

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 ($\text{dB}\mu\text{V/m}$)	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.

Result

Frequency range 30 MHz - 1 GHz:

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

Freq Rng (GHz)	# of Tx Chains	Port	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
[0.03, 1]	2	2	41.398	35.17	V	PK
				31.07		QP
			56.736	32.61	V	PK
				28.91		QP
			74.559	37.00	V	PK
				34.63		QP
			141.156	35.57	V	PK
				32.59		QP
			204.388	14.85	V	PK
				9.31		QP
			333.610	38.87	H	PK
				35.85		QP
			454.708	18.64	V	PK
				12.92		QP

Verdict

Pass

Attachments

Frequency MHz = The spurious frequencies detected do not depend neither on the operating channel

Modulation = The spurious frequencies detected do not depend neither on the modulation mode.

Number of Transmission Chains = 2

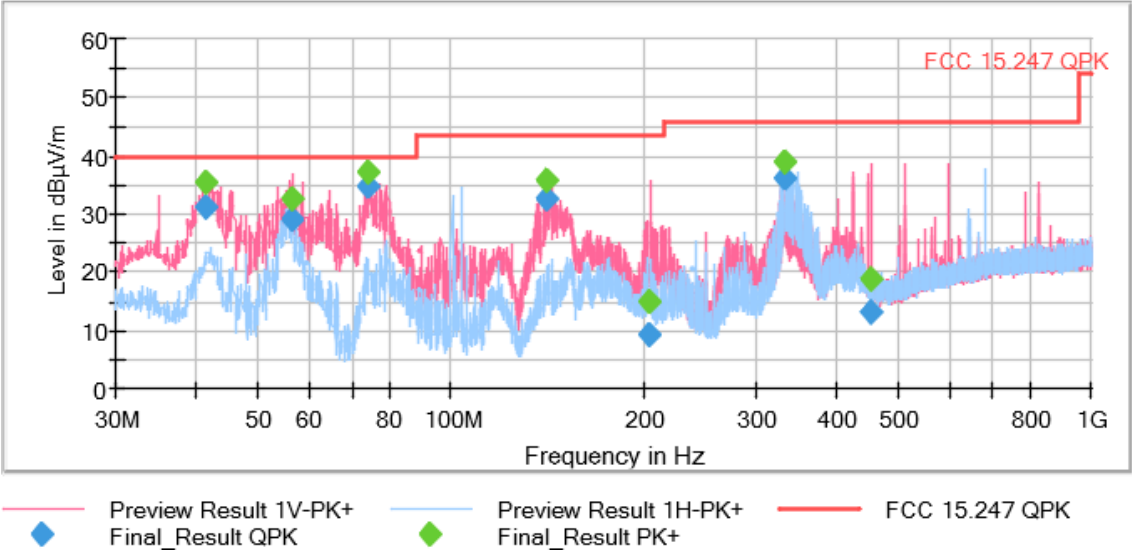
Active Port = 2

Equipment Type = Digital Transmission System (DTS)

Frequency Range GHz = [0.03, 1]

Measurement Point = 1

Images:



Tables:
Spectrum Analyzer Parameters

	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

Modulation: 802.11b (DSSS 1 Mbit/s)

Results

Freq (MHz)	Equipment	Freq Rng (GHz)	# of Tx Chains	Port	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
2412.00000	Digital Transmission System (DTS)	[3, 17]	2	2	10000.140	52.97	V	PK
					3660.380	42.49	V	
					5000.180	42.02	H	
2437.00000					10000.840	53.60	V	
					3660.380	42.51	V	
					4999.760	41.10	V	
2462.00000					5017.260	42.01	V	
					9999.580	51.62	V	

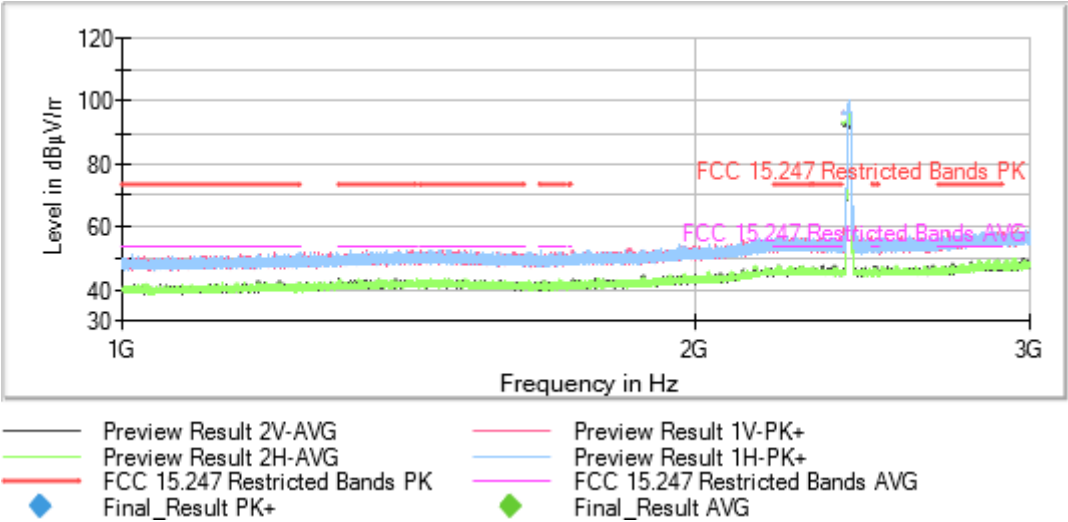
Verdict

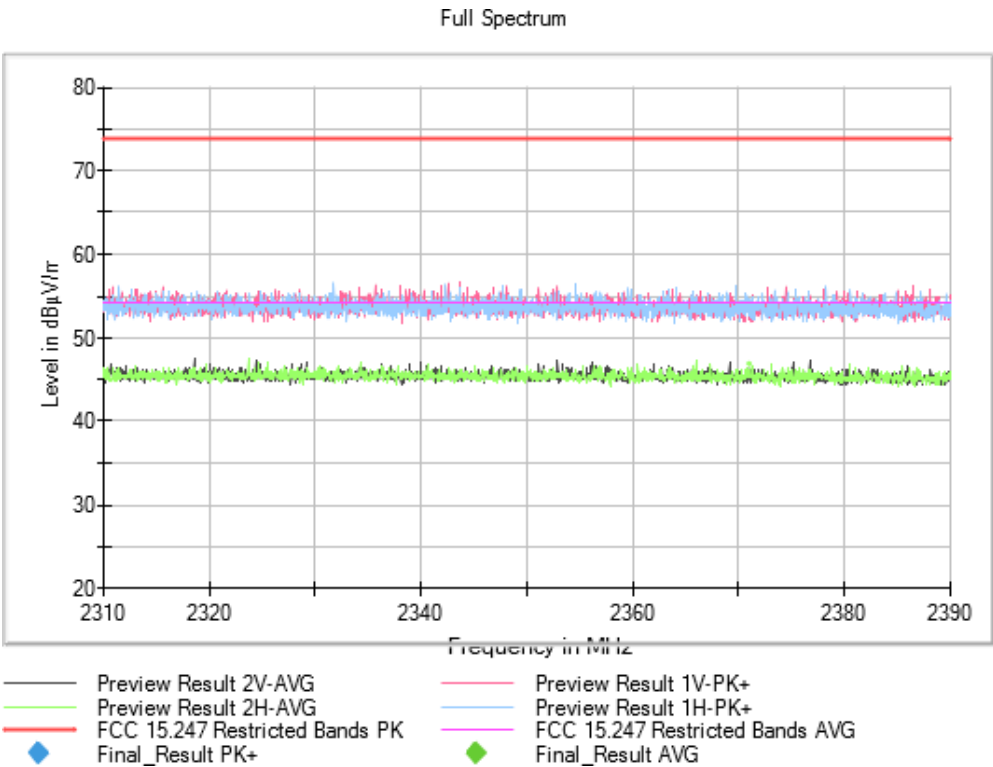
Pass

Attachments

Frequency MHz = 2412.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11b (DSSS 1 Mbit/s) Frequency Range GHz = [1, 3]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



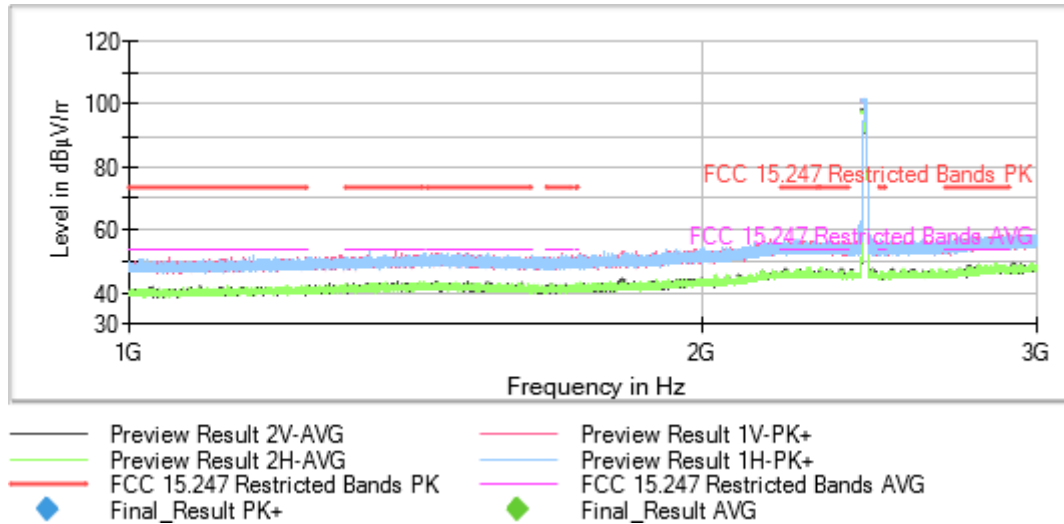


Tables:
Spectrum Analyzer Parameters

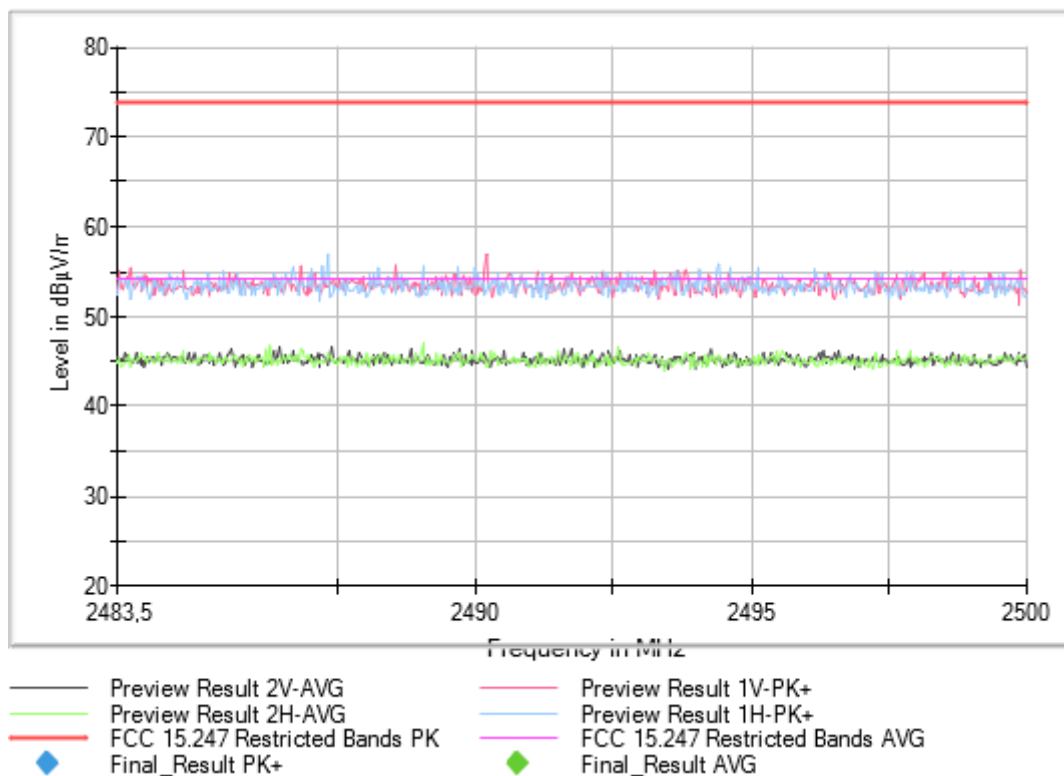
	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

