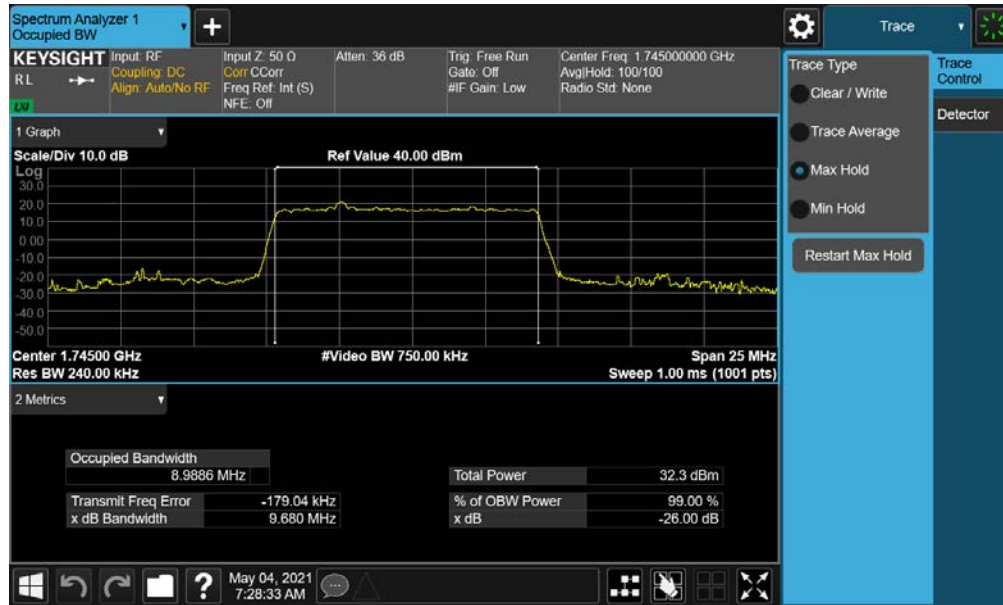
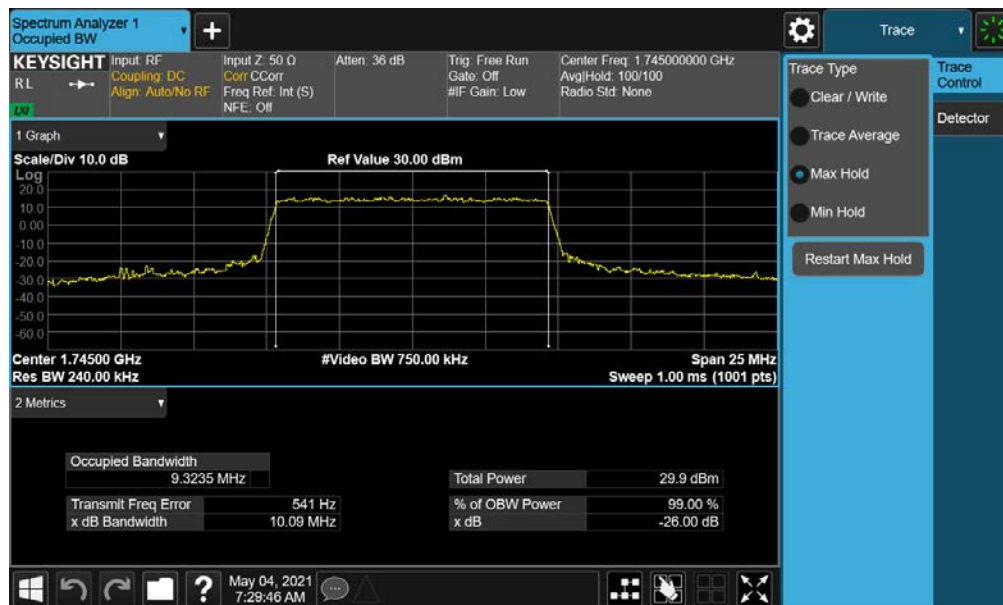


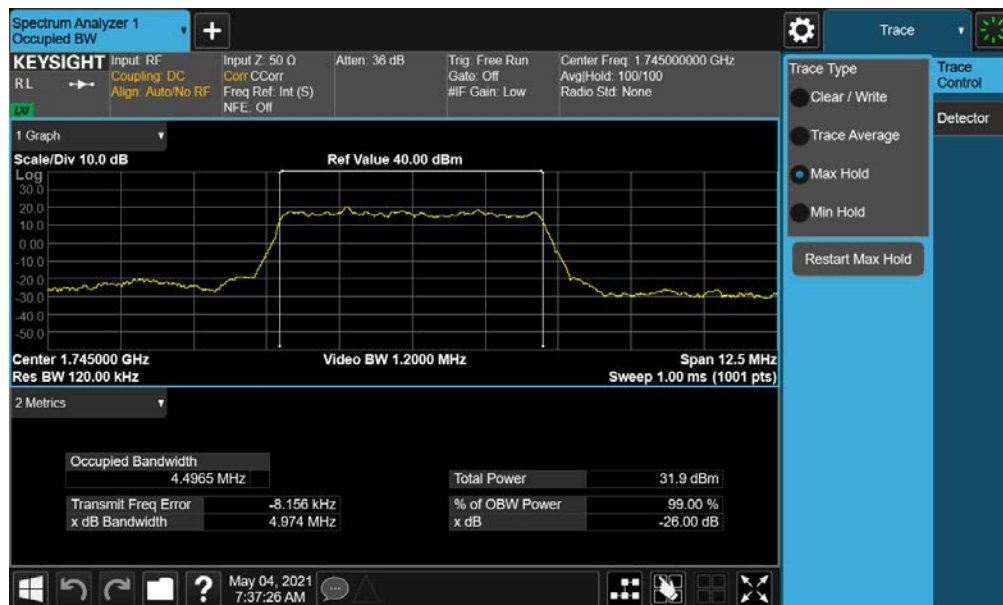
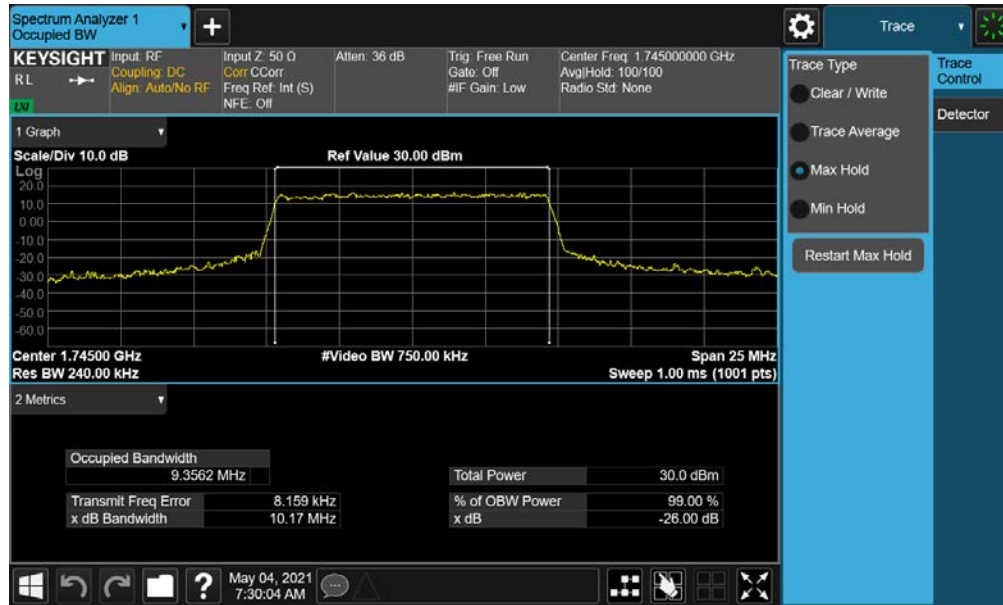


Plot 7-85. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB)

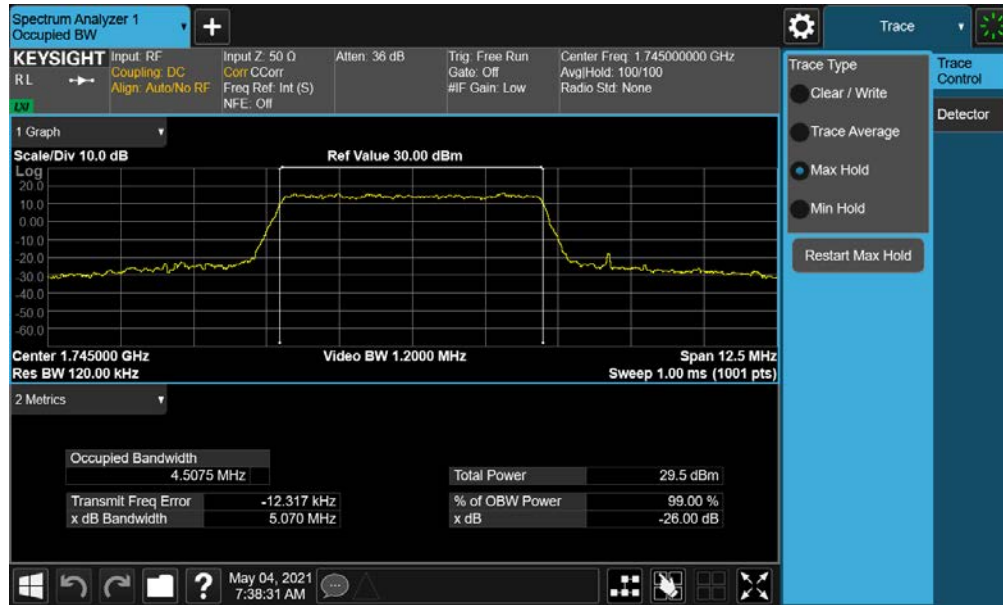


Plot 7-86. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM QPSK - Full RB)

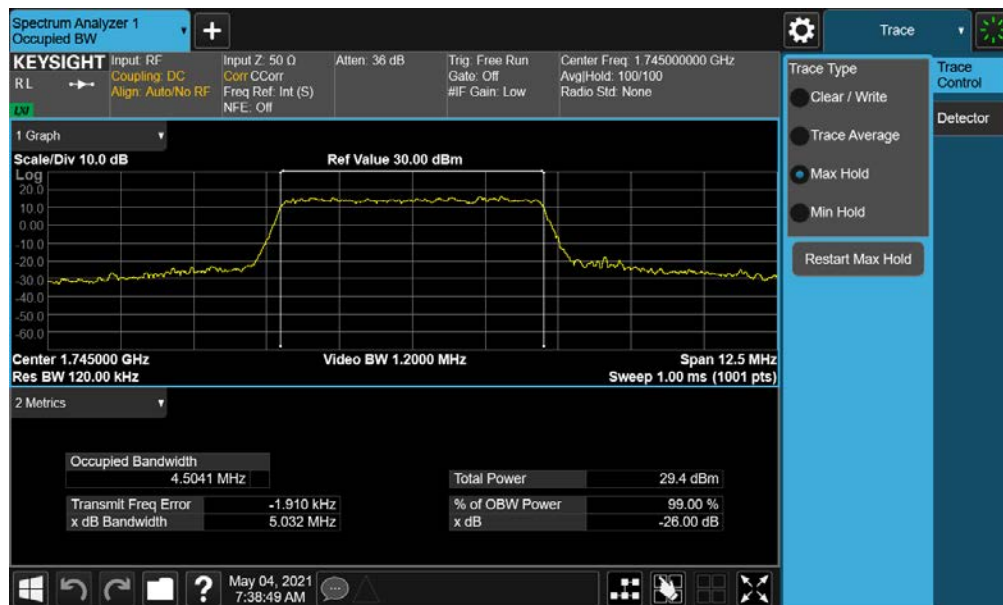
FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 60 of 262



FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 61 of 262



Plot 7-89. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM QPSK - Full RB)



Plot 7-90. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM 16QAM - Full RB)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 62 of 262

7.4 Spurious and Harmonic Emissions at Antenna Terminal

Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. 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 $43 + 10 \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6.0

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 18GHz (separated into at least two plots per channel)
2. RBW $\geq$ 100kHz
3. VBW $\geq$ 3 x RBW
4. Detector = RMS
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Setup

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

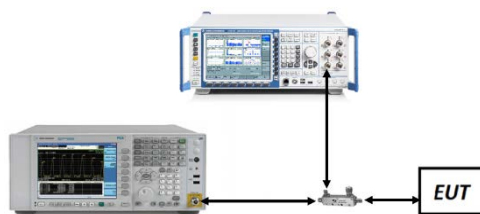


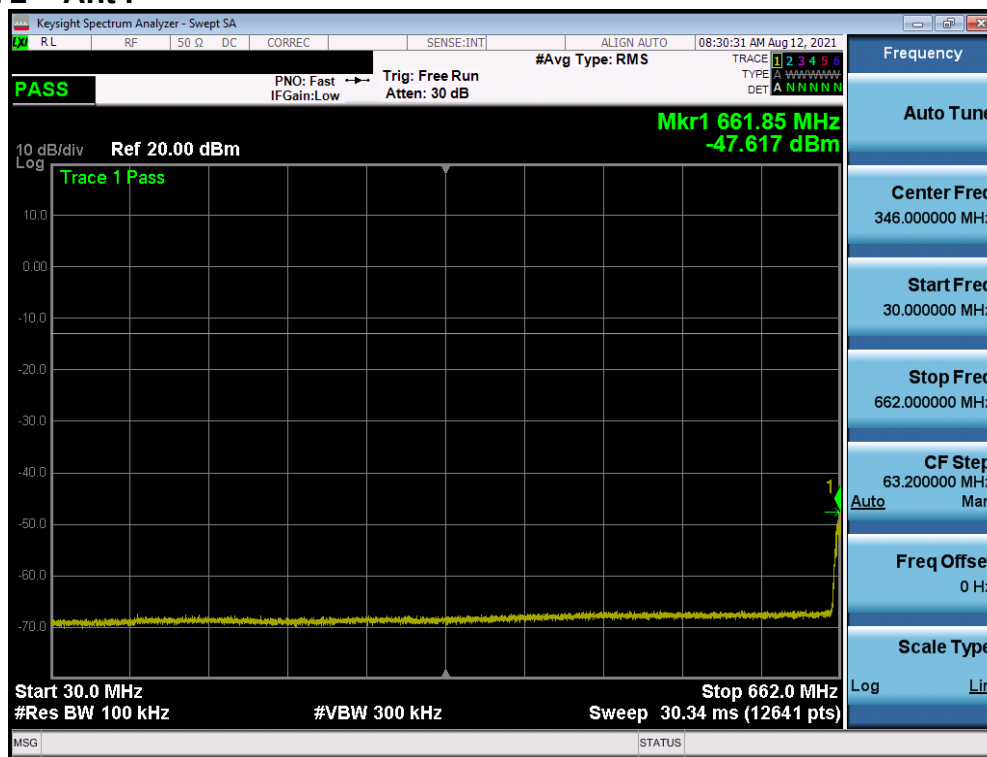
Figure 7-3. Test Instrument & Measurement Setup

Test Notes

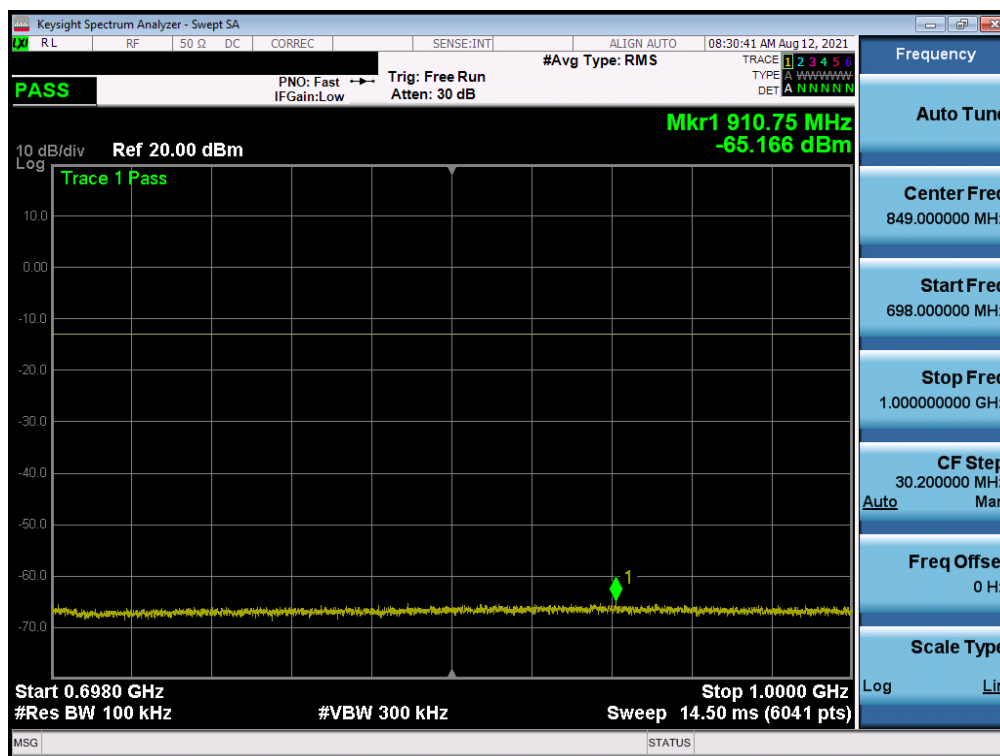
1. Per Part 27 and RSS-139, compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth 100 kHz or greater for measurements below 1GHz and 1MHz or greater for measurements above 1GHz. However, in the bands immediately outside and adjacent 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. 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. 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: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 63 of 262

LTE Band 71 – Ant I



Plot 7-91. Conducted Spurious Plot ((LTE Band 71 -20.0MHz - 1 RB - Low Channel - Ant I)

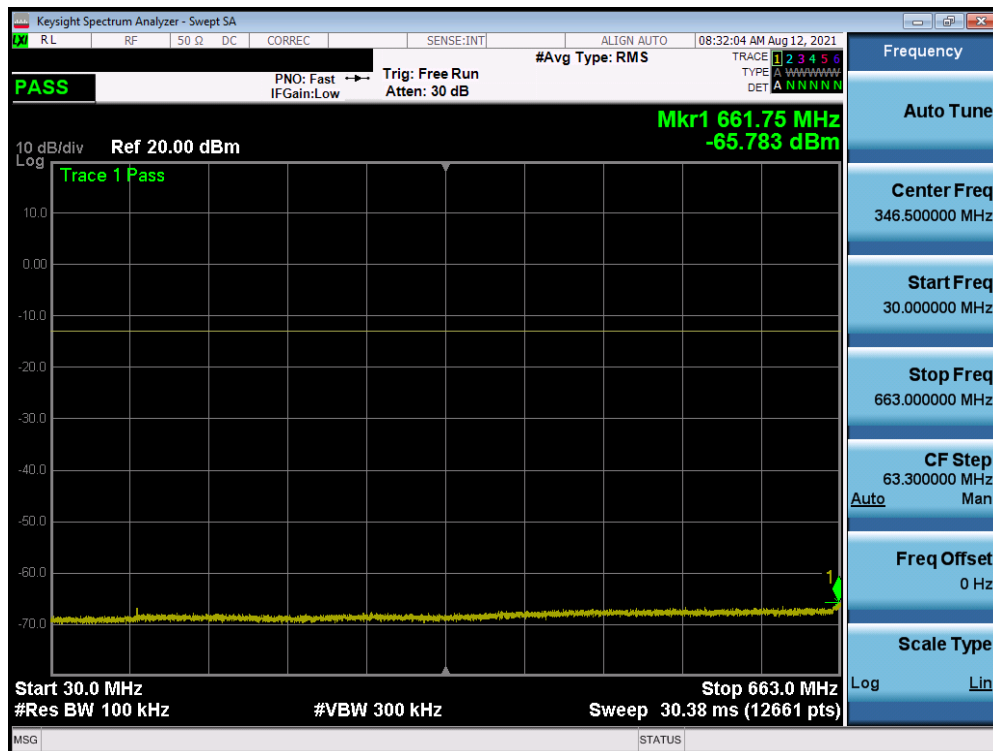


Plot 7-92. Conducted Spurious Plot (LTE Band 71 - 20.0MHz - 1 RB - Low Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 64 of 262

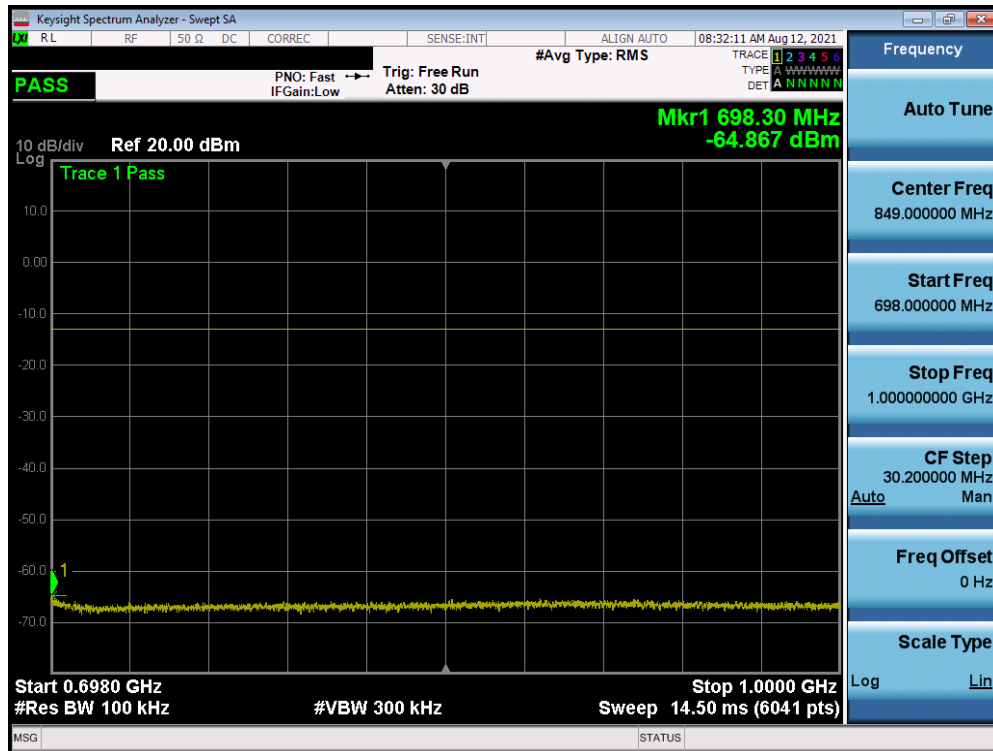


Plot 7-93. Conducted Spurious Plot (LTE Band 71 - 20.0MHz - 1 RB - Low Channel - Ant I)

