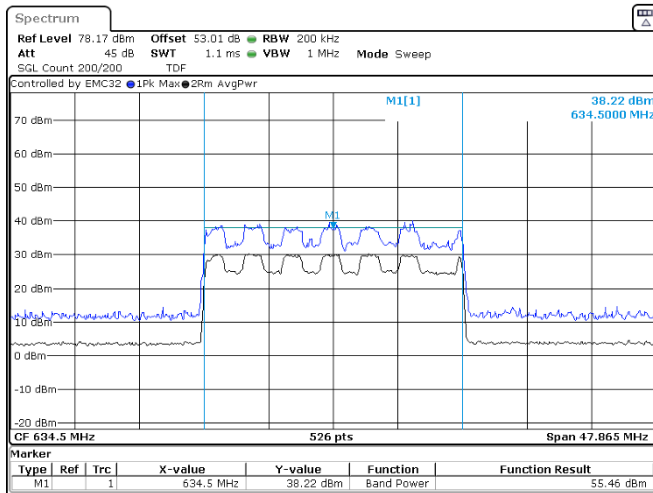
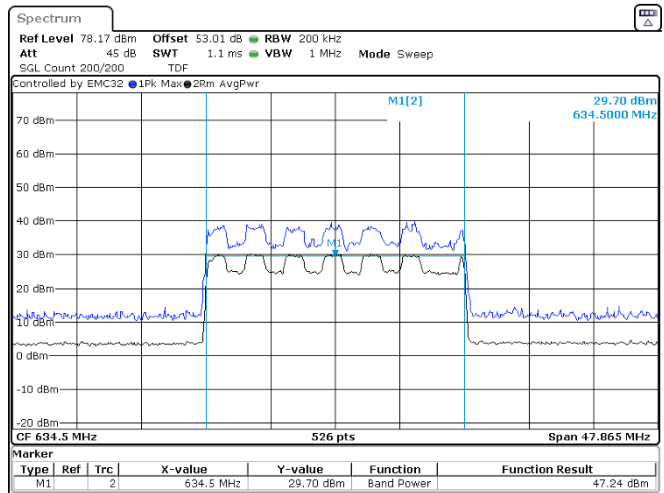


Section 8
Test name
Specification

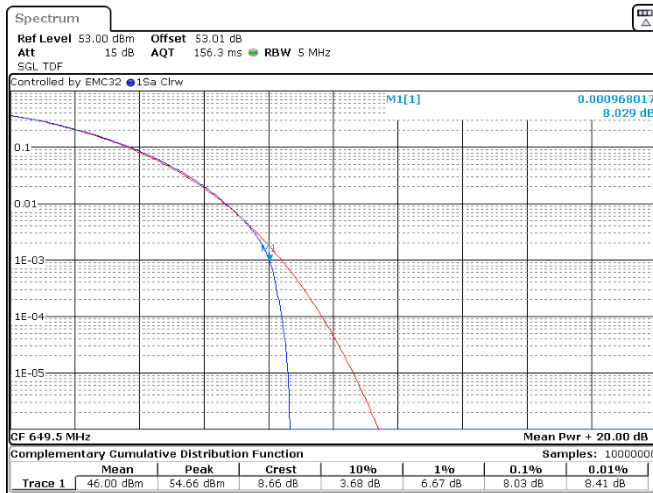
Testing data
FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



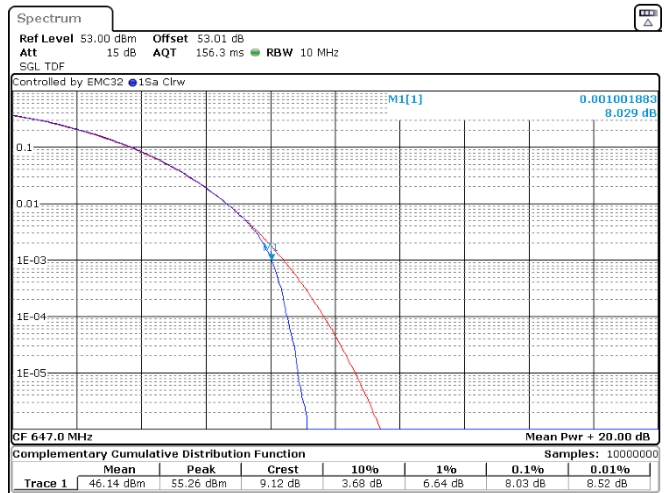
PAPR, TX 634.5 MHz, BW: 20MHz, MOD: 16QAM



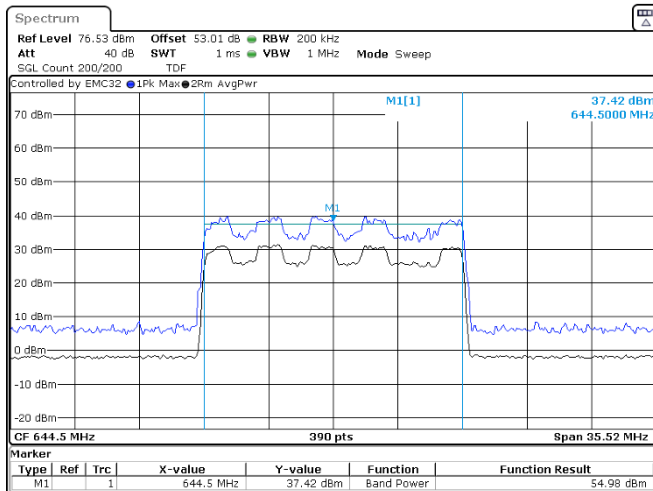
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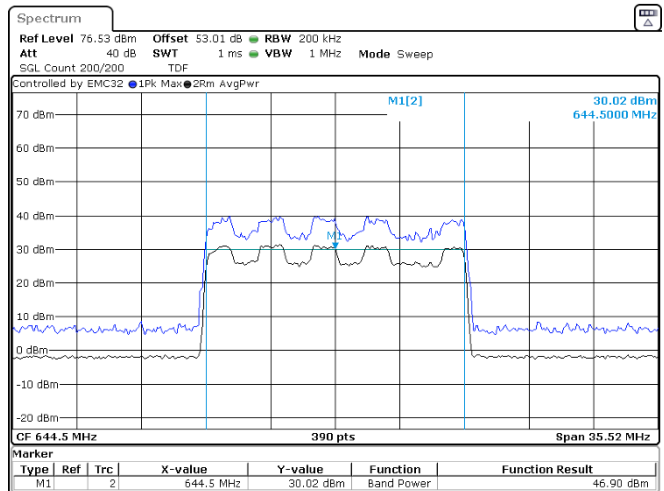
PAPR, TX 649.5 MHz, BW: 5MHz, MOD: 16QAM



PAPR, TX 647 MHz, BW: 10MHz, MOD: 16QAM



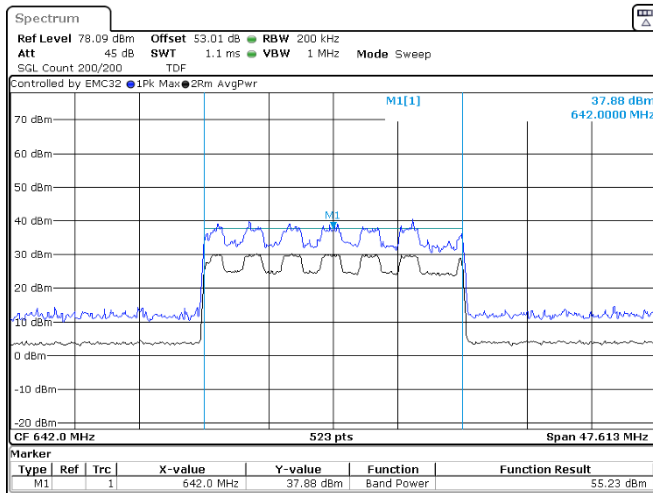
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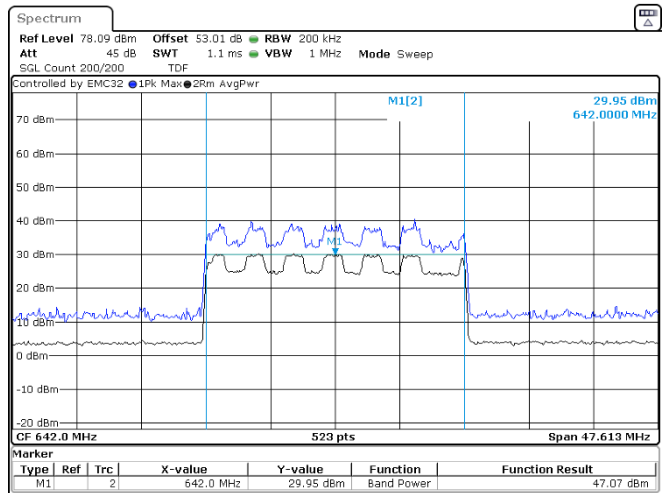
PAPR, TX 644.5 MHz, BW: 15MHz, MOD: 16QAM

Section 8
Test name
Specification

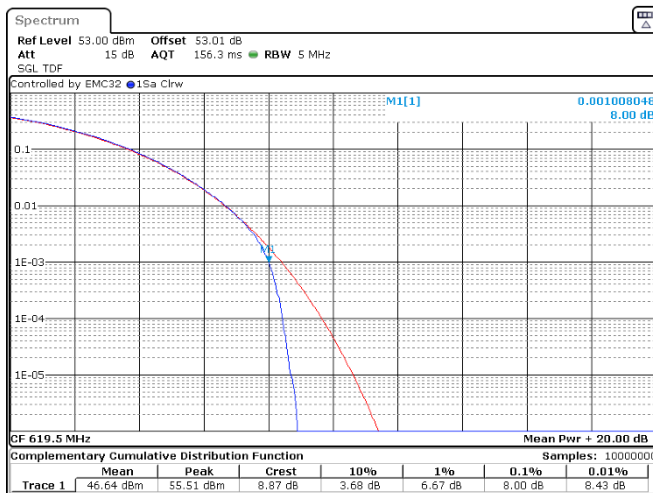
Testing data
FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



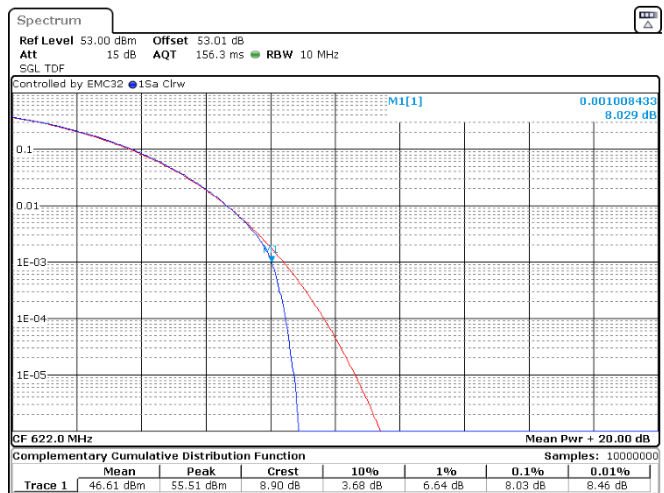
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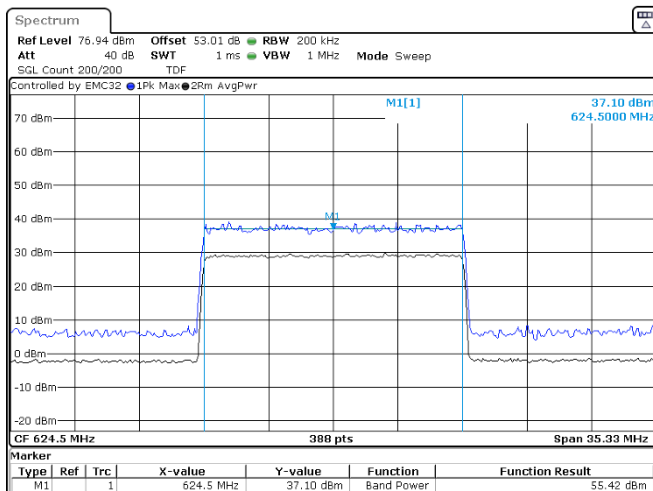
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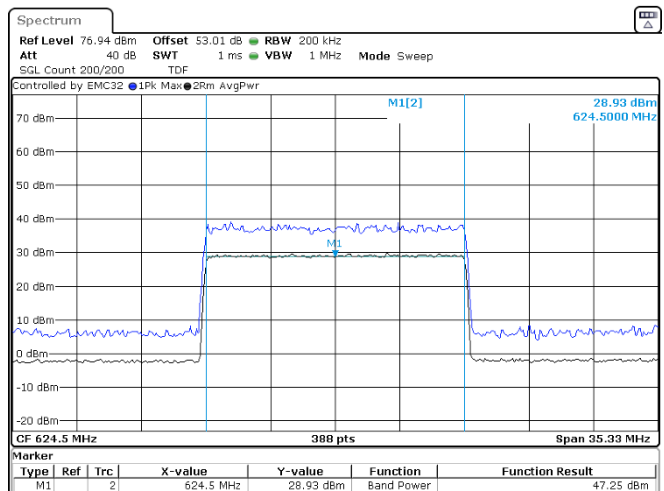
PAPR, TX 619.5 MHz, BW: 5MHz, MOD: 64QAM



PAPR, TX 622 MHz, BW: 10MHz, MOD: 64QAM



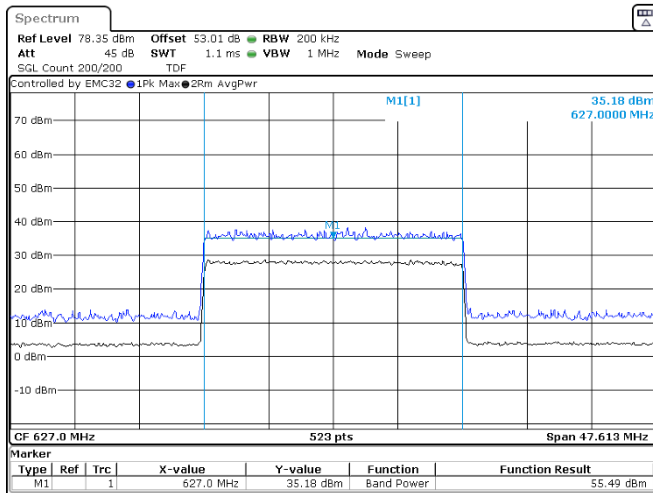
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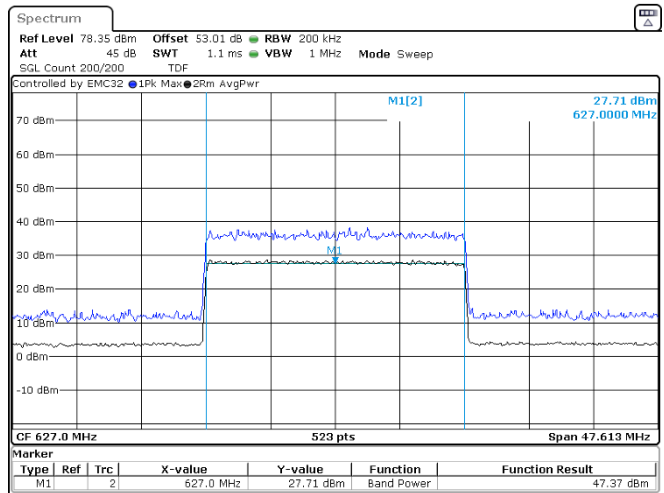
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Section 8
Test name
Specification

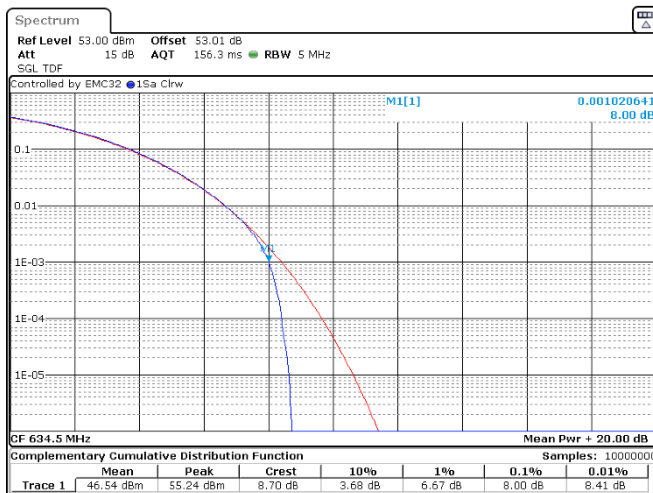
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FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



