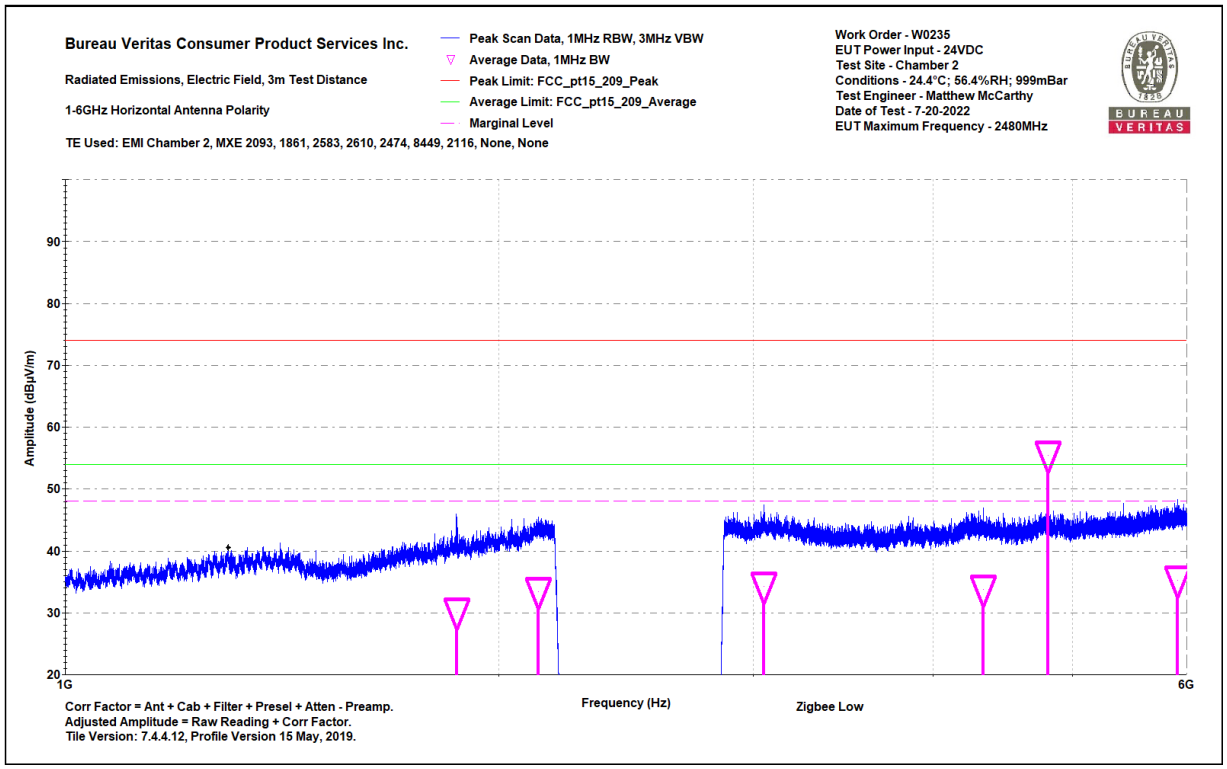
Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 24VDC
1-6GHz Horizontal Data	Test Site - Chamber 2
Notes:	Conditions - 24.4°C; 56.4%RH; 999mBar
Zigbee Low	Test Engineer - Matthew McCarthy
	Date of Test - 7-20-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Average Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1869.7	43.5	34.1	-4	39.5	74	-34.5	PASS		30.1	54	-23.9	PASS		100	11
2129.4	45.7	35.3	-1.9	43.8	74	-30.2	PASS		33.5	54	-20.5	PASS		125	269
3051.8	42.7	34.8	-0.4	42.3	74	-31.7	PASS		34.3	54	-19.7	PASS		275	46
4336.8	41.8	33.5	0.3	42.1	74	-31.9	PASS		33.8	54	-20.2	PASS		220	227
4810	56.1	38.8	0.8	56.9	74	-17.1	PASS	-17.1	39.6	54	-14.4	PASS	-14.4	181	0
5914.4	42.7	32.8	2.4	45.1	74	-28.9	PASS		35.3	54	-18.7	PASS		193	290

1-6GHz Horizontal

Note: Avg Amplitude for 4810MHz (2nd harmonic of Zigbee low channel) was calculated by applying DCCF of -17.3dB to the Peak Amplitude (Av(dB) = Pk(dB) + DCCF(dB)).

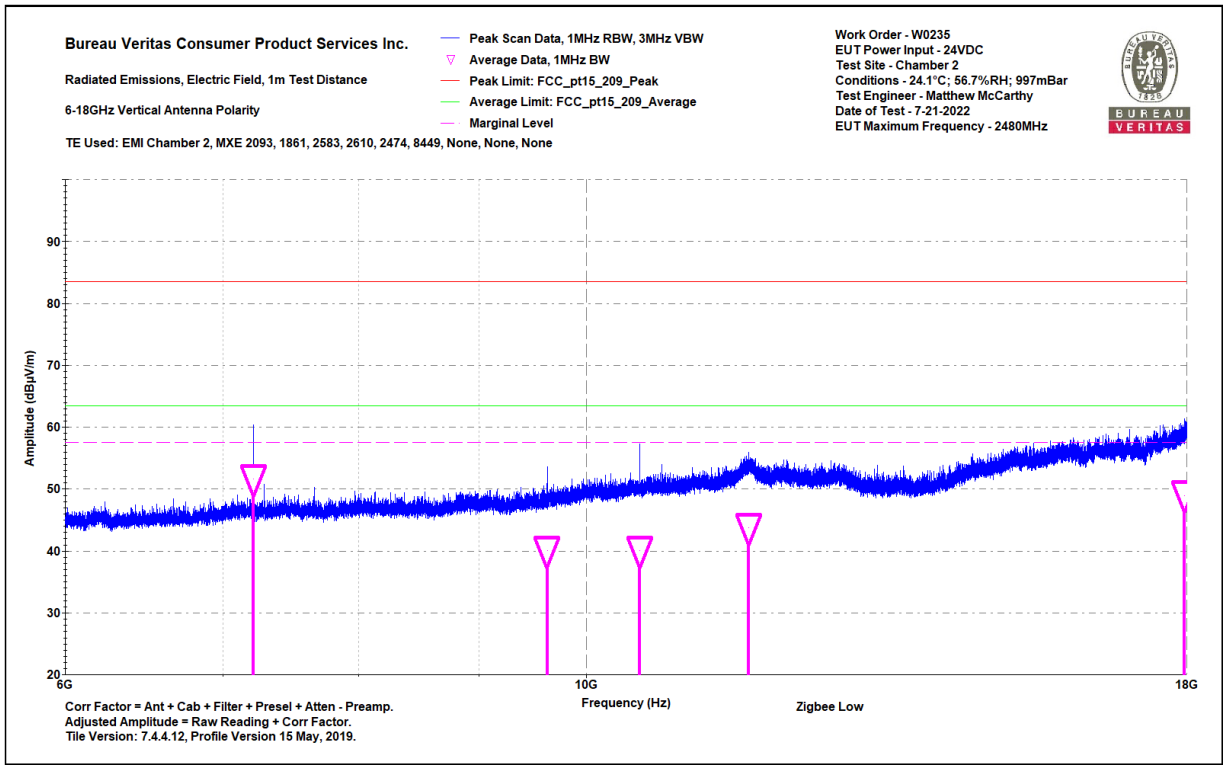


1-6GHz Horizontal

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 24VDC
6-18GHz Vertical Data	Test Site - Chamber 2
Notes:	Conditions - 24.1°C; 56.7%RH; 997mBar
Zigbee Low	Test Engineer - Matthew McCarthy
0	Date of Test - 7-21-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7215.3	49.8	48.2	3.4	53.2	83.5	-30.3	PASS		51.6	63.5	-11.9	PASS	-11.9	100	0
9620	45.1	35.9	4.1	49.2	83.5	-34.3	PASS		40.1	63.5	-23.4	PASS		100	0
10532.1	42.9	33.7	6.3	49.2	83.5	-34.3	PASS		40.1	63.5	-23.4	PASS		184	234
11718.2	44.7	36.2	7.5	52.3	83.5	-31.2	PASS		43.7	63.5	-19.8	PASS		192	241
17961.2	45.2	34.5	14.5	59.7	83.5	-23.8	PASS	-23.8	49	63.5	-14.5	PASS		131	110

6-18GHz Vertical



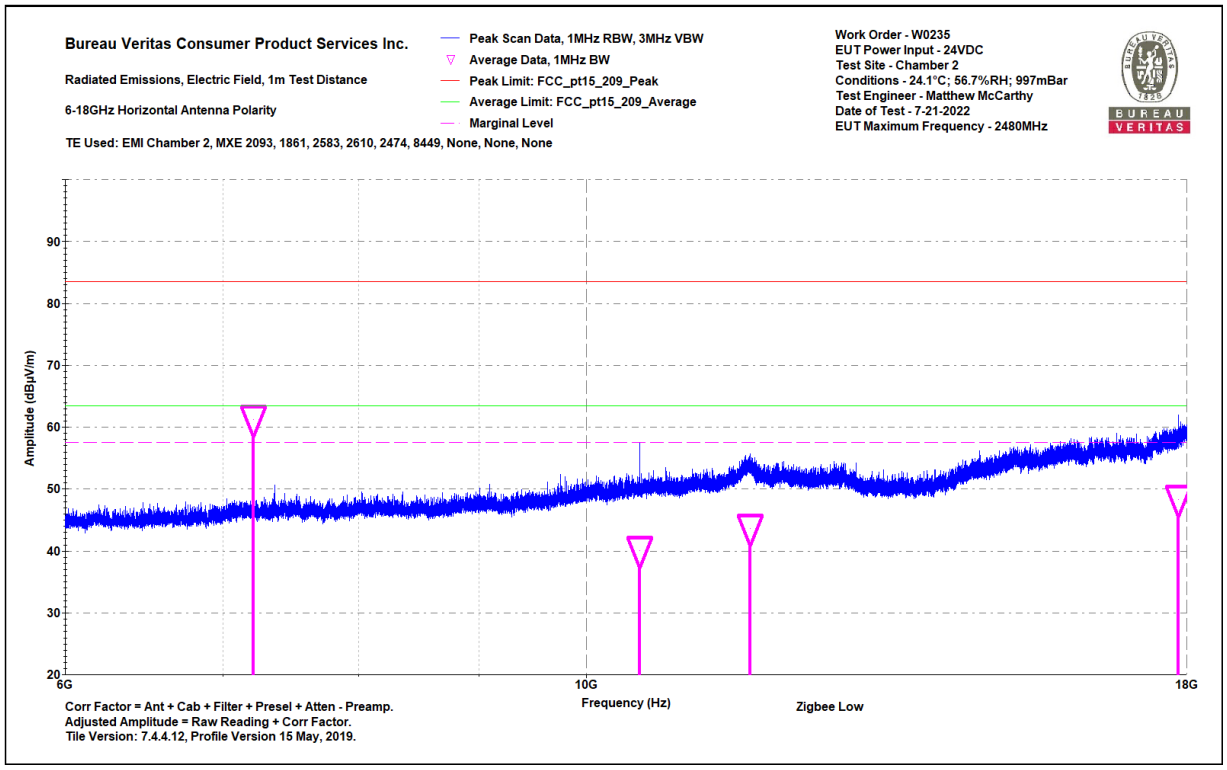
6-18GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 24VDC
6-18GHz Horizontal Data	Test Site - Chamber 2
Notes:	Conditions - 24.1°C; 56.7%RH; 997mBar
Zigbee Low	Test Engineer - Matthew McCarthy
	Date of Test - 7-21-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Test Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7215.2	58.4	41.1	3.4	61.8	83.5	-21.7	PASS	-21.7	44.5	63.5	-19	PASS		156	0
10532.1	48.4	33.7	6.3	54.7	83.5	-28.8	PASS		40	63.5	-23.5	PASS		150	135
11735.2	46	36.1	7.5	53.5	83.5	-30	PASS		43.6	63.5	-19.9	PASS		175	79
17854.3	42.5	34.7	13.6	56.1	83.5	-27.4	PASS		48.3	63.5	-15.2	PASS	-15.2	102	194

6-18GHz Horizontal

Note: Avg Amplitude for 7215.2MHz (3rd harmonic of Zigbee low channel) was calculated by applying DCCF of -17.3dB to the Peak Amplitude (Av(dB) = Pk(dB) + DCCF(dB)).



