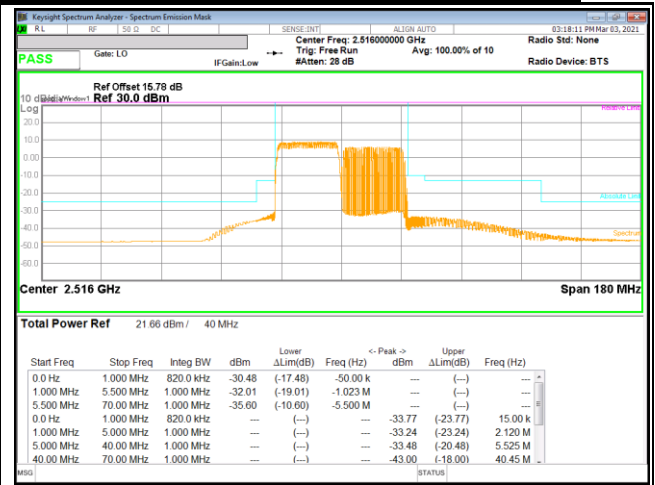
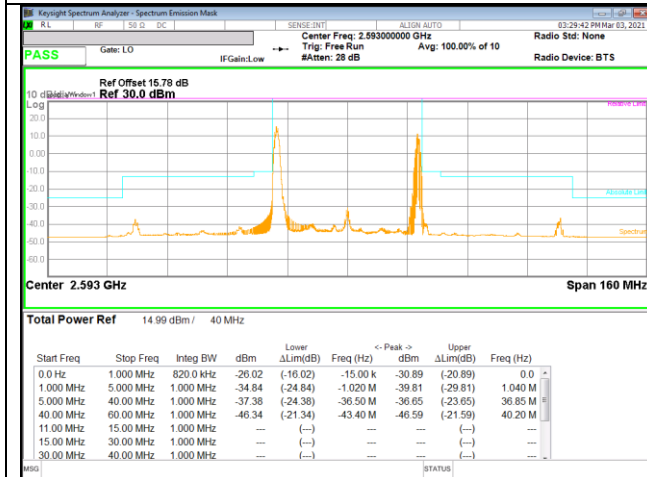


LTE B41 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



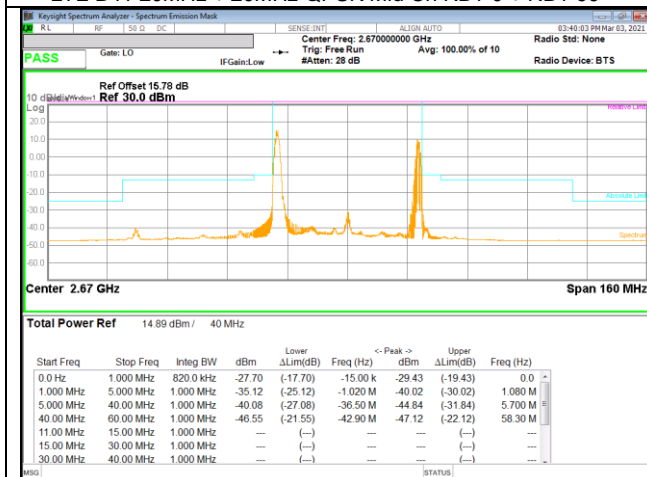
LTE B41 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



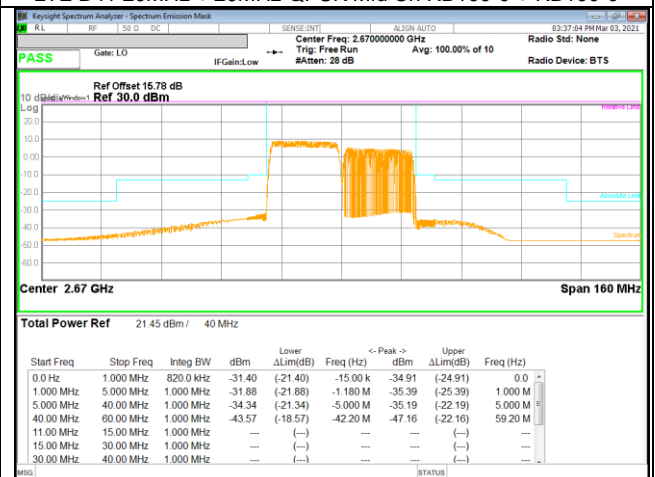
LTE B41 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