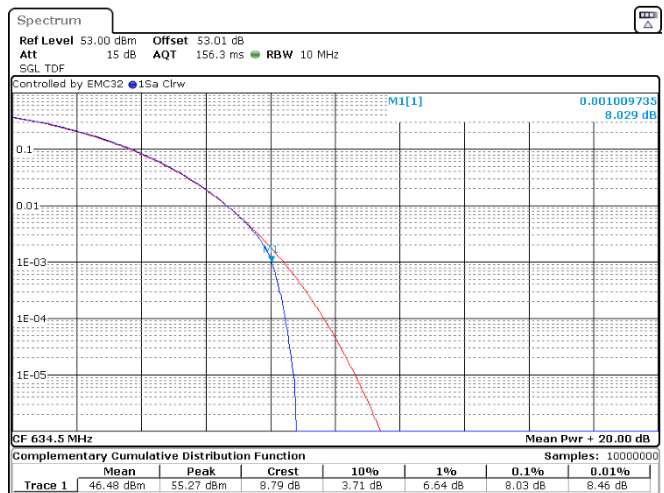
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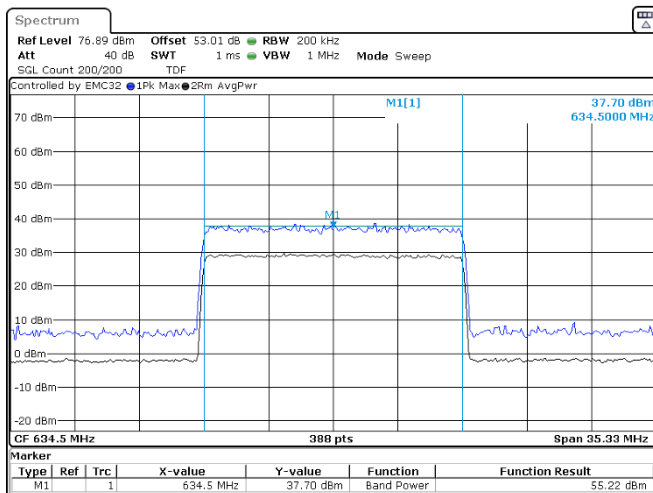
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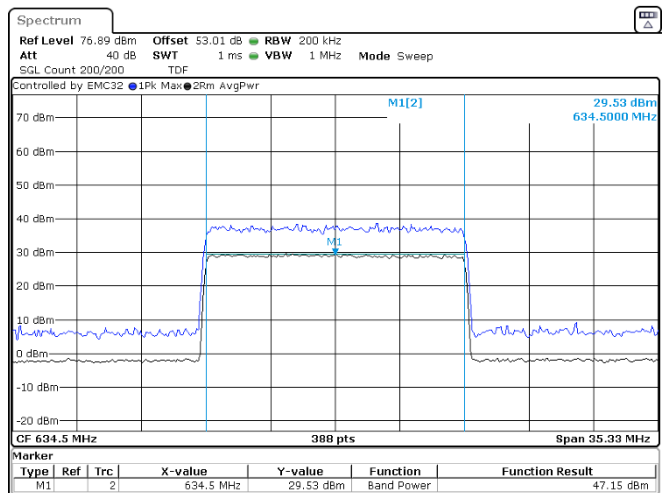
PAPR, TX 634.5 MHz, BW: 5MHz, MOD: 64QAM



PAPR, TX 634.5 MHz, BW: 10MHz, MOD: 64QAM



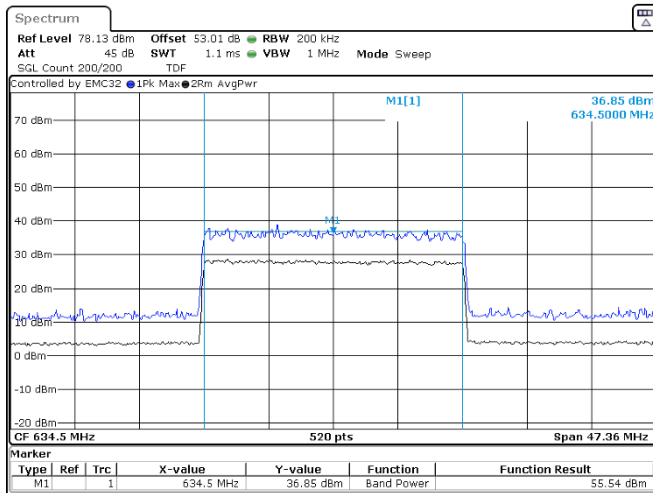
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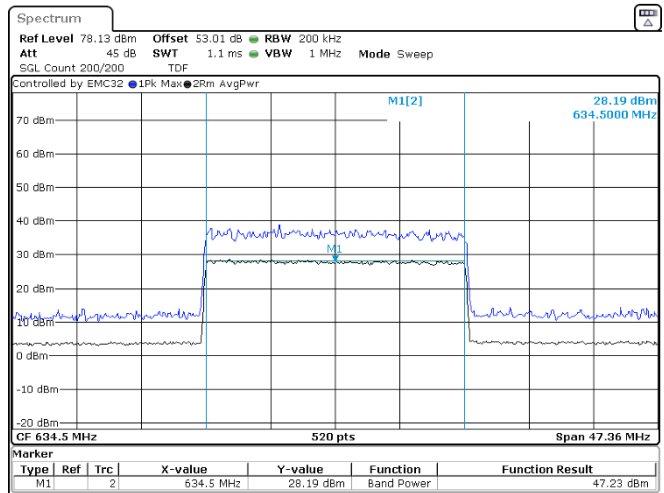
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Section 8
Test name
Specification

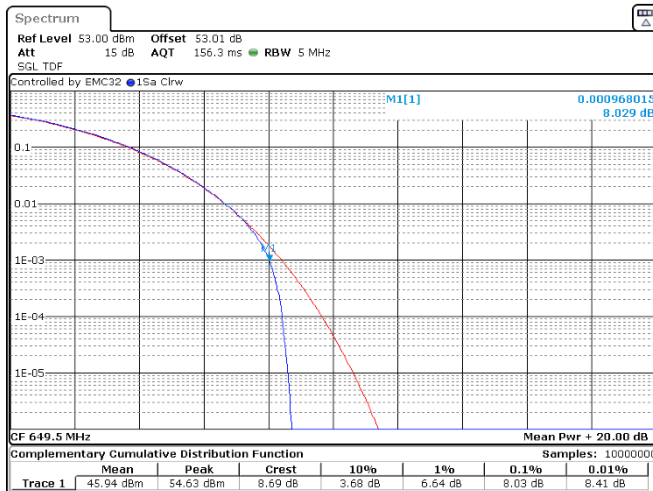
Testing data
FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



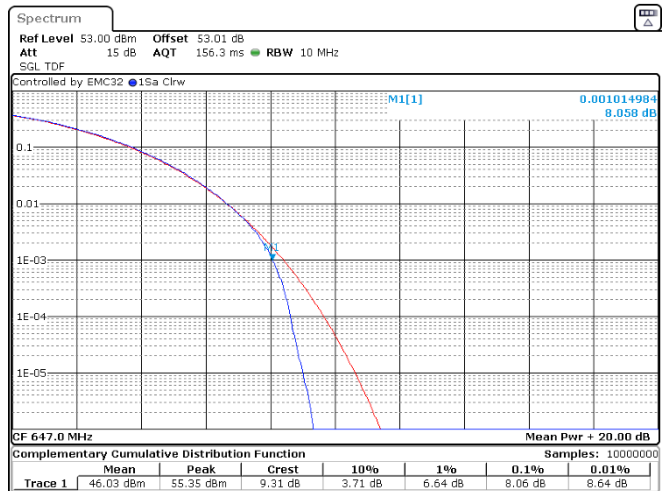
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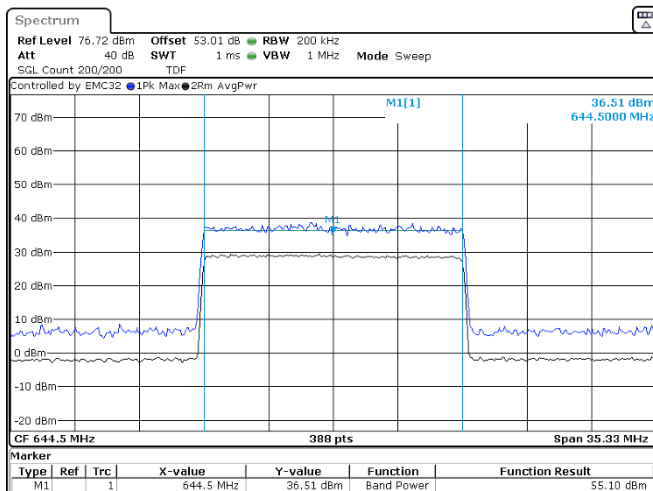
PAPR, TX 634.5 MHz, BW: 20MHz, MOD: 64QAM



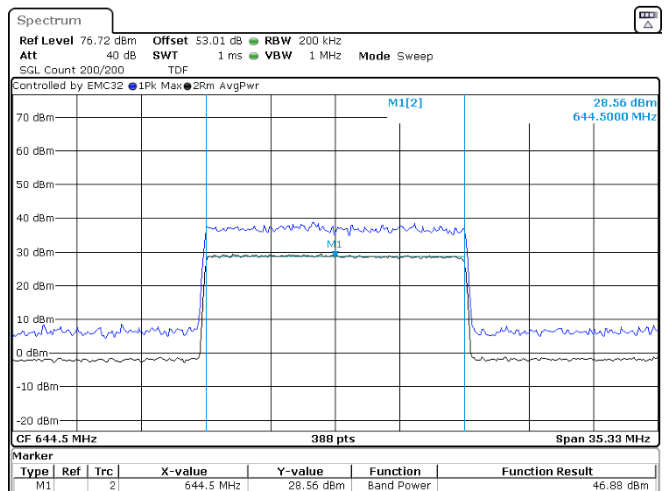
PAPR, TX 649.5 MHz, BW: 5MHz, MOD: 64QAM



PAPR, TX 647 MHz, BW: 10MHz, MOD: 64QAM



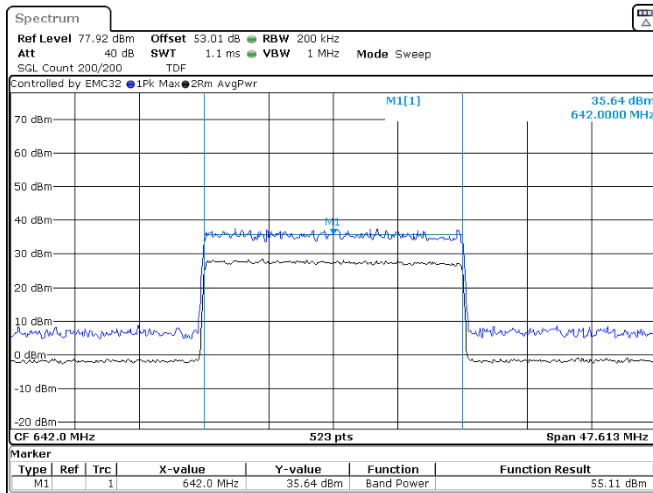
PAPR, TX 644.5 MHz, BW: 15MHz, MOD: 64QAM



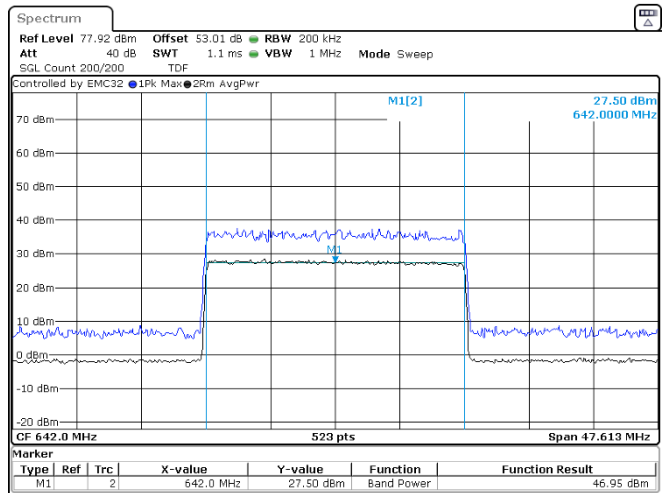
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Section 8
Test name
Specification

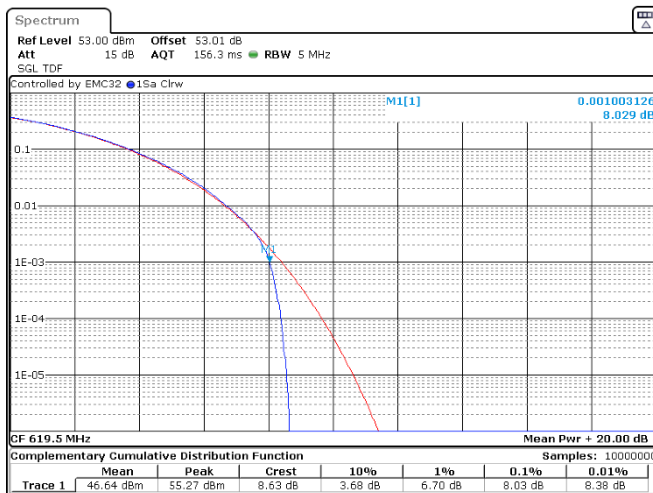
Testing data
FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



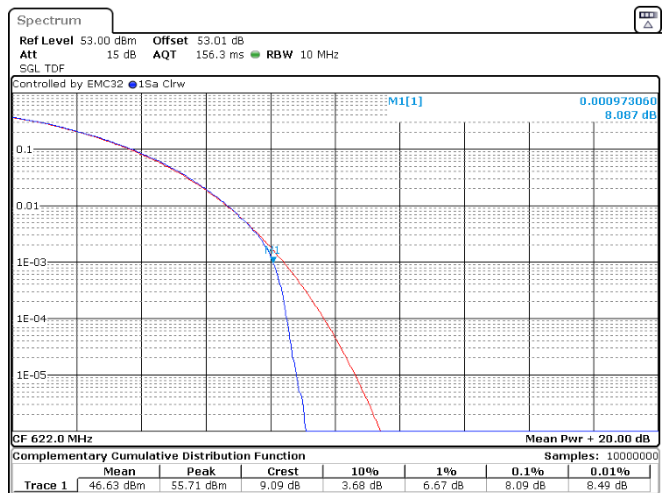
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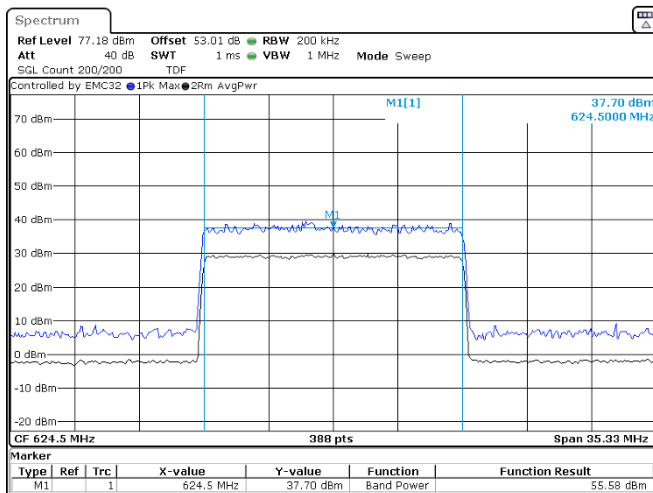
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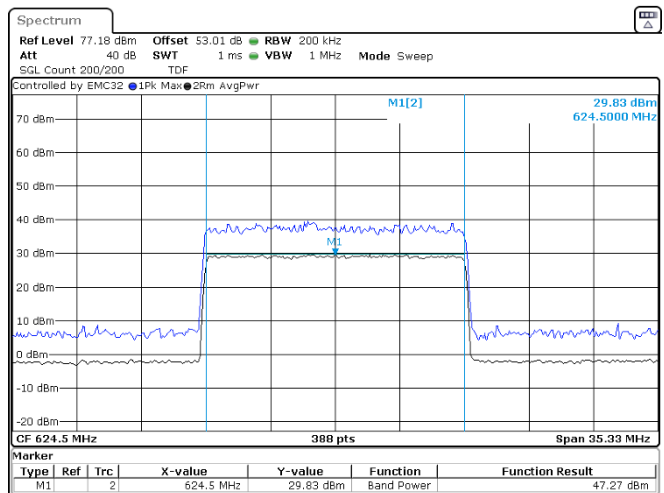
PAPR, TX 619.5 MHz, BW: 5MHz, MOD: 256QAM



PAPR, TX 622 MHz, BW: 10MHz, MOD: 256QAM



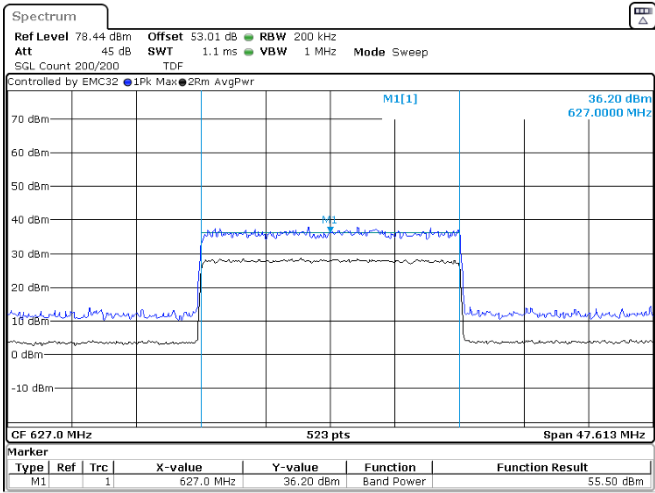
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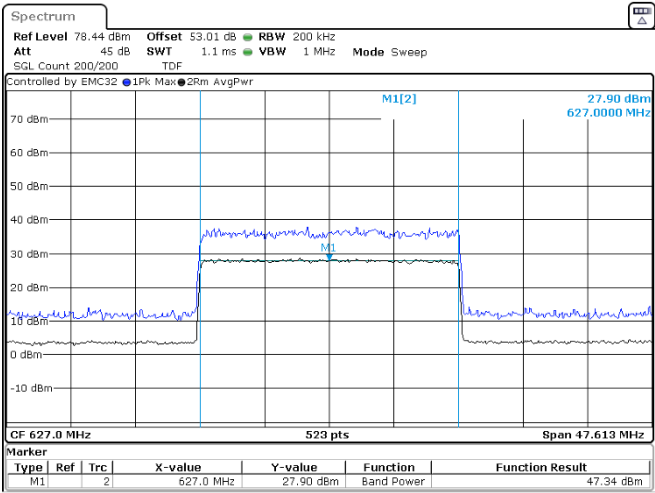
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Section 8
Test name
Specification

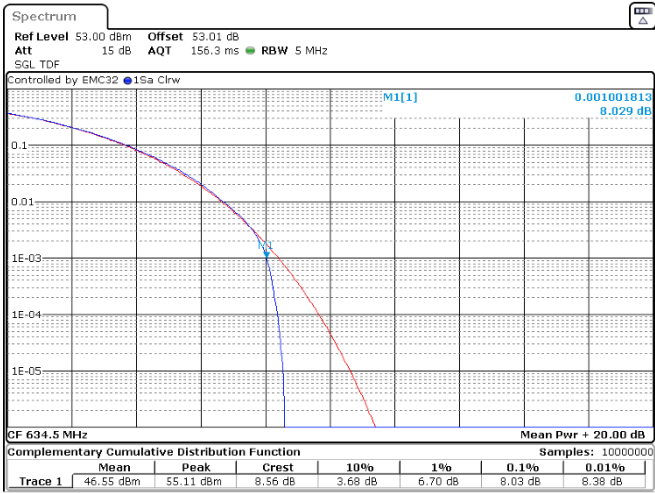
Testing data
FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



