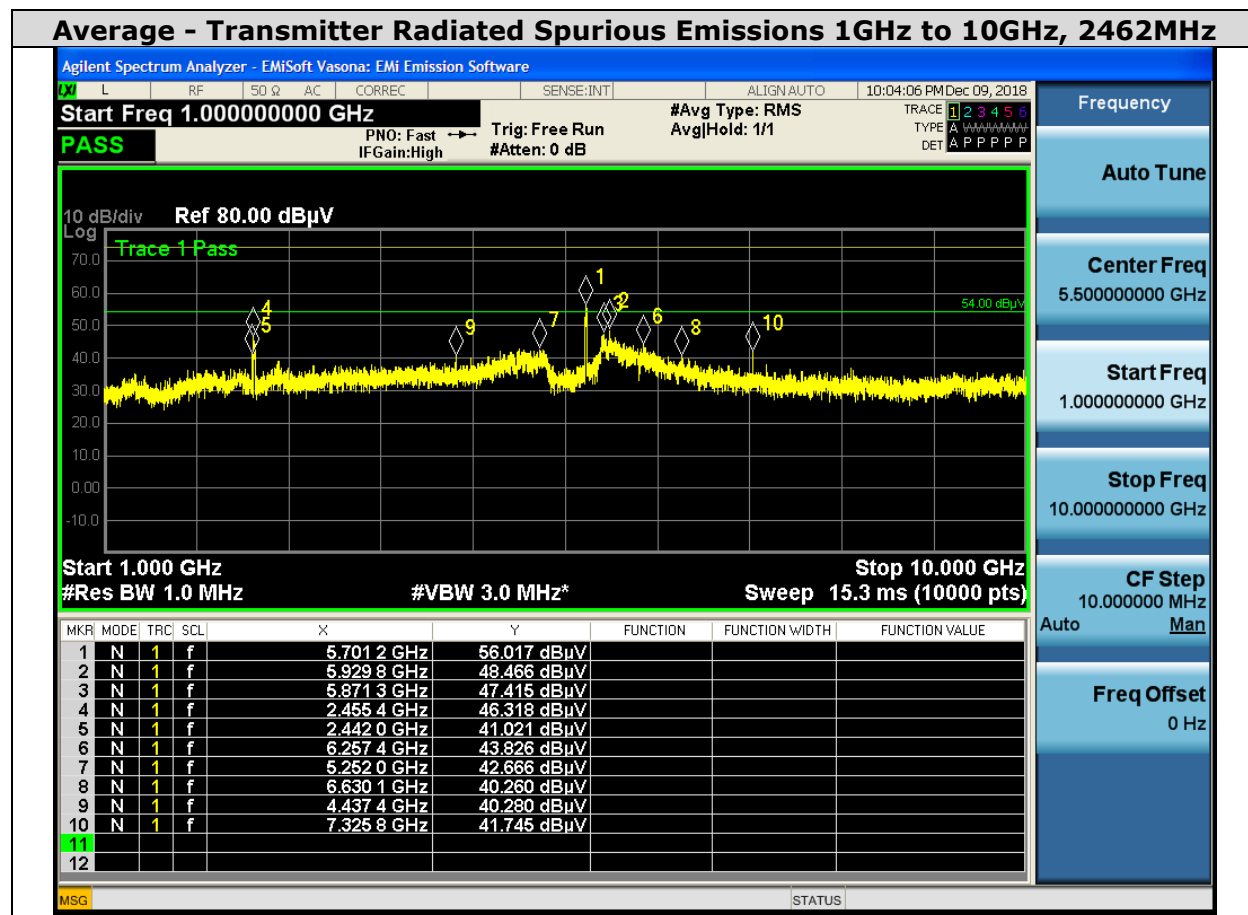
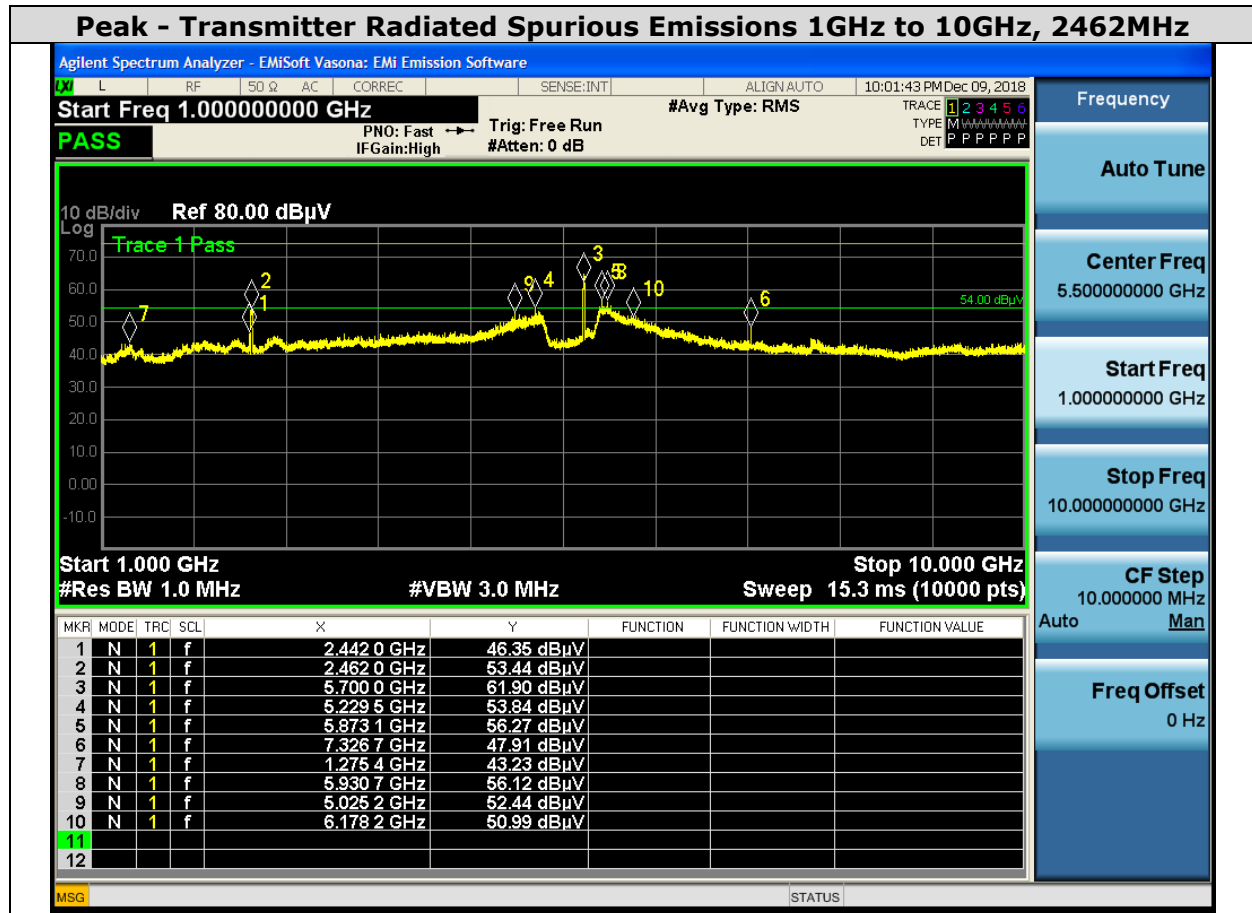


Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

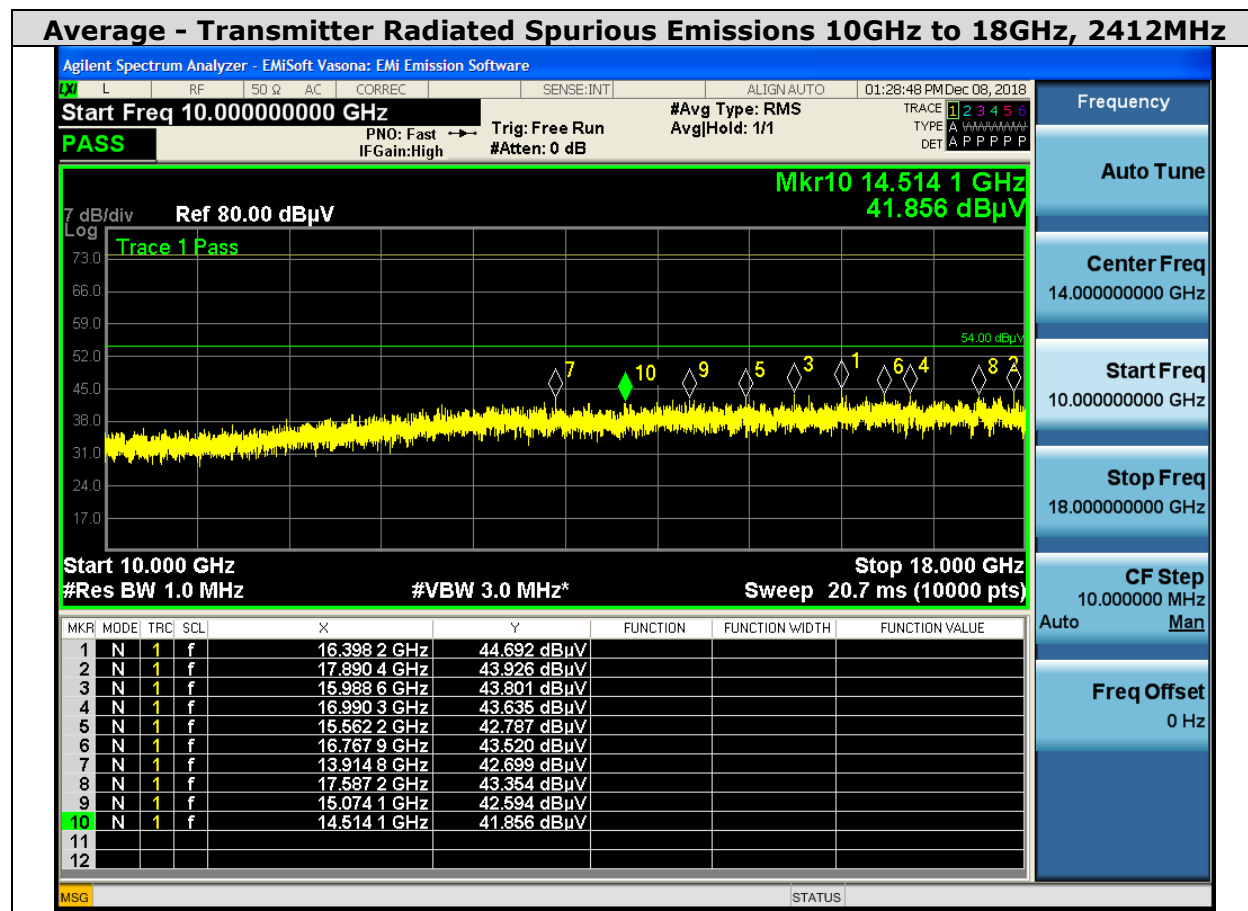


Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

