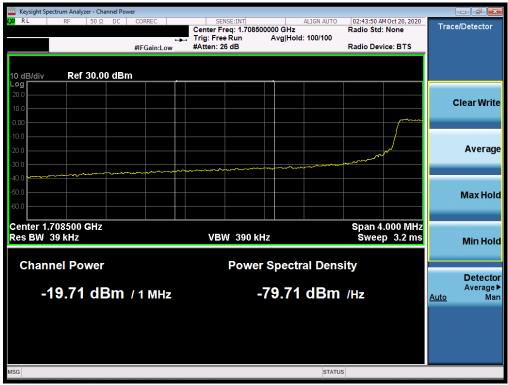


	ectrum Analyzer - Swept SA					
<mark>XI</mark> L	RF 50 Ω AC	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	01:24:08 PM Oct 16, 2020 TRACE 1 2 3 4 5 6	Frequency
		PNO: Wide ↔ IFGain:Low	Trig: Free Run Atten: 36 dB		TYPE A WWWWW DET A NNNN	Auto Tune
10 dB/div Log	Ref 25.00 dBm			Mkr1	1.709 988 GHz -17.482 dBm	Auto Tune
			Ĭ			Center Freq
15.0						1.710000000 GHz
5.00				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Start Freq
-5.00						1.708000000 GHz
-15.0					DL1 -13.00 dBm	Stop Freq
-25.0	my	m	- Marina			1.712000000 GHz
35.0						CF Step
						400.000 kHz <u>Auto</u> Mar
45.0						
-55.0						Freq Offsel 0 Hz
-65.0						Ocolo Tra
						Scale Type
Center 1.7 #Res BW	710000 GHz 62 kHz	#VBW	200 kHz	Sweep 2	Span 4.000 MHz 2.000 ms (1001 pts)	
MSG				STATU	5	

Plot 7-106. Lower Band Edge Plot (LTE Band 66/4 - 5MHz QPSK - Full RB Configuration)



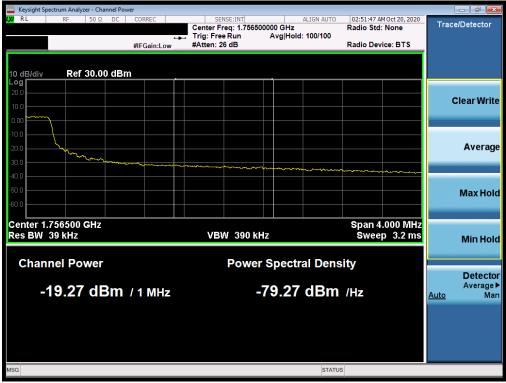
Plot 7-107. Lower Extended Band Edge Plot (LTE Band 66/4 - 5MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG998B	PCTEST* Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Keysight Spectrum Analyzer - Swept SA								_	
L RF 50 Ω AC	CORREC		ISE:INT	#Avg Typ	ALIGN AUTO	TRAC	M Oct 16, 2020 DE 1 2 3 4 5 6 DE A WWWWW	F	equency
	PNO: Wide	Trig: Free #Atten: 36				DI			Auto Tune
10 dB/div Ref 25.00 dBm					Mkr	1 1.755 0 -17.1	060 GHz 56 dBm		Auto Tune
15.0									Center Freq 5000000 GHz
5.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							1.75	Start Fred 3000000 GH:
25.0		h	1	· · · · · ·	·····	mm	DL1 -13.00 dBm	1.75	Stop Freq 7000000 GHz
45.0								<u>Auto</u>	CF Step 400.000 kH Mar
55.0									Freq Offse 0 H
65.0									Scale Type
Center 1.755000 GHz #Res BW 62 kHz	#VBW	200 kHz			Sweep :	Span 4 2.000 ms (.000 191112	Log	Lin
ISG					STATU				

Plot 7-108. Upper Band Edge Plot (LTE Band 4 - 5MHz QPSK – Full RB Configuration)



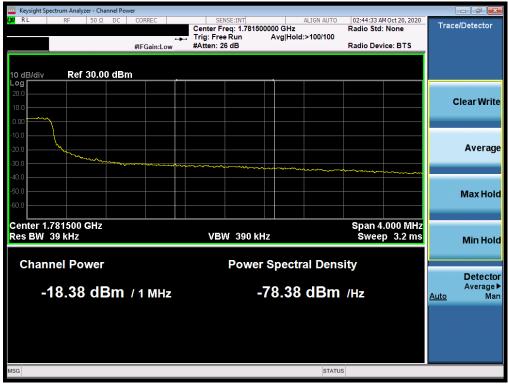
Plot 7-109. Upper Extended Band Edge Plot (LTE Band 4 - 5MHz QPSK – Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 67 of 164	
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Keysight Spectrum Analyzer - Swept SA								_	
XU L RF 50 Ω AC	CORREC	SENS		Avg Type	LIGN AUTO RMS	TRACI TYP	Oct 16, 2020	Fr	equency
10 dB/div Ref 25.00 dBm	IFGain:Low	#Atten: 36			Mkr1		00 GHz 11 dBm		Auto Tune
15.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~								Center Freq 0000000 GHz
5.00			1				DL1 -13.00 dBm	1.77	Start Fred 8000000 GH:
-25.0		- h w	1 mm	~~~~	······	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		1.78	Stop Fred 2000000 GH:
45.0								<u>Auto</u>	CF Stej 400.000 kH Ma
55.0									Freq Offse 0 H
-65.0									Scale Type
Center 1.780000 GHz #Res BW 62 kHz	#VBW	200 kHz		s	weep 2.	Span 4. 000 ms ('	000 MHz 1001 pts)	Log	Lir
MSG					STATUS				

Plot 7-110. Upper Band Edge Plot (LTE Band 66 - 5MHz QPSK - Full RB Configuration)



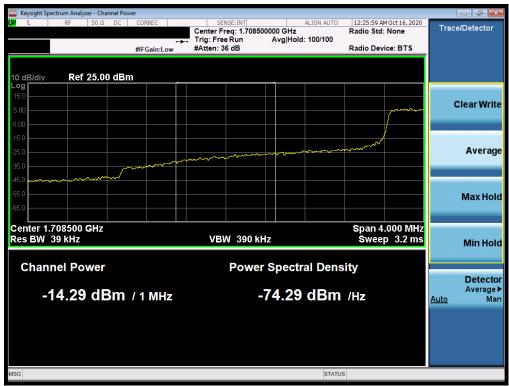
Plot 7-111. Upper Extended Band Edge Plot (LTE Band 66 - 5MHz QPSK – Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Keysight Spectrum Analyzer - Swept SA					
X L RF 50Ω DC	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	12:27:42 AM Oct 16, 2020 TRACE 1 2 3 4 5 6	Frequency
		: Free Run en: 36 dB		TYPE A WWWWW DET A NNNNN	
10 dB/div Ref 25.00 dBm			Mkr1	1.709 996 GHz -19.086 dBm	Auto Tune
15.0					Center Fred 1.710000000 GHz
5.00					Start Fred 1.708000000 GH;
-15.0		1		DL1 -13.00 dBm	Stop Fred 1.712000000 GH;
35.0					CF Step 400.000 kH <u>Auto</u> Mar
55.0					Freq Offse 0 H
-65.0					Scale Type
Center 1.710000 GHz #Res BW 36 kHz	#VBW 130	kHz	Sweep 2	Span 4.000 MHz .000 ms (1001 pts)	Log <u>Lir</u>
ISG			STATUS		

Plot 7-112. Lower Band Edge Plot (LTE Band 66/4 - 3MHz QPSK - Full RB Configuration)



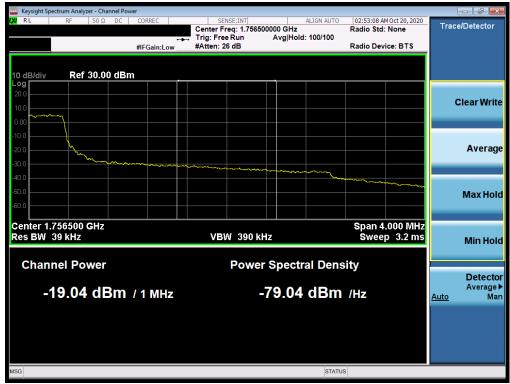
Plot 7-113. Lower Extended Band Edge Plot (LTE Band 66/4 - 3MHz QPSK – Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 60 of 164
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Keysight Spectrum Analyzer - Swept SA					
L RF 50Ω DC	CORREC	SENSE:INT	#Avg Type: RMS	12:18:34 AM Oct 16, 2020 TRACE 1 2 3 4 5 6	Frequency
	PNO: Wide ↔→ IFGain:Low	Trig: Free Run Atten: 36 dB		TYPE A WWWW DET A NNNNN	Auto Tun
0 dB/div Ref 25.00 dBm			Mkr1	1.755 000 GHz -17.998 dBm	Auto Tuli
.09		Ĭ			Center Fre
15.0					1.755000000 GH
5.00	~~~~~~	~~~			Start Fre
5.00					1.753000000 GH
15.0		1		DL1 -13.00 dBm	
					Stop Fre 1.757000000 G⊦
25.0				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
5.0					CF Ste 400.000 kH Auto Ma
45.0					
55.0					Freq Offse
					0 H
65.0					Scale Typ
enter 1.755000 GHz				Span 4.000 MHz	Log <u>Li</u>
Res BW 36 kHz	#VBW	130 kHz	Sweep 2	.000 ms (1001 pts)	
G			STATUS	;	

Plot 7-114. Upper Band Edge Plot (LTE Band 4 - 3MHz QPSK – Full RB Configuration)



