

RSS-247 5.2 (a) / FCC 15.247 (a) (2) [6dBw] 6 dB Bandwidth

Limits

The minimum 6 dB bandwidth shall be at least 500 kHz.

Modulation: 802.11g (OFDM 6 Mbit/s)

Results

Freq (MHz)	Emission Bandwidth (MHz)
2412.00000	16.400000
2442.00000	16.400000
2462.00000	16.400000

Verdict

Pass

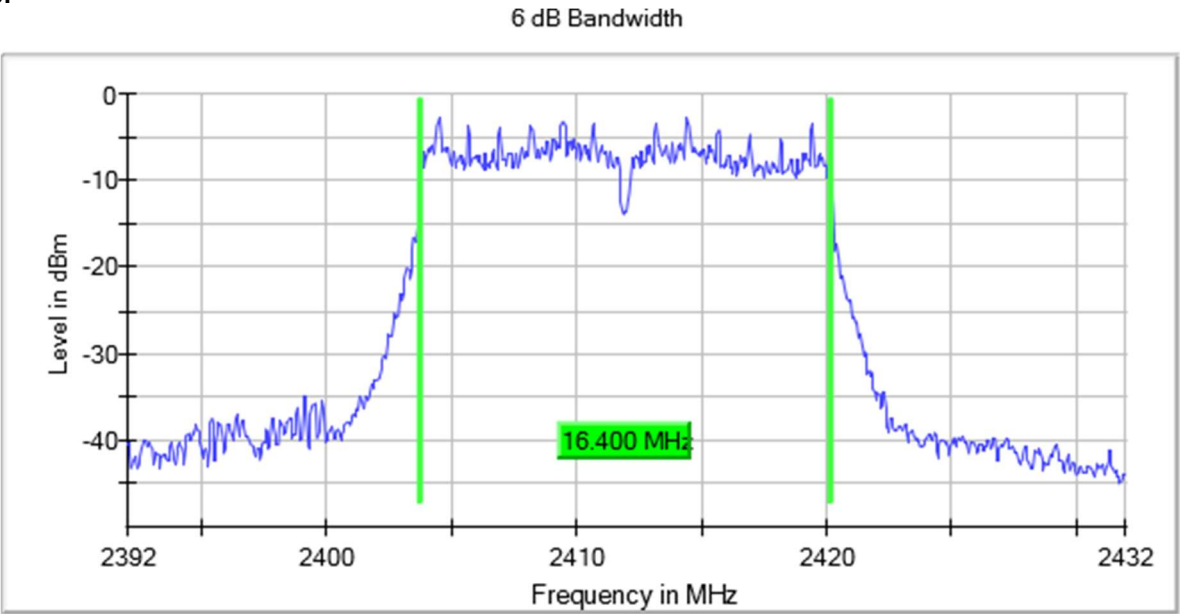
Uncertainty

Measurement uncertainty (%) <±1.14

Attachments

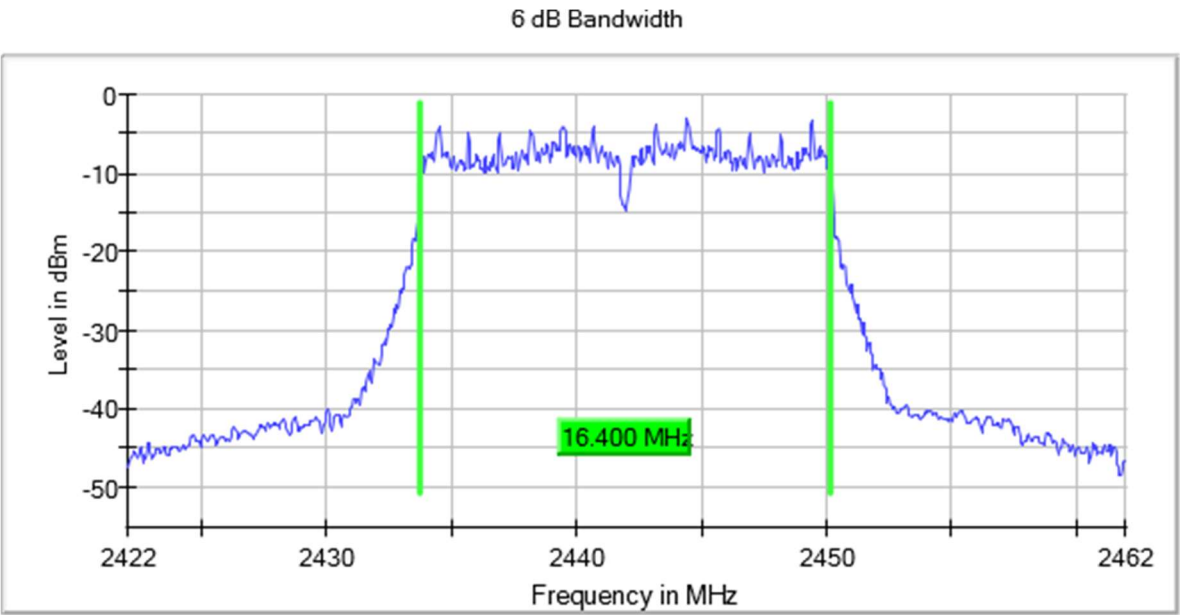
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11g (OFDM 6 Mbit/s)

Images:



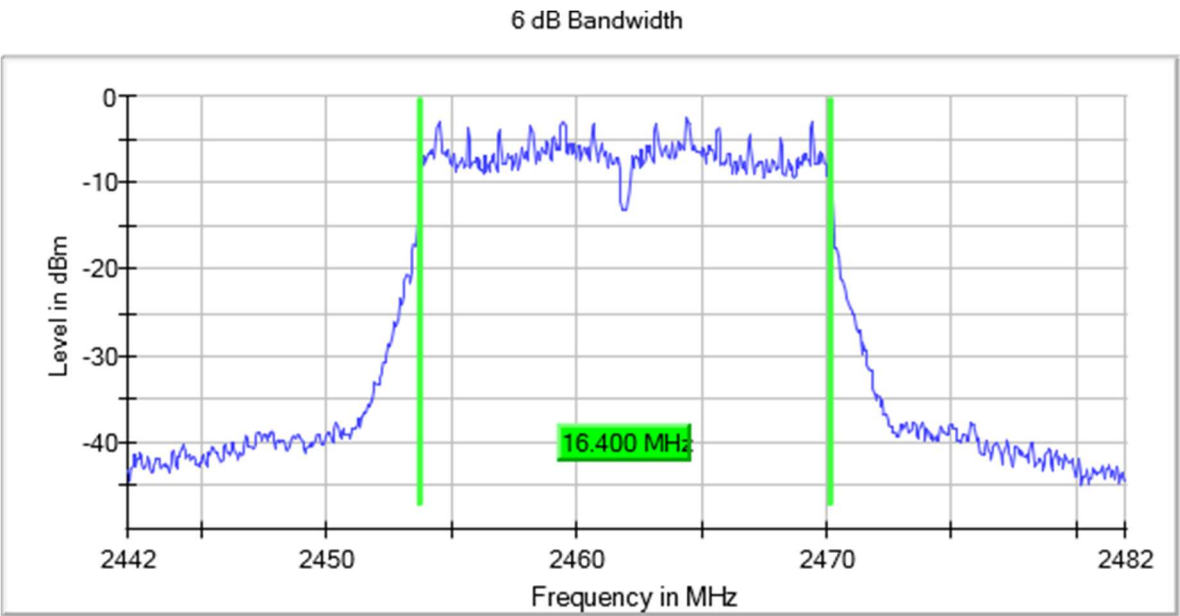
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2442.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11g (OFDM 6 Mbit/s)

Images:



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2462.00000, Equipment Type = Digital
Transmission System (DTS), Modulation = 802.11g (OFDM 6 Mbit/s)

Images:



Modulation: 802.11b (DSSS 1 Mbit/s)

Results

Freq (MHz)	Emission Bandwidth (MHz)
2412.00000	10.200000
2442.00000	10.100000
2462.00000	10.150000