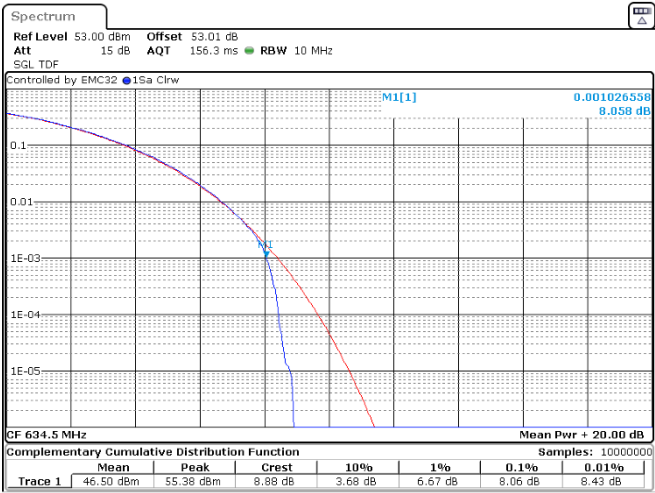
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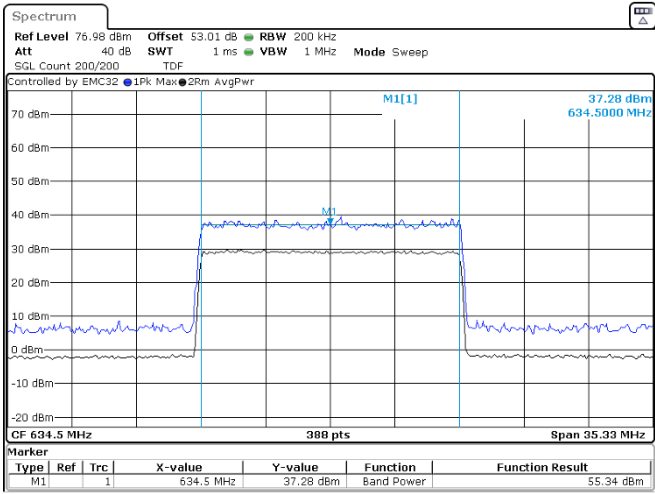
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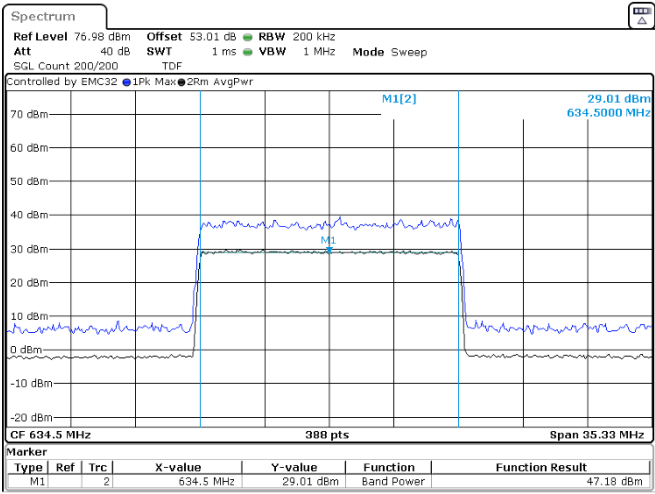
PAPR, TX 634.5 MHz, BW: 5MHz, MOD: 256QAM



PAPR, TX 634.5 MHz, BW: 10MHz, MOD: 256QAM



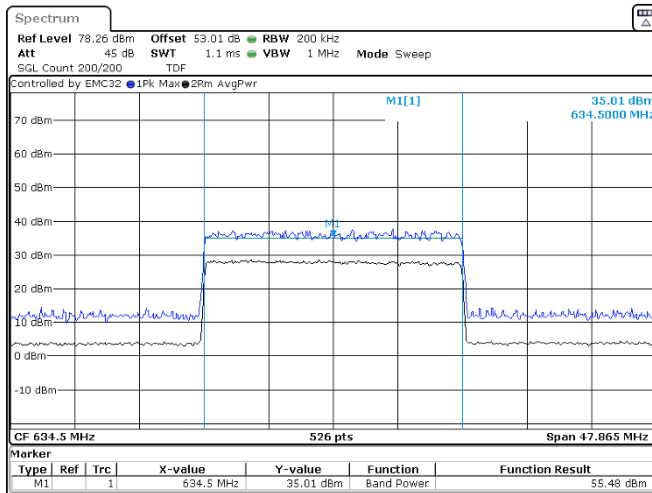
PAPR, TX 634.5 MHz, BW: 15MHz, MOD: 256QAM



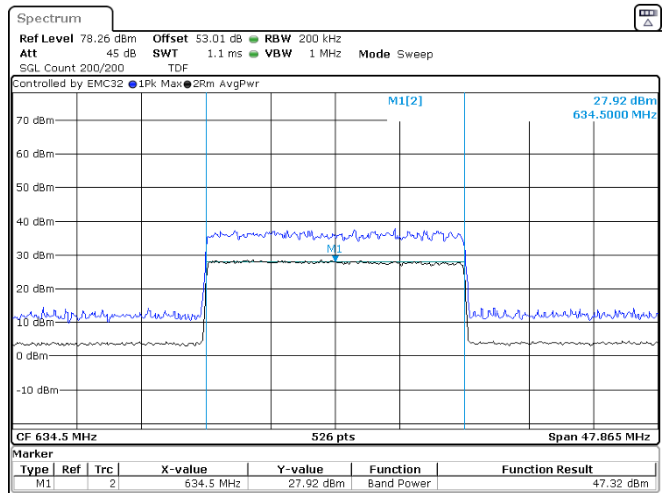
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Section 8
Test name
Specification

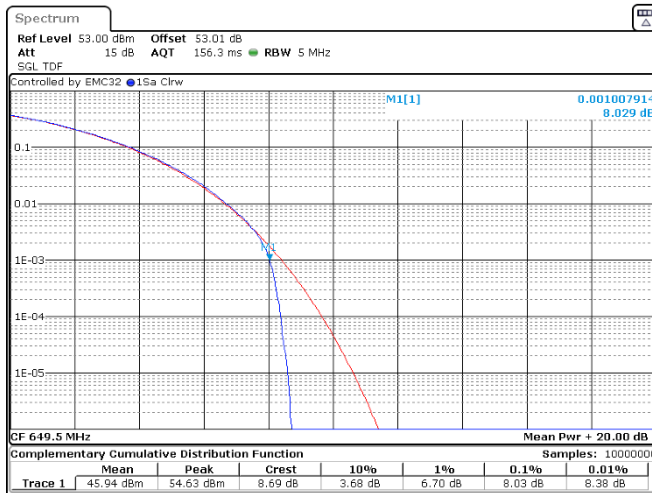
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FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



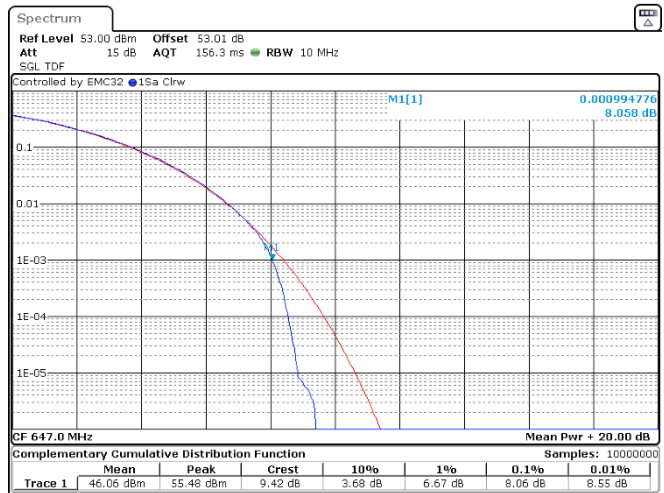
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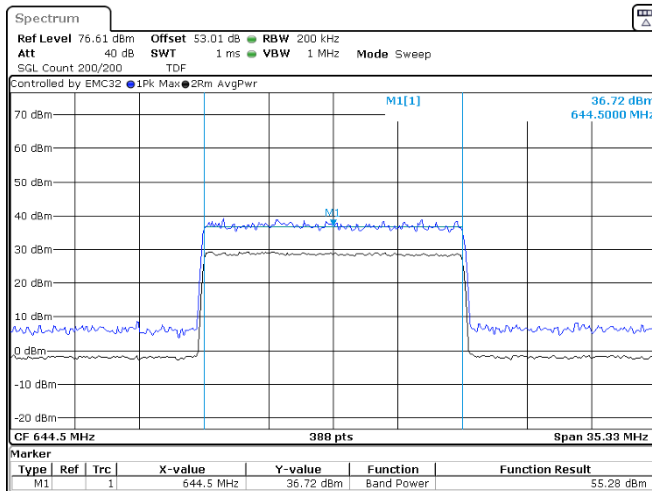
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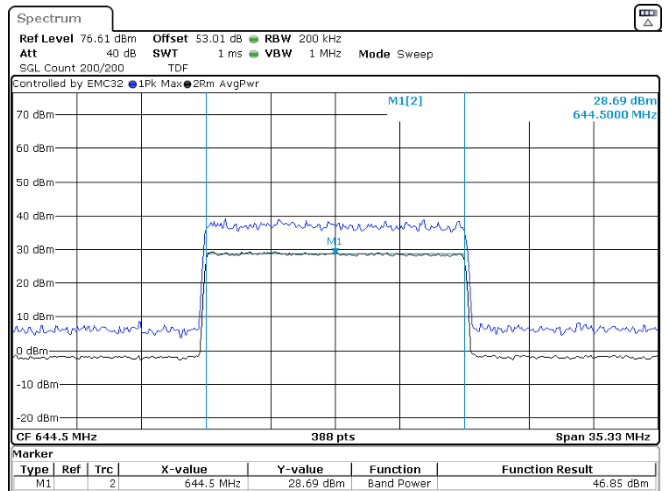
PAPR, TX 649.5 MHz, BW: 5MHz, MOD: 256QAM



PAPR, TX 647 MHz, BW: 10MHz, MOD: 256QAM



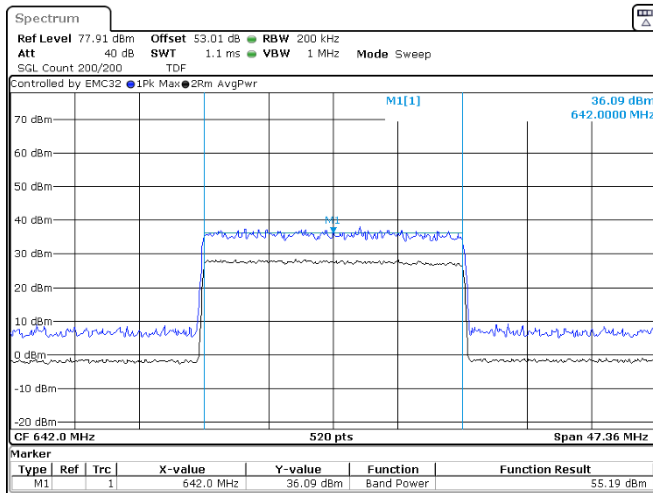
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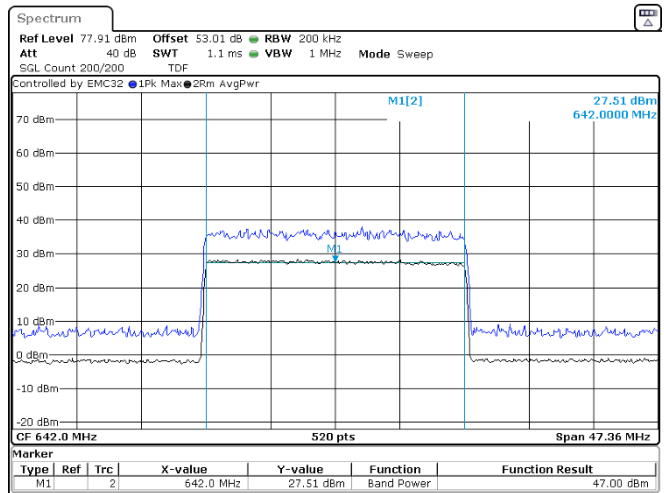
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Section 8
Test name
Specification

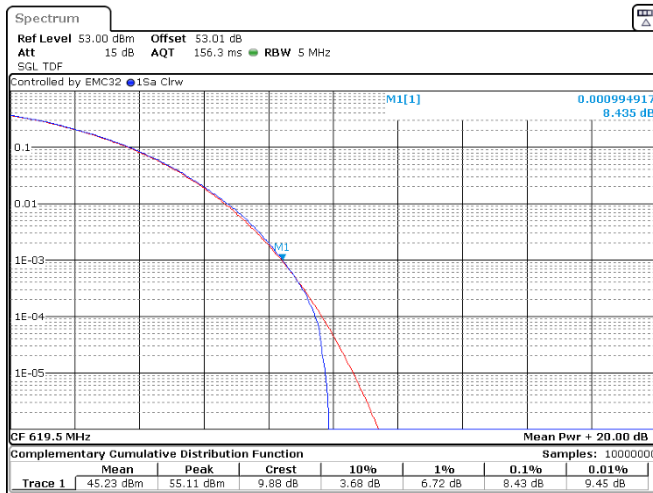
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FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



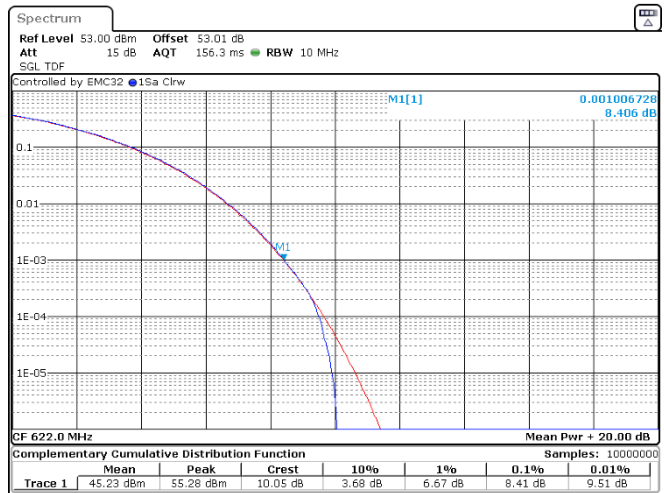
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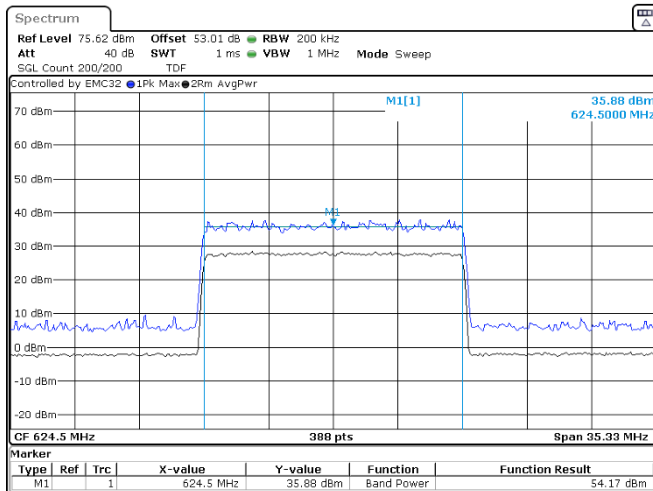
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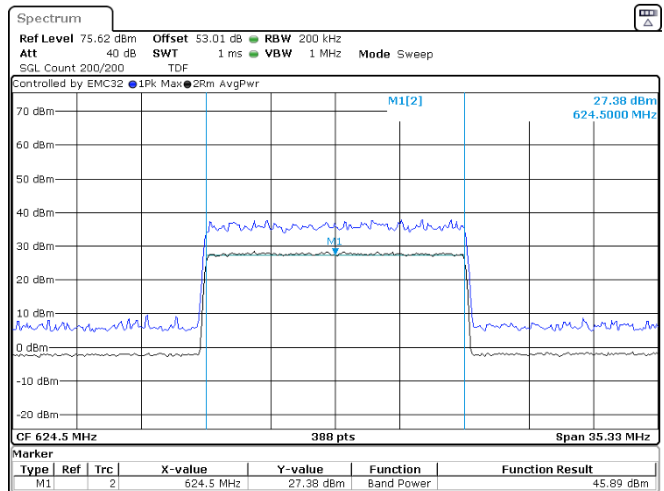
PAPR, TX 619.5 MHz, BW: 5MHz, MOD: 1024QAM