6-18GHz Horizontal

Radiated Emissions Table

Date: 28-Jul-22 **Company:** Assa Abloy **Work Order:** W0235
Engineer: Matthew McCarthy **EUT Desc:** DR100 Door Relay **EUT Operating Voltage/Frequency:** 24VDC
Temp: 23.3 **Humidity:** 51% **Pressure:** 1003mBar
Frequency Range: 18-25GHz **Measurement Distance:** 0.1 m
Notes: Zigbee Low **EUT Max Freq:** 2480MHz

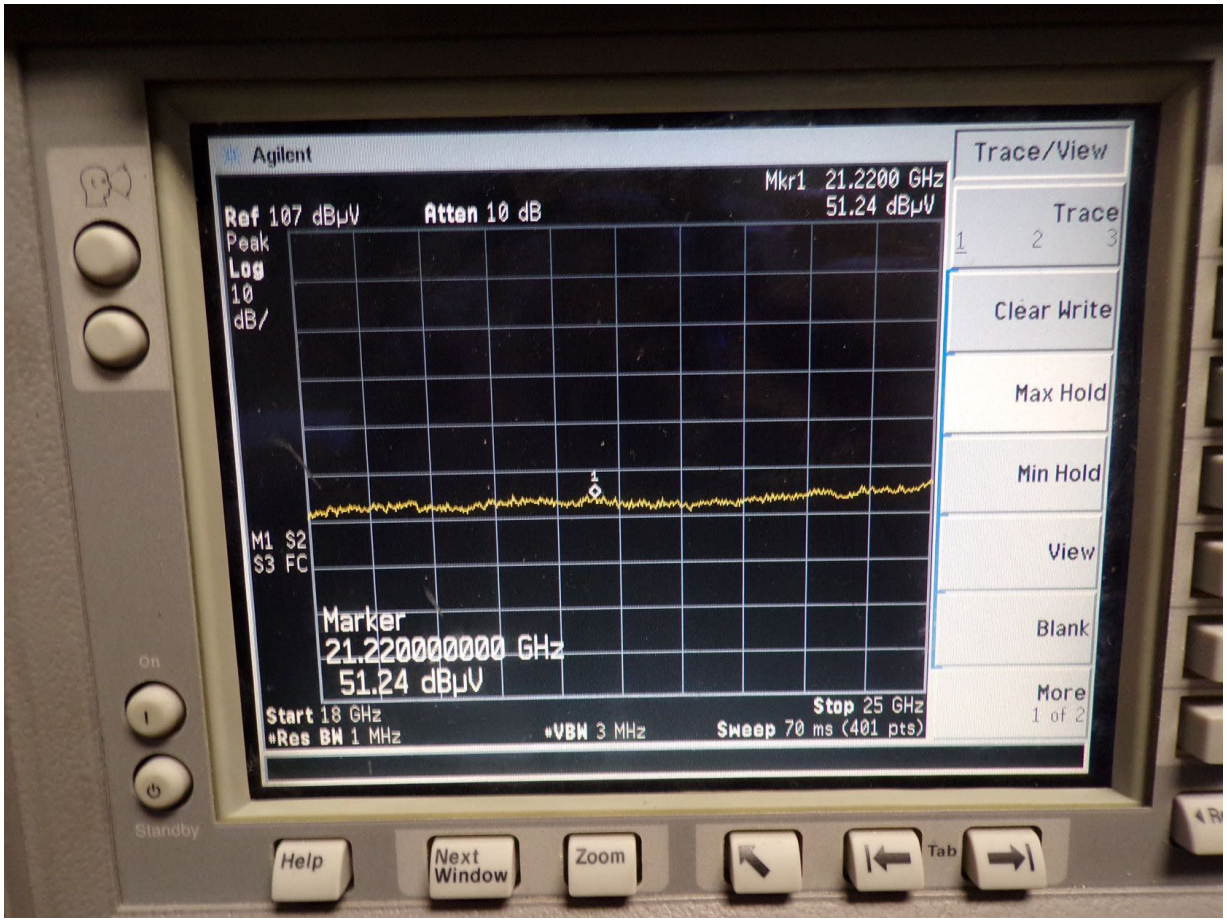
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC 15.209 Peak Limit (dBµV/m)	FCC 15.209 Peak Margin (dB)	FCC 15.209 Peak Result (Pass/Fail)	FCC 15.209 Average Limit (dBµV/m)	FCC 15.209 Average Margin (dB)	FCC 15.209 Average Result (Pass/Fail)
Noise Floor	21220.0	51.24	51.2	42.6	40.2	9.5	58.3	58.3	103.5	-45.2	Pass	83.5	-25.2	Pass

Table Result: Pass by -25.2 dB ***Worst Freq:*** 21220.0 MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #2323 **Cable 2:** --- **Cable 3:** ---
Analyzer: Gold **Preamp:** 18-26.5GHz **Antenna:** 18-26.5GHz Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.222

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-25GHz



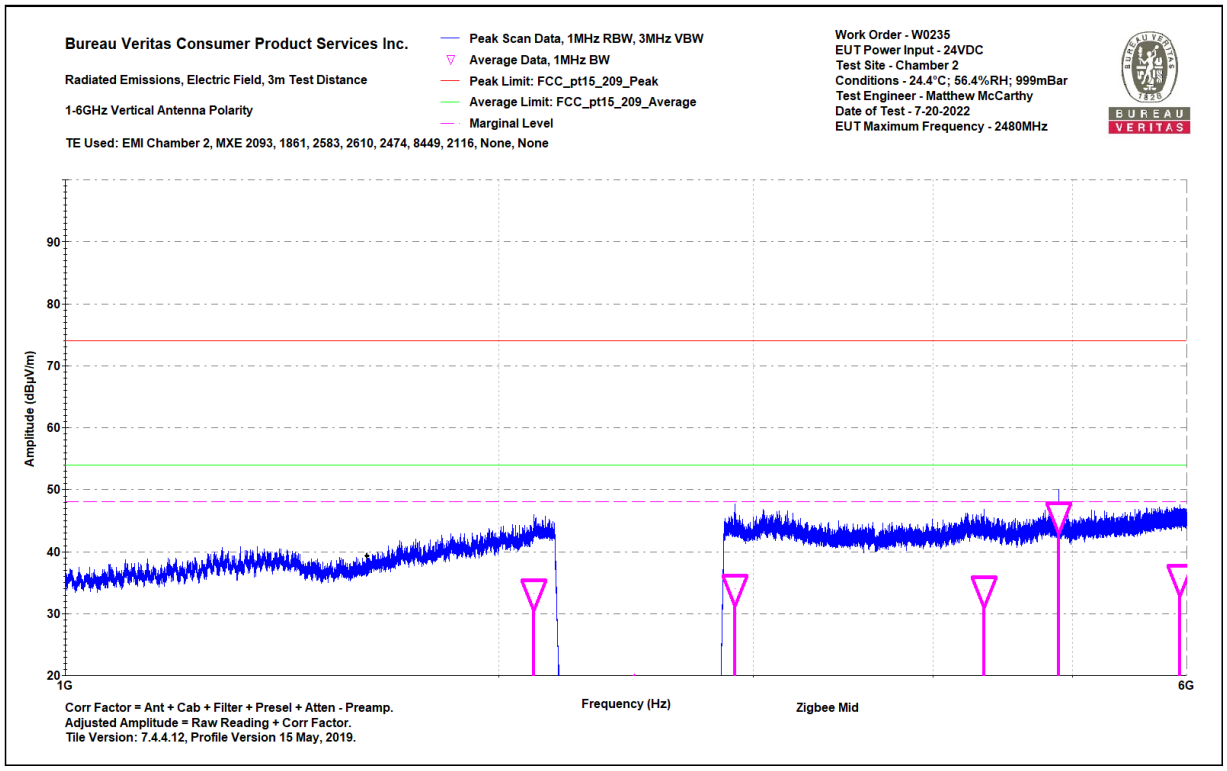
18-25GHz Plot (Low Channel)

Results for Zigbee 250Kbps O-QPSK Channel 19

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 24VDC
1-6GHz Vertical Data	Test Site - Chamber 2
Notes:	Conditions - 24.4°C; 56.4%RH; 999mBar
Zigbee Mid	Test Engineer - Matthew McCarthy
	Date of Test - 7-20-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
2113.2	44.1	35.4	-2.1	42	74	-32	PASS		33.3	54	-20.7	PASS		283	256
2914.8	43.6	34.4	-0.4	43.2	74	-30.8	PASS		34	54	-20	PASS		196	197
4341	42.5	33.5	0.3	42.8	74	-31.2	PASS		33.8	54	-20.2	PASS		297	17
4890	49.6	45.1	0.6	50.1	74	-23.9	PASS	-23.9	45.7	54	-8.3	PASS	-8.3	125	3
5932.6	43.6	33.2	2.5	46.1	74	-27.9	PASS		35.6	54	-18.4	PASS		275	74

