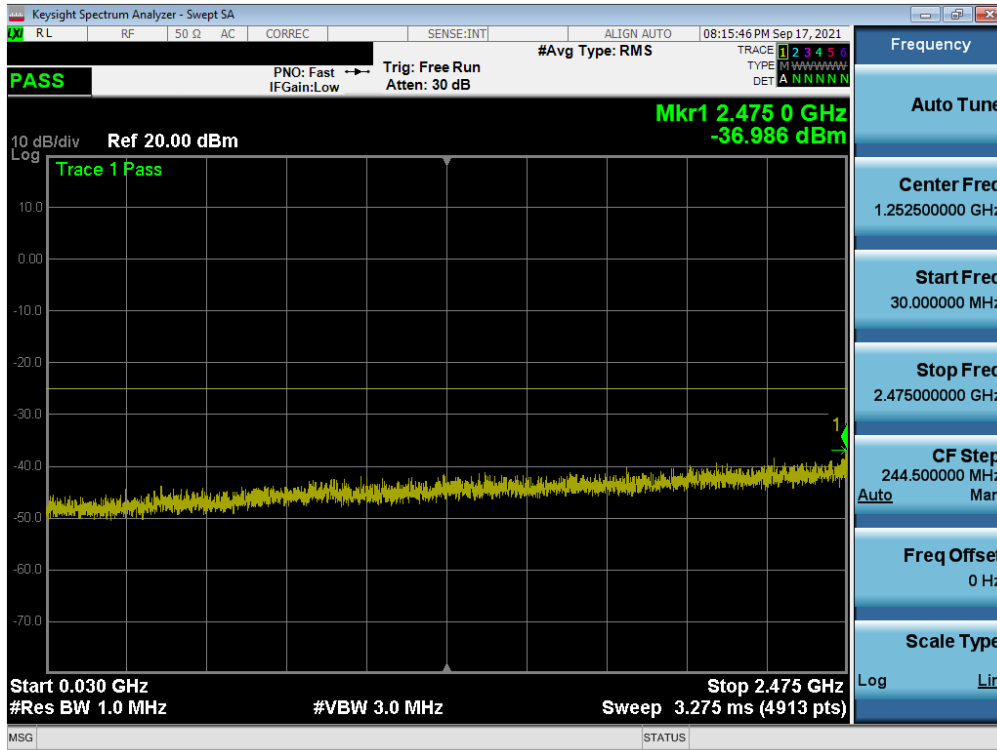


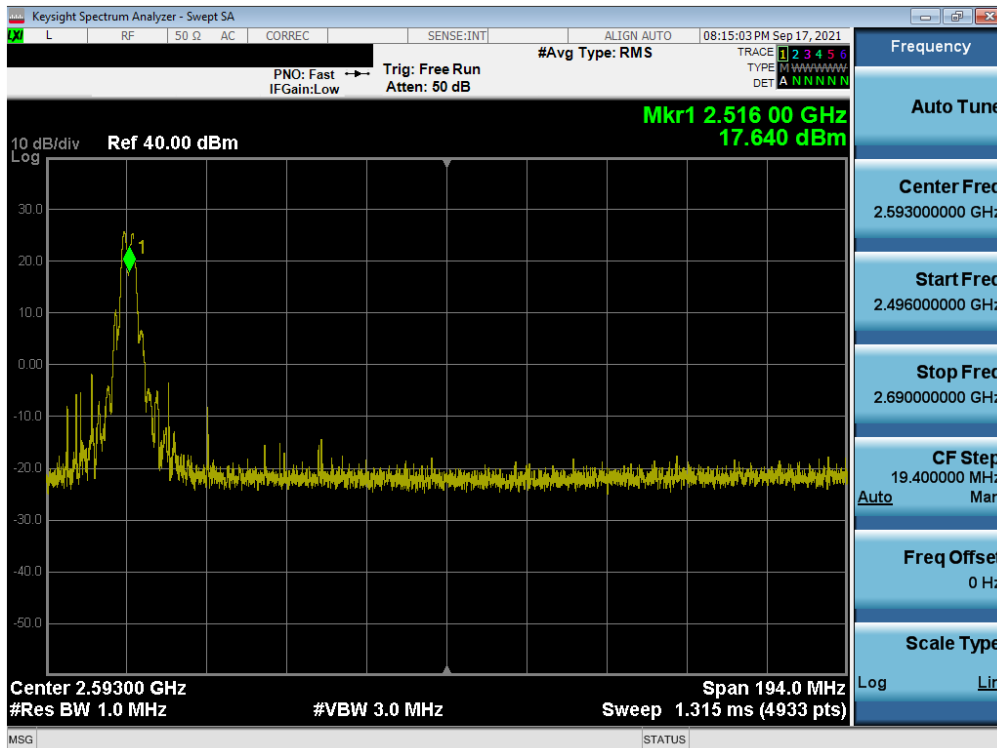
Plot 7-101. Conducted Spurious Plot (LTE Band 41(PC2) - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 74 of 200

ULCA - LTE B41(PC2)

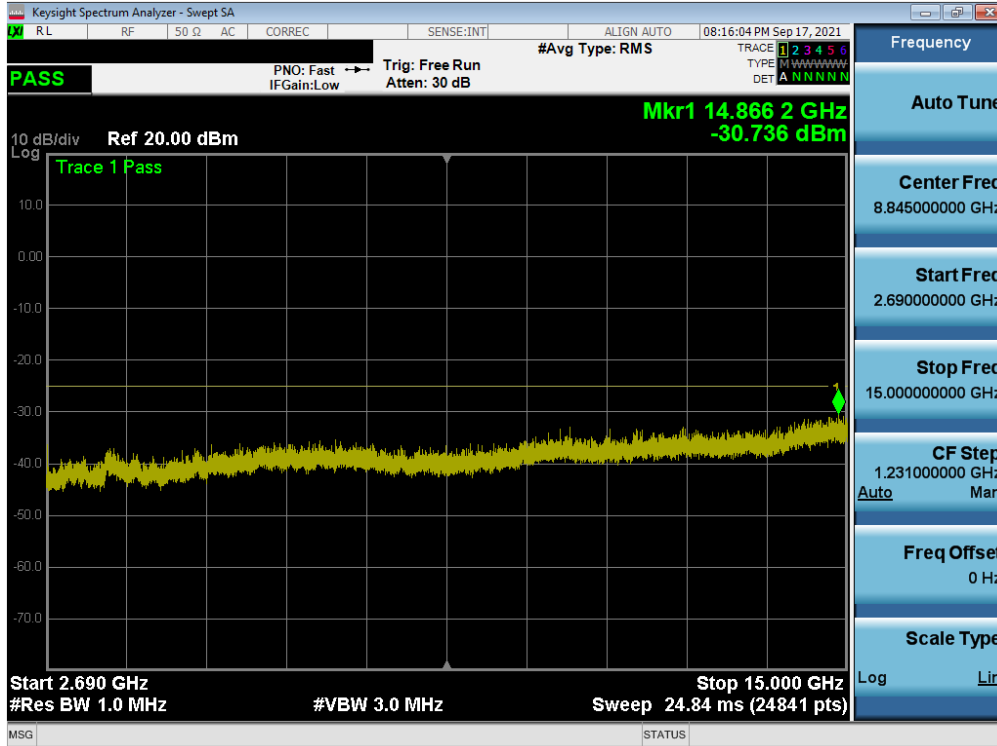


Plot 7-102. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

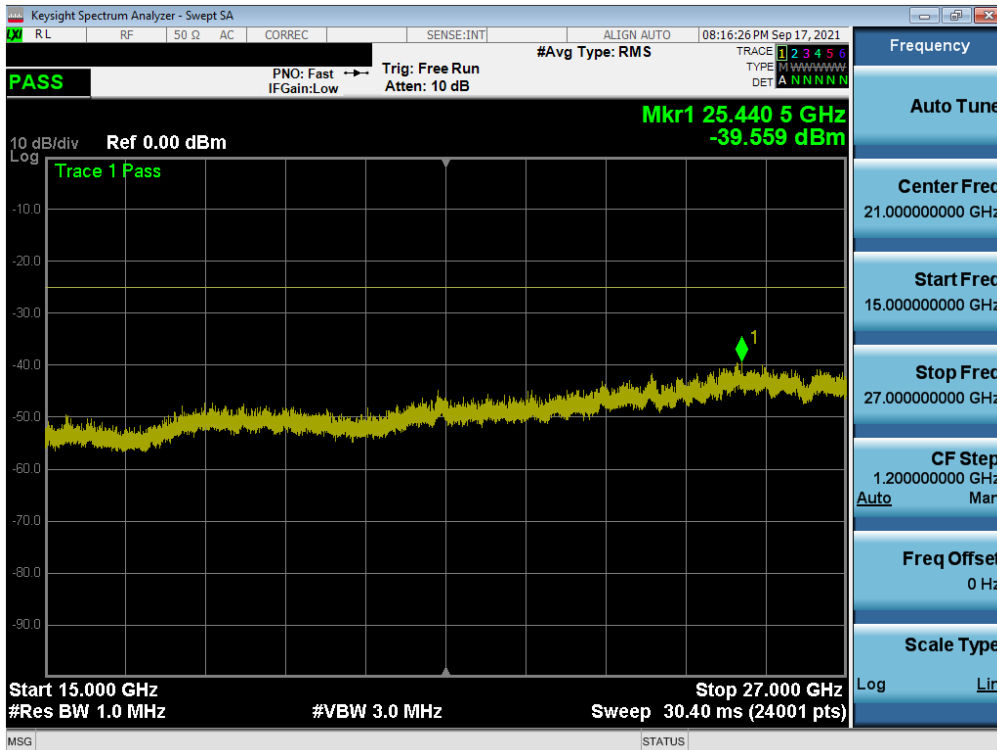


Plot 7-103. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 75 of 200

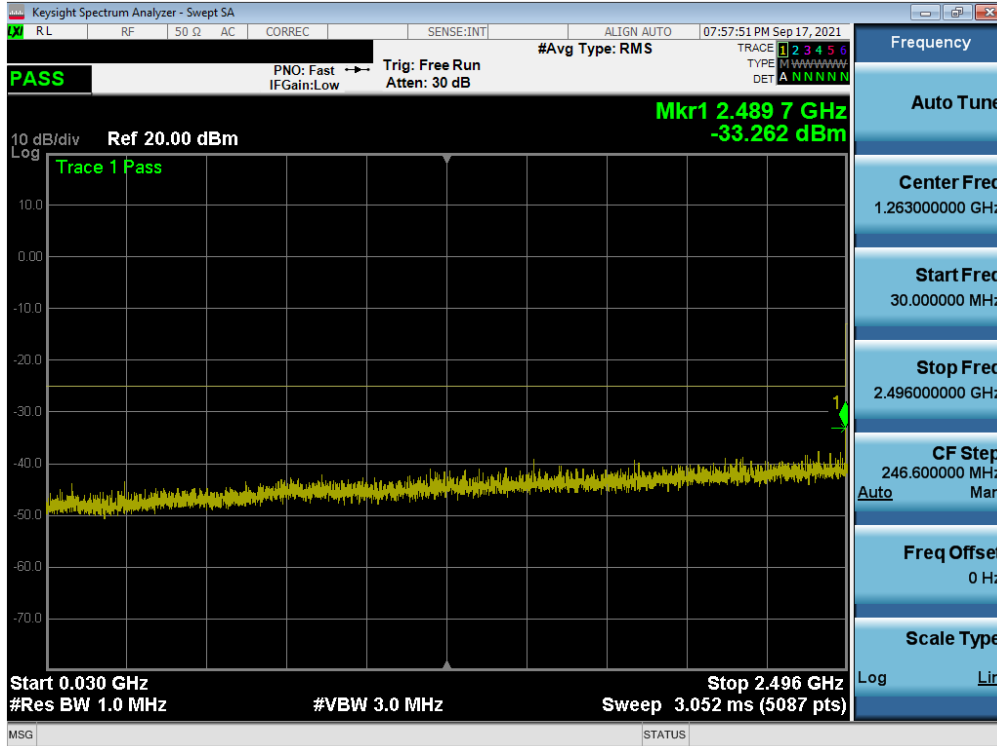


Plot 7-104. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

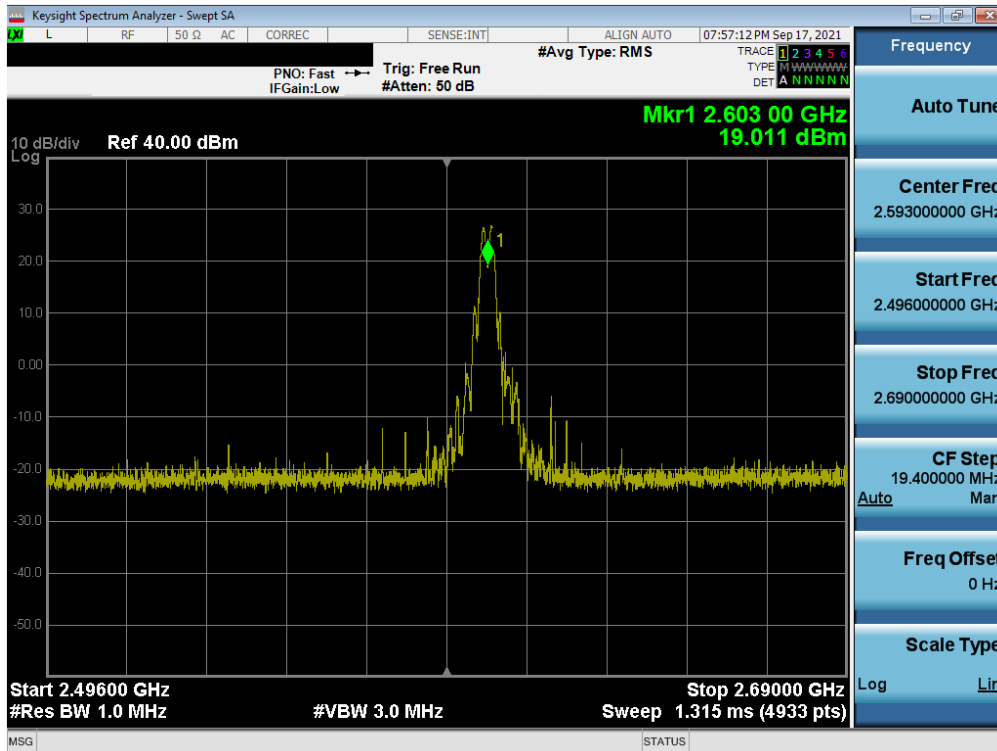


Plot 7-105. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 76 of 200

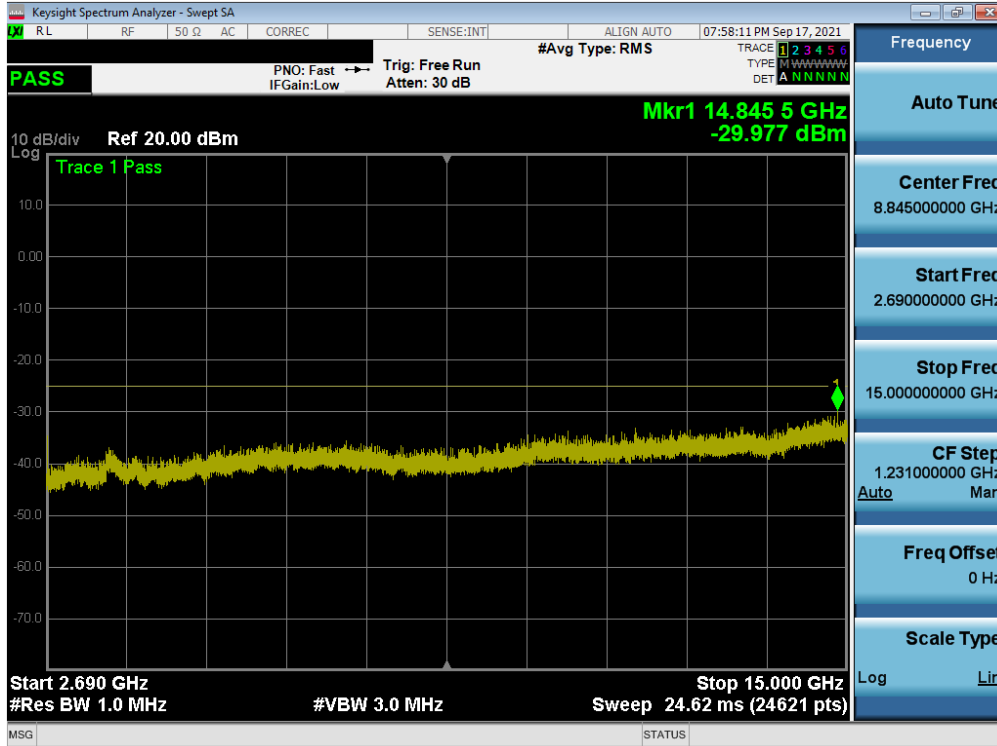


Plot 7-106. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

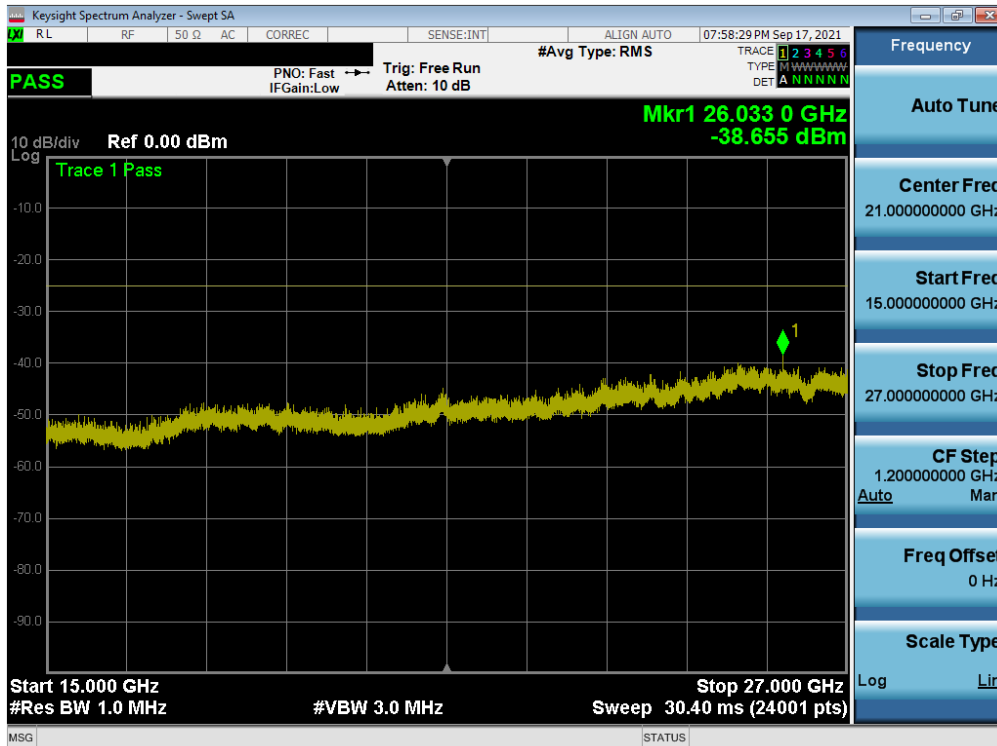


Plot 7-107. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 77 of 200

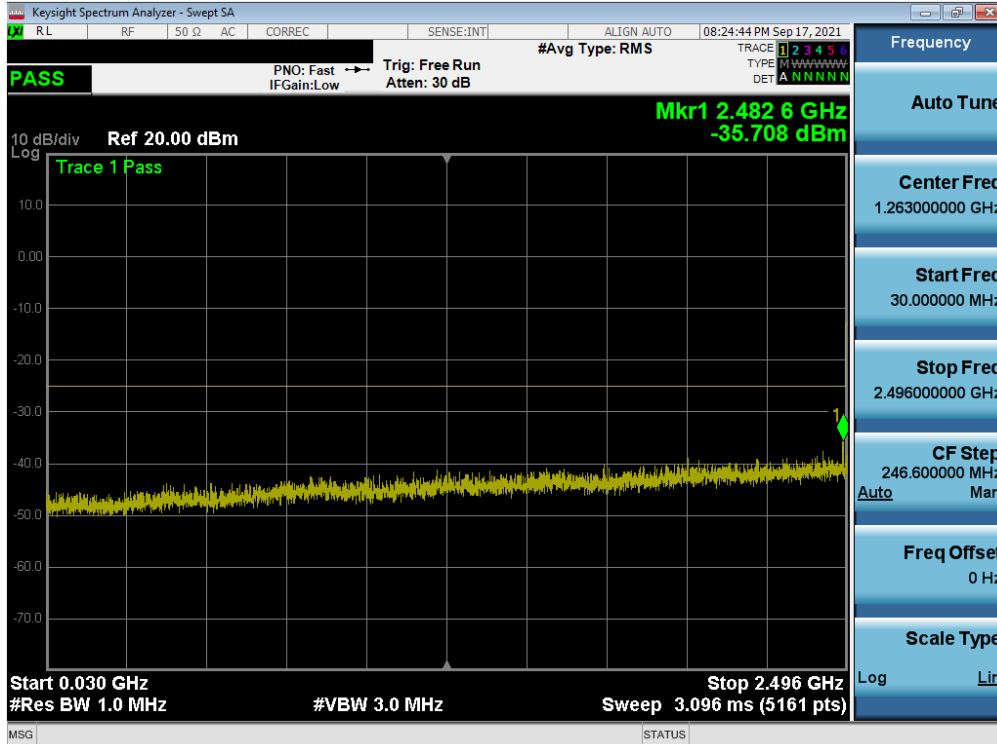


Plot 7-108. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20+20 MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

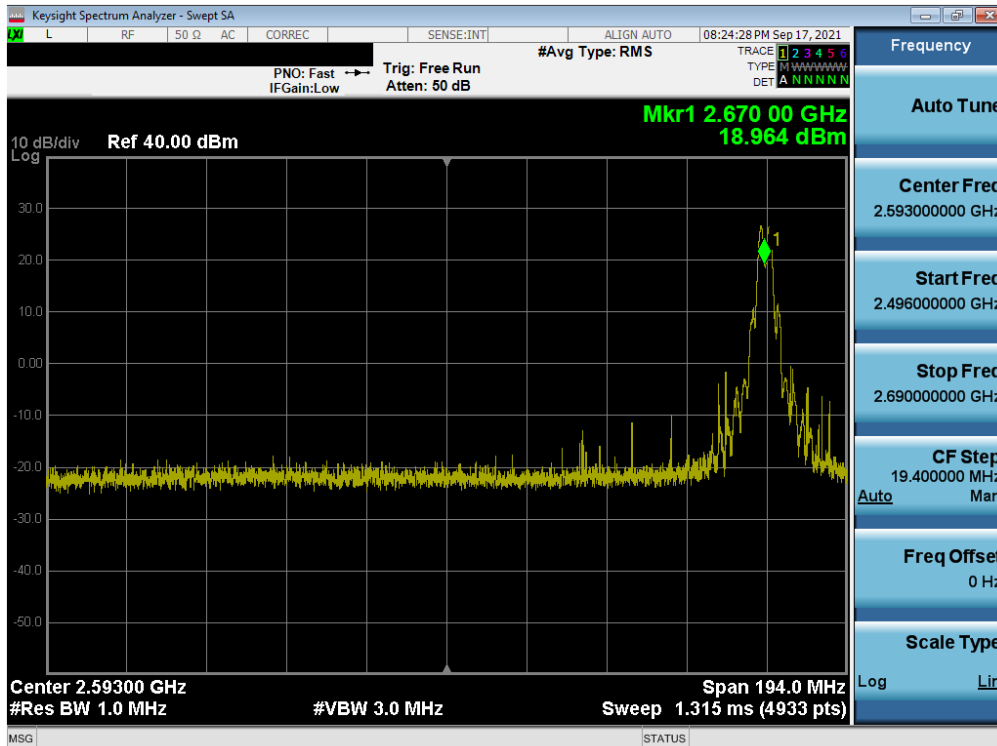


Plot 7-109. Conducted Spurious Plot (ULCA LTE B41(PC2) - 20+20 MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 78 of 200

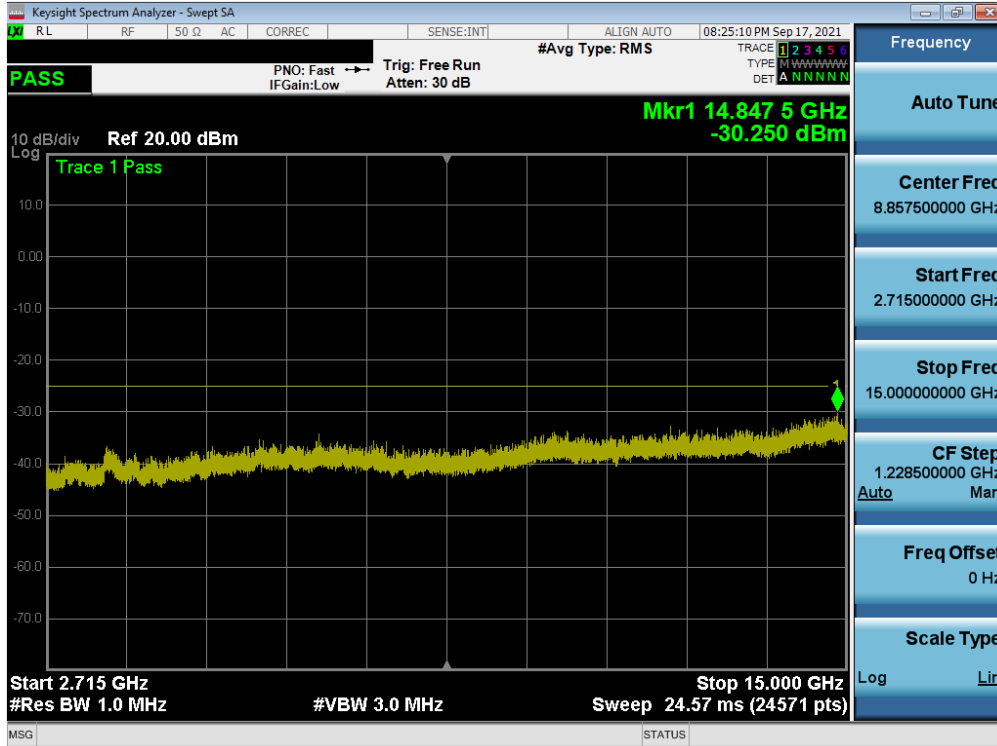


Plot 7-110. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

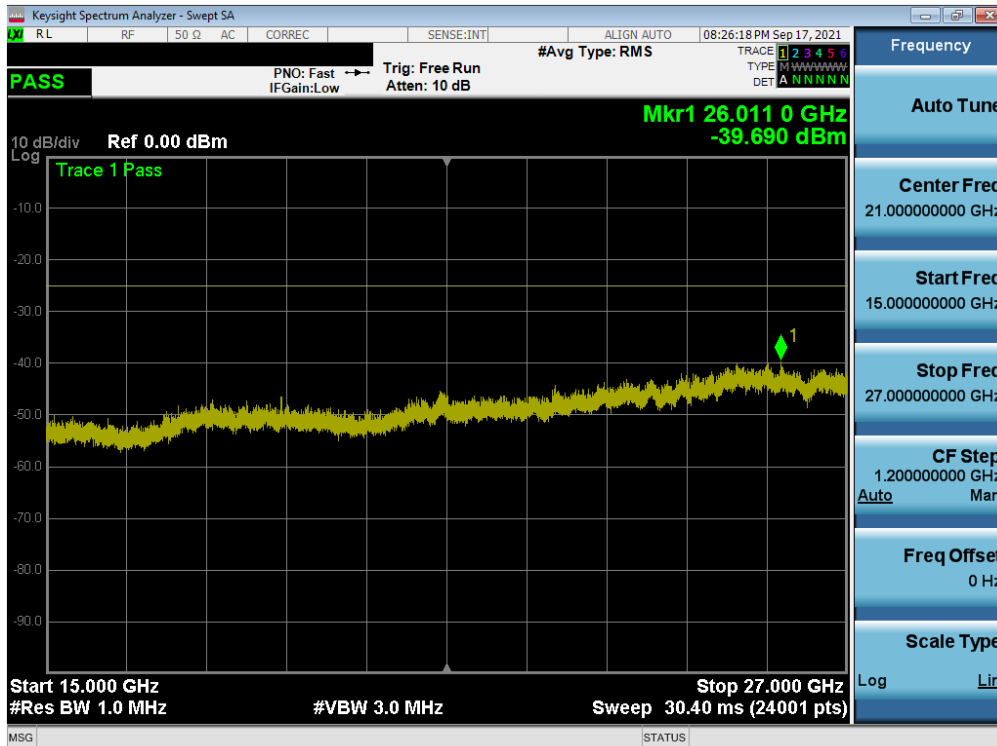


Plot 7-111. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 79 of 200



Plot 7-112. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



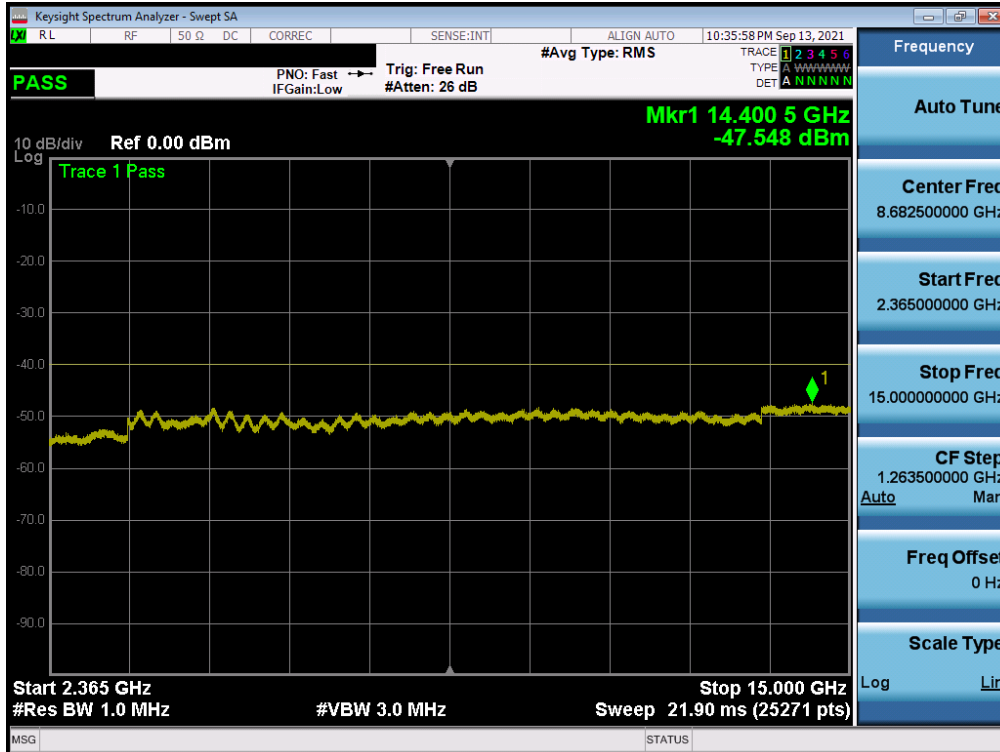
Plot 7-113. Conducted Spurious Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 80 of 200

NR Band n30 – Ant A



Plot 7-114. Conducted Spurious Plot (NR Band n30 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant A)



Plot 7-115. Conducted Spurious Plot (NR Band n30 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant A)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 81 of 200



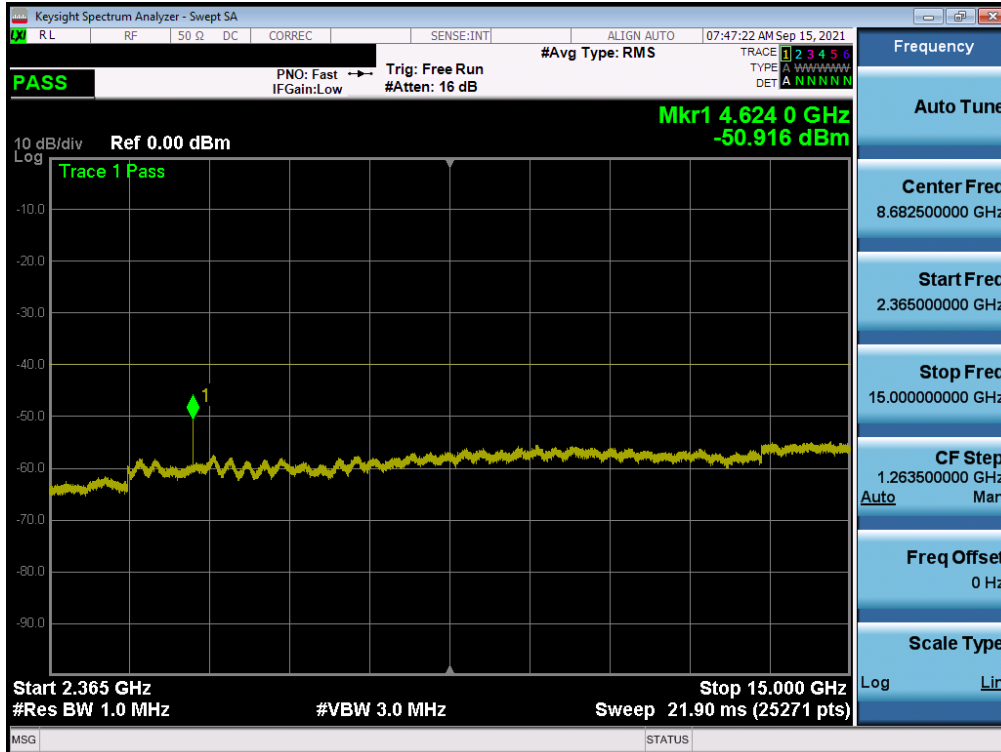
Plot 7-116. Conducted Spurious Plot (NR Band n30 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant A)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 82 of 200

NR Band n30 – Ant I

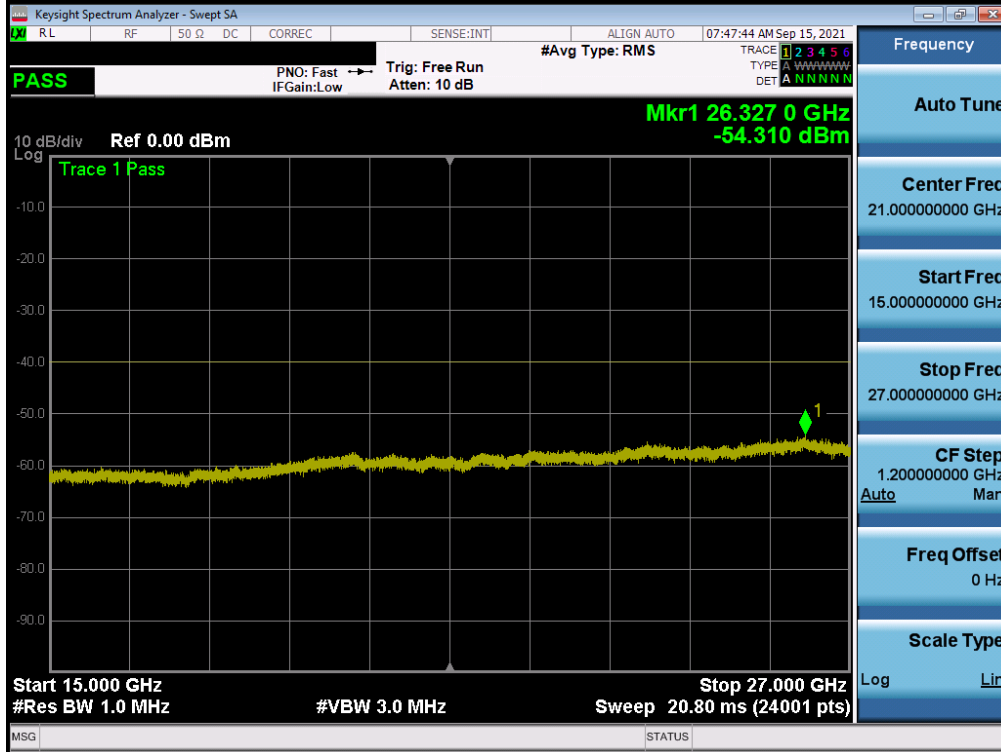


Plot 7-117. Conducted Spurious Plot (NR Band n30 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant I)



Plot 7-118. Conducted Spurious Plot (NR Band n30 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant I)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 83 of 200



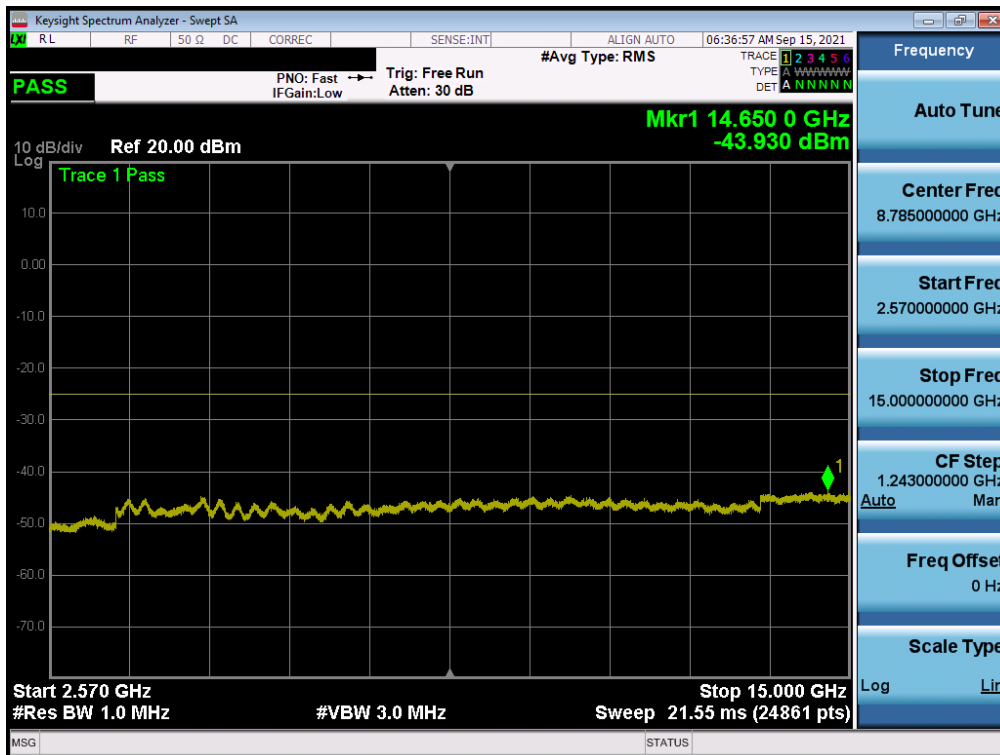
Plot 7-119. Conducted Spurious Plot (NR Band n30 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant I)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 84 of 200

NR Band n7 – Ant B

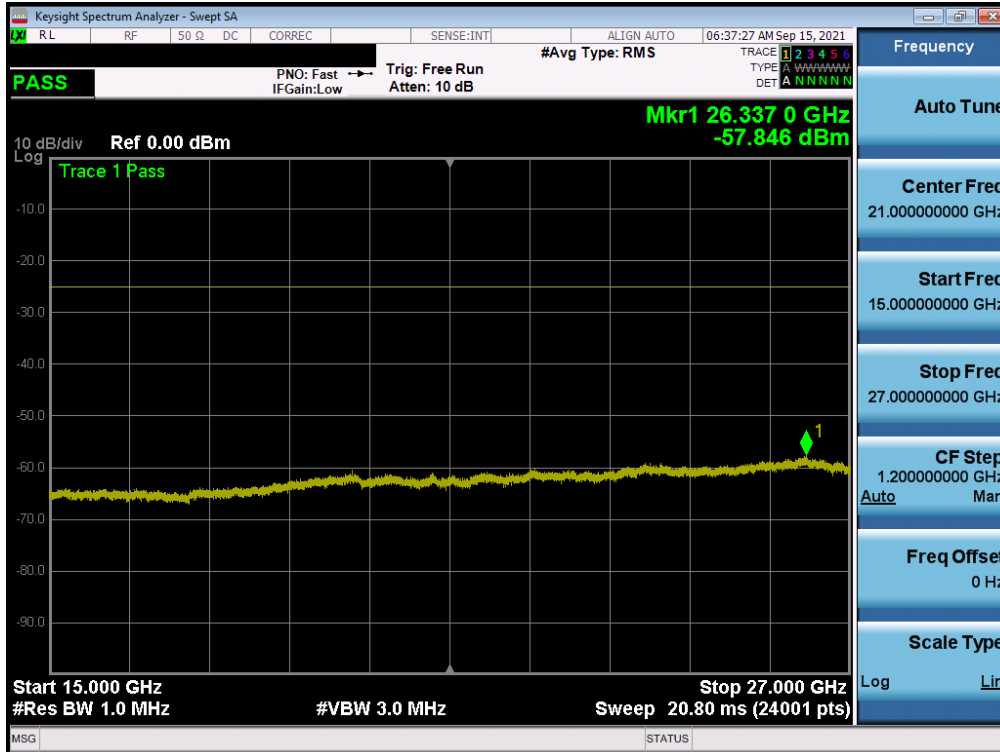


Plot 7-120. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant B)



Plot 7-121. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant B)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 85 of 200

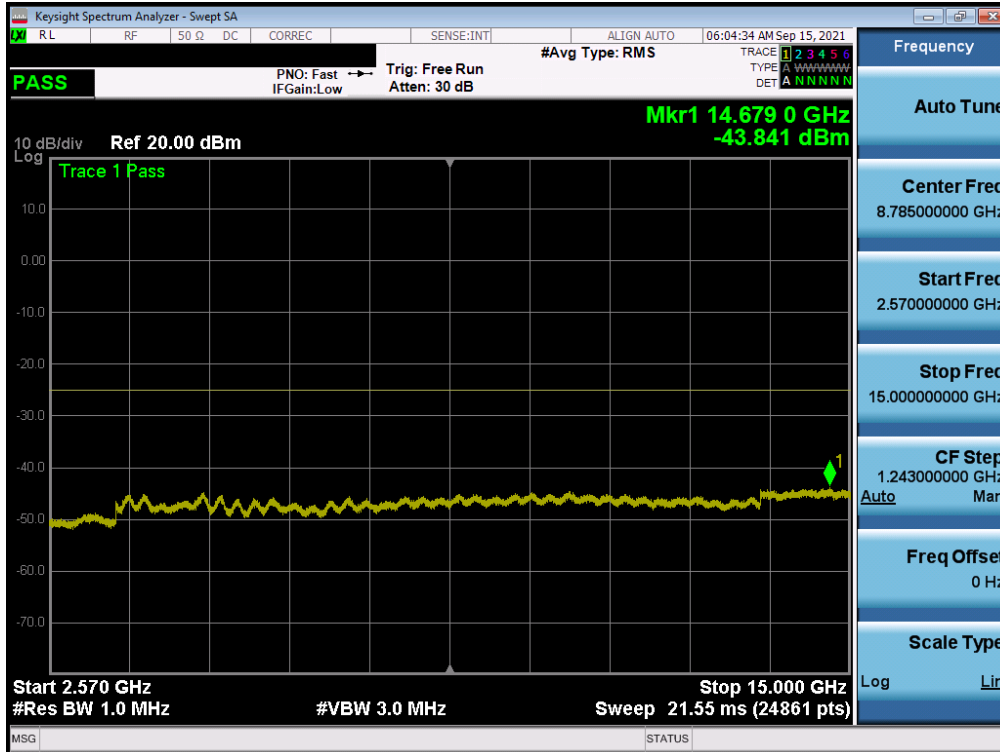


Plot 7-122. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant B)

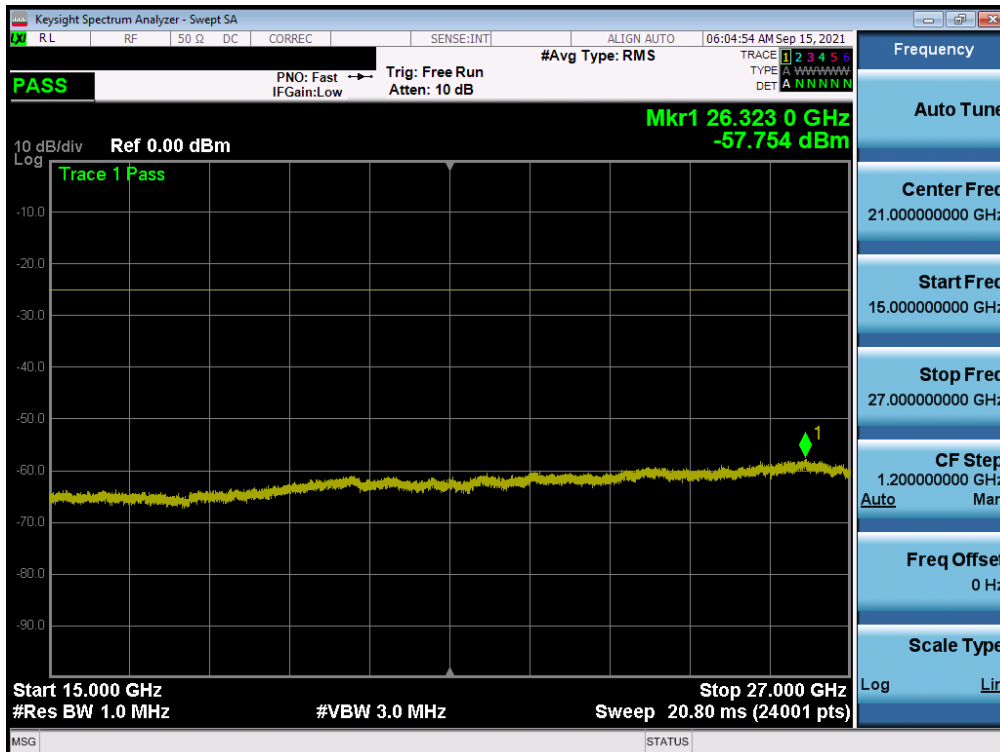


Plot 7-123. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant B)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 86 of 200



Plot 7-124. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant B)

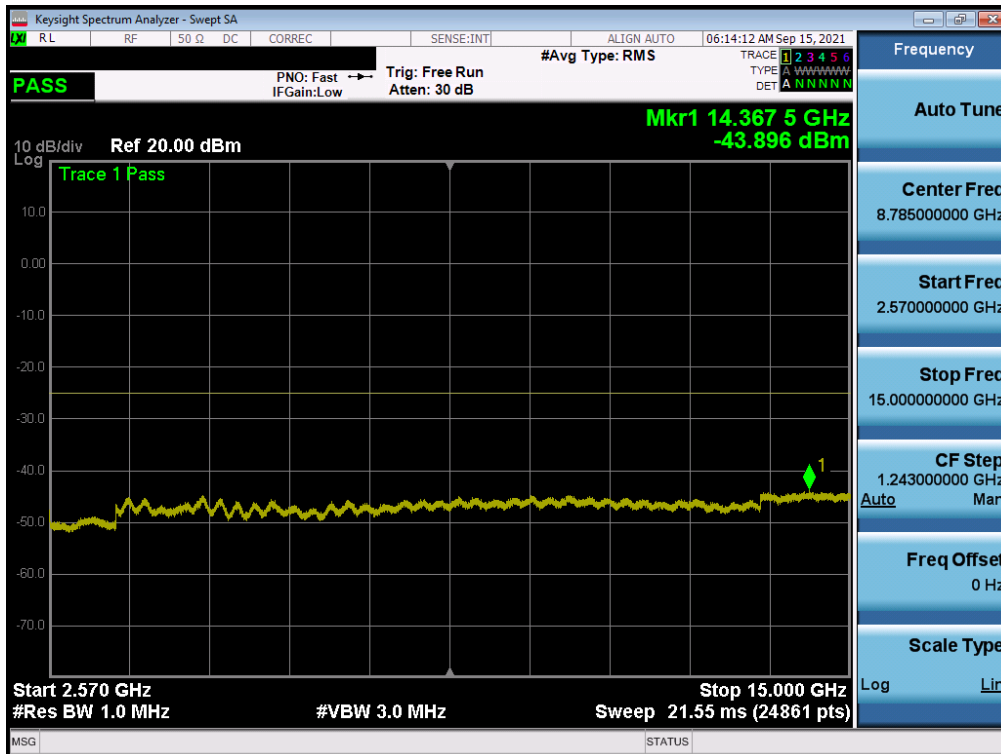


Plot 7-125. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant B)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 87 of 200



Plot 7-126. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant B)



Plot 7-127. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant B)

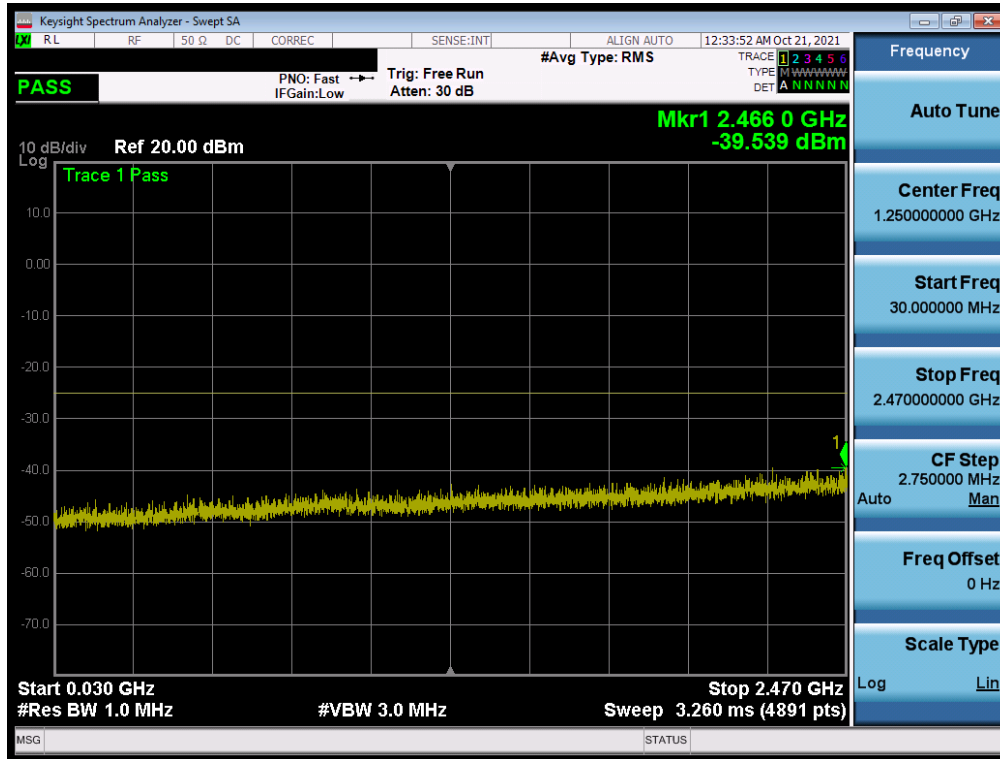
FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 88 of 200



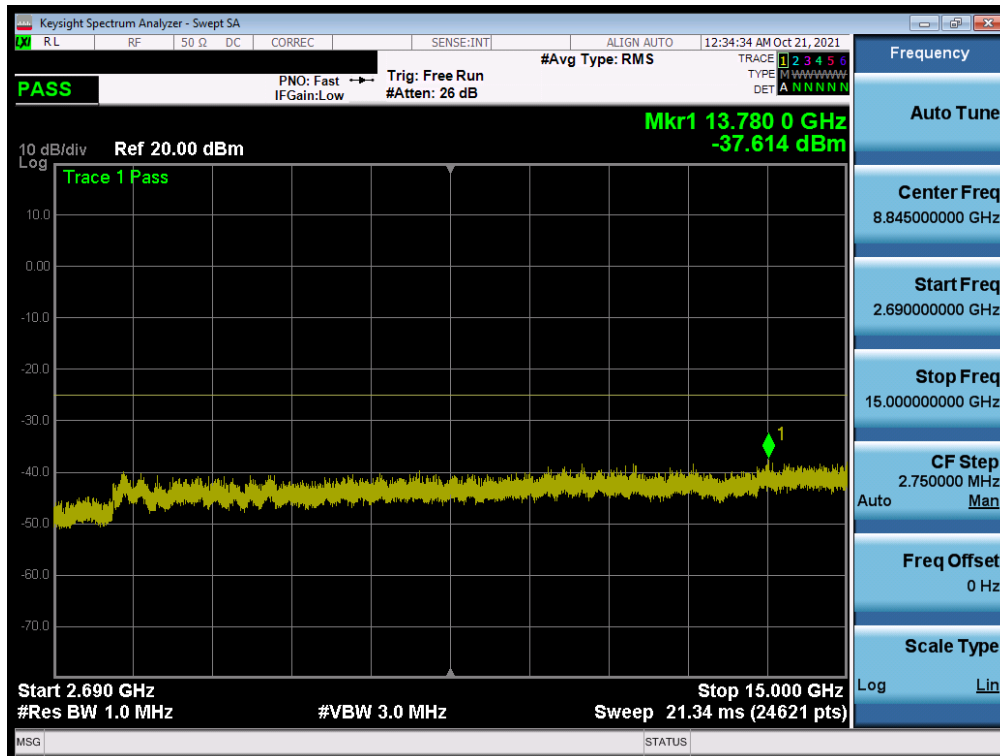
Plot 7-128. Conducted Spurious Plot (NR Band n7 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant B)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 89 of 200

NR Band n41 (PC2) – SRS-1 – Ant I

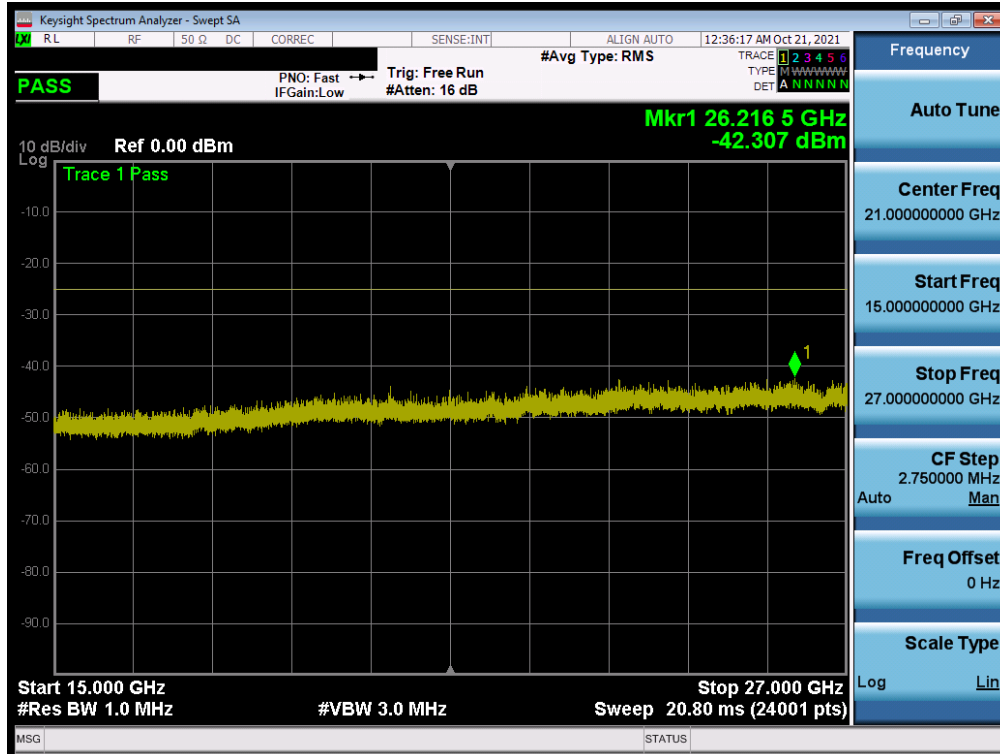


Plot 7-129. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant I)

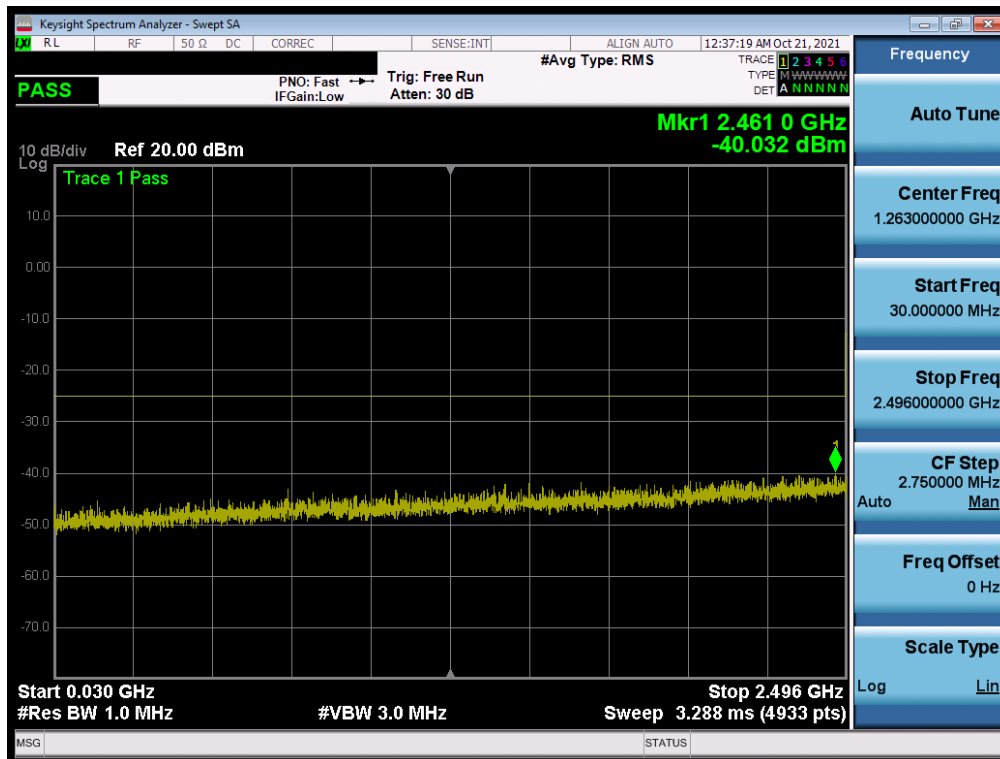


Plot 7-130. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant I)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 90 of 200

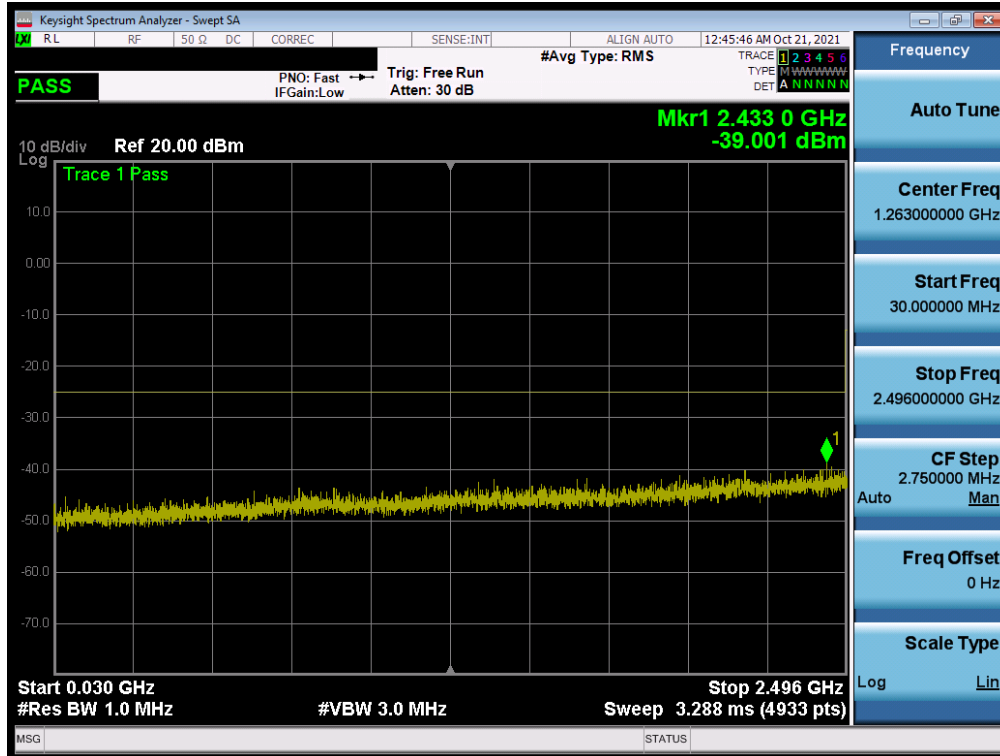


Plot 7-131. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant I)

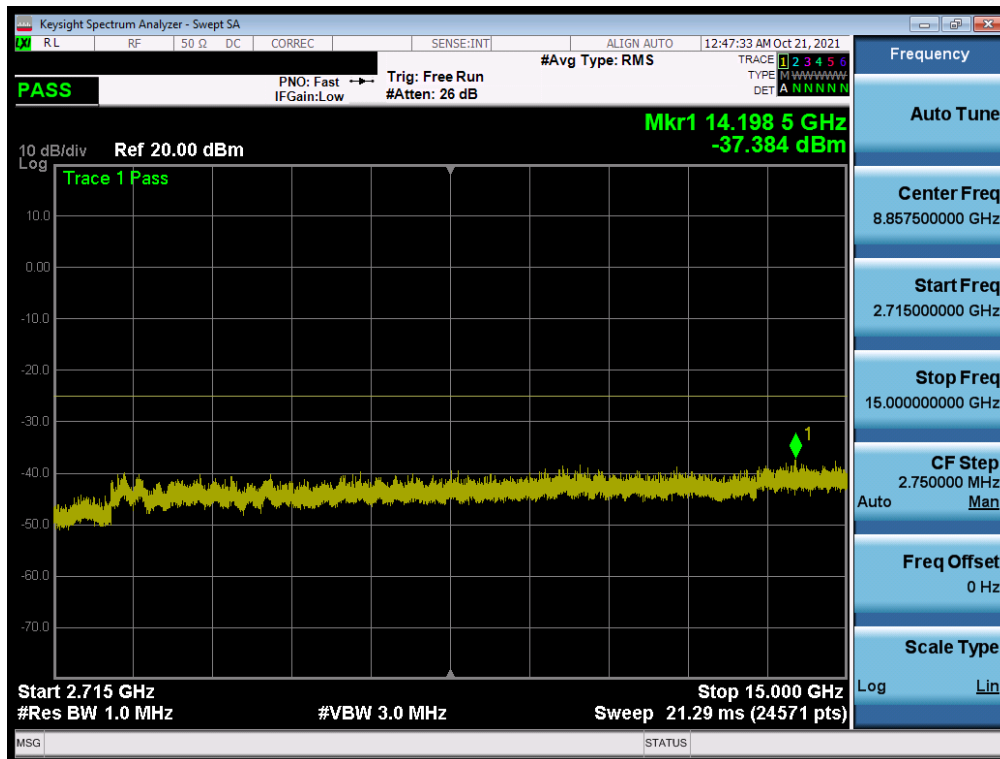


Plot 7-132. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant I)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 91 of 200

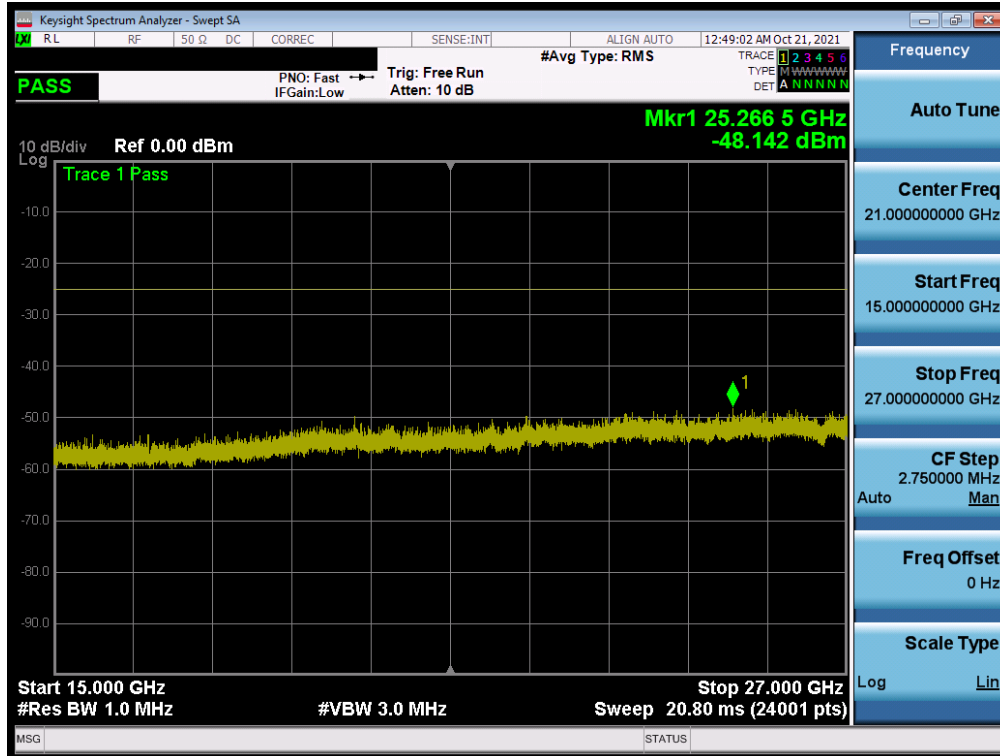


Plot 7-135. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant I)



Plot 7-136. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant I)

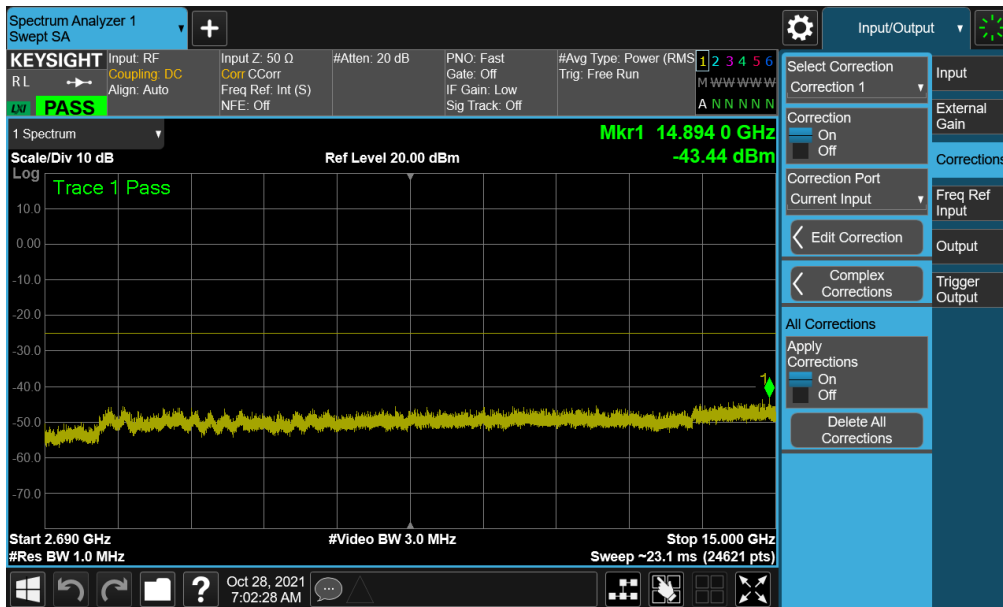
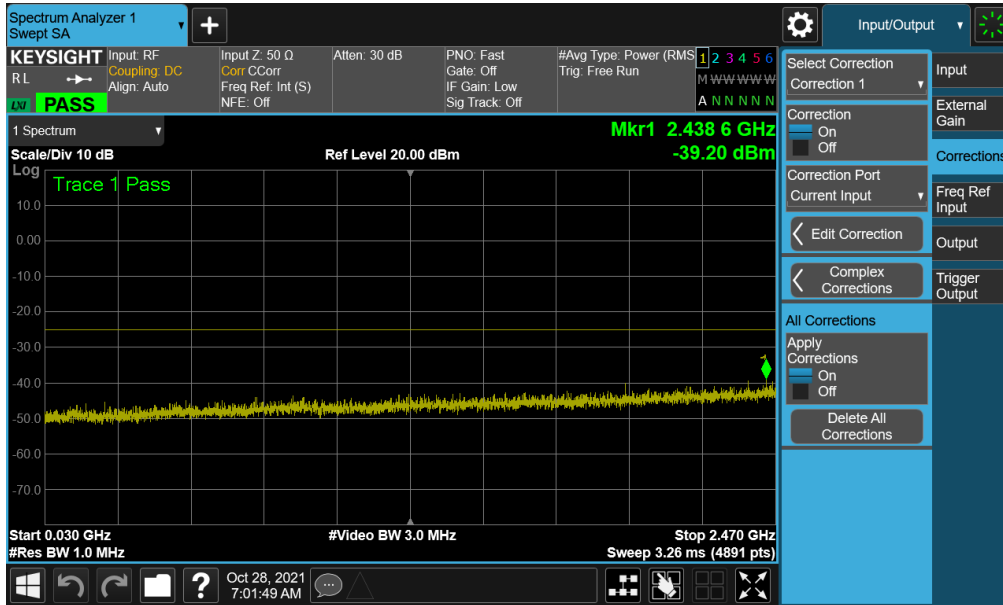
FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 93 of 200



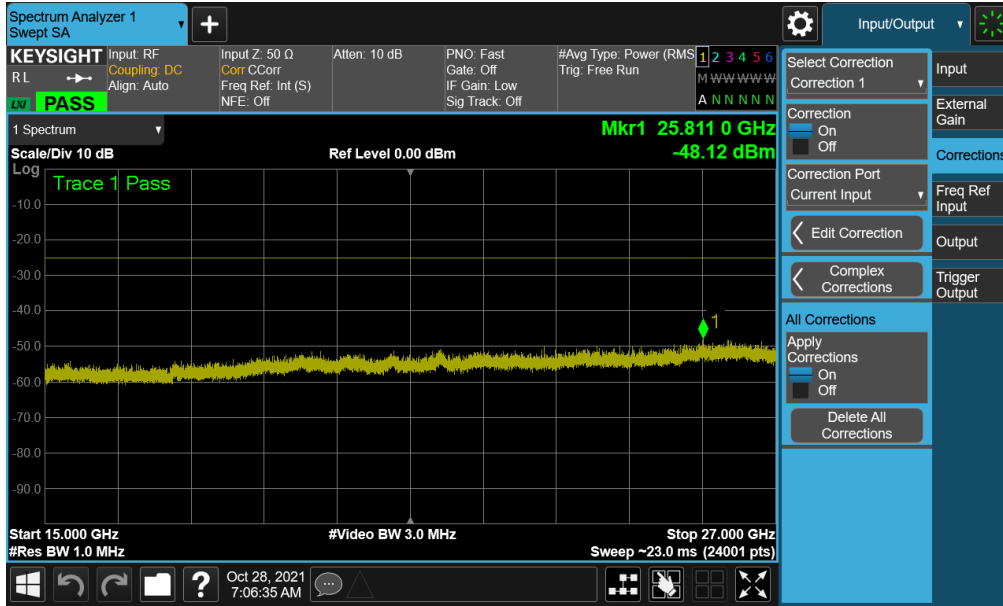
Plot 7-137. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant I)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 94 of 200

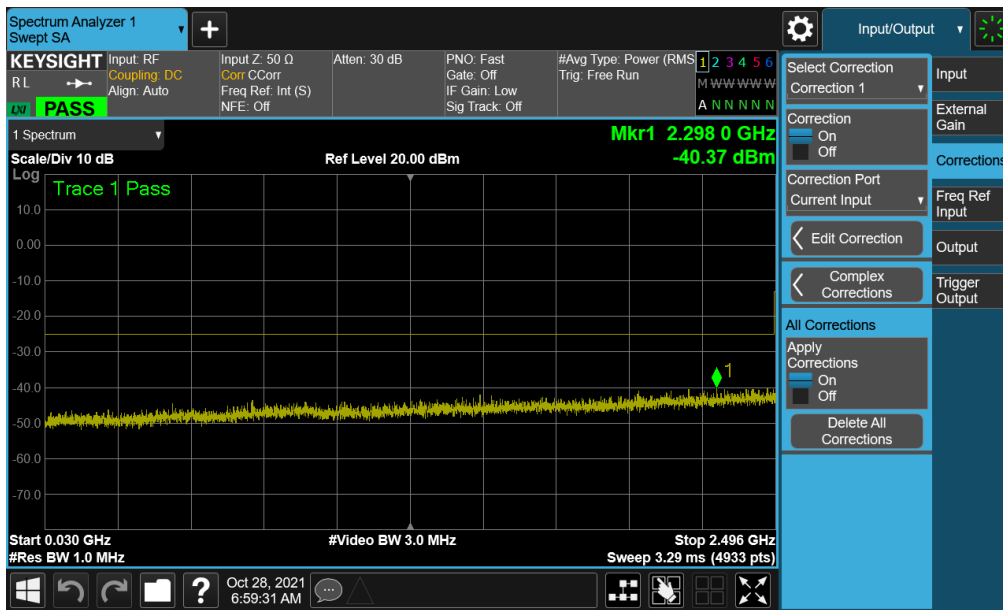
NR Band n41 (PC2) – SRS-2 – Ant B



FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 95 of 200

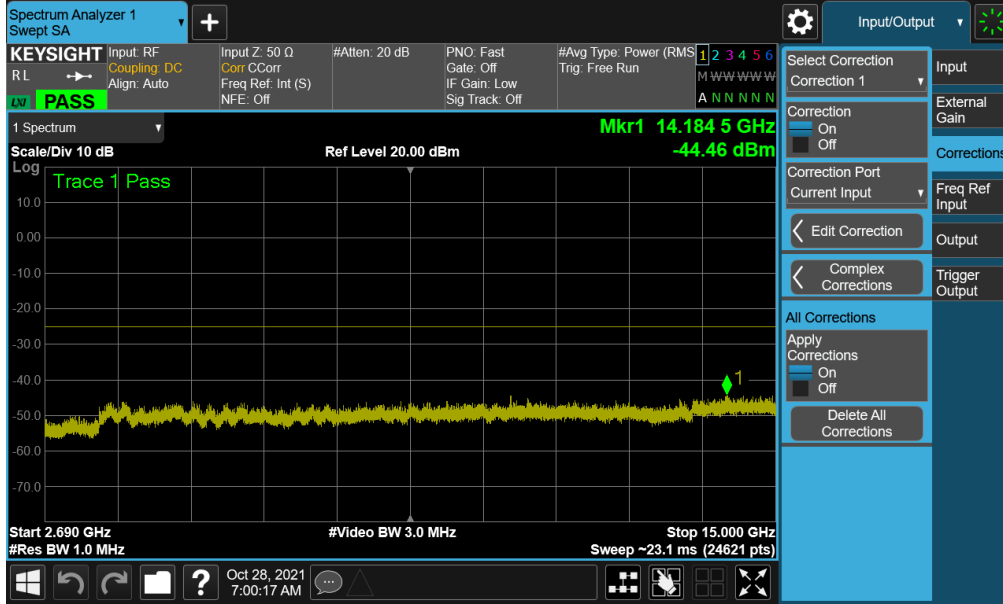


Plot 7-140. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant B)

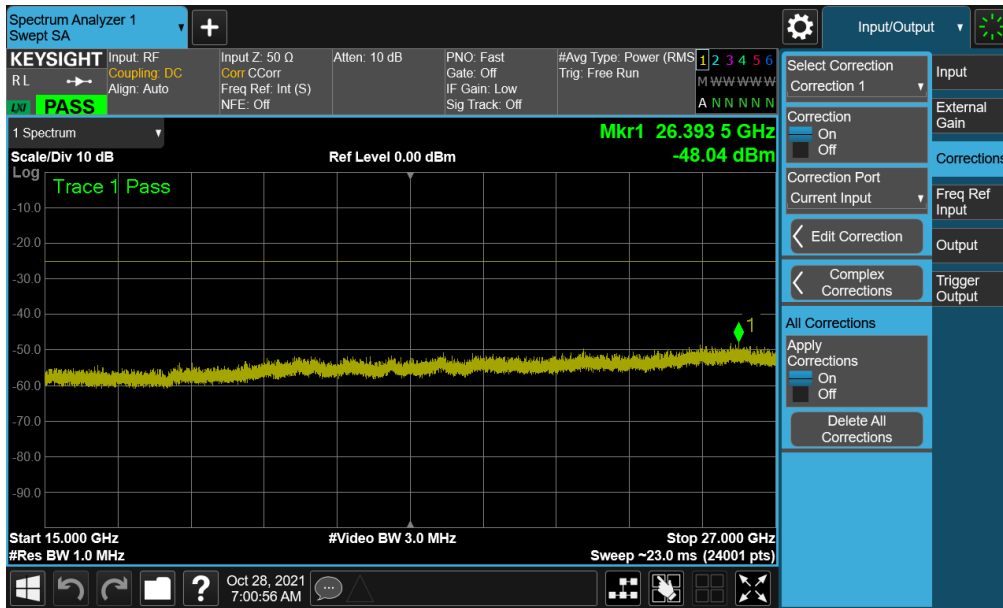


Plot 7-141. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant B)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 96 of 200

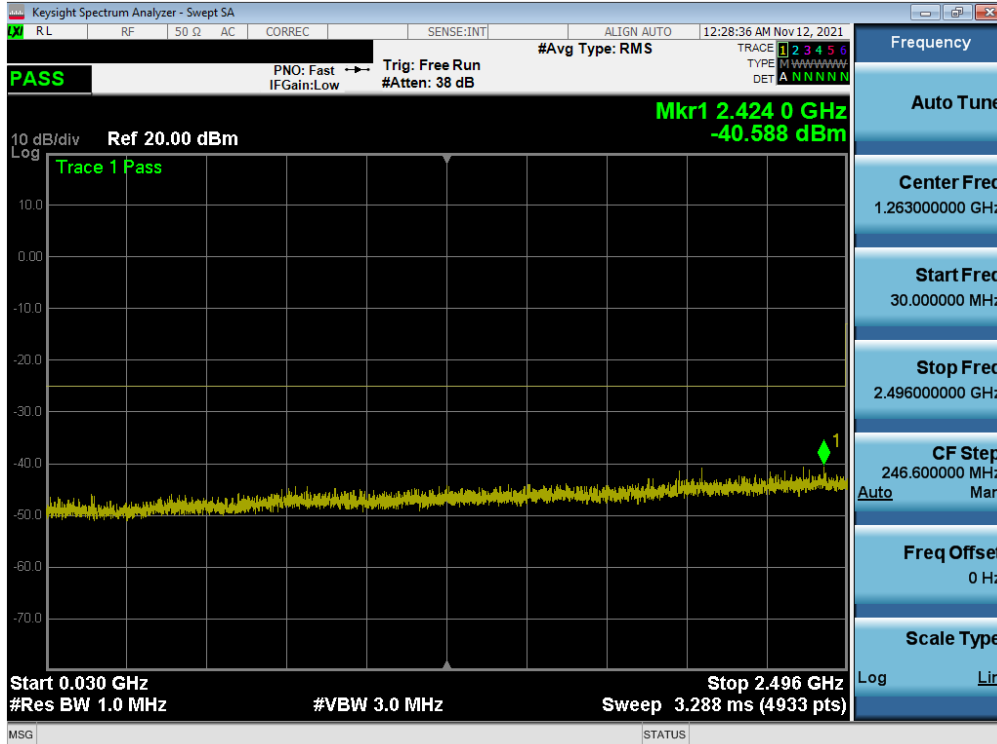


Plot 7-142. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant B)

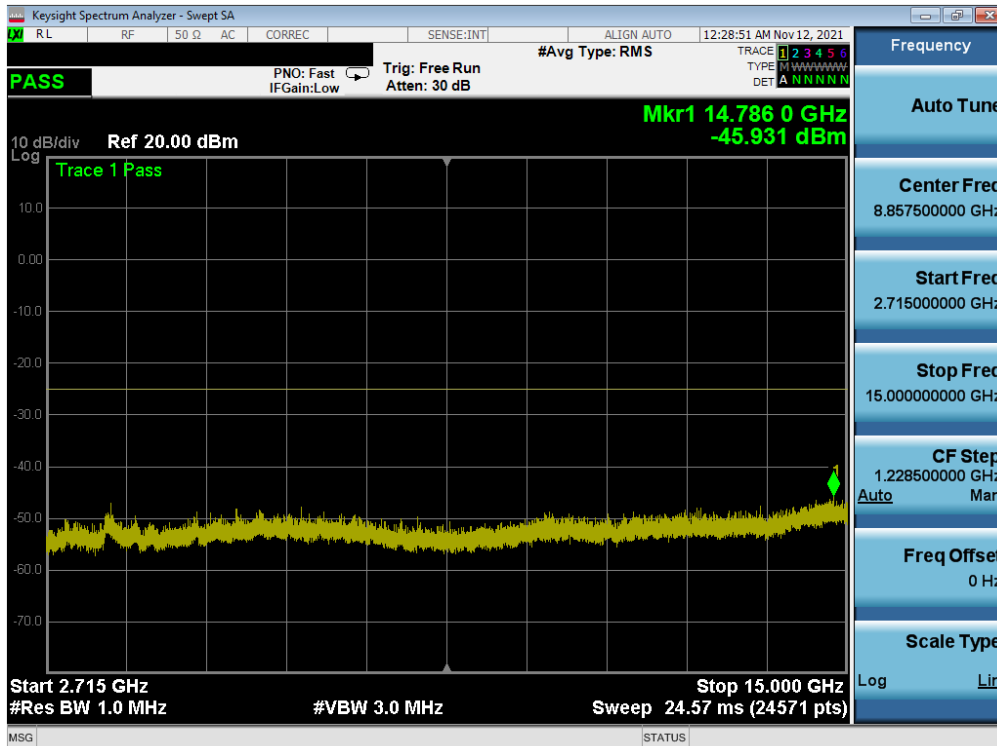


Plot 7-143. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant B)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 97 of 200

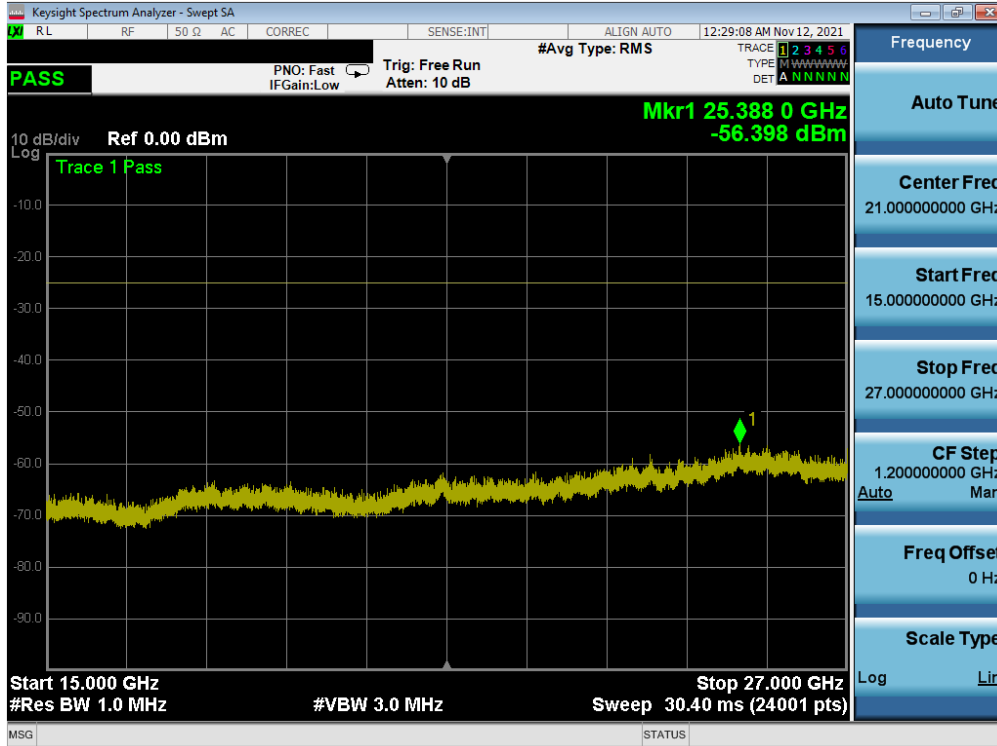


Plot 7-144. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant B)



Plot 7-145. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant B)

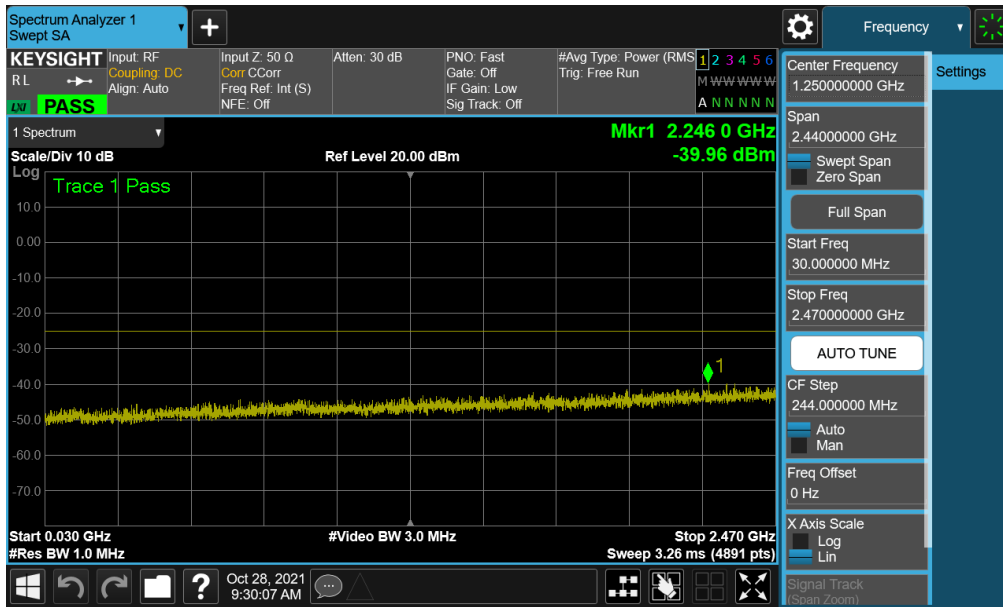
FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 98 of 200



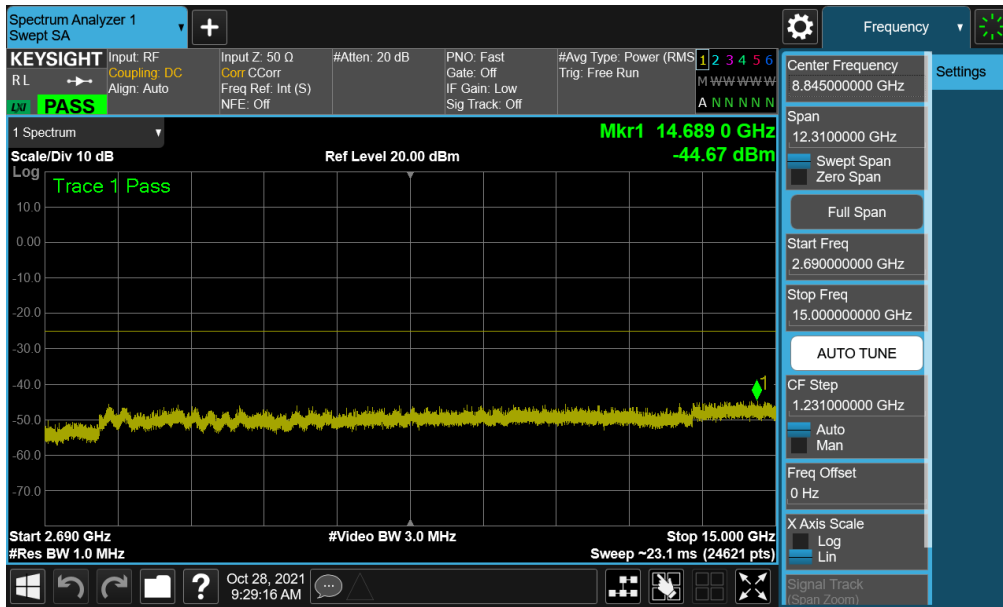
Plot 7-146. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant B)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 99 of 200

NR Band n41 (PC2) – SRS-3 – Ant E

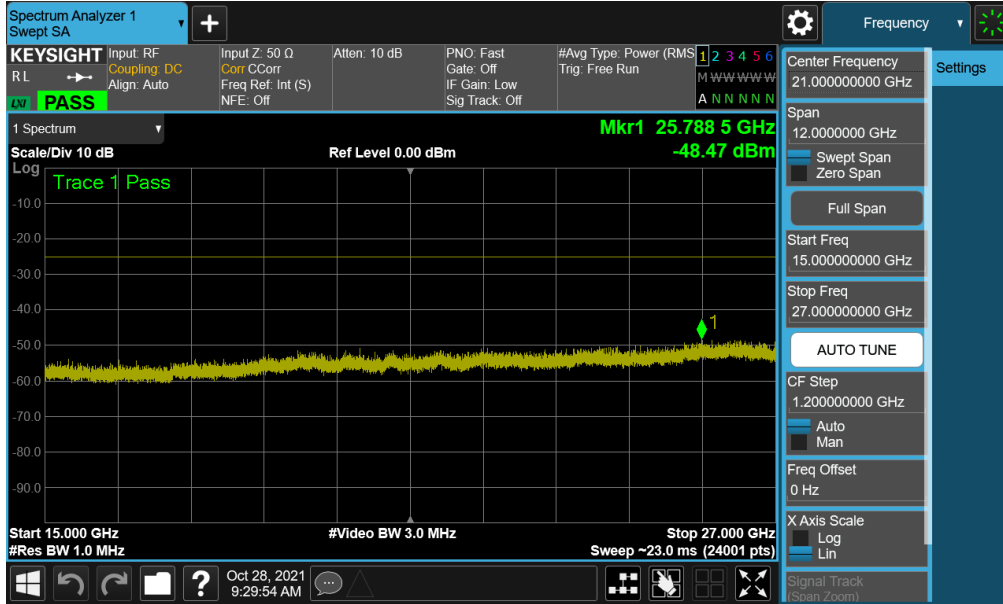


Plot 7-147. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant E)

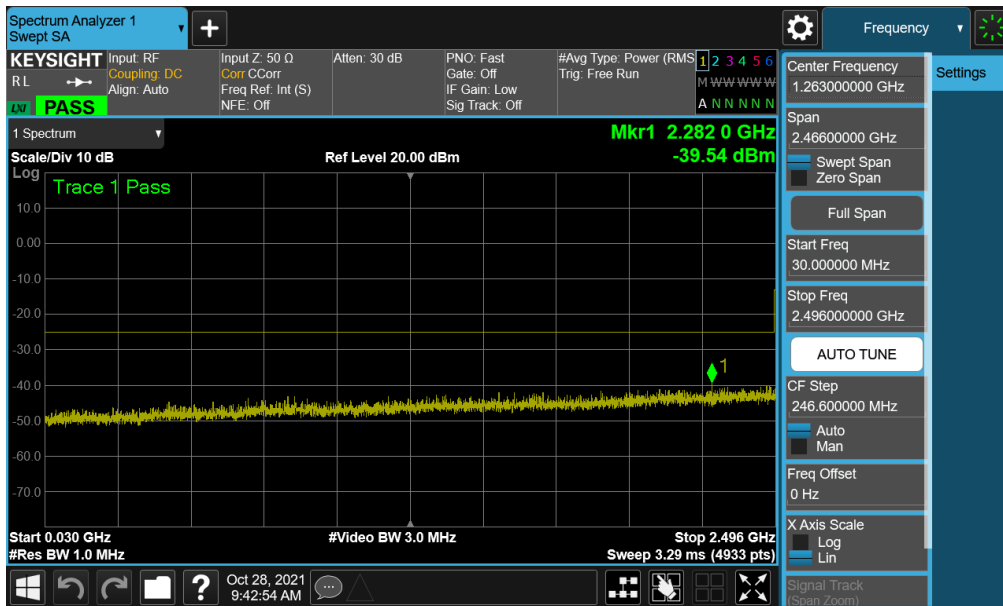


Plot 7-148. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant E)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 100 of 200

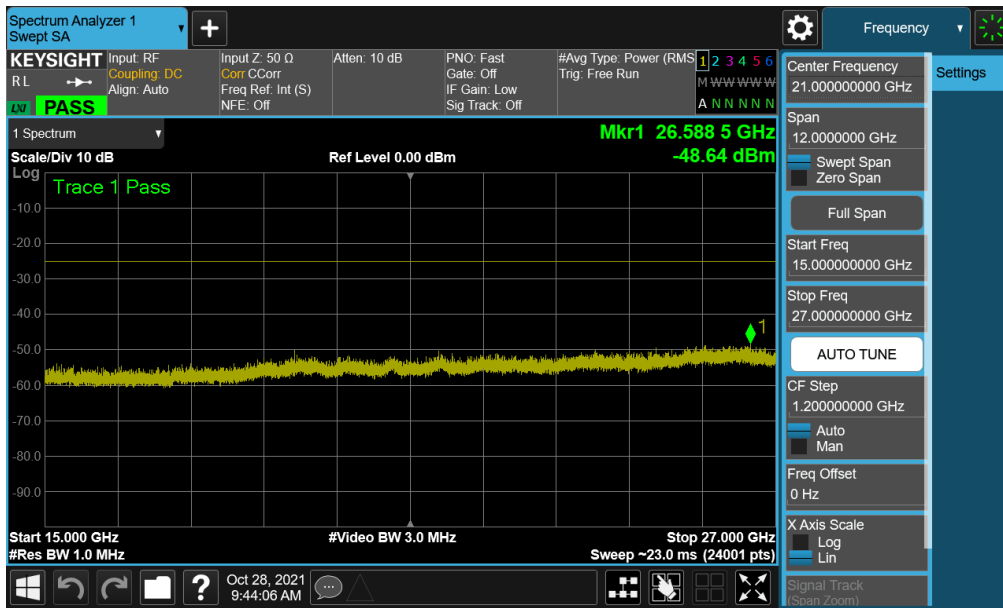
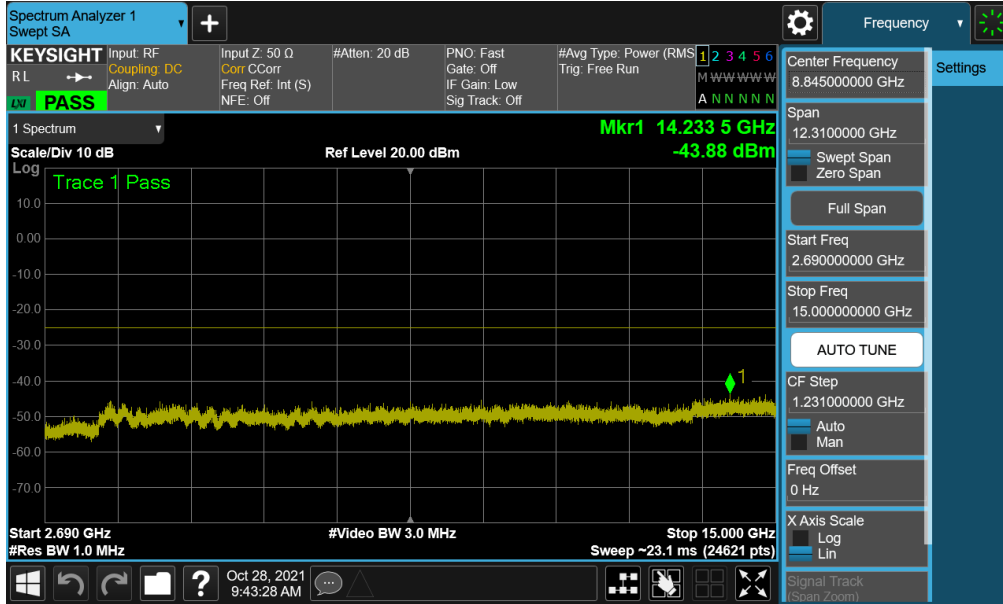


Plot 7-149. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant E)

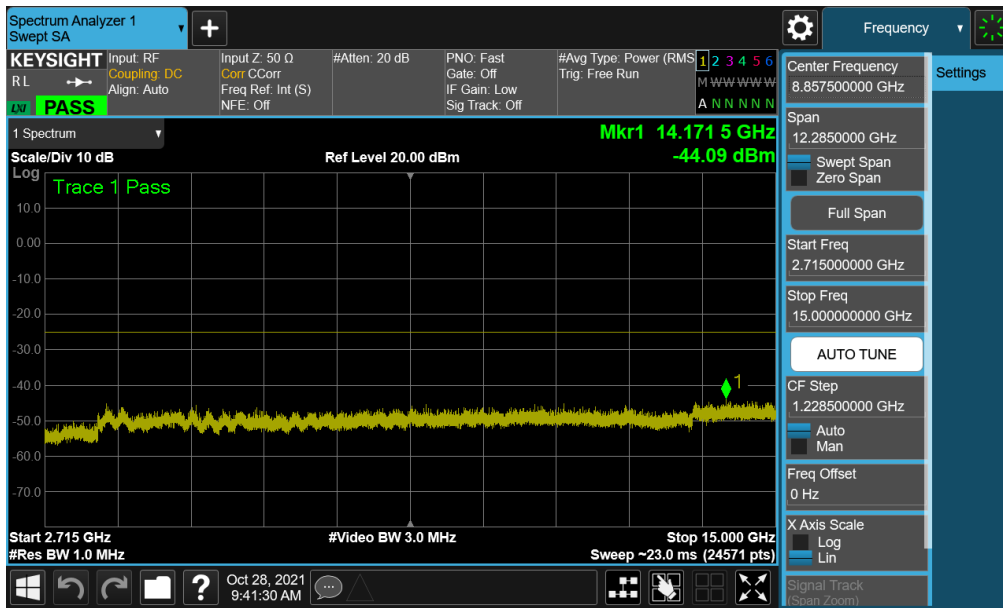
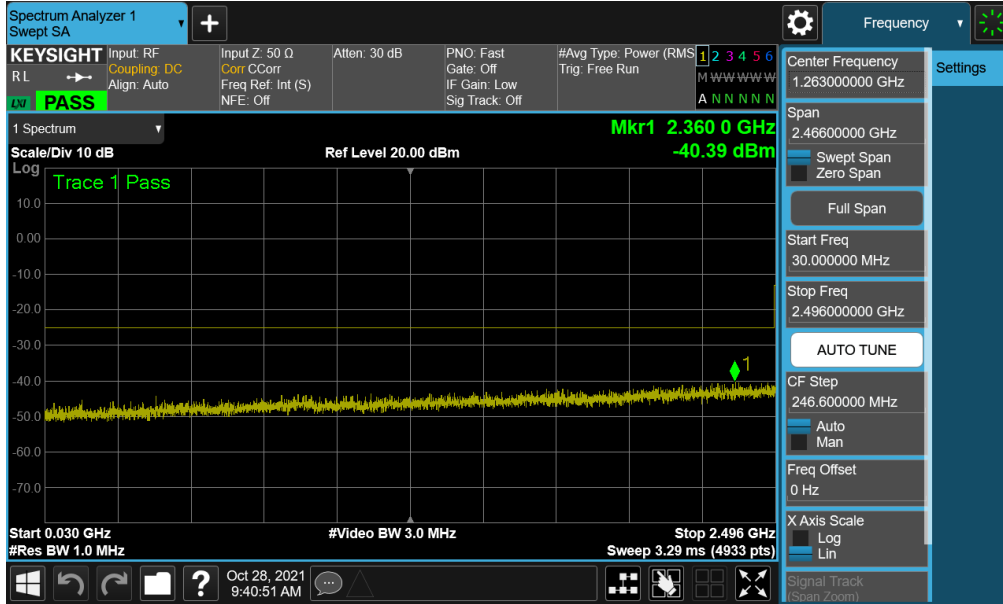


Plot 7-150. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant E)

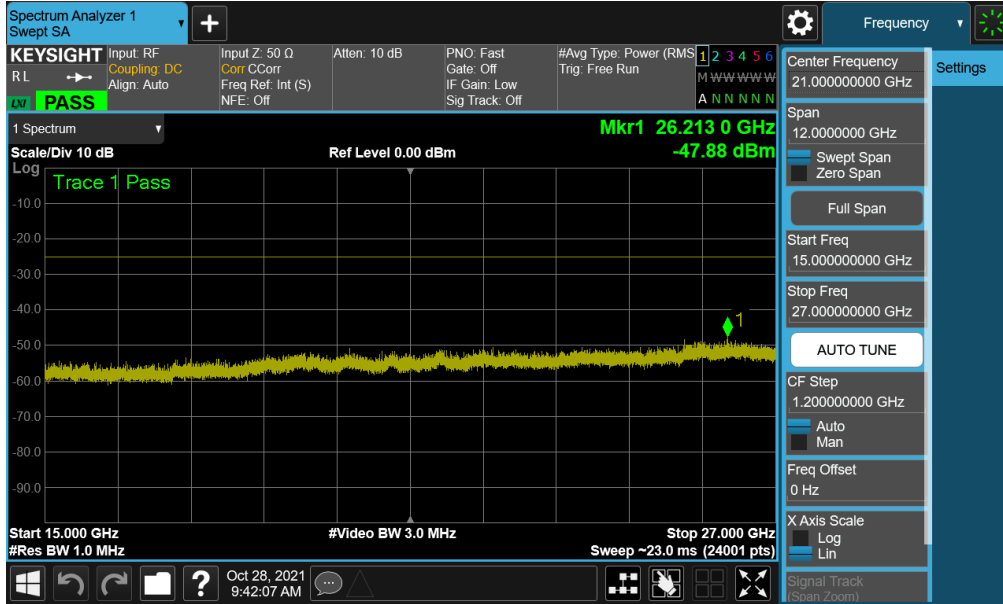
FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 101 of 200



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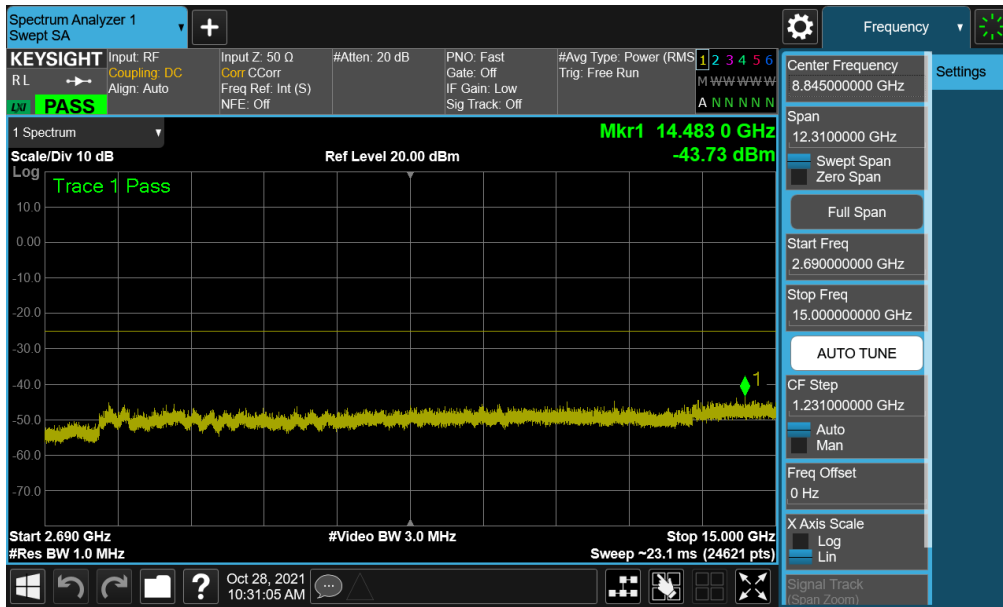
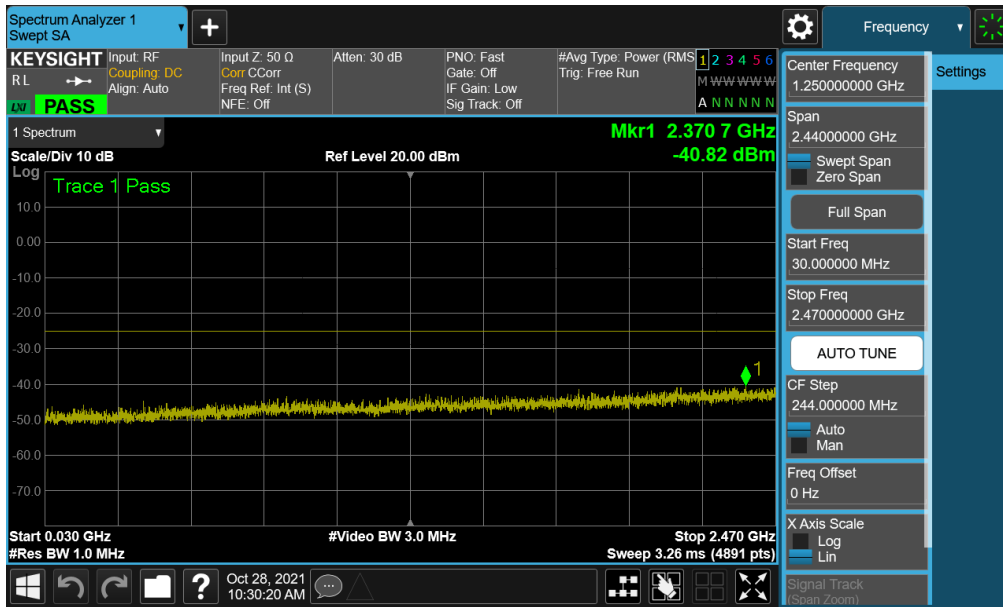
FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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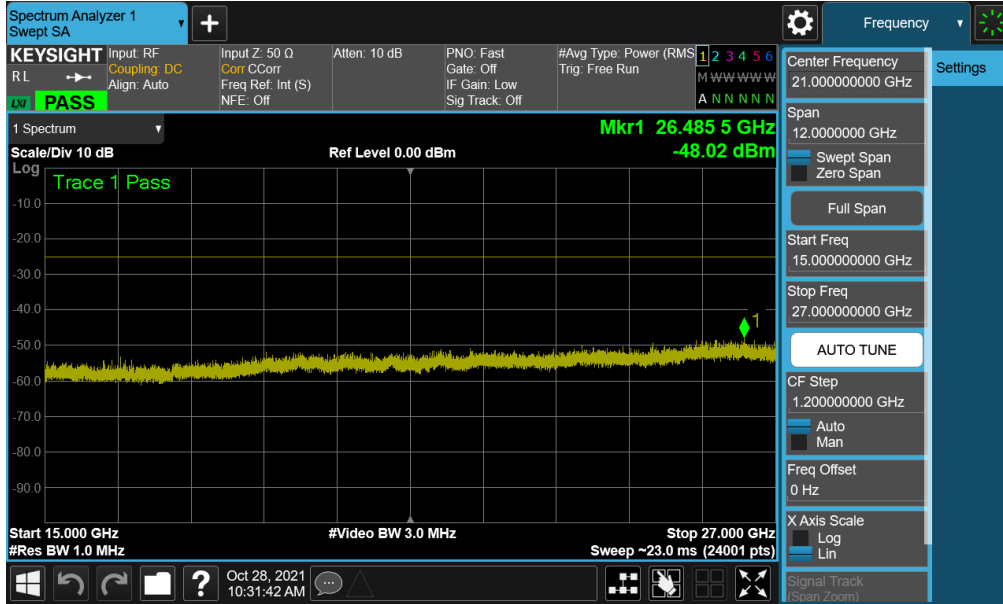
Plot 7-155. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant E)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 104 of 200

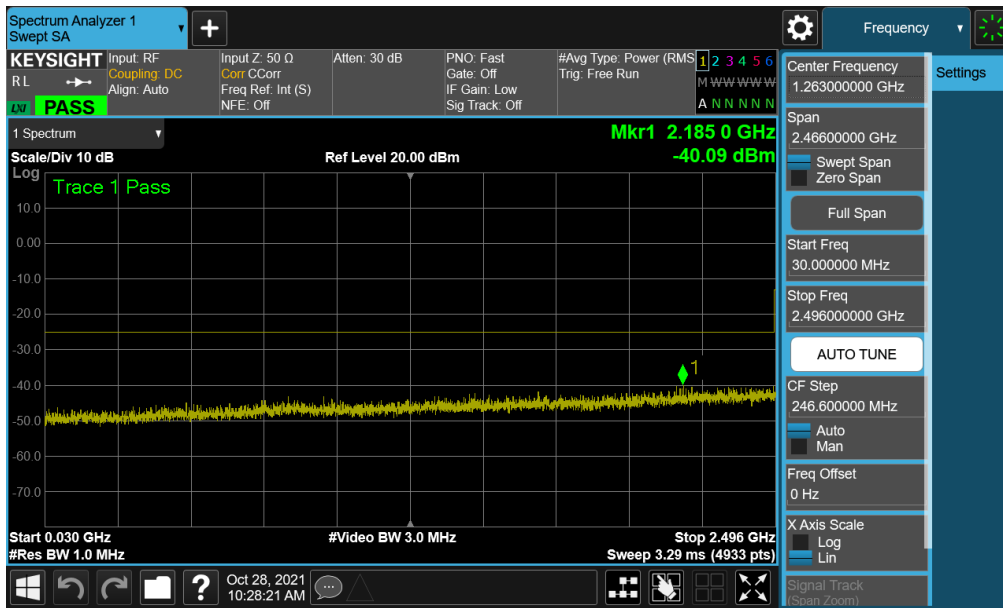
NR Band n41 (PC2) – SRS-4 – Ant D



FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 105 of 200



Plot 7-158. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel Ant D)

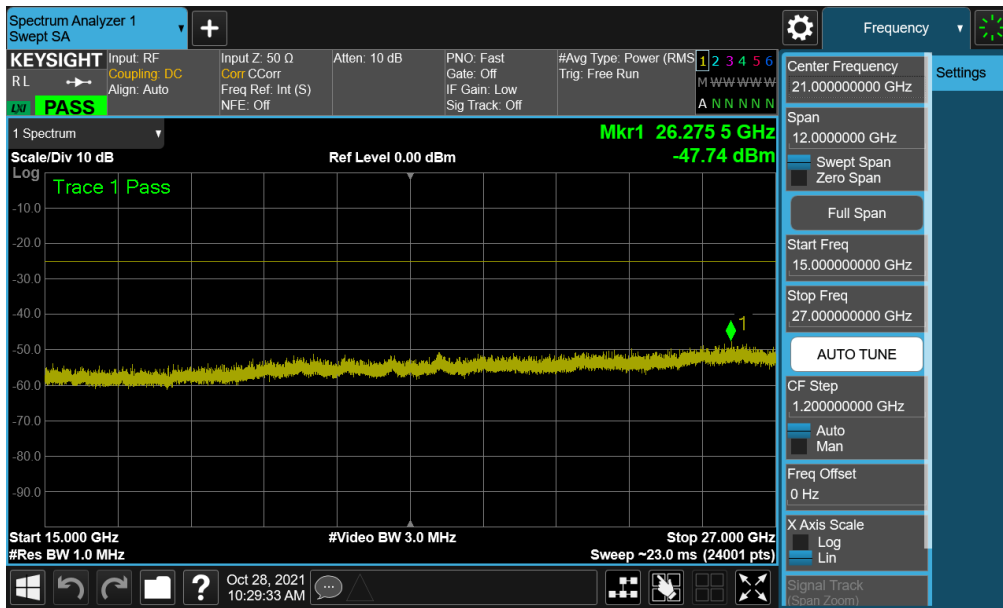


Plot 7-159. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant D)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 106 of 200

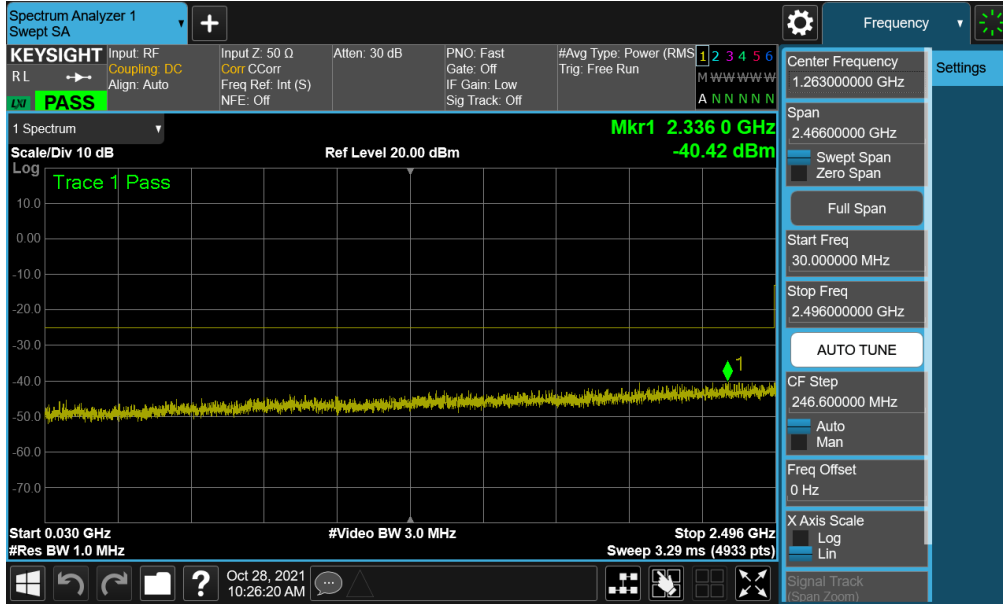


Plot 7-160. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant D)

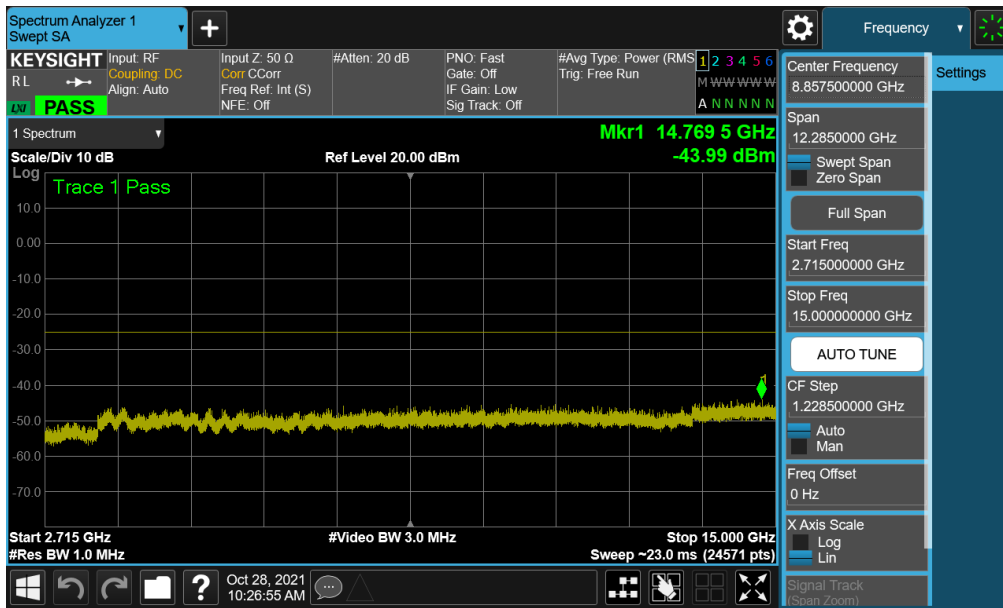


Plot 7-161. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel Ant D)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 107 of 200

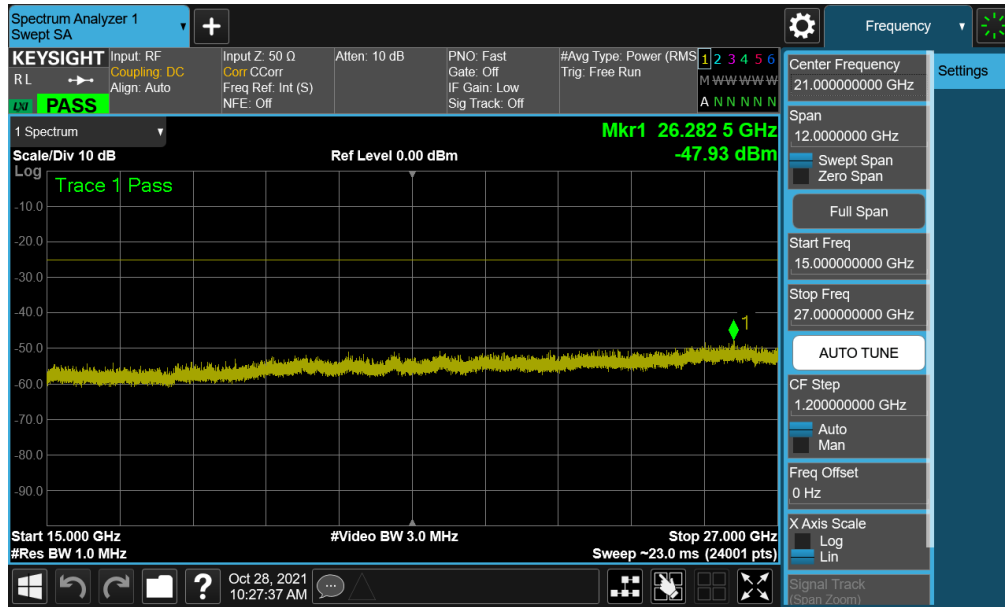


Plot 7-162. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant D)



Plot 7-163. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant D)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 108 of 200



Plot 7-164. Conducted Spurious Plot (NR Band n41 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel Ant D)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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7.5 ULCA Conducted Power Output Data

Test Overview

The EUT is set up to transmit two contiguous LTE channels. The power level of both carriers is measured by means of a calibrated spectrum analyzer. All 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.

A-MPR is implemented in this device when operating at Power Class 2 in LTE Band 41 per the A-MPR specification in 3GPP TS 36.101. The conducted powers are shown herein to cover the different A-MPR levels specified in the standard. Measurement equipment was set up with triggering/gating on the spectrum analyzer such that powers were measured only during the on-time of the signal.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6.0

Test Settings

1. Span = 2 x OBW to 3 x OBW
2. Detector = RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

Test Setup

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

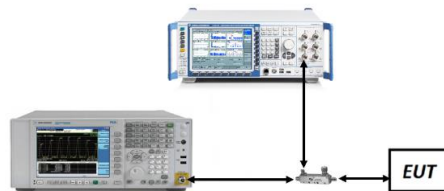


Figure 7-4. Test Instrument & Measurement Setup

Test Notes

1. Uplink carrier aggregation is only supported in this EUT while operating in Power Class 3.
2. For ULCA, conducted power 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.
3. For ULCA, compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz.
4. For A-MPR conducted power measurements, RBW is set to: $RBW = 1\% \text{ to } 5\% \text{ of the OBW}$.
5. All other conducted power measurements are contained in the RF exposure report for this filing.
6. Conducted power measurements are also evaluated for simultaneous transmission of two NR FR1 carriers operating in different bands (interband NR FR1 ULCA). The powers were investigated while both bands are operating at their widest supported channel bandwidth.

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Bandwidth (PCC + SCC)	PCC					SCC				ULCA Tx. Power [dBm]
	Modulation	UL Channel	UL Frequency	UL # RB	UL RB Offset	Modulation	UL Channel	UL Frequency	UL RB Offset	
20MHz + 20MHz	QPSK	39750	2506.0	1	99	QPSK	39948	2525.8	0	27.15
		40620	2593.0	1	99		40818	2612.8	0	27.38
		41490	2680.0	1	0		41292	2660.2	99	27.42
	QPSK	41490	2680	100	0	QPSK	41292	2660.2	0	25.52
	16-QAM	41490	2680	100	0	16-QAM	41292	2660.2	0	24.46
	64-QAM	41490	2680	100	0	64-QAM	41292	2660.2	0	24.32
	256-QAM	41490	2680	100	0	256-QAM	41292	2660.2	0	22.46



Table 7-165. Conducted Power Data (ULCA LTE B41 (PC2))

PCC							SCC							PCC Conducted Power [dBm]	SCC Conducted Power [dBm]	Inter-Band ULCA Total Tx. Power (dBm)
PCC Band	PCC Bandwidth [MHz]	PCC (UL) channel	PCC (UL) channel	PCC (UL) frequency	Mod.	PCC UL RB#/Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) channel	PCC (UL) channel	PCC (UL) frequency	Mod.	SCC UL RB#/Offset			
n30	10	Mid	462000	2310.0	$\pi/2$ BPSK	1 / 39	n77	100	Mid	633333	3500.0	$\pi/2$ BPSK	1 / 205	18.72	23.63	24.85
					QPSK	50 / 0						QPSK	270 / 0	18.69	21.60	23.39
					QPSK	1 / 13						QPSK	1 / 68	18.71	22.10	23.74
					QPSK	1 / 26						QPSK	1 / 137	18.86	22.11	23.79
					QPSK	1 / 39						QPSK	1 / 205	19.01	22.12	23.85
					16Q	1 / 39						16Q	1 / 205	18.66	22.04	23.68

Table 7-166. Conducted Power Data (ULCA NR n30 – n77)



PCC							SCC							PCC Conducted Power [dBm]	SCC Conducted Power [dBm]	Inter-Band ULCA Total Tx. Power (dBm)
PCC Band	PCC Bandwidth [MHz]	PCC (UL) channel	PCC (UL) channel	PCC (UL) frequency	Mod.	PCC UL RB#/Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) channel	PCC (UL) channel	PCC (UL) frequency	Mod.	SCC UL RB#/Offset			
n41	100	Low	509202	2546.0	$\pi/2$ BPSK	1 / 205	n66	40	Low	346000	1730.0	$\pi/2$ BPSK	1 / 162	22.57	18.12	23.9
					QPSK	270 / 0						QPSK	216 / 0	22.42	18.20	23.81
					QPSK	1 / 68						QPSK	1 / 54	22.02	17.87	23.43
					QPSK	1 / 137						QPSK	1 / 108	22.57	17.82	23.82
					QPSK	1 / 205						QPSK	1 / 162	22.65	17.73	23.86
					16Q	1 / 205						16Q	1 / 162	22.15	17.72	23.49
		Mid	518598	2593.0	$\pi/2$ BPSK	1 / 68			$\pi/2$ BPSK	1 / 54	22.69	18.28	24.03			
					QPSK	270 / 0			QPSK	216 / 0	22.07	17.95	23.49			
					QPSK	1 / 68			QPSK	1 / 54	22.74	18.13	24.03			
					QPSK	1 / 137			QPSK	1 / 108	22.33	18.06	23.71			
					QPSK	1 / 205			QPSK	1 / 162	21.79	17.99	23.30			
					16Q	1 / 68			16Q	1 / 54	22.42	18.32	23.85			
	High	528000	2640.0	$\pi/2$ BPSK	1 / 137	High	352000	1760.0	$\pi/2$ BPSK	1 / 108	22.21	18.08	23.63			
				QPSK	270 / 0				QPSK	216 / 0	21.27	18.03	22.96			
				QPSK	1 / 68				QPSK	1 / 54	21.57	18.12	23.19			
				QPSK	1 / 137				QPSK	1 / 108	22.13	17.90	23.52			
				QPSK	1 / 205				QPSK	1 / 162	22.10	17.94	23.51			
				16Q	1 / 137				16Q	1 / 108	21.42	18.32	23.15			

Table 7-167. Conducted Power Data (ULCA NR n41 – n66)

FCC ID: A3LSMS906U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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PCC							SCC							PCC Conducted Power [dBm]	SCC Conducted Power [dBm]	Inter-Band ULCA Total Tx. Power (dBm)
PCC Band	PCC Bandwidth [MHz]	PCC (UL) channel	PCC (UL) channel	PCC (UL) frequency	Mod.	PCC UL RB#/Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) channel	PCC (UL) channel	PCC (UL) frequency	Mod.	SCC UL RB#/Offset			
n41	100	Low	509202	2546.0	$\pi/2$ BPSK	1 / 137	n71	20	Low	134600	673.0	$\pi/2$ BPSK	1 / 53	21.98	18.47	23.58
					QPSK	270 / 0						QPSK	100 / 0	21.39	18.28	23.12
					QPSK	1 / 68						QPSK	1 / 26	21.31	18.15	23.02
					QPSK	1 / 137						QPSK	1 / 53	21.85	18.32	23.44
					QPSK	1 / 205						QPSK	1 / 79	21.66	18.22	23.28
					16Q	1 / 137						16Q	1 / 53	21.74	18.42	23.40
					$\pi/2$ BPSK	1 / 68						$\pi/2$ BPSK	1 / 26	22.17	18.40	23.69
					QPSK	270 / 0						QPSK	100 / 0	21.76	18.16	23.33
					QPSK	1 / 68						QPSK	1 / 26	22.30	18.26	23.74
					QPSK	1 / 137						QPSK	1 / 53	21.72	18.18	23.31
					QPSK	1 / 205						QPSK	1 / 79	21.68	18.06	23.25
					16Q	1 / 68						16Q	1 / 26	22.11	18.45	23.66
		Mid	518598	2593.0	$\pi/2$ BPSK	1 / 68			High	528000	2640.0	$\pi/2$ BPSK	1 / 26	21.84	18.39	23.46
					QPSK	270 / 0						QPSK	100 / 0	21.45	18.29	23.16
					QPSK	1 / 68						QPSK	1 / 26	21.88	18.24	23.44
					QPSK	1 / 137						QPSK	1 / 53	21.71	18.48	23.40
					QPSK	1 / 205						QPSK	1 / 79	21.75	18.20	23.34
					16Q	1 / 68						16Q	1 / 26	21.81	18.24	23.39

Table 7-168. Conducted Power Data (ULCA NR n41 – n71)

FCC ID: A3LSMS906U	 PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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7.6 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 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.

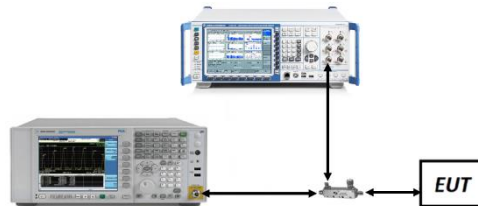






Figure 7-5. Test Instrument & Measurement Setup

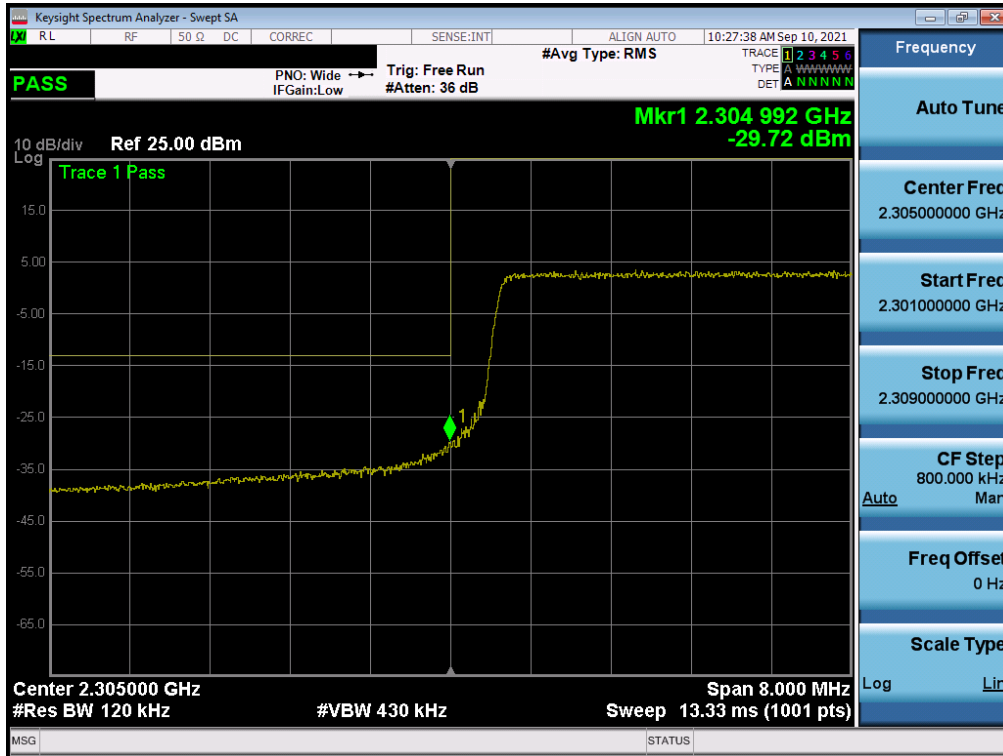
FCC ID: A3LSMS906U	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Test Notes

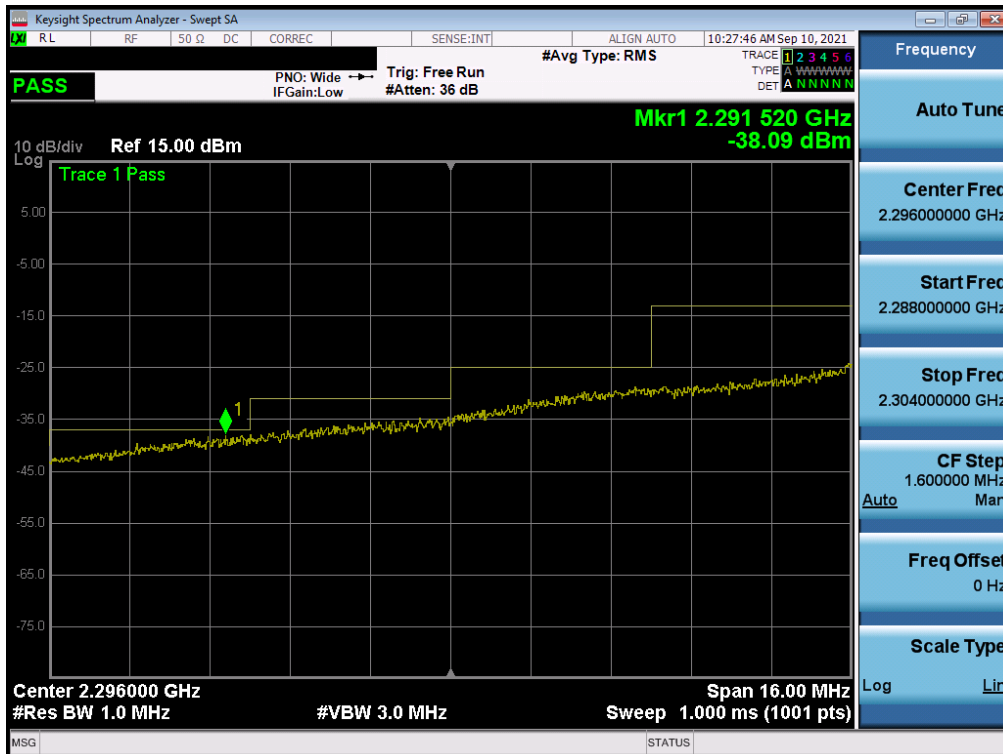
1. Per 27.53(a)(5) in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution 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.
2. 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 than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz.
3. 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.

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LTE Band 30



Plot 7-169. Lower Band Edge Plot (LTE Band 30 - 10MHz QPSK – Full RB)

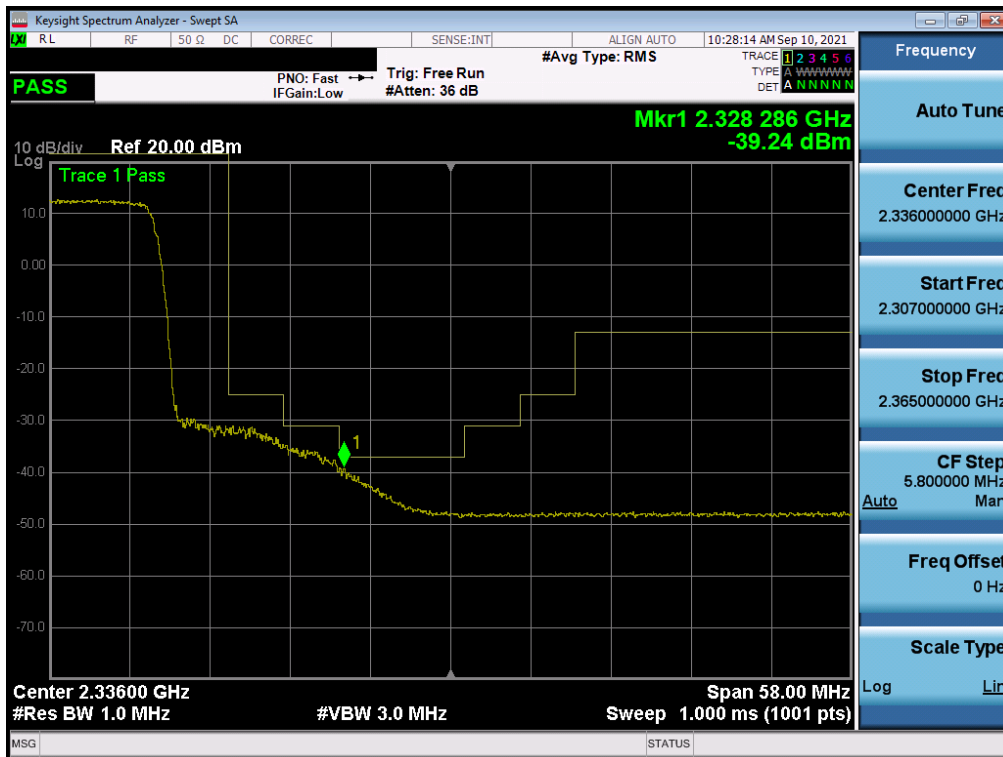


Plot 7-170. Extended Lower Band Edge Plot (LTE Band 30 - 10MHz QPSK – Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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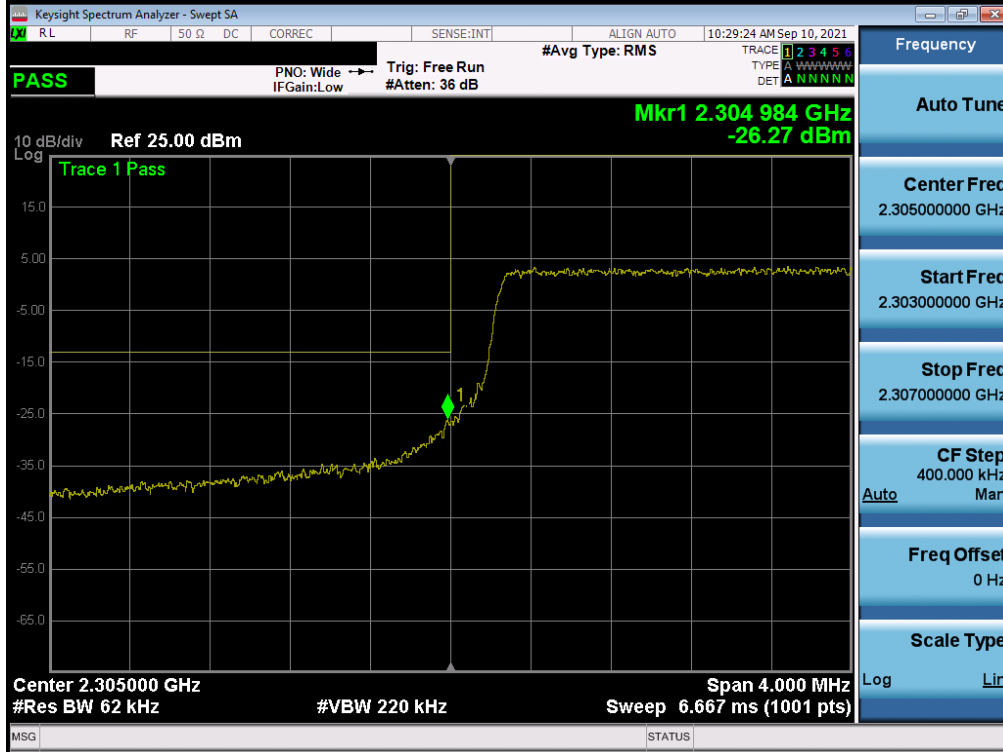


Plot 7-171. Upper Band Edge Plot (LTE Band 30 - 10MHz QPSK – Full RB)



Plot 7-172. Extended Upper Band Edge Plot (LTE Band 30 - 10MHz QPSK – Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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Plot 7-173. Lower Band Edge Plot (LTE Band 30 - 5MHz QPSK – Full RB)

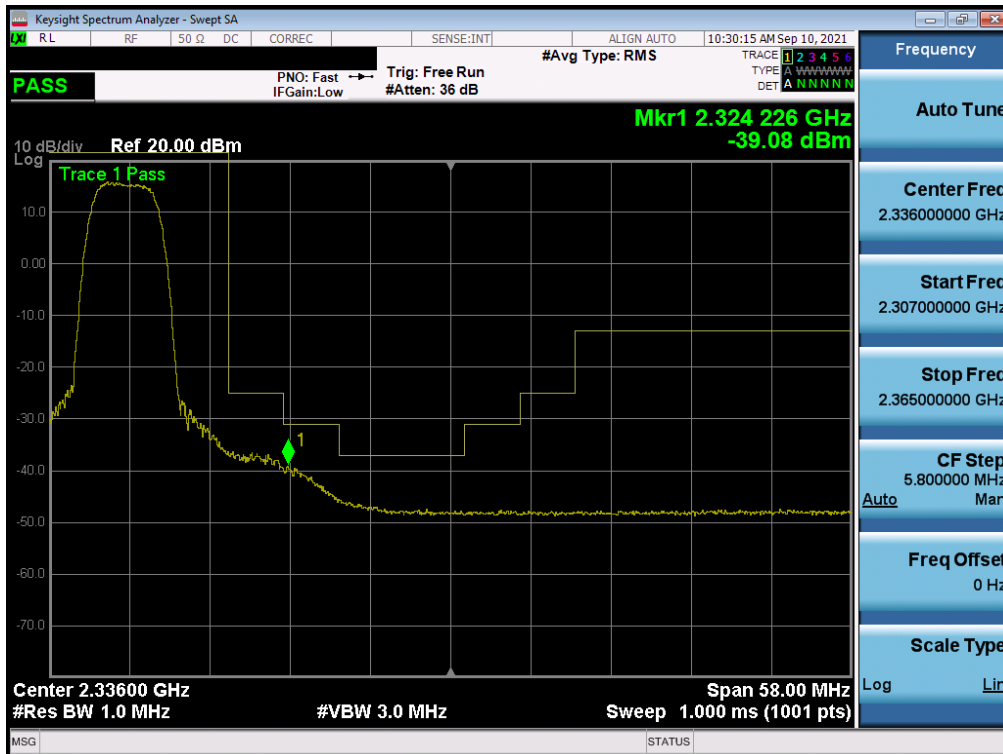


Plot 7-174. Extended Lower Band Edge Plot (LTE Band 30 - 5MHz QPSK – Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 117 of 200



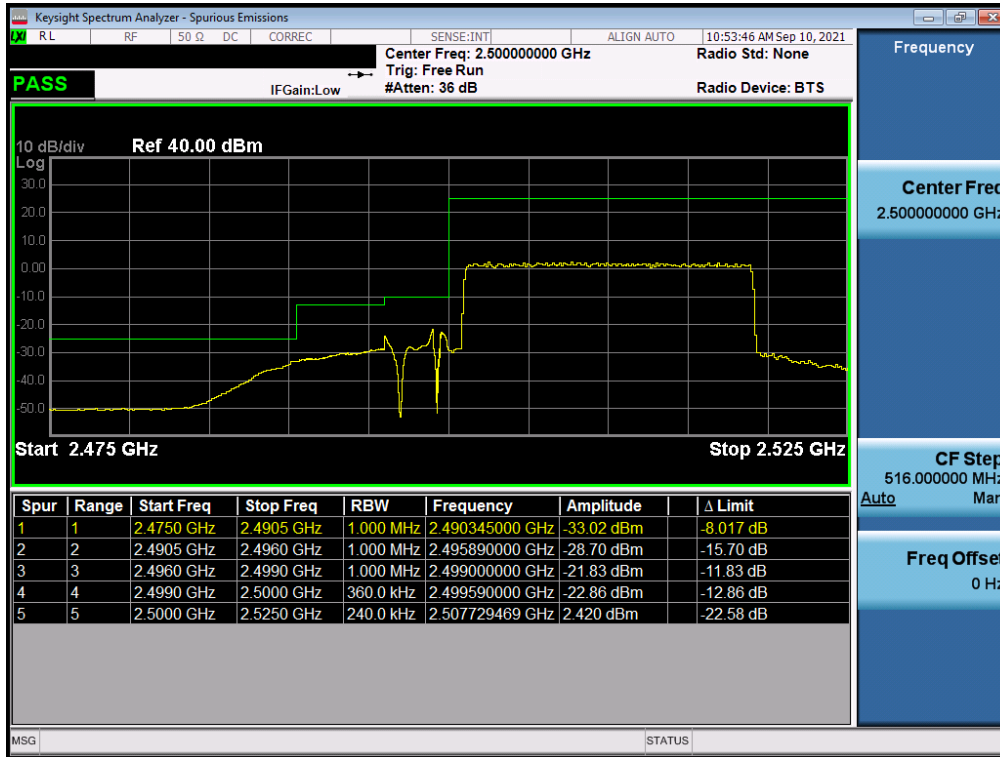
Plot 7-175. Upper Band Edge Plot (LTE Band 30 - 5MHz QPSK - Full RB)



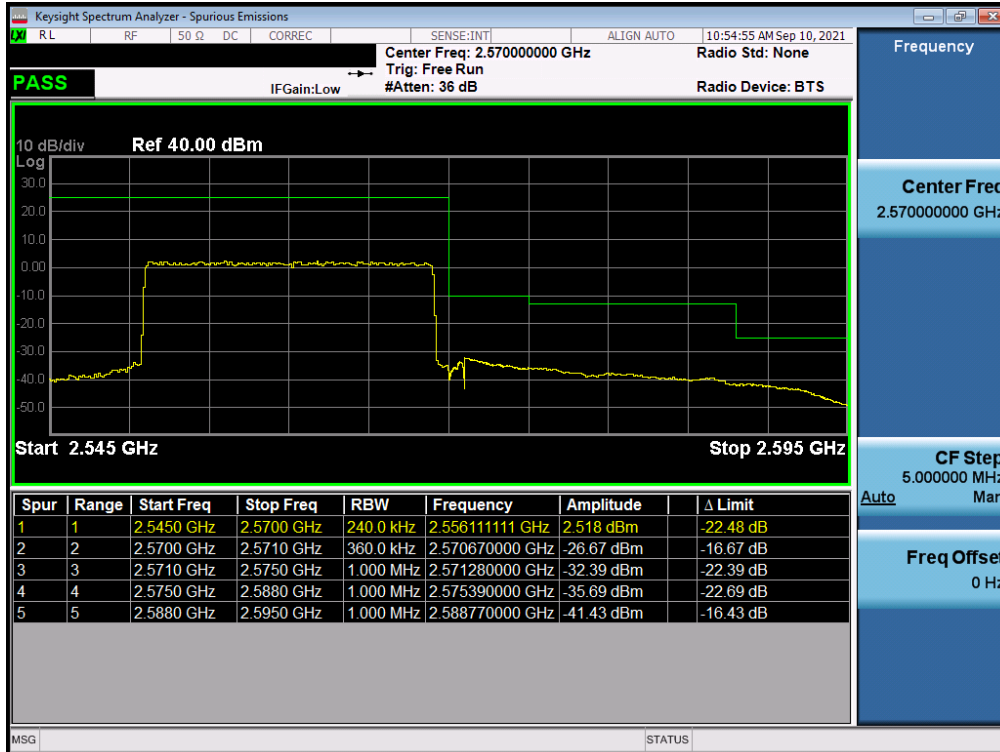
Plot 7-176. Extended Upper Band Edge Plot (LTE Band 30 - 5MHz QPSK - Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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LTE Band 7

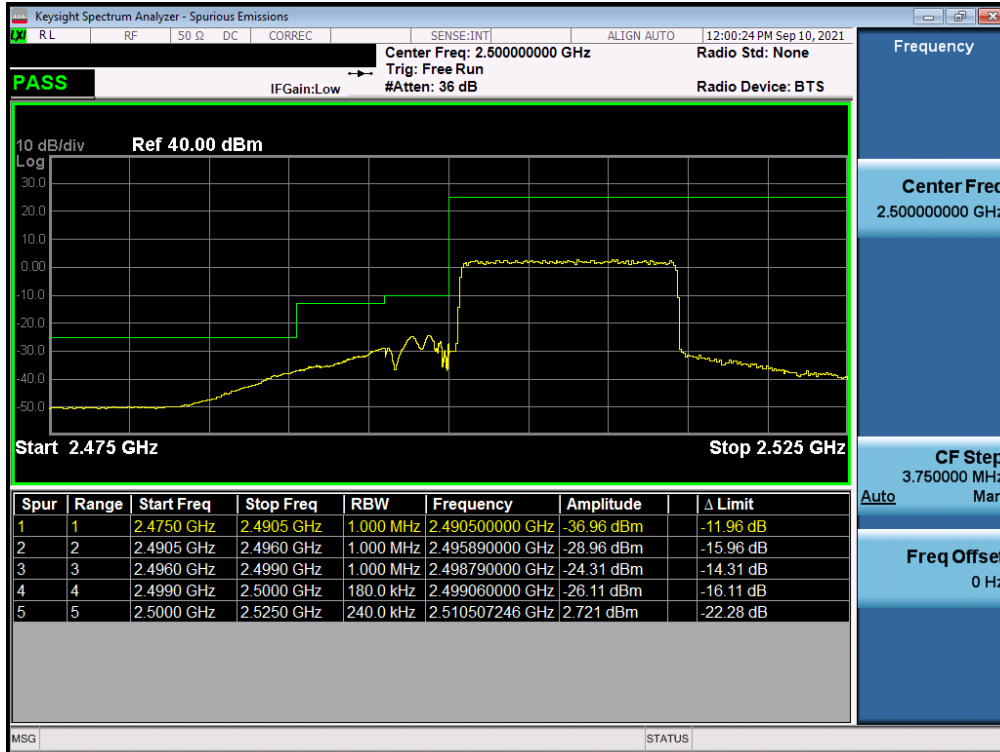


Plot 7-177. Lower ACP Plot (LTE Band 7 - 20MHz QPSK – Full RB)

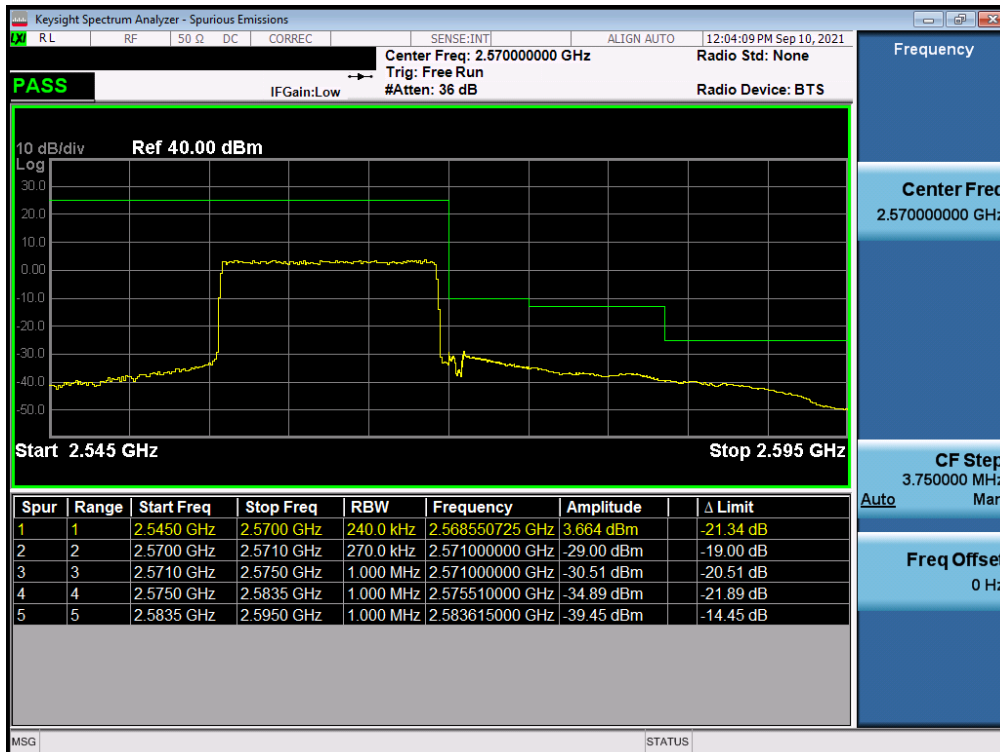


Plot 7-178. Upper ACP Plot (LTE Band 7 - 20MHz QPSK – Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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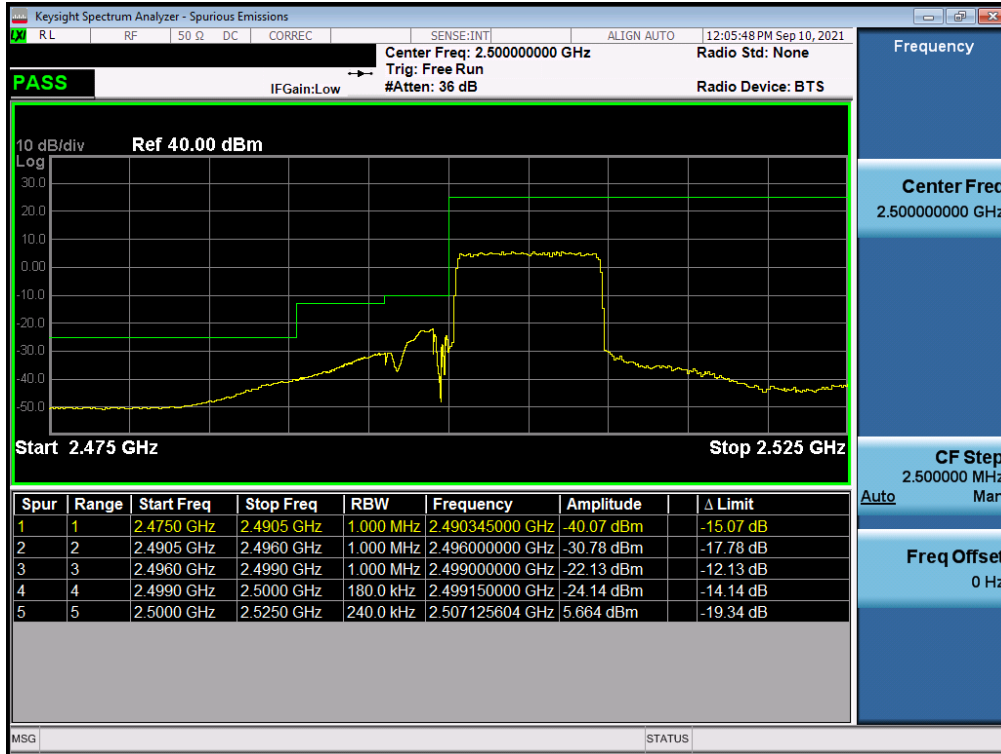


Plot 7-179. Lower ACP Plot (LTE Band 7 - 15MHz QPSK - Full RB)

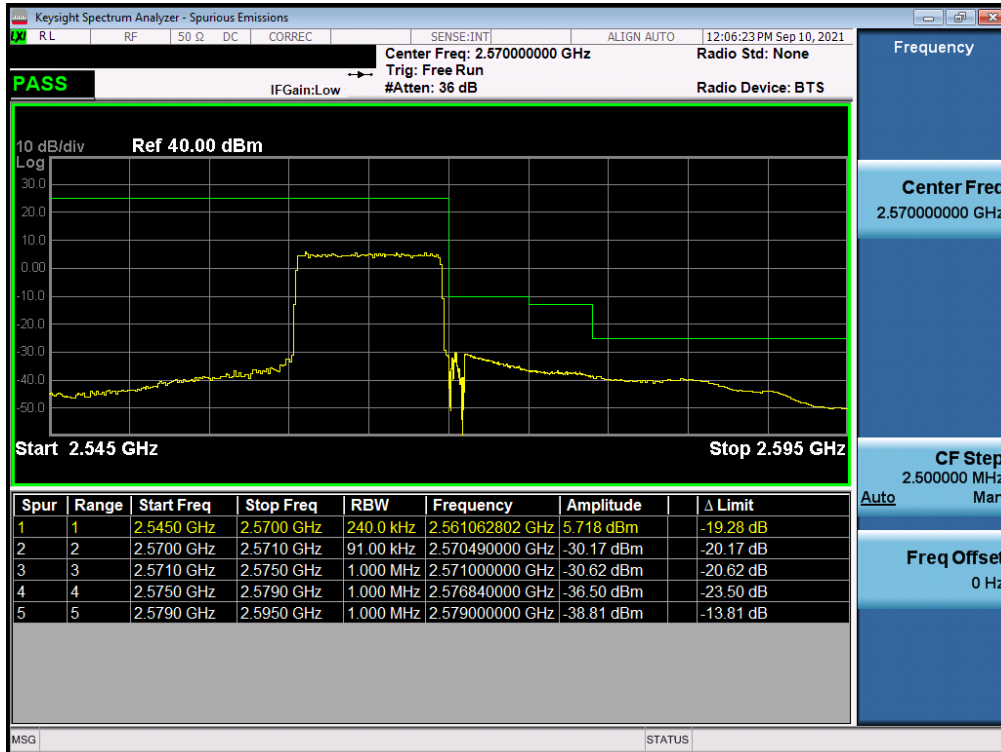


Plot 7-180. Upper ACP Plot (LTE Band 7 - 15MHz QPSK - Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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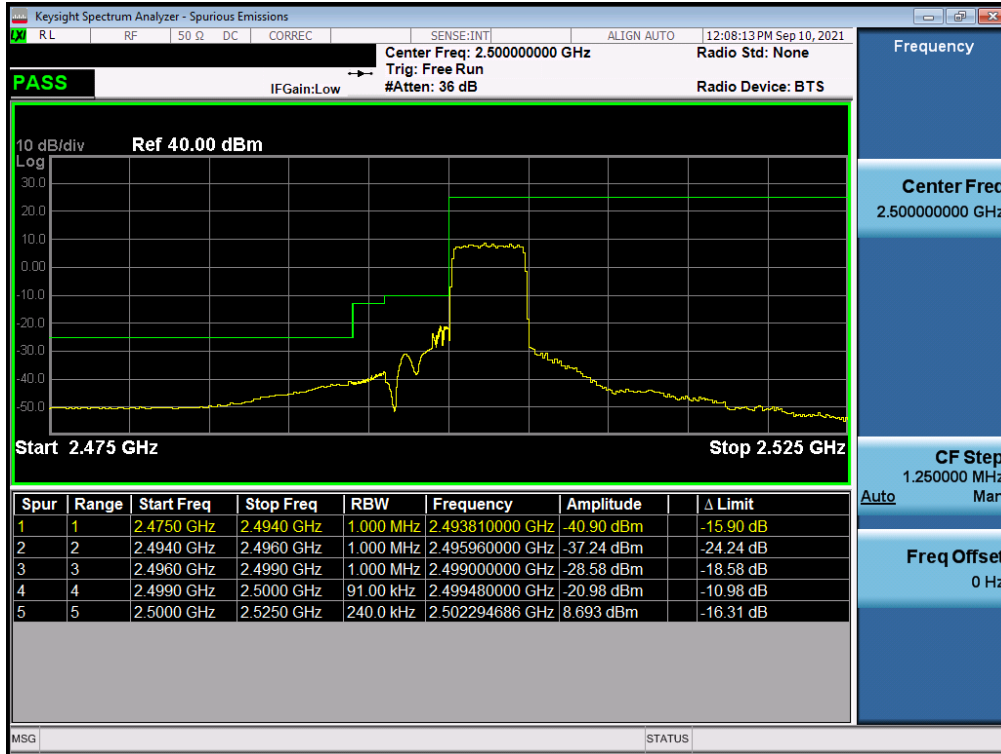


Plot 7-181. Lower ACP Plot (LTE Band 7 - 10MHz QPSK - Full RB)

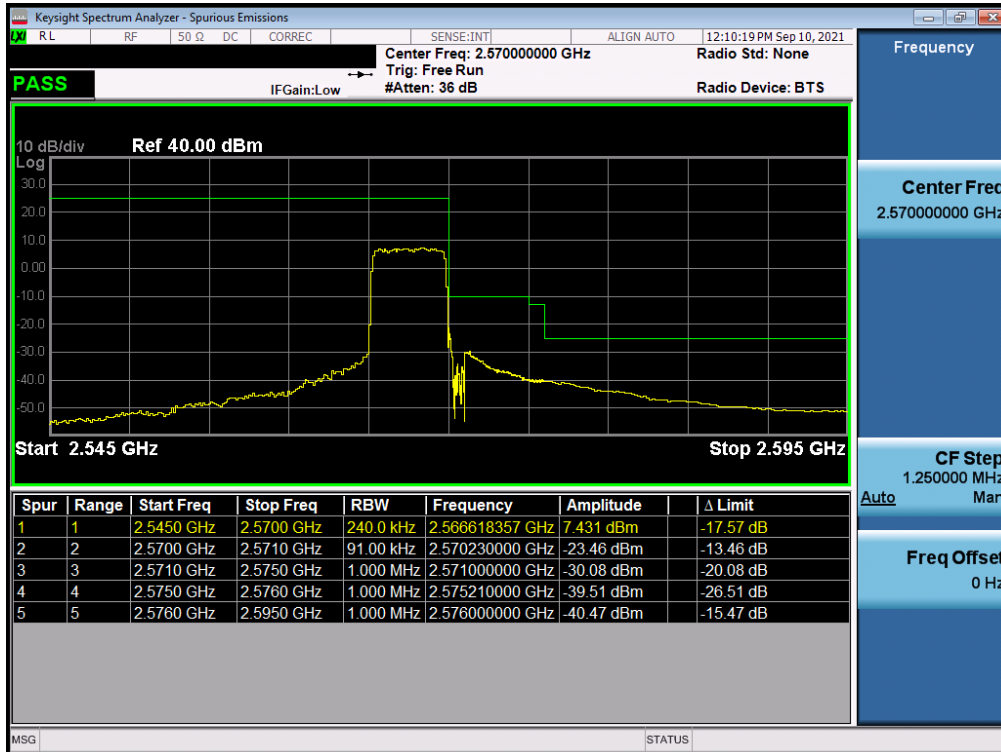


Plot 7-182. Upper ACP Plot (LTE Band 7 - 10MHz QPSK - Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 121 of 200



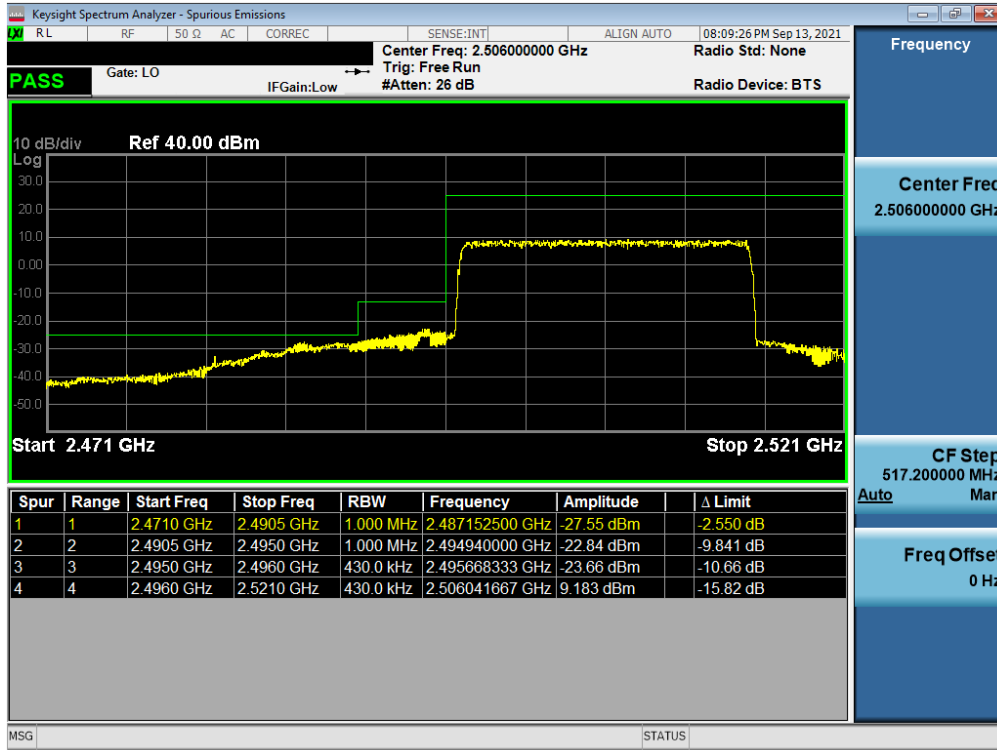
Plot 7-183. Lower ACP Plot (LTE Band 7 - 5MHz QPSK - Full RB)



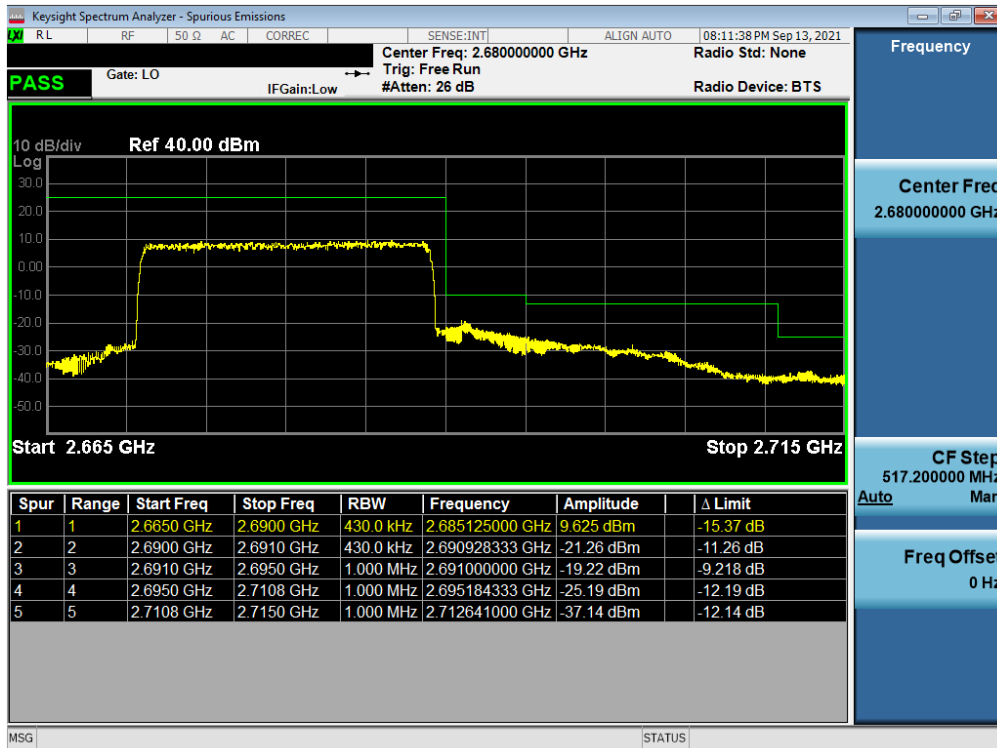
Plot 7-184. Upper ACP Plot (LTE Band 7 - 5MHz QPSK - Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 122 of 200

LTE Band 41(PC2)

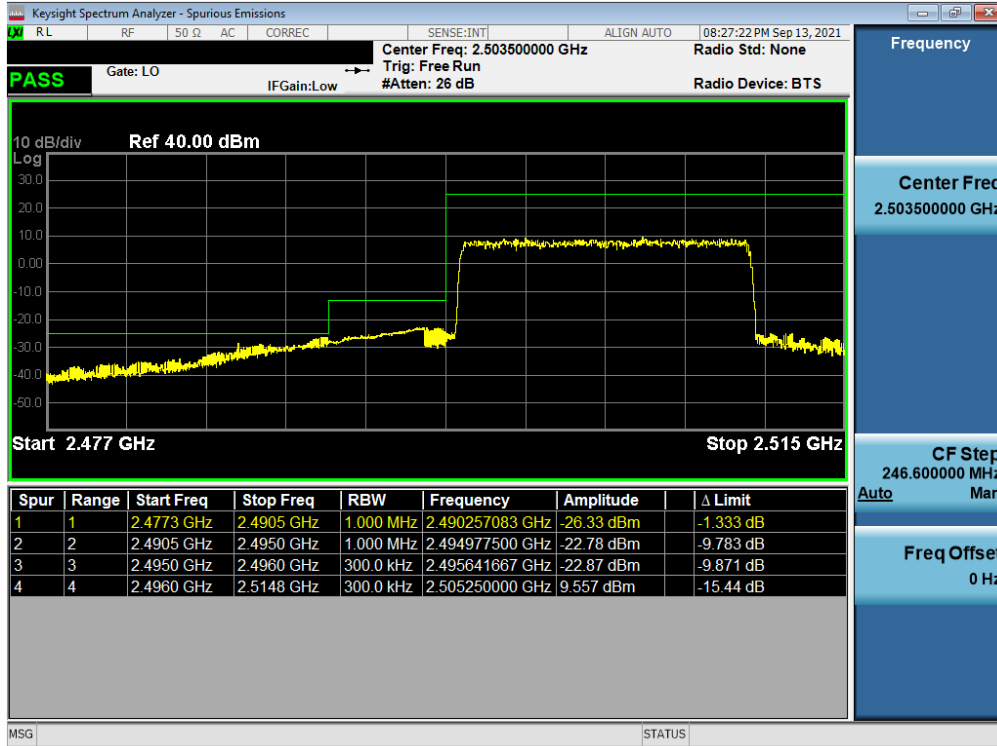


Plot 7-185. Lower ACP Plot (LTE Band 41(PC2) - 20MHz QPSK – Full RB)

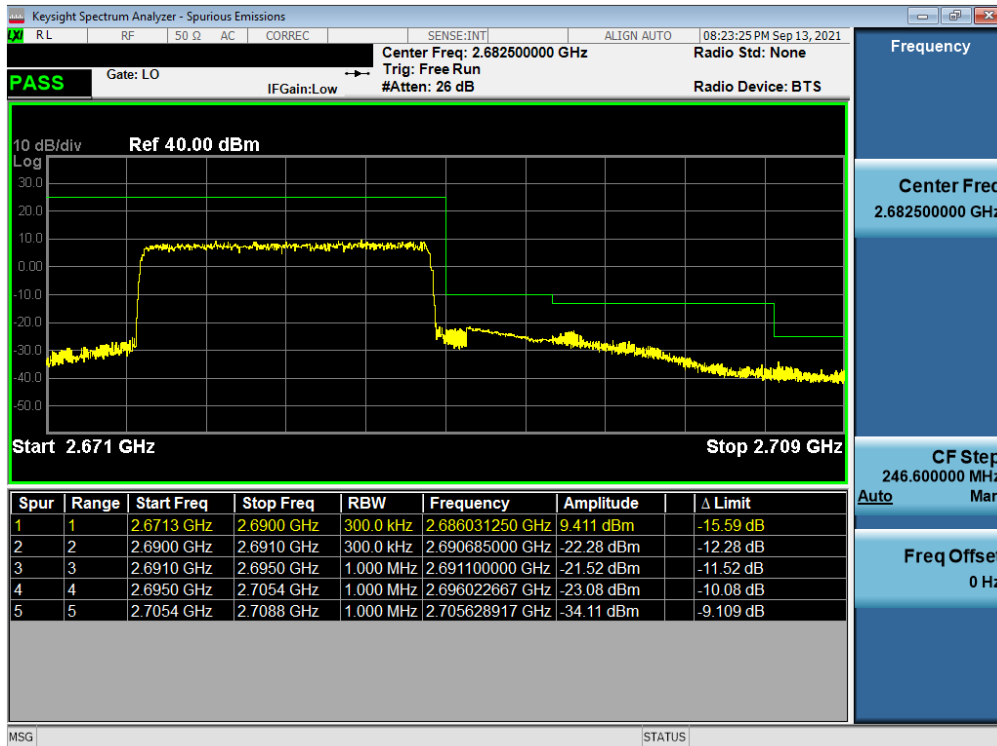


Plot 7-186. Upper ACP Plot (LTE Band 41(PC2) - 20MHz QPSK – Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 123 of 200



Plot 7-187. Lower ACP Plot (LTE Band 41(PC2) - 15MHz QPSK – Full RB)

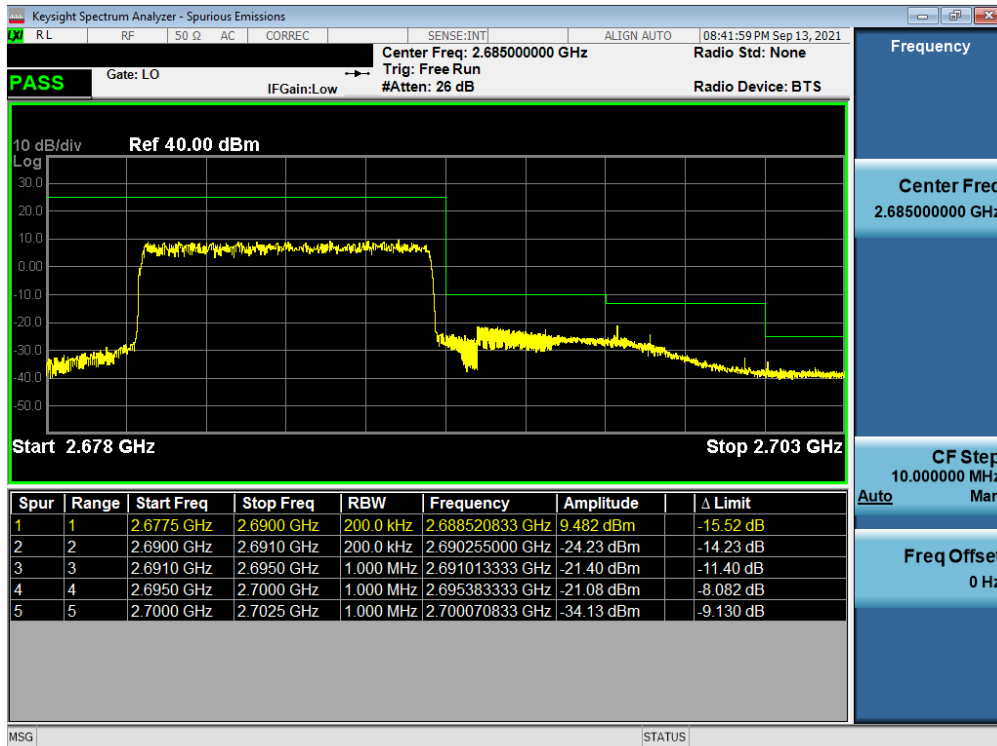


Plot 7-188. Upper ACP Plot (LTE Band 41(PC2) - 15MHz QPSK – Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 124 of 200

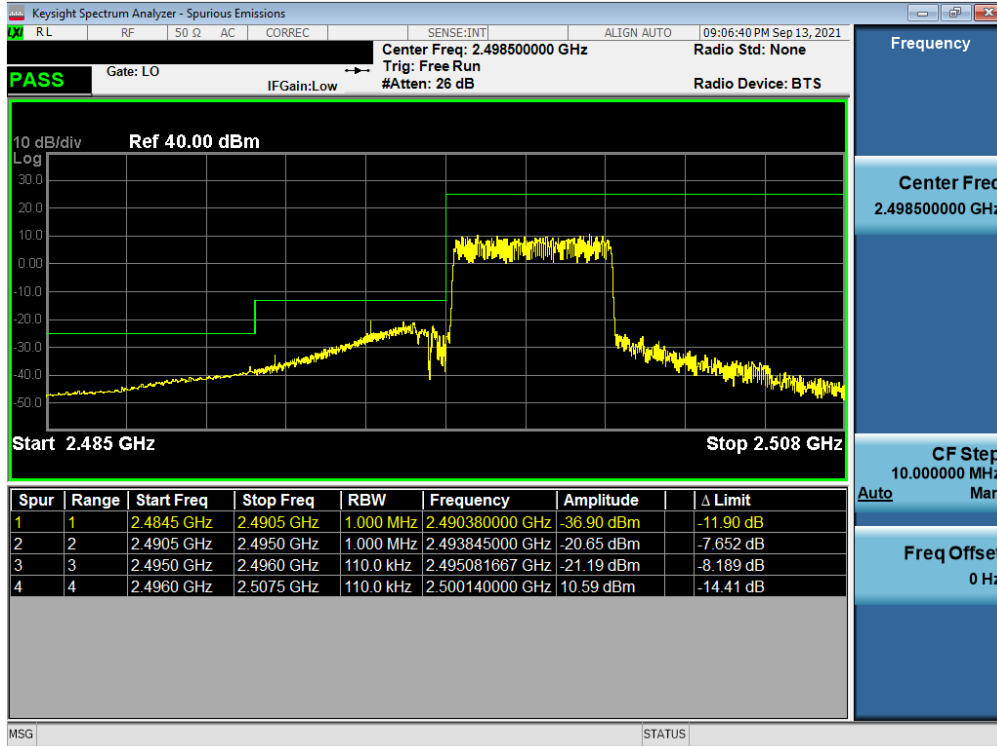


Plot 7-189. Lower ACP Plot (LTE Band 41(PC2) - 10MHz QPSK - Full RB)

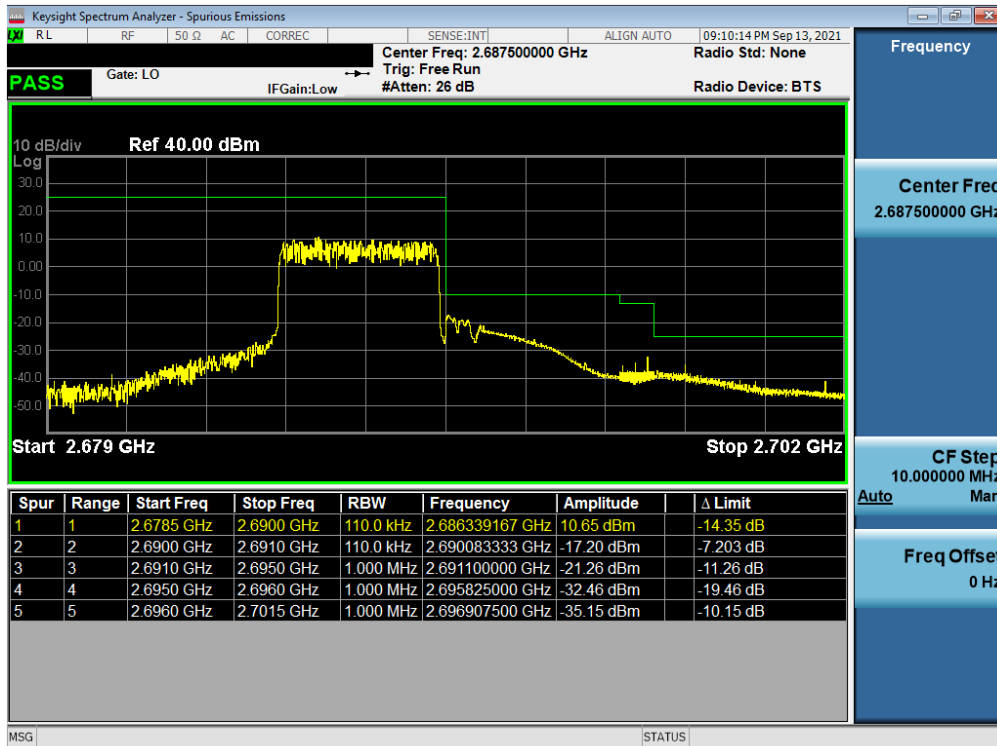


Plot 7-190. Upper ACP Plot (LTE Band 41(PC2) - 10MHz QPSK - Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 125 of 200



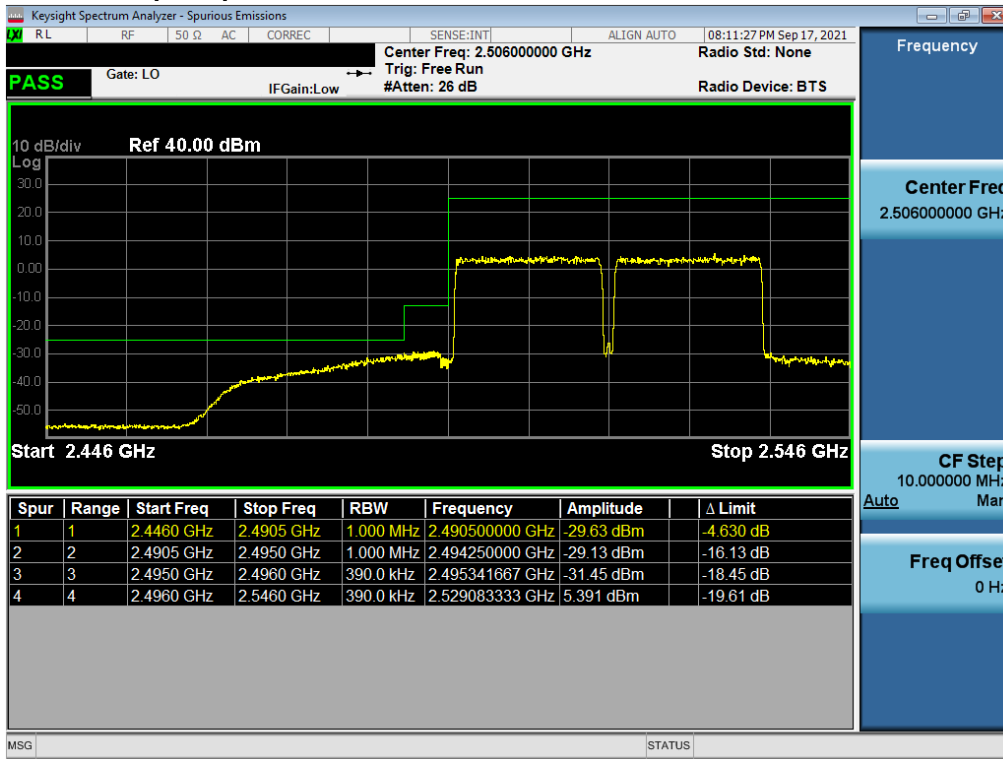
Plot 7-191. Lower ACP Plot (LTE Band 41(PC2) - 5MHz QPSK – Full RB)



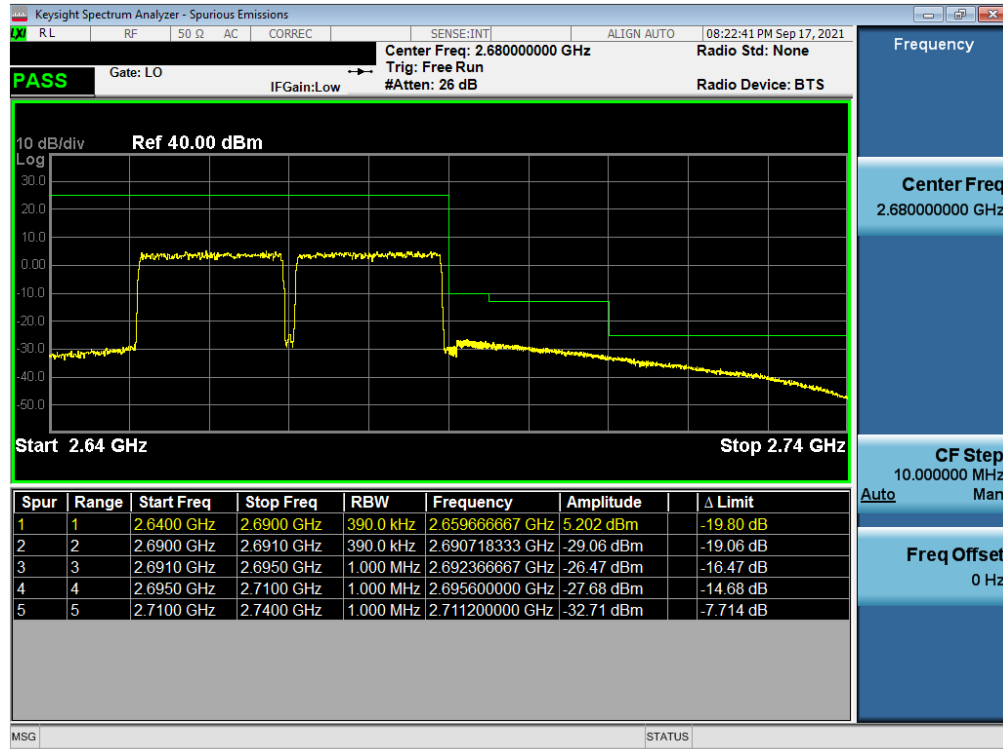
Plot 7-192. Upper ACP Plot (LTE Band 41(PC2) - 5MHz QPSK – Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 126 of 200

ULCA - LTE Band 41(PC2)



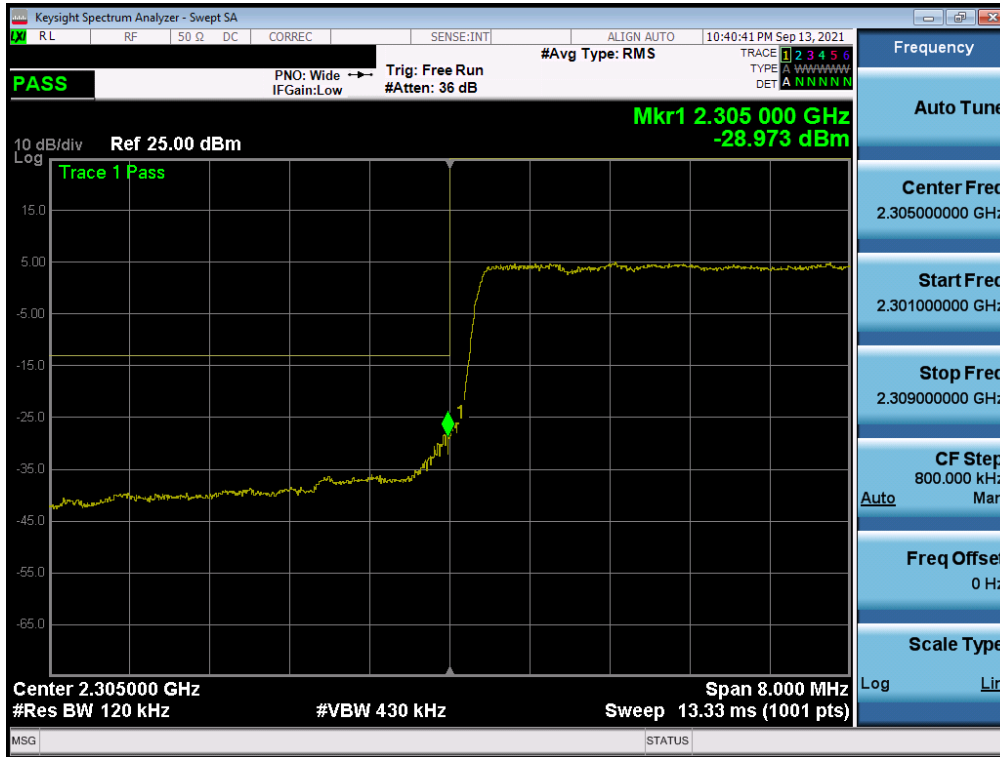
Plot 7-193. Lower ACP Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK – Full RB)



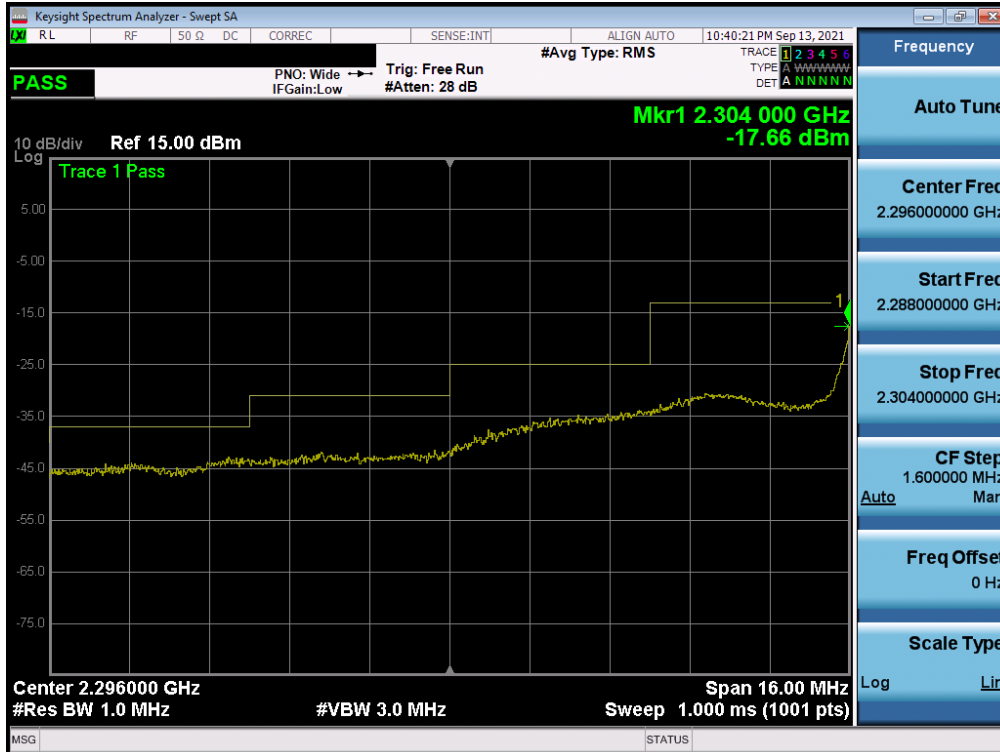
Plot 7-194. Upper ACP Plot (ULCA LTE B41(PC2) – 20+20 MHz QPSK – Full RB)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 127 of 200

NR Band n30 – Ant A



Plot 7-195. Lower Band Edge Plot (NR Band n30 - 10MHz CP-OFDM-QPSK – Full RB - Ant A)



Plot 7-196. Extended Lower Band Edge Plot (NR Band n30 - 10MHz CP-OFDM-QPSK – Full RB - Ant A)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 128 of 200



Plot 7-197. Upper Band Edge Plot (NR Band n30 - 10MHz CP-OFDM-QPSK – Full RB - Ant A)



Plot 7-198. Extended Upper Band Edge Plot (NR Band n30 - 10MHz CP-OFDM-QPSK – Full RB - Ant A)

FCC ID: A3LSMS906U	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090103-05-R1.A3L	Test Dates: 09/10/2021 - 11/12/2021	EUT Type: Portable Handset		Page 129 of 200