PAPR, TX 622 MHz, BW: 10MHz, MOD: 1024QAM



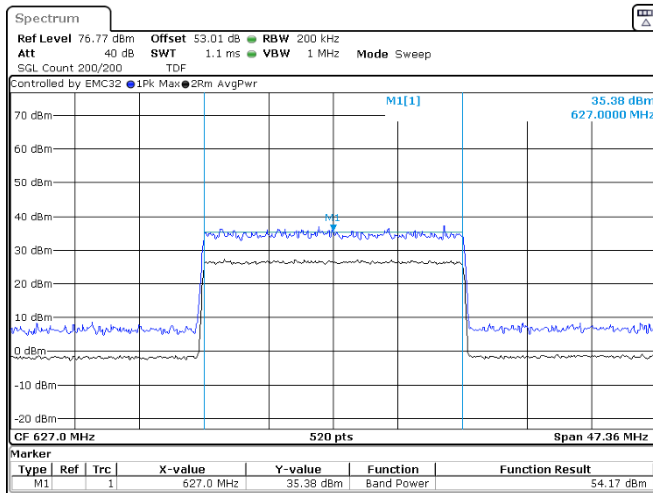
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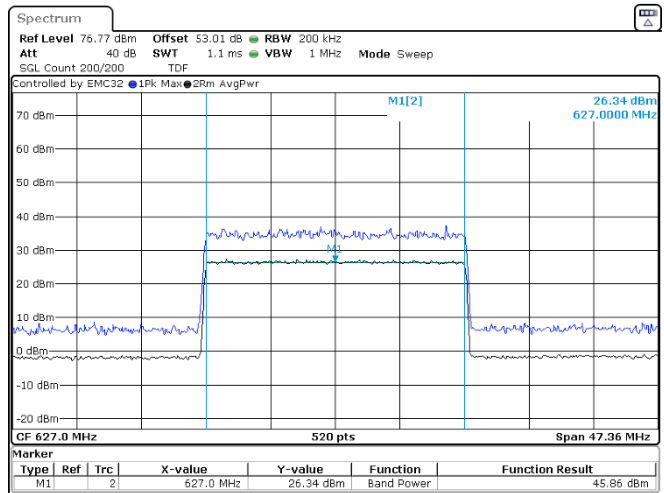
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Section 8
Test name
Specification

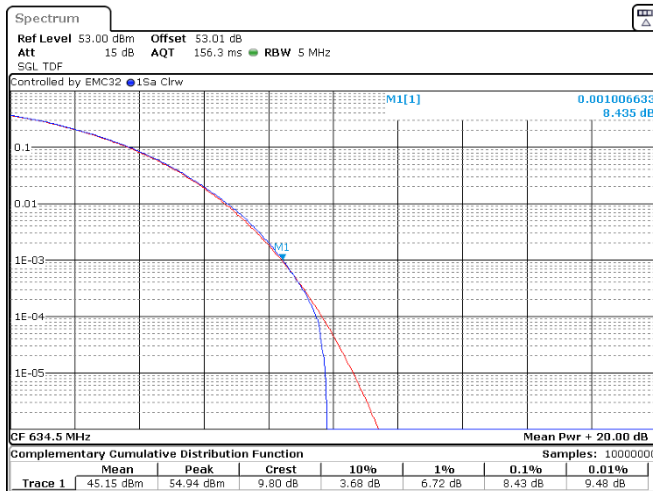
Testing data
FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



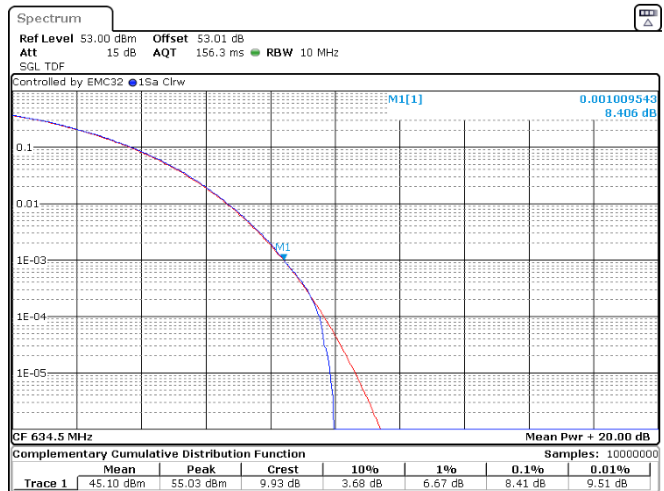
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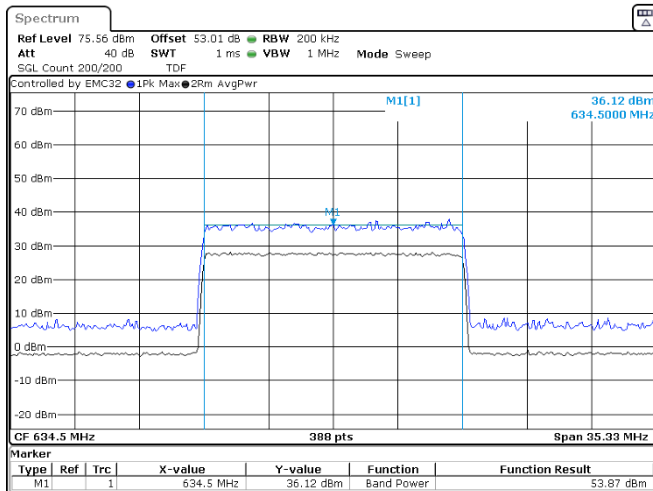
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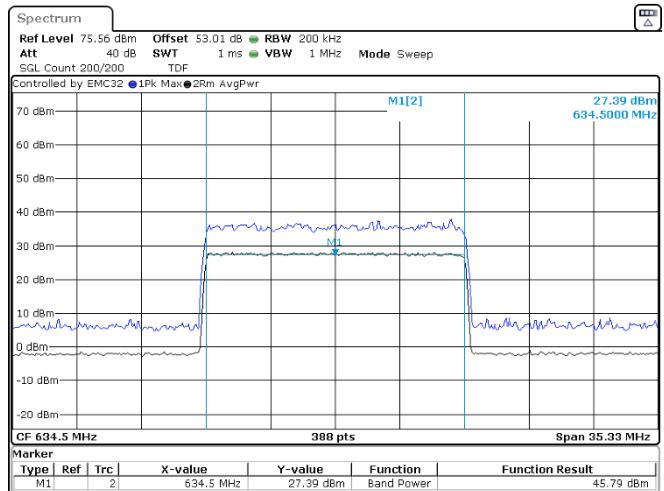
PAPR, TX 634.5 MHz, BW: 5MHz, MOD: 1024QAM



PAPR, TX 634.5 MHz, BW: 10MHz, MOD: 1024QAM



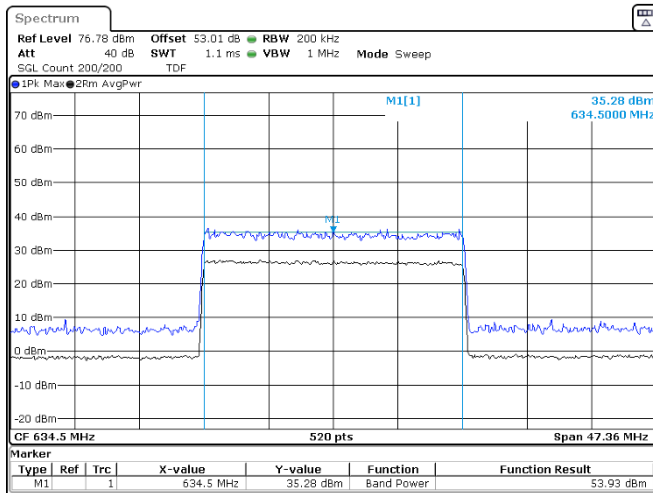
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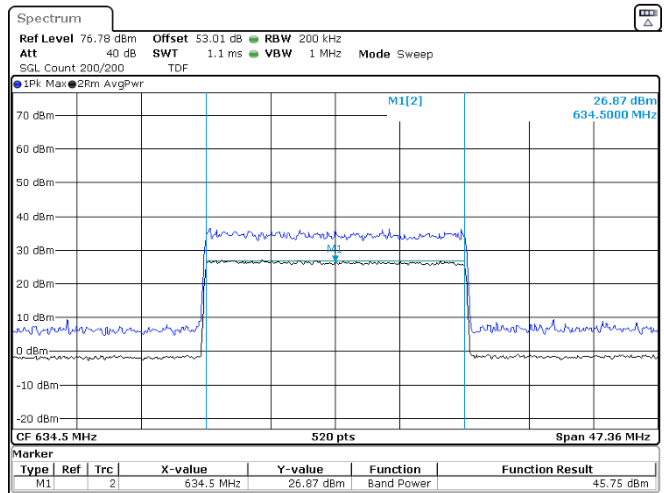
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Section 8
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Specification

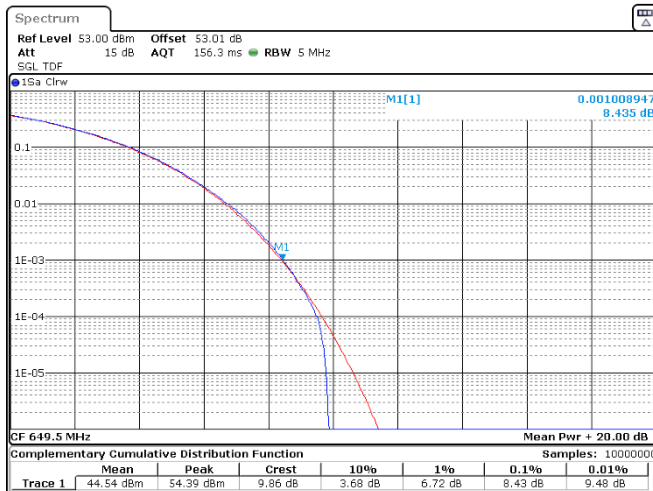
Testing data
FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



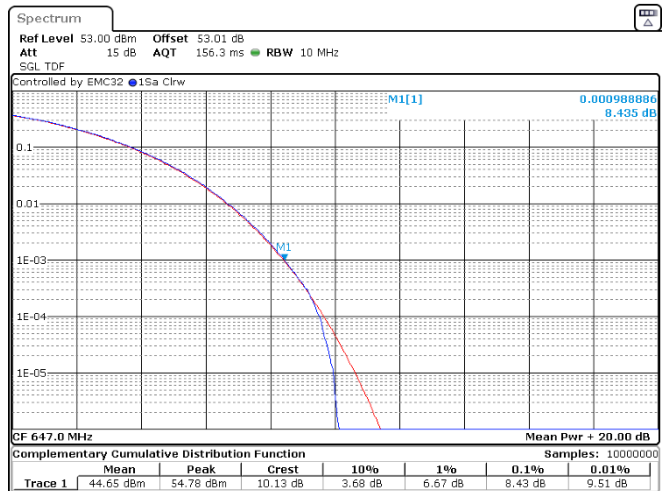
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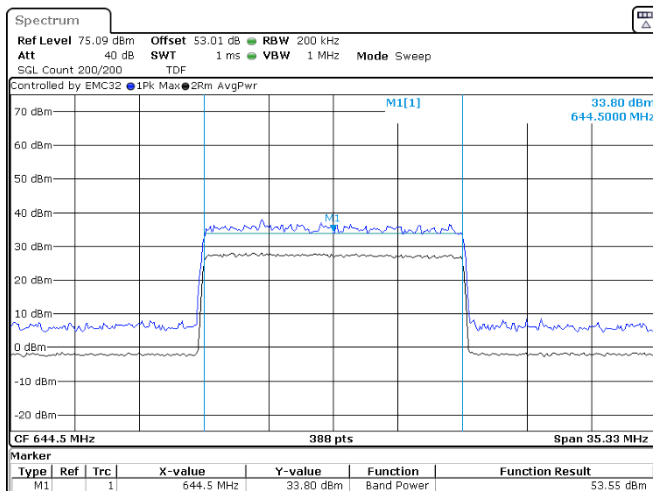
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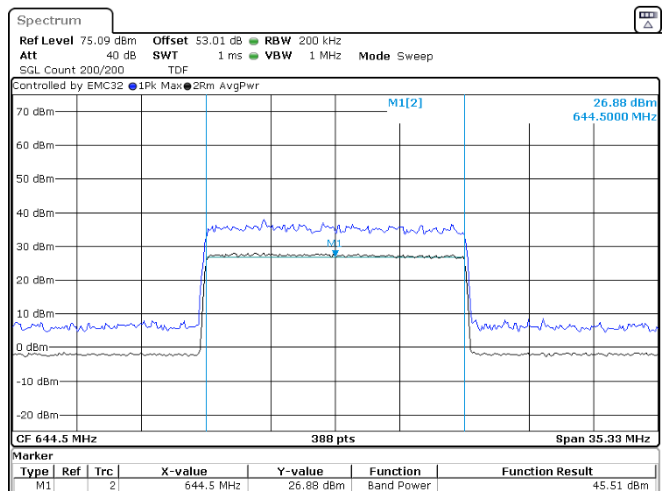
PAPR, TX 649.5 MHz, BW: 5MHz, MOD: 1024QAM



PAPR, TX 647 MHz, BW: 10MHz, MOD: 1024QAM



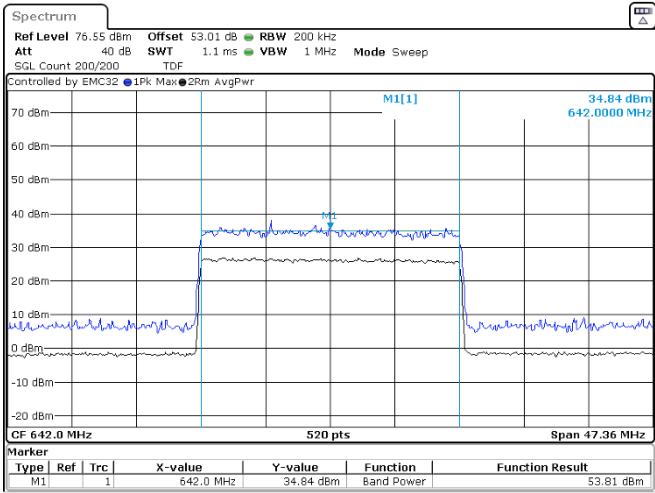
PAPR, TX 644.5 MHz, BW: 15MHz, MOD: 1024QAM



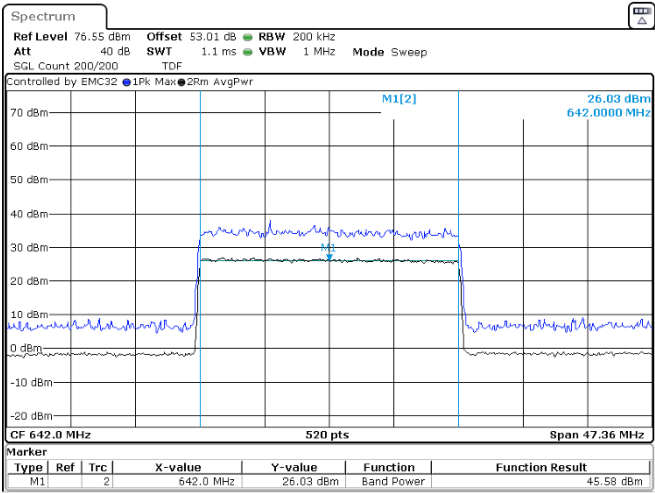
PAPR, TX 644.5 MHz, BW: 15MHz, MOD: 1024QAM

Section 8
Test name
Specification

Testing data
FCC §27.50(d)(5) Peak to Average Power Ratio
FCC Part 27



PAPR, TX 642 MHz, BW: 20MHz, MOD: 1024QAM



PAPR, TX 642 MHz, BW: 20MHz, MOD: 1024QAM

8.6 FCC §27.53(g)(h) Emission Limits

8.6.1 Definitions and limits

(g) For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) AWS emission limits— (1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

8.6.2 Test summary

Test date	September 14, 2023	Temperature	22 °C
	September 25, 2023		19 °C
	October 19, 2023		22 °C
	October 20, 2023		21 °C
	October 23, 2023		20 °C
	October 25, 2023		20 °C
	October 30, 2023		22 °C
	November 1, 2023		23 °C
	November 2, 2023		21 °C
	November 17, 2023		24 °C
Test engineer	Chenhao Ma Martha Espinoza Lan Sayasane	Air pressure	997 mbar
			1002 mbar
			1002 mbar
			1001 mbar
			1004 mbar
			1000 mbar
			999 mbar
			1002 mbar
			1004 mbar
			1000 mbar
Verdict	Pass	Relative humidity	52%
			55%
			57%
			51%
			54%
			56%
			53%
			53%
			56%
			52%

8.6.3 Observations, settings and special notes

EUT setup configuration	Tabletop
Test facility	3 m Semi anechoic chamber
Measuring distance	3m
Antenna height variation	1–4 m
Turn table position	0–360°
Measurement details	A preview measurement was generated with receiver in continuous scan or sweep mode while the EUT was rotated and antenna adjusted to maximize radiated emission. Emissions detected within 6 dB or above limit were re-measured with the appropriate detector against the correlating limit and recorded as the final measurement.

Receiver/spectrum analyzer settings for frequencies below 1 GHz:

Resolution bandwidth	120 kHz
Video bandwidth	300 kHz
Detector mode	– Peak (Preview measurement) – Quasi-peak (Final measurement)
Trace mode	Max Hold
Measurement time	– 100 ms (Peak preview measurement) – 5000 ms (Quasi-peak final measurement)

Receiver/spectrum analyzer settings for frequencies above 1 GHz:

Resolution bandwidth	1 MHz
Video bandwidth	3 MHz
Detector mode	Peak (Preview measurement) Peak and CAverage (Final measurement)
Trace mode	Max Hold
Measurement time	– 100 ms (Peak preview measurement) – 5000 ms (Peak and CAverage final measurement)

Spectrum analyzer settings (conducted test):

Resolution bandwidth	1 MHz
Video bandwidth	3 MHz
Frequency span	The necessary to make an accuracy measurement
Detector mode	RMS
Trace mode	Average power

This test was realized in two parts: one with a conducted setup and another one with a radiated setup.

The conducted test was made in the port B and port C (this port was selected based on test showed on section 8.4), transmitting at max power and with the other three ports loaded with 50 Ω loads. For capturing the signal with the equipment, using a transducer factor to compensate the losses caused by a cable and attenuator used to protect the test equipment

The reference level offset also included the MIMO correction factor for 2 correlated antenna ports (additional 3.01 dB).

