

	ectrum Analyze											
L <mark>XI</mark> RL	RF	50 Ω DC	CORR	EC	SEI	NSE:INT	#Avg Typ	ALIGN AUTO e: RMS		M Nov 06, 2019	Fre	quency
			PNC IFGa): Fast 🖵 iin:Low	Trig: Free Atten: 20				TY D			Auto Tune
10 dB/div Log	Ref 10.	00 dBm						IVIE	(r1 19.49 -44.9	4 0 GHZ 11 dBm		
												enter Freq
0.00											15.0000	000000 GHz
-10.0										DL1 -13.00 dBm		Start Freq
-20.0												000000 GHz
-30.0												Stop Freq
-40.0										1	20.0000	000000 GHz
-50.0	-											CF Step
-60.0											<u>Auto</u>	Man
-70.0											F	r eq Offset 0 Hz
-80.0											S	cale Type
Start 10.0									Stop 20			Lin
#Res BW	1.0 MHz			#VBW	3.0 MHz		s		17.33 ms (2	20001 pts)		
MSG								STAT	US			

Table 7-467. Conducted Spurious Plot (Band 66 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)



Table 7-468. Lower Band Edge Plot (Band 66 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	ectrum Analyzer - Sv										
L <mark>XI</mark> RL	RF 50 S	DC DC	CORREC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS		Nov 06, 2019	F	requency
			PNO: Wide ↔ IFGain:Low	Trig: Free Atten: 36				TYP			
10 dB/div Log	Ref 25.00	dBm					Mkr1	1.708 0 -18.6	88 GHz 49 dBm		Auto Tune
15.0											Center Freq 7000000 GHz
-5.00									DL1 -13.00 dBm	1.70	Start Freq 5000000 GHz
-15.0	**************************************		arthorn age and a compatibility	يە ئەركەيلەر بەركەيلەر بەركەيلەر يەركەيلەر بەركەيلەر بەركەيلەر بەركەيلەر بەركەيلەر		er for free - state of the first of the state - state	1	aller and a second s		1.70	Stop Freq 9000000 GHz
-35.0										<u>Auto</u>	CF Step 400.000 kHz Man
-55.0											Freq Offset 0 Hz
-65.0											Scale Type
Center 1. #Res BW	707000 GHz 1.0 MHz		#VBW	3.0 MHz			Sweep 2	Span 4 .000 ms (.000 MHz 1001 pts)	Log	<u>Lin</u>
MSG							STATUS	6			

Table 7-469. Lower Extended Band Edge Plot (Band 66 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)



Table 7-470. Upper Band Edge Plot (Band 66 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	ctrum Analyz	er - Swep	ot SA									
RL	RF	50 Ω	DC	CORREC	ide 🔸	SEI	#Avg Typ	ALIGN AUTO	TRAC	E 1 2 3 4 5 6 A WWWWW A NNNNN	F	requency
0 dB/div	Ref 25	.00 dl	Bm	IFGain:		Atten: 36		Mkr1	1.781 4	40 GHz 86 dBm		Auto Tur
15.0												Center Fre 3000000 GF
i.00 i.00											1.78	Start Fre
5.0	● ¹	-	art and the case of the Difference			and a start of the second second	 6-4 ⁻ 1-8-1	5	a Matter State for a constant	DL1 -13.00 dBm	1.78	Stop Fr 5000000 GI
5.0											Auto	CF Sto 400.000 k M
5.0												Freq Offs 0
enter 1.7	783000 (GHz							Span 4	.000 MHz	Log	Scale Typ
Res BW				;	#VBW :	3.0 MHz		Sweep 2	.000 ms (1001 pts)		
G								STATUS				

Table 7-471. Upper Extended Band Edge Plot (Band 66 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Uplink CA Configuration B41 (PC3)

				PCC							SCC				Power
Power State	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	24.74
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	20	40818	2612.8	QPSK	1	0	24.53
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	24.95

Table 7-8. Conducted Powers (B41 PC3 – PCC/SCC: RB Size 1)

				PCC							SCC				Power
Power State	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	Frequency	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	100	0	LTE B41	20	39948	2525.8	QPSK	100	0	23.07
Max	LTE B41	20	39750	2506	16-QAM	100	0	LTE B41	20	39948	2525.8	16-QAM	100	0	22.19
Max	LTE B41	20	39750	2506	64-QAM	100	0	LTE B41	20	39948	2525.8	64-QAM	100	0	21.05
Max	LTE B41	20	39750	2506	256-QAM	100	0	LTE B41	20	39948	2525.8	256-QAM	100	0	19.28

Table 7-9. Conducted Powers (B41 PC3 with Various Combinations for 20MHz Channel Bandwidth)

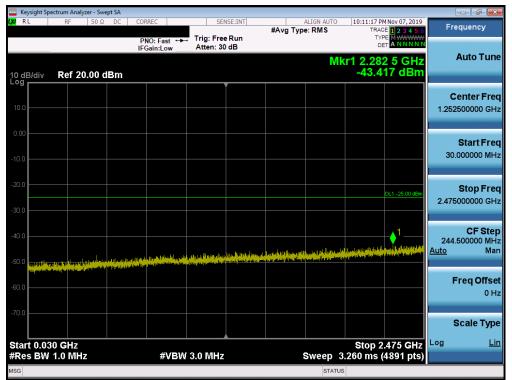


Table 7-472. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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VIX RF SO 0 DC CORREC SENSE:INT ALIGN AUTO 101:14:05 PM Nov 07,2019 Frequency PNO: Fast PNO: Fast PNO: Fast Trig: Free Run #Avg Type: RW Trace 0 Trac		Spectrum Analyzer - Swe	ept SA								
PRO: Fast	LXI RL	RF 50 Ω	DC COI	RREC	SEI	NSE:INT					Frequency
Center Freq Center Freq 200 1									TYPE	MWWWW	
200 1		Ref 30.00 d	IBm					Mk	1 2.515 17.43	93 GHz 6 dBm	Auto Tune
100 1	20.0	¥	1								
200 2.69000000 GHz 2.69000000 GHz 3.00 Hz 3.00 Hz 3			ų								
 21.50000 MHz 21.5000 MHz<!--</td--><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td>											
-50.0 -50.0 Freq Offset -60.0 -50.0 -50.0 -60.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0 Start 2.4750 GHz #VBW 3.0 MHz Stop 2.6900 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 2.6900 GHz	time in the second second				n y postate postate posta		و مورد المراجع الم	ala ji ka bila		k, lades a ^{bi} s de expérieure	21.500000 MHz
Start 2.4750 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.315 ms (4933 pts)											
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.315 ms (4933 pts)											
				#VBW	3.0 MHz			Sweep	Stop 2.6 1.315 ms (4	900 GHz 933 pts)	Log <u>Lin</u>
				<i>"</i> с – 1 – – 1 – – 1 – – – – – – – – – –						ereo-proy	