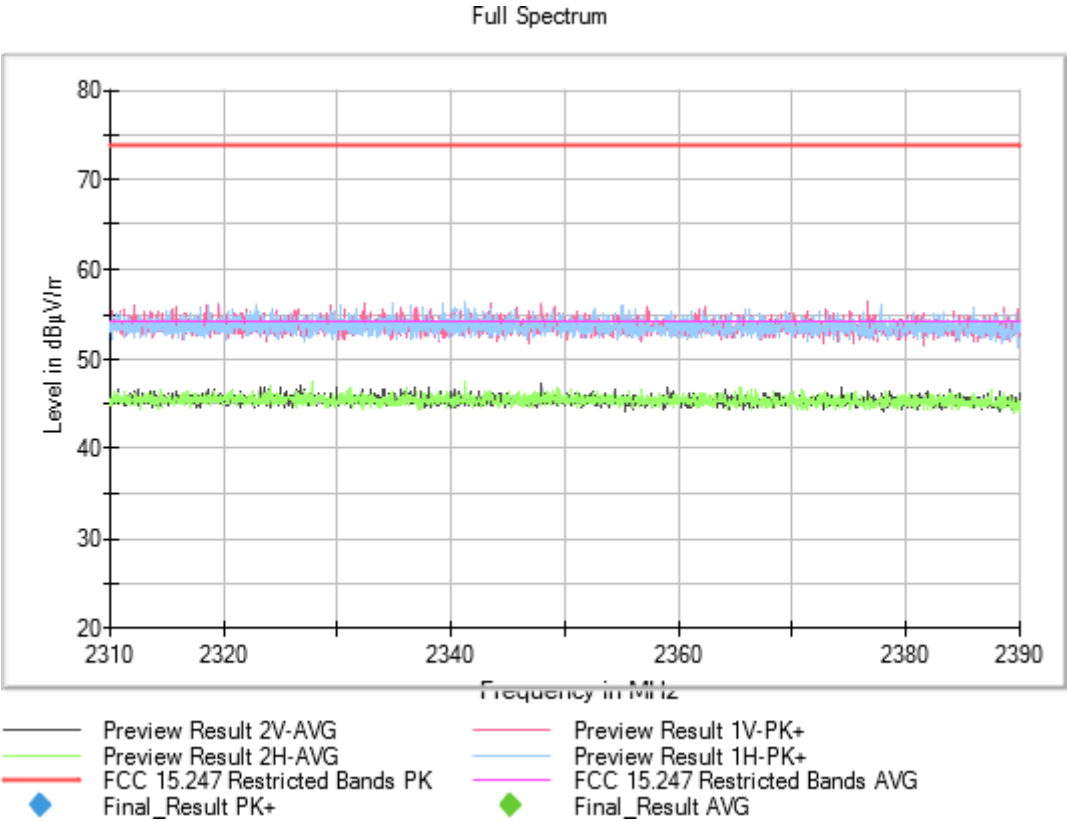
Frequency MHz = 2437.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11b (DSSS 1 Mbit/s) Frequency Range GHz = [1, 3]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2462.00000

Equipment Type = Digital Transmission System (DTS)

Modulation = 802.11b (DSSS 1 Mbit/s)

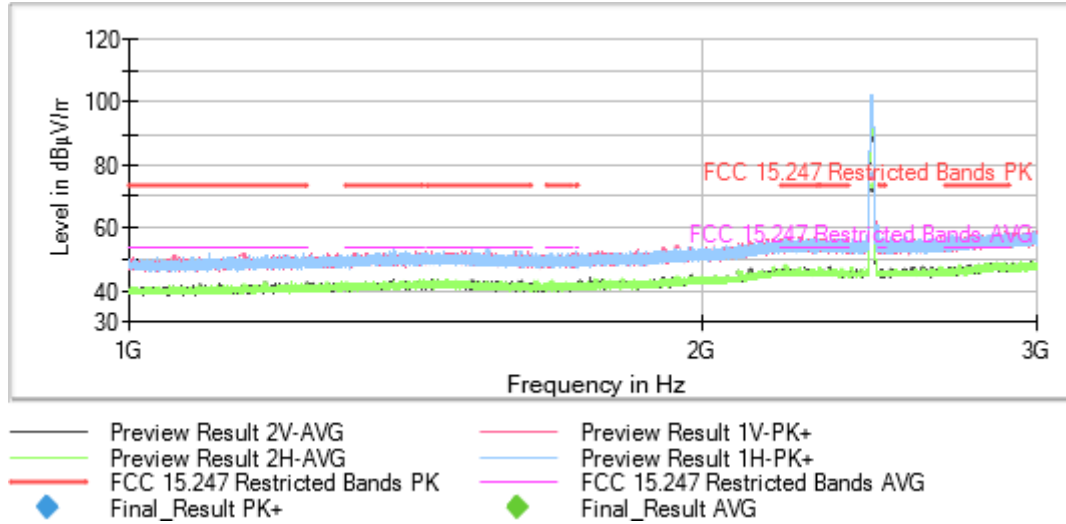
Frequency Range GHz = [1, 3]

Number of Transmission Chains = 2

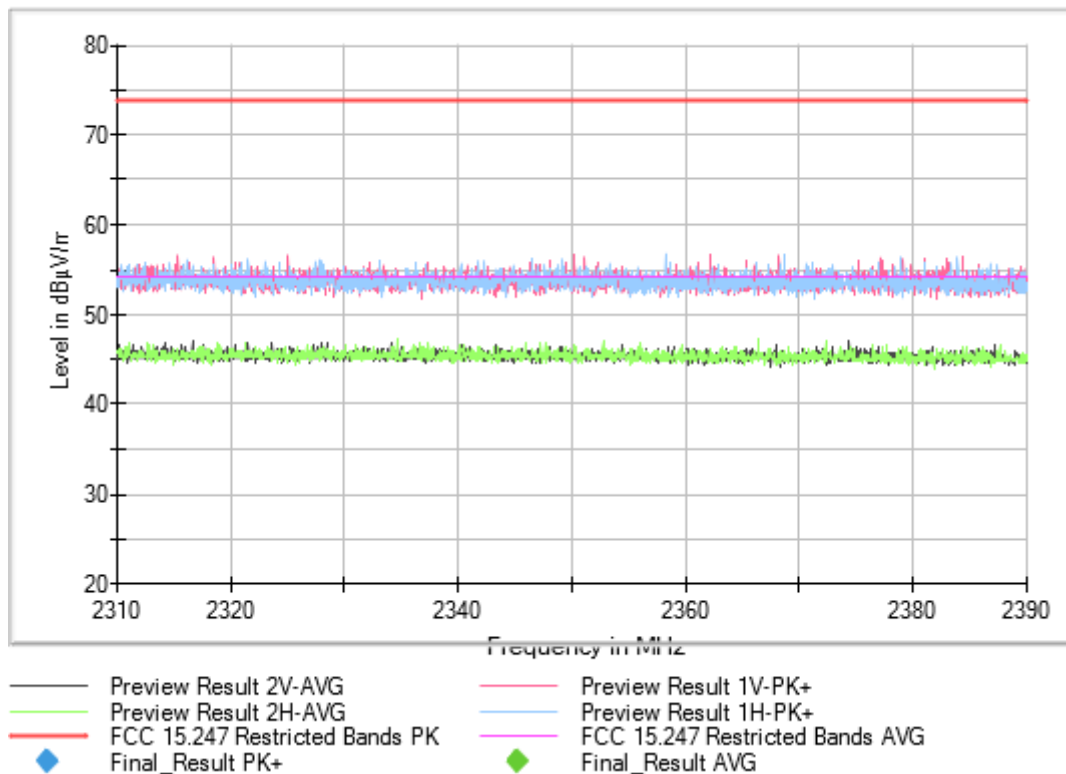
Measurement Point = 1

Active Port = 2

Images:



Full Spectrum



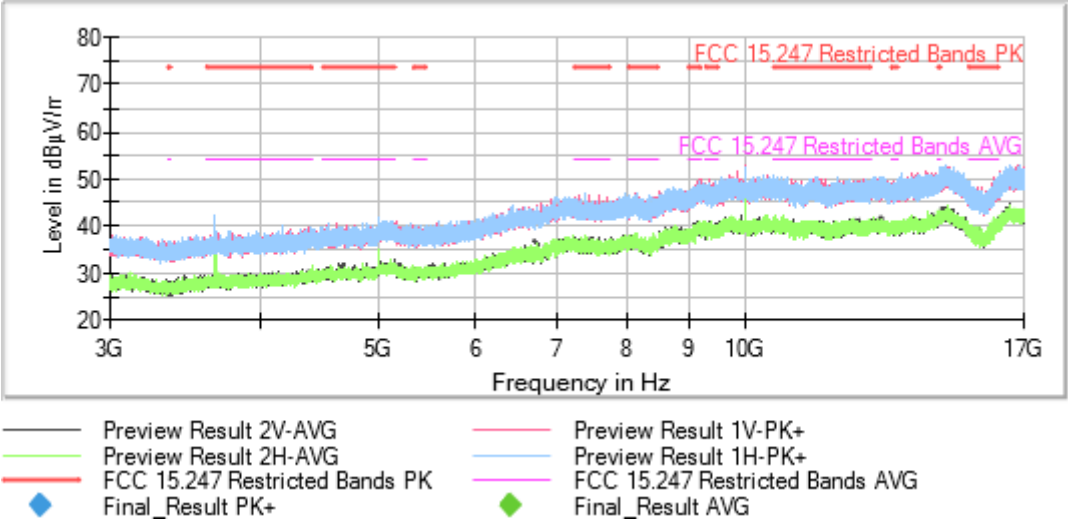


Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2412.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11b (DSSS 1 Mbit/s) Frequency Range GHz = [3, 17]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



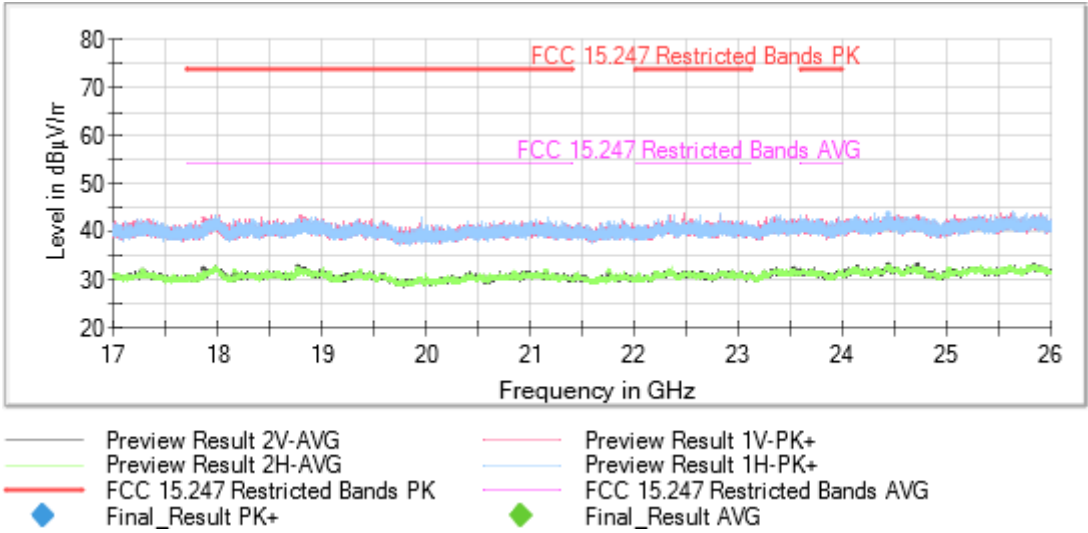
Tables:

Spectrum Analyzer Parameters

	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

Frequency MHz = 2412.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11b (DSSS 1 Mbit/s) Frequency Range GHz = [17, 26]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



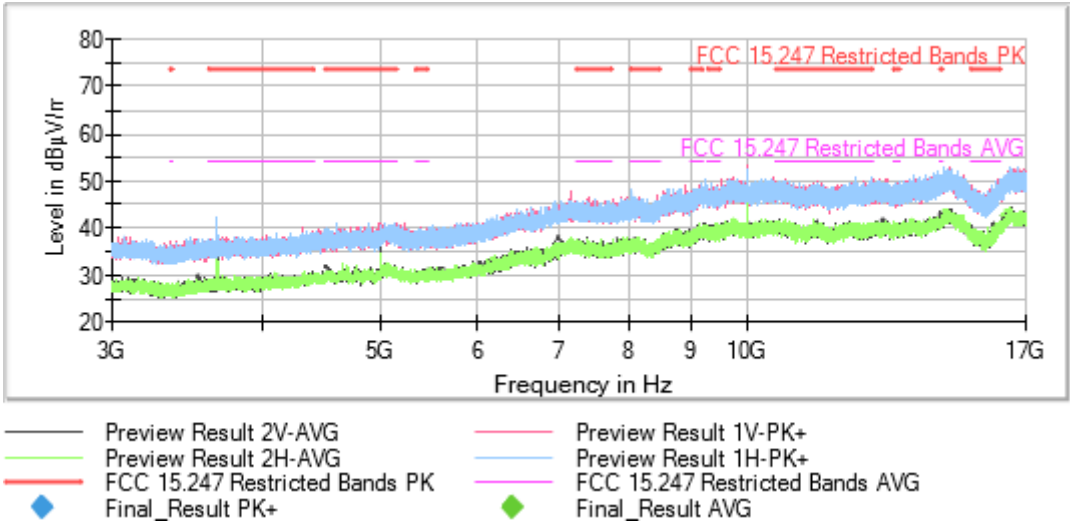
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESU 40]					
	17 GHz - 26 GHz	300 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2437.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11b (DSSS 1 Mbit/s) Frequency Range GHz = [3, 17]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



