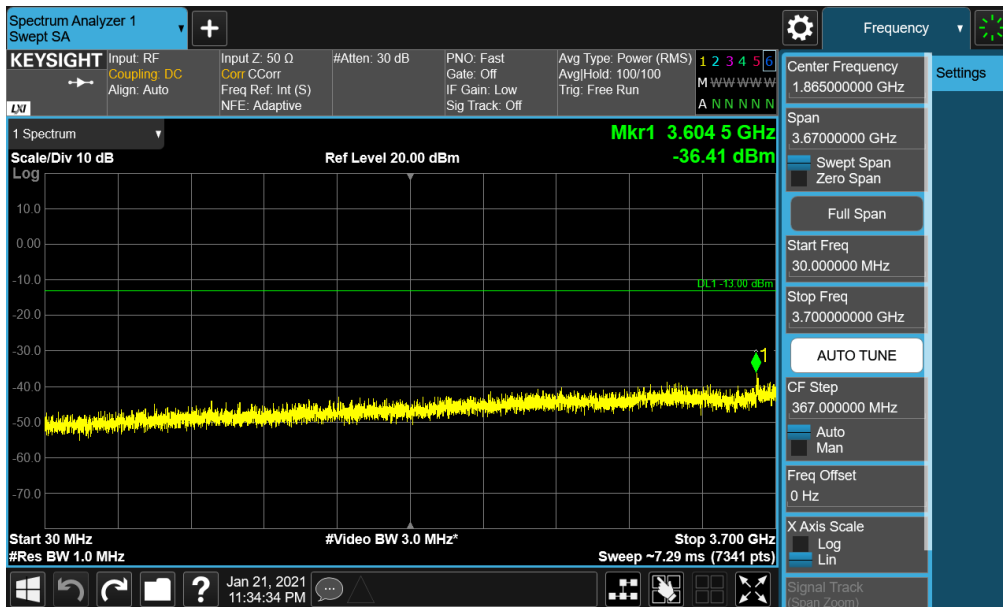
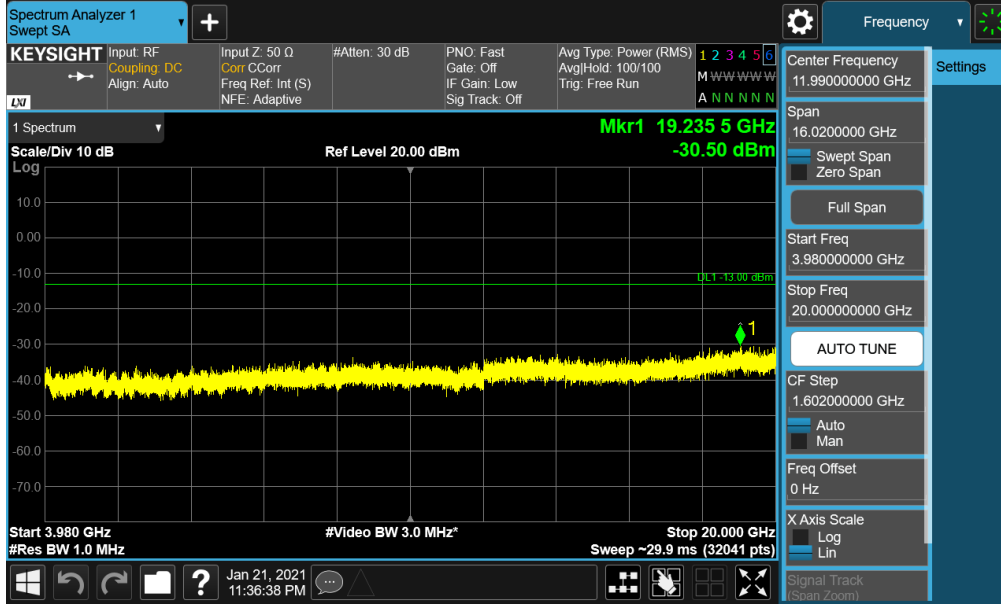


Plot 7-93. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

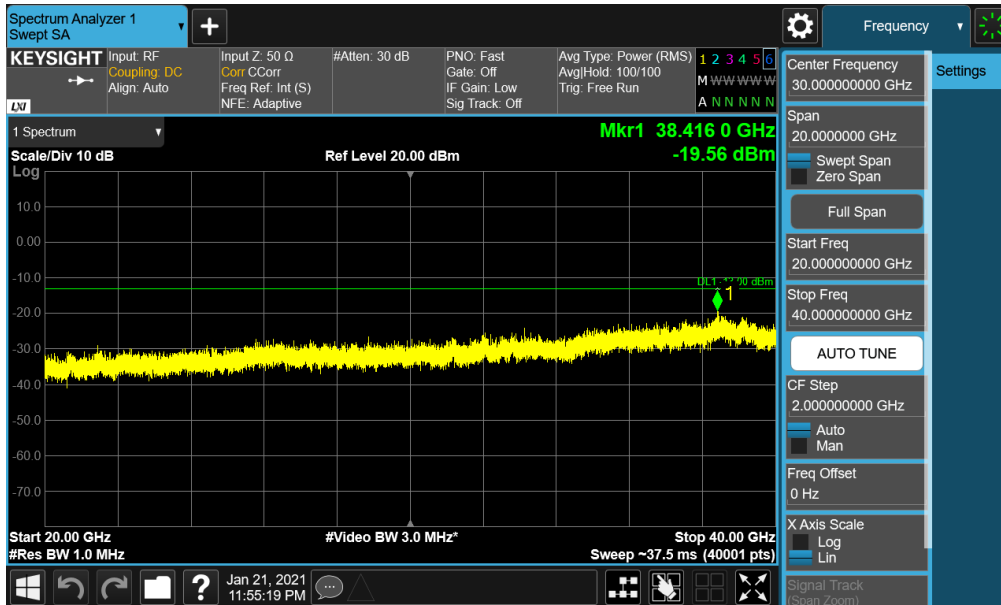


Plot 7-94. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 64 of 127

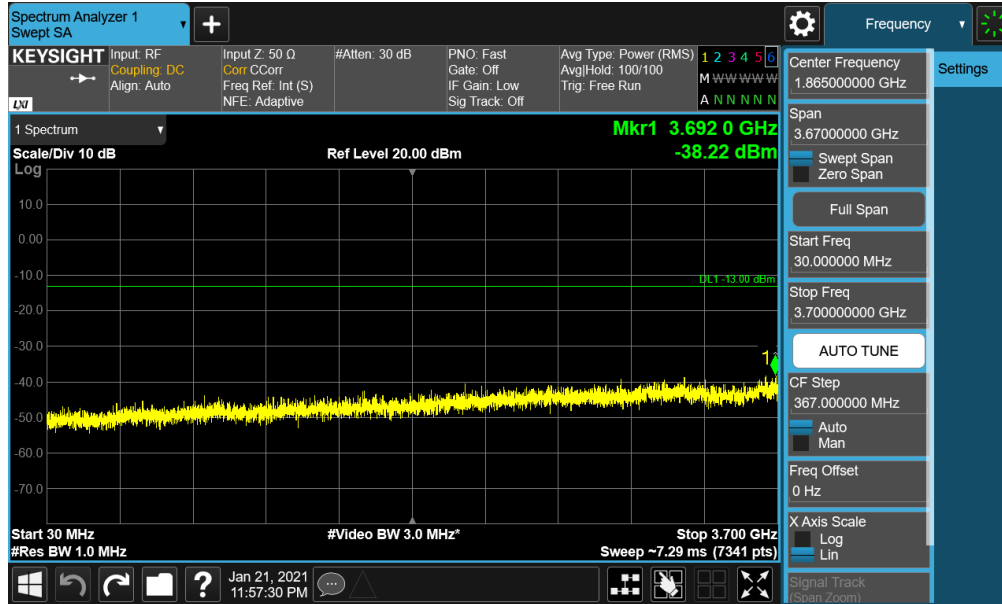


Plot 7-95. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

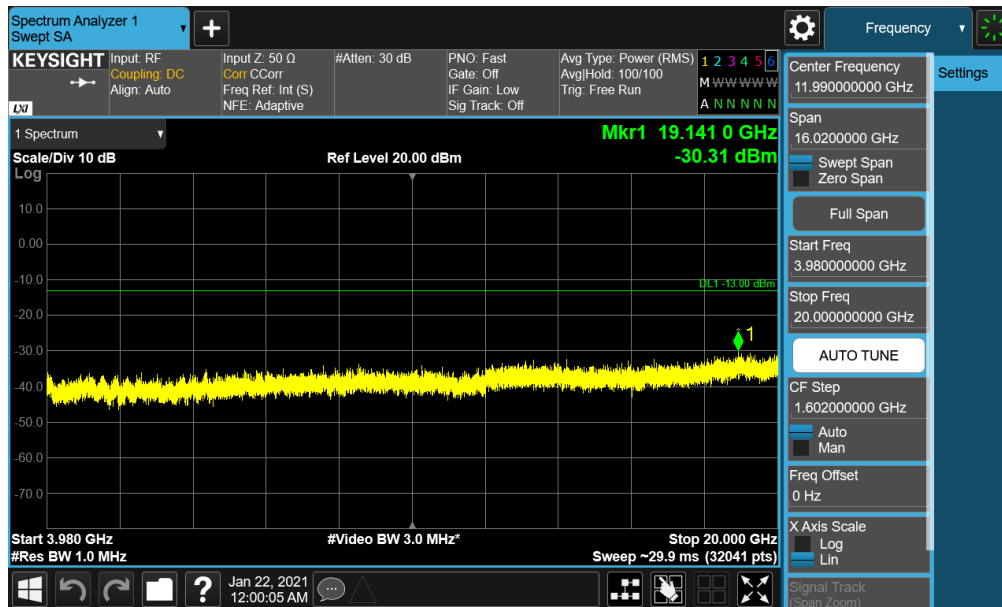


Plot 7-96. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 65 of 127

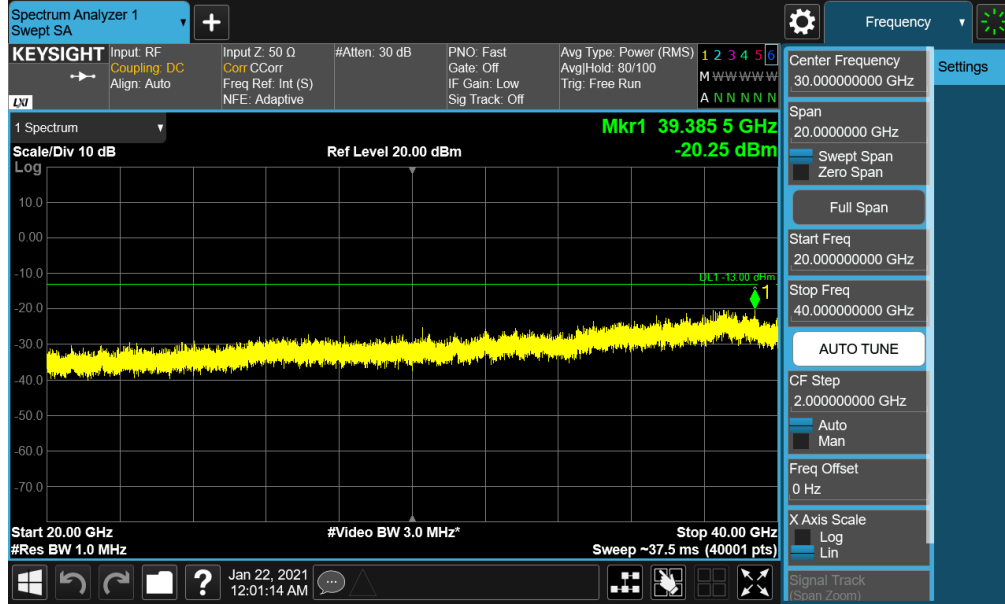


Plot 7-97. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-98. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

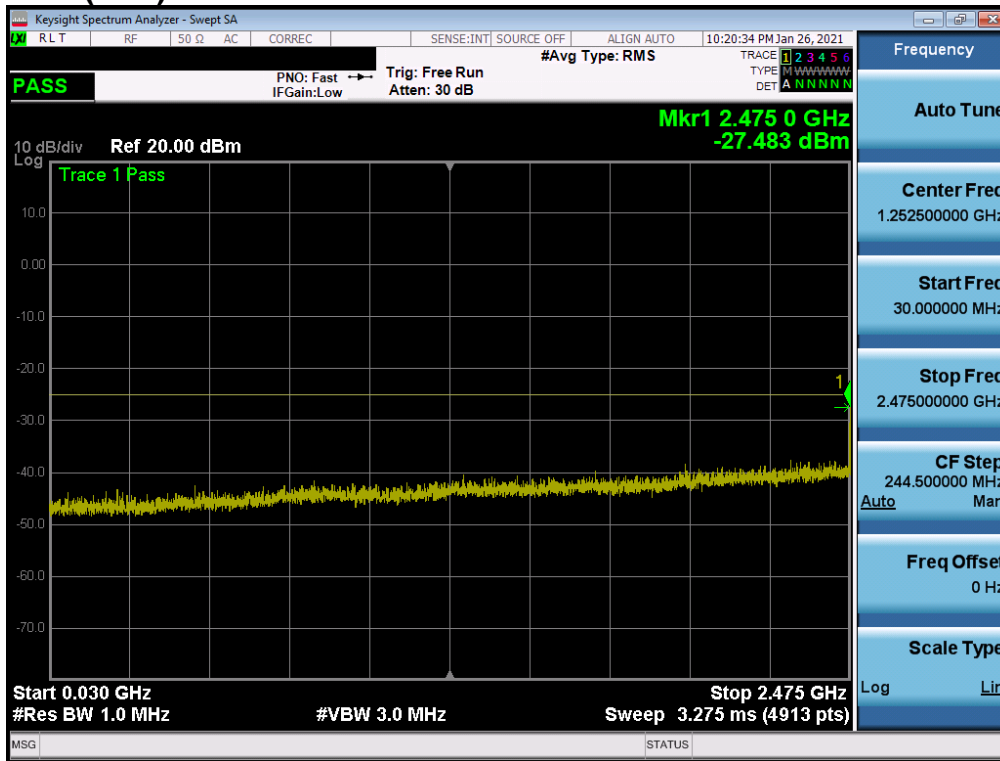
FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 66 of 127



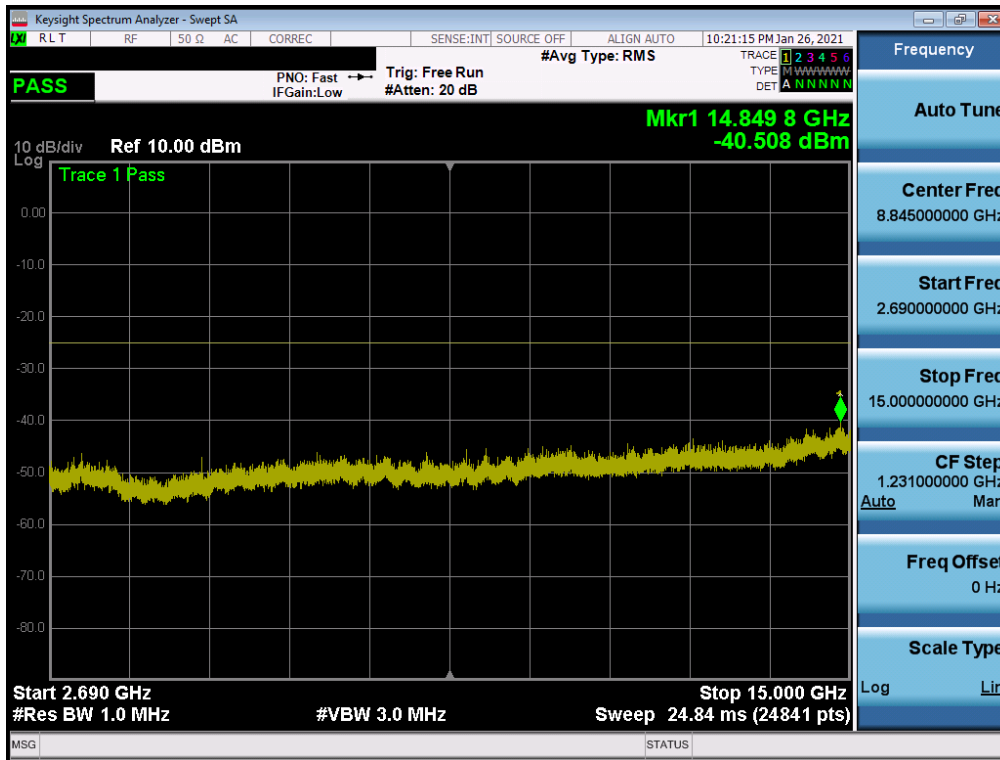
Plot 7-99. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2101040001-25-R2.A3L	<b>Test Dates:</b> 1/08 - 2/19/2021	<b>EUT Type:</b> Portable Handset		Page 67 of 127

## ULCA - LTE B41(PC2)

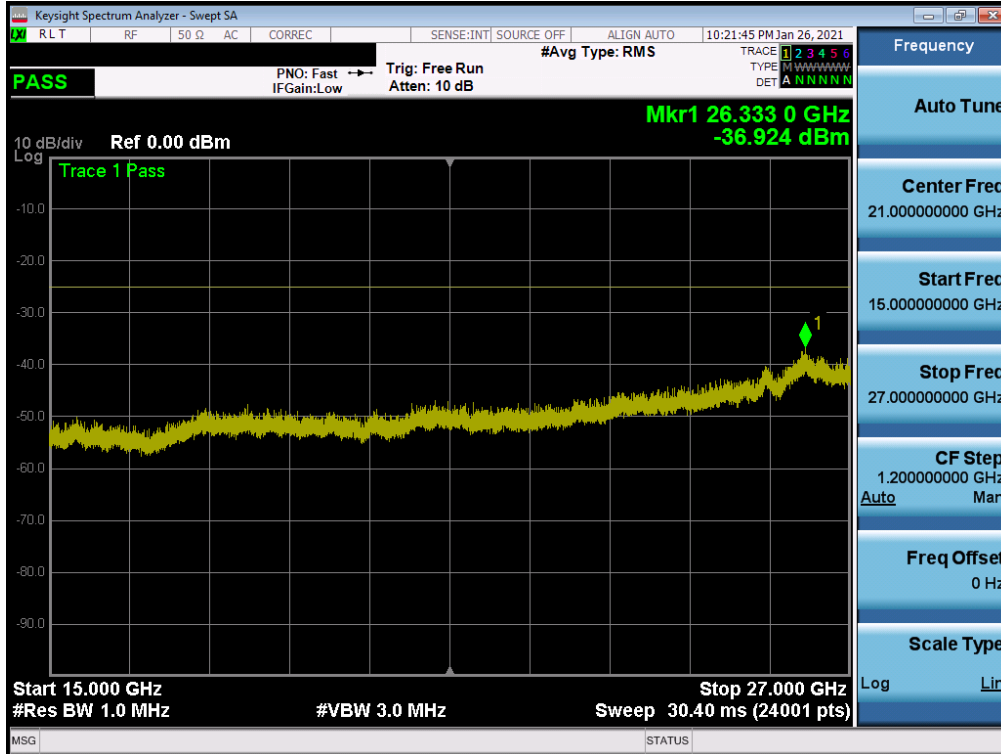


Plot 7-100. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

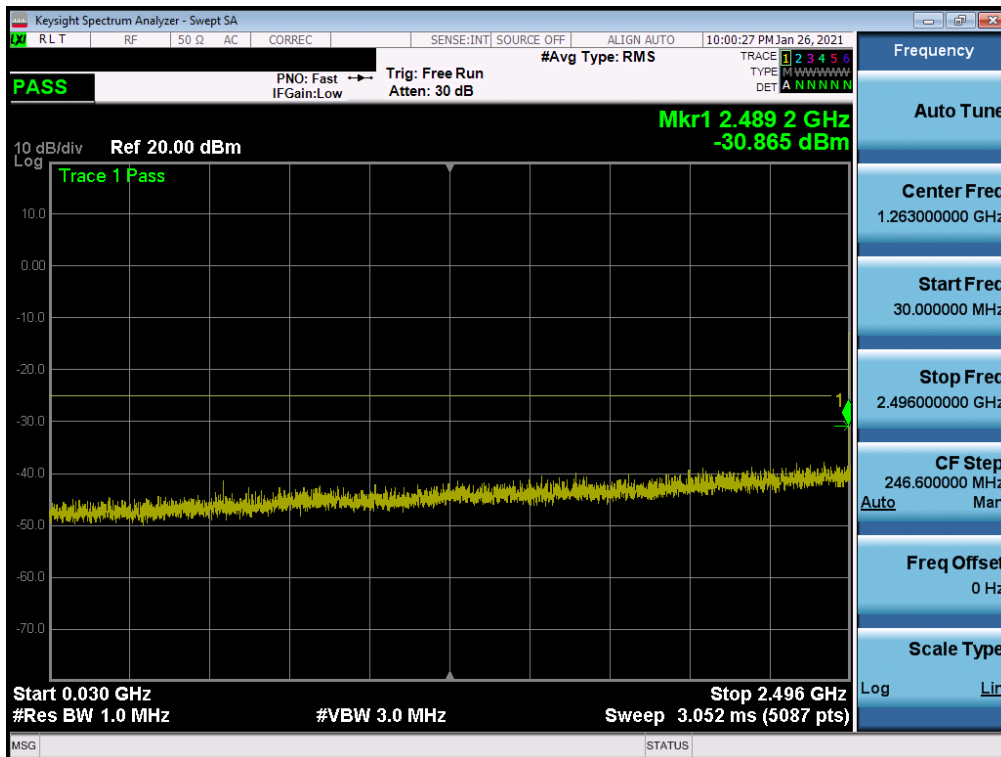


Plot 7-101. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 68 of 127



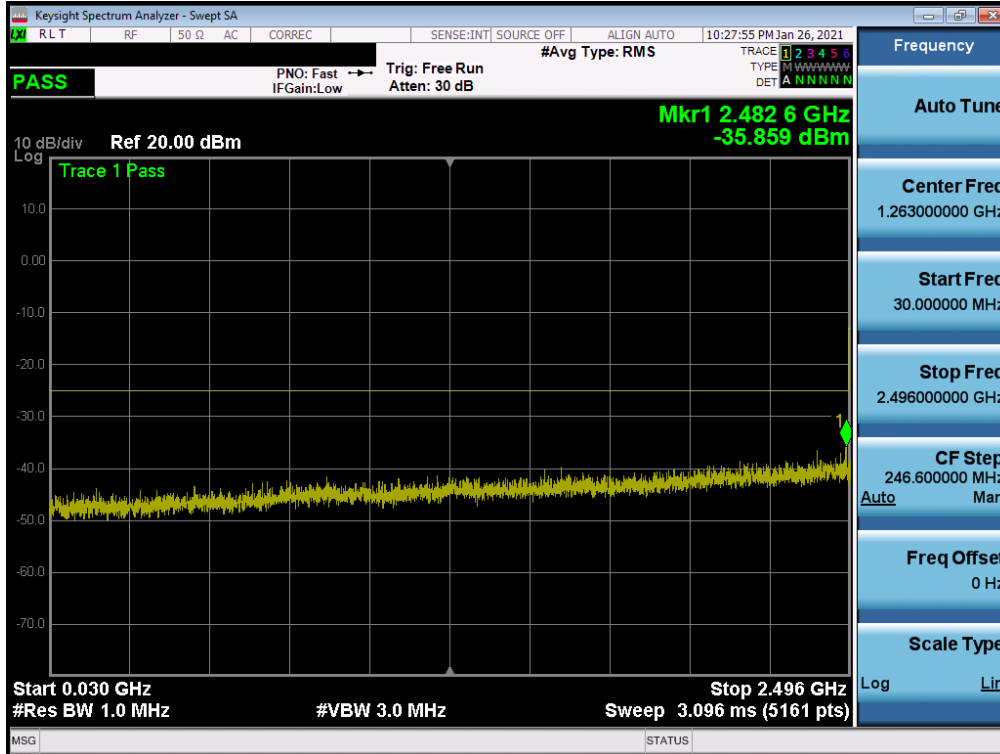
Plot 7-102. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



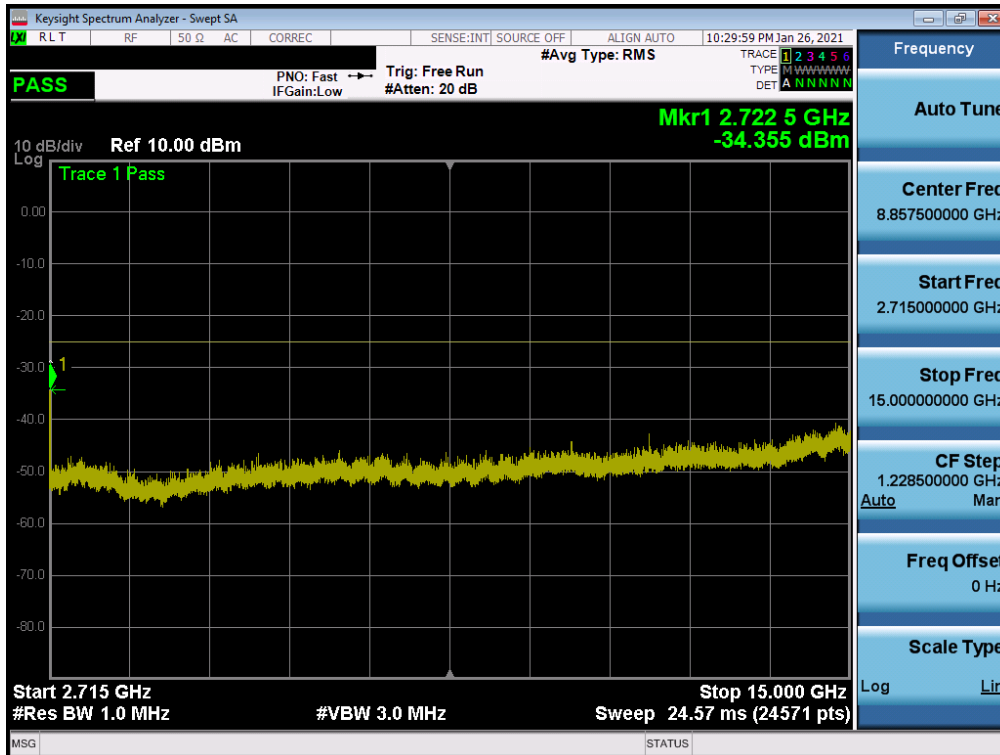
Plot 7-103. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 69 of 127





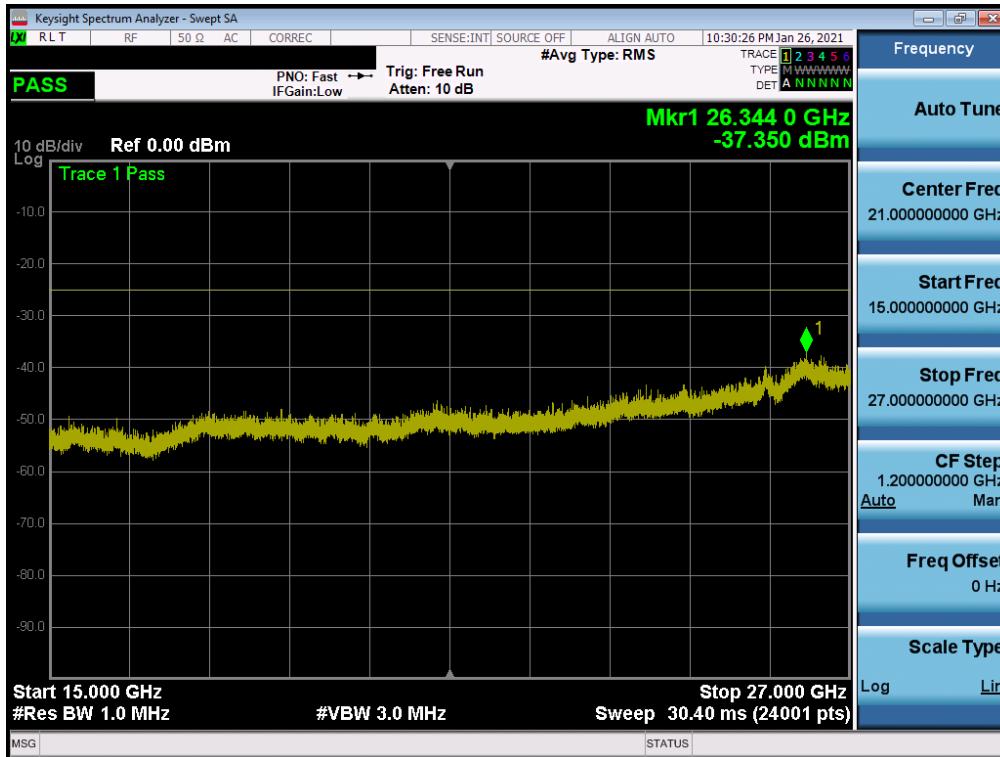
Plot 7-106. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-107. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 71 of 127





Plot 7-108. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 72 of 127

## 7.4 Band Edge Emissions at Antenna Terminal

### Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

**The minimum permissible attenuation level of any spurious emission is  $43 + 10 \log_{10}(P_{\text{Watts}})$ , where  $P$  is the transmitter power in Watts.**

**The minimum permissible attenuation level for Band 30 is  $> 43 + 10 \log_{10}(P_{\text{Watts}})$  at 2300-2305MHz & 2345-2360MHz,  $> 55 + 10 \log_{10}(P_{\text{Watts}})$  at 2320-2324MHz & 2341-2345MHz,  $> 61 + 10 \log_{10}(P_{\text{Watts}})$  at 2324-2328MHz & 2337-2341MHz,  $> 67 + 10 \log_{10}(P_{\text{Watts}})$  at 2288-2292MHz & 2328-2337MHz, and  $> 70 + 10 \log_{10}(P_{\text{Watts}})$  at frequencies  $< 2288\text{MHz}$  &  $> 2365\text{MHz}$ .**

**The minimum permissible attenuation level for Band 7 and 41 is as noted in the Test Notes on the following page.**

### Test Procedure Used

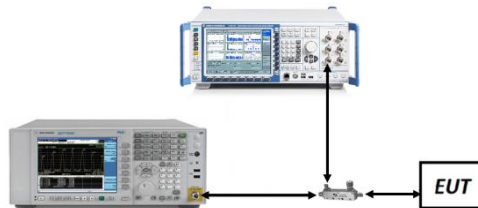
KDB 971168 D01 v03r01 – Section 6.0

### Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW  $\geq$  1% of the emission bandwidth
4. VBW  $\geq$  3 x RBW
5. Detector = RMS
6. Number of sweep points  $\geq$  2 x Span/RBW
7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
8. Sweep time = auto couple
9. The trace was allowed to stabilize

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.