1-6GHz Vertical



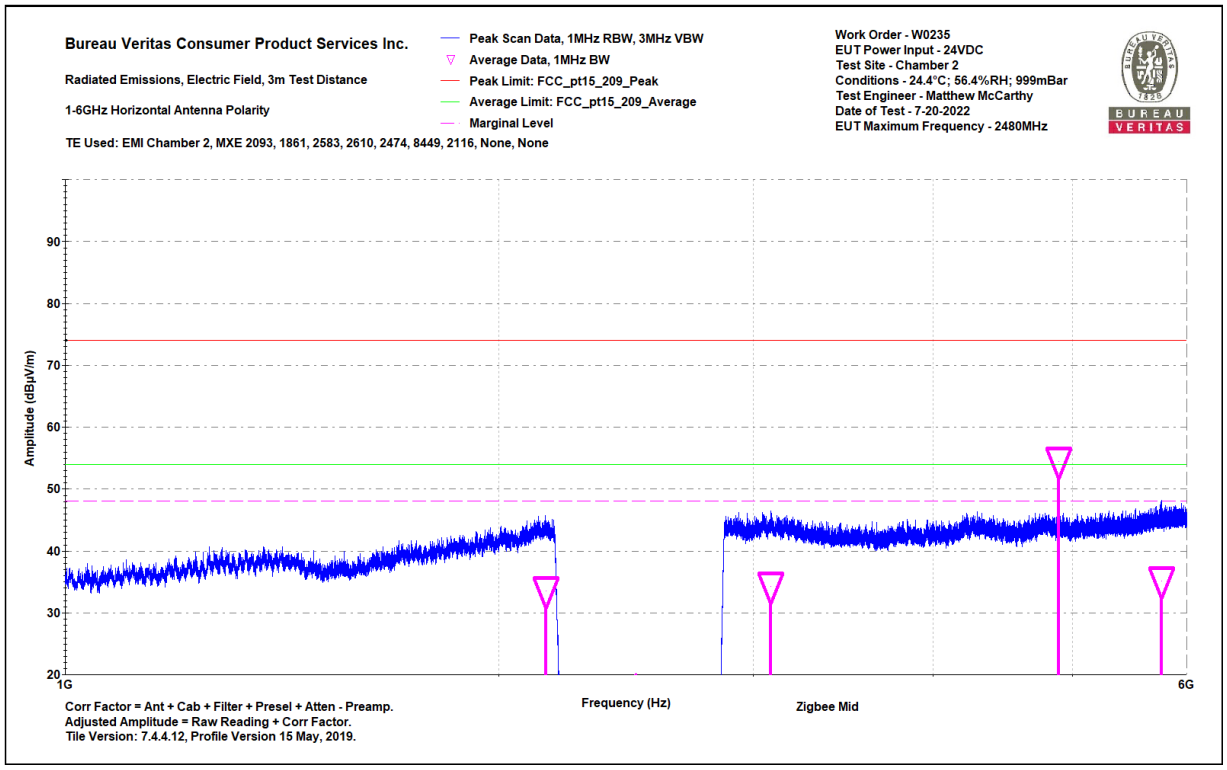
1-6GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 24VDC
1-6GHz Horizontal Data	Test Site - Chamber 2
Notes:	Conditions - 24.4°C; 56.4%RH; 999mBar
Zigbee Mid	Test Engineer - Matthew McCarthy
	Date of Test - 7-20-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Average Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
2154.9	43.9	35.3	-1.8	42.1	74	-31.9	PASS		33.5	54	-20.5	PASS		209	29
3087.1	44.1	34.8	-0.6	43.6	74	-30.4	PASS		34.3	54	-19.7	PASS		213	150
4889.9	55.8	38.5	0.6	56.3	74	-17.7	PASS	-17.7	39.1	54	-14.9	PASS	-14.9	184	0
5760.7	42	33.2	2	43.9	74	-30.1	PASS		35.1	54	-18.9	PASS		296	8

1-6GHz Horizontal

Note: Avg Amplitude for 4889.9MHz (2nd harmonic of Zigbee mid channel) was calculated by applying DCCF of -17.3dB to the Peak Amplitude (Av(dB) = Pk(dB) + DCCF(dB)).

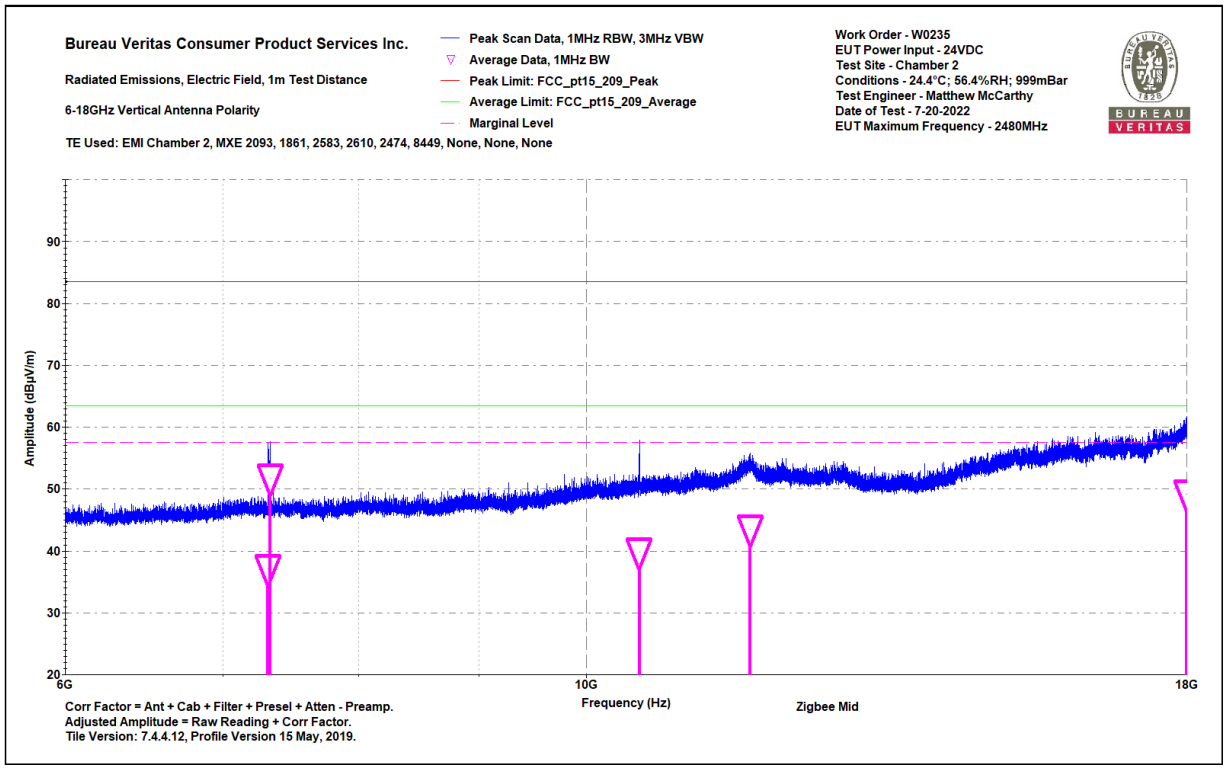


1-6GHz Horizontal

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 24VDC
6-18GHz Vertical Data	Test Site - Chamber 2
Notes:	Conditions - 24.4°C; 56.4%RH; 999mBar
Zigbee Mid	Test Engineer - Matthew McCarthy
0	Date of Test - 7-20-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7334.8	51	48.6	3.1	54.1	83.5	-29.4	PASS		51.7	63.5	-11.8	PASS	-11.8	100	17
10528.9	49	33.6	6.3	55.3	83.5	-28.2	PASS		39.9	63.5	-23.6	PASS		200	271
11736.5	44.8	36	7.5	52.3	83.5	-31.2	PASS		43.5	63.5	-20	PASS		190	223
17999	42.5	34.3	14.9	57.4	83.5	-26.1	PASS	-26.1	49.2	63.5	-14.3	PASS		200	196

6-18GHz Vertical



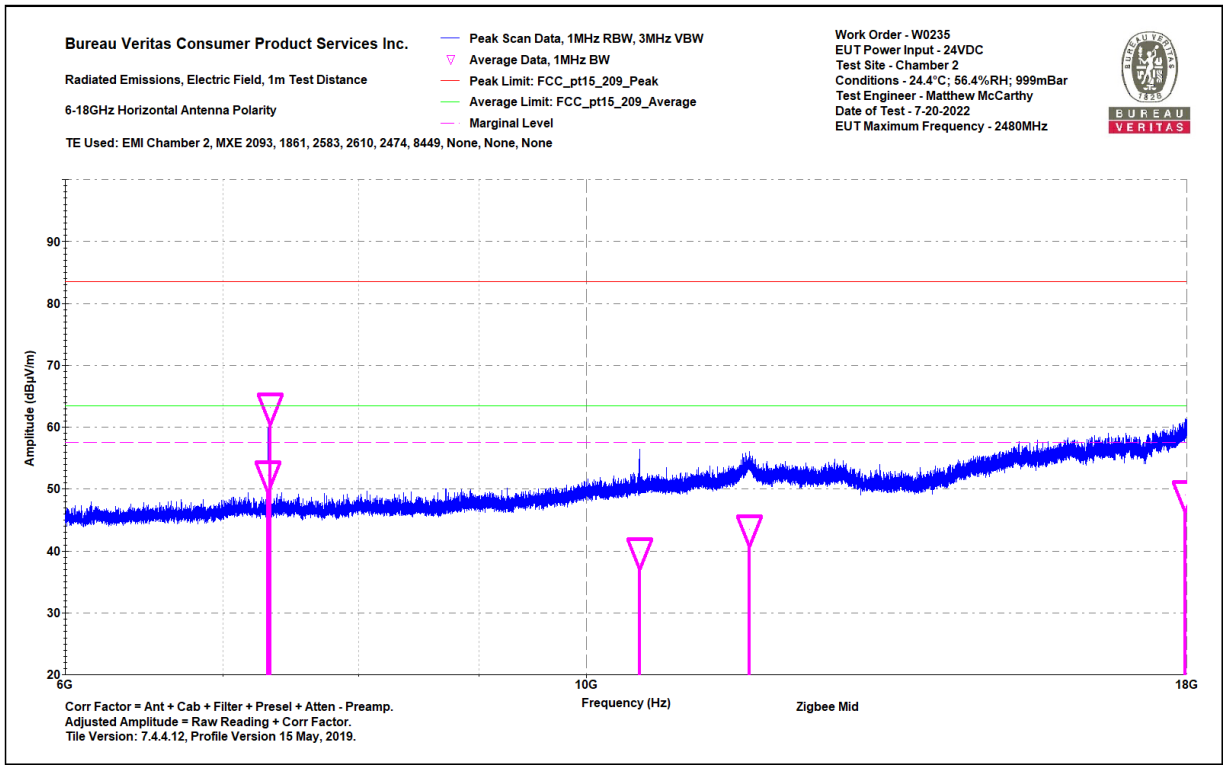
6-18GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 24VDC
6-18GHz Horizontal Data	Test Site - Chamber 2
Notes:	Conditions - 24.4°C; 56.4%RH; 999mBar
Zigbee Mid	Test Engineer - Matthew McCarthy
	Date of Test - 7-20-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Test Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7335	61.1	43.8	3.1	64.2	83.5	-19.3	PASS	-19.3	46.9	63.5	-16.6	PASS		157	0
10531.5	42.7	33.5	6.3	49	83.5	-34.5	PASS		39.9	63.5	-23.6	PASS		176	125
11731.1	45.3	36	7.5	52.8	83.5	-30.7	PASS		43.5	63.5	-20	PASS		137	292
17974.9	43.9	34.4	14.6	58.5	83.5	-25	PASS		49	63.5	-14.5	PASS		175	110

6-18GHz Horizontal

Note: Avg Amplitude for 7335MHz (3rd harmonic of Zigbee mid channel) was calculated by applying DCCF of -17.3dB to the Peak Amplitude (Av(dB) = Pk(dB) + DCCF(dB)).