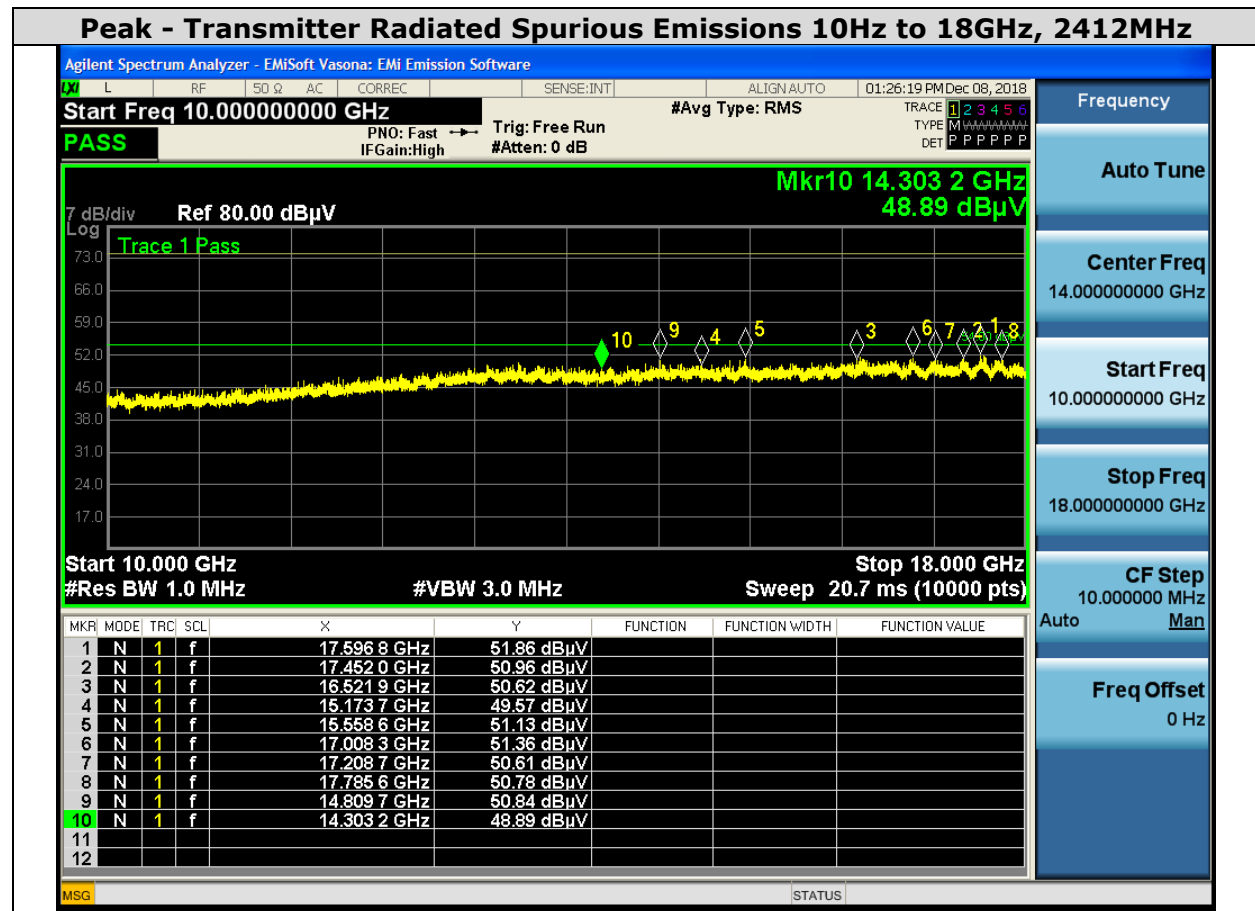


6.1.6 Radiated Transmitter Spurious Emissions – 10-18GHz

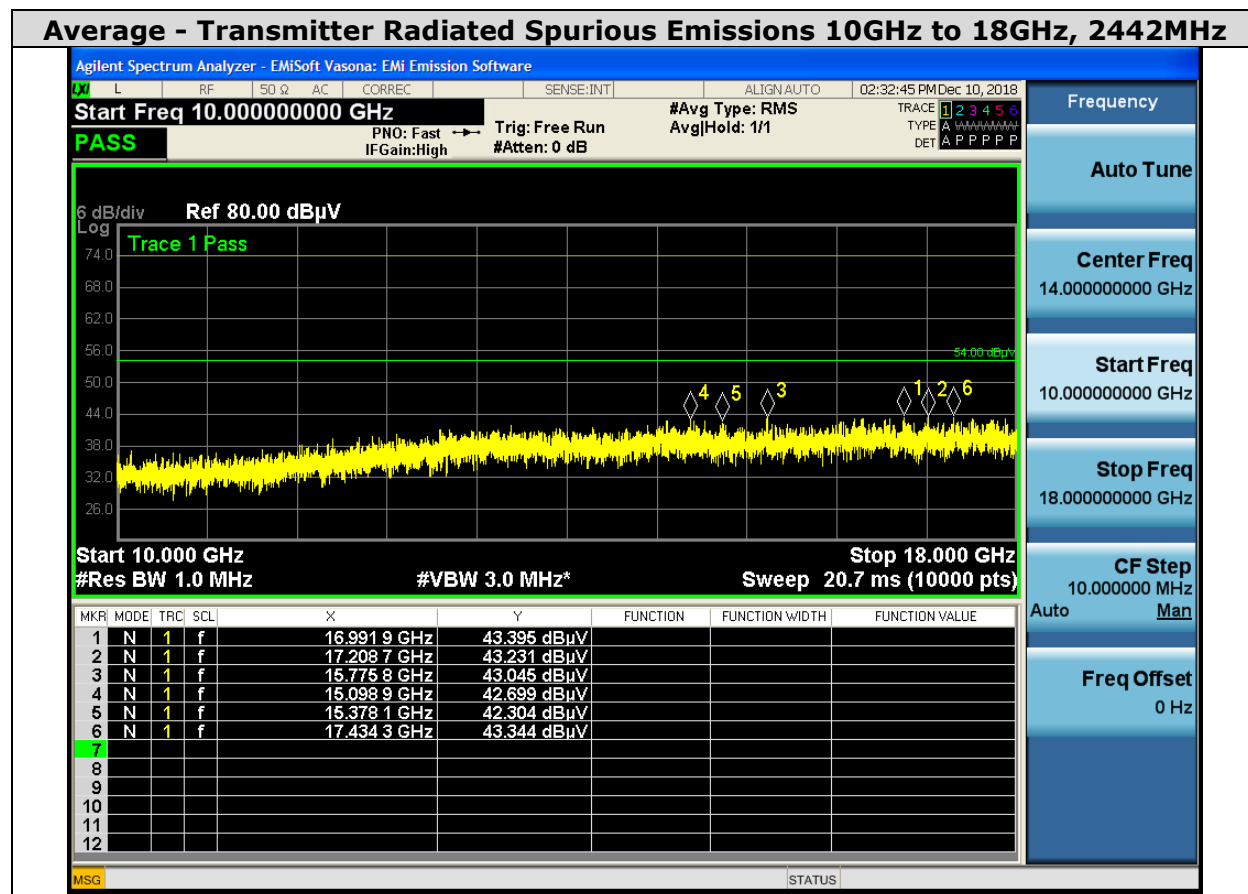
