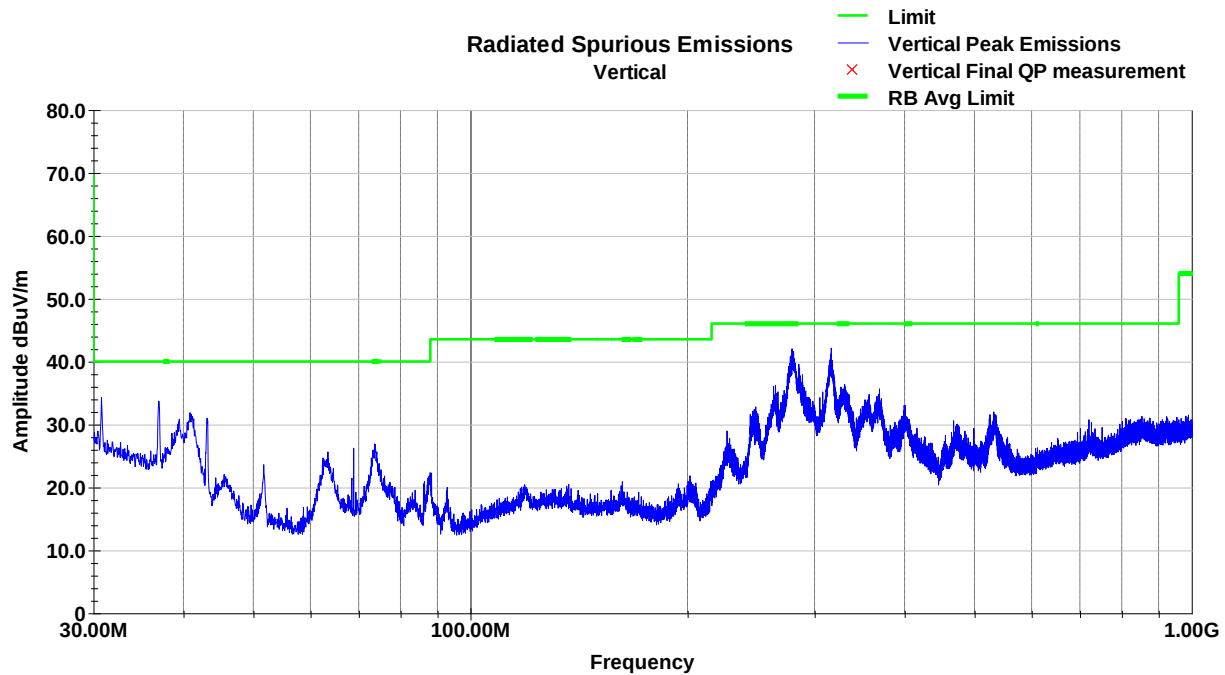
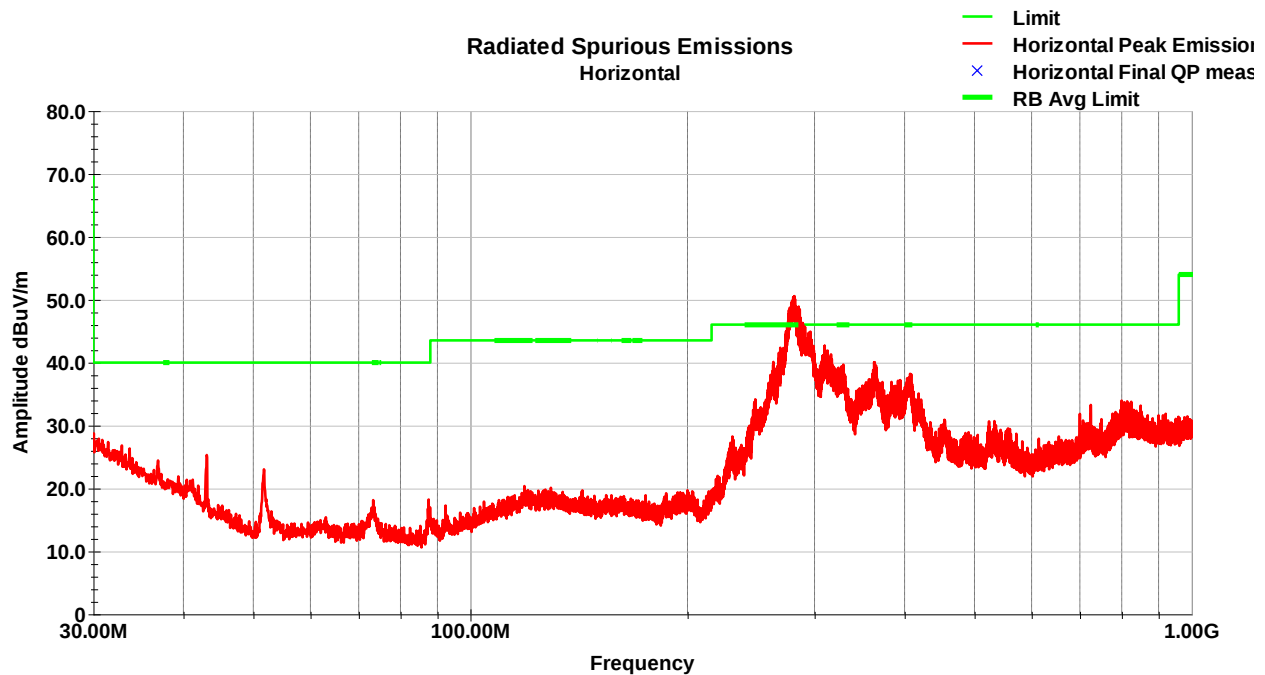


7.5.4 BLE

Vertical (30-1000MHz) (BLE – LCH)

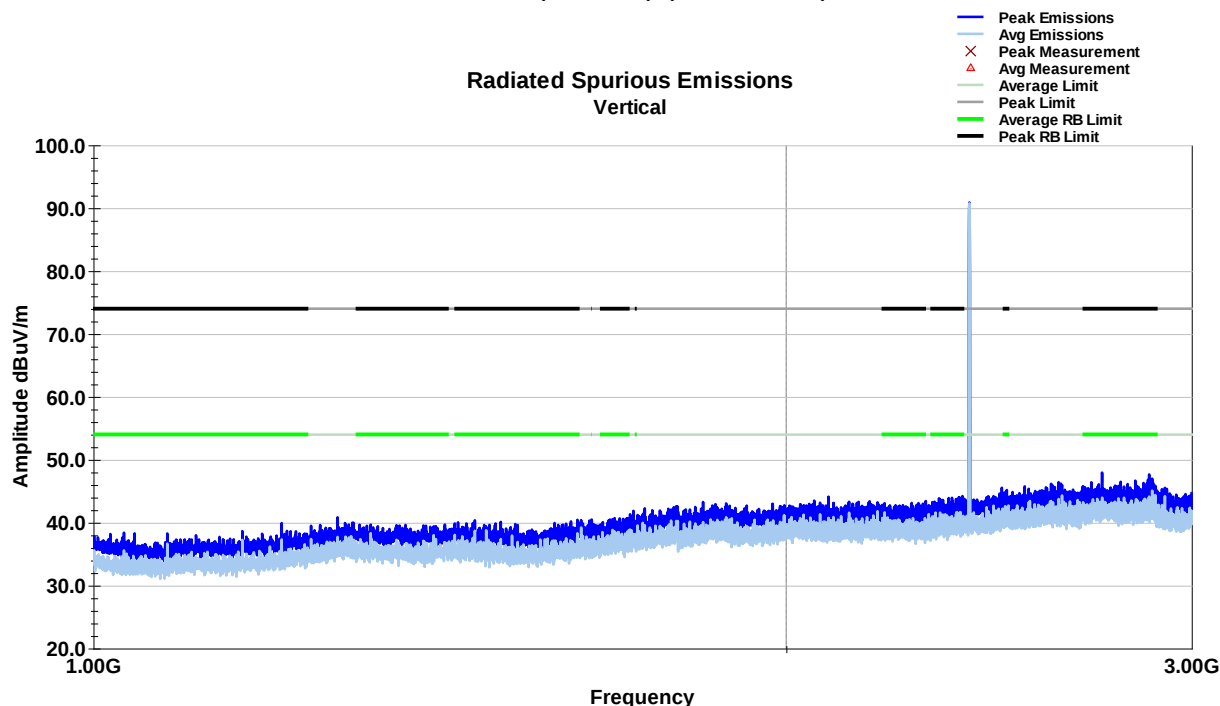


Horizontal (30-1000MHz) (BLE – LCH)

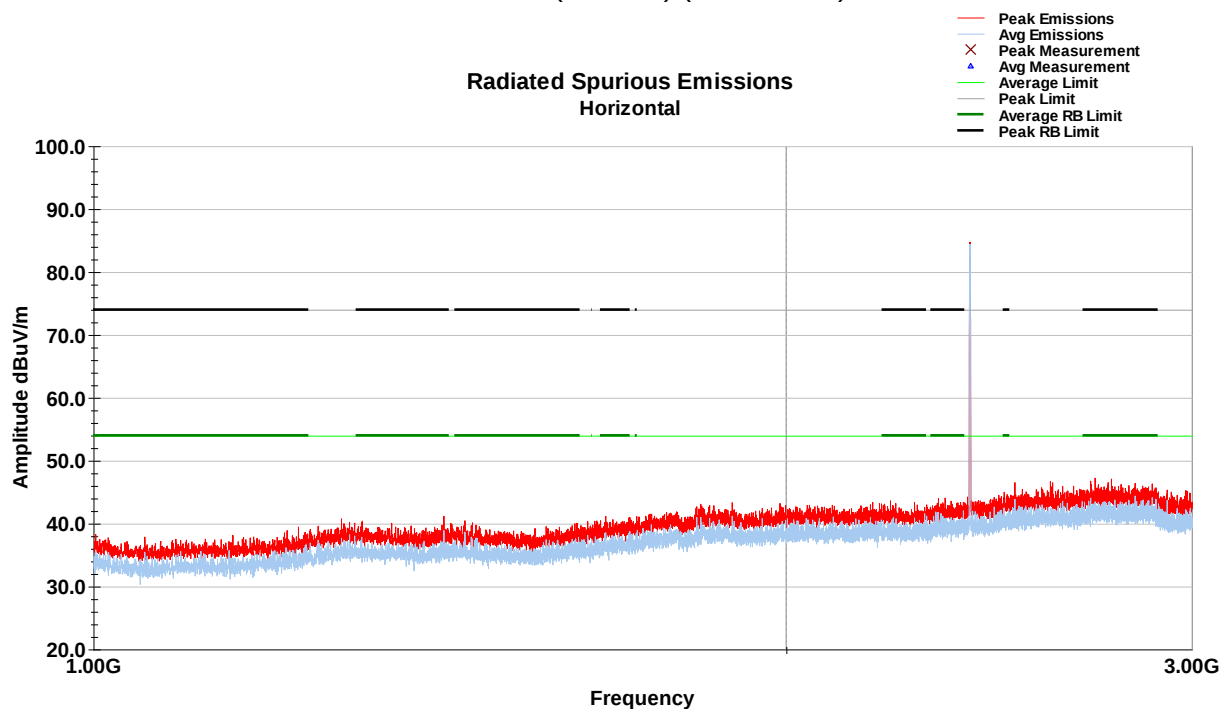


Note: The unintentional disturbances above the limit are not under evaluation and can be disregarded.

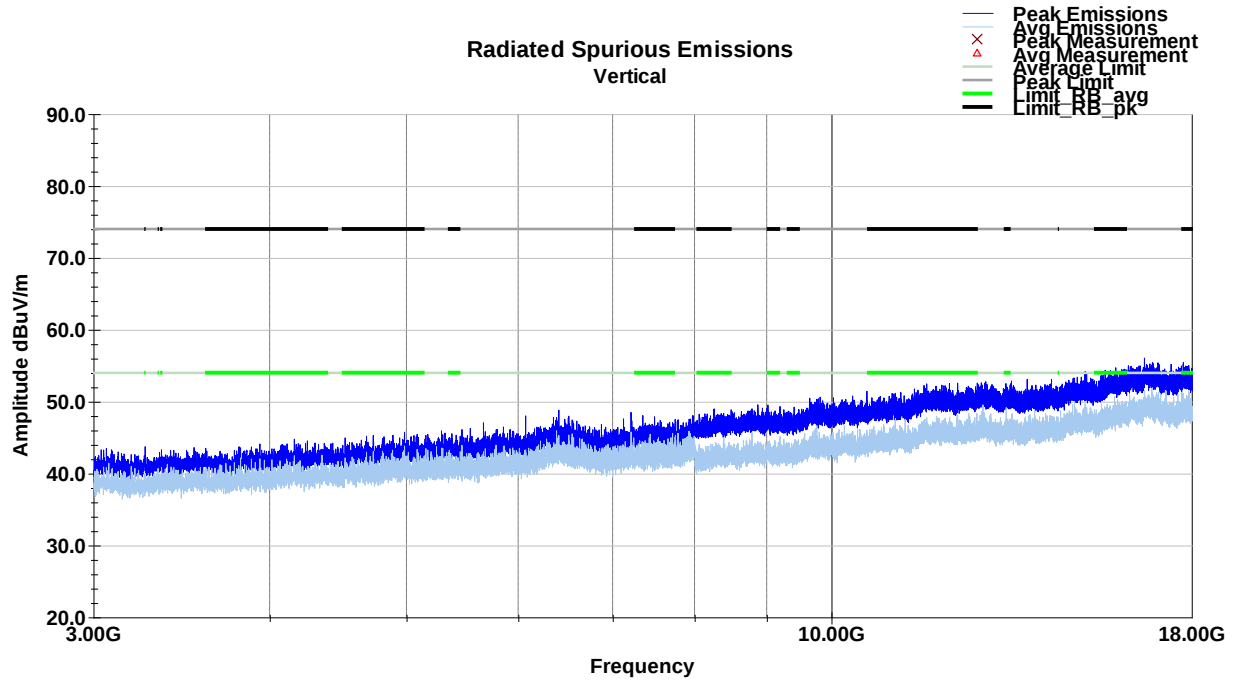
Vertical (1-3GHz) (BLE – LCH)