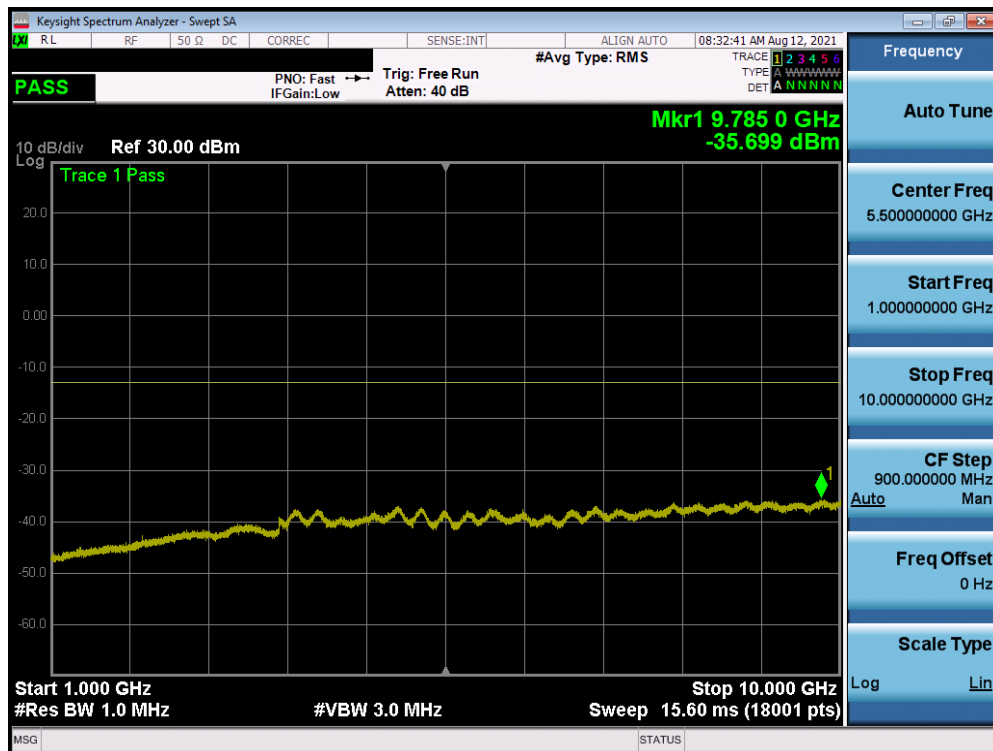


Plot 7-94. Conducted Spurious Plot (LTE Band 71 - 20.0MHz - 1 RB - Mid Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 65 of 262

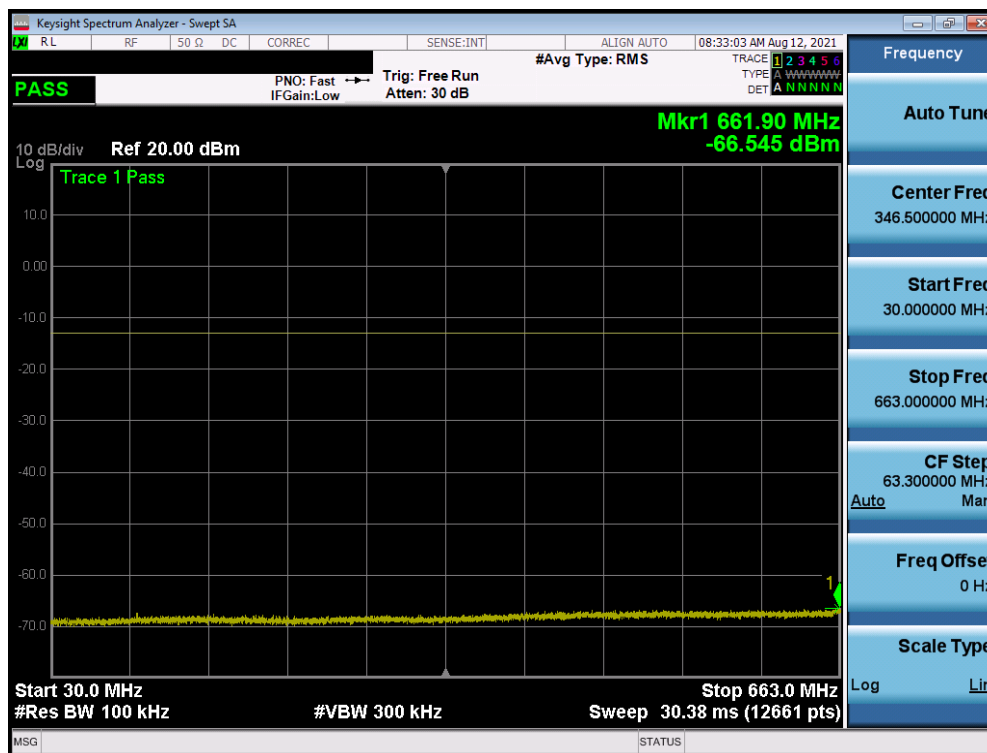


Plot 7-95. Conducted Spurious Plot (LTE Band 71 - 20.0MHz - 1 RB - Mid Channel - Ant I)

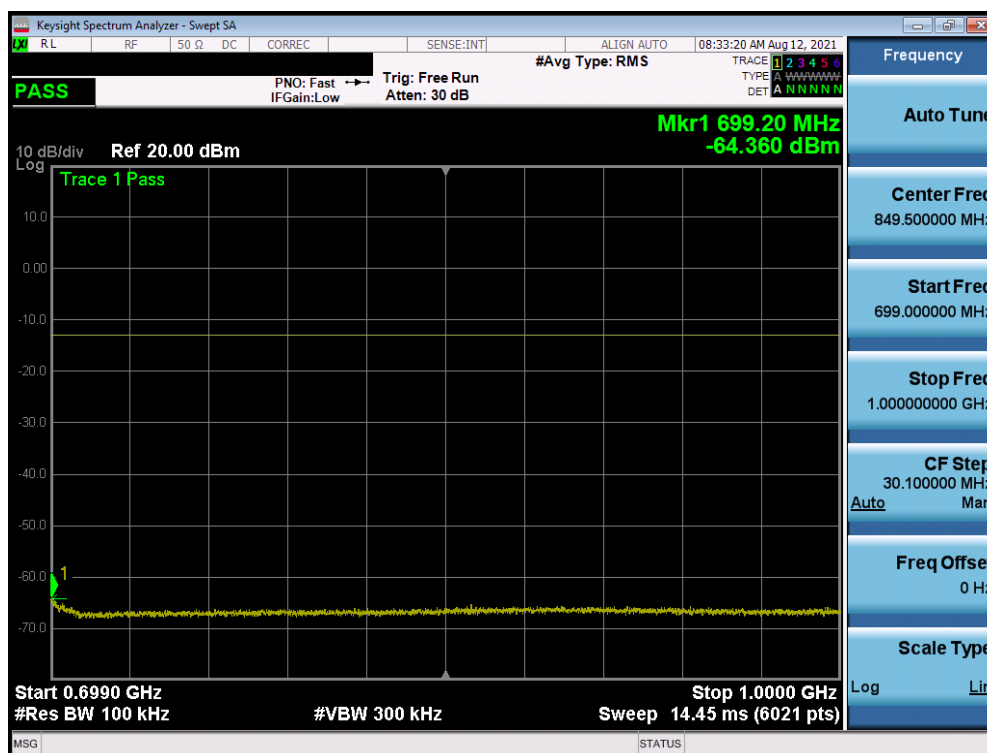


Plot 7-96. Conducted Spurious Plot (LTE Band 71 - 20.0MHz - 1 RB - Mid Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 66 of 262



Plot 7-97. Conducted Spurious Plot (LTE Band 71 - 20.0MHz - 1 RB - High Channel - Ant I)



Plot 7-98. Conducted Spurious Plot (LTE Band 71 - 20.0MHz - 1 RB - High Channel - Ant I)

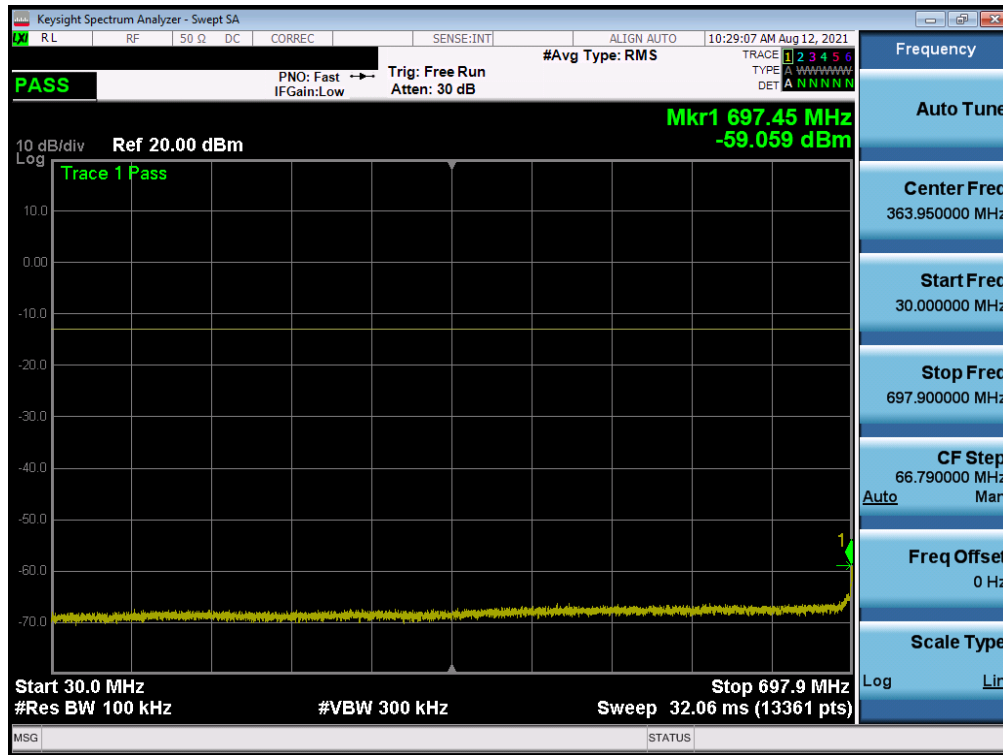
FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 67 of 262



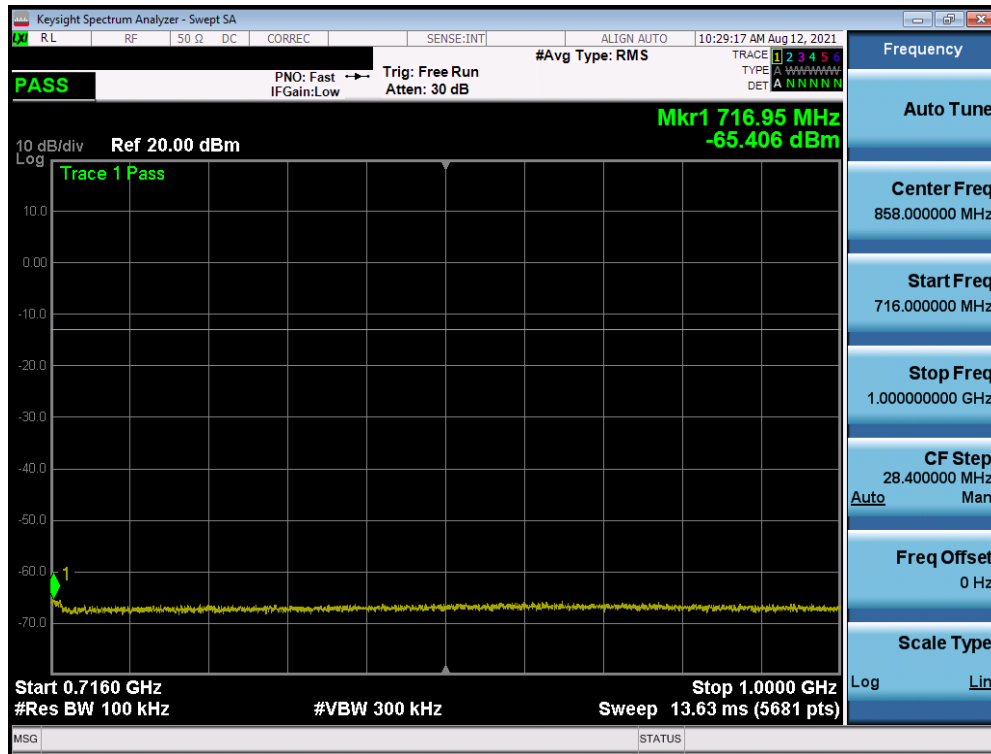
Plot 7-99. Conducted Spurious Plot (LTE Band 71 - 20.0MHz - 1 RB - High Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 68 of 262

LTE Band 12 – Ant I

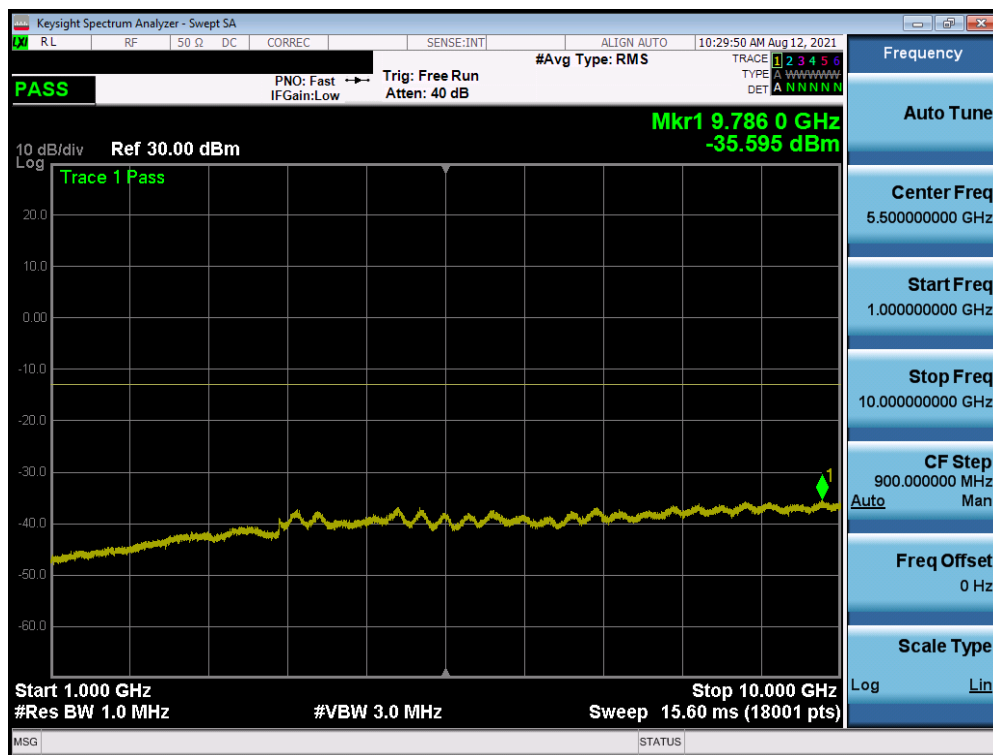


Plot 7-100. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Low Channel - Ant I)

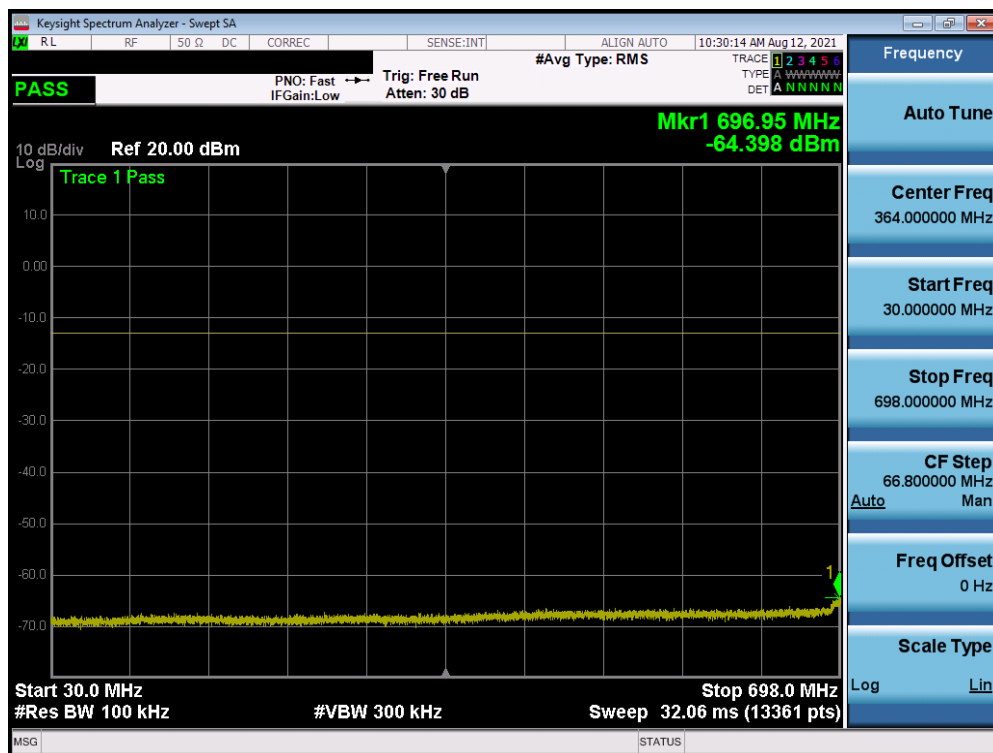


Plot 7-101. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Low Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 69 of 262

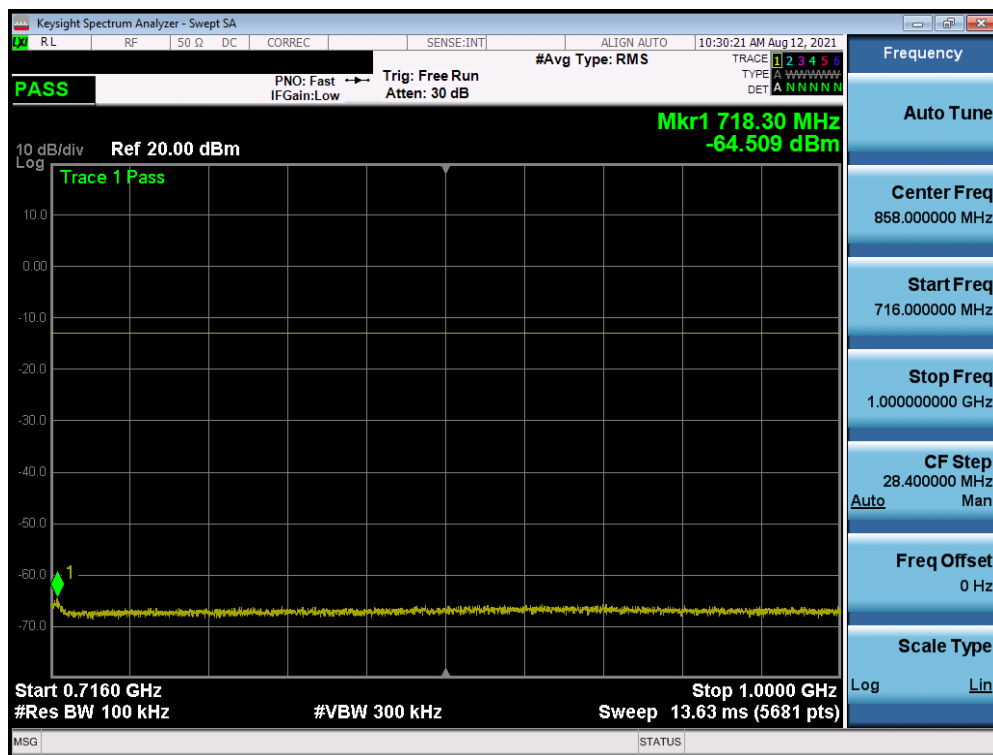


Plot 7-102. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Low Channel - Ant I)



Plot 7-103. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Mid Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 70 of 262