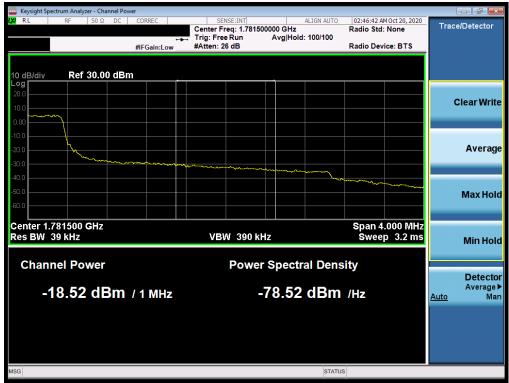
Plot 7-115. Upper Extended Band Edge Plot (LTE Band 4 - 3MHz QPSK – Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Plot 7-116. Upper Band Edge Plot (LTE Band 66 - 3MHz QPSK - Full RB Configuration)



Plot 7-117. Upper Extended Band Edge Plot (LTE Band 66 - 3MHz QPSK – Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Plot 7-118. Lower Band Edge Plot (LTE Band 66/4 – 1.4MHz QPSK – Full RB Configuration)



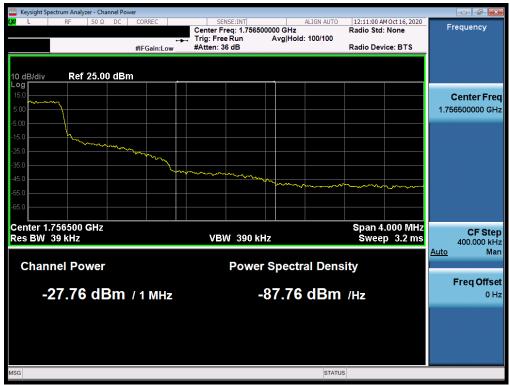
Plot 7-119. Lower Extended Band Edge Plot (LTE Band 66/4 – 1.4MHz QPSK – Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	ING	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 72 of 164
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Plot 7-120. Upper Band Edge Plot (LTE Band 4 – 1.4MHz QPSK – Full RB Configuration)



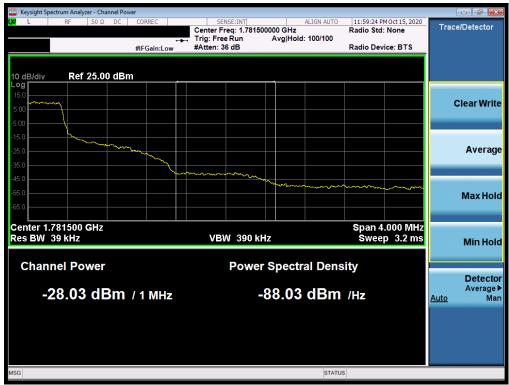
Plot 7-121. Upper Extended Band Edge Plot (LTE Band 4 – 1.4MHz QPSK – Full RB Configuration)

FCC ID: A3LSMG998B	Poud to be part of @element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dogo 72 of 164		
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Plot 7-122. Upper Band Edge Plot (LTE Band 66 – 1.4MHz QPSK – Full RB Configuration)



Plot 7-123. Upper Extended Band Edge Plot (LTE Band 66 – 1.4MHz QPSK – Full RB Configuration)

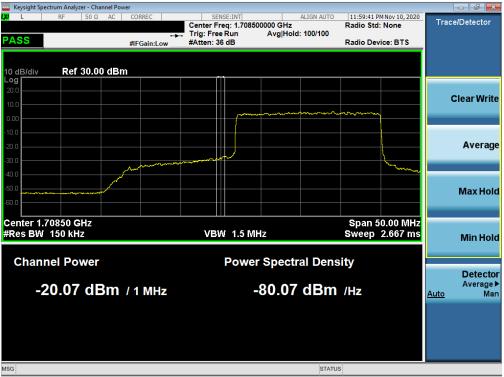
FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	ISUNG	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dogo 74 of 164		
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NR Band n66







Plot 7-125. Lower Extended Band Edge Plot (NR Band n66 - 20.0MHz-DFT-s - Full RB)

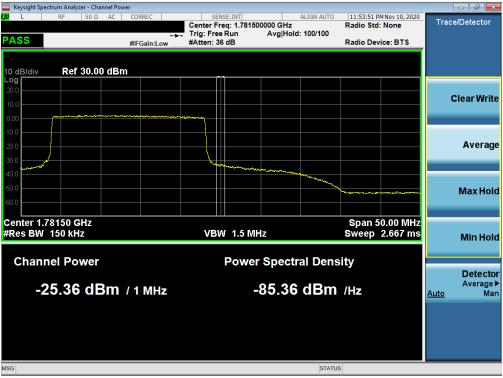
FCC ID: A3LSMG998B	PCTEST. Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 75 of 164
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Keysight Spe	ectrum Analyz											_	- 0
L	RF	50 Ω	AC	CORREC		SEI	NSE:INT	#Avg Typ	ALIGN AUTO		MNov 10, 2020	Fre	equency
ASS				PNO: F IFGain:	ast ↔ Low	Trig: Free #Atten: 3		#/18 I.VF		TYP			
) dB/div	Ref 25	.00 d	Bm						Mk	r1 1.780 -32.	15 GHz 85 dBm		Auto Tur
Trace	e 1 Pass											с	enter Fre
5.0													000000 GI
	والالاليس	up we way	n/w/Manual	many	mon	-hara-grandysee						1 755	Start Fr 000000 G
00												1.700	0000000
i.0													Stop Fr
i.o												1.805	000000 G
	}						∮ ¹						CF St
.0	NO						monyun						000000 M
.0							mondunt	- And Walker	Whele Million			<u>Auto</u>	Μ
i.o									ليعر	War was		F	req Offs
										and the second s	ingetwashinenenenenenenenenenenen an		0
.0													Scale Ty
enter 1.7 Res BW	78000 G 62 kHz	Hz			#VBW	220 kHz			Sweep	5 Span 5 5.533 ms (0.00 MHz 1001 pts)	Log	L
3	VE NHE					220 1112			STATI	_	1001 pts)		





Plot 7-127. Upper Extended Band Edge Plot (NR Band n66 – 20.0MHz-CP - Full RB)

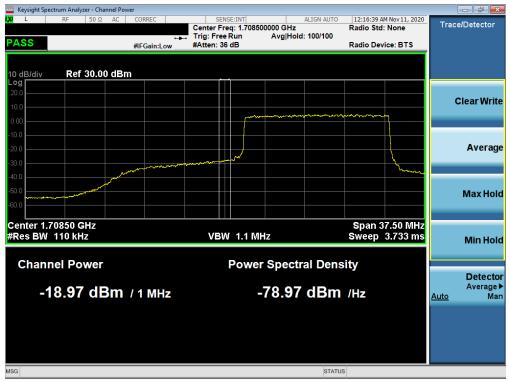
FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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Plot 7-129. Lower Extended Band Edge Plot (NR Band n66 – 15.0MHz DFT-s - Full RB)

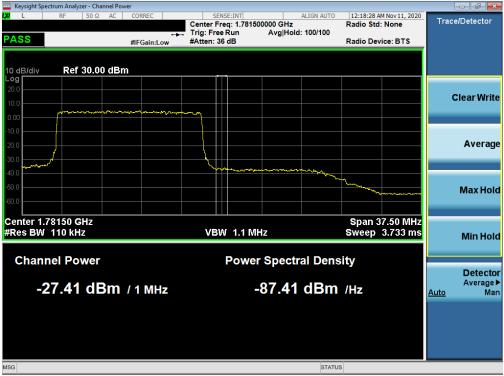
Test Report S/N: Test Dates: EUT Type:	FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
	Test Report S/N:	Test Dates:	EUT Type:	Page 77 of 164
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Keysight Sp	ectrum Analy	zer - Swe	ept SA										- 6 🗾
L	RF	50 Ω	AC	CORREC		SEI	ISE:INT	#Ava Tv	ALIGN AUTO		M Nov 11, 2020	Frec	uency
ASS				PNO: W IFGain:	/ide ↔ Low	Trig: Free #Atten: 3				TYI Di			
) dB/div	Ref 2	5.00 d	IBm						Mkr1 1	.780 03 -26.	7 5 GHz 32 dBm	A	uto Tun
Trac	e 1 Pass	;				,						Ce	nter Fre
5.0													00000 GI
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~		·							
.00	ſ	v										S	Start Fr
.00												1.7612	50000 GI
5.0													Stop Fr
5.0							1					1.7987	50000 GI
	Å												CF Ste
5.0 ~~~~	M						haven	and and and a second	mm	n			50000 MI
5.0										Nry Nry		<u>Auto</u>	M
0.0										مىر	Mr.		eq Offs
5.0											·····		eq Ons 01
5.0													
5.0												S	cale Typ
enter 1.	79000 0	247								Snap 3	7.50 MHz	Log	L
	180 kH				#VBW	620 kHz			Sweep	1.000 ms/	1001 pts)		
G									STATU	_			





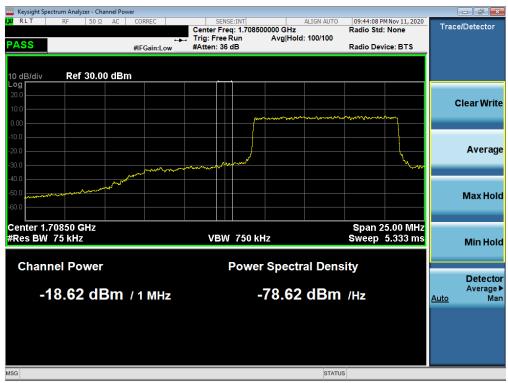
Plot 7-131. Upper Extended Band Edge Plot (NR Band n66 – 15.0MHz DFT-s - Full RB)