6-18GHz Horizontal

Radiated Emissions Table

Date: 28-Jul-22 **Company:** Assa Abloy **Work Order:** W0235
Engineer: Matthew McCarthy **EUT Desc:** DR100 Door Relay **EUT Operating Voltage/Frequency:** 24VDC
Temp: 23.3 **Humidity:** 51% **Pressure:** 1003mBar
Frequency Range: 18-25GHz **Measurement Distance:** 0.1 m
Notes: Zigbee Mid. **EUT Max Freq:** 2480MHz

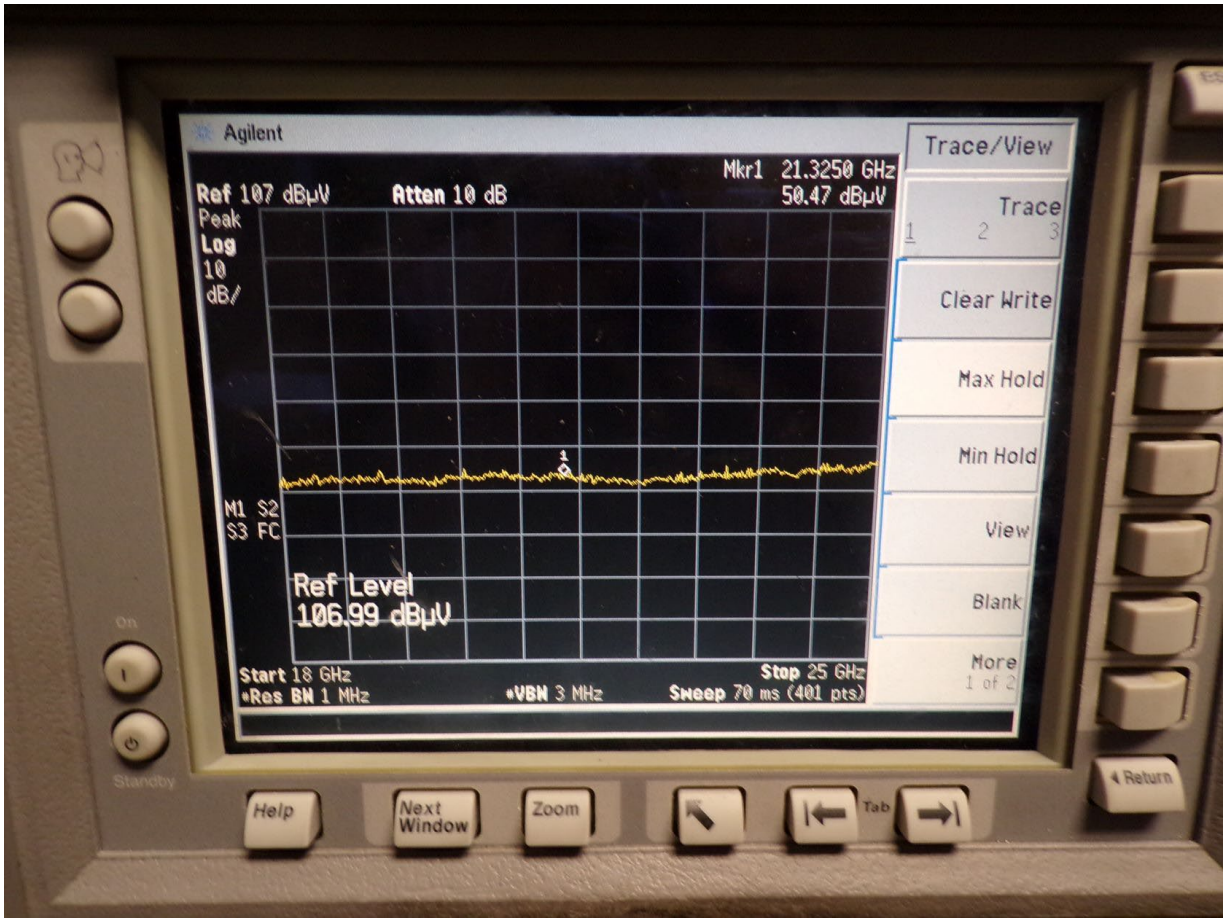
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC 15.209 Peak Limit (dBµV/m)	FCC 15.209 Peak Margin (dB)	FCC 15.209 Peak Result (Pass/Fail)	FCC 15.209 Average Limit (dBµV/m)	FCC 15.209 Average Margin (dB)	FCC 15.209 Average Result (Pass/Fail)
Noise Floor	21325.0	50.47	50.5	42.8	40.2	9.6	57.5	57.5	103.5	-46.0	Pass	83.5	-26.0	Pass

Table Result: Pass by -26.0 dB ***Worst Freq:*** 21325.0 MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #2323 **Cable 2:** --- **Cable 3:** ---
Analyzer: Gold **Preamp:** 18-26.5GHz **Antenna:** 18-26.5GHz Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.222

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-25GHz



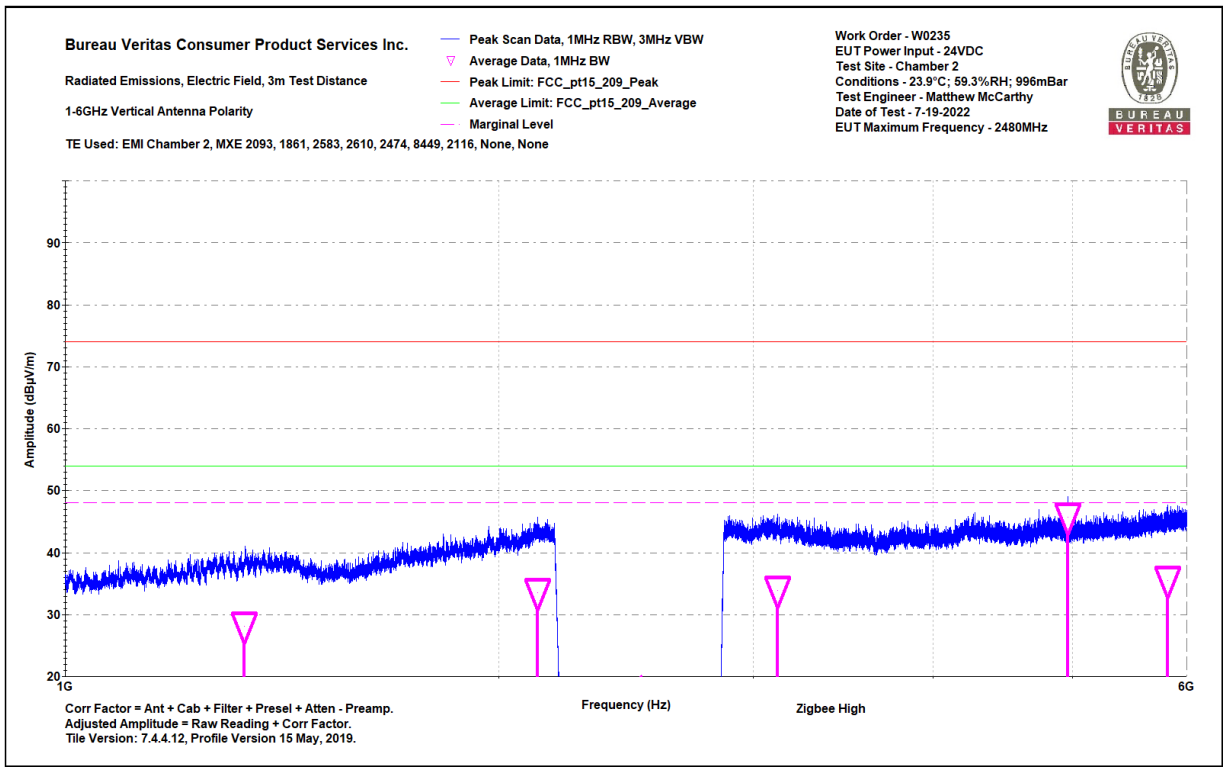
18-25GHz Plot (Mid Channel)

Results for Zigbee 250Kbps O-QPSK Channel 26

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 24VDC
1-6GHz Vertical Data	Test Site - Chamber 2
Notes:	Conditions - 23.9°C; 59.3%RH; 996mBar
Zigbee High	Test Engineer - Matthew McCarthy
	Date of Test - 7-19-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1332.1	46	35.7	-7.6	38.4	74	-35.6	PASS		28.1	54	-25.9	PASS		210	264
2127.6	44.2	35.4	-1.9	42.3	74	-31.7	PASS		33.5	54	-20.5	PASS		100	274
3120.5	44.5	34.4	-0.5	44	74	-30	PASS		33.9	54	-20.1	PASS		275	258
4959.8	48.2	44.9	0.9	49.1	74	-24.9	PASS	-24.9	45.7	54	-8.3	PASS	-8.3	275	329
5816.8	42.8	33.3	2.2	45	74	-29	PASS		35.5	54	-18.5	PASS		106	135

1-6GHz Vertical

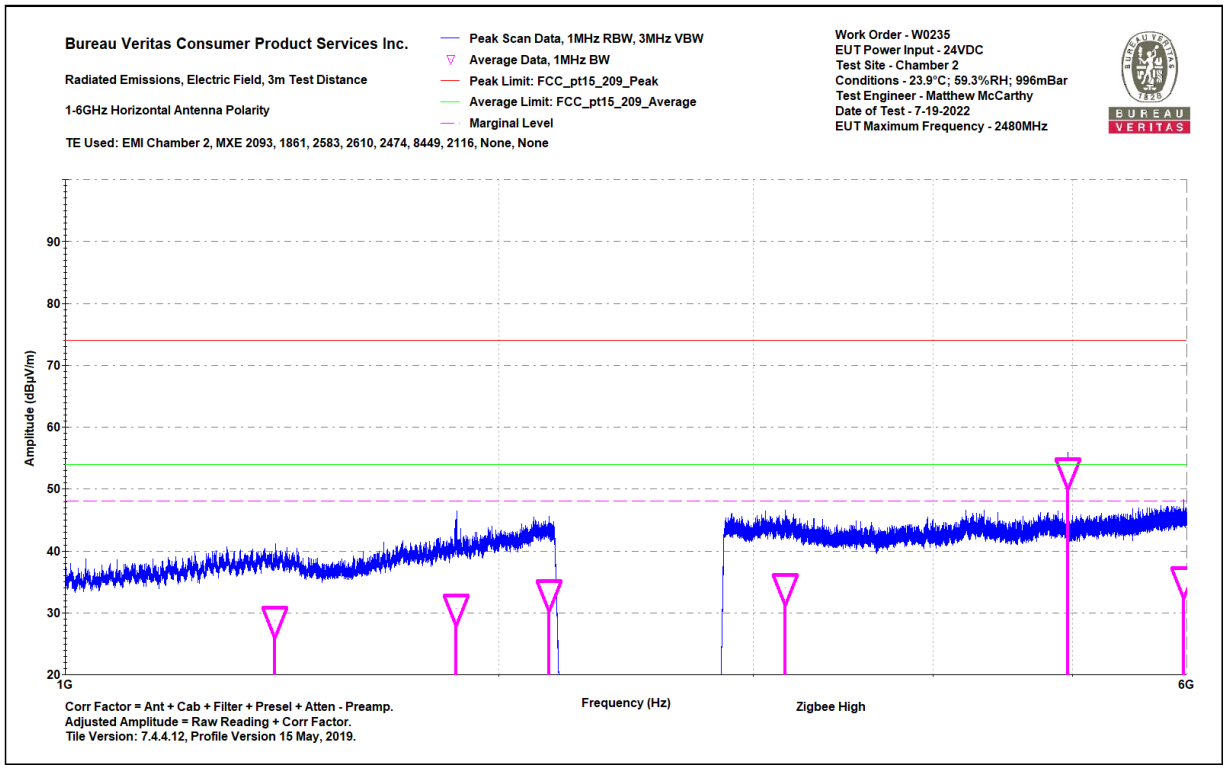


1-6GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 24VDC
1-6GHz Horizontal Data	Test Site - Chamber 2
Notes:	Conditions - 23.9°C; 59.3%RH; 996mBar
Zigbee High	Test Engineer - Matthew McCarthy
0	Date of Test - 7-19-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Average Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1398.3	45.8	36	-7.2	38.5	74	-35.5	PASS		28.8	54	-25.2	PASS		275	107
1867.2	45.1	34.8	-4.1	41	74	-33	PASS		30.7	54	-23.3	PASS		107	203
2165.3	43.6	34.8	-1.7	41.9	74	-32.1	PASS		33.1	54	-20.9	PASS		223	46
3158.3	44.2	34.3	-0.2	44	74	-30	PASS		34.1	54	-19.9	PASS		185	68
4960	53.9	51.8	0.9	54.8	74	-19.2	PASS	-19.2	52.7	54	-1.3	PASS	-1.3	105	2
5973.3	42	32.6	2.5	44.5	74	-29.5	PASS		35.1	54	-18.9	PASS		111	310