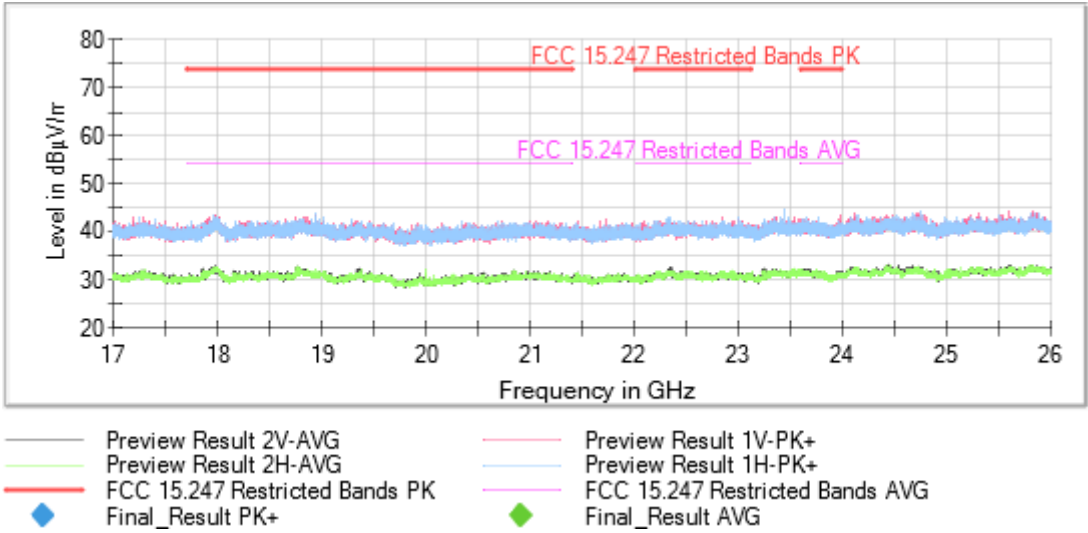
Tables:

Spectrum Analyzer Parameters

	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

Frequency MHz = 2437.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11b (DSSS 1 Mbit/s) Frequency Range GHz = [17, 26]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



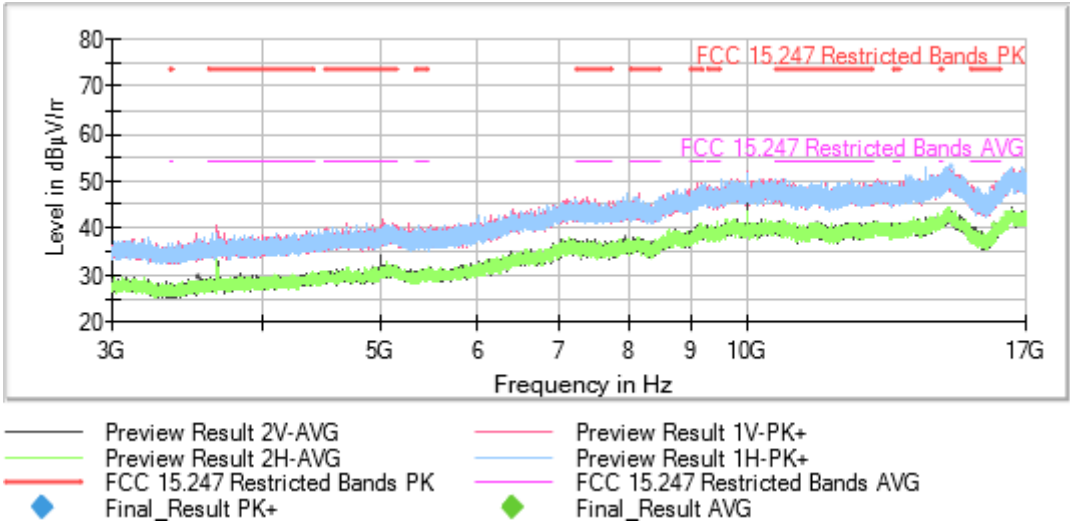
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESU 40]					
	17 GHz - 26 GHz	300 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2462.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11b (DSSS 1 Mbit/s) Frequency Range GHz = [3, 17]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



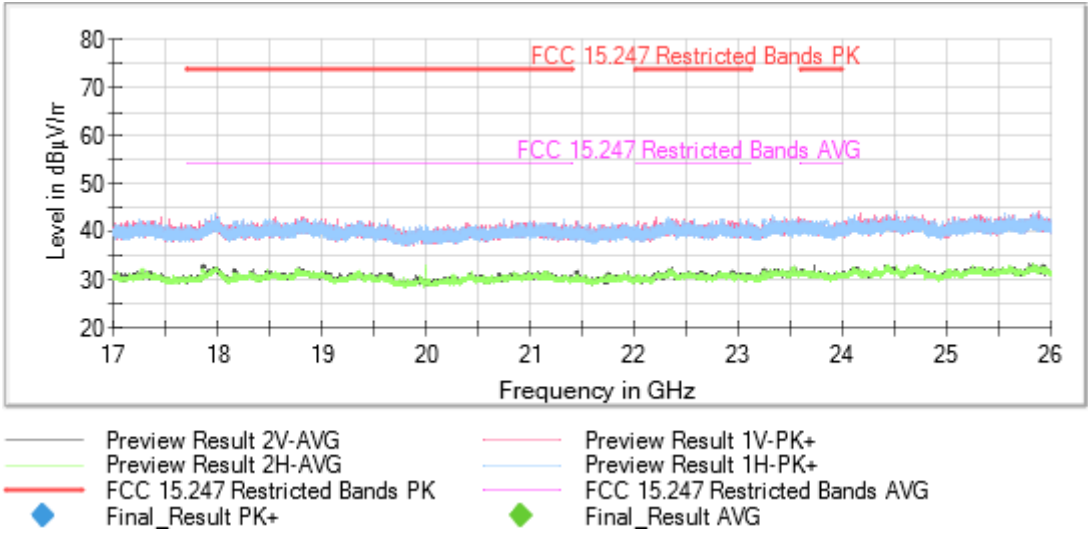
Tables:

Spectrum Analyzer Parameters

	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

Frequency MHz = 2462.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11b (DSSS 1 Mbit/s) Frequency Range GHz = [17, 26]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESU 40]					
	17 GHz - 26 GHz	300 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Modulation: 802.11g (OFDM 6 Mbit/s)

Results

Freq (MHz)	Equipment	Freq Rng (GHz)	# of Tx Chains	Port	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
2462.00000	Digital Transmission System (DTS)	[1, 3]	2	2	2483.723	68.85	V	PK
						50.42		AVG
2437.00000		[3, 17]			10000.420	52.66	V	PK
					3660.380	40.22	V	PK
2462.00000					10001.120	52.10	V	PK
					3660.100	42.24	V	PK
					4999.060	42.07	V	PK

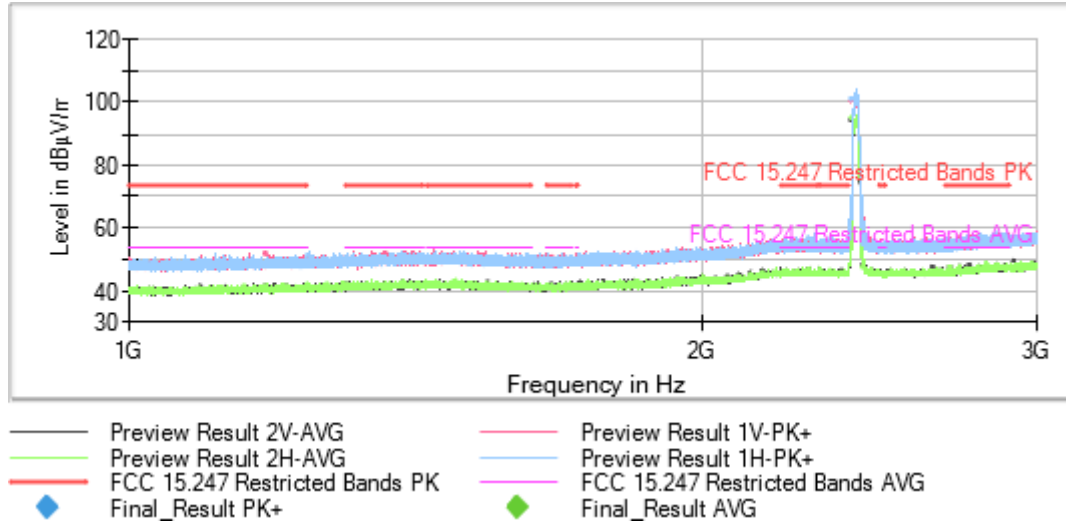
Verdict

Pass

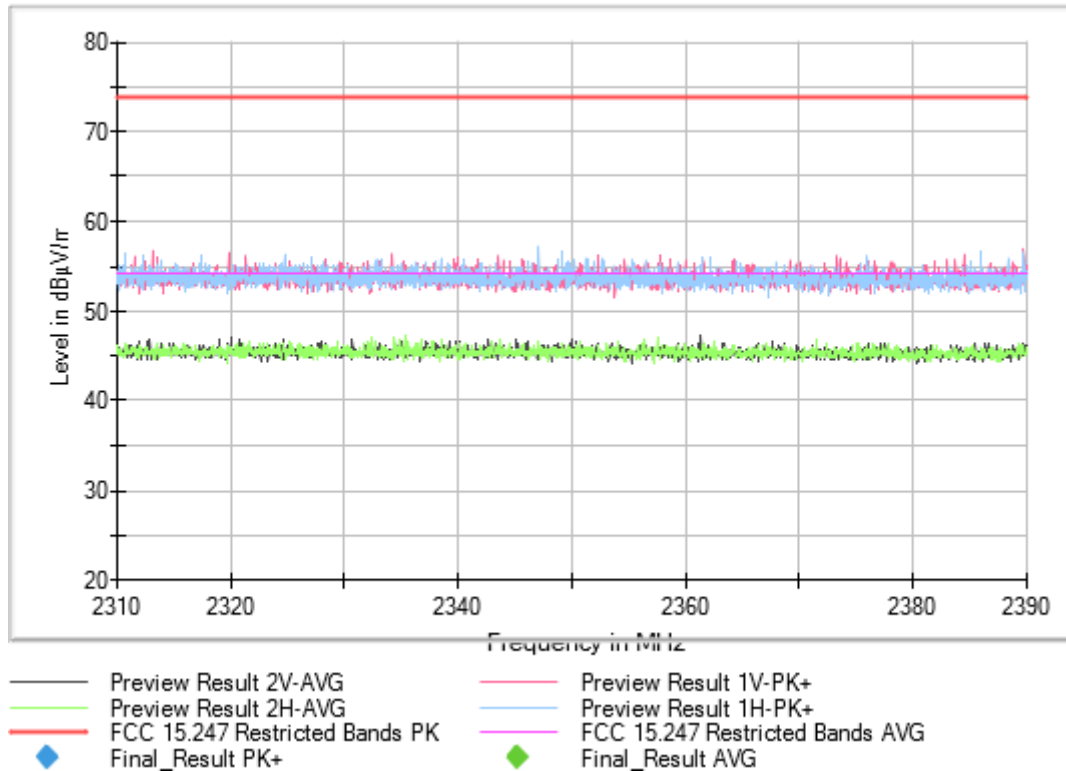
Attachments

Frequency MHz = 2412.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11g (OFDM 6 Mbit/s) Frequency Range GHz = [1, 3]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2437.00000

Equipment Type = Digital Transmission System (DTS)

Modulation = 802.11g (OFDM 6 Mbit/s)

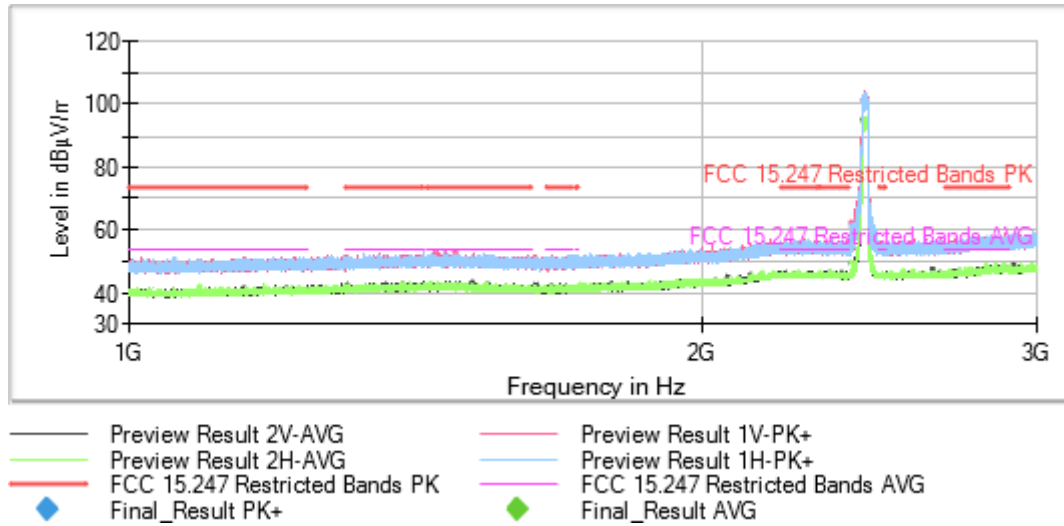
Frequency Range GHz = [1, 3]