FCC ID: A3LSMG998B	Poud to be part of @wieneest	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager		
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Keysight Spectrum Analyzer - Swept					
X RLT RF 50Ω	AC CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	09:43:35 PM Nov 11, 2020 TRACE 1 2 3 4 5 6	Frequency
PASS	PNO: Wide ↔ IFGain:Low	Trig: Free Run #Atten: 36 dB		1.709 975 GHz	Auto Tune
10 dB/div Ref 25.00 dB	Sm			-22.56 dBm	
Trace 1 Pass		Ĭ			Center Freq
15.0					1.710000000 GHz
5.00					Start Freq
5.00					1.697500000 GHz
15.0		/ 1			Stop Fred
-25.0		<u>y</u> `			1.722500000 GHz
35.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~		horm	CF Step
45.0					2.500000 MH: <u>Auto</u> Mar
~~~~~~					Freq Offse
-55.0					0 Hz
-65.0					Deele Tra
					Scale Type
Center 1.71000 GHz #Res BW 120 kHz	#VBW	430 kHz	Sweep_1	Span 25.00 MHz .000 ms (1001 pts)	Log <u>Lin</u>
ISG			STATUS		

Plot 7-132. Lower Band Edge Plot (NR Band n66 - 10.0MHz DFT-s - Full RB)



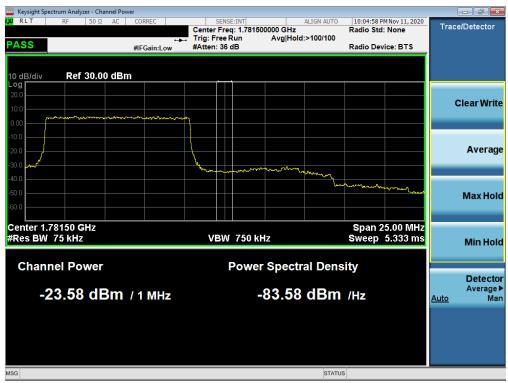
Plot 7-133. Lower Extended Band Edge Plot (NR Band n66 – 10.0MHz DFT-s - Full RB)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager
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Keysight Spectrum Analyzer -									
CRLT RF 5	0Ω AC CC	ORREC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS		Nov 11, 2020	Frequency
PASS		NO: Wide ↔ Gain:Low	Trig: Free #Atten: 3				TYP		
0 dB/div Ref 25.0	0 dBm					Mkr1	1.780 0 -23.1	25 GHz 75 dBm	Auto Tune
15.0 Trace 1 Pass									Center Fred 1.780000000 GHz
5.00		<u>//./.</u> //							Start Fred 1.767500000 GH2
25.0				1					Stop Fred 1.792500000 GH:
35.0				have	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~	CF Step 2.500000 MH <u>Auto</u> Mar
55.0									Freq Offse 0 H:
65.0									Scale Type
Center 1.78000 GHz Res BW 120 kHz	2	#VBW	430 kHz			Sween 1	Span 2:	5.00 MHz 1001 pts)	Log <u>Lin</u>
ISG			100 1112			STATUS		1001 (10)	

Plot 7-134. Upper Band Edge Plot (NR Band n66 – 10.0MHz DFT-s - Full RB)



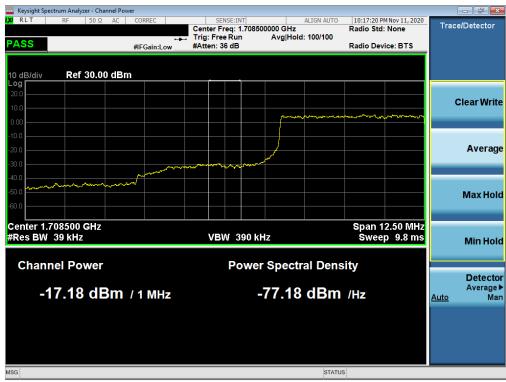
Plot 7-135. Upper Extended Band Edge Plot (NR Band n66 – 10.0MHz DFT-s - Full RB)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager
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	ectrum Analyzer -										
X/RLT	RF 50	Ω AC	CORREC	SEI	NSE:INT	#Avg Typ	ALIGN AUTO		MNov 11, 2020	Fre	quency
PASS			PNO: Wide ++ IFGain:Low	Trig: Free #Atten: 3				TYI Di			Auto Tune
10 dB/div Log	Ref 25.00) dBm					Mkr1 1	.709 98 -21.	7 5 GHz 93 dBm		
Trace	e 1 Pass									с	enter Freq
15.0										1.710	000000 GHz
5.00					h	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-	m			
											Start Freq 750000 GHz
-5.00										1.703	750000 GHZ
-15.0					ļ						Stop Freq
					'			ţ,		1.716	250000 GHz
-25.0		~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m					home		
-35.0	<u> </u>	m								1.:	CF Step 250000 MHz
-45.0	mm									<u>Auto</u>	Man
-43.0											
-55.0											req Offset 0 Hz
-65.0											
										S	cale Type
Center 1.7	710000 GH	z			<u> </u>			Span 1	2.00 11112	Log	Lin
#Res BW	62 kHz		#VBW	220 kHz			Sweep 1	.400 ms ((1001 pts)		
MSG							STATU	5			

Plot 7-136. Lower Band Edge Plot (NR Band n66 - 5.0MHz DFT-s - Full RB)



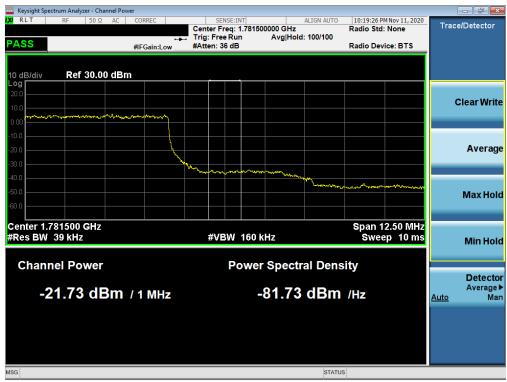
Plot 7-137. Lower Extended Band Edge Plot (NR Band n66 - 5.0MHz DFT-s - Full RB)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager
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Keysight Spect		- Swept SA	4									
X/RLT	RF	50Ω A	c co	ORREC		SE	NSE:INT	#Ava -	ALIGN AUTO Type: RMS		PM Nov 11, 2020	Frequency
PASS				NO: Wi Gain:L	de ⊶⊷ ow	Trig: Fre #Atten: \$.,,	т		
10 dB/div	Ref 25.0	0 dBr	n						Mkr1	1.780 0 ⁻ -21	l2 5 GHz .80 dBm	Auto Tune
15.0	1 Pass					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						Center Freq 1.780000000 GHz
-5.00		~~~~										Start Freq 1.773750000 GHz
-15.0							•1					Stop Fred 1.786250000 GH:
-35.0										and the second		CF Step 1.250000 MH ; <u>Auto</u> Mar
55.0												Freq Offse 0 H:
-65.0										Snon	12 EO BALLA	Scale Type
#Res BW 6				#	VBW	220 kHz	2		Sweep	span 1.400 <u>ms</u>	12.50 MHz (1001 pts)	
ISG									STA			

Plot 7-138. Upper Band Edge Plot (NR Band n66 - 5.0MHz DFT-s - Full RB)



Plot 7-139. Upper Extended Band Edge Plot (NR Band n66 – 5.0MHz DFT-s - Full RB

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7.4 Spurious and Harmonic Emissions at Antenna Terminal

Test Overview

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