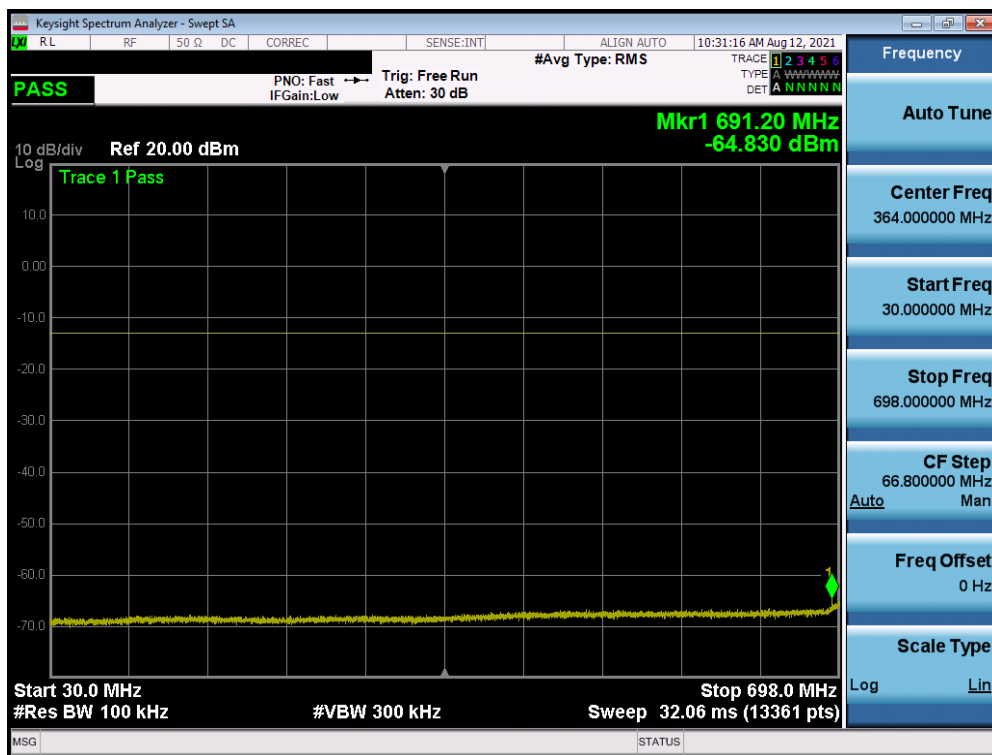


Plot 7-104. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Mid Channel - Ant I)

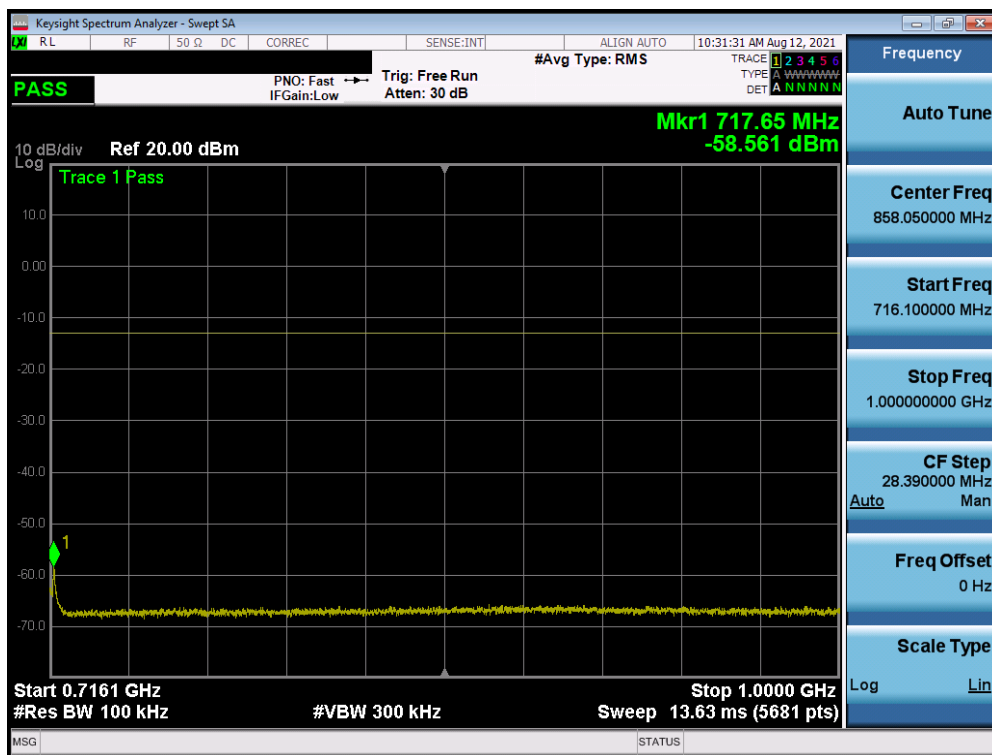


Plot 7-105. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Mid Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 71 of 262



Plot 7-106. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - High Channel - Ant I)



Plot 7-107. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - High Channel - Ant I)

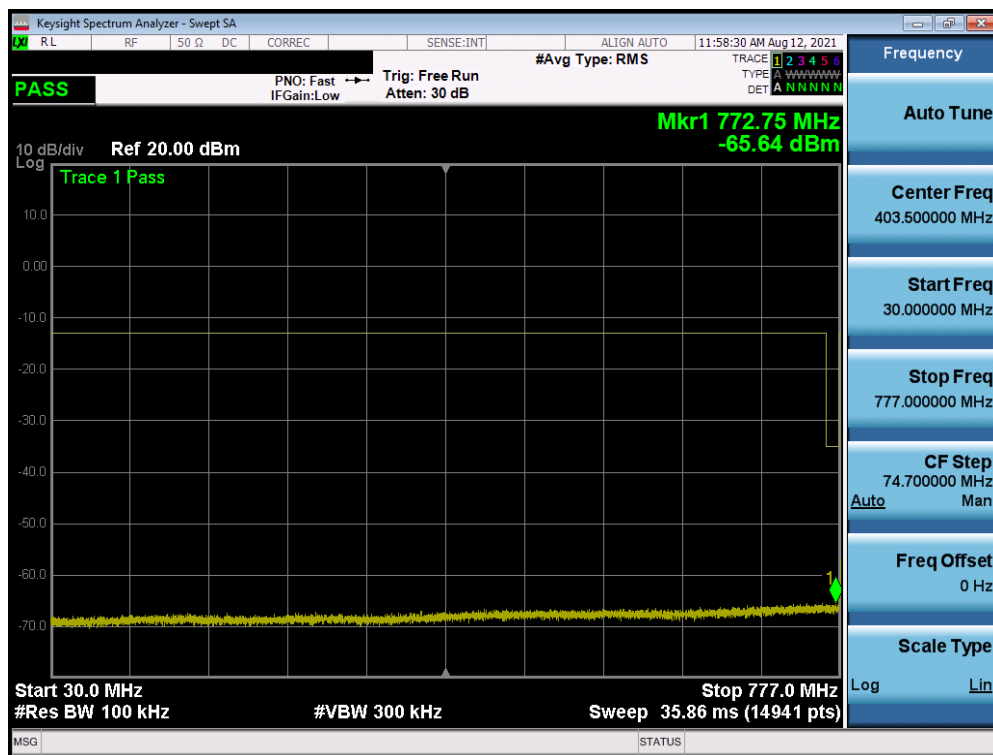
FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 72 of 262



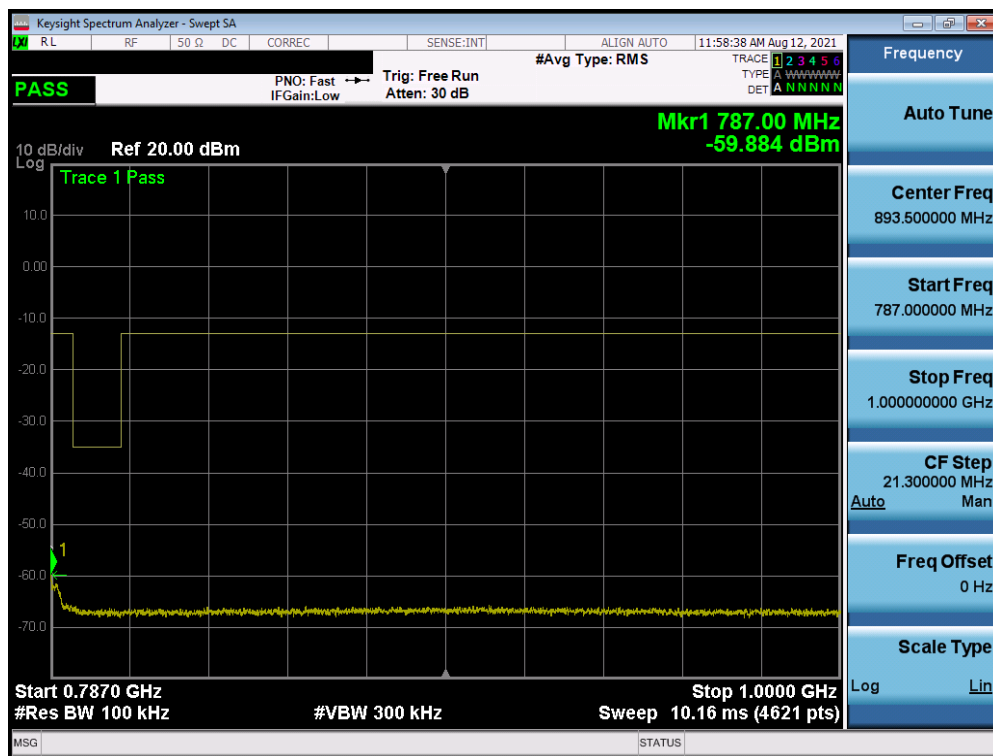
Plot 7-108. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - High Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 73 of 262

LTE Band 13 – Ant I



Plot 7-109. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - 1 RB)



Plot 7-110. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - 1 RB)

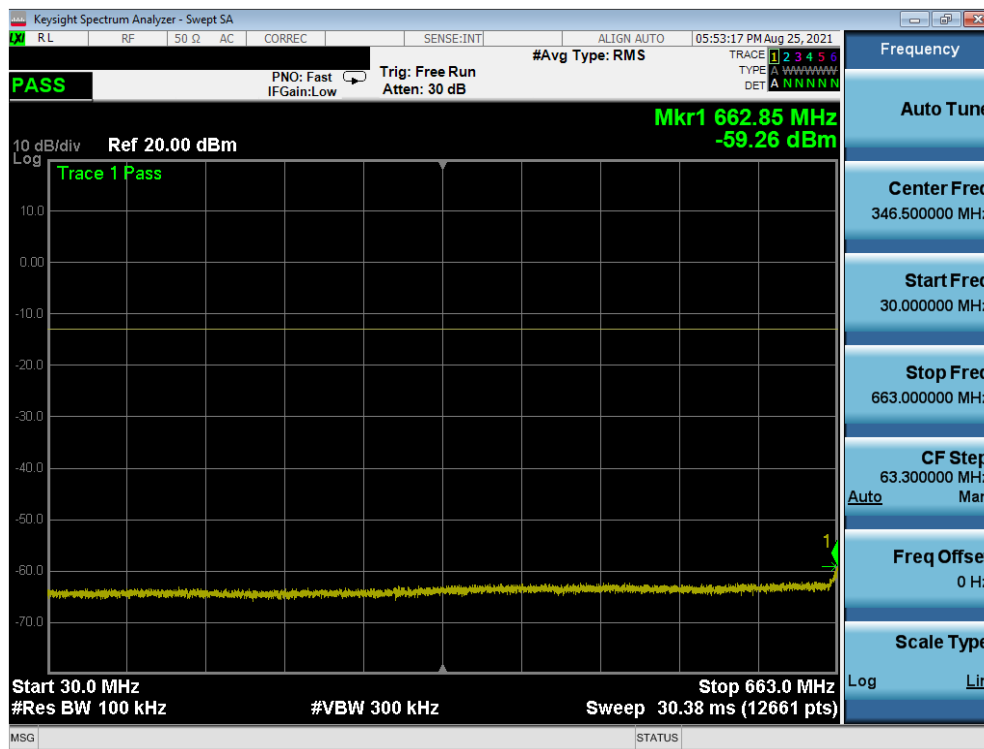
FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 74 of 262



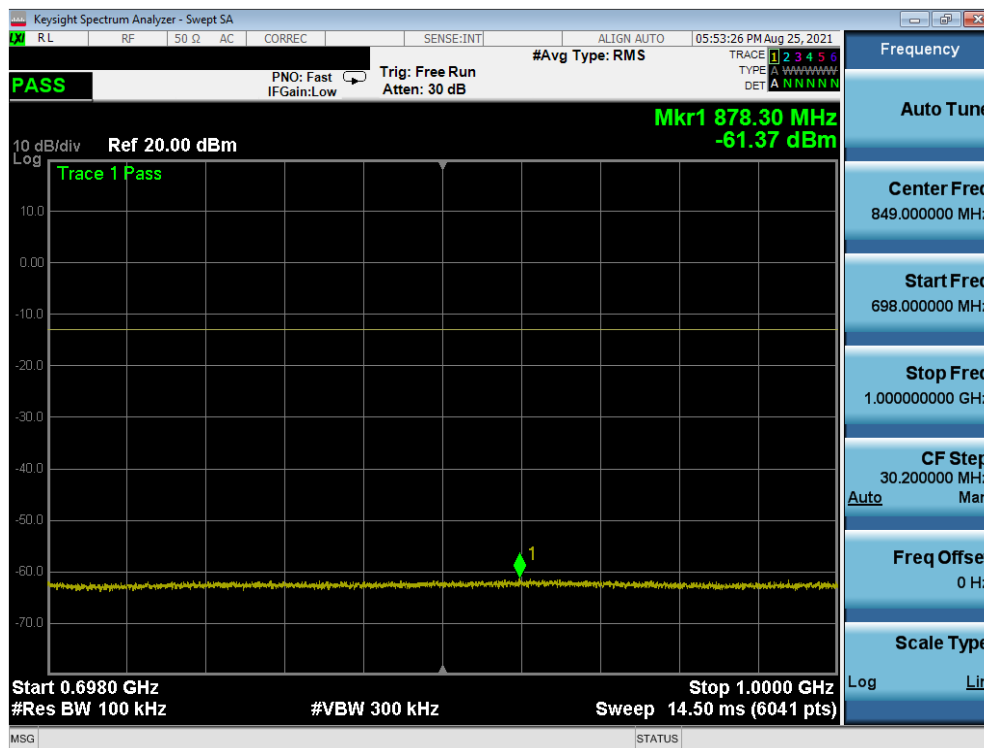
Plot 7-111. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - 1 RB)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 75 of 262

NR Band n71 – Ant I

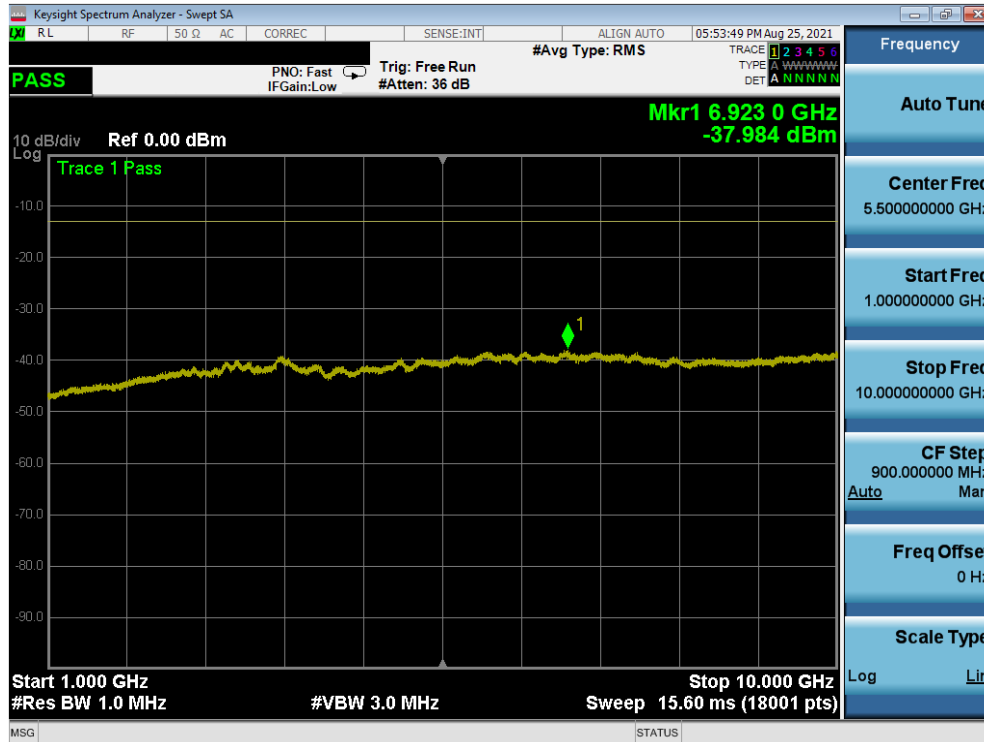


Plot 7-112. Conducted Spurious Plot (NR Band n71 -20.0MHz - 1 RB - Low Channel - Ant I)

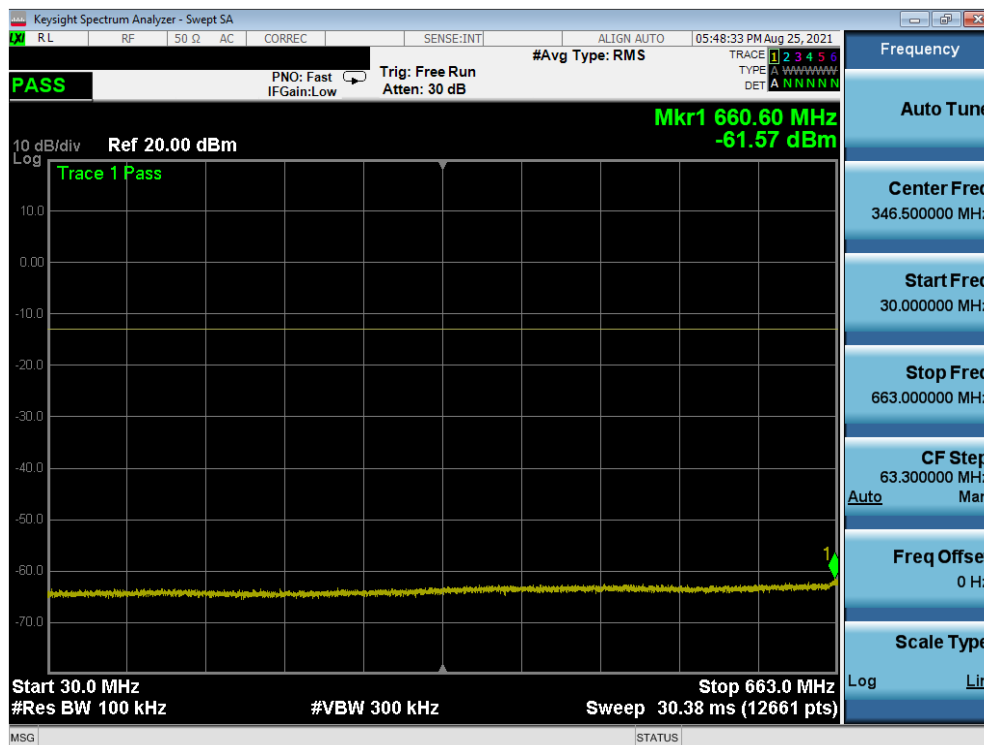


Plot 7-113. Conducted Spurious Plot (NR Band n71 - 20.0MHz - 1 RB - Low Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 76 of 262

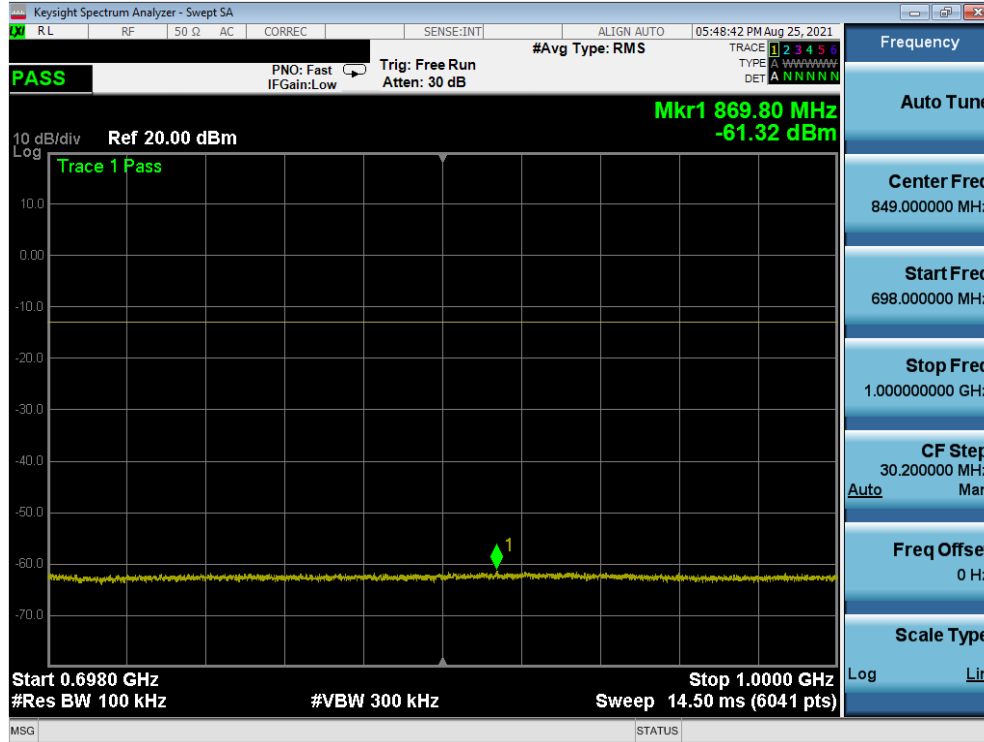


Plot 7-114. Conducted Spurious Plot (NR Band n71 - 20.0MHz - 1 RB - Low Channel - Ant I)

