK

(*) This Spurious Frequency is outside the restricted bands as defined in §15.205(a). The peak spurious level is more than 20 dB below the peak carrier level.

Modulation: 802.11g (OFDM 6 Mbit/s)

* Duty Cycle correction factor: 0.19 dB

Freq (MHz)	Freq Rng (GHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Corrected Unwanted Lvl (dBµV/m)	Pol	Detector
2412.00	[1, 3]	2385.24	65.28	---	H	PK
			48.12	48.31		AVG
		2387.48	66.93	---	H	PK
			48.69	48.88		AVG
		2390.00	67.34	---	H	PK
			50.39	50.58		AVG
2462.00	[1, 3]	2484.20	71.26	---	H	PK
			53.30	53.49		AVG
		2485.60	69.71	---	H	PK
			52.90	53.09		AVG
		2486.80	70.77	---	H	PK
			52.35	52.54		AVG
2412.00	[3, 17]	3090.02 (*)	43.95	---	H	PK
		3294.14 (*)	42.52	---	H	PK
		4986.60	44.92	---	V	PK
2442.00	[3, 17]	4997.24	48.75	---	V	PK
2462.00	[3, 17]	4998.64	49.38	---	V	PK

(*) This Spurious Frequency is outside the restricted bands as defined in §15.205(a).
The peak spurious level is more than 20 dB below the peak carrier level.

Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

* Duty Cycle correction factor: 0.11 dB

Freq (MHz)	Freq Rng (GHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Corrected Unwanted Lvl (dBµV/m)	Pol	Detector
2412.00	[1, 3]	2385.60	72.67	---	H	PK
			51.14	51.25		AVG
		2388.20	60.79	---	H	PK
			47.48	47.59		AVG
		2389.80	67.02	---	H	PK
			47.57	47.68		AVG
2462.00	[1, 3]	2483.80	69.18	---	H	PK
			51.04	51.15		AVG
		2484.60	70.14	---	H	PK
			51.15	51.26		AVG
		2485.20	70.32	---	H	PK
			51.71	51.82		AVG
		2489.20	70.42	---	H	PK
			50.83	50.94		AVG
2412.00	[3, 17]	4997.38	47.92	---	V	PK
2442.00	[3, 17]	4995.56	47.35	---	V	PK
		14397.54 (*)	53.36	---	V	PK
2462.00	[3, 17]	4991.36	47.48	---	V	PK

(*) This Spurious Frequency is outside the restricted bands as defined in §15.205(a).
The peak spurious level is more than 20 dB below the peak carrier level.