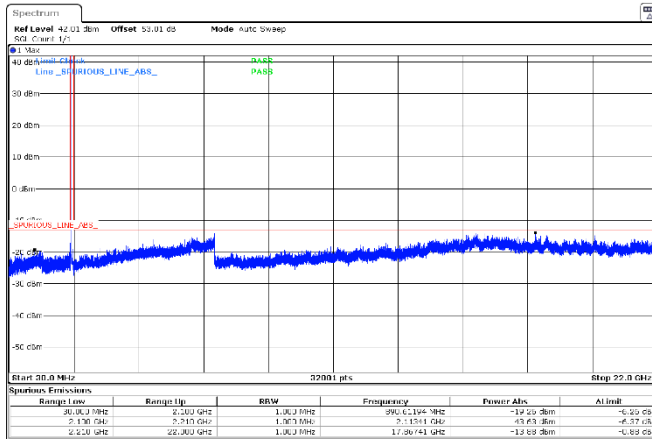
The evaluation was made using all channels for band n66; band n70 and band n71. All the modulations for three bands were tested.

The radiated test was made transmitting at max power with the four ports terminated with 50 Ω loads. The scans were made from 30 MHz to 26 GHz with the modulation with the highest power as was shown at section 8.4. For band n66; band n70 and band 71.

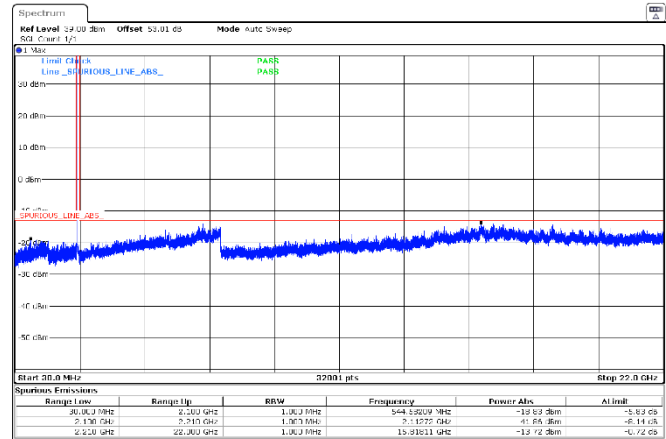
Based on equation $43 + 10 \log_{10}(P)$ dB, the general emission limit is -13 dBm (conducted and radiated test) or the equivalent at 3m is 82.23 dB μ V/m above 1 GHz and 84.38 dB μ V/m below 1 GHz.

8.6.4 Test data

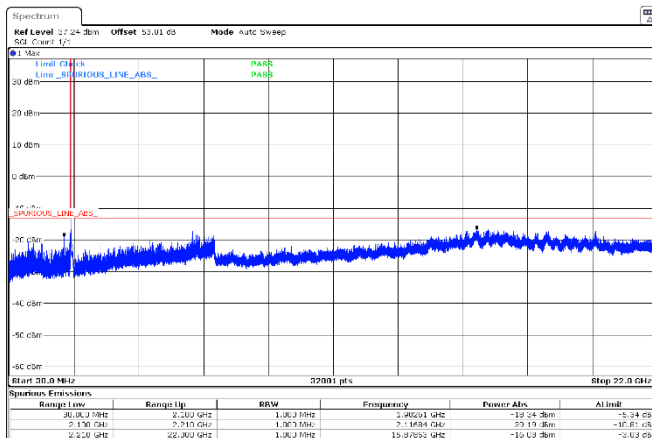
Band n66 plots



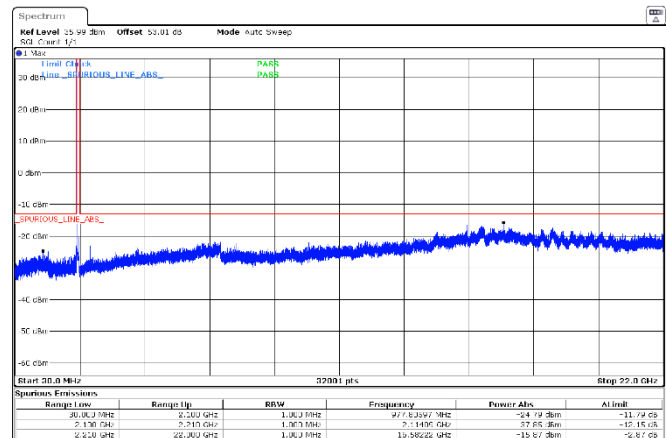
Spurious emissions, TX 212.5 MHz, BW 5MHz, MOD: QPSK



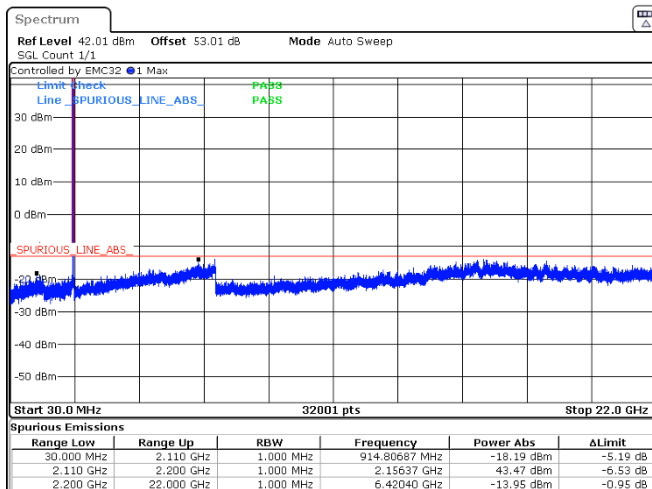
Spurious emissions, TX 2115 MHz, BW 10MHz, MOD: QPSK



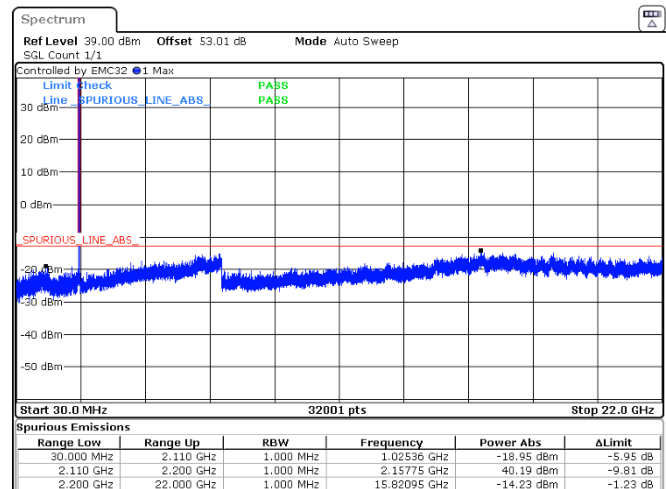
Spurious emissions, TX 2117.5 MHz, BW 15MHz, MOD: QPSK



Spurious emissions, TX 2120 MHz, BW 20MHz, MOD: QPSK



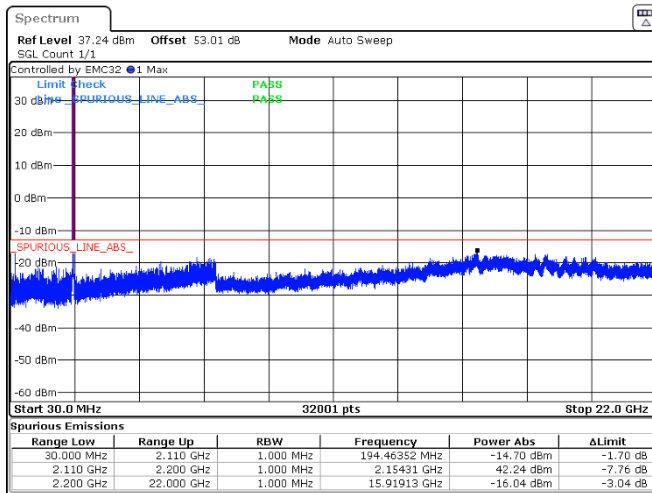
Spurious emissions, TX 2155 MHz, BW: 5MHz, MOD: QPSK



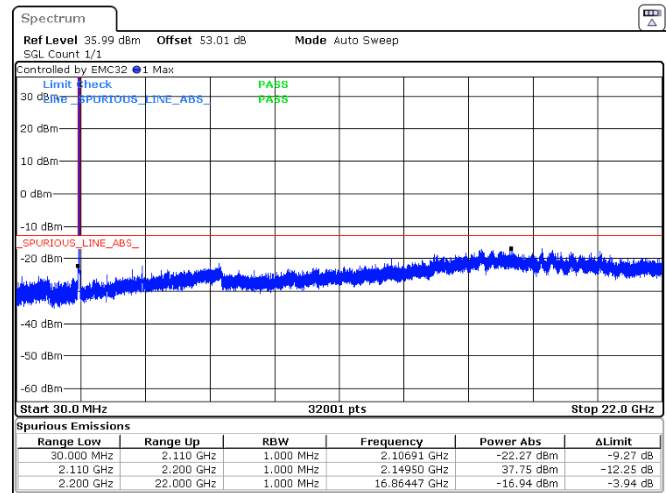
Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: QPSK

Section 8
Test name
Specification

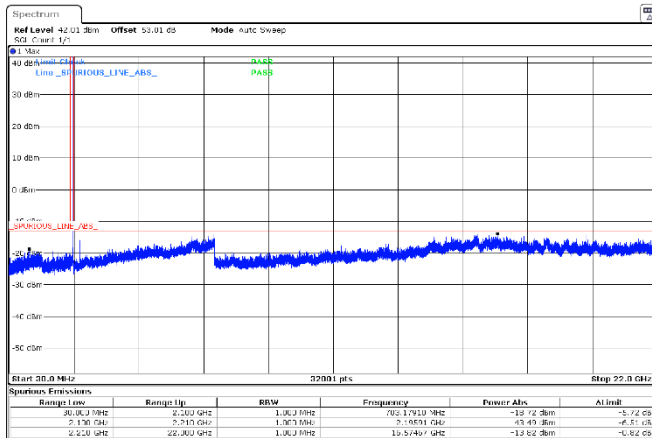
Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27



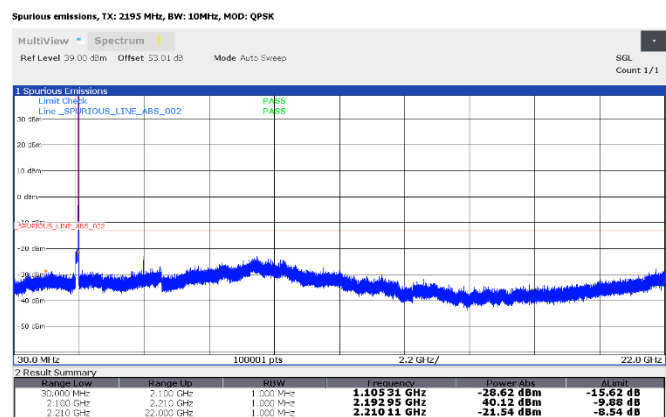
Spurious emissions, TX 2155 MHz, BW: 15MHz, MOD: QPSK



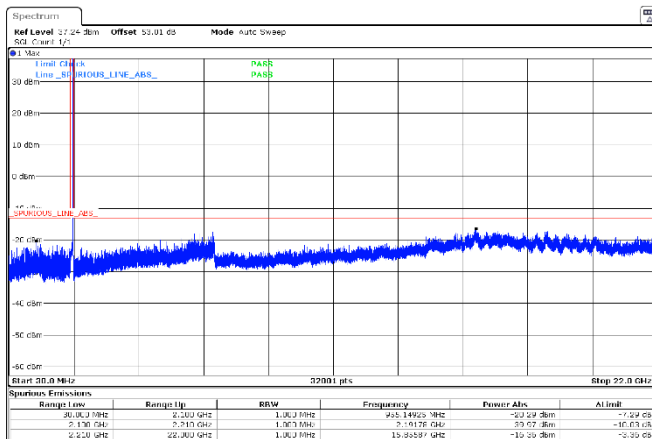
Spurious emissions, TX 2155 MHz, BW: 20MHz, MOD: QPSK



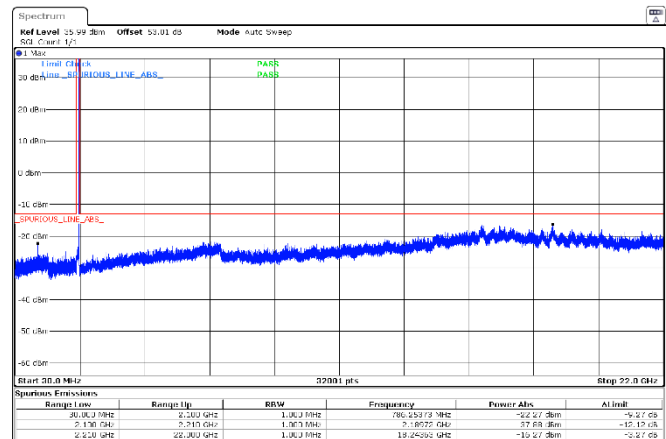
Spurious emissions, TX 2157.5 MHz, BW: 5MHz, MOD: QPSK



Spurious emissions, TX 2195 MHz, BW: 10MHz, MOD: QPSK



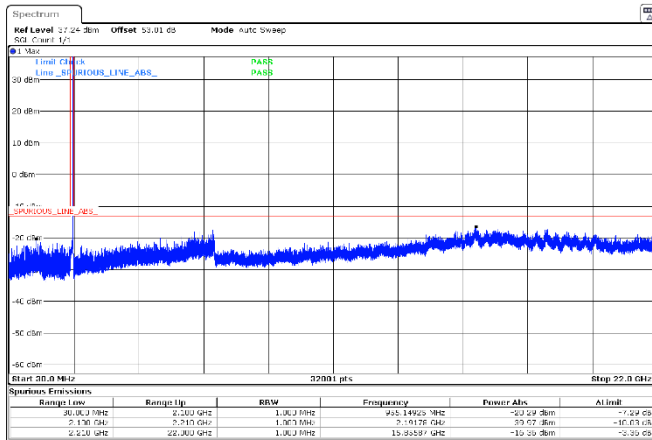
Spurious emissions, TX 2152.5 MHz, BW: 15MHz, MOD: QPSK



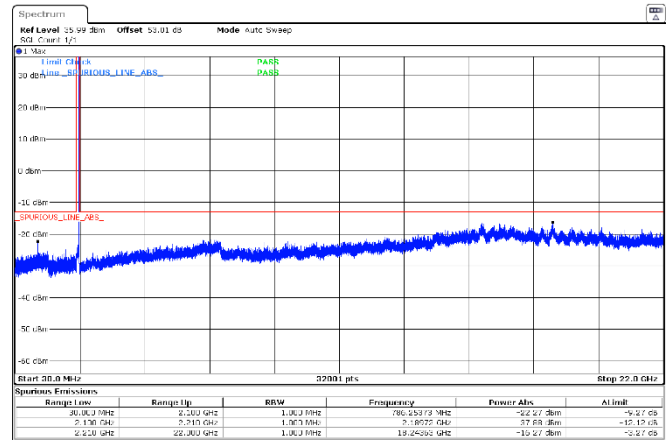
Spurious emissions, TX 2150 MHz, BW: 20MHz, MOD: QPSK

Section 8
Test name
Specification

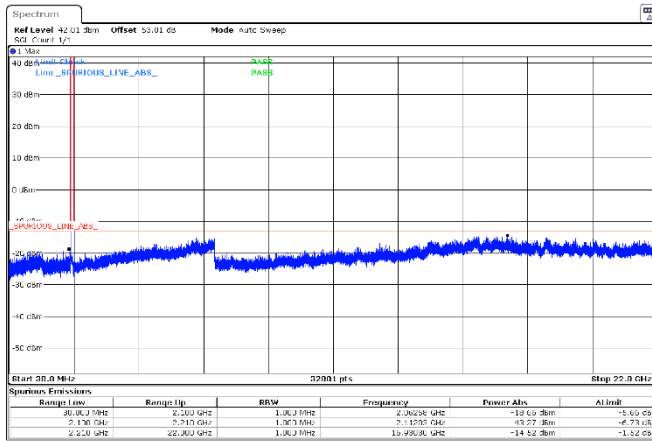
Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27



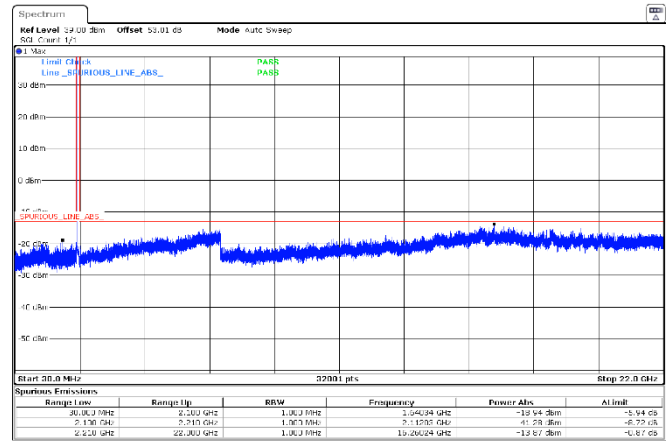
Spurious emissions, TX 2152.5 MHz, BW 15MHz, MOD QPSK



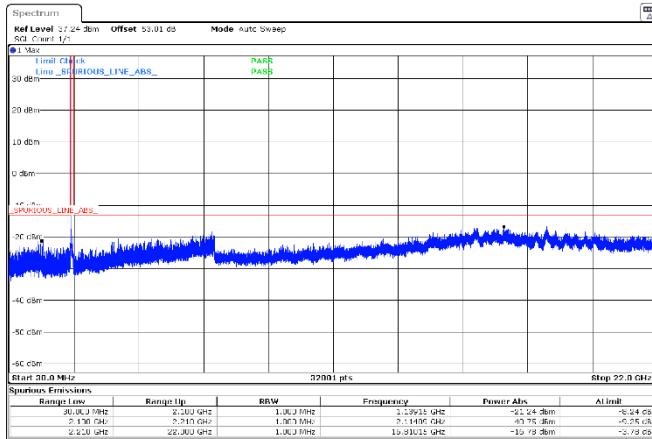
Spurious emissions, TX 2150 MHz, BW 20MHz, MOD QPSK