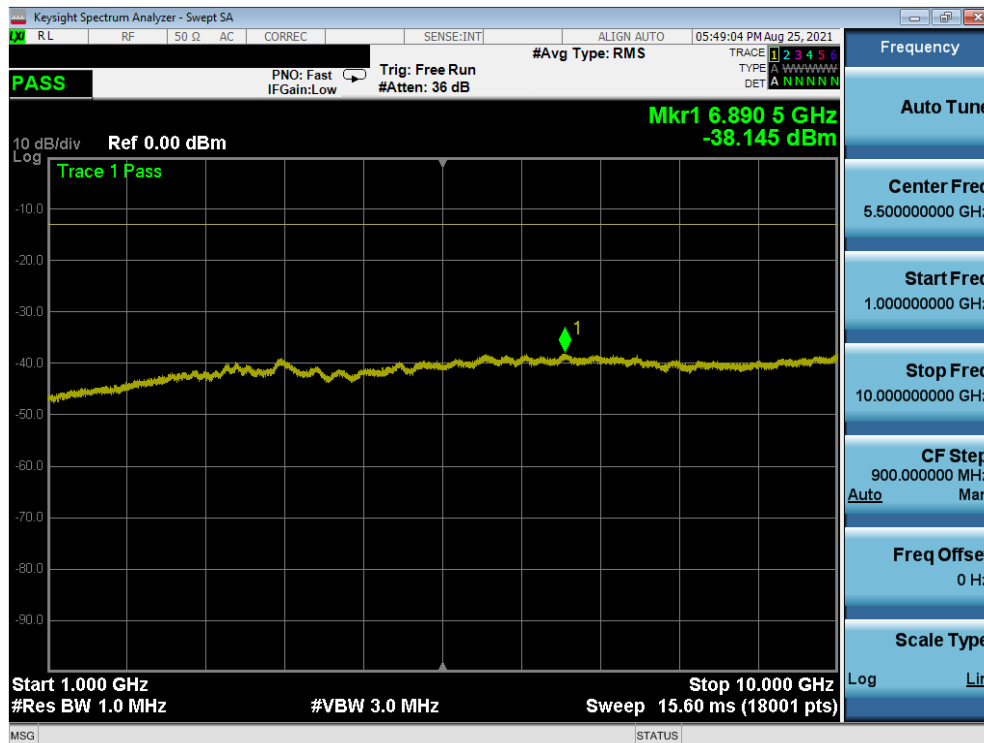


Plot 7-115. Conducted Spurious Plot (NR Band n71 - 20.0MHz - 1 RB - Mid Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 77 of 262

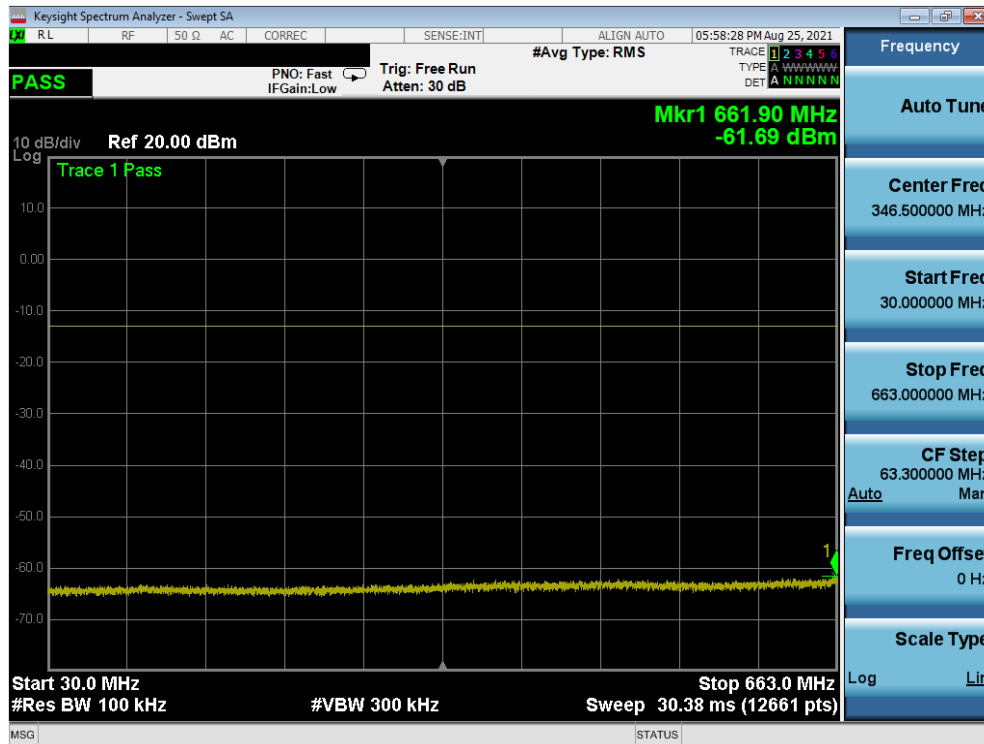


Plot 7-116. Conducted Spurious Plot (NR Band n71 - 20.0MHz - 1 RB - Mid Channel - Ant I)

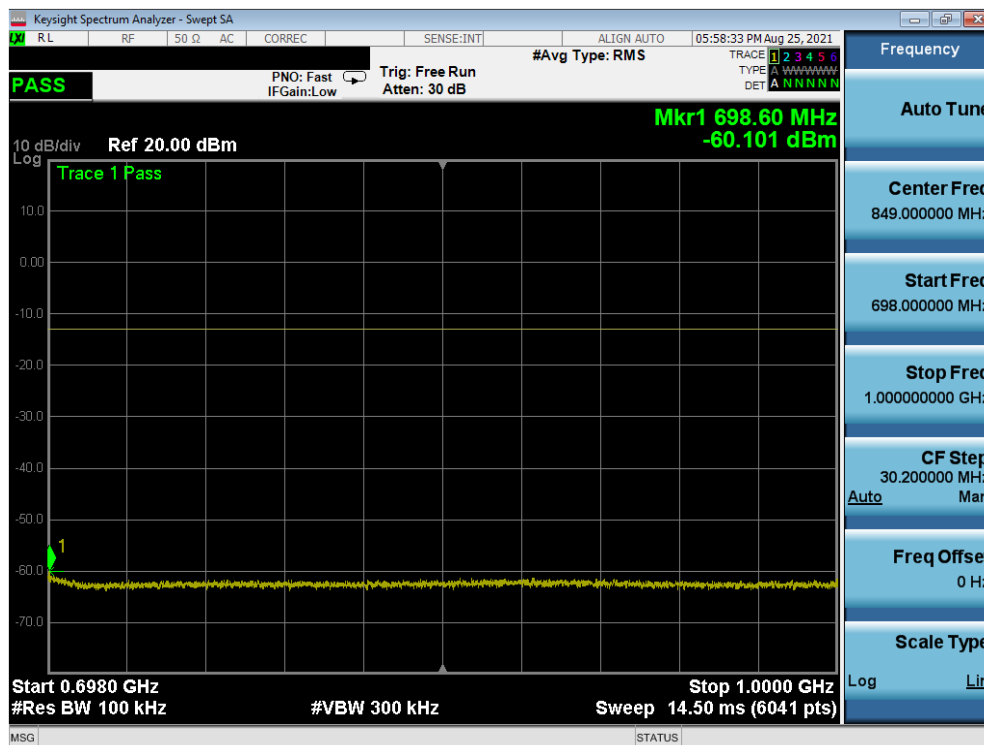


Plot 7-117. Conducted Spurious Plot (NR Band n71 - 20.0MHz - 1 RB - Mid Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 78 of 262

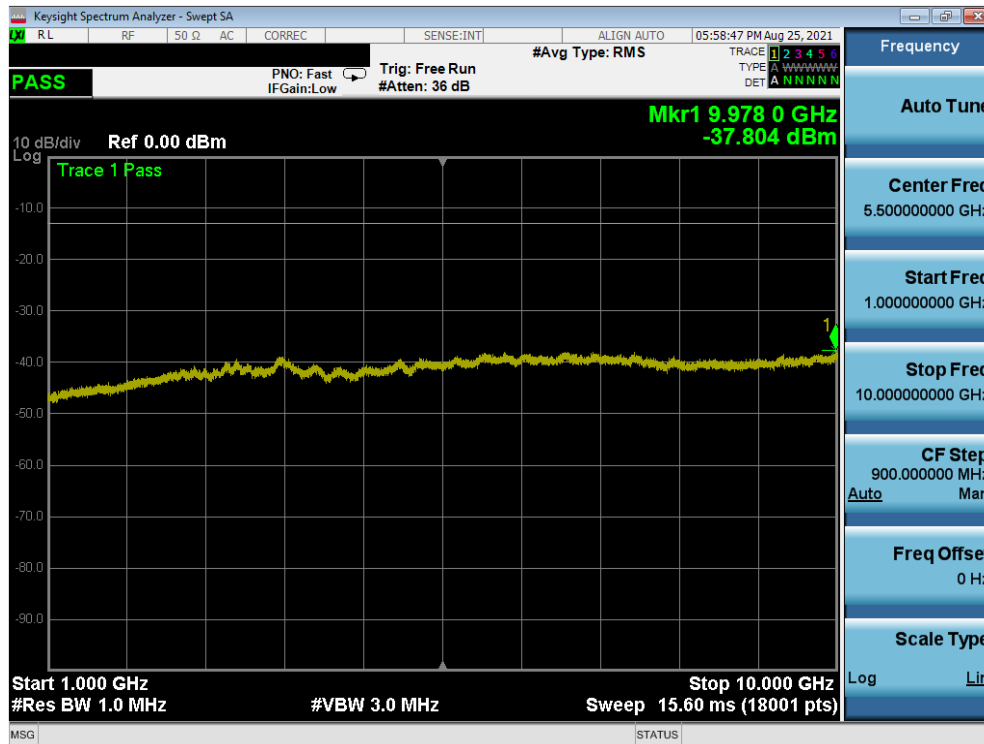


Plot 7-118. Conducted Spurious Plot (NR Band n71 - 20.0MHz - 1 RB - High Channel - Ant I)



Plot 7-119. Conducted Spurious Plot (NR Band n71 - 20.0MHz - 1 RB - High Channel - Ant I)

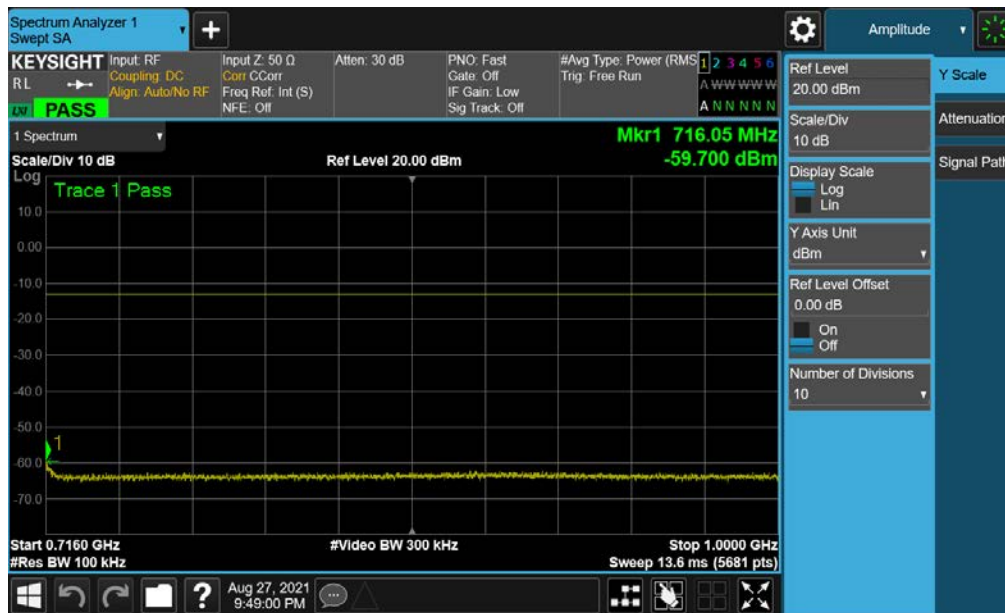
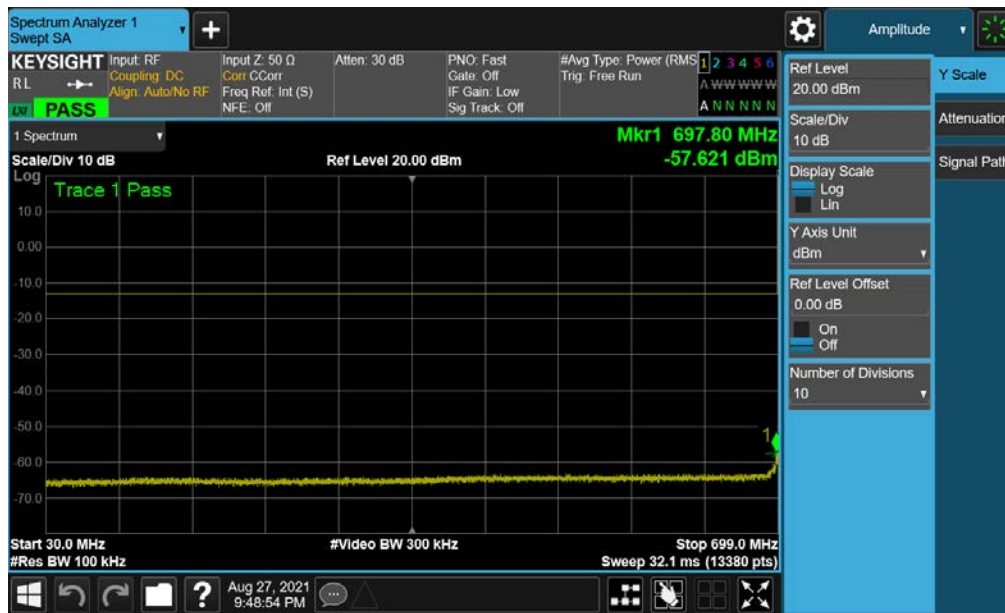
FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 79 of 262



Plot 7-120. Conducted Spurious Plot (NR Band n71 - 20.0MHz - 1 RB - High Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 80 of 262

NR Band n12 – Ant I



FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 81 of 262

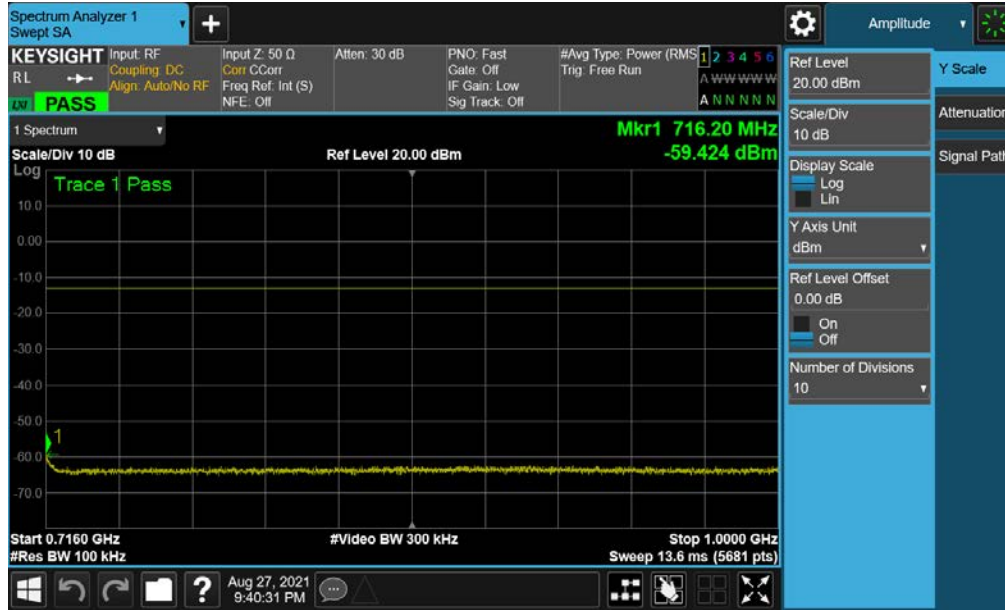


Plot 7-123. Conducted Spurious Plot (NR Band n12 - 15.0MHz - 1 RB - Low Channel - Ant I)

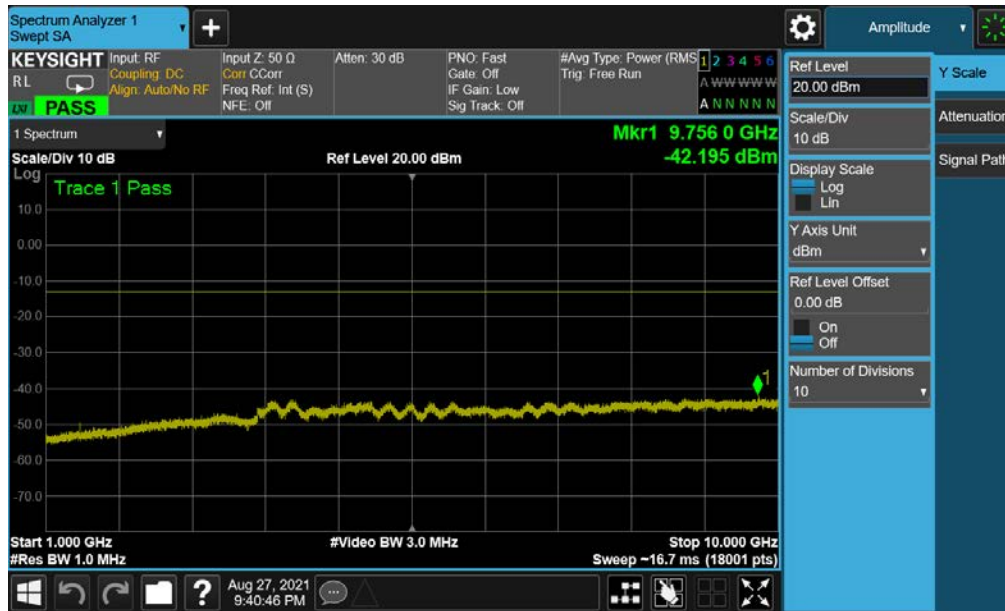


Plot 7-124. Conducted Spurious Plot (NR Band n12 - 15.0MHz - 1 RB - Mid Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 82 of 262

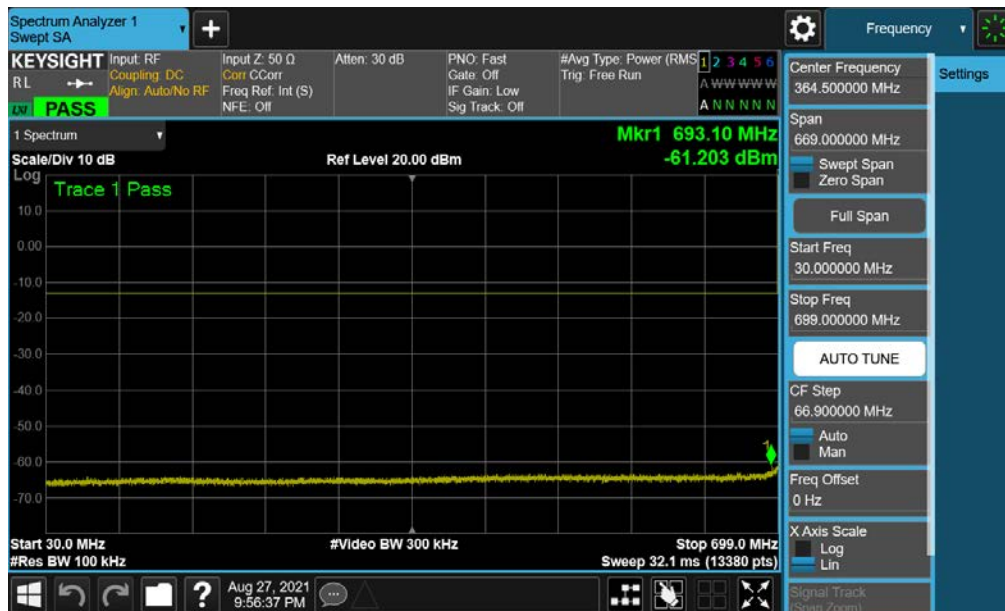


Plot 7-125. Conducted Spurious Plot (NR Band n12 - 15.0MHz - 1 RB - Mid Channel - Ant I)



Plot 7-126. Conducted Spurious Plot (NR Band n12 - 15.0MHz - 1 RB - Mid Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 83 of 262

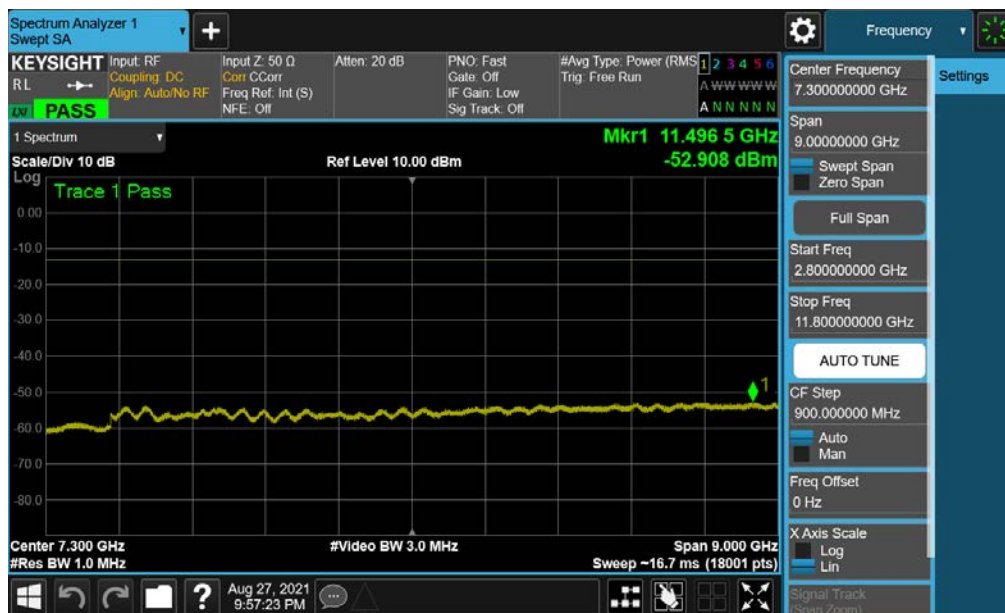


Plot 7-127. Conducted Spurious Plot (NR Band n12 - 15.0MHz - 1 RB - High Channel - Ant I)



