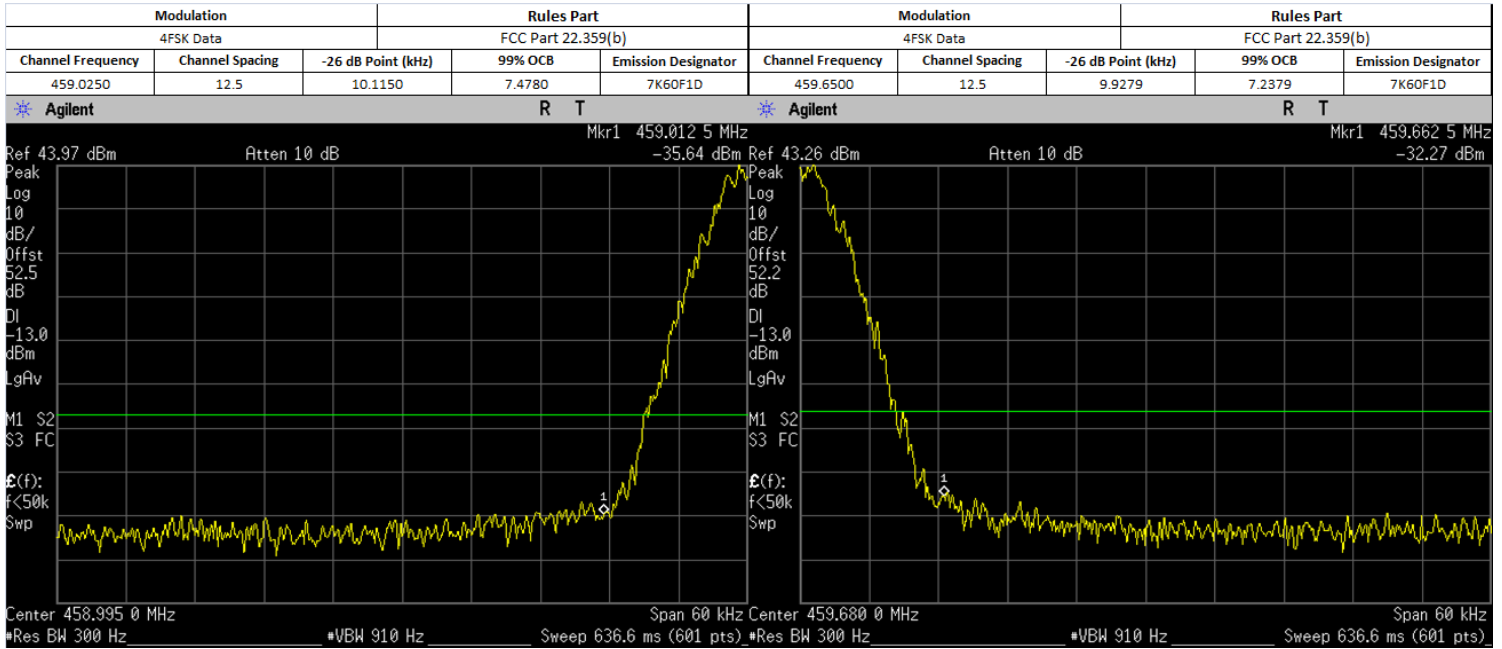
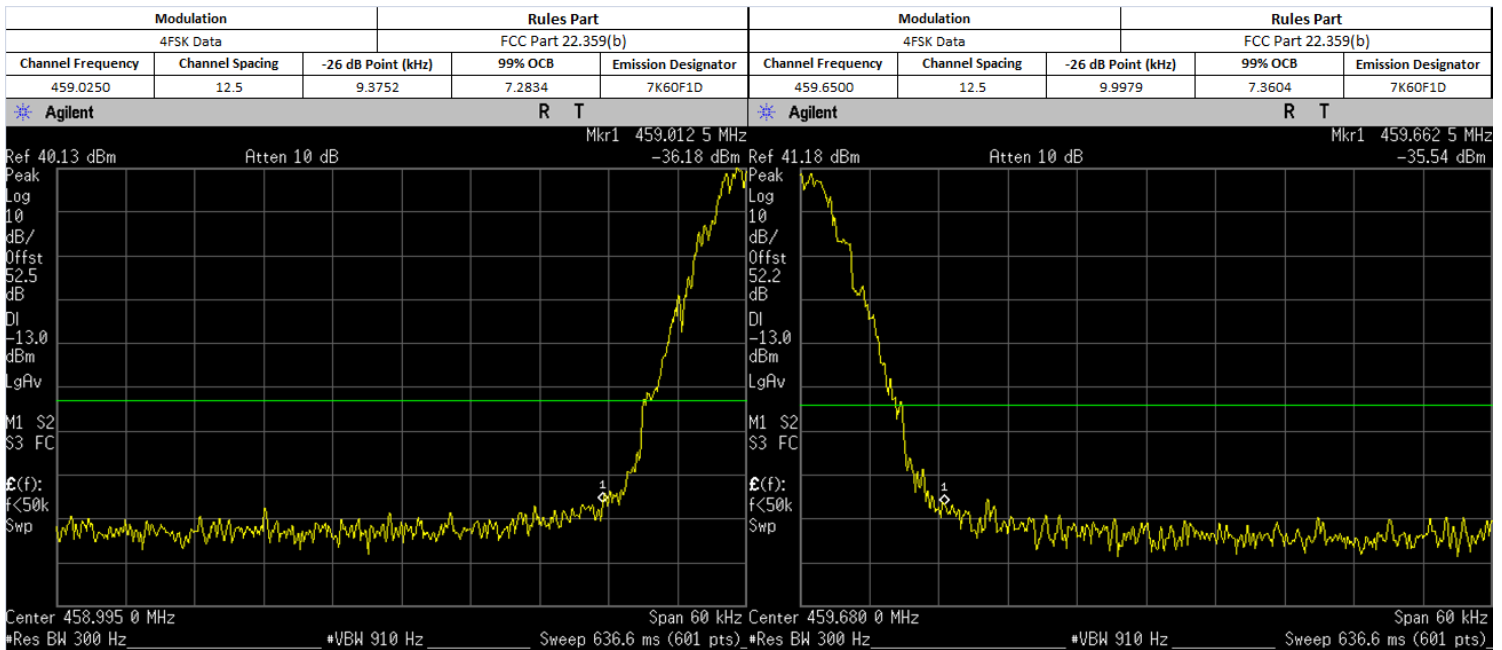


6.7.4. Test Result (Digital)

MAX POWER



LOW POWER

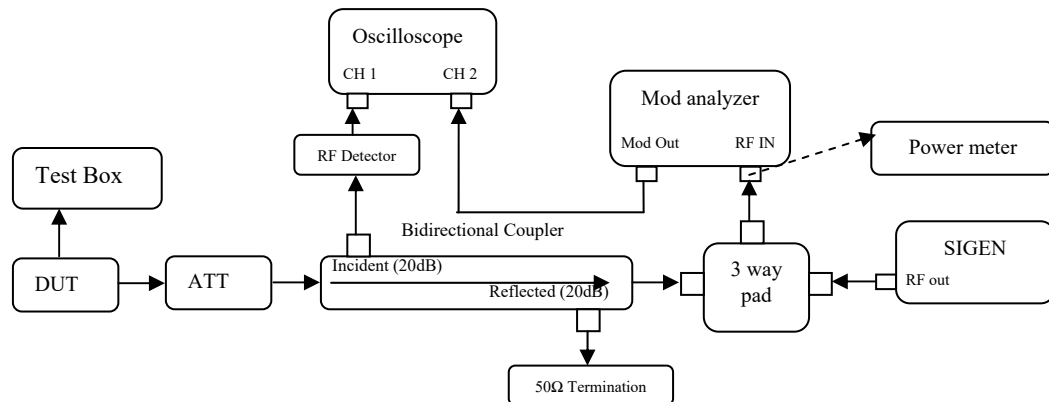


6.7.5. Test Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

6.8. Transient Frequency Behavior

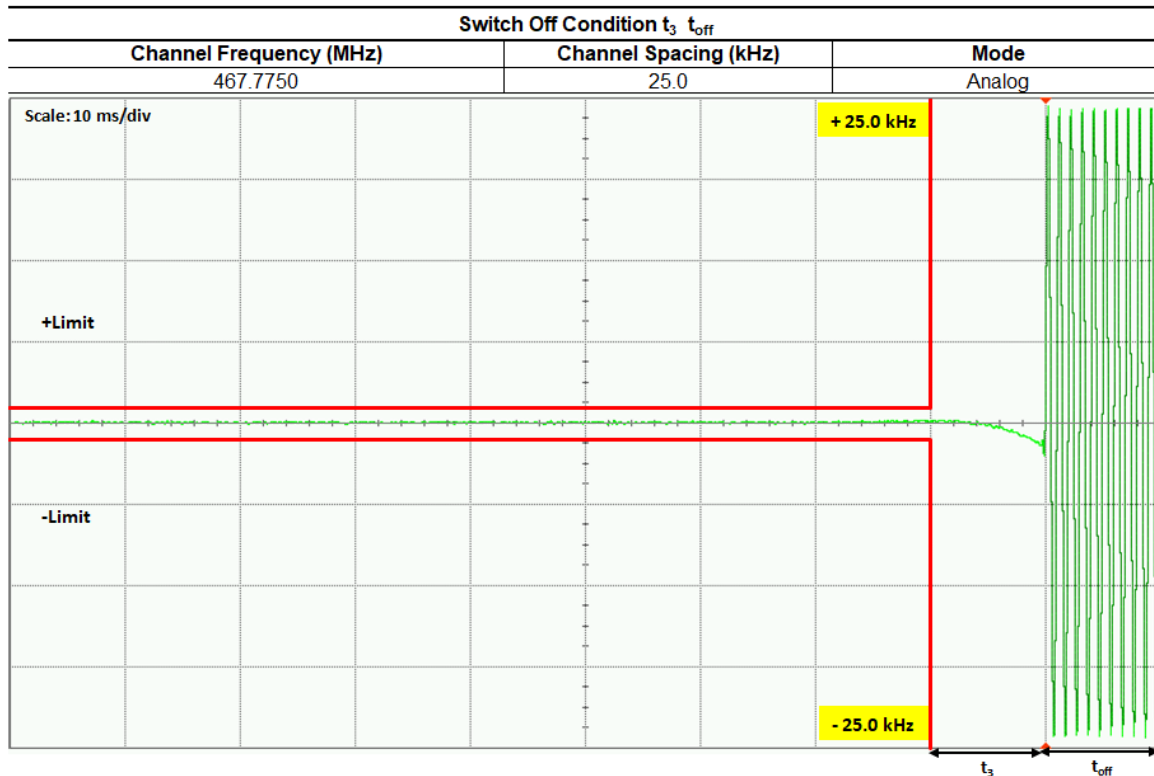
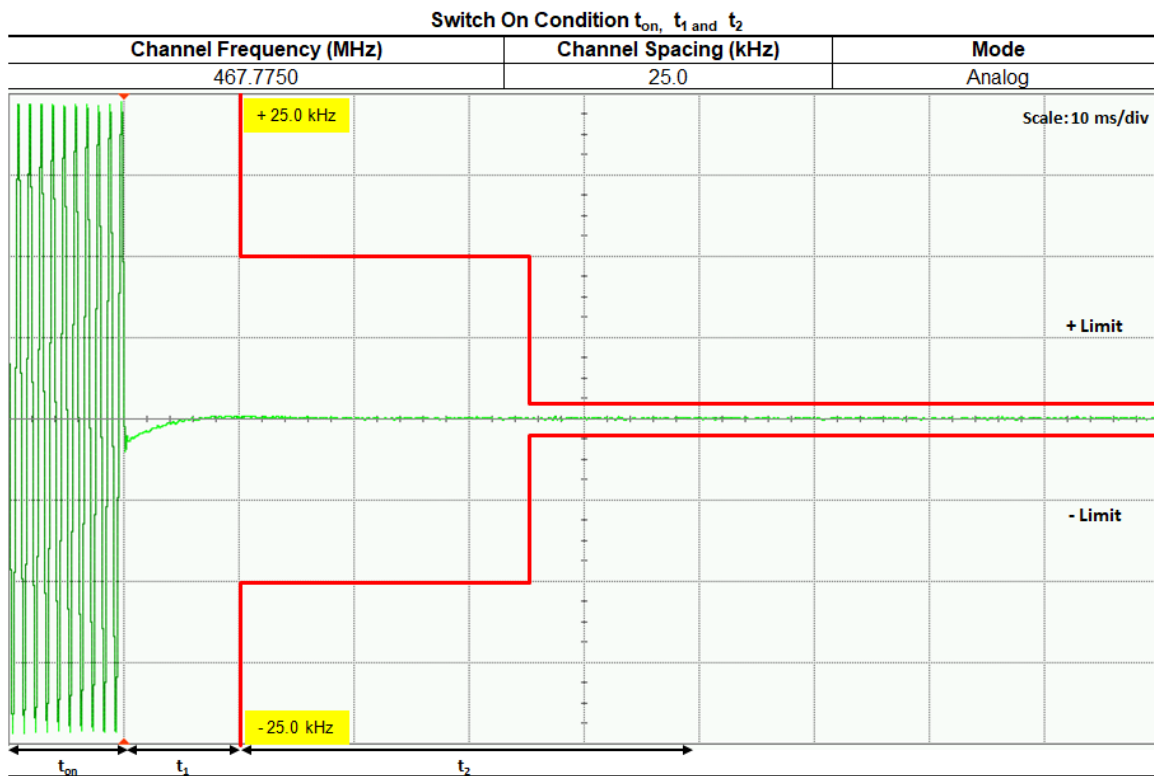
6.8.1. Test Setup

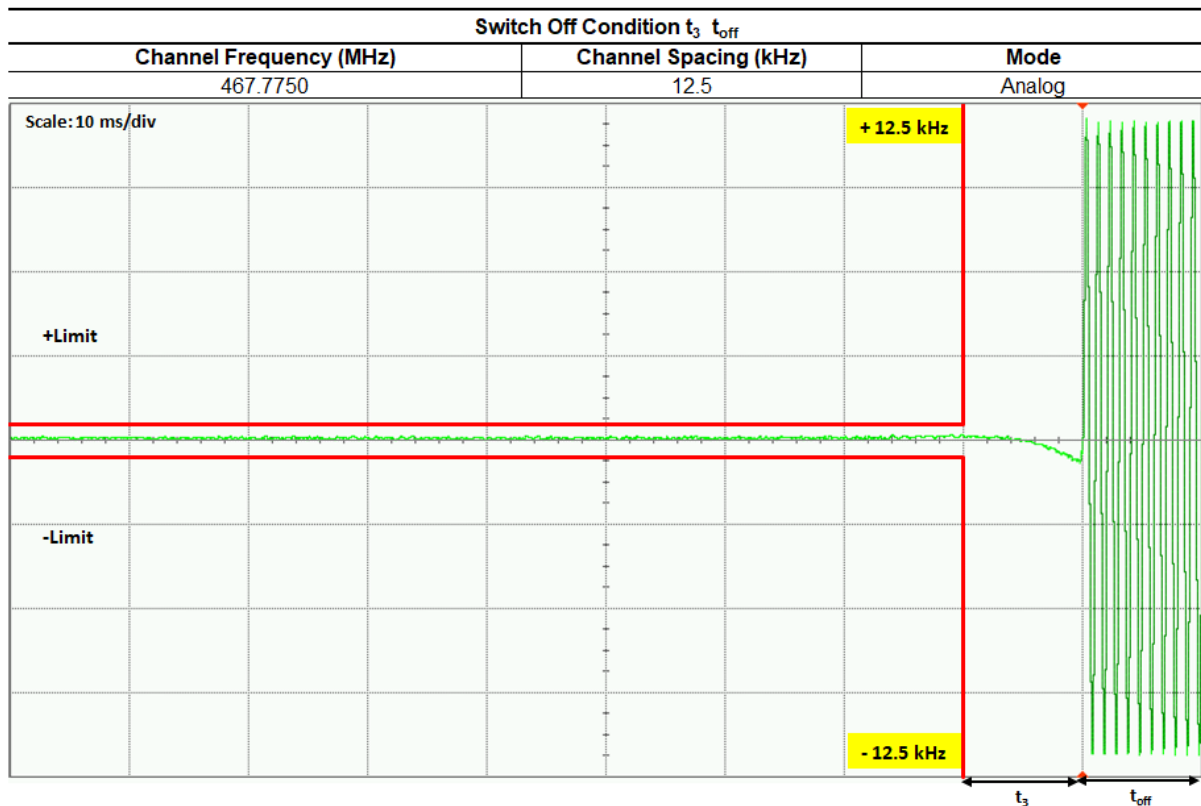
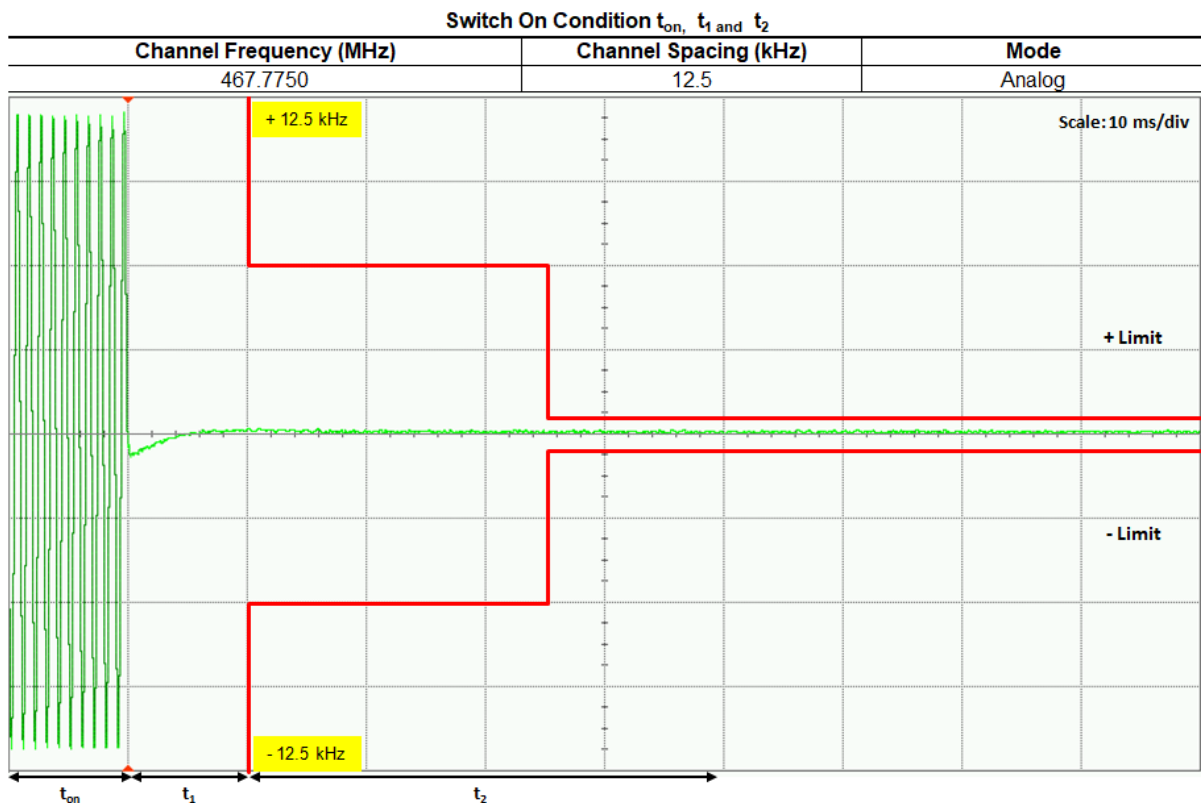


- 1) Connect the setup as figure above.
- 2) Path loss for the measurement included.
- 3) Set on Sigen with the assigned center frequency, internal 1 kHz FM tone.
FM Deviation: Analog 25kHz Channel Spacing = 25 kHz
Analog 12.5 kHz Channel Spacing = 12.5 kHz
C4FM = 12.5 kHz
- 4) Turn on 50 kHz high pass filter and 15 kHz low pass filter on modulation analyzer.
- 5) Supply sufficient attenuation ATT to provide the output power of ≤ -11 dBm into power meter when DUT is keying up.
- 6) Note the power level on power meter and dekey the DUT.
- 7) Adjust the amplitude of the signal generator to the level power meter, maintained the amplitude throughout the rest of the measurement.
- 8) Connect the output to modulation analyzer.
- 9) Reduce 30dB attenuation and transmit the radio to get the trigger line.
- 10) Capture the screen shot for key-up (rising edge) and de-key (falling edge) mode.