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)



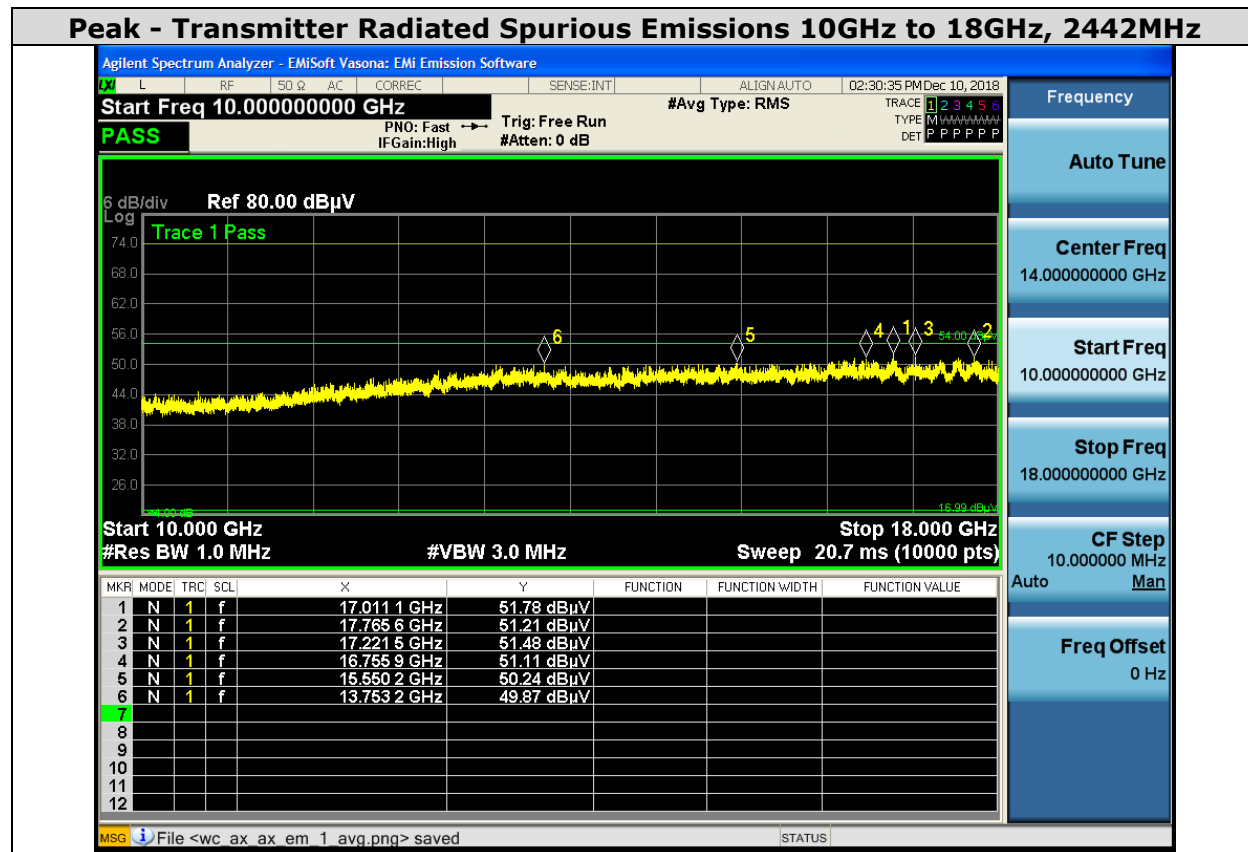
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)