Table 7-473. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

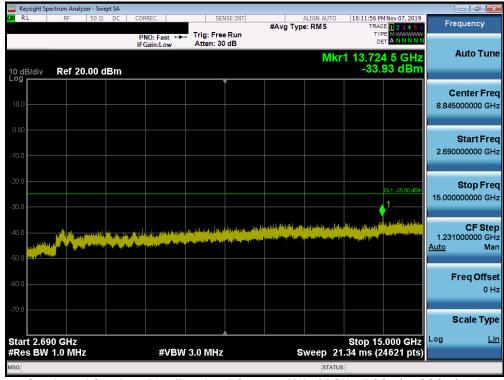


Table 7-474. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	ectrum Analyzer - Swep										- 6 🗙
LXI RL	RF 50 Ω	DC CORR	EC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS		Nov 07, 2019	Fre	quency
10 dB/div	Ref 0.00 dBi	IFG	D:Fast ↔→ ain:Low	Trig: Free Atten: 10				TYF DE r1 26.54			Auto Tune
-10.0											enter Freq 000000 GHz
-20.0									DL1 -25.00 dBm		Start Freq 000000 GHz
-40.0				ana na na 1. An	by Ly	Al Jahren Arlenar	Karistarti Kariti	1) THE (FIRE) ALL AND THE OTHER	nen allan de peletipe		Stop Freq 000000 GHz
-60.0	la jun te desta series and a series and the series of the		, and south for a finite strategy of	a, alith para a dealth	la cris politika, fazz	of a since shall a sin the	a a chan a thing a thing a star			1.200 <u>Auto</u>	CF Step 000000 GHz Man
-80.0										F	req Offset 0 Hz
-30.0 Start 15.0 #Res BW			#VBW	3.0 MHz			weep 2	Stop 27 0.80 ms (2	.000 GHz 4001 pts)	S Log	cale Type <u>Lin</u>
MSG							STATU		p/		

Table 7-475. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

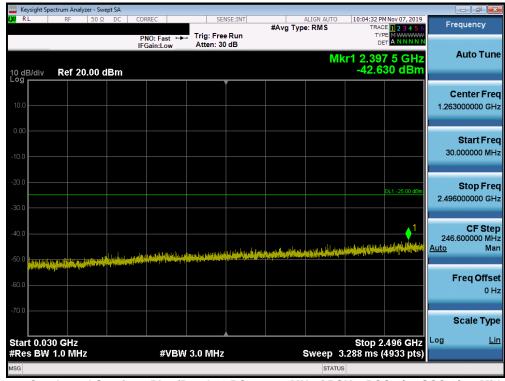


Table 7-476. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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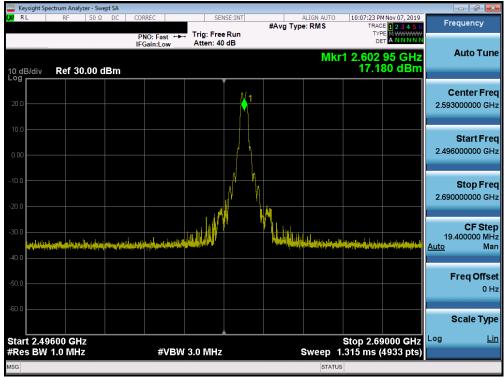


Table 7-477. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

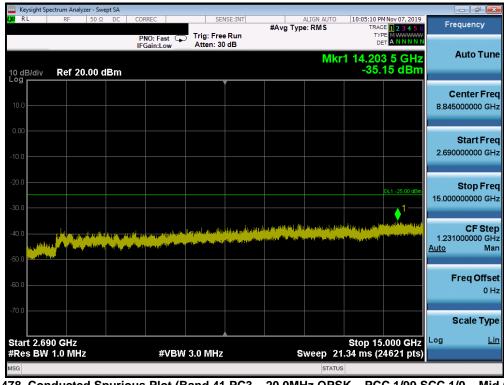


Table 7-478. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	ectrum Analyzer - Sw										
L <mark>XI</mark> RL	RF 50 Ω	2 DC C	DRREC	SEI	ISE:INT	#Avg Typ	ALIGN AUTO		MNov 07, 2019	Frequenc	у
		I	PNO: Fast 🖕 FGain:Low	Trig: Free Atten: 10				TYF DE r1 26.49		Auto 1	Гune
10 dB/div Log	Ref 0.00 d	Bm						-49.	00 dBm		
-10.0										Center 21.000000000	
-20.0									DL1 -25.00 dBm	Start 15.000000000	
-40.0									↓ ¹	Stop 27.000000000	
-60.0	ak je bog albingan jane keen tit ning angen dinasti sa ing analisi		n para di Kasara da kasara da kasara Kasara di Kasara da k	n y portras filo jaulinti ko 19 ga este en filo y a serent 19 ga este en filo y a serent	an lang pinang inap malakan minapang k		a tan inggang a sa ingga man 1999 kanan da Akangal Ing			CF 1.200000000 <u>Auto</u>	Step) GHz Man
-80.0										Freq O	o ffset 0 Hz
-90.0 Start 15.0								Stop 27	.000 GHz	Scale	Type Lin
#Res BW			#VBW	3.0 MHz		s	weep 2	0.80 ms (2	4001 pts)		
MSG							STATU	IS			