6.8.2. Test Result

Not for FCC review





6.8.3. Test Limit

Transmitters designed to operate in the 150-174 MHz and 421-512 MHz frequency bands must maintain transient frequencies within the maximum frequency difference limits during the time intervals indicated:

Time intervals ^{1 2}	Maximum frequency difference ³	All equipment	
		150 to 174 MHz	421 to 512 MHz
Transient Frequency Behavior for Equipment Designed to Operate on 25 kHz Channels			
t ₁ ⁴	±25.0 kHz	5.0 ms	10.0 ms
t ₂	±12.5 kHz	20.0 ms	25.0 ms
t ₃ ⁴	±25.0 kHz	5.0 ms	10.0 ms
Transient Frequency Behavior for Equipment Designed to Operate on 12.5 kHz Channels			
t ₁ ⁴	±12.5 kHz	5.0 ms	10.0 ms
t ₂	±6.25 kHz	20.0 ms	25.0 ms
t ₃ ⁴	±12.5 kHz	5.0 ms	10.0 ms
Transient Frequency Behavior for Equipment Designed to Operate on 6.25 kHz Channels			
t ₁ ⁴	±6.25 kHz	5.0 ms	10.0 ms
t ₂	±3.125 kHz	20.0 ms	25.0 ms
t ₃ ⁴	±6.25 kHz	5.0 ms	10.0 ms

¹ t_{on} is the instant when a 1 kHz test signal is completely suppressed, including any capture time due to phasing.

t₁ is the time period immediately following t_{on}.

t₂ is the time period immediately following t₁.

t₃ is the time period from the instant when the transmitter is turned off until t_{off}.

t_{off} is the instant when the 1 kHz test signal starts to rise.

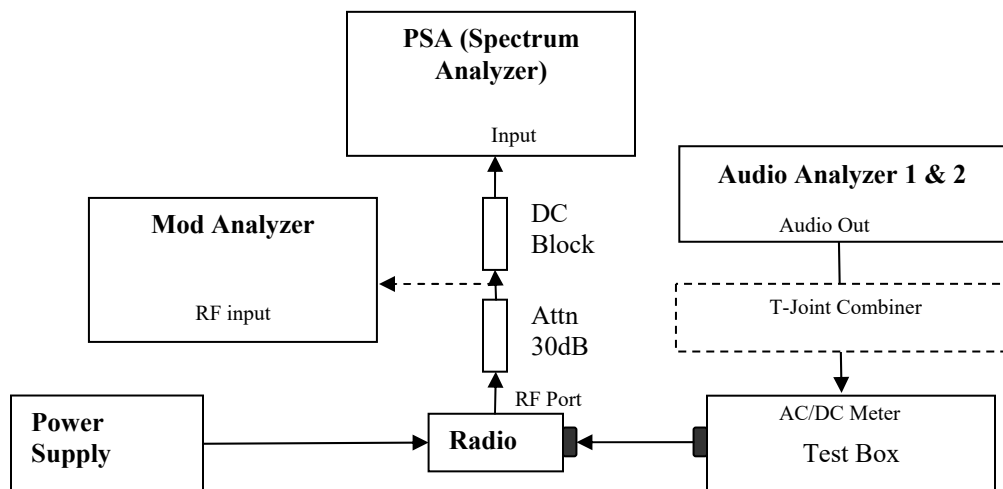
² During the time from the end of t₂ to the beginning of t₃, the frequency difference must not exceed the limits specified in §90.213.

³ Difference between the actual transmitter frequency and the assigned transmitter frequency.

⁴ If the transmitter carrier output power rating is 6 watts or less, the frequency difference during this time period may exceed the maximum frequency difference for this time period.

6.9. Adjacent Channel Power

6.9.1. Test Setup (Analog)

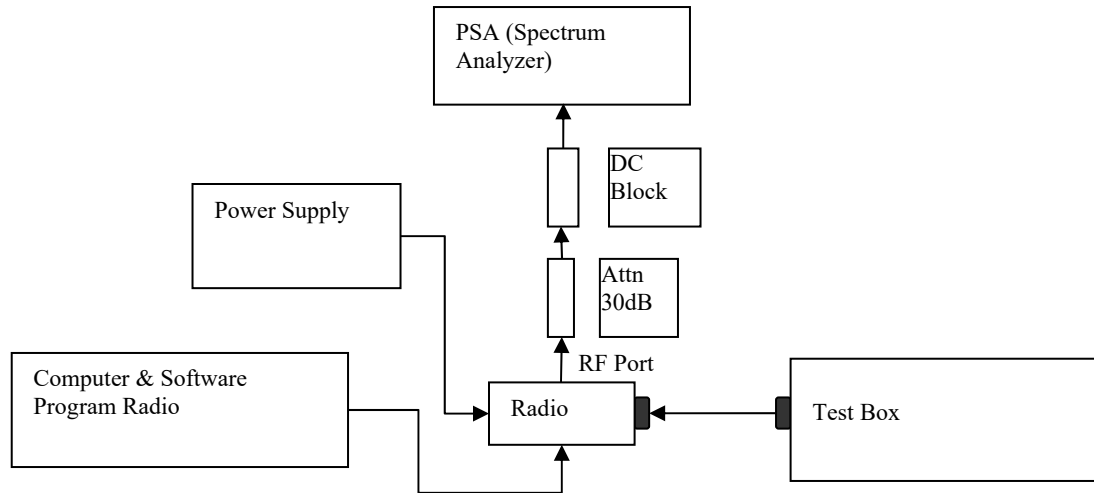


- 1) The DUT transmitter output port was connected to modulation analyzer.
- 2) Transmit the radio and turn on 1st audio analyzer with audio frequency 650Hz, 50% rated deviation, and record the amplitude value as AmpT1.
- 3) Turn off Audio analyzer 1 and turn on audio analyzer 2, set the audio frequency to 2.2 kHz and 50% deviation. Record the amplitude as AmpT2.
- 4) Turn both audio analyzers ON and up 10dB amplitude level.
- 5) Connect the output to PSA and set to assigned center frequency.
- 6) Set Span, Resolution Bandwidth and Video Bandwidth per rules part.
- 7) Transmit the radio and record the Adjacent Channel Power value in dBc.

6.9.2. Test Result

Not Applicable.

6.9.3. Test Setup (Digital)



- 1) Program and set radio to operate in desire test frequency and digital mode with modulation. (4FSK, C4FM or other digital modulation form).
- 2) Prepare setup as per picture.
- 3) Turn on the ACP Measurement – Press Measure, ACP.
- 4) Set Span, Resolution Bandwidth and Video Bandwidth as per rules part.
- 5) Transmit the radio and record the Adjacent Channel Power value in dBc.

6.9.4. Test Result

Not Applicable.

6.9.5. Test Limit

12.5 kHz MOBILE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP relative (dBc)
9.375	6.25	-40
15.625	6.25	-60
21.875	6.25	-60
37.50	25.00	-60
62.50	25.00	-65
87.50	25.00	-65
150.00	100	-65
250.00	100	-65
350.00	100	-65
>400 to 12 MHz	30 (s)	-75
12 MHz to paired receive band	30 (s)	-75
In the paired receive band	30 (s)	-100

25 kHz MOBILE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP relative (dBc)
15.625	6.25	-40
21.875	6.25	-60
37.50	25	-60
62.50	25	-65
87.50	25	-65
150.00	100	-65
250.00	100	-65
350.00	100	-65
>400 kHz to 12 MHz	30 (s)	-75
12 MHz to paired receive band	30 (s)	-75
In the paired receive band	30 (s)	-100

12.5 kHz BASE TRANSMITTER ACP REQUIREMENTS

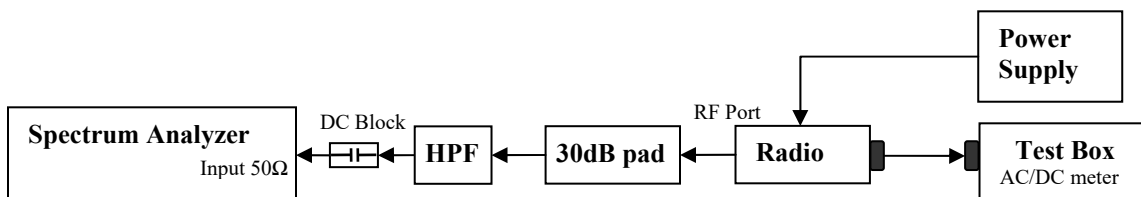
Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
9.375	6.25	-40
15.625	6.25	-60
21.875	6.25	-60
37.5	25	-60
62.5	25	-65
87.5	25	-65
150	100	-65
250	100	-65
350.00	100	-65
>400 kHz to 12 MHz	30 (s)	-80
12 MHz to paired receive band	30 (s)	-80
In the paired receive band	30 (s)	1-85

25 kHz BASE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
15.625	6.25	-40
21.875	6.25	-60
37.5	25	-60
62.5	25	-65
87.5	25	-65
150	100	-65
250	100	-65
350	100.00	-65
>400 kHz to 12 MHz	30 (s)	-80
12 MHz to paired receive band	30 (s)	-80
In the paired receive band	30 (s)	1-85

6.10. Conducted Spurious Emission

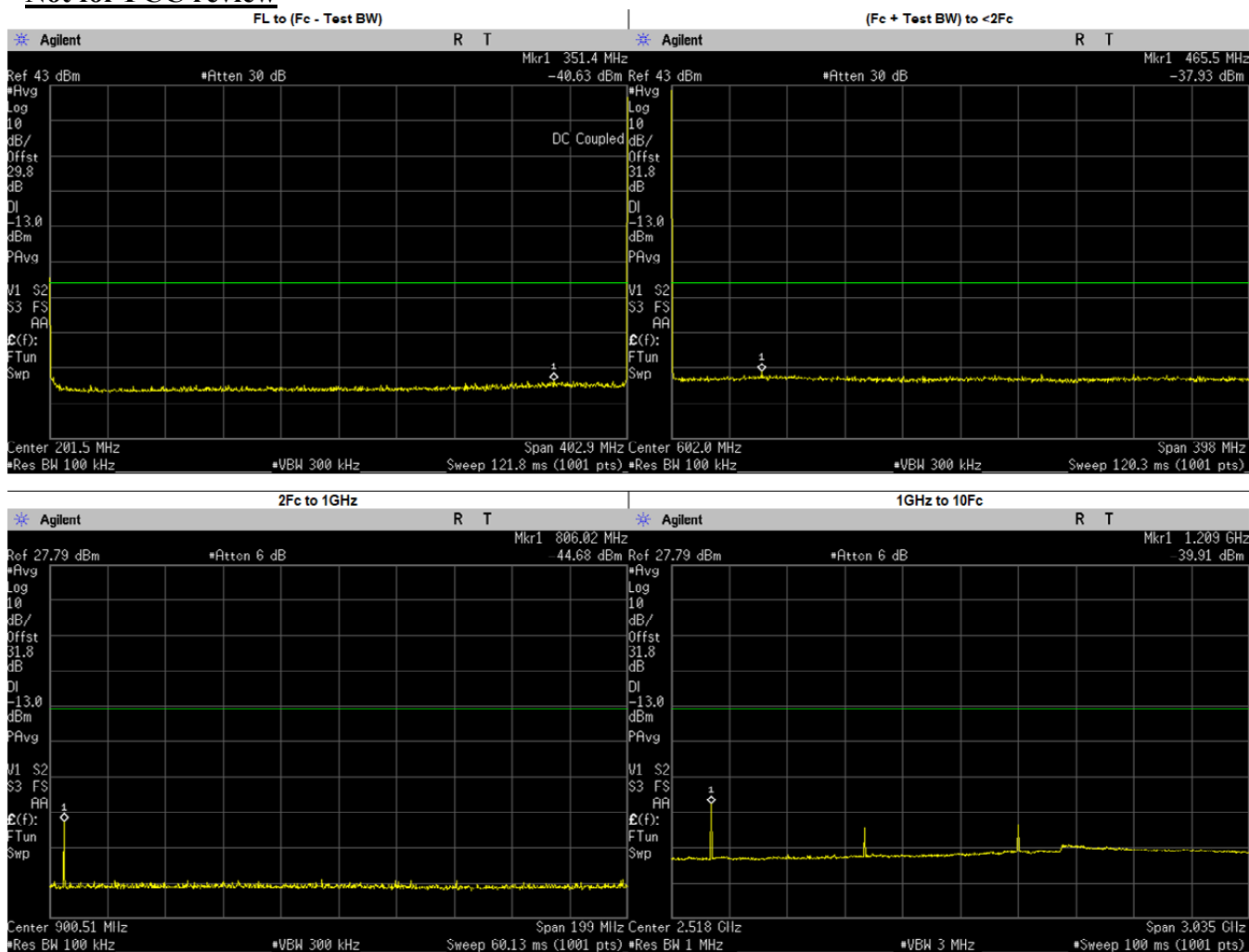
6.10.1. Test Setup



- 1) The DUT transmitter output port was connected to Spectrum Analyzer with above setup.
- 2) Program and set radio to operate in desire test frequency and mode. (Analog / digital modulation form).
- 3) Path loss for the measurement included.
- 4) Set the PSA Resolution Bandwidth as per rules part.
- 5) Set the Ref offset from the pathloss offset calibration file.
- 6) Adjust the center frequency of the spectrum analyzer for incremental coverage of the range from:
 - a. 9 KHz to $F_c - \text{Test Bandwidth}$
 - b. $F_c + \text{Test Bandwidth}$ to $2F_c - 5\text{MHz}$.
- 7) Key up the DUT, Peak Search the highest Spur and record the levels of spurious emissions
- 8) Dekey the DUT.
- 9) Turn On High Pass Filter path and Key up the DUT.
- 10) Adjust the PSA Freq for incremental coverage of range from $2F_c$ to $10F_c$
- 11) Key up the DUT and record the highest spur levels of spurious emissions.

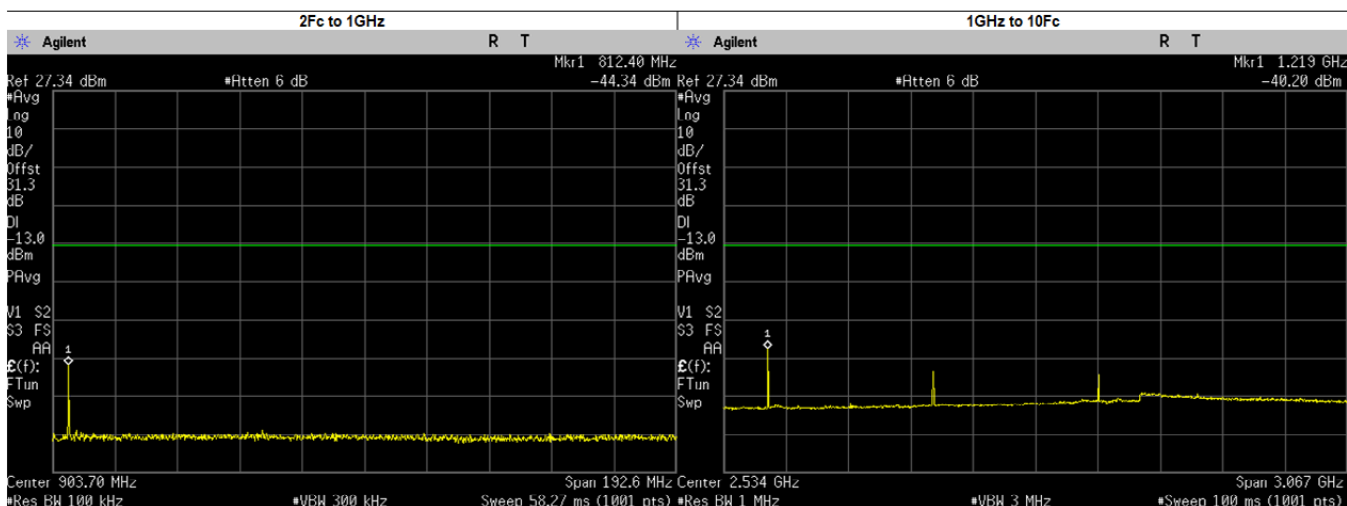
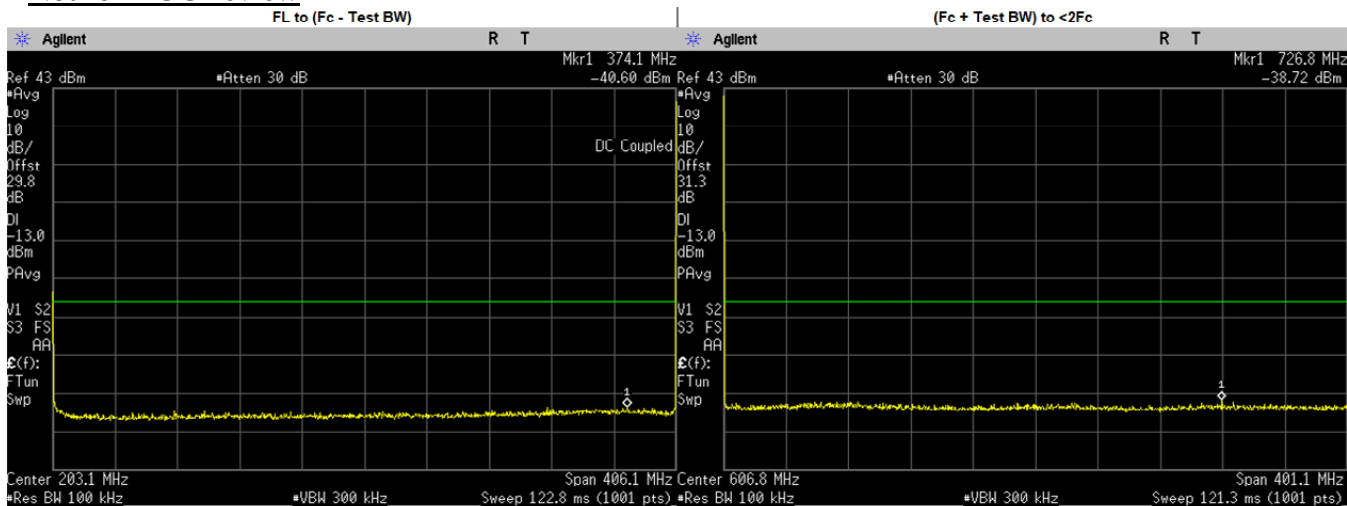
6.10.2. Test Result (Analog)

Analog: 403.0125. MHz, 25. kHz Channel Spacing, Max. Power Not for FCC review



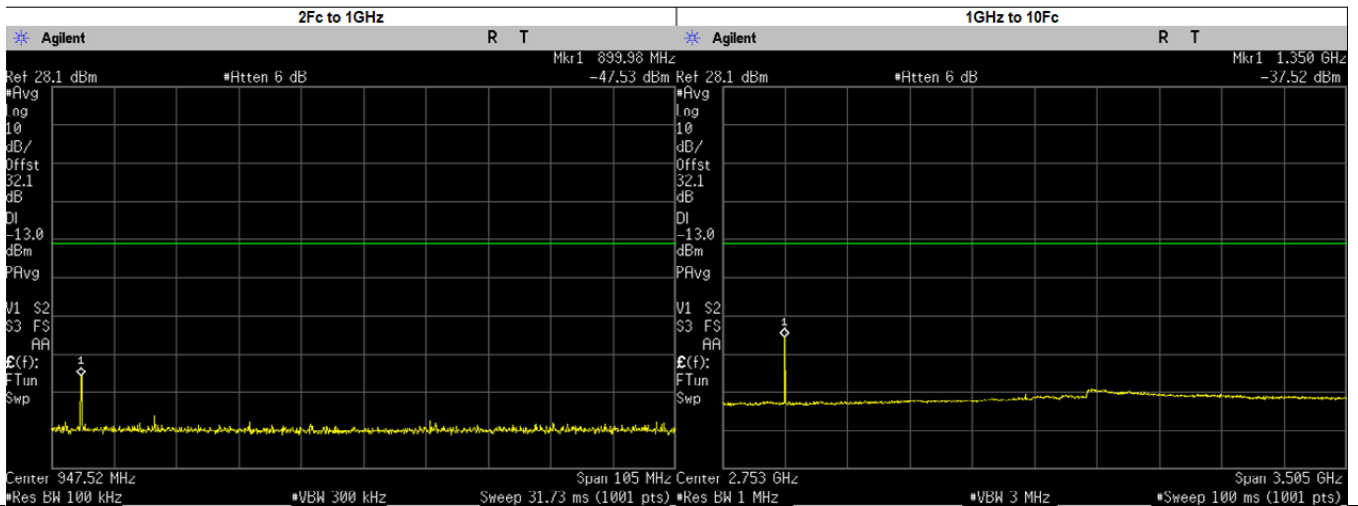
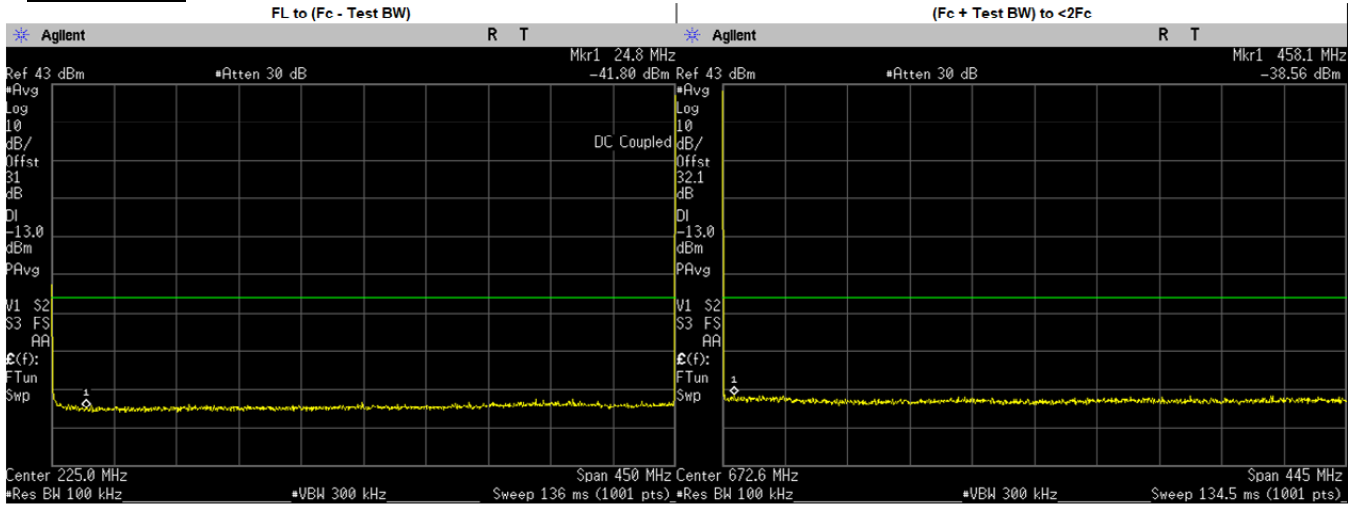
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	351.4000	-40.6300	-13.00	PASS
(Fc + Test BW) to <2Fc	465.5474	-37.9300	-13.00	PASS
2Fc to 1GHz	806.0200	-44.6800	-13.00	PASS
1GHz to 10Fc	1209.0000	-39.9100	-13.00	PASS
	1612.0500	-54.4831	-13.00	PASS
	2015.0620	-47.7533	-13.00	PASS
	2418.0750	-54.1566	-13.00	PASS
	2821.0880	-45.5695	-13.00	PASS
	3224.1000	-52.2695	-13.00	PASS
	3627.1130	-53.0707	-13.00	PASS
	4030.1250	-53.6124	-13.00	PASS

