

7.4 Spurious and Harmonic Emissions at Antenna Terminal

Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

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

Test Procedure Used

KDB 971168 D01 v03r01 - Section 6.0

Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to 10GHz (separated into at least two plots per channel)
- 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 7-3. Test Instrument & Measurement Setup

Test Notes

- 1. Per Part 27 and RSS-199, 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. However, 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. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.
- 2. For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

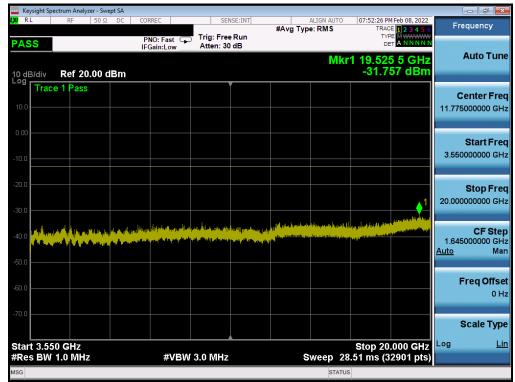
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 51 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 51 of 179
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NR Band n77 – DoD Band – SRS-1- Ant F

Keysight Spectrum Analyzer - Swept SA				
LXX RL RF 50Ω DC	CORREC SENSE:	#Avg Type: RMS	TRACE 1 2 3 4 5 6	Frequency
PASS 10 dB/div Ref 20.00 dBm	PNO: Fast Trig: Free Ru IFGain:Low Atten: 30 dB	5	TYPE ANNNNN DET ANNNNN Ikr1 3.426 5 GHz -30.105 dBm	Auto Tune
Trace 1 Pass				Center Fre 1.740000000 GH
-10.0				Start Fre 30.000000 M⊦
-20.0			\	Stop Fre 3.450000000 G⊦
-40.0	ي من المراجع ال محمد المراجع الم	n de Banalader (1940) (n die Geschenden (1940) Anne de State (1940) (n die Geschenden (1940) Anne de State (1940) (n die Geschenden (1940)		CF Ste 342.000000 MH Auto Ma
-60.0				Freq Offs 0 F
Start 30 MHz #Res BW 1.0 MHz	#VBW 3.0 MHz		Stop 3.450 GHz 4.560 ms (6841 pts)	Scale Typ
	#VBW 3.0 MHZ	Sweep		

Plot 7-67. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant F)



Plot 7-68. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant F)

FCC ID: A3LSMS906E	PCTEST Preud to be part of @ element	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 52 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 52 of 179
© 2022 PCTEST	•			V3.0 1/6/2022



🔤 Key	ysight Spec	ctrum Anal	yzer - Swej	pt SA										
lxi Ri	L	RF	50 Ω	DC	CORREC		SEN	ISE:INT	#Avg Typ	ALIGN AUTO		PM Feb 08, 2022 ACE 1 2 3 4 5 6	Frequ	Jency
PAS	S				PNO: F	Fast 🖵	Trig: Free Atten: 10				1			
					IFGain:	Low	Atten. It	ub		N/I		34 0 GHz	A	uto Tune
10 dE	Ridiv	Ref ()	.00 dB	m						IVII	-43.	075 dBm		
Log		1 Pas					,							
	lindee		·											nter Freq
-10.0													30.00000	0000 GHz
-20.0														
-20.0													S	tart Freq
-30.0													20.00000	0000 GHz
-40.0												- ♦ ¹ -	s	top Freq
										a malt	and the second participation of the second s	A design of the second s		0000 GHz
-50.0	duran and	يعديك حديدة	and an and a staff	a chainleachta	a yolan da da	or all of the state in the state in the state of the stat	मानुस सुम्ब (करना) कर	All Marine and	a na se	n an	a a subar a su	<u>متحافل بالكرينية المتحلية المحر</u>		
-60.0	dillo di alta	مانتا مركل	an a	إكتب فعروب كالتنا		ويتأو الأساليات	and the second							CF Step
-60.0														0000 GHz
-70.0													<u>Auto</u>	Man
													_	
-80.0													Fre	e q Offset 0 Hz
														0 H2
-90.0														
													SC	ale Type
	t 20.00										Stop	40.00 GHz	Log	Lin
#Re	s BW 1	1.0 MH	z			#VBW	3.0 MHz		S	weep	34.67 ms	(40001 pts)		
MSG										STA	TUS			

Plot 7-69. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant F)

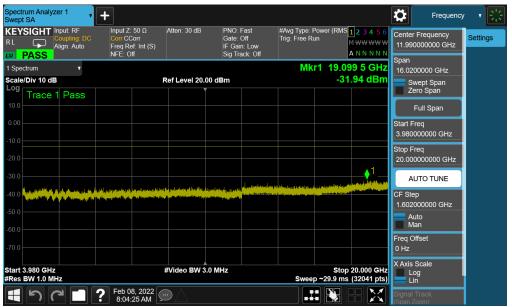
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 52 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 53 of 179
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NR Band n77 - C-Band - SRS-1- Ant F



Plot 7-70. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant F)



Plot 7-71. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 54 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 54 of 179
© 2022 PCTEST	•	·		V3.0 1/6/2022



R L Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Atten: 10 dB Corr CCorr Freq Ref. Int (S) NFE: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off		3 4 5 6 Center Frequency 30.00000000 GHz Span
1 Spectrum V			Mkr1 39.116 5	GHZ 20.000000 GHz
Scale/Div 10 dB	Ref Level 0.00	dBm	-41.14	dBm Swept Span Zero Span
10.0 Trace 1 Pass				Full Span
				Start Freq
-30.0				20.00000000 GHz
-40.0				1 Stop Freq 40.00000000 GHz
-50.0		alara di sa sa ka	Long and the second	
and the second		Sundania (Sundania)		AUTO TUNE
-60.0				CF Step 2.000000000 GHz
				Auto Man
				Freq Offset
				0 Hz
Start 20.00 GHz #Res BW 1.0 MHz	#Video BW 3.0	MHz	Stop 40.0 Sweep ~37.5 ms (400	LOG
Start 20.00 GHz	#Video BW 3.0 Feb 08, 2022	MHz		0 Hz X Axis Scale

Plot 7-72. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant F)



Plot 7-73. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant F)

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Test Report S/N:	Test Dates:	EUT Type:		Dogo EE of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 55 of 179
© 2022 PCTEST				V3 0 1/6/2022



1 Spectrum v Scale/Div 10 dB Log Trace 1 Pass 10.0 0.00 -10.0 -20.0	Ref Level 20.00 dBr	n	Mkr1 19.9: -31	35 5 GHz I.19 dBm	Gate View Off Gate Delay 4.218 ms Gate Length 701.60 µs	Source Gate Settings Periodic Sync Src
10.0 0.00 10.0					4.218 ms Gate Length	
10.0						
20.0					Gate Method	
				1	LO v Control Edge	
	n y Likel (Legensen and anne y sei 1961), para an Palance, by a fallanter In the Company of the Anne and the Company of the State of the Company In the Company of the	n palasta Denomination de la constanti de la constanti Denomination de la constanti de la constanti de la constanti Denomination de la constanti de	an a		Level Gate Holdoff 208.6 μs	
					Auto Man	
70.0	#Video BW 3.0 MHz	2	Stop	20.000 GHz	Gate View Sweep Time 5.0000 ms	

Plot 7-74. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant F)