Verdict

Pass

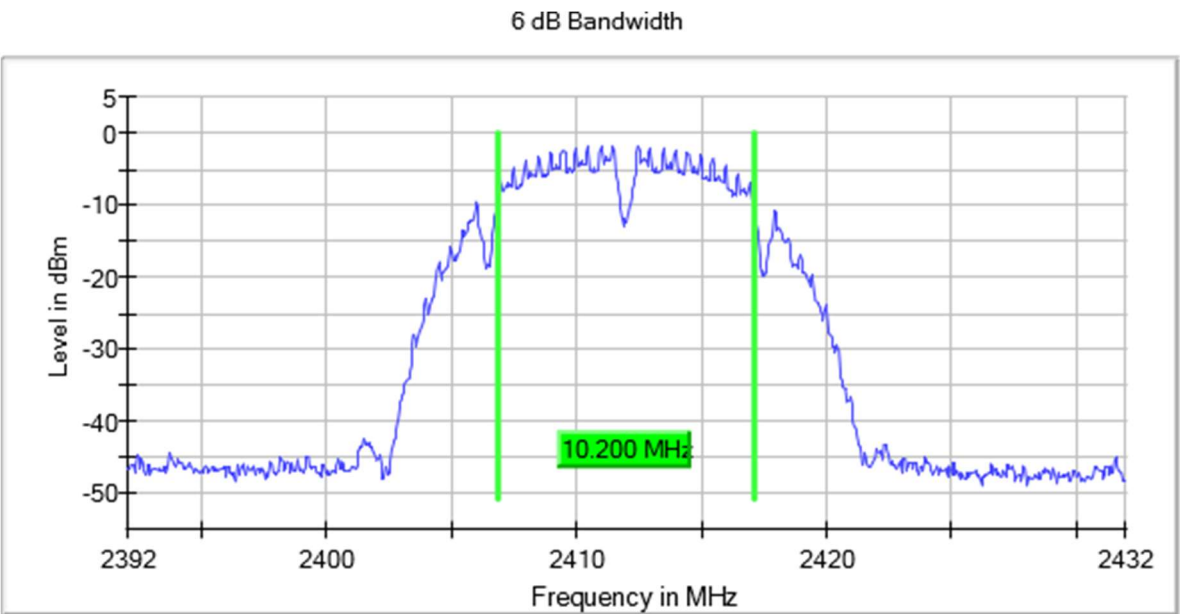
Uncertainty

Measurement uncertainty (%) <±1.14

Attachments

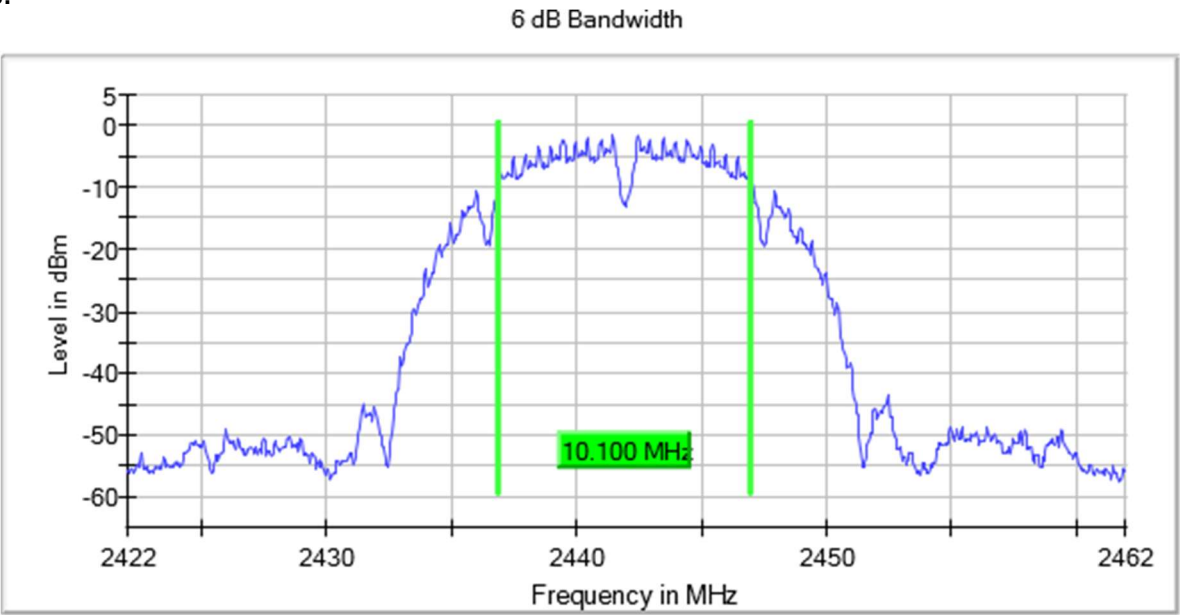
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11b (DSSS 1 Mbit/s)

Images:



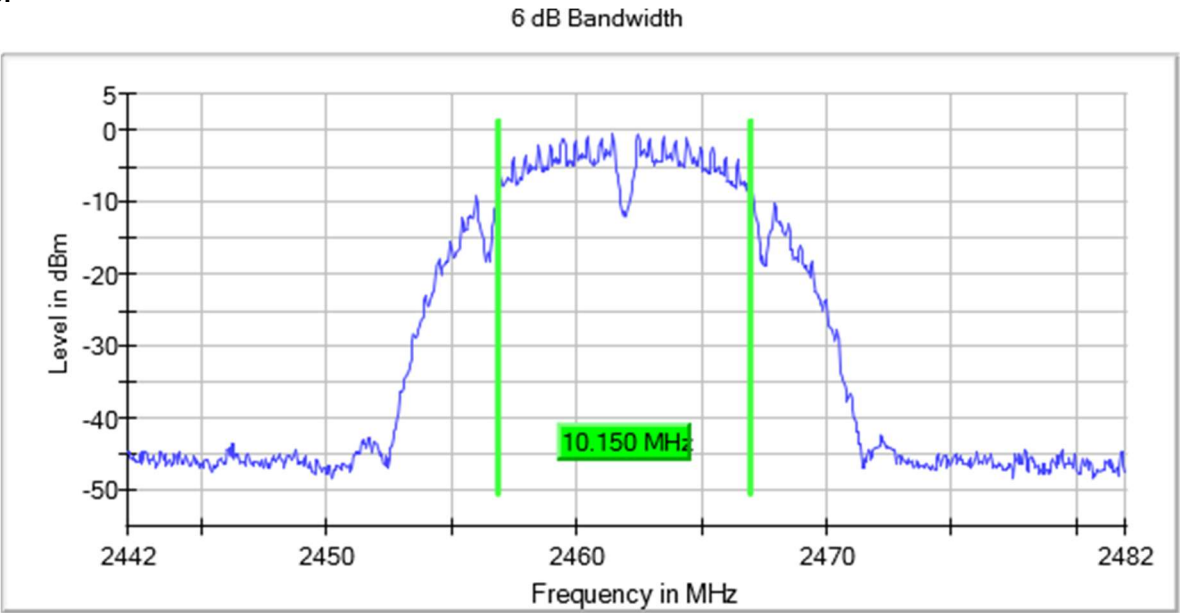
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2442.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11b (DSSS 1 Mbit/s)

Images:



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

Images:



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

Results

Freq (MHz)	Emission Bandwidth (MHz)
2412.00000	17.450000
2442.00000	17.600000
2462.00000	17.350000