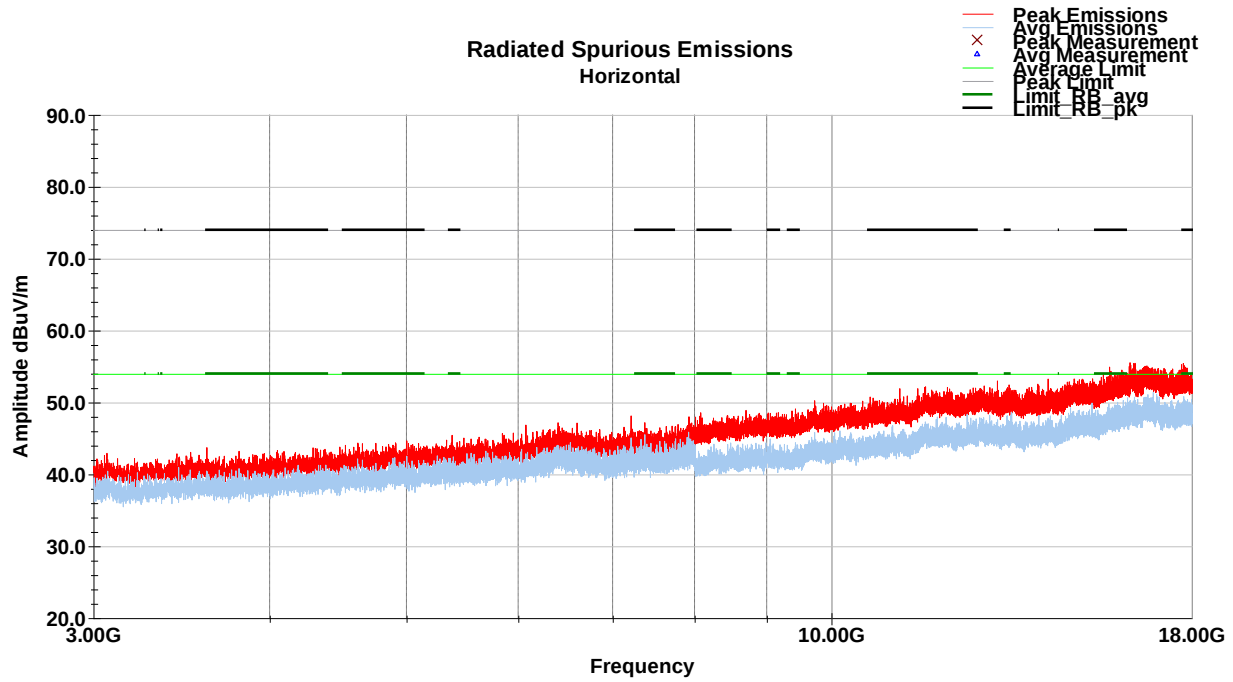
Horizontal (1-3GHz) (BLE – LCH)



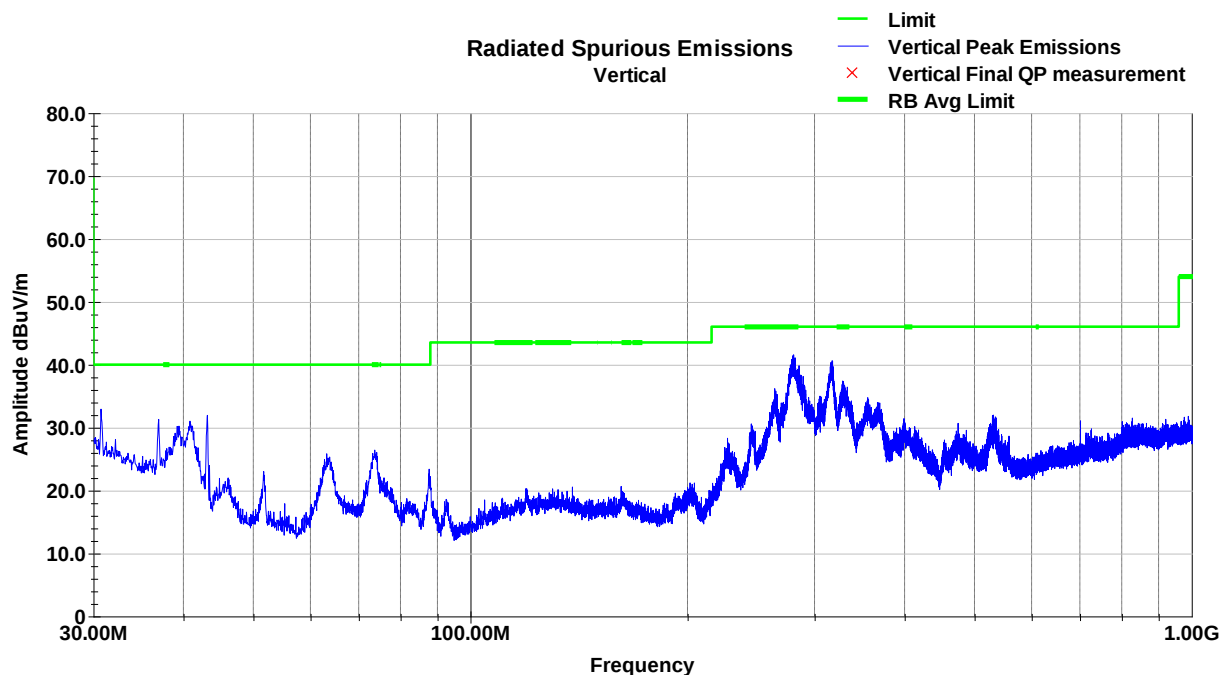
Vertical (3-18GHz) (BLE – LCH)



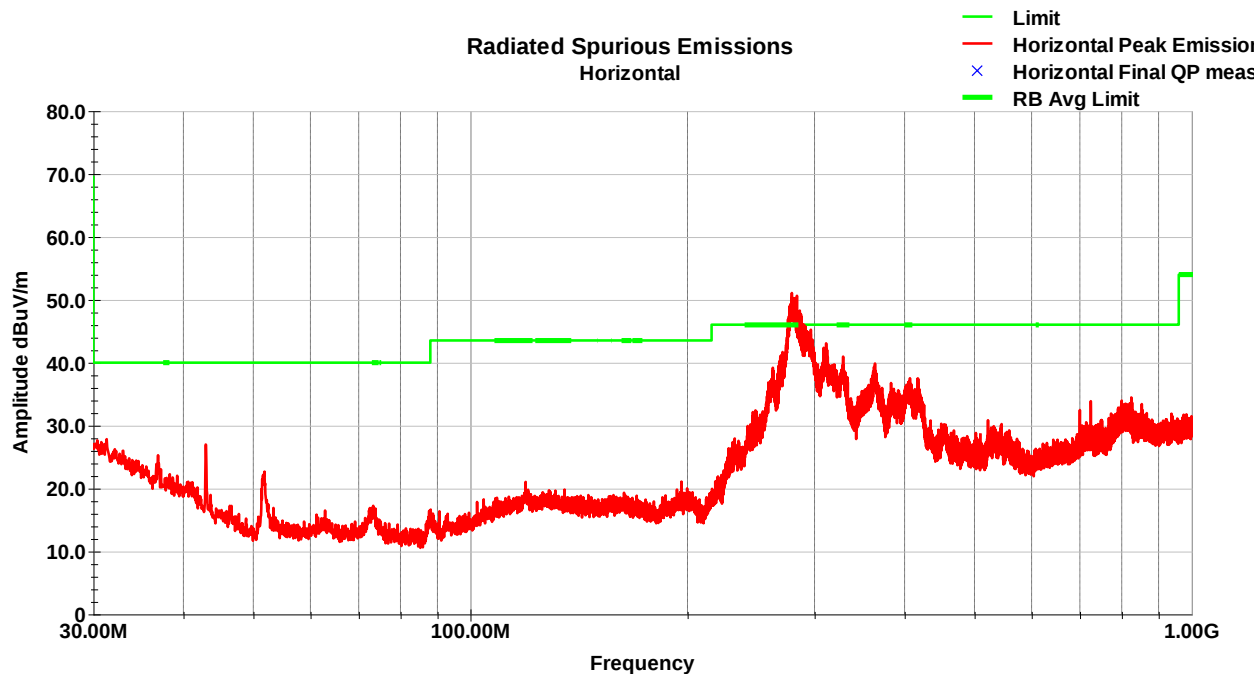
Horizontal (3-18GHz) (BLE – LCH)



Vertical (30-1000MHz) (BLE – MCH)

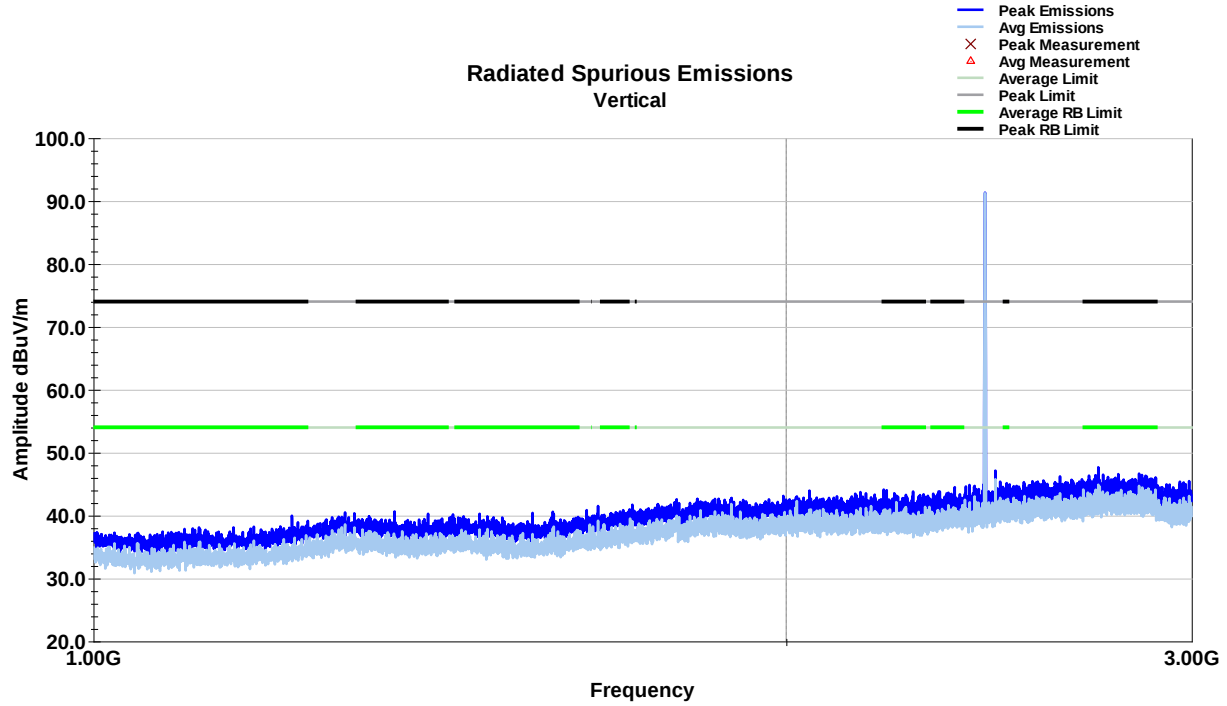


Horizontal (30-1000MHz) (BLE – MCH)

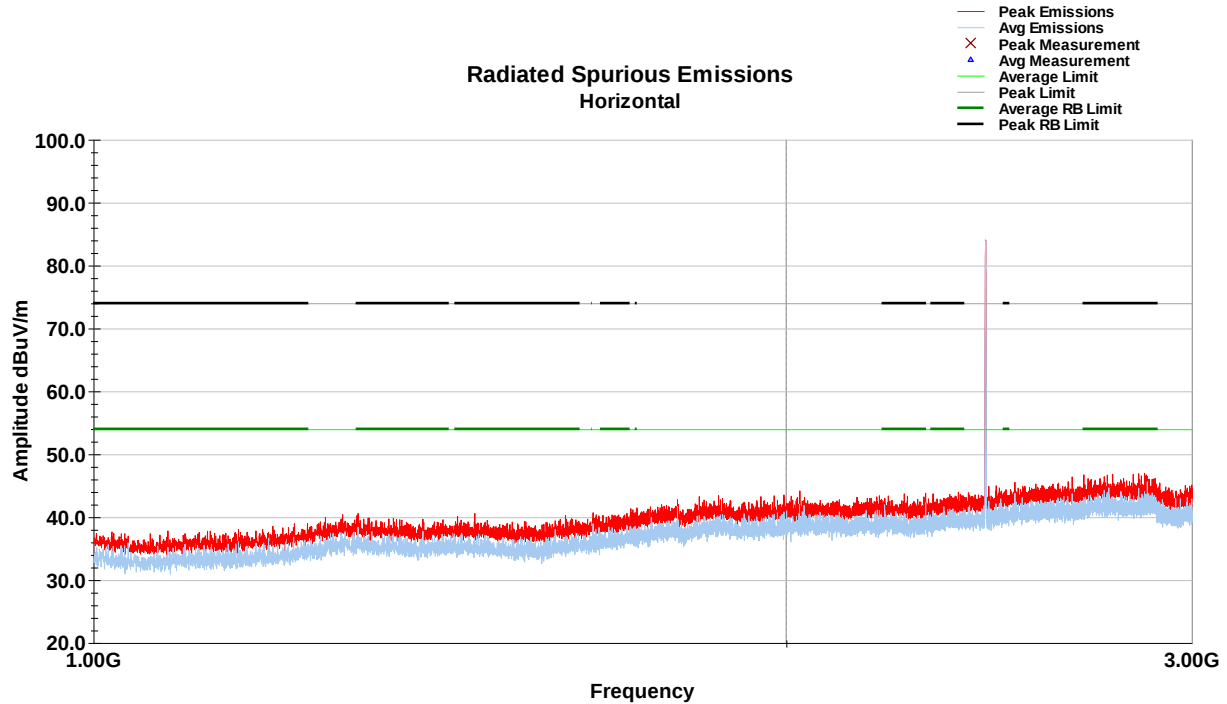


Note: The unintentional disturbances above the limit are not under evaluation and can be disregarded.

