TRANSMITTER SPURIOUS EMISSIONS (CONDUCTED)

SPECIFICATIONS: FCC 47 CFR 2.1051

RSS-119 5.8

GUIDE: TIA-603-E 2.2.13 (analogue) TIA-102-CAAA-C 2.2.7 (digital)

MEASUREMENT PROCEDURE:

- 1. Refer Annex A for equipment set up.
- The frequency range examined was from the lowest frequency generated within the EUT, to a frequency higher than the 10th Harmonic: 9 kHz to Fc-BW

Fc+ BW to 10Fc (8.7 GHz)

- 3. The EUT was set to transmit high or low power. A scan is performed with a resolution bandwidth of 100 kHz and a video bandwidth of 300 kHz for frequencies up to 1 GHz, and a resolution bandwidth of 1 MHz and a video bandwidth of 3 MHz for frequencies above 1 GHz.
- 4. For frequencies close to the carrier the spectrum was measured using a resolution bandwidth of 1kHz, the results were then integrated to give measurements for 100kHz bandwidth.
- 5. A low-pass filter was used for frequencies from 1GHz to 3.6 GHz.
- 6. For each frequency range the spectrum analyser was loaded with the appropriate calibration figures to compensate for the cables, attenuator, and filter losses, allowing the emission levels to be read directly with no further calculation.
- 7. The results of the various sweeps were combined programmatically to give charts for frequencies near the carrier, up to 1GHz and above 1GHz.

The calibrations are loaded as an overall reference level offset plus a set of correction factors for the required frequency band.

Spurious emissions which were attenuated by more than 20 dB below the limit were not recorded.

Example of attenuation correction: (dB)

E5023 30dB 350W CK9178	32.09	
E5028 1m5 Blue 501868	0.28	
E5015 3m Blue 503429	0.65	
Total Attenuation @ 500 MHz	33.02	Sum of component attenuation (a)
Amplitude offset	33.02	(b)
Correction @ 500 MHz	0.0	(a-b)

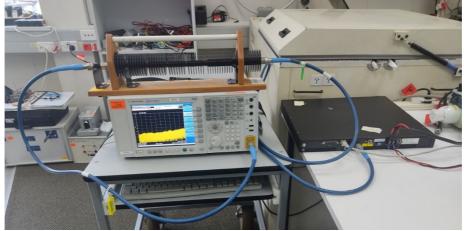
MEASUREMENT RESULTS:

See the tables and plots on the following pages for 12.5 kHz channel spacing.