**Figure 7-3. Test Instrument & Measurement Setup**

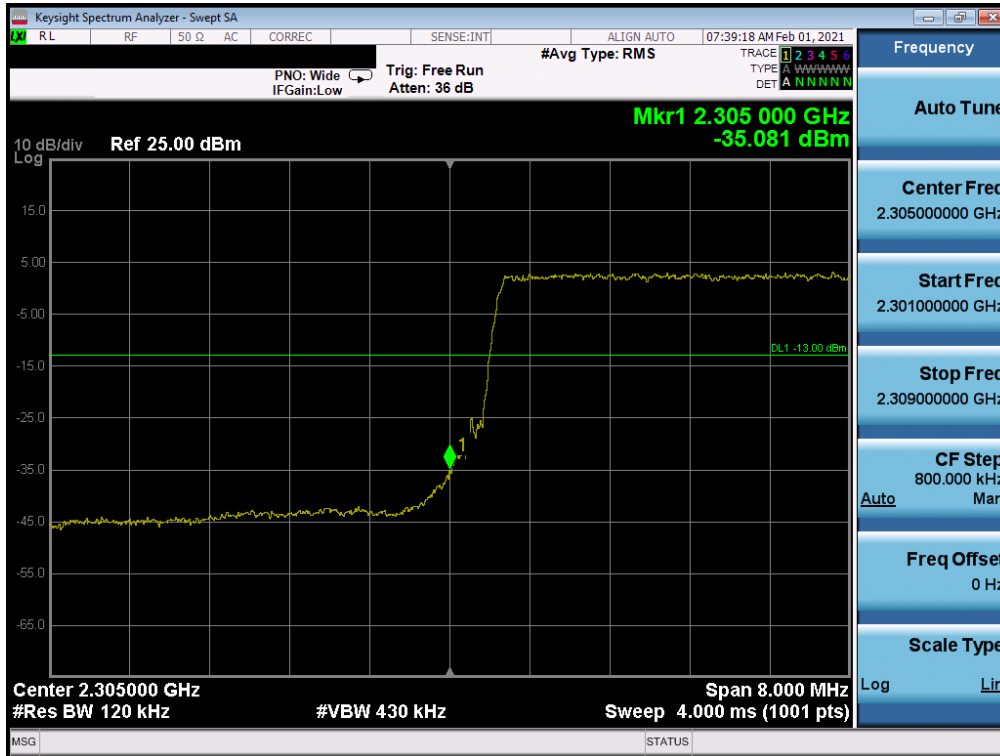
FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 73 of 127

## Test Notes

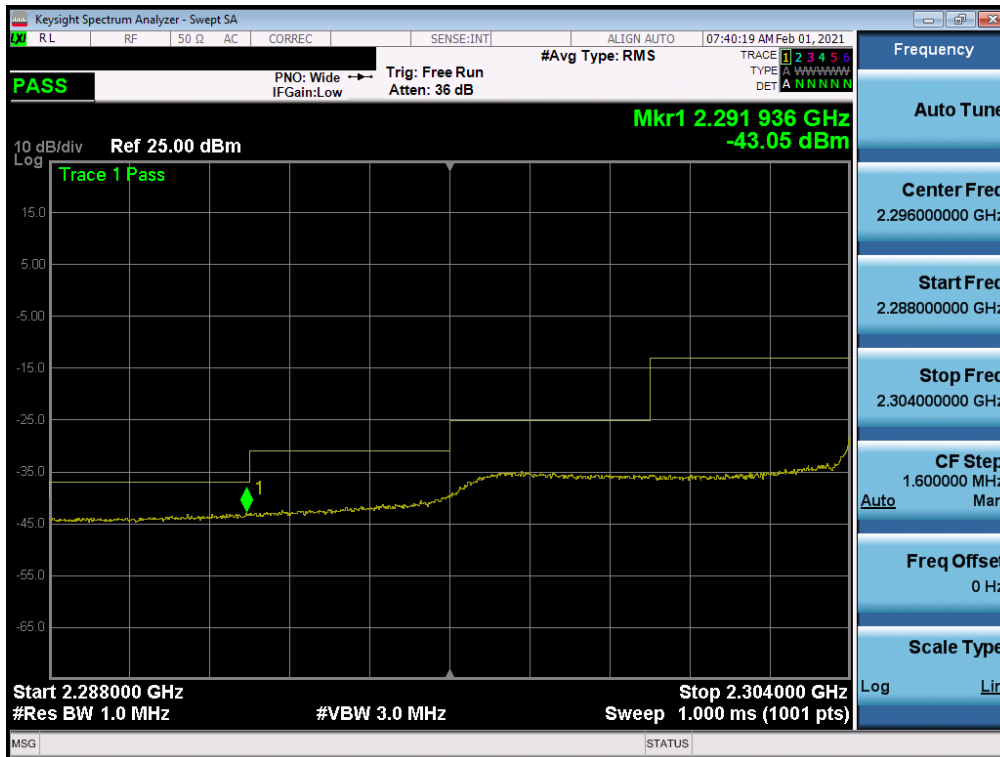
1. Per 27.53(h), in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.
2. Per 27.53(a)(5) in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e., 1 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
3. Per 27.53(m) for operations in the BRS/EBS bands, 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. In addition, the attenuation factor shall not be less that  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz.
4. For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

FCC ID: A3LSMA426U	 <b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2101040001-25-R2.A3L	<b>Test Dates:</b> 1/08 - 2/19/2021	<b>EUT Type:</b> Portable Handset		Page 74 of 127

## LTE Band 30

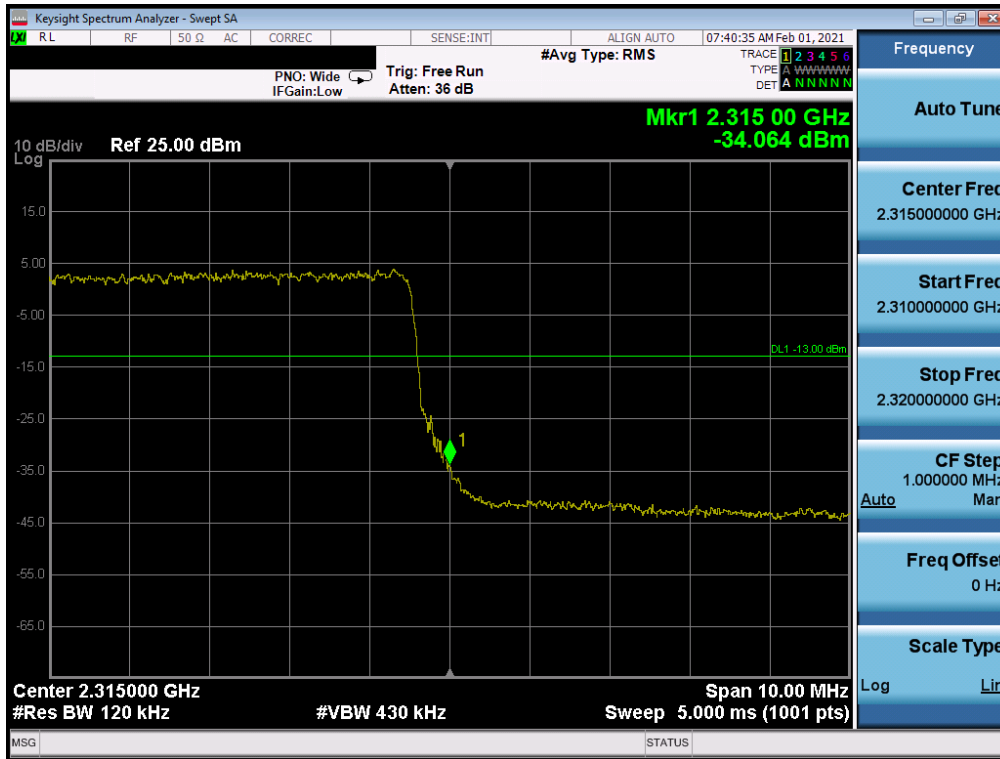


Plot 7-109. Lower Band Edge Plot (LTE Band 30 - 10MHz QPSK – Full RB)

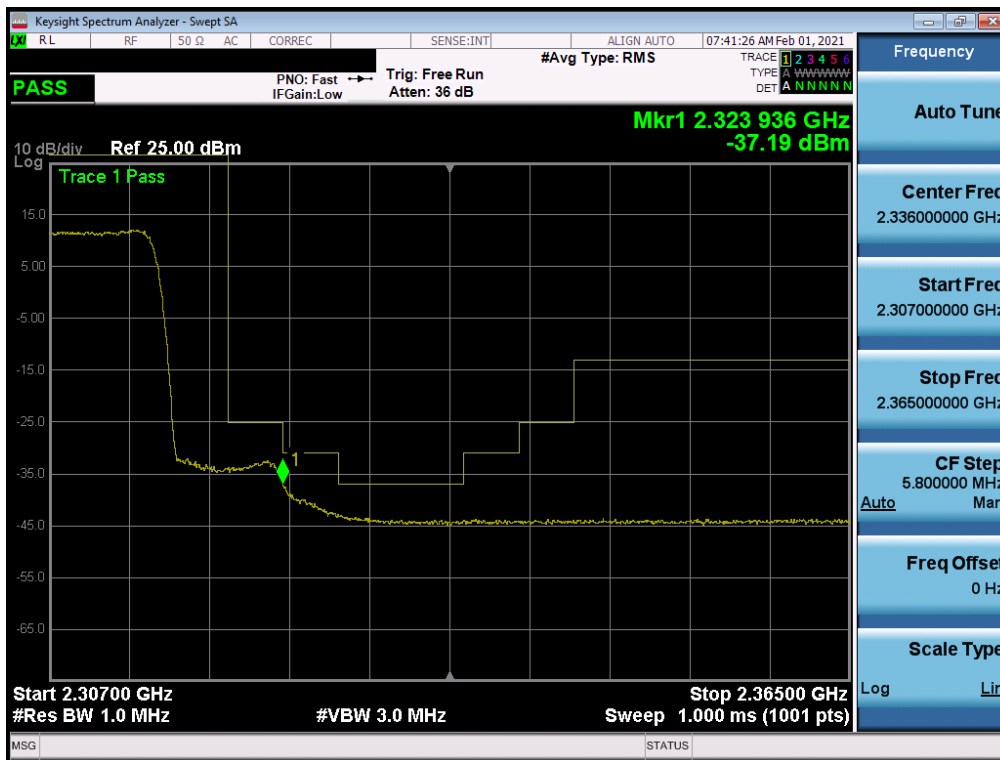


Plot 7-110. Extended Lower Band Edge Plot (LTE Band 30 - 10MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 75 of 127

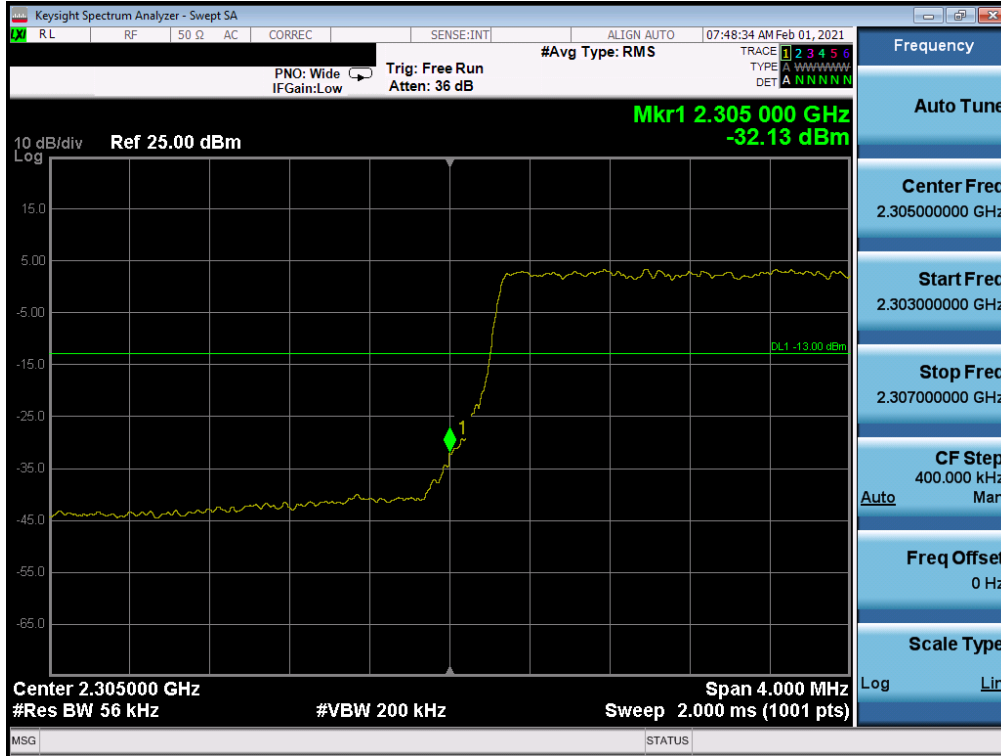


Plot 7-111. Upper Band Edge Plot (LTE Band 30 - 10MHz QPSK – Full RB)



Plot 7-112. Extended Upper Band Edge Plot (LTE Band 30 - 10MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 76 of 127



Plot 7-113. Lower Band Edge Plot (LTE Band 30 - 5MHz QPSK – Full RB)

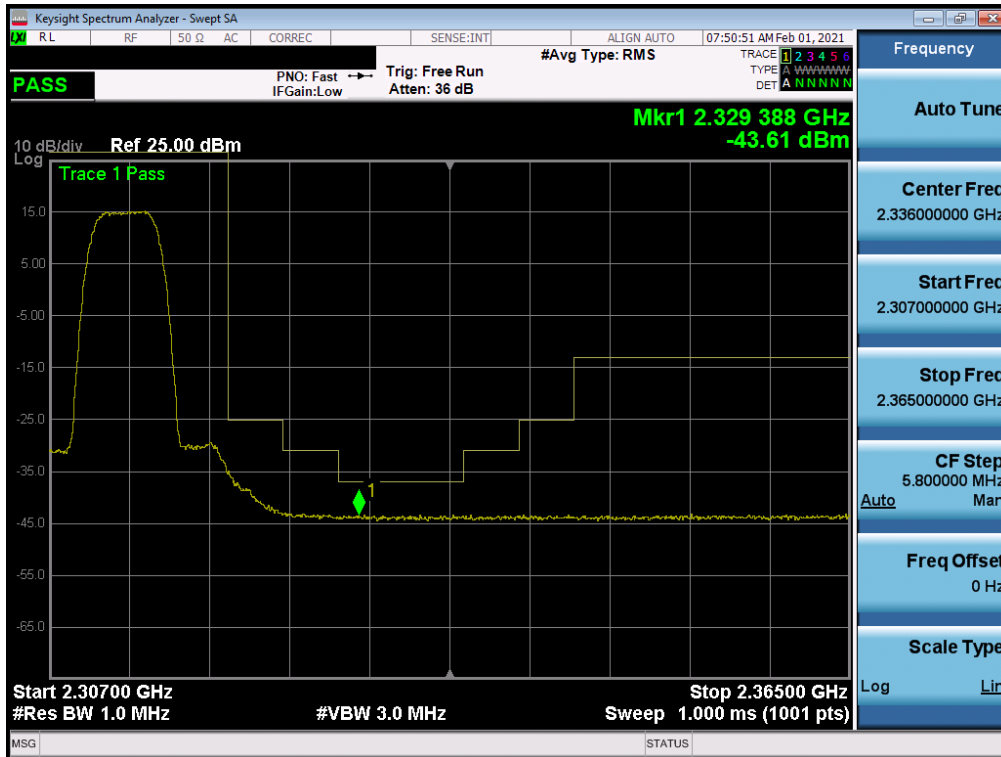


Plot 7-114. Extended Lower Band Edge Plot (LTE Band 30 - 5MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 77 of 127



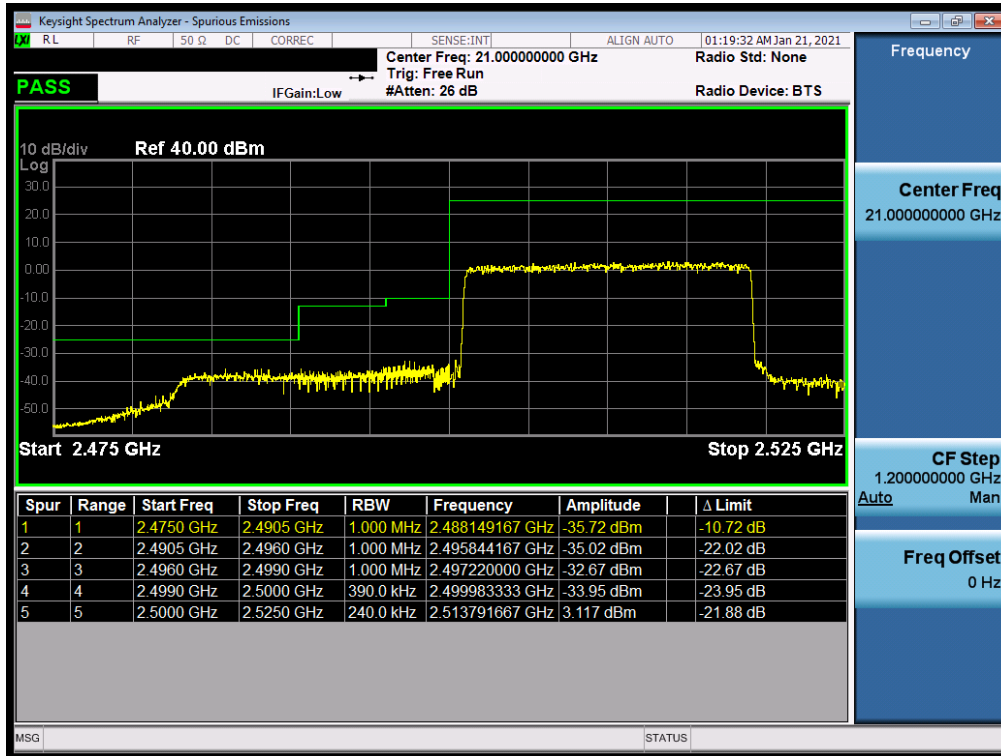
Plot 7-115. Upper Band Edge Plot (LTE Band 30 - 5MHz QPSK – Full RB)



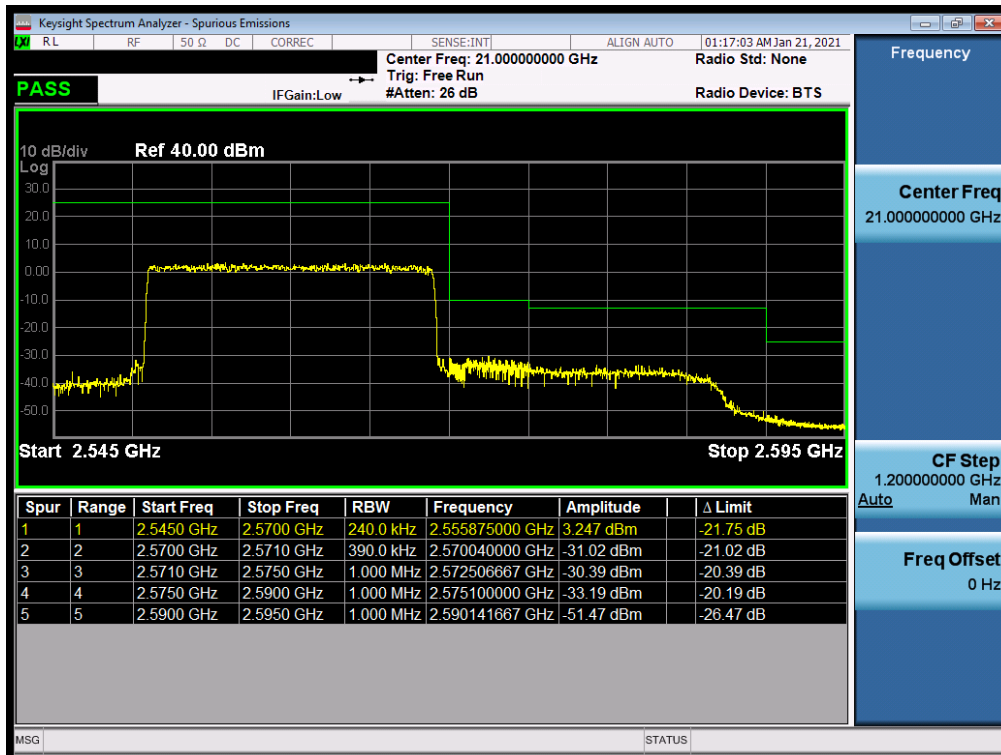
Plot 7-116. Extended Upper Band Edge Plot (LTE Band 30 - 5MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 78 of 127

# LTE Band 7



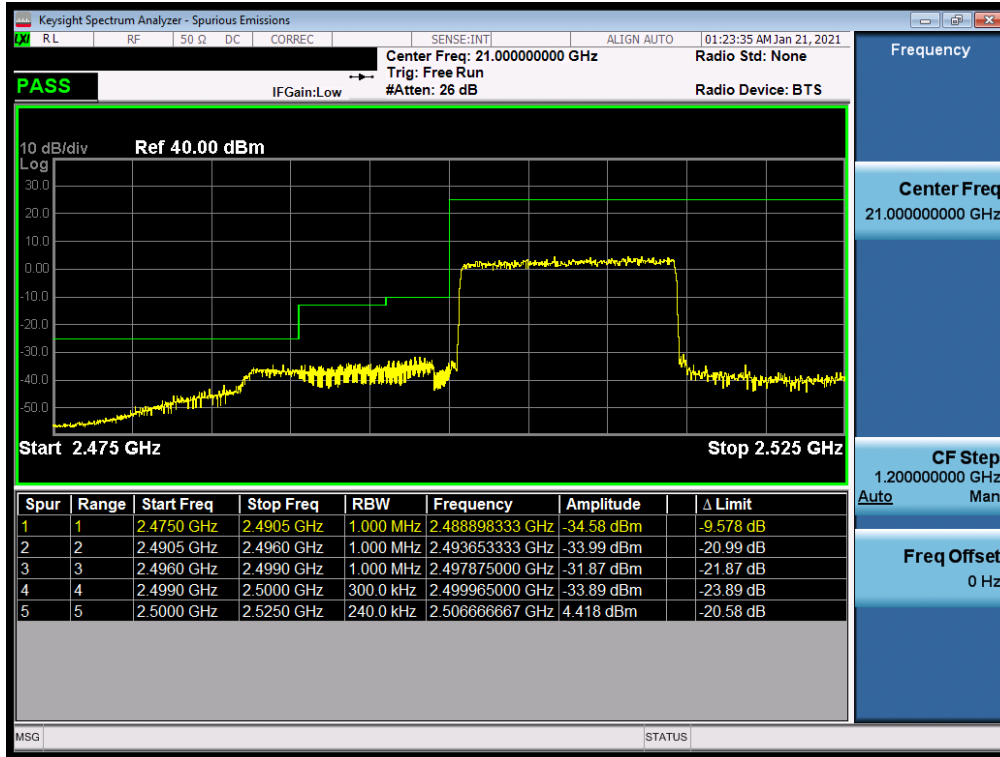
Plot 7-117. Lower ACP Plot (LTE Band 7 - 20MHz QPSK – Full RB)