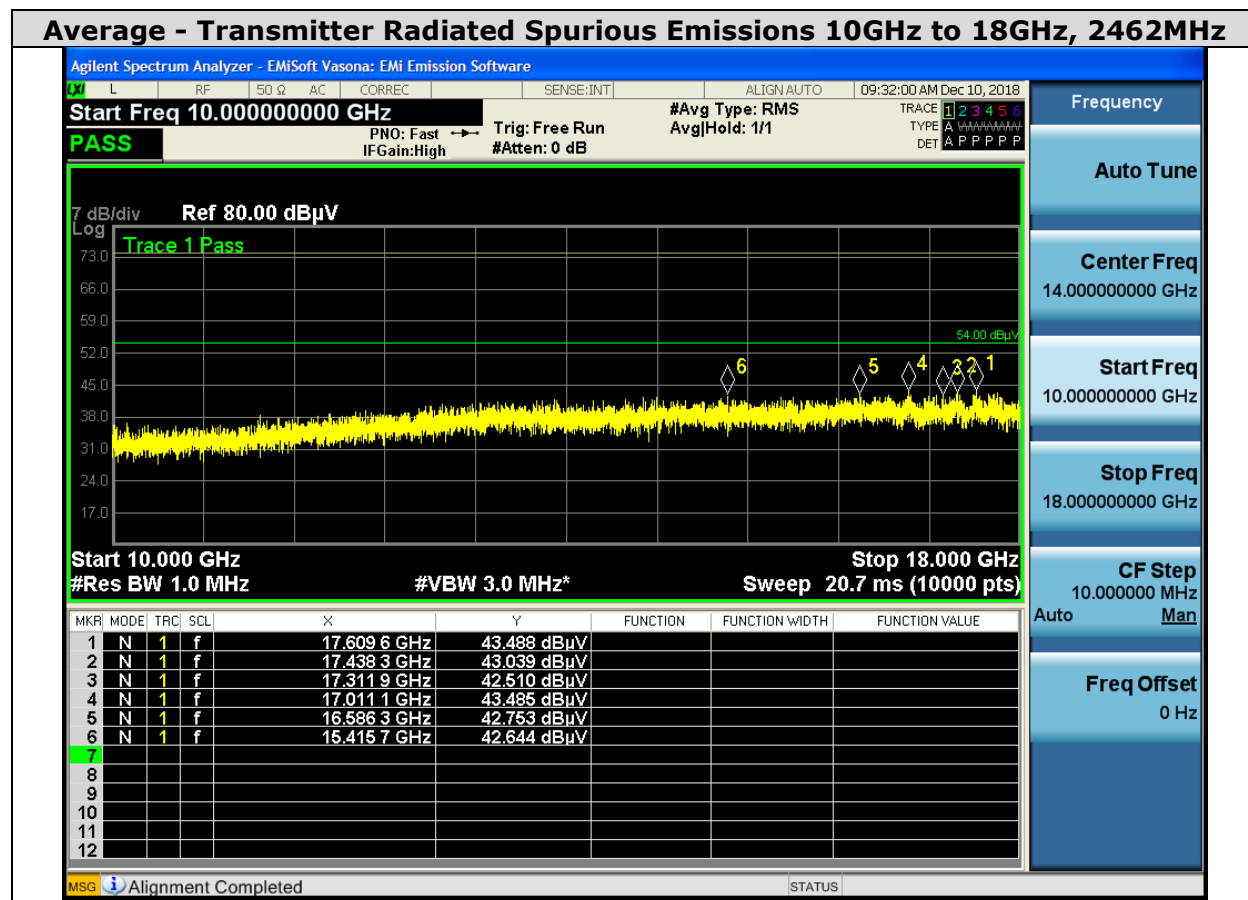
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)