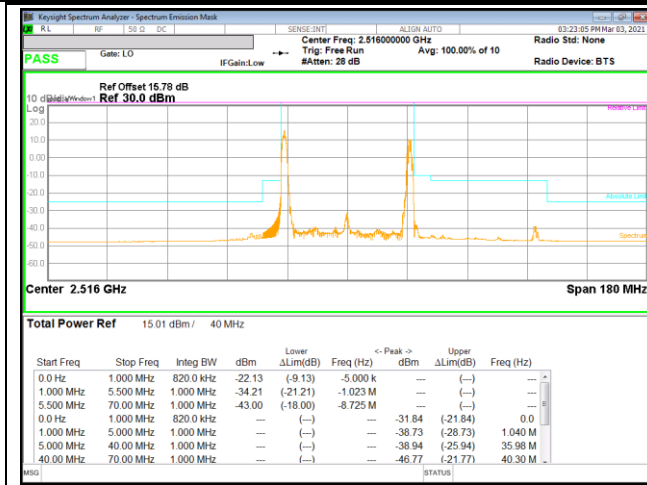
LTE B41 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



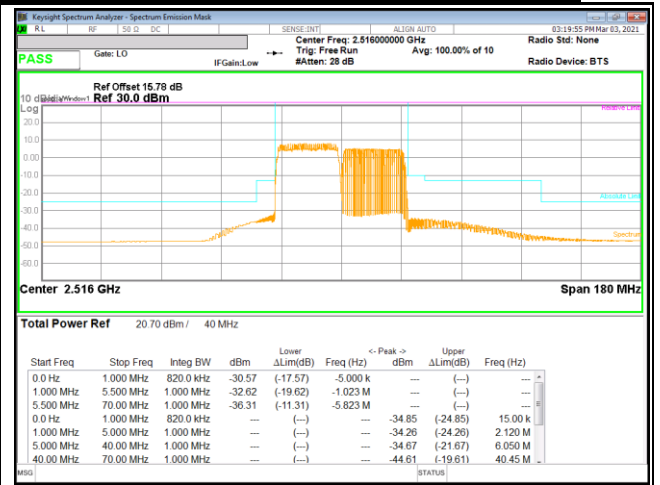
LTE B41 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



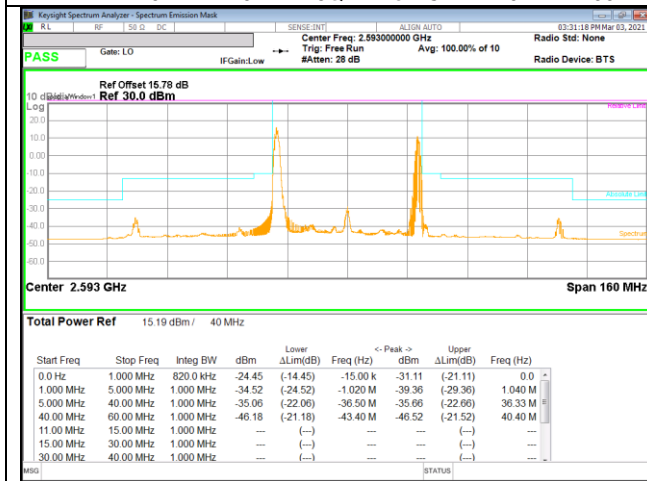
LTE B41 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



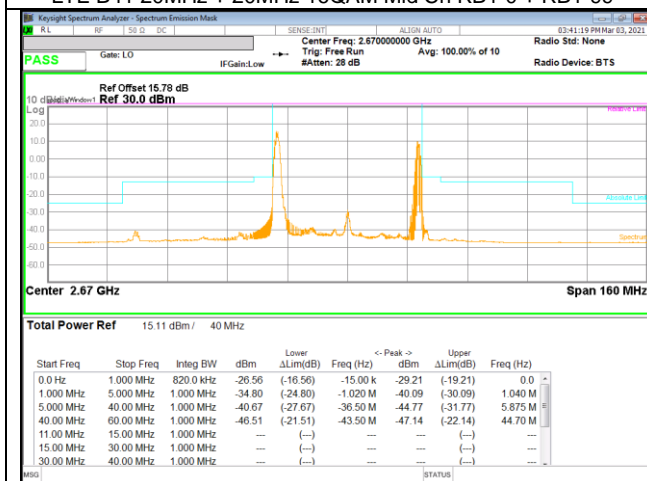
LTE B41 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