Analog: 406.2. MHz, 25. kHz Channel Spacing, Max. Power
Not for FCC review



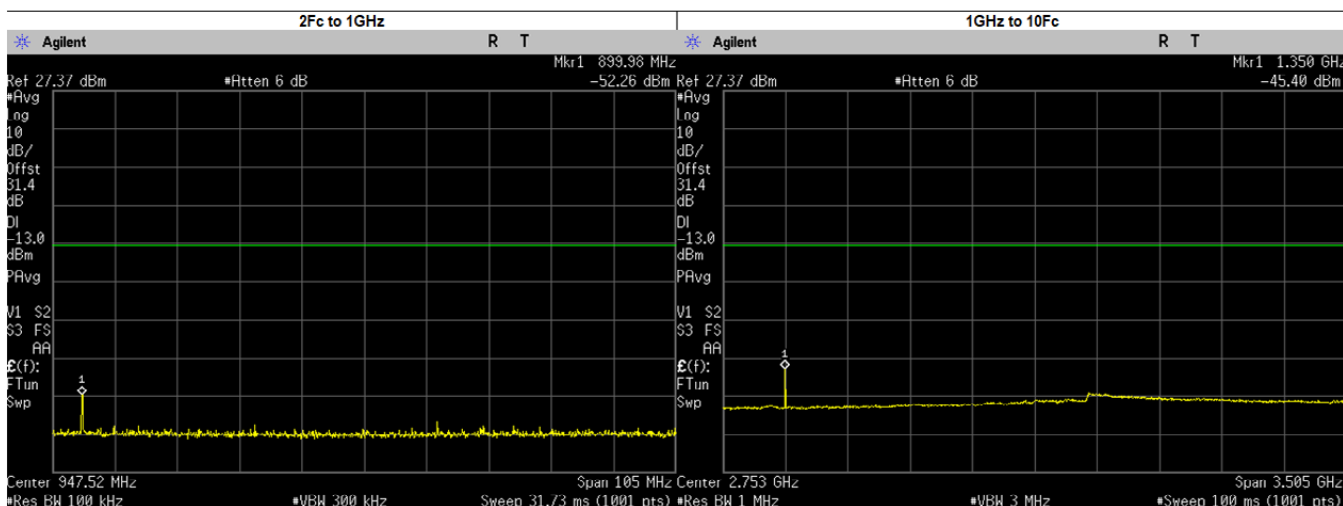
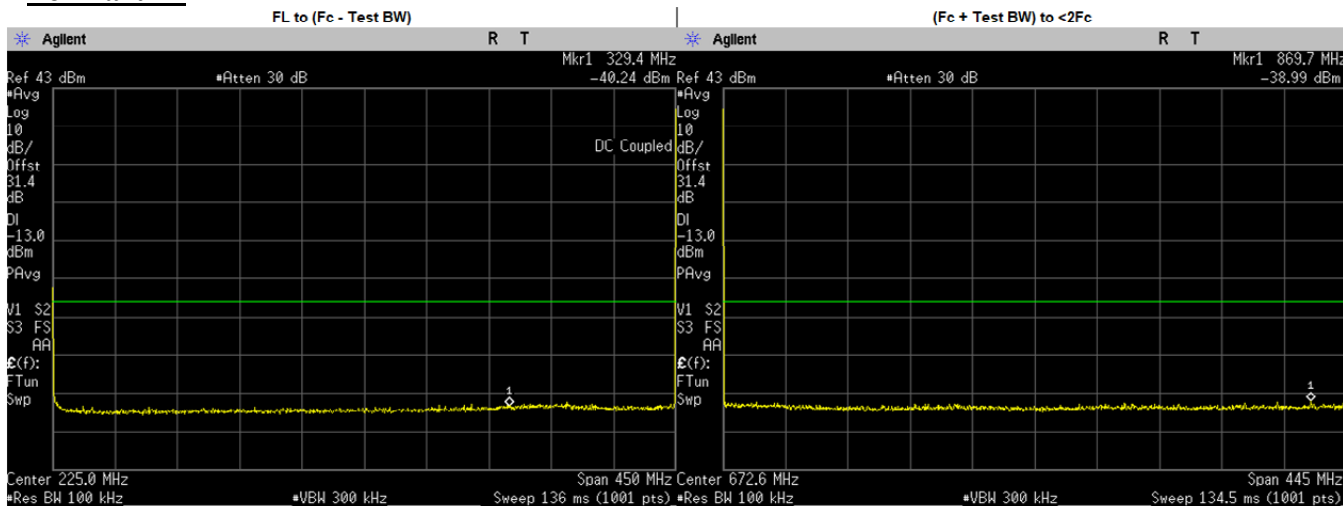
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	374.1000	-40.5980	-13.00	PASS
(Fc + Test BW) to <2Fc	726.7700	-38.7200	-13.00	PASS
2Fc to 1GHz	812.4000	-44.3400	-13.00	PASS
1GHz to 10Fc	1219.0000	-40.2000	-13.00	PASS
	1218.6000	-43.3959	-13.00	PASS
	1624.8000	-54.7557	-13.00	PASS
	2031.0000	-47.3814	-13.00	PASS
	2437.2000	-54.6311	-13.00	PASS
	2843.4000	-47.0179	-13.00	PASS
	3249.6000	-52.7315	-13.00	PASS
	3655.8000	-53.2933	-13.00	PASS
4062.0000	-54.1328	-13.00	PASS	

**Analog: 450.025. MHz, 25.kHz Channel Spacing, Max. Power
 For Part 74**



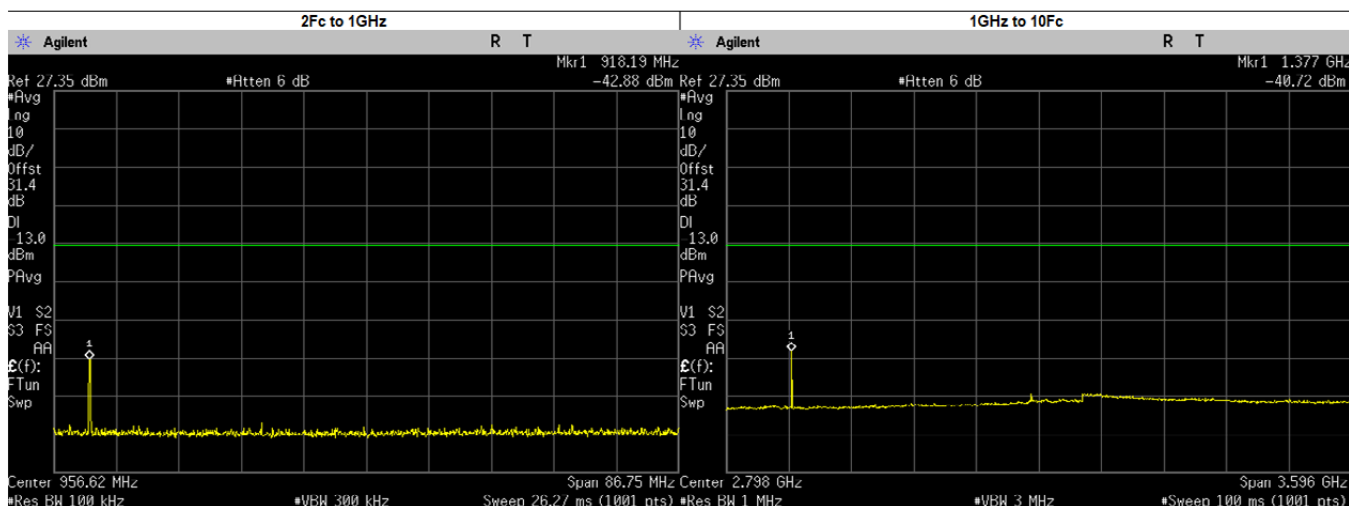
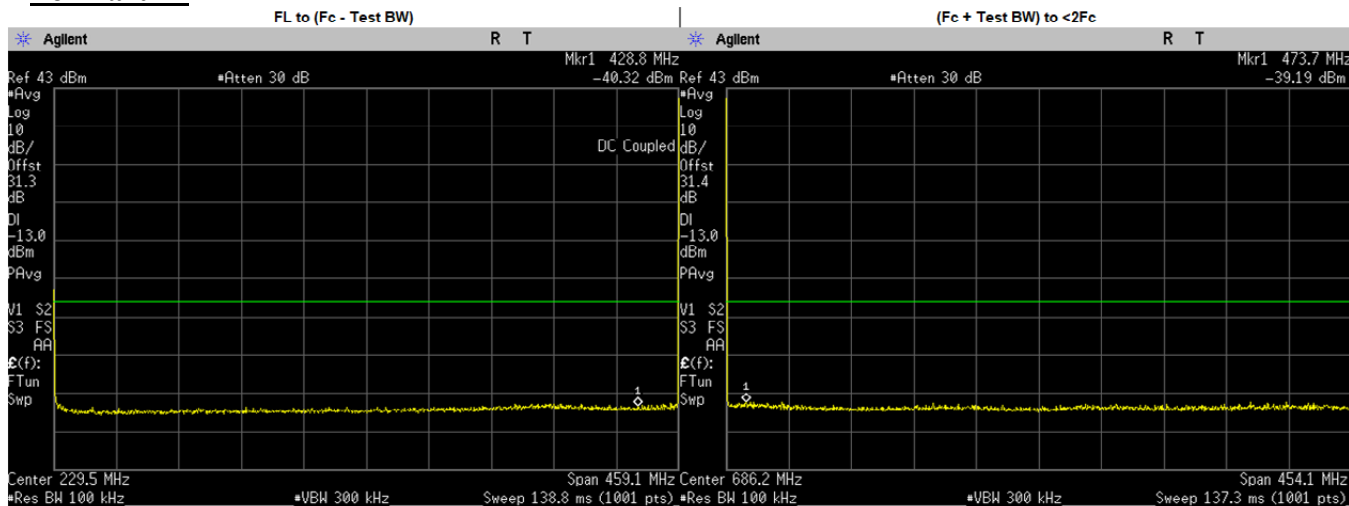
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	24.8000	-41.7970	-13.00	PASS
(Fc + Test BW) to <2Fc	458.0912	-38.5600	-13.00	PASS
2Fc to 1GHz	899.9827	-47.5300	-13.00	PASS
1GHz to 10Fc	1350.0000	-37.5200	-13.00	PASS
	1350.0750	-39.7286	-13.00	PASS
	1800.1000	-54.2250	-13.00	PASS
	2250.1250	-54.2292	-13.00	PASS
	2700.1500	-52.4255	-13.00	PASS
	3150.1750	-51.4125	-13.00	PASS
	3600.2000	-52.7951	-13.00	PASS
	4050.2250	-53.0425	-13.00	PASS
4500.2500	-53.2754	-13.00	PASS	

**Analog: 450.025. MHz, 25.kHz Channel Spacing, Low. Power
 For Part 74**



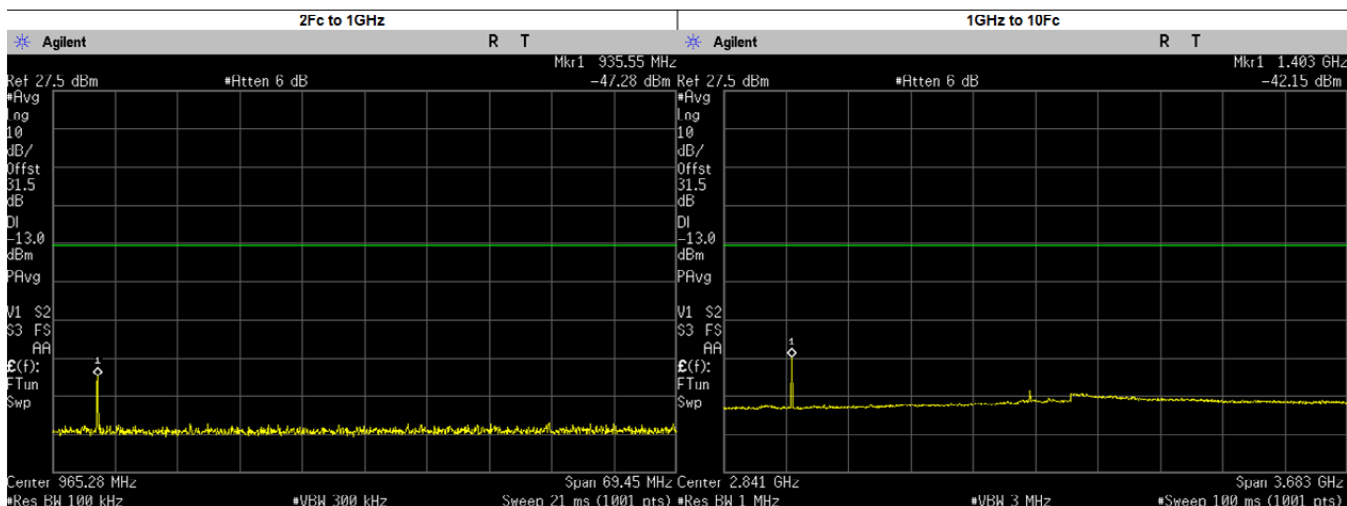
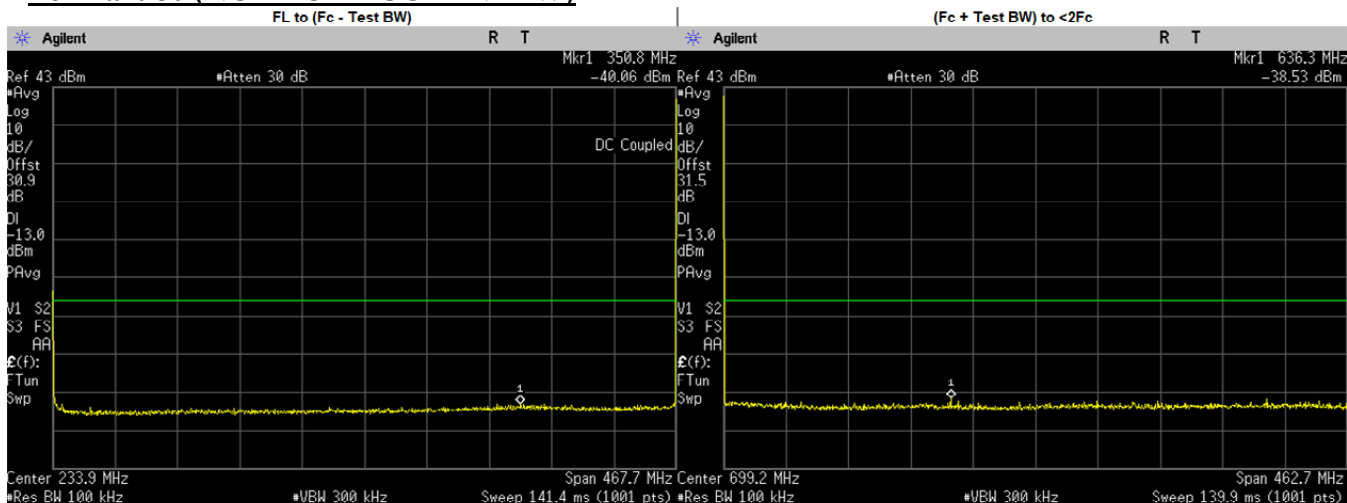
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	329.4000	-40.2450	-13.00	PASS
(Fc + Test BW) to <2Fc	869.6868	-38.9900	-13.00	PASS
2Fc to 1GHz	899.9827	-52.2600	-13.00	PASS
1GHz to 10Fc	1350.0000	-45.4000	-13.00	PASS
	1350.0750	-46.7065	-13.00	PASS
	1800.1000	-55.0976	-13.00	PASS
	2250.1250	-54.8620	-13.00	PASS
	2700.1500	-53.6473	-13.00	PASS
	3150.1750	-52.1625	-13.00	PASS
	3600.2000	-53.5064	-13.00	PASS
	4050.2250	-54.0377	-13.00	PASS
4500.2500	-54.0062	-13.00	PASS	

**Analog: 459.125. MHz, 25. kHz Channel Spacing, Max. Power
 For Part 22**



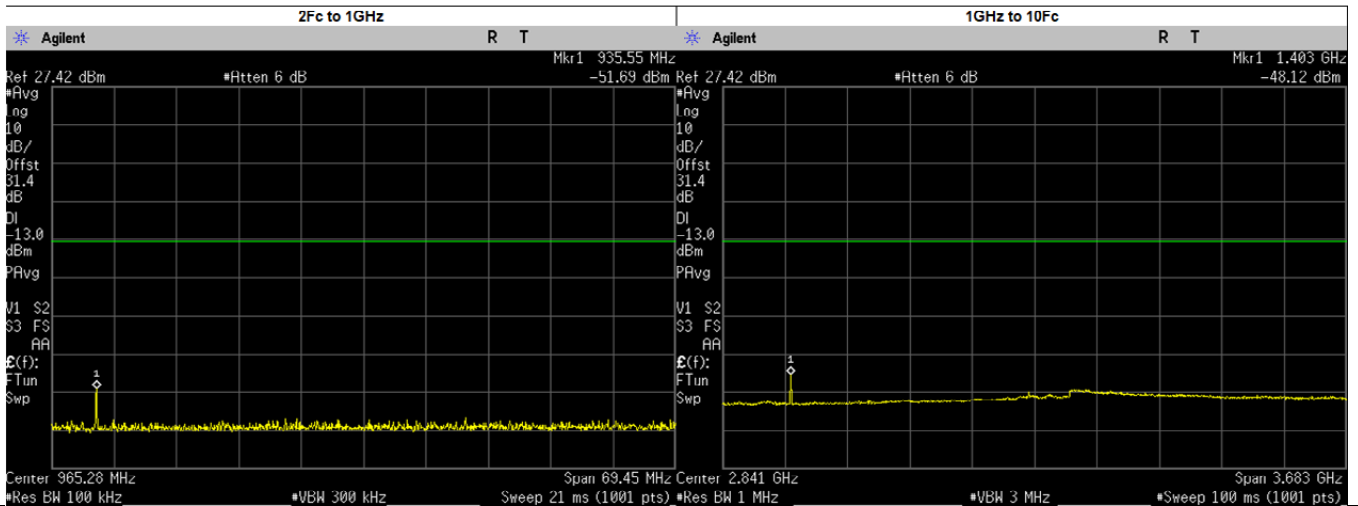
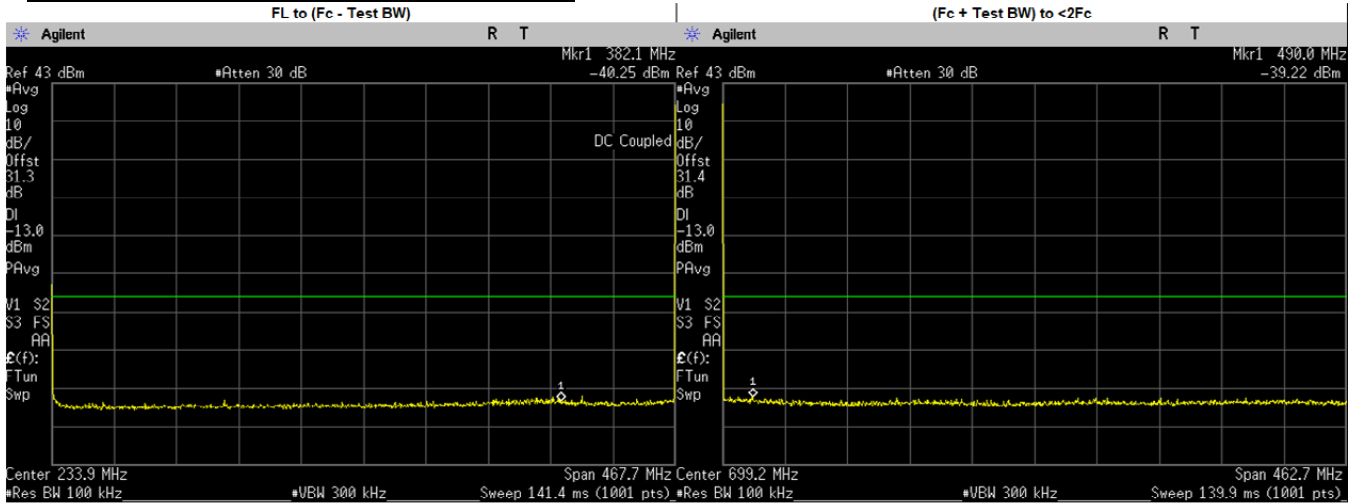
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	428.8000	-40.3170	-13.00	PASS
(Fc + Test BW) to <2Fc	473.7120	-39.1900	-13.00	PASS
2Fc to 1GHz	918.1947	-42.8800	-13.00	PASS
1GHz to 10Fc	1377.0000	-40.7200	-13.00	PASS
	1377.3750	-41.6858	-13.00	PASS
	1836.5000	-55.0464	-13.00	PASS
	2295.6250	-55.1734	-13.00	PASS
	2754.7500	-52.1917	-13.00	PASS
	3213.8750	-52.6498	-13.00	PASS
	3673.0000	-53.4338	-13.00	PASS
	4132.1250	-53.8466	-13.00	PASS
4591.2500	-54.0953	-13.00	PASS	