Plot 7-75. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant F)

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Test Report S/N:	Test Dates:	EUT Type:		Dage EC of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 56 of 179
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CEYSIGHT Input: RF Coupling: DC Align: Auto Align: Auto	Input Z: 50 Ω At Corr CCorr Freq Ref: Int (S) NFE: Off	(PNO: Fast Gate: Off F Gain: Low Sig Track: Off	#Avg Type: Power (R Trig: Free Run	RMS <mark>1</mark> 23456 M WWWWW ANNNNN	Off	Trigger Gate
Spectrum v Scale/Div 10 dB	Ref	Level 20.00 dB	m		3.177 0 GHz -36.27 dBm	Gate View On Off	Source Gate Settings
10.0 Trace 1 Pass						Gate Delay 4.058 ms	Periodic Sync Src
						Gate Length 908.00 μs Gate Method	
20.0						LO T	
40.0	edisalines ys a wei, at the studied at the state is the set of a different studies of the different studies of the			, Lis san hitsels in sea det i fet Nillia	1 Helfler Andre Santi	Edge Level	
50.0						208.6 μs Auto Man	
						Gate View Sweep Time	
tart 30 MHz Res BW 1.0 MHz	#V	ideo BW 3.0 MH	z		Stop 3.700 GHz 8 ms (7341 pts)	7.0000 ms Gate View Start Time	

Plot 7-76. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant F)



Plot 7-77. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 57 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 57 of 179
© 2022 PCTEST		•		V3.0 1/6/2022



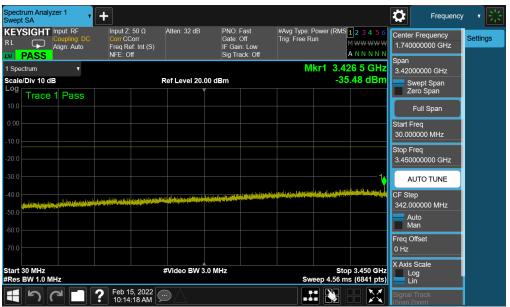
KEYSIGHT Input: RF R L Coupling: DC Align: Auto Align: Auto	Input Z: 50 Ω #Atten: 26 Corr CCorr Freq Ref: Int (S) NFE: Off	dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 6 Trig: Free Run A N N N N	∀ On	Trigger Gate
I Spectrum ▼ Scale/Div 10 dB	Ref Level	0.00 dBm	Mkr1 38.543 0 GH -28.97 dBn	On	Source Gate Settings
Trace 1 Pass				Gate Delay 4.058 ms	Periodic Sync Sr
20.0			▲ 1	Gate Length 908.00 µs	
-30.0	land programming provide the Antonia and an and any first state of the second state of the second state of the	in a standard and a standard and a standard and a standard a standard a standard a standard a standard a standa Standard a standard a st		Gate Method LO v	
50.0				Control Edge Level	
70.0				Gate Holdoff 208.6 µs	
				Auto Man	
				Gate View Sweep Time 7.0000 ms	
Start 20.00 GHz		V 3.0 MHz	Stop 40.00 GH		

Plot 7-78. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant F)

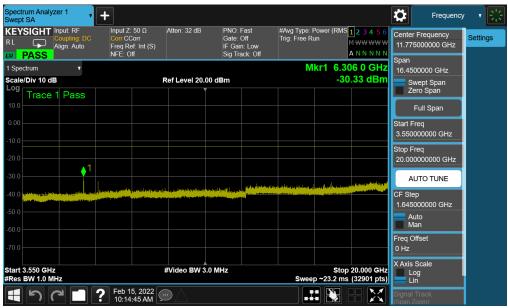
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 59 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 58 of 179
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NR Band n77 – DoD Band – SRS-2- Ant H



Plot 7-79. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant H)



Plot 7-80. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant H)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 50 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 59 of 179
© 2022 PCTEST	·			V3.0 1/6/2022



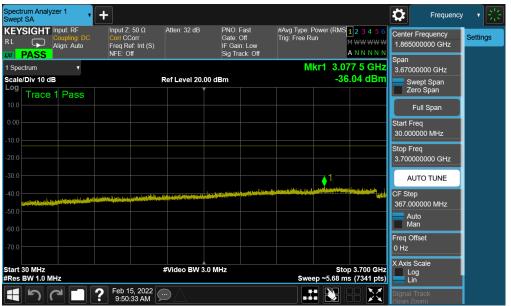
KEYSIGHT Input: RF R L Coupling: DC Align: Auto	Input Z: 50 Ω #Atten: 28 Corr CCorr Freq Ref: Int (S) NFE: Off	dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 Trig: Free Run M WWWW A N N N N	30.00000000 GHz	ettings
1 Spectrum v		0.00 dBm	Mkr1 38.419 0 GH -28.33 dB	20.000000000112	
Log Trace 1 Pass	Kei Levei		-20.35 UB	Swept Span Zero Span	
10.0				Full Span	
30.0			↓ 1	Start Freq 20.00000000 GHz	
40.0 Martillouting at 1911 - and 194	n an a sha an a fara an			Stop Freq 40.00000000 GHz	
				AUTO TUNE	
				CF Step 2.00000000 GHz	
.80.0				Auto Man	
				Freq Offset 0 Hz	
Start 20.00 GHz Res BW 1.0 MHz	#Video B\	W 3.0 MHz	Stop 40.00 G Sweep ~27.5 ms (40001 p		

Plot 7-81. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant H)

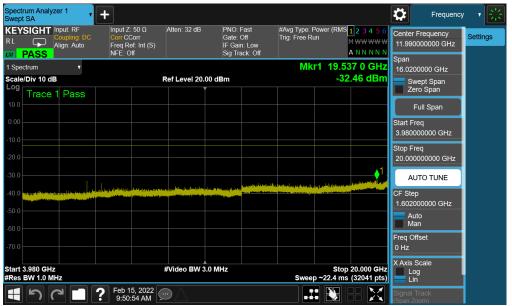
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 60 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset	Page 60 of 179	
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NR Band n77 - C-Band - SRS-2- Ant H



Plot 7-82. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant H)



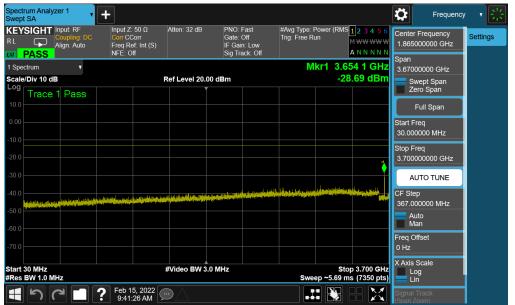
Plot 7-83. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant H)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 61 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 61 of 179
© 2022 PCTEST	·			V3.0 1/6/2022



KEYSIGHT Input: RF Coupling: DC Align: Auto	Input Ζ: 50 Ω # Corr CCorr Freq Ref: Int (S) NFE: Off		PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RM: Trig: Free Run	S <mark>1</mark> 23456 M WWWW ANNNNN	Center Frequency 30.000000000 GHz Span	Settings
Spectrum v cale/Div 10 dB	R	ef Level 0.00 dB	m	Mkr1 38.5 -2	555 0 GHz 9.88 dBm	20.0000000 GHz	
10.0						Zero Span Full Span	
				مادىدە ئەرسىمىلىردارىرىرى	1	Start Freq 20.000000000 GHz	
	n den skriver for en skriver i ser for alle ser for alle ser for a ser					Stop Freq 40.000000000 GHz	
						CF Step 2,000000000 GHz	
						Auto Man	
						Freq Offset 0 Hz	
tart 20.00 GHz Res BW 1.0 MHz	#\	/ideo BW 3.0 MH	iz	Steep ~27.5 m	op 40.00 GHz is (40001 pts)		