Verdict

Pass

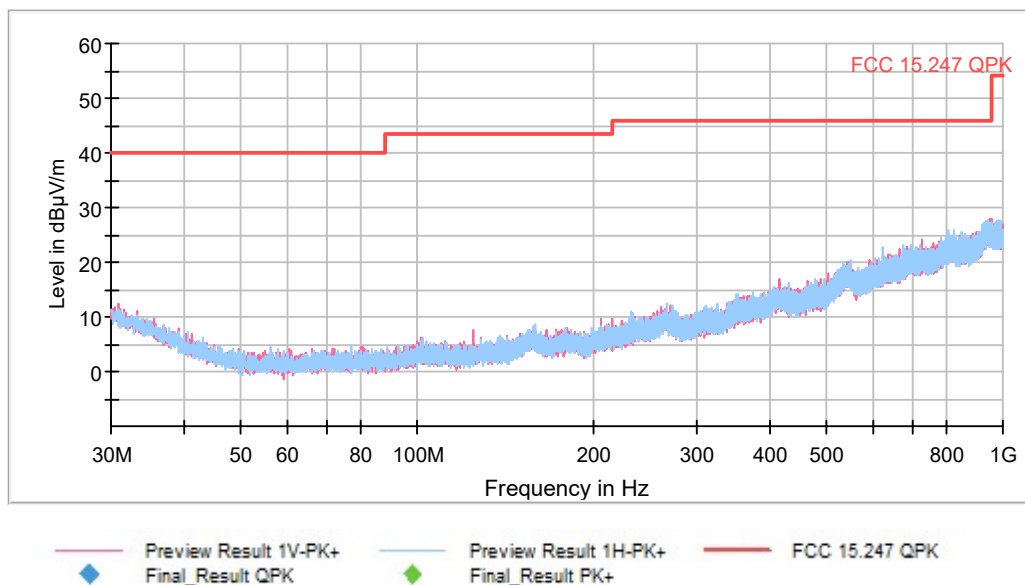
Attachments

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

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESR 7] 30 MHz - 1 GHz	30,312 kHz	PK+	100 kHz	1 s	0 dB
Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [FSW 50] 1 GHz - 3 GHz	200 kHz	PK+ ; AVG	1 MHz	1 s	0 dB
Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [FSW 50] 3 GHz - 17 GHz	140 kHz	PK+ ; AVG	1 MHz	1 s	0 dB
Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [FSW 50] 17 GHz - 26 GHz	90 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Operation Band (MHz) = [2400, 2483.5], Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Frequency Range (GHz) = [0.03, 1]

Plots:

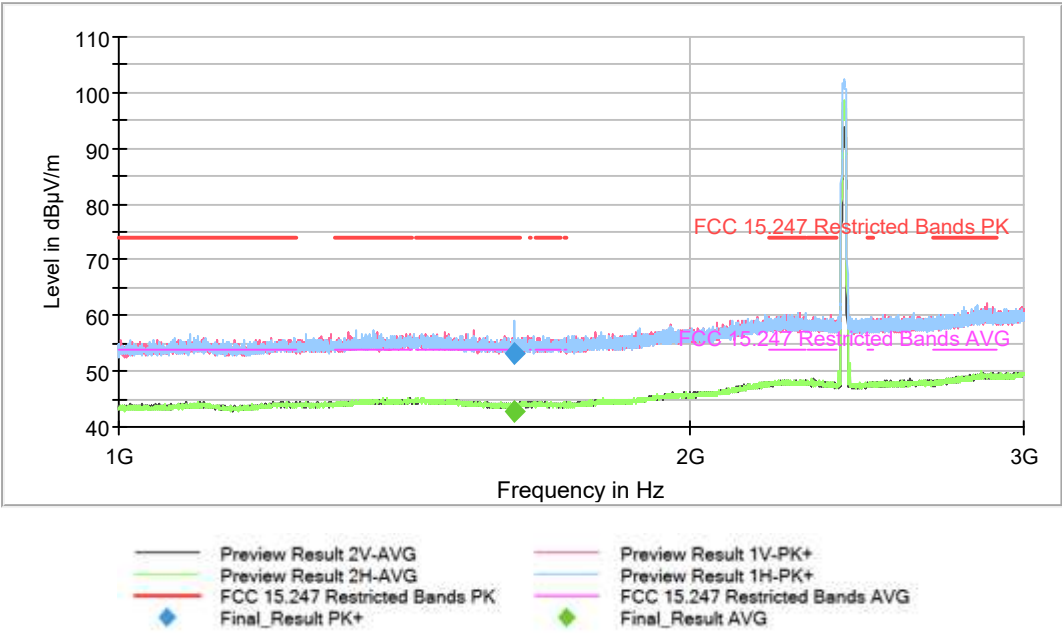


The spurious frequencies detected do not depend on the operating channel.