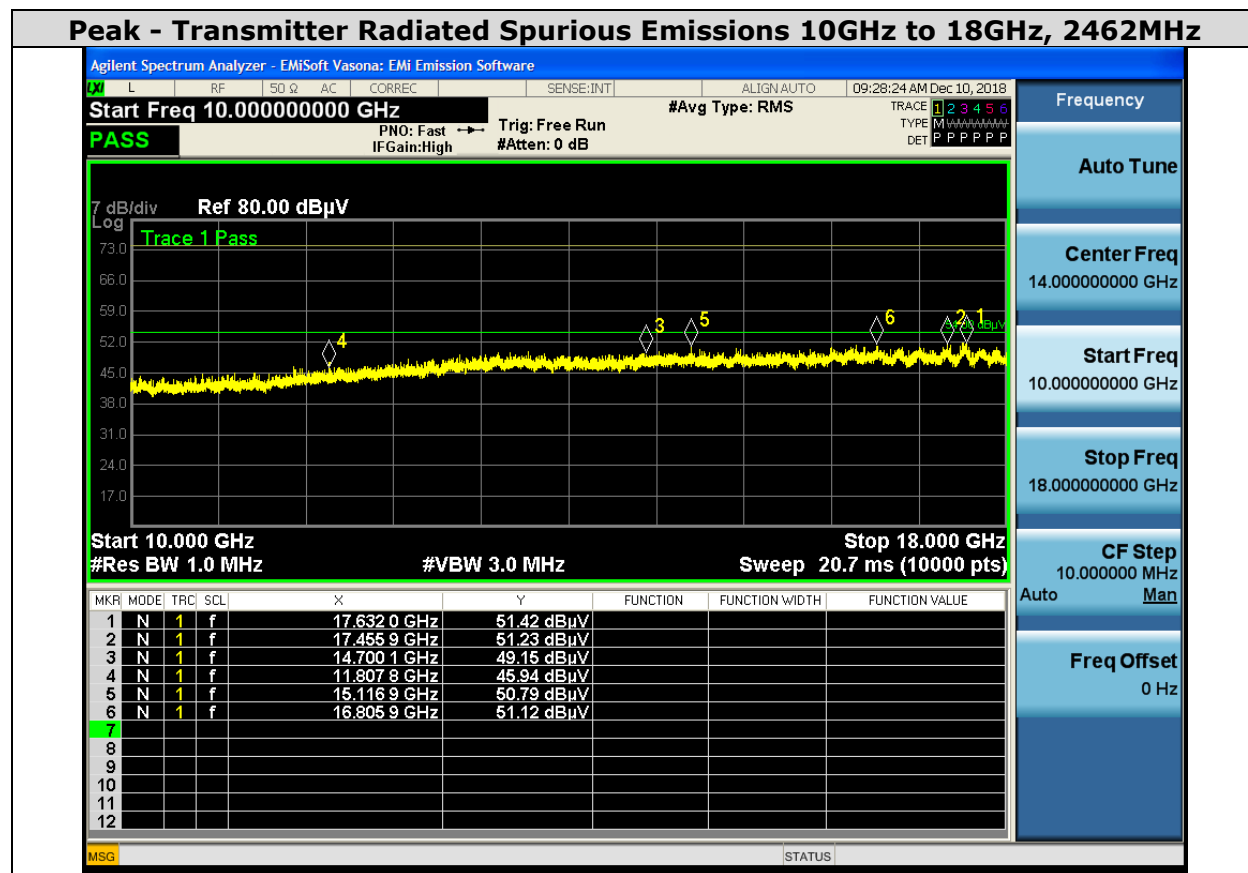
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)



Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

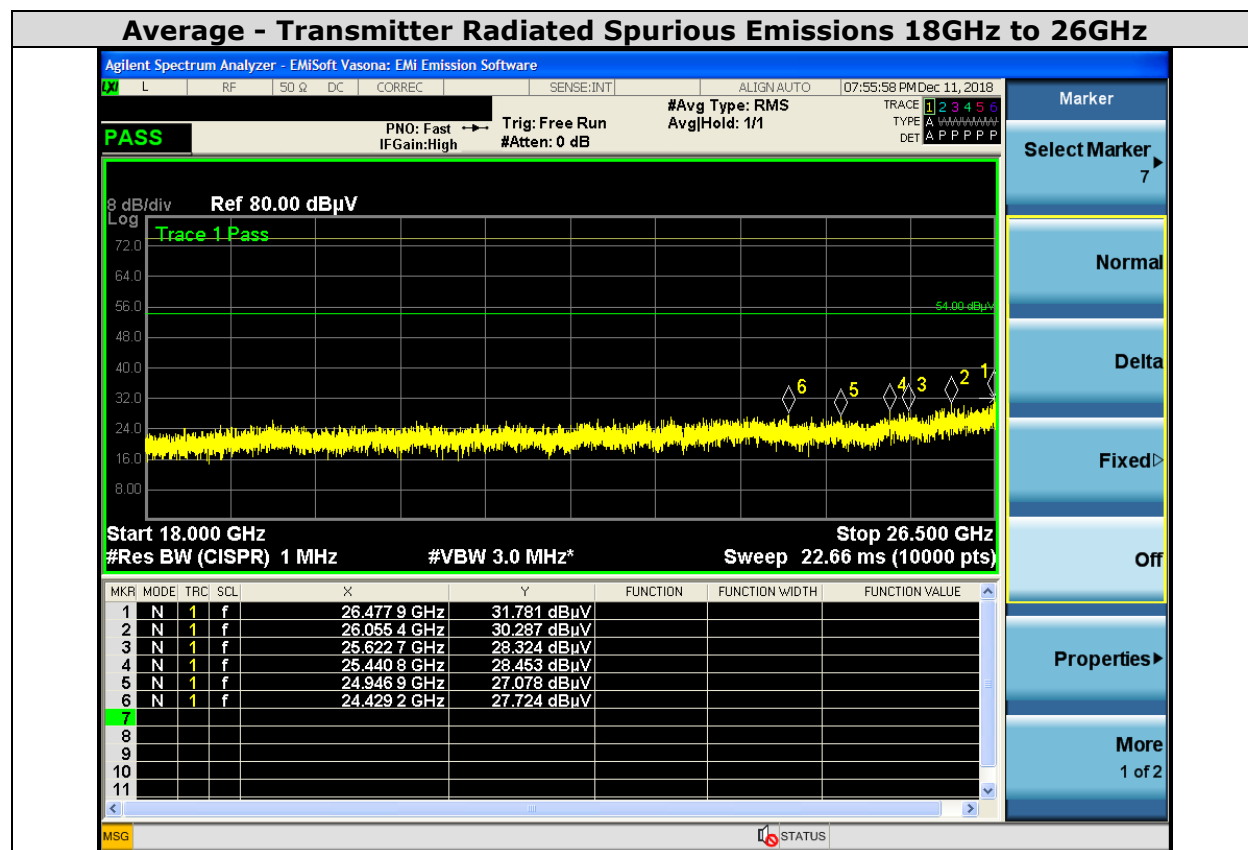


Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

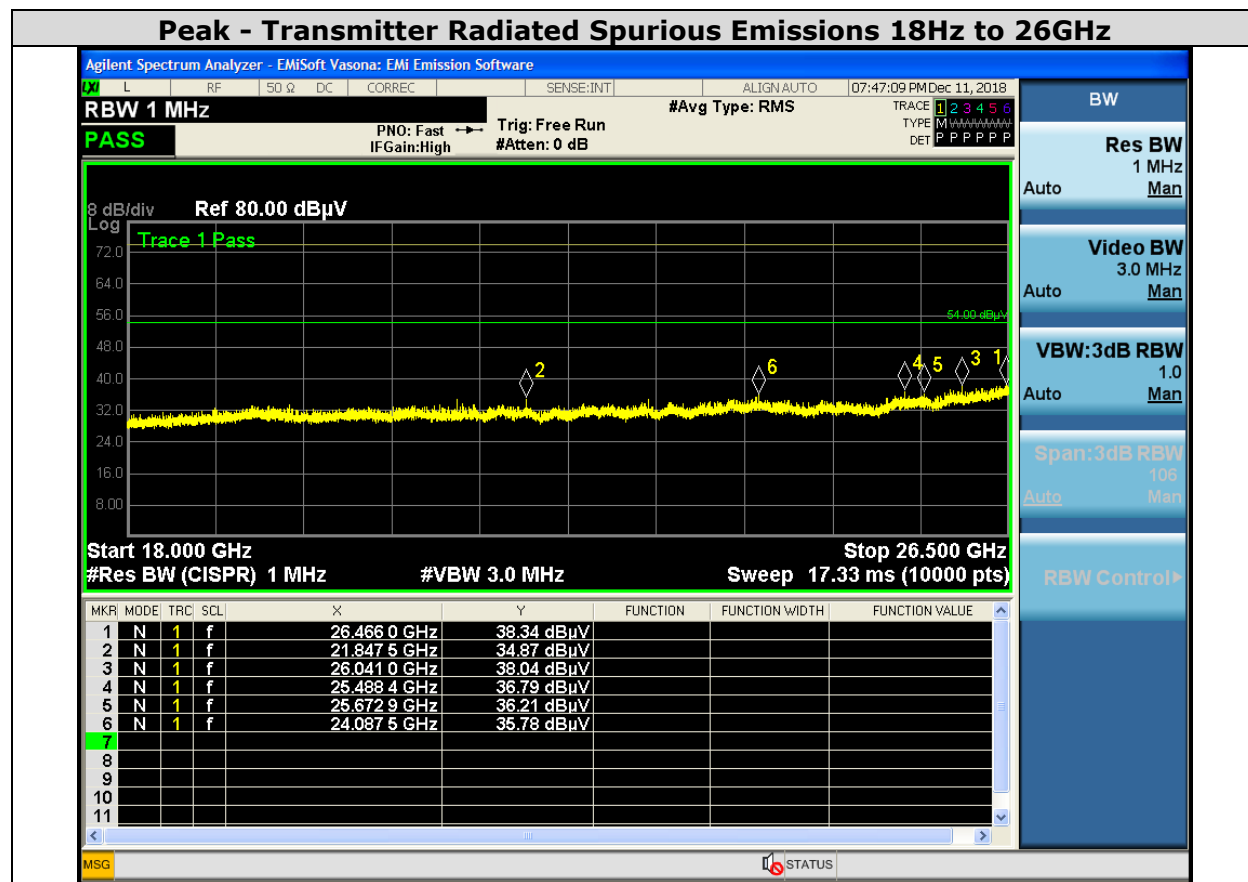


6.1.7 Radiated Transmitter Spurious Emissions – 18-26GHz

Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios). EUT is in worst case mode



Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios). EUT is in worst case mode



6.2 Receiver Spurious Emissions

6.2.1 Receiver Spurious Emissions – Test Requirement

RSS-GEN Issue 5 Section 7.1:

Compliance with the limits set out in this section shall be demonstrated using the method of measurement described in ANSI C63.4, as per section 3.2 of this standard. For emissions at frequencies below 1 GHz, measurements shall be performed using a CISPR quasi-peak detector and the related measurement bandwidth (see section 6.9). At frequencies above 1 GHz, measurements shall be performed using a linear average detector with a minimum resolution bandwidth of 1 MHz (see section 6.10). For AC power-line conducted emissions, both quasi-peak and average detectors having the characteristics specified in CAN/CSA-CISPR 16-1-1:15 for the 150 kHz to 30 MHz frequency range shall be employed, as per table 4.

RSS-GEN Issue 5 Section 7.3:

Radiated emission measurements shall be performed with the receiver antenna connected to the receiver antenna ports. The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is higher, to at least five times the highest tunable or local oscillator frequency, whichever is higher, without exceeding 40 GHz. Spurious emissions from receivers shall not exceed the radiated emissions limits shown in table 3.