**Analog: 467.775. MHz, 25. kHz Channel Spacing, Max. Power
 For Part 80 (NOT FOR FCC REVIEW)**



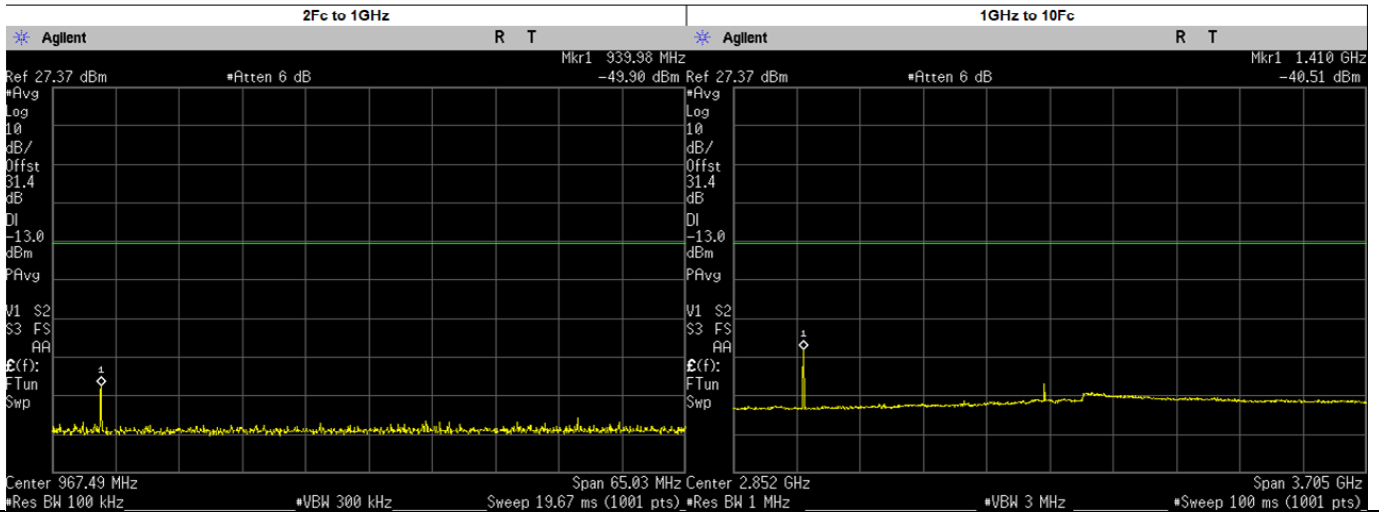
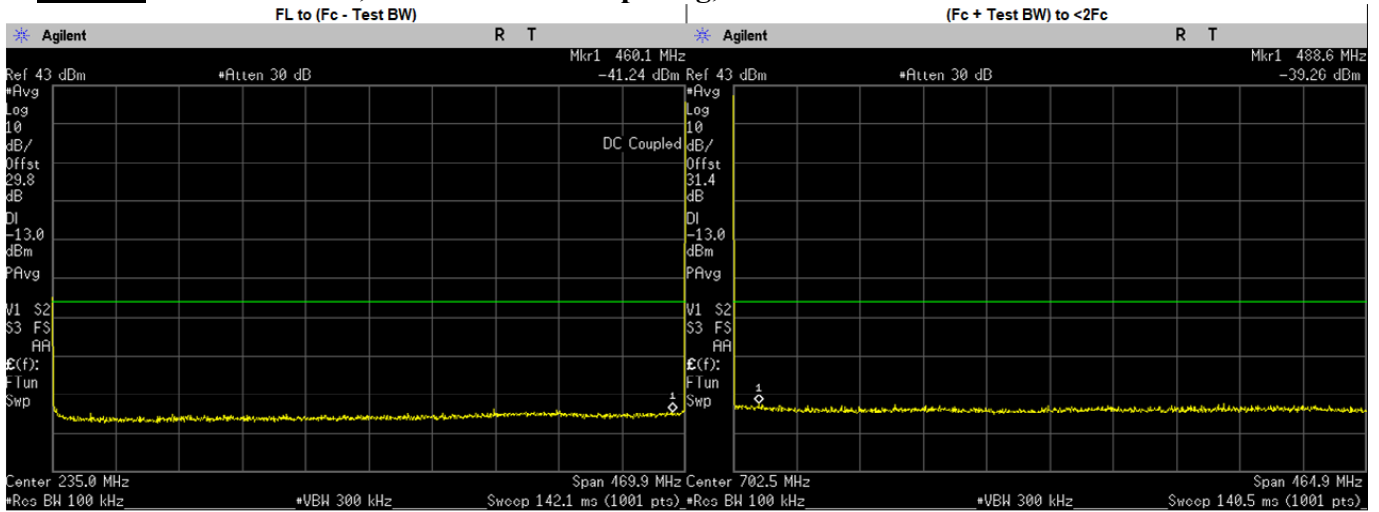
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	350.8000	-40.0630	-13.00	PASS
(Fc + Test BW) to <2Fc	636.2612	-38.5300	-13.00	PASS
2Fc to 1GHz	935.5500	-47.2800	-13.00	PASS
1GHz to 10Fc	1403.0000	-42.1500	-13.00	PASS
	1403.3250	-42.3431	-13.00	PASS
	1871.1000	-54.7497	-13.00	PASS
	2338.8750	-54.3185	-13.00	PASS
	2806.6500	-51.5964	-13.00	PASS
	3274.4250	-52.5625	-13.00	PASS
	3742.2000	-53.1761	-13.00	PASS
	4209.9750	-53.7544	-13.00	PASS
	4677.7500	-54.1035	-13.00	PASS

**Analog: 467.775. MHz, 25. kHz Channel Spacing, Low. Power
 For Part 80 (NOT FOR FCC REVIEW)**



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	382.1000	-40.2540	-13.00	PASS
(Fc + Test BW) to <2Fc	490.0423	-39.2200	-13.00	PASS
2Fc to 1GHz	935.5500	-51.6927	-13.00	PASS
1GHz to 10Fc	1403.0000	-48.1200	-13.00	PASS
	1403.3250	-48.2398	-13.00	PASS
	1871.1000	-54.9139	-13.00	PASS
	2338.8750	-54.8557	-13.00	PASS
	2806.6500	-52.7161	-13.00	PASS
	3274.4250	-52.4579	-13.00	PASS
	3742.2000	-53.2270	-13.00	PASS
	4209.9750	-53.5259	-13.00	PASS
4677.7500	-54.0594	-13.00	PASS	

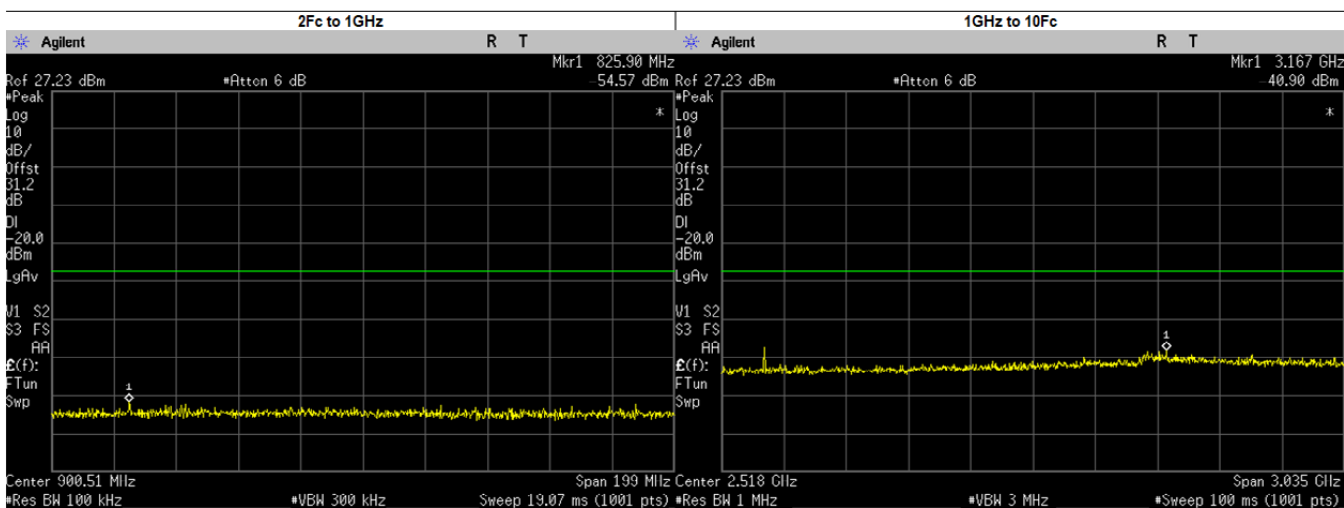
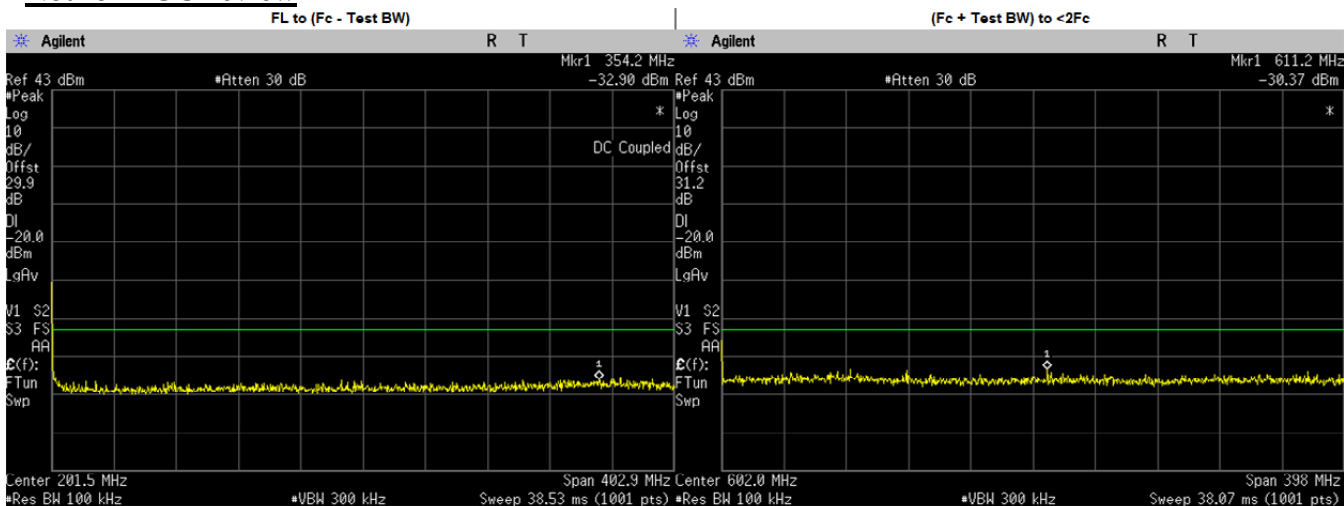
Analog: 469.9875. MHz, 25. kHz Channel Spacing, Max. Power



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	460.1000	-41.2440	-13.00	PASS
(Fc + Test BW) to <2Fc	488.6415	-39.2600	-13.00	PASS
2Fc to 1GHz	939.9800	-49.9000	-13.00	PASS
1GHz to 10Fc	1410.0000	-40.5100	-13.00	PASS
	1409.9630	-43.4435	-13.00	PASS
	1879.9500	-54.7378	-13.00	PASS
	2349.9370	-54.1383	-13.00	PASS
	2819.9250	-50.4111	-13.00	PASS
	3289.9120	-52.5798	-13.00	PASS
	3759.9000	-53.4771	-13.00	PASS
	4229.8870	-54.0118	-13.00	PASS
	4699.8750	-54.2987	-13.00	PASS

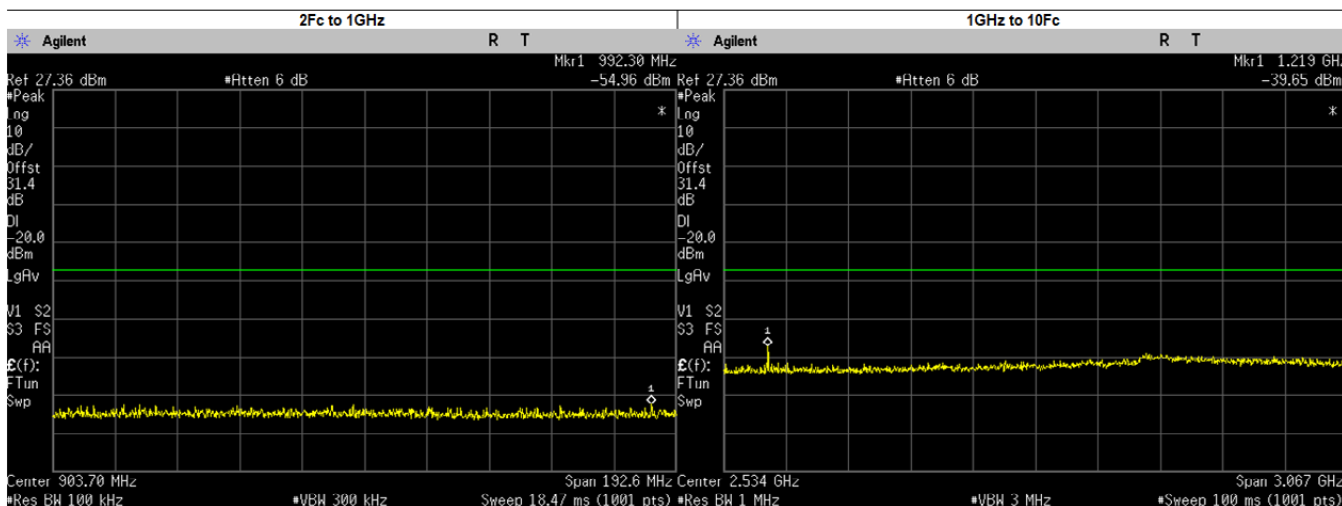
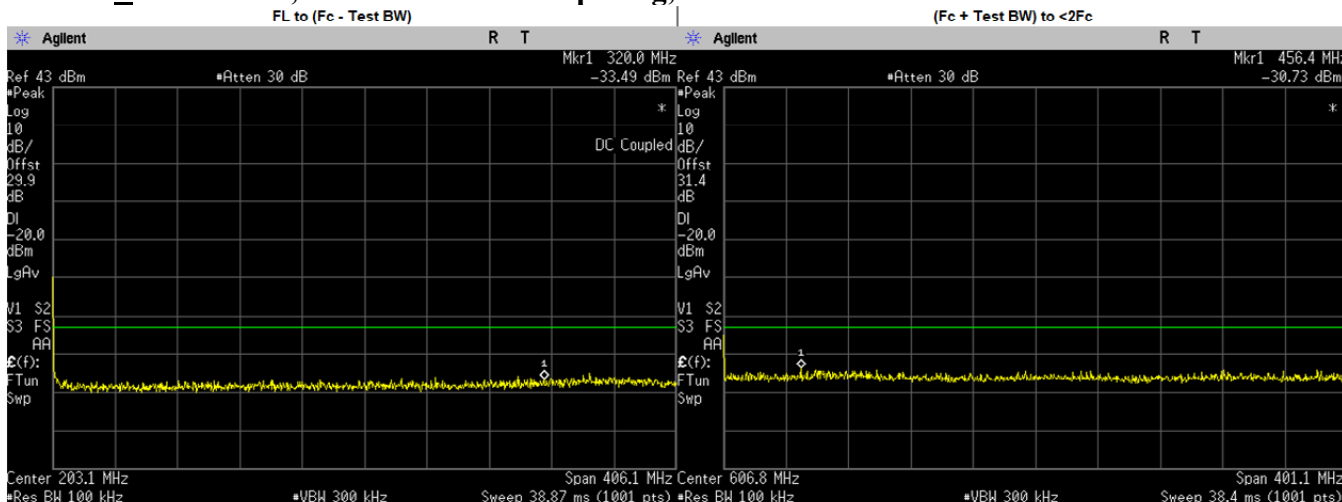
6.10.3. Test Result (Digital)

4FSK.: 403.0125. MHz, 12.5 kHz Channel Spacing, Max Power Not for FCC review



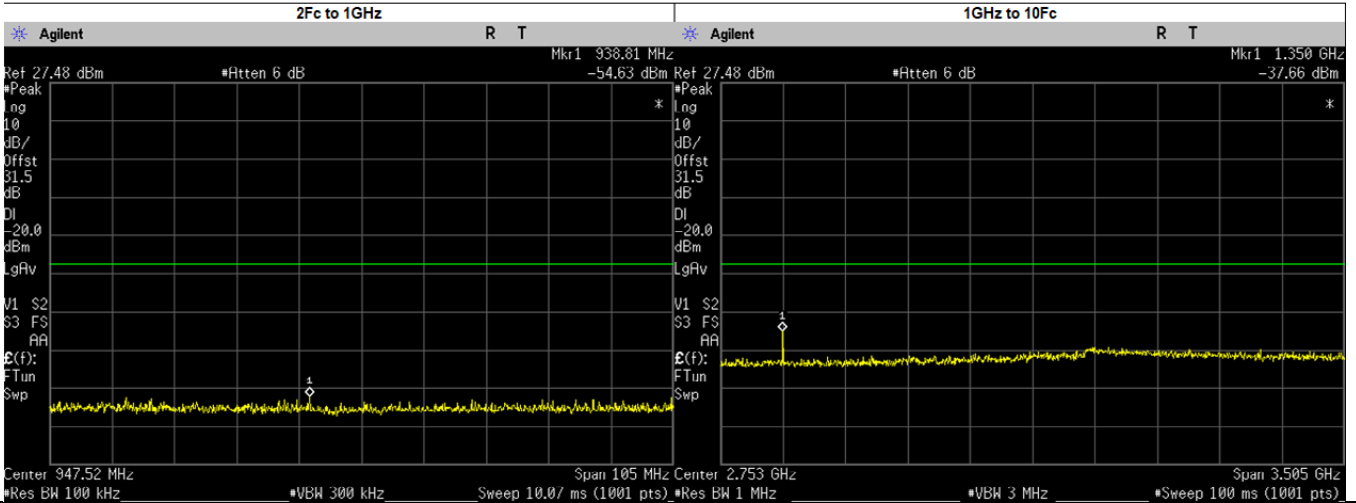
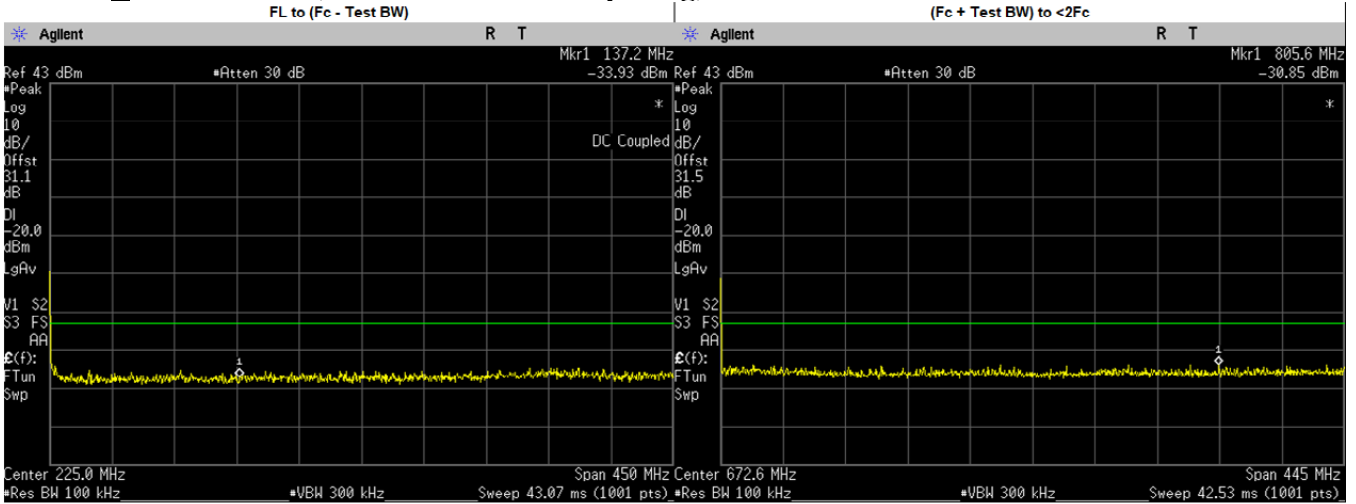
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	354.2000	-32.9050	-20.00	PASS
(Fc + Test BW) to <2Fc	611.1996	-30.3700	-20.00	PASS
2Fc to 1GHz	825.8969	-54.5700	-20.00	PASS
1GHz to 10Fc	3167.0790	-40.9000	-20.00	PASS
	1209.0370	-40.9333	-20.00	PASS
	1612.0500	-45.1033	-20.00	PASS
	2015.0620	-45.8774	-20.00	PASS
	2418.0750	-44.9872	-20.00	PASS
	2821.0880	-44.0191	-20.00	PASS
	3224.1000	-43.6126	-20.00	PASS
	3627.1130	-44.2507	-20.00	PASS
	4030.1250	-44.7722	-20.00	PASS