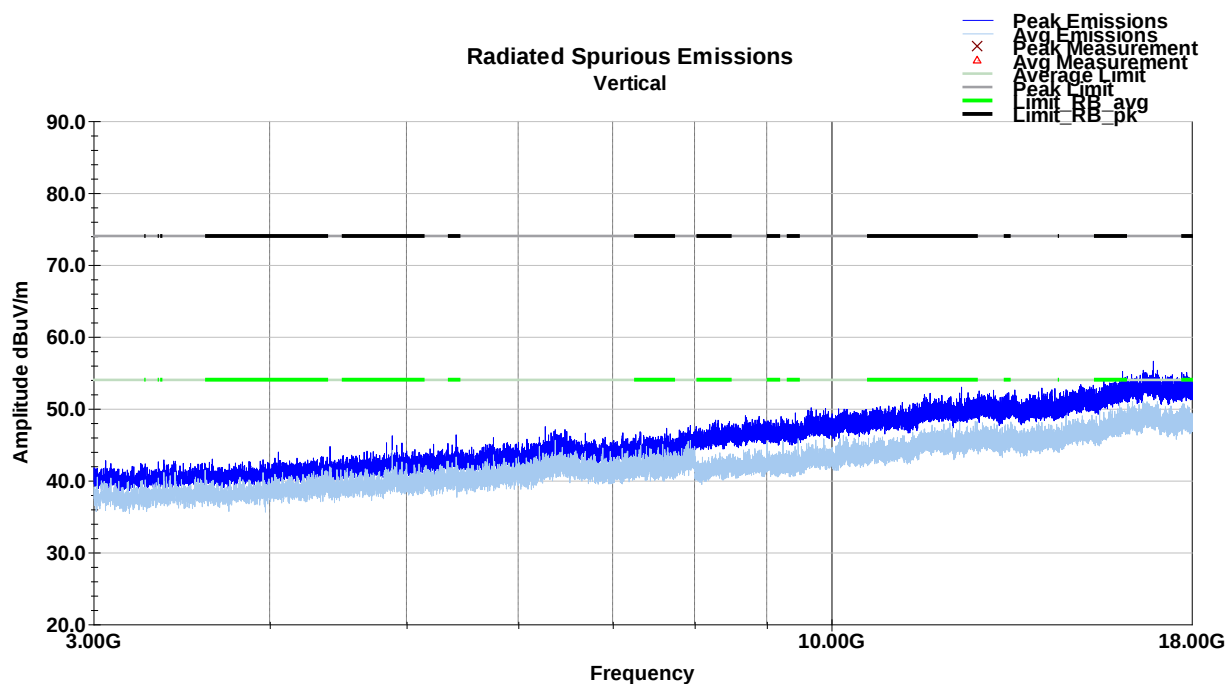
Vertical (1-3GHz) (BLE – MCH)



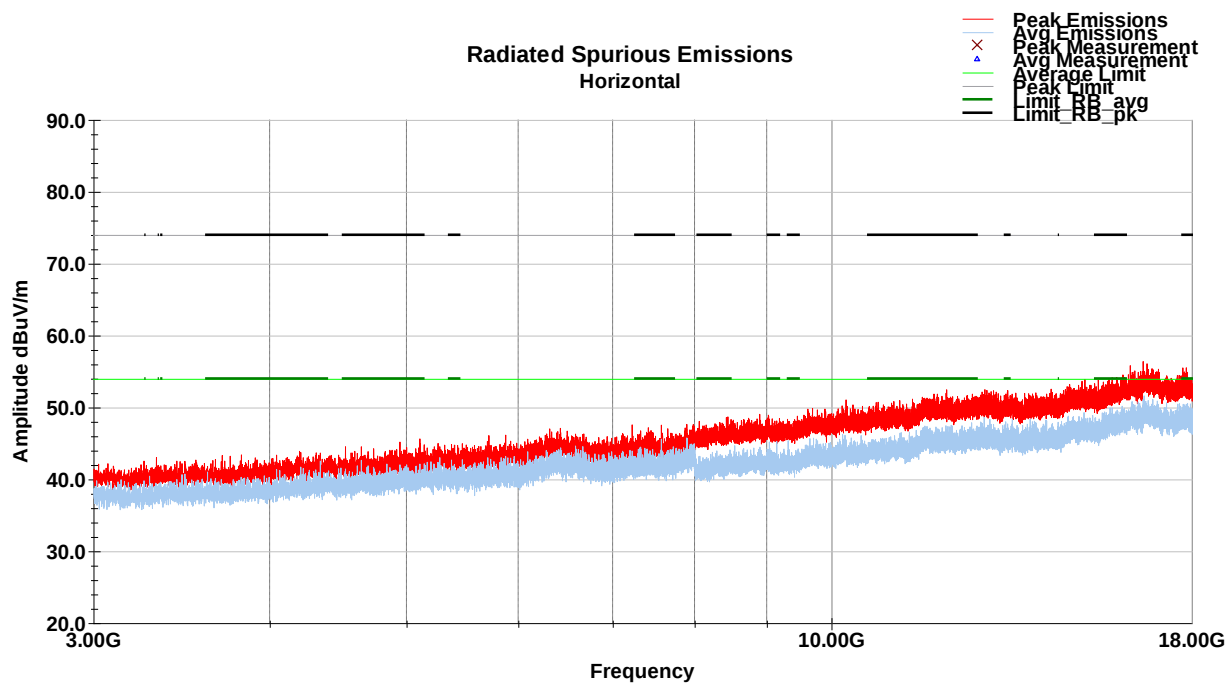
Horizontal (1-3GHz) (BLE – MCH)



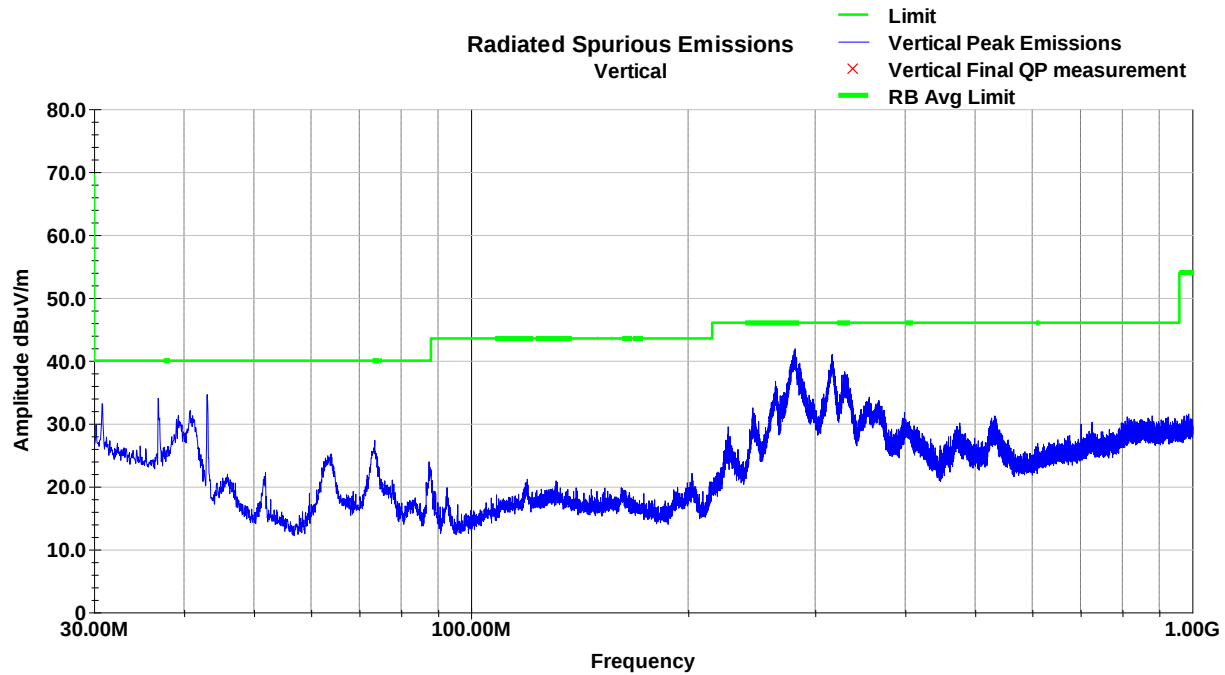
Vertical (3-18GHz) (BLE – MCH)



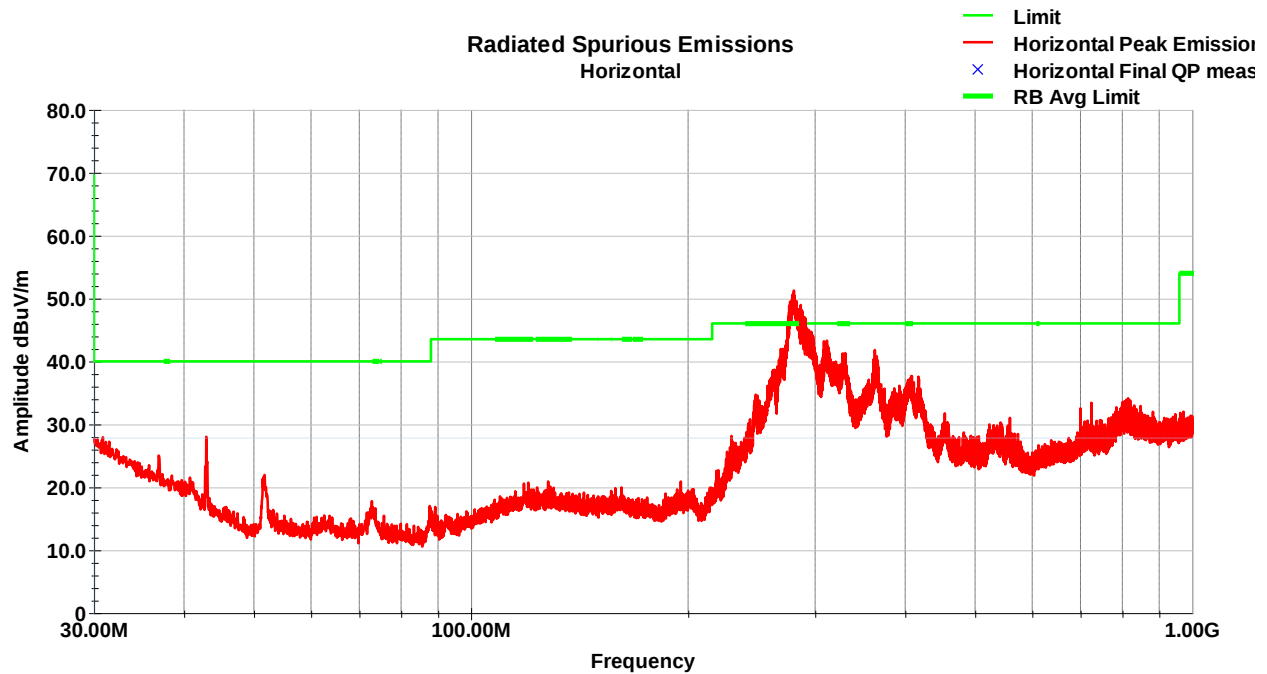
Horizontal (3-18GHz) (BLE – MCH)



Vertical (30-1000MHz) (BLE – HCH)