Plot 7-84. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant H)



Plot 7-85. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant H)

FCC ID: A3LSMS906E	PCTEST. Preud to be pest of @ element	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 62 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 62 of 179
© 2022 PCTEST	÷	·		V3.0 1/6/2022



KEYSIGHT Input: RF R L Coupling: DC Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 32 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: P Trig: Free Ru	ower (RMS 1 2 3 4 5 6 n M WW WW W A N N N N N	Center Frequency 11.990000000 GHz Span	Settings
Spectrum v Scale/Div 10 dB		Ref Level 20.00	dBm	Mkı	1 19.059 0 GHz -31.47 dBm	16.0200000 GHz	1
10.0 Trace 1 Pass						Zero Span Full Span	
						Start Freq 3.980000000 GHz	
20.0					<u> </u>	Stop Freq 20.000000000 GHz	
40.0	an a	e by a college data y control one data en pa		n feld "Neid Assent (An army data Marin alfa dinana a sala a marina a sala	pagens for statistic and spectrum strengthing to	AUTO TUNE CF Step 1.602000000 GHz	
						Auto Man	
						Freq Offset 0 Hz	
Start 3.980 GHz Res BW 1.0 MHz		#Video BW 3.0	MHz	Sweep	Stop 20.000 GHz 22.7 ms (36041 pts)		
4 h C L	? Feb 15, 2022 9:42:20 AM	\Box				Signal Track	

Plot 7-86. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant H)



Plot 7-87. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant H)

FCC ID: A3LSMS906E	PCTEST. Preud to be pest of @ element	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 62 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 63 of 179
© 2022 PCTEST	÷	·		V3.0 1/6/2022



KEYSIGHT Input: RF R L Coupling: DC Align: Auto Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 32 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (F Trig: Free Run	RMS <mark>1</mark> 23456 M WWWWW ANNNNN	Center Frequency 1.865000000 GHz Span	Settings
1 Spectrum v Scale/Div 10 dB		Ref Level 20.00	dBm		3.092 5 GHz -36.24 dBm	3.67000000 GHz	
10.0 Trace 1 Pass						Zero Span Full Span	
						Start Freq 30.000000 MHz	
-20.0						Stop Freq 3.700000000 GHz	
-30.0		s add at the associated by a some about the local		Lesettion detaileren stationer	Mathlesian () a taka	AUTO TUNE	
-50.0						367.000000 MHz	
						Freq Offset 0 Hz	
Start 30 MHz Res BW 1.0 MHz		#Video BW 3.0	MHz		Stop 3.700 GHz 8 ms (7341 pts)		
4 h C 🗌	? Feb 15, 2022 9:52:23 AM					Signal Track (Span Zoom)	

Plot 7-88. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant H)



Plot 7-89. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant H)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 64 of 170
1M2202030009-03.A3L	3.A3L 02/01/2022 - 02/28/2022 Portable Handset			Page 64 of 179
© 2022 PCTEST	•			V3.0 1/6/2022



KEYSIGHT Input: RF Coupling: DC Align: Auto W PASS	Input Z: 50 Ω #Att Corr CCorr Freq Ref: Int (S) NFE: Off	en: 26 dB PNO: F Gate: 0 IF Gain Sig Tra	יין דווק: Free א ו: Low	Power (RMS 1 2 3 4 5 6 Run M WW WW A N N N N N	Center Frequency 30.000000000 GHz Span	Settings
Spectrum v			Mk	(r1 38.617 0 GHz	20.0000000 GHz	
Scale/Div 10 dB	Ref	Level 0.00 dBm		-29.92 dBm	Swept Span Zero Span	
10.0					Full Span	
20.0				↓ 1	Start Freq 20.000000000 GHz	
		to post of provide the providence of the second		n in party proving and a low a list of the part of the party of the party of the party of the party of the part	Stop Freq 40.000000000 GHz	
50.0					AUTO TUNE	
60.0					CF Step 2.000000000 GHz	
80.0					Auto Man	
					Freq Offset 0 Hz	
itart 20.00 GHz Res BW 1.0 MHz	#Vic	leo BW 3.0 MHz	Swee	Stop 40.00 GHz ep ~27.5 ms (40001 pts)		

Plot 7-90. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant H)

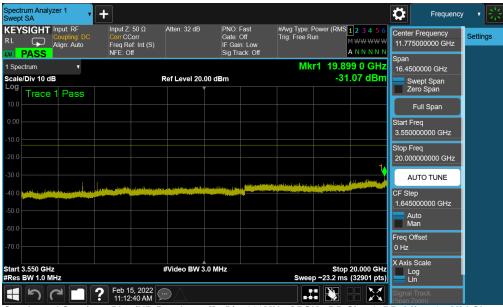
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 65 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022		Page 65 of 179	
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NR Band n77 – DoD Band – SRS-2- Ant C



Plot 7-91. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant C)



Plot 7-92. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant C)

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Test Report S/N:	Test Dates:	EUT Type:		Dage 66 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022 Portable Handset			Page 66 of 179
© 2022 PCTEST	·			V3.0 1/6/2022



KEYSIGHT Input: RF R L A Coupling: DC Align: Auto	Input Z: 50 Ω #Atten: 26 dB Corr CCorr Freq Ref: Int (S) NFE: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 6 Trig: Free Run A N N N N N	30.00000000 GHZ
1 Spectrum v Scale/Div 10 dB	Ref Level 0.00	dBm	Mkr1 38.526 0 GHz -30.34 dBm	20.0000000 GHz
10.0 Trace 1 Pass				Zero Span Full Span
				Start Freq 20.00000000 GHz
10.0 sector and the sector sector and a sector sect	n an			Stop Freq 40.000000000 GHz
60.0				AUTO TUNE CF Step
				2.000000000 GHz Auto Man
				Freq Offset 0 Hz
tart 20.00 GHz Res BW 1.0 MHz	#Video BW 3.0	MHz	Stop 40.00 GHz Sweep ~27.5 ms (40001 pts)	

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

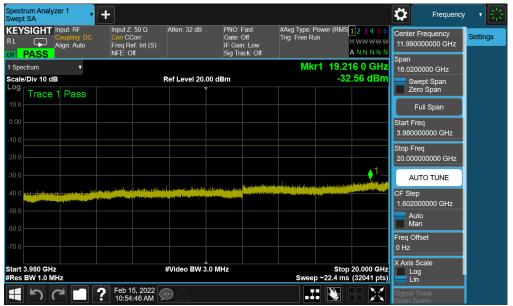
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 67 of 179
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Fage 67 01 179
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NR Band n77 - C-Band - SRS-2- Ant C



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



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

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 69 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 68 of 179
© 2022 PCTEST	•	•		V3.0 1/6/2022