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

Test Procedure Used

KDB 971168 D01 v03r01 - Section 6.0

Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to 18GHz (separated into at least two plots per channel)
- 2. RBW ≥ 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

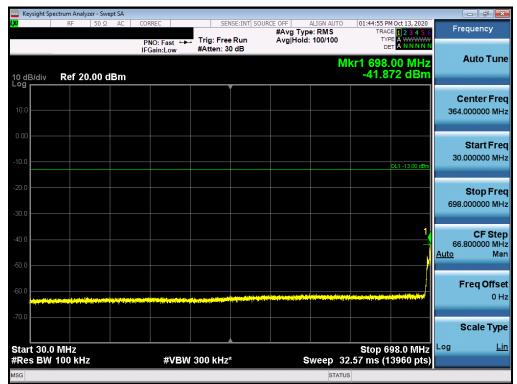
Test Notes

- 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. 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.

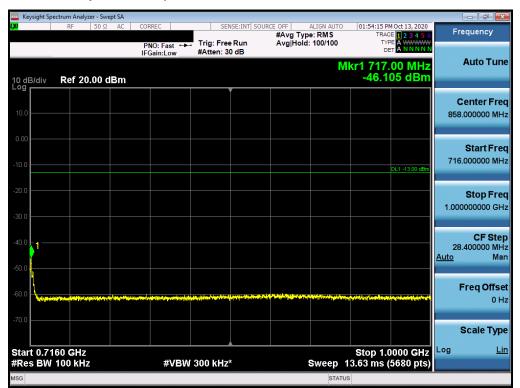
FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager	
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LTE Band 12/17



Plot 7-140. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-141. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

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Plot 7-142. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-143. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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🔤 Keysight Sp	ectrum Analy:												
L)XI	RF	50 Ω	AC	CORREC	ast 🕶		ISE:INT SO	Avg Ty	ALIGN AUTO ce: RMS d: 100/100	TRA	M Oct 13, 2020 CE 1 2 3 4 5 6 PE A	Fr	equency
10 dB/div	Ref 20	.00 dE	3m	IFGain:		#Atten: 4		,		kr1 718	.50 MHz 54 dBm		Auto Tune
10.0													Center Fred 8.000000 MH
-10.0											DL1 -13.00 dBm	716	Start Free
-20.0												1.00	Stop Fred 0000000 GH:
-40.0 1												28 <u>Auto</u>	CF Stej 8.400000 MH Ma
60.0	5(c) ^(c) (c) ^(c) (c)						a latin da silat (b					I	Freq Offse 0 H
-70.0 Start 0.71										Stop 1.	0000 91121		Scale Type Lii
#Res BW	100 kHz				#VBW	300 kHz	*		Sweep 1		(5681 pts)		

Plot 7-144. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-145. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

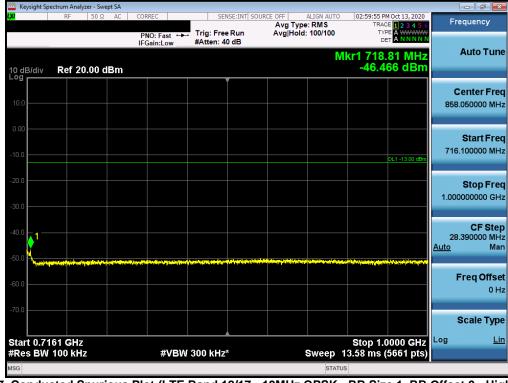
FCC ID: A3LSMG998B	PCTEST* Proud to be perird @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Keysight Sp	ectrum Analyzer							
<mark>XI</mark>	RF 5	50Ω AC	CORREC	SENS	E:INT SOURCE OFF	ALIGN AUTO Type: RMS	02:56:55 PM Oct 13, 2020 TRACE 1 2 3 4 5 6	Frequency
			PNO: Fast ← IFGain:Low	Trig: Free F #Atten: 40	Run Avg	Hold: 100/100	DET A NNNNN	
10 dB/div Log	Ref 20.0	0 dBm				М	kr1 698.90 MHz -45.840 dBm	Auto Tune
10.0								Center Freq 364.500000 MHz
.10.0							DL1 -13.00 dBm	Start Free 30.000000 MHz
30.0								Stop Fred 699.000000 MH;
40.0							1	CF Step 66.900000 MH Auto Mar
-60.0			in sil de la la la seconda de la seconda La seconda de la seconda de					Freq Offse 0 Hi
70.0								Scale Type
Start 30.0 #Res BW			#VB	W 300 kHz*		Sweep 32	Stop 699.0 MHz 2.11 ms (13381 pts)	Log <u>Lir</u>
MSG						STATU		

Plot 7-146. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-147. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

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Plot 7-148. Conducted Spurious Plot (LTE Band 12/17 - 10MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

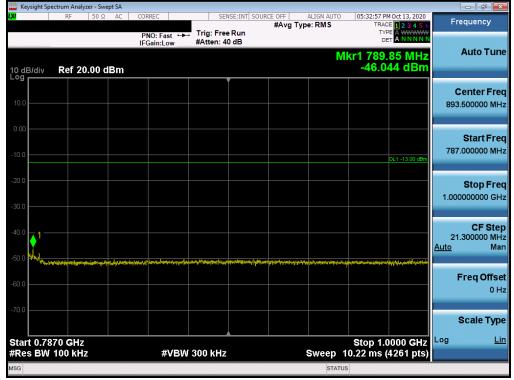
FCC ID: A3LSMG998B	PCTEST Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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LTE Band 13

X	RF	50 Ω	AC	CORREC		SE	NSE:INT SO	URCE OFF	ALIGN AU	JTO 0	5:28:24 PM	Oct 13, 2020	_	
						Trig: Fre	a Run	#Avg T	ype: RMS		TRACI	1 2 3 4 5 6	F	requency
				PNO: F IFGain:	ast ⊶⊷ Low	#Atten: 4					DE			
										Mkr1	777.	00 MHz		Auto Tur
10 dB/div Log	Ref 2	0.00 d	Bm								-24.72	25 dBm		
							Ĭ							Center Fr
10.0													40	3.500000 M
0.00														Start Fr
-10.0													3	0.000000 M
-10.0												DL1 -13.00 dBm		
-20.0												1		Oton Er
												-	77	Stop Fr 7.000000 M
-30.0														7.000000 1
														CF St
-40.0													7	4.700000 M
50.0													<u>Auto</u>	M
-50.0														
-60.0														Freq Offs
00.0														0
-70.0														
														Scale Ty
Start 30.0	0 MHz										Stop Z	77.0 MHz	Log	ļ
#Res BW		z			#VBW	300 kHz			Sweep	35.86	ms (14	4941 pts)		
MSG										TATUS				

Plot 7-149. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - RB Size 1, RB Offset 0)

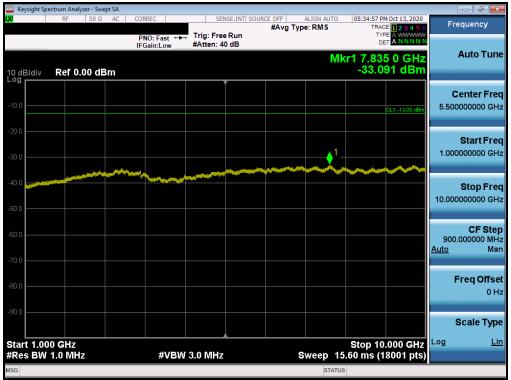


Plot 7-150. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - RB Size 1, RB Offset 0)

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Plot 7-151. Conducted Spurious Plot (LTE Band 13 - 10MHz QPSK - RB Size 1, RB Offset 0)

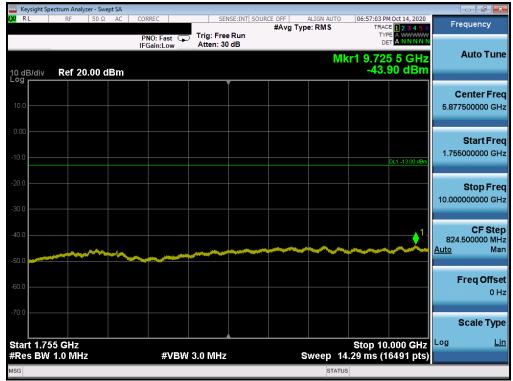
FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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WCDMA AWS

Keysight Spectrur											