Number of Transmission Chains = 2

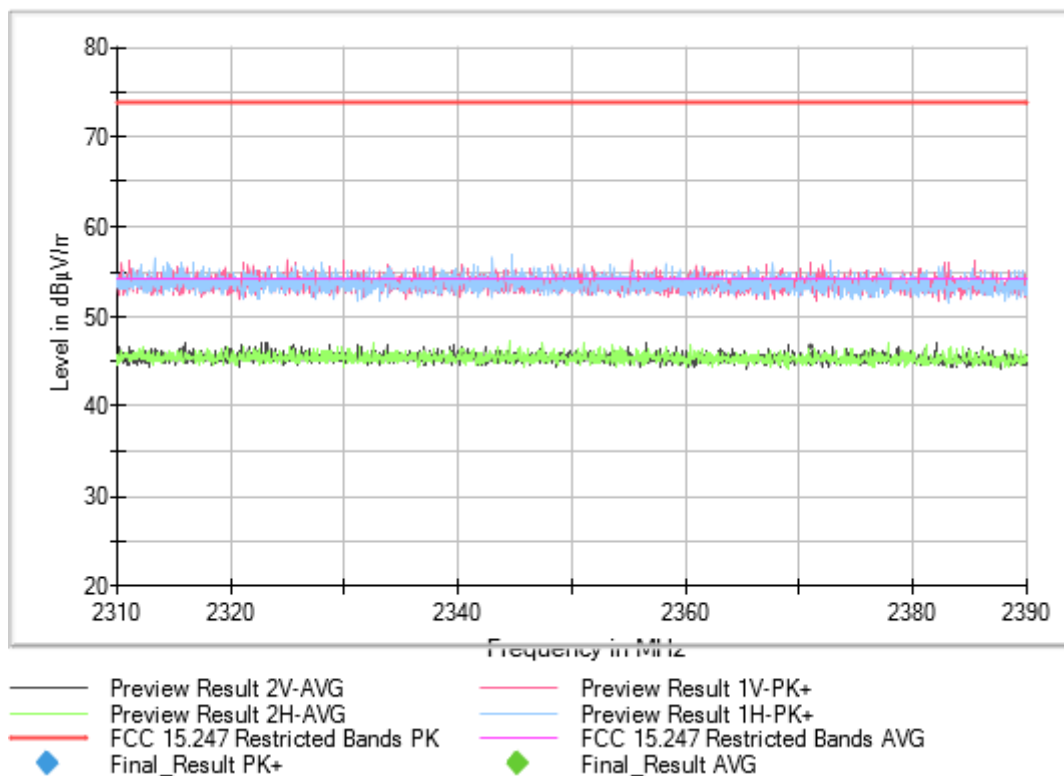
Measurement Point = 1

Active Port = 2

Images:



Full Spectrum



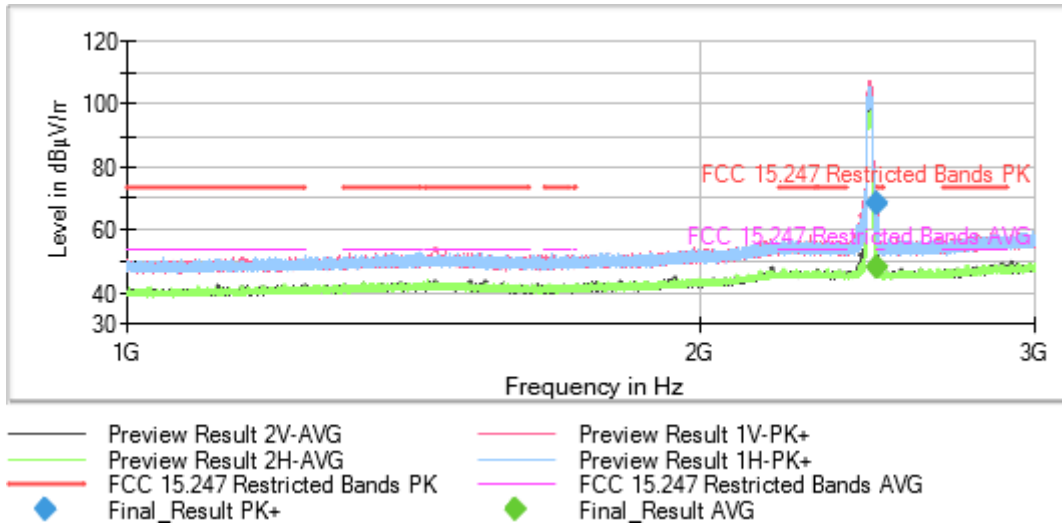


Tables:
Spectrum Analyzer Parameters

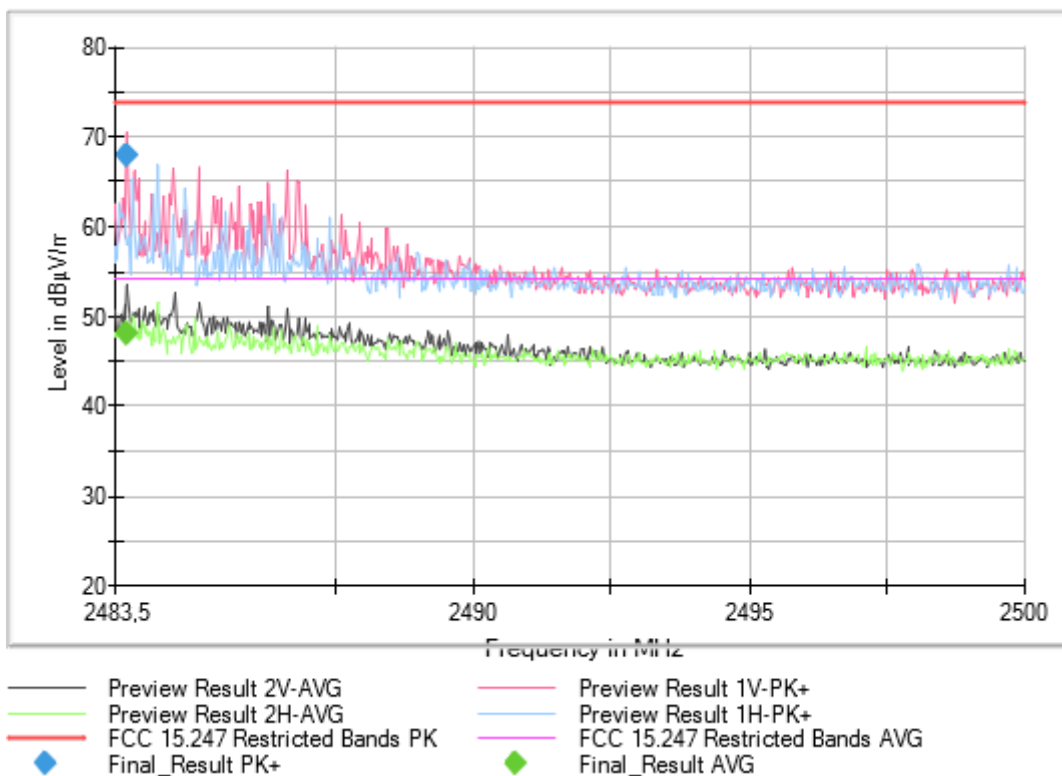
	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

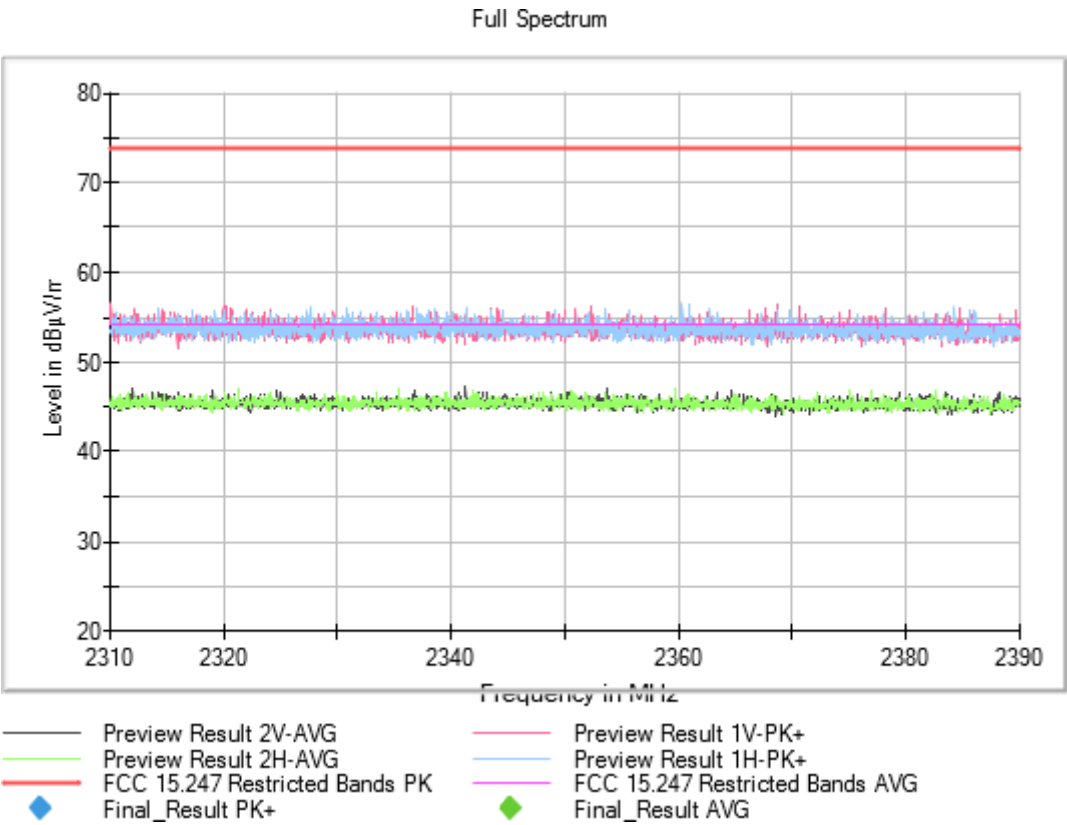
Frequency MHz = 2462.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11g (OFDM 6 Mbit/s) Frequency Range GHz = [1, 3]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



Full Spectrum



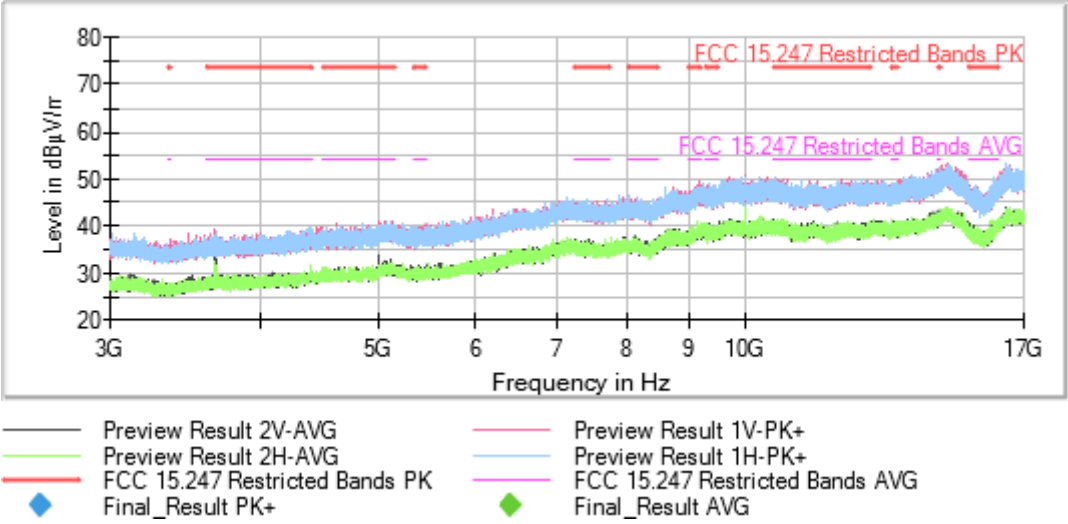


Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2412.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11g (OFDM 6 Mbit/s) Frequency Range GHz = [3, 17]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