KEYSIGHT Input: RF RL Coupling: DC Align: Auto Align: Auto	Input Z: 50 Ω #Atten: 26 dB Corr CCorr Freq Ref: Int (S) NFE: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off		23456 wwwww NNNNN	Center Frequency 30.000000000 GHz Span	Settings
Spectrum v cale/Div 10 dB	Ref Level 0.00 (dBm	Mkr1 38.697 -30.8	′ 5 GHz 31 dBm	20.0000000 GHz	
Trace 1 Pass					Zero Span Full Span	
20.0				♦ 1	Start Freq 20.00000000 GHz	
40.0 The stationing temption design at the lower of the	a a second a second de la seconda de la s				Stop Freq 40.000000000 GHz	
50.0					AUTO TUNE	
					2.000000000 GHz	
90.0					Man Freq Offset 0 Hz	
tart 20.00 GHz Res BW 1.0 MHz	#Video BW 3.0	MHz	Stop 4 Sweep ~27.5 ms (4	40.00 GHz	X Axis Scale Log	
	? Feb 15, 2022				Signal Track	

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



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

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 60 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022		Page 69 of 179	
© 2022 PCTEST				V3.0 1/6/2022



KEYSIGHT Input: RF R L Coupling: DC Align: Auto VI PASS	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 32 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: P Trig: Free Ru	Power (RMS 1 2 3 4 5 6 In MWWWWW A N N N N N	Center Frequency 11.990000000 GHz Span	Settings
1 Spectrum v Scale/Div 10 dB		Ref Level 20.00	dPm	Mki	r1 19.988 4 GHz -31.45 dBm	16.0200000 GHz	
Log Trace 1 Pass		Rei Levei 20.00			-51.45 dBiii	Swept Span Zero Span	
						Full Span	
0.00						Start Freq 3.980000000 GHz	
-20.0						Stop Freq 20.000000000 GHz	
			and maintained	tili pilkafilista – misana bana		AUTO TUNE	
-40.0	n ya na na kala kana kana kana kana kana ka		and the second		ny analasina amandana andal di kabbabbabbabbabbabbabbabbabbabbabbabbabb	CF Step 1.602000000 GHz	
-50.0						Auto Man	
						Freq Offset 0 Hz	
Start 3.980 GHz Res BW 1.0 MHz		#Video BW 3.0	MHz	Sweer	Stop 20.000 GHz 22.7 ms (36041 pts)		
	? Feb 15, 2022 10:39:11 AM					Signal Track	

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



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

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 70 of 170
1M2202030009-03.A3L	3L 02/01/2022 - 02/28/2022 Portable Handset			Page 70 of 179
© 2022 PCTEST	•	•		V3.0 1/6/2022



EYSIGHT Input: RF L Coupling: DC Align: Auto	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 32 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS Trig: Free Run	5 <mark>1</mark> 2 3 4 5 6 M WWWWW A N N N N N	Center Frequency 1.865000000 GHz Span	Settings
Spectrum v					90 5 GHz	3.67000000 GHz	
cale/Div 10 dB		Ref Level 20.00	dBm	-3	5.92 dBm	Swept Span Zero Span	
0.0						Full Span	
0.00						Start Freq 30.000000 MHz	
20.0						Stop Freq 3.700000000 GHz	
						AUTO TUNE	
10.0 Viti illus isteris 50.0	in a distriction of the sector discovery					CF Step 367.000000 MHz	
60.0						Auto Man	
						Freq Offset 0 Hz	
art 30 MHz Res BW 1.0 MHz		#Video BW 3.0	MHz	Steep ~5.68 r	op 3.700 GHz ns (7341 pts)	X Axis Scale Log Lin	

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



Plot 7-101. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant C)

FCC ID: A3LSMS906E	Percent of the element	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 71 of 170
1M2202030009-03.A3L	-03.A3L 02/01/2022 - 02/28/2022 Portable Handset			Page 71 of 179
© 2022 PCTEST				V3.0 1/6/2022



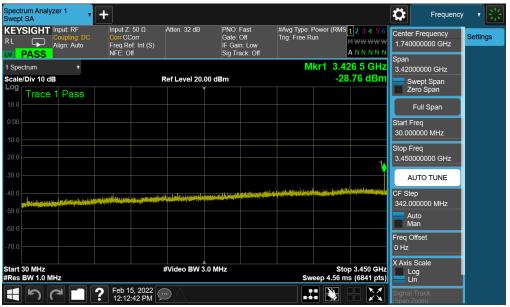
KEYSIGHT Input: RF RL Coupling: DC Align: Auto Align: Auto	Input Z: 50 Ω #Atten: Corr CCorr Freq Ref: Int (S) NFE: Off	26 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 Trig: Free Run A N N N N	30.00000000 GHz
Spectrum v cale/Div 10 dB	Reflex	/el 0.00 dBm	Mkr1 38.569 5 GH -30.42 dBi	Z 20.000000 GHz
.og Trace 1 Pass				Swept Span Zero Span
10.0				Full Span
30.0				Start Freq 20.000000000 GHz
40.0 Treation and a second birth and a second birth				Stop Freq 40.00000000 GHz
50.0				AUTO TUNE
				CF Step 2.000000000 GHz
80.0				Auto Man
				Freq Offset 0 Hz
tart 20.00 GHz Res BW 1.0 MHz	#Video	BW 3.0 MHz	Stop 40.00 G Sweep ~27.5 ms (40001 pt	

Plot 7-102. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant C)

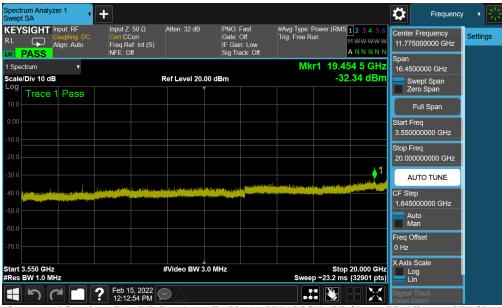
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 72 of 179
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Fage /2 01 1/9
© 2022 PCTEST				\/3.0.1/6/2022



NR Band n77 – DoD Band – SRS-2- Ant D



Plot 7-103. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant D)



Plot 7-104. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant D)

FCC ID: A3LSMS906E	Percent of the selement	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 72 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 73 of 179
© 2022 PCTEST	•			V3.0 1/6/2022



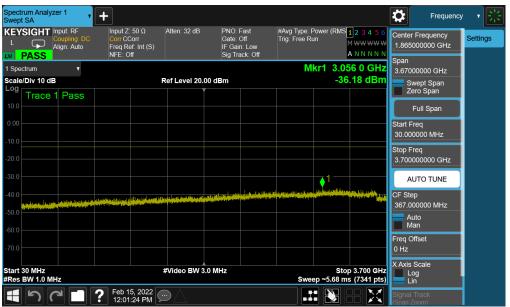
KEYSIGHT Input: RF R L Coupling: DC Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	#Atten: 26 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS Trig: Free Run	123456 M WWWW ANNNNN	Center Frequency 30.000000000 GHz	Settings
1 Spectrum V				Mkr1 38.4		20.0000000000112	
Scale/Div 10 dB		Ref Level 0.00 dl	Bm	-21	8.35 dBm	Swept Span Zero Span	
10.0						Full Span	
20.0					∳ 1	Start Freq 20.000000000 GHz	
40.0 adjentition of the second second		ene preskom gester in too opsider. In 1995 som gester in too opsider.	(a) A a second resulting the distance			Stop Freq 40.000000000 GHz	
50.0						AUTO TUNE	
60.0						CF Step 2.000000000 GHz	
80.0						Auto Man	
						Freq Offset 0 Hz	
Start 20.00 GHz #Res BW 1.0 MHz		#Video BW 3.0 N	IHz	Sweep ~27.5 ms	op 40.00 GHz s (40001 pts)	X Axis Scale Log Lin	