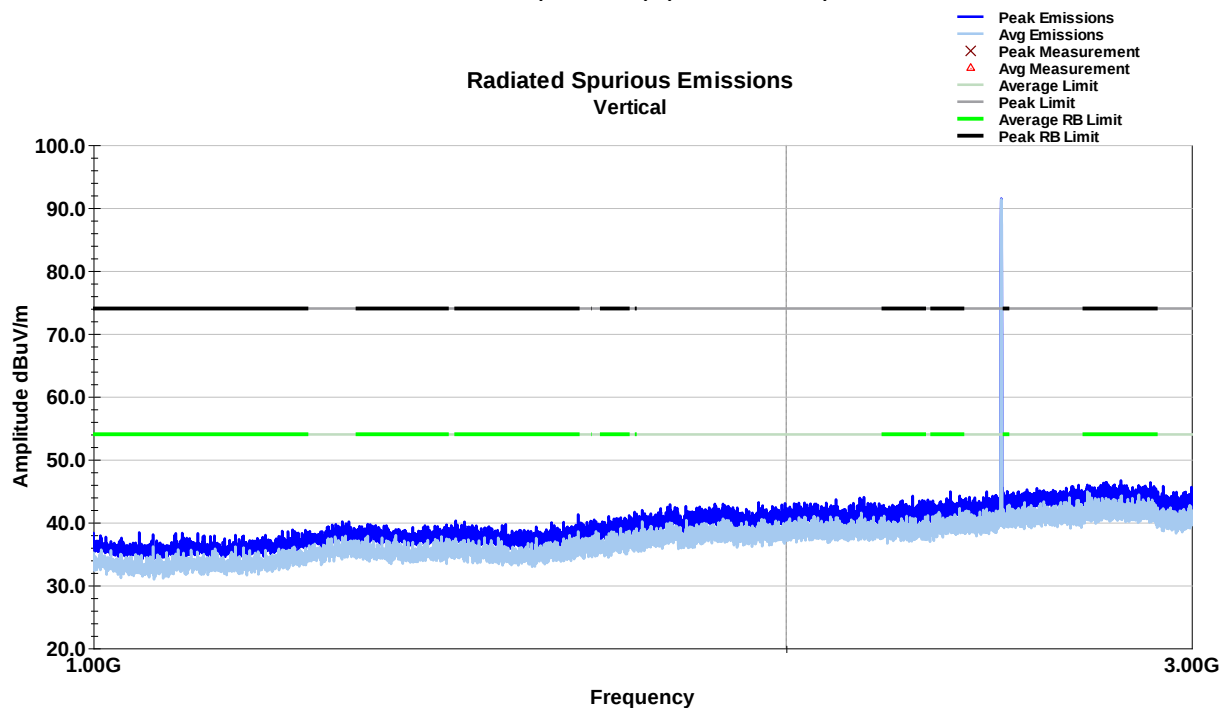


Horizontal (30-1000MHz) (BLE – HCH)

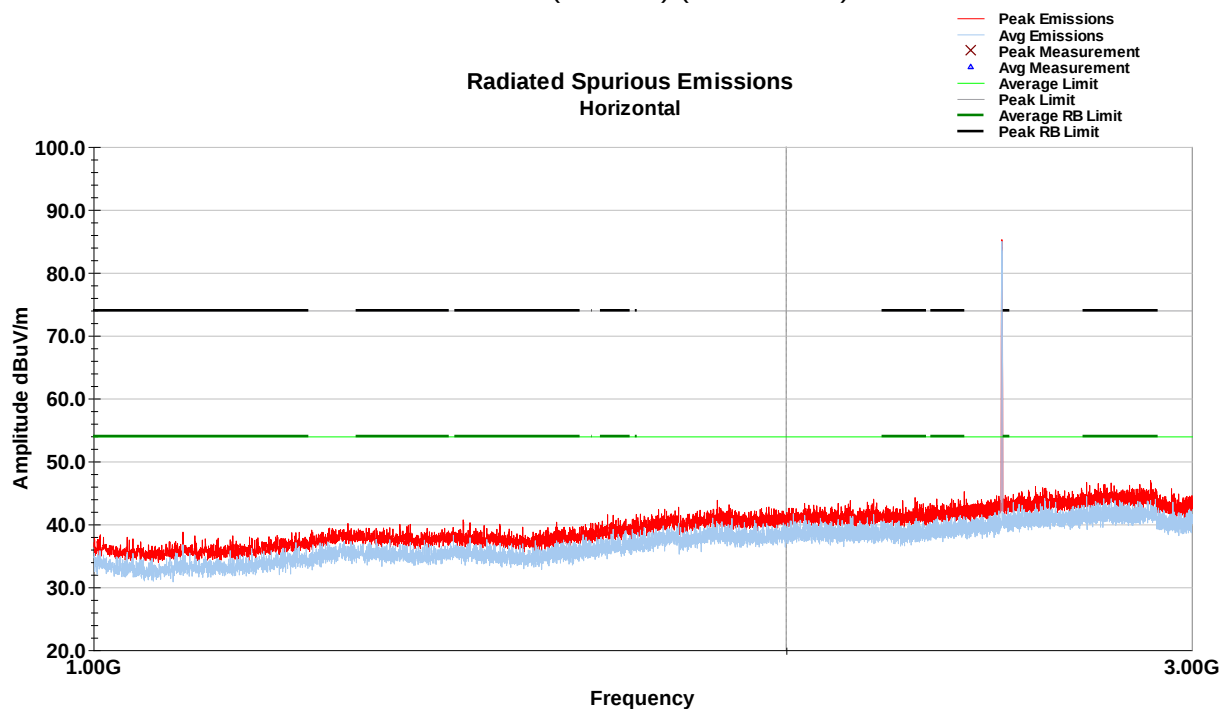


Note: The unintentional disturbances above the limit are not under evaluation and can be disregarded.

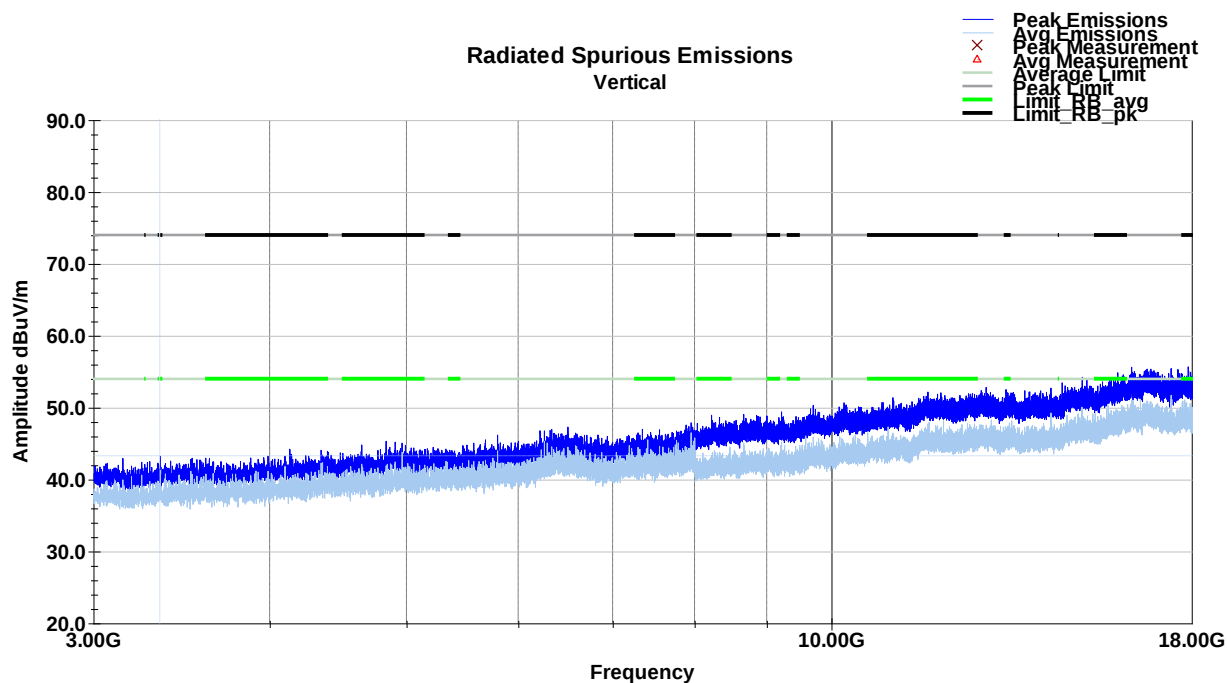
Vertical (1-3GHz) (BLE – HCH)



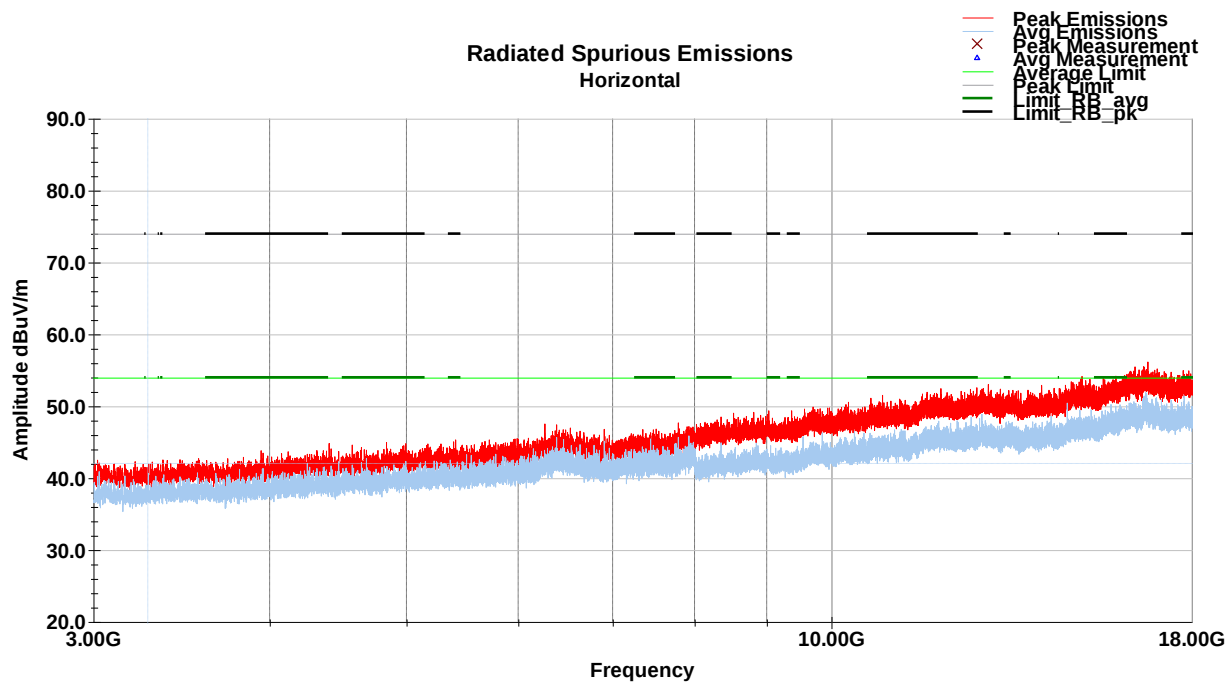
Horizontal (1-3GHz) (BLE – HCH)



Vertical (3-18GHz) (BLE – HCH)

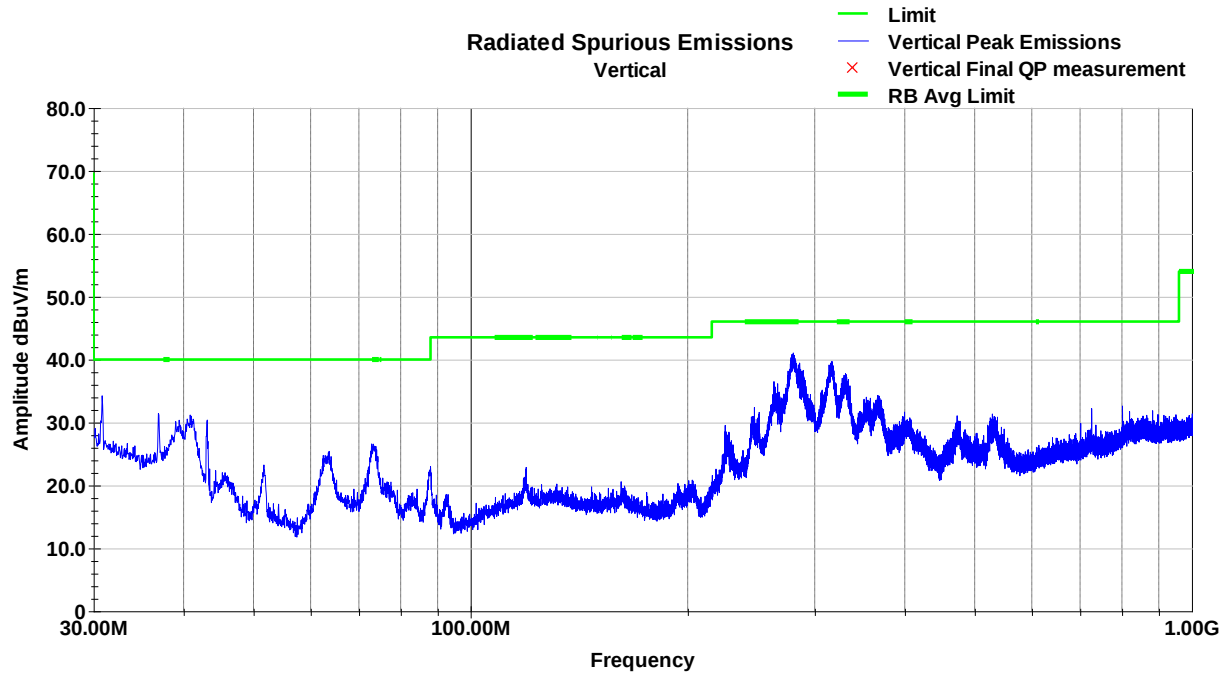


Horizontal (3-18GHz) (BLE – HCH)