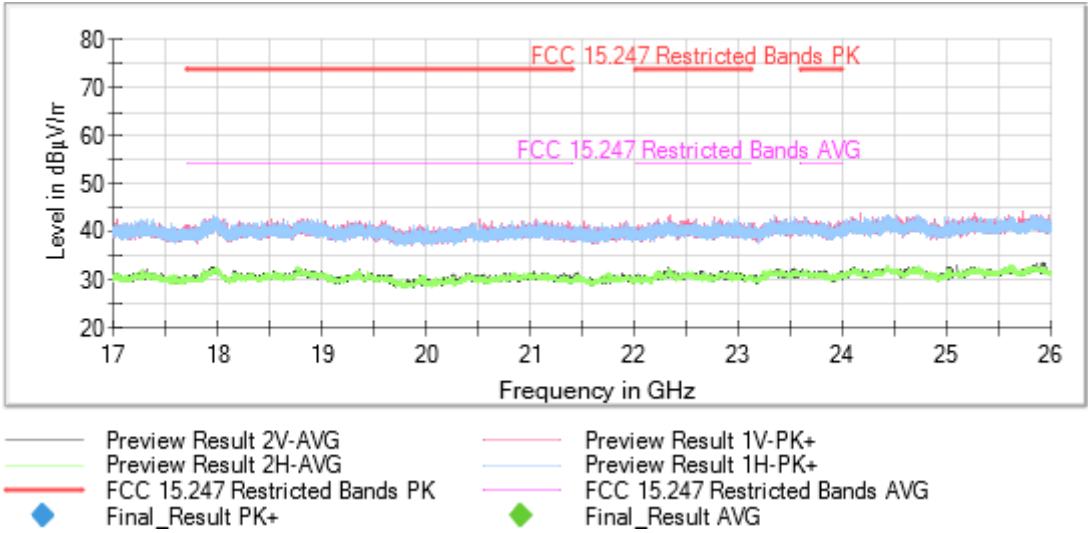
Tables:

Spectrum Analyzer Parameters

	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

Frequency MHz = 2412.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11g (OFDM 6 Mbit/s) Frequency Range GHz = [17, 26]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



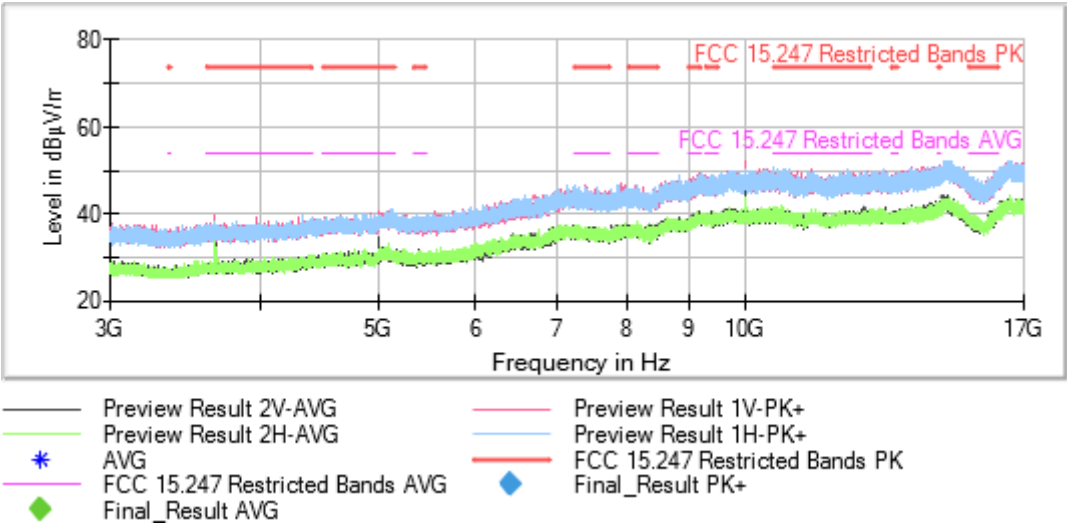
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESU 40]					
	17 GHz - 26 GHz	300 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2437.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11g (OFDM 6 Mbit/s) Frequency Range GHz = [3, 17]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



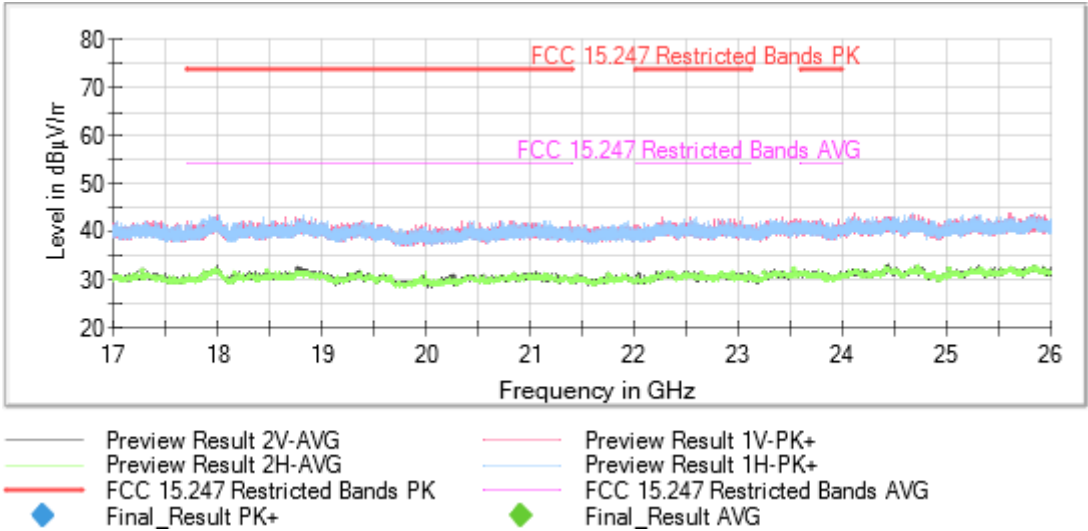
Tables:

Spectrum Analyzer Parameters

	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

Frequency MHz = 2437.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11g (OFDM 6 Mbit/s) Frequency Range GHz = [17, 26]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



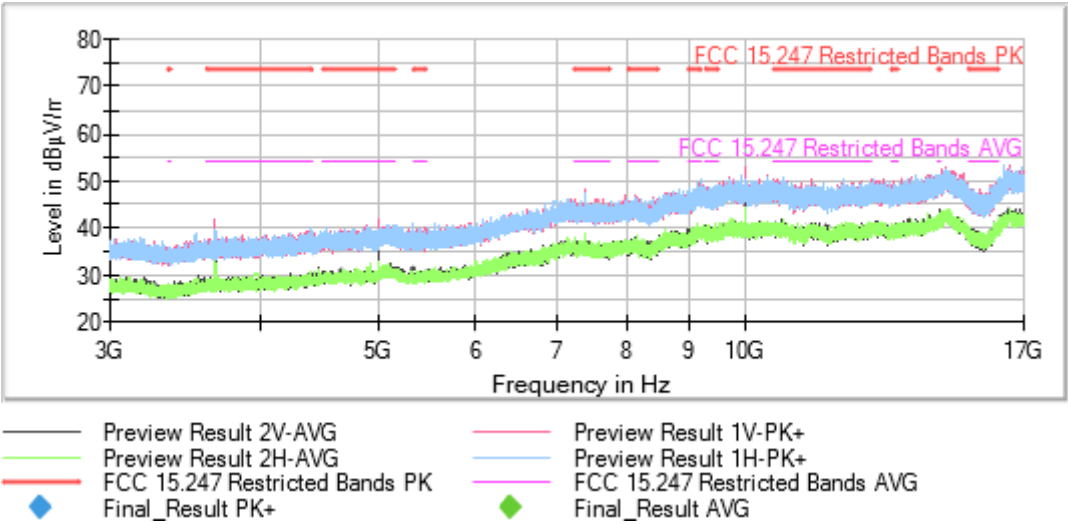
Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESU 40]					
	17 GHz - 26 GHz	300 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2462.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11g (OFDM 6 Mbit/s) Frequency Range GHz = [3, 17]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



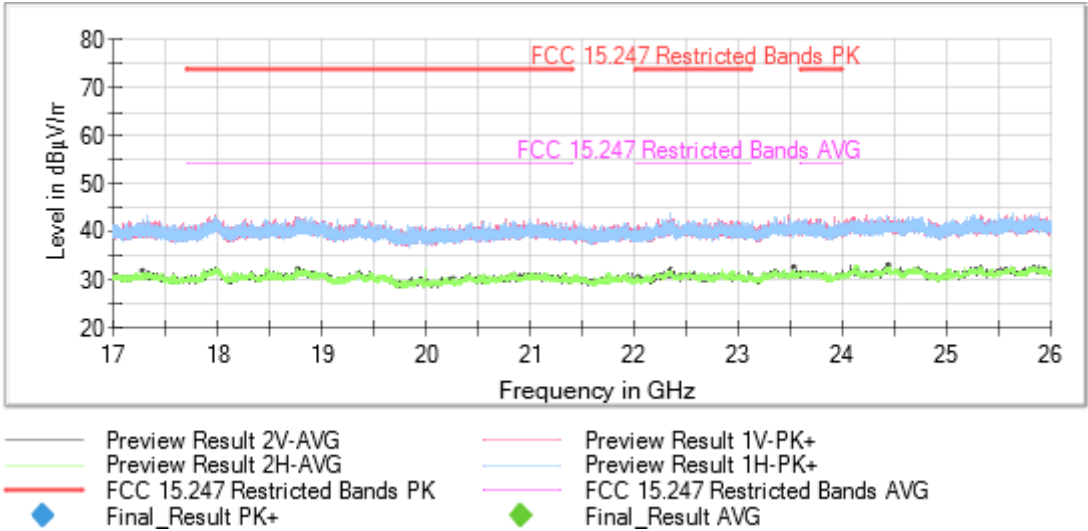
Tables:

Spectrum Analyzer Parameters

	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

Frequency MHz = 2462.00000 Equipment Type = Digital Transmission System (DTS)
Modulation = 802.11g (OFDM 6 Mbit/s) Frequency Range GHz = [17, 26]
Number of Transmission Chains = 2 Measurement Point = 1
Active Port = 2

Images:



Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESU 40]					
	17 GHz - 26 GHz	300 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

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

Results

Freq (MHz)	Equipment	Freq Rng (GHz)	# of Tx Chains	Port	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Pol	Detector
2462.00000	Digital Transmission System (DTS)	[1, 3]	2	2	2483.723	67.36	V	PK
						47.96		AVG
2412.00000				2389.600	63.97	V	PK	
					48.52		AVG	
2462.00000		2483.508		71.46	V	PK		
				53.51		AVG		
2412.00000		[3, 17]		1+2	3660.380	40.78	V	PK
2437.00000					3660.240	42.62	V	PK
2462.00000					3660.520	42.22	V	PK

Verdict

Pass

Attachments

Frequency MHz = 2412.00000

Equipment Type = Digital Transmission System (DTS)

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

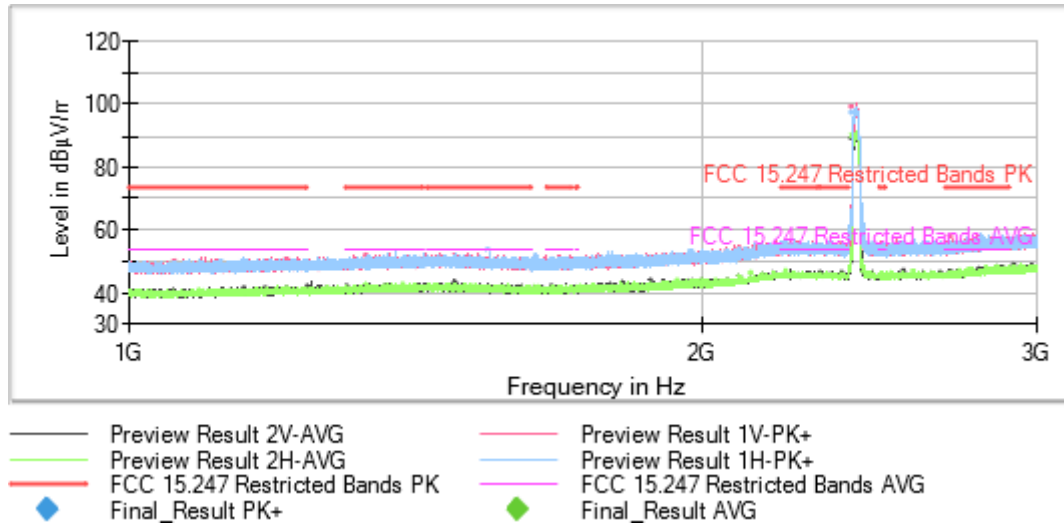
Frequency Range GHz = [1, 3]