Plot 7-105. Conducted Spurious Plot (NR Band n77 (DoD) - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant D)

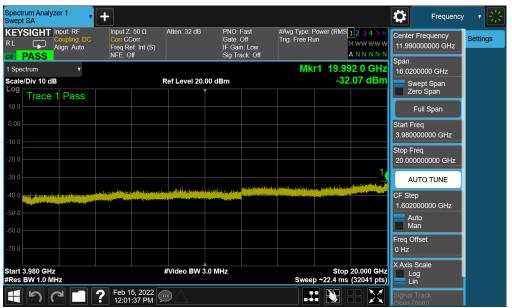
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 74 of 179
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Fage 74 01 179
© 2022 PCTEST				\/3.0.1/6/2022



NR Band n77 - C-Band - SRS-2- Ant D



Plot 7-106. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant D)

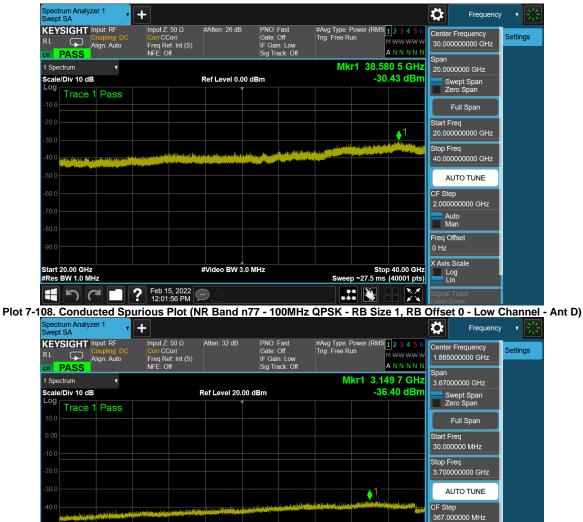


Plot 7-107. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Low Channel - Ant D)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	Test Dates: EUT Type:		Dega 75 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 75 of 179
© 2022 PCTEST	•			V3.0 1/6/2022



Start 30 MHz #Res BW 1.0 MHz



Plot 7-109. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant D)

#Video BW 3.0 MHz

Auto Man Freq Offset 0 Hz X Axis Scale

Log

Stop 3.700 GHz Sweep ~5.69 ms (7350 pts)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 76 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 76 of 179
© 2022 PCTEST	•	•		V3.0.1/6/2022



KEYSIGHT Input: RF Coupling: DC Align: Auto PASS Align: Auto	Input Z: 50 Ω Atten: 32 dB Corr CCorr Freq Ref: Int (S) NFE: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (RMS 1 2 3 4 5 Trig: Free Run A N N N N	11.99000000 GHz
1 Spectrum v Scale/Div 10 dB	Ref Level 20.00	dBm	Mkr1 19.490 2 GH -31.89 dBr	Z 16.0200000 GHz
^{10.0} Trace 1 Pass				Euli Span
10.0				Start Freq 3.980000000 GHz Stop Freg
			↓	20.000000000 GHz
	la popul (Alfred pol ha Carlon Society and Lagrad poly and the second balance of the second balance of the second s	History and the second s		CF Step 1.602000000 GHz
60.0				Auto Man Freg Offset
				0 Hz X Axis Scale
Start 3.980 GHz #Res BW 1.0 MHz	#Video BW 3.0	MHz	Stop 20.000 GF Sweep ~22.7 ms (36041 pt	iz Log

Plot 7-110. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant D)



Plot 7-111. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel - Ant D)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 77 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset	Page 77 of 179
© 2022 PCTEST			V3.0 1/6/2022



L Certain Coupling: DC Align: Auto	Input Z: 50 Ω A' Corr CCorr Freq Ref: Int (S) NFE: Off		PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Power (R Trig: Free Run	RMS 1 2 3 4 5 6 M WW WW W A N N N N N	Center Frequency 1.865000000 GHz Span	Settings
Spectrum v cale/Div 10 dB	Re	f Level 20.00 dB	m		3.288 0 GHz -36.71 dBm	3.67000000 GHz	
Trace 1 Pass						Zero Span Full Span	
						Start Freq 30.000000 MHz	
20.0						Stop Freq 3.70000000 GHz	ļ
10.0	er die staar van die staat die staat die staat geste		a fingenti di alther	an din la la superior de militario de	1 And an and a state of the sta	AUTO TUNE CF Step 367.000000 MHz	
50.0						Auto Man	
						Freq Offset 0 Hz	
tart 30 MHz Res BW 1.0 MHz	#\	/ideo BW 3.0 MH	lz		Stop 3.700 GHz i8 ms (7341 pts)	X Axis Scale Log Lin	

Plot 7-112. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant D)



Plot 7-113. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant D)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dogo 78 of 170	
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 78 of 179	
© 2022 PCTEST	·			V3.0 1/6/2022	



KEYSIGHT Input: RF Coupling: DC Align: Auto M PASS	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	#Atten: 26 dB	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: Pow Trig: Free Run	ver (RMS <mark>123456</mark> M WWWWW ANNNNN	Center Frequency 30.000000000 GHz Span	Setting
1 Spectrum 🔹				Mkr1	38.587 5 GHz	20.0000000 GHz	
Scale/Div 10 dB		Ref Level 0.00 d	Bm		-30.89 dBm	Swept Span Zero Span	
10.0 Trace 1 Pass						Full Span	
20.0					_ 1	Start Freq 20.000000000 GHz	
30.0 40.0	the print of the second s	an a				Stop Freq 40.000000000 GHz	
50.0						AUTO TUNE	
60.0						CF Step 2.00000000 GHz	
						Auto Man	
						Freq Offset	
						0 Hz	

Plot 7-114. Conducted Spurious Plot (NR Band n77 - 100MHz QPSK - RB Size 1, RB Offset 0 - High Channel - Ant D)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 79 of 179
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Fage 79 01 179
© 2022 PCTEST				\/3.0.1/6/2022



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 maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

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

Test Procedure Used

KDB 971168 D01 v03r01 - Section 6.0

Test Settings

- 1. Start 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 $\geq 2 \times \text{Span/RBW}$
- 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: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 80 of 179
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Fage of 01 179
© 2022 PCTEST				V3 0 1/6/2022



- 1. Per 27.53(h), in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.
- 2. 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: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 91 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 81 of 179
© 2022 PCTEST	*	•		V3.0 1/6/2022