Table 7-479. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

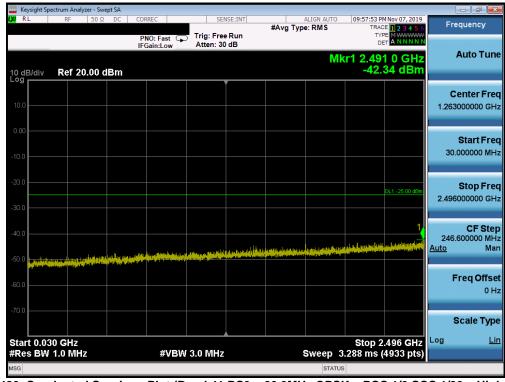


Table 7-480. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	Spectrum Analyzer - Swept SA								
LX/IRL	RF 50 Ω DC	CORREC	SENSE:INT	#Avg Typ	ALIGN AUTO		Nov 07, 2019	Fred	quency
10 dB/div	Ref 29.29 dBm	PNO: Fast ↔ IFGain:Low	Trig: Free Run #Atten: 32 dB			TYP DE r1 2.670		Д	Auto Tune
19.3						1			enter Freq 600000 GHz
9.29									Start Freq 100000 GHz
-10.7					M				Stop Freq 000000 GHz
-30.7	na yang di bila manang si patan di kalang dan yang s				₩/			21.9 <u>Auto</u>	CF Step 00000 MHz Man
-50.7	en kan bekar period (specificary period in specific specificary period in specific specific specific specific s	internetional parts provident and and a second set of grant of the second set of the second set of the second set of grant of the second set of the second s	e dig pangianakan sa yang dalam pang	in the second				Fi	r eq Offset 0 Hz
	960 GHz					Stop 2.7	150 GHz	So Log	cale Type Lin
	960 GHZ V 1.0 MHZ	#VBW	3.0 MHz		Sweep	/.stop 2.7 // 1.315 ms	00 0112		
MSG					STATU				

Table 7-481. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

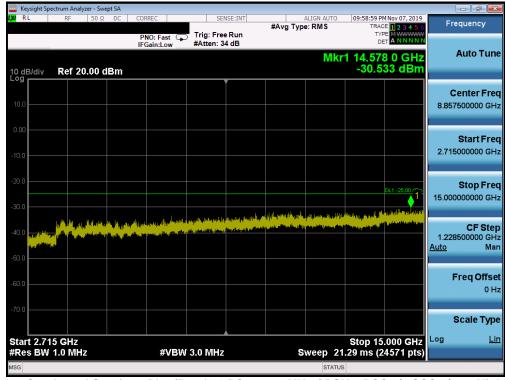


Table 7-482. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	ectrum Analyzer - Swe									
LXI RL	RF 50 Ω	DC COI	RREC	SEI	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS		MNov 07, 2019	Frequency
10 dB/div	Ref 0.00 dE	IF	NO: Fast ↔ Gain:Low	Trig: Free #Atten: 1		• /	Mk	זיז ס 1 26.49	erannnn 0 5 GHz 60 dBm	Auto Tune
-10.0										Center Freq 21.00000000 GHz
-20.0									DL1 -25.00 dBm	Start Freq 15.000000000 GHz
-40.0			aa Ilaa mii amila		an a shi i saka mati i	e <mark>disko producente en con</mark> tra	a () for the second of the	and a state of the second s	און איז די די איז די די און א	Stop Freq 27.000000000 GHz
-60.0 (1997) -70.0	ali ang	n - na han yang se pada sebahan sebahan Tipi pada sebahan sebah Tipi pada sebahan sebah		ana katao ana katao	WARD AND AND A		e et iniziel et a suites			CF Step 1.200000000 GHz <u>Auto</u> Man
-80.0										Freq Offset 0 Hz
Start 15.0			#\/D\A/	2.0 8414				Stop 27	.000 0112	Scale Type
#Res BW	1.0 MHZ		#VBW	3.0 MHz		5	STATU		4001 pts)	

Table 7-483. Conducted Spurious Plot (Band 41 PC3 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

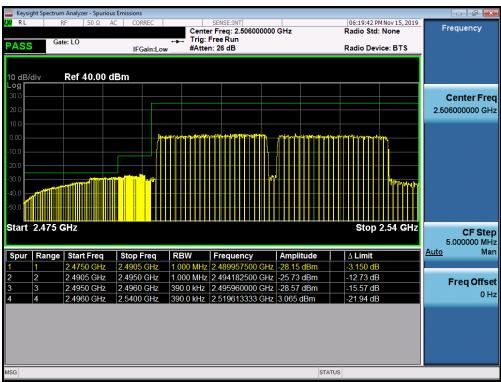


Table 7-484. Lower ACP Plot (Band 41 PC3 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Table 7-485. Upper ACP Plot (Band 41 PC3 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Uplink CA Configuration B41 (PC2)

				PCC							SCC				Power
Power State	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	26.89
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	20	40818	2612.8	QPSK	1	0	27.12
Max	LTE B41	20	41490	2680	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	26.88

Table 7-10. Conducted Powers (B41 PC2 – PCC/SCC: RB Size 1)

				PCC							SCC				Power
Power State	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	40620	2593	QPSK	100	0	LTE B41	20	40818	2612.8	QPSK	100	0	25.45
Max	LTE B41	20	40620	2593	16-QAM	100	0	LTE B41	20	40818	2612.8	16-QAM	100	0	24.65
Max	LTE B41	20	40620	2593	64-QAM	100	0	LTE B41	20	40818	2612.8	64-QAM	100	0	23.44
Max	LTE B41	20	40620	2593	256-QAM	100	0	LTE B41	20	40818	2612.8	256-QAM	100	0	21.52