Number of Transmission Chains = 2

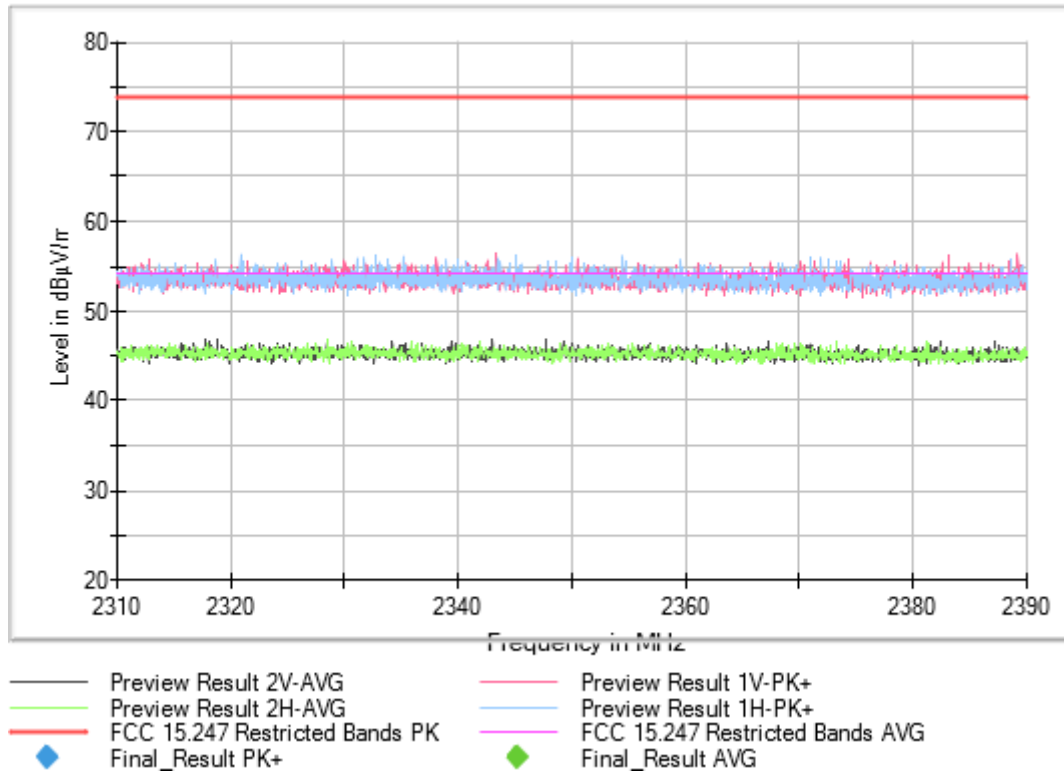
Measurement Point = 1

Active Port = 2

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2462.00000

Equipment Type = Digital Transmission System (DTS)

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

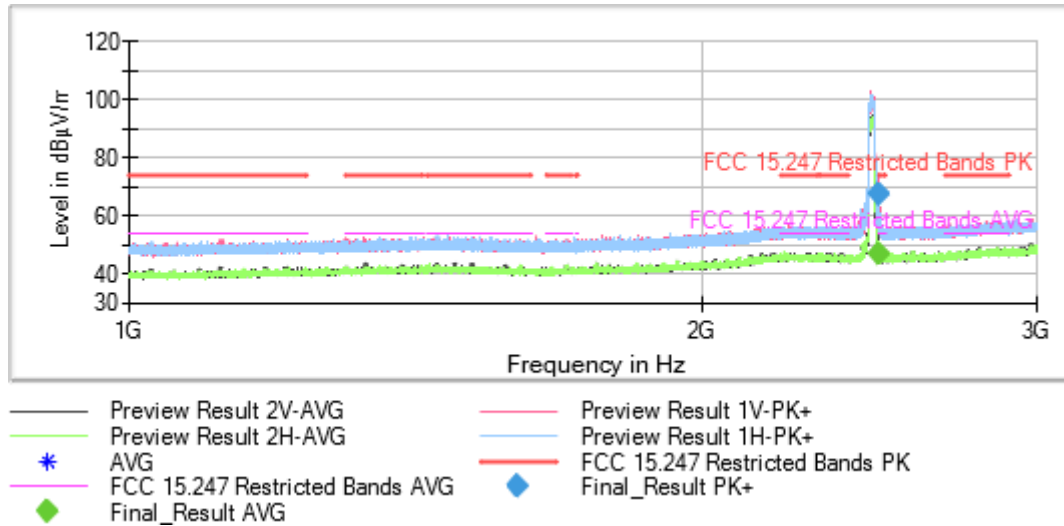
Frequency Range GHz = [1, 3]

Number of Transmission Chains = 2

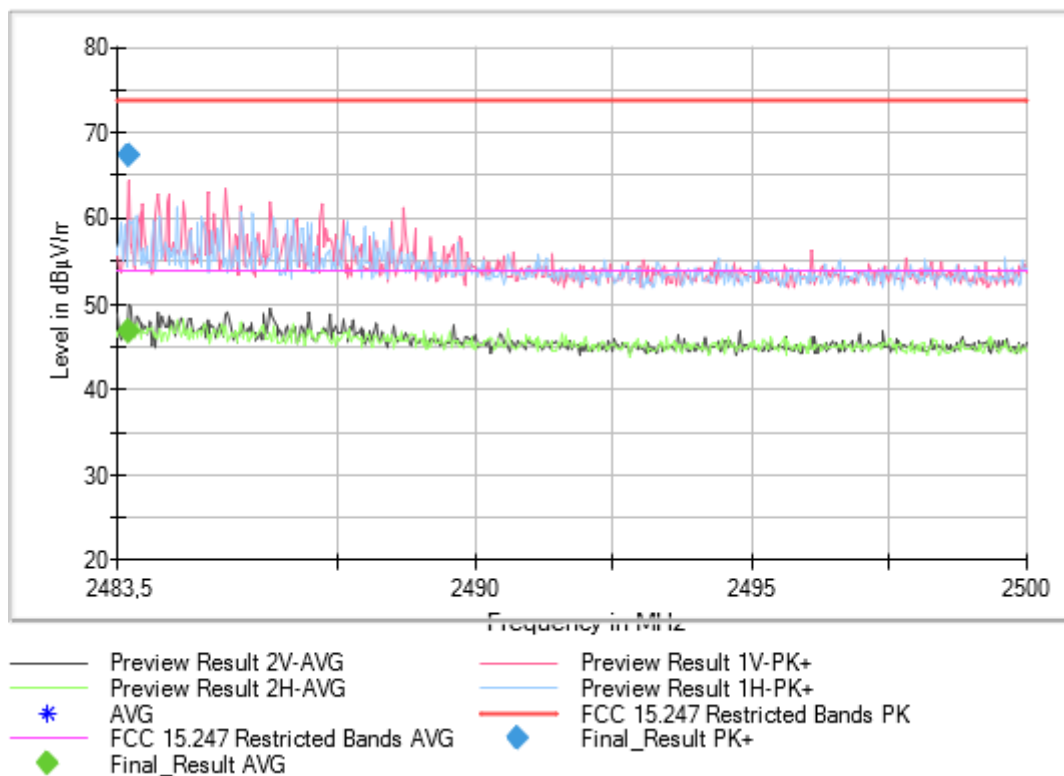
Measurement Point = 1

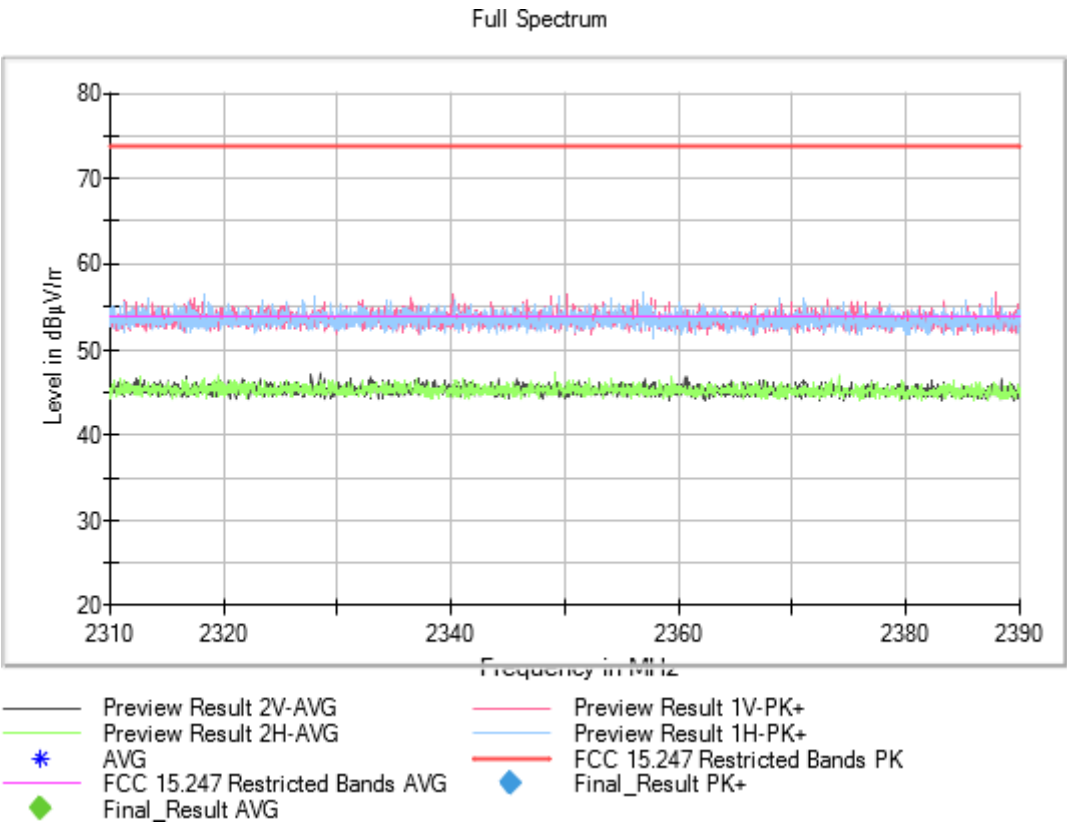
Active Port = 2

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2412.00000

Equipment Type = Digital Transmission System (DTS)

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

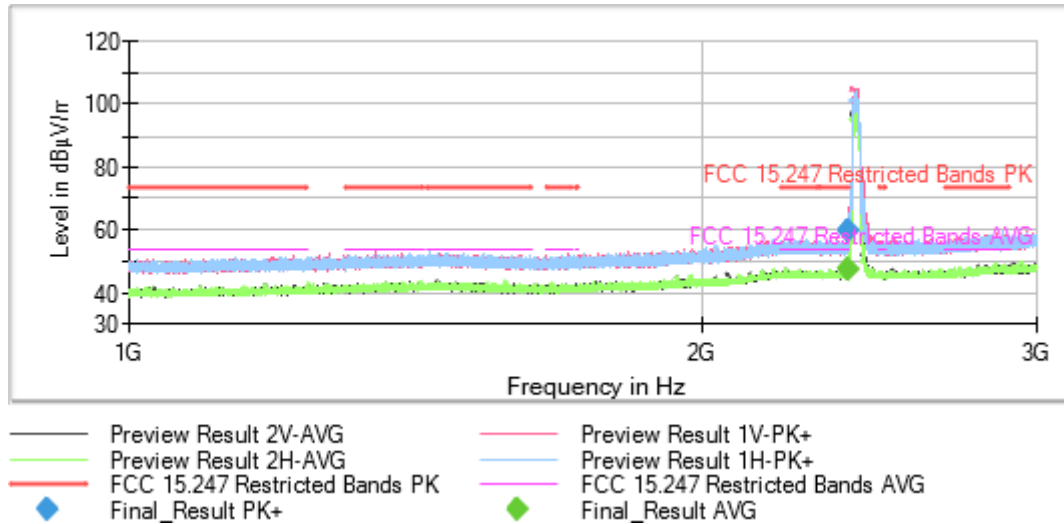
Frequency Range GHz = [1, 3]