NR Band n77 – DoD Band – SRS-1-Ant F

K RL	R		ious Emission	s RREC		SENSE:INT			00-06-51 0	ME-1 00 2022		ð 💌
PASS	C.t	e: LO			+++ Trig:	r Freq: 3.500000 Free Run	0000 GHz	ALIGN AUTO	Radio Std		Frequer	icy
-ASS	_		IF	Gain:Low	, #Atte	n: 26 dB			Radio Dev	vice: BTS		
10 dB/d		Ref 30.00	dDma									
_og	עוג	Rei 30.00	ubili									
20.0											Cente	r Fre
10.0											3.5000000	00 GH
0.00							and and the second s		**************************************			
10.0												
20.0 —												
30.0 —				- ·						www.		
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50.0 🚧	to generation	w .										
60.0												
	0.005.0	NI I							Ot 0	575 OU-		
start .	3.325 G	GHz							Stop 3	.575 GHz	CI 25.0000	
	3.325 G Range		Stop	Freq	RBW	Frequency	Amp	litude	Stop 3	9.575 GHz		00 M⊦
Spur	Range 1	Start Freq 3.3250 GHz	3.4450) GHz	1.000 MHz	3.402200000	GHz -32.96	6 dBm	∆ Limit -19.96 dE	3	25.0000	00 M⊢
Spur	Range 1 2	Start Freq 3.3250 GHz 3.4450 GHz	3.4450 3.4490) GHz) GHz	1.000 MHz 510.0 kHz	3.402200000 (3.446293333 (GHz -32.96 GHz -36.34	dBm dBm	∆ Limit -19.96 dE -23.34 dE	<u>}</u>	25.0000	00 M⊢ Ma
Spur 1 2 3	Range 1 2 3	Start Freq 3.3250 GHz 3.4450 GHz 3.4490 GHz	3.4450 3.4490 3.4500) <mark>GHz</mark>) GHz) GHz	1.000 MHz 510.0 kHz 360.0 kHz	3.402200000 (3.446293333 (3.449863333 (GHz -32.90 GHz -36.34 GHz -37.79	o dBm I dBm O dBm	∆ Limit -19.96 dE -23.34 dE -24.79 dE	3 3 3	25.0000 <u>Auto</u>	Ма
Spur	Range 1 2 3	Start Freq 3.3250 GHz 3.4450 GHz	3.4450 3.4490 3.4500) <mark>GHz</mark>) GHz) GHz	1.000 MHz 510.0 kHz 360.0 kHz	3.402200000 (3.446293333 (GHz -32.90 GHz -36.34 GHz -37.79	o dBm I dBm O dBm	∆ Limit -19.96 dE -23.34 dE	3 3 3	25.0000 <u>Auto</u>	00 M⊢ Ma Offse
Spur	Range 1 2 3	Start Freq 3.3250 GHz 3.4450 GHz 3.4490 GHz	3.4450 3.4490 3.4500) <mark>GHz</mark>) GHz) GHz	1.000 MHz 510.0 kHz 360.0 kHz	3.402200000 (3.446293333 (3.449863333 (GHz -32.90 GHz -36.34 GHz -37.79	o dBm I dBm O dBm	∆ Limit -19.96 dE -23.34 dE -24.79 dE	3 3 3	25.0000 <u>Auto</u>	00 M⊢ Ma Offse
Spur	Range 1 2 3	Start Freq 3.3250 GHz 3.4450 GHz 3.4490 GHz	3.4450 3.4490 3.4500) <mark>GHz</mark>) GHz) GHz	1.000 MHz 510.0 kHz 360.0 kHz	3.402200000 (3.446293333 (3.449863333 (GHz -32.90 GHz -36.34 GHz -37.79	o dBm I dBm O dBm	∆ Limit -19.96 dE -23.34 dE -24.79 dE	3 3 3	25.0000 <u>Auto</u>	00 M⊢ Ma Offse
Spur	Range 1 2 3	Start Freq 3.3250 GHz 3.4450 GHz 3.4490 GHz	3.4450 3.4490 3.4500) <mark>GHz</mark>) GHz) GHz	1.000 MHz 510.0 kHz 360.0 kHz	3.402200000 (3.446293333 (3.449863333 (GHz -32.90 GHz -36.34 GHz -37.79	o dBm I dBm O dBm	∆ Limit -19.96 dE -23.34 dE -24.79 dE	3 3 3	25.0000 <u>Auto</u>	00 M⊢ Ma Offso
Spur	Range 1 2 3	Start Freq 3.3250 GHz 3.4450 GHz 3.4490 GHz	3.4450 3.4490 3.4500) <mark>GHz</mark>) GHz) GHz	1.000 MHz 510.0 kHz 360.0 kHz	3.402200000 (3.446293333 (3.449863333 (GHz -32.90 GHz -36.34 GHz -37.79	o dBm I dBm O dBm	∆ Limit -19.96 dE -23.34 dE -24.79 dE	3 3 3	25.0000 <u>Auto</u>	00 M⊢ Ma Offso

Plot 7-115. Lower ACP Plot (NR Band n77 (DoD) - 100MHz CP-OFDM-QPSK - Full RB - Ant F)



Plot 7-116. Upper ACP Plot (NR Band n77 (DoD) - 100MHz CP-OFDM-QPSK - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 92 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 82 of 179
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URIOUS EMISSIONS EYSIGHT Input: RF L +++ Coupling: D Align: Auto	C Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free Run Gate: LO IF Gain: Low	Center Freq Radio Std: N	: 3.495000000 GHz Ione	Center Frequency 3.49500000 GHz CF Step	Settings
All Range Graph		Ref Value 30.0	0 dBm			22.500000 MHz Auto Man	
0.0			18-11-1-11-11-11-11-11-11-11-11-11-11-11			Freq Offset 0 Hz	
0.0 0.0 0.0 0.0 0.0 0.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						
art 3.338 GHz					Stop 3.563 GH	z	
			Measure Tra Trace Type		Trace 1 Trace Average (Active)		
	Start Freq Stop Free 3375 GHz 3.4450 GH		Frequency 3 408270833 GHz	Amplitude	∆Limit -19.52 dB		
2 2 3 3 3 3	3.4450 GHz 3.4490 GHz 3.4490 GHz 3.4500 GHz 3.4500 GHz 3.5625 GH	iz 510.0 kHz iz 360.0 kHz	3.448013333 GHz 3.449903333 GHz	-36.83 dBm -36.83 dBm 3.697 dBm	-23.83 dB -23.83 dB -22.30 dB		
150	Feb 09, 2022 9:46:06 AM		0.020010000 GHZ				

Plot 7-117. Lower ACP Plot (NR Band n77 (DoD) - 90MHz CP-OFDM-QPSK – Full RB - Ant F)

Spectrur Spurious			• +								\$	Frequence	by ▼ 崇
RL	+	Input: RF Coupling Align: Au	DC Conto	CCorr Ref: Int (S)	Atten: 26 dB	Trig: F Gate: IF Gai		Center Freq: Radio Std: N	3.505000000 Ione) GHz		requency 00000 GHz	Settings
3 All Ran	ASS ige Graf	oh v	NFE 7	:: Off							CF Step 22.5000	000 MHz	
Scale/D	iv 10.0	dB		F	Ref Value 30.0	00 dBm					Aut		
Log											Mai		
10.0											Freq Off 0 Hz	set	
-10.0													•
-20.0		_											
-30.0		_			ļ								
-40.0	the states					Manura fr		man					
-50.0										And a start of the			
-60.0													
Start 3.4	138 GH	 Z							Stor	3.663 GHz			
4 All Ran	ige Tabl	e 1	,										
							asure Trac			Trace 1			
						Tra	се Туре		Trace Avera	ge (Active)			
	Spur	Range	Start Freq	Stop Freq	RBW	Freque		Amplitude	∆Limi				
	1	1		3.5500 GHz 3.5510 GHz				3.821 dBm	-22.18				
-	2			3.5510 GHZ 3.5550 GHZ					-17.24 -16.11				
	4			3.6625 GHz					-16.15				
	5	C	9:	b 09, 2022 49:36 AM				.:					at Γ)