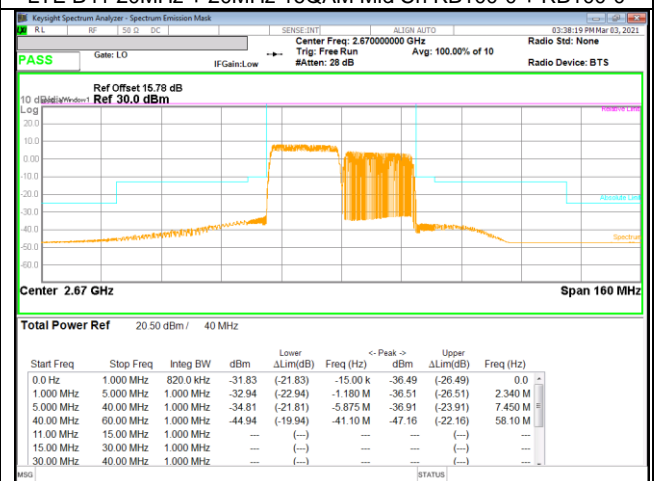
LTE B41 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



LTE B41 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



LTE B41 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

## 8.4. OUT OF BAND EMISSIONS

### RULE PART(S)

FCC: §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)



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## 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**

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
<b>Company:</b>		Samsung							
<b>Project #:</b>		4789793179							
<b>Date:</b>		2021-03-03							
<b>Test Engineer:</b>		22943							
<b>Configuration:</b>		EUT / AC Adapter / Earphone, Z-Position							
<b>Location:</b>		Chamber 1							
<b>Mode:</b>		LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth							
<b>Test Voltage:</b>		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch. PCC : 2501.3MHz SCC : 2513.3MHz									
5012.10	-19.2	V	3.0	45.5	1.0	-63.7	-25.0	-38.7	
7518.15	-11.6	V	3.0	44.1	1.0	-54.8	-25.0	-29.8	
10024.20	-7.2	V	3.0	42.2	1.0	-48.4	-25.0	-23.4	
12530.25	-3.2	V	3.0	43.3	1.0	-45.6	-25.0	-20.6	
15036.30	-8.7	V	3.0	45.3	1.0	-53.1	-25.0	-28.1	
5012.10	-18.6	H	3.0	45.5	1.0	-63.1	-25.0	-38.1	
7518.15	-11.1	H	3.0	44.1	1.0	-54.3	-25.0	-29.3	
10024.20	-6.0	H	3.0	42.2	1.0	-47.3	-25.0	-22.3	
12530.25	-0.7	H	3.0	43.3	1.0	-43.0	-25.0	-18.0	
15036.30	-9.2	H	3.0	45.3	1.0	-53.6	-25.0	-28.6	
Low Ch. PCC : 2585.9MHz SCC : 2597.9MHz									
5181.30	-19.1	V	3.0	45.4	1.0	-63.5	-25.0	-38.5	
7771.95	-10.4	V	3.0	44.0	1.0	-53.5	-25.0	-28.5	
10362.60	-4.9	V	3.0	42.4	1.0	-46.2	-25.0	-21.2	
12953.25	2.9	V	3.0	43.7	1.0	-39.8	-25.0	-14.8	
15543.90	-9.1	V	3.0	44.7	1.0	-52.8	-25.0	-27.8	
5181.30	-18.6	H	3.0	45.4	1.0	-63.0	-25.0	-38.0	
7771.95	-11.1	H	3.0	44.0	1.0	-54.2	-25.0	-29.2	
10362.60	-5.4	H	3.0	42.4	1.0	-46.7	-25.0	-21.7	
12953.25	1.2	H	3.0	43.7	1.0	-41.5	-25.0	-16.5	
15543.90	-9.3	H	3.0	44.7	1.0	-53.0	-25.0	-28.0	
Low Ch. PCC : 2670.5MHz SCC : 2682.5MHz									
5350.50	-18.3	V	3.0	45.4	1.0	-62.7	-25.0	-37.7	
8025.75	-9.9	V	3.0	43.9	1.0	-52.7	-25.0	-27.7	
10701.00	-9.6	V	3.0	42.5	1.0	-51.1	-25.0	-26.1	
13376.25	-1.8	V	3.0	44.0	1.0	-44.8	-25.0	-19.8	
16051.50	-8.4	V	3.0	44.1	1.0	-51.6	-25.0	-26.6	
5350.50	-18.0	H	3.0	45.4	1.0	-62.4	-25.0	-37.4	
8025.75	-11.2	H	3.0	43.9	1.0	-54.0	-25.0	-29.0	
10701.00	-7.4	H	3.0	42.5	1.0	-48.9	-25.0	-23.9	
13376.25	-3.6	H	3.0	44.0	1.0	-46.6	-25.0	-21.6	
16051.50	-8.5	H	3.0	44.1	1.0	-51.7	-25.0	-26.7	

LTE  
 Band 41  
 10-15MHz  
 QPSK

**END OF TEST REPORT**