Table 7-11. Conducted Powers (B41 PC2 with Various Combinations for 20MHz Channel Bandwidth)

	ectrum Analyz												
RL	RF	50 Ω	DC	CORREC		SEI	ISE:INT		ALIGN AUTO		PM Nov 07, 2019	Ere	equency
				DNO D		Trig: Free	Run	#Avg Ty	pe:RMS	TR. T	ACE 1 2 3 4 5 6		queriey
				IFGain:	ast ⊊⊃ ₋ow	Atten: 30					YPE MWWWWW DET ANNNN		
									N	lkr1 2 /	17 5 GHz		Auto Tun
		oo -18									.86 dBm		
0 dB/div	Ref 20	.UU at	∋m					_	_				
Ŭ							Í					~	optor Ero
													enter Fre
10.0												1.252	500000 GH
0.00													
													Start Fre
10.0												30.	000000 MH
20.0											DL1 -25.00 dBm		Stop Fre
											DE1-20.00 (dbii)	2.475	000000 GH
30.0													
10.0													CF Ste
										أوبادا أستجابا والمتدريس	والمراجر أطفا العرشري والم		500000 MH
			أأسر والمتعاد والانت	L Helletve	an an filmen	المانية الماني			an an tagain an tagain. An an Ionna an tagain	الأوالية والمربية والمستع والو	and a lot of a state of the lot	Auto	Ma
	الله معالية والمحالية (). الألوم الأسلام () المراجع () (الند الإدغاقيين	in a statistic									
												F	req Offse
50.0													0
													01
70.0													
												S	Scale Typ
tart 0.03	0 GHz									Stop	2.475 GHz	Log	Li
	1.0 MHz				¢VB₩	3.0 MHz			Sweep	3.260 ms	(4891 pts)		
													_

Table 7-486. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	NG	Approved by: Quality Manager
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RL RF SO Q. DC CORREC SERVES.INT ALLON AUTO 09:24:10 PMov 07,2019 PNO: East		sight Spectrur												×
PNO: Fast	lxi Rl		RF 5	50 Ω	DC	CORRE	C	SE	NSE:INT				Frequency	y
Mkr1 2.515 85 GHz Auto Tune 10 d B/div Ref 30.00 dBm 18.80 dBm 200 1 1 1 100 1 1 1 100 1 1 1 1 100 1 1 1 1 1 100 1 1 1 1 1 1 100 1 1 1 1 1 1 1 100 1											TY	PE M WWWWW		
100 gB/div Ref 30.00 dBm 18.80 dBm 200 1 1 1 200 1 1 1 1 200 1 1 1 1 100 1 1 1 1 1 100 1 1 1 1 1 1 100 1						IFGal	n:Low	Atten. 4	000	Mk	1 2 515	85 GHz	Auto T	une
200 1	10 dE	Vdiv R	ef 30.0	10 d	Bm						18.	80 dBm		
200 200 200 200 200 200 200 200	Log								Ĭ					
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000 Start Freq 100 Start Freq 200 Start Freq 200 Stop Freq 201 Stop Freq 202 Stop Freq 203 Stop Freq 204 Stop Freq 205 Stop Freq 206 Stop Freq 207 Stop Freq 208 Stop Freq 209 Stop Freq 21.500000 MHz Man Stop Freq Stop Freq 21.50000 MHz Stop Freq 21.50000 MHz Stop Freq 21.50000 MHz Stop Freq 21.50000 MHz	20.0			ľ									2.582500000	GHZ
000 2.47500000 GHz 100 100 200	10.0			_										
100 1				ſ										
2000 200 2000 2	0.00			┢									2.475000000	GHz
2000 200 2000 2					l									
200 200	-10.0			H	4.									
300 1	-20.0		NW		M								2.69000000	GHz
21.500000 MHz Auto Man 500 500 500 500 500 500 500 500 500 50	20.0		MM		ľ h	An A								
Auto Man Auto Man Auto Man Auto Man Freq Offset 0 Hz Start 2.4750 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.304 ms (4891 pts)	-30.0		11											
-50.0 -50.0 -6		dise is in the second				1		alle state the second second		hallssigal		adate and the state		
500 500 500 500 500 500 500 500	-40.0													
60.0 Start 2.4750 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Start 2.4750 GHz #VBW 3.0 MHz Start 2.4750 GHz #VBW 3.0 MHz Start 2.4750 GHz Start 2.4750 GHz Start 2.4750 GHz Hog Log Log Log Log Log Log													Freq Of	ffset
Start 2.4750 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.304 ms (4891 pts)	-50.0													0 Hz
Start 2.4750 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.304 ms (4891 pts)	-60.0													
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#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.304 ms (4891 pts)	0	0.4750									Oton 24		Loa	Lin
							#VBV	V 3.0 MHz		Sweep	5.0p 2.	4891 pts)		
	MSG													

Table 7-487. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

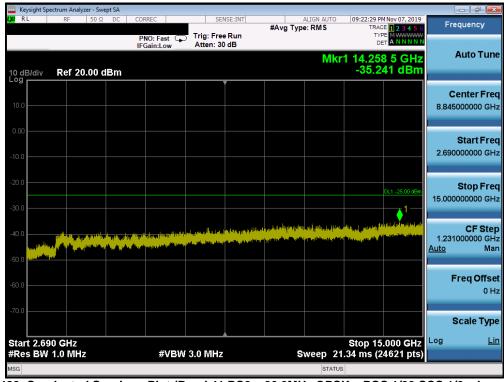


Table 7-488. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Initial Productions of CHP2 -49.422 dBm 100 -49.42 dBm 110 -49.42 dBm 111 -49.44 dBm 111 -49.44 dBm		ectrum Analyzer - Sw									- 6 -
Atter 10 dB Mkr1 26.205 5 GHz -49.42 dBm Mkr1 26.205 5 GHz -49.42 dBm Center Freq 21.0000000 GHz -100 00 00 00 00 00 00 00 00 00	LXI RL	RF 50 Ω	DC CO	RREC					TRAC	E 1 2 3 4 5 6	Frequency
100 Image: Center Freq 21.00000000 GHz 200 Image: Center Freq 21.00000000 GHz	10 dB/div	Ref 0.00 dl	IF					Mkr	DE 1 26.20	5 5 GHz	Auto Tune
300 Image: Constraint of the state of	-10.0										Center Freq 21.000000000 GHz
500 Stop Fred Total Stop Fred Stop Fred Total Stop Fred Total St	-20.0									DL1 -25.00 dBm	Start Freq 15.000000000 GHz
60.0 60.0	-40.0			da	المرزنية وحازز وأقتران	و بنا الغانية بوريد.	. Mendanganakan	l all and and a straight of the second	e Northe dates in the second	ז קוראל דאווי זייה און אין	
800 900 Start 15.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 20.80 ms (24001 pts)	-60.0	n (1, , , , , , , , , , , , , , , , , , ,	n in printer and printer of		e _{n t} erilde key franske	agout a staffing product		n na she ndan sa	n a i wa iko ya ika iki k		1.200000000 GHz
Start 15.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 20.80 ms (24001 pts)	-80.0										
	Start 15.0			<i>"</i>					Stop 27	.000 GHz	Log <u>Lin</u>
	#Res BW	1.0 WHZ		#VBW	3.0 WHZ		S			4001 pts)	