Verdict

Pass

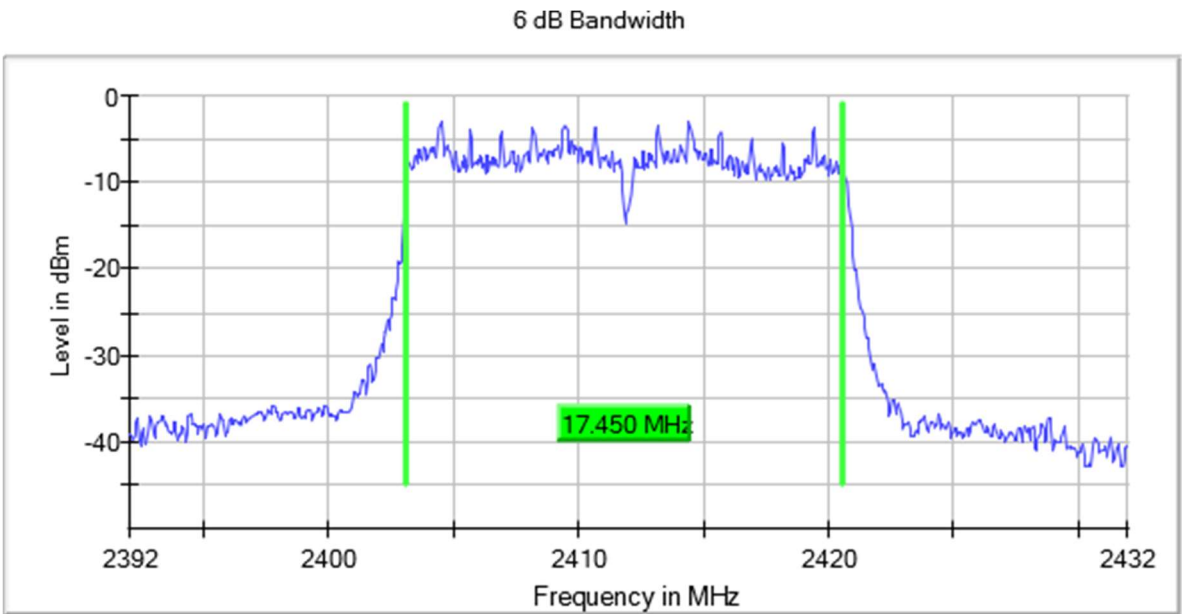
Uncertainty

Measurement uncertainty (%) <±1.14

Attachments

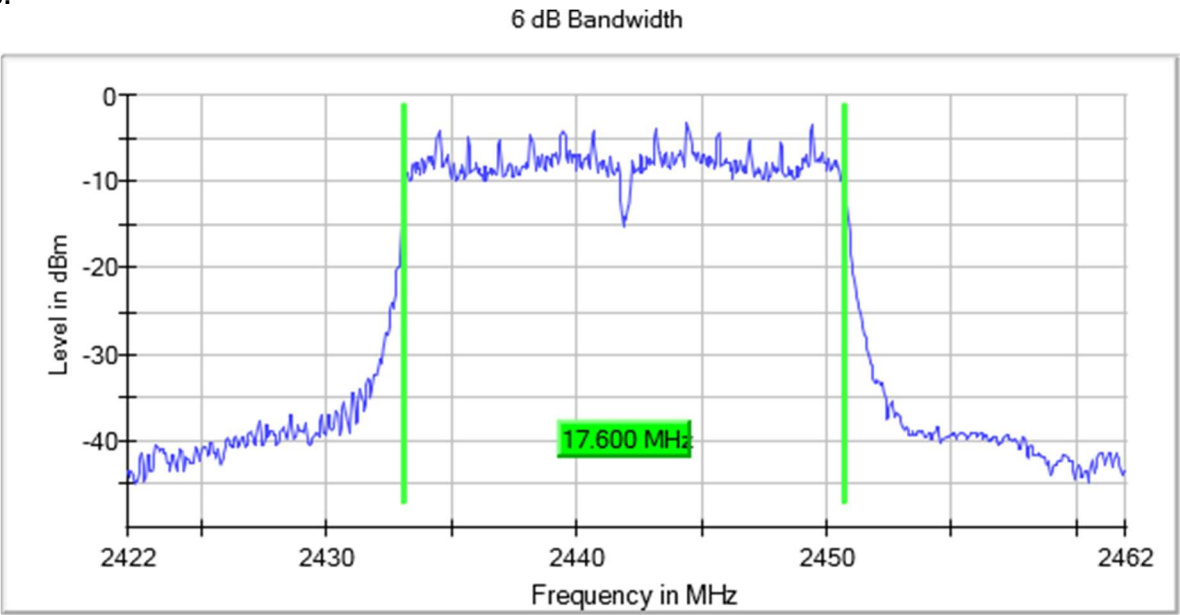
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Images:



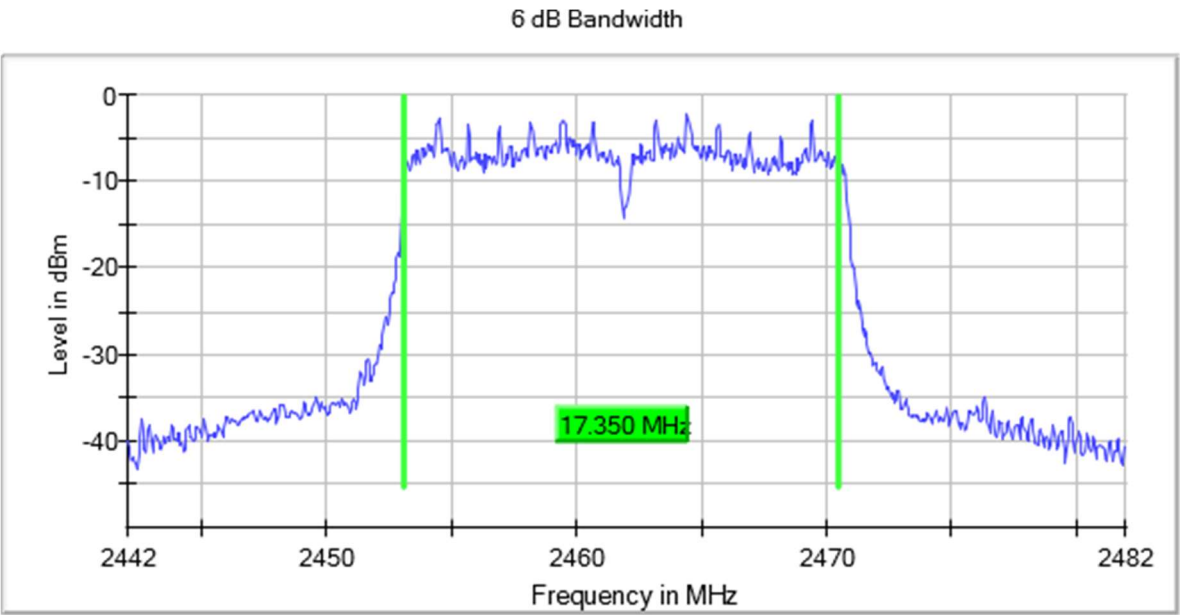
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2442.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Images:



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Images:



RSS-247 5.2 (b) / FCC 15.247 (e) [Psd] 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.

Modulation: 802.11g (OFDM 6 Mbit/s)

Results

Freq (MHz)	PSD (dBm)
2412.00000	-11.369000
2442.00000	-12.287000
2462.00000	-11.643000