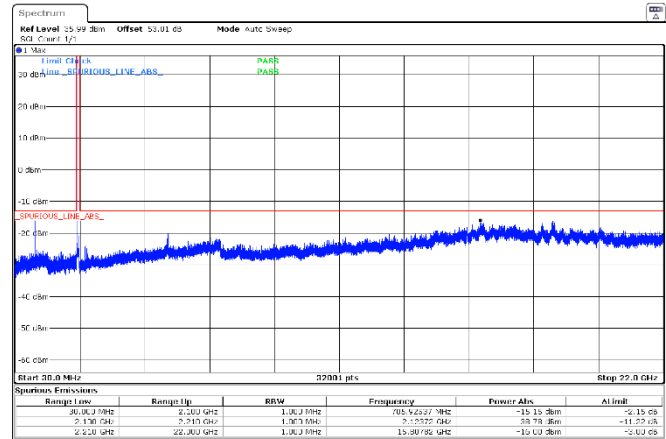
Spurious emissions, TX 2112.5 MHz, BW 5MHz, MOD 16QAM



Spurious emissions, TX 2140 MHz, BW 10MHz, MOD 16QAM



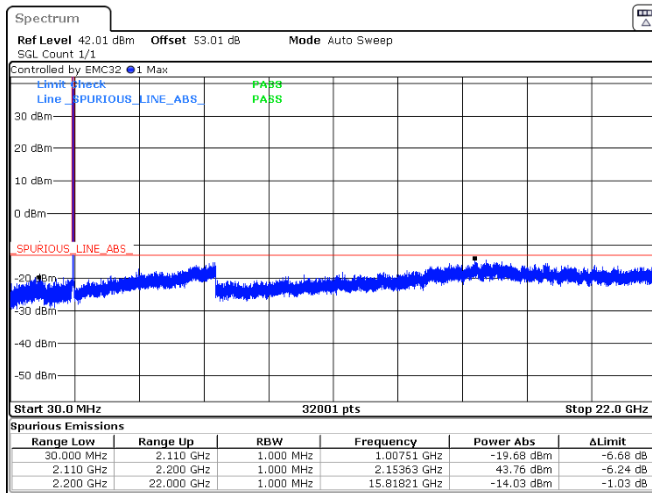
Spurious emissions, TX 2117.5 MHz, BW 15MHz, MOD 16QAM



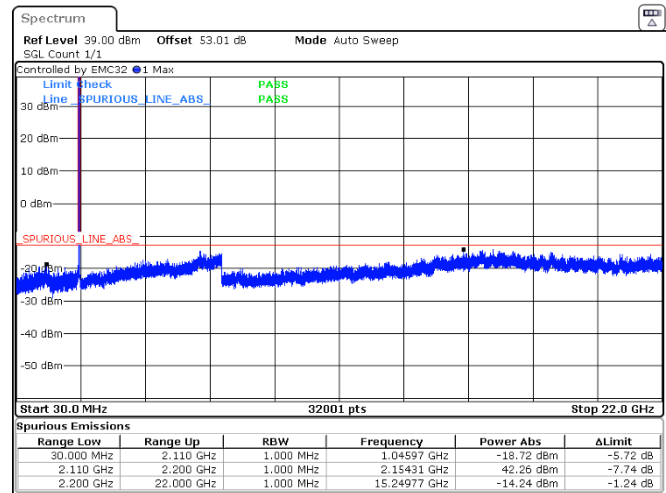
Spurious emissions, TX 2120 MHz, BW 20MHz, MOD 16QAM

Section 8
Test name
Specification

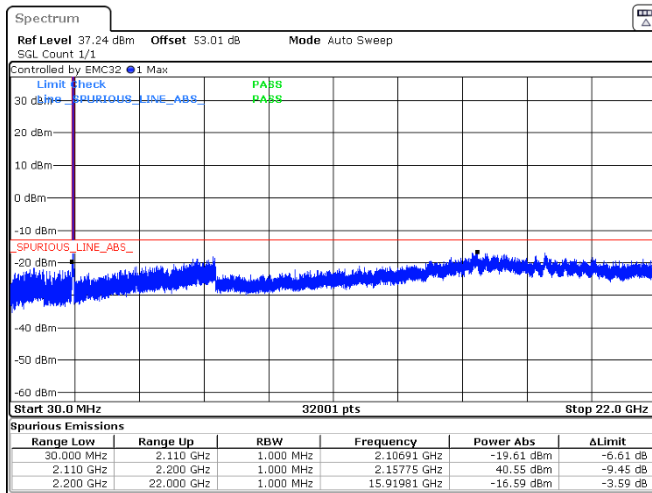
Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27



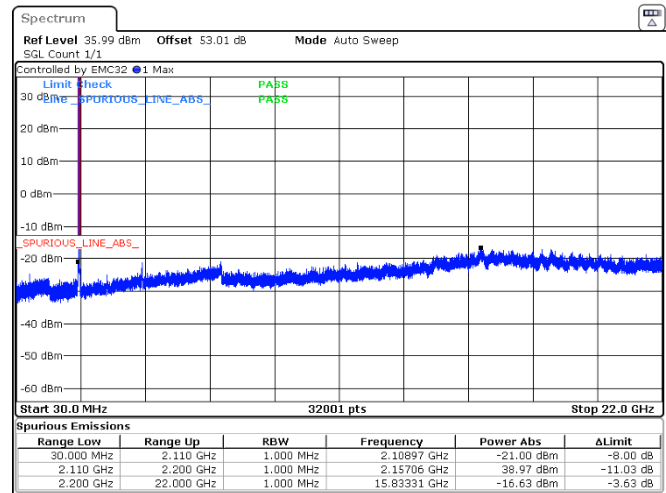
Spurious emissions, TX 2155 MHz, BW: 5MHz, MOD: 16QAM



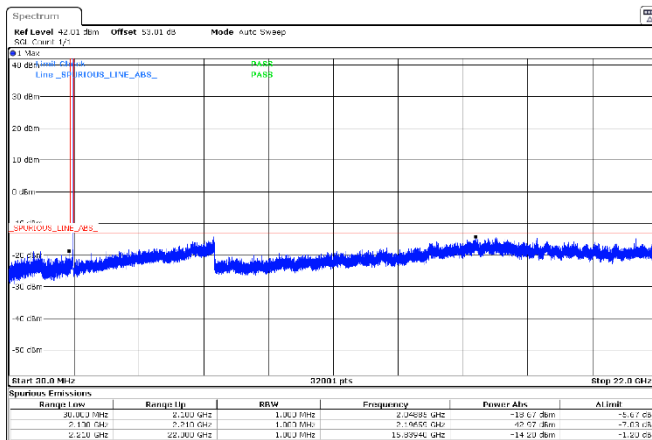
Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: 16QAM



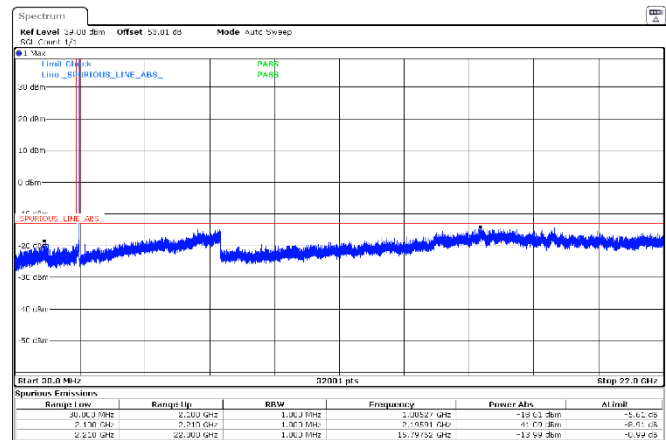
Spurious emissions, TX 2155 MHz, BW: 15MHz, MOD: 16QAM



Spurious emissions, TX 2155 MHz, BW: 20MHz, MOD: 16QAM



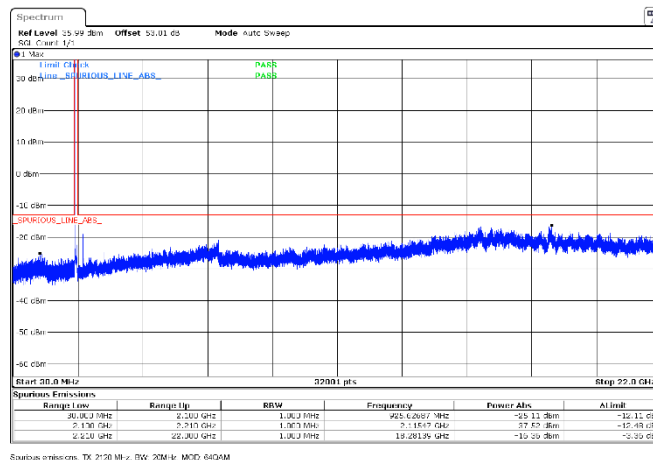
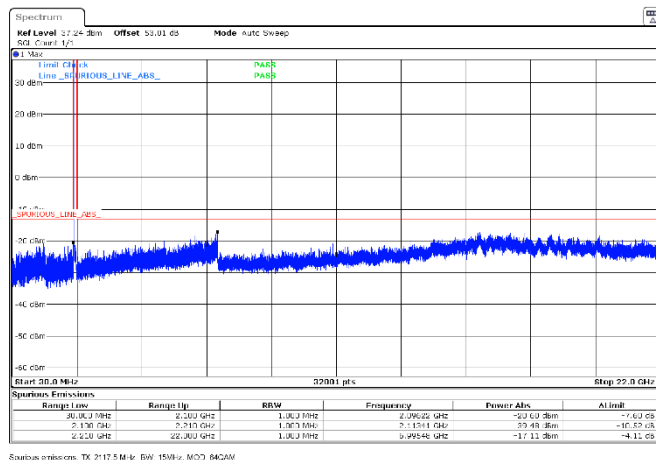
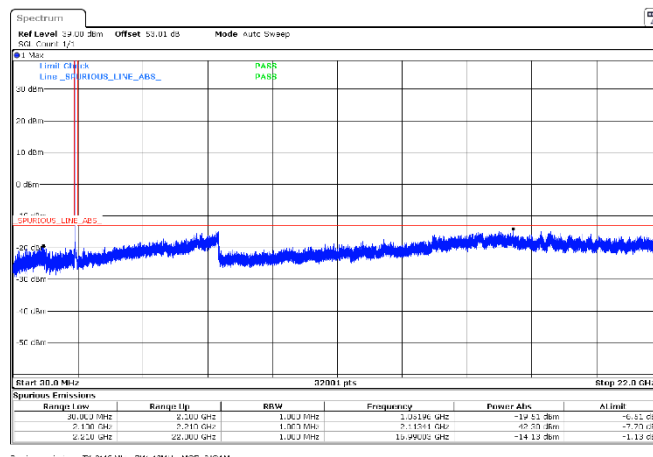
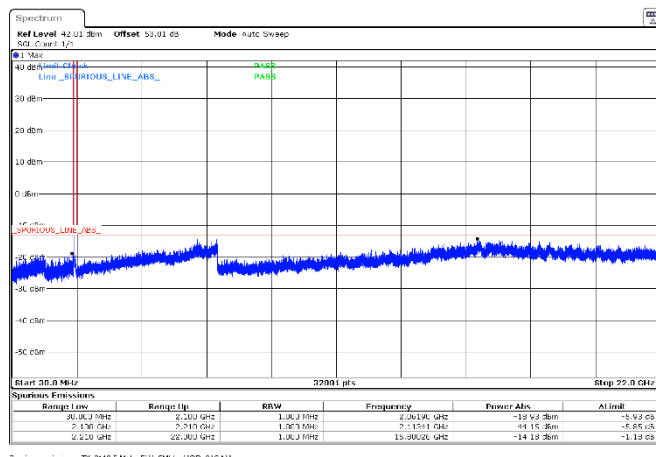
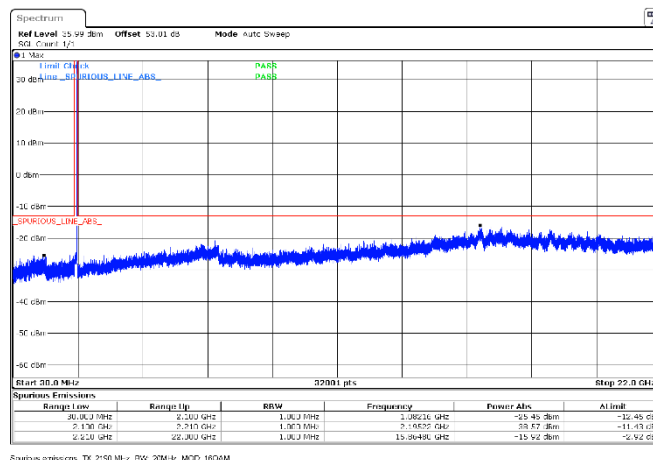
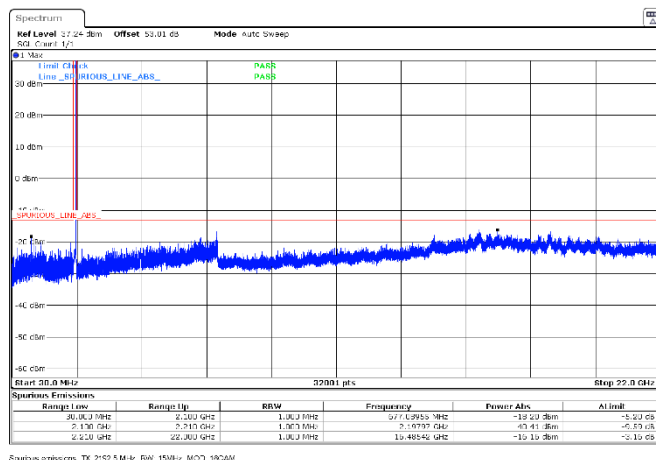
Spurious emissions, TX 2157.5 MHz, BW: 5MHz, MOD: 16QAM



Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: 16QAM

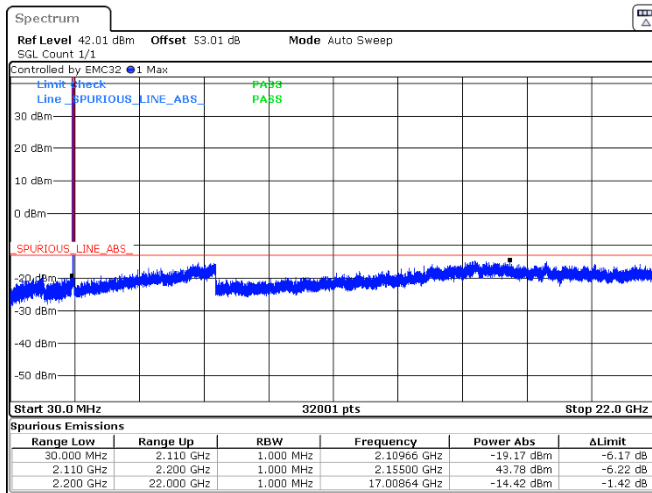
Section 8
Test name
Specification

Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27

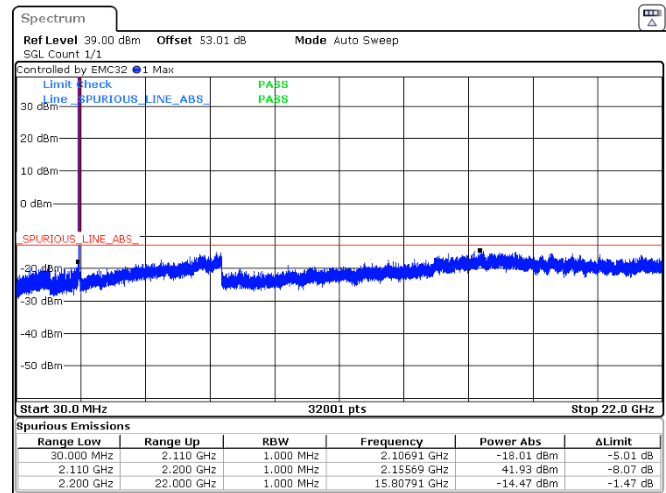


Section 8
Test name
Specification

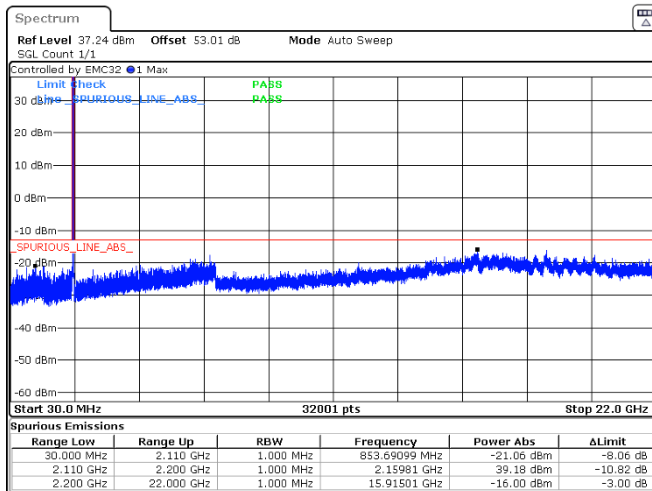
Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27



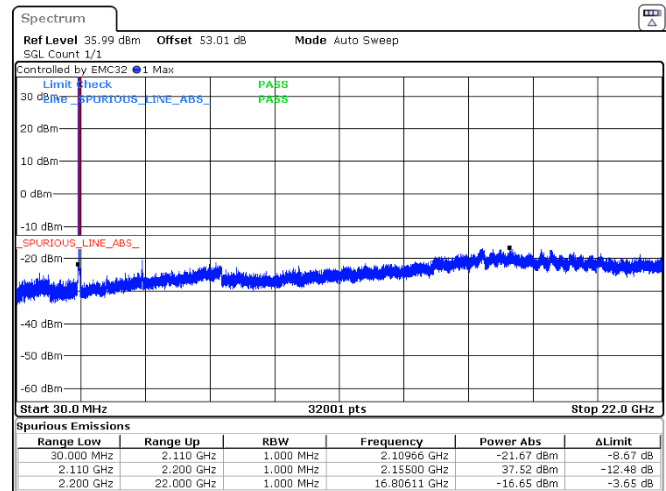
Spurious emissions, TX 2155 MHz, BW: 5MHz, MOD: 64QAM