Plot 7-128. Conducted Spurious Plot (NR Band n12 - 15.0MHz - 1 RB - High Channel - Ant I)

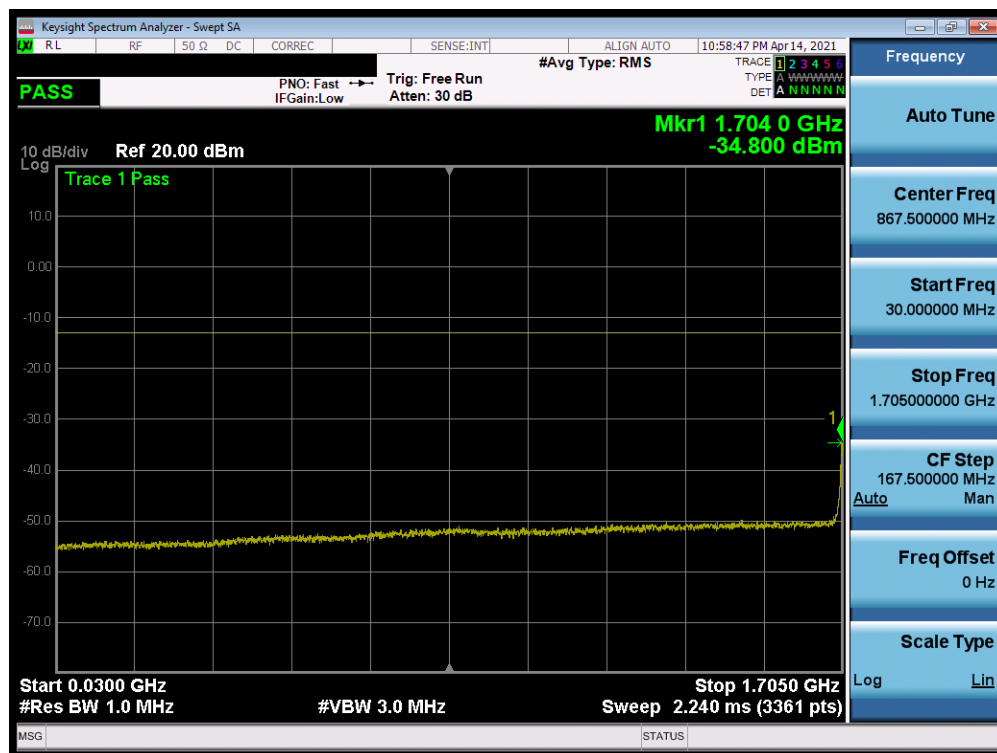
FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 84 of 262



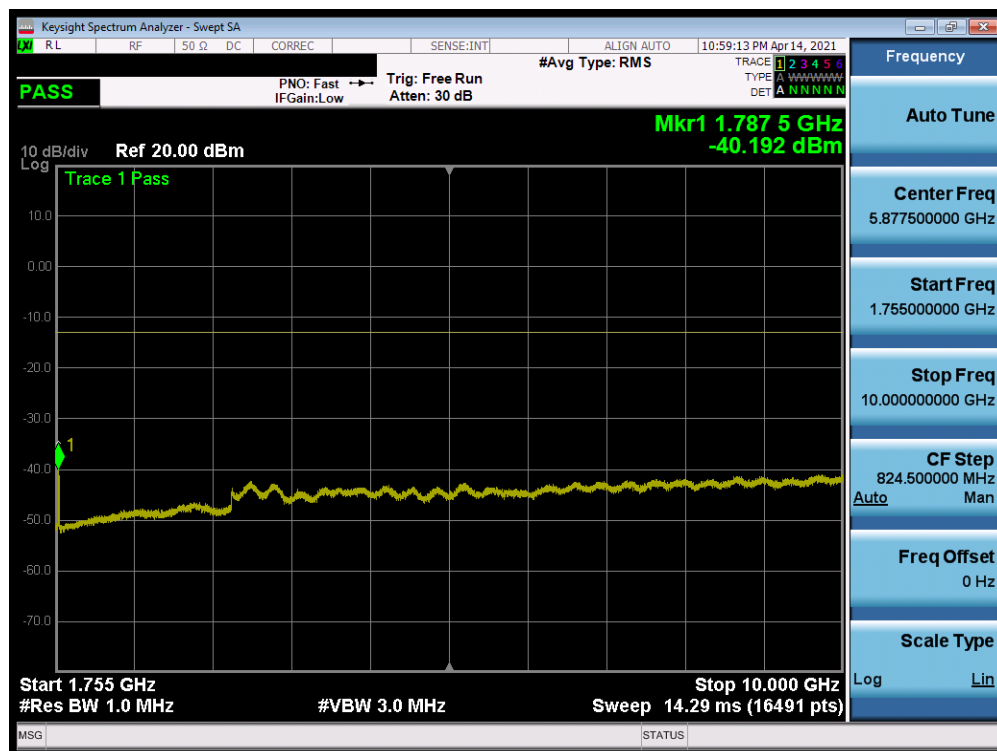
Plot 7-129. Conducted Spurious Plot (NR Band n12 - 15.0MHz - 1 RB - High Channel - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 85 of 262

WCDMA AWS

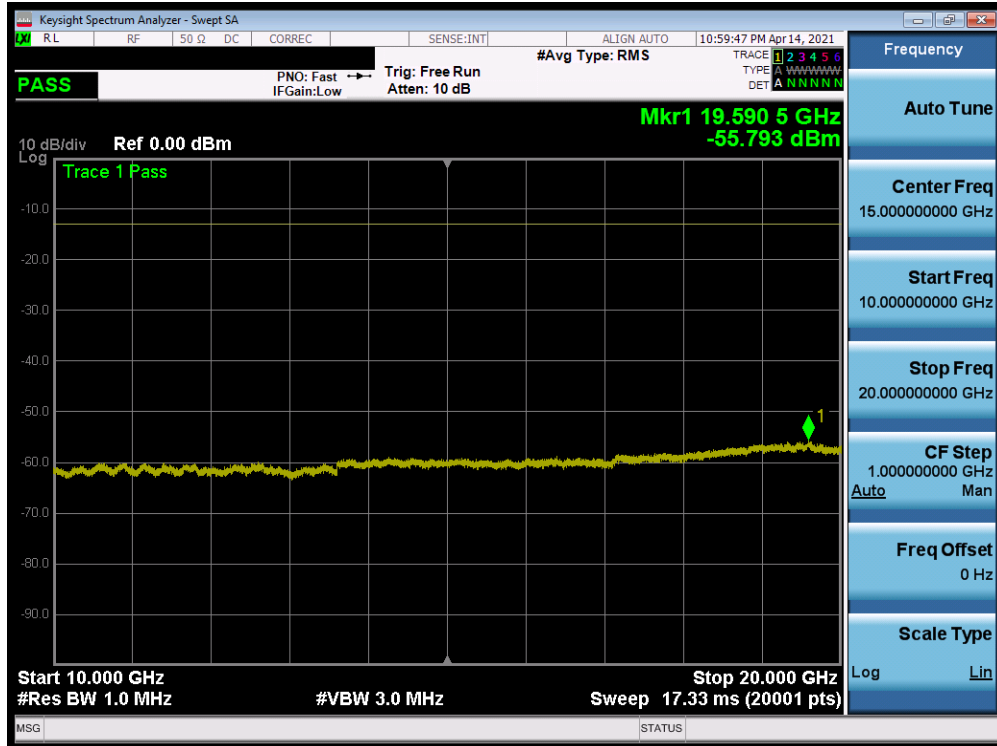


Plot 7-130. Conducted Spurious Plot (WCDMA Ch. 1312- Low Channel)

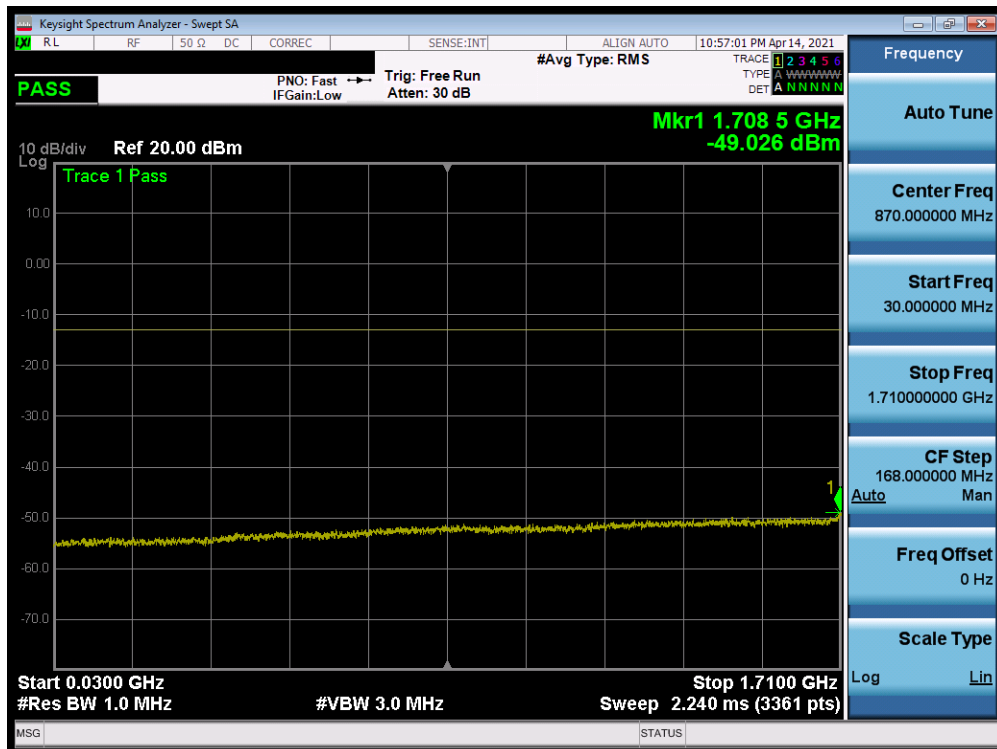


Plot 7-131. Conducted Spurious Plot (WCDMA Ch. 1312- Low Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 86 of 262

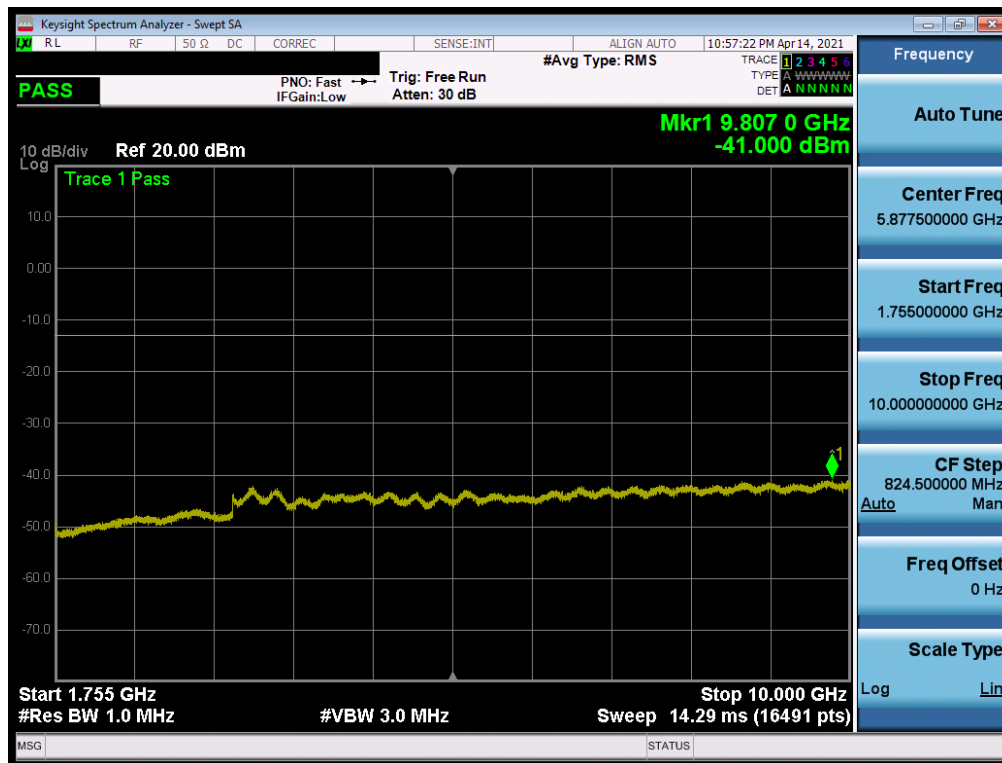


Plot 7-132. Conducted Spurious Plot (WCDMA Ch. 1312- Low Channel)

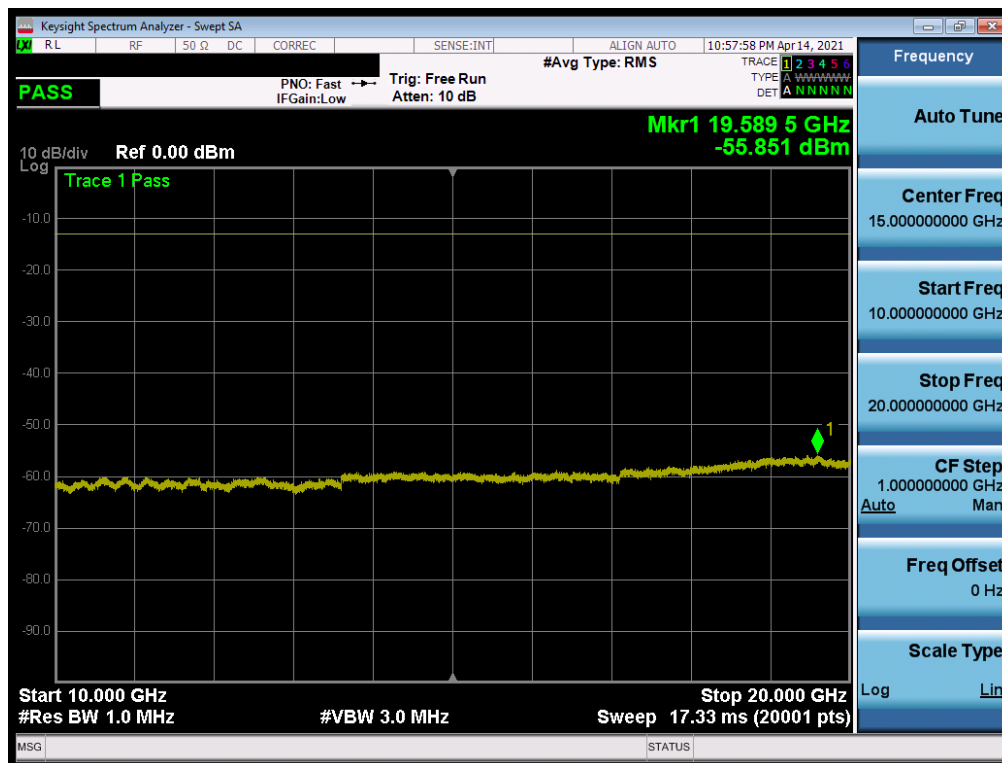


Plot 7-133. Conducted Spurious Plot (WCDMA Ch. 1413- Mid Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 87 of 262

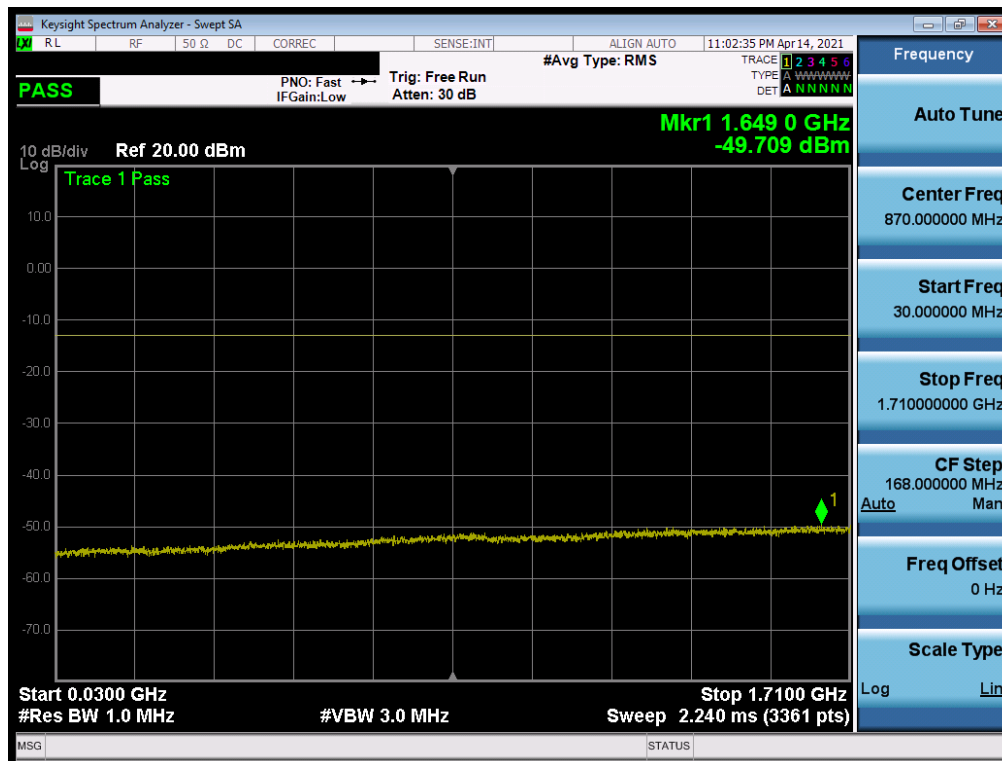


Plot 7-134. Conducted Spurious Plot (WCDMA Ch. 1413- Mid Channel)

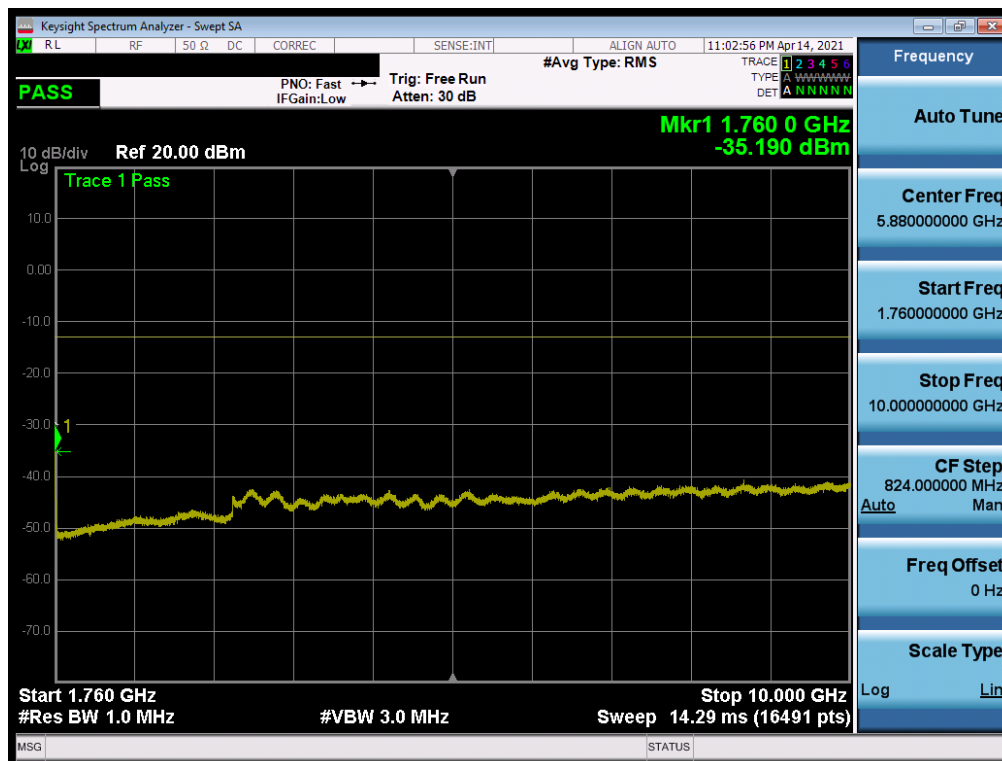


Plot 7-135. Conducted Spurious Plot (WCDMA Ch. 1413- Mid Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 88 of 262