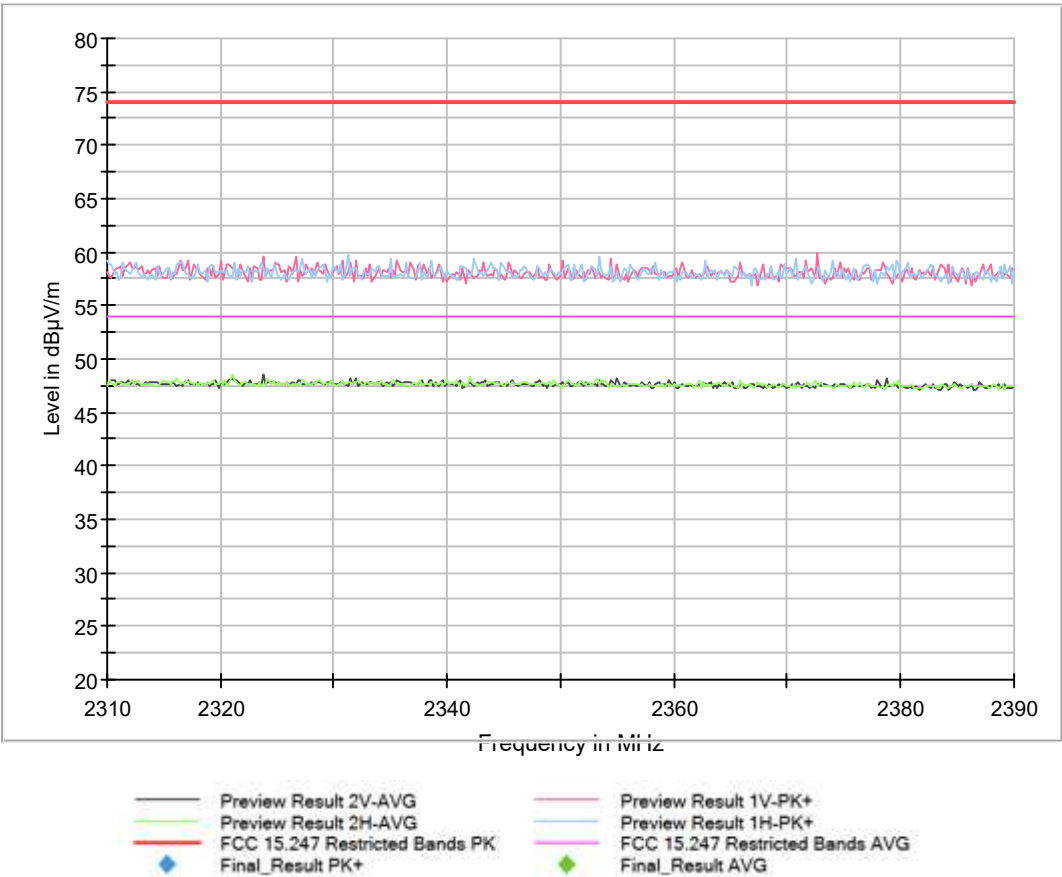
This plot is valid for Low, Middle and High Channels.

Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00000, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Frequency Range (GHz) = [1, 3]

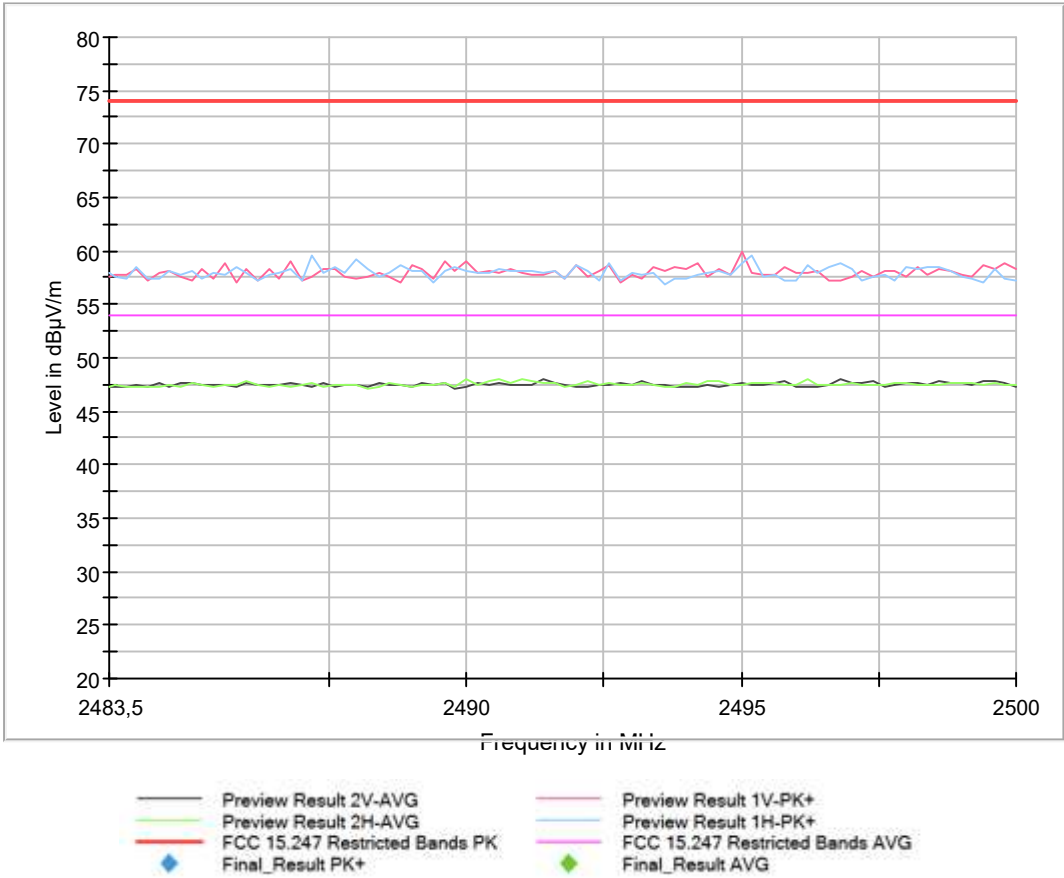
Plots:



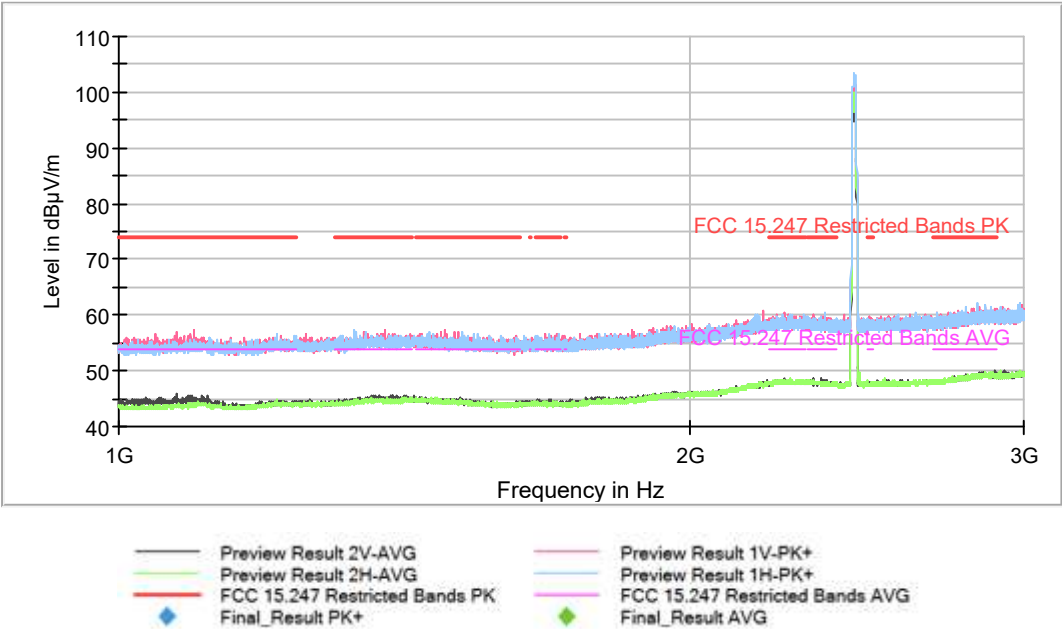
Full Spectrum



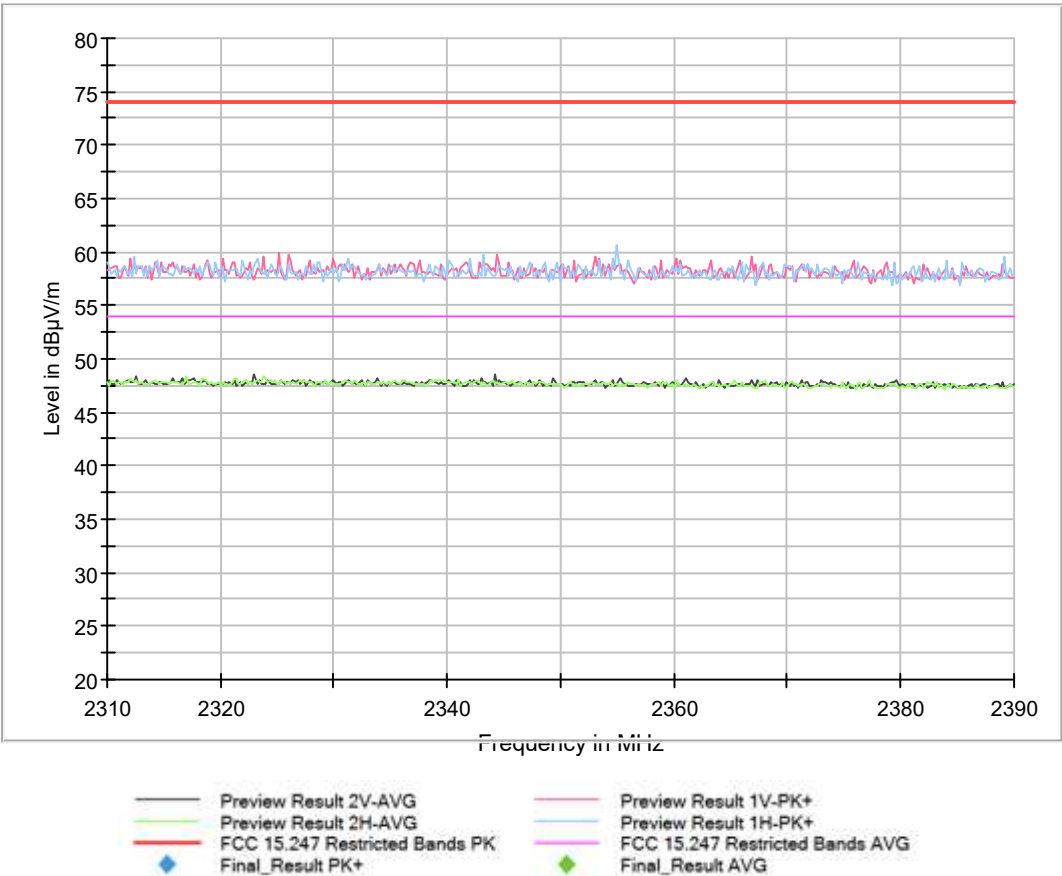
Full Spectrum



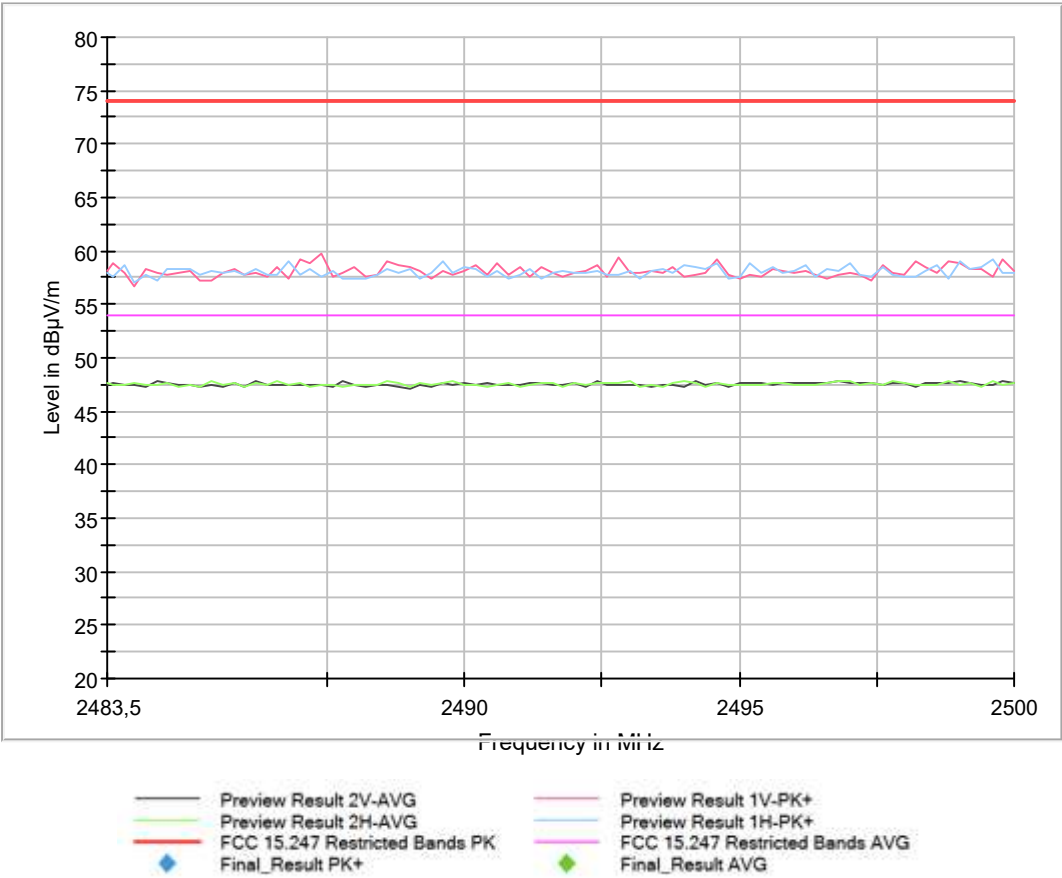
Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00000, Equipment Type: Digital
Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Frequency Range (GHz) = [1, 3]