LXI RL	RF 50 Ω	AC CO	RREC		NSE:INT SO		ALIGN AUTO	TRAC	MOct 14, 2020	Fre	quency
			NO: Fast 🔾 Gain:Low	Trig: Fre Atten: 3				TYF DE			Auto Tune
10 dB/div R	ef 20.00 dl	Bm					Mł	ar1 1.70 -27.	4 0 GHz 53 dBm		auto i une
10.0											enter Freq 500000 MHz
-10.0									DL1 -13.00 dBm		Start Fred 000000 MHz
-20.0									1		Stop Fred 000000 GH2
-40.0									مىرىيىتى بىرىسىرى	167.5 <u>Auto</u>	CF Step 500000 MH Mar
-60.0			991.1 THE OF CALLS OF CALLS			440-1-10 ⁻⁰ 500-1-10-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1				F	r eq Offse 0 H
-70.0										S	cale Type
Start 0.0300 #Res BW 1.0			#VBV	V 3.0 MHz			Sweep 2	Stop 1.7 .233 ms (7050 GHz 3351 pts)	Log	Lin
MSG							STATUS	3			

Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1312- Low Channel)



Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1312- Low Channel)

FCC ID: A3LSMG998B	PCTEST* Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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🔤 Keysight Sp	ectrum Analyz		SA										- 0
L <mark>XI</mark> RL	RF	50 Ω	AC	CORREC		SEI	NSE:INT SO		ALIGN AUTO		Oct 14, 2020	Fre	quency
				PNO: Fa IFGain:Lo		Trig: Free Atten: 20		#Avg 1	ype. Kwi3	דו			
10 dB/div	Ref 10	.00 dE	₿m	in Game					Mki	1 17.33 -45	9 0 GHz .86 dBm	-	Auto Tune
Log													e nter Freq 000000 GHz
-10.0											DL1 -13.00 dBm		Start Freq 000000 GHz
-30.0									1_				Stop Freq 000000 GHz
-50.0			atta a parte da								~~~	1.0000 <u>Auto</u>	CF Step 000000 GHz Man
-70.0												F	r eq Offsel 0 Hz
-80.0												S	cale Type
Start 10.0 #Res BW				#	VBW	3.0 MHz			Sweep 2	Stop 20 5.33 ms (0.000 GHz 20001 pts)	Log	<u>Lin</u>
MSG									STATU	S			

Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1312- Low Channel)



Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1413- Mid Channel)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager
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🔤 Keysight Spectrum Anal						
LXU R L RF	50 Ω AC	CORREC	SENSE:INT SOU	JRCE OFF ALIGN AUTO #Avg Type: RMS	06:54:08 PM Oct 14, 2020 TRACE 1 2 3 4 5 6 TYPE A WARAAAAA	Frequency
10 dB/div Ref 2	0.00 dBm	PNO: Fast 🖵 IFGain:Low	Atten: 30 dB	М	kr1 9.724 5 GHz -44.13 dBm	Auto Tune
10.0						Center Freq 5.877500000 GHz
-10.0					DL1 -13.00 dBm	Start Freq 1.755000000 GHz
-20.0						Stop Freq 10.000000000 GHz
-40.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				¹	CF Step 824.500000 MHz <u>Auto</u> Man
-60.0						Freq Offse 0 Hz
-70.0						Scale Type
Start 1.755 GHz #Res BW 1.0 MH	Z	#VBW	3.0 MHz	Sweep 1	Stop 10.000 GHz 4.29 ms (16491 pts)	Log <u>Lir</u>
MSG				STATU	JS	

Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1413- Mid Channel)



Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1413- Mid Channel)

FCC ID: A3LSMG998B	Poud to be part of @wieneest	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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	trum Analyzer - Swe	ept SA									- 0
LXU RL	RF 50 Ω	AC	PNO: Fast		ISE:INT SOU	RCE OFF	ALIGN AUTO	06:58:40 PM 0 TRACE TYPE	Dct 14, 2020 1 2 3 4 5 6 A A NNNNN	Fre	quency
10 dB/div	Ref 20.00 d	IBm	IFGain:Low	Atten: 30	dB		M	(r1 1.687			Auto Tune
10.0											e nter Freq 000000 MHz
-10.0								D	L1 -13.00 dBm		Start Freq
-20.0											Stop Freq 000000 GHz
-40.0							ى ئەردەمىيەر ئەرامەر رەتىيەررى			168.0 <u>Auto</u>	CF Step 200000 MHz Mar
-60.0	17-1-18-19-19-19-19-19-19-19-19-19-19-19-19-19-		44-14							F	r eq Offset 0 Hz
											cale Type
Start 0.030 #Res BW 1			#VB\	V 3.0 MHz			Sweep 2	Stop 1.71 2.240 ms (3	00 0112	Log	Lin
MSG							STATUS	6			

Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)



Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager
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	ectrum Analyzer - Sw									
L <mark>XI</mark> RL	RF 50 Ω	AC	CORREC	SEI	ISE:INT SOURC	E OFF AVg Type	ALIGN AUTO E: RMS		HOct 14, 2020	Frequency
10 dB/div	Ref 10.00 (dBm	PNO: Fast G	Trig: Free Atten: 20				TYP DE 1 17.934	4 5 GHz 00 dBm	Auto Tune
0.00										Center Freq 15.00000000 GHz
-10.0									DL1 -13.00 dBm	Start Freq 10.000000000 GHz
-30.0								,1		Stop Freq 20.000000000 GHz
-50.0					~~~				~~~~	CF Step 1.000000000 GHz <u>Auto</u> Man
-70.0										Freq Offset 0 Hz
-80.0 Start 10.0	00 GHz							Stop 20	.000 GHz	Scale Type
#Res BW			#VBV	/ 3.0 MHz		S	weep 25	.33 ms (2	0001 pts)	
MSG							STATUS			

Plot 7-31. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)

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LTE Band 66/4

🔤 Keysight Sp	ectrum Anal	yzer - Swe	ot SA										- 6