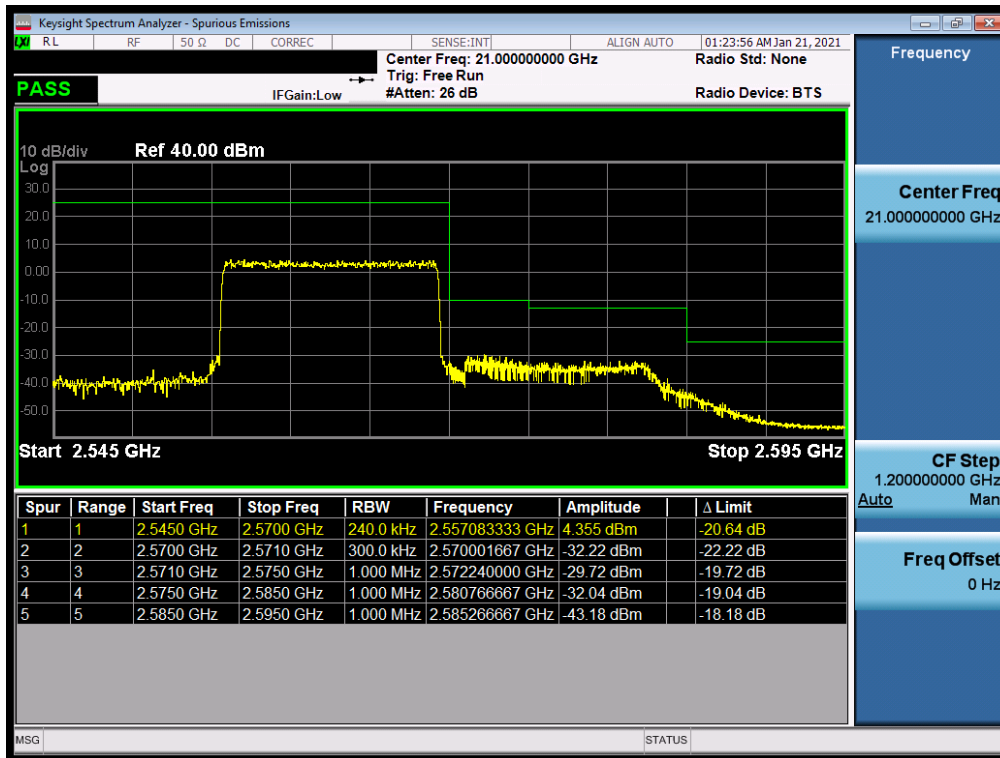
Plot 7-118. Upper ACP Plot (LTE Band 7 - 20MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 79 of 127



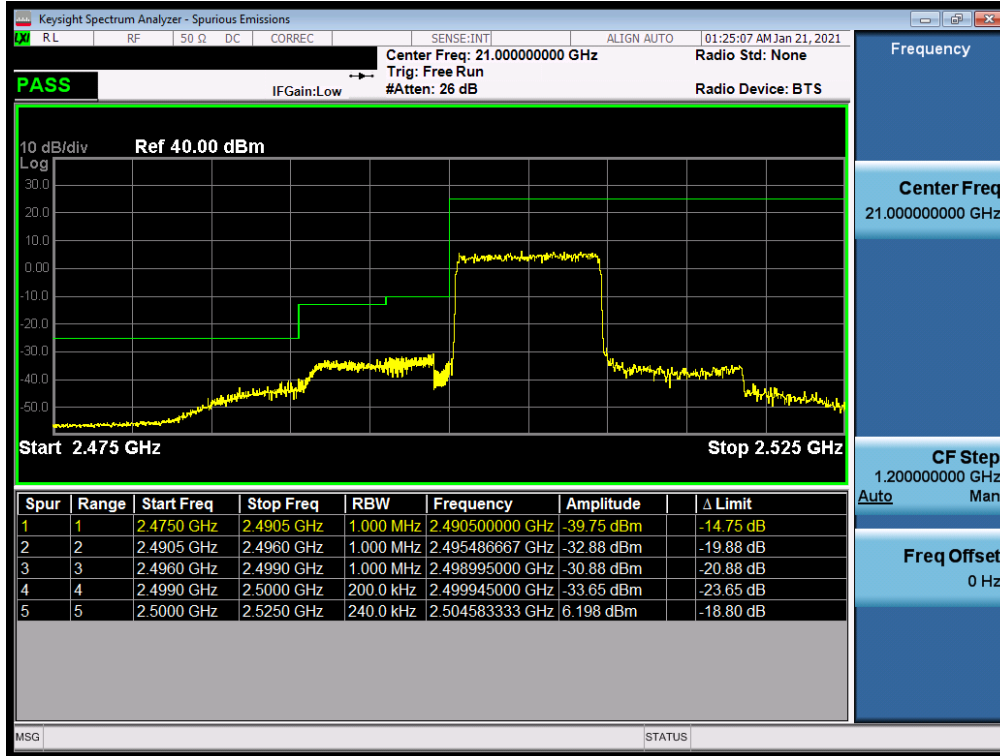


Plot 7-119. Lower ACP Plot (LTE Band 7 - 15MHz QPSK – Full RB)

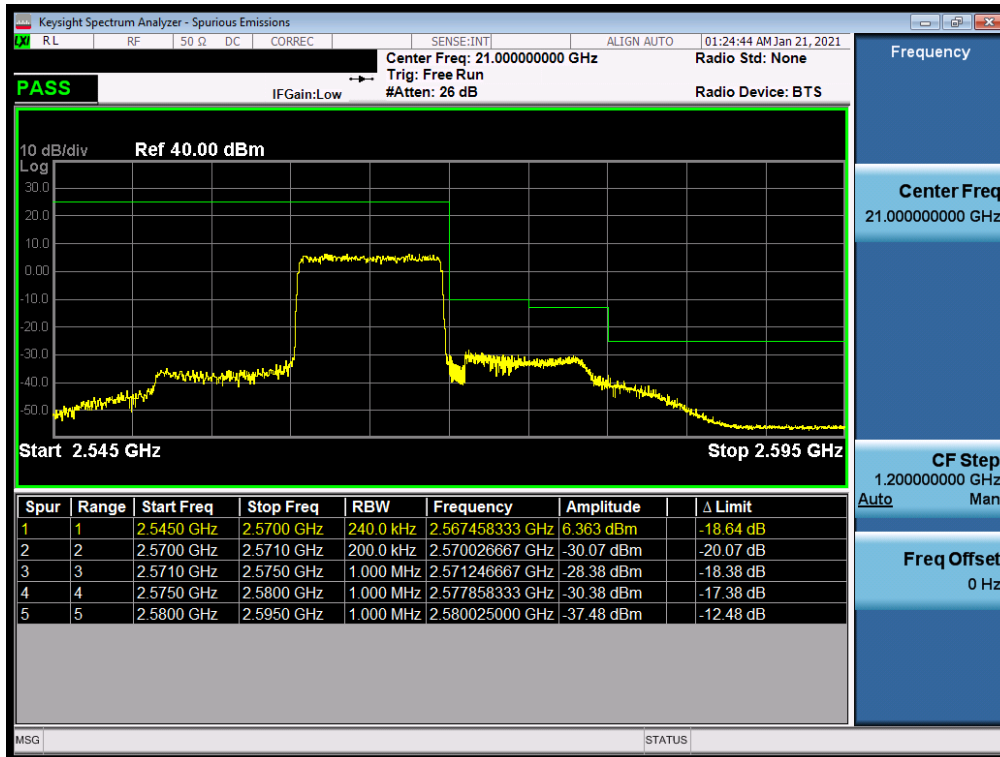


Plot 7-120. Upper ACP Plot (LTE Band 7 - 15MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 80 of 127

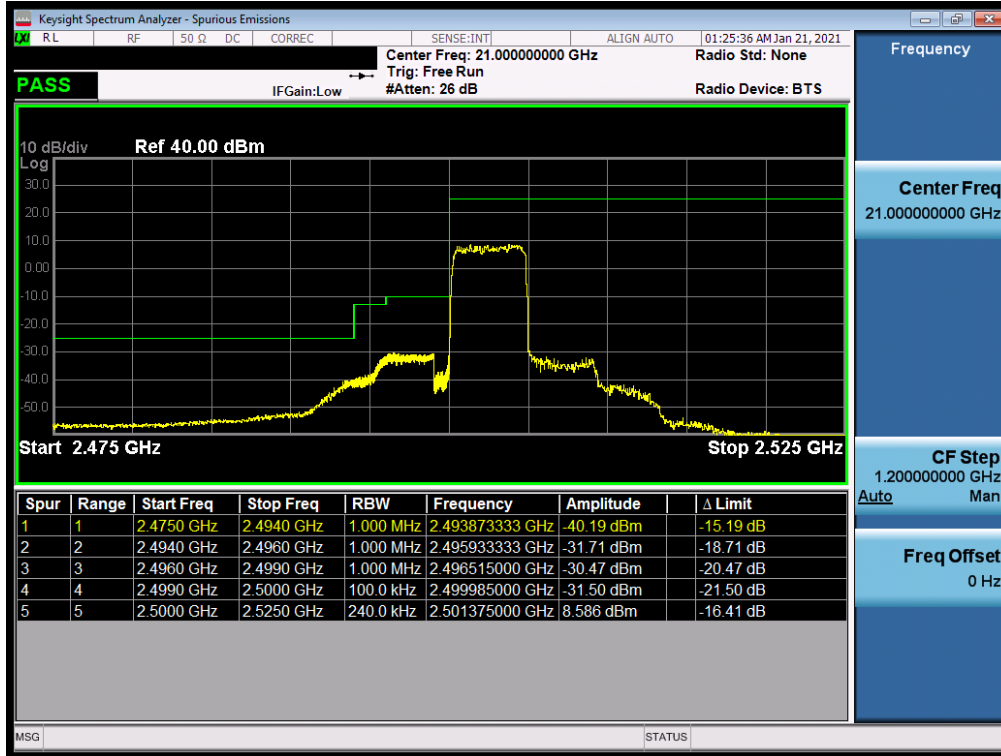


Plot 7-121. Lower ACP Plot (LTE Band 7 - 10MHz QPSK – Full RB)

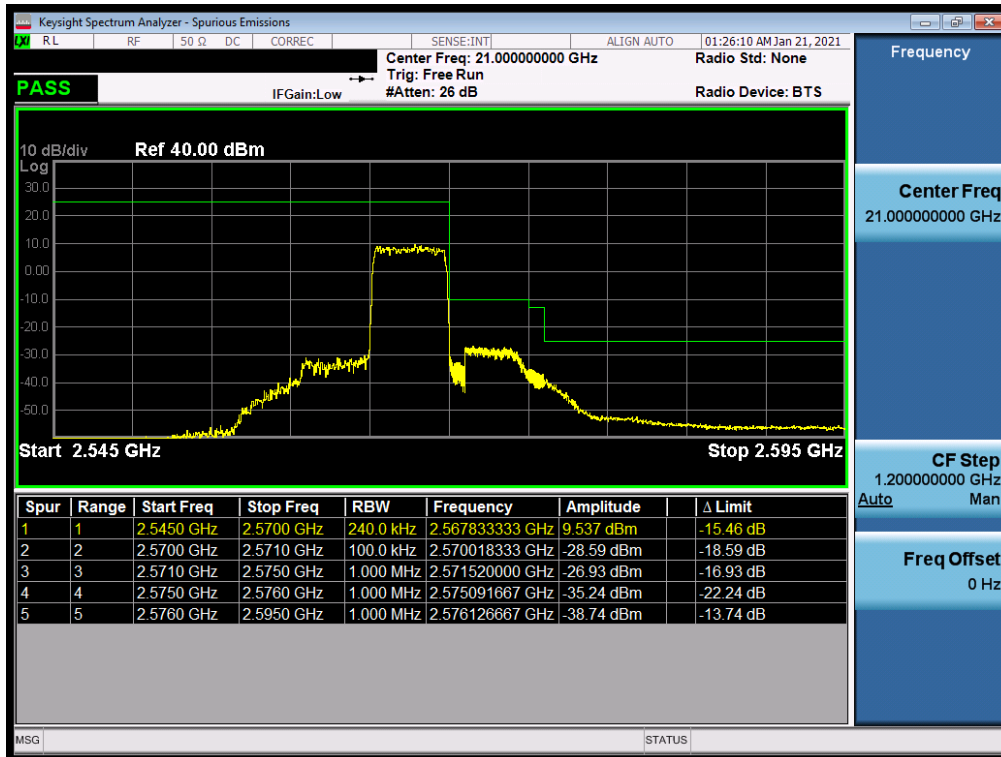


Plot 7-122. Upper ACP Plot (LTE Band 7 - 10MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 81 of 127



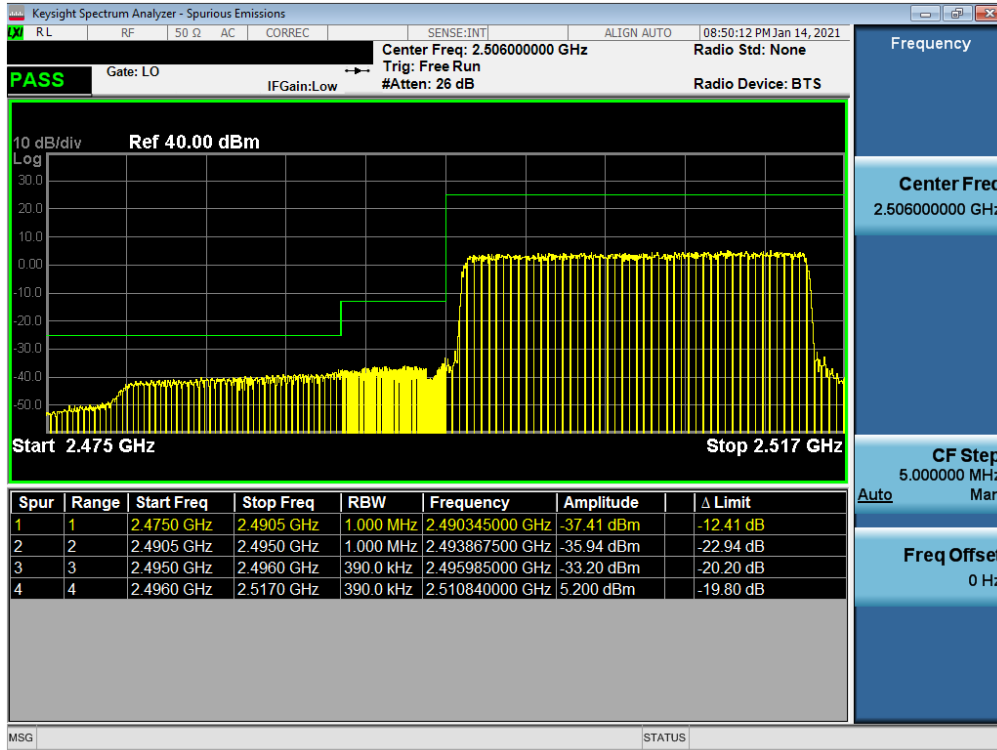
Plot 7-123. Lower ACP Plot (LTE Band 7 - 5MHz QPSK – Full RB)



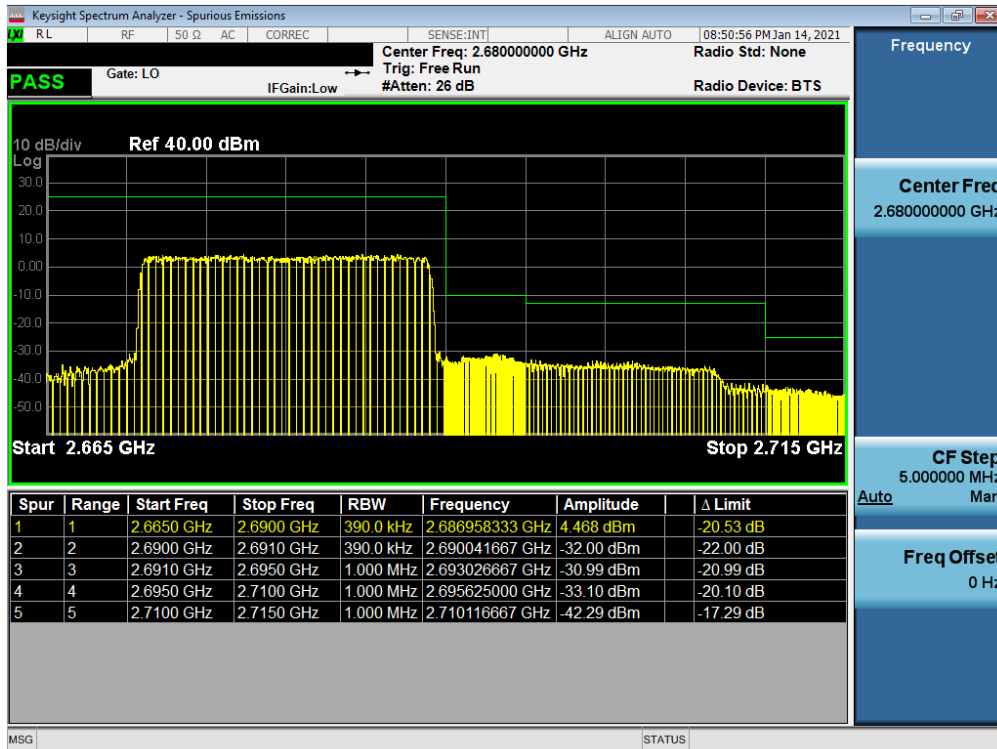
Plot 7-124. Upper ACP Plot (LTE Band 7 - 5MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 82 of 127

# LTE Band 41(PC2)

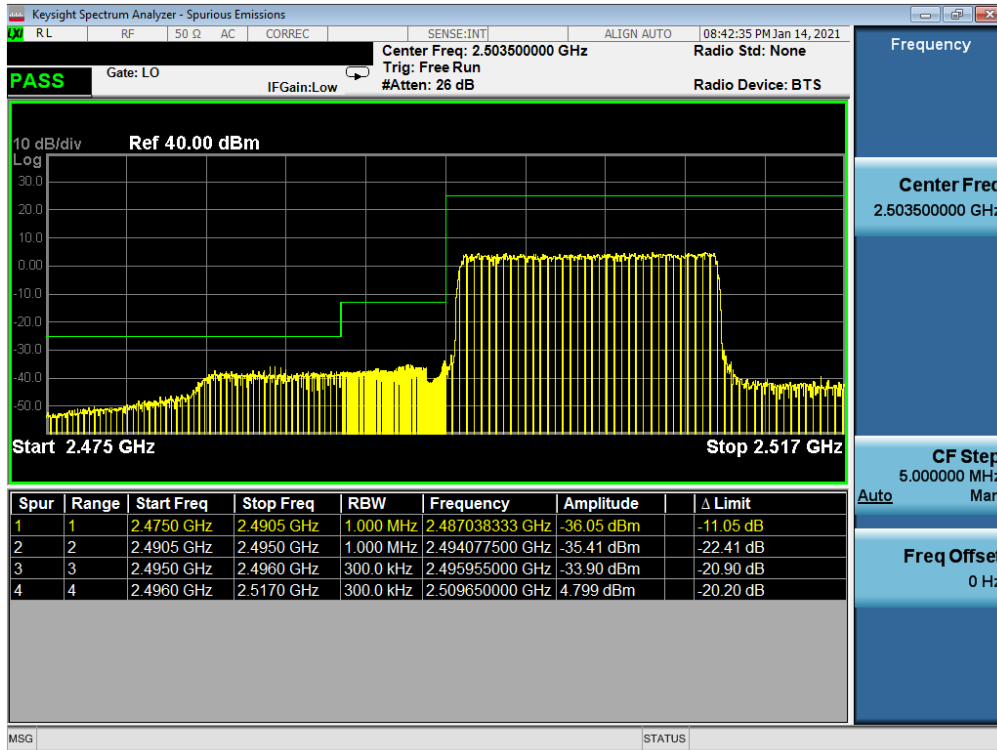


Plot 7-125. Lower ACP Plot (LTE Band 41(PC2) - 20MHz QPSK - Full RB)

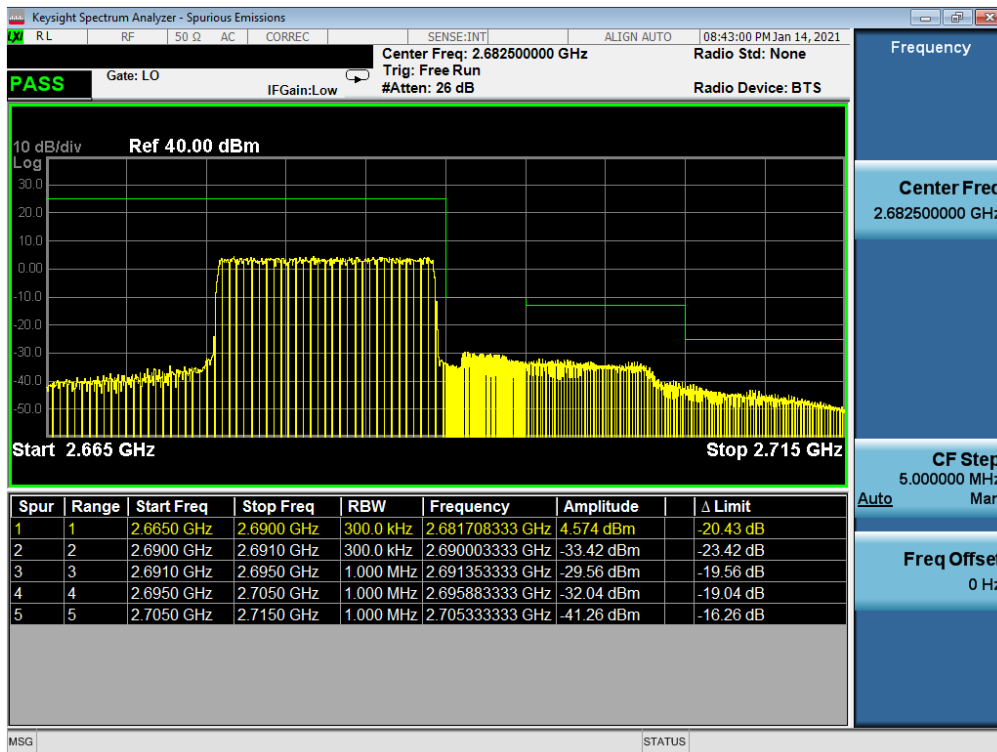


Plot 7-126. Upper ACP Plot (LTE Band 41(PC2) - 20MHz QPSK - Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 83 of 127

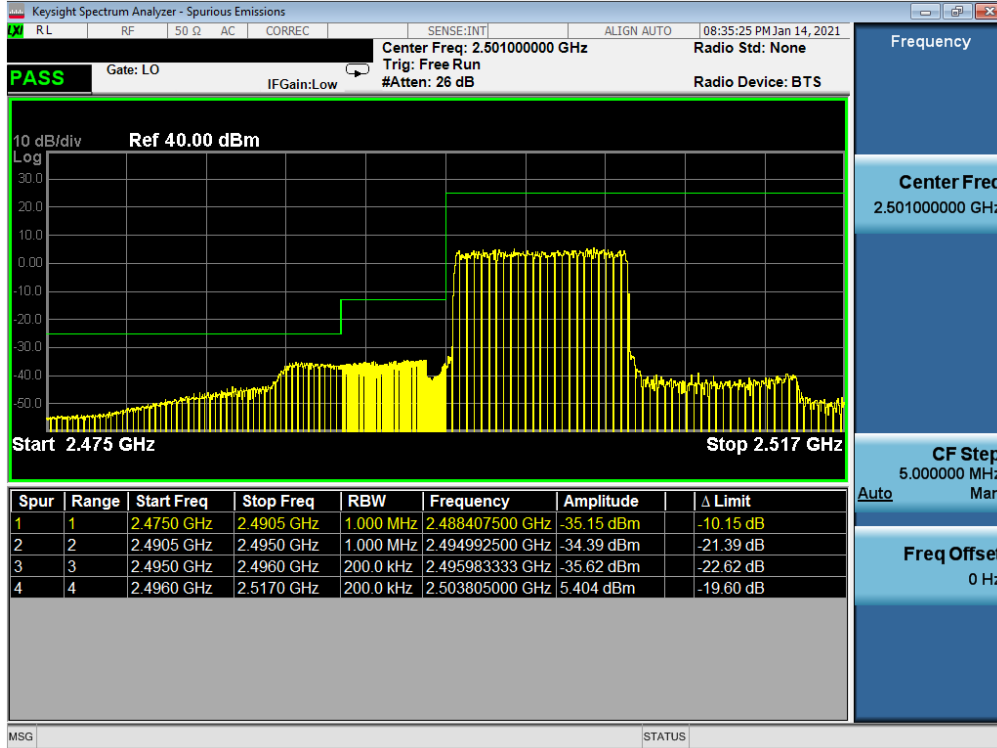


Plot 7-127. Lower ACP Plot (LTE Band 41(PC2) - 15MHz QPSK – Full RB)

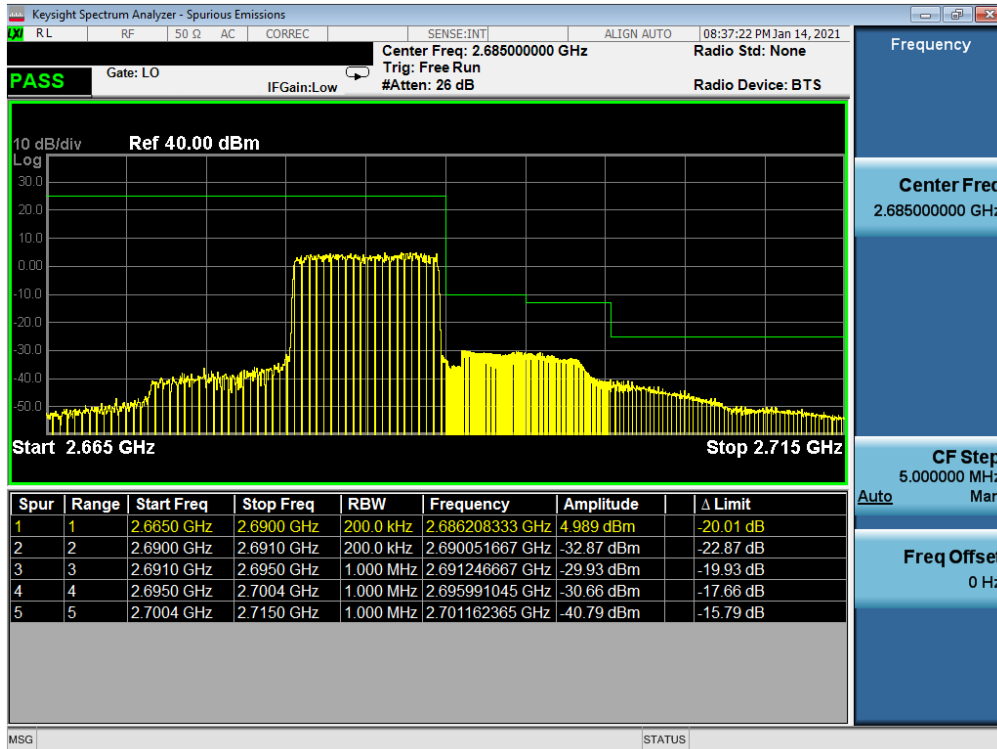


Plot 7-128. Upper ACP Plot (LTE Band 41(PC2) - 15MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 84 of 127