Plot 7-118. Upper ACP Plot (NR Band n77 (DoD) - 90MHz CP-OFDM-QPSK – Full RB - Ant F)

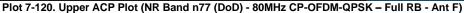
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 92 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset		Page 83 of 179
© 2022 PCTEST		•		V3.0 1/6/2022



	:: RF bling: DC :: Auto	Input Z: 5 Corr CCo Freq Ref NFE: Off	orr : Int (S)	Atten: 26 dB	Gate:	Free Run LO in: Low	Center Fre Radio Std:	q: 3.49000000 None) GHz		Frequency 00000 GHz	Settings
II Range Graph	•										, 000 MHz	
ale/Div 10.0 dB			R	ef Value 30.0	00 dBm					Aut		
.0										Ma		
					-					Freq Off 0 Hz	iset	
.0										0 HZ		
									man and and and and and and and and and a			
0.0			and the second secon	and and a second designed					11.200			
.0												
rt 3.350 GHz								Sto	o 3.550 GHz			
ll Range Table	•											
						easure Trae ace Type	ce	Trace Avera	Trace 1			
Spur Ran	ae Start	Frog St	top Freq	RBW	Frequ		Amplitude	nace Avera ∆Limi	,			
							-34.62 dBm					
2	2 3.445	0 GHz 3.4	1490 GHz	510.0 kHz	3.447440	000 GHz	-37.11 dBm	-24.1	dB			
3		0 GHz 3.4		360.0 kHz 1.000 MHz			-38.51 dBm 3.805 dBm	-25.5				
	4 3.430	0 GHZ 3.0	SOU GHZ	1.000 IVIHZ	3.306000	000 GHZ	3.805 GPU	-22.20	uв			

Plot 7-119. Lower ACP Plot (NR Band n77 (DoD) - 80MHz CP-OFDM-QPSK – Full RB - Ant F)





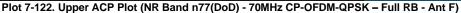
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 84 of 179
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	- 02/28/2022 Portable Handset	
© 2022 PCTEST	•		V3.0 1/6/2022



YSIGHT Input: RF Coupling: I Align: Auto PASS		Atten: 26 dB	Trig: Free Run Gate: LO IF Gain: Low	Center Freq: 3 Radio Std: No	3.485000000 GHz nne	Center Frequency 3.48500000 GHz	ttings
ll Range Graph 🔹 🔻						17.500000 MHz	
ale/Div 10.0 dB		Ref Value 30.00	dBm			Auto	
.0						Man	
					www.wasanady	Freq Offset 0 Hz	
.0		(
0.0 0.	maymouth						
rt 3.363 GHz					Stop 3.538 GHz		
Il Range Table 🔹 🔻							
			Measure Trac		Trace 1		
			Trace Type		race Average (Active)		
	Start Freq Stop Freq 3.3625 GHz 3.4450 GH	RBW	Frequency	Amplitude -34.01 dBm	∆Limit -21.01 dB		
	3.4450 GHz 3.4490 GH		.418875000 GHz		-21.01 dB		
3 3	3.4490 GHz 3.4500 GH	z 360.0 kHz 3	.449903333 GHz	-38.51 dBm	-25.51 dB		
	3.4500 GHz 3.5375 GH	z 1.000 MHz 3	.514750000 GHz	5.395 dBm	-20.61 dB		
4 4 3							

Plot 7-121. Lower ACP Plot (NR Band n77 (DoD) - 70MHz CP-OFDM-QPSK – Full RB - Ant F)



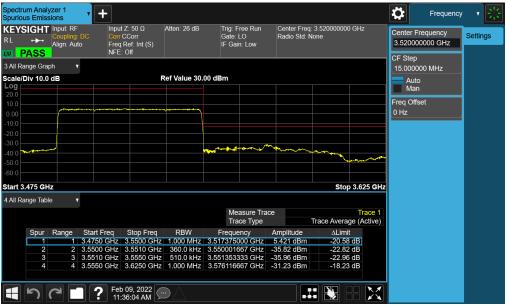


FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 85 of 179
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	/2022 - 02/28/2022 Portable Handset	
© 2022 PCTEST	•		V3.0 1/6/2022



II Range Graph CF Step 15.00000 MHz Auto Man Freq Offset 0 Hz	
Audo Audo Audo Freq Offset 0 Hz	
0 Image: Constraint of the second s	
0 Hz	
	4
t 3.375 GHz Stop 3.525 GHz	
Range Table V Measure Trace Trace 1	
Measure Trace Trace 1 Trace Type Trace Average (Active)	
Spur Range Start Freq Stop Freq RBW Frequency Amplitude	
1 3.3750 GHz 3.4450 GHz 1.000 MHz 3.419100000 GHz -34.81 dBm21.81 dB	
2 2 3.4450 GHz 3.4490 GHz 510.0 kHz 3.448933333 GHz -38.61 dBm -25.61 dB	
3 3 3.4490 GHz 3.4500 GHz 3.60.0 kHz 3.449991667 GHz -37.96 dBm -24.96 dB 4 4 3.4500 GHz 1.000 MHz 3.497750000 GHz 5.985 dBm -20.02 dB	

Plot 7-123. Lower ACP Plot (NR Band n77 (DoD) - 60MHz CP-OFDM-QPSK - Full RB - Ant F)



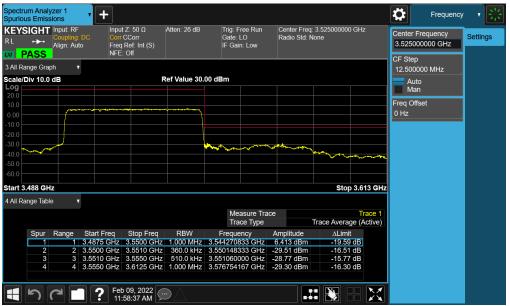


FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 96 of 170	
1M2202030009-03.A3L	02/01/2022 - 02/28/2022 Portable Handset		Page 86 of 179	
© 2022 PCTEST	•		V3.0 1/6/2022	



	ut: RF ipling: DC in: Auto	Input Z: Corr CC Freq Re NFE: Of	orr f: Int (S)	Atten: 26 dB	Gate	Free Run : LO ain: Low		iter Freq: 3 lio Std: No	3.475000000 one	GHz		Frequency 00000 GHz	Setting
l Range Graph	•											000 MHz	
le/Div 10.0 dB			R	ef Value 30.0	00 dBm						Aut		
0											Ma		
0											Freq Off 0 Hz	set	
0													
0			and the second										
0													
rt 3.388 GHz									Stop	3.513 GHz			
I Range Table	•								Stop	3.313 GHZ			
r kange table	· ·					easure Tra				Trace 1			
						easure fra ace Type	ce	Т	race Averag				
Spur Ra	nge Start	Freq S	top Freq	RBW	Frequ	iency	Ampl		∆Limit				
1				1.000 MHz					-21.51				
2			4490 GHz 4500 GHz	510.0 kHz 360.0 kHz					-21.15 -21.83				
4				1.000 MHz				7 dBm	-21.83				

Plot 7-125. Lower ACP Plot (NR Band n77 (DoD) - 50MHz CP-OFDM-QPSK - Full RB - Ant F)



Plot 7-126. Upper ACP Plot (NR Band n77 (DoD) - 50MHz CP-OFDM-QPSK - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dege 97 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset	Page 87 of 179	
© 2022 PCTEST				V3.0 1/6/2022