XI L	RF	50 <u>Ω</u>	DC	CORREC	Fast ↔	, Trig: Fre		#Avg Ty	ALIGN AUT	0 11:1	5:13 PM Oct 15, 202 TRACE 1 2 3 4 5 TYPE A WWWW	6 N	Frequency
10 dB/div	Ref 2	0.00 d	Bm	IFGair		Atten: 3	0 dB		N	Mkr1 1 -2	.709 0 GH 9.536 dBr	2	Auto Tun
10.0												8	Center Fre 69.500000 M⊦
10.00											DL1 -13.00 dB		Start Fre 30.000000 Mi
20.0												1.7	Stop Fr 09000000 G
40.0												1 <u>Auto</u>	CF Sto 67.900000 M M
50.0	in a finis se se anticipi	elin animene	anarin yadi, kadi	ىيە ئېلىرە ئېلىرى	****	and a fair of a fair of a fair of the	a artigaratiya	rigi: glassia figar (1941)4	yunhayanyi (si fun	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -			Freq Offs 0
70.0	300 GH	,								Sto	p 1.7090 GH	Log	Scale Ty
#Res BW					#VBW	/ 3.0 MHz			Sweep	2.239	ms (3359 pt)	
ISG									STA	TUS			

Plot 7-152. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-153. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

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Keysight Spe	ctrum Analyzer - S									[
LXI L	RF 50	Ω DC	CORREC	SENS	SE:INT	#Avg Type	RMS		Oct 15, 2020	Fre	quency
			PNO: Fast ++-	Trig: Free Atten: 10				TYP			
			IFGain:Low	Atten: 10	uD		Mice	1 49 07			Auto Tune
10 dB/div	Ref 0.00	dBm					IVINI	-56.0	l 5 GHz 05 dBm		
	Kei 0.00										
										С	enter Freq
-10.0									DL1 -13.00 dBm	15.000	000000 GHz
-20.0											Start Freq
-30.0											000000 GHz
-30.0											
-40.0											
										20,000	Stop Freq 000000 GHz
-50.0									1	20.000	000000 GHZ
-60.0							and the state of the state			1 000	CF Step 000000 GHz
										Auto	Man
-70.0											
										F	req Offset
-80.0											0 Hz
-90.0											Scale Type
Start 10.0								Stop 20	000 0112	Log	<u>Lin</u>
#Res BW	1.0 MHz		#VBW	3.0 MHz		S	weep 25	.33 ms (2	0001 pts)		
MSG							STATUS				

Plot 7-154. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

Keysight Sp	ectrum Analyzer - S	Swept SA									- 6 론
L	RF 50	Ω DC C	ORREC		NSE:INT	#Avg Typ	ALIGN AUTO	TRAC	M Oct 15, 2020 E 1 2 3 4 5 6	Fre	equency
			PNO: Fast ↔ FGain:Low	Trig: Free Atten: 30				TY			
) dB/div	Ref 20.00	dBm					Μ	kr1 1.70 -46.5	95GHz 50dBm		Auto Tur
° ^g										С	enter Fre
0.0											000000 MH
											Start Fre
0.0									DL1 -13.00 dBm	30	.000000 MI
0.0											Oten En
										1.710	Stop Fr 000000 G
0.0											
0.0									1	160	CF St
										Auto	M
0.0	مام الجاري الإدوامياريد إو الرجه بعالم			hallowersel state of the state of	all the second second	linne gruhhavign	مەسىمەن(ادىلىرىمايە ر ە	e spinister en fan de ste			
0.0										F	Freq Offs 0
											0
0.0										:	Scale Ty
tart 0.03	300 GHz			,				Stop 1	7100 GHz	Log	L
	1.0 MHz		#VBW	3.0 MHz			Sweep	2.240 ms (
G							STATU	JS			

Plot 7-155. Conducted Spurious Plot (LTE Band 66/4 – 20MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

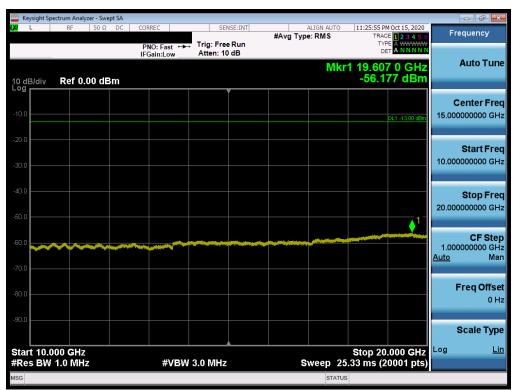
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Plot 7-156. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-157. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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🔤 Keysight Sp	ectrum Analyzer - Sw										
LXI L	RF 50 Ω	DC C	CORREC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO	11:33:40 PM TRACE	Oct 15, 2020	Freque	ency
			PNO: Fast ↔ IFGain:Low	Trig: Free Atten: 30				TYPE	A WWWWW A NNNNN	Aut	o Tune
10 dB/div Log	Ref 20.00 (lBm						-49.77	′5 dBm		
10.0											er Freq 000 MHz
-10.0									DL1 -13.00 dBm		a rt Freq 000 MHz
-20.0										Sto 1.710000	o p Freq 000 GHz
-40.0									↓ 1		F Step 000 MHz Man
-60.0	ahriyayori yardi yarak		Young to all a series of a series of the	an a	and and a second se	99499/14479494994949494949494		,		Frec	Offset 0 Hz
-70.0										Sca	le Type
Start 0.03 #Res BW			#VBW	3.0 MHz			Sweep 2	Stop 1.7 .240 ms (3	00 0112	Log	Lin
MSG							STATUS	;			

Plot 7-158. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-159. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

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🔤 Keysight S	pectrum Analyz												
LXI L	RF	50 Ω	DC	CORREC		SE	NSE:INT	#Ava	ALIGN AUTO Type: RMS		TRACE 1 2 3 4 5 6	Fr	equency
					ist 🔸	Trig: Fre			i ype. i tino				
				IFGain:L	ow	Atten: 1	0 dB						Auto Tune
									Mk	(r1 19.	620 5 GHz		Auto Tune
10 dB/div Log	Ref 0.0	0 dBr	m							-0	6.090 dBm		
							Ĭ					c	enter Freq
-10.0											DL1 -13.00 dBm		0000000 GHz
											DET -13.00 GBM		
-20.0													
													Start Freq
-30.0												10.000	0000000 GHz