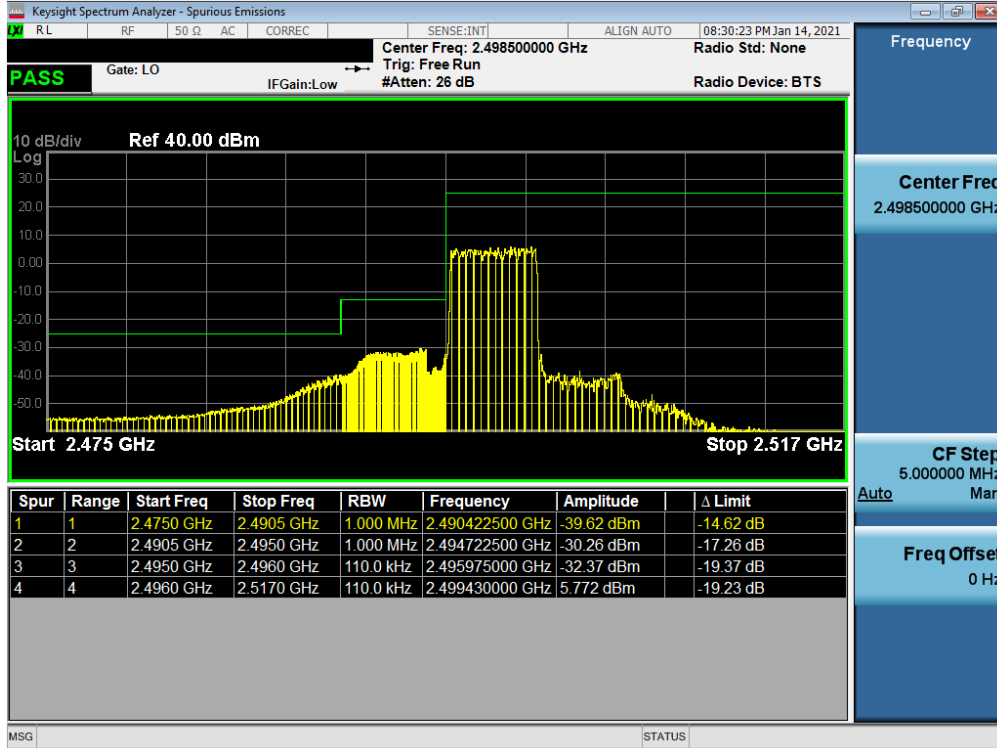


Plot 7-129. Lower ACP Plot (LTE Band 41(PC2) - 10MHz QPSK - Full RB)

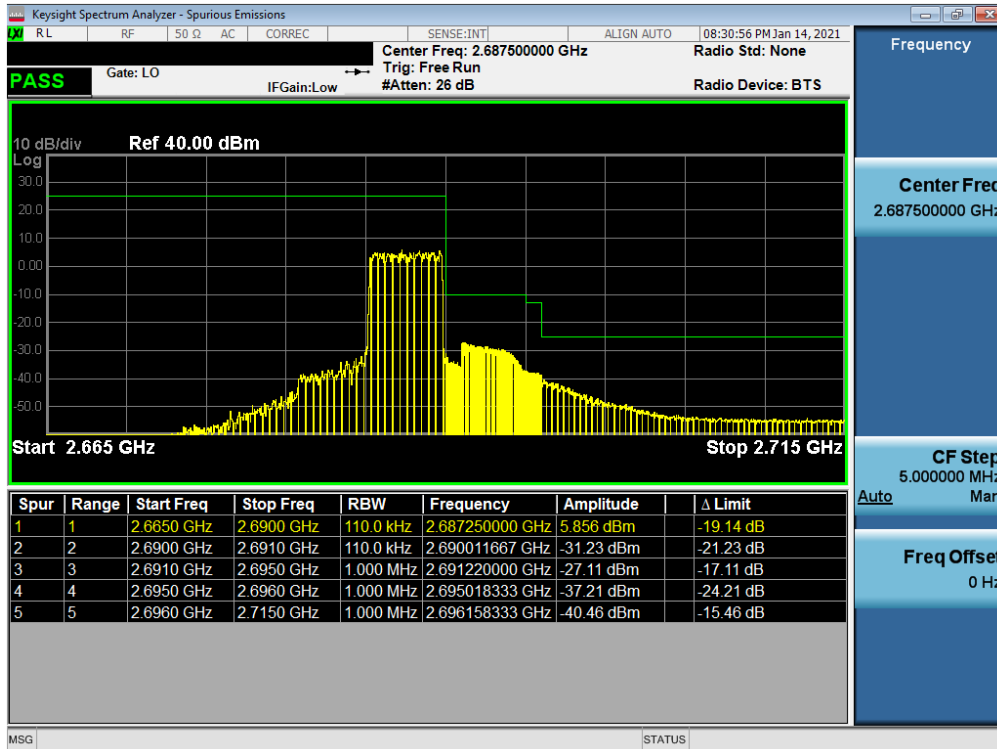


Plot 7-130. Upper ACP Plot (LTE Band 41(PC2) - 10MHz QPSK - Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 85 of 127



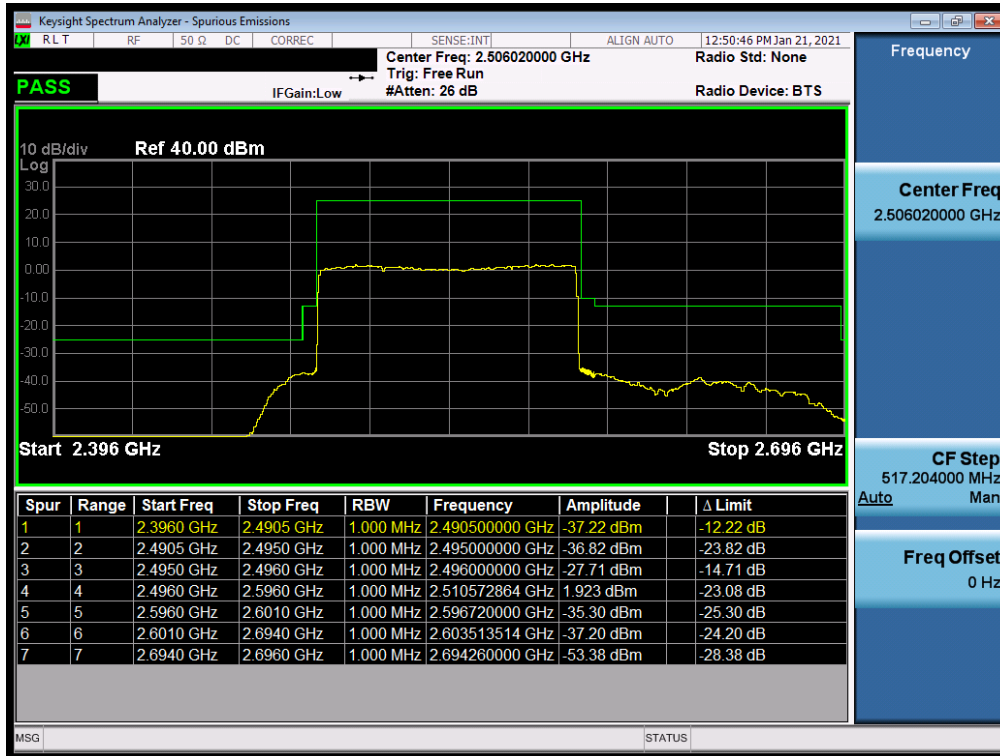
Plot 7-131. Lower ACP Plot (LTE Band 41(PC2) - 5MHz QPSK - Full RB)



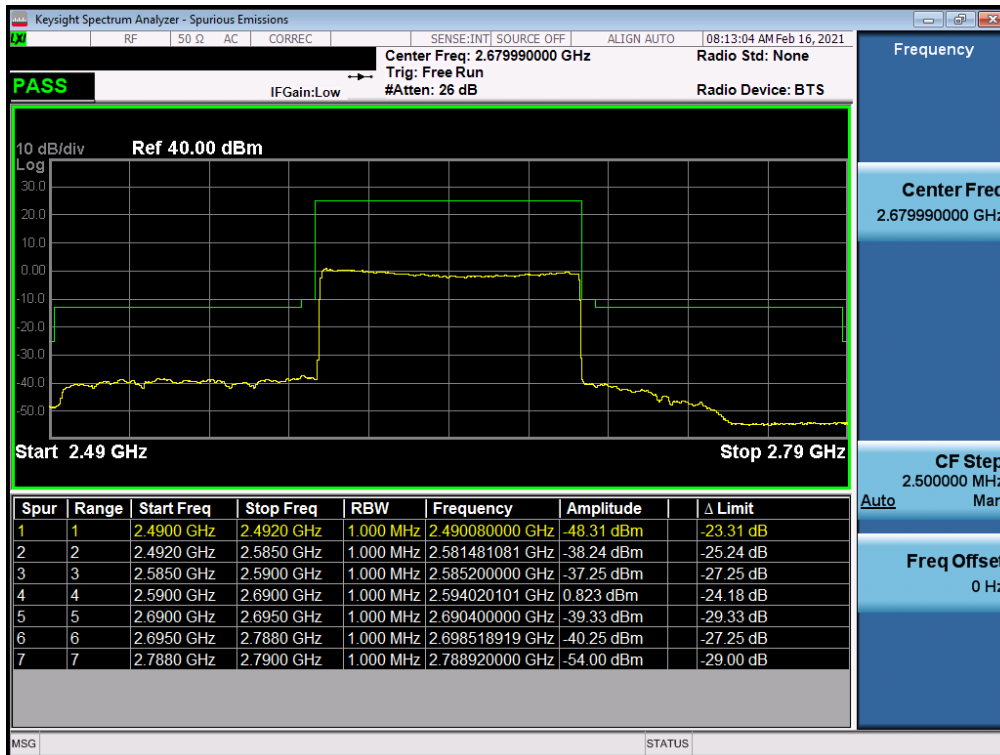
Plot 7-132. Upper ACP Plot (LTE Band 41(PC2) - 5MHz QPSK - Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 86 of 127

# NR Band n41



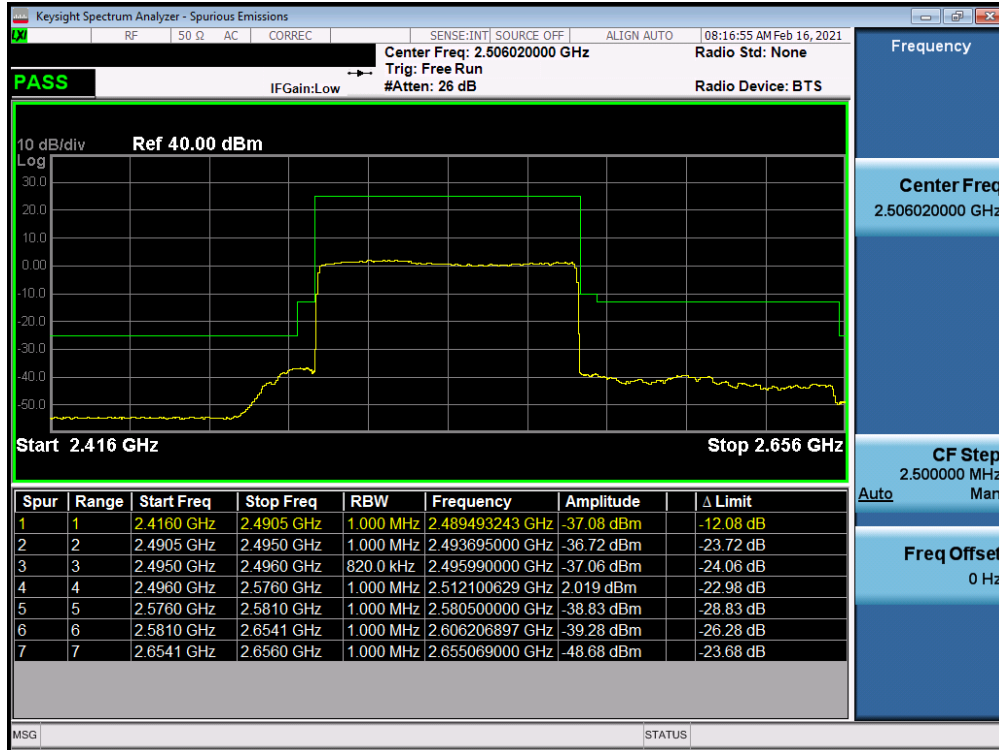
Plot 7-133. Lower ACP Plot (NR Band n41 - 100MHz CP-OFDM-QPSK – Full RB)



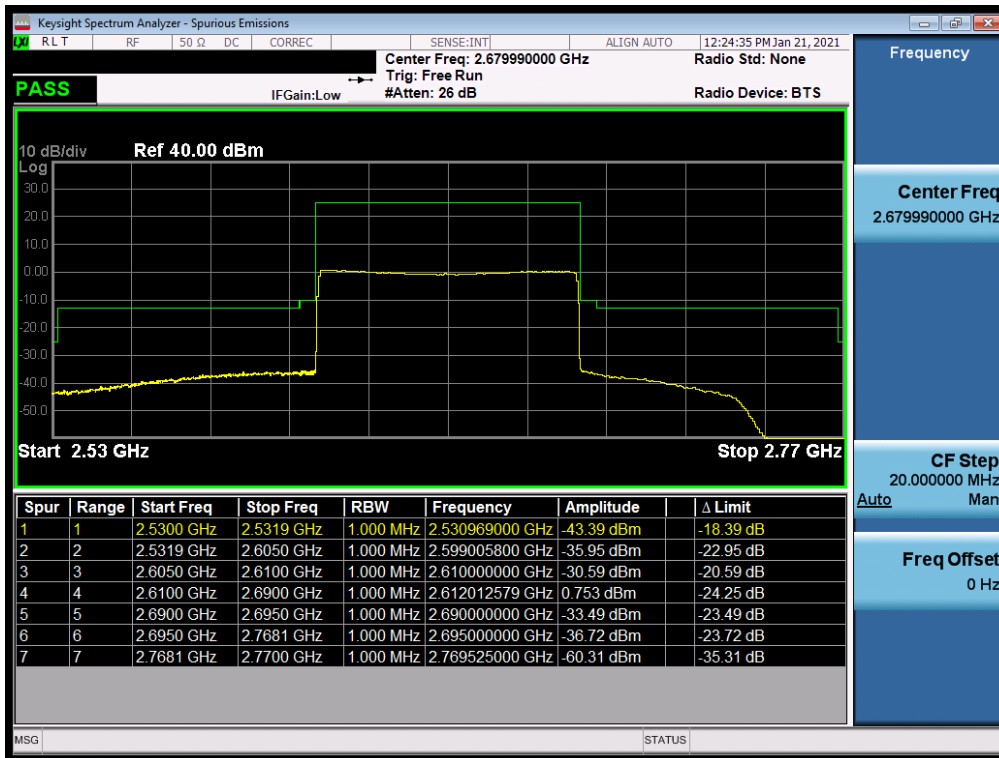
Plot 7-134. Upper ACP Plot (NR Band n41 - 100MHz CP-OFDM-QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 87 of 127



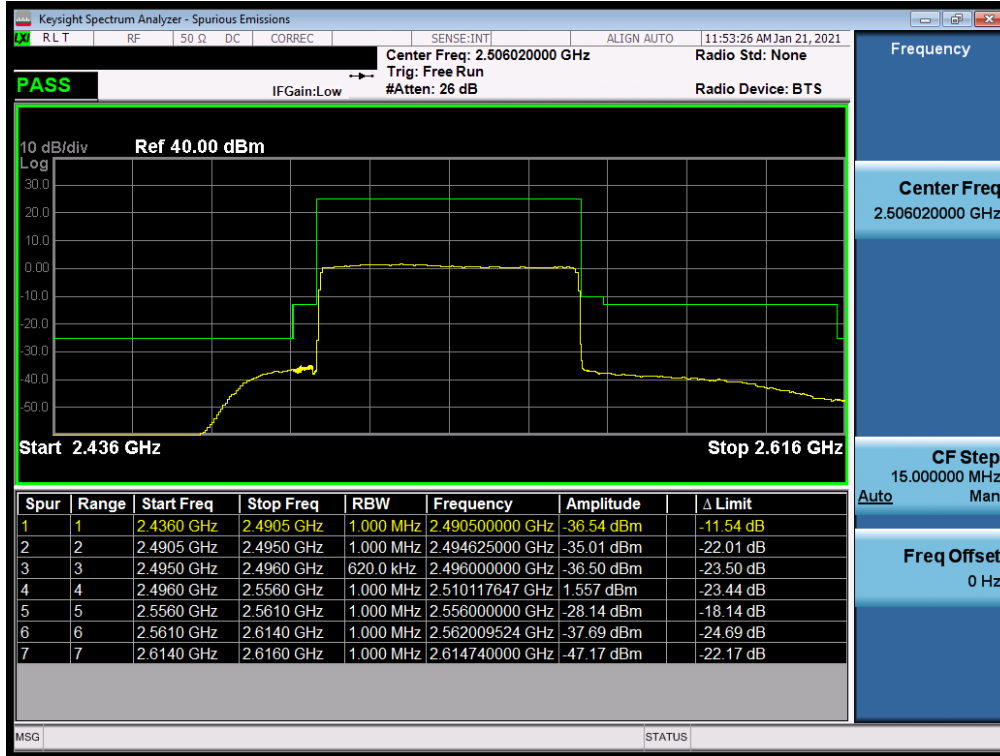


Plot 7-135. Lower ACP Plot (NR Band n41 - 80MHz CP-OFDM-QPSK – Full RB)

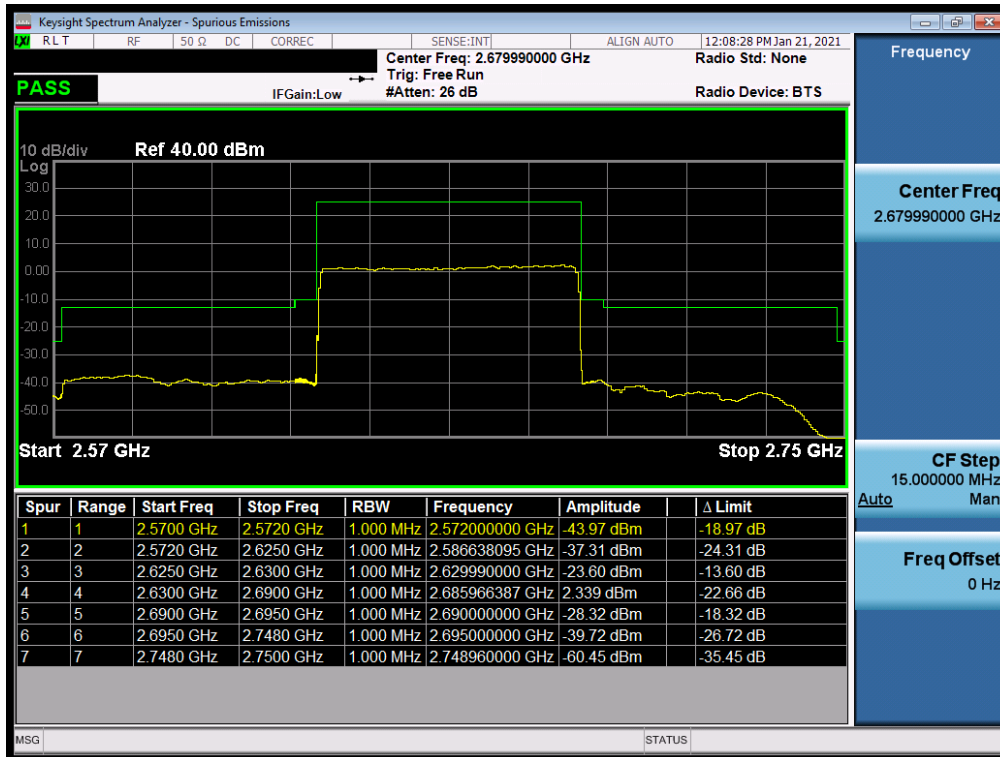


Plot 7-136. Upper ACP Plot (NR Band n41 - 80MHz CP-OFDM-QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 88 of 127

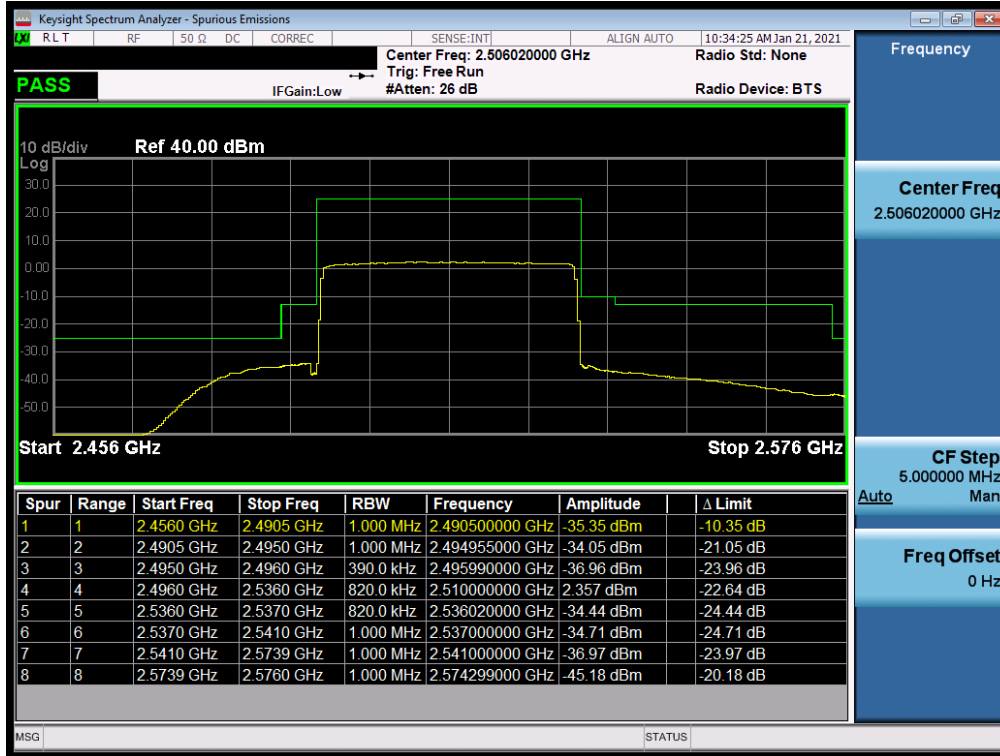


Plot 7-137. Lower ACP Plot (NR Band n41 - 60MHz CP-OFDM-QPSK – Full RB)

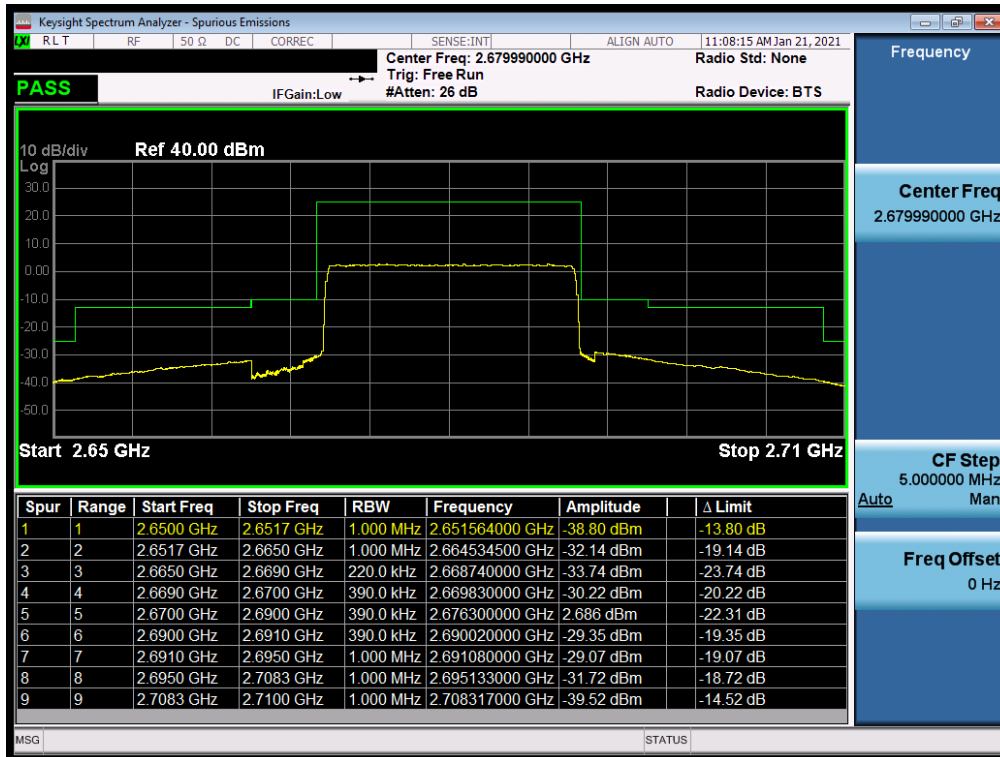


Plot 7-138. Upper ACP Plot (NR Band n41 - 60MHz CP-OFDM-QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 89 of 127

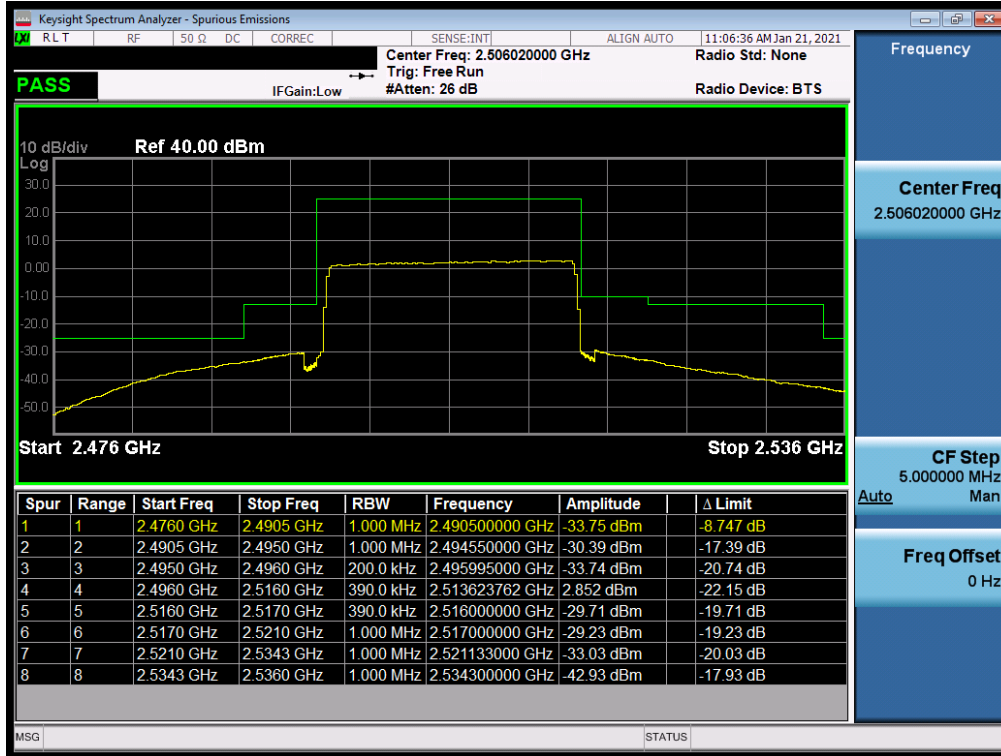


Plot 7-139. Lower ACP Plot (NR Band n41 - 40MHz CP-OFDM-QPSK - Full RB)