1-6GHz Horizontal

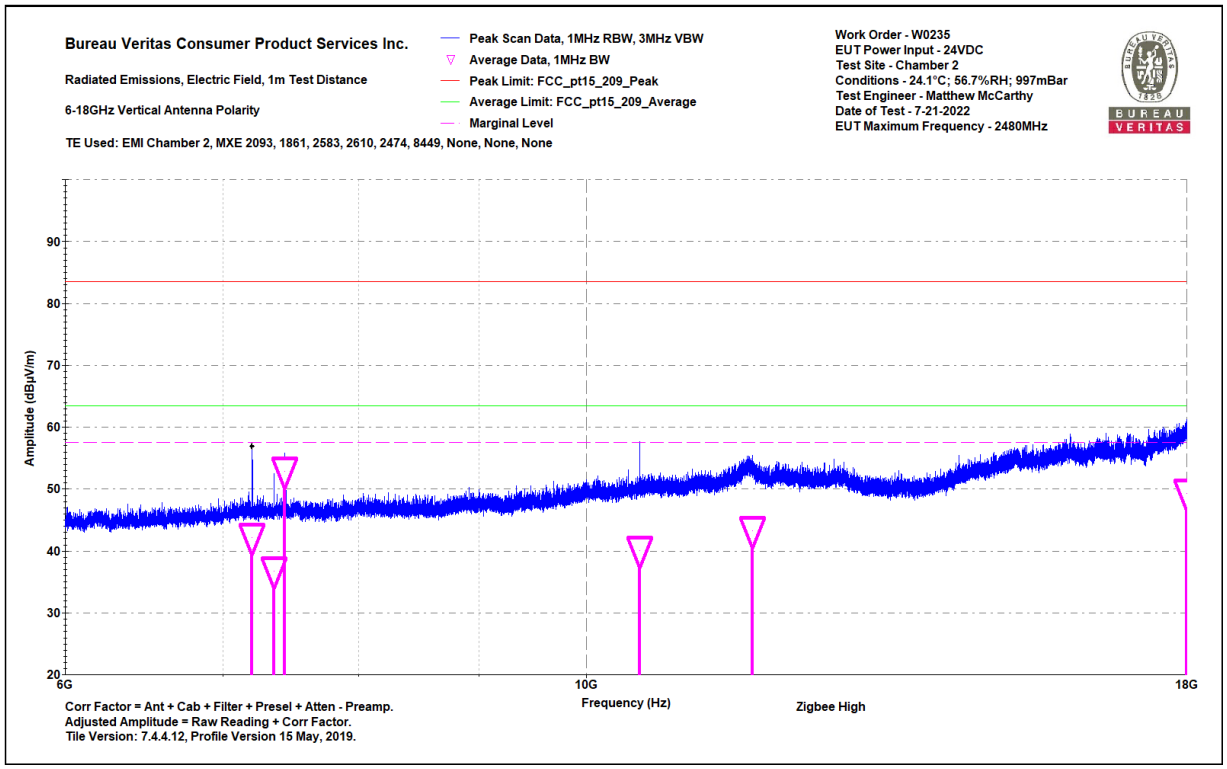


1-6GHz Horizontal

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 24VDC
6-18GHz Vertical Data	Test Site - Chamber 2
Notes:	Conditions - 24.1°C; 56.7%RH; 997mBar
Zigbee High	Test Engineer - Matthew McCarthy
0	Date of Test - 7-21-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7362.1	42.7	33.6	3.1	45.9	83.5	-37.6	PASS		36.8	63.5	-26.7	PASS		100	0
7440.1	52	49.7	3.2	55.2	83.5	-28.3	PASS		52.8	63.5	-10.7	PASS	-10.7	200	295
10531.5	41.5	33.7	6.3	47.9	83.5	-35.6	PASS		40	63.5	-23.5	PASS		100	7
11766.7	45.1	35.8	7.4	52.5	83.5	-31	PASS		43.2	63.5	-20.3	PASS		200	309
17995.7	42.6	34.4	14.9	57.5	83.5	-26	PASS	-26	49.3	63.5	-14.2	PASS		200	223

6-18GHz Vertical

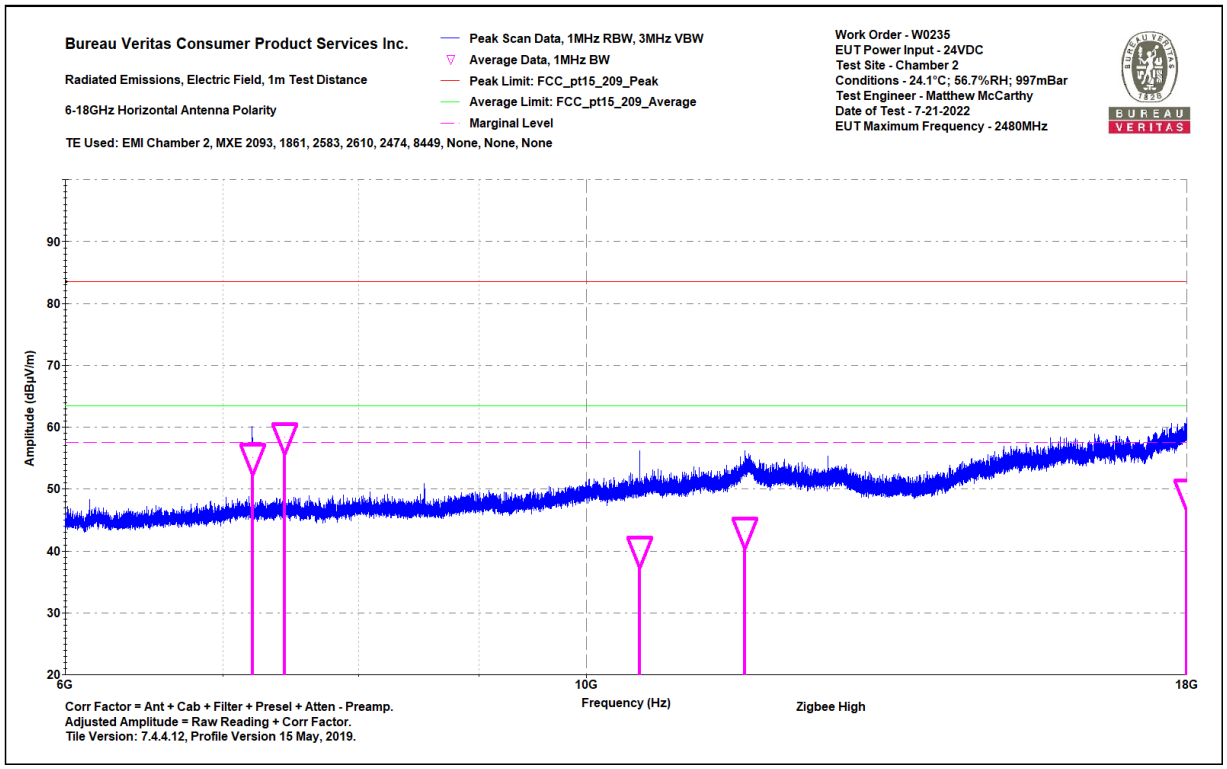


6-18GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - W0235
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 24VDC
6-18GHz Horizontal Data	Test Site - Chamber 2
Notes:	Conditions - 24.1°C; 56.7%RH; 997mBar
Zigbee High	Test Engineer - Matthew McCarthy
0	Date of Test - 7-21-2022

Frequency (MHz)	Raw Peak Reading (dBµV)	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Peak Margin (dB)	Adjusted Avg Amplitude (dBµV/m)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Avg Margin (dB)	Avg Test Results (Pass/Fail)	Worst Avg Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7440	56.8	55.2	3.2	59.9	83.5	-23.6	PASS	-23.6	58.4	63.5	-5.1	PASS	-5.1	159	1
10532.3	48.1	33.7	6.3	54.4	83.5	-29.1	PASS		40	63.5	-23.5	PASS		195	70
11672.6	44.3	35.6	7.5	51.9	83.5	-31.6	PASS		43.1	63.5	-20.4	PASS		157	90
17999	43.2	34.4	14.9	58.1	83.5	-25.4	PASS		49.3	63.5	-14.2	PASS		108	55

6-18GHz Horizontal



6-18GHz Horizontal

Radiated Emissions Table

Date: 28-Jul-22 **Company:** Assa Abloy **Work Order:** W0235
Engineer: Matthew McCarthy **EUT Desc:** DR100 Door Relay **EUT Operating Voltage/Frequency:** 24VDC
Temp: 23.3 **Humidity:** 51% **Pressure:** 1003mBar
Frequency Range: 18-25GHz **Measurement Distance:** 0.1 m
Notes: Zigbee High **EUT Max Freq:** 2480MHz