-40.0													Stop Freq
												20.000	0000000 GHz
-50.0											1-		
													CF Step
-60.0	~~~~	-		-						and the second se		1.000	0000000 GHz
												<u>Auto</u>	Man
-70.0													
												I	Freq Offset
-80.0													0 Hz
-90.0													
-90.0													Scale Type
Start 10.										Stop	20.000 GHz	Log	<u>Lin</u>
#Res BW	1.0 MHz			#	VBW	3.0 MHz			Sweep 2	25.33 m	s (20001 pts)		
MSG									STAT	US			

Plot 7-160. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

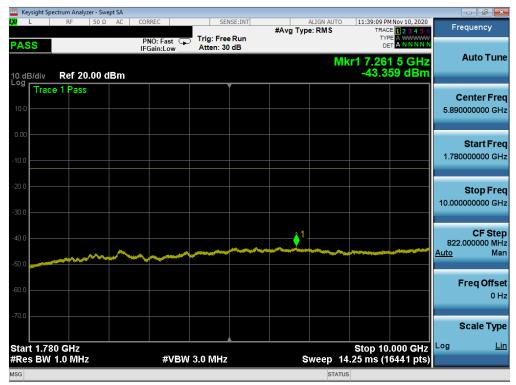
FCC ID: A3LSMG998B	PCTEST Proud to be part of the element	PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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NR Band n66

www.www.www.com.com.com.com.com.com.com.com.com.com						
L RF 50 Ω	AC CORREC	SENSE:INT	#Avg Type:		RACE 1 2 3 4 5 6	Frequency
PASS 10 dB/div Ref 20.00 d	PNO: Fast 🖵 IFGain:Low	Trig: Free Run #Atten: 48 dB		Mkr1 7	03.5 MHz	Auto Tune
Log Trace 1 Pass						Center Freq 870.000000 MHz
-10.0		1				Start Freq 30.000000 MHz
-20.0				يەرىپ بىلىرىكى بىلۇر بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىكى بىلىكى بىلى يىلىرىپ بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىرىكى بىلىكى بىلىكى بىلىكى بى	an and the second se	Stop Freq 1.710000000 GHz
-40.0 -50.0						CF Step 168.000000 MHz <u>Auto</u> Man
-60.0						Freq Offset 0 Hz
Start 0.0300 GHz				Stop 7	1.7100 GHz	Scale Type
#Res BW 1.0 MHz	#VBW	3.0 MHz	SI	weep 2.240 ms	s (3361 pts)	
MSG				STATUS		

Plot 7-161. Conducted Spurious Plot (NR Band n66 -20.0MHz - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-162. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

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Plot 7-163. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)



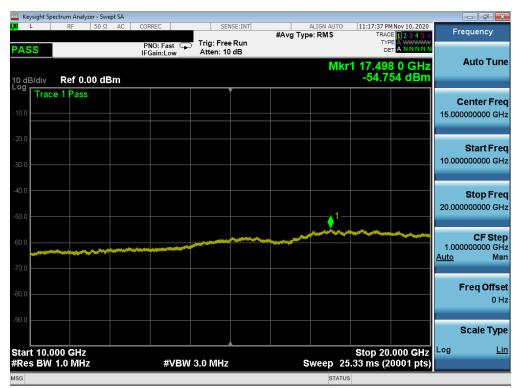
Plot 7-164. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMG998B	PCTEST Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Plot 7-165. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-166. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: A3LSMG998B	PCTEST Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Keysight Spectrum Analyzer - Swept					- • • •
L RF 50 Ω /			ALIGN AUTO Type: RMS	11:41:22 PM Nov 10, 2020 TRACE 1 2 3 4 5 6	Frequency
PASS	PNO: Fast Trig: Fre				
10 dB/div Ref 20.00 dB	m			/kr1 703.5 MHz -22.32 dBm	Auto Tune
10.0					Center Freq 870.000000 MHz
-10.0					Start Freq 30.000000 MHz
-20.0	1				Stop Freq 1.710000000 GHz
-40.0					CF Step 168.000000 MHz <u>Auto</u> Man
-60.0					Freq Offset 0 Hz
-70.0				Stop 4 7400 SH-	Scale Type
Start 0.0300 GHz #Res BW 1.0 MHz	#VBW 3.0 MH	2	Sweep 2	Stop 1.7100 GHz 2.240 ms (3361 pts)	
MSG			STATUS		

Plot 7-167. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)



Plot 7-168. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

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Plot 7-169. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

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7.5 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

KDB 971168 D01 v03r01 - Section 5.7.1

Test Settings

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW ≥ 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 7-4. Test Instrument & Measurement Setup

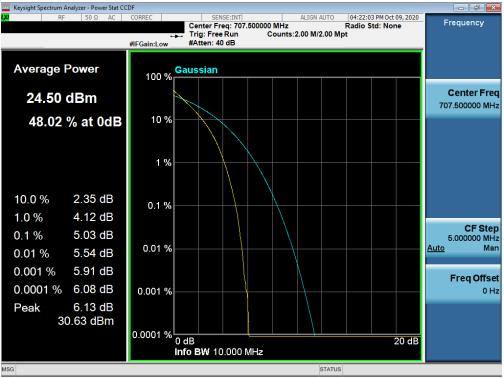
Test Notes

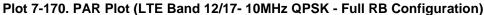
None.

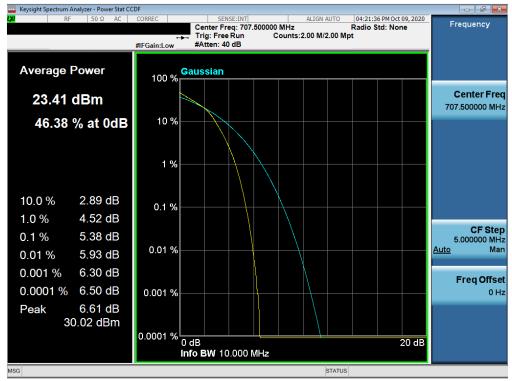
FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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LTE Band 12/17





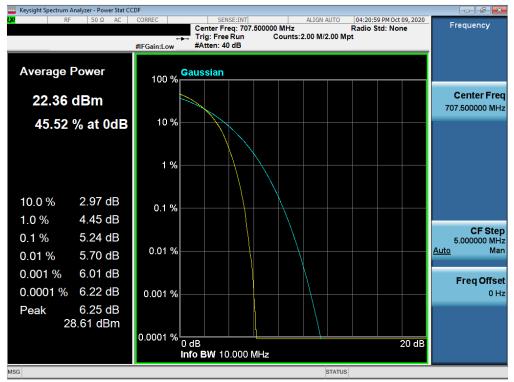


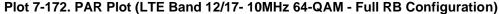
Plot 7-171. PAR Plot (LTE Band 12/17- 10MHz 16-QAM - Full RB Configuration)

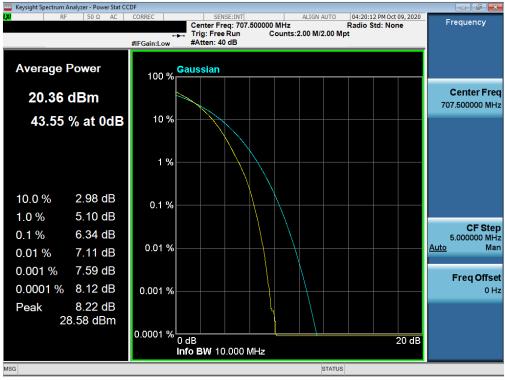
FCC ID: A3LSMG998B	PCTEST Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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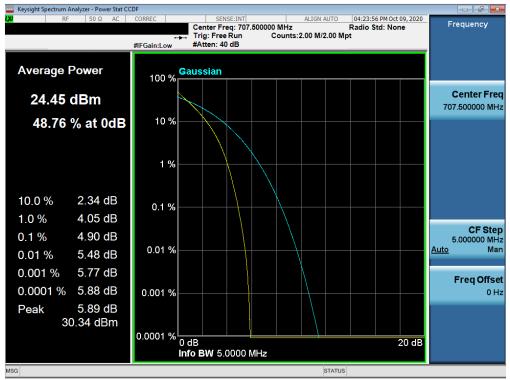


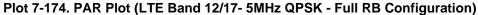


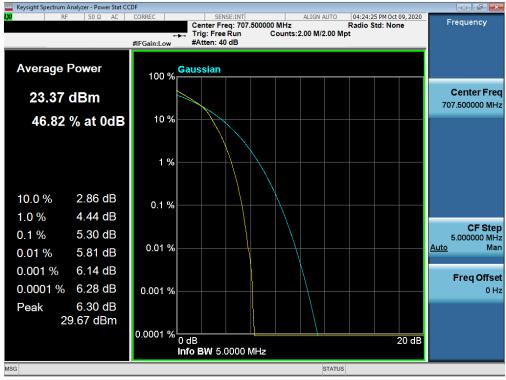
Plot 7-173. PAR Plot (LTE Band 12/17- 10MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG998B	PCTEST* Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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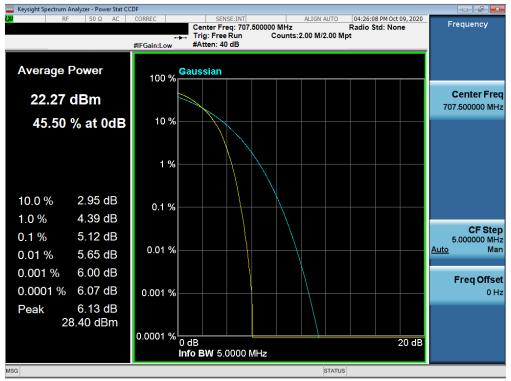


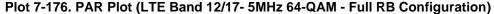


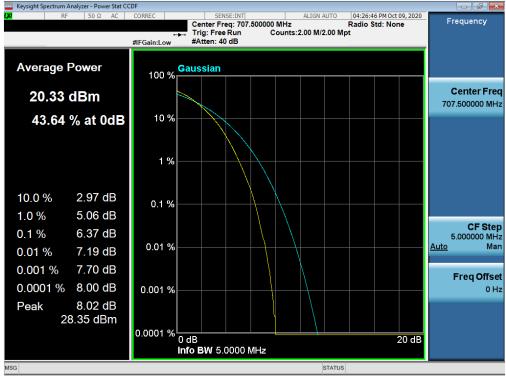
Plot 7-175. PAR Plot (LTE Band 12/17- 5MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager	
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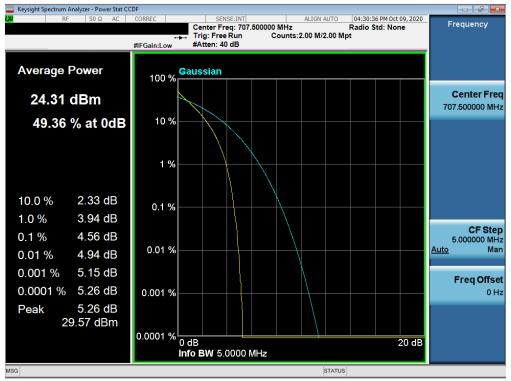