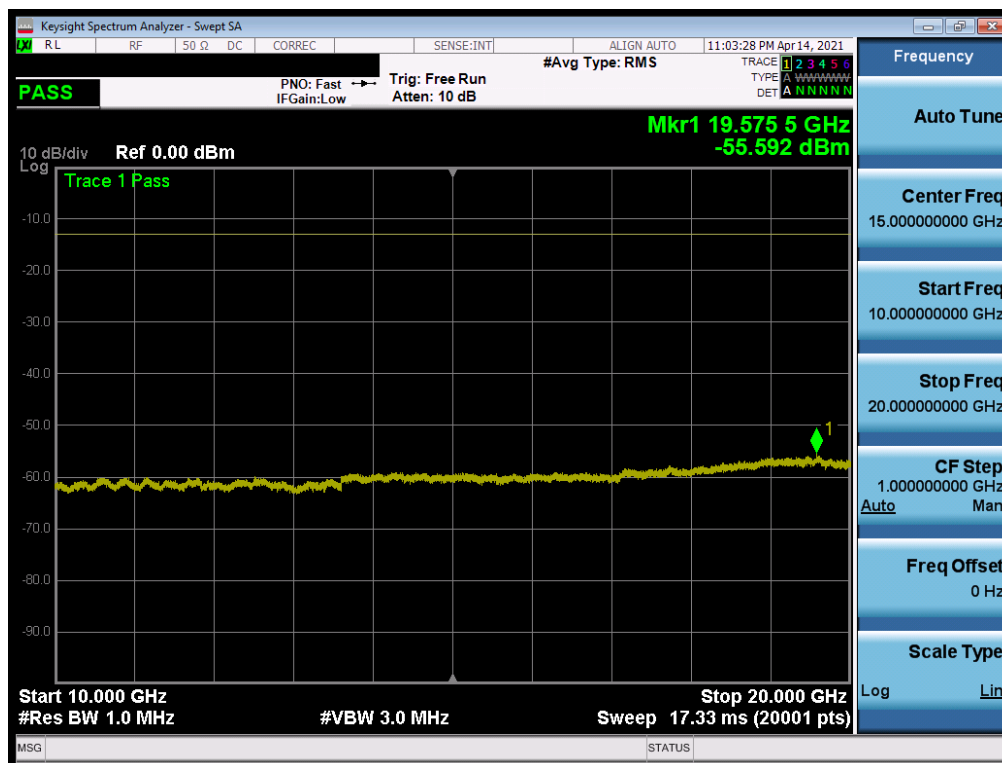


Plot 7-136. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)



Plot 7-137. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)

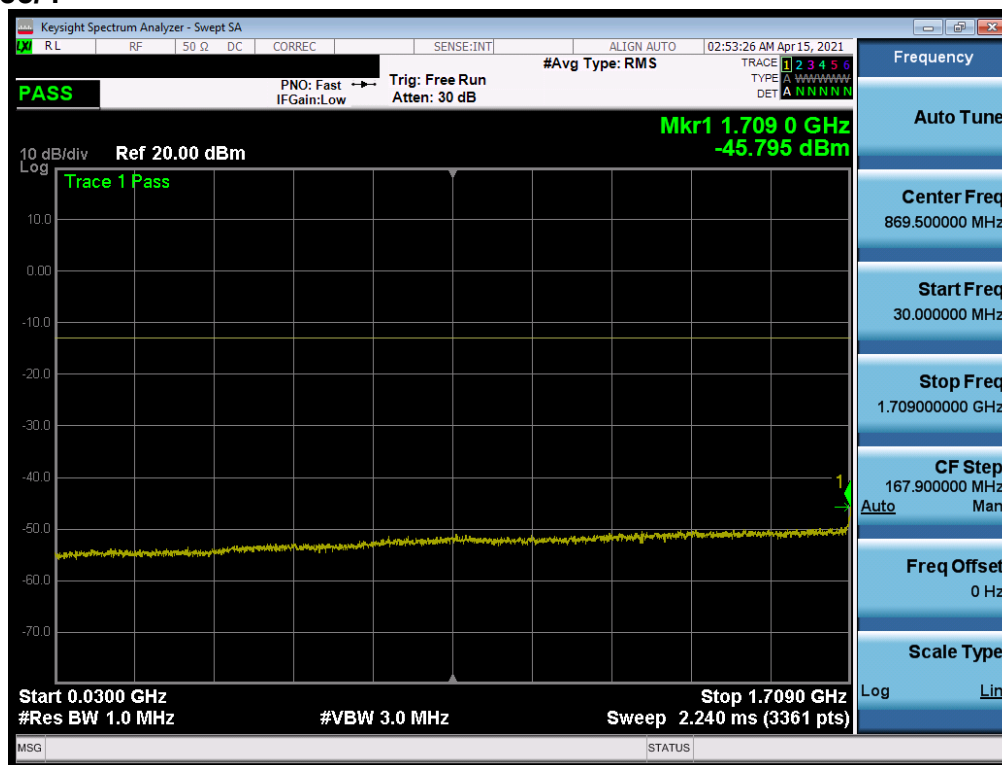
FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 89 of 262



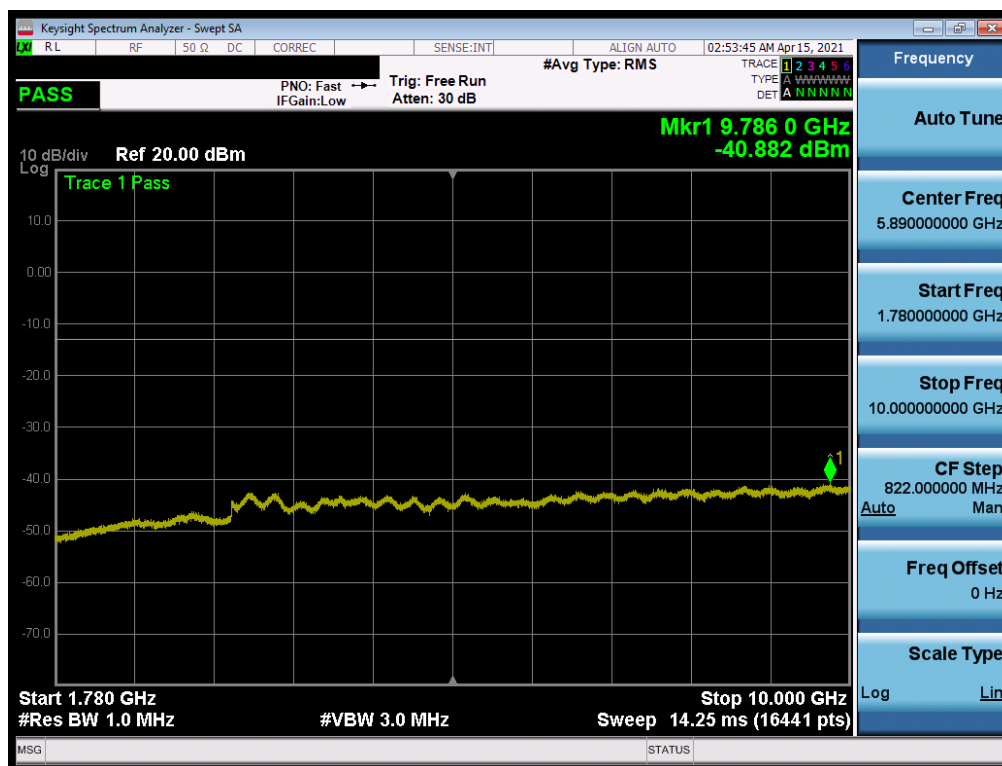
Plot 7-138. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 90 of 262

LTE Band 66/4

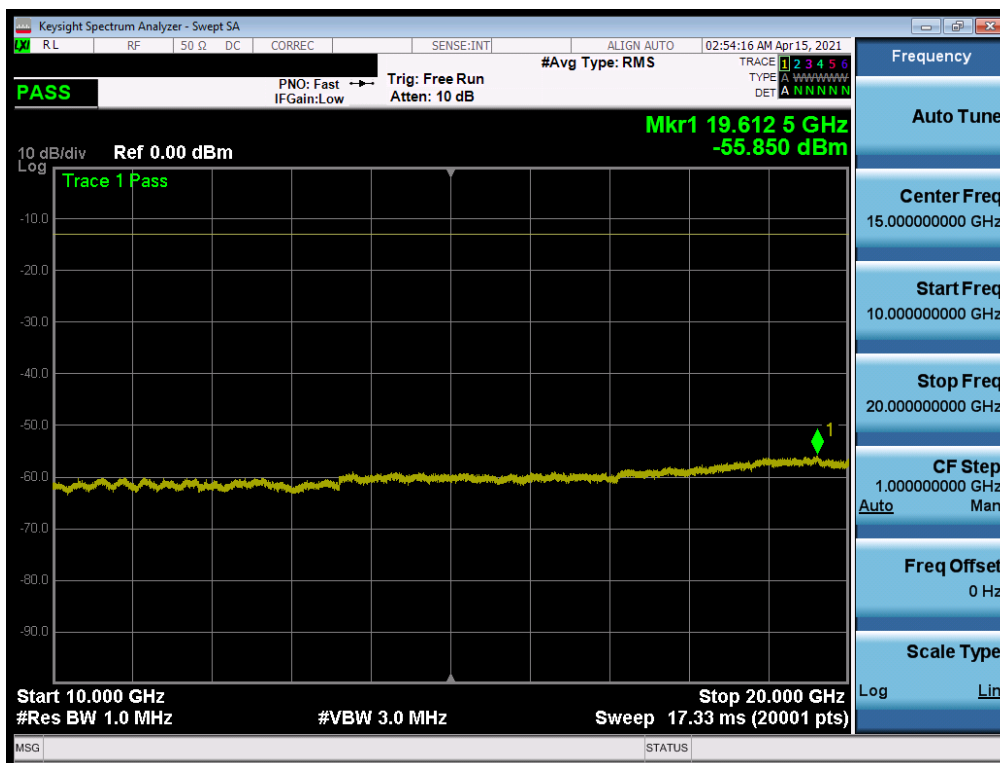


Plot 7-139. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

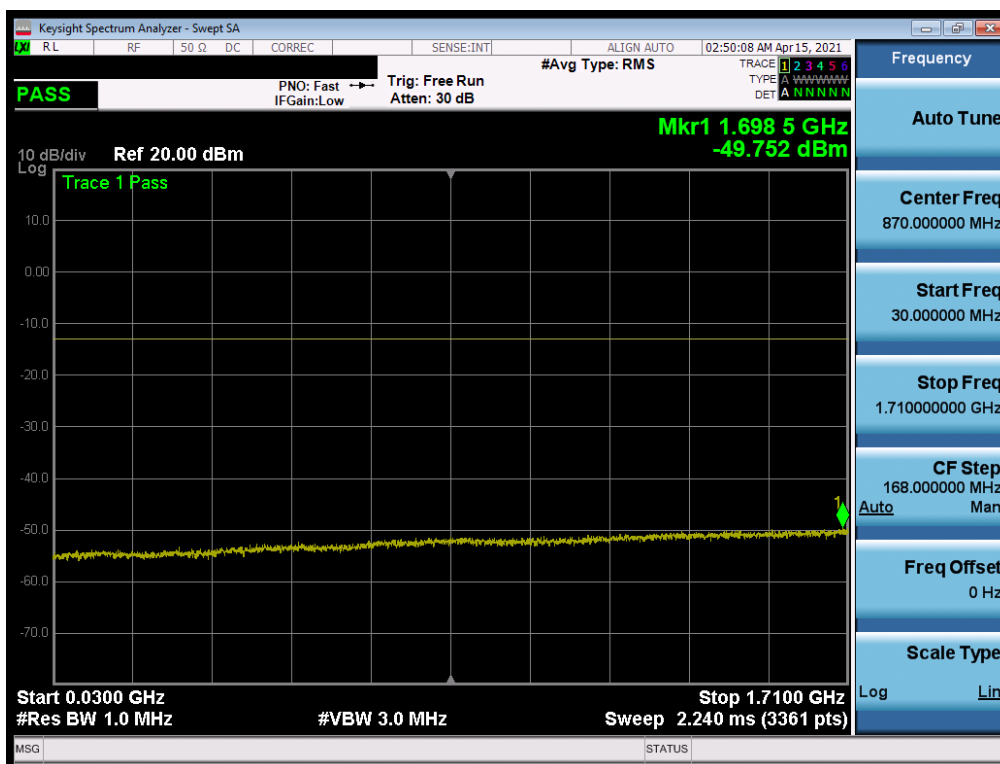


Plot 7-140. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 91 of 262

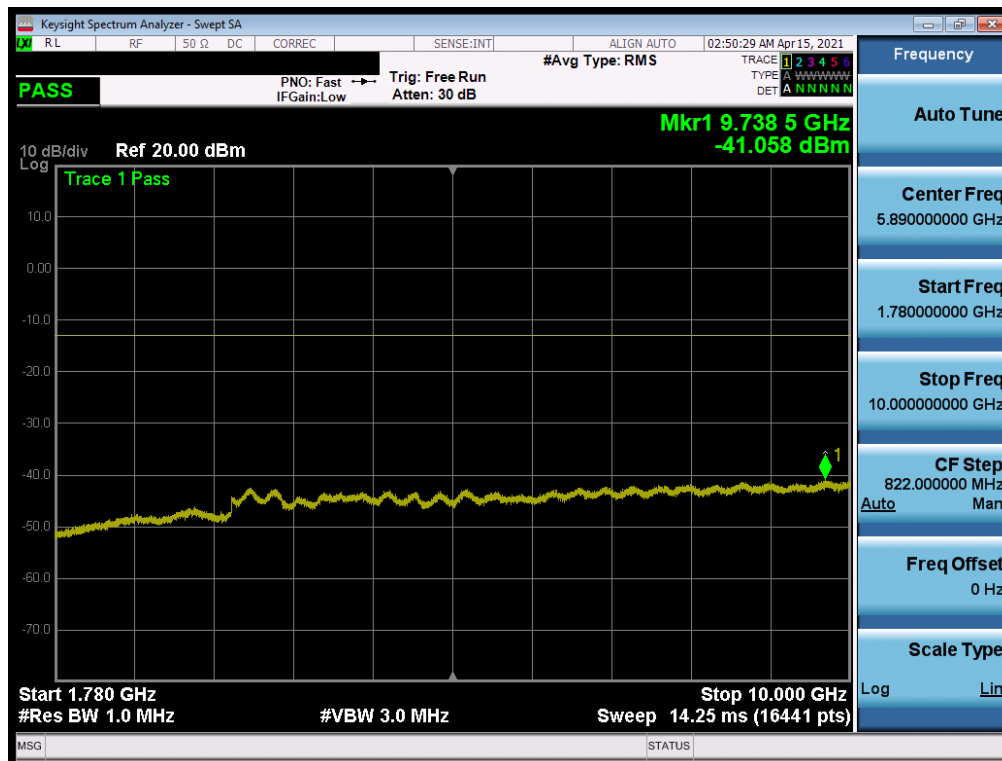


Plot 7-141. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

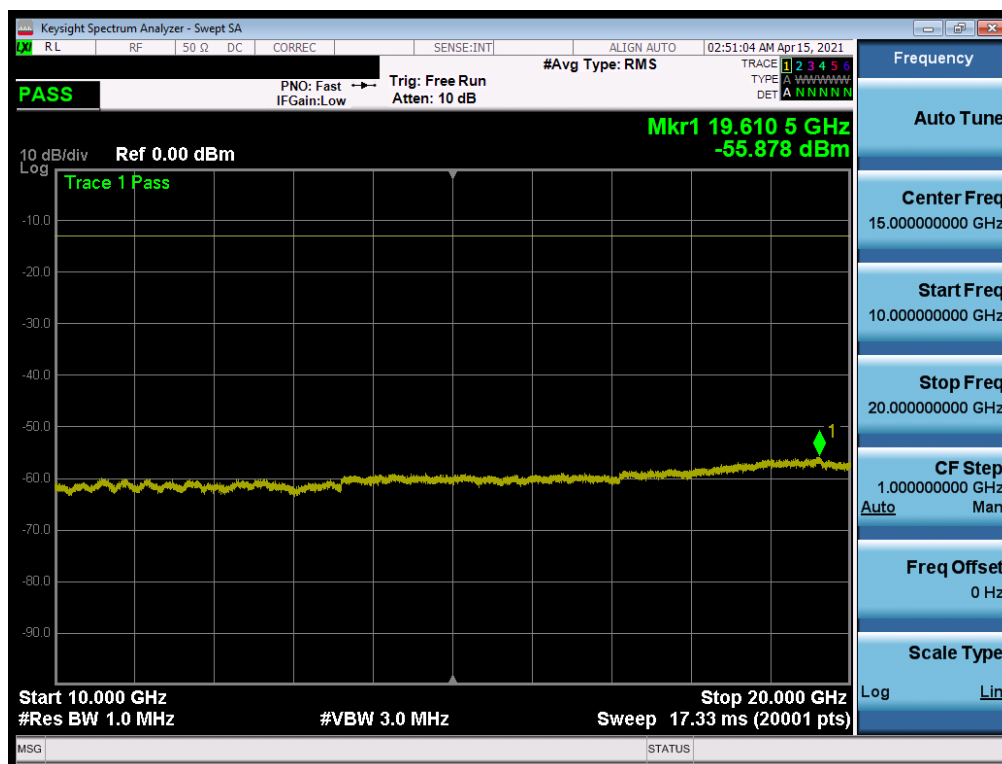


Plot 7-142. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 92 of 262

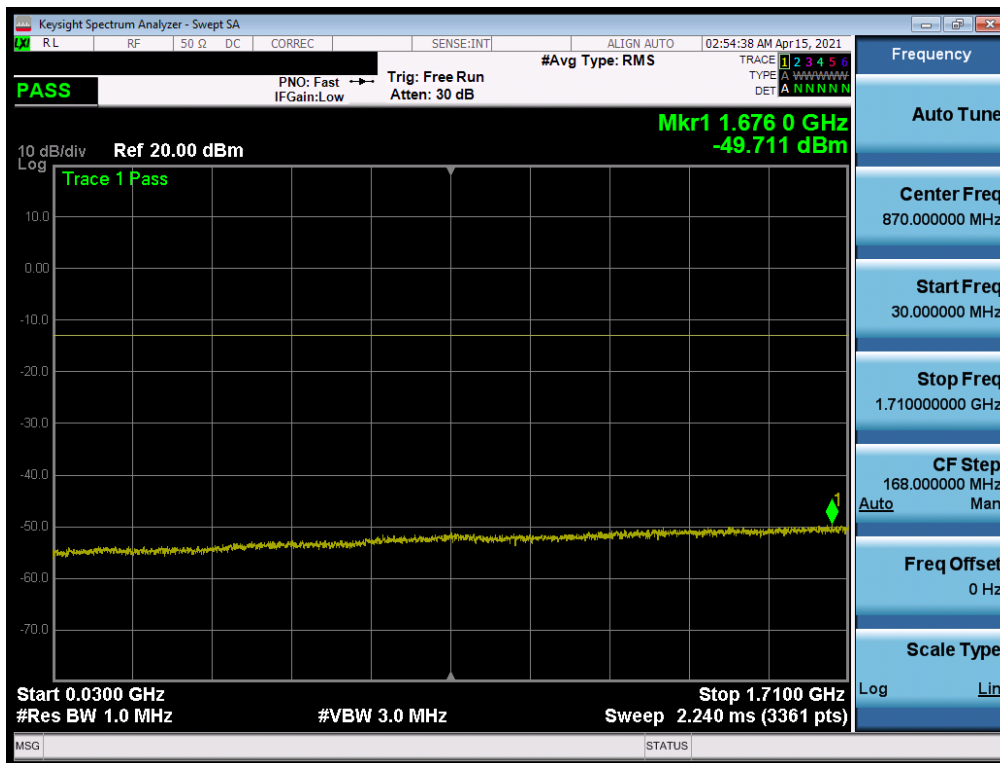


Plot 7-143. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

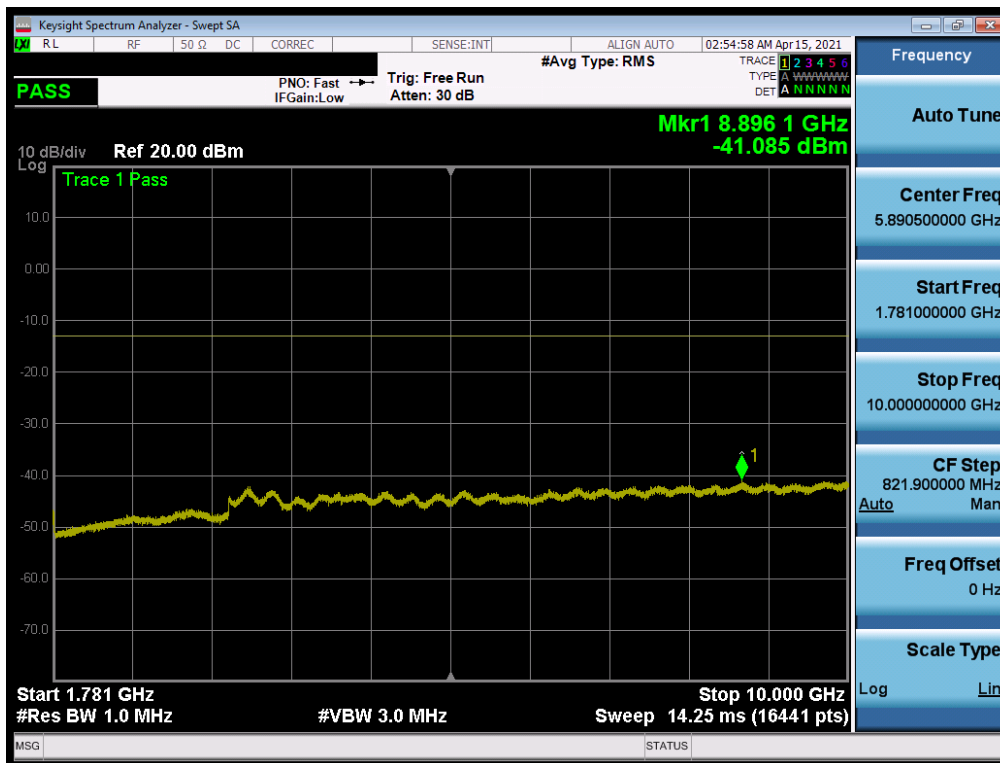


Plot 7-144. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 93 of 262

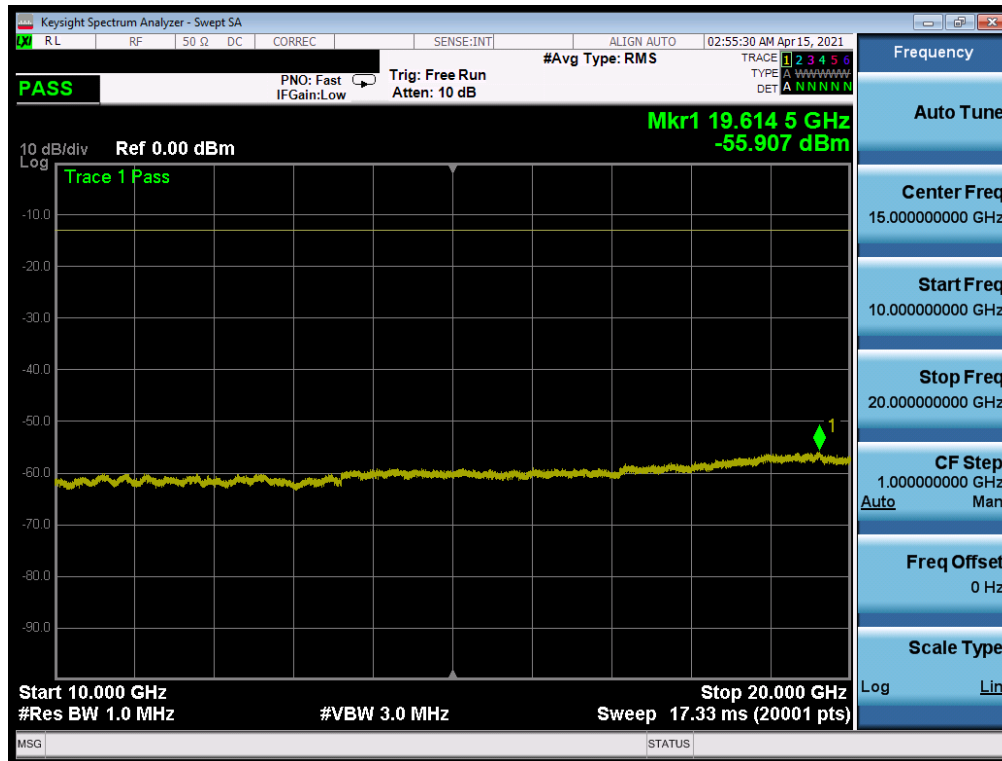


Plot 7-145. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-146. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