4FSK.: 406.2. MHz, 12.5 kHz Channel Spacing, Max Power



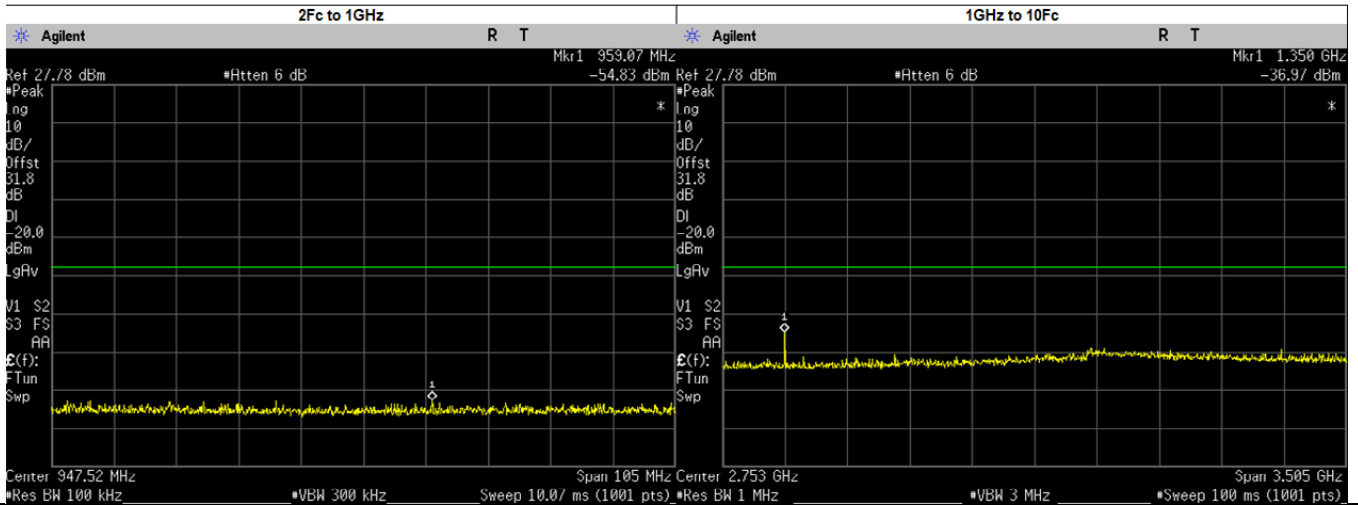
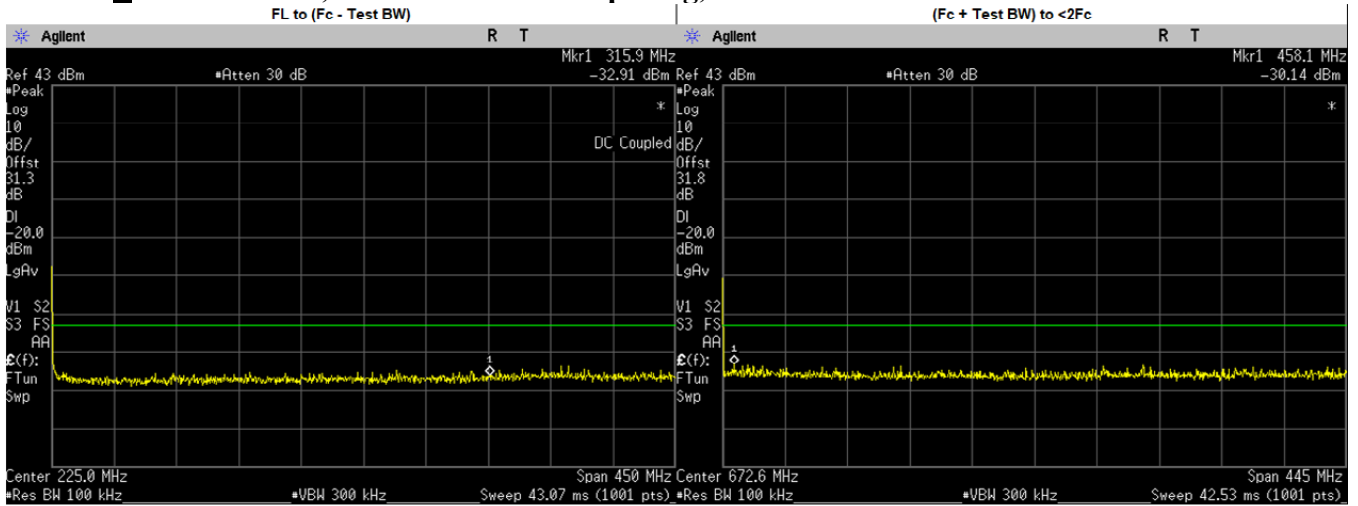
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	320.0000	-33.4860	-20.00	PASS
(Fc + Test BW) to <2Fc	456.3987	-30.7300	-20.00	PASS
2Fc to 1GHz	992.2960	-54.9600	-20.00	PASS
1GHz to 10Fc	1219.0000	-39.6500	-20.00	PASS
	1218.6000	-40.5433	-20.00	PASS
	1624.8000	-45.8283	-20.00	PASS
	2031.0000	-45.2006	-20.00	PASS
	2437.2000	-45.4199	-20.00	PASS
	2843.4000	-44.1540	-20.00	PASS
	3249.6000	-42.9741	-20.00	PASS
	3655.8000	-43.9310	-20.00	PASS
	4062.0000	-44.3037	-20.00	PASS

4FSK.: 450.025. MHz, 12.5 kHz Channel Spacing, Max Power



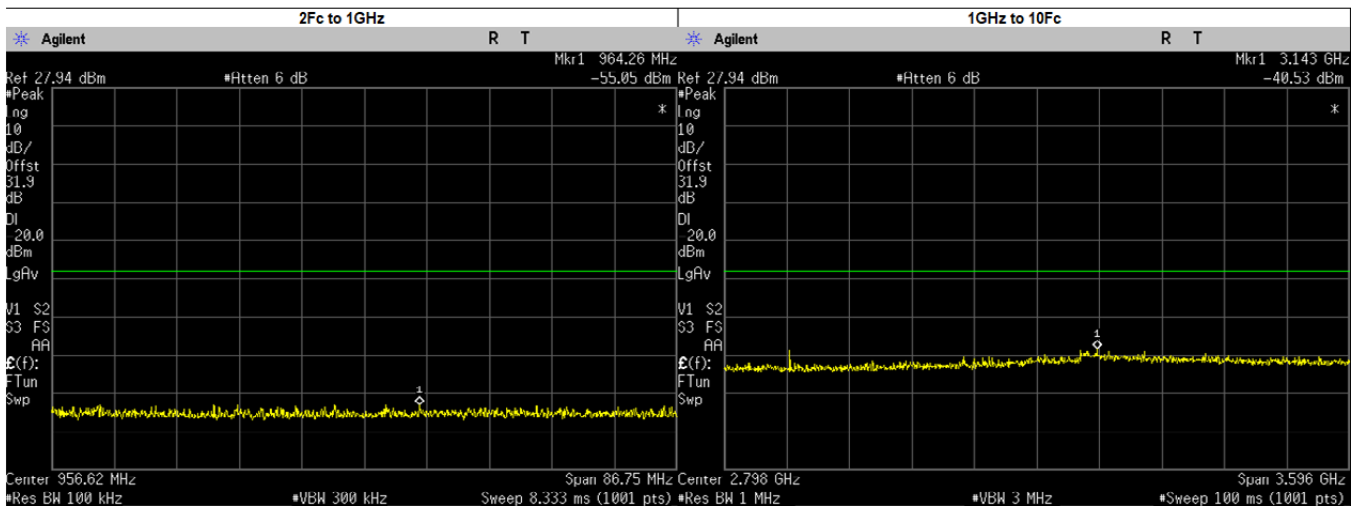
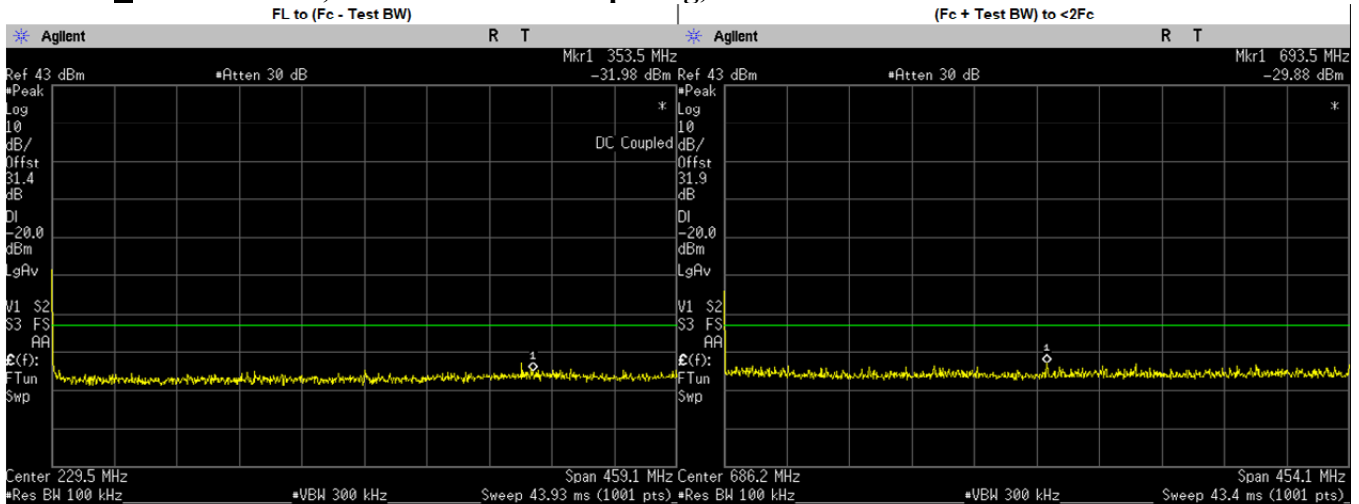
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	137.2000	-33.9340	-20.00	PASS
(Fc + Test BW) to <2Fc	805.6114	-30.8500	-20.00	PASS
2Fc to 1GHz	938.8142	-54.6300	-20.00	PASS
1GHz to 10Fc	1350.0000	-37.6600	-20.00	PASS
	1800.1000	-44.8561	-20.00	PASS
	2250.1250	-45.1195	-20.00	PASS
	2700.1500	-43.6219	-20.00	PASS
	3150.1750	-42.9034	-20.00	PASS
	3600.2000	-43.1785	-20.00	PASS
	4050.2250	-44.3605	-20.00	PASS
	4500.2500	-44.3566	-20.00	PASS
	1350.0750	-38.6885	-20.00	PASS

4FSK.: 450.025. MHz, 12.5 kHz Channel Spacing, Low Power



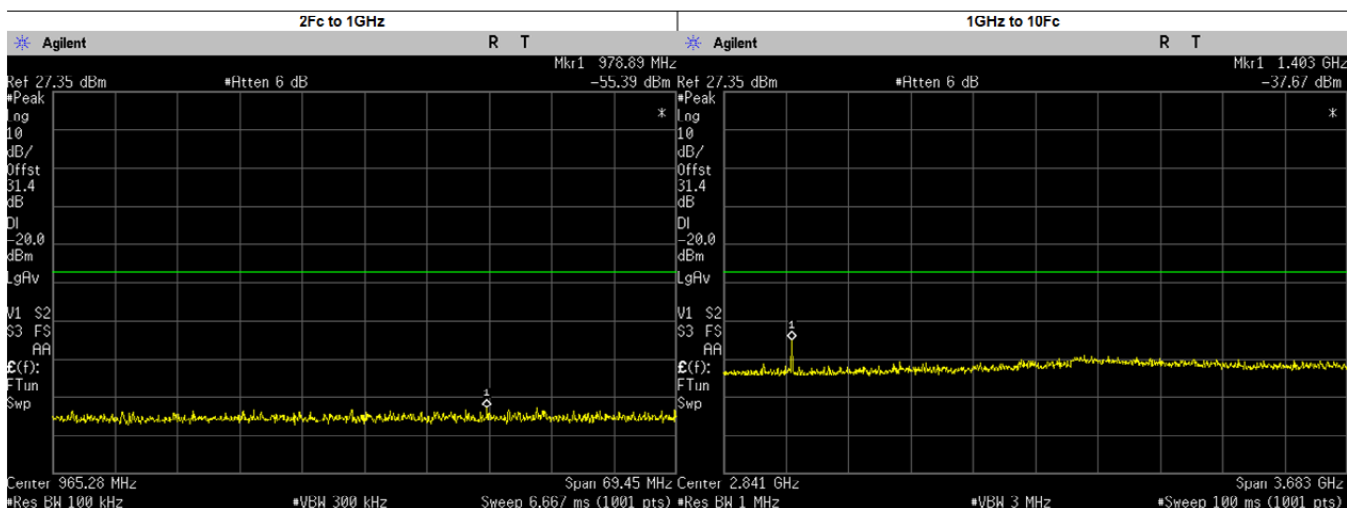
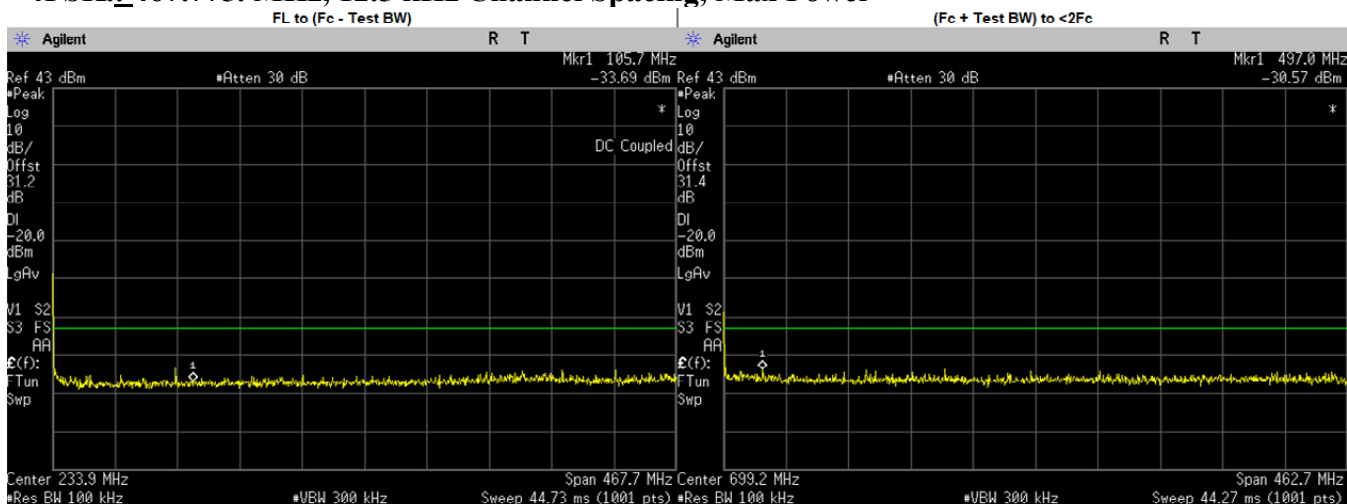
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	315.9000	-32.9060	-20.00	PASS
(Fc + Test BW) to <2Fc	458.0912	-30.1400	-20.00	PASS
2Fc to 1GHz	959.0695	-54.8300	-20.00	PASS
1GHz to 10Fc	1350.0000	-36.9700	-20.00	PASS
	1800.1000	-45.2365	-20.00	PASS
	2250.1250	-45.8201	-20.00	PASS
	2700.1500	-44.7439	-20.00	PASS
	3150.1750	-42.3209	-20.00	PASS
	3600.2000	-43.4007	-20.00	PASS
	4050.2250	-42.9614	-20.00	PASS
	4500.2500	-44.0431	-20.00	PASS
	1350.0750	-37.9611	-20.00	PASS

4FSK.: 459.125. MHz, 12.5 kHz Channel Spacing, Max Power



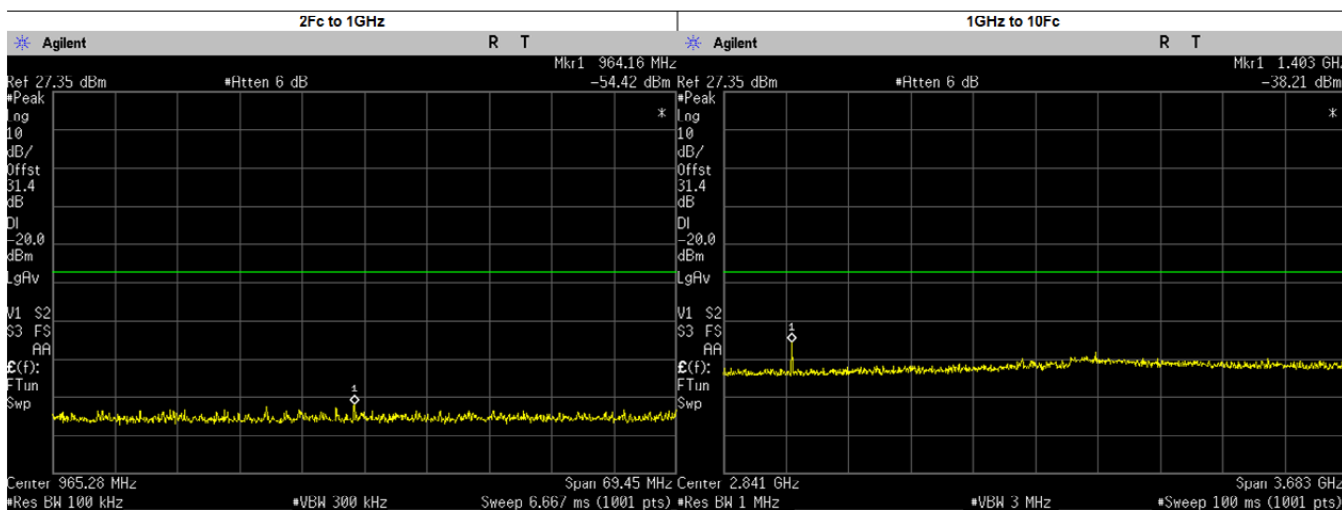
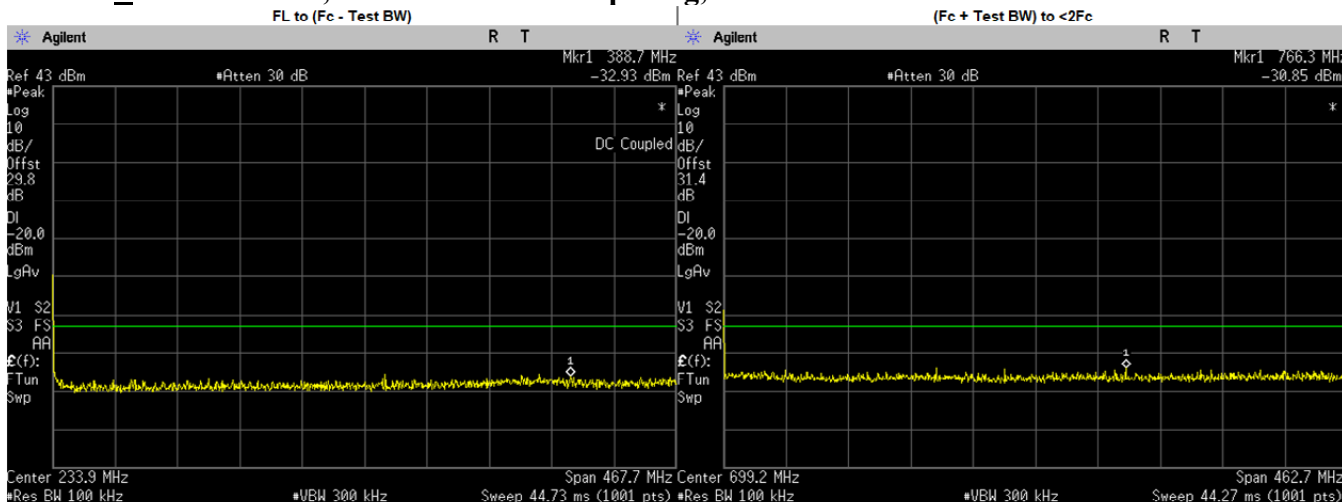
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	353.5000	-31.9800	-20.00	PASS
(Fc + Test BW) to <2Fc	693.4810	-29.8800	-20.00	PASS
2Fc to 1GHz	964.2590	-55.0500	-20.00	PASS
1GHz to 10Fc	3143.3650	-40.5300	-20.00	PASS
	1377.3750	-41.0273	-20.00	PASS
	1836.5000	-44.7351	-20.00	PASS
	2295.6250	-45.0158	-20.00	PASS
	2754.7500	-43.0798	-20.00	PASS
	3213.8750	-42.2085	-20.00	PASS
	3673.0000	-43.4345	-20.00	PASS
	4132.1250	-44.6024	-20.00	PASS
	4591.2500	-43.6919	-20.00	PASS