6.2.2 Receiver Spurious Emissions - Test Method

Above 1GHz

Ref. ANSI C63.10: 2013 section 4.1.4.2.2, 4.1.4.2.3, 6.6.4 & 11.12.2

Radiated Spurious Emissions	
Test parameters	
Peak Span = 1-18GHz /18GHz-26.5GHz RBW = 1 MHz VBW $\geq$ 3 MHz Sweep = Auto couple Detector = Peak Trace = Max Hold.	Average Span = 1-18GHz /18GHz-26.5GHz RBW = 1 MHz VBW $\geq$ 3 MHz Sweep = Auto couple Detector = RMS Power Averaging

Using Vasona, configure the spectrum analyzer as shown above (be sure to enter all losses between the transmitter output and the spectrum analyzer). Terminate the access Point RF ports with 50 ohm loads.

Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)

Save 2 plots:

- 1) Average Plot (Vertical and Horizontal), Limit= 54dBuV/m @3m
- 2) Peak plot (Vertical and Horizontal), Limit = 74dBuV/m @3m

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance.

Also measure any emissions in the restricted bands.

This report represents the worst-case data for all supported operating modes and antennas.

Below 1GHz

Ref. ANSI C63.10: 2013 section 6.5

Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

Span: 30MHz – 1GHz
 Reference Level: 80 dBuV
 Attenuation: 10 dB
 Sweep Time: Coupled
 Resolution Bandwidth: 100kHz
 Video Bandwidth: 300kHz
 Detector: Peak for Pre-scan, Quasi-Peak
 Compliance shall be determined using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

Terminate the access Point RF ports with 50ohm loads.

Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)

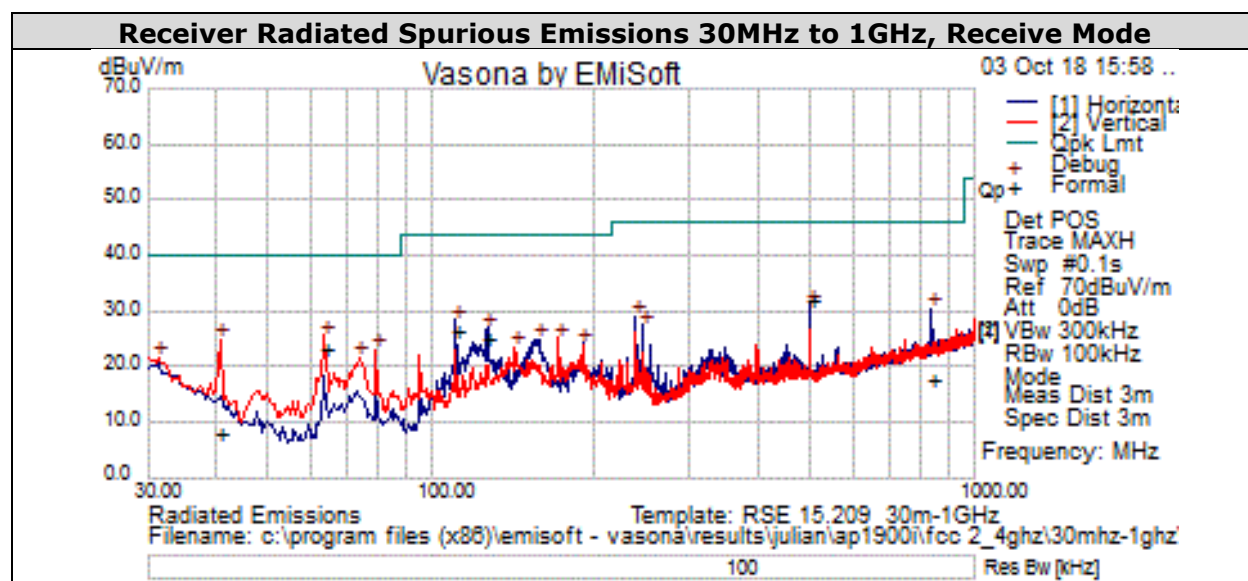
6.2.3 Receiver Spurious Emissions – Test Information

System Number	Description	Samples	System under test	Support equipment
2	EUT	S03	☒	☐
	Support	S04	☐	☒

Tested By: Julian Land	Date of testing: 10/3/2018 – 12/11/2018
Test Result: PASS	

See Appendix A for list of test equipment

6.2.4 Receiver Spurious Emissions – 30MHz-1GHz



Frequency (MHz)	Raw (dBuV)	Cab Loss (dB)	AF (dB)	Level (dBuV)	Detector	Polarity	Height (cm)	Azt (Deg)	Limit (dBuV)	Margin (dB)	Results Pass / Fail	Comments
63.465	41.7	0.7	-19	23.4	Quasi Max	V	108	88	40	-16.6	Pass	
500.005	39.7	2.2	-9.7	32.2	Quasi Max	H	178	302	46	-13.8	Pass	
40.67	20.9	0.6	-13.5	8	Quasi Max	V	167	24	40	-32	Pass	
111.059	39.6	1	-13.8	26.8	Quasi Max	H	280	352	43.5	-16.7	Pass	
837.04	20.3	3	-5.7	17.6	Quasi Max	H	327	360	46	-28.4	Pass	
126.936	37	1.1	-12.7	25.3	Quasi Max	H	253	331	43.5	-18.2	Pass	