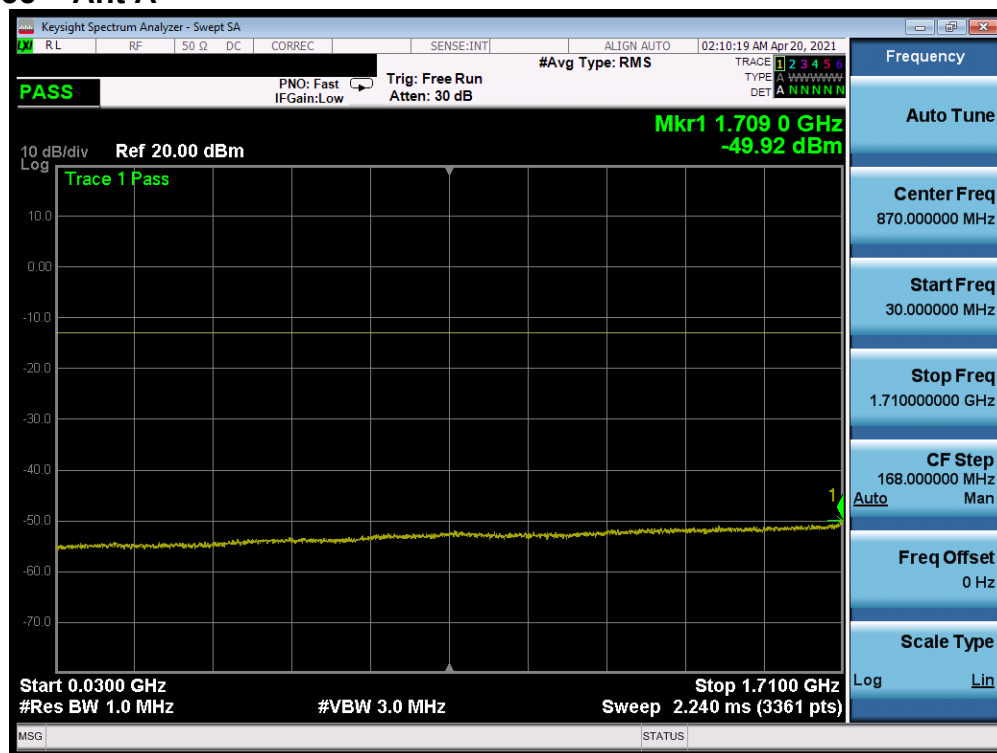
FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 94 of 262



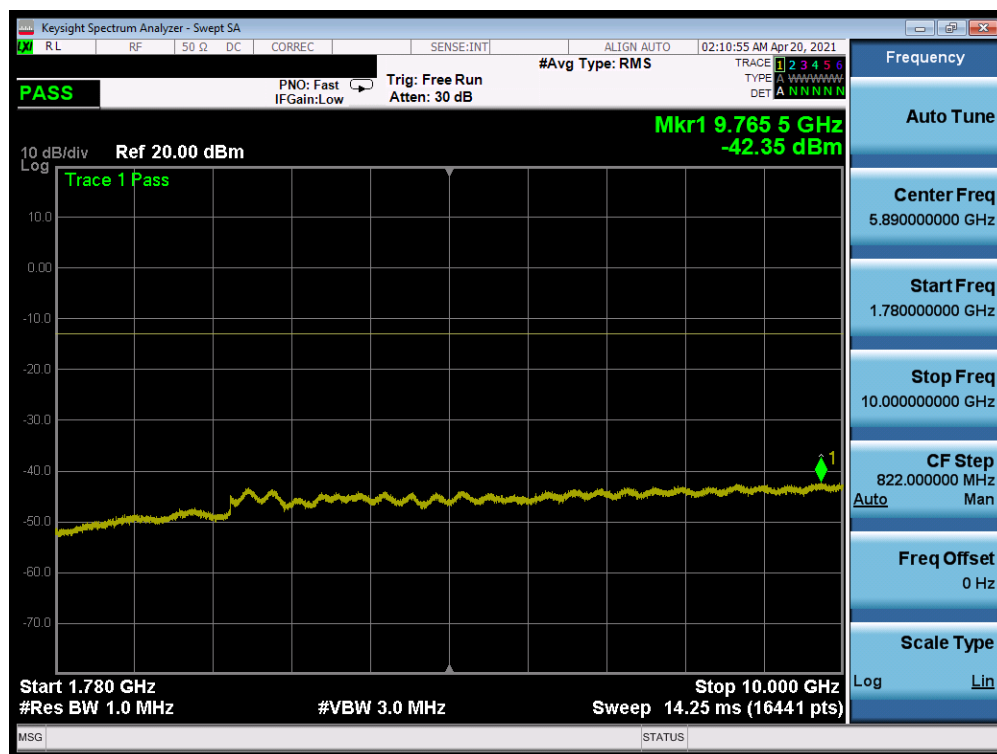
Plot 7-147. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 95 of 262

NR Band n66 – Ant A

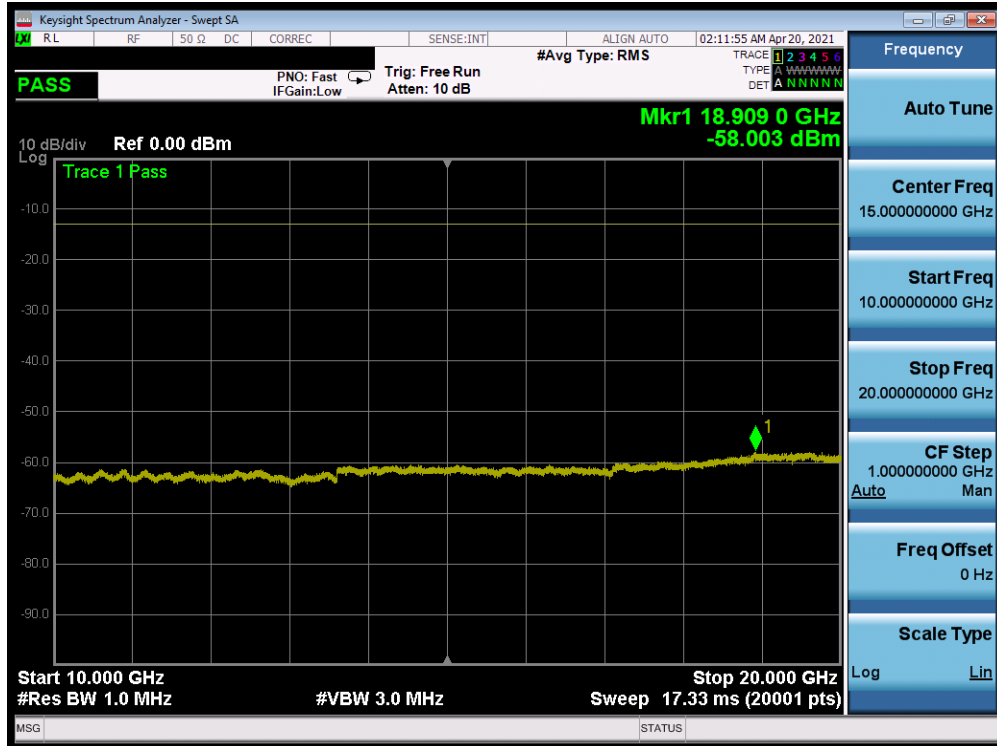


Plot 7-148. Conducted Spurious Plot (NR Band n66 -40.0MHz - RB Size 1, RB Offset 0 - Low Channel)

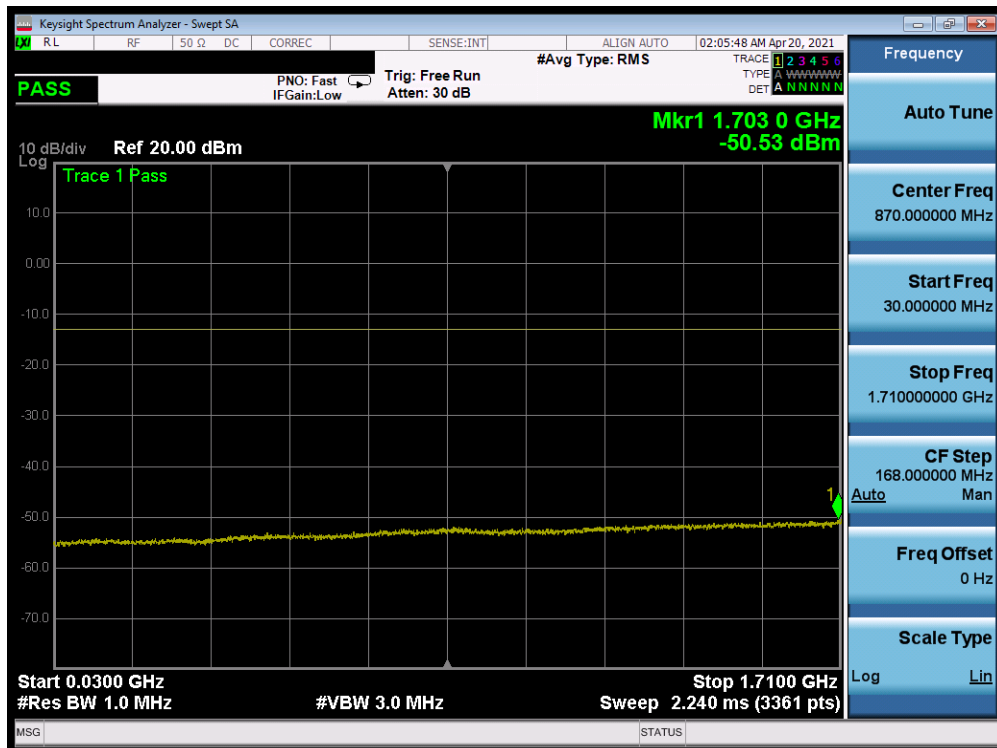


Plot 7-149. Conducted Spurious Plot (NR Band n66 - 40.0MHz - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 96 of 262

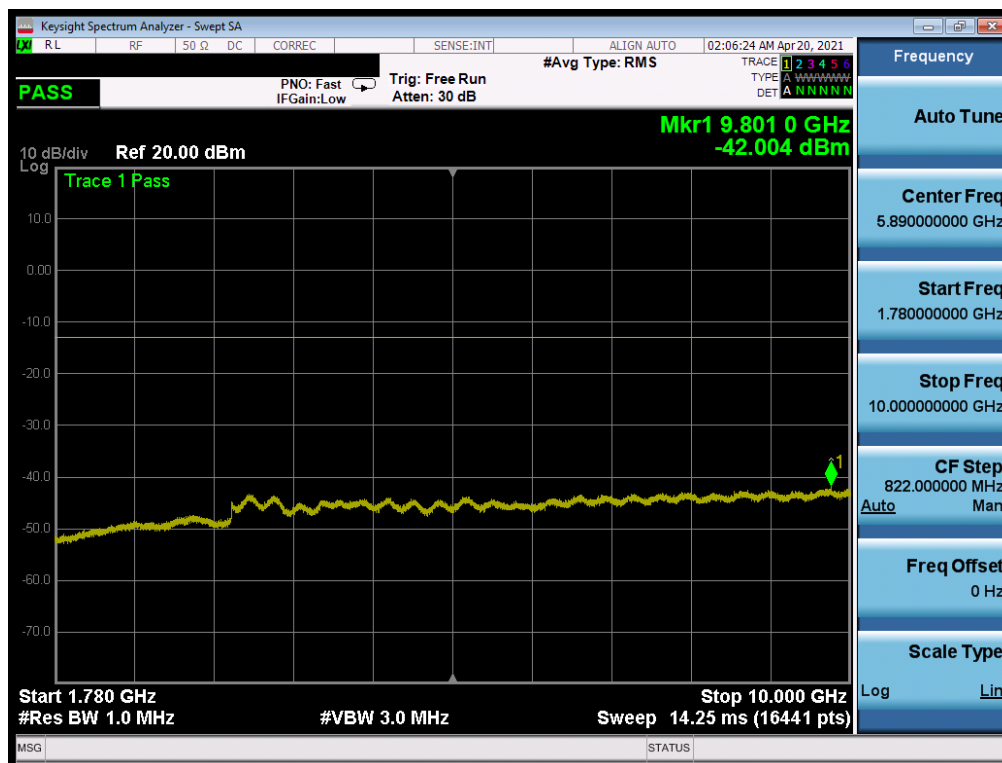


Plot 7-150. Conducted Spurious Plot (NR Band n66 - 40.0MHz - RB Size 1, RB Offset 0 - Low Channel)

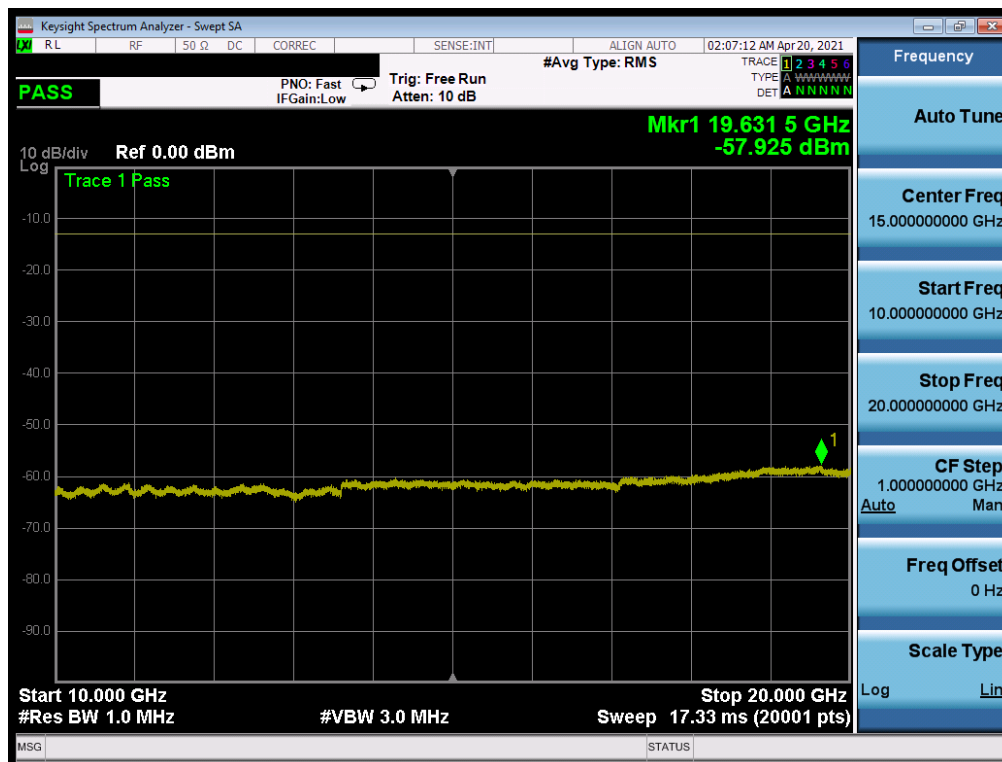


Plot 7-151. Conducted Spurious Plot (NR Band n66 - 40.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 97 of 262

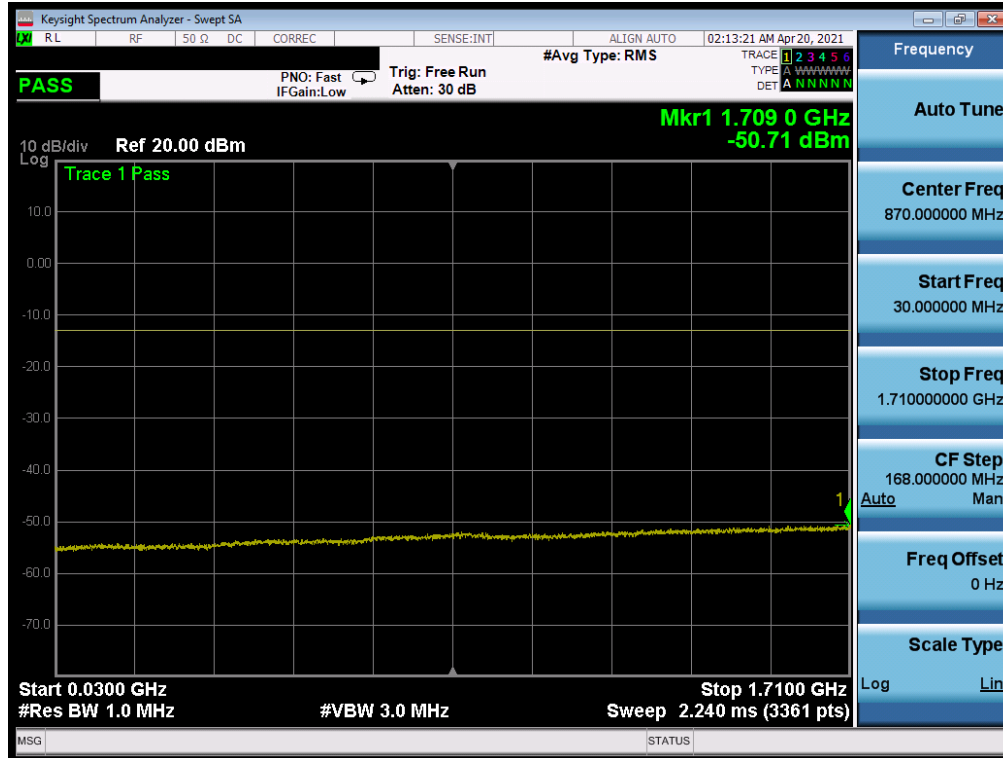


Plot 7-152. Conducted Spurious Plot (NR Band n66 - 40.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

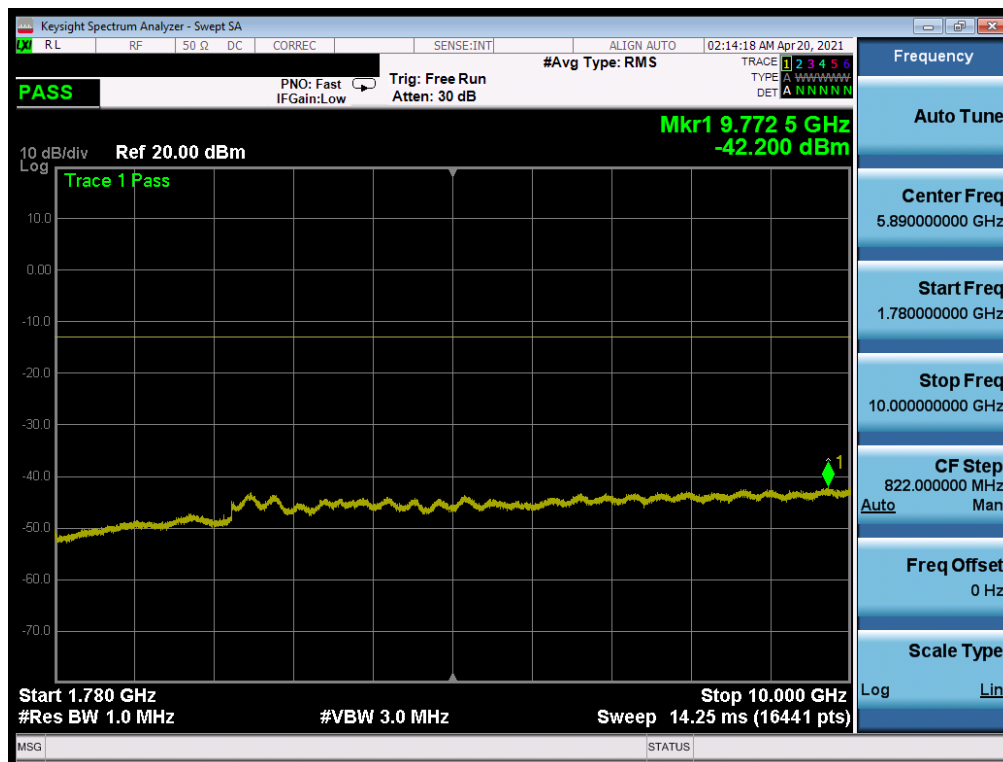


Plot 7-153. Conducted Spurious Plot (NR Band n66 - 40.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 98 of 262