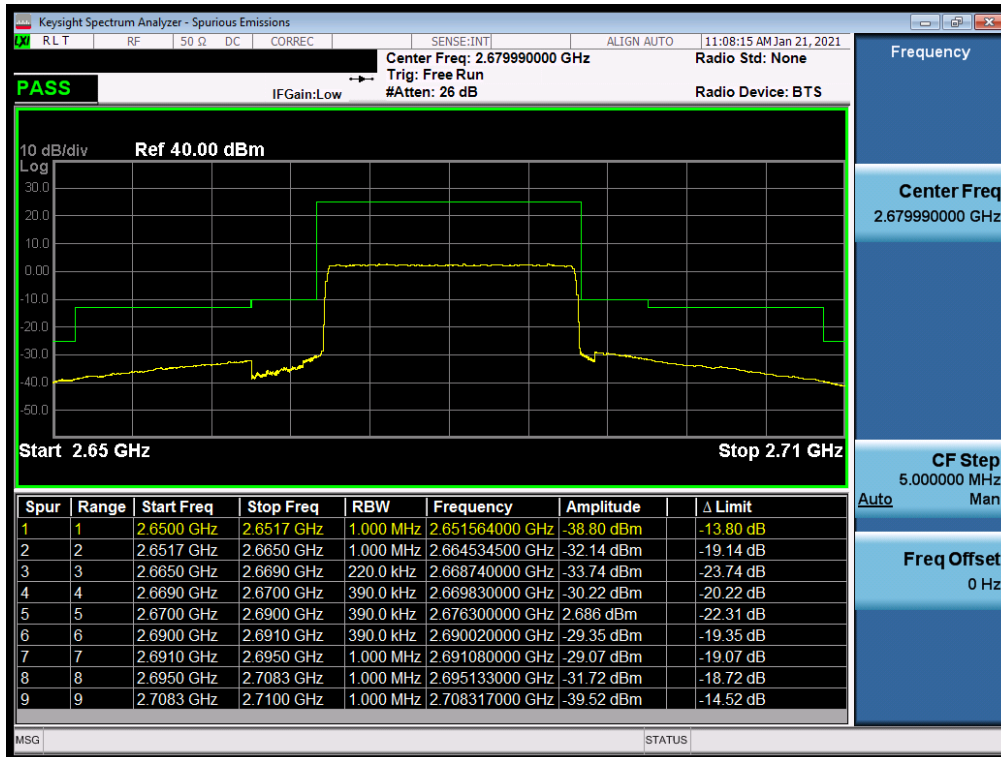


Plot 7-140. Upper ACP Plot (NR Band n41 - 40MHz CP-OFDM-QPSK - Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 90 of 127



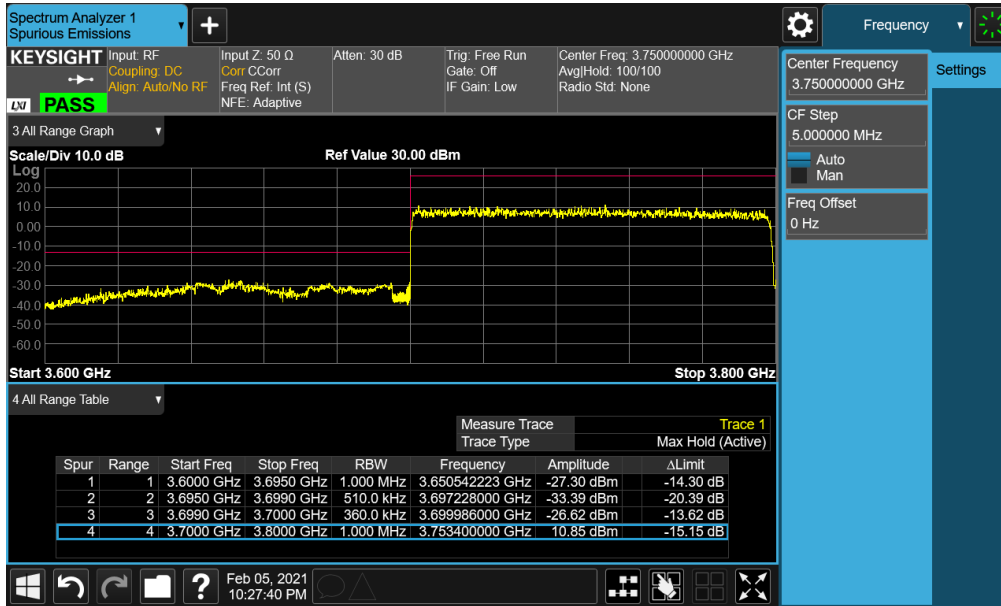
Plot 7-141. Lower ACP Plot (NR Band n41 - 20MHz CP-OFDM-QPSK - Full RB)



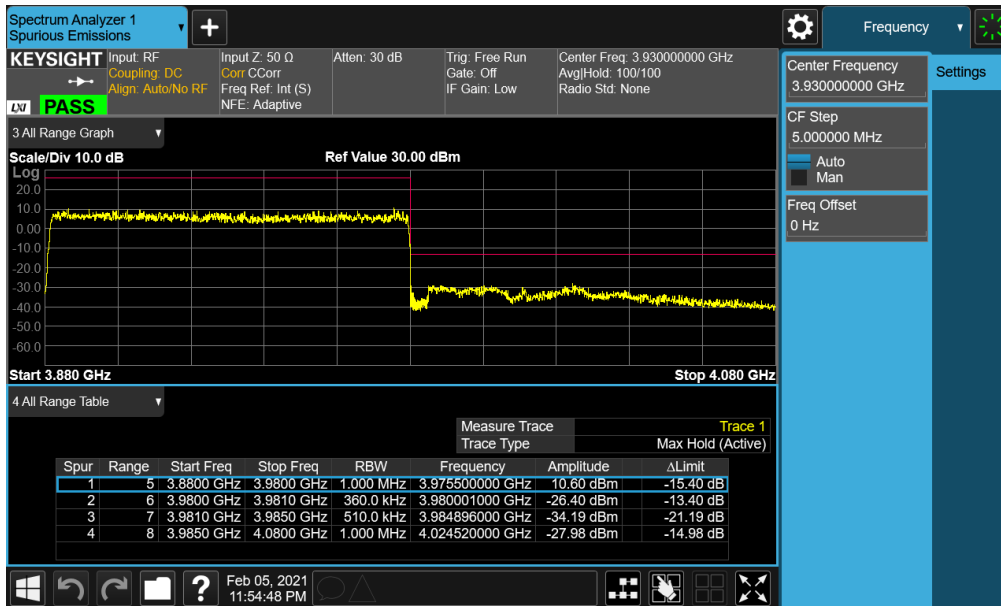
Plot 7-142. Upper ACP Plot (NR Band n41 - 20MHz CP-OFDM-QPSK - Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 91 of 127

# NR Band n77



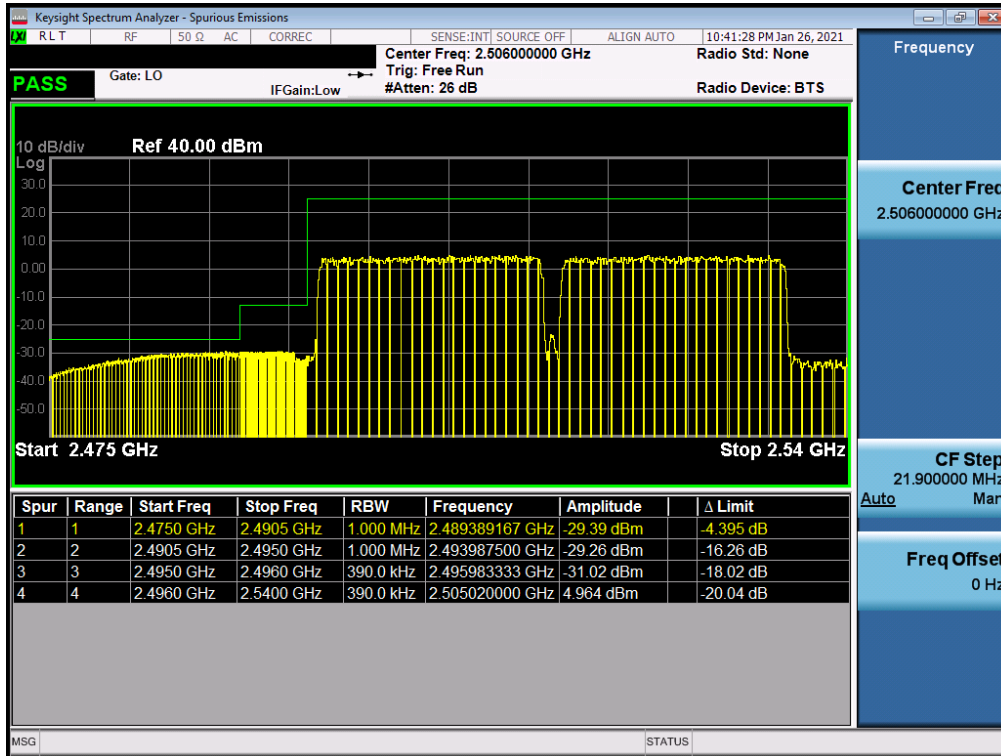
Plot 7-143. Lower ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB)



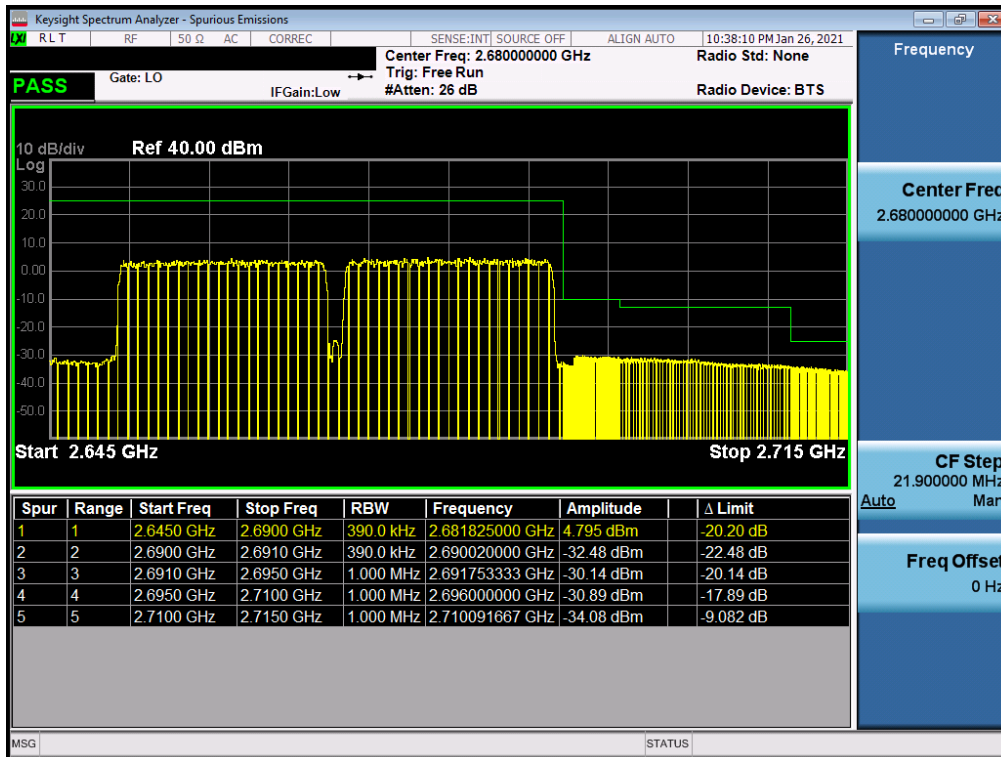
Plot 7-144. Upper ACP Plot (NR Band n77 - 100MHz CP-OFDM-QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 92 of 127

# ULCA - LTE Band 41(PC2)



Plot 7-145. Lower ACP Plot (ULCA LTE B41(PC2) - 20MHz QPSK – Full RB)





Plot 7-146. Upper ACP Plot (ULCA LTE B41(PC2) - 20MHz QPSK – Full RB)

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	PART 27 MEASUREMENT REPORT	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 93 of 127

## 7.5 Conducted Power Output Data



Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 137	22.60
		518598	2593.00	1 / 137	23.41
		528000	2640.00	1/204	23.10
	QPSK	509202	2546.01	1 / 137	22.59
		518598	2593.00	1/136	23.17
		528000	2640.00	1/68	22.74
	16-QAM	518598	2593.00	1 / 1	22.77
	64-QAM	509202	2546.01	1 / 137	20.87
256-QAM	518598	2593.00	1/136	18.51	
90 MHz	π/2 BPSK	508200	2541.00	1 / 1	22.92
		518592	2593.00	1/122	23.26
		529002	2645.01	1 / 243	23.18
	QPSK	508200	2541.00	1 / 123	23.50
		518592	2593.00	1/122	23.12
		529002	2645.01	1 / 123	23.42
	16-QAM	518592	2593.00	1/122	22.44
	64-QAM	518592	2593.00	1/122	21.41
256-QAM	529002	2645.01	1/183	19.66	
80 MHz	π/2 BPSK	507204	2536.02	1 / 215	23.48
		518598	2593.00	1/108	23.35
		529998	2650.00	1 / 215	23.52
	QPSK	507204	2536.02	1 / 109	23.35
		518598	2593.00	1/108	22.56
		529998	2650.00	1 / 215	23.33
	16-QAM	507204	2536.02	1 / 1	22.38
	64-QAM	507204	2536.02	1 / 1	20.44
256-QAM	529998	2650.00	1/162	18.85	
60 MHz	π/2 BPSK	505200	2526.00	1 / 160	23.75
		518598	2593.00	1 / 1	23.15
		531996	2660.00	1 / 81	23.19
	QPSK	505200	2526.00	1 / 81	23.34
		518598	2593.00	1 / 160	23.61
		531996	2660.00	1 / 1	23.40
	16-QAM	505200	2526.00	1 / 1	22.22
	64-QAM	531996	2660.00	1/40	21.01
256-QAM	518598	2593.00	1/81	19.56	
50 MHz	π/2 BPSK	504204	2521.02	1 / 1	23.52
		518598	2593.00	1 / 1	23.68
		532998	2665.00	1 / 131	23.66
	QPSK	504204	2521.02	1 / 131	23.54
		518598	2593.00	1 / 1	23.59
		532998	2665.00	1 / 131	23.52
	16-QAM	518598	2593.00	1 / 1	22.57
	64-QAM	504204	2521.02	1/99	20.75
256-QAM	504204	2521.02	1/99	19.65	
40 MHz	π/2 BPSK	503202	2516.01	1 / 53	23.67
		518598	2593.00	1 / 104	23.28
		534000	2670.00	1 / 107	23.27
	QPSK	503202	2516.01	1 / 104	23.55
		518598	2593.00	1 / 53	23.63
		534000	2670.00	1 / 53	23.69
	16-QAM	534000	2670.00	1 / 1	22.83
	64-QAM	534000	2670.00	100/0	20.94
256-QAM	518598	2593.00	1/53	19.10	
30 MHz	π/2 BPSK	502203	2511.00	1 / 76	23.93
		518598	2593.00	1 / 76	23.54
		534999	2675.00	1 / 39	23.49
	QPSK	502203	2511.00	1 / 39	23.64
		518598	2593.00	1 / 76	23.80
		534999	2675.00	1 / 39	23.65
	16-QAM	502203	2511.00	1 / 1	22.85
	64-QAM	518598	2593.00	1/39	20.83
256-QAM	502203	2511.00	1/39	19.52	
20 MHz	π/2 BPSK	501204	2506.00	1 / 49	23.52
		518598	2593.00	1 / 26	23.56
		535998	2680.00	1 / 26	23.73
	QPSK	501204	2506.00	1 / 1	23.70
		518598	2593.00	1/13	23.06
		535998	2680.00	1 / 1	23.41
	16-QAM	501204	2506.00	1 / 1	22.73
	64-QAM	535998	2680.00	1/13	21.83
256-QAM	535998	2680.00	1/25	19.85	

Table 7-2. Conducted Power Output Data (NR Band n41)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 94 of 127

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	650000	3750.00	1/68	23.24
		656000	3840.00	1/68	23.31
		662000	3930.00	1/68	22.35
	QPSK	650000	3750.00	1/68	23.11
		656000	3840.00	1/68	23.34
		662000	3930.00	1/68	22.29
	16-QAM	650000	3750.00	1/68	21.74
	64-QAM	650000	3750.00	1/68	20.51
	256-QAM	650000	3750.00	1/68	19.20

Table 7-3. Conducted Power Output Data (NR Band n77)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 95 of 127



## 7.6 Radiated Power (EIRP)

### Test Overview

Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.



### Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

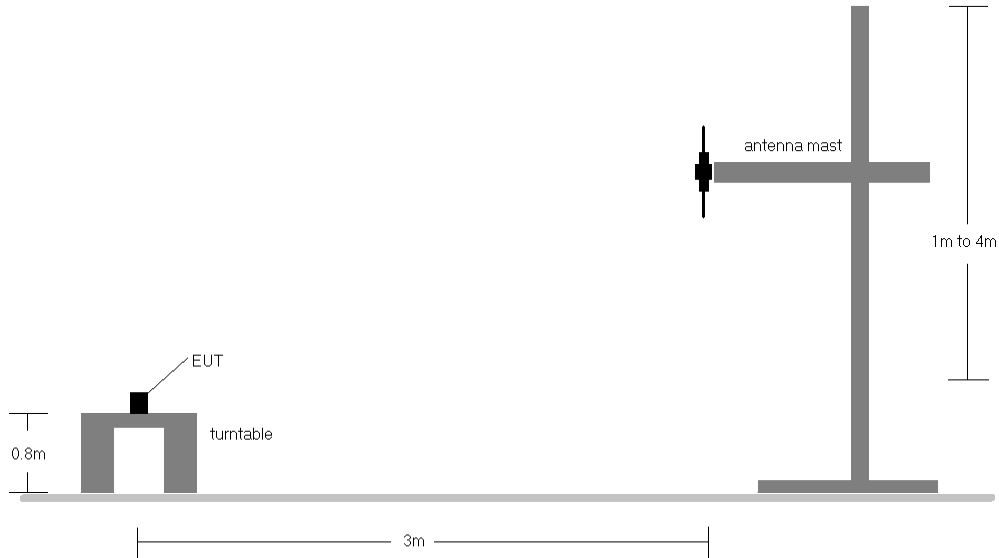
### Test Settings

1. Radiated power measurements are performed using the signal analyzer’s “channel power” measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer’s “time domain power” measurement capability is used
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW  $\geq$  3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points  $\geq$  2 x span / RBW
6. Detector = RMS
7. Trigger is set to “free run” for signals with continuous operation with the sweep times set to “auto”. Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the “gating” function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

FCC ID: A3LSMA426U	 <b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2101040001-25-R2.A3L	<b>Test Dates:</b> 1/08 - 2/19/2021	<b>EUT Type:</b> Portable Handset		Page 96 of 127

**Test Setup**

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-4. Radiated Test Setup <1GHz**

**Test Notes**

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.
- 4) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

FCC ID: A3LSMA426U	<b>PART 27 MEASUREMENT REPORT</b>	Approved by: Technical Manager
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Pol.	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
10 MHz	QPSK	2310.0	H	X	107	64	10.34	1 / 0	11.21	21.55	0.143	23.98	-2.43
	16-QAM	2310.0	H	X	107	64	10.34	1 / 0	10.65	20.99	0.125	23.98	-2.99
	64-QAM	2310.0	H	X	107	64	10.34	1 / 25	9.61	19.95	0.099	23.98	-4.03
5 MHz	QPSK	2307.5	H	X	107	64	10.33	1 / 0	10.90	21.24	0.133	23.98	-2.74
		2310.0	H	X	107	64	10.34	1 / 0	10.81	21.15	0.130	23.98	-2.83
		2312.5	H	X	107	64	10.34	1 / 0	10.80	21.14	0.130	23.98	-2.84
	16-QAM	2310.0	H	X	107	64	10.34	1 / 12	10.33	20.67	0.117	23.98	-3.31
		64-QAM	2310.0	H	X	107	64	10.34	1 / 24	9.41	19.75	0.094	23.98
10 MHz	Opposite Pol.	2310.0	V	Z	278	39	10.34	1 / 0	10.64	20.98	0.125	23.98	-3.00



Table 7-4. EIRP Data (LTE Band 30)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Pol.	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
20 MHz	QPSK	2510.0	V	Z	311	17	9.42	1 / 50	14.32	23.74	0.237	33.01	-9.27
		2535.0	V	Z	301	17	9.41	1 / 0	12.92	22.33	0.171	33.01	-10.68
		2560.0	V	Z	326	32	9.45	1 / 99	11.06	20.51	0.112	33.01	-12.50
	16-QAM	2510.0	V	Z	311	17	9.42	1 / 50	13.32	22.74	0.188	33.01	-10.27
64-QAM		2510.0	V	Z	311	17	9.42	1 / 50	12.37	21.79	0.151	33.01	-11.22
15 MHz	QPSK	2507.5	V	Z	311	17	9.42	1 / 36	14.27	23.69	0.234	33.01	-9.32
		2535.0	V	Z	301	17	9.41	1 / 0	12.77	22.18	0.165	33.01	-10.83
		2562.5	V	Z	326	32	9.46	1 / 0	11.19	20.65	0.116	33.01	-12.36
	16-QAM	2507.5	V	Z	311	17	9.42	1 / 0	13.44	22.86	0.193	33.01	-10.15
64-QAM		2507.5	V	Z	311	17	9.42	1 / 0	12.65	22.07	0.161	33.01	-10.94
10 MHz	QPSK	2505.0	V	Z	311	17	9.42	1 / 0	14.43	23.85	0.243	33.01	-9.16
		2535.0	V	Z	301	17	9.41	1 / 0	12.83	22.24	0.168	33.01	-10.77
		2565.0	V	Z	326	32	9.47	1 / 49	11.28	20.75	0.119	33.01	-12.26
	16-QAM	2505.0	V	Z	311	17	9.42	1 / 0	13.44	22.86	0.193	33.01	-10.15
64-QAM		2505.0	V	Z	311	17	9.42	1 / 25	12.71	22.13	0.163	33.01	-10.88
5 MHz	QPSK	2502.5	V	Z	311	17	9.42	1 / 24	14.50	23.92	0.247	33.01	-9.09
		2535.0	V	Z	301	17	9.41	1 / 0	12.83	22.24	0.168	33.01	-10.77
		2567.5	V	Z	326	32	9.48	1 / 12	11.24	20.72	0.118	33.01	-12.29
		16-QAM	2502.5	V	Z	311	17	9.42	1 / 24	13.44	22.86	0.193	33.01
	64-QAM	2502.5	V	Z	311	17	9.42	1 / 12	12.70	22.12	0.163	33.01	-10.89
20 MHz	Opposite Pol.	2510.0	H	Y	103	327	9.45	1 / 50	12.94	22.39	0.173	33.01	-10.62

Table 7-5. EIRP Data (LTE Band 7)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Pol.	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
20 MHz	QPSK	2506.0	V	Z	224	29	9.42	1 / 0	14.65	24.07	0.255	33.01	-8.94
		2593.0	V	Z	212	42	9.59	1 / 0	14.49	24.08	0.256	33.01	-8.93
		2680.0	V	Z	230	40	9.71	1 / 0	9.62	19.33	0.086	33.01	-13.68
	16-QAM	2506.0	V	Z	224	29	9.42	1 / 0	13.77	23.19	0.209	33.01	-9.82
64-QAM		2506.0	V	Z	224	29	9.42	1 / 0	12.68	22.10	0.162	33.01	-10.91
15 MHz	QPSK	2503.5	V	Z	224	29	9.42	1 / 0	14.37	23.79	0.239	33.01	-9.22
		2593.0	V	Z	212	42	9.59	1 / 74	14.48	24.07	0.255	33.01	-8.94
		2682.5	V	Z	230	40	9.71	1 / 0	9.75	19.46	0.088	33.01	-13.55
	16-QAM	2503.5	V	Z	224	29	9.42	1 / 0	14.04	23.46	0.222	33.01	-9.55
64-QAM		2503.5	V	Z	224	29	9.42	1 / 0	12.77	22.19	0.166	33.01	-10.82
10 MHz	QPSK	2501.0	V	Z	224	29	9.42	1 / 0	14.95	24.37	0.274	33.01	-8.64
		2593.0	V	Z	212	42	9.59	1 / 0	14.66	24.25	0.266	33.01	-8.76
		2685.0	V	Z	230	40	9.71	1 / 0	9.19	18.90	0.078	33.01	-14.11
	16-QAM	2593.0	V	Z	212	42	9.59	1 / 0	13.42	23.01	0.200	33.01	-10.00
64-QAM		2593.0	V	Z	212	42	9.59	1 / 0	11.90	21.49	0.141	33.01	-11.52
5 MHz	QPSK	2498.5	V	Z	224	29	9.43	1 / 0	15.28	24.71	0.296	33.01	-8.30
		2593.0	V	Z	212	42	9.59	1 / 12	15.32	24.91	0.310	33.01	-8.10
		2687.5	V	Z	230	40	9.71	1 / 0	10.16	19.87	0.097	33.01	-13.14
	16-QAM	2593.0	V	Z	212	42	9.59	1 / 24	13.14	22.73	0.187	33.01	-10.28
64-QAM		2593.0	V	Z	212	42	9.59	1 / 24	12.17	21.76	0.150	33.01	-11.25
5 MHz	Opposite Pol.	2593.0	H	Y	119	322	9.58	1 / 0	14.29	23.87	0.244	33.01	-9.14

Table 7-6. EIRP Data (LTE Band 41(PC2))



FCC ID: A3LSMA426U	 PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset	Page 98 of 127