Table 7-489. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Low Channel)

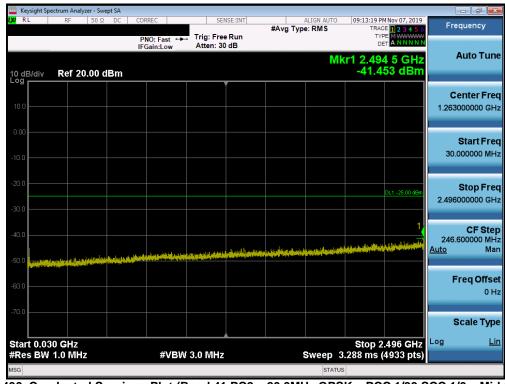


Table 7-490. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager						
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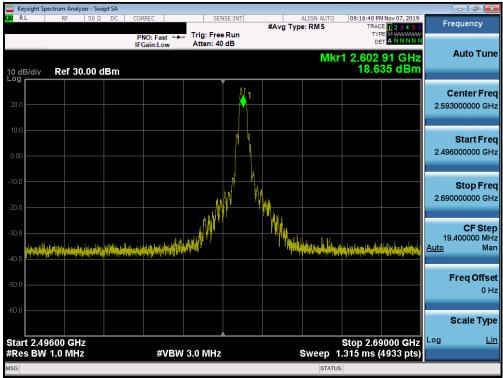


Table 7-491. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

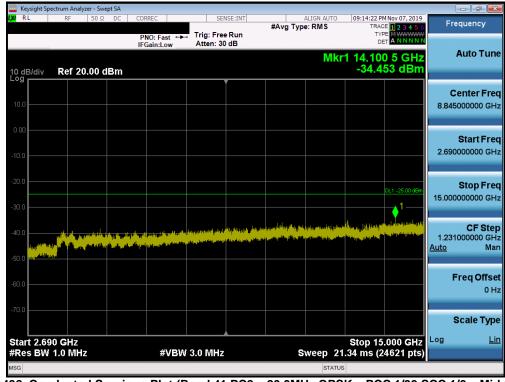


Table 7-492. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	ectrum Analyzer - Swep										
LX/RL	RF 50 Ω	DC CORRE	C	SEN	SE:INT	#Avg Typ	ALIGN AUTO e: RMS		MNov 07, 2019	Fre	quency
			:Fast ↔ in:Low	Trig: Free Atten: 10				TYF			Auto Tune
10 dB/div Log	Ref 0.00 dBi	m			,			-49.2	11 dBm		
-10.0											enter Freq
-20.0										21.000	000000 GHz
-20.0									DL1 -25.00 dBm		Start Freq
-30.0										15.000	000000 GHz
-40.0											Stop Freq
-50.0										27.000	000000 GHz
Perturbu	ر المراجع الم		Alicent Deather and	eritan pintele Simericanis	ala a gi a di anga ang Managan di anga anga anga anga anga anga anga ang	, and the second se Second second	Annesing and and and	a ann an a	A CONTRACTOR AND		CF Step
-60.0	الاستغارية ومشملهم المتعر المتعرية	a dan da ang sa barang sa barang sa barang sa barang sa								1.200 <u>Auto</u>	000000 GHz Man
-70.0											
-80.0										F	req Offset 0 Hz
-90.0											
										S	cale Type
Start 15.0 #Res BW			#VBW 3	3.0 MHz		s	weep 20	Stop 27 .80 ms (2	.000 GHz 4001 pts)	Log	<u>Lin</u>
MSG							STATUS				

Table 7-493. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

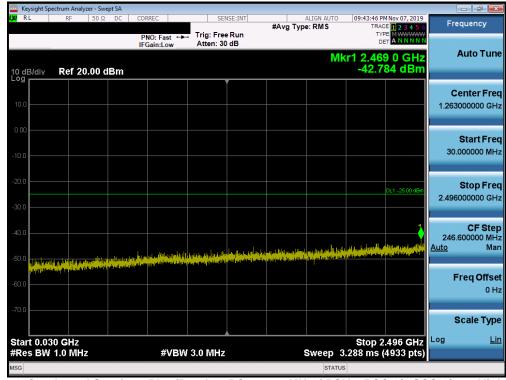


Table 7-494. Conducted Spurious Plot (Band 41 PC2 - 20.0MHz QPSK - PCC 1/0 SCC 1/99 - High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	ectrum Analyzer - Swept SA					
LXI RL	RF 50 Ω DC	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	09:47:28 PM Nov 07, 2019 TRACE 1 2 3 4 5 6	Frequency
			Trig: Free Run #Atten: 40 dB	• //	TYPE NWWWW DET NNNNN r1 2.670 09 GHz 18.549 dBm	Auto Tune
10 dB/div Log	Ref 29.29 dBm				18.549 GBM	
19.3					1	Center Freq 2.605500000 GHz
9.29						Start Freq 2.496000000 GHz
-10.7				. MW	M.	Stop Freq 2.715000000 GHz
310,000,000	en del por la combina de la compañía	siddad, ayda daga balan ydda	n _{en s} en en sen de s	an a	"WM	CF Step 21.900000 MHz <u>Auto</u> Man
-40.7						Freq Offset 0 Hz
-60.7						Scale Type
Start 2.49 #Res BW		#VBW 3	.0 MHz	Sweep	Stop 2.7150 GHz 1.315 ms (4933 pts)	Log <u>Lin</u>
MSG				STATL		