Full Spectrum

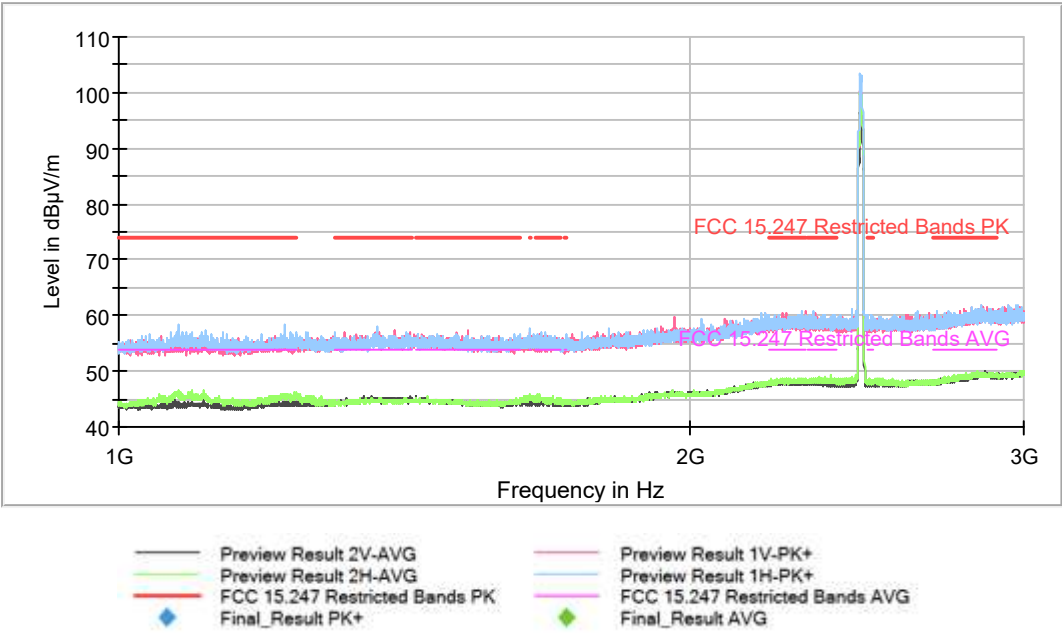


Full Spectrum

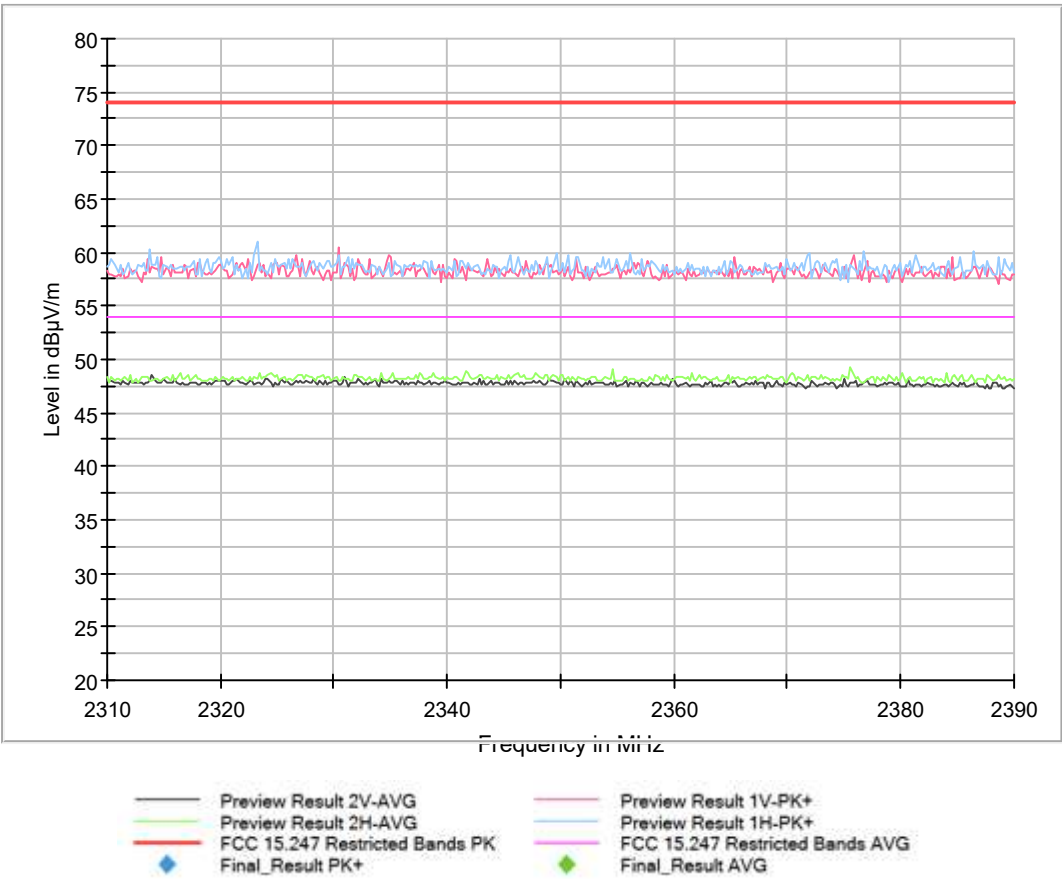


Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2462.00000, Equipment