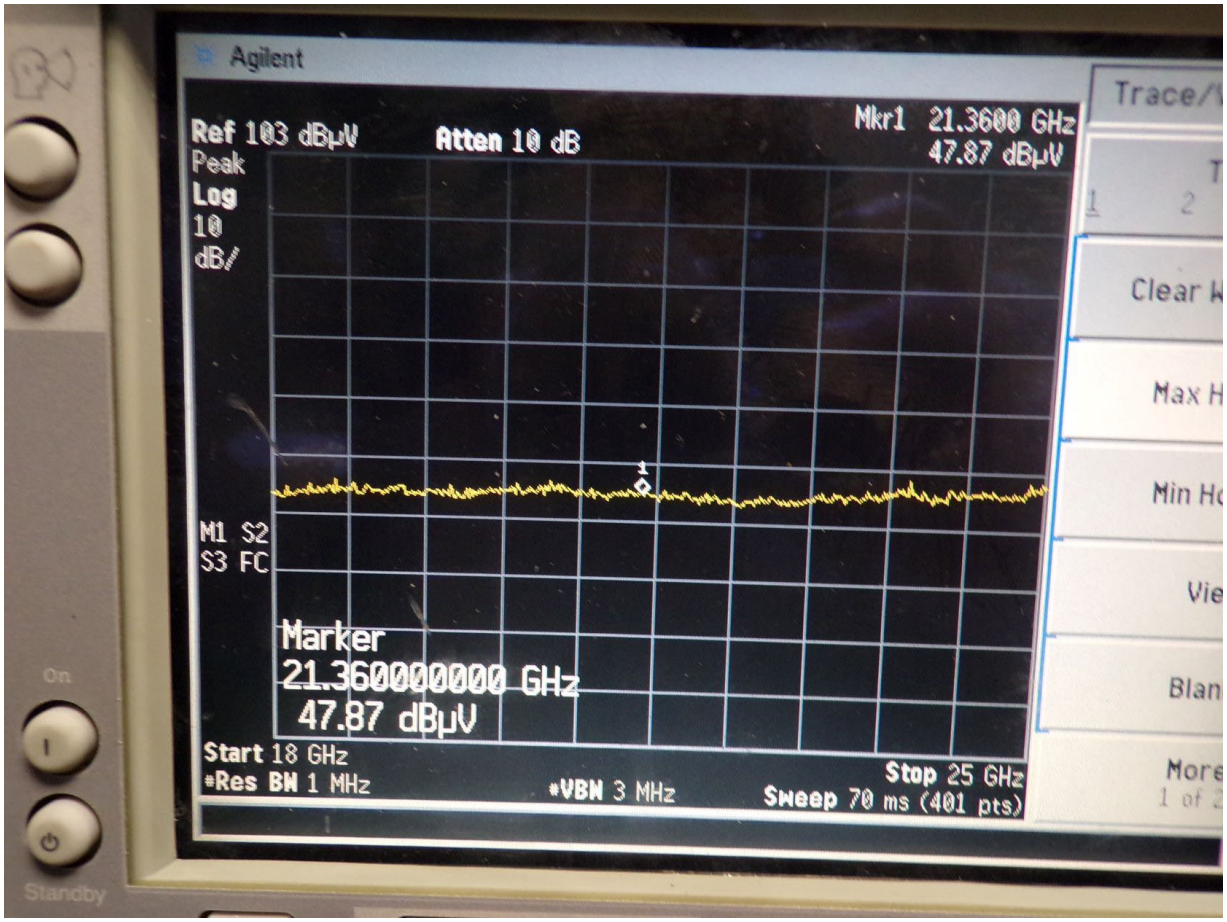
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC 15.209 Peak Limit (dBµV/m)	FCC 15.209 Peak Margin (dB)	FCC 15.209 Peak Result (Pass/Fail)	FCC 15.209 Average Limit (dBµV/m)	FCC 15.209 Average Margin (dB)	FCC 15.209 Average Result (Pass/Fail)
Noise Floor	21360.0	47.87	47.9	42.9	40.2	9.6	54.8	54.8	103.5	-48.7	Pass	83.5	-28.7	Pass

Table Result: Pass by -28.7 dB ***Worst Freq:*** 21360.0 MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #2323 **Cable 2:** --- **Cable 3:** ---
Analyzer: Gold **Preamp:** 18-26.5GHz **Antenna:** 18-26.5GHz Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.222

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-25GHz



18-25GHz Plot (High Channel)

Results for Zigbee 250Kbps O-QPSK Radiated Band-edge:

Radiated Emissions Table

Date: 19-Jul-22 **Company:** Assa Abloy **Work Order:** W0235
Engineer: Matthew McCarthy **EUT Desc:** DR100 Door Relay **EUT Operating Voltage/Frequency:** 24V DC
Temp: 23.9°C **Humidity:** 59% **Pressure:** 996mBar
Frequency Range: Band Edge **Measurement Distance:** 3 m
Notes: **EUT Max Freq:** 2480

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak			FCC Class B High Frequency - Average		
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
BLE Low CH + Zigbee Low Ch				---	---	---	---	---	---	---	---	---	---	---
V	2390.0	54.464	50.2	38.7	32.2	2.8	50.8	46.5	74.0	-23.2	Pass	54.0	-7.5	Pass
H	2390.0	58.802	52.8	38.7	32.2	2.8	55.1	49.1	74.0	-18.9	Pass	54.0	-4.9	Pass
				---	---	---	---	---	---	---	---	---	---	---
BLE High CH + Zigbee High Ch				---	---	---	---	---	---	---	---	---	---	---
V	2483.5	65.394	51.4	38.8	32.4	3.0	62.0	48.0	74.0	-12.0	Pass	54.0	-6.0	Pass
H	2483.5	64.088	52.6	38.8	32.4	3.0	60.7	49.2	74.0	-13.3	Pass	54.0	-4.8	Pass

Table Result: Pass by -4.8 dB ***Worst Freq:*** 2483.5 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #2583 **Cable 2:** Asset #2610 **Cable 3:** Asset #2474
Analyzer: Asset #2093 **Preamp:** Asset #8449B **Antenna:** Blue Horn
CSsoft Radiated Emissions Calculator v 1.017.222

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

In addition, 2.2GHz to 2.8GHz notch filter range was checked for emissions and no emissions were found.

4.3 6DB CHANNEL BANDWIDTH & 99% OBW

LIMIT: The minimum 6 dB bandwidth shall be 500 kHz.

TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

99% OBW

The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

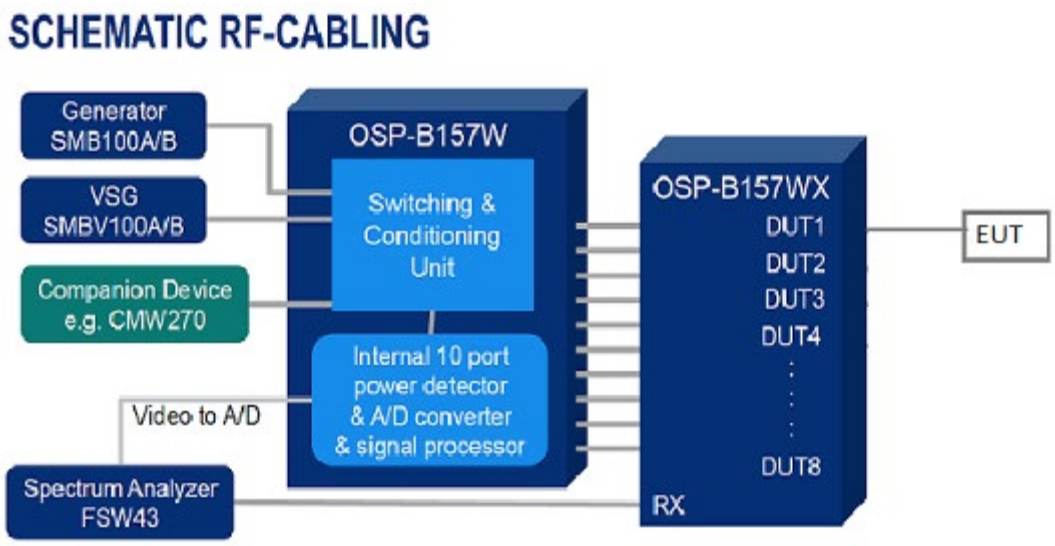
Step a) through step c) might require iteration to adjust within the specified range. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

DEVIATION FROM TEST STANDARD

None.

TEST SETUP



TEST EQUIPMENT USED

Equipment	Manufacturer	Asset No.	Model No.	Serial No.	Last Cal.	Next Cal.
Cable	Carlisle	2595	UTiFLEX		1/21/2022	1/21/2023
Signal Analyzer	Rohde-Schwarz	2200	FSV 40	101551	10/11/2022	10/11/2023
OSP-B157W8	Rohde-Schwarz	2558	OSP_B157W8	100955	8/26/2021	8/26/2023

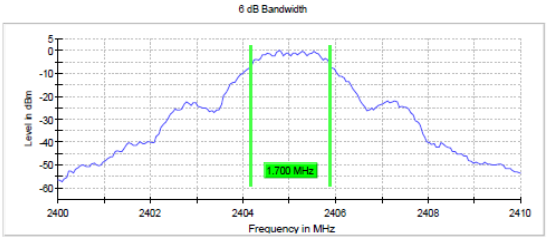
Test date: 11-30-2022

TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	99% OBW (MHz)	PASS / FAIL
11	2405	1.7	2.725	Pass
18	2440	1.7	2.675	Pass
26	2480	1.7	2.675	Pass

CH11

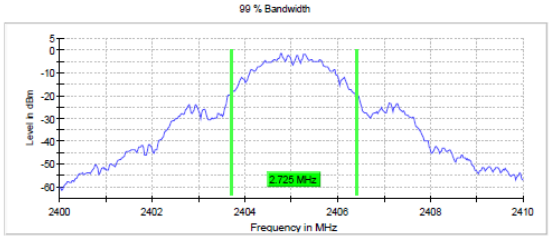
6dB Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.41000 GHz	2.41000 GHz
Span	10.000 MHz	10.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	200	~ 200
Sweeptime	18.945 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	16 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.41 dB	0.50 dB

99% OBW

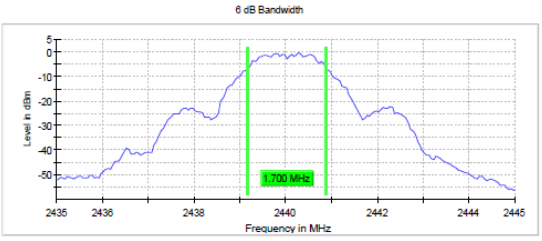


Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.41000 GHz	2.41000 GHz
Span	10.000 MHz	10.000 MHz
RBW	50.000 kHz	>= 50.000 kHz
VBW	200.000 kHz	>= 150.000 kHz
SweepPoints	400	~ 400
Sweeptime	37.930 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	0.30 dB	0.30 dB
Run	31 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.21 dB	0.30 dB

CH18

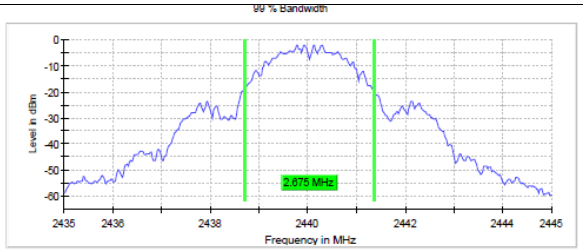
6dB Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43500 GHz	2.43500 GHz
Stop Frequency	2.44500 GHz	2.44500 GHz
Span	10.000 MHz	10.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	200	~ 200
Sweeptime	18.945 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	27 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.50 dB

99% OBW

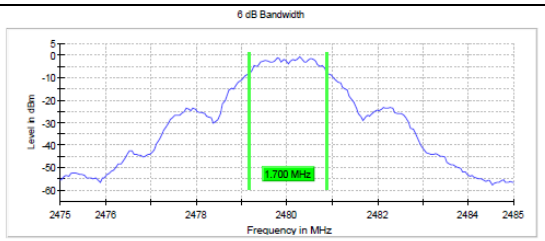


Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43500 GHz	2.43500 GHz
Stop Frequency	2.44500 GHz	2.44500 GHz
Span	10.000 MHz	10.000 MHz
RBW	50.000 kHz	>= 50.000 kHz
VBW	200.000 kHz	>= 150.000 kHz
SweepPoints	400	~ 400
Sweeptime	37.930 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	0.30 dB	0.30 dB
Run	24 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.06 dB	0.30 dB

CH26

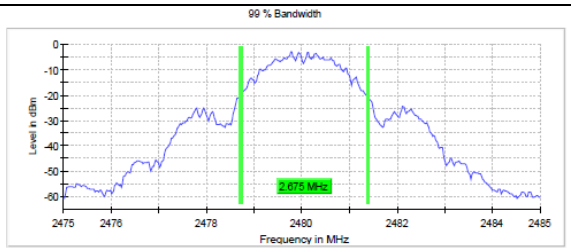
6dB Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47500 GHz	2.47500 GHz
Stop Frequency	2.48500 GHz	2.48500 GHz
Span	10.000 MHz	10.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	200	~ 200
Sweeptime	18.945 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	24 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.50 dB