Table 7-495. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

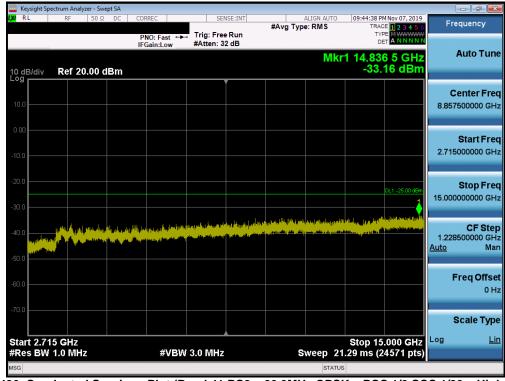


Table 7-496. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	ectrum Analyzer - Sw										x
LXI RL	RF 50 Ω	DC CO	RREC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRAC	MNov 07, 2019 DE 1 2 3 4 5 6	Frequency	,
	Def 0.00 di	IF	NO: Fast ↔ Gain:Low	Trig: Free #Atten: 10			Mkı	DI 1 26.27	a 0 GHz 75 dBm	Auto T	une
10 dB/div	Ref 0.00 di	∃m		,				-40.			
-10.0										Center F 21.000000000	
-20.0									DL1 -25.00 dBm	Start F	rea
-30.0										15.000000000	
-40.0									▲1	Stop F	
-50.0	u ji jana kata kata kata kata kata kata kata k	Patana ang Kilika	an (alter they be	լու, Մոգետը (իրկ) Մե		l _{ga} nagan bagapa tagèn disertesi di			a maranan manana katan Katalan		
-60.0 TOTAL COLOR	den mär n ^{ada} in ätte social l ^{iken}	a ana an Maran na katala ka	and a state of the second s	the subsector	and the altern					CF S 1.200000000 <u>Auto</u>	
-80.0										Freq Of	ffse 0 H;
-90.0										Scale T	
Start 15.0 #Res BW			#VBW	3.0 MHz			weep 20	Stop 27	.000 GHz 4001 pts)	Log	Lin
MSG				0.0 11112			STATU		- (o () ()		

Table 7-497. Conducted Spurious Plot (Band 41 PC2 – 20.0MHz QPSK – PCC 1/0 SCC 1/99 – High Channel)

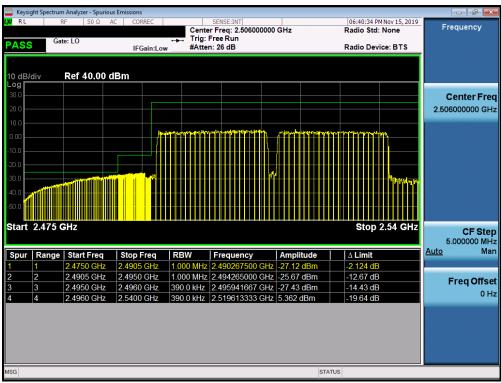


Table 7-498. Lower ACP Plot (Band 41 PC2 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Table 7-499. Upper ACP Plot (Band 41 PC2 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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7.8 Radiated Power (ERP/EIRP)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized tuned broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v03r01 - Section 5.2.1

ANSI/TIA-603-E-2016 - Section 2.2.17

Test Settings

- Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
- 2. RBW = 1 5% of the expected OBW, not to exceed 1MHz
- 3. VBW \geq 3 x RBW
- 4. Span = 1.5 times the OBW
- 5. No. of sweep points > 2 x span / RBW
- 6. Detector = RMS
- 7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
- 8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
- 9. Trace mode = trace averaging (RMS) over 100 sweeps
- 10. The trace was allowed to stabilize

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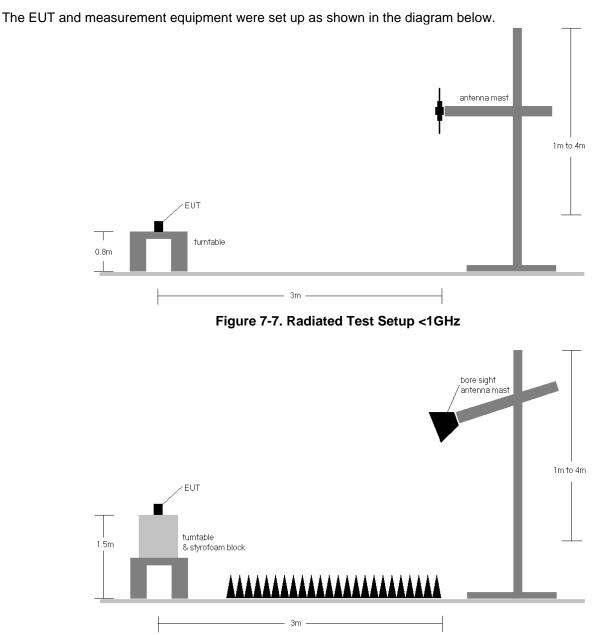


Figure 7-8. Radiated Test Setup >1GHz

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.