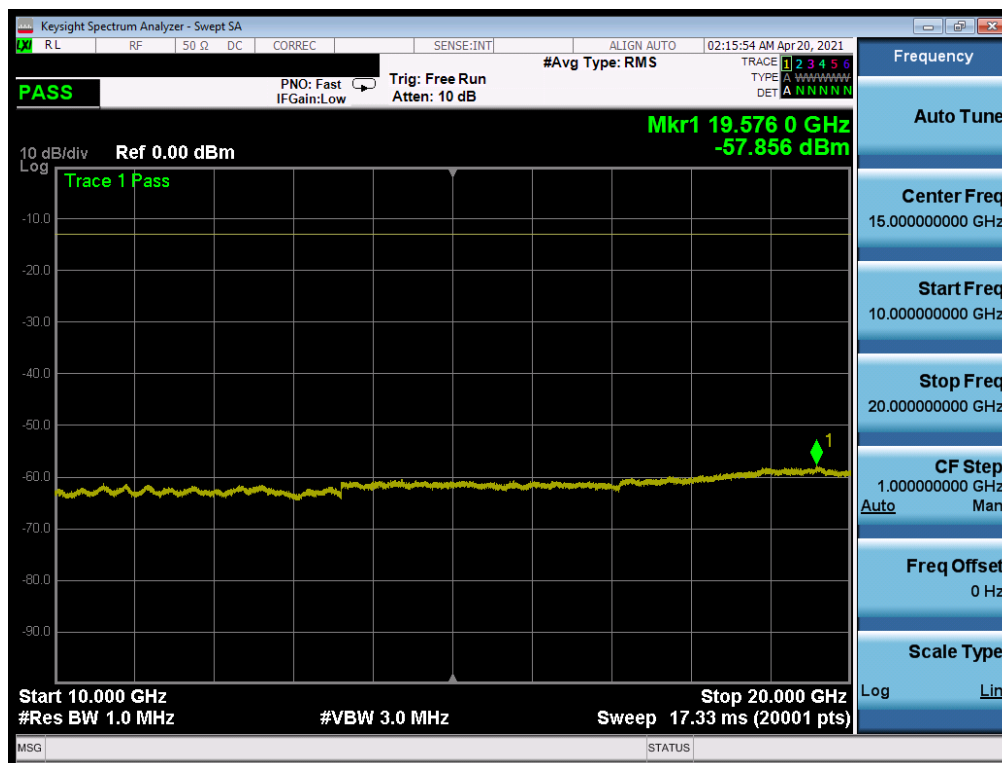


Plot 7-154. Conducted Spurious Plot (NR Band n66 - 40.0MHz - RB Size 1, RB Offset 0 - High Channel)



Plot 7-155. Conducted Spurious Plot (NR Band n66 - 40.0MHz - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 99 of 262



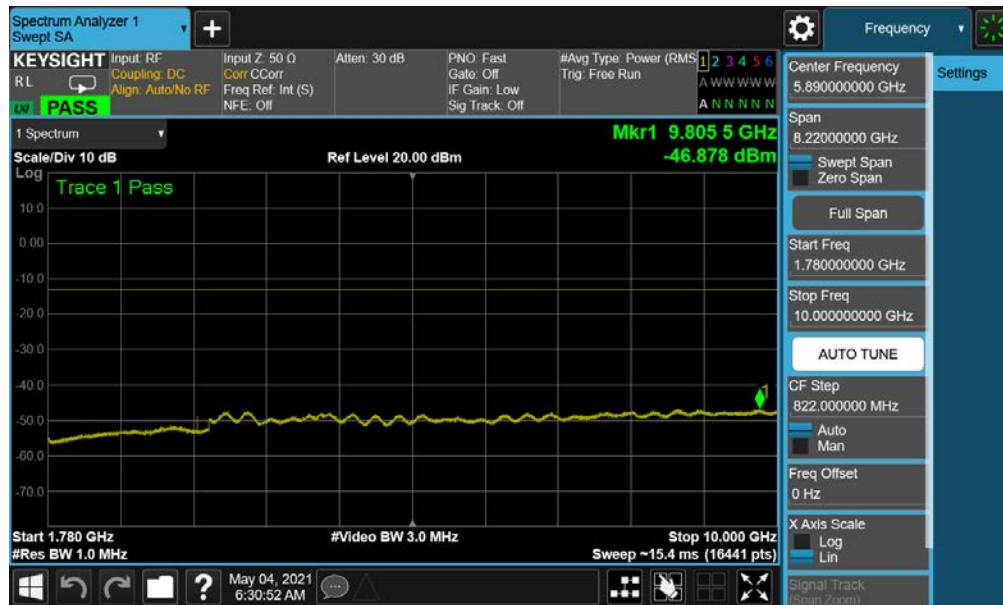
Plot 7-156. Conducted Spurious Plot (NR Band n66 - 40.0MHz - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 100 of 262

NR Band n66 – Ant I



Plot 7-157. Conducted Spurious Plot (NR Band n66 -40.0MHz - 1 RB - Low Channel)



Plot 7-158. Conducted Spurious Plot (NR Band n66 - 40.0MHz - 1 RB - Low Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 101 of 262

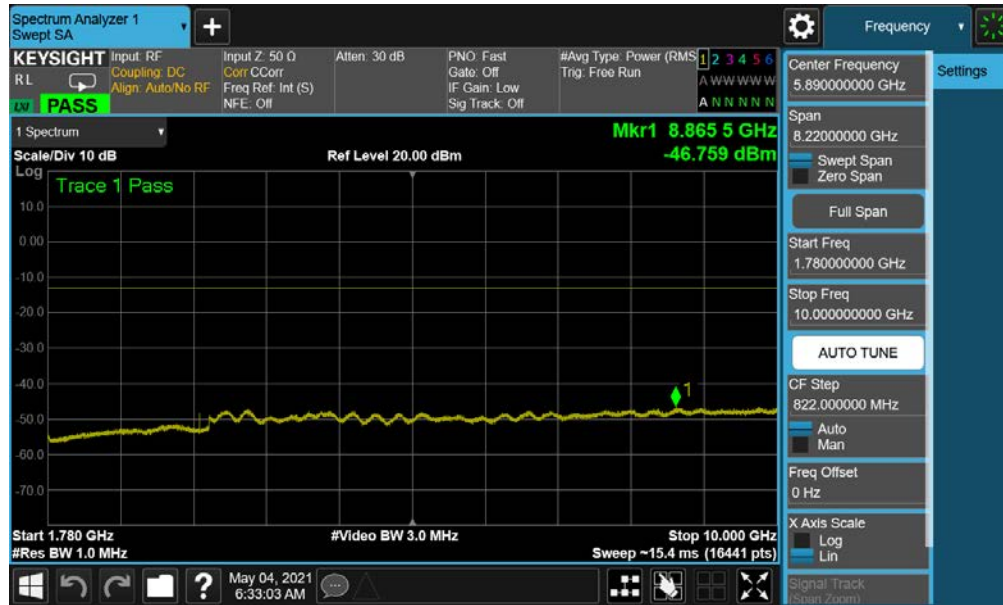


Plot 7-159. Conducted Spurious Plot (NR Band n66 - 40.0MHz - 1 RB - Low Channel)



Plot 7-160. Conducted Spurious Plot (NR Band n66 - 40.0MHz - 1 RB - Mid Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 102 of 262

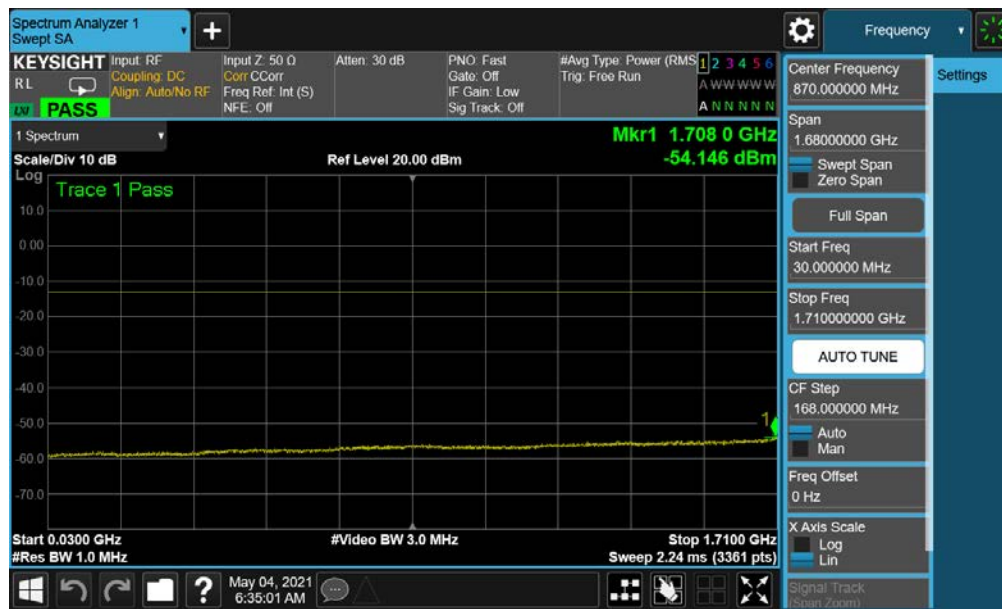


Plot 7-161. Conducted Spurious Plot (NR Band n66 - 40.0MHz - 1 RB - Mid Channel)

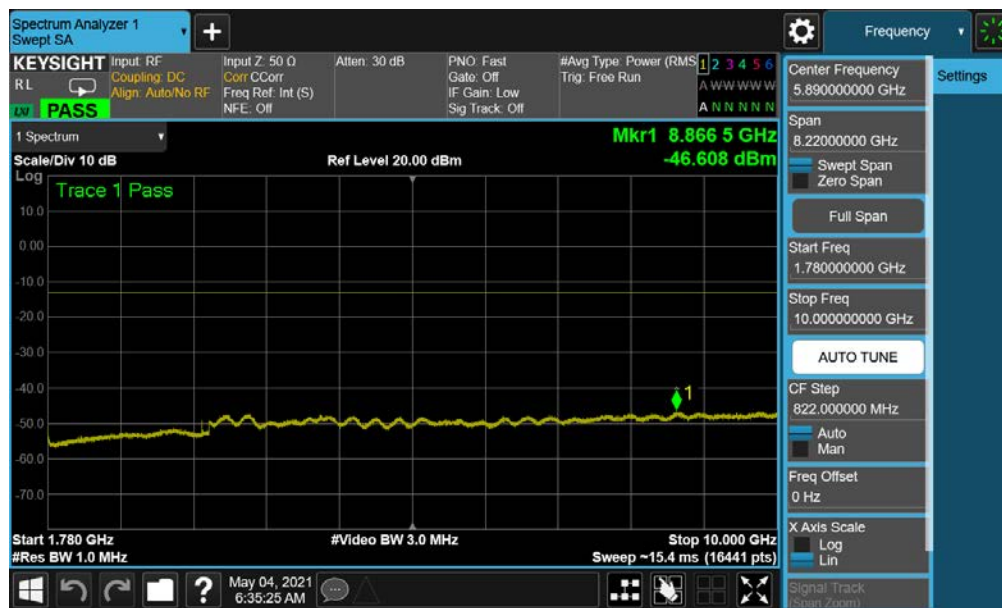


Plot 7-162. Conducted Spurious Plot (NR Band n66 - 40.0MHz - 1 RB - Mid Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 103 of 262



Plot 7-163. Conducted Spurious Plot (NR Band n66 - 40.0MHz - 1 RB - High Channel)



Plot 7-164. Conducted Spurious Plot (NR Band n66 - 40.0MHz - 1 RB - High Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 104 of 262



Plot 7-165. Conducted Spurious Plot (NR Band n66 - 40.0MHz - 1 RB - High Channel)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 105 of 262

7.5 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 its maximum duty cycle, 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.

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 $\geq 3 \times$ RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times$ 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.

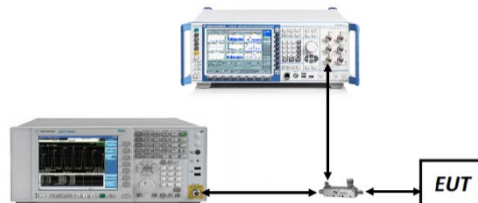


Figure 7-4. Test Instrument & Measurement Setup

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 106 of 262

Test Notes

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.

Per 27.53(g) for operations in the 663 - 698 MHz and 698 – 746MHz bands, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

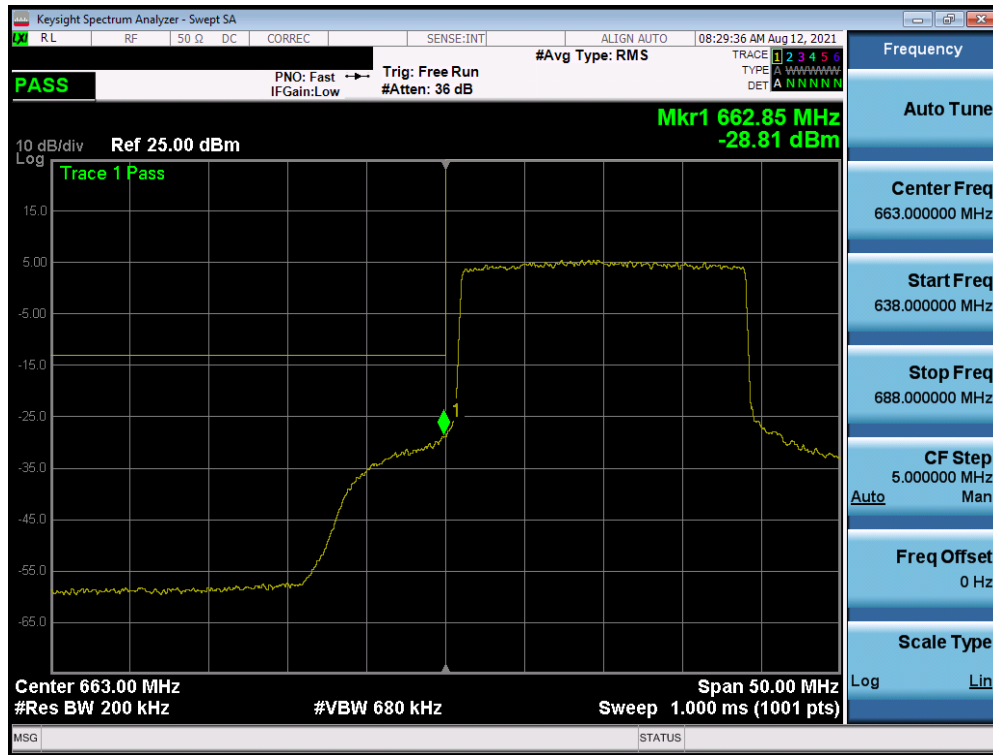
Per 27.53(c)(5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c)(4) is $65 + 10 \log_{10}(P) = -35\text{dBm}$ in a 6.25kHz bandwidth.

This device employs UMTS technology with WCDMA (AMR/RMC), HSDPA, and HSUPA capabilities. For WCDMA and HSUPA transmission, all configurations were investigated and the worst case UMTS emissions were reported.

FCC ID: A3LSMF711U1	 PART 27 MEASUREMENT REPORT 	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset
Page 107 of 262		

LTE Band 71 – Ant I

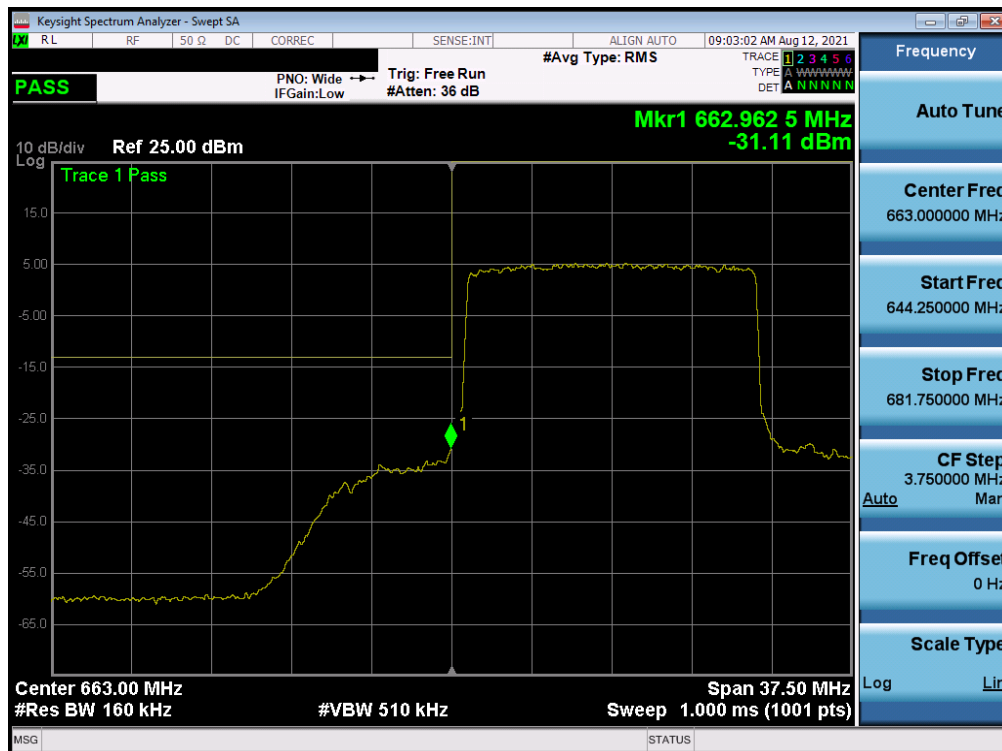


Plot 7-166. Lower Band Edge Plot (LTE Band 71 - 20MHz QPSK – Full RB - Ant I)



Plot 7-167. Upper Band Edge Plot (LTE Band 71 - 20MHz QPSK – Full RB - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 108 of 262

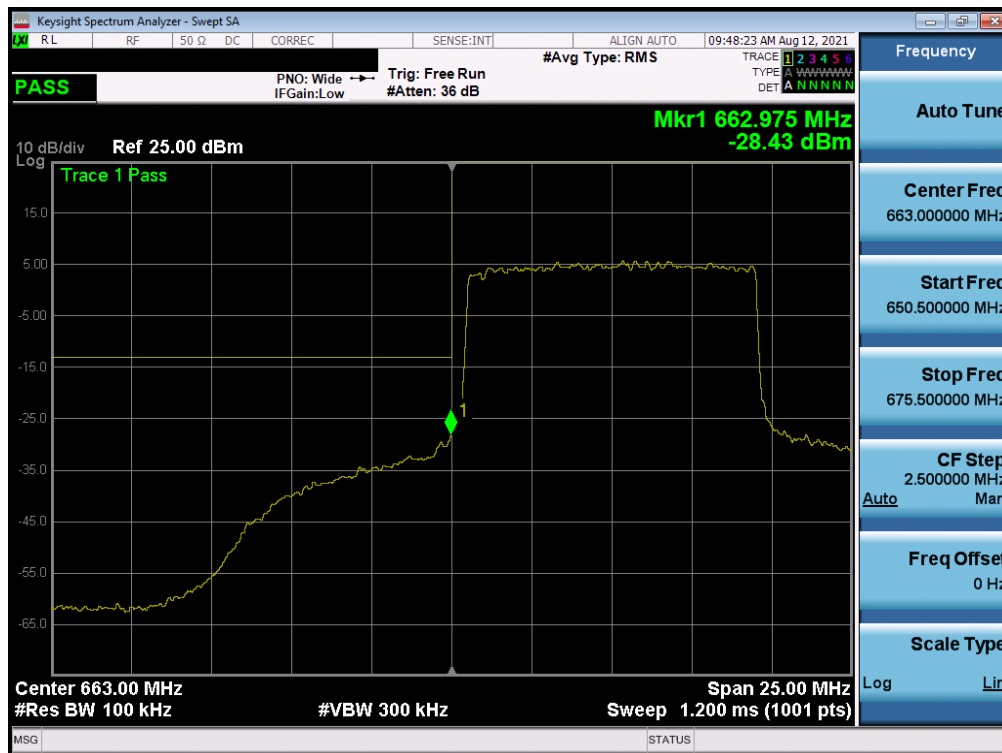


Plot 7-168. Lower Band Edge Plot (LTE Band 71 - 15MHz QPSK - Full RB - Ant I)



Plot 7-169. Upper Band Edge Plot (LTE Band 71 - 15MHz QPSK - Full RB - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 – 09/06/2021	EUT Type: Portable Handset		Page 109 of 262



Plot 7-170. Lower Band Edge Plot (LTE Band 71 - 10MHz QPSK - Full RB - Ant I)



Plot 7-171. Upper Band Edge Plot (LTE Band 71 - 10MHz QPSK - Full RB - Ant I)

FCC ID: A3LSMF711U1	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2107290086-05.A3L	Test Dates: 04/12/2021 - 09/06/2021	EUT Type: Portable Handset		Page 110 of 262