Verdict

Pass

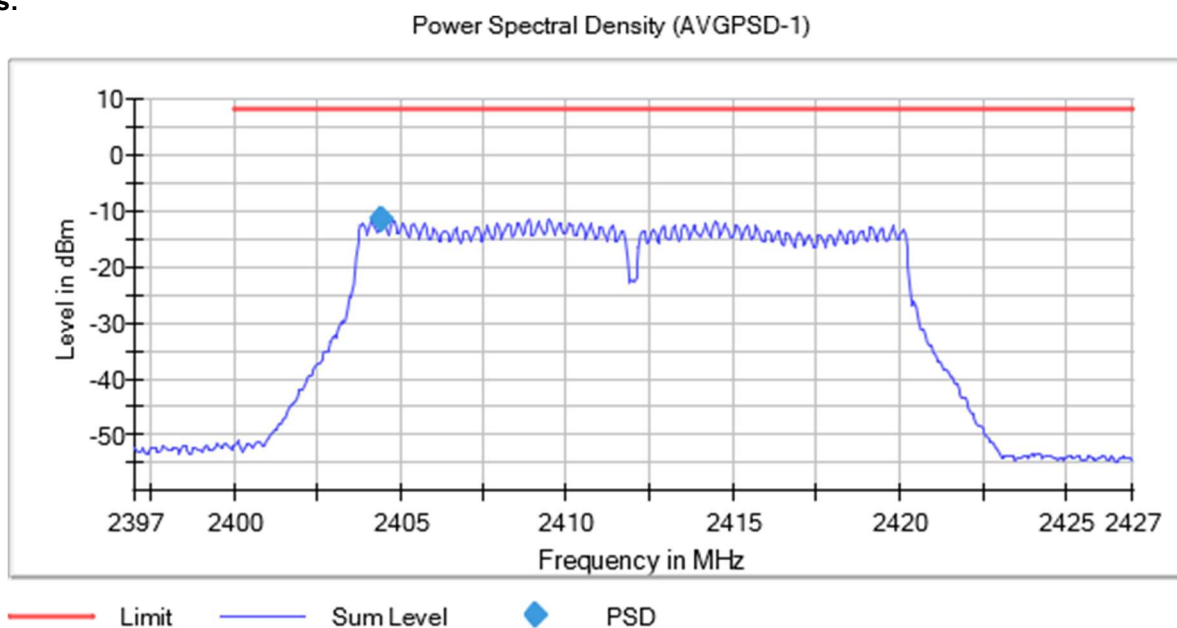
Uncertainty

Measurement uncertainty (dB) $< \pm 0.99$

Attachments

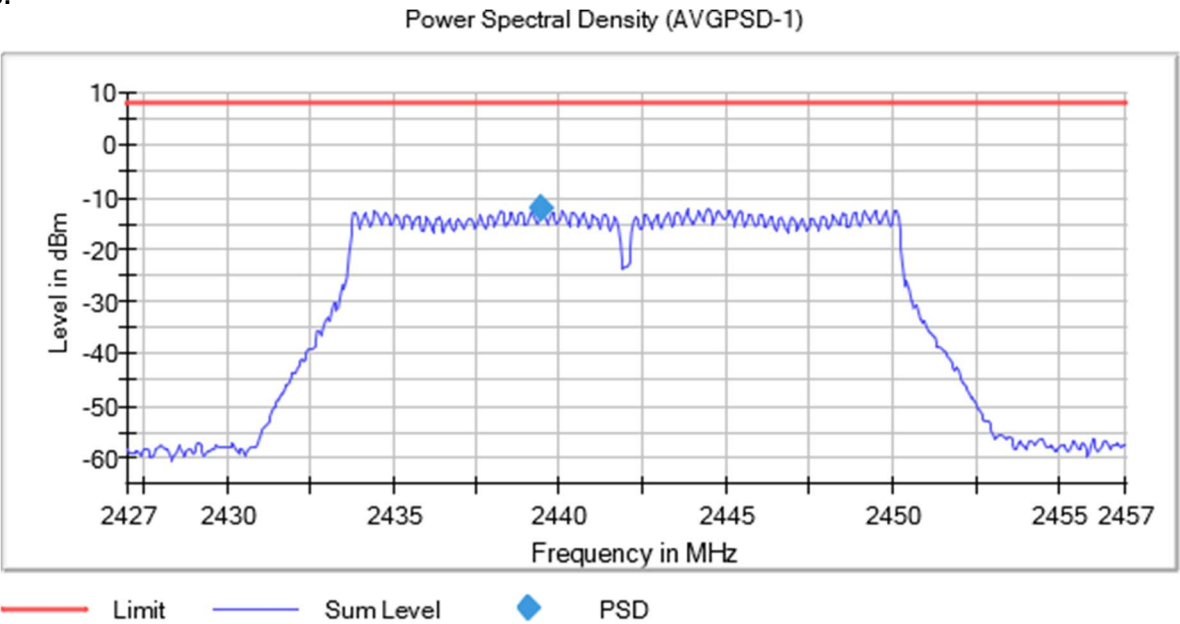
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11g (OFDM 6 Mbit/s)

Images:



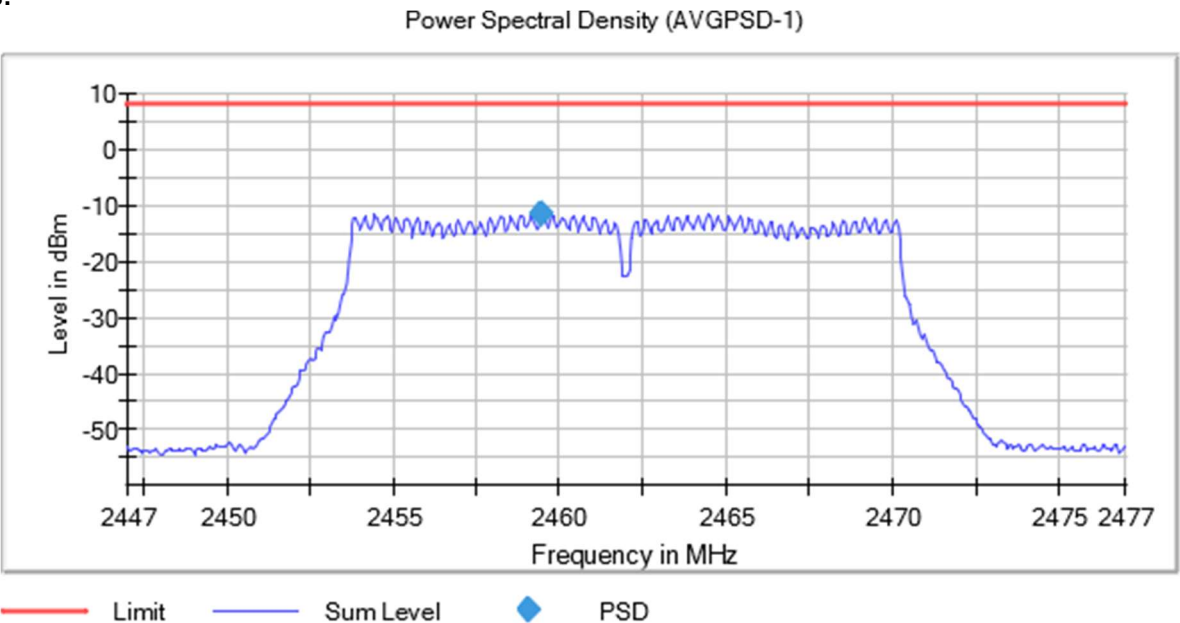
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2442.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11g (OFDM 6 Mbit/s)

Images:



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11g (OFDM 6 Mbit/s)

Images:



Modulation: 802.11b (DSSS 1 Mbit/s)

Results

Freq (MHz)	PSD (dBm)
2412.00000	-9.968000
2442.00000	-9.931000
2462.00000	-9.113000