Number of Transmission Chains = 2

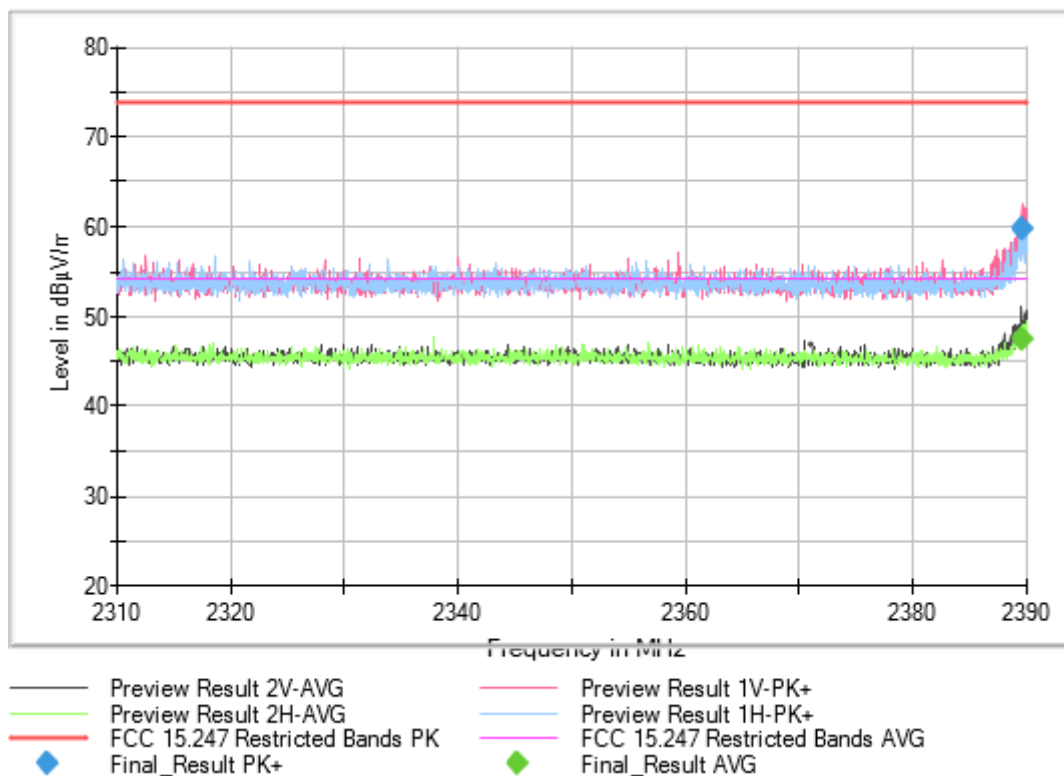
Measurement Point = 1

Active Port = 1+2

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2437.00000

Equipment Type = Digital Transmission System (DTS)

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

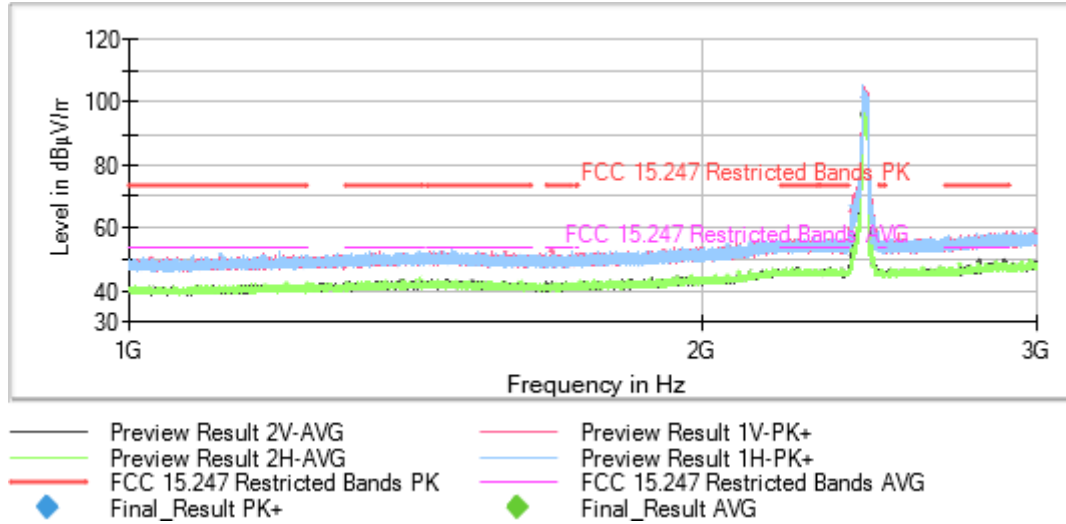
Frequency Range GHz = [1, 3]

Number of Transmission Chains = 2

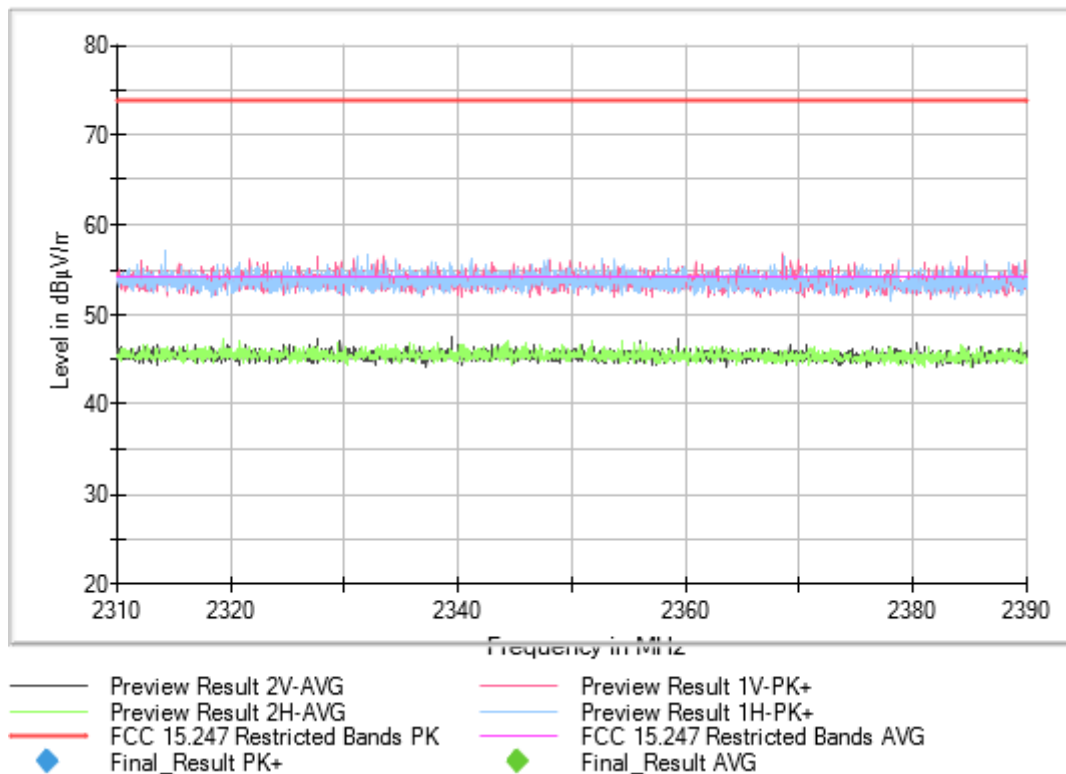
Measurement Point = 1

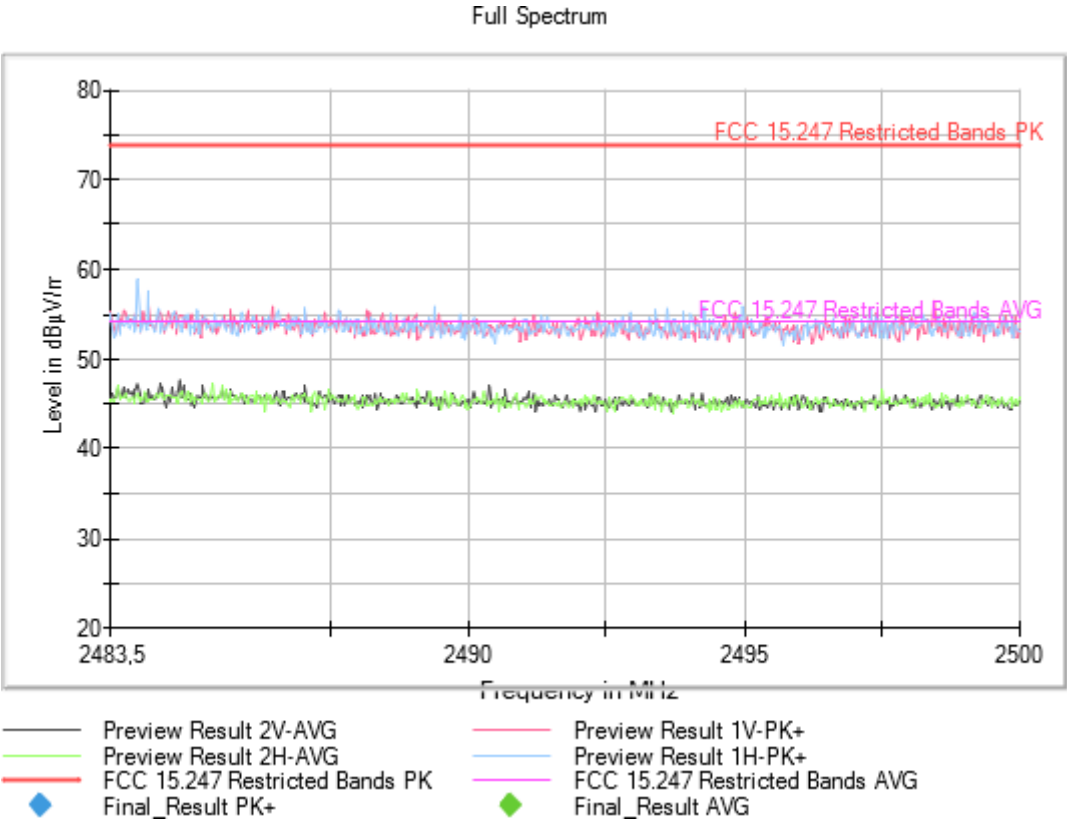
Active Port = 1+2

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2462.00000

Equipment Type = Digital Transmission System (DTS)

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

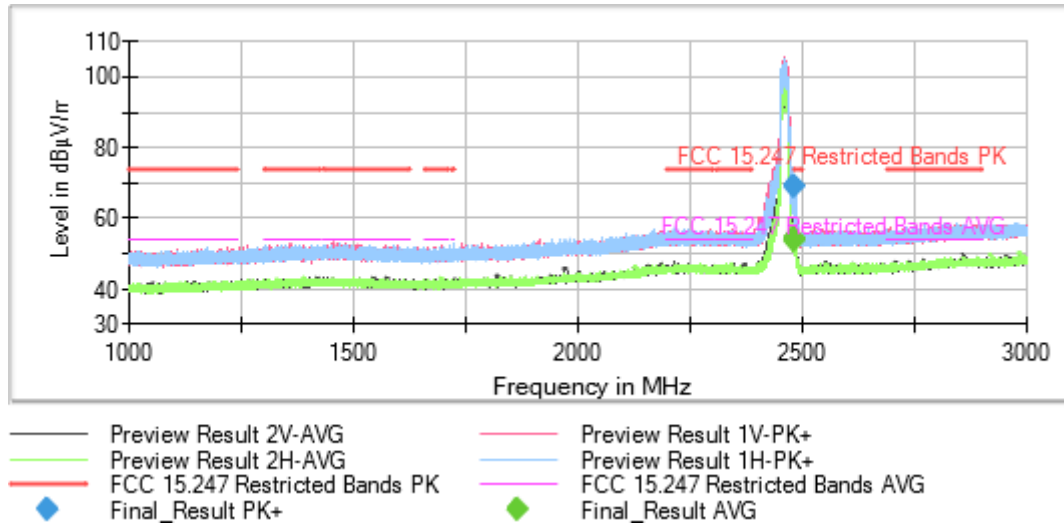
Frequency Range GHz = [1, 3]