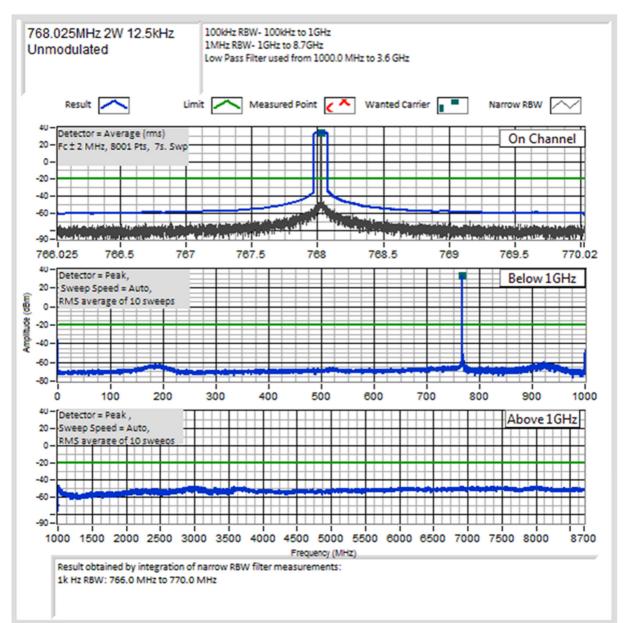
LIMIT CLAUSES: FCC 47 CFR 90.210

Photo: Conducted Emissions Test Setup

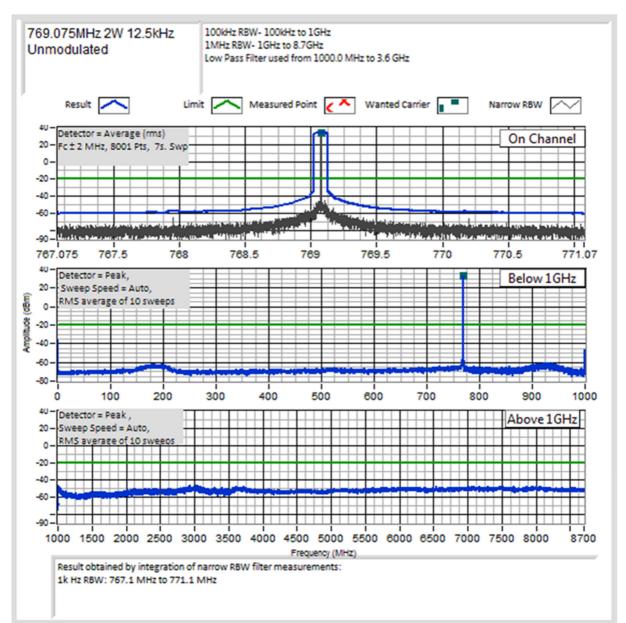
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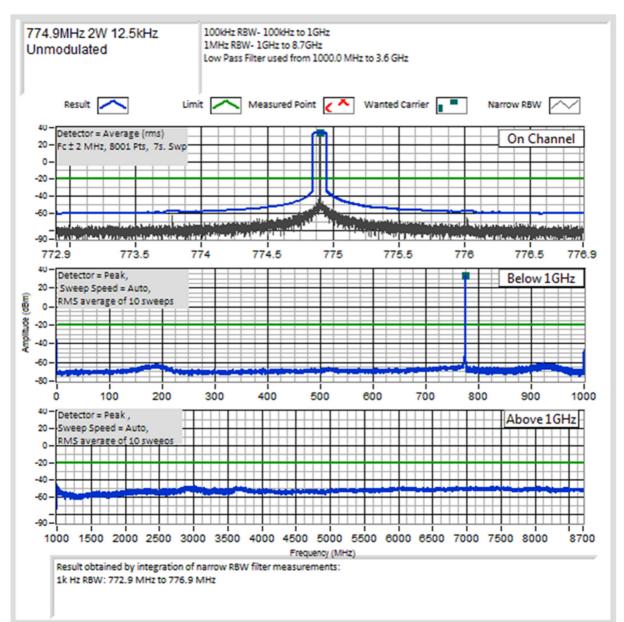
SPECIFICATION: FCC CFR 2.1051		RSS-119 5.8		
12.5 kHz Channel Spacing	768.025 MHz @ 35 W	Emission Mask D		
Emission Frequency (MHz)	Level (dBm)	Level (dBc)		
~	~	~		
12.5 kHz Channel Spacing	768.025 MHz @ 2 W	Emission Mask D		
Emission Frequency (MHz)	Level (dBm)	Level (dBc)		
~	~	~		
Measurement Uncertainty:	≤12.75 GHz	± 3.0 dB		
No emissions were	detected at a level greater than 20	dB below the limit.		
100.0201112.001112.01012	00kHz RBW- 100kHz to 1GHz MHz RBW- 1GHz to 8.7GHz			
li	ow Pass Filter used from 1000.0 MHz to 3.6 GHz			
Result Limit Measured Point Wanted Carrier Narrow RBW				
50 - Detector = Average (rms)		On Channel		
25 - Fc ± 2 MHz, 8001 Pts, 7s. Swp-				
-25-				
-50-				
768.025 768.5 767	767.5 768 768.5	769 769.5 770.02		
60 - Detector = Peak,		Below 1GHz		
40 - Sweep Speed = Auto,				
aportudou - 20				
₹ -40- -60-				
-80-				
	00 400 500 600	700 800 900 1000		
Detector = Peak , 25 _ Sweep Speed = Auto,		Above 1GHz		
RMS average of 10 sweeps				
-25 -				
-50-				
-75 -				
-90				
Frequency (MHz)				
Result obtained by integration of narrow RBW filter measurements: 1k Hz RBW: 766.0 MHz to 770.0 MHz				
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SPECIFICATION: FCC CFR 2.1051		RSS-119 5.8
12.5 kHz Channel Spacing	769.075 MHz @ 35 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
12.5 kHz Channel Spacing	769.075 MHz @ 2 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
Measurement Uncertainty:	≤12.75 GHz	± 3.0 dB
No emissions were	detected at a level greater than 20) dB below the limit.
Unmodulated	OKHz RBW- 100KHz to 1GHz MHz RBW- 1GHz to 8.7GHz w Pass Filter used from 1000.0 MHz to 3.6 GHz Measured Point Wanted Carr Wanted Carr	On Channel
-90-L	768.5 769 769.5	770 770.5 771.07
60 - Detector = Peak, 40 - Sweep Speed = Auto, 20 - RMS average of 10 sweeps 0 - - -20 - - -40 - -		Below 1GHz
-60	ألقاء ودعلا فخدن فخدد	
		700 800 900 1000
SU - Detector = Peak , 25 - Sweep Speed = Auto, RMS average of 10 sweeps 0 - -25 - -50 - -75 - -90 -		Above 1GHz
1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8700		