4FSK.: 467.775. MHz, 12.5 kHz Channel Spacing, Max Power



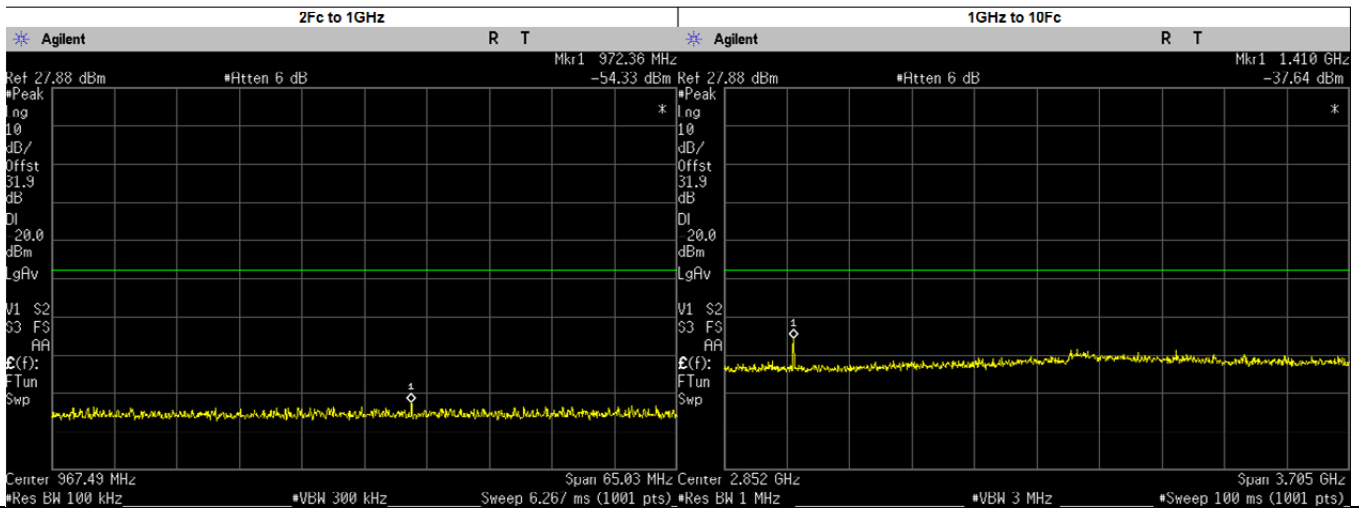
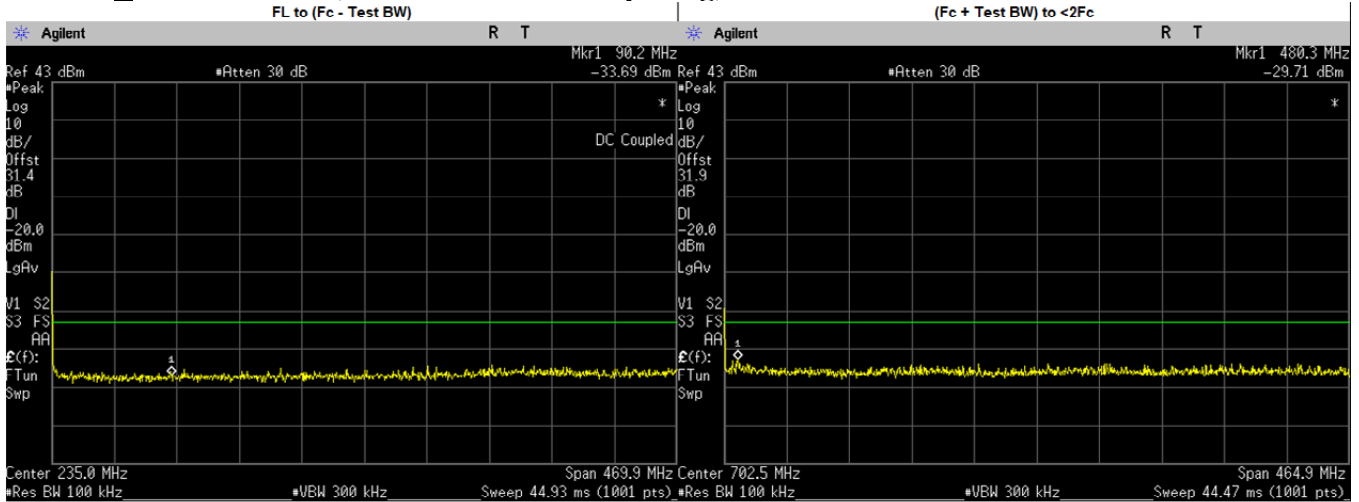
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	105.7000	-33.6910	-20.00	PASS
(Fc + Test BW) to <2Fc	496.9830	-30.5700	-20.00	PASS
2Fc to 1GHz	978.8872	-55.3900	-20.00	PASS
1GHz to 10Fc	1403.0000	-37.6700	-20.00	PASS
	2338.8750	-45.1487	-20.00	PASS
	2806.6500	-44.5534	-20.00	PASS
	3274.4250	-42.8996	-20.00	PASS
	3742.2000	-43.7849	-20.00	PASS
	4209.9750	-44.7090	-20.00	PASS
	4677.7500	-44.9481	-20.00	PASS
	1401.4200	-38.3500	-20.00	PASS
	1403.3250	-37.9987	-20.00	PASS

4FSK.: 467.775. MHz, 12.5 kHz Channel Spacing, Low Power



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	388.7000	-32.9320	-20.00	PASS
(Fc + Test BW) to <2Fc	766.2850	-30.8500	-20.00	PASS
2Fc to 1GHz	964.1638	-54.4200	-20.00	PASS
1GHz to 10Fc	1403.0000	-38.2100	-20.00	PASS
	2338.8750	-44.9613	-20.00	PASS
	2806.6500	-44.2711	-20.00	PASS
	3274.4250	-42.8641	-20.00	PASS
	3742.2000	-43.7469	-20.00	PASS
	4209.9750	-44.7100	-20.00	PASS
	4677.7500	-44.8478	-20.00	PASS
	1401.4200	-38.2400	-20.00	PASS
1403.3250	-38.2248	-20.00	PASS	

4FSK.: 469.9875. MHz, 12.5 kHz Channel Spacing, Max Power



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	90.2000	-33.6930	-20.00	PASS
(Fc + Test BW) to <2Fc	480.2728	-29.7100	-20.00	PASS
2Fc to 1GHz	972.3644	-54.3300	-20.00	PASS
1GHz to 10Fc	1410.0000	-37.6400	-20.00	PASS
	1879.9500	-45.1916	-20.00	PASS
	2349.9370	-44.8868	-20.00	PASS
	2819.9250	-43.9055	-20.00	PASS
	3289.9120	-42.6901	-20.00	PASS
	3759.9000	-43.2070	-20.00	PASS
	4229.8870	-44.1446	-20.00	PASS
	4699.8750	-44.3986	-20.00	PASS
	1409.9630	-38.6248	-20.00	PASS

6.10.4. Test Limit

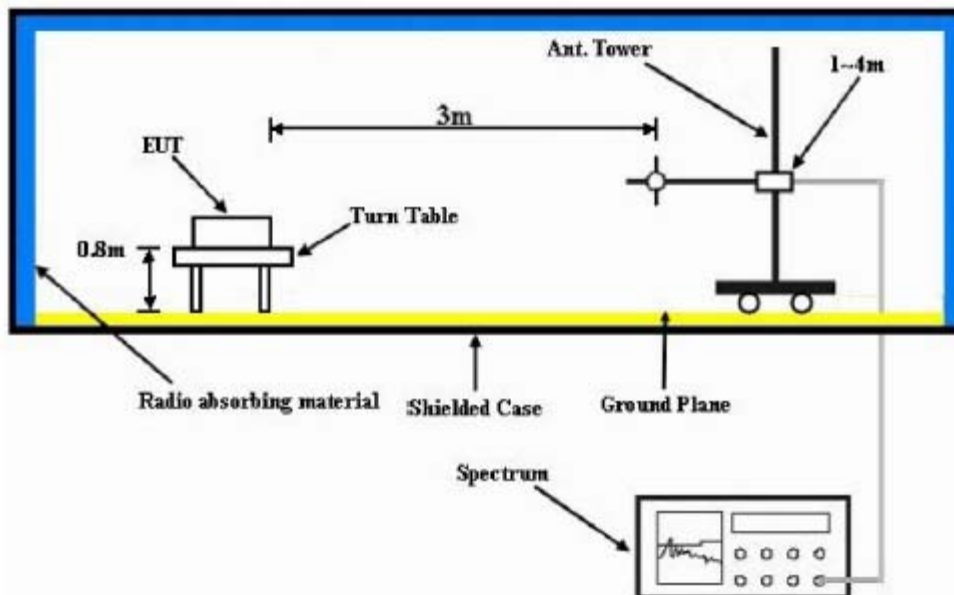
Table below summarized the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least

Channel Spacing	Part 22	Part 24D	Part 74	Part 80	Part 90 (UHF, VHF, 800, 900)	Part 90 (700)
12.5kHz	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	Not Applicable	50 + log ₁₀ (P) (-20 dBm)	43 + log ₁₀ (P) (-13 dBm)
25kHz		Not Applicable		43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)

Channel Spacing	RSS 134	RSS 182	RSS 119 (UHF, VHF, 800, 900)	RSS 119 (700)
12.5kHz	43 + log ₁₀ (P) (-13 dBm)	Not Applicable	50 + log ₁₀ (P) (-20 dBm)	43 + log ₁₀ (P) (-13 dBm)
25kHz	Not Applicable	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)

6.11. Radiated Spurious Emission

6.11.1. Test Setup



- 1) The Resolution Bandwidth for scanning Radiated Emission below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector mode is positive peak.
- 2) In the semi- anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height (for $F_c < 1\text{GHz}$) or 1.5m height (for $F_c > 1\text{GHz}$) of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- 3) The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.
- 4) Final Radiated Spurious Emission = “Read Value” + Measured substitution value.

6.11.2. Test Result (Analog)

SAC Transmitter Radiated Emission:

Model Number: AAM28QPN9RA1AN
 Battery Part No: NA

S/N: T511TWX2291
 Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2

SR:23193-EMC-00010

Test Mode: TX Analog

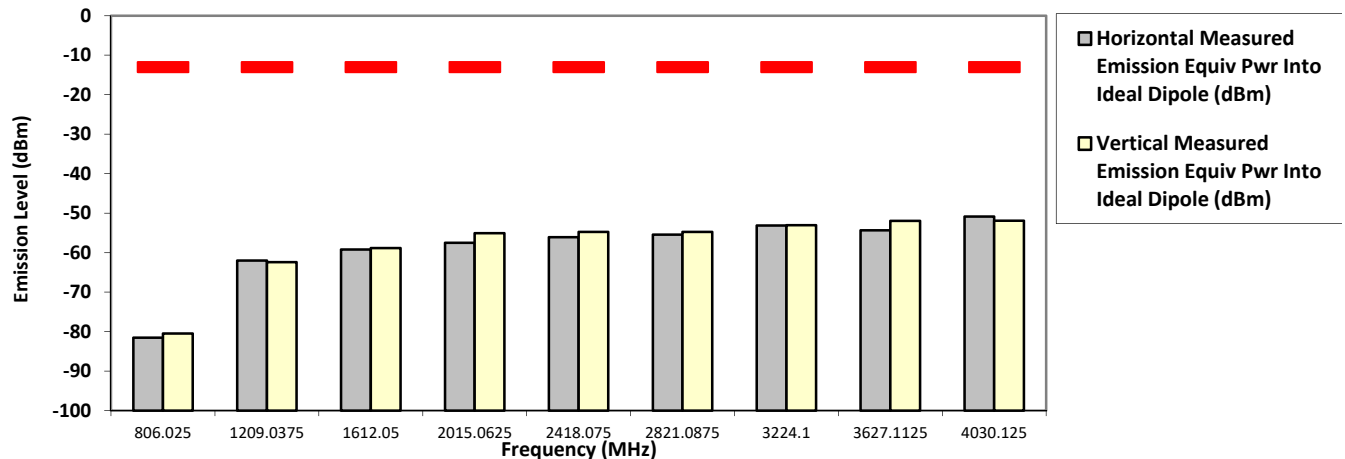
403.012500 MHz

25 kHz

48.000 Watt(s) /Max Power

Frequency (MHz)	Limit	Horizontal Measured Emission Equip Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equip Pwr Into ideal Dipole (dBm)
806.0250	-13.0000	-81.5284 **	-80.4978 **
1209.0375	-13.0000	-62.0086 **	-62.4240 **
1612.0500	-13.0000	-59.1991 **	-58.8432 **
2015.0625	-13.0000	-57.5008 **	-55.0589 **
2418.0750	-13.0000	-56.0807 **	-54.7333 **
2821.0875	-13.0000	-55.4380 **	-54.7649 **
3224.1000	-13.0000	-53.1134 **	-53.0384 **
3627.1125	-13.0000	-54.3658 **	-51.9391 **
4030.1250	-13.0000	-50.8510 **	-51.9184 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi
 Tue, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

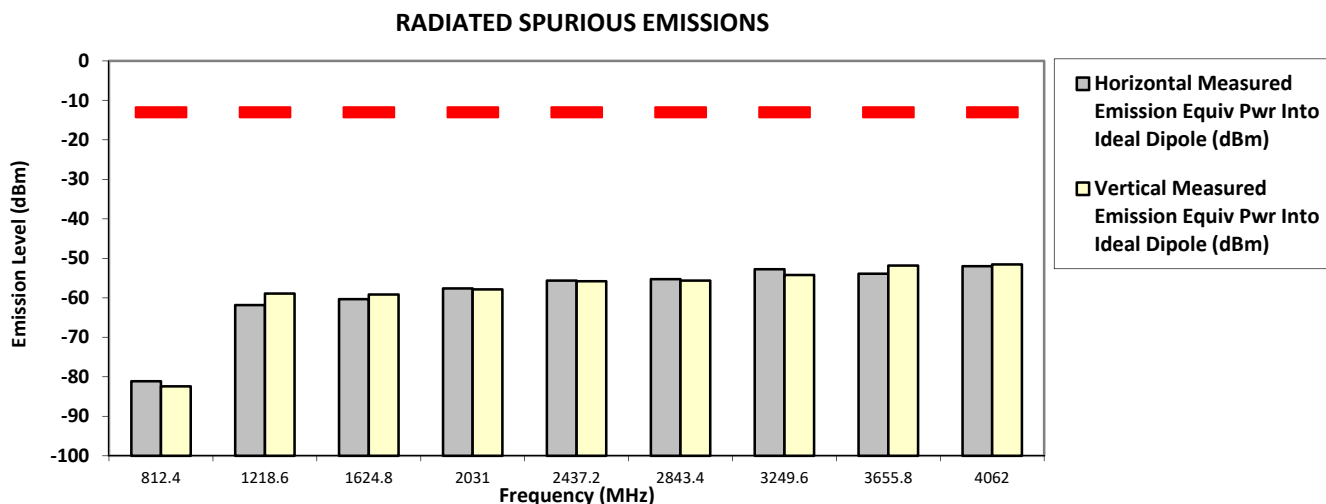
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Analog
406.200000 MHz **25 kHz** **48.000 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
812.4000	-13.0000	-81.1301 **	-82.4198 **
1218.6000	-13.0000	-61.8439 **	-58.9380 **
1624.8000	-13.0000	-60.3392 **	-59.1513 **
2031.0000	-13.0000	-57.6130 **	-57.8823 **
2437.2000	-13.0000	-55.6341 **	-55.7959 **
2843.4000	-13.0000	-55.2659 **	-55.6306 **
3249.6000	-13.0000	-52.7508 **	-54.2177 **
3655.8000	-13.0000	-53.8963 **	-51.8263 **
4062.0000	-13.0000	-51.9872 **	-51.5461 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Tue, 8 Dec, 2020

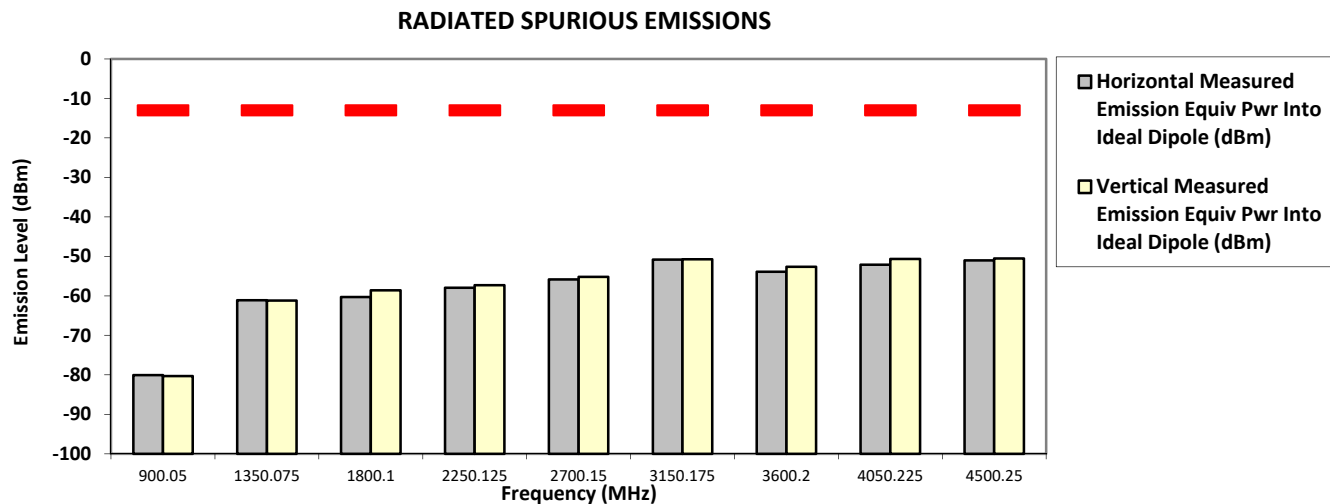
Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Analog
450.025000 MHz **25 kHz** **48.000 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
900.0500	-13.0000	-80.0572 **	-80.3201 **
1350.0750	-13.0000	-61.1174 **	-61.1856 **
1800.1000	-13.0000	-60.2910 **	-58.6127 **
2250.1250	-13.0000	-57.9697 **	-57.3190 **
2700.1500	-13.0000	-55.8422 **	-55.1864 **
3150.1750	-13.0000	-50.8212 **	-50.7501 **
3600.2000	-13.0000	-53.9142 **	-52.6399 **
4050.2250	-13.0000	-52.1103 **	-50.6581 **
4500.2500	-13.0000	-51.0037 **	-50.5523 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Tue, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