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Pol.	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	π/2 BPSK	2546.0	V	Z	191	7	9.41	1 / 1	10.15	19.56	0.090	33.01	-13.45
		2593.0	V	Z	197	350	9.59	1 / 1	7.71	17.30	0.054	33.01	-15.71
		2640.0	V	Z	155	27	9.68	1 / 1	7.58	17.26	0.053	33.01	-15.75
	QPSK	2546.0	V	Z	191	7	9.41	1 / 1	10.55	19.96	0.099	33.01	-13.05
		2593.0	V	Z	197	350	9.59	1 / 1	7.91	17.50	0.056	33.01	-15.51
		2640.0	V	Z	155	27	9.68	1 / 1	7.22	16.90	0.049	33.01	-16.11
		2546.0	V	Z	191	7	9.41	1 / 1	9.27	18.68	0.074	33.01	-14.33
64-QAM	2546.0	V	Z	191	7	9.41	1 / 1	8.83	18.24	0.067	33.01	-14.77	
256-QAM	2546.0	V	Z	191	7	9.41	1 / 1	8.41	17.82	0.061	33.01	-15.19	
80 MHz	π/2 BPSK	2536.0	V	Z	191	7	9.41	1 / 215	11.03	20.44	0.111	33.01	-12.57
		2593.0	V	Z	197	350	9.59	1 / 109	7.82	17.41	0.055	33.01	-15.60
		2650.0	V	Z	155	27	9.69	1 / 215	8.05	17.74	0.059	33.01	-15.27
	QPSK	2536.0	V	Z	191	7	9.41	1 / 109	11.31	20.72	0.118	33.01	-12.29
		2593.0	V	Z	197	350	9.59	1 / 109	7.31	16.90	0.049	33.01	-16.11
		2650.0	V	Z	155	27	9.69	1 / 215	7.42	17.12	0.052	33.01	-15.89
		2536.0	V	Z	191	7	9.41	1 / 1	9.24	18.65	0.073	33.01	-14.36
64-QAM	2536.0	V	Z	191	7	9.41	1 / 1	8.40	17.81	0.060	33.01	-15.20	
256-QAM	2536.0	V	Z	191	7	9.41	1 / 1	8.37	17.78	0.060	33.01	-15.23	
60 MHz	π/2 BPSK	2526.0	V	Z	191	7	9.42	1 / 160	11.29	20.71	0.118	33.01	-12.30
		2593.0	V	Z	197	350	9.59	1 / 1	7.62	17.21	0.053	33.01	-15.80
		2660.0	V	Z	155	27	9.70	1 / 81	7.71	17.41	0.055	33.01	-15.60
	QPSK	2526.0	V	Z	191	7	9.42	1 / 81	11.29	20.71	0.118	33.01	-12.30
		2593.0	V	Z	197	350	9.59	1 / 160	8.36	17.95	0.062	33.01	-15.06
		2660.0	V	Z	155	27	9.70	1 / 1	7.49	17.19	0.052	33.01	-15.82
		2526.0	V	Z	191	7	9.42	1 / 1	9.07	18.49	0.071	33.01	-14.52
64-QAM	2526.0	V	Z	191	7	9.42	1 / 1	8.34	17.76	0.060	33.01	-15.25	
256-QAM	2526.0	V	Z	191	7	9.42	1 / 1	9.17	18.59	0.072	33.01	-14.42	
40 MHz	π/2 BPSK	2516.0	V	Z	191	7	9.42	1 / 53	11.21	20.63	0.116	33.01	-12.38
		2593.0	V	Z	197	350	9.59	1 / 104	7.75	17.34	0.054	33.01	-15.67
		2670.0	V	Z	155	27	9.71	1 / 107	7.79	17.49	0.056	33.01	-15.52
	QPSK	2516.0	V	Z	191	7	9.42	1 / 104	11.50	20.92	0.124	33.01	-12.09
		2593.0	V	Z	197	350	9.59	1 / 53	8.38	17.97	0.063	33.01	-15.04
		2670.0	V	Z	155	27	9.71	1 / 53	7.77	17.48	0.056	33.01	-15.53
		2516.0	V	Z	191	7	9.42	1 / 1	9.07	18.49	0.071	33.01	-14.52
64-QAM	2516.0	V	Z	191	7	9.42	1 / 1	8.63	18.05	0.064	33.01	-14.96	
256-QAM	2516.0	V	Z	191	7	9.42	1 / 1	8.56	17.98	0.063	33.01	-15.03	
20 MHz	π/2 BPSK	2506.0	V	Z	191	7	9.42	1 / 49	11.06	20.48	0.112	33.01	-12.53
		2593.0	V	Z	197	350	9.59	1 / 26	8.03	17.62	0.058	33.01	-15.39
		2680.0	V	Z	155	27	9.71	1 / 26	8.24	17.95	0.062	33.01	-15.06
	QPSK	2506.0	V	Z	191	7	9.42	1 / 1	11.65	21.07	0.128	33.01	-11.94
		2593.0	V	Z	197	350	9.59	1 / 49	8.28	17.87	0.061	33.01	-15.14
		2680.0	V	Z	155	27	9.71	1 / 1	7.49	17.20	0.052	33.01	-15.81
		2506.0	V	Z	191	7	9.42	1 / 1	9.58	19.00	0.079	33.01	-14.01
64-QAM	2506.0	V	Z	191	7	9.42	1 / 1	9.20	18.62	0.073	33.01	-14.39	
256-QAM	2506.0	V	Z	191	7	9.42	1 / 1	8.88	18.30	0.068	33.01	-14.71	
100 MHz	QPSK (Opposite Pol.)	2546.0	H	X	207	114	9.41	1 / 1	9.41	18.83	0.076	33.01	-14.18

Table 7-7. EIRP Data (NR Band n41)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Pol.	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
100 MHz	π/2 BPSK	3750.0	V	Y	107.0	63.0	6.82	1 / 99	14.08	20.90	0.123	33.01	-12.11
		3840.0	V	Y	109.0	47.0	6.76	1 / 0	14.86	21.62	0.145	33.01	-11.39
		3930.0	V	Y	100.0	32.0	6.65	1 / 0	14.47	21.12	0.129	33.01	-11.89
	QPSK	3750.0	V	Y	107.0	63.0	6.82	1 / 99	13.52	20.34	0.108	33.01	-12.67
		3840.0	V	Y	109.0	47.0	6.76	1 / 0	14.46	21.22	0.132	33.01	-11.79
		3930.0	V	Y	100.0	32.0	6.65	1 / 0	14.14	20.79	0.120	33.01	-12.22
		3750.0	V	Y	107.0	63.0	6.82	1 / 99	13.52	20.34	0.108	33.01	-12.67
64-QAM	3840.0	V	Y	109.0	47.0	6.76	1 / 0	13.95	20.71	0.118	33.01	-12.30	
256-QAM	3840.0	V	Y	109.0	47.0	6.76	1 / 0	12.27	18.92	0.078	33.01	-14.09	
100 MHz	Opposite Pol.	3750.0	H	Z	143.0	346.0	5.94	1 / 50	12.03	17.97	0.063	33.01	-15.04

Table 7-8. EIRP Data (NR Band n77)

FCC ID: A3LSMA426U	 PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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## 7.7 Radiated Spurious Emissions Measurements

### Test Overview



Radiated spurious emissions measurements are performed using the field strength conversion method described in KDB 971168 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

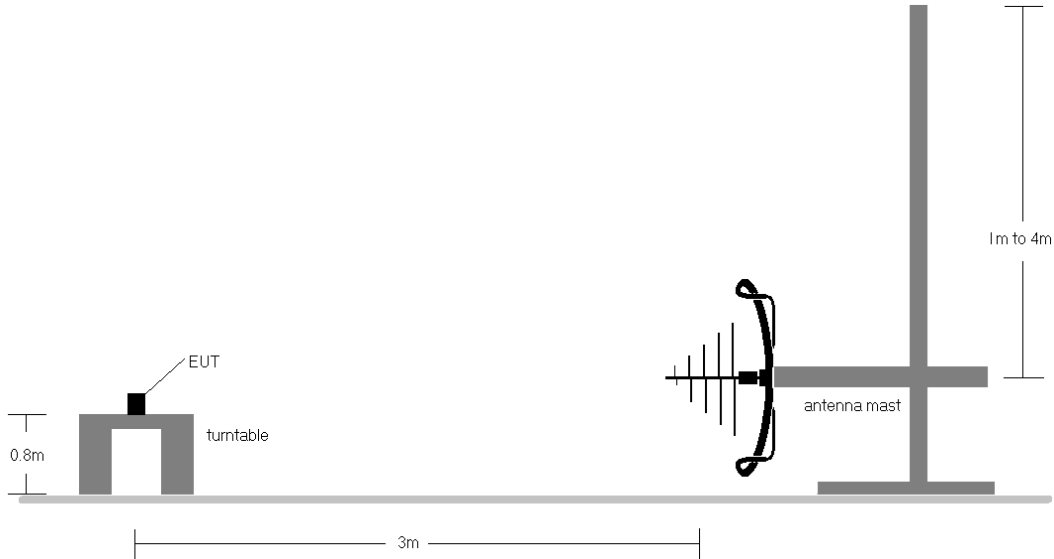
### Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW  $\geq 3 \times$  RBW
3. Span = 1.5 times the OBW
4. No. of sweep points  $\geq 2 \times$  span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

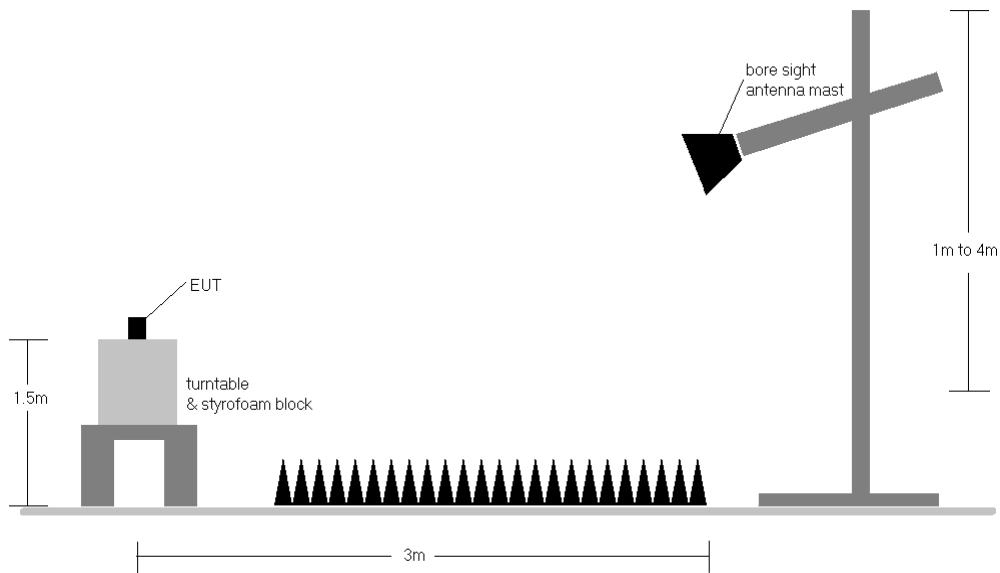
FCC ID: A3LSMA426U	 PCTEST® Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset	Page 100 of 127	

**Test Setup**


The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-5. Test Instrument & Measurement Setup < 1GHz**





**Figure 7-6. Test Instrument & Measurement Setup >1 GHz**

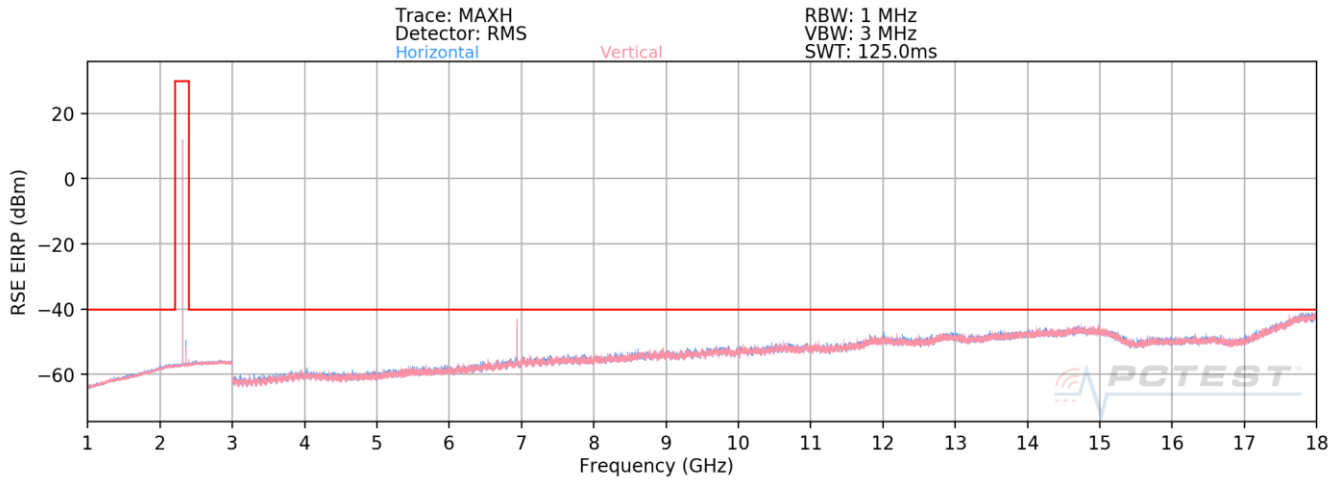
FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 101 of 127

## Test Notes

- 1) Field strengths are calculated using the Measurement quantity conversions in KDB 971168 Section 5.8.4.
  - a)  $E(\text{dB}\mu\text{V}/\text{m}) = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$
  - b)  $\text{EIRP (dBm)} = E(\text{dB}\mu\text{V}/\text{m}) + 20\log D - 104.8$ ; where D is the measurement distance in meters.
- 2) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 3) This unit was tested with its standard battery.
- 4) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.
- 5) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 6) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7) The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 8) ULCA spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device.
- 9) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.
- 10) Spurious emissions shown in this section are measured while operating in EN-DC mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor). Spurious emissions from the NR carrier device, is subject to the rules under which the NR carrier operates. Spurious emission caused by the LTE carrier must meet the requirements of the rules under which the LTE carrier operates.

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<b>Test Report S/N:</b> 1M2101040001-25-R2.A3L	<b>Test Dates:</b> 1/08 - 2/19/2021	<b>EUT Type:</b> Portable Handset		Page 102 of 127

## LTE Band 30



**Plot 7-147. Radiated Spurious Plot (LTE Band 30)**

Bandwidth (MHz):	5
Frequency (MHz):	2307.5
RB / Offset:	1 / 25
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
4615.0	H	133	355	-74.91	1.63	33.72	-61.54	-40.00	-21.54
6922.5	H	149	338	-65.49	7.56	49.07	-46.19	-40.00	-6.19
9230.0	H	-	-	-81.53	11.44	36.91	-58.35	-40.00	-18.35
11537.5	H	-	-	-82.01	14.51	39.50	-55.76	-40.00	-15.76
13845.0	H	-	-	-82.64	18.26	42.62	-52.64	-40.00	-12.64
16152.5	H	-	-	-82.48	16.15	40.67	-54.58	-40.00	-14.58

**Table 7-9. Radiated Spurious Data (LTE Band 30 – Low Channel)**

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 103 of 127



Bandwidth (MHz):	5
Frequency (MHz):	2310.0
RB / Offset:	1 / 0
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
4620.0	H	103	1	-75.34	1.62	33.28	-61.98	-40.00	-21.98
6930.0	H	165	340	-66.18	7.58	48.40	-46.86	-40.00	-6.86
9240.0	H	-	-	-81.80	11.51	36.71	-58.55	-40.00	-18.55
11550.0	H	-	-	-82.54	14.55	39.01	-56.25	-40.00	-16.25
13860.0	H	-	-	-82.83	18.30	42.47	-52.79	-40.00	-12.79
16170.0	H	-	-	-83.04	16.20	40.16	-55.10	-40.00	-15.10

Table 7-10. Radiated Spurious Data (LTE Band 30 – Mid Channel)

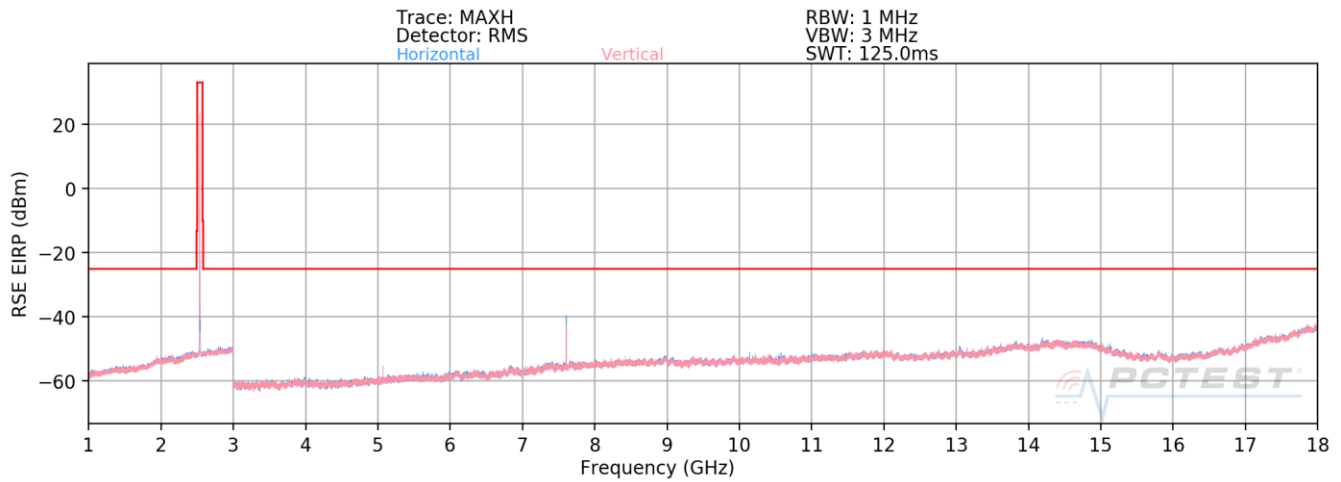
Bandwidth (MHz):	10
Frequency (MHz):	2310.0
RB / Offset:	1 / 25
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
4620.00	H	101	6	-76.71	1.61	31.90	-63.36	-40.00	-23.36
6930.00	H	179	335	-66.10	7.59	48.49	-46.77	-40.00	-6.77
9240.00	H	-	-	-81.92	11.59	36.67	-58.59	-40.00	-18.59
11550.00	H	-	-	-82.35	14.58	39.23	-56.03	-40.00	-16.03
13860.00	H	-	-	-82.88	18.34	42.46	-52.80	-40.00	-12.80
16170.00	H	-	-	-82.57	16.24	40.67	-54.58	-40.00	-14.58

Table 7-11. Radiated Spurious Data (LTE Band 30 – High Channel)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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## LTE Band 7





Plot 7-148. Radiated Spurious Plot (LTE Band 7)

Bandwidth (MHz):	20
Frequency (MHz):	2510.0
RB / Offset:	1 / 50
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5020.0	H	313	9	-72.37	4.14	38.77	-56.49	-25.00	-31.49
7530.0	H	137	24	-59.77	9.39	56.62	-38.64	-25.00	-13.64
10040.0	H	120	26	-76.50	11.63	42.13	-53.13	-25.00	-28.13
12550.0	H	-	-	-80.69	14.09	40.40	-54.86	-25.00	-29.86
15060.0	H	-	-	-80.77	15.81	42.04	-53.21	-25.00	-28.21
17570.0	H	-	-	-80.82	19.31	45.49	-49.77	-25.00	-24.77

Table 7-12. Radiated Spurious Data (LTE Band 7 – Low Channel)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	20
Frequency (MHz):	2535.0
RB / Offset:	1 / 50
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5070.0	H	302	359	-70.95	4.26	40.31	-54.95	-25.00	-29.95
7605.0	H	121	50	-61.27	9.29	55.02	-40.24	-25.00	-15.24
10140.0	H	220	339	-76.12	11.82	42.70	-52.56	-25.00	-27.56
12675.0	H	-	-	-80.86	13.89	40.03	-55.23	-25.00	-30.23
15210.0	H	-	-	-81.09	15.29	41.20	-54.06	-25.00	-29.06
17745.0	H	-	-	-81.39	21.42	47.03	-48.23	-25.00	-23.23

Table 7-13. Radiated Spurious Data (LTE Band 7 – Mid Channel)

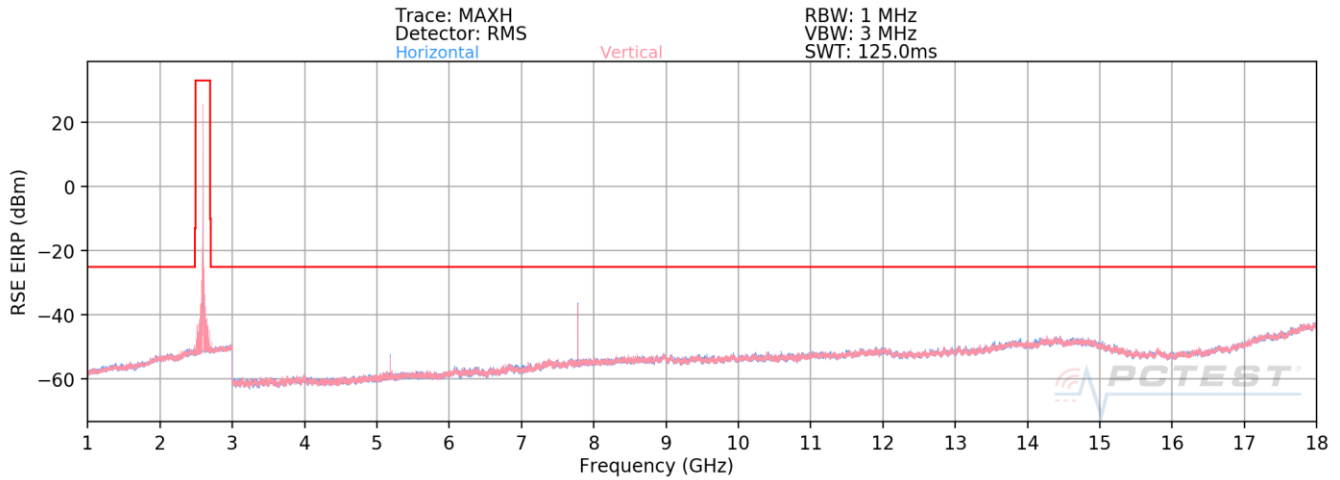
Bandwidth (MHz):	20
Frequency (MHz):	2560.0
RB / Offset:	1 / 50
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5120.00	H	182	352	-70.95	4.37	40.42	-54.84	-25.00	-29.84
7680.00	H	118	50	-62.40	9.79	54.39	-40.87	-25.00	-15.87
10240.00	H	218	337	-76.46	12.18	42.72	-52.54	-25.00	-27.54
12800.00	H	-	-	-81.09	14.26	40.17	-55.08	-25.00	-30.08
15360.00	H	-	-	-81.42	14.20	39.78	-55.48	-25.00	-30.48
17920.00	H	-	-	-81.29	22.13	47.84	-47.42	-25.00	-22.42

Table 7-14. Radiated Spurious Data (LTE Band 7 – High Channel)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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## LTE Band 41(PC2)



**Plot 7-149. Radiated Spurious Plot (LTE Band 41(PC2))**

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	2506.0
<b>RB / Offset:</b>	1 / 50
<b>Detector / Trace Mode:</b>	RMS / Max Hold
<b>RBW / VBW:</b>	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5012.0	H	135	305	-66.11	4.06	44.95	-50.31	-25.00	-25.31
7518.0	H	130	46	-50.95	9.27	65.32	-29.93	-25.00	-4.93
10024.0	H	200	349	-75.14	11.48	43.34	-51.92	-25.00	-26.92
12530.0	H	160	291	-79.18	14.13	41.95	-53.31	-25.00	-28.31
15036.0	H	-	-	-79.41	16.36	43.95	-51.31	-25.00	-26.31

**Table 7-15. Radiated Spurious Data (LTE Band 41(PC2) – Low Channel)**

<b>FCC ID:</b> A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2101040001-25-R2.A3L	<b>Test Dates:</b> 1/08 - 2/19/2021	<b>EUT Type:</b> Portable Handset	Page 107 of 127	

Bandwidth (MHz):	20
Frequency (MHz):	2593.0
RB / Offset:	1 / 50
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5186.0	H	210	45	-63.88	4.87	47.99	-47.26	-25.00	-22.26
7779.0	H	259	49	-57.34	9.15	58.81	-36.45	-25.00	-11.45
10372.0	H	193	314	-76.92	12.11	42.19	-53.07	-25.00	-28.07
12965.0	H	198	329	-77.95	14.50	43.55	-51.70	-25.00	-26.70
15558.0	H	-	-	-79.20	13.41	41.21	-54.05	-25.00	-29.05

Table 7-16. Radiated Spurious Data (LTE Band 41(PC2) – Mid Channel)

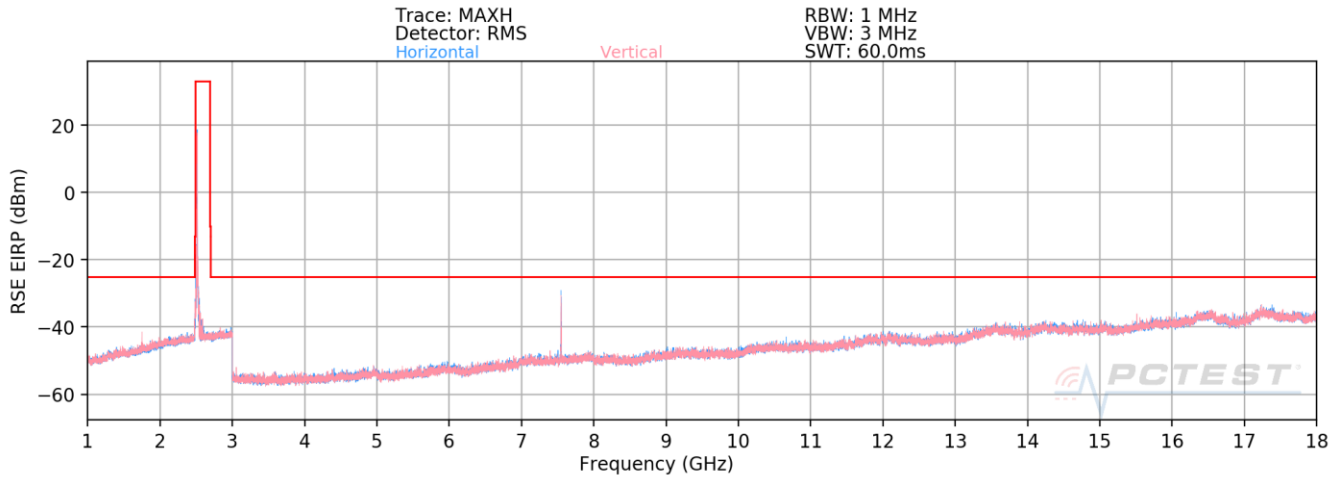
Bandwidth (MHz):	20
Frequency (MHz):	2680.0
RB / Offset:	1 / 50
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5360.0	H	145	349	-66.06	4.67	45.61	-49.65	-25.00	-24.65
8040.0	H	237	38	-54.76	10.38	62.62	-32.64	-25.00	-7.64
10720.0	H	165	317	-76.40	12.97	43.57	-51.68	-25.00	-26.68
13400.0	H	188	337	-75.20	15.10	46.90	-48.36	-25.00	-23.36
16080.0	H	-	-	-79.53	13.79	41.26	-53.99	-25.00	-28.99

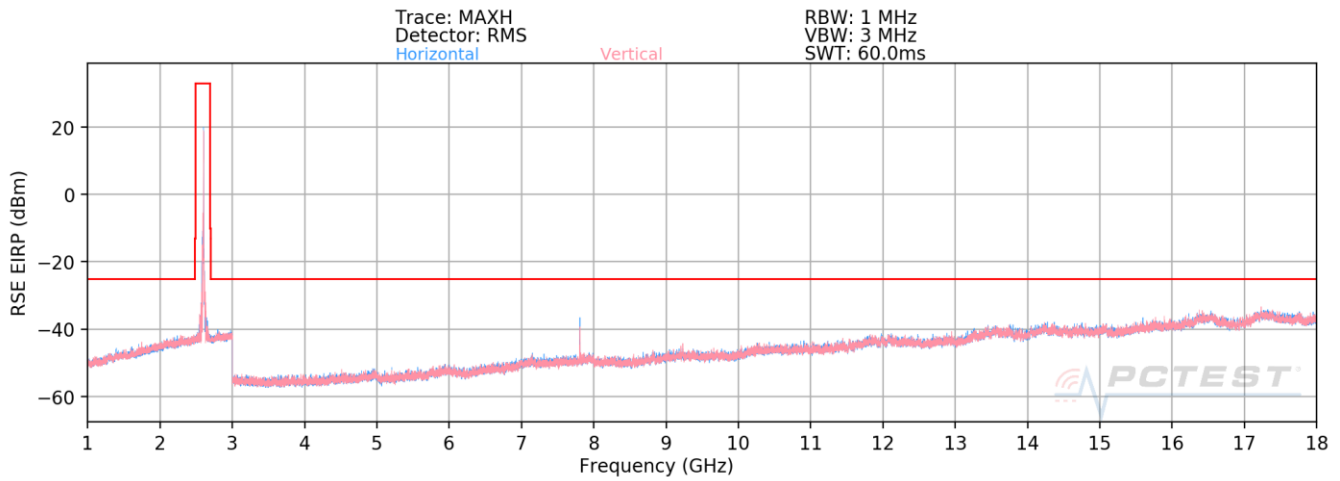
Table 7-17. Radiated Spurious Data (LTE Band 41(PC2) – High Channel)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 108 of 127