SPECIFICATION: FCC C	CFR 2.1051	RSS-119 5.8
12.5 kHz Channel Spacing	774.9 MHz @ 35 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
12.5 kHz Channel Spacing	774.9 MHz @ 2 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
Measurement Uncertainty:	≤12.75 GHz	± 3.0 dB
-	re detected at a level greater than 20	dB below the limit.
774.9MHz 35W 12.5kHz 100kHz RBW- 100kHz to 1GHz Unmodulated 1MHz RBW- 1GHz to 8.7GHz Low Pass Filter used from 1000.0 MHz to 3.6 GHz Result Imit Measured Point Wanted Carrier Narrow RBW		
Obstector = Average (rms) 25 - Fc ± 2 MHz, 8001 Pts, 7s. Swp 0 - -25 - -50 - -75 -		On Channel
772.9 773.5 7	74 774.5 775 775.5	776 776.5 776.9
60 - Detector = Peak, 40 - Sweep Speed = Auto, 20 - RMS average of 10 sweeps		Below 1GHz
0 100 200	300 400 500 600	700 800 900 1000
50 - [Detector = Peak, 25 - Sweep Speed = Auto, RMS average of 10 sweeps 0 - -25 - -50 - -50 - -75 - -90 - 1000 1500 2000 2500 -75 - -80 - -90 - 1000 1500 2000 2500 300 Result obtained by integration of fills 1k Hz RBW: 772.9 MHz to 776.9 I		Above 1GHz 6500 7000 7500 8000 8700



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SPECIFICATION: FCC CF	R 2.1051	RSS-119 5.8
12.5 kHz Channel Spacing	775.975 MHz @ 35 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
12.5 kHz Channel Spacing	775.975 MHz @ 2 W	Emission Mask D
Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
Measurement Uncertainty:	≤12.75 GHz	
No emissions were	e detected at a level greater than 20) dB below the limit.
Unmodulated	00kHz RBW- 100kHz to 1GHz MHz RBW- 1GHz to 8.7GHz ow Pass Filter used from 1000.0 MHz to 3.6 GHz Measured Point Wanted Carr Wanted Carr 775.5 776 778.5	ier Narrow RBW
40 - Detector = Peak, 40 - Sweep Speed = Auto,		Below 1GHz
20-RMS average of 10 sweeps 0- -20- -40- -40- -60- -80- -0 100 200 3 SU- Detector = Peak , 25- Sweep Speed = Auto, RMS average of 10 sweeps		700 800 900 1000
-50 -		
-75	┝╾┫╾╾╴┫╌╴╴┫╴╴╴╴┫╴╴╴╴┫╴╴╴	

