





8.4. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §27.53

LIMITS

Part 27.53:

(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

- a) Set the RBW = 100kHz for emission below 1GHz and 1MHz for emissions above 1GHz (Tests were performed 1MHz [Worst case], to sweep 1 time for all frequency range)
- b) Set VBW $\geq 3 \times$ RBW
- c) Sweep time = auto couple;
- d) Detector = RMS;
- e) Ensure that the number of measurement points = Max (40001);
- f) Trace mode = Average(FDD), Max hold(TDD);

RESULTS

See the following pages.

8.4.1. OUT OF BAND EMISSIONS RESULT

LTE Band 41C (UL CA)



9. RADIATED TEST RESULTS

9.1. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §27.53

LIMITS

Part 27.53:

(m) (4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

- a) Set the RBW = 100kHz for emission below 1GHz and 1MHz for emissions above 1GHz
(Tests were performed 1MHz [Worst case], to sweep 1 time for all frequency range)
- b) Set VBW $\geq 3 \times$ RBW
- c) Sweep time = auto couple;
- d) Detector = RMS;
- e) Ensure that the number of measurement points = Max (40001);
- f) Trace mode = Average(FDD), Max hold(TDD);

9.1.1. SPURIOUS RADIATION

LTE Band 41C (UL CA)

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
20MHz + 10MHz QPSK	Company: Samsung										
	Project #: 4790047184										
	Date: 8/26/2021										
	Test Engineer: 22943										
	Configuration: EUT / AC Adapter, Y-Position										
	Location: Chamber 2										
	Mode: LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth										
	Test Voltage: AC 120 V, 60 Hz										
	Low Ch, PCC : 2506MHz SCC : 2520.4MHz										
		5031.40	-16.6	V	3.0	42.8	1.0	-58.4	-25.0	-33.4	
		7547.10	-7.7	V	3.0	42.4	1.0	-49.1	-25.0	-24.1	
		10062.80	-14.1	V	3.0	40.9	1.0	-54.0	-25.0	-29.0	
		5031.40	-13.8	H	3.0	42.8	1.0	-55.6	-25.0	-30.6	
		7547.10	-5.5	H	3.0	42.4	1.0	-46.9	-25.0	-21.9	
		10062.80	-13.8	H	3.0	40.9	1.0	-53.7	-25.0	-28.7	
	Mid Ch, PCC : 2588.1MHz SCC : 2602.5MHz										
		5195.60	-17.0	V	3.0	42.8	1.0	-58.8	-25.0	-33.8	
		7793.40	-16.9	V	3.0	42.3	1.0	-58.2	-25.0	-33.2	
		10391.20	-13.9	V	3.0	41.0	1.0	-53.9	-25.0	-28.9	
		5195.60	-13.5	H	3.0	42.8	1.0	-55.3	-25.0	-30.3	
		7793.40	-17.4	H	3.0	42.3	1.0	-58.7	-25.0	-33.7	
		10391.20	-13.9	H	3.0	41.0	1.0	-53.9	-25.0	-28.9	
	High Ch, PCC : 2670.1MHz SCC : 2684.5MHz										
		5359.60	-17.4	V	3.0	42.9	1.0	-59.3	-25.0	-34.3	
		8039.40	-16.8	V	3.0	42.2	1.0	-58.0	-25.0	-33.0	
		10719.20	-12.6	V	3.0	41.2	1.0	-52.8	-25.0	-27.8	
		5359.60	-16.2	H	3.0	42.9	1.0	-58.1	-25.0	-33.1	
		8039.40	-17.0	H	3.0	42.2	1.0	-58.2	-25.0	-33.2	
		10719.20	-12.6	H	3.0	41.2	1.0	-52.7	-25.0	-27.7	

END OF TEST REPORT