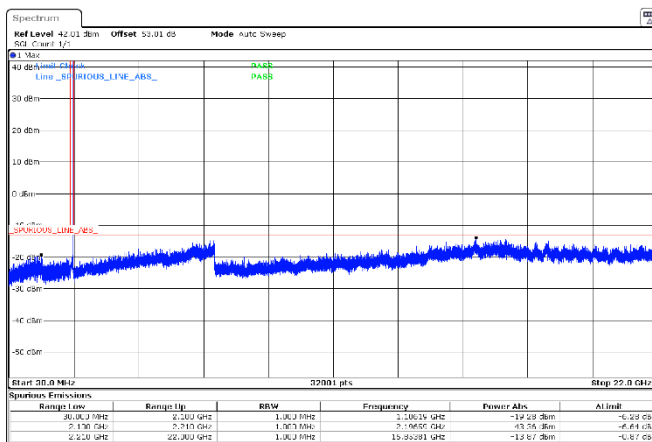
Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: 64QAM



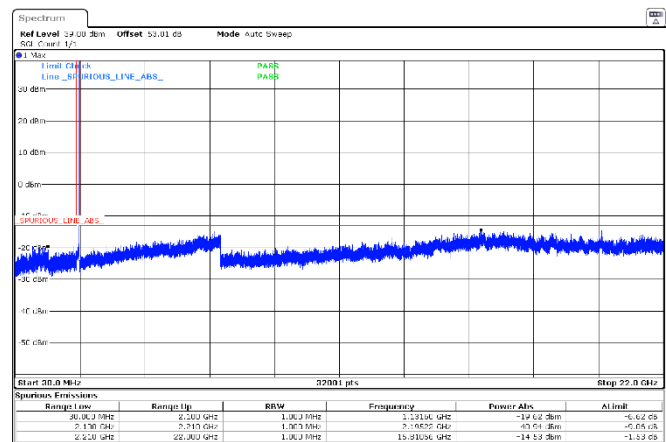
Spurious emissions, TX 2155 MHz, BW: 15MHz, MOD: 64QAM



Spurious emissions, TX 2155 MHz, BW: 20MHz, MOD: 64QAM



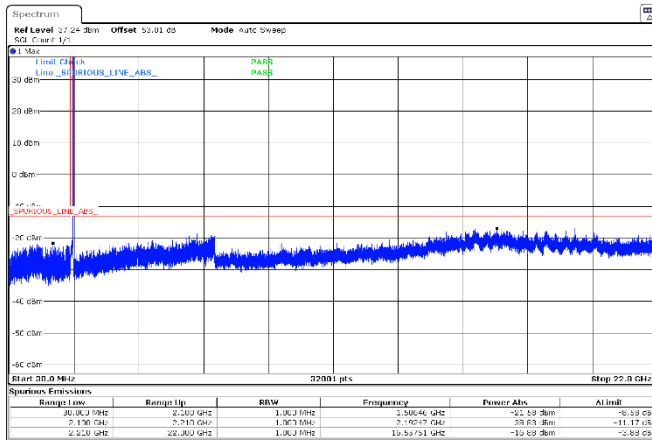
Spurious emissions, TX 2157.5 MHz, BW: 5MHz, MOD: 64QAM



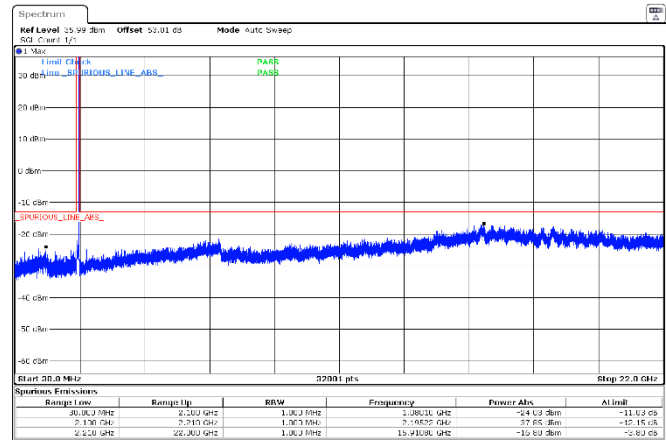
Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: 64QAM

Section 8
Test name
Specification

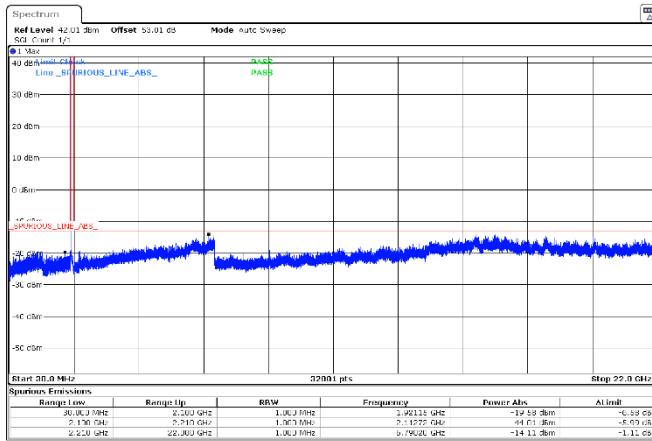
Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27



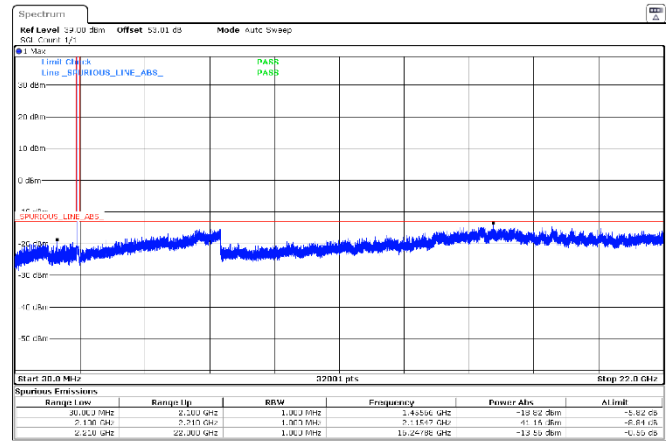
Spurious emissions, TX 2152.5 MHz, BW 15MHz, MOD 84QAM



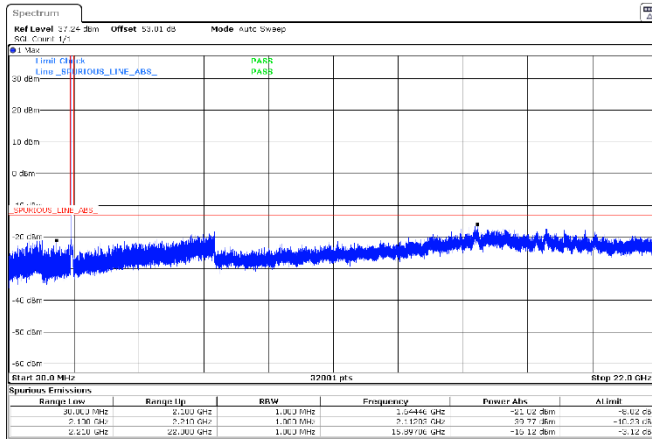
Spurious emissions, TX 2150 MHz, BW 20MHz, MOD 64QAM



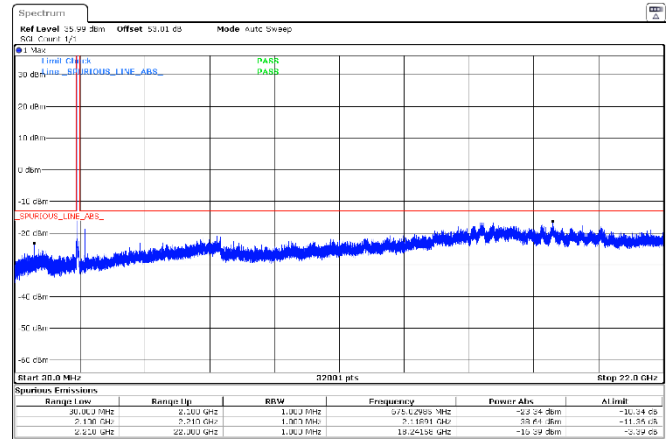
Spurious emissions, TX 2112.5 MHz, BW 5MHz, MOD 256QAM



Spurious emissions, TX 2140 MHz, BW 10MHz, MOD 256QAM



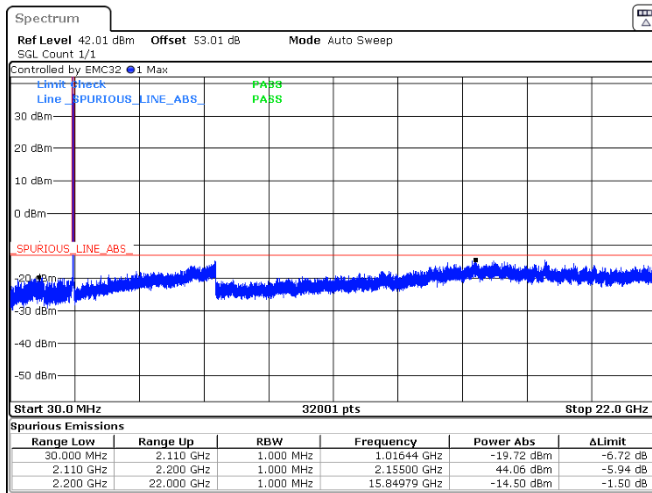
Spurious emissions, TX 2117.5 MHz, BW 15MHz, MOD 256QAM



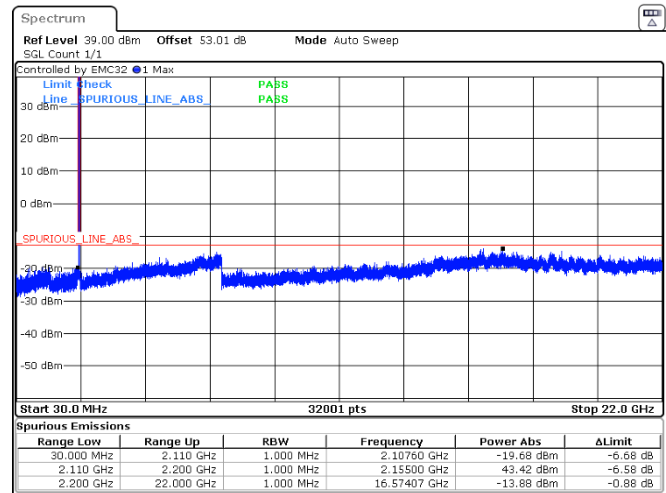
Spurious emissions, TX 2120 MHz, BW 20MHz, MOD 256QAM

Section 8
Test name
Specification

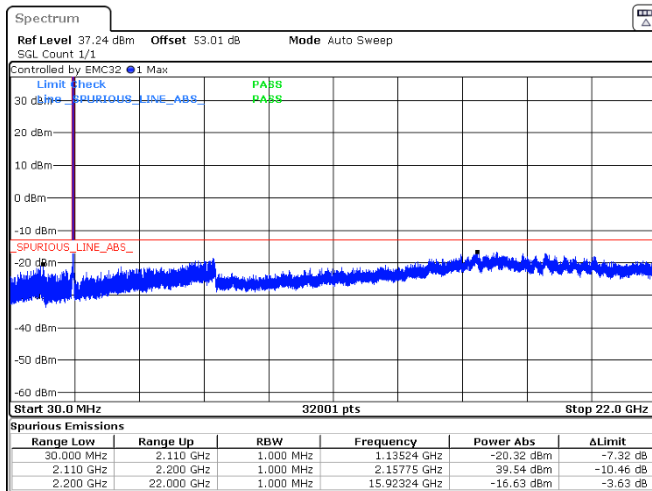
Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27



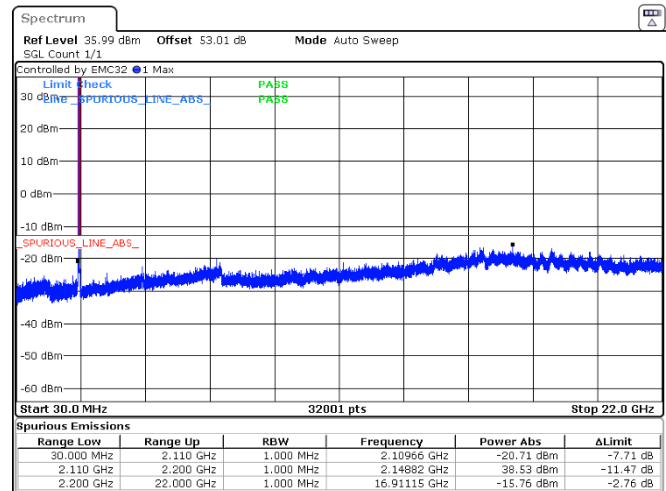
Spurious emissions, TX 2155 MHz, BW: 5MHz, MOD: 256QAM



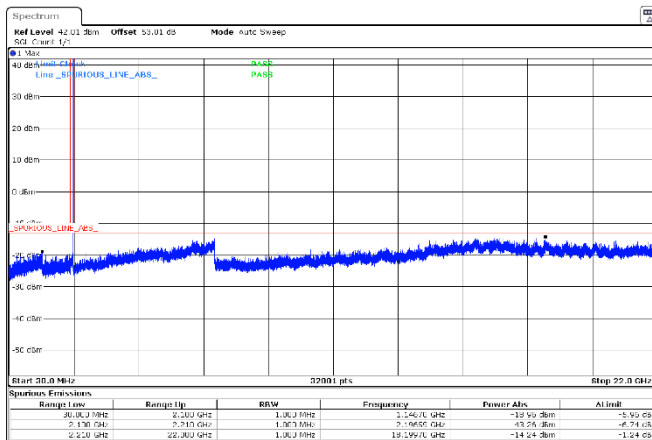
Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: 256QAM



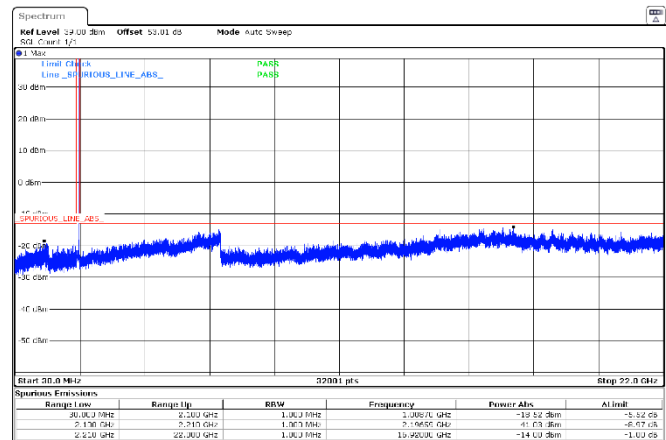
Spurious emissions, TX 2155 MHz, BW: 15MHz, MOD: 256QAM



Spurious emissions, TX 2155 MHz, BW: 20MHz, MOD: 256QAM



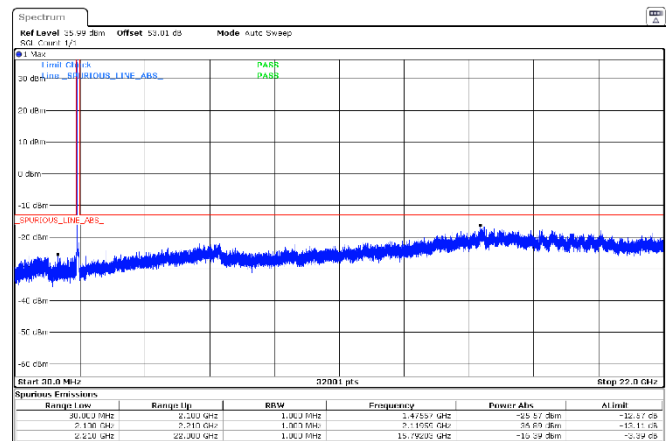
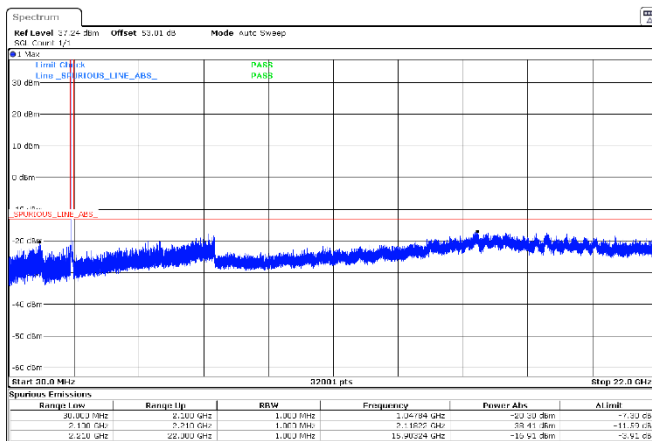
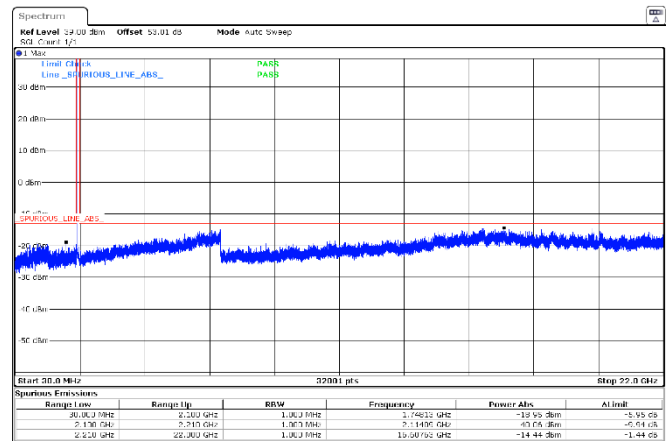
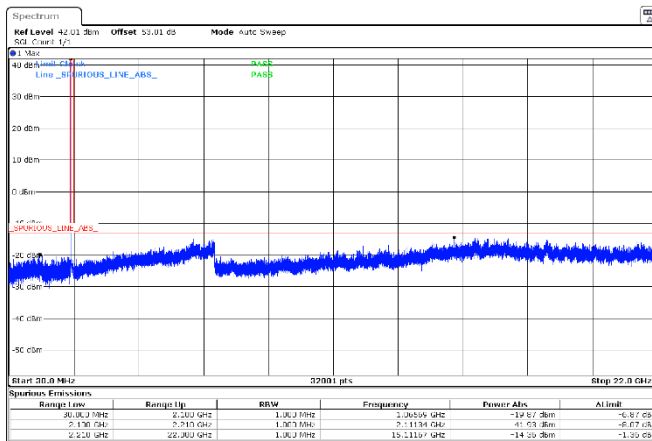
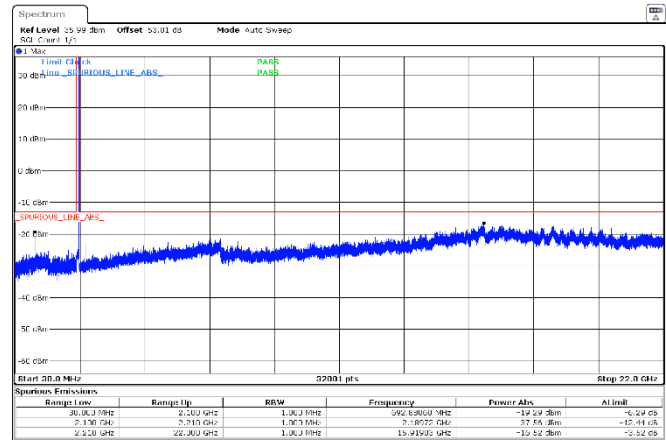
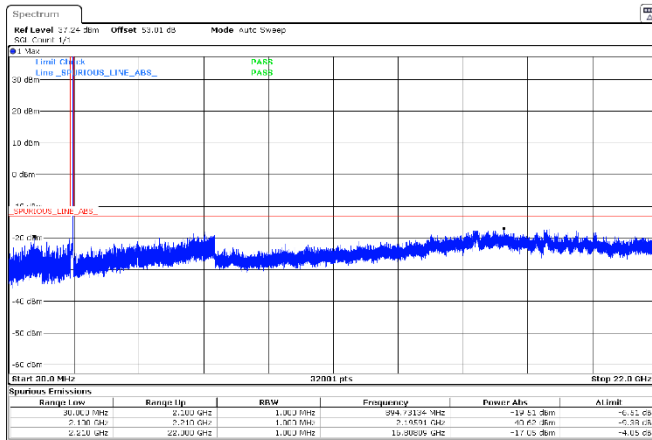
Spurious emissions, TX 2157.5 MHz, BW: 5MHz, MOD: 256QAM



Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: 256QAM

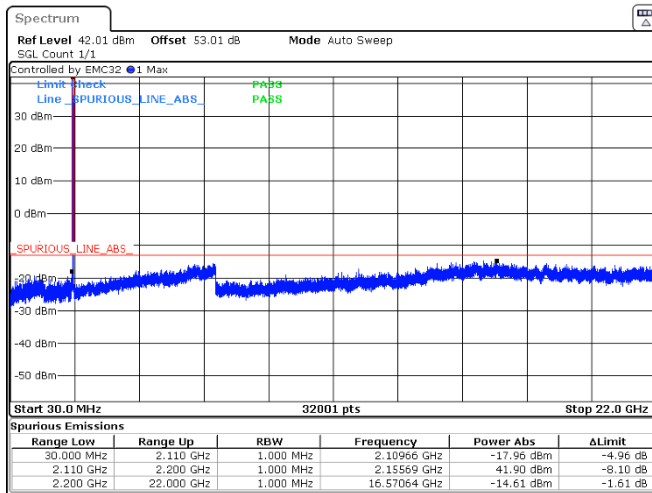
Section 8
Test name
Specification

Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27

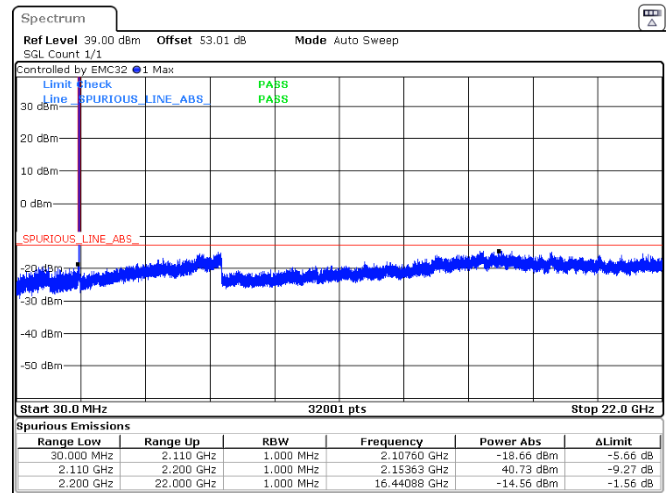


Section 8
Test name
Specification

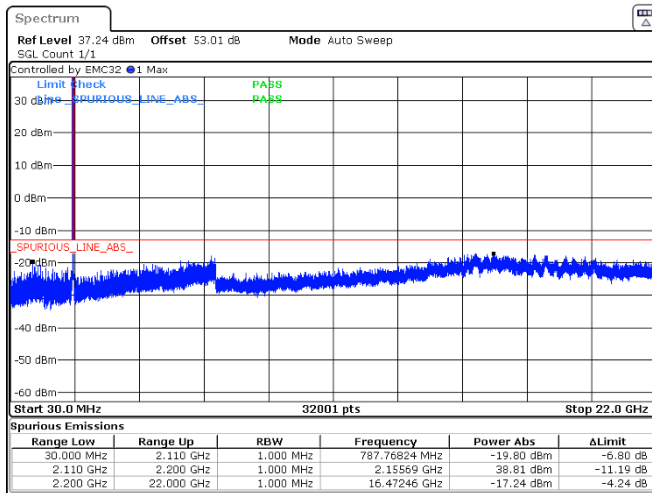
Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27



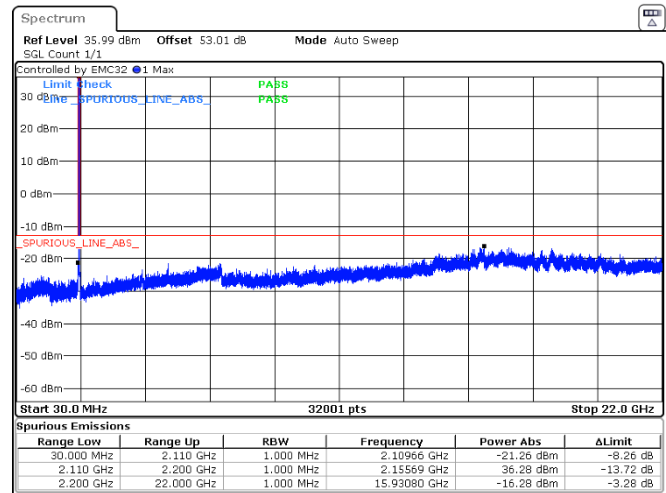
Spurious emissions, TX 2155 MHz, BW: 5MHz, MOD: 1024QAM



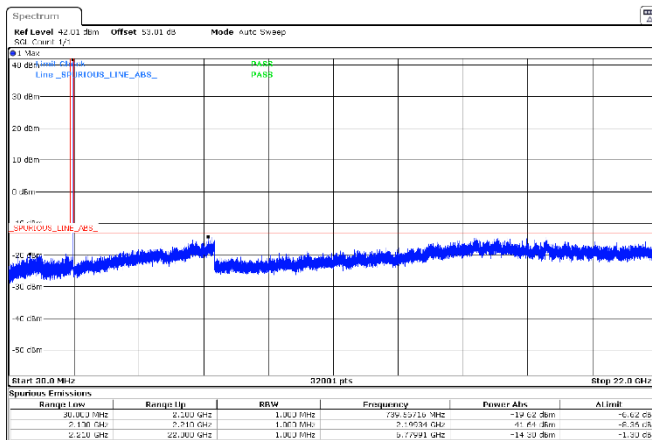
Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: 1024QAM



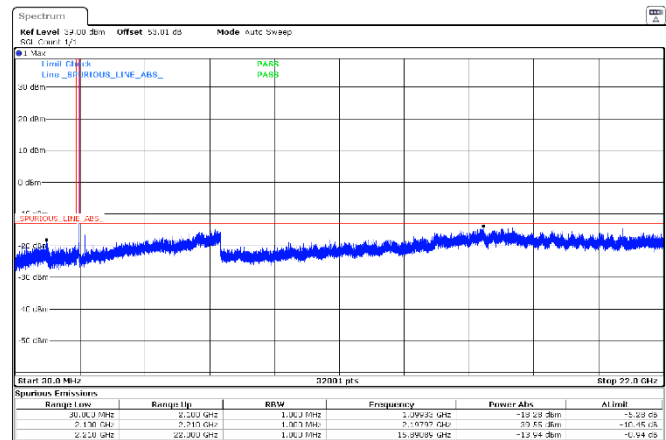
Spurious emissions, TX 2155 MHz, BW: 15MHz, MOD: 1024QAM



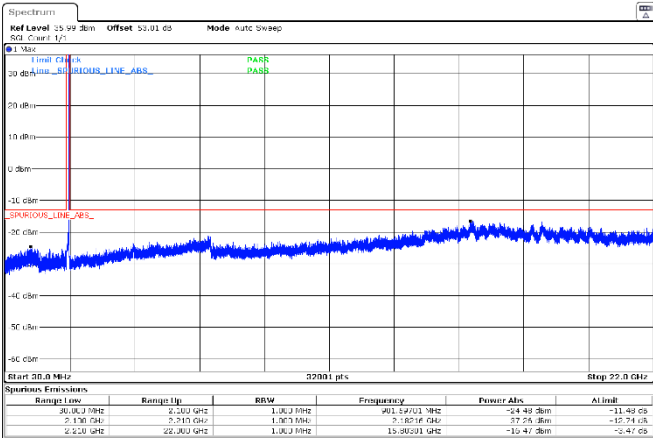
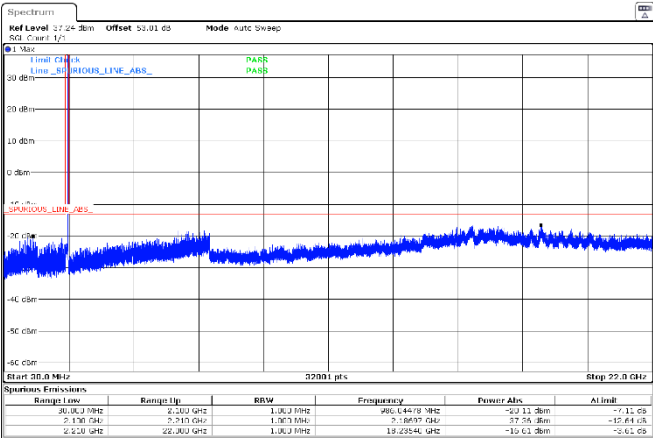
Spurious emissions, TX 2155 MHz, BW: 20MHz, MOD: 1024QAM



Spurious emissions, TX 2157.5 MHz, BW: 5MHz, MOD: 1024QAM



Spurious emissions, TX 2155 MHz, BW: 10MHz, MOD: 1024QAM

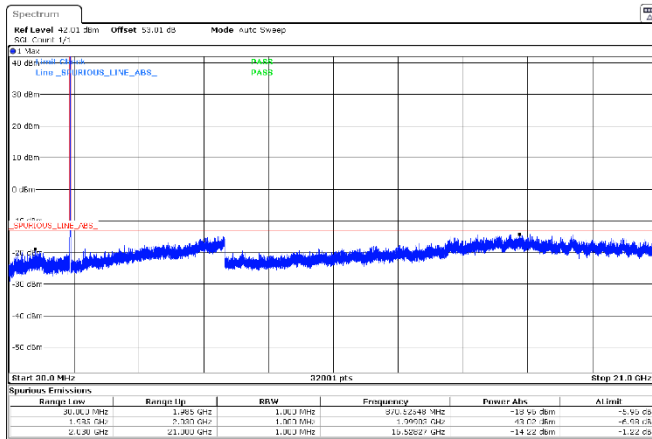


Section 8
Test name
Specification

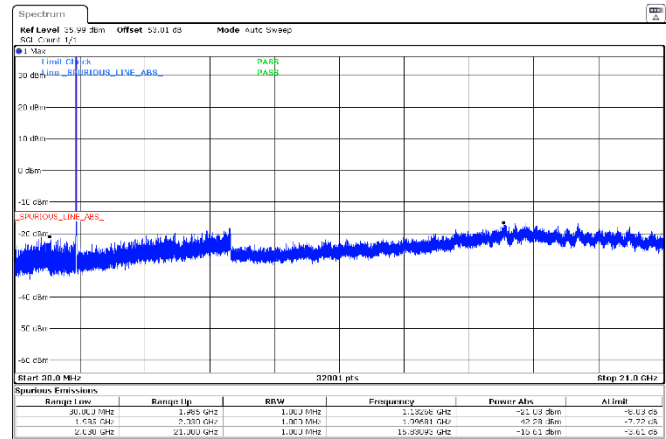
Testing data
FCC 27.53(g), (h) Emission limits
FCC Part 27



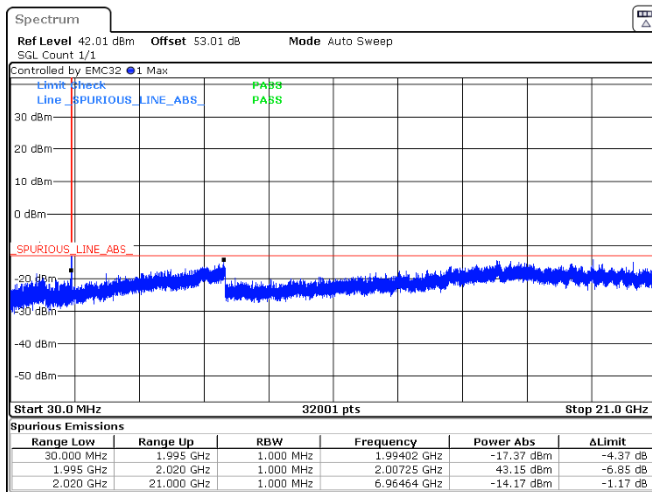
Band n70 plots



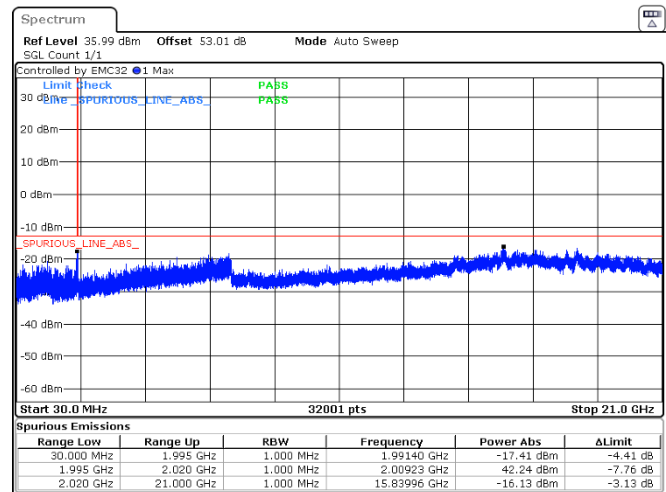
Spurious emissions, TX 1967.5 MHz, BW 5MHz, MOD: QPSK



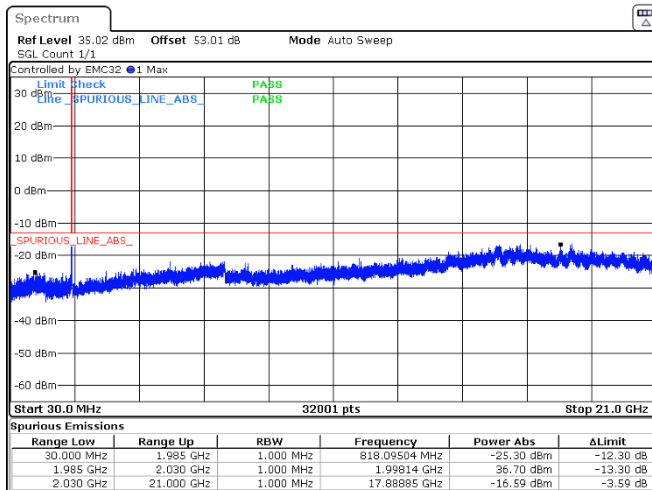
Spurious emissions, TX 2005 MHz, BW 20MHz, MOD: QPSK



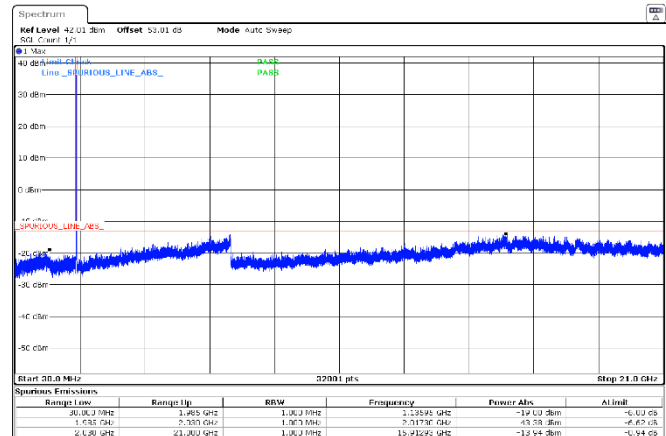
Spurious emissions, TX 2007.5 MHz, BW 5MHz, MOD: QPSK



Spurious emissions, TX 2007.5 MHz, BW 20MHz, MOD: QPSK



Spurious emissions, TX 2007.5 MHz, BW 25MHz, MOD: QPSK



Spurious emissions, TX 2017.5 MHz, BW 5MHz, MOD: QPSK