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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
665.50	5	QPSK	Н	175	283	1 / 24	15.02	2.90	15.77	0.038	34.77	-19.00
680.50	5	QPSK	Н	175	280	1 / 24	16.11	3.20	17.16	0.052	34.77	-17.61
695.50	5	QPSK	Н	173	282	1 / 24	15.36	3.30	16.51	0.045	34.77	-18.26
680.50	5	16-QAM	Н	175	280	1 / 24	15.29	3.20	16.34	0.043	34.77	-18.43
680.50	5	64-QAM	Н	175	280	1 / 24	13.74	3.20	14.79	0.030	34.77	-19.98
680.50	5	256-QAM	Н	175	280	1 / 24	12.87	3.20	13.92	0.025	34.77	-20.85
668.00	10	QPSK	Н	171	282	1 / 49	15.34	2.90	16.09	0.041	34.77	-18.68
680.50	10	QPSK	Н	175	280	1 / 49	15.94	3.20	16.99	0.050	34.77	-17.78
693.00	10	QPSK	Н	173	281	1 / 49	15.91	3.30	17.06	0.051	34.77	-17.71
680.50	10	16-QAM	Н	175	280	1 / 49	15.60	3.20	16.65	0.046	34.77	-18.12
680.50	10	64-QAM	Н	175	280	1 / 49	14.34	3.20	15.39	0.035	34.77	-19.38
680.50	10	256-QAM	Н	175	280	1 / 49	11.72	3.20	12.77	0.019	34.77	-22.00
670.50	15	QPSK	Н	172	277	1 / 74	15.44	3.00	16.29	0.043	34.77	-18.48
680.50	15	QPSK	Н	172	275	1 / 74	16.16	3.20	17.21	0.053	34.77	-17.56
690.50	15	QPSK	Н	172	278	1 / 74	15.79	3.30	16.94	0.049	34.77	-17.83
680.50	15	16-QAM	Н	172	275	1 / 74	15.43	3.20	16.48	0.044	34.77	-18.29
680.50	15	64-QAM	Н	172	275	1 / 74	14.20	3.20	15.25	0.033	34.77	-19.52
680.50	15	256-QAM	Н	172	275	1 / 74	11.33	3.20	12.38	0.017	34.77	-22.39
673.00	20	QPSK	Н	177	277	1 / 99	15.53	3.10	16.48	0.044	34.77	-18.29
680.50	20	QPSK	Н	172	279	1 / 99	14.89	3.20	15.94	0.039	34.77	-18.83
688.00	20	QPSK	Н	174	279	1 / 99	15.62	3.30	16.77	0.048	34.77	-18.00
688.00	20	16-QAM	Н	174	279	1 / 99	14.84	3.30	15.99	0.040	34.77	-18.78
673.00	20	64-QAM	Н	177	277	1 / 99	13.76	3.10	14.71	0.030	34.77	-20.06
688.00	20	256-QAM	Н	174	279	1 / 99	10.74	3.30	11.89	0.015	34.77	-22.88
680.50	15	QPSK	V	155	155	1 / 74	12.55	3.20	13.60	0.023	34.77	-21.17
680.50	15 (WCP)	QPSK	Н	172	281	1 / 74	12.12	3.20	13.17	0.021	34.77	-21.60

Table 7-12. ERP Data (Band 71)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	V	166	329	1 / 5	15.19	4.50	17.54	0.057	34.77	-17.23	19.69	0.093	36.99	-17.30
707.50	1.4	QPSK	V	172	303	1 / 5	15.51	4.60	17.96	0.063	34.77	-16.81	20.11	0.103	36.99	-16.88
715.30	1.4	QPSK	V	101	211	1/0	14.45	4.63	16.93	0.049	34.77	-17.84	19.08	0.081	36.99	-17.91
707.50	1.4	16-QAM	V	172	303	1 / 5	14.72	4.60	17.17	0.052	34.77	-17.60	19.32	0.086	36.99	-17.67
707.50	1.4	64-QAM	V	172	303	1/0	13.56	4.60	16.01	0.040	34.77	-18.76	18.16	0.065	36.99	-18.83
707.50	1.4	256-QAM	V	172	303	1/0	10.59	4.60	13.04	0.020	34.77	-21.73	15.19	0.033	36.99	-21.80
700.50	3	QPSK	V	185	235	1/0	15.55	4.55	17.95	0.062	34.77	-16.82	20.10	0.102	36.99	-16.89
707.50	3	QPSK	V	195	248	1 / 14	15.49	4.60	17.94	0.062	34.77	-16.83	20.09	0.102	36.99	-16.90
714.50	3	QPSK	V	100	246	1/0	14.44	4.60	16.89	0.049	34.77	-17.88	19.04	0.080	36.99	-17.95
707.50	3	16-QAM	V	195	248	1/0	15.07	4.60	17.52	0.056	34.77	-17.25	19.67	0.093	36.99	-17.32
707.50	3	64-QAM	V	195	248	1/0	13.91	4.60	16.36	0.043	34.77	-18.41	18.51	0.071	36.99	-18.48
707.50	3	256-QAM	V	195	248	1/0	11.09	4.60	13.54	0.023	34.77	-21.23	15.69	0.037	36.99	-21.30
701.50	5	QPSK	V	179	254	1 / 24	15.53	4.60	17.98	0.063	34.77	-16.79	20.13	0.103	36.99	-16.86
707.50	5	QPSK	V	187	296	1/0	15.83	4.60	18.28	0.067	34.77	-16.49	20.43	0.110	36.99	-16.56
713.50	5	QPSK	V	183	249	1/0	14.78	4.60	17.23	0.053	34.77	-17.54	19.38	0.087	36.99	-17.61
707.50	5	16-QAM	V	187	296	1/0	15.15	4.60	17.60	0.058	34.77	-17.17	19.75	0.094	36.99	-17.24
707.50	5	64-QAM	V	187	296	1/0	14.26	4.60	16.71	0.047	34.77	-18.06	18.86	0.077	36.99	-18.13
707.50	5	256-QAM	V	187	296	1/0	11.20	4.60	13.65	0.023	34.77	-21.12	15.80	0.038	36.99	-21.19
704.00	10	QPSK	V	101	285	1 / 49	13.19	4.50	15.54	0.036	34.77	-19.23	17.69	0.059	36.99	-19.30
707.50	10	QPSK	V	100	286	1 / 49	14.39	4.60	16.84	0.048	34.77	-17.93	18.99	0.079	36.99	-18.00
711.00	10	QPSK	V	101	271	1 / 49	14.32	4.60	16.77	0.048	34.77	-18.00	18.92	0.078	36.99	-18.07
711.00	10	16-QAM	V	101	271	1 / 49	13.69	4.60	16.14	0.041	34.77	-18.63	18.29	0.067	36.99	-18.70
707.50	10	64-QAM	V	100	286	1 / 49	12.64	4.60	15.09	0.032	34.77	-19.68	17.24	0.053	36.99	-19.75
711.00	10	256-QAM	V	101	271	1 / 49	10.14	4.60	12.59	0.018	34.77	-22.18	14.74	0.030	36.99	-22.25
707.50	5	QPSK	н	137	331	1/0	14.36	3.65	15.86	0.039	34.77	-18.91	18.01	0.063	36.99	-18.98
707.50	5 (WCP)	QPSK	V	176	298	1/0	12.73	4.60	15.18	0.033	34.77	-19.59	17.33	0.054	36.99	-19.66