Verdict

Pass

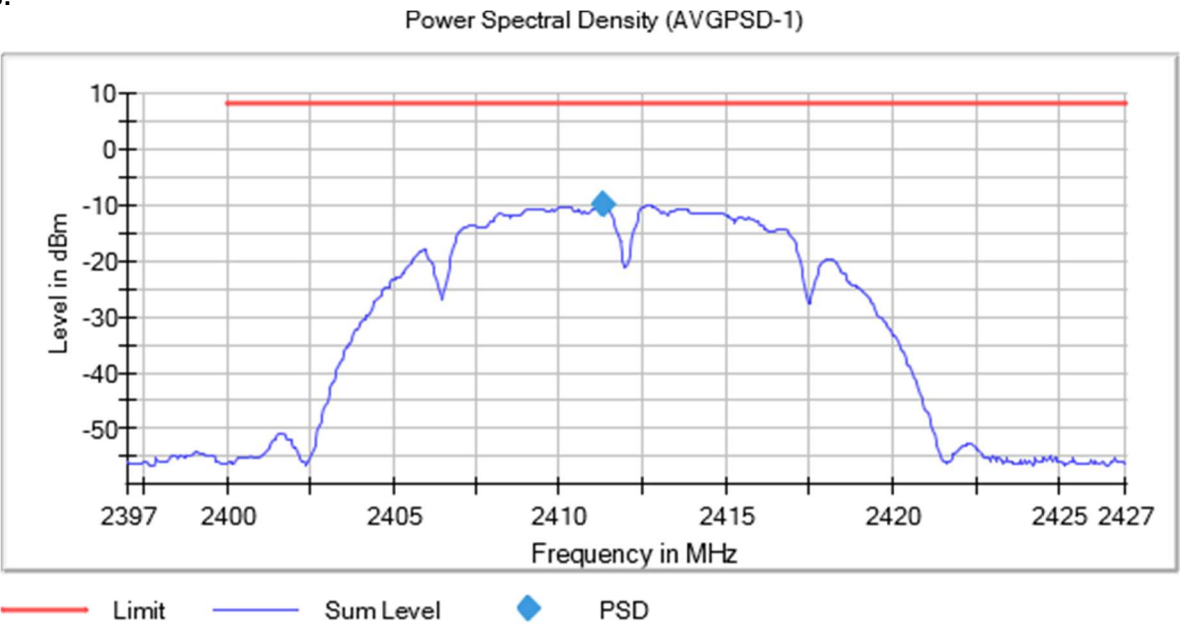
Uncertainty

Measurement uncertainty (dB) <±0.99

Attachments

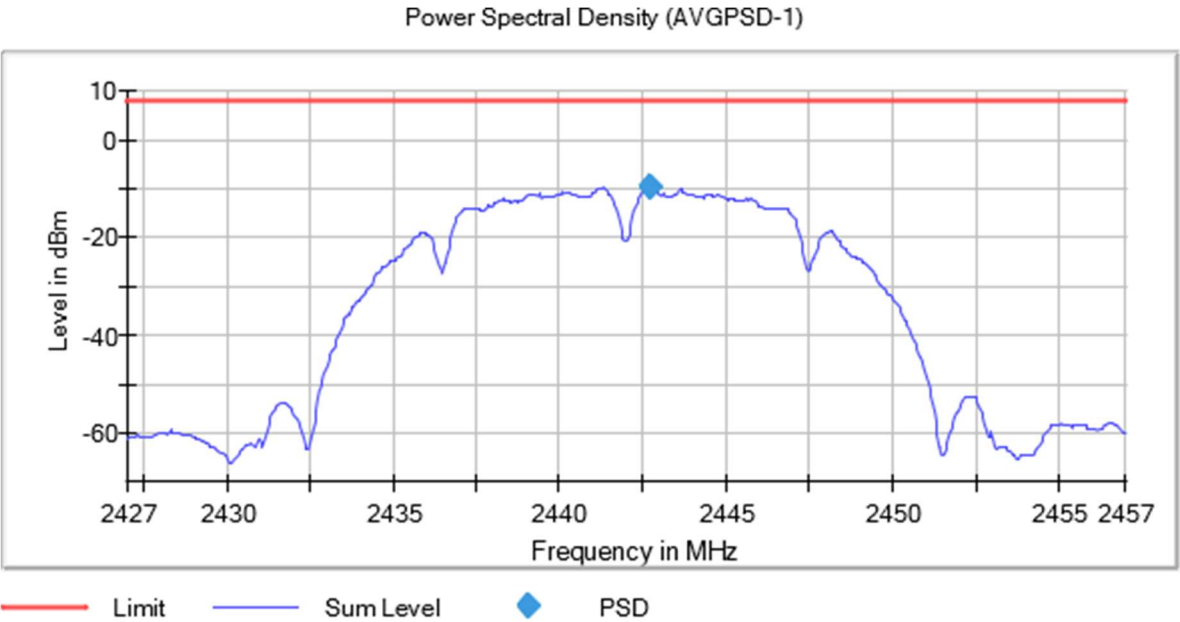
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11b (DSSS 1 Mbit/s)

Images:



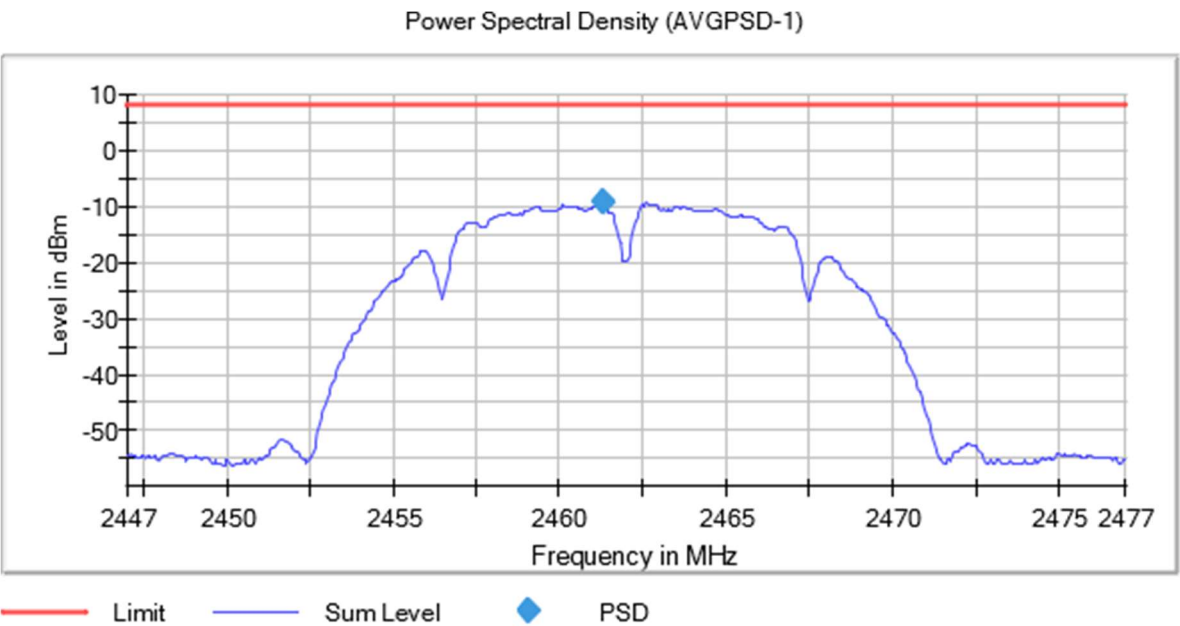
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2442.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11b (DSSS 1 Mbit/s)

Images:



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

Images:



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

Results

Freq (MHz)	PSD (dBm)
2412.00000	-11.529000
2442.00000	-12.568000
2462.00000	-11.736000