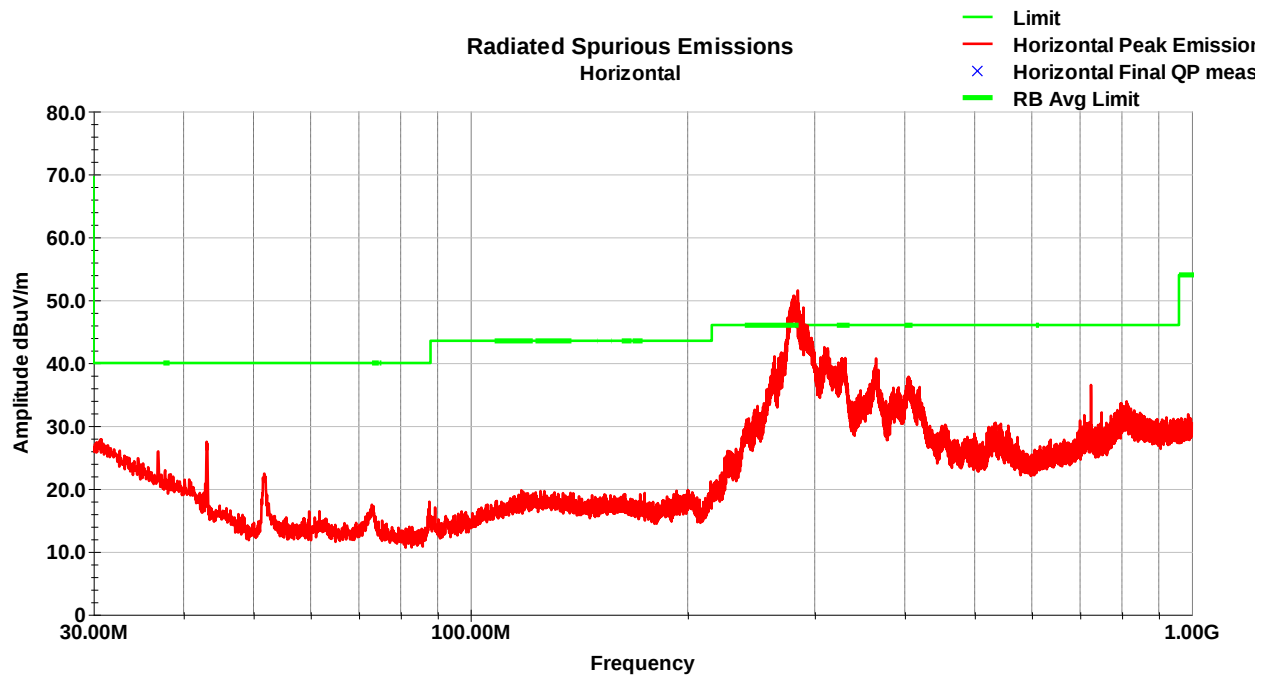


7.5.5 BT

Vertical (30-1000MHz) (BTC – LCH)

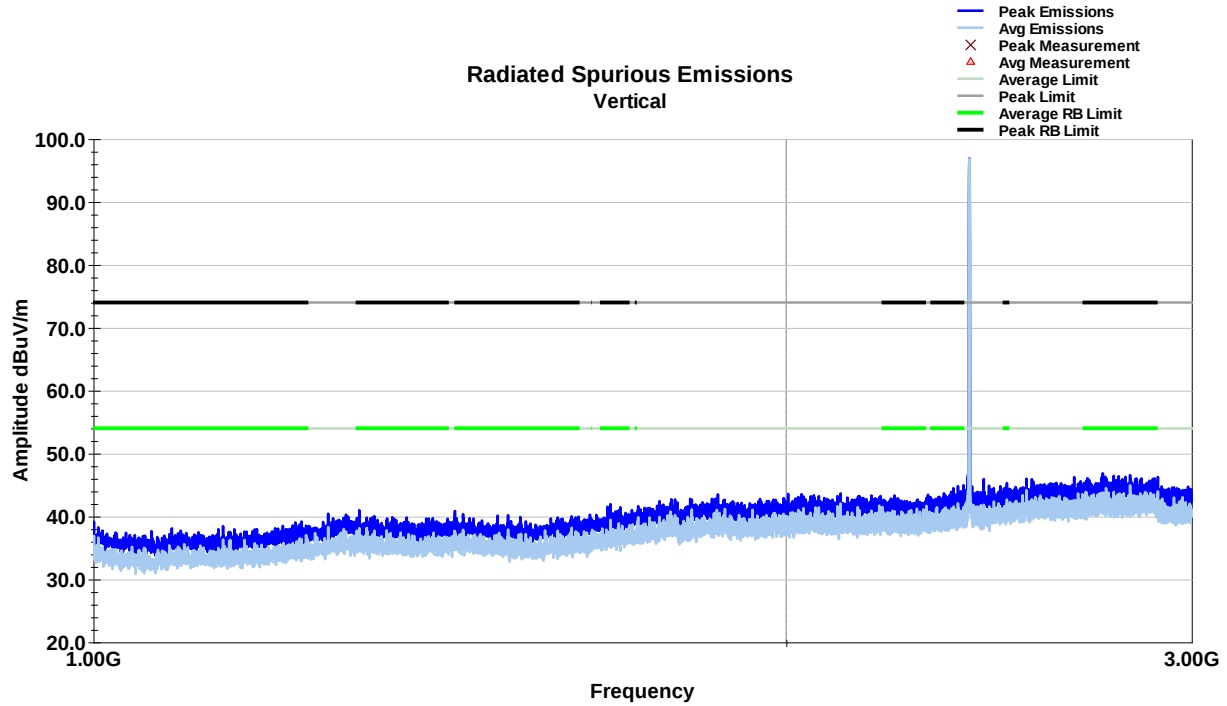


Horizontal (30-1000MHz) (BTC – LCH)

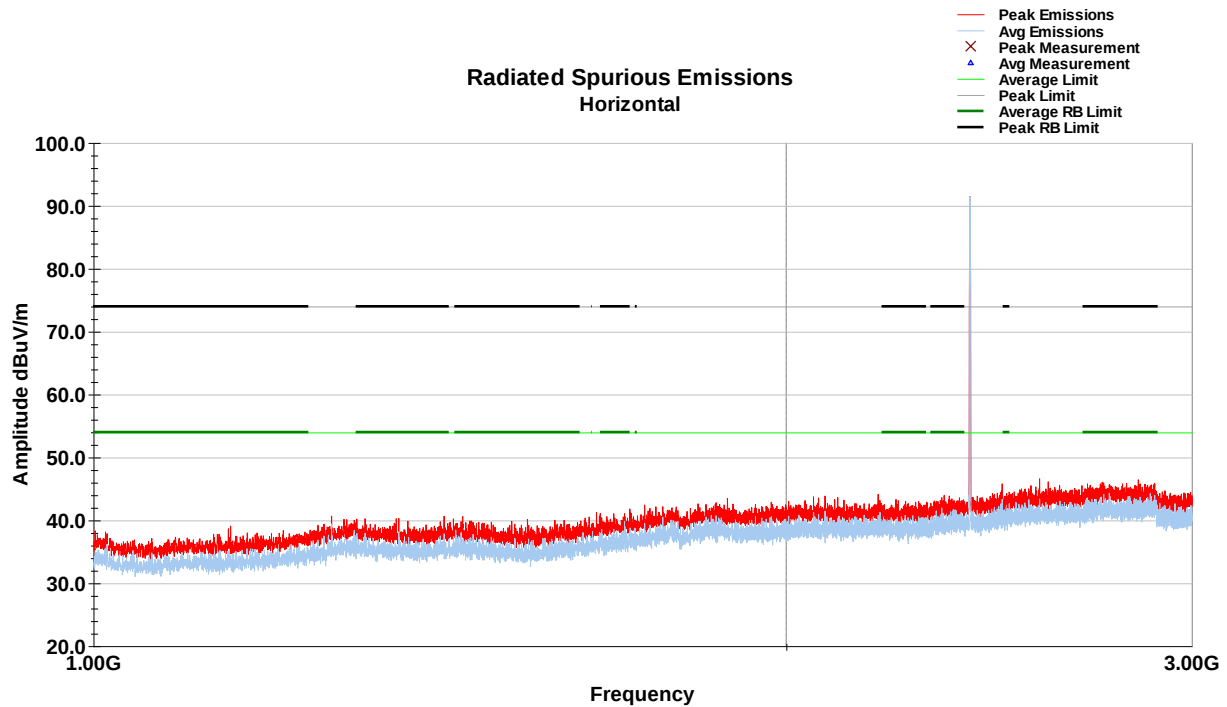


Note: The unintentional disturbances above the limit are not under evaluation and can be disregarded.

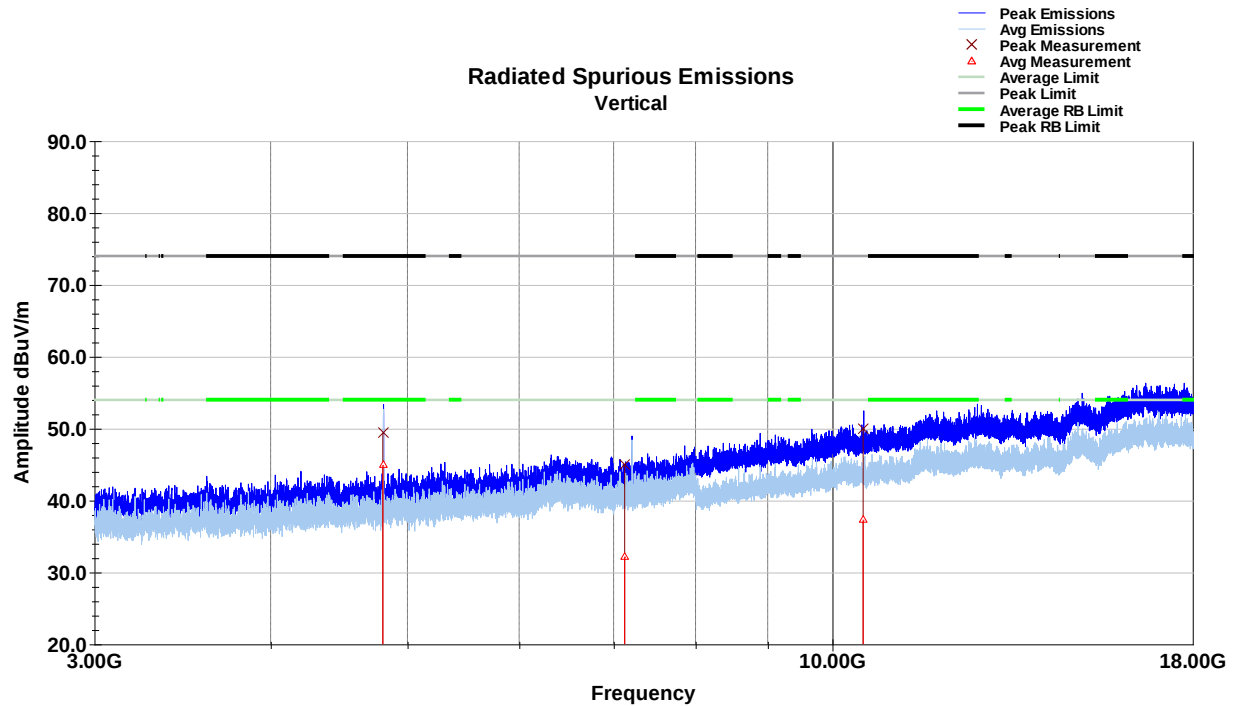
Vertical (1-3GHz) (BTC – LCH)



Horizontal (1-3GHz) (BTC – LCH)



Vertical (3-18GHz) (BTC – LCH)

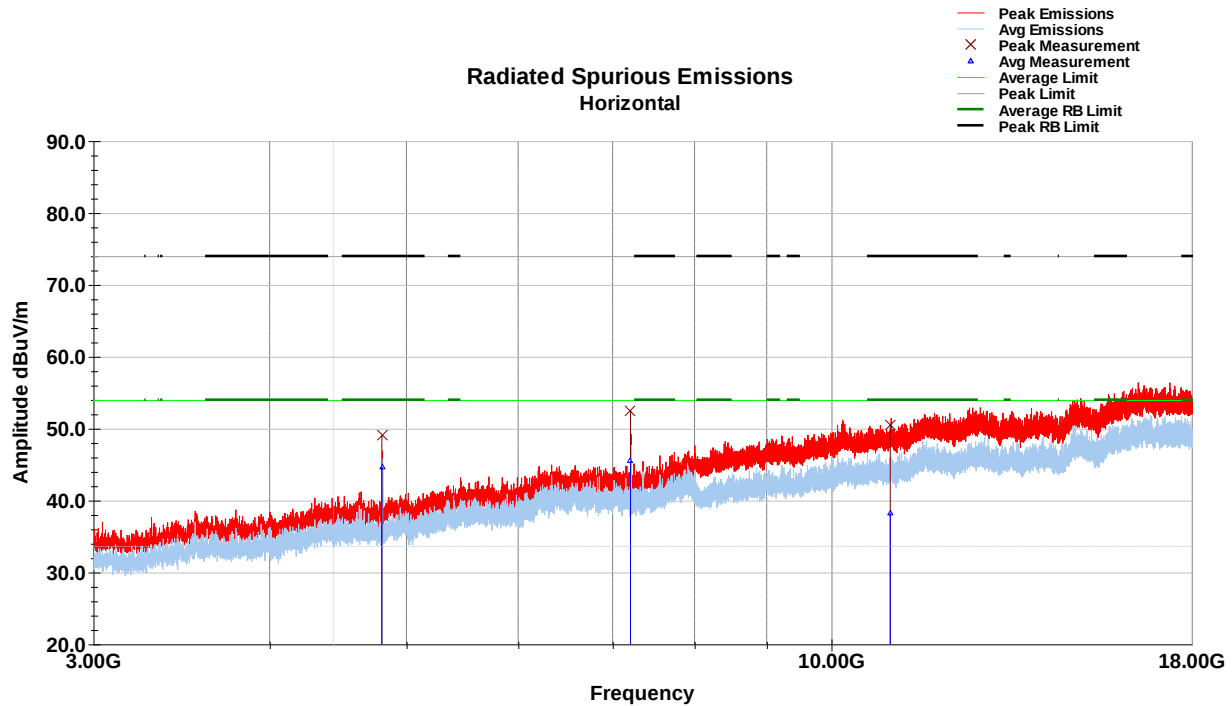


Vertical Data (3-18GHz) (BTC – LCH)

Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Avg dBuV/m	Limit (dBuV/m)	Margin (dB)
4803.68	42.1	V	244.0	130.0	33.9	2.7	33.7	44.9	54.0	-9.1
7127.08	27.3	V	288.0	175.0	35.6	3.4	34.2	32.2	54.0	-21.8
10516.52	30.3	V	11.0	249.0	37.5	3.9	34.5	37.3	54.0	-16.7
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
4803.68	46.6	V	244.0	130.0	33.9	2.7	33.7	49.4	74.0	-24.6
7127.08	40.2	V	288.0	175.0	35.6	3.4	34.2	45.1	74.0	-28.9
10516.52	42.9	V	11.0	249.0	37.5	3.9	34.5	49.9	74.0	-24.1
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Horizontal (3-18GHz) (BTC – LCH)

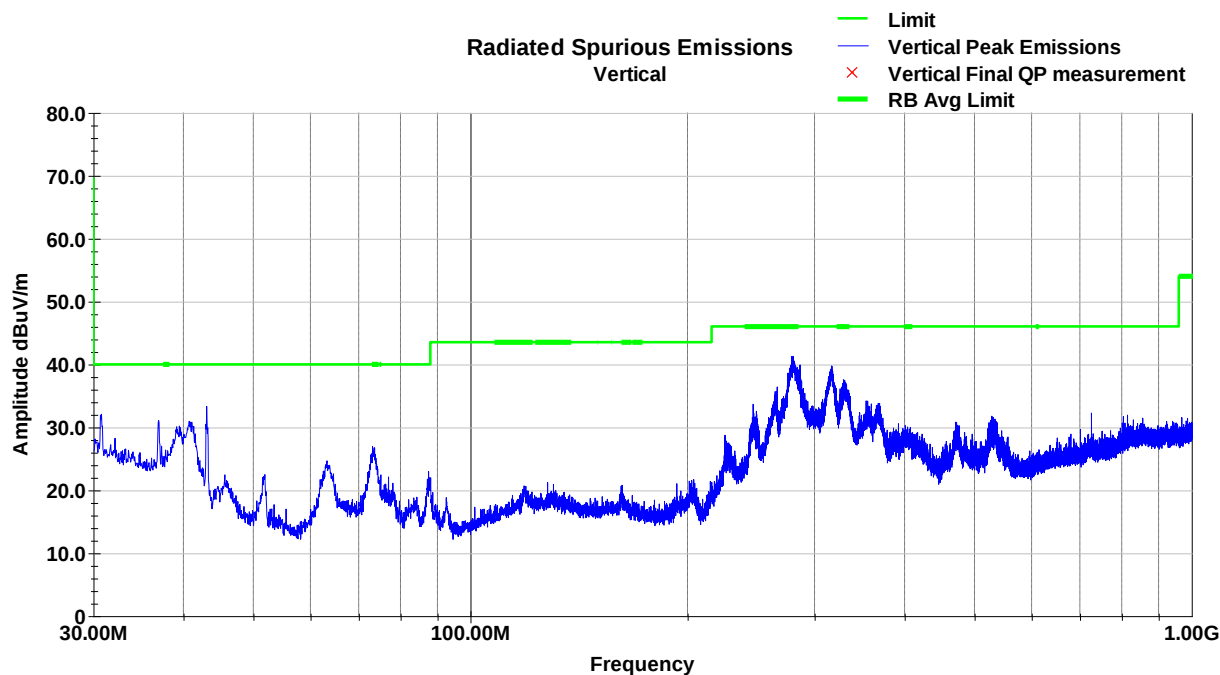


Horizontal Data (3-18GHz) (BTC – LCH)

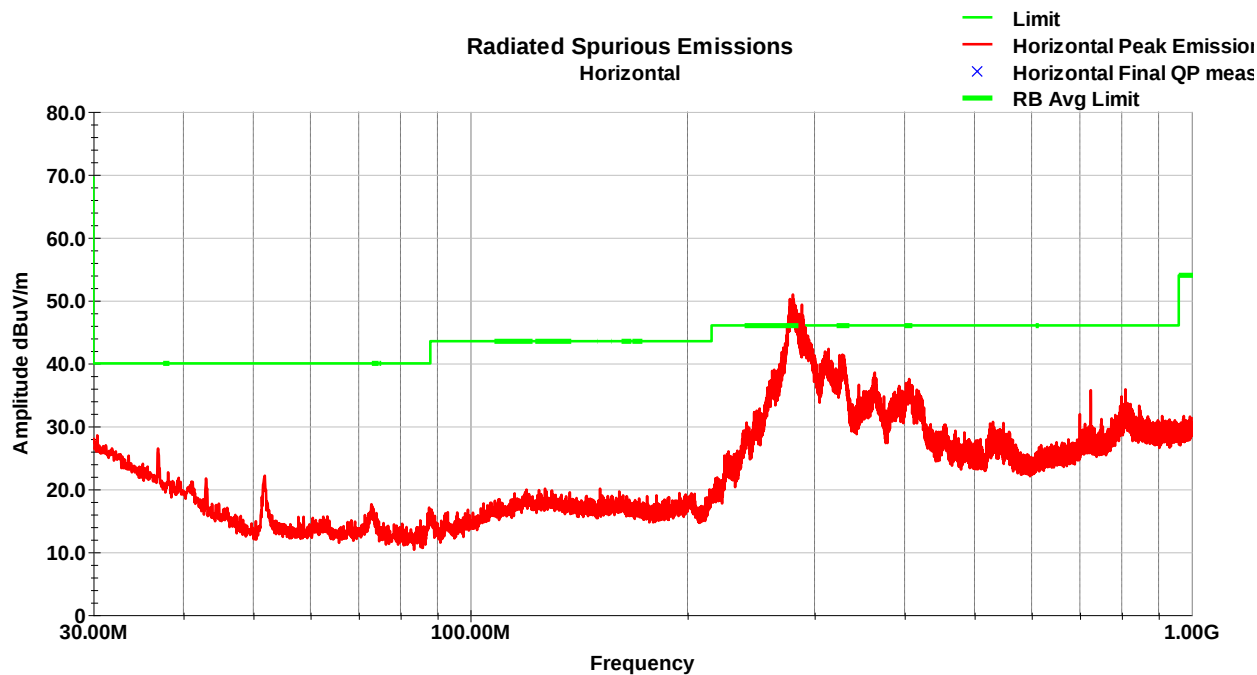
Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Avg Value dBuV/m	Limit (dBuV/m)	Margin (dB)
4803.80	41.8	H	200.0	184.0	33.9	2.7	33.7	44.6	54.0	-9.3
7206.50	40.7	H	155.0	161.0	35.6	3.4	34.2	45.5	54.0	-8.5
11009.86	30.5	H	81.0	249.0	37.8	4.5	34.5	38.3	54.0	-15.7
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
4803.80	46.2	H	200.0	184.0	33.9	2.7	33.7	49.0	74.0	-25.0
7206.50	47.6	H	155.0	161.0	35.6	3.4	34.2	52.4	74.0	-21.6
11009.86	42.7	H	81.0	249.0	37.8	4.5	34.5	50.5	74.0	-23.5
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Vertical (30-1000MHz) (BTC – MCH)

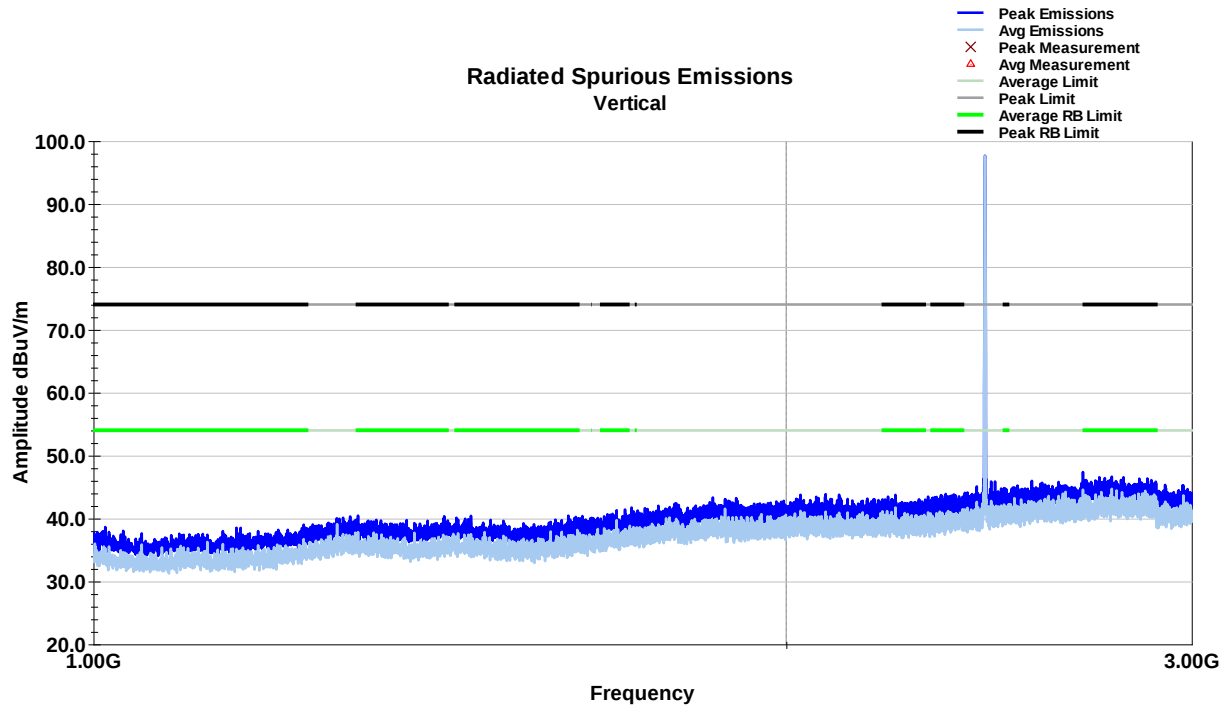


Horizontal (30-1000MHz) (BTC – MCH)

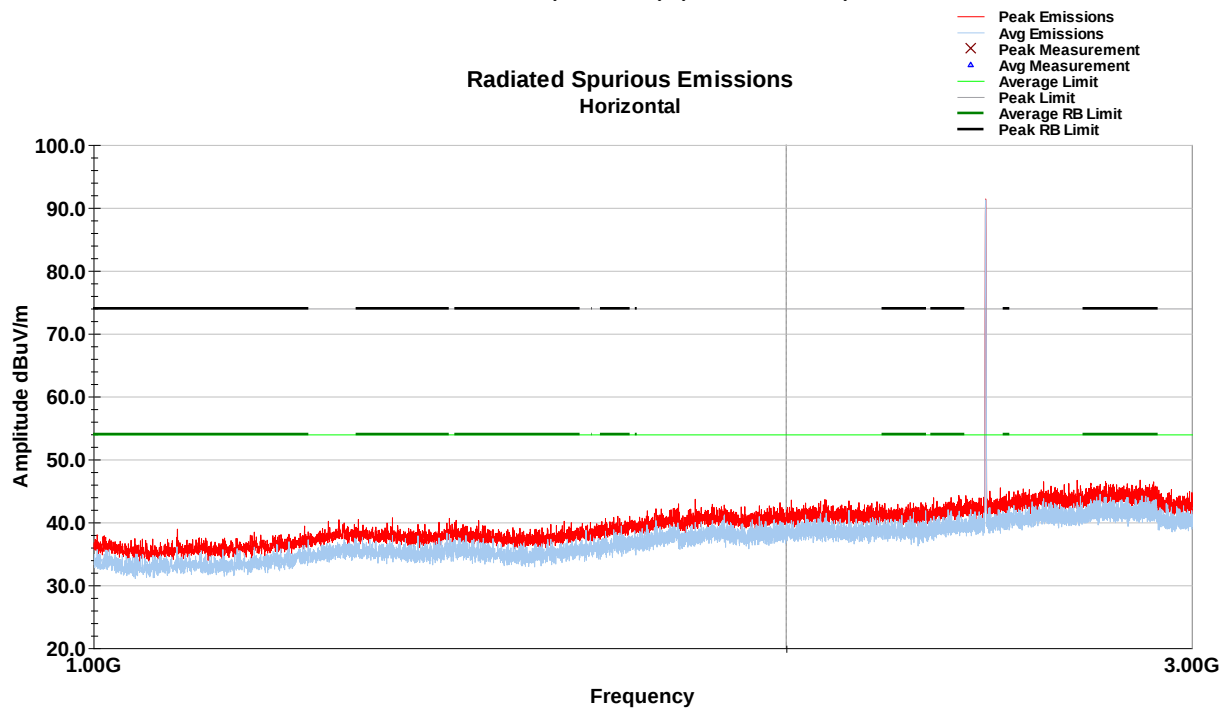


Note: The unintentional disturbances above the limit are not under evaluation and can be disregarded.