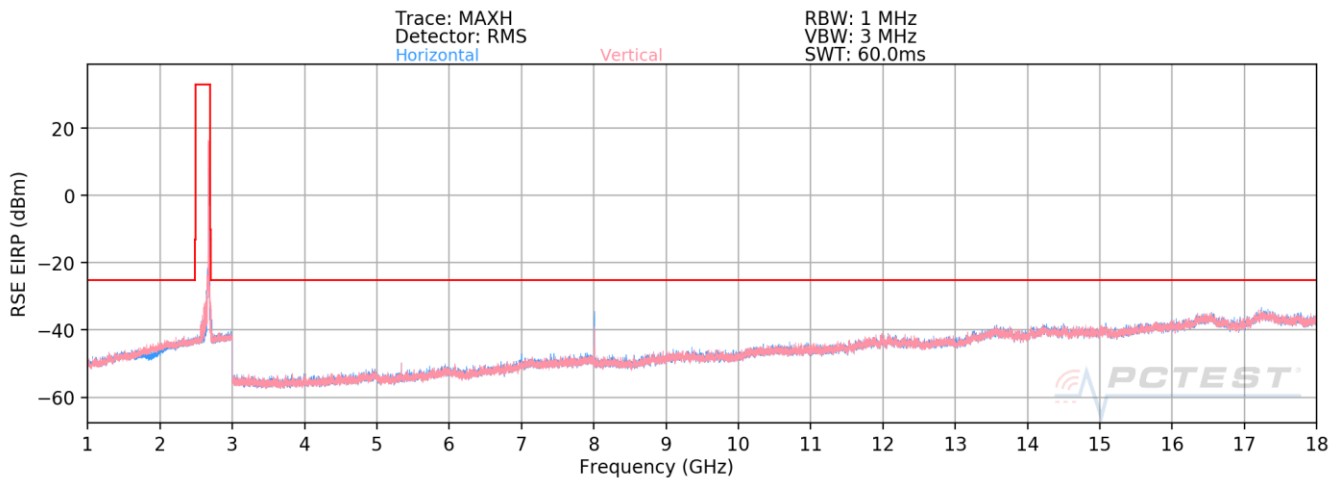
### LTE Band 41(PC2) ULCA



**Plot 7-150. Radiated Spurious Plot (LTE Band 41(PC2) ULCA – Low Channel)**



**Plot 7-151. Radiated Spurious Plot (LTE Band 41(PC2) ULCA – Mid Channel)**



**Plot 7-152. Radiated Spurious Plot (LTE Band 41(PC2) ULCA – High Channel)**

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 109 of 127

PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	2506.0
PCC RB / Offset:	1 / 99
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	2525.8
SCC RB / Offset:	1 / 0
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5012.0	H	180	46	-72.82	10.20	44.38	-50.88	-25.00	-25.88
7518.0	H	116	55	-55.85	15.81	66.96	-28.30	-25.00	-3.30
10024.0	H	-	-	-76.55	19.59	50.04	-45.22	-25.00	-20.22
12530.0	H	-	-	-77.22	23.33	53.11	-42.15	-25.00	-17.15
15036.0	H	-	-	-78.51	27.90	56.39	-38.87	-25.00	-13.87

Table 7-18. Radiated Spurious Data (LTE Band 41(PC2) – ULCA – Low Channel)

PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	2593.0
PCC RB / Offset:	1 / 99
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	2612.8
SCC RB / Offset:	1 / 0
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5186.0	H	129	64	-72.65	10.38	44.73	-50.53	-25.00	-25.53
7779.0	H	280	9	-63.28	16.11	59.83	-35.42	-25.00	-10.42
10372.0	H	-	-	-75.86	20.14	51.28	-43.98	-25.00	-18.98
12965.0	H	-	-	-77.66	24.55	53.89	-41.37	-25.00	-16.37
15558.0	H	-	-	-77.57	29.05	58.48	-36.78	-25.00	-11.78



Table 7-19. Radiated Spurious Data (LTE Band 41(PC2) – ULCA – Mid Channel)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 110 of 127

PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	2680.0
PCC RB / Offset:	1 / 0
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	2660.2
SCC RB / Offset:	1 / 99
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

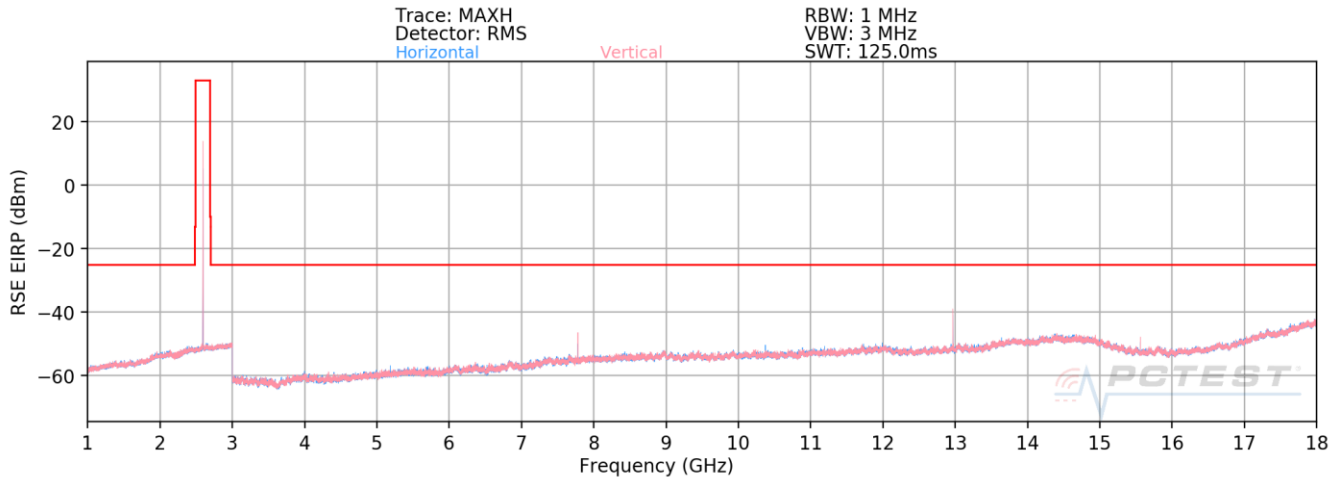
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5360.0	H	141	54	-70.59	11.12	47.53	-47.73	-25.00	-22.73
8040.0	H	168	45	-60.32	16.78	63.46	-31.80	-25.00	-6.80
10720.0	H	-	-	-75.94	20.29	51.35	-43.90	-25.00	-18.90
13400.0	H	-	-	-77.34	25.08	54.74	-40.51	-25.00	-15.51
16080.0	H	-	-	-77.95	28.86	57.91	-37.34	-25.00	-12.34

**Table 7-20. Radiated Spurious Data (LTE Band 41(PC2) – ULCA – High Channel)**

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 111 of 127



## NR Band n41



Plot 7-153. Radiated Spurious Plot (NR Band n41)

Bandwidth (MHz):	100
Frequency (MHz):	2546.01
RB / Offset:	1 / 271
Mode:	Standalone



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5092.0	H	151	11	-72.23	4.39	39.16	-56.10	-25.00	-31.10
7638.0	H	119	137	-72.02	9.78	44.76	-50.49	-25.00	-25.49
10184.0	H	236	12	-69.25	12.36	50.11	-45.15	-25.00	-20.15
12730.1	H	170	322	-65.57	14.04	55.47	-39.79	-25.00	-14.79
15276.1	H	119	39	-72.25	14.90	49.65	-45.61	-25.00	-20.61
17822.1	H	357	344	-79.63	22.87	50.24	-45.02	-25.00	-20.02

Table 7-21. Radiated Spurious Data (NR Band n41 – Low Channel)

Bandwidth (MHz):	100
Frequency (MHz):	2592.99
RB / Offset:	1 / 271
Mode:	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5186.0	H	151	358	-72.51	4.87	39.36	-55.89	-25.00	-30.89
7779.0	H	153	320	-68.96	9.15	47.19	-48.07	-25.00	-23.07
10372.0	H	112	315	-75.55	12.11	43.56	-51.70	-25.00	-26.70
12965.0	H	112	330	-65.48	14.50	56.02	-39.23	-25.00	-14.23
15557.9	H	120	11	-75.78	13.41	44.63	-50.63	-25.00	-25.63



Table 7-22. Radiated Spurious Data (NR Band n41 – Mid Channel)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 112 of 127

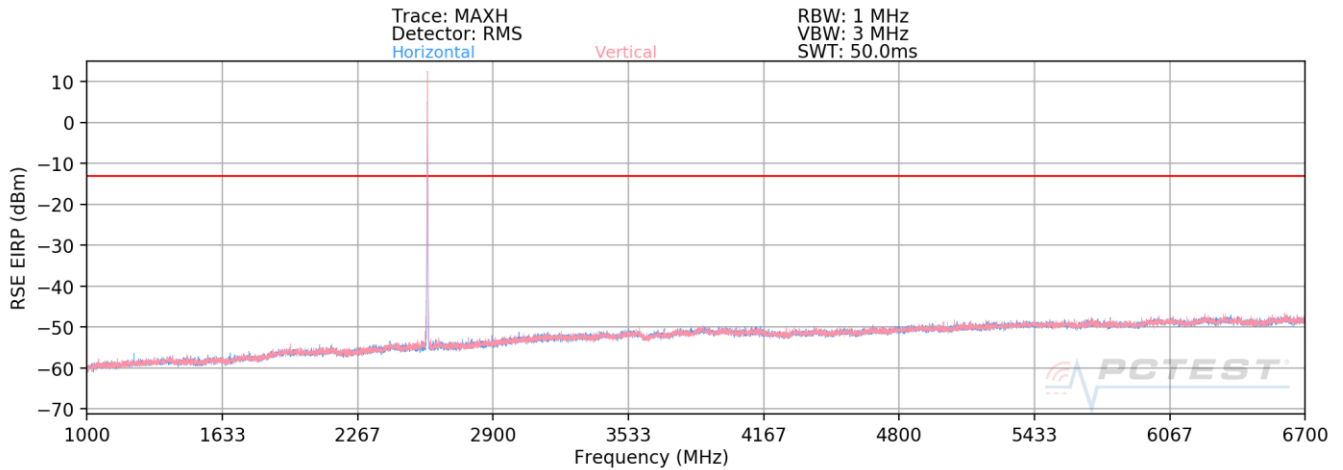
<b>Bandwidth (MHz):</b>	100
<b>Frequency (MHz):</b>	2640.00
<b>RB / Offset:</b>	1 / 137
<b>Mode:</b>	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5280.0	H	124	345	-74.44	4.39	36.95	-58.31	-25.00	-33.31
7920.0	H	149	323	-68.96	10.04	48.08	-47.18	-25.00	-22.18
10560.0	H	211	60	-77.42	12.06	41.64	-53.62	-25.00	-28.62
13200.0	H	156	330	-65.80	14.53	55.73	-39.53	-25.00	-14.53
15840.0	H	112	16	-76.08	14.95	45.87	-49.39	-25.00	-24.39

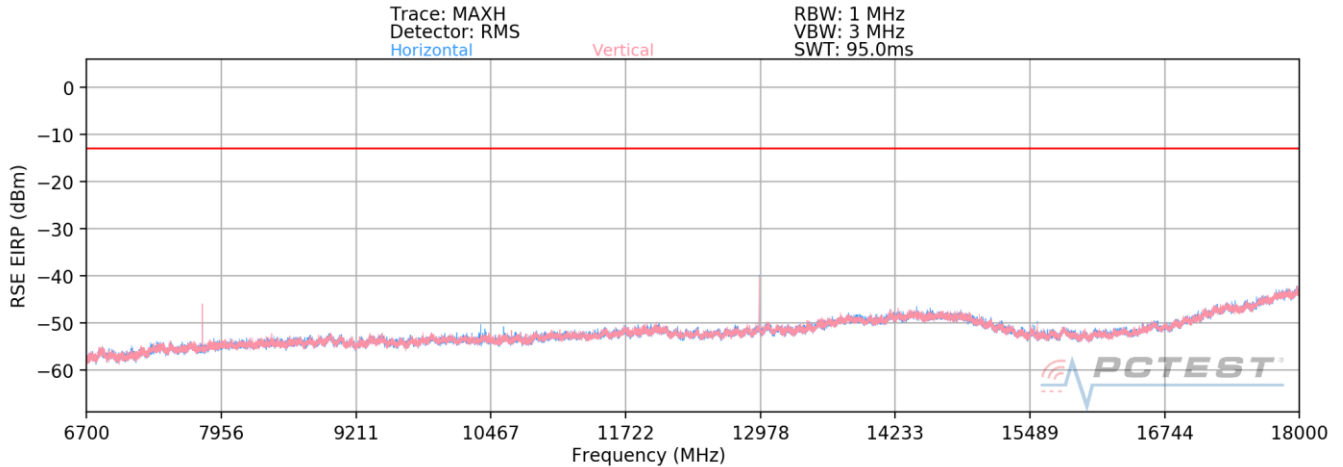
**Table 7-23. Radiated Spurious Data (NR Band n41 – High Channel)**

<b>FCC ID:</b> A3LSMA426U	 <b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2101040001-25-R2.A3L	<b>Test Dates:</b> 1/08 - 2/19/2021	<b>EUT Type:</b> Portable Handset		Page 113 of 127

### NR Band n41 – B12



**Plot 7-154. Radiated Spurious Plot (NR Band n41 + B12)**





**Plot 7-155. Radiated Spurious Plot (NR Band n41 + B12)**

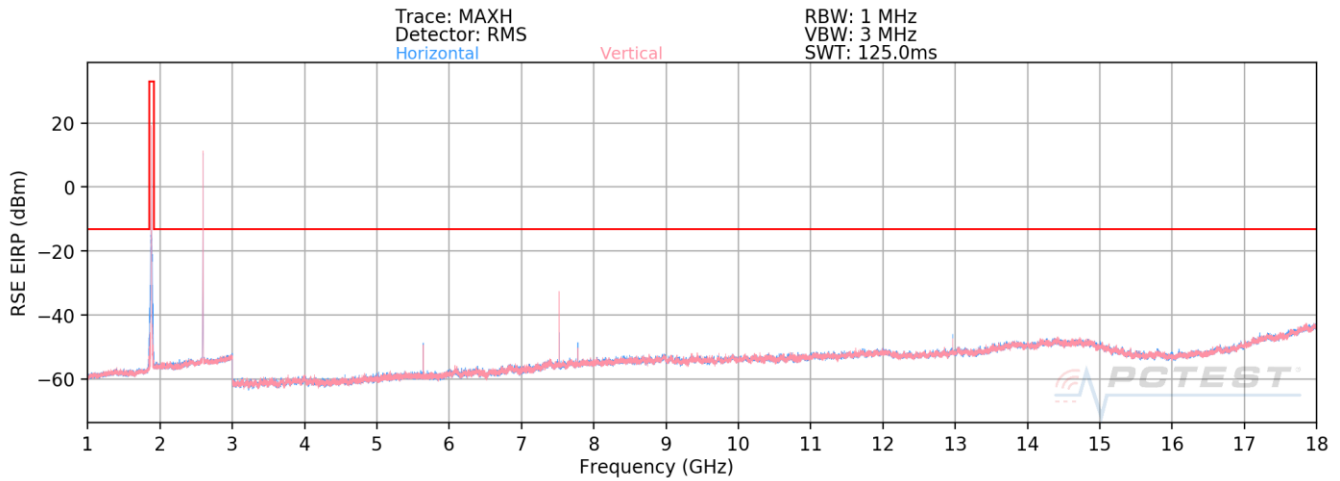
Bandwidth (MHz):	100/10
Frequency (MHz):	2593/707.5
RB / Offset:	1/136 & 1/25
Mode:	EN-DC
Anchor Band:	12

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1178.0	H	-	-	-70.76	2.48	38.72	-56.54	-13.00	-43.54
3063.5	H	-	-	-71.91	1.01	36.10	-59.16	-13.00	-46.16
4478.5	H	-	-	-76.77	2.75	32.98	-62.28	-13.00	-49.28
5186.0	H	133	352	-73.12	4.87	38.75	-56.50	-13.00	-43.50
7779.0	H	172	287	-69.42	9.15	46.73	-48.53	-13.00	-35.53
10372.0	H	191	87	-75.51	12.11	43.60	-51.66	-13.00	-38.66
12978.0	H	234	313	-62.51	14.56	59.05	-36.20	-13.00	-23.20

**Table 7-24. Radiated Spurious Data (NR Band n41 – B12)**

FCC ID: A3LSMA426U	 PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset	Page 114 of 127

**NR Band n41 – B2**



**Plot 7-156. Radiated Spurious Plot (NR Band n41 + B2)**

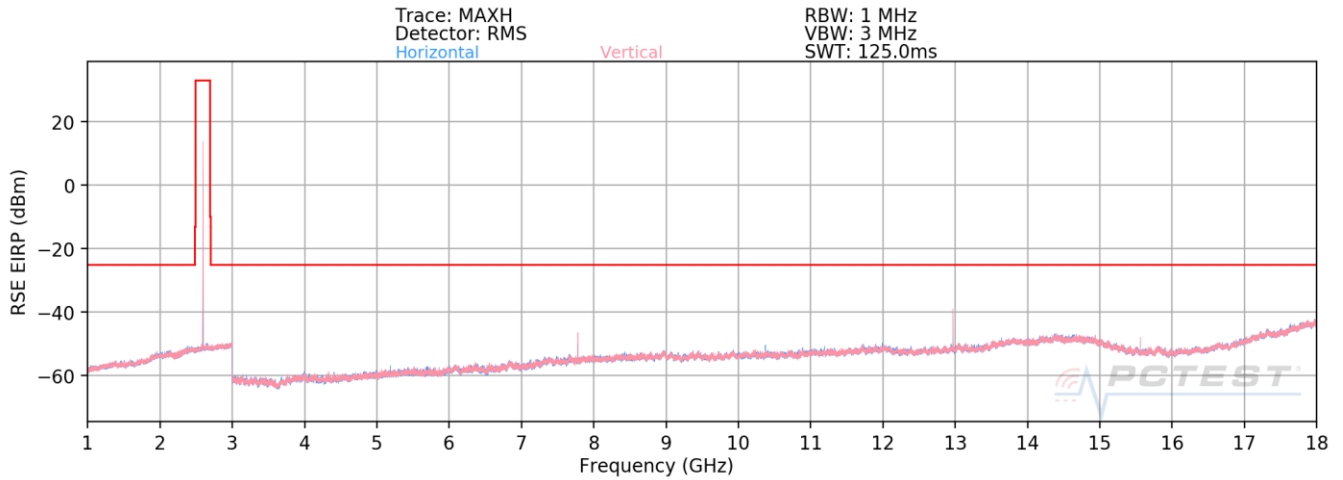
<b>Bandwidth (MHz):</b>	100/20
<b>Frequency (MHz):</b>	2593/1880
<b>RB / Offset:</b>	1/136 & 1/50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	2

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1167.0	V	-	-	-72.08	2.26	37.18	-58.08	-25.00	-33.08
1685.0	V	-	-	-74.46	3.83	36.37	-58.89	-25.00	-33.89
2398.0	V	-	-	-76.01	6.68	37.67	-57.59	-25.00	-32.59
5640.0	V	126	247	-63.39	5.01	48.62	-46.64	-25.00	-21.64
7520.2	V	284	352	-53.56	9.28	62.72	-32.54	-25.00	-7.54
7779.0	V	248	338	-73.04	9.15	43.11	-52.15	-25.00	-27.15
12965.0	V	225	19	-67.51	14.50	53.99	-41.26	-25.00	-16.26

**Table 7-25. Radiated Spurious Data (NR Band n41 – B2)**

<b>FCC ID:</b> A3LSMA426U	<b>PART 27 MEASUREMENT REPORT</b>	<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2101040001-25-R2.A3L	<b>Test Dates:</b> 1/08 - 2/19/2021	<b>EUT Type:</b> Portable Handset
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## NR Band n77



**Plot 7-157. Radiated Spurious Plot (NR Band n77)**

<b>Bandwidth (MHz):</b>	100								
<b>Frequency (MHz):</b>	3750.00								
<b>RB / Offset:</b>	1 / 137								
<b>Mode:</b>	Standalone								
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1435.8	H	-	-	-77.39	-5.93	23.68	-71.58	-13.00	-58.58
7500.0	H	112	336	-63.19	10.20	54.01	-41.25	-13.00	-28.25
11250.0	H	197	26	-69.81	12.65	49.84	-45.42	-13.00	-32.42
15000.0	H	153	13	-81.17	15.96	41.79	-53.47	-13.00	-40.47

**Table 7-26. Radiated Spurious Data (NR Band n77 – Low Channel)**

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 116 of 127

Bandwidth (MHz):	100
Frequency (MHz):	3840.00
RB / Offset:	1 / 137
Mode:	Standalone



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1526.0	H	386	340	-76.39	-5.87	24.74	-70.52	-13.00	-57.52
7680.0	H	259	335	-63.37	9.55	53.18	-42.08	-13.00	-29.08
11520.0	H	119	26	-69.03	13.62	51.59	-43.67	-13.00	-30.67
15360.0	H	161	13	-81.22	14.39	40.17	-55.09	-13.00	-42.09

Table 7-27. Radiated Spurious Data (NR Band n77 – Mid Channel)

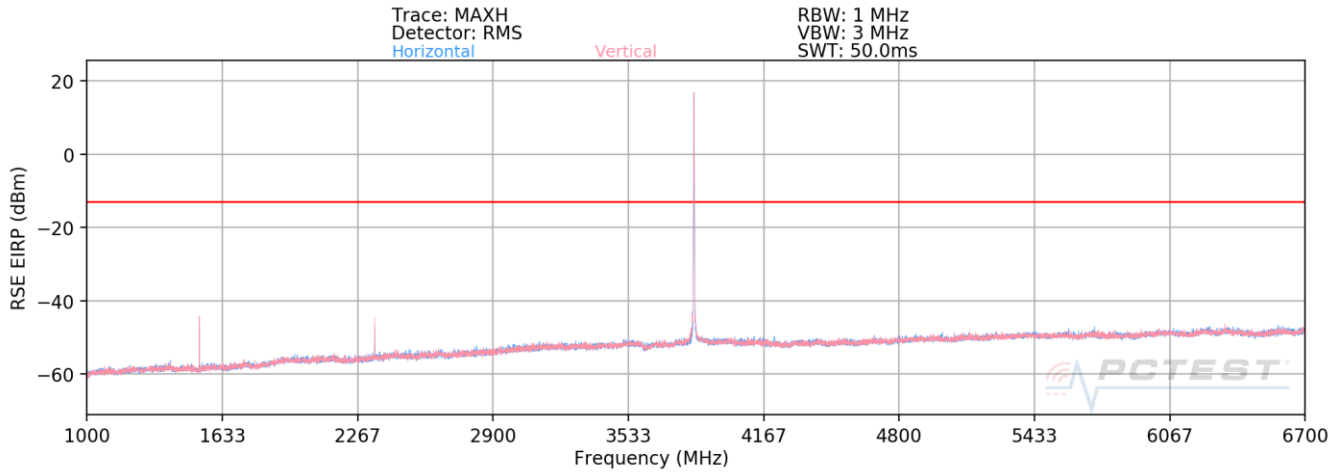
Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 137
Mode:	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1567.2	H	159	333	-55.44	-5.48	46.08	-49.18	-13.00	-36.18
7860.0	H	252	333	-63.47	10.50	54.03	-41.23	-13.00	-28.23
11790.0	H	176	342	-68.63	13.91	52.28	-42.97	-13.00	-29.97
15720.0	H	157	16	-79.78	14.29	41.51	-53.75	-13.00	-40.75

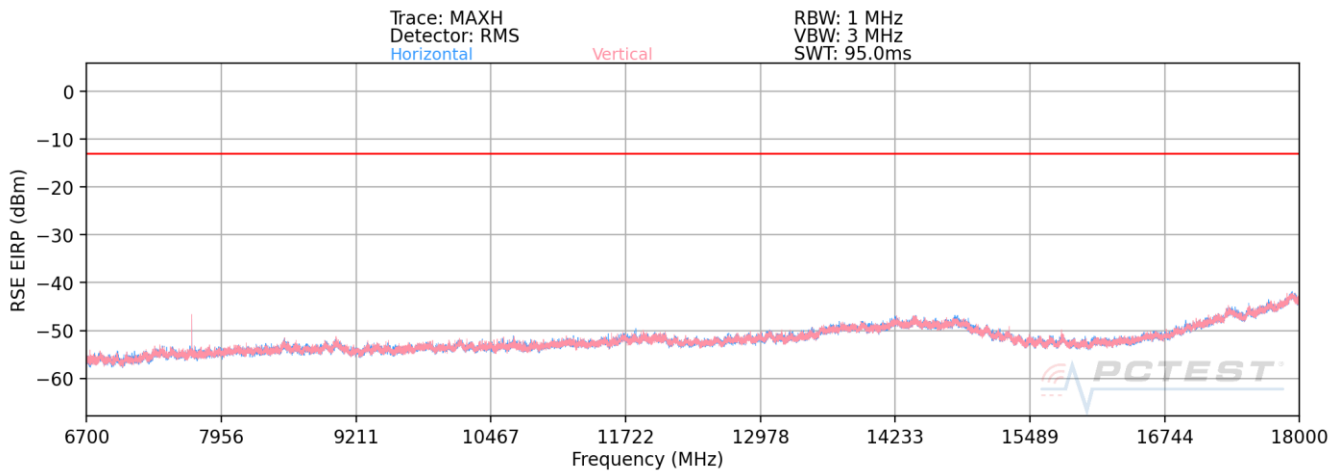
Table 7-28. Radiated Spurious Data (NR Band n77 – High Channel)

FCC ID: A3LSMA426U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset	Page 117 of 127	

### NR Band n77-B13



**Plot 7-158. Radiated Spurious Plot (NR Band n77+B13)**



**Plot 7-159. Radiated Spurious Plot (NR Band n77+B13)**

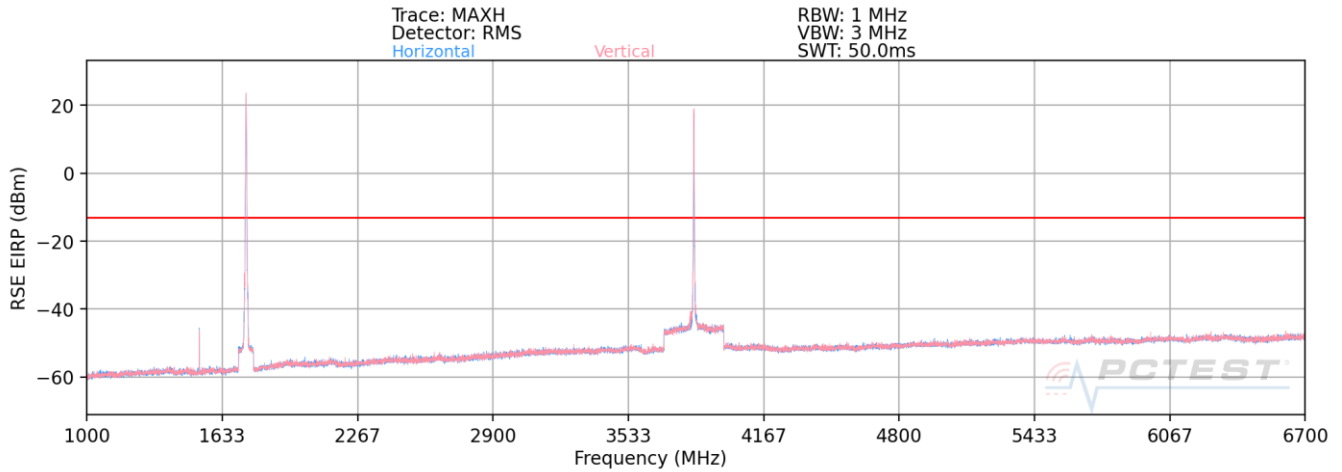
Bandwidth (MHz):	100/10
Frequency (MHz):	3840/1745
RB / Offset:	1/136&1/50
Mode:	EN-DC
Anchor Band:	13