Type: Digital
Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Frequency Range (GHz) = [1, 3]

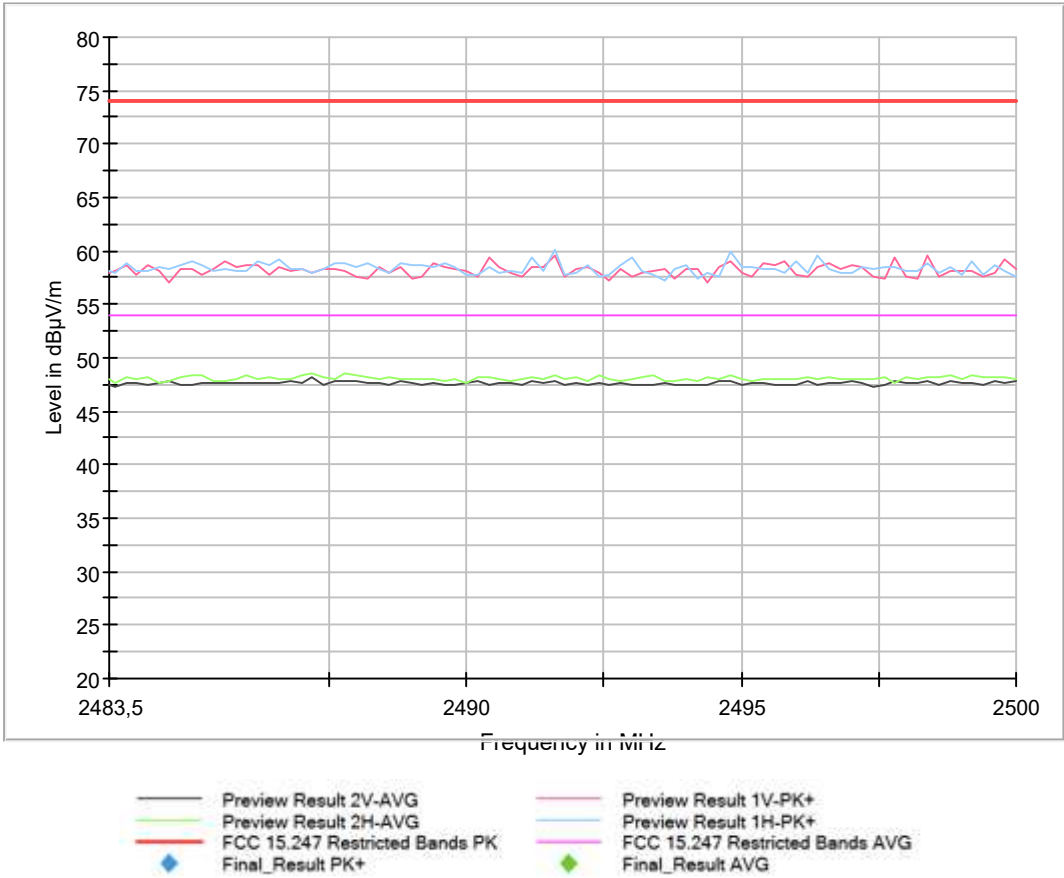
Plots:



Full Spectrum

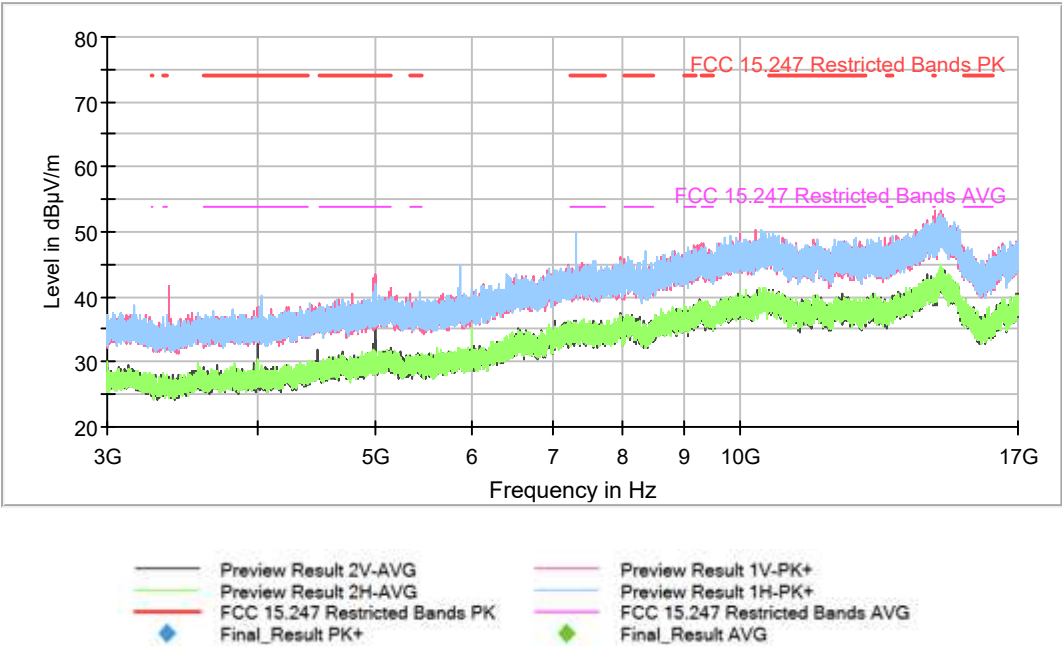


Full Spectrum



Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2412.00000, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Frequency Range (GHz) = [3, 17]

Plots:



Operation Band (MHz) = [2400, 2483.5], Frequency (MHz) = 2442.00000, Equipment Type: Digital Transmission System (DTS), Modulation: 802.11b (DSSS 1 Mbit/s), Frequency Range (GHz) = [3, 17]

Plots:

