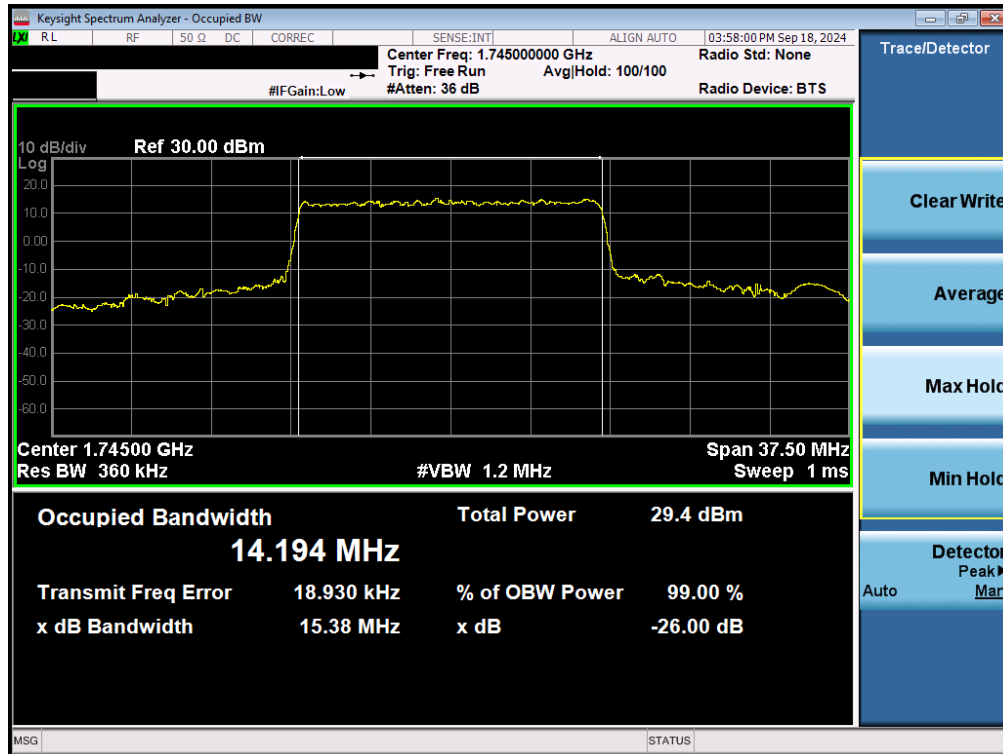
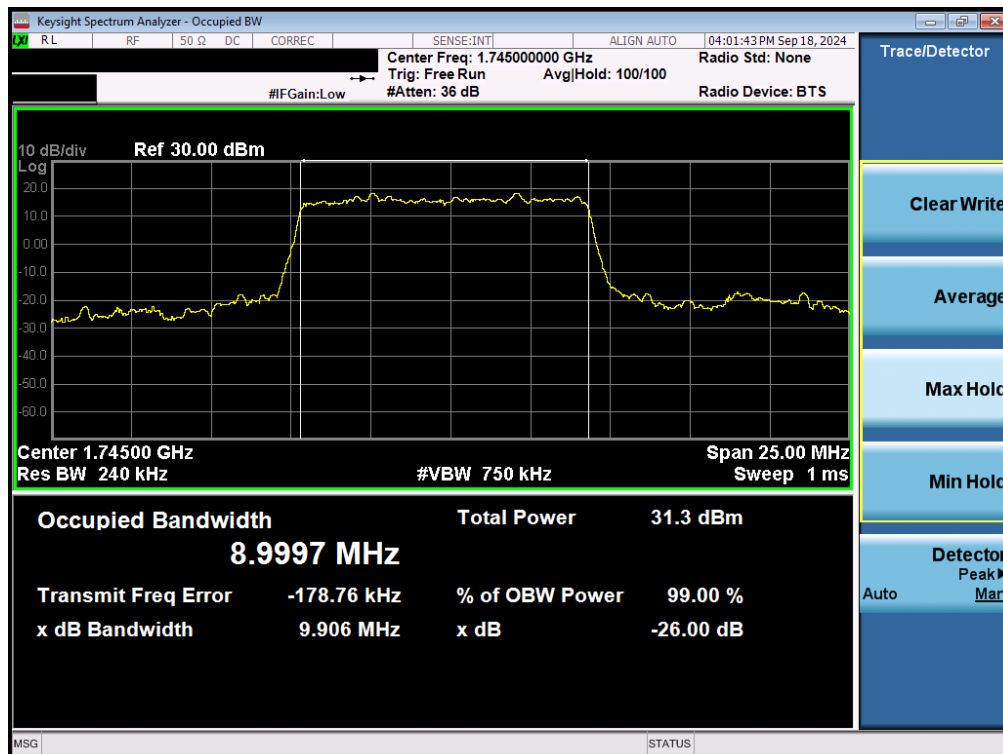


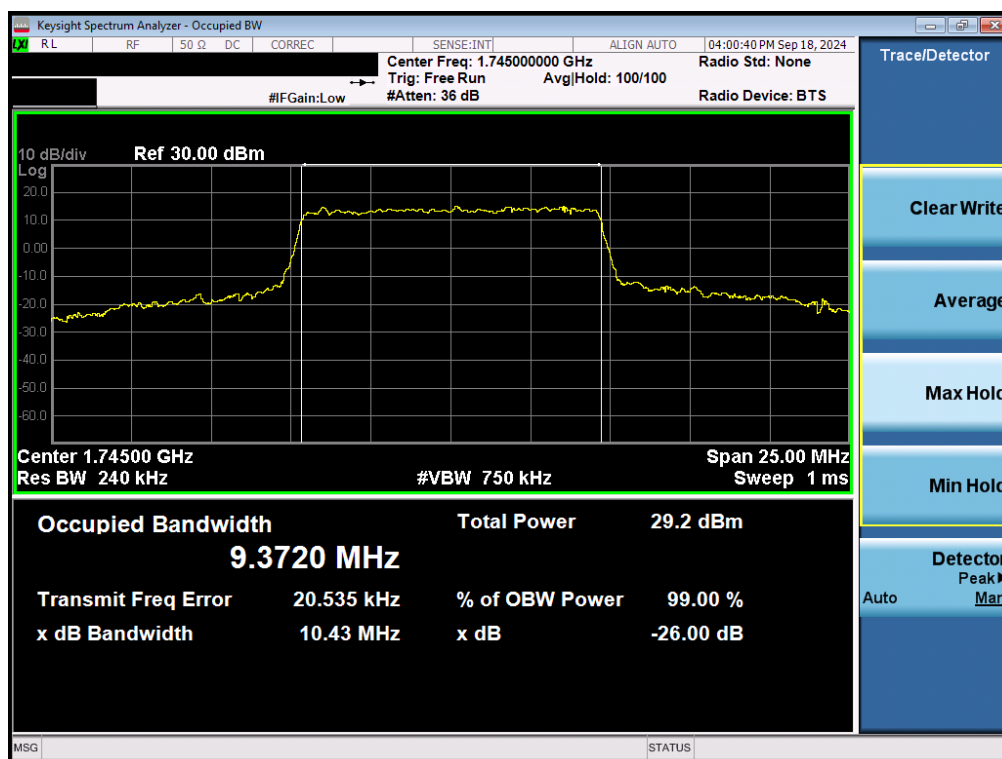


Plot 7-86. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM 16QAM - Full RB – ANT2)

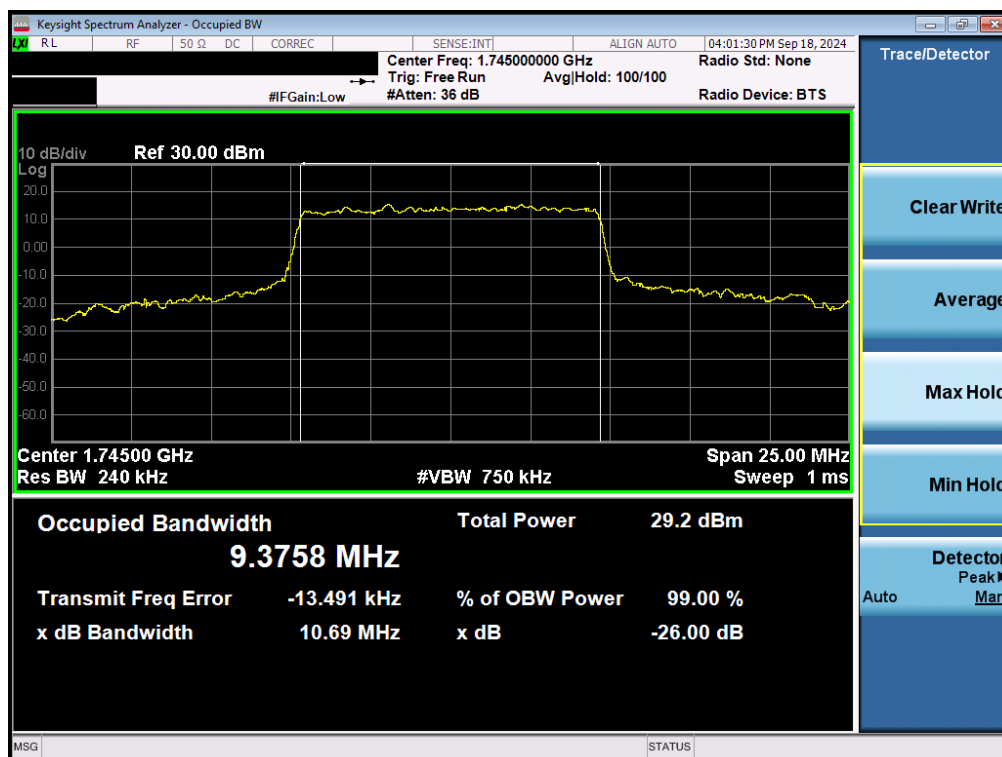


Plot 7-87. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 67 of 144

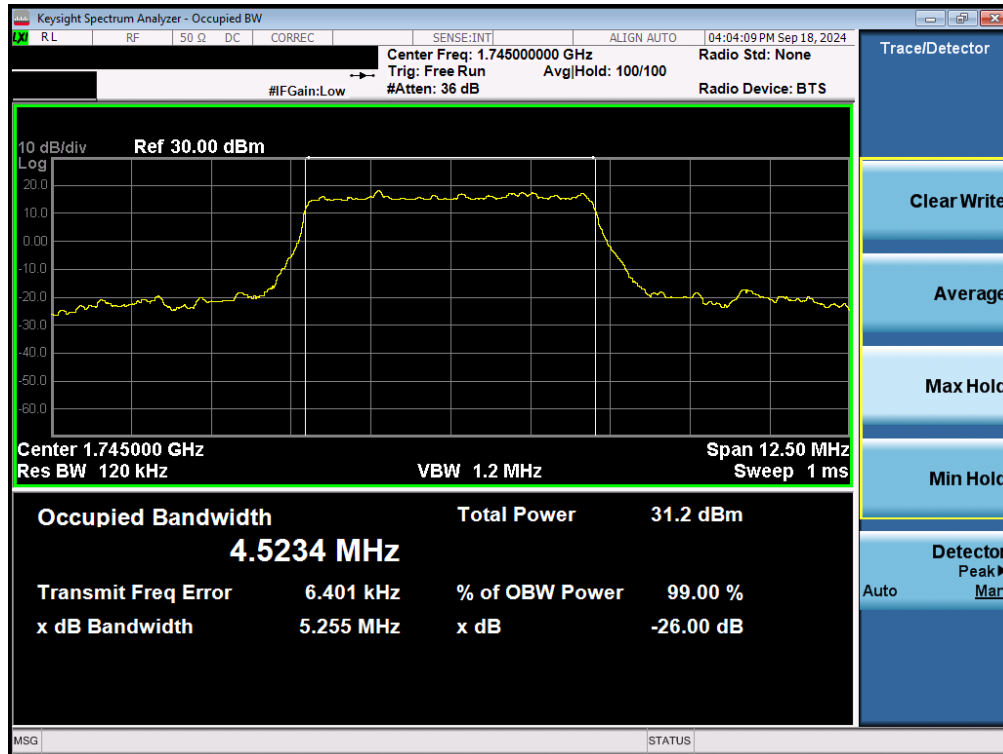


Plot 7-88. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM QPSK - Full RB – ANT2)

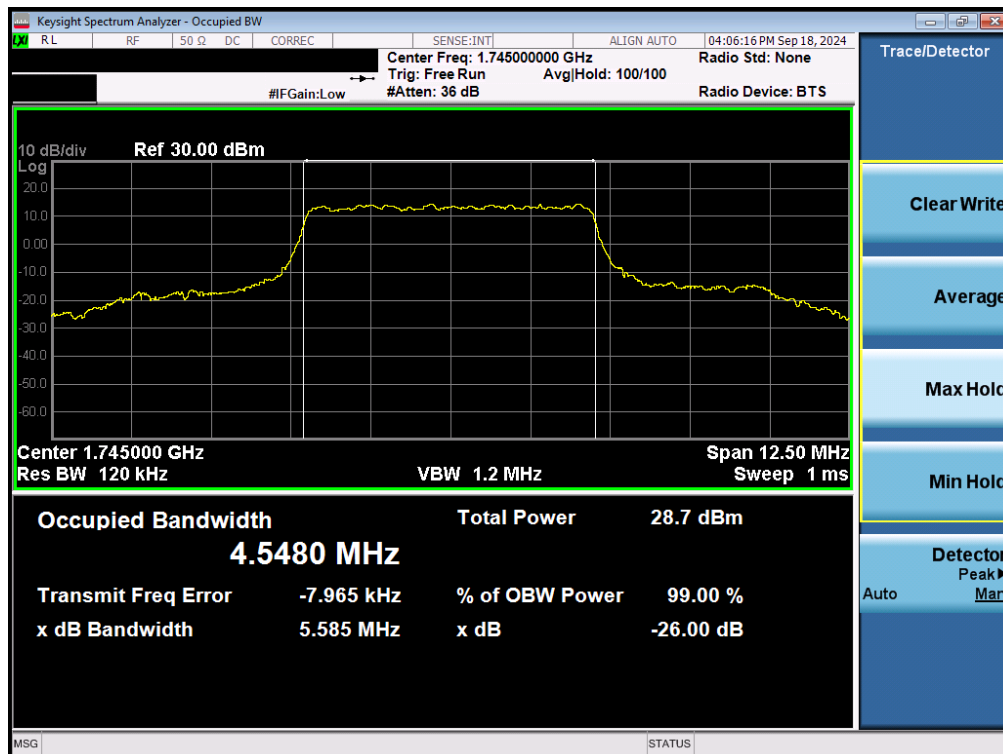


Plot 7-89. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM 16QAM - Full RB – ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 68 of 144

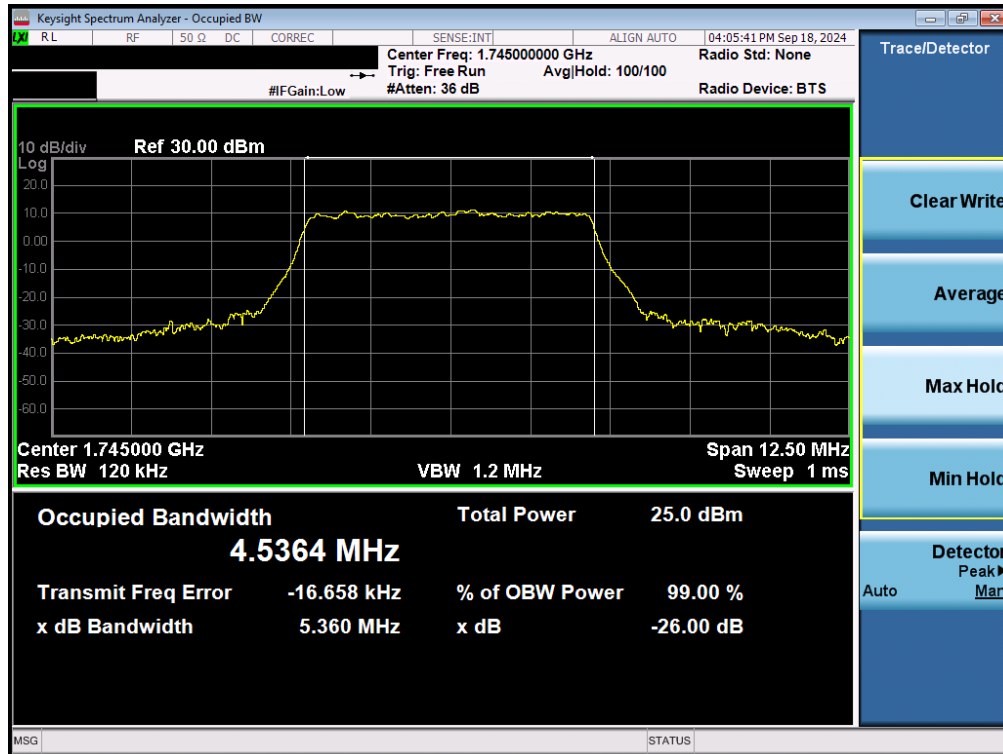


Plot 7-90. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)



Plot 7-91. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM QPSK - Full RB – ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 69 of 144



Plot 7-92. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM 16QAM - Full RB – ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 70 of 144

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

ANSI C63.26-2015 – Section 5.7.4

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.

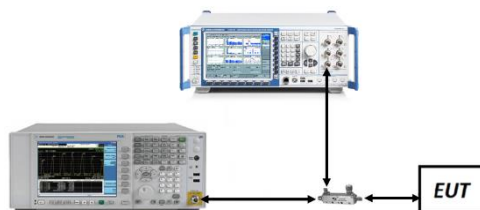


Figure 7-3. Test Instrument & Measurement Setup

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.
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: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 71 of 144

Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 12	10 MHz	Low	30.0 - 697.9	-63.74	-13	-50.74
		Low	716.0 - 1000.0	-65.52	-13	-52.52
		Low	1000.0 - 10000.0	-39.73	-13	-26.73
		Mid	30.0 - 698.0	-63.06	-13	-50.06
		Mid	716.0 - 1000.0	-65.71	-13	-52.71
		Mid	1000.0 - 10000.0	-39.51	-13	-26.51
		High	30.0 - 697.9	-65.73	-13	-52.73
		High	716.1 - 1000.0	-61.97	-13	-48.97
		High	1000.0 - 10000.0	-39.22	-13	-26.22
LTE Band 13	10 MHz	Mid	30.0 - 777.0	-65.97	-35	-30.97
		Mid	787.0 - 1000.0	-65.95	-13	-52.95
		Mid	1000.0 - 20000.0	-39.42	-13	-26.42

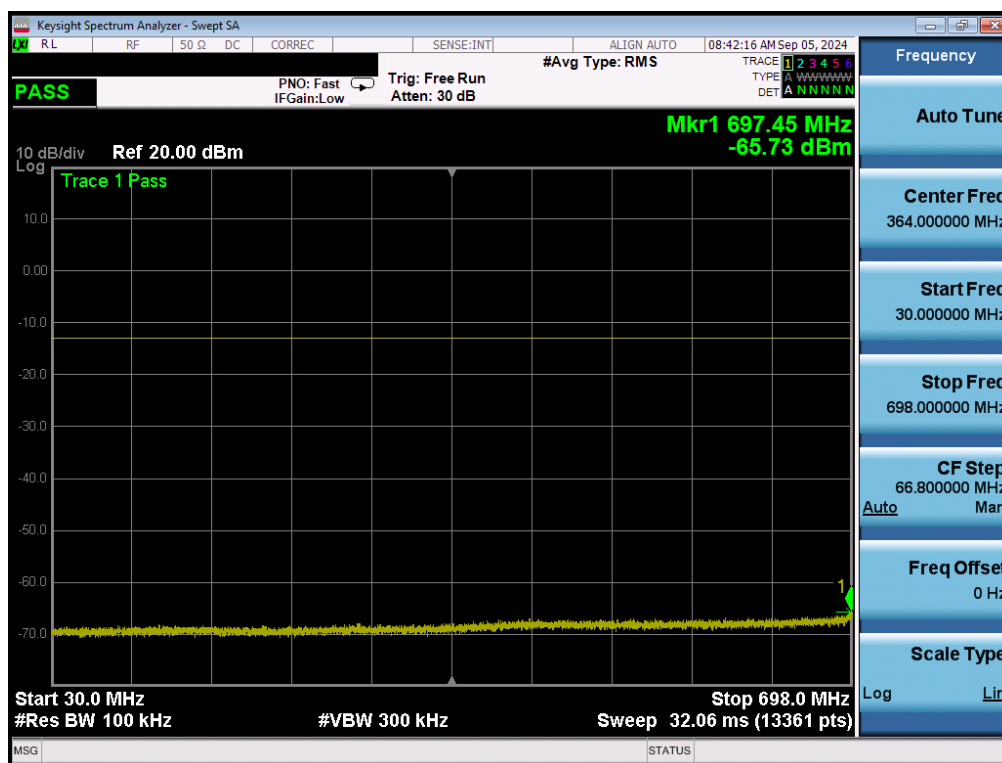
Table 7-14. Conducted Spurious Emissions Results – Ant1

Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
LTE-B66-4	20 MHz	Low	30.0 - 663.0	-52.35	-13	-39.35
		Low	698.0 - 1000.0	-45.29	-13	-32.29
		Low	1000.0 - 10000.0	-60.35	-13	-47.35
		Mid	30.0 - 663.0	-54.31	-13	-41.31
		Mid	698.0 - 1000.0	-46.07	-13	-33.07
		Mid	1000.0 - 10000.0	-60.65	-13	-47.65
		High	30.0 - 663.0	-53.90	-13	-40.90
		High	698.0 - 1000.0	-45.70	-13	-32.70
		High	1000.0 - 10000.0	-60.51	-13	-47.51
NR Band n66	45 MHz	Low	30.0 - 1710.0	-49.50	-13	-36.50
		Low	1780.0 - 10000.0	-43.42	-13	-30.42
		Low	10000.0 - 20000.0	-59.32	-13	-46.32
		Mid	30.0 - 1710.0	-49.83	-13	-36.83
		Mid	1780.0 - 10000.0	-43.55	-13	-30.55
		Mid	10000.0 - 20000.0	-59.14	-13	-46.14
		High	30.0 - 1710.0	-49.65	-13	-36.65
		High	1780.0 - 10000.0	-43.55	-13	-30.55
		High	10000.0 - 20000.0	-59.16	-13	-46.16

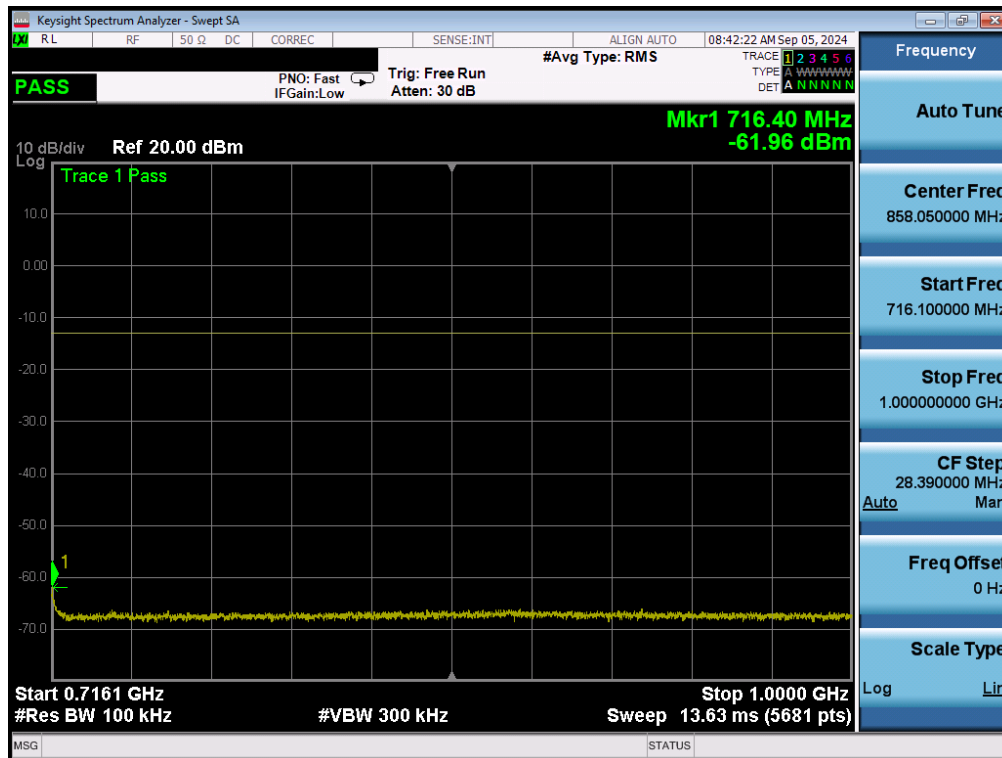
Table 7-15. Conducted Spurious Emissions Results – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 72 of 144

LTE Band 12 – ANT1

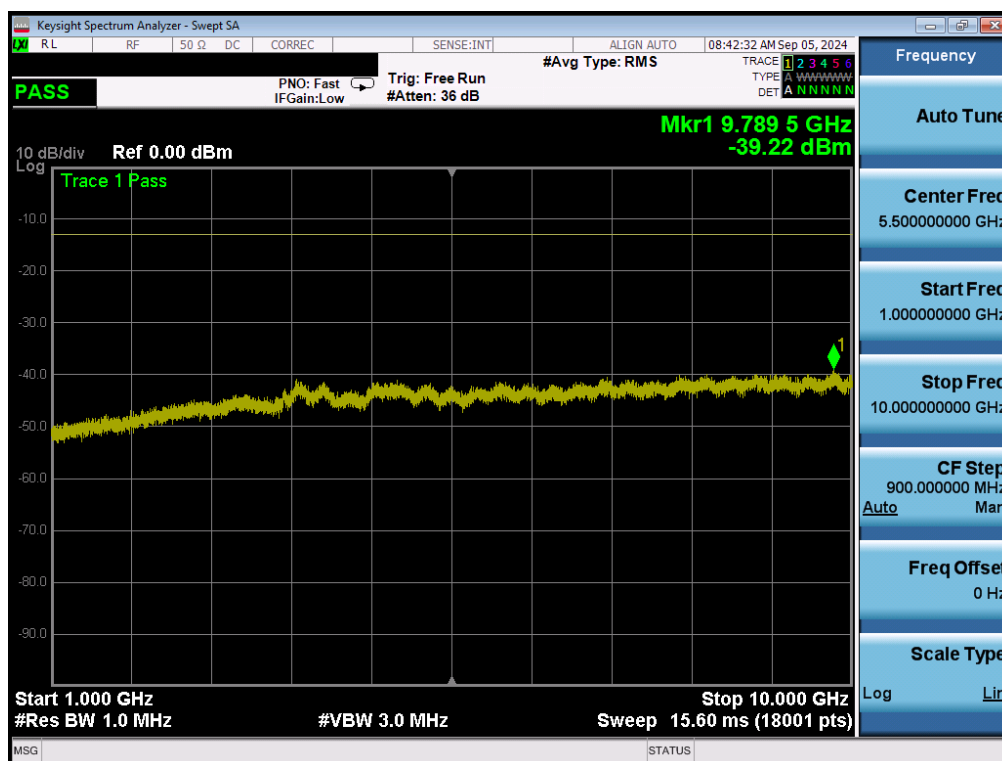


Plot 7-93. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - High Channel - ANT1)



Plot 7-94. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - High Channel - ANT1)

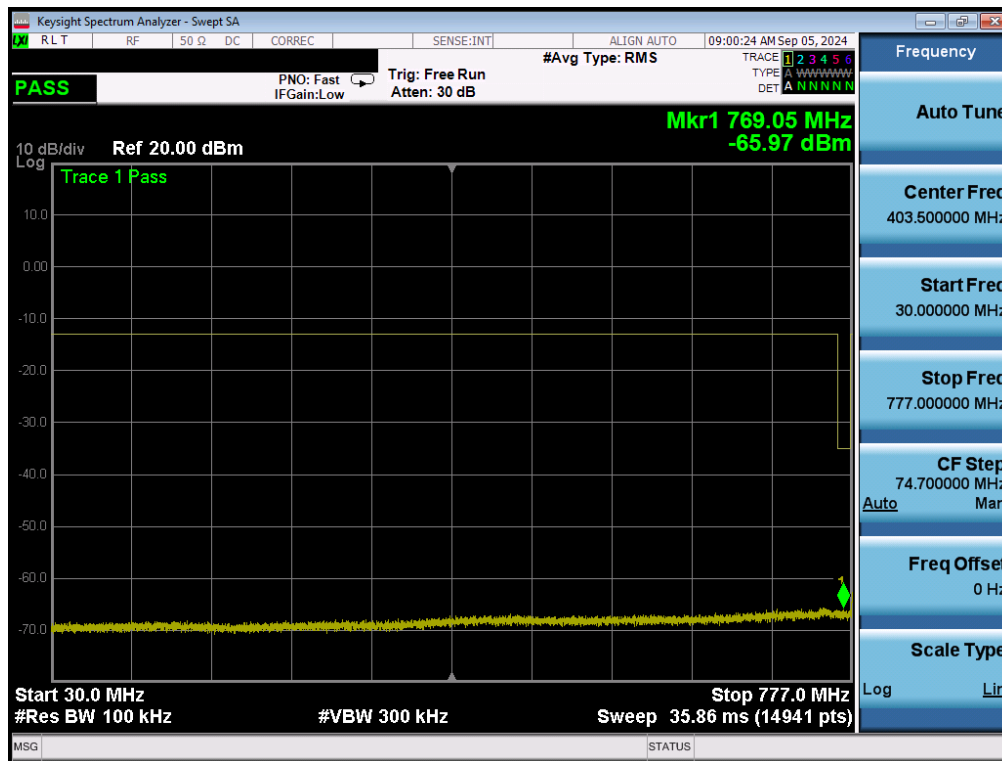
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 73 of 144



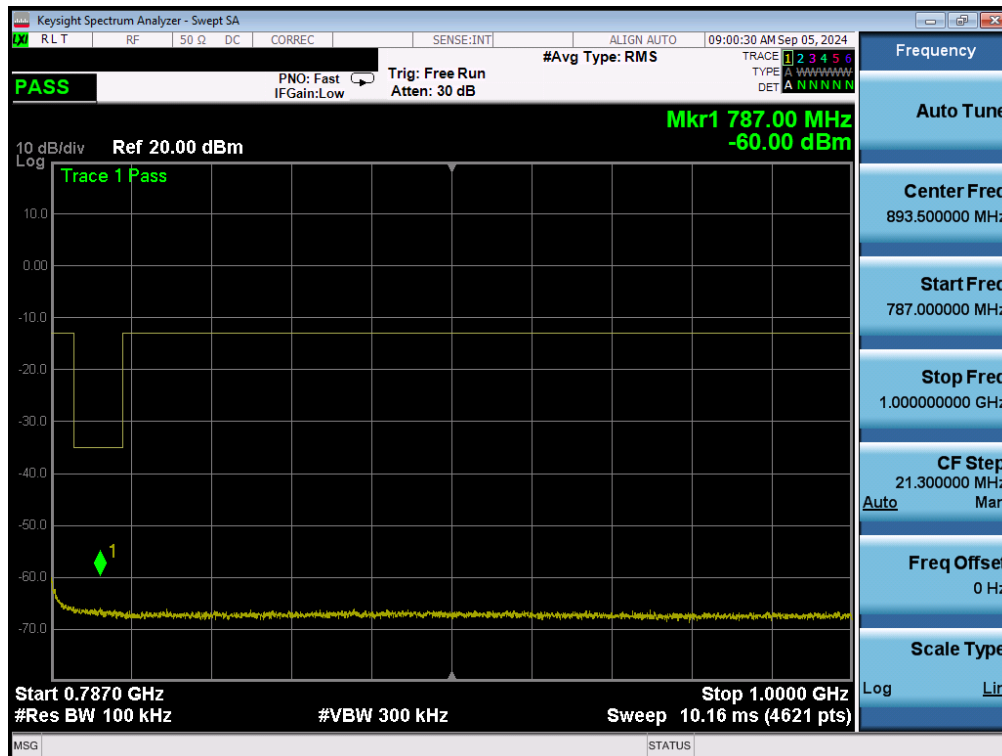
Plot 7-95. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - High Channel - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 74 of 144

LTE Band 13 – ANT1

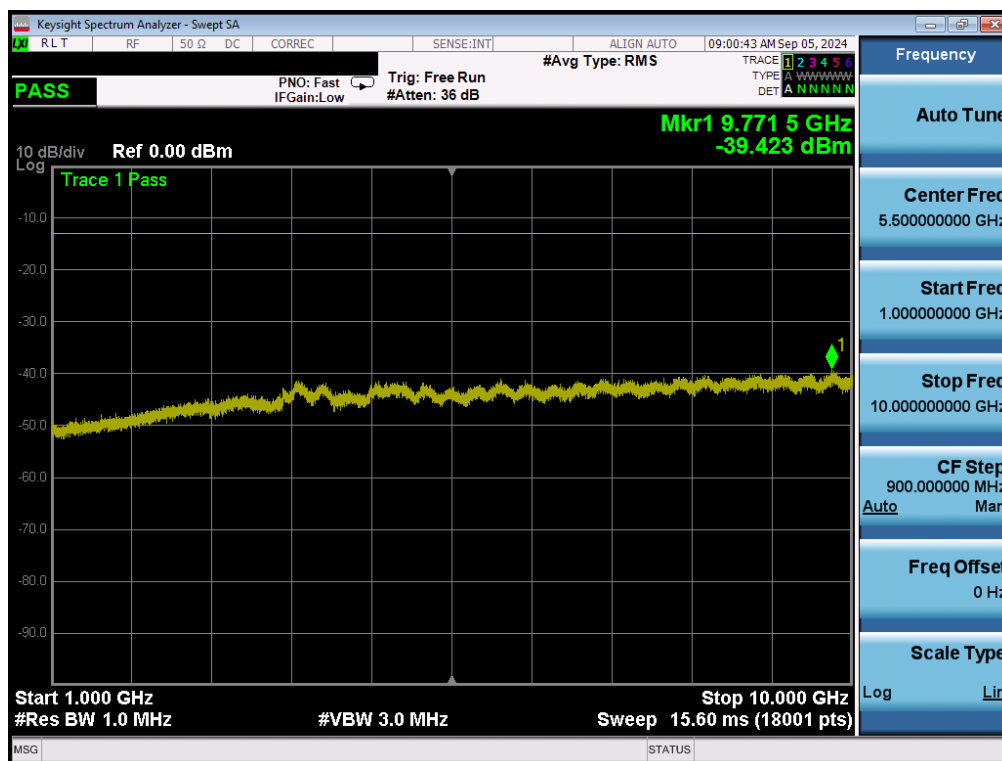


Plot 7-96. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - 1 RB)



Plot 7-97. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - 1 RB)

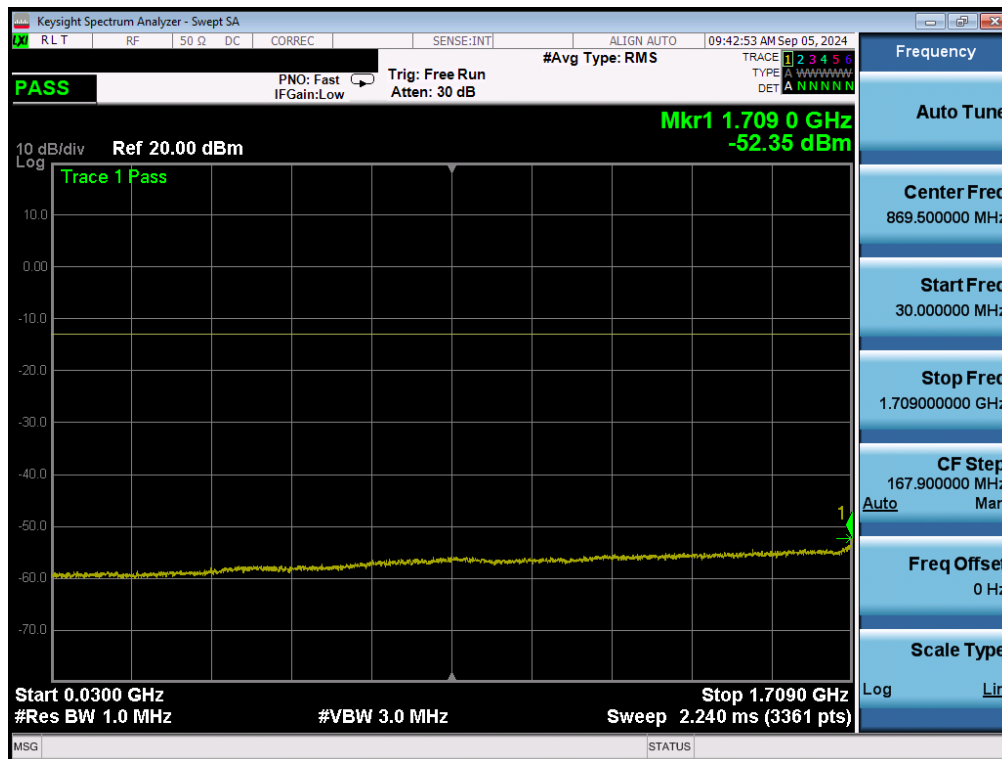
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 75 of 144



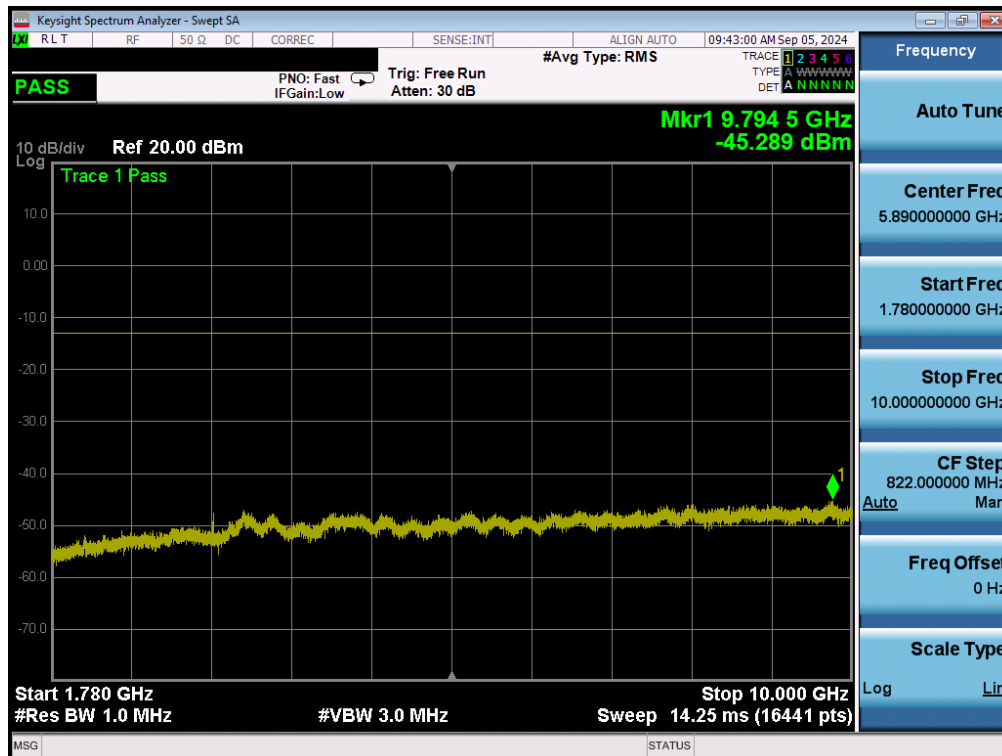
Plot 7-98. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - 1 RB)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 76 of 144

LTE Band 66/4 – ANT1

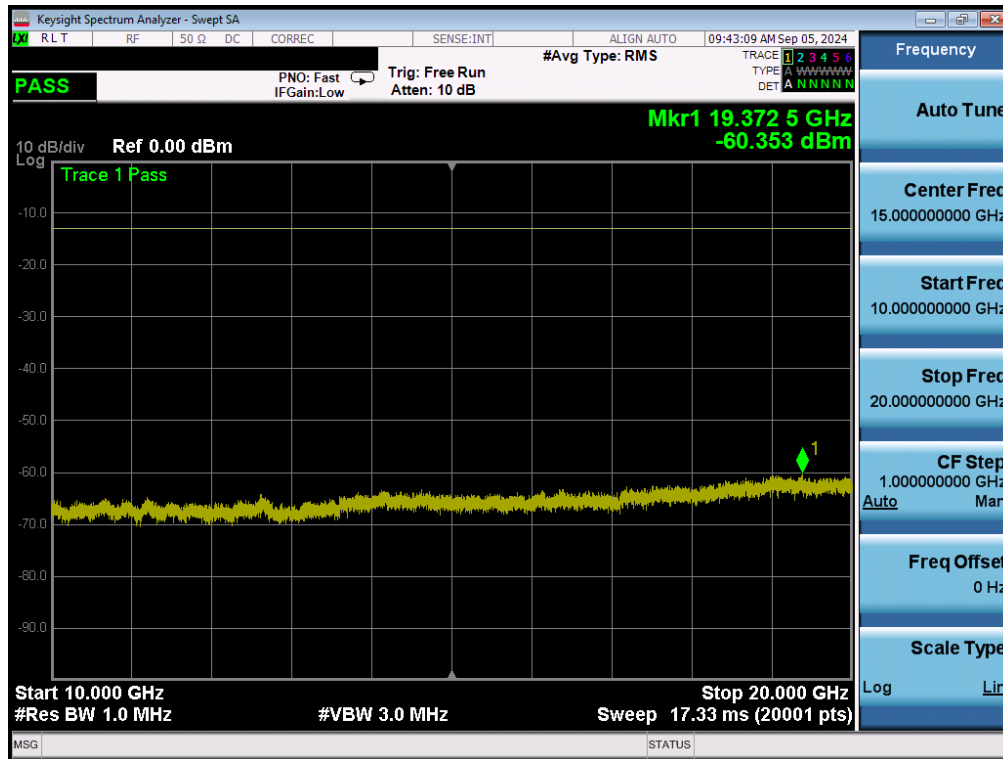


Plot 7-99. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - 1 RB – Low Channel)

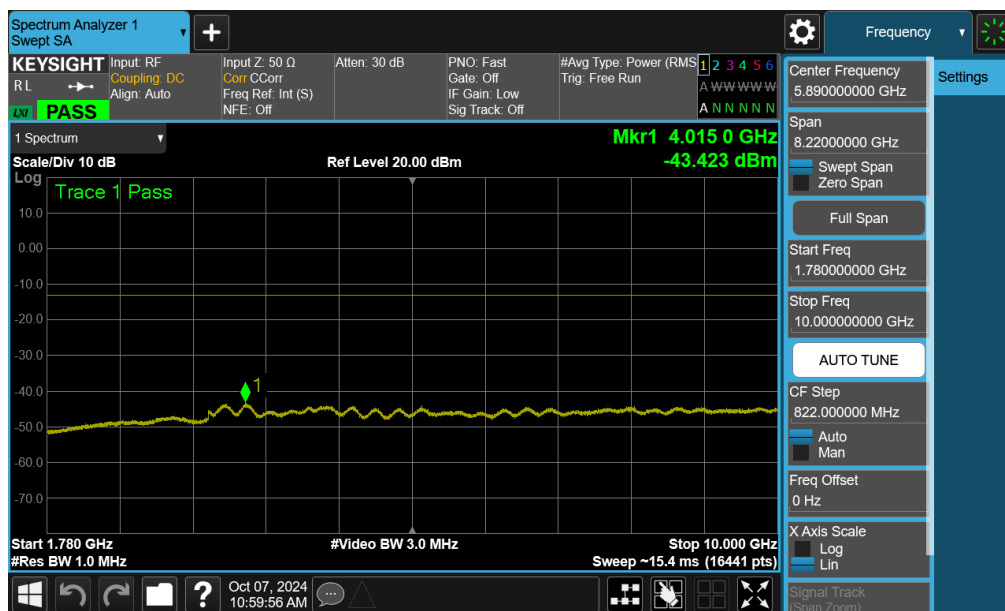
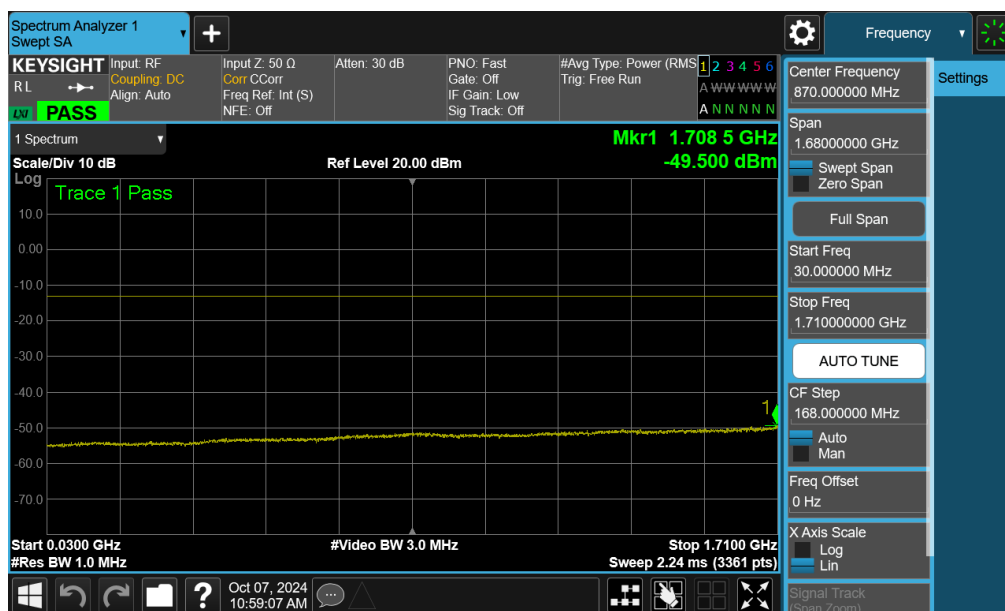


Plot 7-100. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - 1 RB – Low Channel)

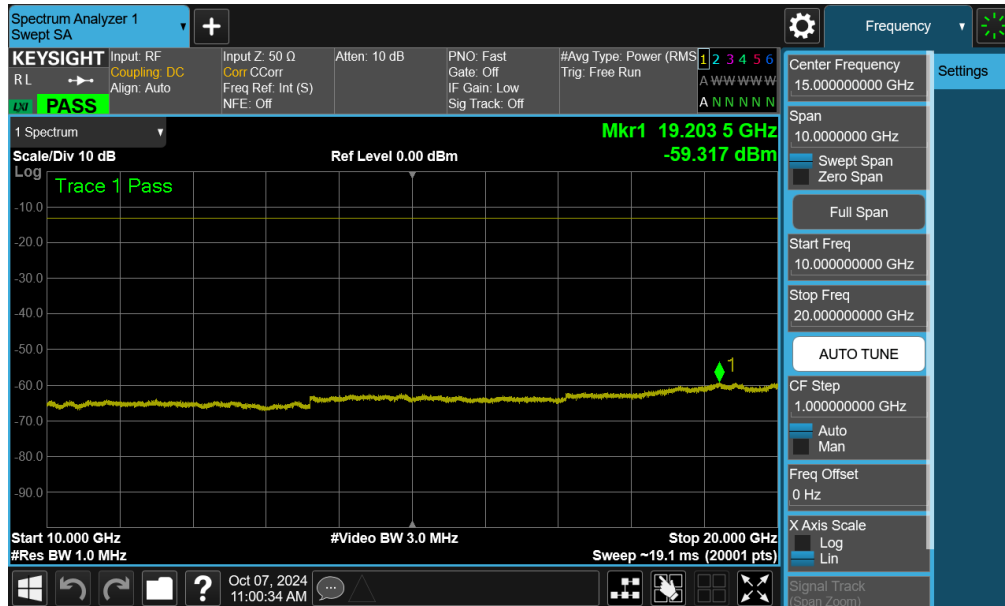
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 77 of 144



NR Band n66 – ANT1



FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 79 of 144



Plot 7-104. Conducted Spurious Plot (NR Band n66 - 45.0MHz - 1 RB - Low Channel - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 80 of 144

Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 12	10 MHz	Low	30.0 - 697.9	-63.47	-13	-50.47
		Low	716.0 - 1000.0	-65.72	-13	-52.72
		Low	1000.0 - 10000.0	-44.67	-13	-31.67
		Mid	30.0 - 698.0	-65.12	-13	-52.12
		Mid	716.0 - 1000.0	-65.38	-13	-52.38
		Mid	1000.0 - 10000.0	-45.83	-13	-32.83
		High	30.0 - 697.9	-65.61	-13	-52.61
		High	716.1 - 1000.0	-62.32	-13	-49.32
		High	1000.0 - 10000.0	-45.76	-13	-32.76
LTE Band 13	10 MHz	Mid	30.0 - 777.0	-65.40	-35	-30.40
		Mid	787.0 - 1000.0	-65.30	-13	-52.30
		Mid	1000.0 - 20000.0	-41.04	-13	-28.04

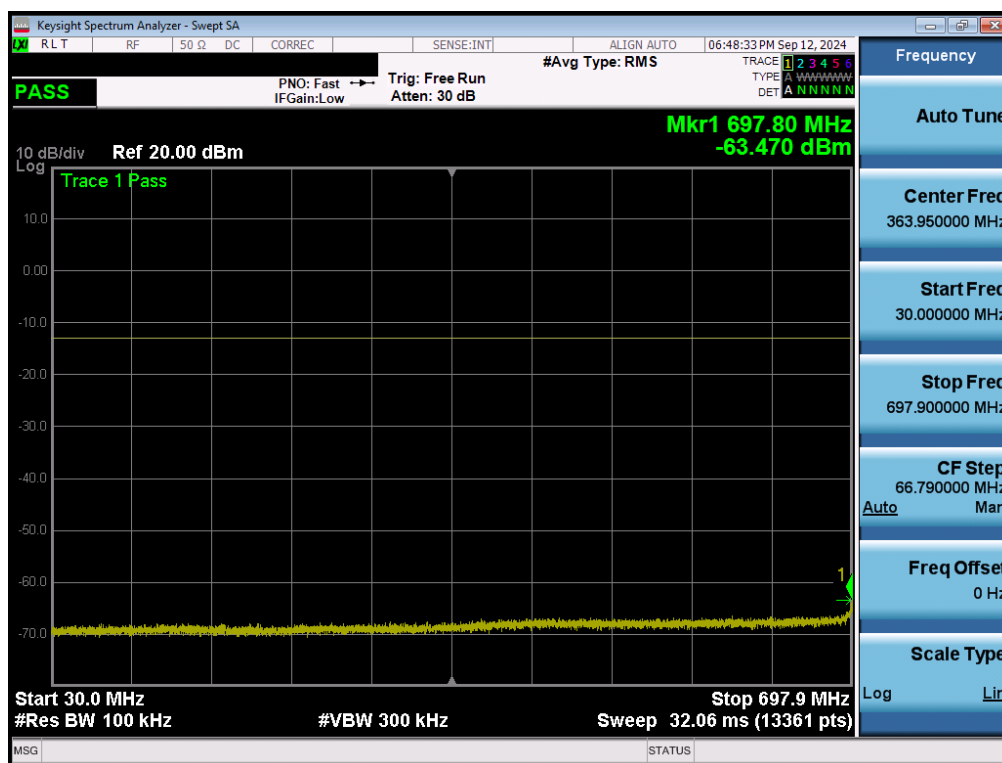
Table 7-16. Conducted Spurious Emissions Results – Ant2

Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
NR Band n66	45 MHz	Low	30.0 - 1710.0	-52.57	-13	-39.57
		Low	1780.0 - 10000.0	-46.29	-13	-33.29
		Low	10000.0 - 20000.0	-61.37	-13	-48.37
		Mid	30.0 - 1710.0	-54.05	-13	-41.05
		Mid	1780.0 - 10000.0	-46.47	-13	-33.47
		Mid	10000.0 - 20000.0	-61.44	-13	-48.44
		High	30.0 - 1710.0	-53.98	-13	-40.98
		High	1780.0 - 10000.0	-46.56	-13	-33.56
		High	10000.0 - 20000.0	-61.88	-13	-48.88

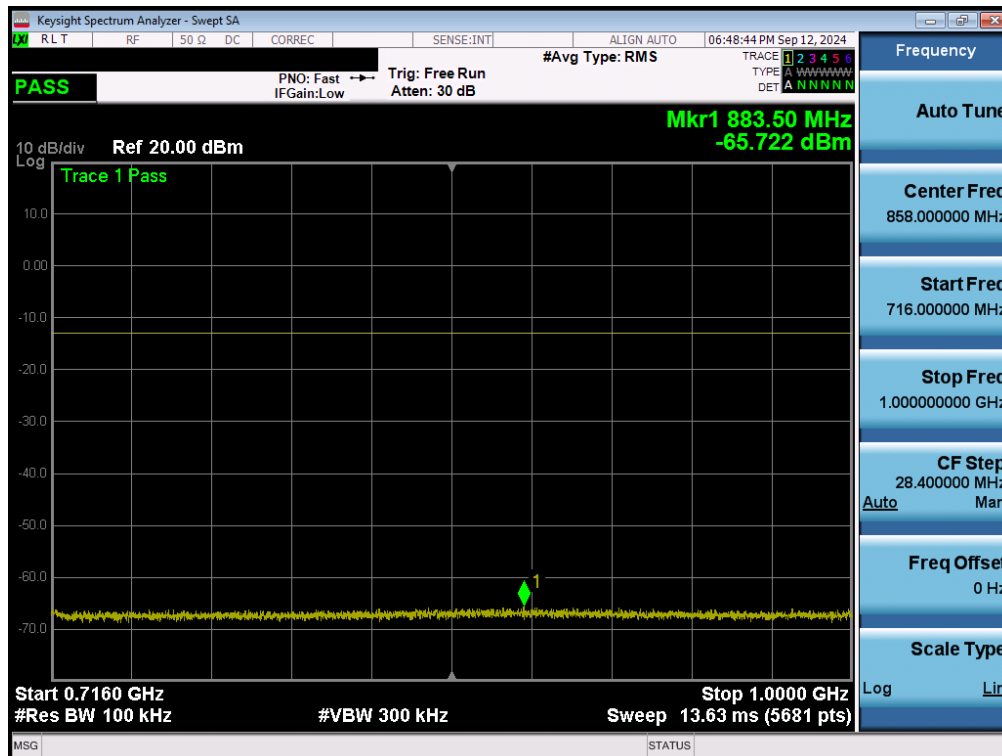
Table 7-17. Conducted Spurious Emissions Results – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 81 of 144

LTE Band 12 – ANT2

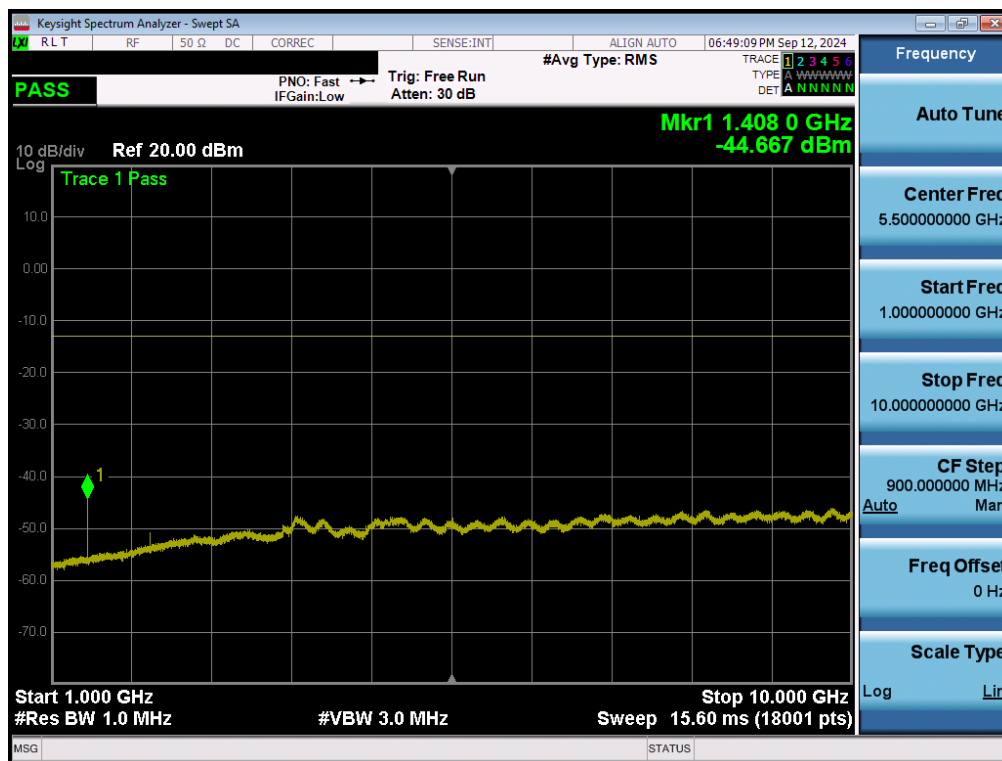


Plot 7-105. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Low Channel - ANT2)



Plot 7-106. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Low Channel - ANT2)

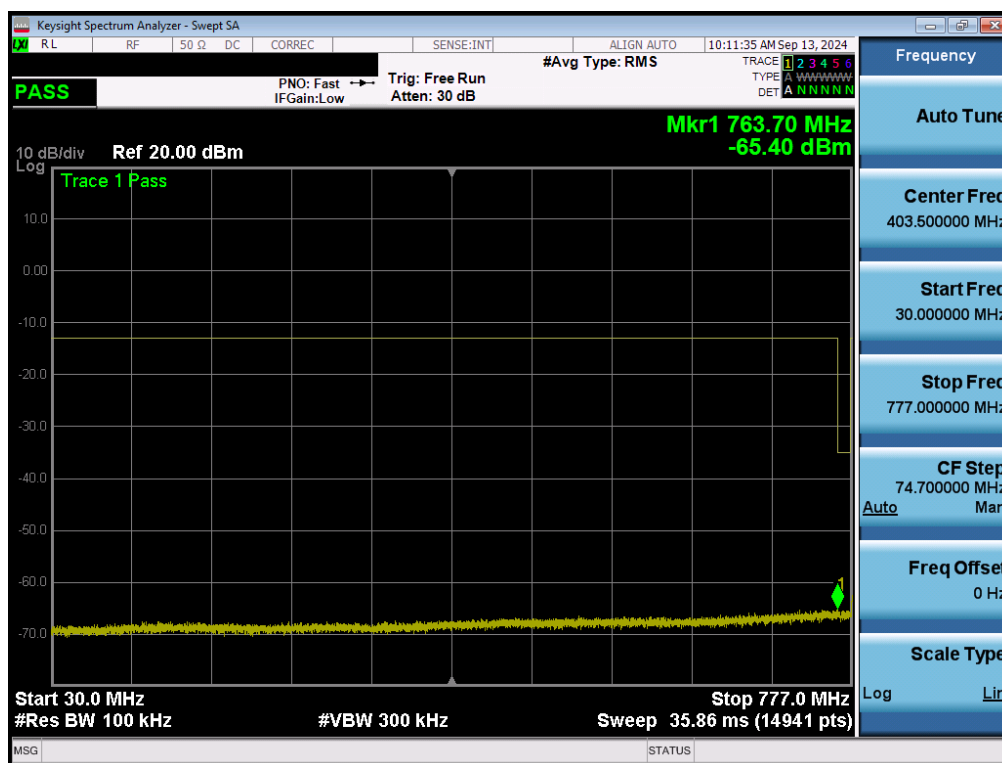
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 82 of 144



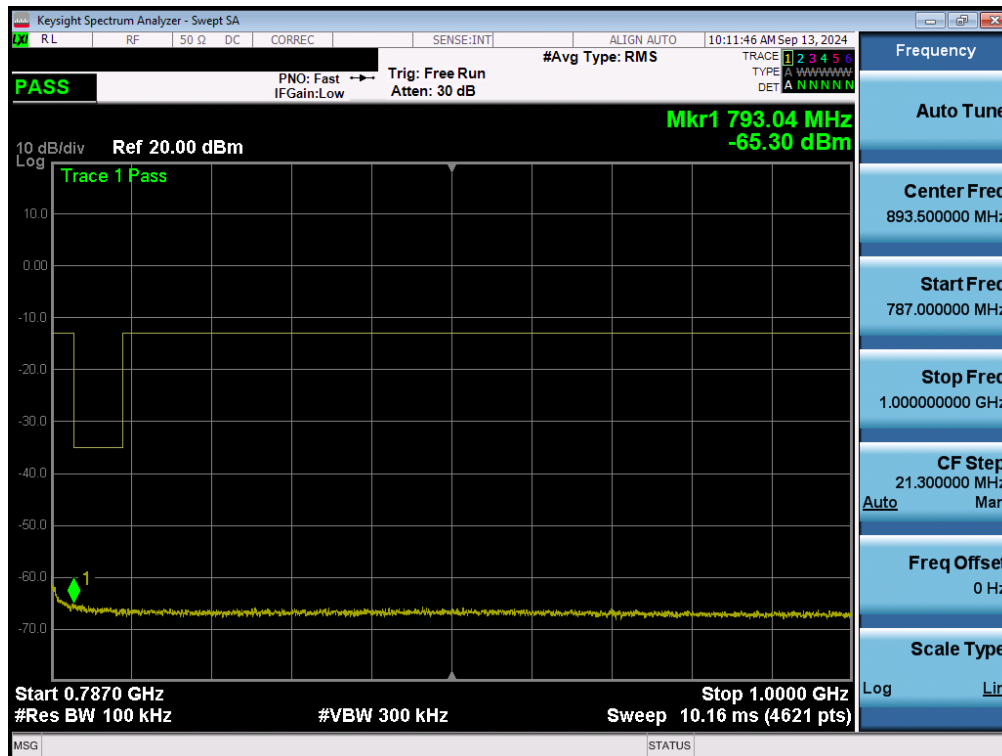
Plot 7-107. Conducted Spurious Plot (LTE Band 12 - 10MHz QPSK - 1 RB - Low Channel - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 83 of 144

LTE Band 13 – ANT2

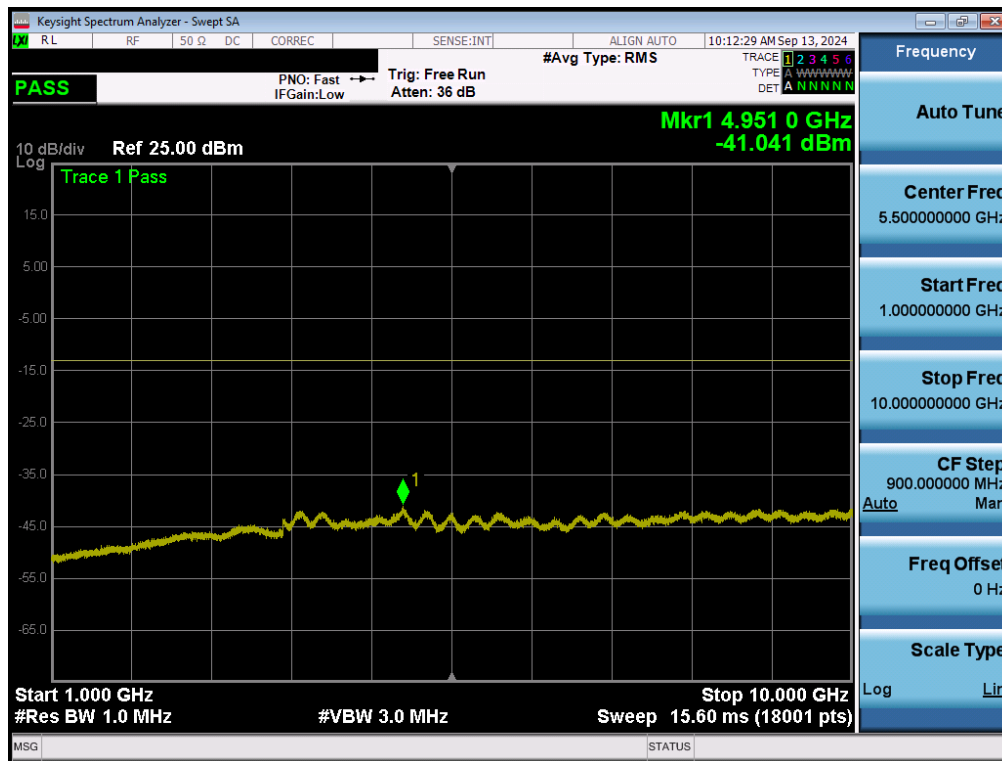


Plot 7-108. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - 1 RB)



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

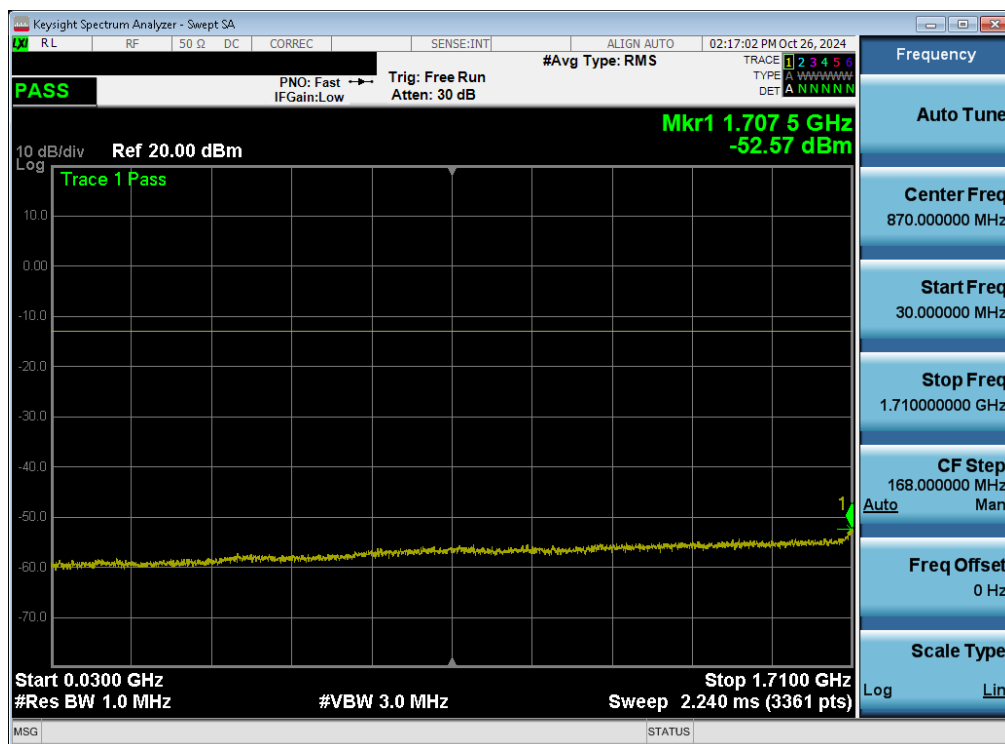
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 84 of 144



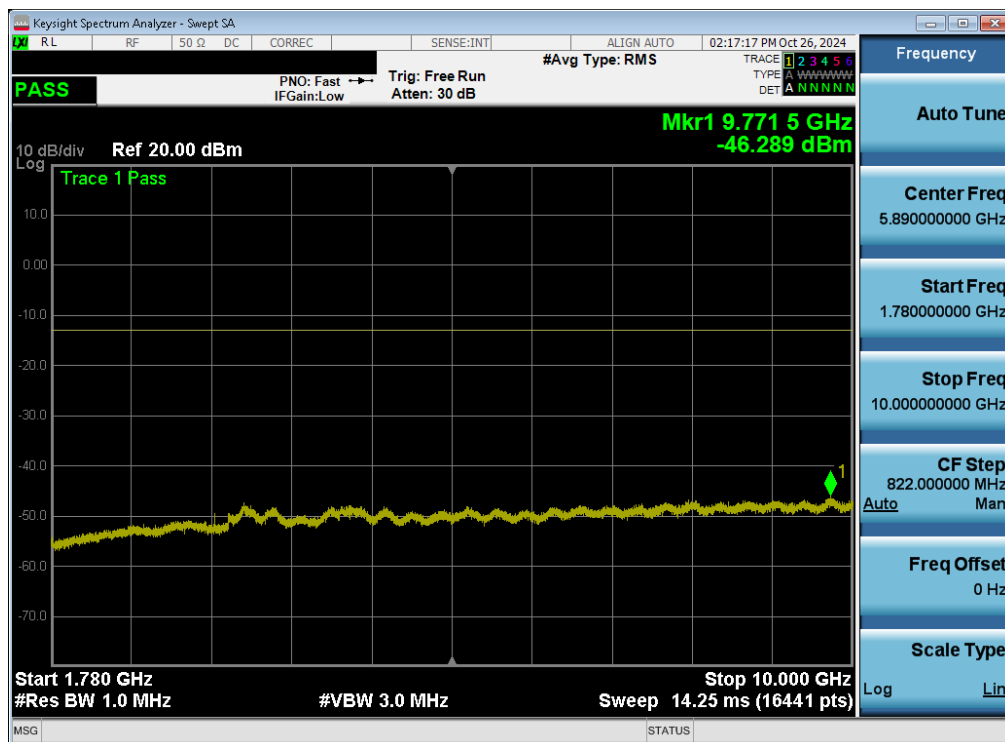
Plot 7-110. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - 1 RB)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 85 of 144

NR Band n66 – ANT2

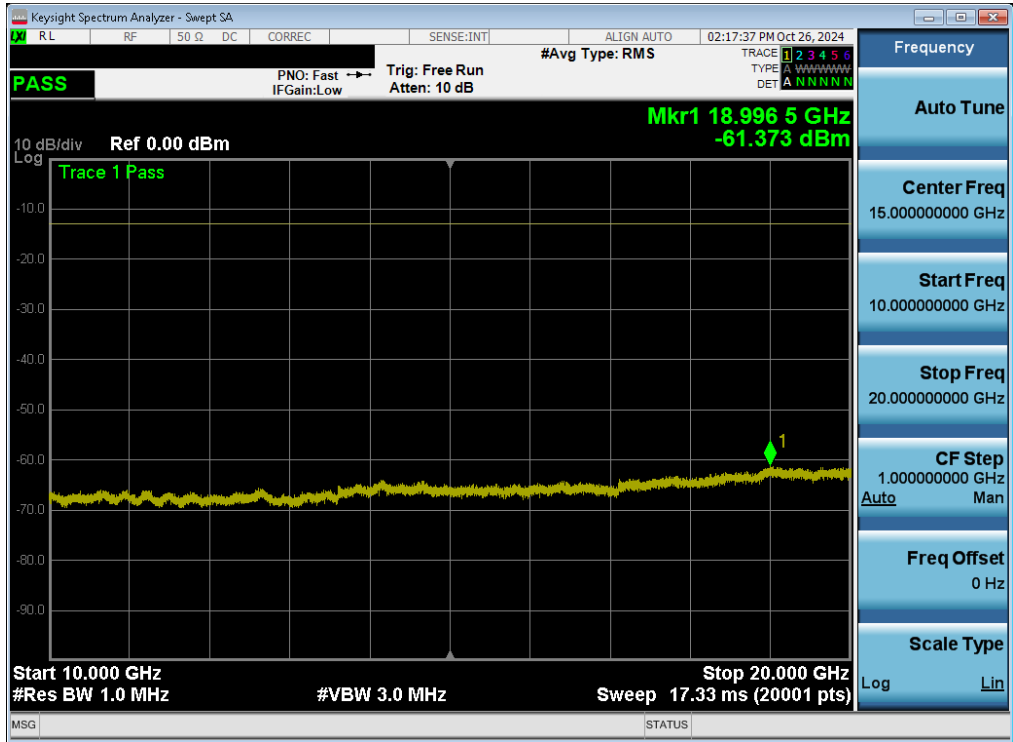


Plot 7-111. Conducted Spurious Plot (NR Band n66 - 45.0MHz - 1 RB - Low Channel - ANT2)



Plot 7-112. Conducted Spurious Plot (NR Band n66 - 45.0MHz - 1 RB - Low Channel - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 86 of 144



Plot 7-113. Conducted Spurious Plot (NR Band n66 - 45.0MHz - 1 RB - Low Channel - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 87 of 144

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

ANSI C63.26-2015 – Section 5.7.3

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.

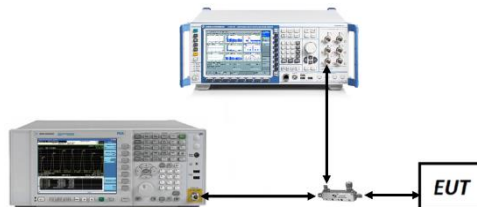


Figure 7-4. Test Instrument & Measurement Setup

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 88 of 144

Test Notes

1. Per 27.53(h) for AWS band operation, 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(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.
3. 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.
4. 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.

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 89 of 144

Mode	Bandwidth	Channel	Test Case	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 12	10 MHz	Low	Band Edge	-27.05	-13	-14.05
		High	Band Edge	-28.66	-13	-15.66
	5 MHz	Low	Band Edge	-20.57	-13	-7.57
		High	Band Edge	-21.98	-13	-8.98
	3 MHz	Low	Band Edge	-16.64	-13	-3.64
		High	Band Edge	-17.74	-13	-4.74
	1.4 MHz	Low	Band Edge	-24.21	-13	-11.21
		High	Band Edge	-25.97	-13	-12.97
LTE Band 13	10 MHz	Low	Band Edge	-27.89	-13	-14.89
		Low	Emission Mask	-64.07	-13	-51.07
		High	Band Edge	-26.89	-13	-13.89
		High	Emission Mask	-45.69	-13	-32.69
	5 MHz	Low	Band Edge	-23.31	-13	-10.31
		Low	Emission Mask	-59.11	-13	-46.11
		High	Band Edge	-22.74	-13	-9.74
		High	EmMask	-54.56	-13	-41.56

Table 7-18. Conducted Band Edge Results – Ant1

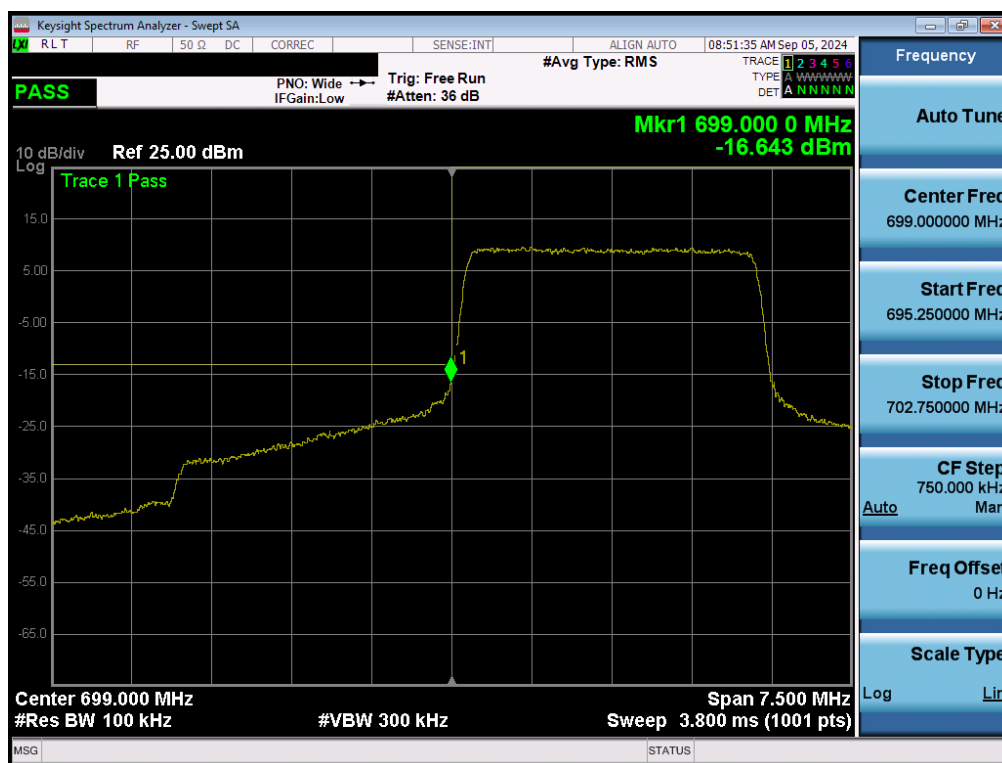
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 90 of 144

Mode	Bandwidth	Channel	Test Case	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 66/4	20MHz	Low	Band Edge	-27.41	-13	-14.41
		Low	Extended	-23.14	-13	-10.14
		High (B4)	Band Edge	-26.32	-13	-13.32
		High (B4)	Extended	-24.28	-13	-11.28
		High (B66)	Band Edge	-26.63	-13	-13.63
		High (B66)	Extended	-24.25	-13	-11.25
	15MHz	Low	Band Edge	-24.99	-13	-11.99
		Low	Extended	-21.31	-13	-8.31
		High (B4)	Band Edge	-25.30	-13	-12.30
		High (B4)	Extended	-22.35	-13	-9.35
		High (B66)	Band Edge	-25.76	-13	-12.76
		High (B66)	Extended	-22.57	-13	-9.57
	10MHz	Low	Band Edge	-25.48	-13	-12.48
		Low	Extended	-20.51	-13	-7.51
		High (B4)	Band Edge	-21.37	-13	-8.37
		High (B4)	Extended	-20.01	-13	-7.01
		High (B66)	Band Edge	-24.00	-13	-11.00
		High (B66)	Extended	-20.20	-13	-7.20
	5MHz	Low	Band Edge	-19.94	-13	-6.94
		Low	Extended	-23.06	-13	-10.06
		High (B4)	Band Edge	-21.40	-13	-8.40
		High (B4)	Extended	-26.28	-13	-13.28
		High (B66)	Band Edge	-22.12	-13	-9.12
		High (B66)	Extended	-26.58	-13	-13.58
	3MHz	Low	Band Edge	-18.51	-13	-5.51
		Low	Extended	-24.48	-13	-11.48
		High (B4)	Band Edge	-19.35	-13	-6.35
		High (B4)	Extended	-22.84	-13	-9.84
		High (B66)	Band Edge	-21.66	-13	-8.66
		High (B66)	Extended	-24.77	-13	-11.77
	1.4MHz	Low	Band Edge	-21.15	-13	-8.15
		Low	Extended	-32.13	-13	-19.13
		High (B4)	Band Edge	-20.17	-13	-7.17
		High (B4)	Extended	-27.21	-13	-14.21
		High (B66)	Band Edge	-19.60	-13	-6.60
		High (B66)	Extended	-30.61	-13	-17.61

Table 7-19. Conducted Band Edge Results – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 91 of 144

LTE Band 12 – ANT1



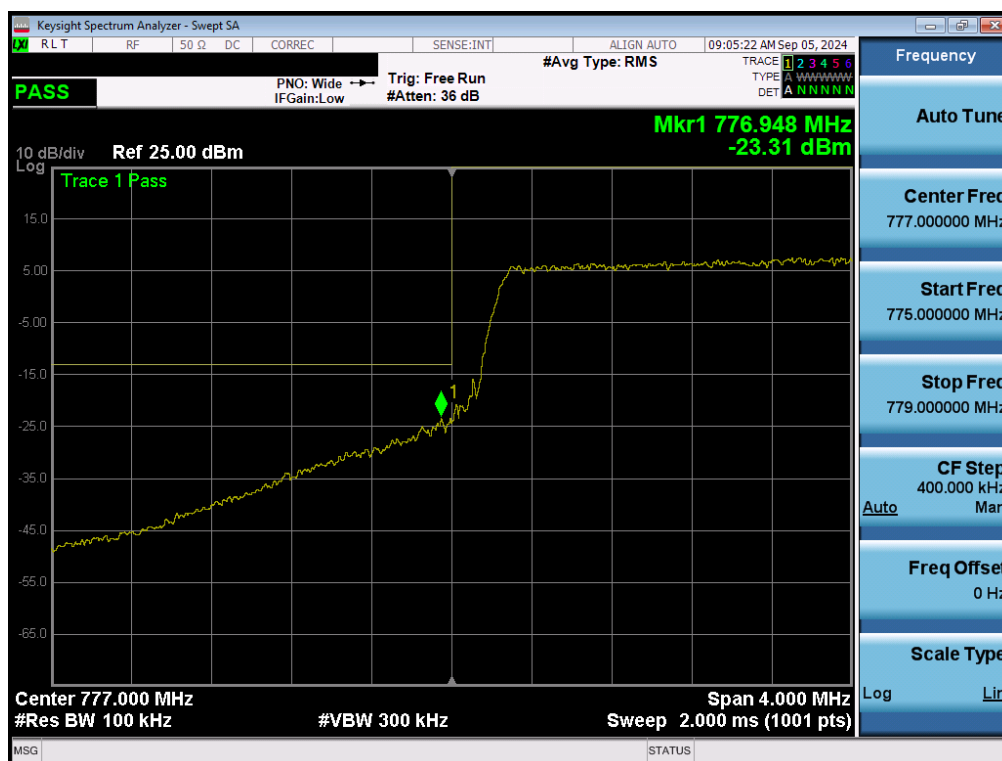
Plot 7-114. Lower Band Edge Plot (LTE Band 12 – 3MHz QPSK – Full RB - ANT1)



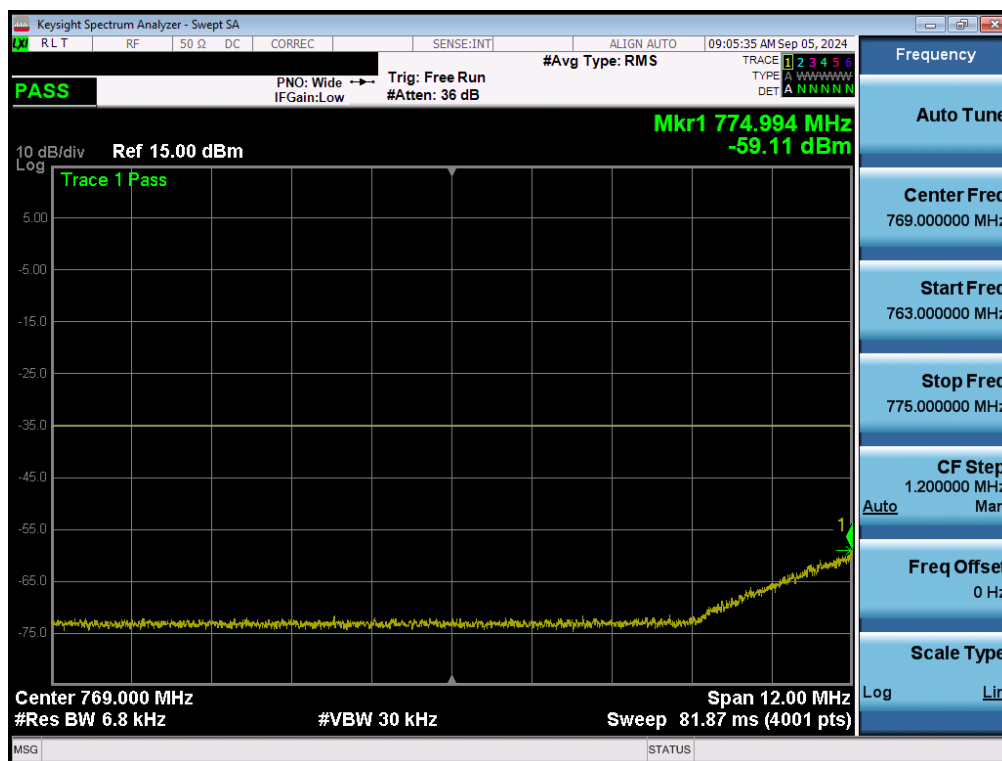
Plot 7-115. Upper Band Edge Plot (LTE Band 12 – 3MHz QPSK – Full RB - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 92 of 144

LTE Band 13 – ANT1



Plot 7-116. Lower Band Edge Plot (LTE Band 13 - 5MHz QPSK – Full RB - ANT1)



Plot 7-117. Lower Emission Mask Plot (LTE Band 13 - 5MHz QPSK – Full RB - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 93 of 144



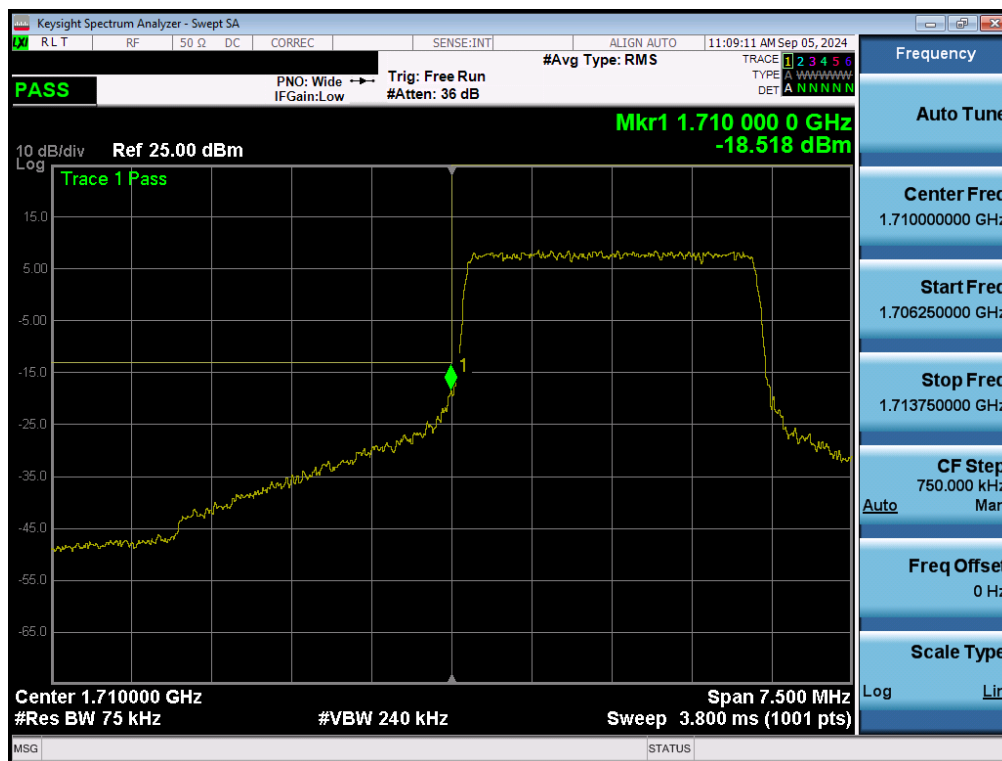
Plot 7-118. Upper Band Edge Plot (LTE Band 13 - 5MHz QPSK - Full RB - ANT1)



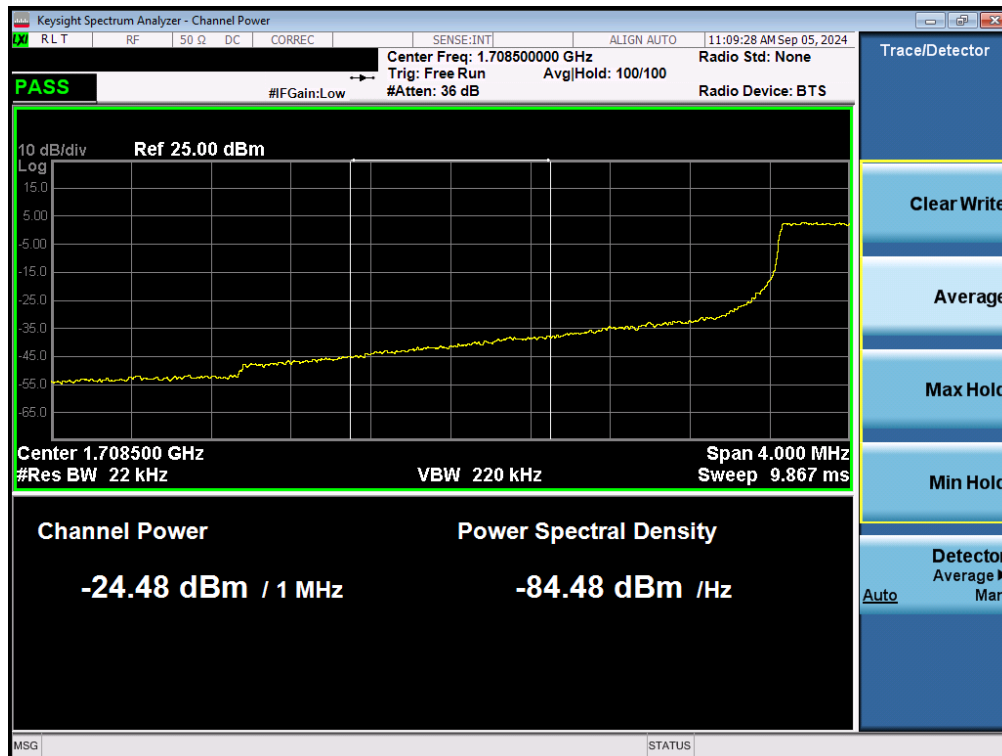
Plot 7-119. Upper Emission Mask Plot (LTE Band 13 - 5MHz QPSK - Full RB - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 94 of 144

LTE Band 66/4 – ANT1



Plot 7-120. Lower Band Edge Plot (LTE Band 66/4 - 3MHz QPSK – Full RB - ANT1)

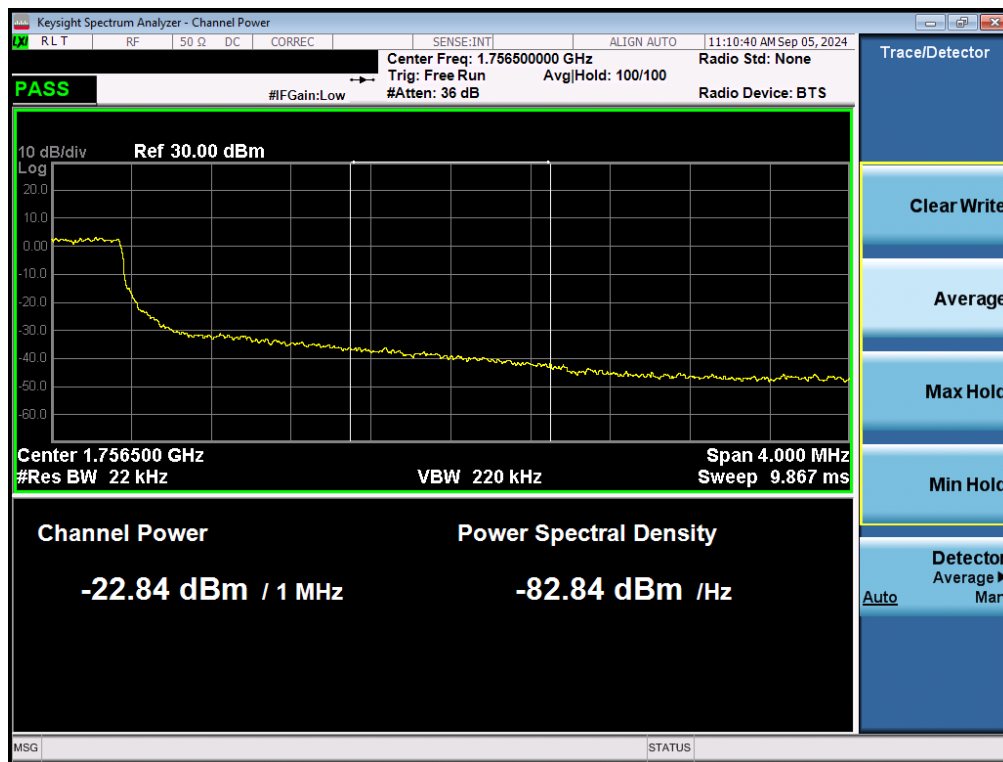


Plot 7-121. Lower Extended Band Edge Plot (LTE Band 66/4 - 3MHz QPSK – Full RB - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 95 of 144



Plot 7-122. Upper Band Edge Plot (LTE Band 4 - 3MHz QPSK – Full RB - ANT1)

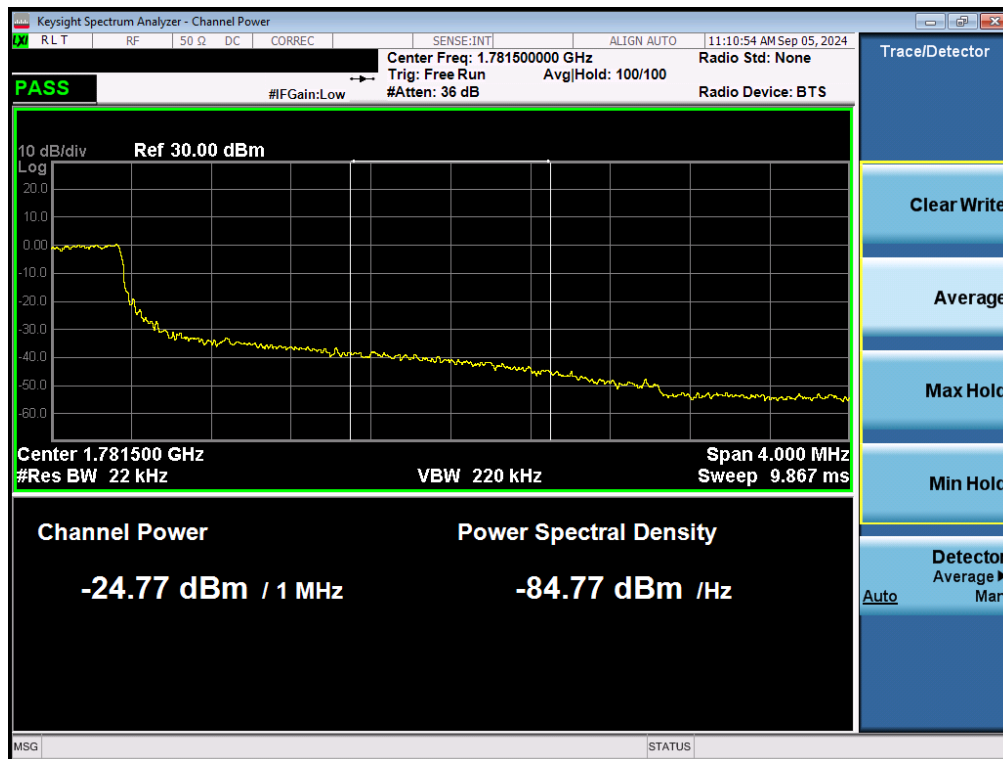


Plot 7-123. Upper Extended Band Edge Plot (LTE Band 4 - 3MHz QPSK – Full RB - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 96 of 144



Plot 7-124. Upper Band Edge Plot (LTE Band 66 - 3MHz QPSK – Full RB - ANT1)



Plot 7-125. Upper Extended Band Edge Plot (LTE Band 66 - 3MHz QPSK – Full RB - ANT1)

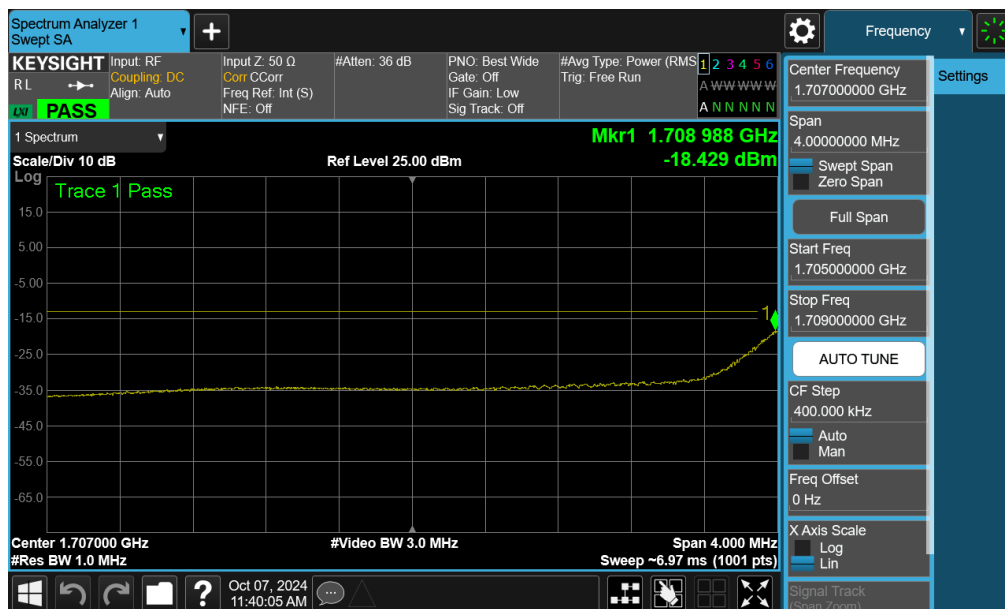
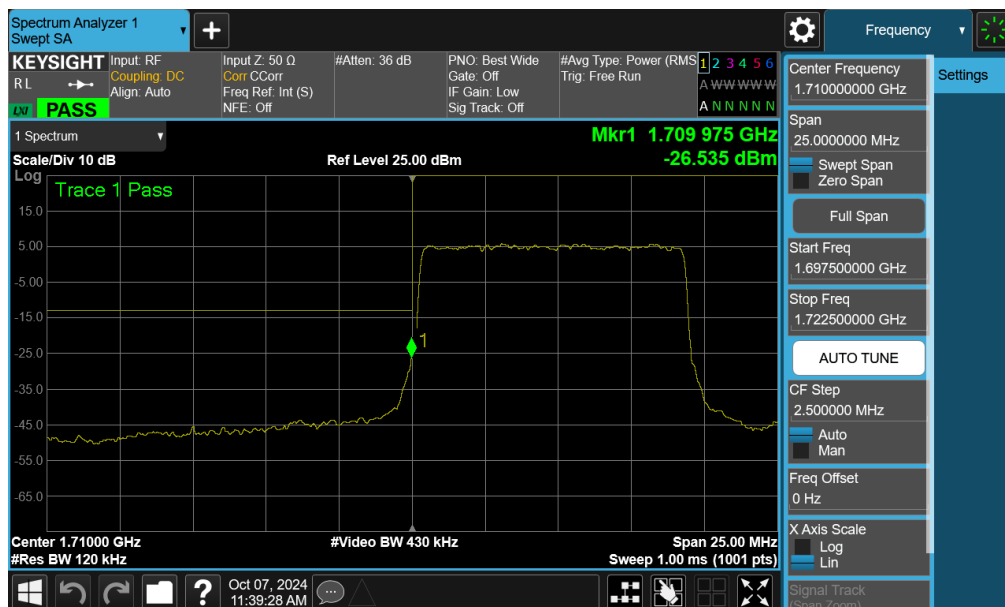
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 97 of 144

Mode	Bandwidth	Channel	Test Case	Level [dBm]	Limit [dBm]	Margin [dB]
NR Band n66	45 MHz	Low	Band Edge	-28.48	-13	-15.48
		Low	Extended	-32.84	-13	-19.84
		High	Band Edge	-28.97	-13	-15.97
		High	Extended	-31.06	-13	-18.06
	40 MHz	Low	Band Edge	-27.54	-13	-14.54
		Low	Extended	-31.33	-13	-18.33
		High	Band Edge	-24.14	-13	-11.14
		High	Extended	-30.47	-13	-17.47
	35 MHz	Low	Band Edge	-30.16	-13	-17.16
		Low	Extended	-29.09	-13	-16.09
		High	Band Edge	-29.53	-13	-16.53
		High	Extended	-28.87	-13	-15.87
	30 MHz	Low	Band Edge	-26.72	-13	-13.72
		Low	Extended	-27.53	-13	-14.53
		High	Band Edge	-27.67	-13	-14.67
		High	Extended	-28.13	-13	-15.13
	25 MHz	Low	Band Edge	-31.08	-13	-18.08
		Low	Extended	-26.98	-13	-13.98
		High	Band Edge	-32.29	-13	-19.29
		High	Extended	-27.66	-13	-14.66
	20 MHz	Low	Band Edge	-28.90	-13	-15.90
		Low	Extended	-25.72	-13	-12.72
		High	Band Edge	-29.33	-13	-16.33
		High	Extended	-27.85	-13	-14.85
	15 MHz	Low	Band Edge	-29.90	-13	-16.90
		Low	Extended	-24.12	-13	-11.12
		High	Band Edge	-28.71	-13	-15.71
		High	Extended	-23.70	-13	-10.70
	10 MHz	Low	Band Edge	-26.54	-13	-13.54
		Low	Extended	-18.43	-13	-5.43
		High	Band Edge	-27.95	-13	-14.95
		High	Extended	-19.74	-13	-6.74
	5 MHz	Low	Band Edge	-24.80	-13	-11.80
		Low	Extended	-32.29	-13	-19.29
		High	Band Edge	-22.54	-13	-9.54
		High	Extended	-30.05	-13	-17.05

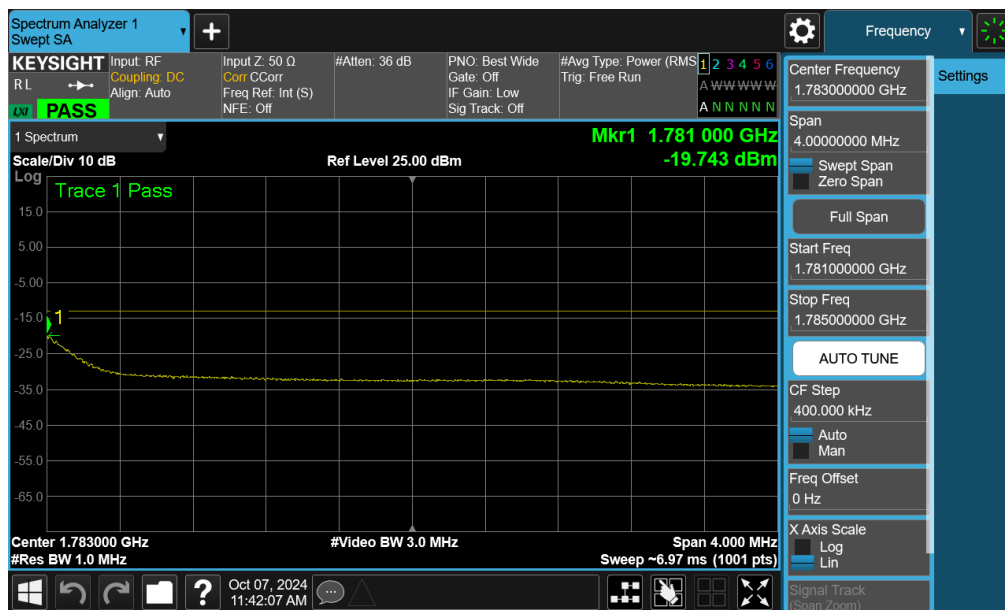
Table 7-20. Conducted Band Edge Results – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 98 of 144

NR Band n66 – ANT1



FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 99 of 144



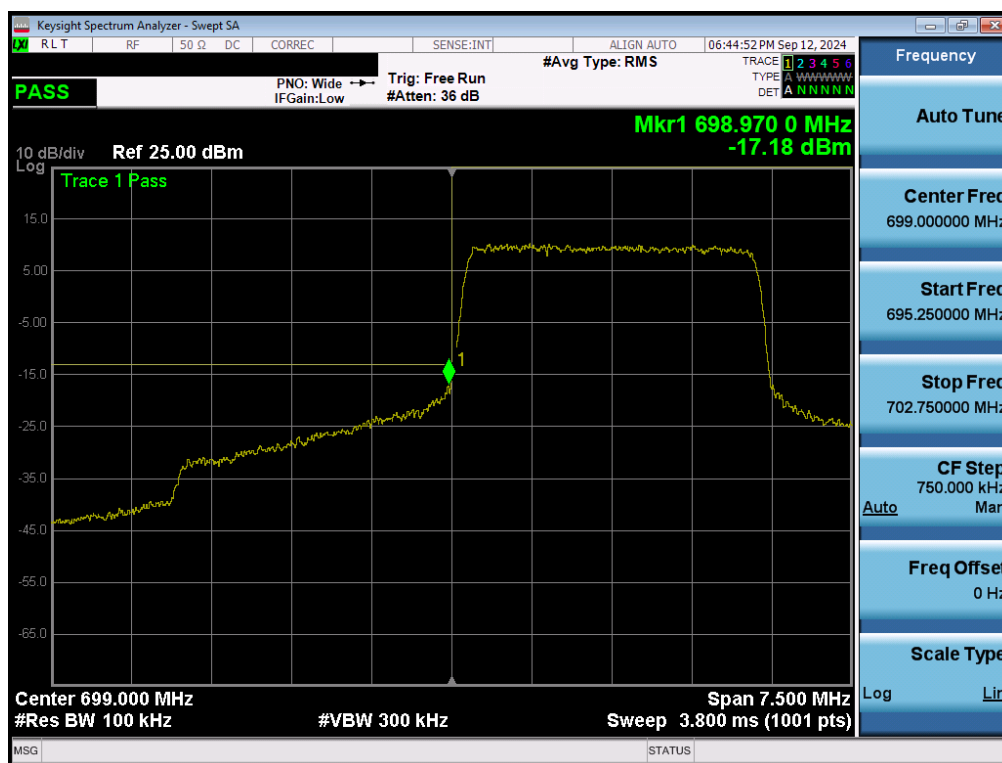
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 100 of 144

Mode	Bandwidth	Channel	Test Case	Level [dBm]	Limit [dBm]	Margin [dB]
LTE Band 12	10 MHz	Low	Band Edge	-26.02	-13	-13.02
		High	Band Edge	-27.32	-13	-14.32
	5 MHz	Low	Band Edge	-20.77	-13	-7.77
		High	Band Edge	-22.62	-13	-9.62
	3 MHz	Low	Band Edge	-17.18	-13	-4.18
		High	Band Edge	-18.16	-13	-5.16
	1.4 MHz	Low	Band Edge	-23.88	-13	-10.88
		High	Band Edge	-25.11	-13	-12.11
LTE Band 13	10 MHz	Low	Band Edge	-28.47	-13	-15.47
		Low	Emission Mask	-63.94	-13	-50.94
		High	Band Edge	-25.60	-13	-12.60
		High	Emission Mask	-45.12	-13	-32.12
	5 MHz	Low	Band Edge	-21.11	-13	-8.11
		Low	Emission Mask	-60.14	-13	-47.14
		High	Band Edge	-20.11	-13	-7.11
		High	EmMask	-54.39	-13	-41.39

Table 7-21. Conducted Band Edge Results – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 101 of 144

LTE Band 12 – ANT2



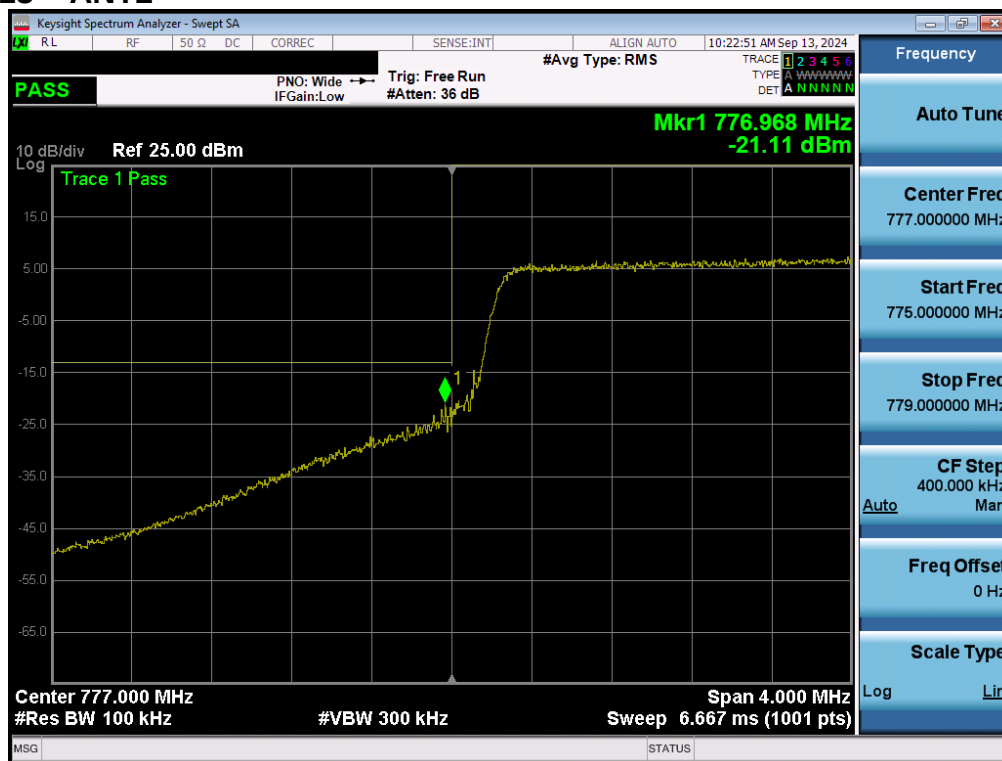
Plot 7-130. Lower Band Edge Plot (LTE Band 12 – 3MHz QPSK – Full RB - ANT2)



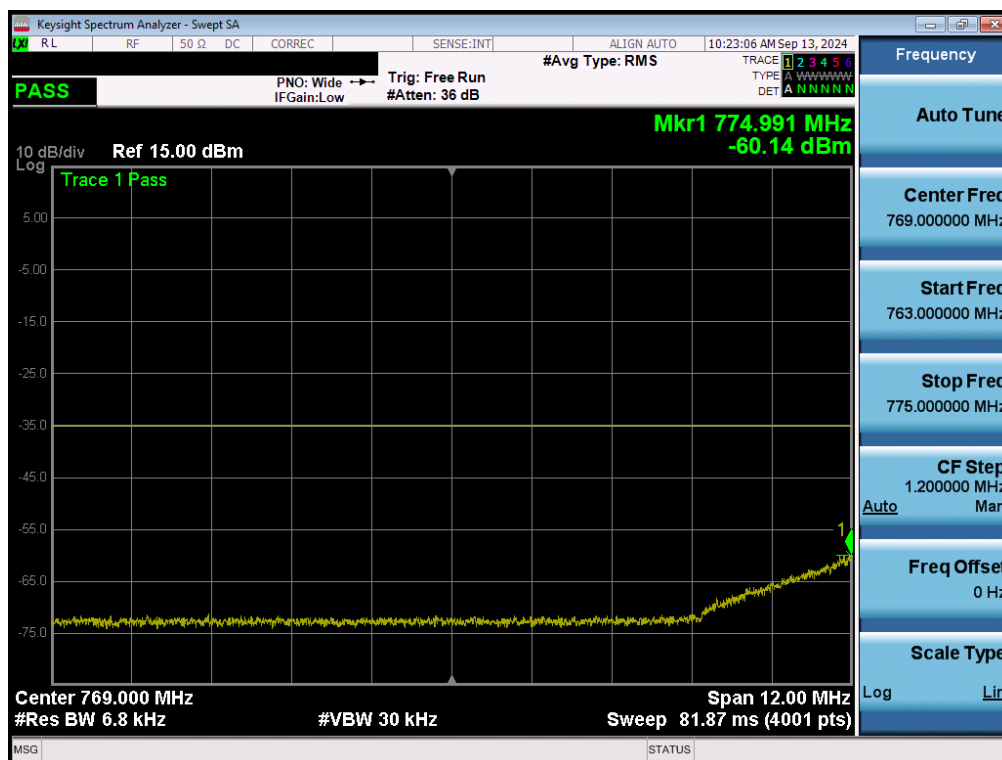
Plot 7-131. Upper Band Edge Plot (LTE Band 12 – 3MHz QPSK – Full RB - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 102 of 144

LTE Band 13 – ANT2

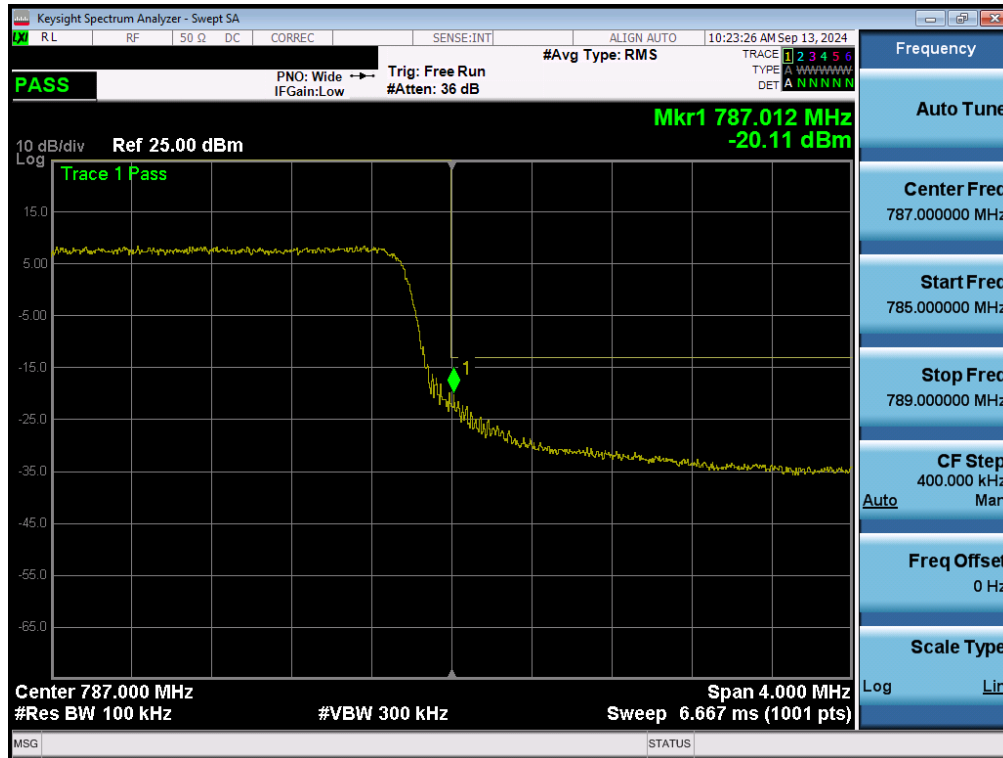


Plot 7-132. Lower Band Edge Plot (LTE Band 13 - 5MHz QPSK – Full RB - ANT2)

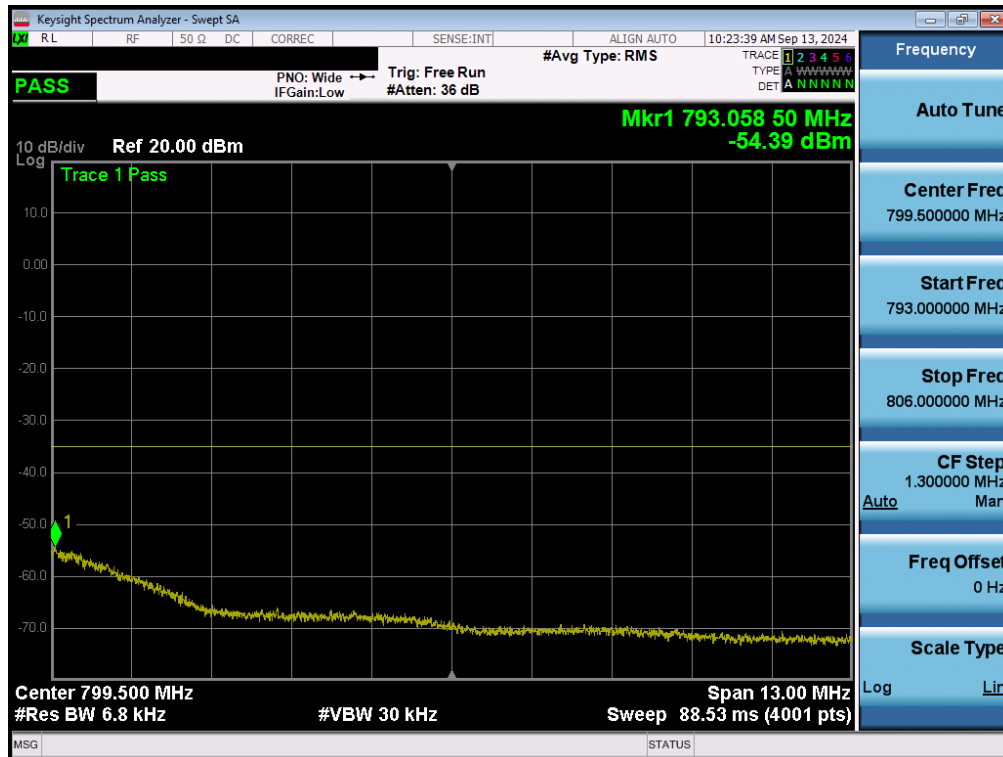


Plot 7-133. Lower Emission Mask Plot (LTE Band 13 - 5MHz QPSK – Full RB - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 103 of 144



Plot 7-134. Upper Band Edge Plot (LTE Band 13 - 5MHz QPSK – Full RB - ANT2)



Plot 7-135. Upper Emission Mask Plot (LTE Band 13 - 5MHz QPSK – Full RB - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 104 of 144

Mode	Bandwidth	Channel	Test Case	Level [dBm]	Limit [dBm]	Margin [dB]
NR Band n66	45 MHz	Low	Band Edge	-24.36	-13	-11.36
		Low	Extended	-22.30	-13	-9.30
		High	Band Edge	-28.09	-13	-15.09
		High	Extended	-25.89	-13	-12.89
	40 MHz	Low	Band Edge	-22.43	-13	-9.43
		Low	Extended	-20.11	-13	-7.11
		High	Band Edge	-21.32	-13	-8.32
		High	Extended	-22.13	-13	-9.13
	30 MHz	Low	Band Edge	-27.41	-13	-14.41
		Low	Extended	-25.41	-13	-12.41
		High	Band Edge	-27.95	-13	-14.95
		High	Extended	-24.41	-13	-11.41
	30 MHz	Low	Band Edge	-24.24	-13	-11.24
		Low	Extended	-23.66	-13	-10.66
		High	Band Edge	-24.50	-13	-11.50
		High	Extended	-25.16	-13	-12.16
	25 MHz	Low	Band Edge	-26.07	-13	-13.07
		Low	Extended	-26.07	-13	-13.07
		High	Band Edge	-29.67	-13	-16.67
		High	Extended	-29.67	-13	-16.67
	20 MHz	Low	Band Edge	-24.69	-13	-11.69
		Low	Extended	-20.08	-13	-7.08
		High	Band Edge	-28.06	-13	-15.06
		High	Extended	-25.29	-13	-12.29
	15 MHz	Low	Band Edge	-25.46	-13	-12.46
		Low	Extended	-18.30	-13	-5.30
		High	Band Edge	-27.04	-13	-14.04
		High	Extended	-22.71	-13	-9.71
	10 MHz	Low	Band Edge	-23.10	-13	-10.10
		Low	Extended	-16.57	-13	-3.57
		High	Band Edge	-28.03	-13	-15.03
		High	Extended	-18.88	-13	-5.88
	5 MHz	Low	Band Edge	-21.79	-13	-8.79
		Low	Extended	-15.46	-13	-2.46
		High	Band Edge	-23.78	-13	-10.78
		High	Extended	-26.00	-13	-13.00

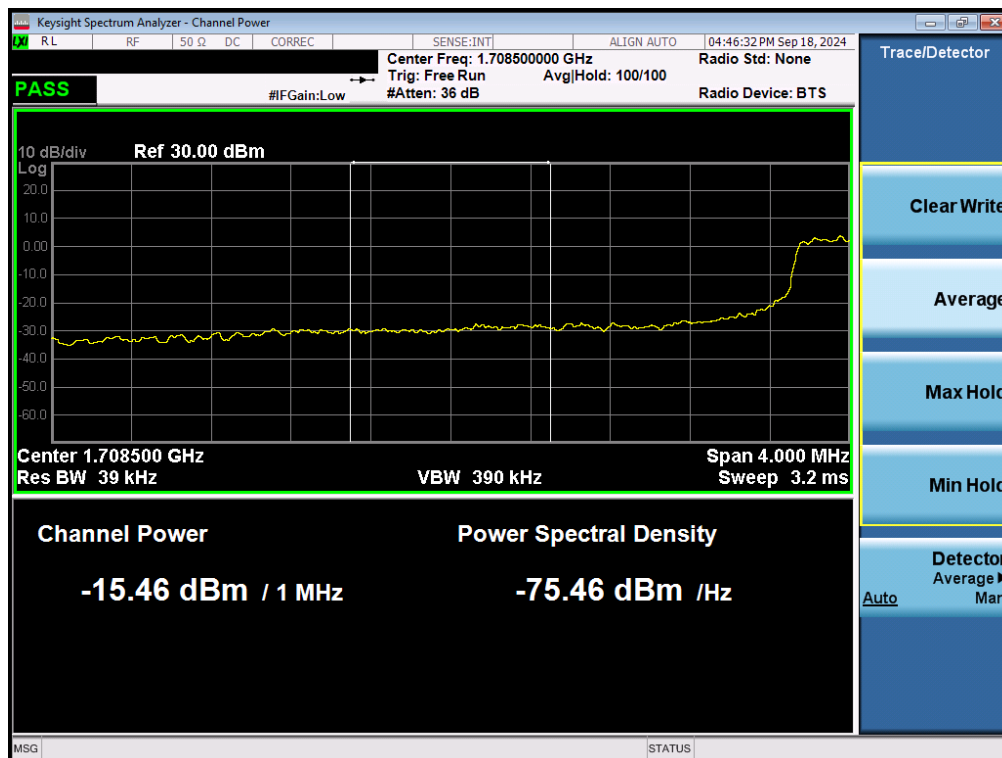
Table 7-22. Conducted Band Edge Results – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 105 of 144

NR Band n66 – ANT2



Plot 7-136. Lower Band Edge Plot (NR Band n66 – 5MHz - Full RB - ANT2)

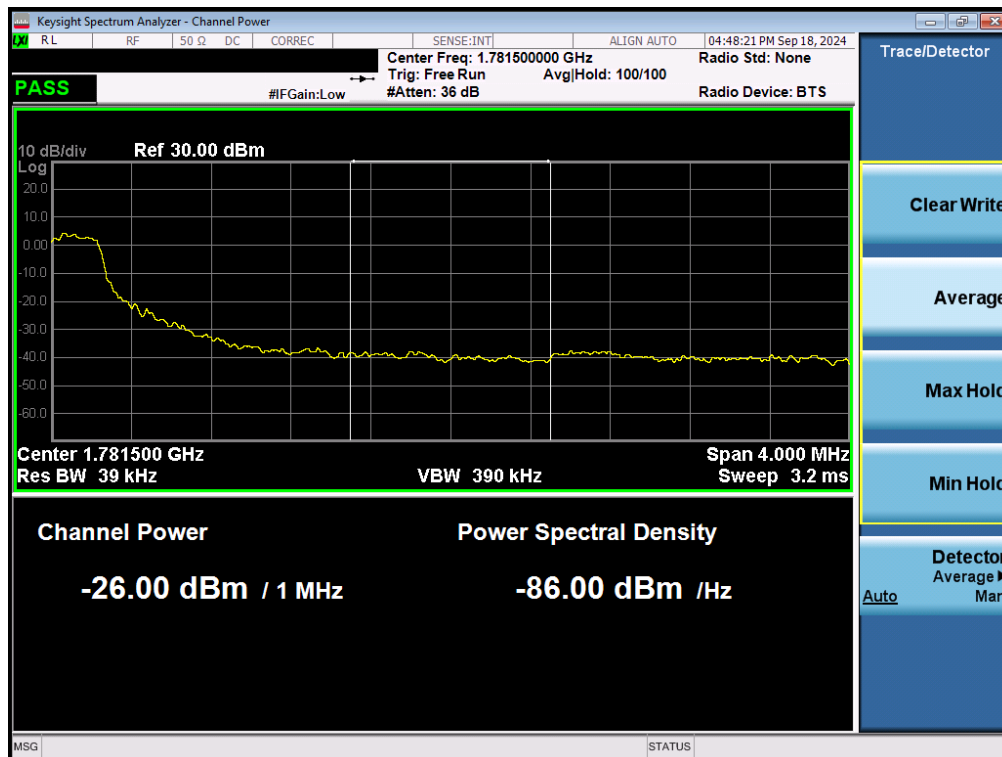


Plot 7-137. Lower Extended Band Edge Plot (NR Band n66 – 5MHz - Full RB - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 106 of 144



Plot 7-138. Upper Band Edge Plot (NR Band n66 – 5MHz - Full RB - ANT2)



Plot 7-139. Upper Extended Band Edge Plot (NR Band n66 – 5MHz - Full RB - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 107 of 144

7.6 Peak-Average Ratio

Test Overview

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

Test Procedure Used

ANSI C63.26-2015 – Section 5.2.3.4

Test Settings

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW $\geq$ OBW or specified reference bandwidth
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Test Setup

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

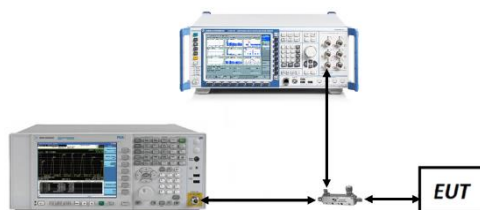


Figure 7-5. Test Instrument & Measurement Setup

Test Notes

For the QAM modulations, 256QAM was found to have the worst-case peak-to-average ratio so it is the only QAM measurement included in this section.

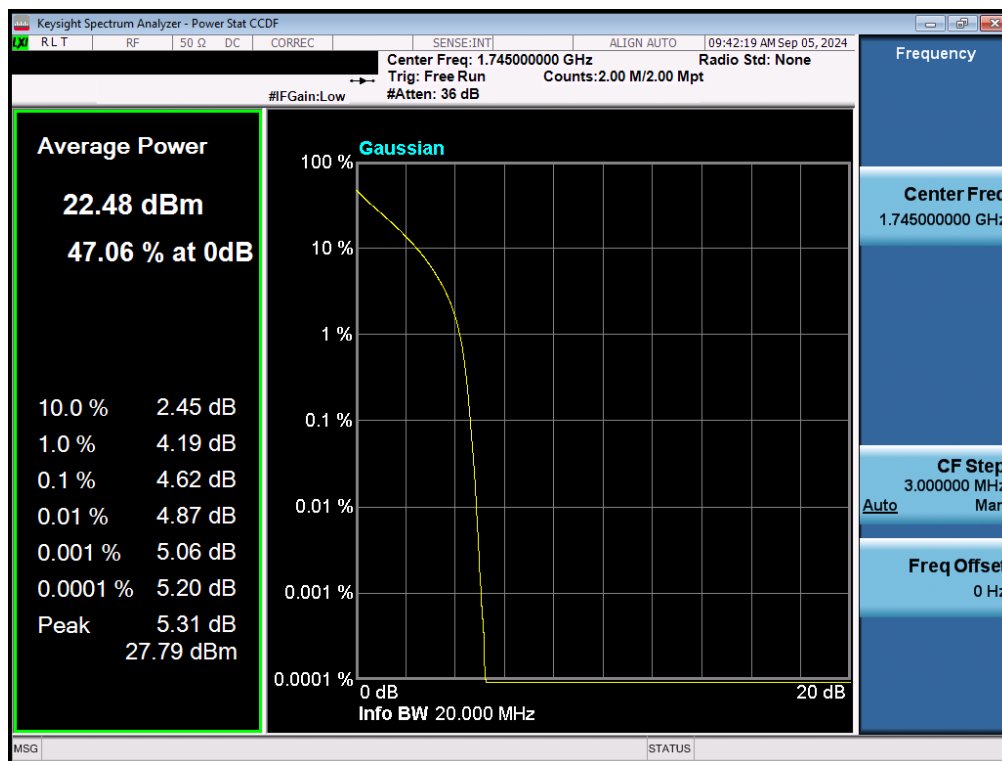
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 108 of 144

Mode	Bandwidth	Modulation	Average Power [dBm]	PAR at 0.1% [dB]	PAR Limit [dB]	Margin [dB]
LTE-B66-4	20MHz	QPSK	22.48	4.62	13	-8.38
		256QAM	18.47	6.72	13	-6.28
	15MHz	QPSK	22.74	4.58	13	-8.42
		256QAM	18.83	6.66	13	-6.34
	10MHz	QPSK	22.86	4.67	13	-8.33
		256QAM	18.90	6.74	13	-6.26
	5MHz	QPSK	22.90	4.79	13	-8.21
		256QAM	18.96	6.70	13	-6.30
	3MHz	QPSK	22.86	4.76	13	-8.24
		256QAM	18.94	6.76	13	-6.24
	1.4MHz	QPSK	22.78	4.67	13	-8.33
		256QAM	18.87	6.77	13	-6.23
NR-n66	45MHz	$\pi/2$ BPSK	22.93	4.14	13	-8.86
		QPSK	20.32	6.81	13	-6.19
		256QAM	16.77	8.27	13	-4.73
	40MHz	$\pi/2$ BPSK	22.69	4.03	13	-8.97
		QPSK	20.23	6.54	13	-6.46
		256QAM	16.73	8.32	13	-4.68
	35MHz	$\pi/2$ BPSK	22.74	4.12	13	-8.88
		QPSK	20.12	6.69	13	-6.31
		256QAM	16.63	8.42	13	-4.58
	30MHz	$\pi/2$ BPSK	23.43	3.94	13	-9.06
		QPSK	20.69	6.55	13	-6.45
		256QAM	17.20	8.37	13	-4.63
	25MHz	$\pi/2$ BPSK	23.25	4.00	13	-9.00
		QPSK	20.75	6.73	13	-6.27
		256QAM	17.21	8.51	13	-4.49
	20MHz	$\pi/2$ BPSK	23.28	3.79	13	-9.21
		QPSK	20.71	6.48	13	-6.52
		256QAM	17.15	8.45	13	-4.55
	15MHz	$\pi/2$ BPSK	23.31	3.90	13	-9.10
		QPSK	20.61	6.56	13	-6.44
		256QAM	17.05	8.48	13	-4.52
	10MHz	$\pi/2$ BPSK	23.28	3.88	13	-9.12
		QPSK	20.63	6.65	13	-6.35
		256QAM	17.13	8.53	13	-4.47
	5MHz	$\pi/2$ BPSK	23.26	3.82	13	-9.18
		QPSK	20.72	6.62	13	-6.38
		256QAM	17.16	8.45	13	-4.55

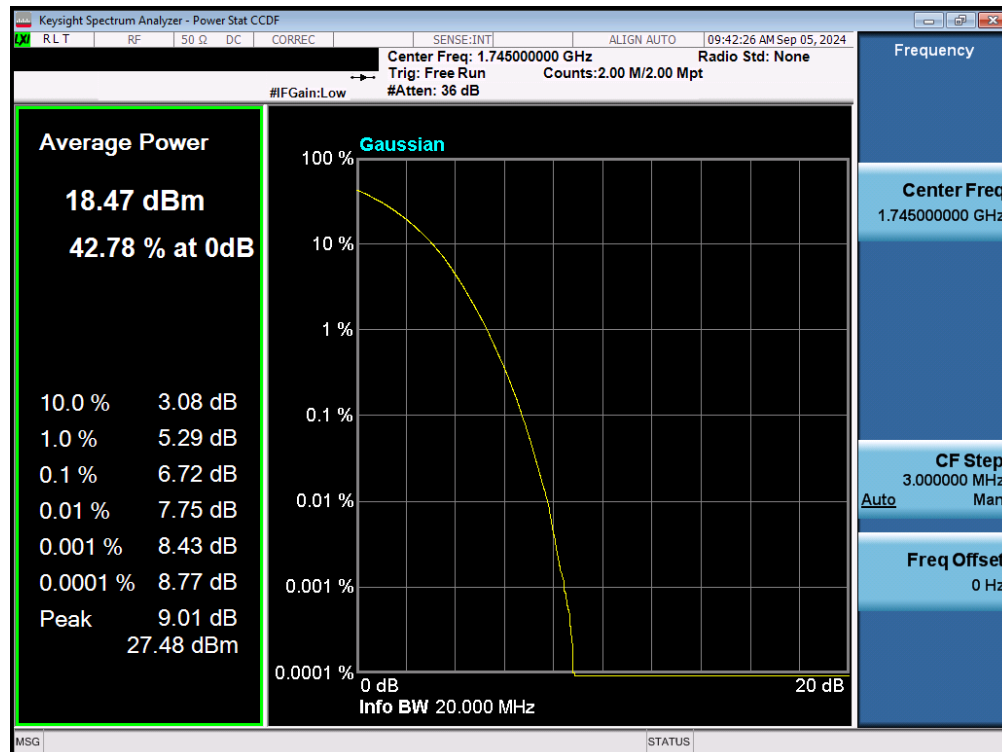
Table 7-23. Peak-Average Ratio Results – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 109 of 144

LTE Band 66/4 – ANT1



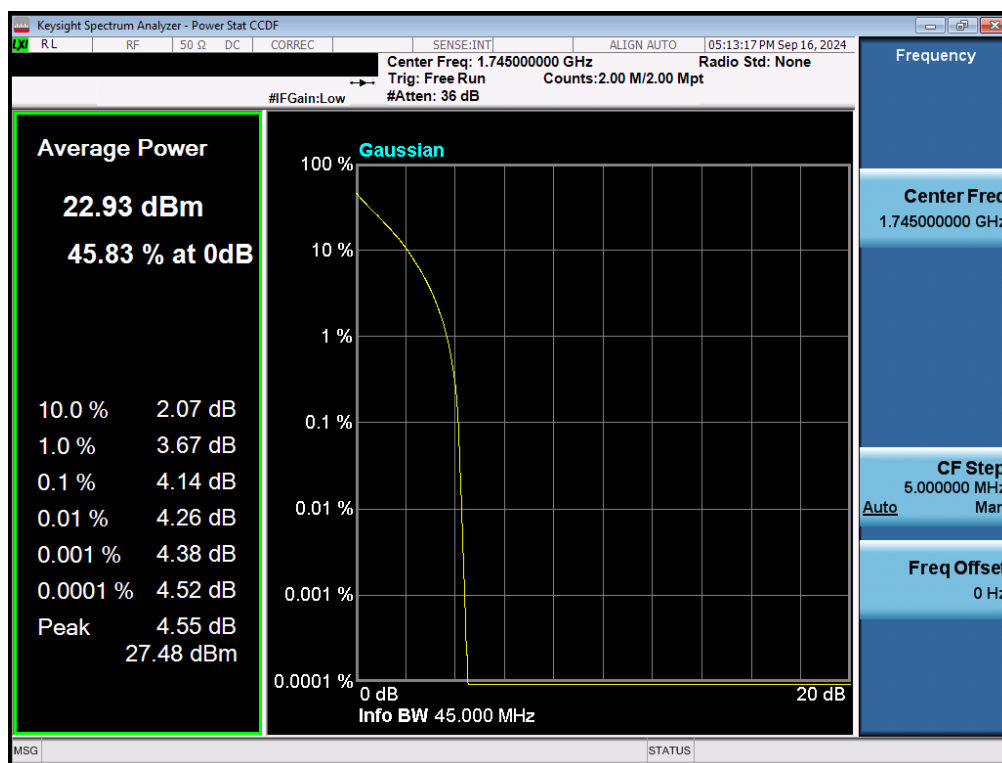
Plot 7-140. PAR Plot (LTE Band 66/4 - 20MHz QPSK - Full RB - ANT1)



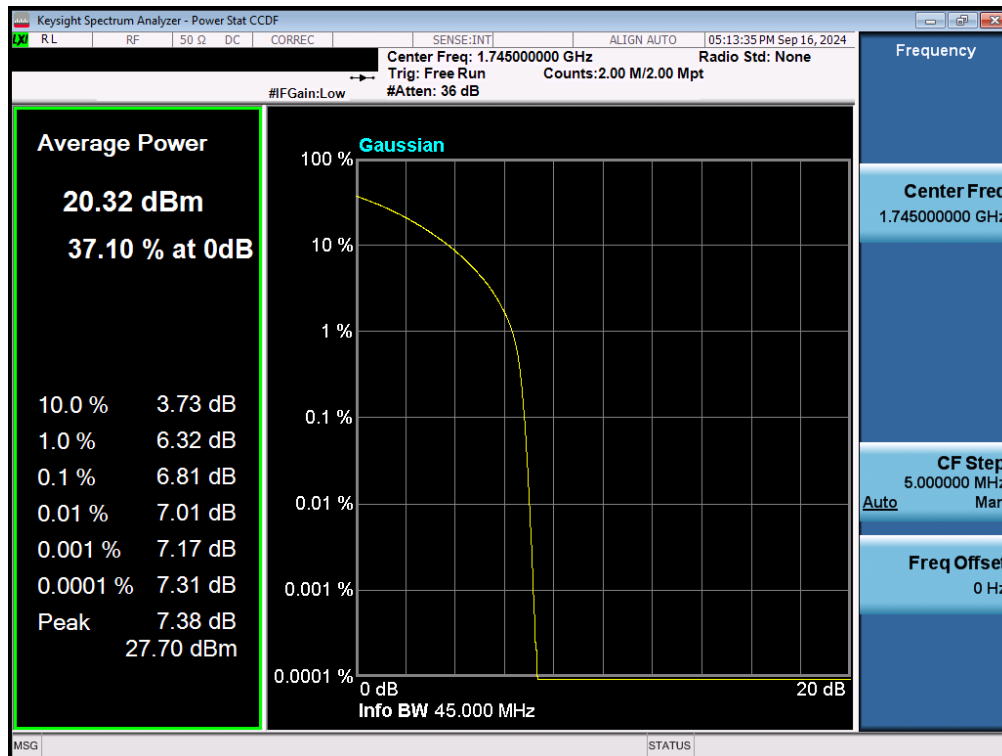
Plot 7-141. PAR Plot (LTE Band 66/4 - 20MHz 256-QAM - Full RB - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 110 of 144

NR Band n66 – ANT1

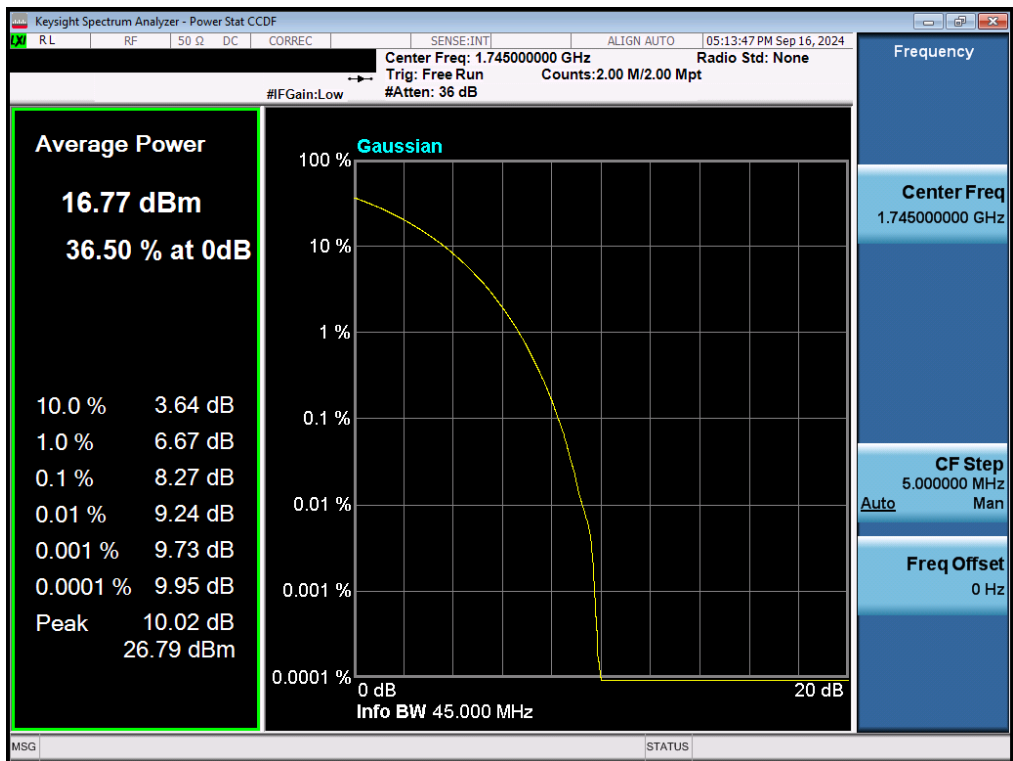


Plot 7-142. PAR Plot (NR Band n66 - 45.0MHz DFT-s-OFDM $\pi/2$ BPSK- Full RB - ANT1)



Plot 7-143. PAR Plot (NR Band n66 - 45.0MHz CP-OFDM QPSK - Full RB - ANT1)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 111 of 144



Plot 7-144. PAR Plot (NR Band n66 - 45.0MHz CP-OFDM 256-QAM - Full RB - ANT1)

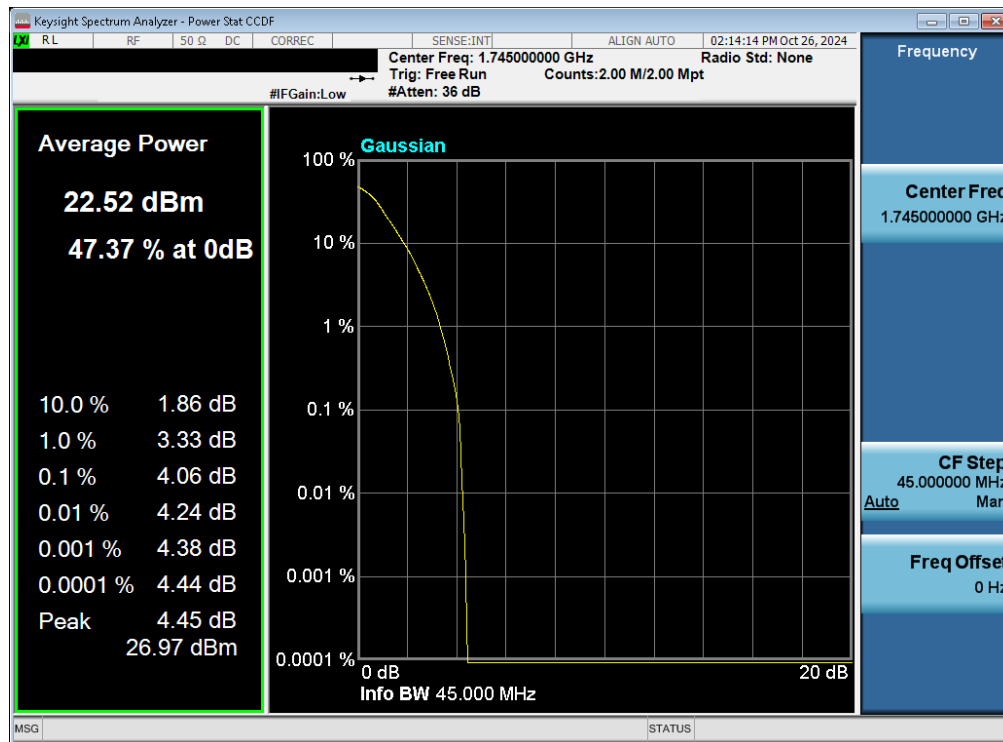
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 112 of 144

Mode	Bandwidth	Modulation	Average Power [dBm]	PAR at 0.1% [dB]	PAR Limit [dB]	Margin [dB]
NR-n66	45MHz	$\pi/2$ BPSK	22.52	4.06	13	-8.94
		QPSK	19.97	6.98	13	-6.02
		256QAM	16.44	8.32	13	-4.68
	40MHz	$\pi/2$ BPSK	22.43	3.80	13	-9.20
		QPSK	19.90	7.03	13	-5.97
		256QAM	16.36	8.35	13	-4.65
	35MHz	$\pi/2$ BPSK	22.39	3.98	13	-9.02
		QPSK	20.40	6.52	13	-6.48
		256QAM	16.96	8.31	13	-4.69
	30MHz	$\pi/2$ BPSK	22.94	3.70	13	-9.30
		QPSK	20.40	6.52	13	-6.48
		256QAM	16.96	8.31	13	-4.69
	20MHz	$\pi/2$ BPSK	23.09	3.59	13	-9.41
		QPSK	20.51	6.53	13	-6.47
		256QAM	16.93	8.26	13	-4.74
	15MHz	$\pi/2$ BPSK	22.98	3.51	13	-9.49
		QPSK	20.52	6.57	13	-6.43
		256QAM	16.90	8.25	13	-4.75
	10MHz	$\pi/2$ BPSK	22.84	3.60	13	-9.40
		QPSK	20.51	6.59	13	-6.41
		256QAM	16.89	8.41	13	-4.59
	5MHz	$\pi/2$ BPSK	22.95	3.59	13	-9.41
		QPSK	20.54	6.54	13	-6.46
		256QAM	16.95	8.25	13	-4.75

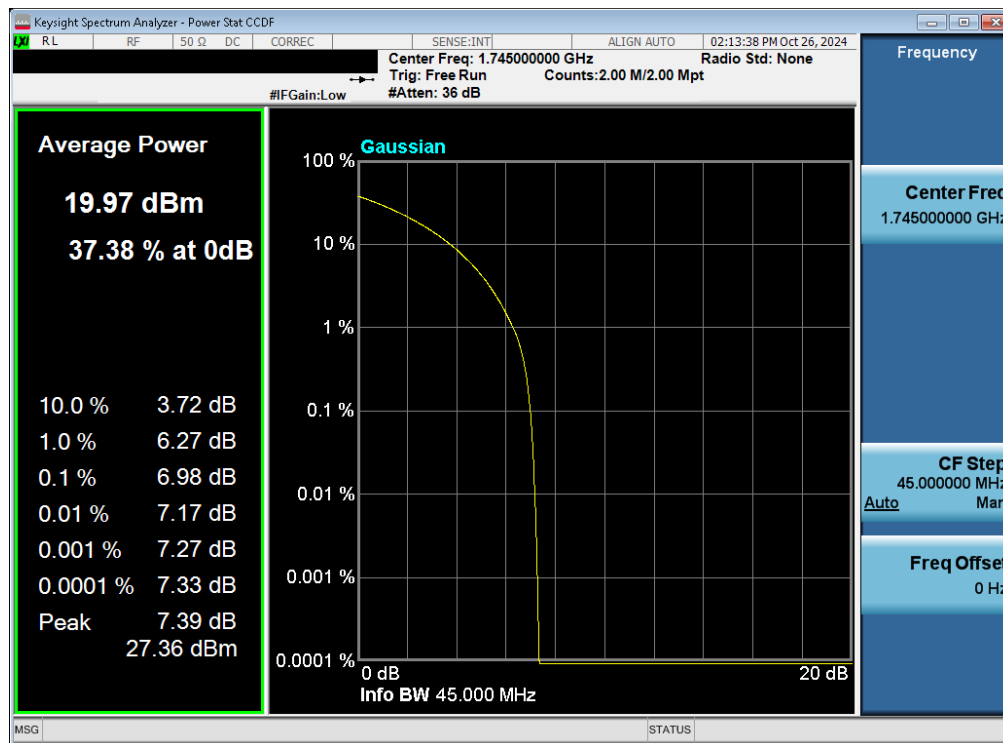
Table 7-24. Peak-Average Ratio Results – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 113 of 144

NR Band n66 – ANT2

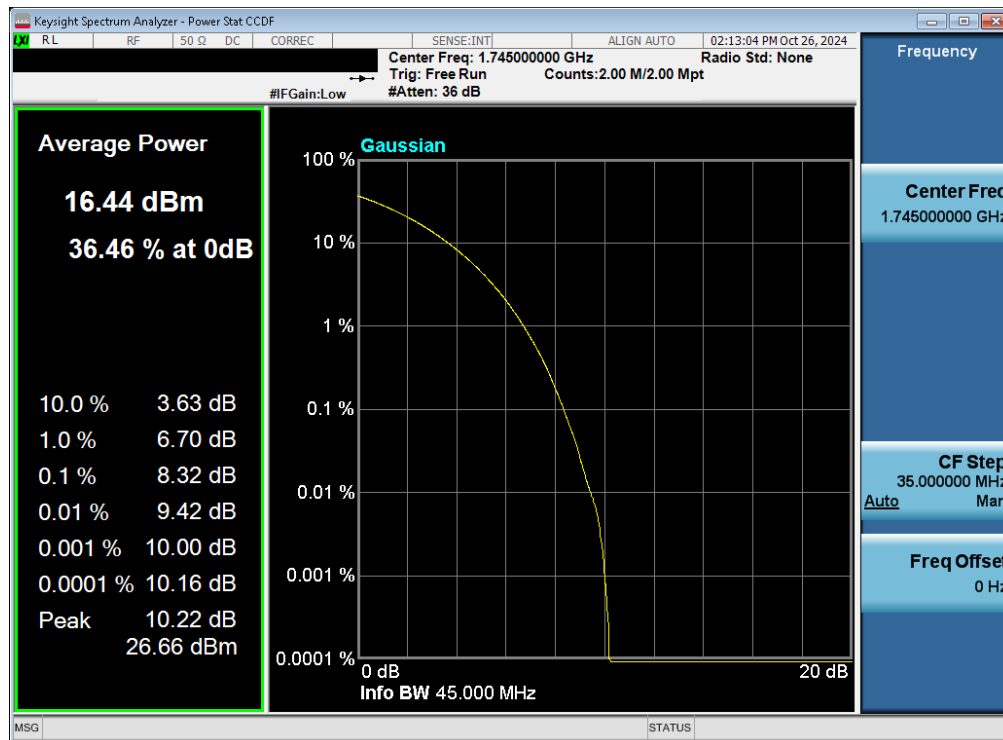


Plot 7-145. PAR Plot (NR Band n66 - 45.0MHz DFT-s-OFDM $\pi/2$ BPSK- Full RB - ANT2)



Plot 7-146. PAR Plot (NR Band n66 - 45.0MHz CP-OFDM QPSK - Full RB - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 114 of 144



Plot 7-147. PAR Plot (NR Band n66 - 45.0MHz CP-OFDM 256-QAM - Full RB - ANT2)

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 115 of 144

7.7 Radiated Power (ERP/EIRP)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements 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

ANSI C63.26-2015 – Section 5.2.4.4

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $\geq 2 \times$ span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 116 of 144

Test Setup

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

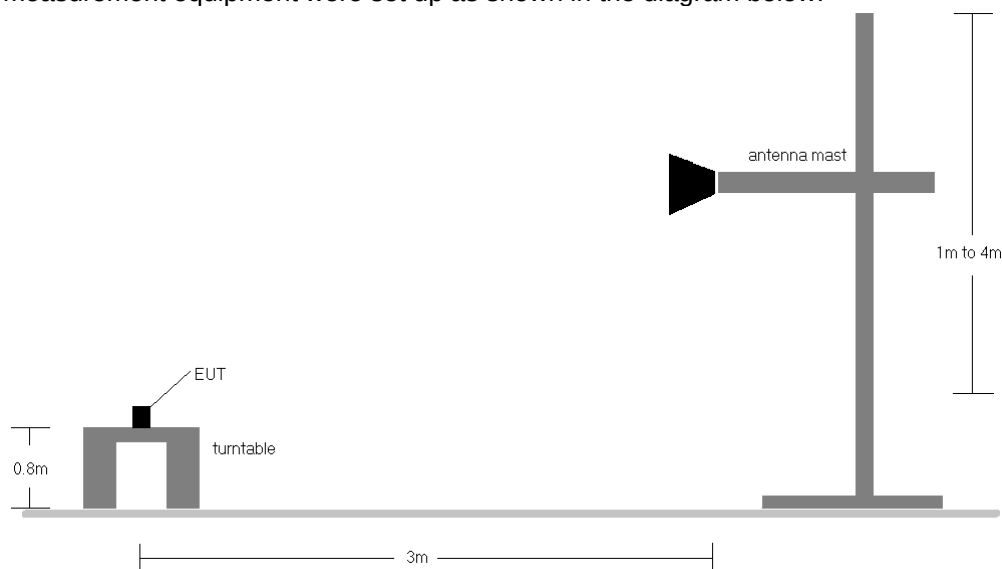


Figure 7-6. Radiated Test Setup <1GHz

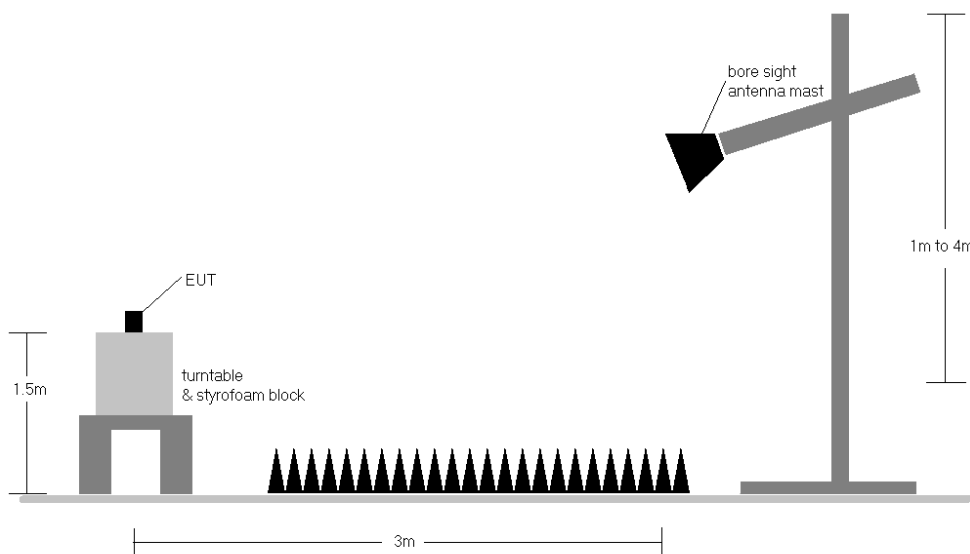


Figure 7-7. Radiated Test Setup >1GHz

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) 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.

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 117 of 144



- 3) This unit was tested with its standard battery.
- 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: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 118 of 144

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	704.00	V	152	312	1.12	1 / 49	20.90	19.87	0.097	34.77	-14.90
	QPSK	707.50	V	153	317	1.14	1 / 49	20.93	19.92	0.098	34.77	-14.85
	QPSK	711.00	V	153	313	1.17	1 / 49	20.70	19.72	0.094	34.77	-15.05
	16-QAM	707.50	V	153	317	1.14	1 / 49	20.20	19.19	0.083	34.77	-15.58
5 MHz	QPSK	701.50	V	152	312	1.10	1 / 12	21.06	20.01	0.100	34.77	-14.77
	QPSK	707.50	V	153	317	1.14	1 / 12	21.13	20.13	0.103	34.77	-14.65
	QPSK	713.50	V	153	313	1.19	1 / 12	20.64	19.68	0.093	34.77	-15.09
	16-QAM	707.50	V	153	317	1.14	1 / 24	20.17	19.16	0.082	34.77	-15.61
3 MHz	QPSK	700.50	V	152	312	1.09	1 / 7	20.93	19.87	0.097	34.77	-14.90
	QPSK	707.50	V	153	317	1.14	1 / 14	20.92	19.92	0.098	34.77	-14.85
	QPSK	714.50	V	153	313	1.20	1 / 7	20.54	19.59	0.091	34.77	-15.18
	16-QAM	707.50	V	153	317	1.14	1 / 7	20.14	19.13	0.082	34.77	-15.64
1.4 MHz	QPSK	699.70	V	152	312	1.08	1 / 3	20.95	19.88	0.097	34.77	-14.89
	QPSK	707.50	V	153	317	1.14	1 / 3	20.78	19.77	0.095	34.77	-15.00
	QPSK	715.30	V	153	313	1.21	1 / 3	20.48	19.54	0.090	34.77	-15.23
	16-QAM	707.50	V	153	317	1.14	1 / 5	20.19	19.19	0.083	34.77	-15.58
10 MHz	Opposite Pol.	707.50	H	281	260	1.16	1 / 49	20.11	19.12	0.082	34.77	-15.65
	WCP	707.50	V	260	170	1.14	1 / 49	14.23	13.22	0.021	34.77	-21.55

Table 7-25. ERP Data (LTE Band 12) – Ant1

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	782.00	V	155	127	0.89	1 / 0	19.04	17.78	0.060	34.77	-16.99
	16-QAM	782.00	V	155	127	0.89	1 / 0	18.39	17.13	0.052	34.77	-17.64
5 MHz	QPSK	779.50	V	155	127	0.94	1 / 12	18.97	17.75	0.060	34.77	-17.02
	QPSK	782.00	V	155	127	0.89	1 / 24	19.10	17.84	0.061	34.77	-16.93
	QPSK	784.50	V	155	127	0.85	1 / 12	19.06	17.75	0.060	34.77	-17.02
	16-QAM	779.50	V	155	127	0.94	1 / 12	18.38	17.16	0.052	34.77	-17.61
10 MHz	Opposite Pol.	782.00	H	247	64	1.09	1 / 0	18.74	17.68	0.059	34.77	-17.10
	WCP	782.00	V	228	20	0.89	1 / 0	15.18	13.92	0.025	34.77	-20.85

Table 7-26. ERP Data (LTE Band 13) – Ant1

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	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	1720.00	V	155	324	2.90	1 / 50	19.71	22.61	0.182	30.00	-7.39
	QPSK	1745.00	V	142	333	2.94	1 / 0	19.31	22.25	0.168	30.00	-7.75
	QPSK	1770.00	V	148	328	3.02	1 / 50	19.02	22.04	0.160	30.00	-7.96
	16-QAM	1720.00	V	155	324	2.90	1 / 50	18.88	21.78	0.151	30.00	-8.22
15 MHz	QPSK	1717.50	V	155	324	2.89	1 / 37	20.19	23.08	0.203	30.00	-6.92
	QPSK	1745.00	V	142	333	2.94	1 / 37	19.92	22.86	0.193	30.00	-7.14
	QPSK	1772.50	V	148	328	3.03	1 / 0	18.88	21.91	0.155	30.00	-8.09
	16-QAM	1717.50	V	155	324	2.89	1 / 37	19.45	22.34	0.171	30.00	-7.66
10 MHz	QPSK	1715.00	V	155	324	2.89	1 / 25	20.16	23.05	0.202	30.00	-6.95
	QPSK	1745.00	V	142	333	2.94	1 / 49	19.83	22.77	0.189	30.00	-7.23
	QPSK	1775.00	V	148	328	3.04	1 / 0	18.80	21.84	0.153	30.00	-8.16
	16-QAM	1715.00	V	155	324	2.89	1 / 0	19.22	22.11	0.163	30.00	-7.89
5 MHz	QPSK	1712.50	V	155	324	2.88	1 / 24	20.17	23.05	0.202	30.00	-6.95
	QPSK	1745.00	V	142	333	2.94	1 / 12	19.79	22.74	0.188	30.00	-7.26
	QPSK	1777.50	V	148	328	3.05	1 / 0	18.88	21.92	0.156	30.00	-8.08
	16-QAM	1712.50	V	155	324	2.88	1 / 0	19.27	22.15	0.164	30.00	-7.85
3 MHz	QPSK	1711.50	V	155	324	2.88	1 / 7	20.25	23.13	0.206	30.00	-6.87
	QPSK	1745.00	V	142	333	2.94	1 / 7	19.84	22.78	0.190	30.00	-7.22
	QPSK	1778.50	V	148	328	3.05	1 / 7	18.80	21.85	0.153	30.00	-8.15
	16-QAM	1711.50	V	155	324	2.88	1 / 0	19.25	22.13	0.163	30.00	-7.87
1.4 MHz	QPSK	1710.70	V	155	324	2.88	1 / 0	20.16	23.04	0.201	30.00	-6.96
	QPSK	1745.00	V	142	333	2.94	1 / 3	19.72	22.66	0.184	30.00	-7.34
	QPSK	1779.30	V	148	328	3.05	1 / 0	18.68	21.73	0.149	30.00	-8.27
	16-QAM	1710.70	V	155	324	2.88	1 / 0	19.10	21.98	0.158	30.00	-8.02
20 MHz	Opposite Pol.	1720.00	H	152	356	2.88	1 / 50	19.07	21.95	0.157	30.00	-8.05
	WCP	1720.00	V	146	203	2.90	1 / 0	5.17	8.07	0.006	30.00	-21.93

Table 7-27. EIRP Data (LTE Band 66/4) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset		Page 119 of 144

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
45 MHz	$\pi/2$ BPSK	1732.50	V	146	333	2.91	1 / 1	19.22	22.12	0.163	30.00	-7.88
	$\pi/2$ BPSK	1745.00	V	143	325	2.94	1 / 1	19.22	22.16	0.165	30.00	-7.84
	$\pi/2$ BPSK	1757.50	V	143	324	3.00	1 / 1	19.34	22.35	0.172	30.00	-7.65
	QPSK	1732.50	V	146	333	2.91	1 / 1	19.03	21.93	0.156	30.00	-8.07
	QPSK	1745.00	V	143	325	2.94	1 / 1	18.68	21.63	0.145	30.00	-8.37
	QPSK	1757.50	V	143	324	3.00	1 / 1	19.36	22.37	0.172	30.00	-7.63
40 MHz	16-QAM	1757.50	V	143	324	3.00	1 / 1	18.04	21.04	0.127	30.00	-8.96
	$\pi/2$ BPSK	1730.00	V	146	333	2.92	1 / 108	19.12	22.04	0.160	30.00	-7.96
	$\pi/2$ BPSK	1745.00	V	143	325	2.94	1 / 214	19.06	22.00	0.159	30.00	-8.00
	$\pi/2$ BPSK	1760.00	V	143	324	2.99	1 / 108	19.20	22.19	0.165	30.00	-7.81
	QPSK	1730.00	V	146	333	2.92	1 / 108	18.92	21.84	0.153	30.00	-8.16
	QPSK	1745.00	V	143	325	2.94	1 / 214	18.88	21.82	0.152	30.00	-8.18
35 MHz	QPSK	1760.00	V	143	324	2.99	1 / 108	19.09	22.08	0.161	30.00	-7.92
	16-QAM	1760.00	V	143	324	2.99	1 / 108	17.93	20.92	0.123	30.00	-9.08
	$\pi/2$ BPSK	1725.00	V	146	333	2.91	1 / 80	19.22	22.13	0.163	30.00	-7.87
	$\pi/2$ BPSK	1745.00	V	143	325	2.94	1 / 80	18.96	21.90	0.155	30.00	-8.10
	$\pi/2$ BPSK	1765.00	V	143	324	3.00	1 / 80	19.08	22.09	0.162	30.00	-7.91
	QPSK	1725.00	V	146	333	2.91	1 / 80	18.89	21.80	0.151	30.00	-8.20
30 MHz	QPSK	1745.00	V	143	325	2.94	1 / 80	19.19	22.13	0.163	30.00	-7.87
	QPSK	1765.00	V	143	324	3.00	1 / 80	18.75	21.76	0.150	30.00	-8.24
	16-QAM	1765.00	V	143	324	3.00	1 / 80	17.82	20.83	0.121	30.00	-9.17
	$\pi/2$ BPSK	1725.00	V	146	333	2.91	1 / 80	19.11	22.01	0.159	30.00	-7.99
	$\pi/2$ BPSK	1745.00	V	143	325	2.94	1 / 158	19.22	22.16	0.164	30.00	-7.84
	$\pi/2$ BPSK	1765.00	V	143	324	3.00	1 / 80	19.28	22.28	0.169	30.00	-7.72
25 MHz	QPSK	1725.00	V	146	333	2.91	1 / 80	18.92	21.83	0.152	30.00	-8.17
	QPSK	1745.00	V	143	325	2.94	1 / 158	19.03	21.97	0.157	30.00	-8.03
	QPSK	1765.00	V	143	324	3.00	1 / 80	19.45	22.45	0.176	30.00	-7.55
	16-QAM	1745.00	V	143	325	2.94	1 / 158	18.14	21.09	0.128	30.00	-8.91
	$\pi/2$ BPSK	1722.5	V	146	333	2.90	1 / 66	19.14	22.04	0.160	30.00	-7.96
	$\pi/2$ BPSK	1745.0	V	143	325	2.94	1 / 131	19.24	22.18	0.165	30.00	-7.82
20 MHz	$\pi/2$ BPSK	1767.5	V	143	324	3.01	1 / 1	19.23	22.25	0.168	30.00	-7.75
	QPSK	1722.5	V	146	333	2.90	1 / 66	18.97	21.87	0.154	30.00	-8.13
	QPSK	1745.0	V	143	325	2.94	1 / 131	18.83	21.77	0.150	30.00	-8.23
	QPSK	1767.5	V	143	324	3.01	1 / 1	19.41	22.43	0.175	30.00	-7.57
	16-QAM	1745.0	V	143	325	2.94	1 / 131	18.41	21.35	0.137	30.00	-8.65
	$\pi/2$ BPSK	1720.00	V	146	333	2.90	1 / 104	18.79	21.69	0.148	30.00	-8.31
15 MHz	$\pi/2$ BPSK	1745.00	V	143	325	2.94	1 / 53	18.86	21.80	0.151	30.00	-8.20
	$\pi/2$ BPSK	1770.00	V	143	324	3.02	1 / 53	18.97	21.99	0.158	30.00	-8.01
	QPSK	1720.00	V	146	333	2.90	1 / 104	18.71	21.60	0.145	30.00	-8.40
	QPSK	1745.00	V	143	325	2.94	1 / 53	18.62	21.56	0.143	30.00	-8.44
	QPSK	1770.00	V	143	324	3.02	1 / 53	19.04	22.06	0.161	30.00	-7.94
	16-QAM	1745.00	V	143	325	2.94	1 / 53	18.26	21.20	0.132	30.00	-8.80
10 MHz	$\pi/2$ BPSK	1717.50	V	146	333	2.89	1 / 77	19.01	21.91	0.155	30.00	-8.09
	$\pi/2$ BPSK	1745.00	V	143	325	2.94	1 / 77	19.09	22.03	0.160	30.00	-7.97
	$\pi/2$ BPSK	1772.50	V	143	324	3.03	1 / 39	19.08	22.11	0.163	30.00	-7.89
	QPSK	1717.50	V	146	333	2.89	1 / 77	18.92	21.82	0.152	30.00	-8.18
	QPSK	1745.00	V	143	325	2.94	1 / 77	18.94	21.88	0.154	30.00	-8.12
	QPSK	1772.50	V	143	324	3.03	1 / 39	18.95	21.98	0.158	30.00	-8.02
5 MHz	16-QAM	1745.00	V	143	325	2.94	1 / 77	18.25	21.20	0.132	30.00	-8.80
	$\pi/2$ BPSK	1715.00	V	146	333	2.89	1 / 26	18.78	21.67	0.147	30.00	-8.33
	$\pi/2$ BPSK	1745.00	V	143	325	2.94	1 / 26	19.10	22.04	0.160	30.00	-7.96
	$\pi/2$ BPSK	1775.00	V	143	324	3.04	1 / 1	18.99	22.02	0.159	30.00	-7.98
	QPSK	1715.00	V	146	333	2.89	1 / 26	18.59	21.48	0.141	30.00	-8.52
	QPSK	1745.00	V	143	325	2.94	1 / 26	18.94	21.88	0.154	30.00	-8.12
45 MHz	QPSK	1775.00	V	143	324	3.04	1 / 1	19.09	22.13	0.163	30.00	-7.87
	16-QAM	1775.00	V	143	324	3.04	1 / 1	17.95	20.99	0.126	30.00	-9.01
	$\pi/2$ BPSK	1712.50	V	146	333	2.88	1 / 12	18.84	21.73	0.149	30.00	-8.27
	$\pi/2$ BPSK	1745.00	V	143	325	2.94	1 / 12	19.01	21.95	0.157	30.00	-8.05
	$\pi/2$ BPSK	1777.50	V	143	324	3.05	1 / 1	18.97	22.02	0.159	30.00	-7.98
	QPSK	1712.50	V	146	333	2.88	1 / 12	18.73	21.61	0.145	30.00	-8.39
45 MHz	QPSK	1745.00	V	143	325	2.94	1 / 12	19.02	21.97	0.157	30.00	-8.03
	QPSK	1777.50	V	143	324	3.05	1 / 1	19.02	22.07	0.161	30.00	-7.93
	16-QAM	1777.50	V	143	324	3.05	1 / 1	18.35	21.39	0.138	30.00	-8.61
45 MHz	QPSK (CP-OFDM)	1760.00	V	156	334	2.99	1 / 108	17.35	20.34	0.108	30.00	-9.66
	QPSK (Opposite Pol.)	1760.00	H	140	1	2.81	1 / 108	18.57	21.38	0.138	30.00	-8.62
	QPSK (WCP)	1760.00	V	179	188	2.99	1 / 108	19.16	22.15	0.164	30.00	-7.85

Table 7-28. EIRP Data (NR Band n66) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 120 of 144

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	704.00	V	178	121	1.12	1 / 49	18.16	17.13	0.052	34.77	-17.64
	QPSK	707.50	V	172	121	1.14	1 / 49	18.63	17.62	0.058	34.77	-17.15
	QPSK	711.00	V	175	121	1.17	1 / 25	18.54	17.56	0.057	34.77	-17.21
	16-QAM	711.00	V	175	121	1.17	1 / 25	17.71	16.73	0.047	34.77	-18.04
5 MHz	QPSK	701.50	V	178	121	1.10	1 / 0	18.24	17.19	0.052	34.77	-17.58
	QPSK	707.50	V	172	121	1.14	1 / 24	18.44	17.43	0.055	34.77	-17.34
	QPSK	713.50	V	175	121	1.19	1 / 12	18.54	17.58	0.057	34.77	-17.19
	16-QAM	713.50	V	175	121	1.19	1 / 0	17.71	16.75	0.047	34.77	-18.02
3 MHz	QPSK	700.50	V	178	121	1.09	1 / 14	18.17	17.11	0.051	34.77	-17.66
	QPSK	707.50	V	172	121	1.14	1 / 0	18.52	17.51	0.056	34.77	-17.26
	QPSK	714.50	V	175	121	1.20	1 / 14	18.37	17.42	0.055	34.77	-17.35
	16-QAM	714.50	V	175	121	1.20	1 / 7	17.98	17.03	0.050	34.77	-17.74
1.4 MHz	QPSK	699.70	V	178	121	1.08	1 / 3	17.98	16.91	0.049	34.77	-17.86
	QPSK	707.50	V	172	121	1.14	1 / 0	18.53	17.53	0.057	34.77	-17.24
	QPSK	715.30	V	175	121	1.21	1 / 0	18.29	17.35	0.054	34.77	-17.42
	16-QAM	699.70	V	178	121	1.08	1 / 5	17.42	16.35	0.043	34.77	-18.42
10 MHz	16-QAM	715.30	V	175	121	1.21	1 / 3	17.89	16.94	0.049	34.77	-17.83
	Opposite Pol.	707.50	H	281	82	1.16	1 / 0	18.38	17.39	0.055	34.77	-17.38
	WCP	707.50	V	254	90	1.14	1 / 49	18.24	17.23	0.053	34.77	-17.54

Table 7-29. ERP Data (LTE Band 12) – Ant2

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	782.00	V	139	253	0.89	1 / 0	20.91	19.65	0.092	34.77	-15.12
	16-QAM	782.00	V	139	253	0.89	1 / 0	20.21	18.95	0.079	34.77	-15.82
5 MHz	QPSK	779.50	V	139	253	0.94	1 / 12	20.79	19.58	0.091	34.77	-15.19
	QPSK	782.00	V	139	253	0.89	1 / 12	20.93	19.67	0.093	34.77	-15.10
	QPSK	784.50	V	139	253	0.85	1 / 12	20.87	19.56	0.090	34.77	-15.21
	16-QAM	784.50	V	139	253	0.85	1 / 12	20.35	19.05	0.080	34.77	-15.72
10 MHz	Opposite Pol.	782.00	H	224	269	1.09	1 / 0	20.50	19.44	0.088	34.77	-15.34
	WCP	782.00	V	222	176	0.89	1 / 49	15.57	14.31	0.027	34.77	-20.46

Table 7-30. ERP Data (LTE Band 13) – Ant2

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
15 MHz	$\pi/2$ BPSK	1702.50	H	149	307	3.17	1 / 39	17.12	20.29	0.107	30.00	-9.71
	QPSK	1702.50	H	149	307	3.17	1 / 39	17.00	20.17	0.104	30.00	-9.83
	16-QAM	1702.50	H	149	307	3.17	1 / 39	16.16	19.33	0.086	30.00	-10.67
10 MHz	$\pi/2$ BPSK	1700.00	H	149	307	3.19	1 / 50	17.08	20.27	0.106	30.00	-9.73
	$\pi/2$ BPSK	1702.50	H	149	307	3.17	1 / 50	17.28	20.45	0.111	30.00	-9.55
	$\pi/2$ BPSK	1705.00	H	149	307	3.15	1 / 50	17.29	20.44	0.111	30.00	-9.56
	QPSK	1700.00	H	149	307	3.19	1 / 50	16.96	20.15	0.103	30.00	-9.85
	QPSK	1702.50	H	149	307	3.17	1 / 50	16.92	20.09	0.102	30.00	-9.91
	QPSK	1705.00	H	149	307	3.15	1 / 50	17.35	20.50	0.112	30.00	-9.50
	16-QAM	1705.00	H	149	307	3.15	1 / 50	16.27	19.43	0.088	30.00	-10.57
	$\pi/2$ BPSK	1697.50	H	149	307	3.18	1 / 12	16.91	20.09	0.102	30.00	-9.91
5 MHz	$\pi/2$ BPSK	1702.50	H	149	307	3.17	1 / 12	17.21	20.38	0.109	30.00	-9.62
	$\pi/2$ BPSK	1707.50	H	149	307	3.13	1 / 23	17.45	20.58	0.114	30.00	-9.42
	QPSK	1697.50	H	149	307	3.18	1 / 12	16.74	19.92	0.098	30.00	-10.08
	QPSK	1702.50	H	149	307	3.17	1 / 12	16.85	20.02	0.101	30.00	-9.98
	QPSK	1707.50	H	149	307	3.13	1 / 23	17.17	20.30	0.107	30.00	-9.70
	16-QAM	1707.50	H	149	307	3.13	1 / 23	16.36	19.49	0.089	30.00	-10.51
15 MHz	QPSK (CP-OFDM)	1702.50	H	149	307	3.17	1 / 39	15.98	19.15	0.082	30.00	-10.85
	QPSK (Opposite Pol.)	1702.50	V	222	104	3.17	1 / 39	16.51	19.68	0.093	30.00	-10.32
	QPSK (WCP)	1702.50	H	105	222	3.17	1 / 39	16.17	19.34	0.086	30.00	-10.66

Table 7-31. EIRP Data (NR Band n70) – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset		Page 121 of 144

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
45 MHz	$\pi/2$ BPSK	1732.50	H	198	288	3.00	1 / 1	15.51	18.52	0.071	30.00	-11.48
	$\pi/2$ BPSK	1745.00	H	198	301	2.86	1 / 1	15.85	18.71	0.074	30.00	-11.29
	$\pi/2$ BPSK	1757.50	H	198	296	2.73	1 / 1	15.38	18.10	0.065	30.00	-11.90
	QPSK	1732.50	H	198	288	3.00	1 / 1	15.34	18.35	0.068	30.00	-11.65
	QPSK	1745.00	H	198	301	2.86	1 / 1	15.90	18.75	0.075	30.00	-11.25
	QPSK	1757.50	H	198	296	2.73	1 / 1	15.23	17.96	0.063	30.00	-12.04
40 MHz	16-QAM	1745.00	H	198	301	2.86	1 / 1	14.76	17.62	0.058	30.00	-12.38
	$\pi/2$ BPSK	1730.00	H	198	288	2.97	1 / 1	15.81	18.78	0.075	30.00	-11.22
	$\pi/2$ BPSK	1745.00	H	198	301	2.86	1 / 1	15.87	18.73	0.075	30.00	-11.27
	$\pi/2$ BPSK	1760.00	H	198	296	2.76	1 / 1	15.61	18.37	0.069	30.00	-11.63
	QPSK	1730.00	H	198	288	2.97	1 / 1	15.72	18.69	0.074	30.00	-11.31
	QPSK	1745.00	H	198	301	2.86	1 / 1	15.92	18.78	0.075	30.00	-11.22
35 MHz	QPSK	1760.00	H	198	296	2.76	1 / 1	15.49	18.25	0.067	30.00	-11.75
	16-QAM	1745.00	H	198	301	2.86	1 / 1	14.80	17.66	0.058	30.00	-12.34
	$\pi/2$ BPSK	1727.50	H	198	288	3.00	1 / 1	15.73	18.74	0.075	30.00	-11.26
	$\pi/2$ BPSK	1745.00	H	198	301	2.86	1 / 1	15.99	18.84	0.077	30.00	-11.16
	$\pi/2$ BPSK	1762.50	H	198	296	2.73	1 / 1	15.63	18.36	0.068	30.00	-11.64
	QPSK	1727.50	H	198	288	3.00	1 / 1	15.49	18.49	0.071	30.00	-11.51
30 MHz	QPSK	1745.00	H	198	301	2.86	1 / 1	15.89	18.74	0.075	30.00	-11.26
	QPSK	1762.50	H	198	296	2.73	1 / 1	15.50	18.23	0.067	30.00	-11.77
	16-QAM	1745.00	H	198	301	2.86	1 / 1	14.57	17.42	0.055	30.00	-12.58
	$\pi/2$ BPSK	1725.00	H	198	288	3.00	1 / 80	15.68	18.68	0.074	30.00	-11.32
	$\pi/2$ BPSK	1745.00	H	198	301	2.86	1 / 80	15.95	18.81	0.076	30.00	-11.19
	$\pi/2$ BPSK	1765.00	H	198	296	2.73	1 / 80	15.48	18.21	0.066	30.00	-11.79
25 MHz	QPSK	1725.00	H	198	288	3.00	1 / 80	15.33	18.33	0.068	30.00	-11.67
	QPSK	1745.00	H	198	301	2.86	1 / 80	15.90	18.76	0.075	30.00	-11.24
	QPSK	1765.00	H	198	296	2.73	1 / 80	15.48	18.21	0.066	30.00	-11.79
	16-QAM	1745.00	H	198	301	2.86	1 / 80	14.69	17.54	0.057	30.00	-12.46
	$\pi/2$ BPSK	1722.50	H	198	296	3.02	1 / 66	15.76	18.78	0.075	30.00	-11.22
	$\pi/2$ BPSK	1745.00	H	198	296	2.86	1 / 1	15.88	18.73	0.075	30.00	-11.27
20 MHz	$\pi/2$ BPSK	1767.50	H	198	296	2.71	1 / 1	15.46	18.18	0.066	30.00	-11.82
	QPSK	1722.50	H	198	296	3.02	1 / 66	15.45	18.47	0.070	30.00	-11.53
	QPSK	1745.00	H	198	296	2.86	1 / 1	16.03	18.89	0.077	30.00	-11.11
	QPSK	1767.50	H	198	296	2.71	1 / 1	15.52	18.23	0.067	30.00	-11.77
	16-QAM	1722.50	H	198	296	3.02	1 / 66	14.39	17.41	0.055	30.00	-12.59
	$\pi/2$ BPSK	1720.00	H	198	288	3.04	1 / 1	15.53	18.57	0.072	30.00	-11.43
15 MHz	$\pi/2$ BPSK	1745.00	H	198	301	2.86	1 / 1	15.79	18.65	0.073	30.00	-11.35
	$\pi/2$ BPSK	1770.00	H	198	296	2.70	1 / 53	15.46	18.16	0.065	30.00	-11.84
	QPSK	1720.00	H	198	288	3.04	1 / 1	15.16	18.20	0.066	30.00	-11.80
	QPSK	1745.00	H	198	301	2.86	1 / 1	15.63	18.48	0.070	30.00	-11.52
	QPSK	1770.00	H	198	296	2.70	1 / 53	15.10	17.80	0.060	30.00	-12.20
	16-QAM	1770.00	H	198	296	2.70	1 / 53	14.41	17.11	0.051	30.00	-12.89
10 MHz	$\pi/2$ BPSK	1717.50	H	198	288	3.06	1 / 1	15.66	18.71	0.074	30.00	-11.29
	$\pi/2$ BPSK	1745.00	H	198	301	2.86	1 / 1	15.88	18.74	0.075	30.00	-11.26
	$\pi/2$ BPSK	1772.50	H	198	296	2.69	1 / 1	15.51	18.19	0.066	30.00	-11.81
	QPSK	1717.50	H	198	288	3.06	1 / 1	15.28	18.34	0.068	30.00	-11.66
	QPSK	1745.00	H	198	301	2.86	1 / 1	16.01	18.87	0.077	30.00	-11.13
	QPSK	1772.50	H	198	296	2.69	1 / 1	15.34	18.03	0.063	30.00	-11.97
5 MHz	16-QAM	1772.50	H	198	296	2.69	1 / 1	14.57	17.25	0.053	30.00	-12.75
	$\pi/2$ BPSK	1715.00	H	198	288	3.08	1 / 50	15.42	18.50	0.071	30.00	-11.50
	$\pi/2$ BPSK	1745.00	H	198	301	2.86	1 / 50	15.64	18.50	0.071	30.00	-11.50
	$\pi/2$ BPSK	1775.00	H	198	296	2.67	1 / 1	15.41	18.08	0.064	30.00	-11.92
	QPSK	1715.00	H	198	288	3.08	1 / 50	15.31	18.38	0.069	30.00	-11.62
	QPSK	1745.00	H	198	301	2.86	1 / 50	15.47	18.33	0.068	30.00	-11.67
45 MHz	QPSK	1775.00	H	198	296	2.67	1 / 1	15.29	17.96	0.062	30.00	-12.04
	16-QAM	1715.00	H	198	288	3.08	1 / 50	14.05	17.13	0.052	30.00	-12.87
	$\pi/2$ BPSK	1712.50	H	198	288	3.09	1 / 12	15.42	18.52	0.071	30.00	-11.48
	$\pi/2$ BPSK	1745.00	H	198	301	2.86	1 / 12	15.80	18.65	0.073	30.00	-11.35
	$\pi/2$ BPSK	1777.50	H	198	296	2.66	1 / 12	15.43	18.08	0.064	30.00	-11.92
	QPSK	1712.50	H	198	288	3.09	1 / 12	15.24	18.33	0.068	30.00	-11.67
45 MHz	QPSK	1745.00	H	198	301	2.86	1 / 12	15.73	18.59	0.072	30.00	-11.41
	QPSK	1777.50	H	198	296	2.66	1 / 12	15.42	18.08	0.064	30.00	-11.92
	16-QAM	1712.50	H	198	288	3.09	1 / 12	14.24	17.34	0.054	30.00	-12.66
45 MHz	QPSK (CP-OFDM)	1745.00	H	143	303	2.97	1 / 1	15.27	18.24	0.067	30.00	-11.76
	QPSK (Opposite Pol.)	1745.00	V	224	109	2.97	1 / 1	15.85	18.82	0.076	30.00	-11.18
	QPSK (WCP)	1745.00	H	108	222	2.97	1 / 1	15.29	18.26	0.067	30.00	-11.74

Table 7-32. EIRP Data (NR Band n66) – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 122 of 144

7.8 Radiated Spurious Emissions Measurements

Test Overview

Radiated spurious emissions measurements are performed using the field strength conversion method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using hybrid (biconical/log) 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

ANSI C63.26-2015 – Section 5.5.4

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: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 123 of 144

Test Setup

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

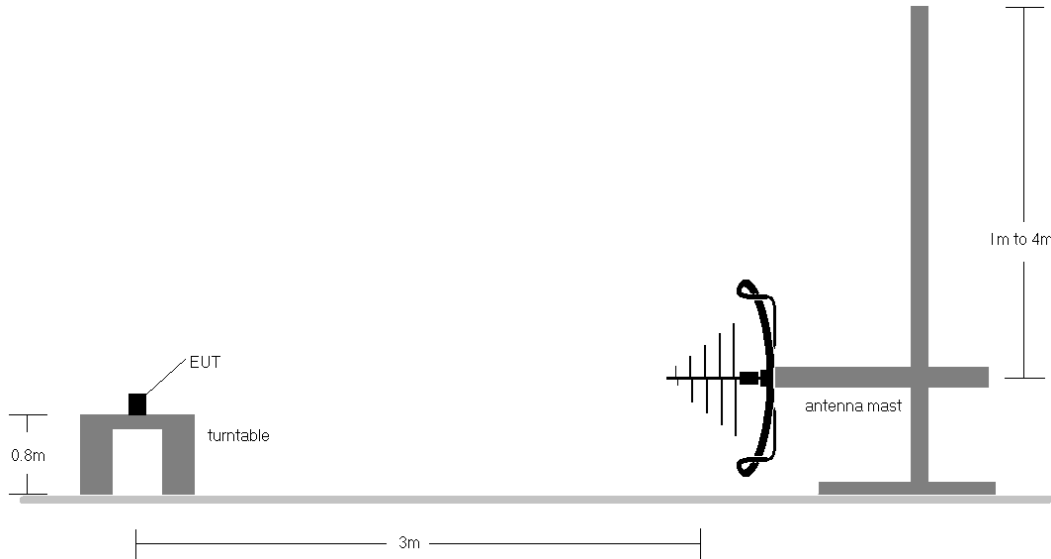


Figure 7-8. Test Instrument & Measurement Setup < 1GHz

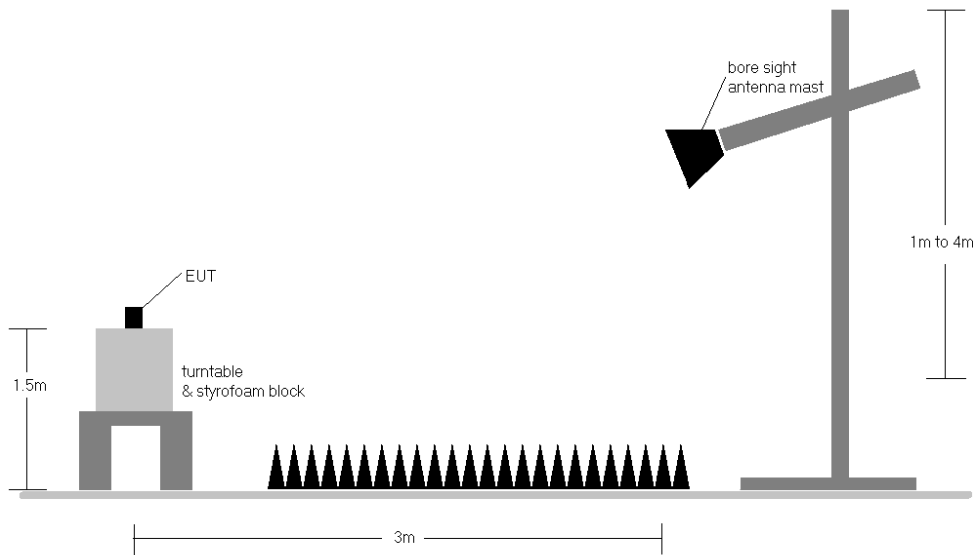


Figure 7-9. Test Instrument & Measurement Setup > 1GHz

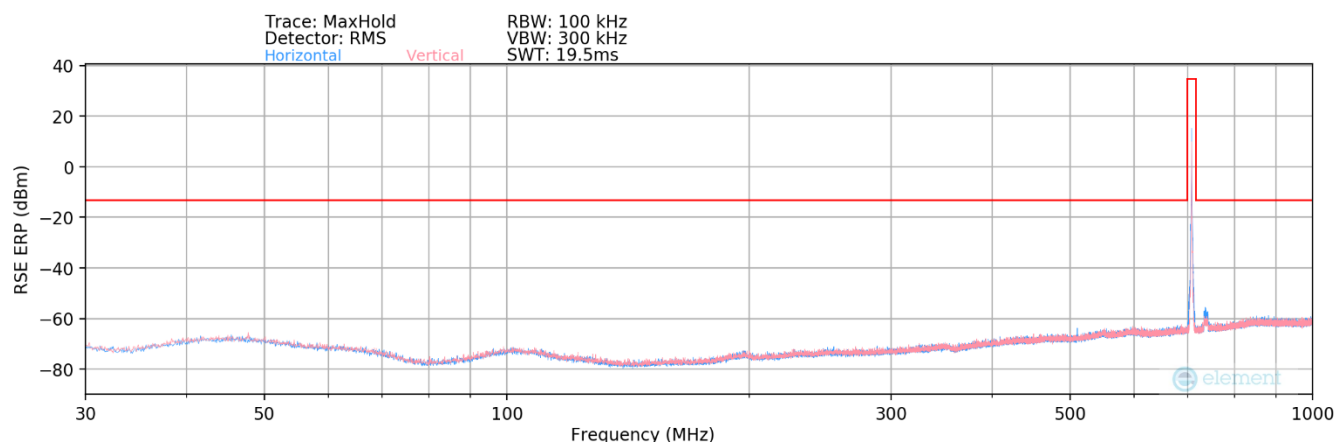
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 124 of 144

Test Notes

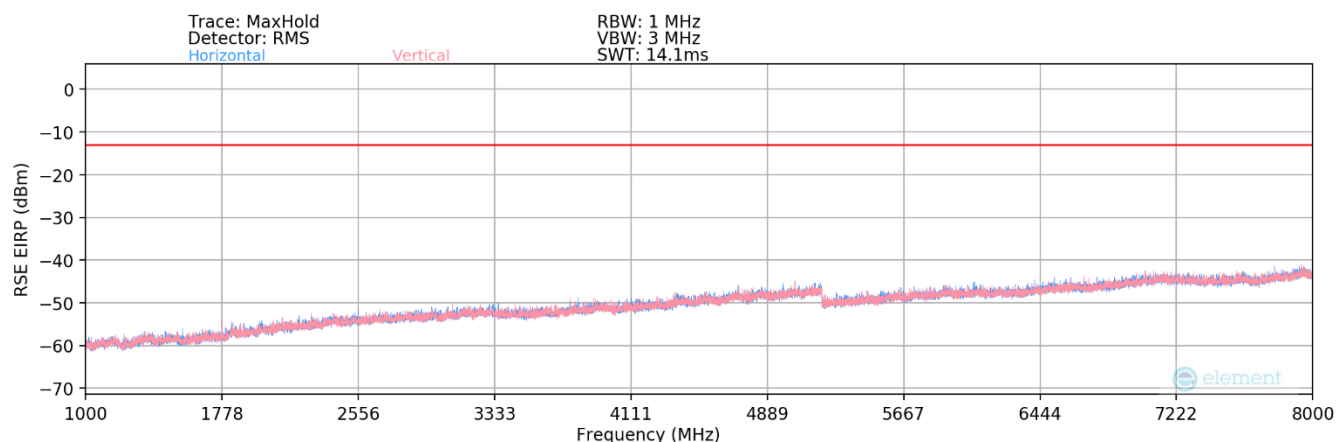
- 1) Field strengths are calculated using the Measurement quantity conversions in ANSI C63.26-2015 Section 5.2.7:
 - a) $E(\text{dB}\mu\text{V/m}) = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$
 - b) $\text{EIRP (dBm)} = E(\text{dB}\mu\text{V/m}) + 20\log D - 104.8$; 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 spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 5) 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.
- 6) The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 7) 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.
- 8) Spurious emission in EN-DC Operating mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor) has been checked and was found to not to be the worst case. Spurious emissions from the NR carrier device are subject to the rules under which the NR carrier operates. Spurious emissions caused by the LTE carrier must meet the requirements of the rules under which the LTE carrier operates.

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 125 of 144

LTE Band 12 – Ant1



Plot 7-148. Radiated Spurious Plot (LTE Band 12) – Ant1



Plot 7-149. Radiated Spurious Plot (LTE Band 12) – Ant1

Mode:	Stand Alone
Frequency (MHz):	707.5

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
504.00	V	396	292	-80.74	25.70	51.96	-45.45	-13.00	-32.45

Table 7-33. Radiated Spurious Data (LTE Band 12 – Mid Channel) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT				Approved by: Technical Manager	
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset			Page 126 of 144	

Bandwidth (MHz):	10
Frequency (MHz):	704
RB / Offset:	1 / 25

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]
1408.00	H	-	-	-77.78	-1.67	27.55	-67.71	-13.00	-54.71
2112.00	H	-	-	-79.30	2.81	30.51	-64.75	-13.00	-51.75
2816.00	H	-	-	-79.63	5.06	32.43	-62.83	-13.00	-49.83

Table 7-34. Radiated Spurious Data (LTE Band 12 – Low Channel) – Ant1

Bandwidth (MHz):	10
Frequency (MHz):	707.5
RB / Offset:	1 / 25

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]
1415.00	H	-	-	-77.64	-1.67	27.69	-67.56	-13.00	-54.56
2122.50	H	-	-	-79.12	2.79	30.67	-64.59	-13.00	-51.59
2830.00	H	-	-	-79.80	5.21	32.41	-62.85	-13.00	-49.85

Table 7-35. Radiated Spurious Data (LTE Band 12 – Mid Channel) – Ant1

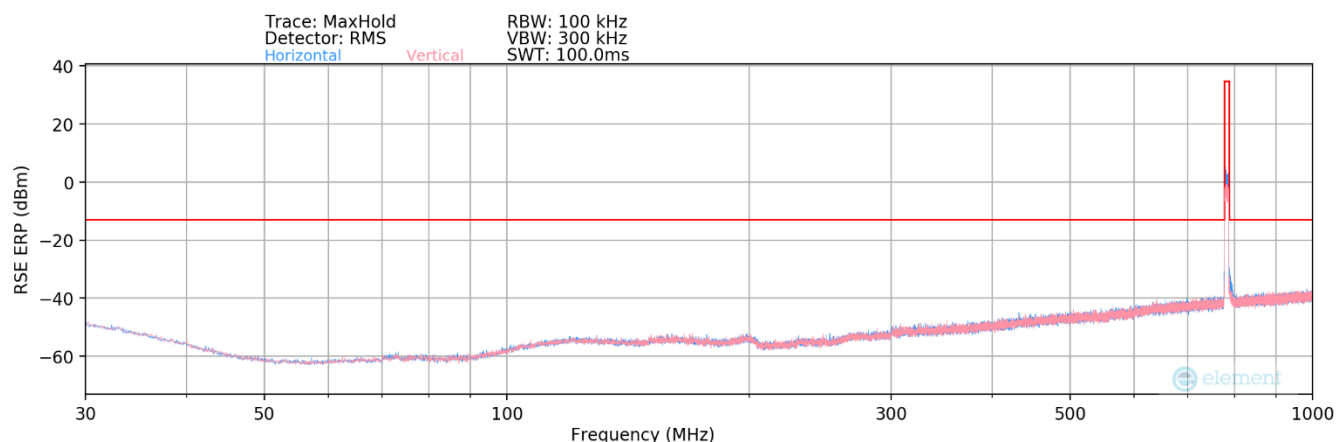
Bandwidth (MHz):	10
Frequency (MHz):	711
RB / Offset:	1 / 25

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]
1422.00	H	-	-	-78.11	-1.45	27.44	-67.81	-13.00	-54.81
2133.00	H	-	-	-80.09	2.68	29.59	-65.67	-13.00	-52.67
2844.00	H	-	-	-79.81	5.02	32.21	-63.05	-13.00	-50.05

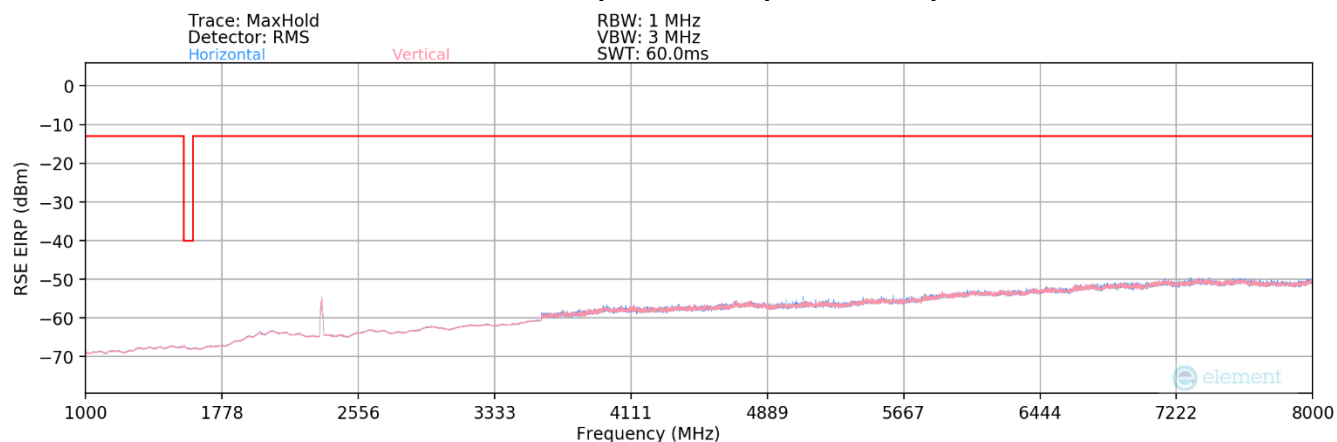
Table 7-36. Radiated Spurious Data (LTE Band 12 – High Channel) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 127 of 144

LTE Band 13 – Ant1



Plot 7-150. Radiated Spurious Plot (LTE Band 13) – Ant1



Plot 7-151. Radiated Spurious Plot (LTE Band 13) – Ant1

Mode:	Stand Alone
Frequency (MHz):	782

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
193.59	H	396	233	-84.57	19.18	41.61	-55.80	-13.00	-42.80

Table 7-37. Radiated Spurious Data (LTE Band 13) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset		Page 128 of 144

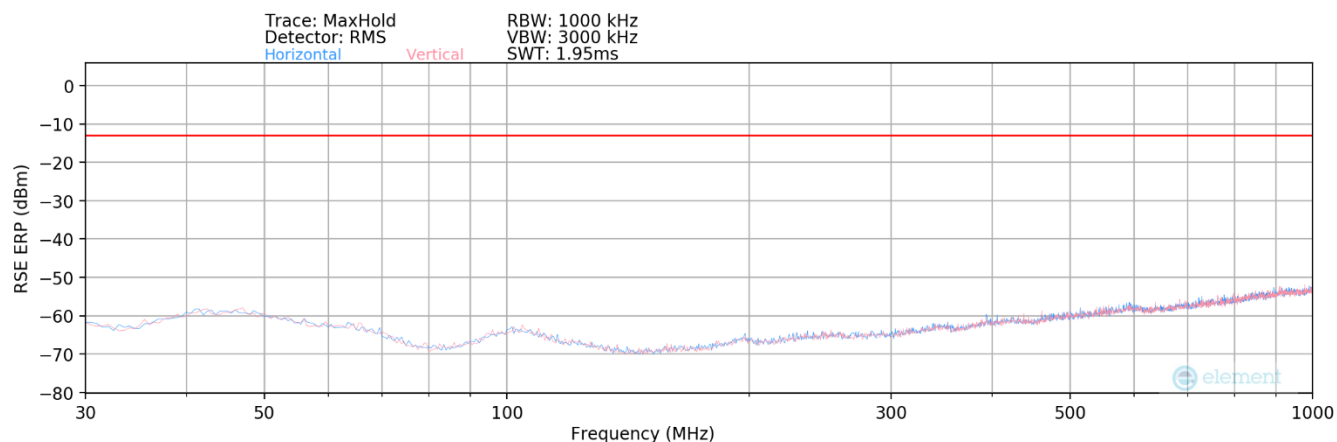
Bandwidth (MHz):	10
Frequency (MHz):	782
RB / Offset:	1 / 25

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]
1564.00	H	165	333	-69.34	-6.90	30.76	-64.49	-40.00	-24.49
2346.00	H	187	315	-51.91	-3.81	51.28	-43.98	-13.00	-30.98
3128.00	H	-	-	-76.87	-1.71	28.42	-66.84	-13.00	-53.84
3910.00	H	302	241	-75.19	1.51	33.32	-61.94	-13.00	-48.94
4692.00	H	-	-	-78.32	3.01	31.69	-63.56	-13.00	-50.56
5474.00	H	-	-	-78.65	4.42	32.77	-62.48	-13.00	-49.48
6256.00	H	-	-	-78.65	6.63	34.98	-60.28	-13.00	-47.28

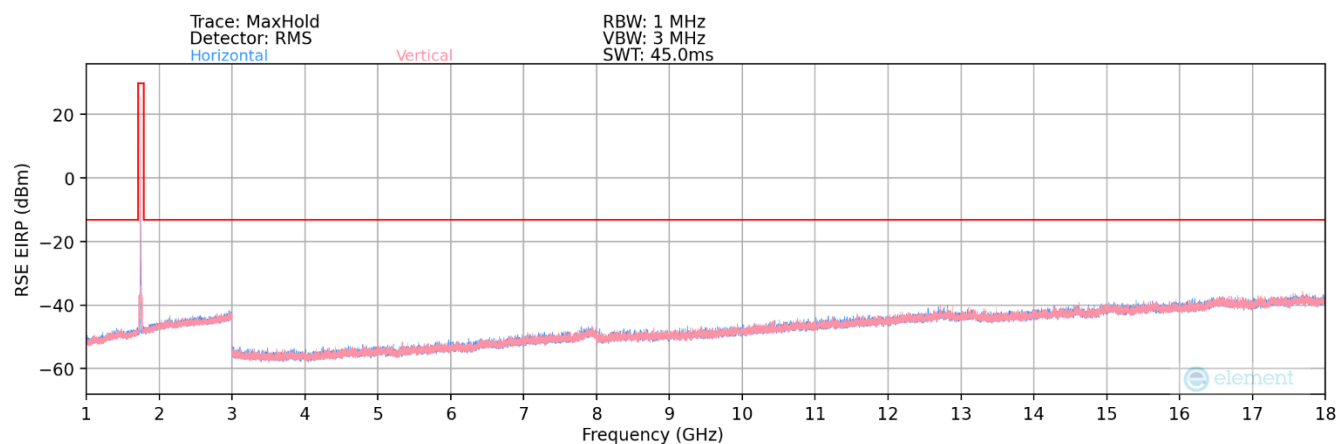
Table 7-38. Radiated Spurious Data (LTE Band 13 – Mid Channel) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 129 of 144

LTE Band 66/4 – Ant1



Plot 7-152. Radiated Spurious Plot (LTE Band 66/4) – Ant1



Plot 7-153. Radiated Spurious Plot (LTE Band 66/4) – Ant1

Mode:	Stand Alone
Frequency (MHz):	1361

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
100.00	H	400	110	-78.38	-13.64	14.98	-82.43	-13.00	-69.43

Table 7-39. Radiated Spurious Data (LTE Band 66/4) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset		Page 130 of 144

Bandwidth (MHz):	20
Frequency (MHz):	1720
RB / Offset:	1 / 50

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]
3440.00	H	-	-	-78.74	5.27	33.53	-61.73	-13.00	-48.73
5160.00	H	-	-	-79.66	7.54	34.88	-60.38	-13.00	-47.38
6880.00	H	-	-	-80.51	11.63	38.12	-57.13	-13.00	-44.13

Table 7-40. Radiated Spurious Data (LTE Band 66/4 – Low Channel) – Ant1

Bandwidth (MHz):	20
Frequency (MHz):	1745
RB / Offset:	1 / 50

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]
3490.00	H	-	-	-78.78	5.31	33.53	-61.72	-13.00	-48.72
5235.00	H	-	-	-79.38	7.26	34.88	-60.38	-13.00	-47.38
6980.00	H	-	-	-80.19	11.06	37.87	-57.38	-13.00	-44.38

Table 7-41. Radiated Spurious Data (LTE Band 66/4 – Mid Channel) – Ant1

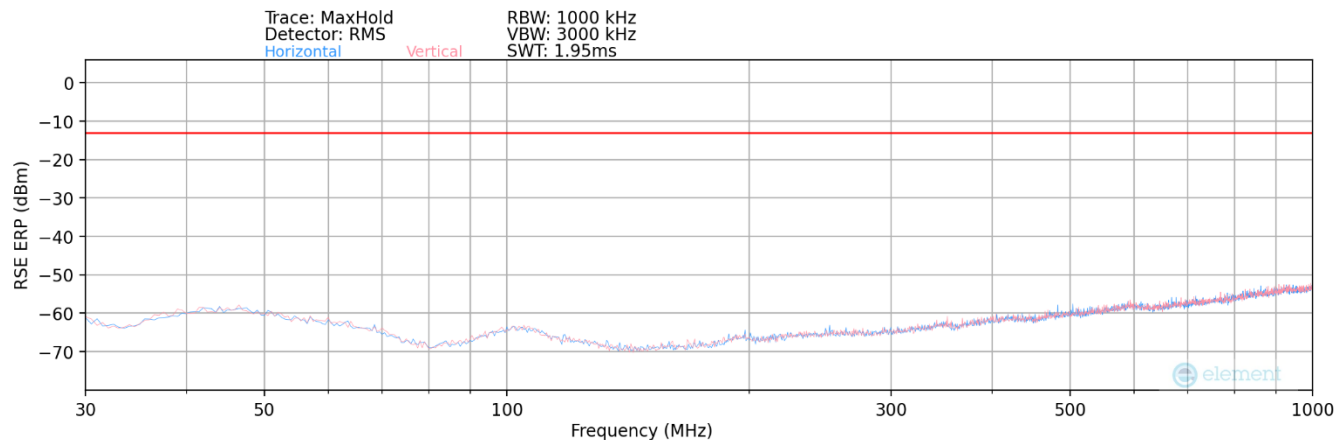
Bandwidth (MHz):	20
Frequency (MHz):	1770
RB / Offset:	1 / 50

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]
3540.00	H	-	-	-78.48	5.24	33.76	-61.50	-13.00	-48.50
5310.00	H	-	-	-79.37	7.65	35.28	-59.98	-13.00	-46.98
7080.00	H	-	-	-80.27	11.66	38.39	-56.87	-13.00	-43.87

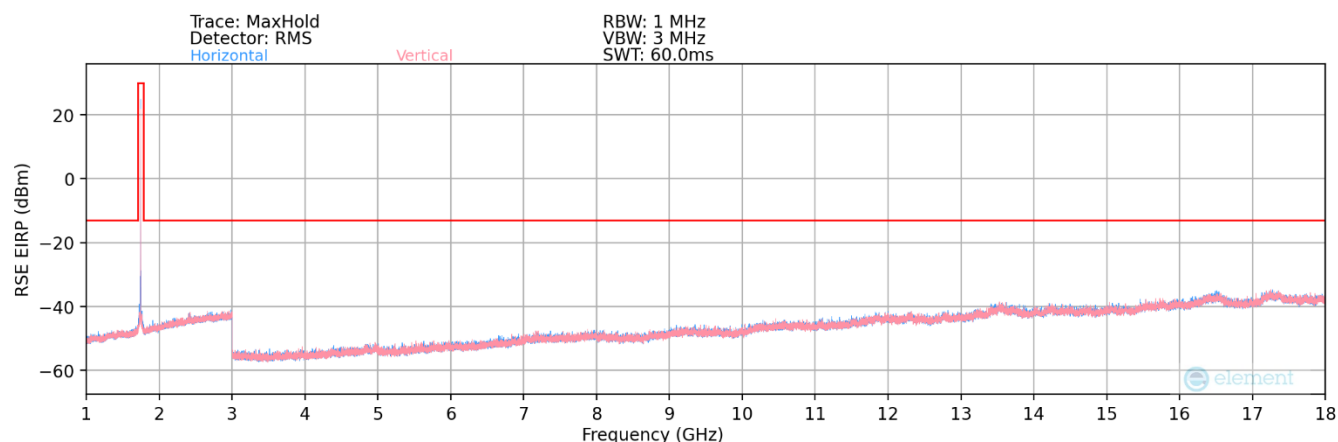
Table 7-42. Radiated Spurious Data (LTE Band 66/4 – High Channel) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 131 of 144

NR Band n66 – Ant1



Plot 7-154. Radiated Spurious Plot (NR Band n66) – Ant1



Plot 7-155. Radiated Spurious Plot (NR Band n66) – Ant1

Mode:	Stand Alone
Frequency (MHz):	1745

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
90.32	V	400	20	-83.99	14.71	37.72	-59.69	-13.00	-46.69

Table 7-43. Radiated Spurious Data (NR Band n66) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset		Page 132 of 144

Bandwidth (MHz):	45
Frequency (MHz):	1732.5
RB / Offset:	1 / 108

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]
3465.00	V	-	-	-78.09	0.10	29.01	-66.25	-13.00	-53.25
5197.50	V	-	-	-79.59	3.55	30.96	-64.30	-13.00	-51.30
6930.00	V	-	-	-81.02	8.60	34.58	-60.67	-13.00	-47.67

Table 7-44. Radiated Spurious Data (NR Band n66 – Low Channel) – Ant1

Bandwidth (MHz):	45
Frequency (MHz):	1745
RB / Offset:	1 / 108

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]
3490.00	V	-	-	-78.39	0.15	28.76	-66.50	-13.00	-53.50
5235.00	V	-	-	-79.71	3.54	30.83	-64.42	-13.00	-51.42
6980.00	V	-	-	-79.07	7.97	35.90	-59.35	-13.00	-46.35

Table 7-45. Radiated Spurious Data (NR Band n66 – Mid Channel) – Ant1

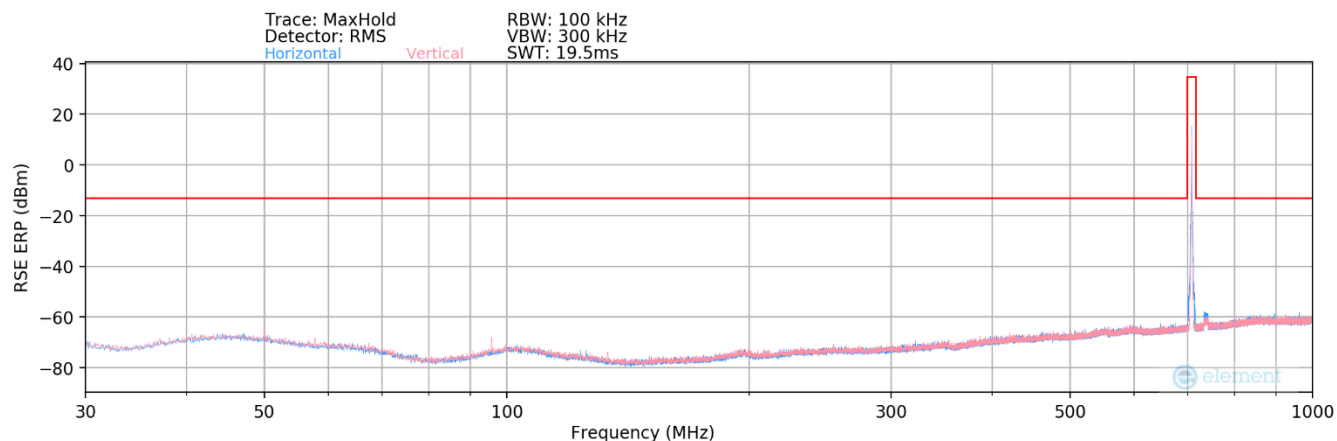
Bandwidth (MHz):	45
Frequency (MHz):	1757.5
RB / Offset:	1 / 108

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]
3515.00	V	-	-	-77.92	0.00	29.08	-66.17	-13.00	-53.17
5272.50	V	-	-	-79.51	3.45	30.94	-64.32	-13.00	-51.32
7030.00	V	-	-	-79.15	8.09	35.94	-59.32	-13.00	-46.32

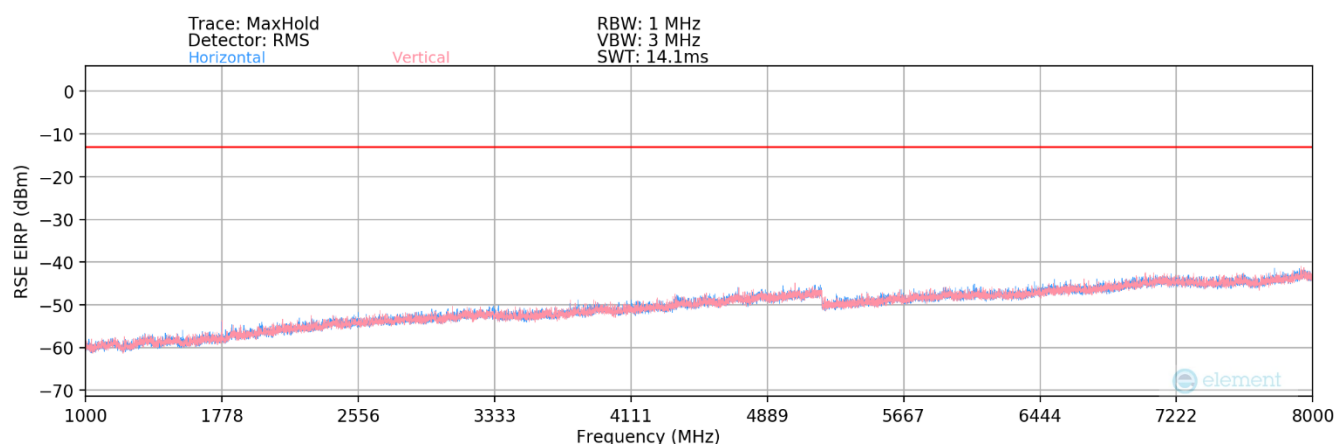
Table 7-46. Radiated Spurious Data (NR Band n66 – High Channel) – Ant1

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 133 of 144

LTE Band 12 – Ant2



Plot 7-156. Radiated Spurious Plot (LTE Band 12) – Ant2



Plot 7-157. Radiated Spurious Plot (LTE Band 12) – Ant2

Mode:	Stand Alone
Frequency (MHz):	707.5

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
102.19	V	229	125	-78.79	-13.43	14.78	-82.63	-13.00	-69.63

Table 7-47. Radiated Spurious Data (LTE Band 12 – Mid Channel) – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT				Approved by: Technical Manager	
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset			Page 134 of 144	

Bandwidth (MHz):	10
Frequency (MHz):	704
RB / Offset:	1 / 25

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]
1408.00	H	-	-	-77.44	-2.67	26.89	-68.37	-13.00	-55.37
2112.00	H	-	-	-79.84	1.47	28.63	-66.63	-13.00	-53.63
2816.00	H	-	-	-78.36	3.75	32.39	-62.87	-13.00	-49.87

Table 7-48. Radiated Spurious Data (LTE Band 12 – Low Channel) – Ant2

Bandwidth (MHz):	10
Frequency (MHz):	707.5
RB / Offset:	1 / 25

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]
1415.00	H	-	-	-77.32	-2.65	27.03	-68.23	-13.00	-55.23
2122.50	H	-	-	-80.12	1.56	28.44	-66.81	-13.00	-53.81
2830.00	H	-	-	-78.00	3.39	32.39	-62.87	-13.00	-49.87

Table 7-49. Radiated Spurious Data (LTE Band 12 – Mid Channel) – Ant2

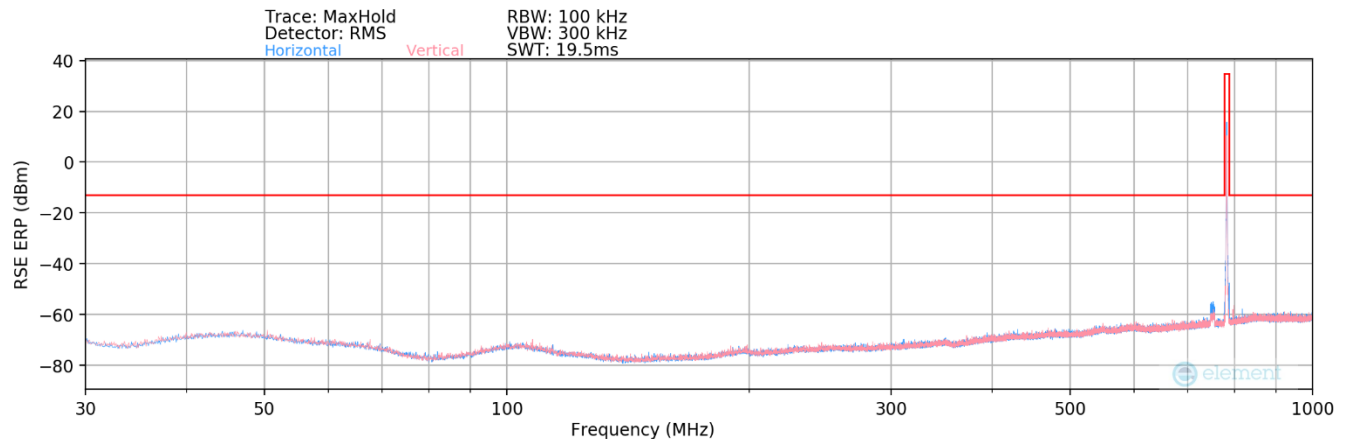
Bandwidth (MHz):	10
Frequency (MHz):	711
RB / Offset:	1 / 25

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]
1422.00	H	-	-	-77.15	-2.55	27.30	-67.96	-13.00	-54.96
2133.00	H	-	-	-80.18	1.64	28.46	-66.80	-13.00	-53.80
2844.00	H	-	-	-77.93	3.18	32.25	-63.01	-13.00	-50.01

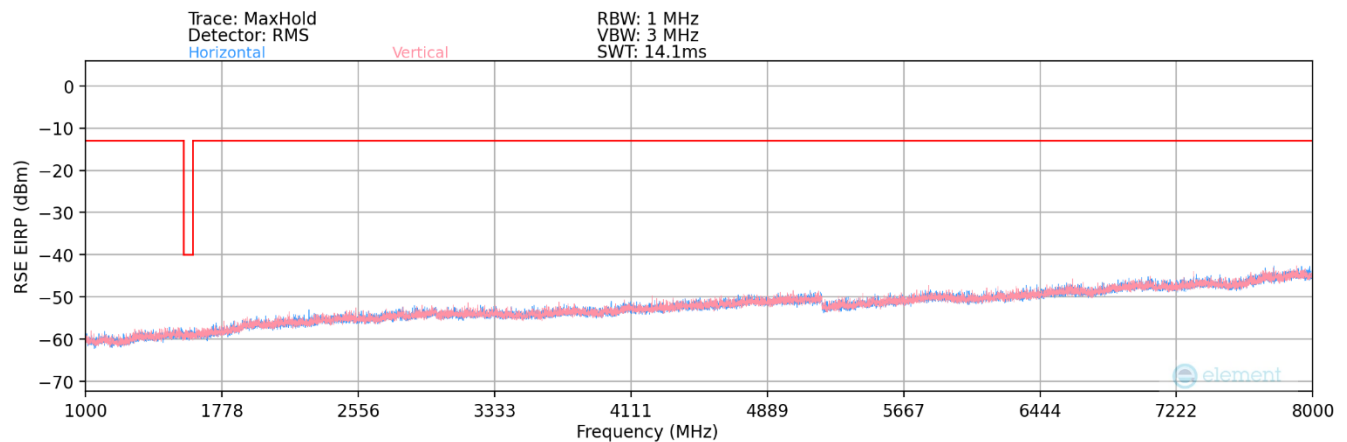
Table 7-50. Radiated Spurious Data (LTE Band 12 – High Channel) – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 135 of 144

LTE Band 13 – Ant2



Plot 7-158. Radiated Spurious Plot (LTE Band 13) – Ant2



Plot 7-159. Radiated Spurious Plot (LTE Band 13) – Ant2

Mode:	Stand Alone
Frequency (MHz):	782

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
101.60	H	210	61	-78.59	-13.48	14.93	-82.48	-13.00	-69.48

Table 7-51. Radiated Spurious Data (LTE Band 13) – Ant2

Bandwidth (MHz):	10
Frequency (MHz):	782
RB / Offset:	1 / 25

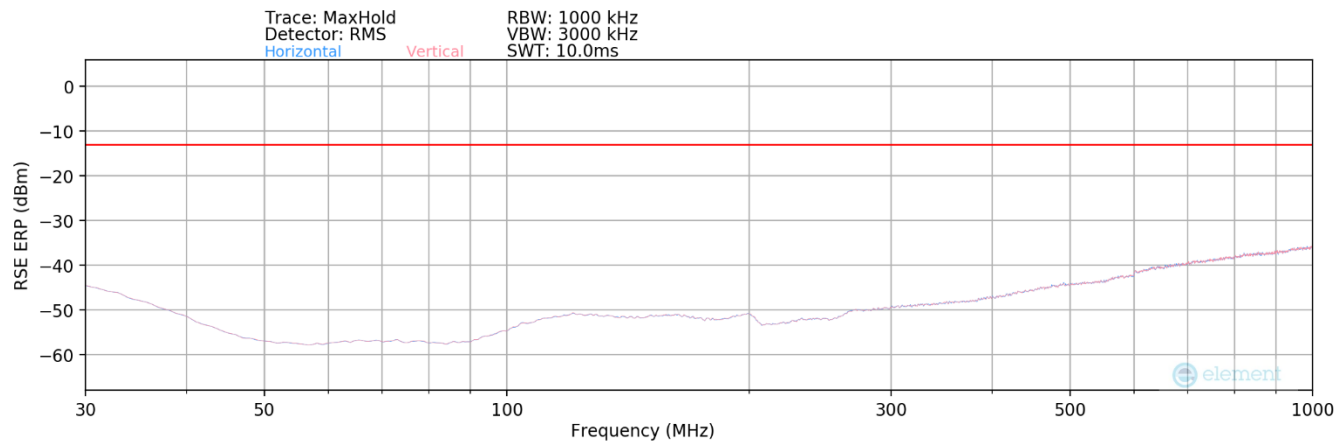
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1564.00	H	-	-	-77.41	-1.45	28.14	-67.12	-40.00	-27.12
2346.00	H	-	-	-78.10	2.43	31.33	-63.93	-13.00	-50.93
3128.00	H	-	-	-78.02	3.84	32.82	-62.44	-13.00	-49.44

Table 7-52. Radiated Spurious Data (LTE Band 13 – Mid Channel) – Ant2

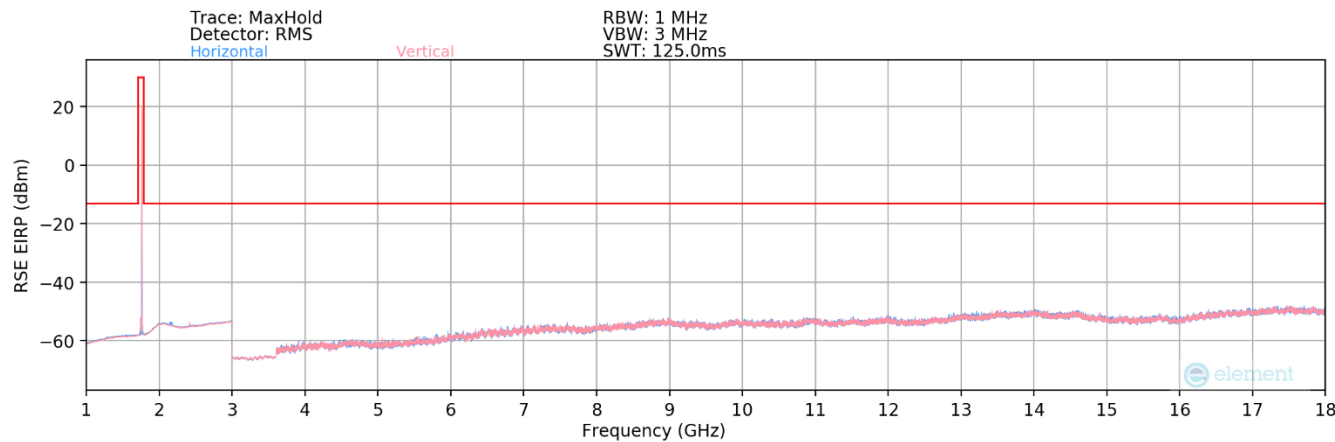
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 136 of 144



NR Band n66 – Ant2



Plot 7-160. Radiated Spurious Plot (NR Band n66) – Ant2



Plot 7-161. Radiated Spurious Plot (NR Band n66) – Ant2

Mode:	Stand Alone
Channel:	1760
Frequency (MHz):	1745

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
148.88	H	-	-	-84.40	19.77	42.37	-55.04	-13.00	-42.04

Table 7-53. Radiated Spurious Data (NR Band n66) – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset		Page 137 of 144

Bandwidth (MHz):	45
Frequency (MHz):	1732.5
RB / Offset:	1 / 108

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]
3465.00	H	-	-	-78.11	0.10	28.99	-66.27	-13.00	-53.27
5197.50	H	-	-	-79.62	3.55	30.93	-64.33	-13.00	-51.33
6930.00	H	-	-	-80.84	8.60	34.76	-60.49	-13.00	-47.49

Table 7-54. Radiated Spurious Data (NR Band n66 – Low Channel) – Ant2

Bandwidth (MHz):	45
Frequency (MHz):	1745
RB / Offset:	1 / 108

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]
3490.00	H	-	-	-78.25	0.15	28.90	-66.36	-13.00	-53.36
5235.00	H	-	-	-79.77	3.54	30.77	-64.48	-13.00	-51.48
6980.00	H	-	-	-79.04	7.97	35.93	-59.32	-13.00	-46.32

Table 7-55. Radiated Spurious Data (NR Band n66 – Mid Channel) – Ant2

Bandwidth (MHz):	45
Frequency (MHz):	1757.5
RB / Offset:	1 / 108

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]
3515.00	H	-	-	-77.90	0.00	29.10	-66.15	-13.00	-53.15
5272.50	H	-	-	-79.59	3.45	30.86	-64.40	-13.00	-51.40
7030.00	H	-	-	-79.12	8.09	35.97	-59.29	-13.00	-46.29

Table 7-56. Radiated Spurious Data (NR Band n66 – High Channel) – Ant2

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 138 of 144

7.9 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015. 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.

For Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI C63.26-2015 – Section 5.6

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

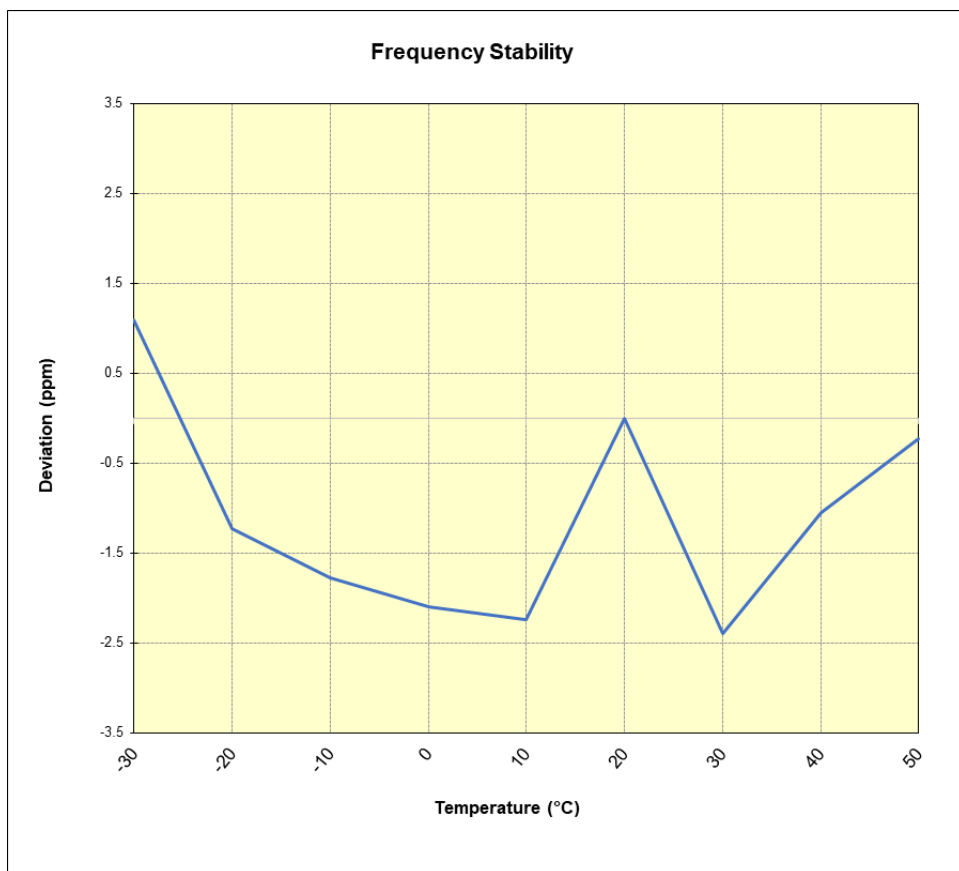
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 139 of 144

LTE Band 12

Operating Frequency (Hz):	707,500,000
Ref. Voltage (VDC):	3.85
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	- 30	707,603,478	774	0.0001094
		- 20	707,601,834	-870	-0.0001230
		- 10	707,601,448	-1,256	-0.0001775
		0	707,601,220	-1,484	-0.0002097
		+ 10	707,601,122	-1,582	-0.0002236
		+ 20 (Ref)	707,602,704	0	0.0000000
		+ 30	707,601,011	-1,693	-0.0002393
		+ 40	707,601,963	-741	-0.0001047
Battery Endpoint	3.21	+ 50	707,602,546	-158	-0.0000223
		+ 20	707,602,478	-226	-0.0000319

Table 7-57. LTE Band 12 Frequency Stability Data



Plot 7-162. LTE Band 12 Frequency Stability Chart

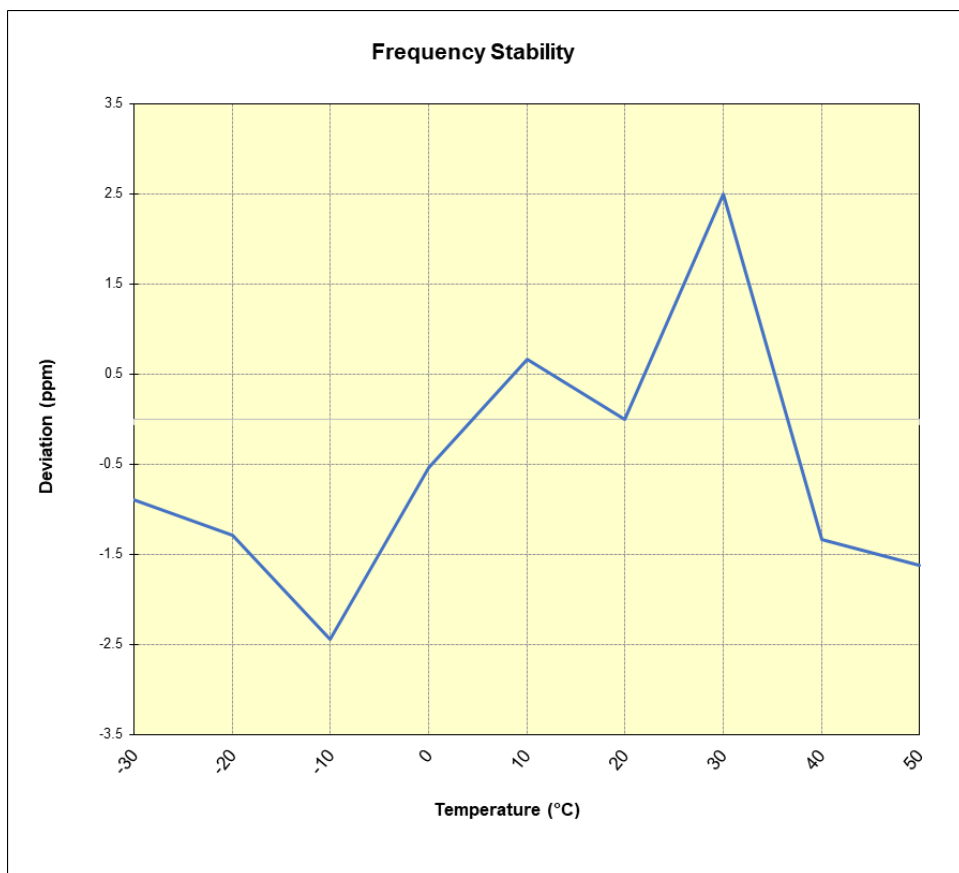
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 140 of 144

LTE Band 13

Operating Frequency (Hz):	782,000,000
Ref. Voltage (VDC):	3.85
Deviation Limit:	$\pm 0.00025\%$ or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	-30	782,094,733	-696	-0.0000890
		-20	782,094,425	-1,004	-0.0001284
		-10	782,093,522	-1,907	-0.0002438
		0	782,095,008	-421	-0.0000538
		+10	782,095,953	524	0.0000670
		+20 (Ref)	782,095,429	0	0.0000000
		+30	782,097,389	1,960	0.0002506
		+40	782,094,391	-1,038	-0.0001327
Battery Endpoint	3.21	+50	782,094,166	-1,263	-0.0001615
		+20	782,094,455	-974	-0.0001245

Table 7-58. LTE Band 13 Frequency Stability Data



Plot 7-163. LTE Band 13 Frequency Stability Chart

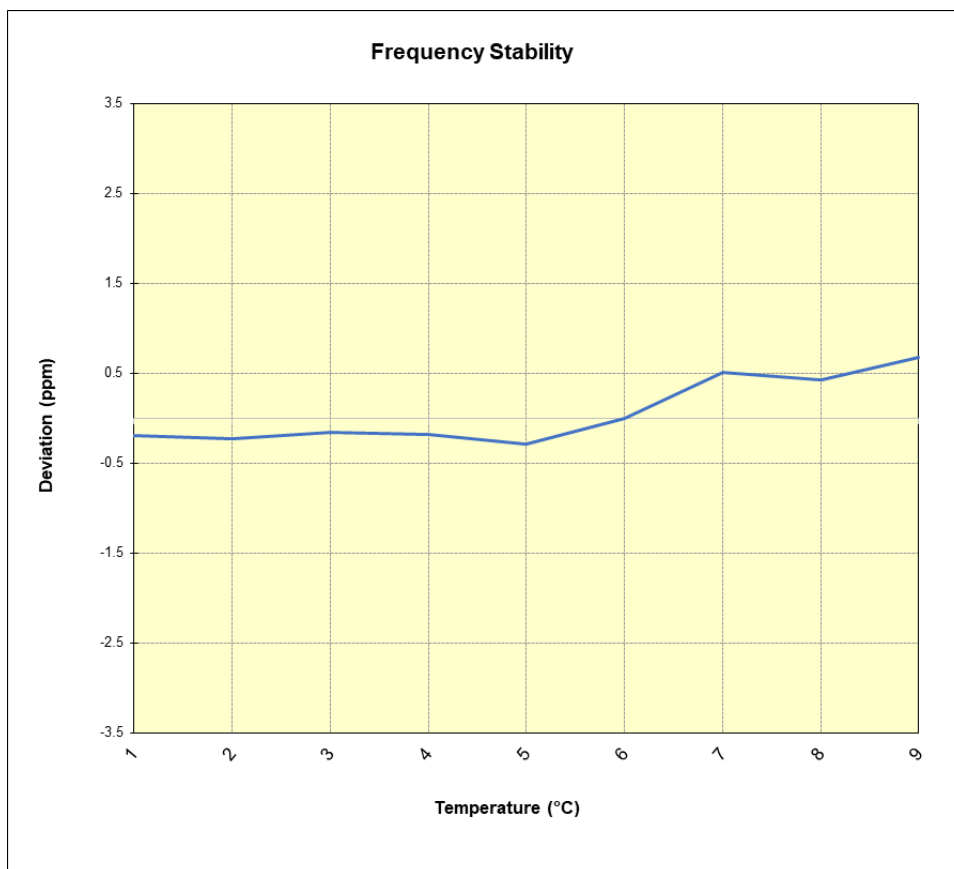
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 141 of 144

LTE Band 66/4

Operating Frequency (Hz):	1,745,000,000
Ref. Voltage (VDC):	3.85
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	- 30	1,745,049,501	-334	-0.0000191
		- 20	1,745,049,433	-402	-0.0000230
		- 10	1,745,049,569	-266	-0.0000152
		0	1,745,049,529	-306	-0.0000175
		+ 10	1,745,049,337	-498	-0.0000285
		+ 20 (Ref)	1,745,049,835	0	0.0000000
		+ 30	1,745,050,736	901	0.0000516
		+ 40	1,745,050,591	756	0.0000433
		+ 50	1,745,051,015	1,180	0.0000676
Battery Endpoint	3.21	+ 20	1,745,048,555	-1,280	-0.0000734

Table 7-59. LTE Band 66/4 Frequency Stability Data



Plot 7-164. LTE Band 66/4 Frequency Stability Chart

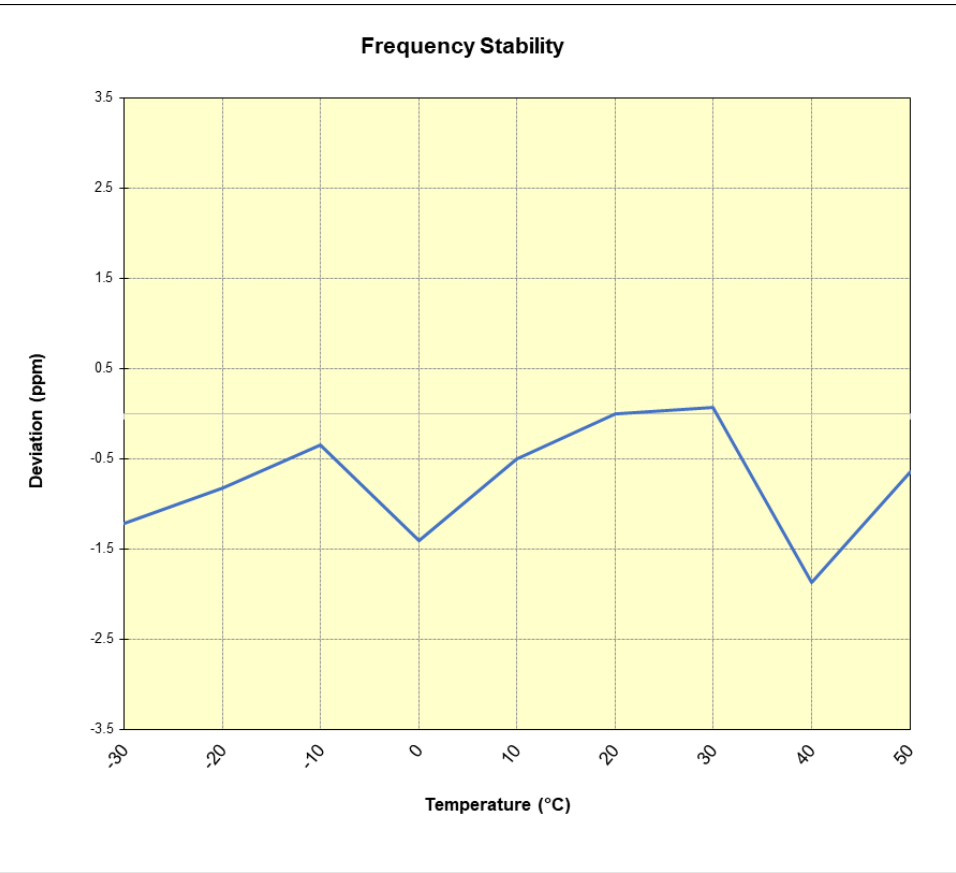
FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 142 of 144

NR Band n66

Operating Frequency (Hz):	1,745,000,000
Ref. Voltage (VDC):	3.85
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	- 30	1,745,000,249	-2,110	-0.0001209
		- 20	1,745,000,931	-1,428	-0.0000818
		- 10	1,745,001,760	-599	-0.0000343
		0	1,744,999,915	-2,444	-0.0001401
		+ 10	1,745,001,485	-874	-0.0000501
		+ 20 (Ref)	1,745,002,359	0	0.0000000
		+ 30	1,745,002,484	125	0.0000072
		+ 40	1,744,999,103	-3,256	-0.0001866
		+ 50	1,745,001,248	-1,111	-0.0000637
Battery Endpoint	3.21	+ 20	1,745,004,903	2,544	0.0001458

Table 7-60. NR Band n66 Frequency Stability Data



Plot 7-165. NR Band n66 Frequency Stability Chart

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 143 of 144



8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset** **FCC ID: A3LSMS938JPN** complies with all the requirements of Part 27 of the FCC rules.

FCC ID: A3LSMS938JPN	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2408260070-07.A3L	Test Dates: 09/06/2024 – 11/25/2024	EUT Type: Portable Handset	Page 144 of 144