Verdict

Pass

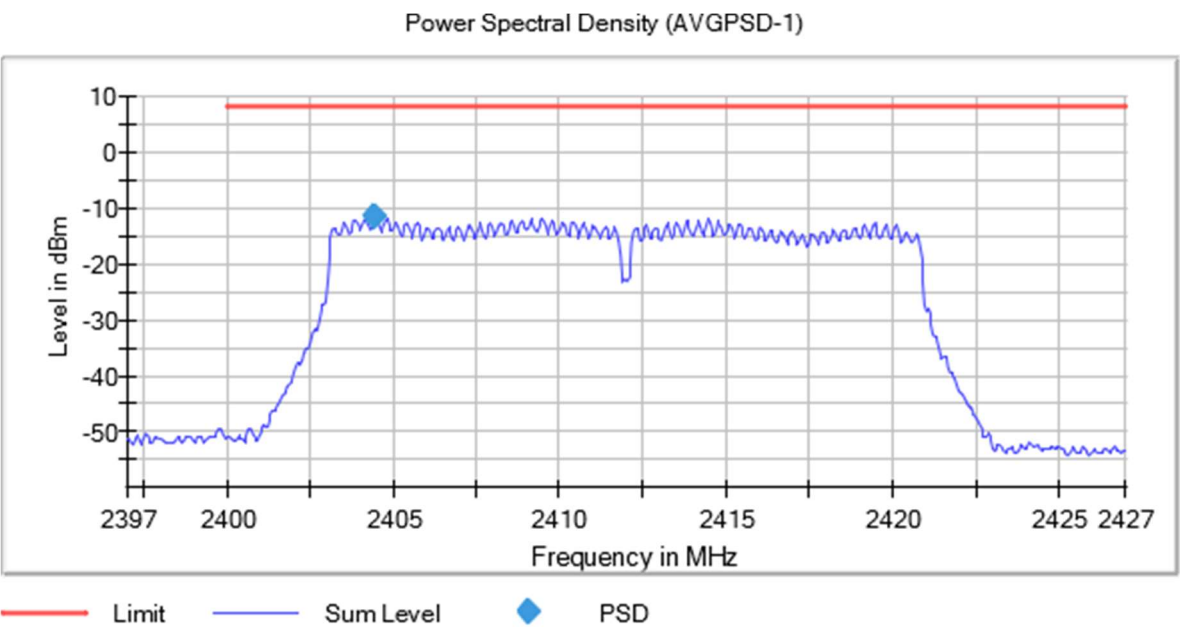
Uncertainty

Measurement uncertainty (dB) <±0.99

Attachments

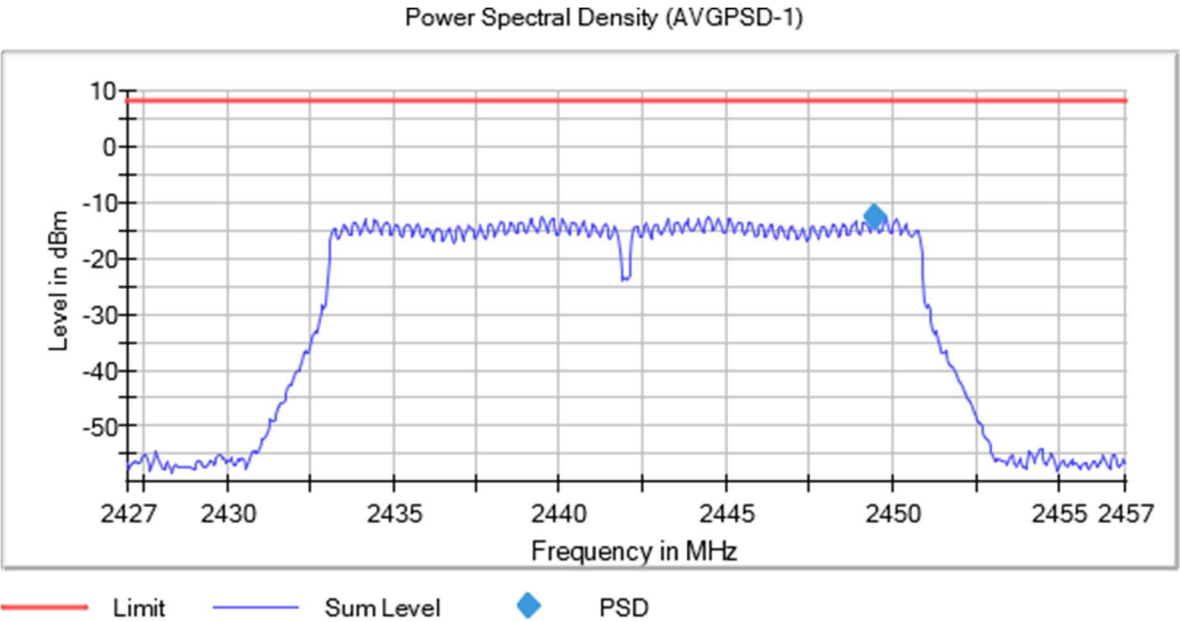
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Images:



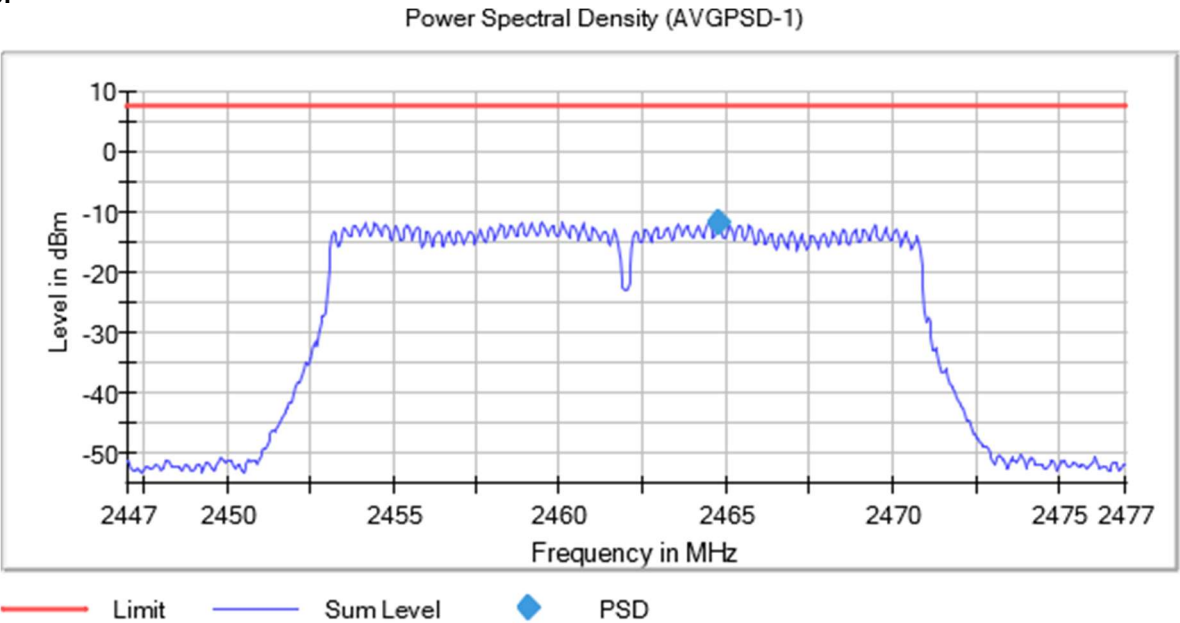
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2442.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Images:



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2462.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Images:



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

SPECIFICATION:

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

Modulation: 802.11g (OFDM 6 Mbit/s)

Operation Band (MHz)	Equipment	Avg Power Conducted (dBm)	Maximum EIRP Power (dBm)
2412.00	Digital Transmission System (DTS)	9.70	11.90
2442.00	Digital Transmission System (DTS)	9.70	11.90
2462.00	Digital Transmission System (DTS)	9.00	11.20

Modulation: 802.11b (DSSS 1 Mbit/s)

Operation Band (MHz)	Equipment	Avg Power Conducted (dBm)	Maximum EIRP Power (dBm)
2412.00	Digital Transmission System (DTS)	9.50	11.70
2442.00	Digital Transmission System (DTS)	9.10	11.30
2462.00	Digital Transmission System (DTS)	9.80	12.00

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

Operation Band (MHz)	Equipment	Avg Power Conducted (dBm)	Maximum EIRP Power (dBm)
2412.00	Digital Transmission System (DTS)	9.60	11.80
2442.00	Digital Transmission System (DTS)	9.00	11.20
2462.00	Digital Transmission System (DTS)	9.90	12.10

Verdict

Pass

Uncertainty

Measurement uncertainty (dB) <±0.99

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.