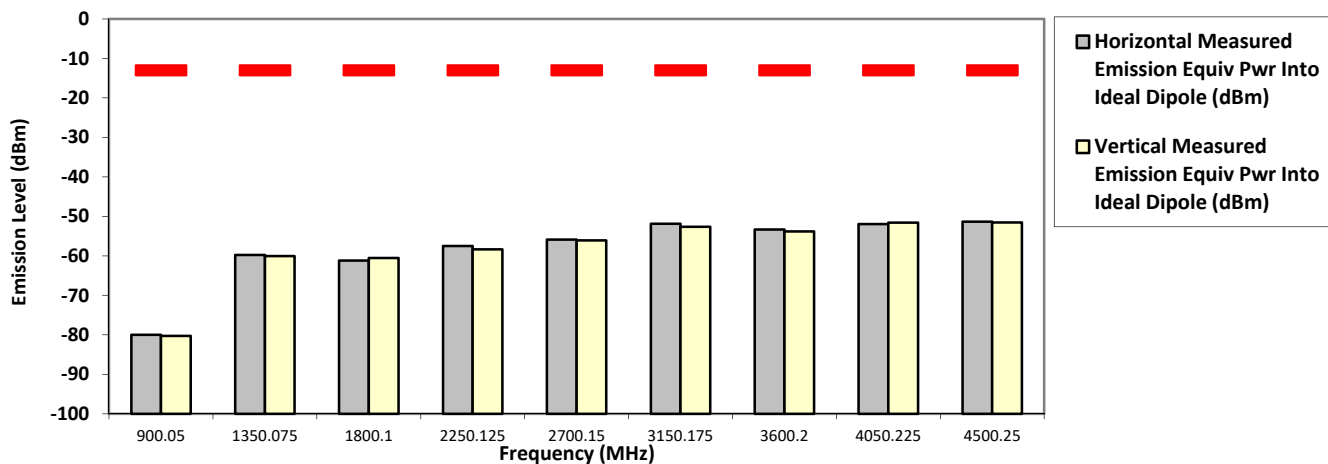
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Analog
450.025000 MHz **25 kHz** **27.500 Watt(s) /Low Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
900.0500	-13.0000	-79.9967 **	-80.2684 **
1350.0750	-13.0000	-59.7919 **	-60.0768 **
1800.1000	-13.0000	-61.1798 **	-60.5563 **
2250.1250	-13.0000	-57.5107 **	-58.3555 **
2700.1500	-13.0000	-55.8680 **	-56.1044 **
3150.1750	-13.0000	-51.8857 **	-52.6549 **
3600.2000	-13.0000	-53.3141 **	-53.8145 **
4050.2250	-13.0000	-51.9718 **	-51.5978 **
4500.2500	-13.0000	-51.3287 **	-51.5618 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Tue, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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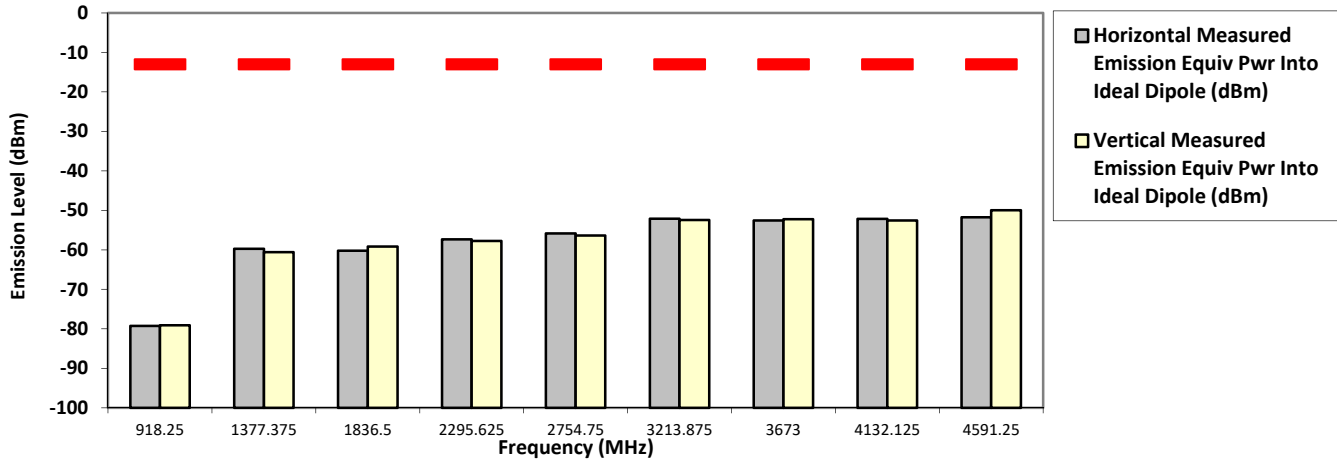
Model Number: AAM28QPN9RA1AN
 Battery Part No: NA

SAC Transmitter Radiated Emission:
 S/N: T511Twx2291
 Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2
 Test Mode: TX Analog
 25 kHz
 48.000 Watt(s) /Max Power

459.125000 MHz

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
918.2500	-13.0000	-79.2676 **	-79.0830 **
1377.3750	-13.0000	-59.7365 **	-60.5655 **
1836.5000	-13.0000	-60.2287 **	-59.1666 **
2295.6250	-13.0000	-57.3370 **	-57.7344 **
2754.7500	-13.0000	-55.8379 **	-56.3815 **
3213.8750	-13.0000	-52.1160 **	-52.4514 **
3673.0000	-13.0000	-52.5694 **	-52.2351 **
4132.1250	-13.0000	-52.1527 **	-52.5771 **
4591.2500	-13.0000	-51.7579 **	-49.9563 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman
 Tue, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

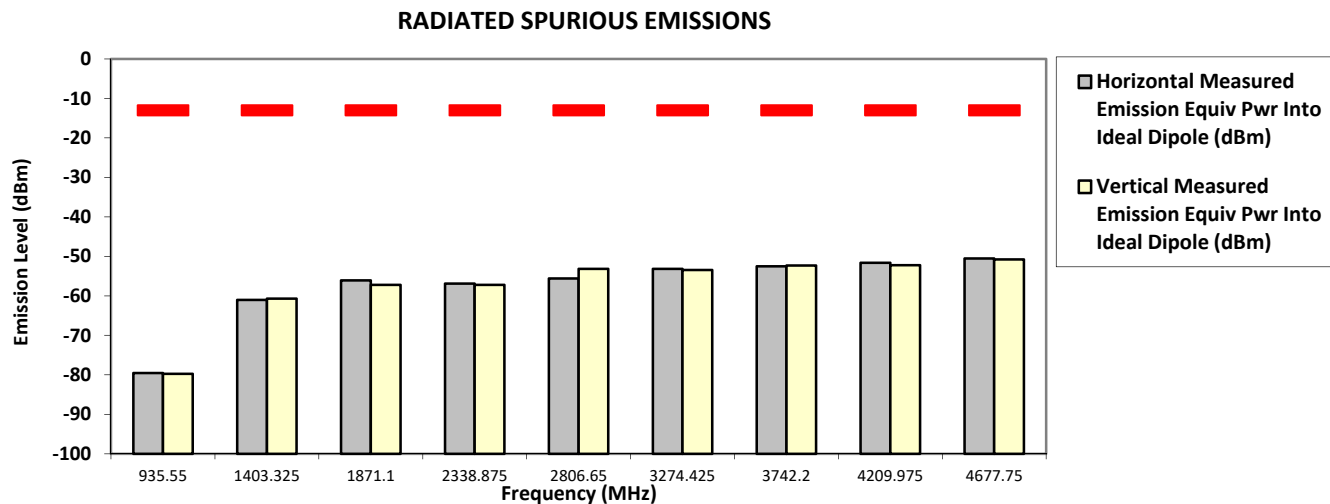
System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Analog
467.775000 MHz **25 kHz** **48.000 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
935.5500	-13.0000	-79.5411 **	-79.7511 **
1403.3250	-13.0000	-61.0310 **	-60.7036 **
1871.1000	-13.0000	-56.0876 **	-57.2346 **
2338.8750	-13.0000	-56.9131 **	-57.2366 **
2806.6500	-13.0000	-55.6198 **	-53.1781 **
3274.4250	-13.0000	-53.1601 **	-53.4419 **
3742.2000	-13.0000	-52.5368 **	-52.3333 **
4209.9750	-13.0000	-51.6157 **	-52.2524 **
4677.7500	-13.0000	-50.5273 **	-50.7833 **



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Tue, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

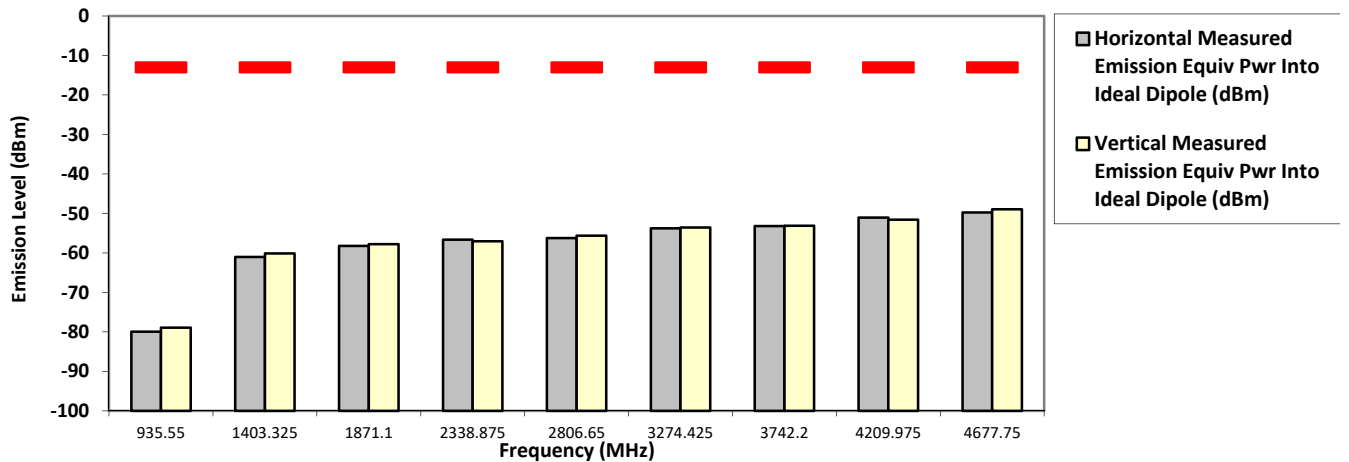
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Analog
467.775000 MHz **25 kHz** **27.500 Watt(s) /Low Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equip Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equip Pwr Into ideal Dipole (dBm)
935.5500	-13.0000	-79.9332 **	-78.9557 **
1403.3250	-13.0000	-61.0234 **	-60.1319 **
1871.1000	-13.0000	-58.2505 **	-57.7818 **
2338.8750	-13.0000	-56.6558 **	-57.0482 **
2806.6500	-13.0000	-56.2576 **	-55.6265 **
3274.4250	-13.0000	-53.7895 **	-53.5761 **
3742.2000	-13.0000	-53.2082 **	-53.1406 **
4209.9750	-13.0000	-51.0546 **	-51.6104 **
4677.7500	-13.0000	-49.7790 **	-48.9499 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Tue, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

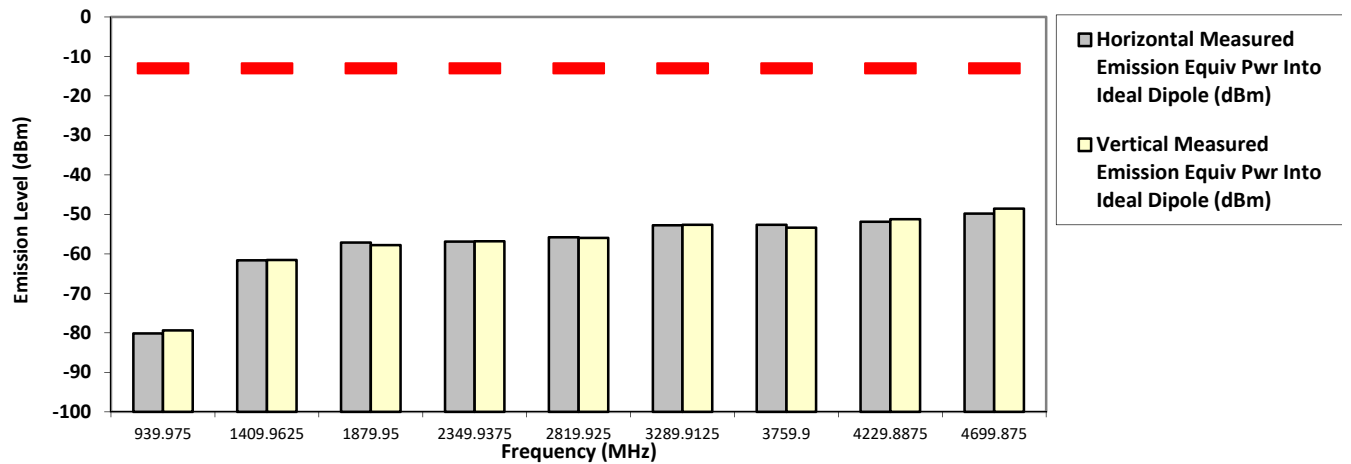
Model Number: AAM28QPN9RA1AN
 Battery Part No: NA

SAC Transmitter Radiated Emission:
 S/N: T511Twx2291
 Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLn5929A-C2
 Test Mode: TX Analog
 25 kHz
 48.000 Watt(s) /Max Power

469.987500 MHz

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
939.9750	-13.0000	-80.1531 **	-79.4030 **
1409.9625	-13.0000	-61.6287 **	-61.5619 **
1879.9500	-13.0000	-57.1303 **	-57.8024 **
2349.9375	-13.0000	-56.8955 **	-56.8215 **
2819.9250	-13.0000	-55.7889 **	-55.9464 **
3289.9125	-13.0000	-52.7599 **	-52.6564 **
3759.9000	-13.0000	-52.6455 **	-53.3783 **
4229.8875	-13.0000	-51.8702 **	-51.2196 **
4699.8750	-13.0000	-49.8126 **	-48.5683 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman
 Tue, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

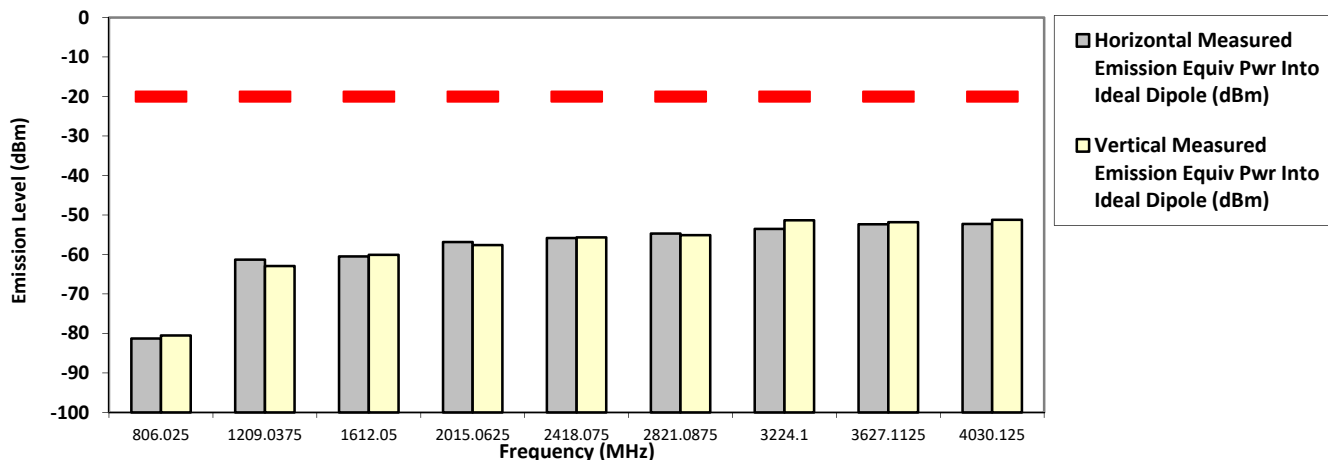
6.11.3. Test Result (Digital)

Model Number: AAM28QPN9RA1AN **SAC Transmitter Radiated Emission:** **S/N:** T511TWX2291 **SR:**23193-EMC-00010
Battery Part No: NA **Accy Part No:** 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2
Test Mode: TX Digital

403.012500 MHz **12.5 kHz** **48.000 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
806.0250	-20.0000	-81.3005 **	-80.4996 **
1209.0375	-20.0000	-61.3346 **	-62.9281 **
1612.0500	-20.0000	-60.5023 **	-60.0823 **
2015.0625	-20.0000	-56.8778 **	-57.6140 **
2418.0750	-20.0000	-55.8291 **	-55.6745 **
2821.0875	-20.0000	-54.6954 **	-55.1124 **
3224.1000	-20.0000	-53.5220 **	-51.3423 **
3627.1125	-20.0000	-52.3474 **	-51.8356 **
4030.1250	-20.0000	-52.2983 **	-51.2070 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Tue, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

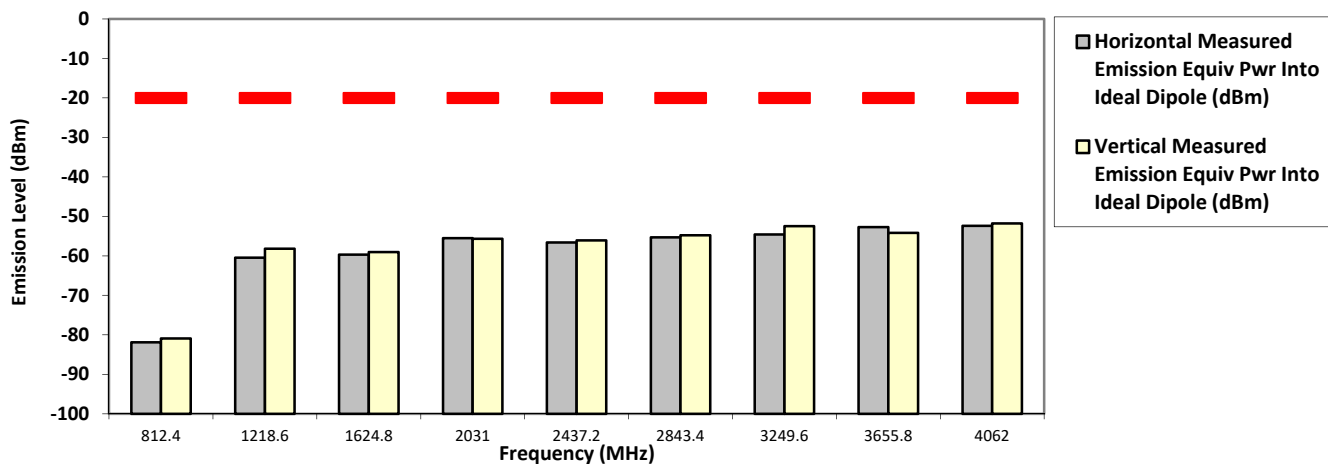
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Digital
406.200000 MHz **12.5 kHz** **48.000 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
812.4000	-20.0000	-81.8930 **	-80.9152 **
1218.6000	-20.0000	-60.4623 **	-58.1825 **
1624.8000	-20.0000	-59.7009 **	-59.0485 **
2031.0000	-20.0000	-55.5033 **	-55.6999 **
2437.2000	-20.0000	-56.6074 **	-56.0754 **
2843.4000	-20.0000	-55.3186 **	-54.8063 **
3249.6000	-20.0000	-54.5796 **	-52.4735 **
3655.8000	-20.0000	-52.7264 **	-54.1712 **
4062.0000	-20.0000	-52.4073 **	-51.8074 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Mon, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

Model Number: AAM28QPN9RA1AN
 Battery Part No: NA

SAC Transmitter Radiated Emission:
 S/N: T511TWX2291
 Accy Part No: 690-RMN5127C-3, 2900-RSN4002A-1, 1175-HKN4192B-2, 690-RLN5929A-01

SR:23193-EMC-00010

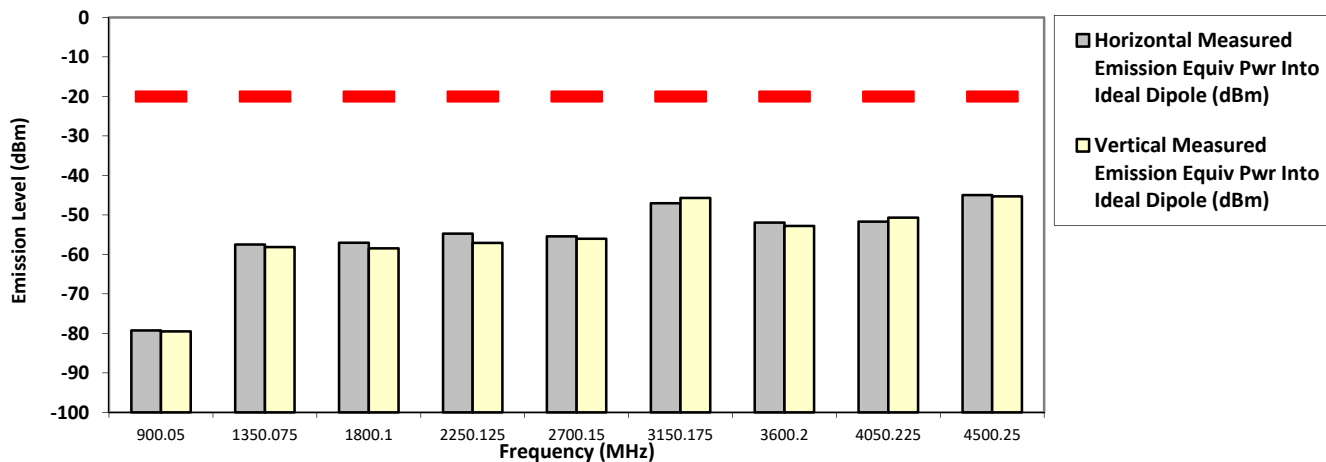
Test Mode: TX Digital
 12.5 kHz

450.025000 MHz

48.000 Watt(s) /Max Power

Frequency (MHz)	Limit	Horizontal Measured Emission Equip Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equip Pwr Into ideal Dipole (dBm)
900.0500	-20.0000	-79.2715 **	-79.4940 **
1350.0750	-20.0000	-57.4989 **	-58.1509 **
1800.1000	-20.0000	-57.0489 **	-58.4782 **
2250.1250	-20.0000	-54.7456 **	-57.1202 **
2700.1500	-20.0000	-55.4211 **	-56.0314 **
3150.1750	-20.0000	-47.0700 *	-45.7300 *
3600.2000	-20.0000	-51.9751 **	-52.7922 **
4050.2250	-20.0000	-51.7135 **	-50.7115 **
4500.2500	-20.0000	-44.9800 *	-45.3300 *