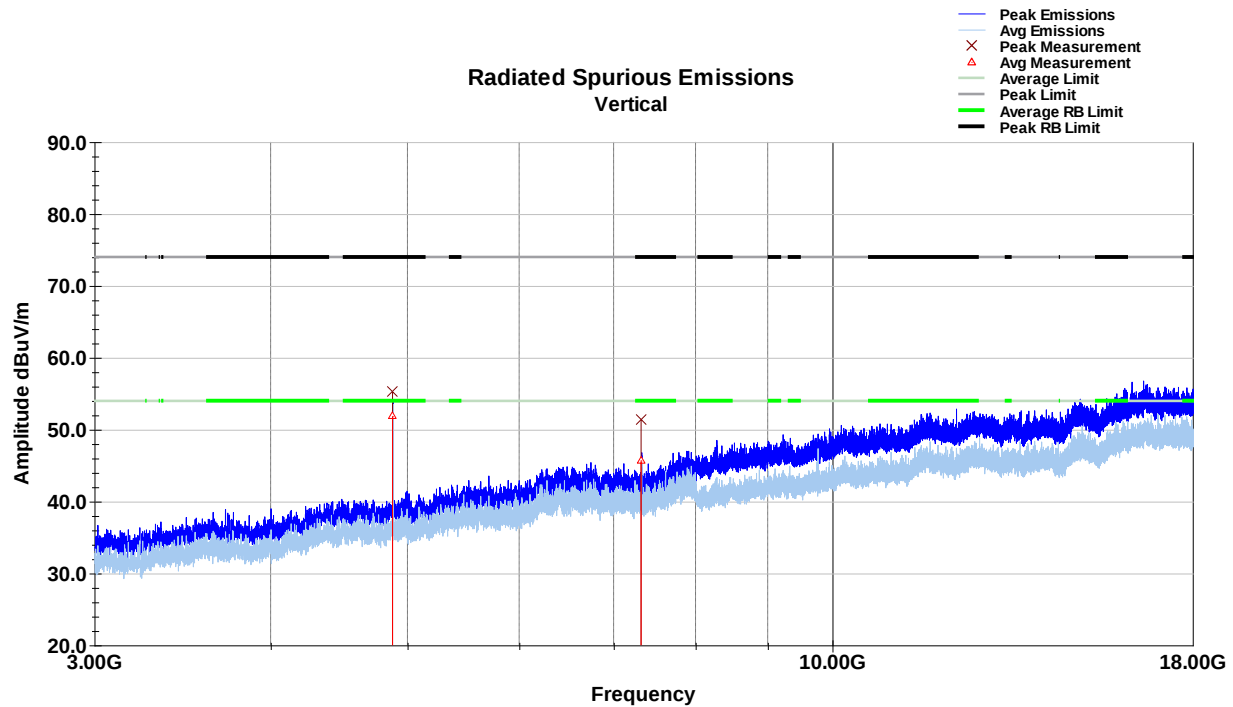
Vertical (1-3GHz) (BTC – MCH)



Horizontal (1-3GHz) (BTC – MCH)



Vertical (3-18GHz) (BTC – MCH)

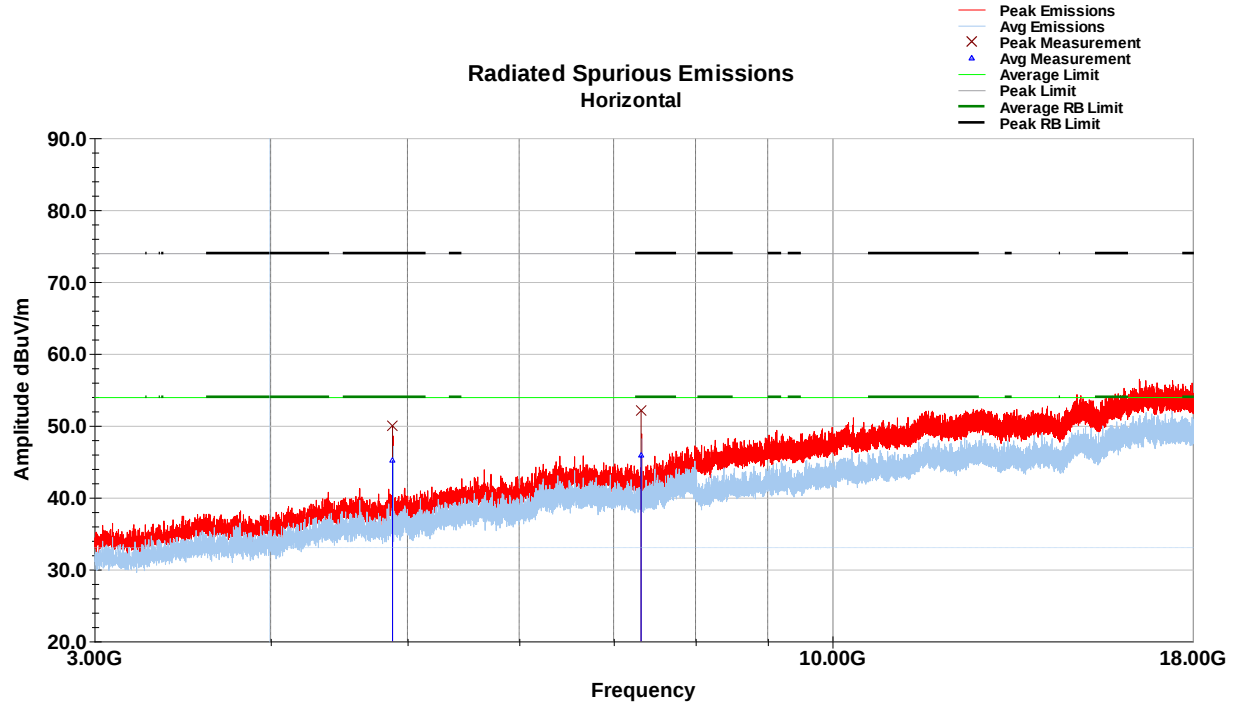


Vertical Data (3-18GHz) (BTC – MCH)

Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Avg dBuV/m	Limit (dBuV/m)	Margin (dB)
4879.70	48.7	V	181.0	182.0	34.1	2.8	33.7	51.9	54.0	-2.1
7319.84	40.9	V	142.0	154.0	35.5	3.4	34.2	45.7	54.0	-8.3
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
4879.70	52.1	V	181.0	182.0	34.1	2.8	33.7	55.2	74.0	-18.8
7319.84	46.6	V	142.0	154.0	35.5	3.4	34.2	51.4	74.0	-22.6
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

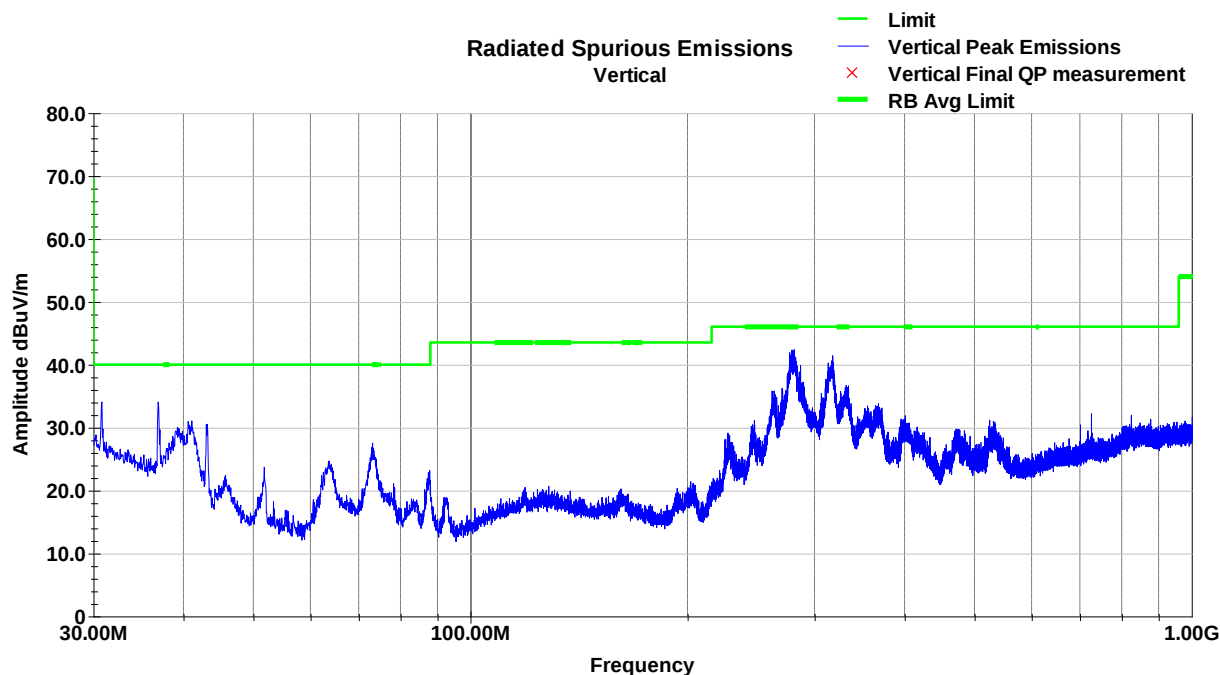
Horizontal (3-18GHz) (BTC – MCH)



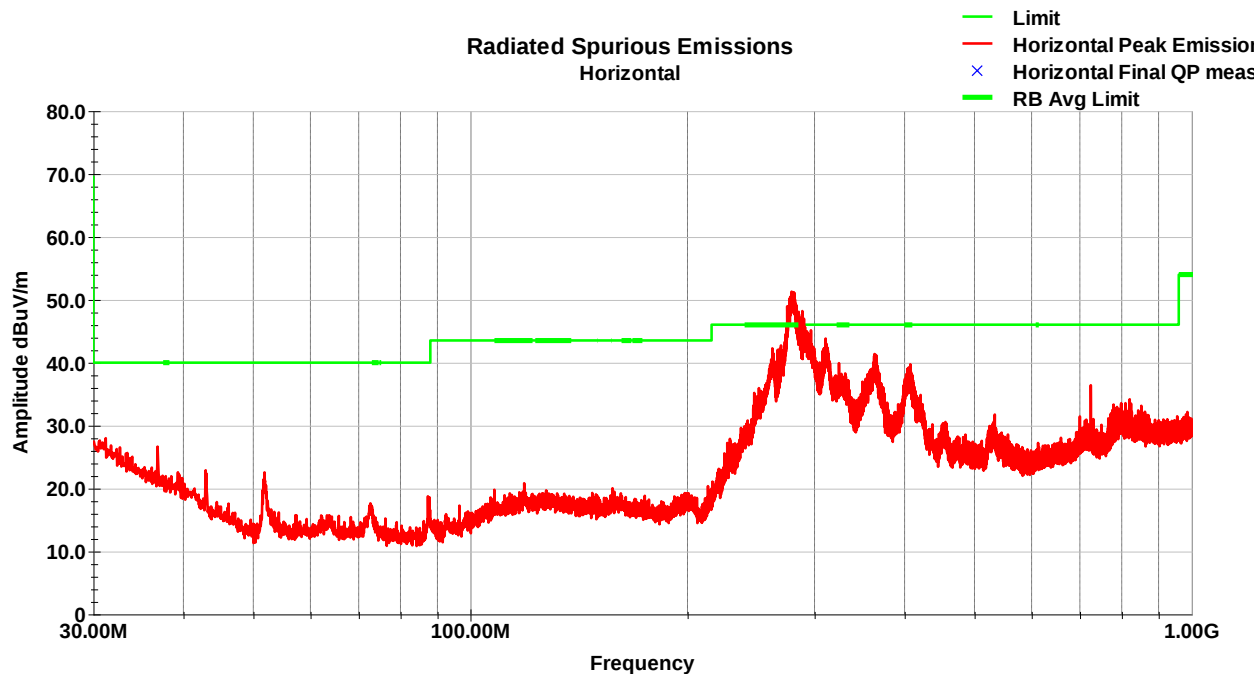
Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Avg Value dBuV/m	Limit (dBuV/m)	Margin (dB)
4879.70	42.0	H	170.0	179.0	34.1	2.8	33.7	45.2	54.0	-8.8
7320.28	41.2	H	154.0	149.0	35.5	3.4	34.2	45.9	54.0	-8.1
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
4879.70	46.8	H	170.0	179.0	34.1	2.8	33.7	50.0	74.0	-24.0
7320.28	47.3	H	154.0	149.0	35.5	3.4	34.2	52.1	74.0	-21.9
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Vertical (30-1000MHz) (BTC – HCH)

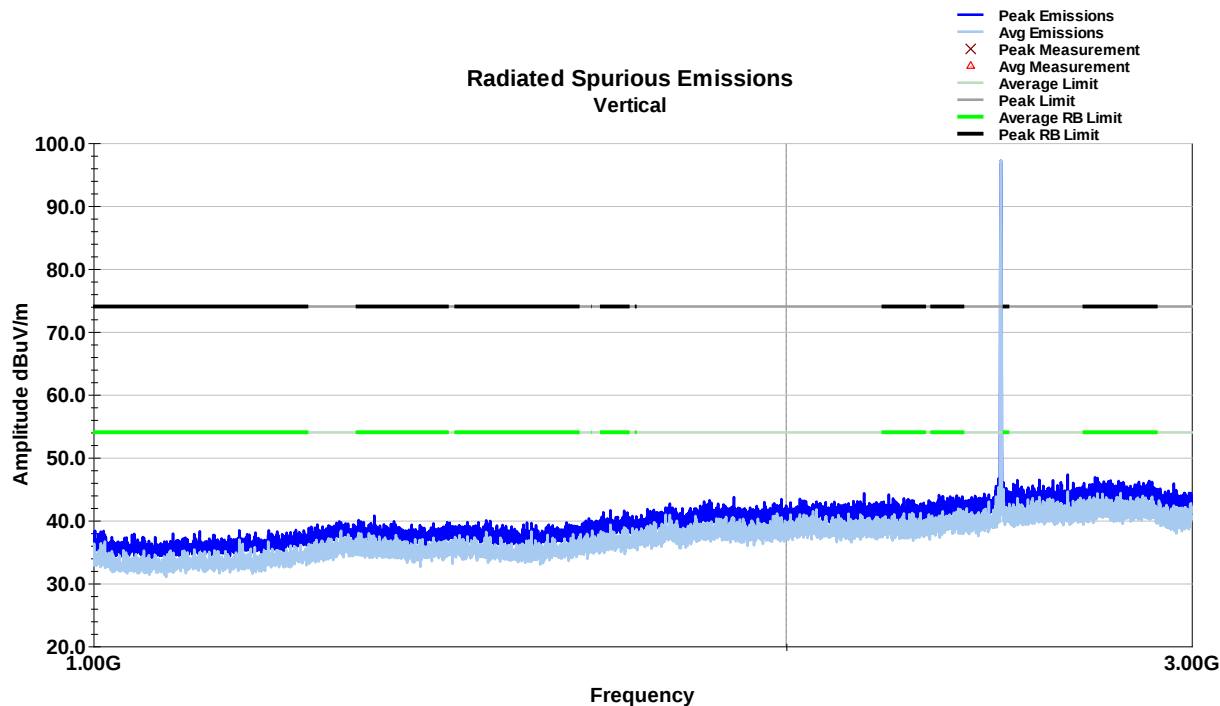


Horizontal (30-1000MHz) (BTC – HCH)

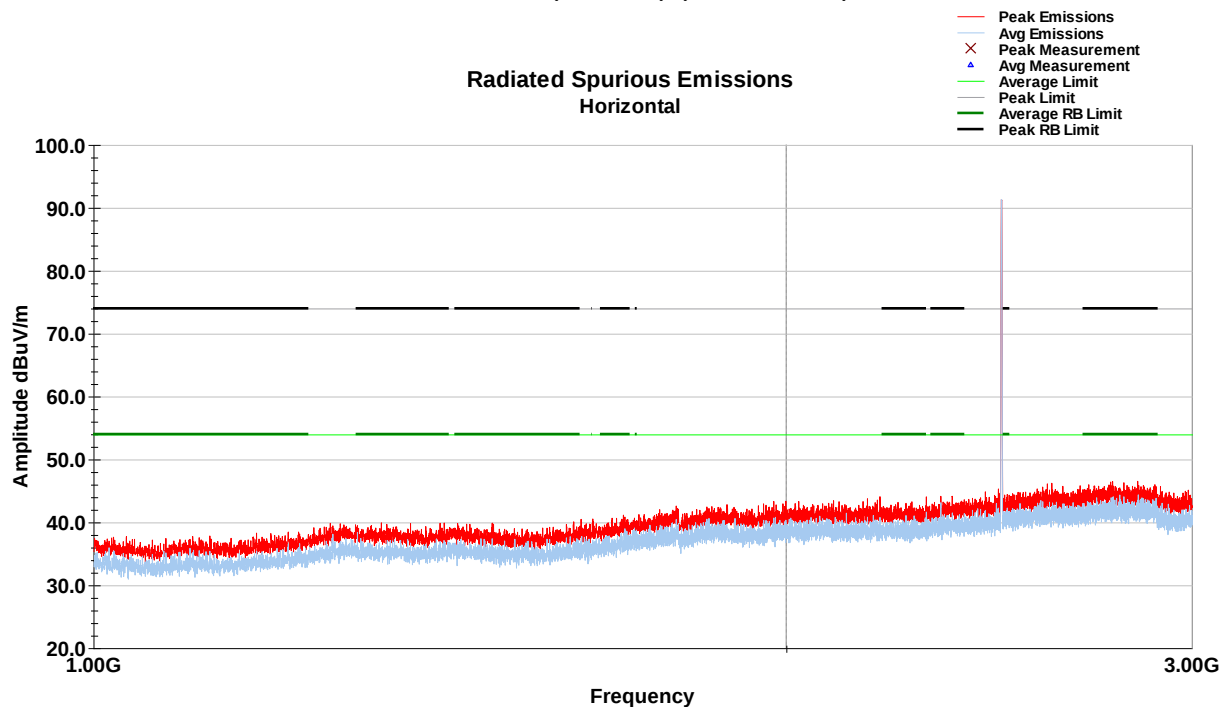


Note: The unintentional disturbances above the limit are not under evaluation and can be disregarded.

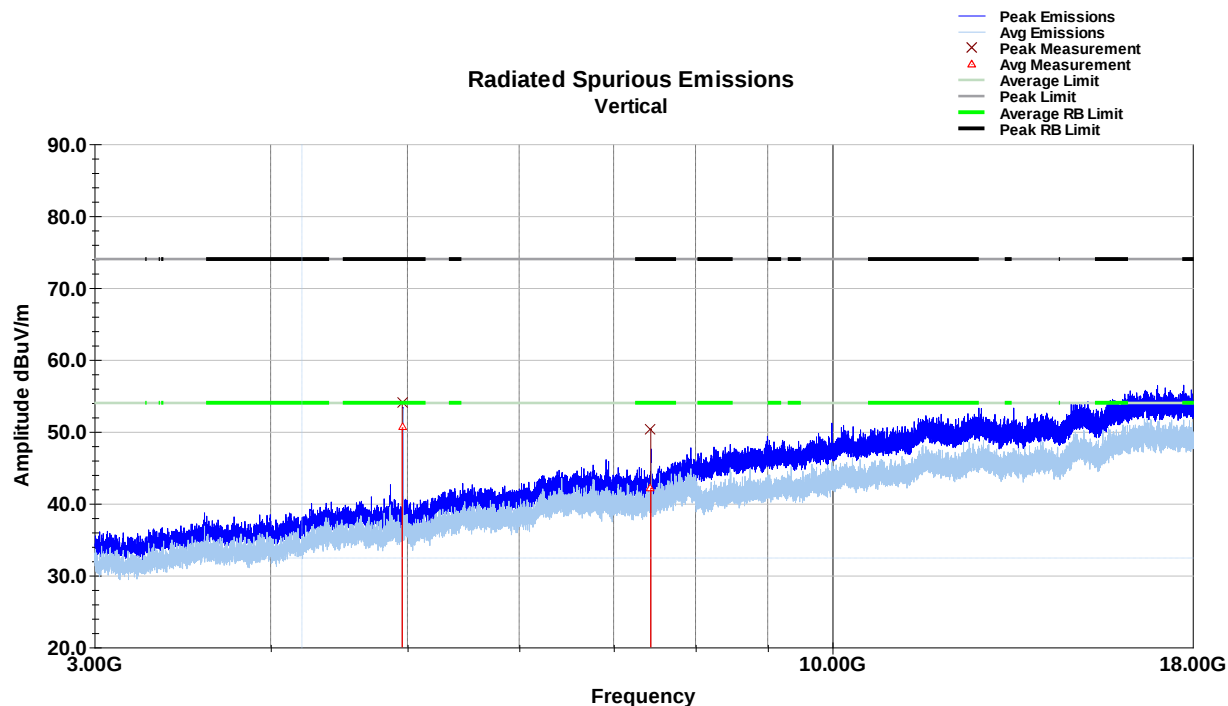
Vertical (1-3GHz) (BTC – HCH)



Horizontal (1-3GHz) (BTC – HCH)



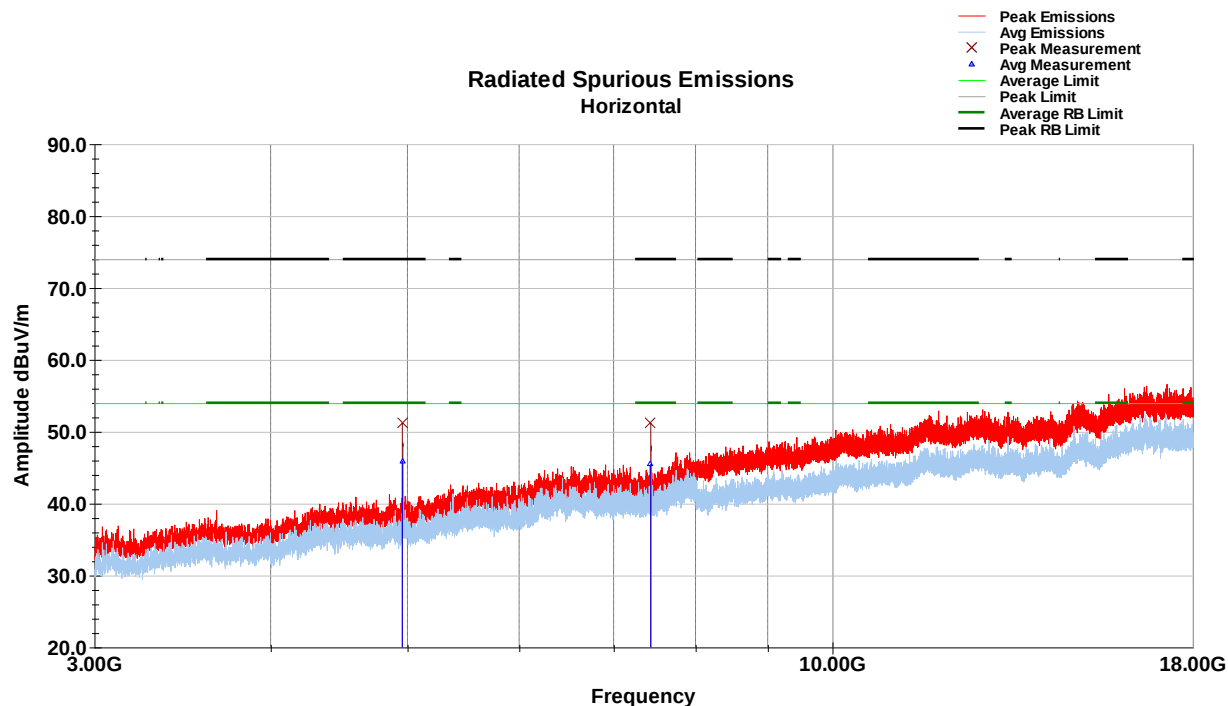
Vertical (3-18GHz) (BTC – HCH)



Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Avg dBuV/m	Limit (dBuV/m)	Margin (dB)
4957.68	47.5	V	213.0	246.0	34.0	2.8	33.7	50.6	54.0	-3.4
7436.56	37.4	V	147.0	106.0	35.5	3.4	34.1	42.2	54.0	-11.8
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
4957.68	51.0	V	213.0	246.0	34.0	2.8	33.7	54.1	74.0	-19.9
7436.56	45.6	V	147.0	106.0	35.5	3.4	34.1	50.4	74.0	-23.6
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Horizontal (3-18GHz) (BTC – HCH)



Horizontal Data

Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Avg Value dBuV/m	Limit (dBuV/m)	Margin (dB)
4958.40	42.8	H	208.0	246.0	34.0	2.8	33.7	45.9	54.0	-8.0
7436.92	40.7	H	147.0	149.0	35.5	3.4	34.1	45.5	54.0	-8.5
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
4958.40	48.0	H	208.0	246.0	34.0	2.8	33.7	51.2	74.0	-22.8
7436.92	46.4	H	147.0	149.0	35.5	3.4	34.1	51.1	74.0	-22.9
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

8 Antenna Requirement

8.1 Result

Test Description	Test Specification	Test Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.203	Compliant

8.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

8.3 Conclusion

The Device utilizes an 18' LMR Cable containing a nonstandard reverse polarity threaded Neill Concelman male connection (RP TNC Male Connector) to connect to the antenna and a standard SMA connection on the EUT side. The antenna is professionally installed and user will not be able to access once installed.

9 Measurement Uncertainty

The measurement uncertainty figures are be calculated in accordance with TR 100 028-1 [2] and correspond to an expansion factor (coverage factor) $k = 2$ (which provide confidence levels of 95,45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Parameter	Expanded Uncertainty for Normal k factor equal to 2	
	Required	Laboratory Actual
Radio Frequency	$\pm 1 \times 10^{-5}$	$\pm 9.8 \times 10^{-8}$
total RF power, conducted	± 1.5 dB	± 1.2 dB
RF power density, conducted	± 3 dB	± 0.7 dB
spurious emissions, conducted	± 3 dB	± 2.1 dB
all emissions, radiated	± 6 dB	± 4.8 dB
temperature	$\pm 1^{\circ}\text{C}$	$\pm 0.5^{\circ}\text{C}$
humidity	± 5 %	$\pm 3.5\%$
DC and low frequency voltages	± 3 %	$\pm 0.4\%$

10 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	19 June, 2023
1	Updated section 1.1, 1.3 and cover page product description	07 July 2023
2	Section 8 updated to reference note from previous submittal.	19 July 2023