Modulation: 802.11g (OFDM 6 Mbit/s)

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

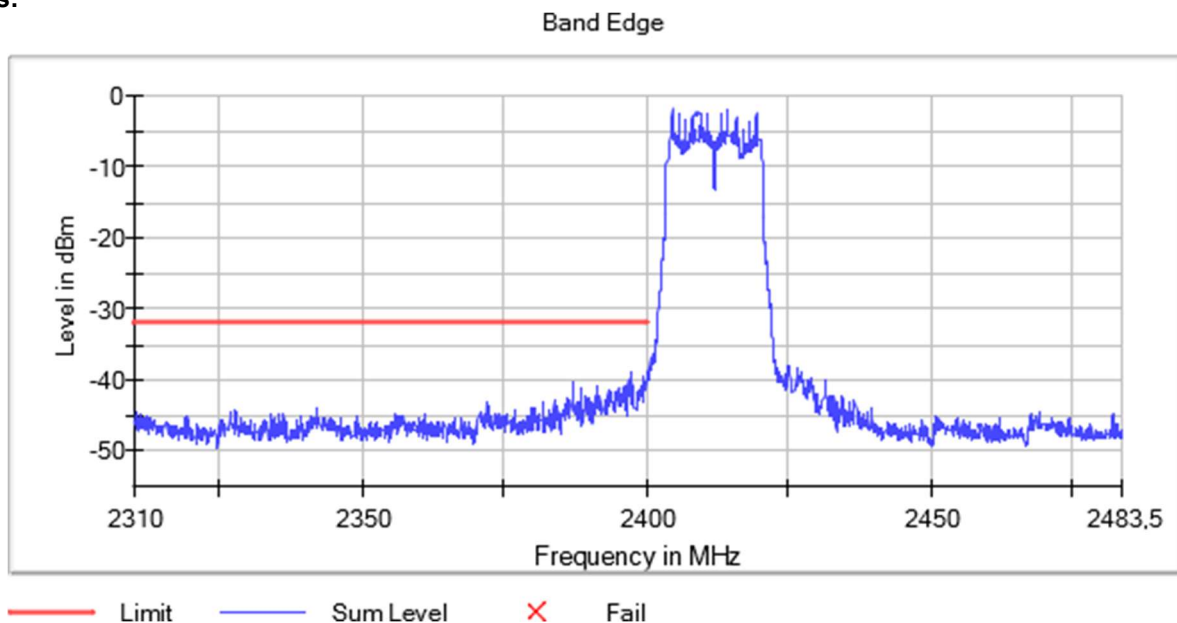
Uncertainty

Measurement uncertainty (dB) $< \pm 1.53$

Attachments

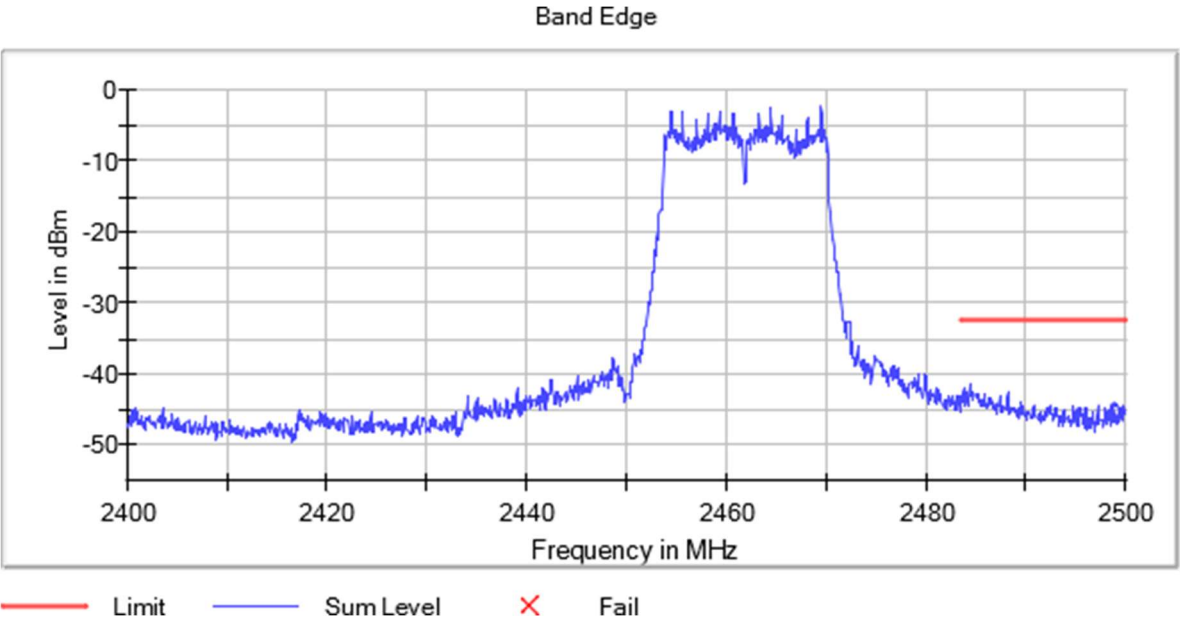
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11g (OFDM 6 Mbit/s), Measurement Point = 1

Images:



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2462.00000, Equipment Type = Digital
Transmission System (DTS), Modulation = 802.11g (OFDM 6 Mbit/s), Measurement Point = 1

Images:



Modulation: 802.11b (DSSS 1 Mbit/s)