Number of Transmission Chains = 2

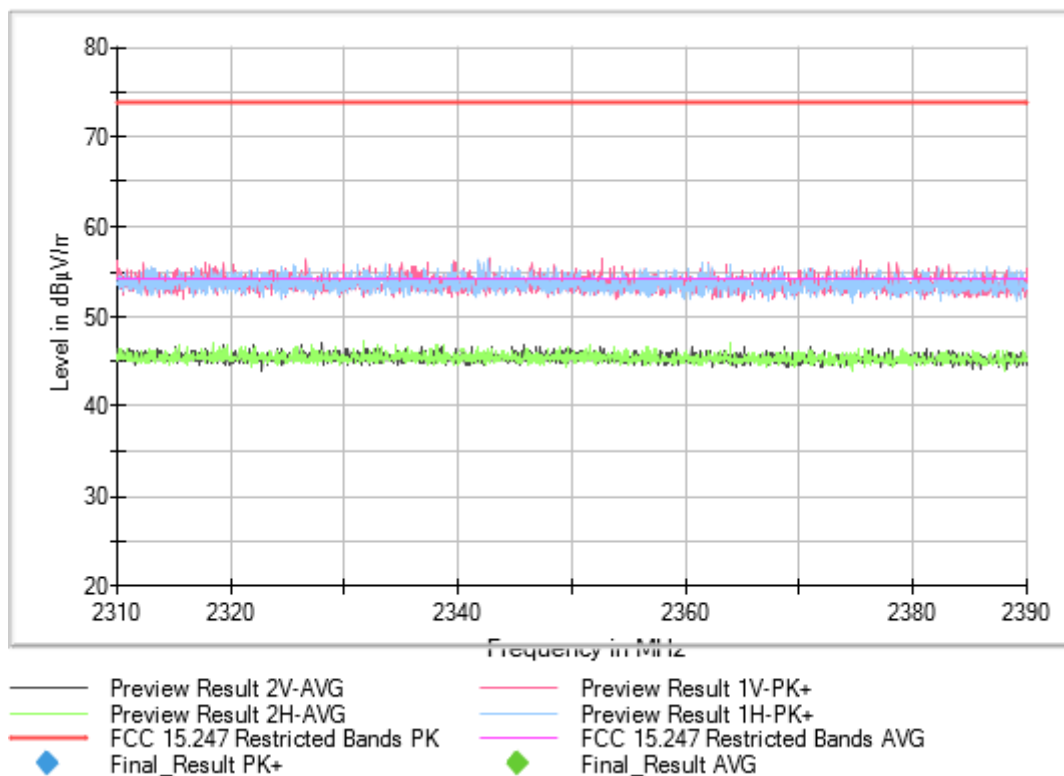
Measurement Point = 1

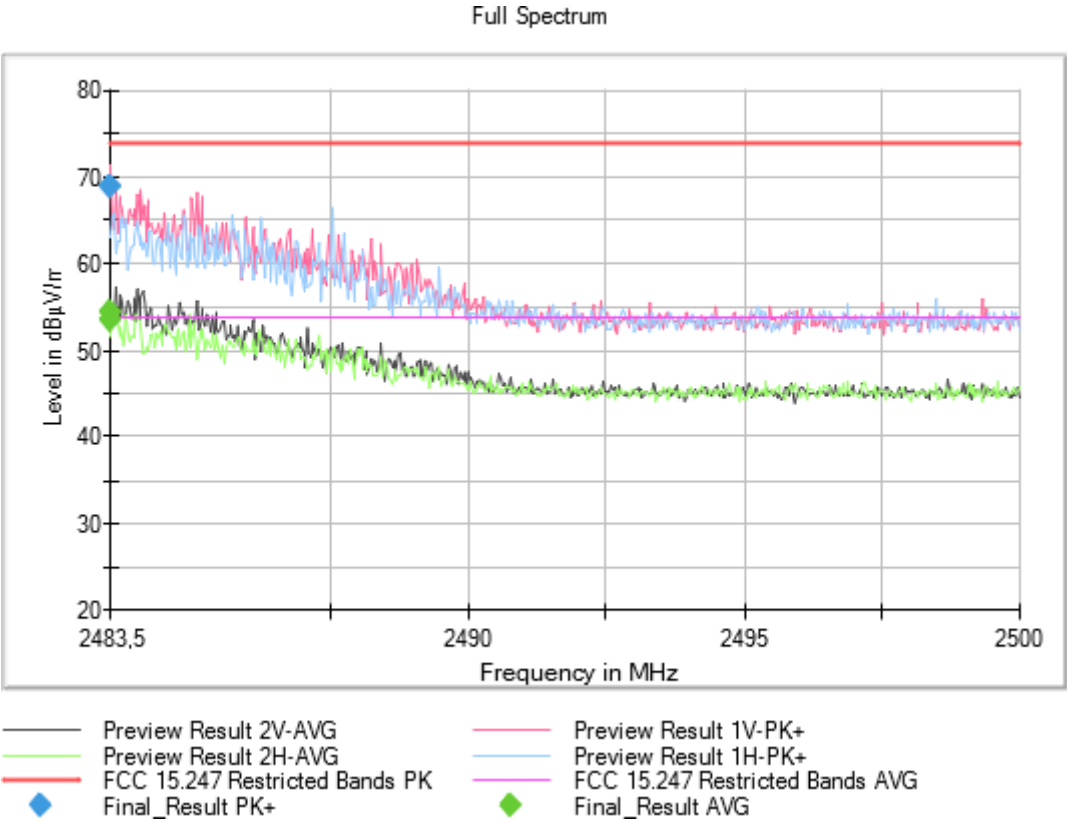
Active Port = 1+2

Images:



Full Spectrum





Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [FSW 50]					
	1 GHz - 3 GHz	30,769 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Frequency MHz = 2412.00000

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

Number of Transmission Chains = 2

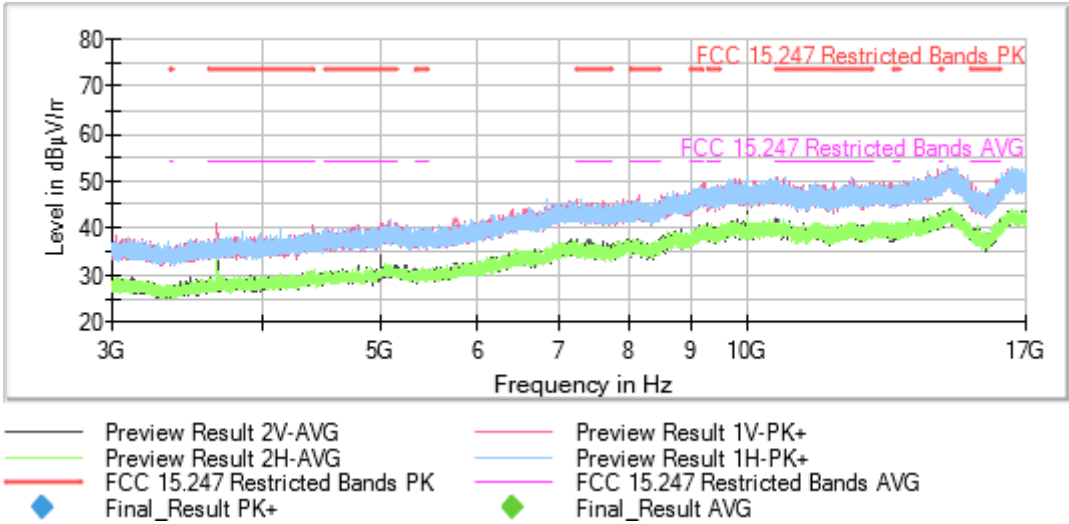
Active Port = 1+2

Equipment Type = Digital Transmission System (DTS)

Frequency Range GHz = [3, 17]

Measurement Point = 1

Images:



Tables:

Spectrum Analyzer Parameters

	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

Frequency MHz = 2437.00000

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

Number of Transmission Chains = 2

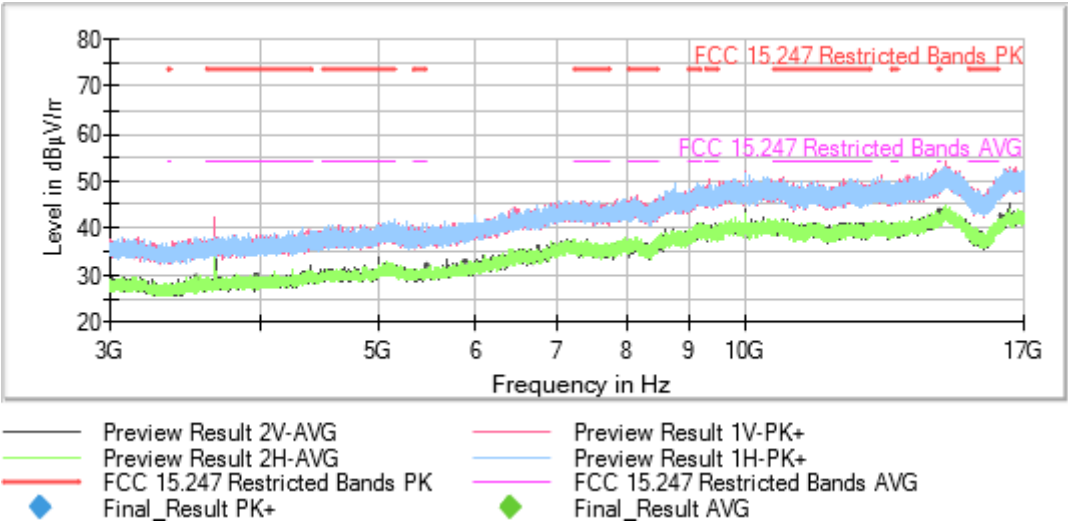
Active Port = 1+2

Equipment Type = Digital Transmission System (DTS)

Frequency Range GHz = [3, 17]

Measurement Point = 1

Images:



Tables:

Spectrum Analyzer Parameters

	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

Frequency MHz = 2462.00000

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

Number of Transmission Chains = 2

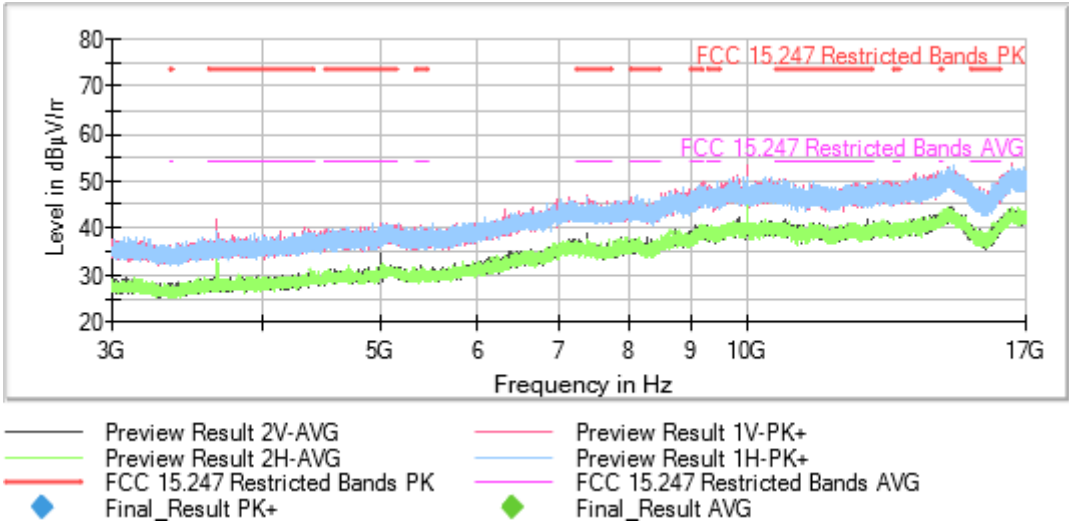
Active Port = 1+2

Equipment Type = Digital Transmission System (DTS)

Frequency Range GHz = [3, 17]

Measurement Point = 1

Images:



Tables:

Spectrum Analyzer Parameters

	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

Frequency range 17 GHz - 26 GHz:
No spurious frequencies at less than 20 dB of the limit.

Verdict

Pass

Attachments

Frequency MHz = The spurious frequencies detected do not depend
neither on the operating channel

Modulation = The spurious frequencies detected do not depend
neither on the modulation mode.

Number of Transmission Chains = 2

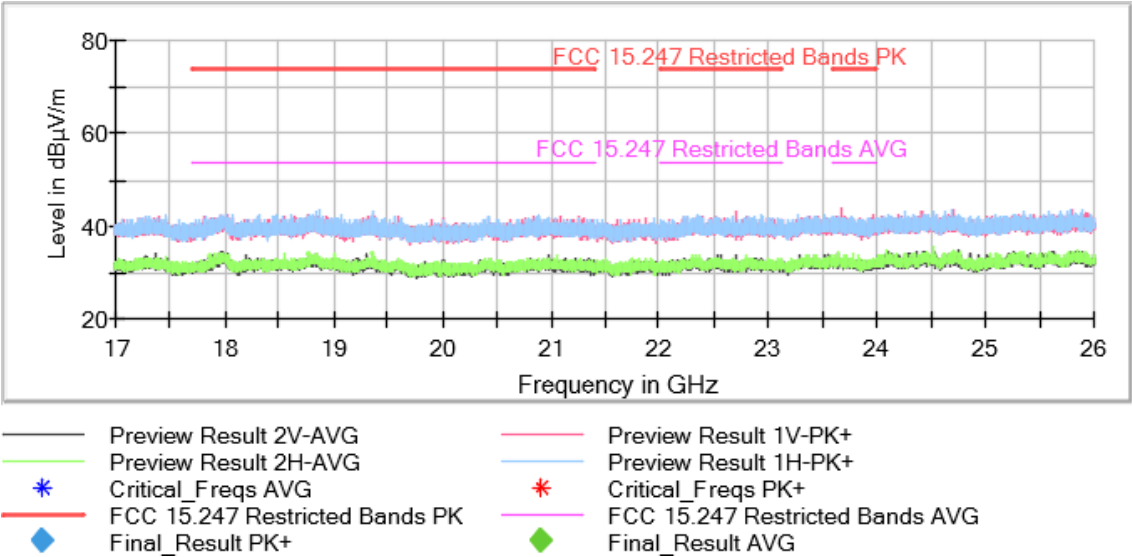
Active Port = 1+2

Equipment Type = Digital Transmission
System (DTS)

Frequency Range GHz = [17, 26]

Measurement Point = 1

Images:



Tables:
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESU 40]					
	17 GHz - 26 GHz	300 kHz	PK+ ; AVG	1 MHz	0,3 s	0 dB