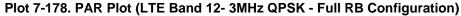


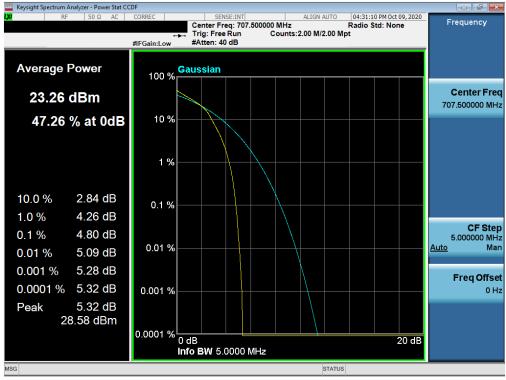
Plot 7-177. PAR Plot (LTE Band 12/17- 5MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager
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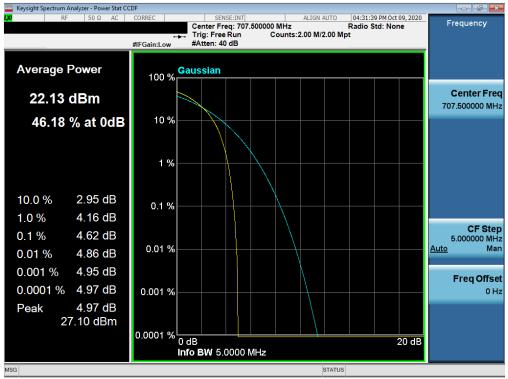




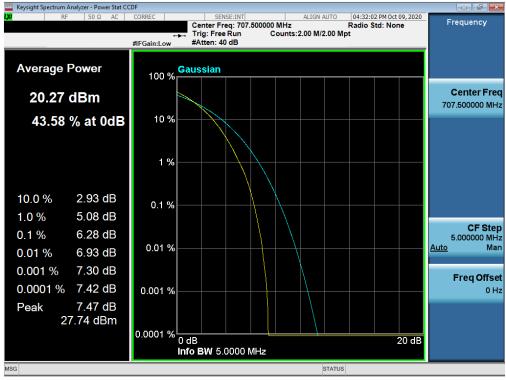
Plot 7-179. PAR Plot (LTE Band 12- 3MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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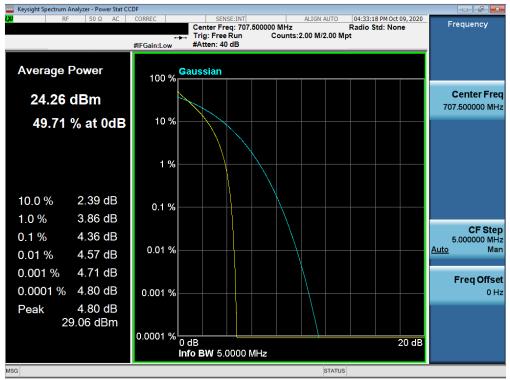


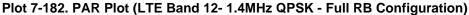


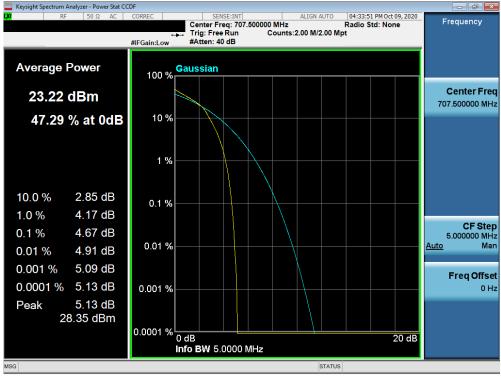
Plot 7-181. PAR Plot (LTE Band 12- 3MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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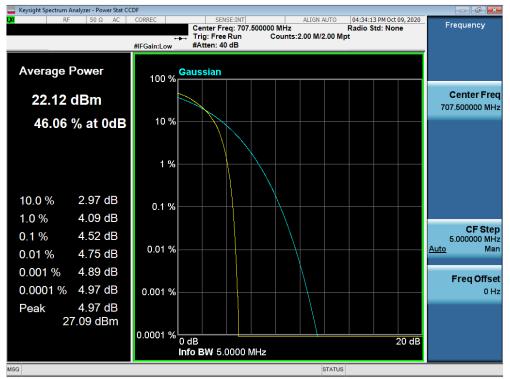


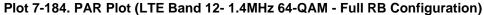


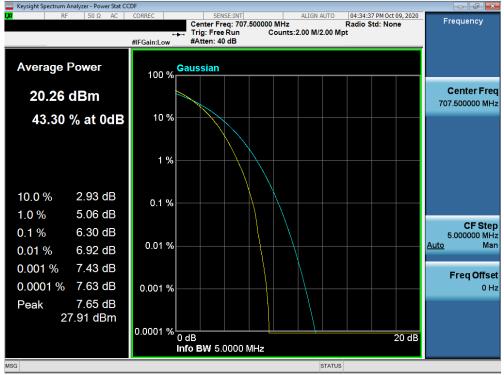
Plot 7-183. PAR Plot (LTE Band 12- 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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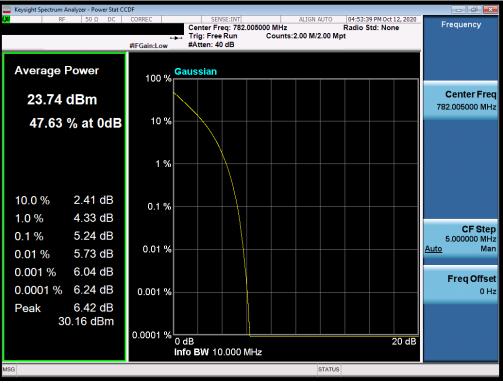


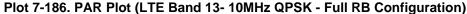
Plot 7-185. PAR Plot (LTE Band 12- 1.4MHz 256-QAM - Full RB Configuration)

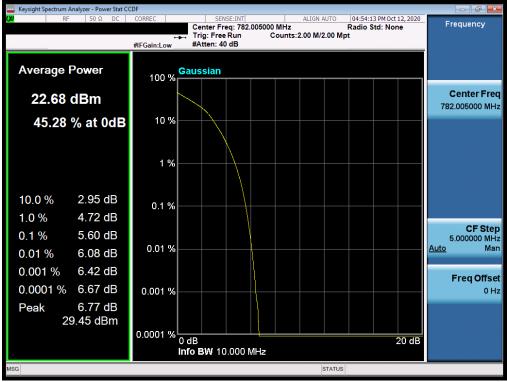
FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNG	Approved by: Technical Manager
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LTE Band 13





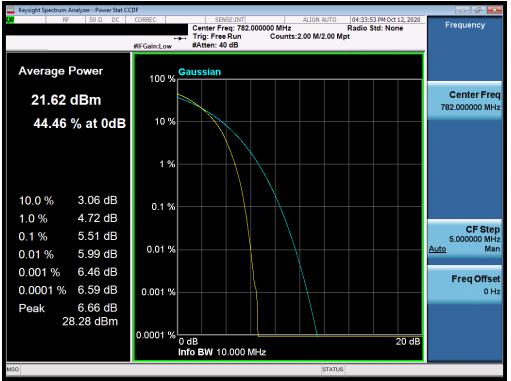


Plot 7-187. PAR Plot (LTE Band 13- 10MHz 16-QAM - Full RB Configuration)

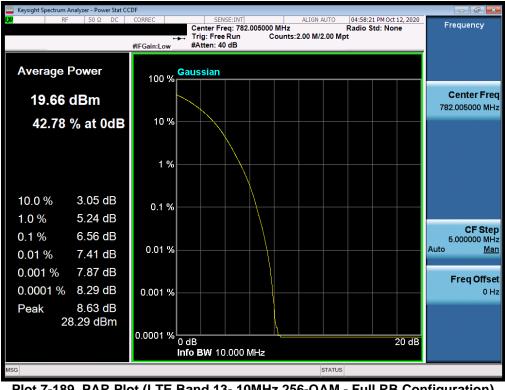
FCC ID: A3LSMG998B	PCTEST. Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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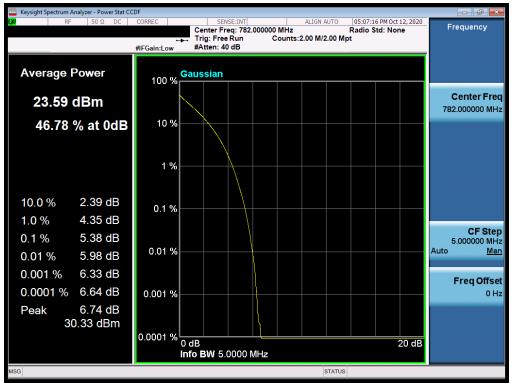




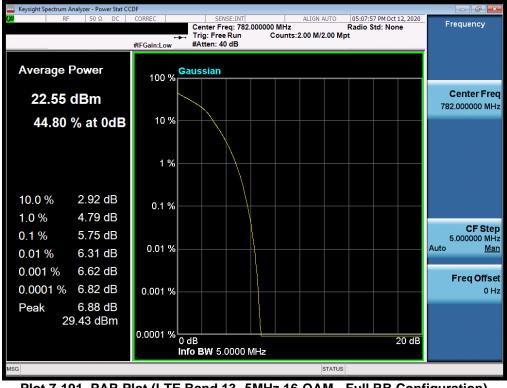
Plot 7-189. PAR Plot (LTE Band 13- 10MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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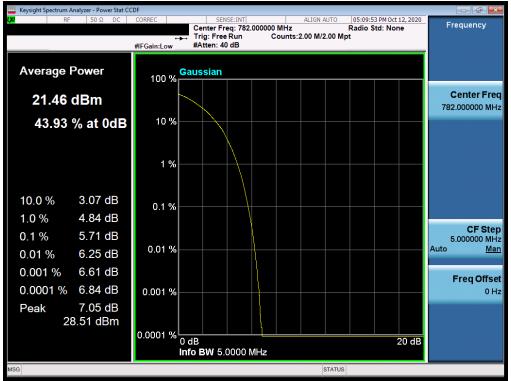




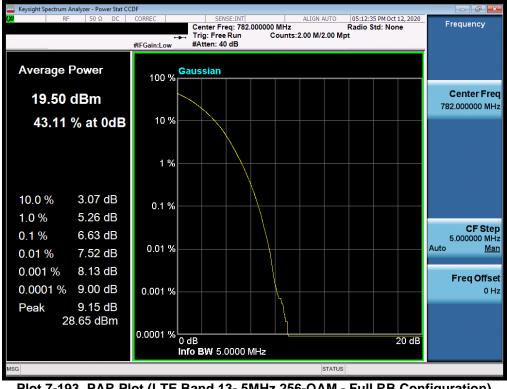
Plot 7-191. PAR Plot (LTE Band 13- 5MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG998B	PCTEST Proved to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Plot 7-192. PAR Plot (LTE Band 13- 5MHz 64-QAM - Full RB Configuration)



Plot 7-193. PAR Plot (LTE Band 13- 5MHz 256-QAM - Full RB Configuration)

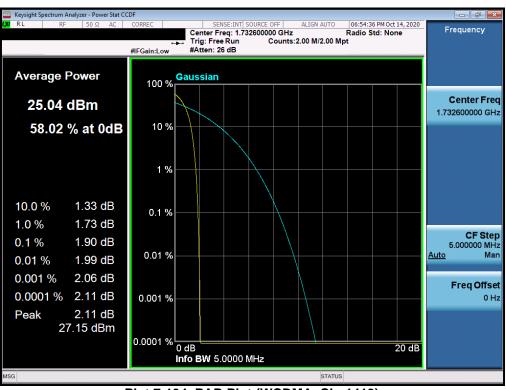
[HiddenLabel-Pt27a_MD_FCC_LTE_B66-4_Ant1_PAR] [/HiddenLabel-Pt27a_MD_FCC_LTE_B66-4_Ant1_PAR]

FCC ID: A3LSMG998B	PCTEST Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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WCDMA AWS

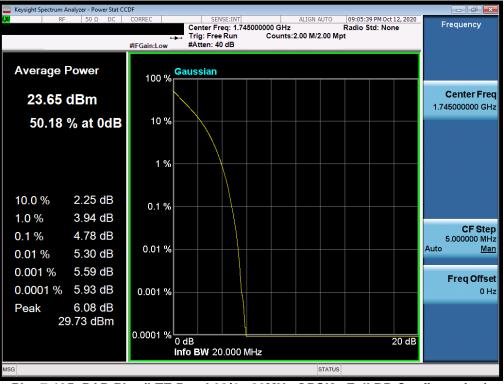


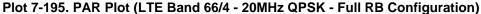
Plot 7-194. PAR Plot (WCDMA, Ch. 1413)

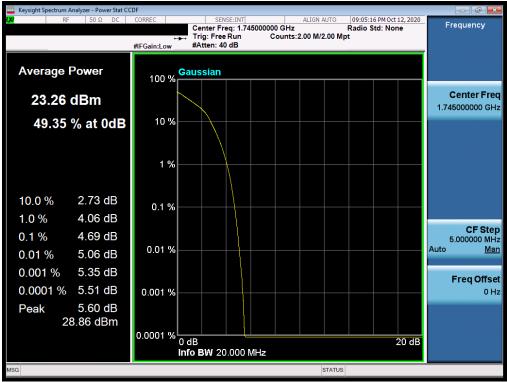
FCC ID: A3LSMG998B	Pottest* Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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LTE Band 66/4





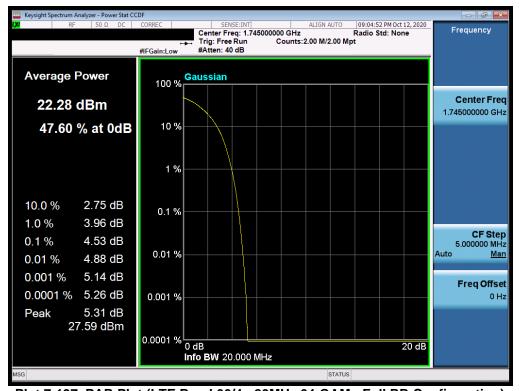


Plot 7-196. PAR Plot (LTE Band 66/4 - 20MHz 16-QAM - Full RB Configuration)

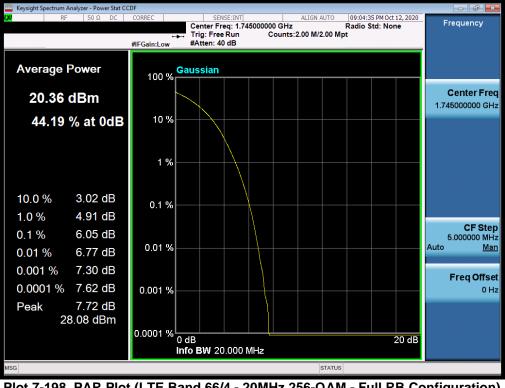
FCC ID: A3LSMG998B	Proud to be part of @ element	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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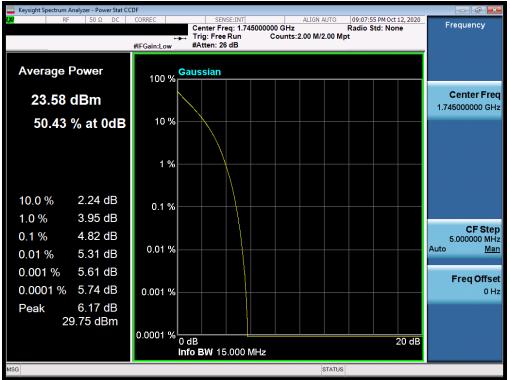


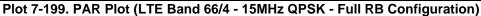


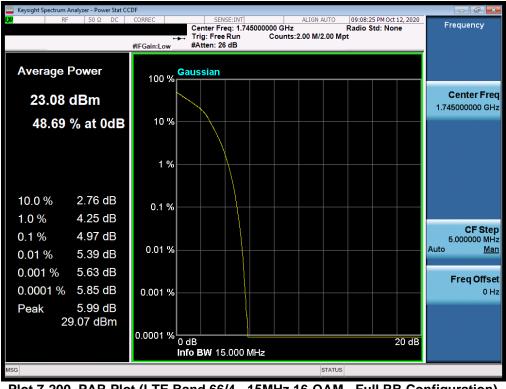
Plot 7-198. PAR Plot (LTE Band 66/4 - 20MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	SAMSUNE	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dego 101 of 101
1M2009280154-21.A3L	9/28/2020 - 12/4/2020	Portable Handset		Page 121 of 164
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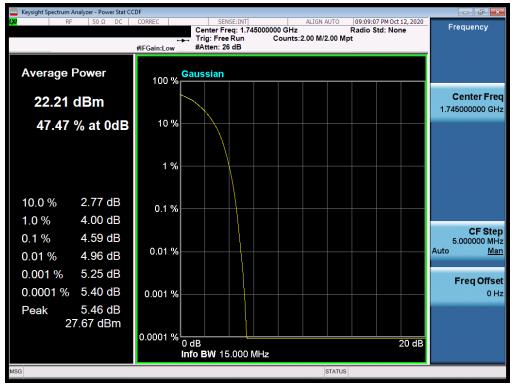


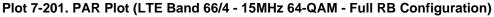


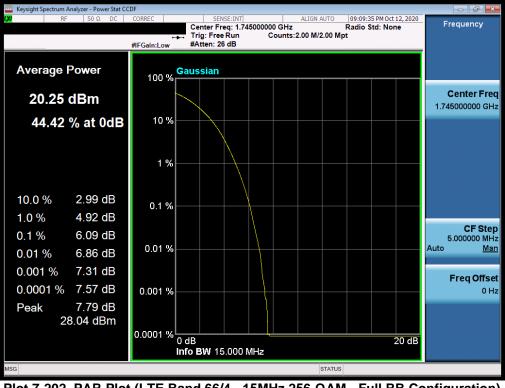
Plot 7-200. PAR Plot (LTE Band 66/4 - 15MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG998B	PCTEST* Proud to be part of @elitement	PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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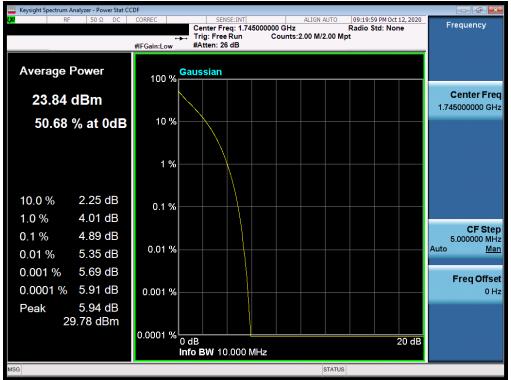


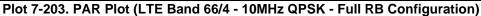


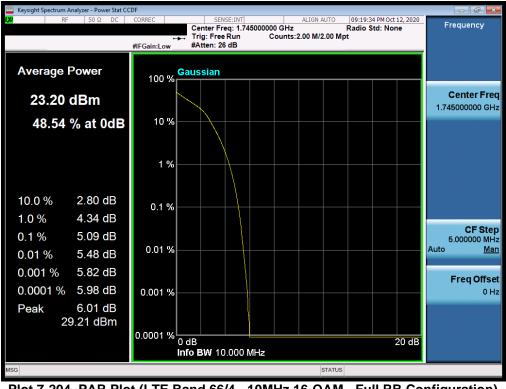
Plot 7-202. PAR Plot (LTE Band 66/4 - 15MHz 256-QAM - Full RB Configuration)

FCC ID: A3LSMG998B		PART 27 MEASUREMENT REPORT	Approved by: Technical Manager
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Plot 7-204. PAR Plot (LTE Band 66/4 - 10MHz 16-QAM - Full RB Configuration)

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