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

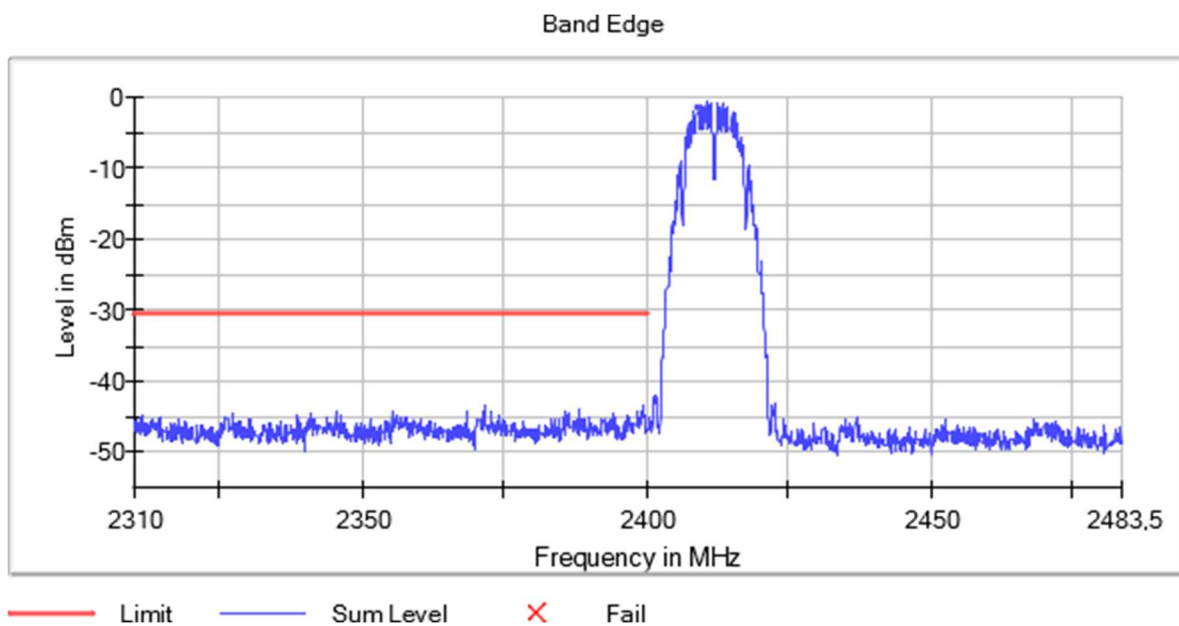
Uncertainty

Measurement uncertainty (dB) $< \pm 1.53$

Attachments

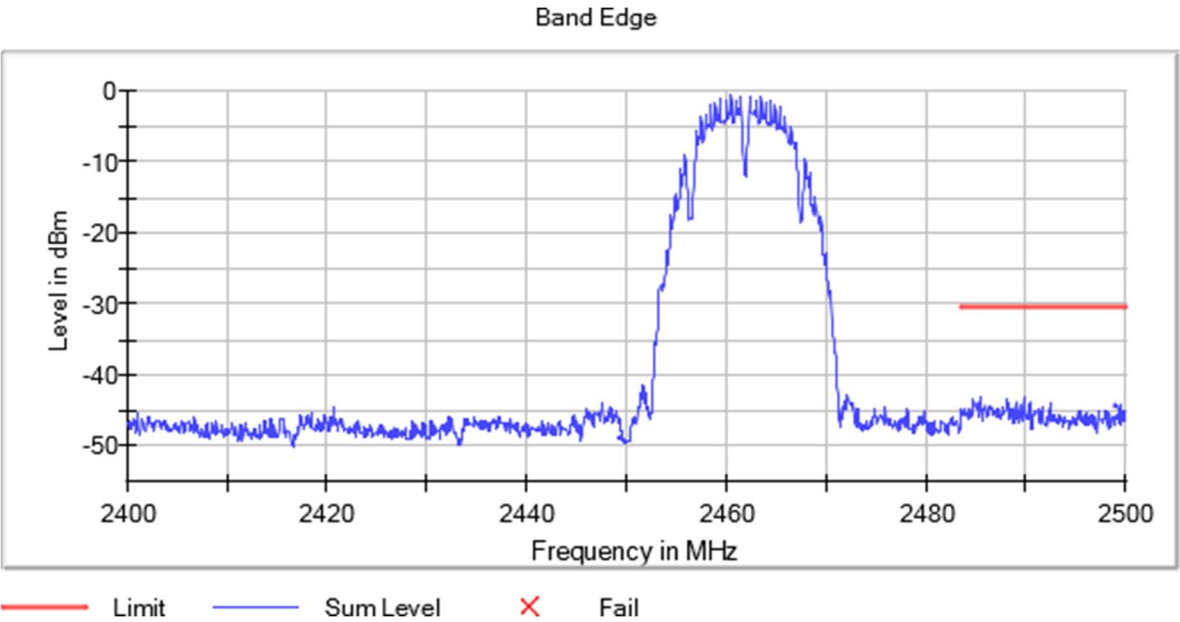
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital Transmission System (DTS), Modulation = 802.11b (DSSS 1 Mbit/s), Measurement Point = 1

Images:



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

Images:



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

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

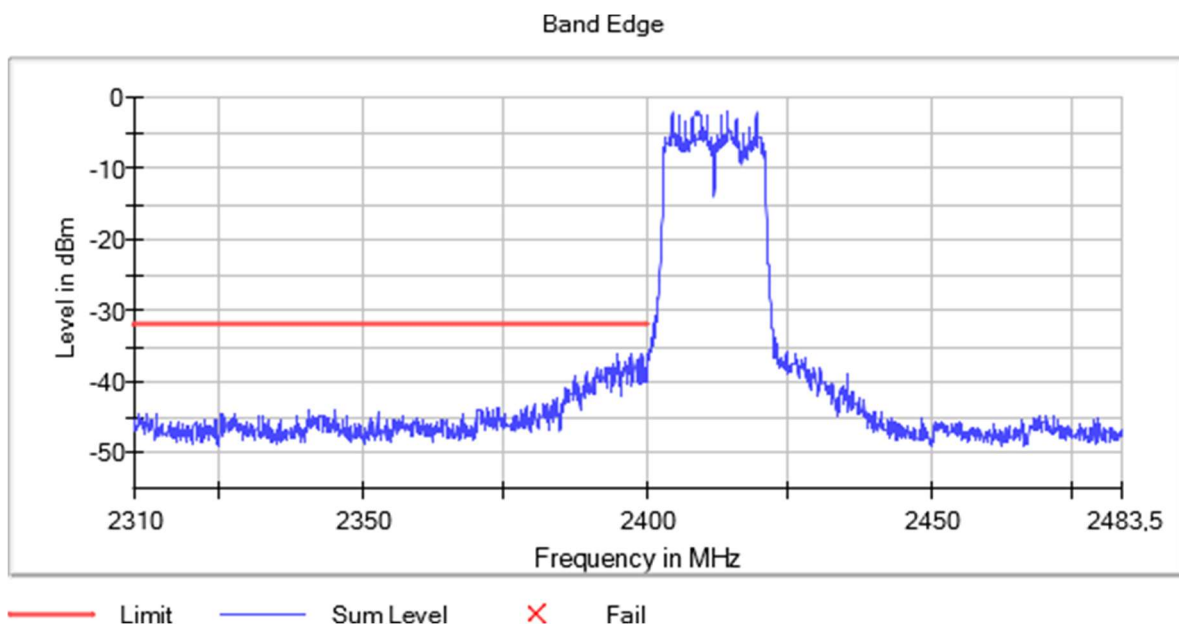
Uncertainty

Measurement uncertainty (dB) $< \pm 1.53$

Attachments

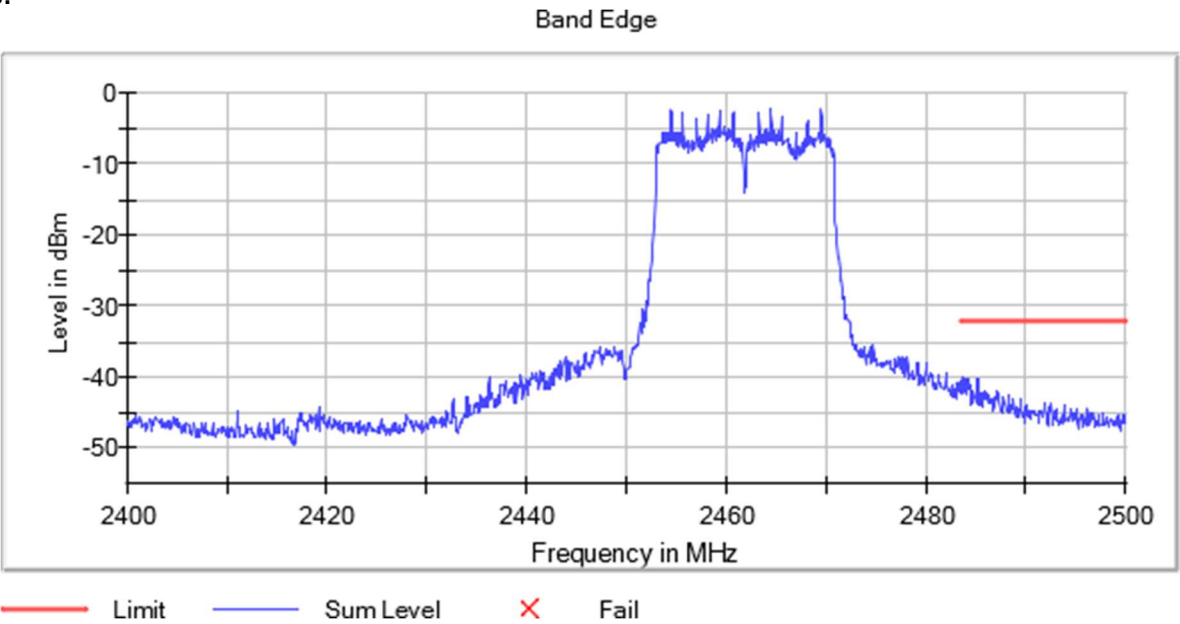
Operation Band MHz = [2400, 2483.5], Frequency MHz = 2412.00000, Equipment Type = Digital
Transmission System (DTS), Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Measurement Point = 1

Images:



Operation Band MHz = [2400, 2483.5], Frequency MHz = 2462.00000, Equipment Type = Digital
Transmission System (DTS), Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s), Measurement Point = 1

Images:



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 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.

Modulation: 802.11g (OFDM 6 Mbit/s)

Results

Freq (MHz)	Freq Rng (GHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
2412.00000	[3, 17]	3196.000000	39.40	H	PK
2412.00000		4377.320000	39.42	H	PK
2442.00000		4984.500000	48.60	H	PK
2462.00000		5374.400000	41.64	H	PK

Verdict

Pass

Uncertainty

Measurement Uncertainty (dB): 0.03 GHz $\leq$ f $\leq$ 1 GHz: $<\pm 5.07$
 1 GHz $\leq$ f $\leq$ 3 GHz: $<\pm 4.00$
 3 GHz $<$ f $\leq$ 17 GHz: $<\pm 4.99$
 17 GHz $<$ f $\leq$ 26 GHz: $<\pm 5.08$