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1525.5	V	308	265	-50.80	3.01	59.21	-36.05	-13.00	-23.05
2346.0	V	121	318	-60.97	6.49	52.52	-42.74	-13.00	-29.74
2776.0	V	-	-	-79.10	7.55	35.45	-59.81	-13.00	-34.81
5334.0	V	-	-	-75.95	14.22	45.27	-49.99	-13.00	-36.99
6898.0	V	-	-	-76.64	8.09	38.45	-56.81	-13.00	-43.81
7680.0	V	157	280	-66.68	9.55	49.87	-45.39	-13.00	-32.39
8392.0	V	-	-	-76.54	10.52	40.98	-54.28	-13.00	-41.28
9956.0	V	-	-	-76.98	11.23	41.25	-54.01	-13.00	-41.01

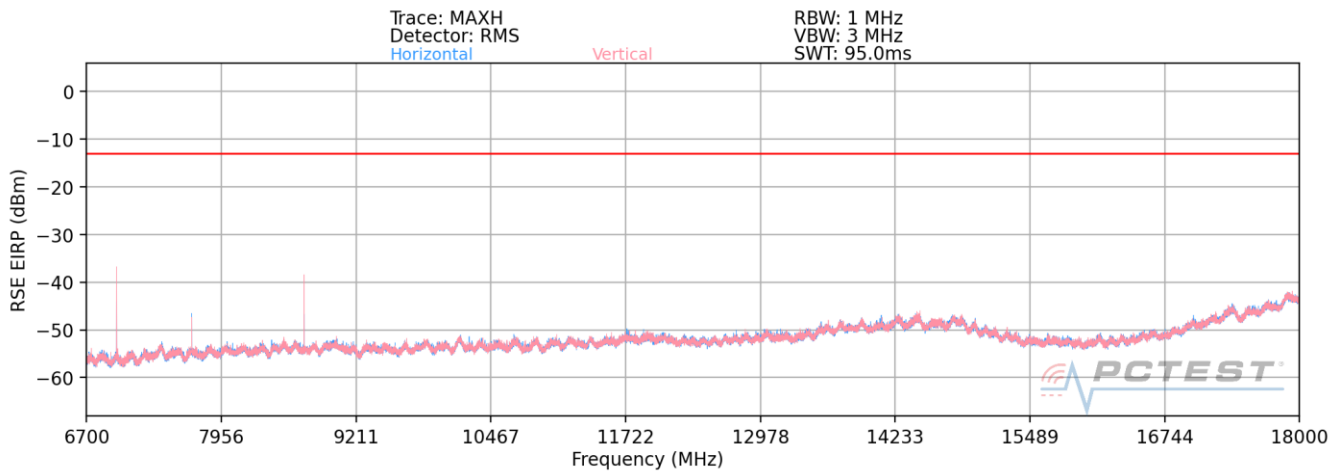
**Table 7-29. Radiated Spurious Data (NR Band n77 – B13)**

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2101040001-25-R2.A3L	Test Dates: 1/08 - 2/19/2021	EUT Type: Portable Handset		Page 118 of 127

### NR Band n77-B66



**Plot 7-160. Radiated Spurious Plot (NR Band n77+B66)**



**Plot 7-161. Radiated Spurious Plot (NR Band n77+B66)**

<b>Bandwidth (MHz):</b>	100/20
<b>Frequency (MHz):</b>	3840/1745
<b>RB / Offset:</b>	1/136 & 1/50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	66

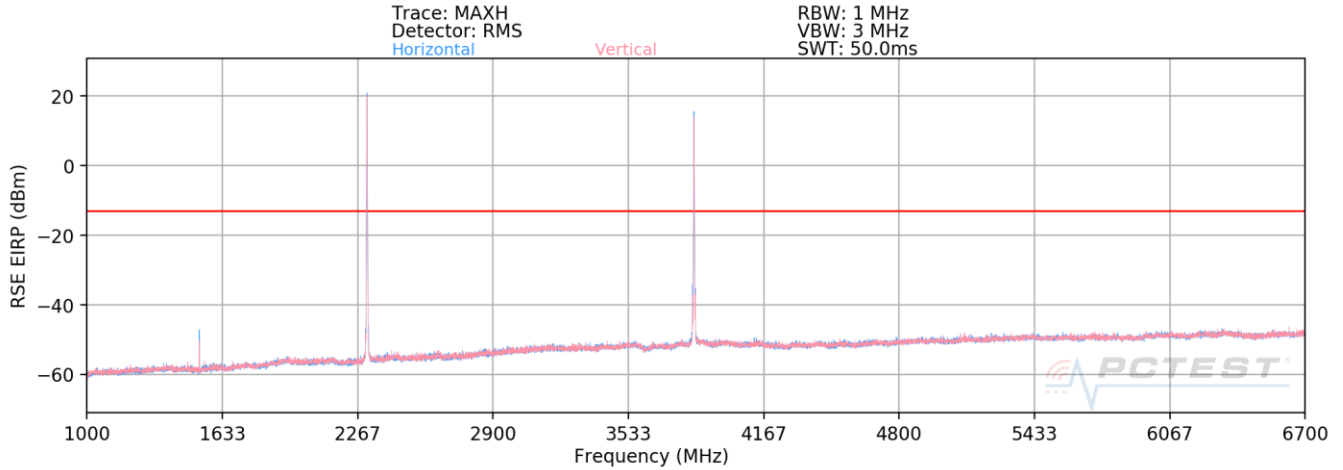
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1525.5	V	362	68	-52.21	3.01	57.80	-37.46	-13.00	-24.46
6980.0	V	258	331	-57.31	8.52	58.21	-37.04	-13.00	-24.04
7680.0	V	134	264	-68.28	9.55	48.27	-46.99	-13.00	-33.99
8030.0	V	-	-	-76.99	10.82	40.83	-54.43	-13.00	-41.43
8730.0	V	250	357	-66.53	11.04	51.51	-43.74	-13.00	-30.74
10125.0	V	-	-	-77.31	12.29	41.98	-53.28	-13.00	-40.28
10825.0	V	-	-	-77.38	12.12	41.74	-53.51	-13.00	-40.51

**Table 7-30. Radiated Spurious Data (NR Band n77 – B66)**

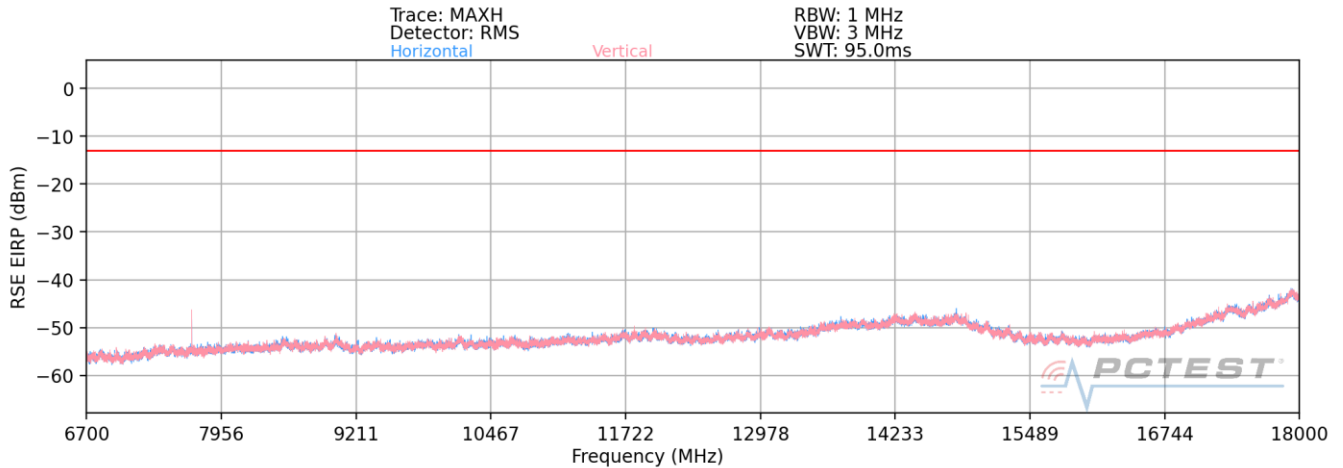
<b>FCC ID:</b> A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2101040001-25-R2.A3L	<b>Test Dates:</b> 1/08 - 2/19/2021	<b>EUT Type:</b> Portable Handset	Page 119 of 127	



## NR Band n77-B30



**Plot 7-162. Radiated Spurious Plot (NR Band n77+B30)**



**Plot 7-163. Radiated Spurious Plot (NR Band n77+B30)**

<b>Bandwidth (MHz):</b>	100/10
<b>Frequency (MHz):</b>	3840/2310
<b>RB / Offset:</b>	1/136 & 1/25
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	30

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1525.5	V	172	67	-61.70	3.01	48.31	-46.95	-13.00	-33.95
6930.5	V	383	216	-62.50	8.40	52.90	-42.36	-13.00	-29.36
7680.0	V	315	217	-68.40	9.55	48.15	-47.11	-13.00	-34.11
8400.0	V	-	-	-78.78	10.59	38.81	-56.45	-13.00	-43.45
8430.0	V	-	-	-79.16	11.40	39.24	-56.02	-13.00	-43.02

**Table 7-31. Radiated Spurious Data (NR Band n77 – B30)**

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## 7.8 Frequency Stability / Temperature Variation

### Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

### Test Procedure Used

ANSI/TIA-603-E-2016

### Test Settings



1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

### Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

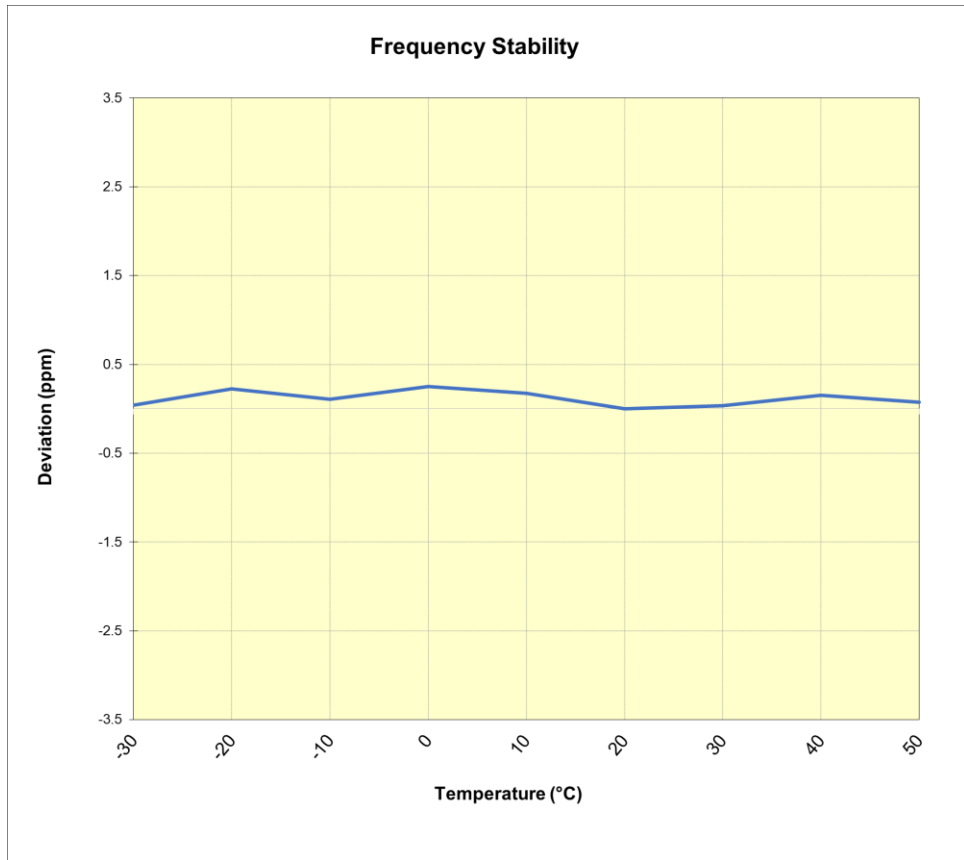
### Test Notes

None

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<b>LTE Band 30</b>					
		Operating Frequency (Hz):		2,310,000,000	
		Ref. Voltage (VDC):		4.38	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	2,310,000,000	-133	-0.0000058
		- 20	2,309,999,975	-158	-0.0000068
		- 10	2,310,000,252	119	0.0000052
		0	2,309,999,757	-376	-0.0000163
		+ 10	2,310,000,161	28	0.0000012
		+ 20 (Ref)	2,310,000,133	0	0.0000000
		+ 30	2,310,000,324	191	0.0000083
		+ 40	2,310,000,017	-116	-0.0000050
Battery Endpoint	3.51	+ 20	2,309,999,806	-327	-0.0000142

**Table 7-32. LTE Band 30 Frequency Stability Data**

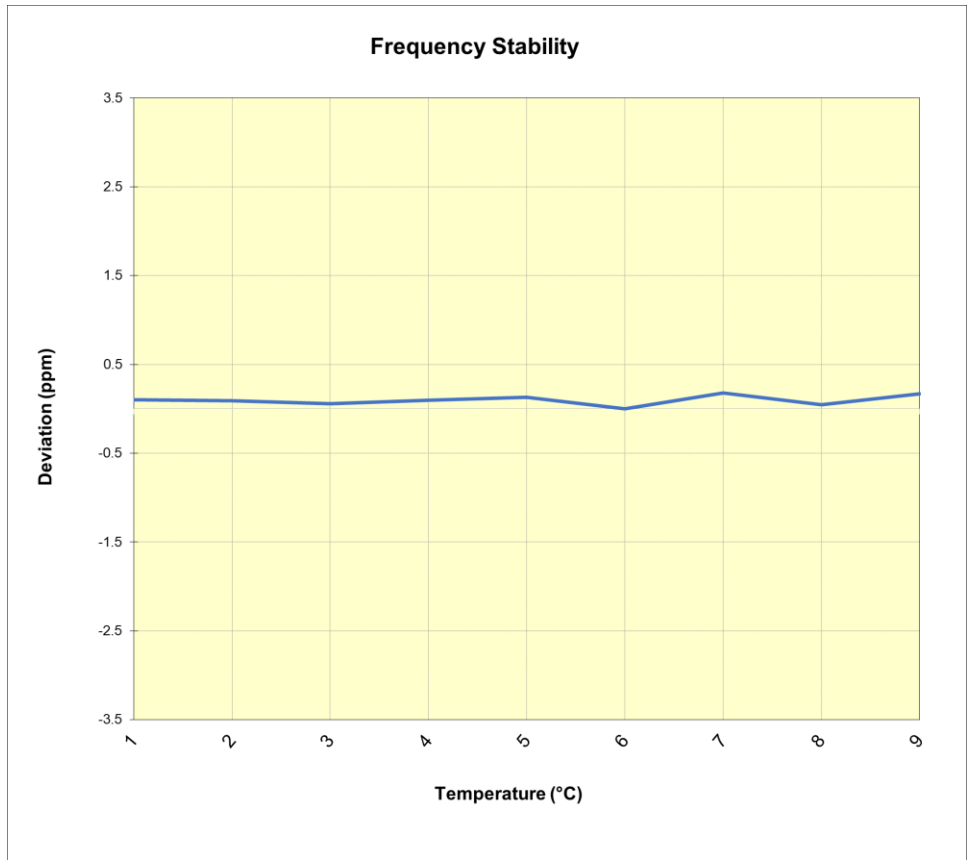


**Plot 7-164. LTE Band 30 Frequency Stability Chart**

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>Approved by:</b> Technical Manager
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<b>LTE Band 7</b>					
Operating Frequency (Hz):		2,535,000,000			
Ref. Voltage (VDC):		4.38			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	2,534,999,955	253	0.0000100
		- 20	2,534,999,940	238	0.0000094
		- 10	2,534,999,851	149	0.0000059
		0	2,534,999,952	250	0.0000099
		+ 10	2,535,000,036	334	0.0000132
		+ 20 (Ref)	2,534,999,702	0	0.0000000
		+ 30	2,535,000,152	450	0.0000178
		+ 40	2,534,999,825	123	0.0000049
Battery Endpoint	3.51	+ 20	2,535,000,069	367	0.0000145

**Table 7-33. LTE Band 7 Frequency Stability Data**

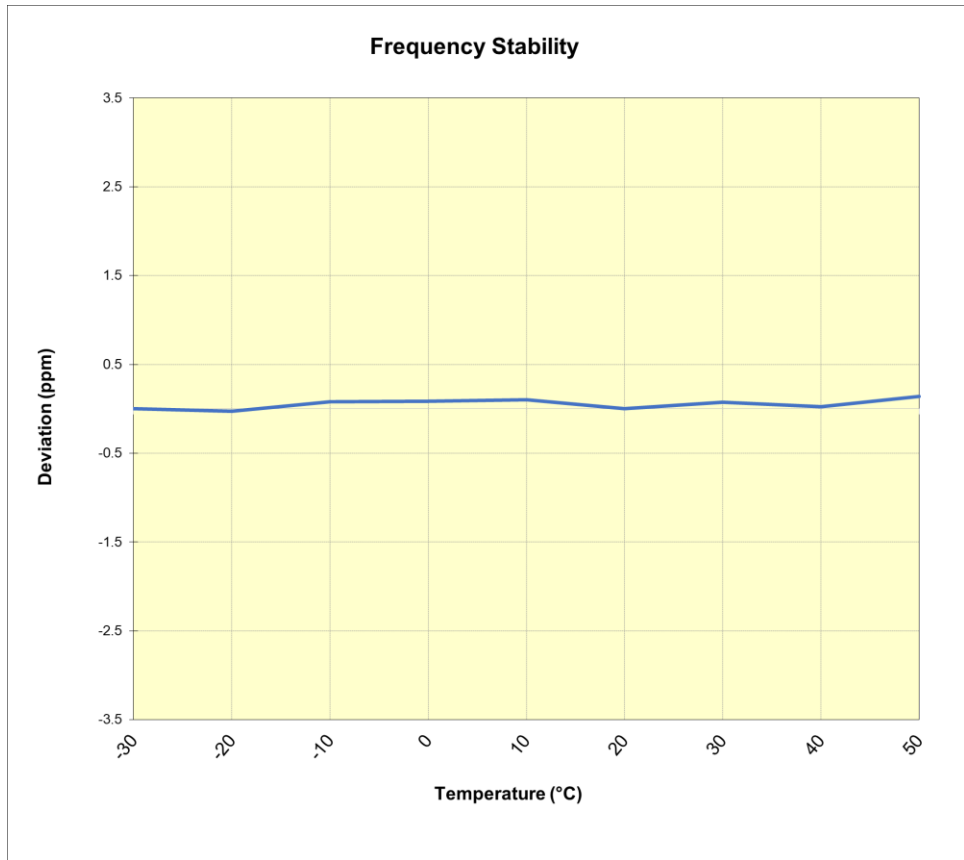


**Plot 7-165. LTE Band 7 Frequency Stability Chart**

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
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<b>LTE Band 41</b>					
		Operating Frequency (Hz):		2,593,000,000	
		Ref. Voltage (VDC):		4.38	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	2,592,999,787	-1	0.0000000
		- 20	2,592,999,715	-73	-0.0000028
		- 10	2,592,999,993	205	0.0000079
		0	2,593,000,006	218	0.0000084
		+ 10	2,593,000,056	268	0.0000103
		+ 20 (Ref)	2,592,999,788	0	0.0000000
		+ 30	2,592,999,982	194	0.0000075
		+ 40	2,592,999,857	69	0.0000027
Battery Endpoint	3.51	+ 20	2,593,000,048	260	0.0000100

**Table 7-34. LTE Band 41(PC2) Frequency Stability Data**

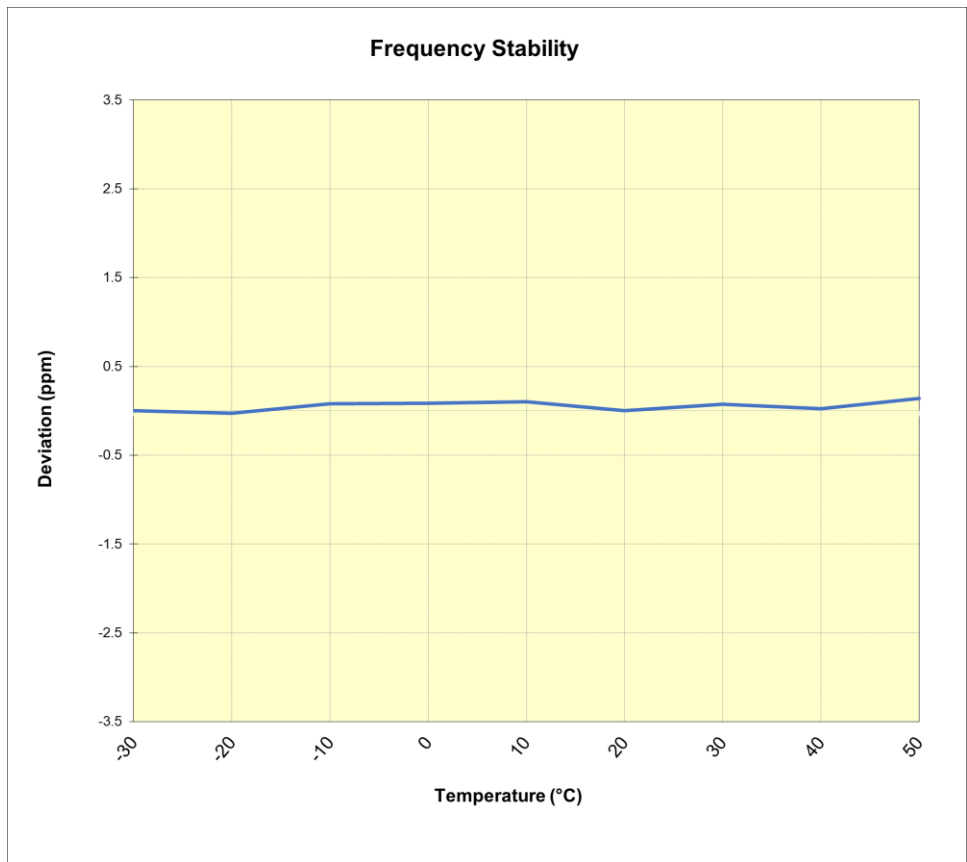


**Plot 7-166. LTE Band 41(PC2) Frequency Stability Chart**

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
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<b>NR Band n41</b>					
		Operating Frequency (Hz):		2,593,000,000	
		Ref. Voltage (VDC):		4.38	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	2,593,000,090	35	0.0000013
		- 20	2,593,000,016	-39	-0.0000015
		- 10	2,593,000,233	178	0.0000069
		0	2,593,000,164	109	0.0000042
		+ 10	2,593,000,176	121	0.0000047
		+ 20 (Ref)	2,593,000,055	0	0.0000000
		+ 30	2,592,999,685	-370	-0.0000143
		+ 40	2,592,999,896	-159	-0.0000061
Battery Endpoint	3.51	+ 20	2,592,999,836	-219	-0.0000084

**Table 7-35. NR Band 41 Frequency Stability Data**



**Plot 7-167. NR Band 41 Frequency Stability Chart**

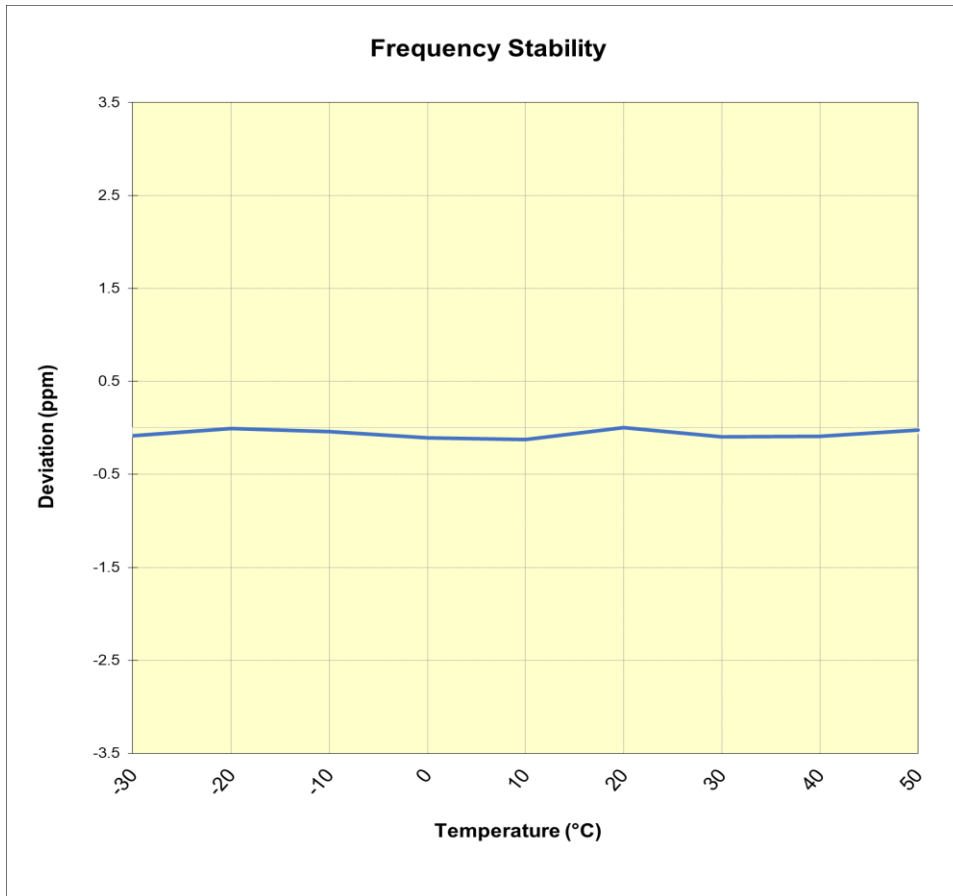
FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>	<b>SAMSUNG</b>	Approved by: Technical Manager
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## NR Band n77

Operating Frequency (Hz):	3,840,000,000
Ref. Voltage (VDC):	4.38

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	3,840,000,017	-327	-0.0000085
		- 20	3,840,000,322	-22	-0.0000006
		- 10	3,840,000,193	-151	-0.0000039
		0	3,839,999,935	-409	-0.0000107
		+ 10	3,839,999,853	-491	-0.0000128
		+ 20 (Ref)	3,840,000,344	0	0.0000000
		+ 30	3,839,999,978	-366	-0.0000095
		+ 40	3,839,999,994	-350	-0.0000091
		+ 50	3,840,000,255	-89	-0.0000023
Battery Endpoi	3.51	+ 20	3,840,000,272	-72	-0.0000019

**Table 7-36. NR Band 77 Frequency Stability Data**





**Plot 7-168. NR Band 77 Frequency Stability Chart**

FCC ID: A3LSMA426U	<b>PCTEST</b> Proud to be part of element	<b>PART 27 MEASUREMENT REPORT</b>		Approved by: Technical Manager
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## 8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the Samsung **Portable Handset** **FCC ID: A3LSMA426U** complies with all the requirements of Part 27 of the FCC rules.

FCC ID: A3LSMA426U	 <b>PART 27 MEASUREMENT REPORT</b> 		<b>Approved by:</b> Technical Manager
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