99% OBW



Measurement

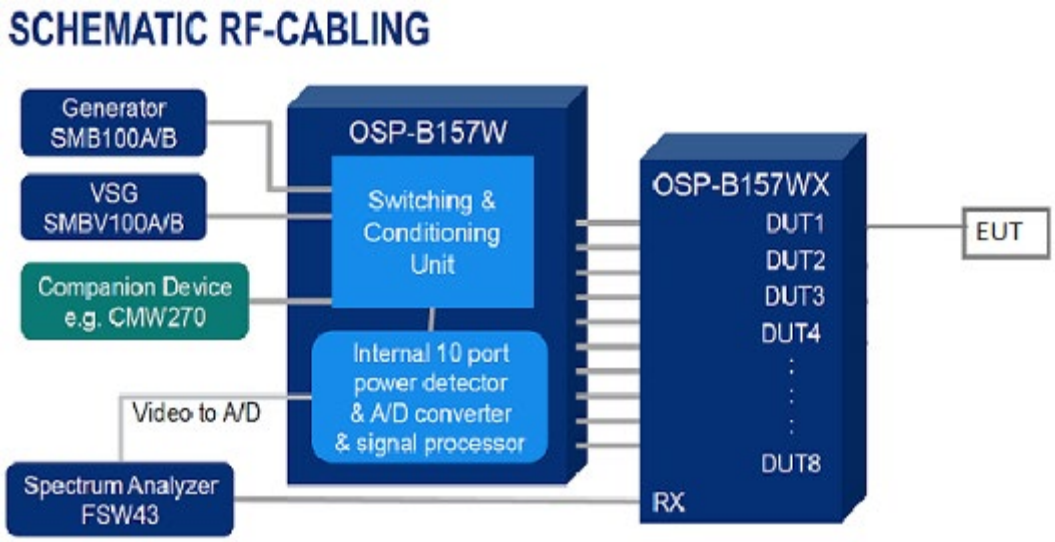
Setting	Instrument Value	Target Value
Start Frequency	2.47500 GHz	2.47500 GHz
Stop Frequency	2.48500 GHz	2.48500 GHz
Span	10.000 MHz	10.000 MHz
RBW	50.000 kHz	>= 50.000 kHz
VBW	200.000 kHz	>= 150.000 kHz
SweepPoints	400	~ 400
Sweeptime	37.930 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	0.30 dB	0.30 dB
Run	17 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.25 dB	0.30 dB

4.4 CONDUCTED OUTPUT POWER

LIMIT

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm)

TEST SETUP



TEST EQUIPMENT USED

Equipment	Manufacturer	Asset No.	Model No.	Serial No.	Last Cal.	Next Cal.
Cable	Carlisle	2595	UTiFLEX		1/21/2022	1/21/2023
Signal Analyzer	Rohde-Schwarz	2200	FSV 40	101551	10/11/2022	10/11/2023
OSP-B157W8	Rohde-Schwarz	2558	OSP_B157W8	100955	8/26/2021	8/26/2023

Test date: 01-05-2023

TEST PROCEDURES

Per 11.9.1.1 of ANSI C63.10, for peak conducted output power measurement when RBW ≥ DTS bandwidth.

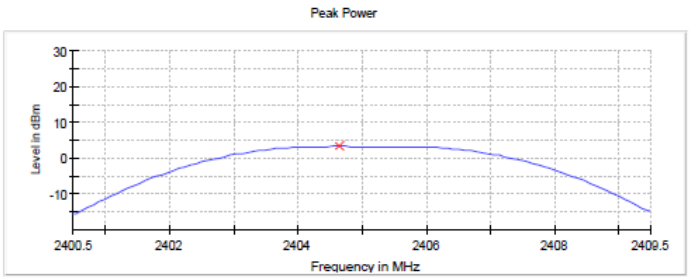
DEVIATION FROM TEST STANDARD

None.

TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	PEAK POWER LIMIT (W)	PASS/FAIL
11	2405	3.3	2.14	1	PASS
18	2440	3.4	2.19	1	PASS
26	2480	2.5	1.78	1	PASS

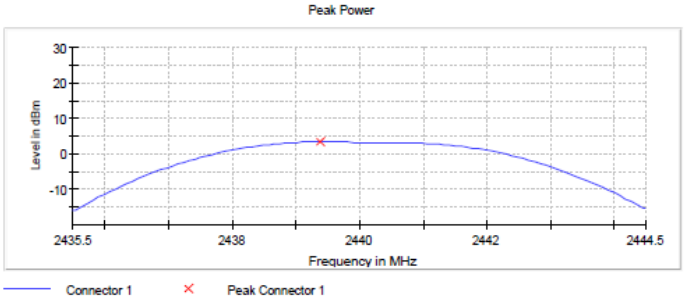
CH 11 Output Power



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40050 GHz	2.40050 GHz
Stop Frequency	2.40950 GHz	2.40950 GHz
Span	9.000 MHz	9.000 MHz
RBW	3.000 MHz	>= 3.000 MHz
VBW	10.000 MHz	>= 10.000 MHz
SweepPoints	101	~ 101
Sweeptime	1.271 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 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	0.01 dB	0.50 dB

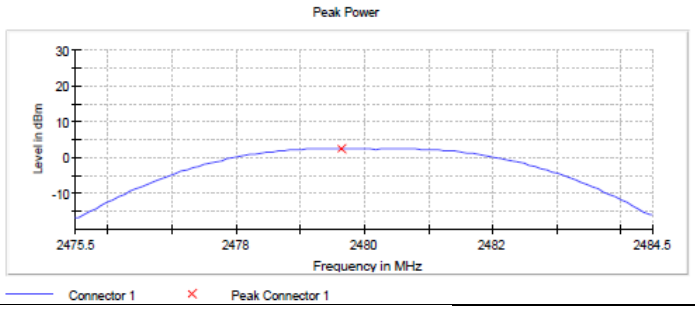
CH 18 Output Power



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43550 GHz	2.43550 GHz
Stop Frequency	2.44450 GHz	2.44450 GHz
Span	9.000 MHz	9.000 MHz
RBW	3.000 MHz	>= 3.000 MHz
VBW	10.000 MHz	>= 10.000 MHz
SweepPoints	101	~ 101
Sweeptime	1.271 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 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	0.10 dB	0.50 dB

CH 26 Output Power



Measurement

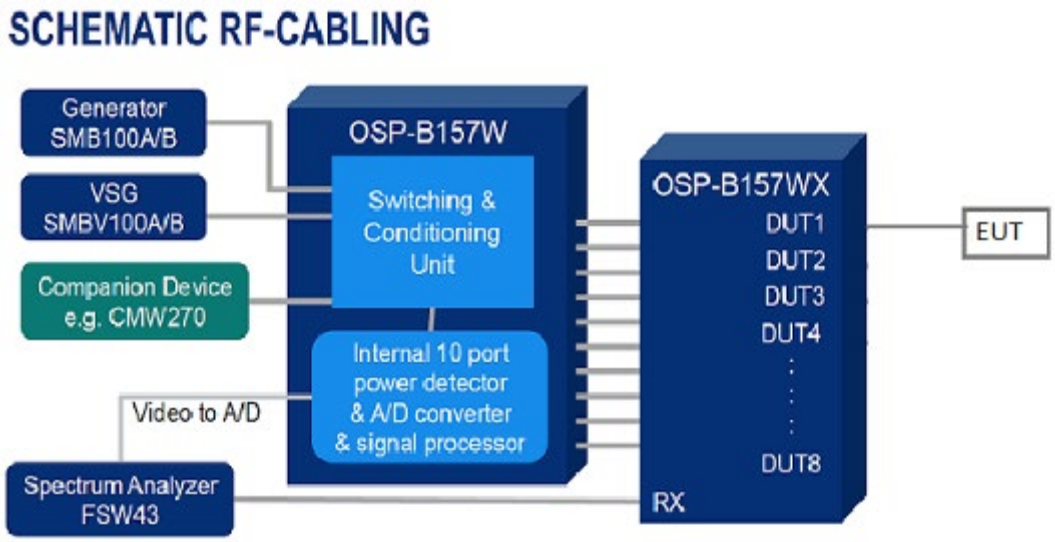
Setting	Instrument Value	Target Value
Start Frequency	2.47550 GHz	2.47550 GHz
Stop Frequency	2.48450 GHz	2.48450 GHz
Span	9.000 MHz	9.000 MHz
RBW	3.000 MHz	>= 3.000 MHz
VBW	10.000 MHz	>= 10.000 MHz
SweepPoints	101	~ 101
Sweeptime	1.271 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	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	0.02 dB	0.50 dB

4.5 POWER SPECTRAL DENSITY

LIMITS

The limit for Power Spectral Density is 8dBm/3kHz.

TEST SETUP



TEST EQUIPMENT USED

Equipment	Manufacturer	Asset No.	Model No.	Serial No.	Last Cal.	Next Cal.
Cable	Carlisle	2595	UTiFLEX		1/21/2022	1/21/2023
Signal Analyzer	Rohde-Schwarz	2200	FSV 40	101551	10/11/2022	10/11/2023
OSP-B157W8	Rohde-Schwarz	2558	OSP_B157W8	100955	8/26/2021	8/26/2023

Test date: 11-30-2022

TEST PROCEDURE

1. Set the span to 1.5 times the DTS bandwidth
2. Set the RBW = 10 kHz, VBW ≥ 3 x RBW, Detector = peak.
3. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

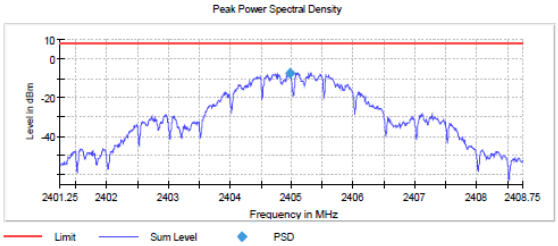
DEVIATIONS

None.