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi
 Mon, 7 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

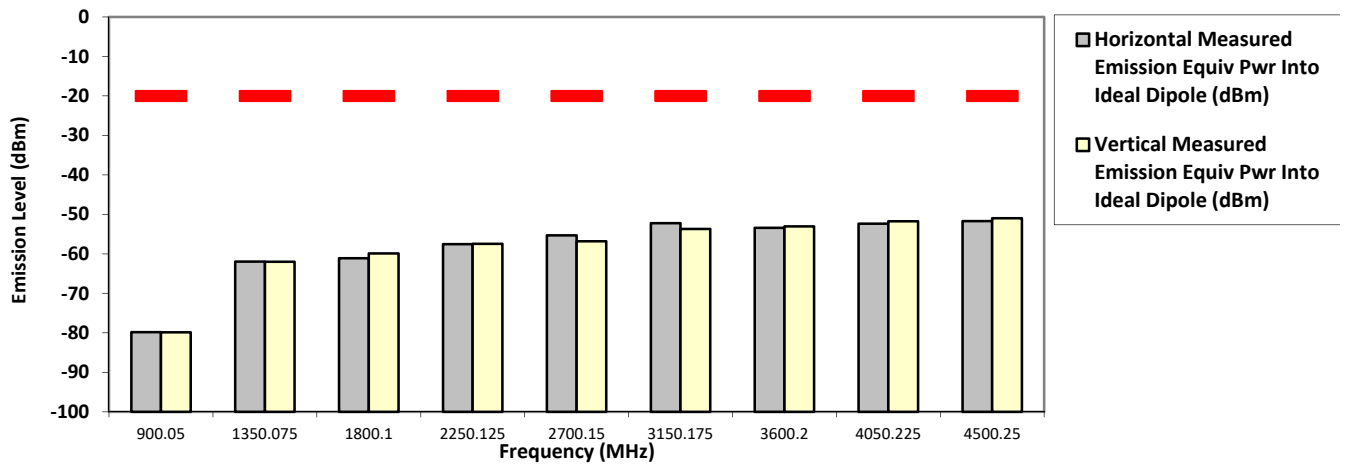
Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Digital
450.025000 MHz **12.5 kHz** **27.500 Watt(s) /Low Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
900.0500	-20.0000	-79.8409 **	-79.8892 **
1350.0750	-20.0000	-61.9810 **	-61.9976 **
1800.1000	-20.0000	-61.1212 **	-59.8904 **
2250.1250	-20.0000	-57.5388 **	-57.4605 **
2700.1500	-20.0000	-55.3260 **	-56.8100 **
3150.1750	-20.0000	-52.2233 **	-53.7033 **
3600.2000	-20.0000	-53.3953 **	-53.0385 **
4050.2250	-20.0000	-52.3646 **	-51.7731 **
4500.2500	-20.0000	-51.7275 **	-50.9817 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Mon, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
----------------	------------------	----------------

Model Number: AAM28QPN9RA1AN
 Battery Part No: NA

SAC Transmitter Radiated Emission:
 S/N: T511TWX2291
 Accy Part No: 690-RMN5127C-3, 2900-RSN4002A-1, 1175-HKN4192B-2, 690-RLN5929A-01

SR:23193-EMC-00010

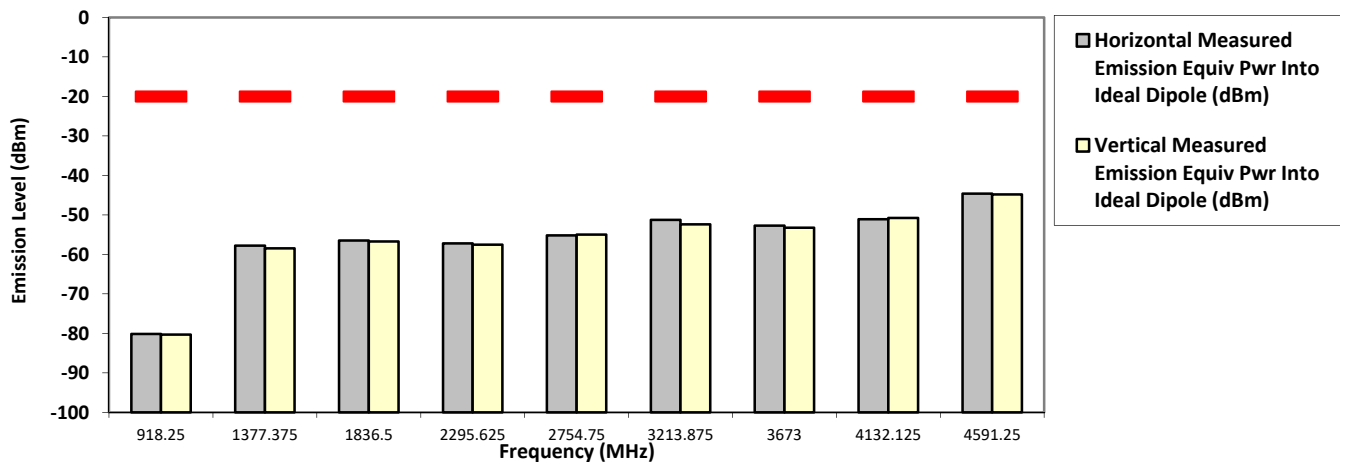
Test Mode: TX Digital
 12.5 kHz

48.000 Watt(s) /Max Power

459.125000 MHz

Frequency (MHz)	Limit	Horizontal Measured Emission Equip Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equip Pwr Into ideal Dipole (dBm)
918.2500	-20.0000	-80.1563 **	-80.2995 **
1377.3750	-20.0000	-57.8056 **	-58.4855 **
1836.5000	-20.0000	-56.4869 **	-56.7332 **
2295.6250	-20.0000	-57.2114 **	-57.5392 **
2754.7500	-20.0000	-55.2105 **	-54.9962 **
3213.8750	-20.0000	-51.2684 **	-52.4174 **
3673.0000	-20.0000	-52.7375 **	-53.2699 **
4132.1250	-20.0000	-51.1074 **	-50.7869 **
4591.2500	-20.0000	-44.6200 *	-44.8100 *

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi
 Mon, 7 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.

*Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

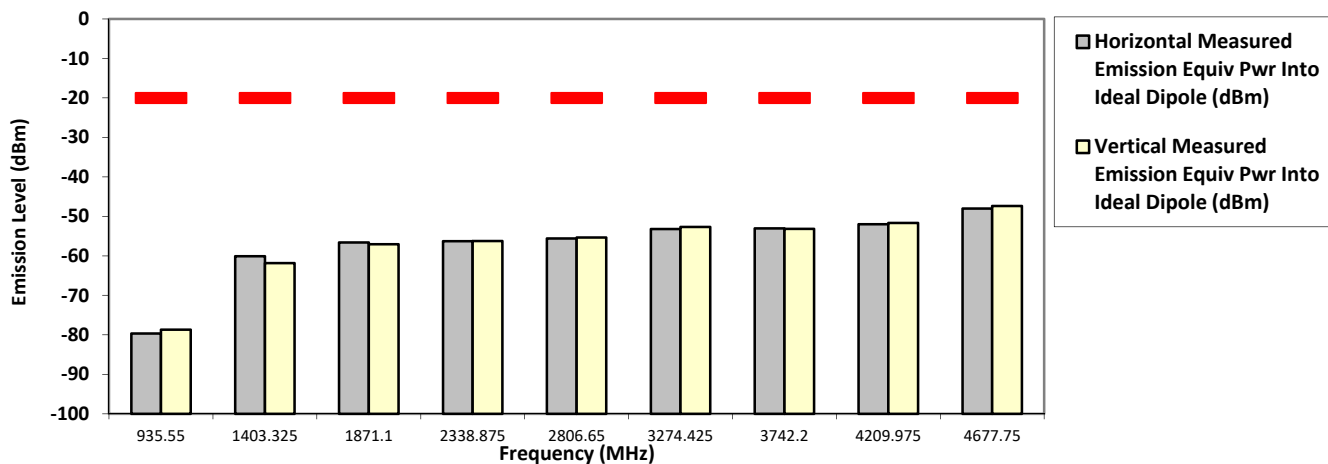
Remarks:

Passed Results	Marginal Results	Failed Results
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SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Digital
467.775000 MHz **12.5 kHz** **48.000 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
935.5500	-20.0000	-79.6556 **	-78.7005 **
1403.3250	-20.0000	-60.1007 **	-61.8567 **
1871.1000	-20.0000	-56.6132 **	-57.0530 **
2338.8750	-20.0000	-56.3052 **	-56.2570 **
2806.6500	-20.0000	-55.5991 **	-55.3659 **
3274.4250	-20.0000	-53.2031 **	-52.6780 **
3742.2000	-20.0000	-53.0415 **	-53.1885 **
4209.9750	-20.0000	-51.9868 **	-51.6668 **
4677.7500	-20.0000	-48.0292 **	-47.3954 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Mon, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

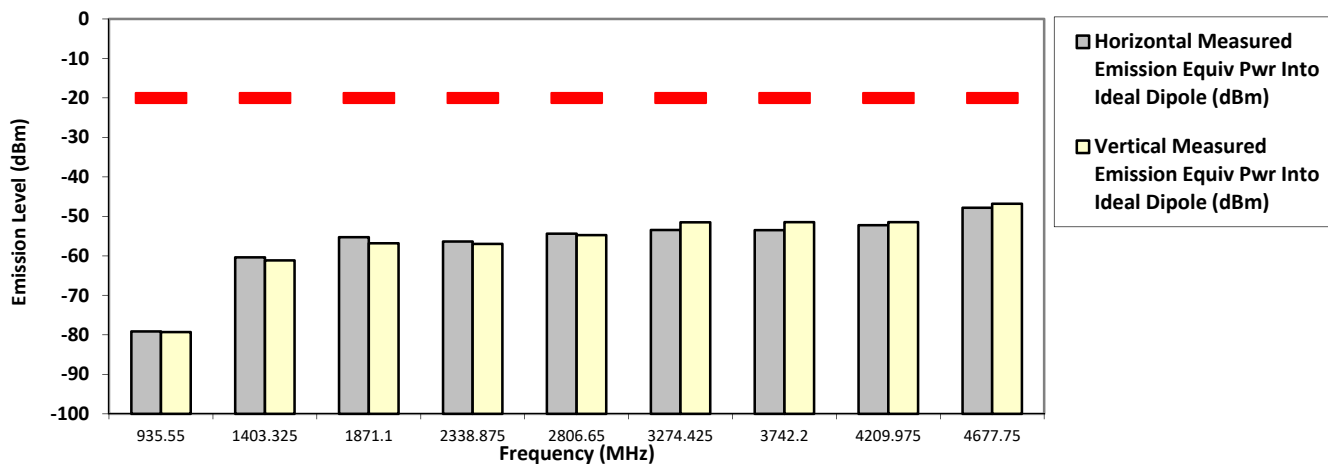
System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

SAC Transmitter Radiated Emission:
Model Number: AAM28QPN9RA1AN **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 12613-RSN4002A-1, 1175-HKN4192B-2, RLN5929A-C2**
Test Mode: TX Digital
467.775000 MHz **12.5 kHz** **27.500 Watt(s) /Low Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
935.5500	-20.0000	-79.1599 **	-79.2899 **
1403.3250	-20.0000	-60.3668 **	-61.1365 **
1871.1000	-20.0000	-55.2705 **	-56.8149 **
2338.8750	-20.0000	-56.3603 **	-56.9723 **
2806.6500	-20.0000	-54.3921 **	-54.7479 **
3274.4250	-20.0000	-53.4355 **	-51.5237 **
3742.2000	-20.0000	-53.4798 **	-51.4542 **
4209.9750	-20.0000	-52.2487 **	-51.4711 **
4677.7500	-20.0000	-47.8032 **	-46.8140 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Qawiman Mon, 8 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

Remarks: Passed Results Marginal Results Failed Results

Model Number: AAM28QPN9RA1AN **SAC Transmitter Radiated Emission:** **S/N: T511TWX2291** **SR:23193-EMC-00010**
Battery Part No: NA **Accy Part No: 690-RMN5127C-3, 2900-RSN4002A-1, 1175-HKN4192B-2, 690-RLN5929A-01**

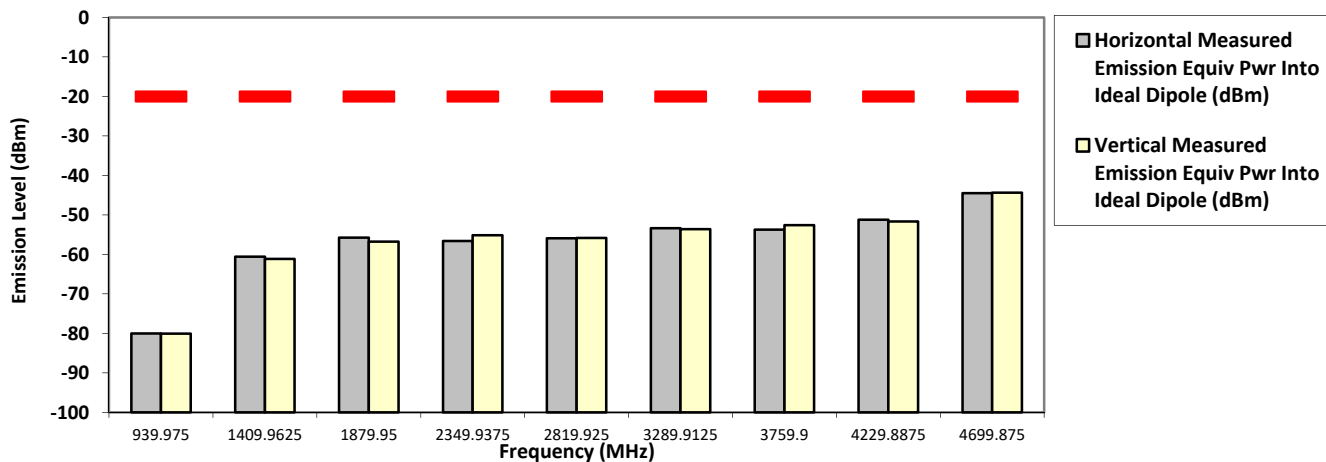
Test Mode: TX Digital
12.5 kHz

469.987500 MHz

48.000 Watt(s) /Max Power

Frequency (MHz)	Limit	Horizontal Measured Emission Equip Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equip Pwr Into ideal Dipole (dBm)
939.9750	-20.0000	-80.0361 **	-80.0598 **
1409.9625	-20.0000	-60.5984 **	-61.1449 **
1879.9500	-20.0000	-55.7800 **	-56.7692 **
2349.9375	-20.0000	-56.6207 **	-55.1571 **
2819.9250	-20.0000	-55.9148 **	-55.8430 **
3289.9125	-20.0000	-53.3582 **	-53.6263 **
3759.9000	-20.0000	-53.7456 **	-52.5851 **
4229.8875	-20.0000	-51.2338 **	-51.6802 **
4699.8750	-20.0000	-44.5000 *	-44.3900 *

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
 Motorola Penang EMC Lab - Test Performed by: Nazrin&Fendi Mon, 7 Dec, 2020

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
 *Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported
 Temp(Deg): 22.3 Hum(%RH): 69.6

System MU: 4.03 dB

Remarks:

Passed Results	Marginal Results	Failed Results
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6.11.4. Test Limit

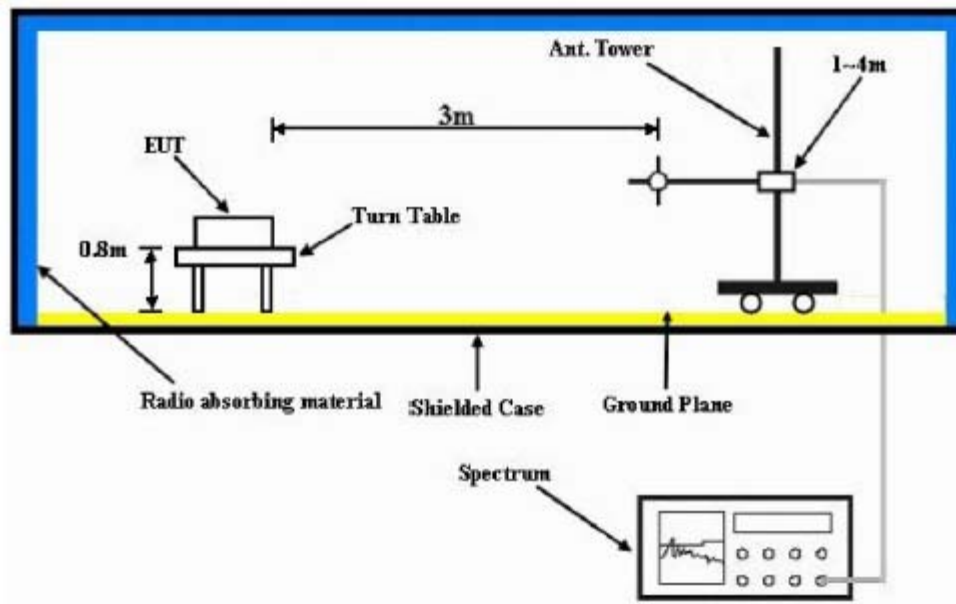
Table below summarized the power of any emission outside a licensee’s frequency block shall be attenuated below the transmitter power (P) by at least

Channel Spacing	Part 22	Part 24D	Part 74	Part 80	Part 90 (UHF, VHF, 800, 900)	Part 90 (700)
12.5kHz	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	Not Applicable	50 + log ₁₀ (P) (-20 dBm)	43 + log ₁₀ (P) (-13 dBm)
25kHz		Not Applicable		43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)

Channel Spacing	RSS 134	RSS 182	RSS 119 (UHF, VHF, 800, 900)	RSS 119 (700)
12.5kHz	43 + log ₁₀ (P) (-13 dBm)	Not Applicable	50 + log ₁₀ (P) (-20 dBm)	43 + log ₁₀ (P) (-13 dBm)
25kHz	Not Applicable	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)

6.12. Effective Radiated Power (ERP)

6.12.1. Test Setup



- 1) The Resolution Bandwidth for Equivalent Radiated Power (ERP) below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for EIRP above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector Mode is RMS.
- 2) In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height (for $f_c < 1\text{GHz}$) or 1.5m (for $f_c > 1\text{GHz}$) of Turn Table, rotated the table 45 degree each interval to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power for each degree interval. The “Read Value” is the spectrum reading of maximum power value.
- 3) The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the Measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.

6.12.2. Test Result

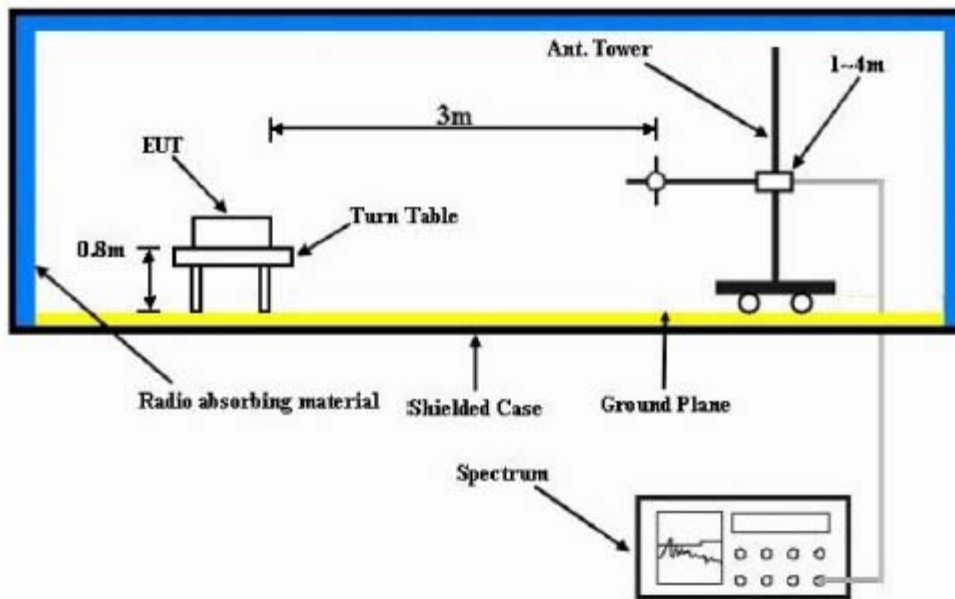
Not Applicable.

6.12.3. Test Limit

The maximum output power of the transmitter for mobile stations is 100 watts (20 dB). Power is given in terms of effective radiated power (ERP).

6.13. GNSS (EIRP for 1559 - 1610MHz)

6.13.1. Test Setup



- 4) The Resolution Bandwidth for Equivalent Isotropically Radiated Power (EIRP) below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for EIRP above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector Mode is RMS.
- 5) In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height of Turn Table, rotated the table 45 degree each interval to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power for each degree interval. The “Read Value” is the spectrum reading of maximum power value.
- 6) The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the Measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.
- 7) $EIRP = \text{“Read Value”} + \text{Measured substitution value} + 2.15$.

6.13.1. Test Result

Not Applicable

6.13.2. Test Limit

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

~ End of Test Report ~