	R	tef Value 30.	00 dBm					CF Step 10.000 Aut Ma Freq Off 0 Hz	000 MHz to in	
		tef Value 30.1	00 dBm	99				Ma Freq Of	in	
								Freq Of		
			(,						ISEL	
	and the second se	and the second designed to the second designed to the second designed as the second designe				ľ				
						Stop	3.500 GHz			
v										
			Mea	asure Trac	e		Trace 1			
							e (Active)			
e Start Freq	Stop Freq						dB			
3 3.4490 GHz	3.4500 GHz	360.0 kHz	3.4499800	00 GHz	-33.93 dBm	-20.93	dB			
4 3.4500 GHz	3.5000 GHz	1.000 MHz	3.4776666	67 GHz	5.111 dBm	-20.89	dB			
	Start Freq 1 3.4000 GHz 2 3.4450 GHz 3 3.4490 GHz 4 3.4500 GHz	Start Freq Stop Freq 3.4000 GHz 3.4450 GHz 3.4450 GHz 3.4490 GHz 3.4450 GHz 3.4500 GHz 4.3.4500 GHz 3.5000 GHz 5.50 00.2020	Start Freq Stop Freq RBW 3.4000 GHz 3.4450 GHz 1.000 MHz 3.4450 GHz 3.4450 GHz 510.0 kHz 3.4490 GHz 3.4500 GHz 360.0 kHz 3.4500 GHz 3.5000 GHz 1.000 MHz 5.4500 GHz 3.5000 GHz 1.000 MHz 5.5000 GHz 1.000 MHz 1.000 MHz	Mec Trac Start Freq Stop Freq RBW Freque 1 34000 GHz 34450 GHz 1.000 MHz 34431250 2 34450 GHz 3.4490 GHz 510.0 KHz 3443300 3 34490 GHz 34500 GHz 360.0 KHz 34498000 4 3.4500 GHz 3.5000 GHz 1.000 MHz 34776666	Measure Trace Trace Type Start Freq Stop Freq RBW Frequency 1 3.4000 GHz 3.4450 GHz 1.000 MHz 3.443125000 GHz 2 3.4450 GHz 3.4490 GHz 510.0 KHz 3.443830000 GHz 3 3.4490 GHz 3.4500 GHz 360.0 KHz 3.449980000 GHz 4 3.4500 GHz 3.5000 GHz 1.000 MHz 3.477666667 GHz	Measure Trace Trace Type Start Freq Stop Freq RBW Frequency Amplitude 3.4400 GHz 3.4450 GHz 1.000 MHz 3.443125000 GHz -33.95 dBm 2 3.4450 GHz 3.4450 GHz 510.0 kHz 3.443880000 GHz -33.89 dBm 3 3.4490 GHz 3.4500 GHz 3.600 GHz 3.69 dBm 3 3.4500 GHz 3.5000 GHz 1.000 MHz 3.477666667 GHz 5.111 dBm Feb 09, 2022 Feb 09, 2022 Feb 09, 2022 Feb 09, 2022 Feb 09, 2022	Measure Trace Trace Type Trace Average Start Freq Stop Freq RBW Frequency Amplitude ALimit 1 3.4000 GHz 3.4450 GHz 1.000 MHz 3.443125000 GHz -33.95 dBm -20.95 2 3.4450 GHz 3.4490 GHz 510.0 KHz 3.44380000 GHz -33.93 dBm -20.93 3 3.4500 GHz 3.5000 GHz 1.000 MHz 3.447666667 GHz 5.111 dBm -20.89	Measure Trace Trace 1 Trace Type Trace Average (Active) Start Freq Stop Freq RBW Frequency Amplitude ALlimit 3.4000 GHz 3.4450 GHz 1.000 MHz 3.443125000 GHz -33.95 dBm -20.95 dB 2 3.4450 GHz 510.0 kHz 3.44980000 GHz -33.96 dBm -20.93 dB 3 3.4500 GHz 3.4500 GHz 36.00 kHz 3.449980000 GHz -33.93 dBm -20.93 dB 3 3.4500 GHz 3.4500 GHz 3.400 MHz 3.477666667 GHz 5.111 dBm -20.93 dB 5 Feb 09, 2022 Feb 09, 2022 Feb 09, 2022 Feb 09, 2022 Feb 09, 2022	Measure Trace Trace 1 Trace Type Trace Type Trace Average (Active) Start Freq Stop Freq RBW Frequency Amplitude ALlmit 3.4000 GHz 3.4450 GHz 1.000 MHz 3.443125000 GHz -33.95 dBm -20.95 dB 2.3.4450 GHz 510.0 kHz 3.44380000 GHz -33.99 dBm -20.69 dB 3.4490 GHz 3.4500 GHz 36.00 kHz 3.449980000 GHz -33.93 dBm -20.93 dB 3.4500 GHz 3.5000 GHz 1.000 MHz 3.477666667 GHz 5.111 dBm -20.89 dB	Measure Trace Trace 1 Trace Type Start Freq Stop Freq RBW Frequency Amplitude ALimit 3.4000 GHz 3.4450 GHz 1.000 MHz 3.443125000 GHz -33.95 dBm -20.95 dB 2.3.4450 GHz 34.430 GHz 510.0 kHz 3.44380000 GHz -33.93 dBm -20.93 dB 3.3.450 GHz 3.4500 GHz 36.00 kHz 3.449980000 GHz -33.93 dBm -20.93 dB 3.4500 GHz 3.5000 GHz 1.000 MHz 3.477666667 GHz 5.111 dBm -20.89 dB

Plot 7-127. Lower ACP Plot (NR Band n77 (DoD) - 40MHz CP-OFDM-QPSK – Full RB - Ant F)



Plot 7-128. Upper ACP Plot (NR Band n77(DoD) - 40MHz CP-OFDM-QPSK - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 88 of 179
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	22 - 02/28/2022 Portable Handset		
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Align: A	g: DC Cor uto Free	ut Ζ: 50 Ω r CCorr q Ref: Int (S) Ξ: Off	Atten: 26 dB	Gate:	Free Run LO in: Low	Center Freq: Radio Std: N	: 3.46500000 Ione	0 GHz		Frequency 00000 GHz	Setting
l Range Graph	•								•	00 MHz	
le/Div 10.0 dB		F	tef Value 30.0	0 dBm					Aut Ma		
					÷		·····		Freq Off 0 Hz	sei	
0							\vdash		1		
0	no grande	and the second	++++17 1111111111111111111111111111 11111111					-terrent light productions			
0	and the second s										
0											
t 3.413 GHz							Sto	p 3.488 GHz			
Range Table	▼										
					asure Trac			Trace 1			
					ке Туре		Trace Avera	,			
Spur Range	Start Freq	Stop Freq	RBW	Freque		Amplitude	∆Lim				
1 1		3.4450 GHz					-15.9				
0 0	3.4450 GHz	3.4490 GHZ 3.4500 GHZ	510.0 kHz 360.0 kHz				-17.2 -16.0				
	3 4490 GH7										

Plot 7-129. Lower ACP Plot (NR Band n77 (DoD) - 30MHz CP-OFDM-QPSK - Full RB - Ant F)



Plot 7-130. Upper ACP Plot (NR Band n77 (DoD) - 30MHz CP-OFDM-QPSK - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 90 of 170
1M2202030009-03.A3L	02/01/2022 - 02/28/2022	Portable Handset	Page 89 of 179	
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