TEST RESULTS

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	RESULT
11	2405	-7.194	8	PASS
18	2440	-7.099	8	PASS
26	2480	-8.183	8	PASS

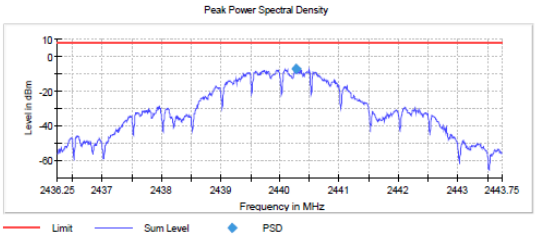
CH 11 Power Spectral Density



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40125 GHz	2.40125 GHz
Stop Frequency	2.40875 GHz	2.40875 GHz
Span	7.500 MHz	7.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	1500	~ 1500
Sweeptime	7.500 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	54 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.00 dB	0.50 dB

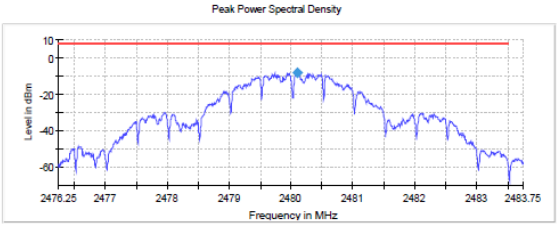
CH 18 Power Spectral Density



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43625 GHz	2.43625 GHz
Stop Frequency	2.44375 GHz	2.44375 GHz
Span	7.500 MHz	7.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	1500	~ 1500
Sweeptime	7.500 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	48 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.47 dB	0.50 dB

CH 26 Power Spectral Density



Measurement

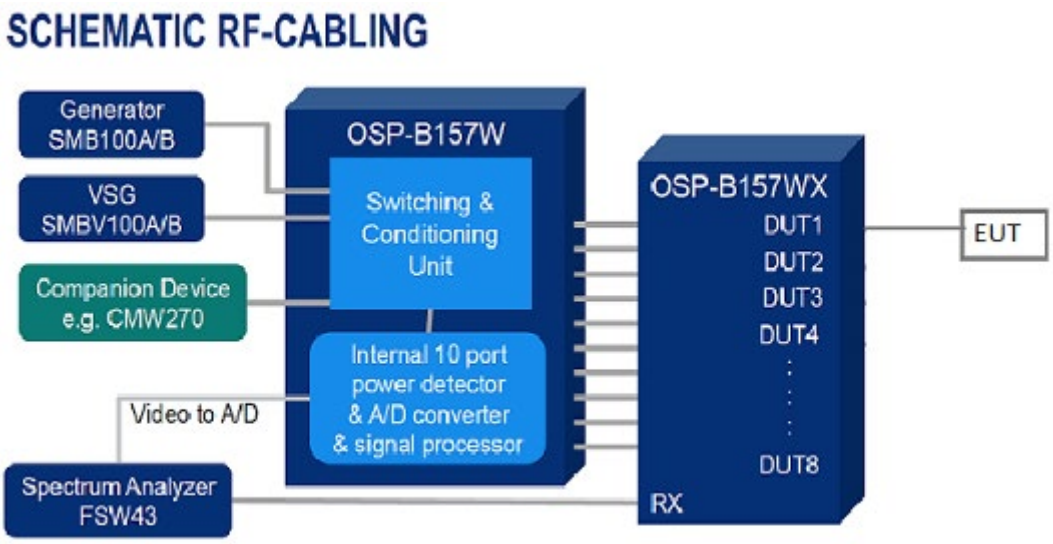
Setting	Instrument Value	Target Value
Start Frequency	2.47625 GHz	2.47625 GHz
Stop Frequency	2.48375 GHz	2.48375 GHz
Span	7.500 MHz	7.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	1500	~ 1500
Sweeptime	7.500 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	48 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.32 dB	0.50 dB

4.6 CONDUCTED SPURIOUS EMISSIONS

LIMITS

Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

TEST SETUP



TEST EQUIPMENT USED

Equipment	Manufacturer	Asset No.	Model No.	Serial No.	Last Cal.	Next Cal.
Cable	Carlisle	2595	UTiFLEX		1/21/2022	1/21/2023
Signal Analyzer	Rohde-Schwarz	2200	FSV 40	101551	10/11/2022	10/11/2023
OSP-B157W8	Rohde-Schwarz	2558	OSP_B157W8	100955	8/26/2021	8/26/2023

Test date: 11-30-2022

TEST PROCEDURE

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

DEVIATIONS

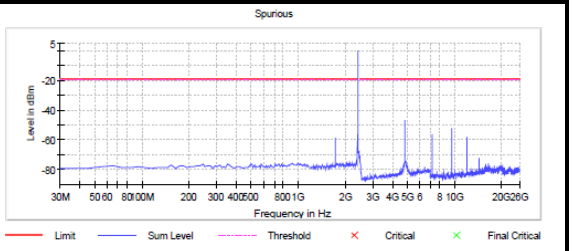
None.

TEST RESULTS

CH 11

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4807.166065	-46.4	26.9	-19.5
9624.400659	-52.2	32.7	-19.5
9614.406396	-53.1	33.6	-19.5
2395.021008	-54.0	34.5	-19.5
7215.783362	-56.0	36.5	-19.5
12023.023693	-58.2	38.7	-19.5
1727.836134	-58.6	39.1	-19.5
4817.160327	-59.3	39.8	-19.5
12033.017956	-62.6	43.1	-19.5
2385.063025	-68.2	48.7	-19.5
2375.105042	-70.1	50.6	-19.5
14431.640990	-72.1	52.6	-19.5
2488.497131	-74.4	54.9	-19.5
4797.171802	-74.4	54.9	-19.5
4847.143115	-74.5	55.0	-19.5



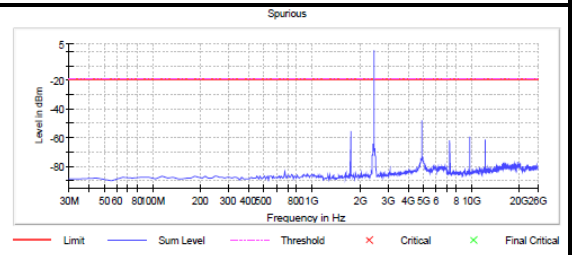
Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	238	~ 238
Sweeptime	23.700 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	1.00 dB	1.00 dB
Run	3 / max. 40	max. 40
Stable	2 / 2	2
Max Stable Difference	0.00 dB	1.00 dB

CH 18

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4877.125903	-48.0	28.7	-19.3
1747.752101	-55.4	36.1	-19.3
9764.320336	-59.4	40.1	-19.3
4887.120166	-59.7	40.4	-19.3
9754.326073	-60.4	41.1	-19.3
12192.926158	-61.4	42.1	-19.3
7325.720251	-62.1	42.8	-19.3
7315.725988	-63.3	44.0	-19.3
12202.920421	-64.8	45.5	-19.3
2488.497131	-71.3	52.0	-19.3
2395.021008	-71.3	52.0	-19.3
2385.063025	-72.6	53.3	-19.3
4947.085742	-73.4	54.1	-19.3
2498.491394	-74.0	54.7	-19.3
4927.097216	-74.4	55.1	-19.3



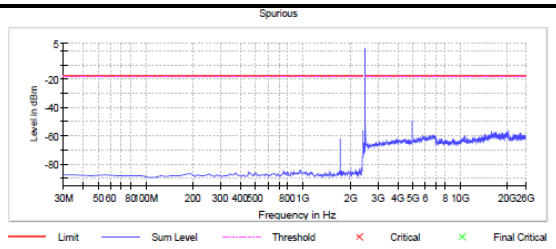
Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	238	~ 238
Sweeptime	23.700 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	1.00 dB	1.00 dB
Run	3 / max. 40	max. 40
Stable	2 / 2	2
Max Stable Difference	0.00 dB	1.00 dB

CH 26

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2488.497131	-47.6	29.2	-18.3
4957.080004	-49.3	31.0	-18.3
20258.296111	-56.5	38.1	-18.3
15730.895134	-56.7	38.3	-18.3
20188.336273	-56.9	38.6	-18.3
19508.726413	-57.2	38.9	-18.3
20238.307586	-57.3	39.0	-18.3
18459.328836	-57.4	39.1	-18.3
20148.359222	-57.4	39.1	-18.3
19468.749363	-57.4	39.1	-18.3
16410.504994	-57.4	39.1	-18.3
20108.382172	-57.5	39.2	-18.3
16390.516468	-57.5	39.2	-18.3
19708.611666	-57.5	39.2	-18.3
19478.743625	-57.5	39.2	-18.3



Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	238	~ 238
Sweeptime	23.700 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	1.00 dB	1.00 dB
Run	4 / max. 40	max. 40
Stable	2 / 2	2
Max Stable Difference	0.00 dB	1.00 dB

4.7 CONDUCTED BAND EDGES

TEST EQUIPMENT USED

Equipment	Manufacturer	Asset No.	Model No.	Serial No.	Last Cal.	Next Cal.
Cable	Carlisle	2595	UTiFLEX		1/21/2022	1/21/2023
Signal Analyzer	Rohde-Schwarz	2200	FSV 40	101551	10/11/2022	10/11/2023
OSP-B157W8	Rohde-Schwarz	2558	OSP_B157W8	100955	8/26/2021	8/26/2023

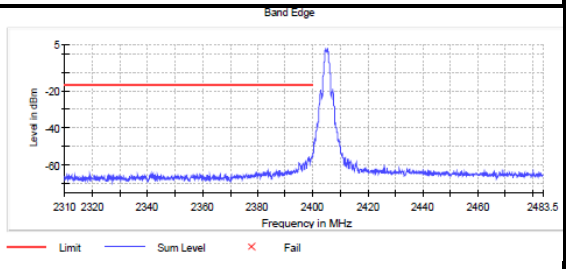
Test date: 11-30-2022

TEST RESULTS

CH 11

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-55.0	38.1	-16.9	PASS
2399.625000	-55.2	38.3	-16.9	PASS
2399.575000	-55.2	38.3	-16.9	PASS
2399.875000	-55.2	38.3	-16.9	PASS
2398.425000	-55.4	38.5	-16.9	PASS
2399.825000	-55.4	38.5	-16.9	PASS
2399.475000	-55.4	38.5	-16.9	PASS
2399.525000	-55.5	38.6	-16.9	PASS
2399.925000	-55.6	38.7	-16.9	PASS
2398.475000	-55.6	38.7	-16.9	PASS
2399.675000	-55.8	38.9	-16.9	PASS
2399.775000	-55.8	38.9	-16.9	PASS
2398.375000	-55.9	39.0	-16.9	PASS
2399.725000	-56.2	39.3	-16.9	PASS
2398.325000	-56.3	39.4	-16.9	PASS



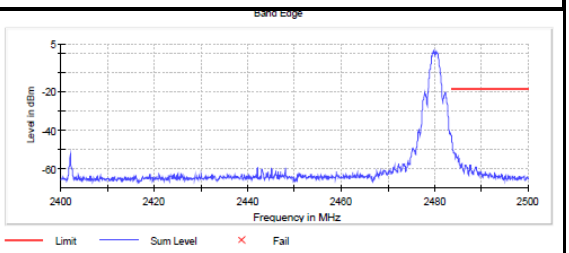
Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	2.31000 GHz	2.31000 GHz
Stop Frequency	2.40000 GHz	2.40000 GHz
Span	90.000 MHz	90.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
Sweeptime	113.672 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	5 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

CH 26

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.525000	-44.5	26.1	-18.4	PASS
2483.575000	-45.9	27.5	-18.4	PASS
2483.675000	-45.9	27.6	-18.4	PASS
2483.625000	-46.3	27.9	-18.4	PASS
2483.725000	-46.5	28.1	-18.4	PASS
2483.775000	-47.7	29.3	-18.4	PASS
2483.825000	-47.8	29.4	-18.4	PASS
2483.875000	-50.3	31.9	-18.4	PASS
2483.925000	-50.7	32.3	-18.4	PASS
2484.025000	-51.7	33.3	-18.4	PASS
2484.125000	-51.7	33.3	-18.4	PASS
2483.975000	-51.8	33.4	-18.4	PASS
2484.275000	-51.9	33.5	-18.4	PASS
2484.075000	-51.9	33.6	-18.4	PASS
2484.325000	-52.1	33.7	-18.4	PASS



Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	2.48350 GHz	2.48350 GHz
Stop Frequency	2.50000 GHz	2.50000 GHz
Span	16.500 MHz	16.500 MHz

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	330	~ 330
Sweeptime	18.945 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	5 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.38 dB	0.50 dB

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the Test Setup Photos exhibit.

6 APPENDIX A – Modifications

No modifications were made to the EUT during testing.

---END OF REPORT---