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Table 7-13. ERP Data (Band 12)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 200 of 405
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
779.50	5	QPSK	Н	102	290	1 / 24	14.34	5.80	17.99	0.063	34.77	-16.78
782.00	5	QPSK	Н	101	290	1 / 24	14.40	5.80	18.05	0.064	34.77	-16.72
784.50	5	QPSK	Н	101	290	1 / 0	14.20	5.90	17.95	0.062	34.77	-16.82
782.00	5	16-QAM	Н	101	290	1 / 24	14.04	5.80	17.69	0.059	34.77	-17.08
782.00	5	64-QAM	н	101	290	1 / 24	11.74	5.80	15.39	0.035	34.77	-19.38
782.00	5	256-QAM	Н	101	290	1 / 24	11.03	5.80	14.68	0.029	34.77	-20.09
782.00	10	QPSK	Н	100	290	1 / 49	15.11	5.80	18.76	0.075	34.77	-16.01
782.00	10	16-QAM	Н	100	290	1 / 49	14.24	5.80	17.89	0.062	34.77	-16.88
782.00	10	64-QAM	Н	100	290	1 / 49	13.51	5.80	17.16	0.052	34.77	-17.61
782.00	10	256-QAM	Н	100	290	1 / 49	11.37	5.80	15.02	0.032	34.77	-19.75
782.00	10	QPSK	V	161	245	1 / 49	14.61	5.80	18.26	0.067	34.77	-16.51
782.00	10 (WCP)	QPSK	Н	227	264	1 / 49	14.21	5.80	17.86	0.061	34.77	-16.91

Table 7-14. ERP Data (Band 13)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 200 of 405
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	Н	145	291	1 / 0	12.81	6.70	17.36	0.054	38.45	-21.09
836.50	1.4	QPSK	Н	145	291	1 / 0	13.57	6.70	18.12	0.065	38.45	-20.33
848.30	1.4	QPSK	Н	141	290	1 / 5	13.38	6.70	17.93	0.062	38.45	-20.52
848.30	1.4	16-QAM	н	141	290	1 / 5	13.06	6.70	17.61	0.058	38.45	-20.84
848.30	1.4	64-QAM	Н	141	290	1 / 5	12.29	6.70	16.84	0.048	38.45	-21.61
848.30	1.4	256-QAM	Н	141	290	1 / 5	9.16	6.70	13.71	0.023	38.45	-24.74
825.50	3	QPSK	Н	143	295	1 / 0	12.94	6.70	17.49	0.056	38.45	-20.96
836.50	3	QPSK	н	143	291	1 / 0	13.66	6.70	18.21	0.066	38.45	-20.24
847.50	3	QPSK	н	140	295	1 / 14	13.33	6.65	17.83	0.061	38.45	-20.62
847.50	3	16-QAM	Н	140	295	1 / 14	12.92	6.65	17.42	0.055	38.45	-21.03
847.50	3	64-QAM	Н	140	295	1 / 14	11.97	6.65	16.47	0.044	38.45	-21.98
825.50	3	256-QAM	H	143	295	1 / 0	9.71	6.70	14.26	0.027	38.45	-24.19
826.50	5	QPSK	Н	140	292	1 / 0	13.05	6.70	17.60	0.058	38.45	-20.85
836.50	5	QPSK	Н	141	291	1 / 0	13.78	6.70	18.33	0.068	38.45	-20.12
846.50	5	QPSK	Н	136	291	1 / 24	13.37	6.60	17.82	0.061	38.45	-20.63
836.50	5	16-QAM	Н	141	291	1 / 24	12.78	6.70	17.33	0.054	38.45	-21.12
846.50	5	64-QAM	Н	136	291	1 / 24	11.84	6.60	16.29	0.043	38.45	-22.16
826.50	5	256-QAM	Н	140	292	1 / 0	10.31	6.70	14.86	0.031	38.45	-23.59
829.00	10	QPSK	Н	137	291	1 / 0	13.16	6.70	17.71	0.059	38.45	-20.74
836.50	10	QPSK	Н	142	286	1 / 0	13.83	6.70	18.38	0.069	38.45	-20.07
844.00	10	QPSK	Н	135	285	1 / 49	13.42	6.60	17.87	0.061	38.45	-20.58
836.50	10	16-QAM	Н	142	286	1/0	12.93	6.70	17.48	0.056	38.45	-20.97
836.50	10	64-QAM	Н	142	286	1/0	12.05	6.70	16.60	0.046	38.45	-21.85
829.00	10	256-QAM	Н	137	291	1/0	10.63	6.70	15.18	0.033	38.45	-23.27
836.50	10	QPSK	V	326	185	1/0	11.65	6.70	16.20	0.042	38.45	-22.25
836.50	10 (WCP)	QPSK	Н	201	259	1 / 0	12.48	6.70	17.03	0.050	38.45	-21.42

Table 7-15. ERP Data (Band 26/5)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
831.50	15	QPSK	Н	135	290	1 / 0	11.94	6.70	16.49	0.045	38.45	-21.96
836.50	15	QPSK	н	141	285	1 / 0	12.69	6.70	17.24	0.053	38.45	-21.21
841.50	15	QPSK	н	135	285	1 / 74	12.28	6.60	16.73	0.047	38.45	-21.72
836.50	15	16-QAM	Н	141	285	1 / 0	11.43	6.70	15.98	0.040	38.45	-22.47
836.50	15	64-QAM	Н	141	285	1 / 0	10.61	6.70	15.16	0.033	38.45	-23.29
831.50	15	256-QAM	Н	135	290	1 / 0	8.78	6.70	13.33	0.022	38.45	-25.12

Table 7-16. ERP Data (Band 26)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 202 of 405
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	н	154	210	1 / 0	9.41	9.44	18.85	0.077	30.00	-11.15
1745.00	1.4	QPSK	н	140	215	1 / 0	14.01	9.23	23.24	0.211	30.00	-6.76
1779.30	1.4	QPSK	н	133	211	1 / 0	9.04	9.26	18.30	0.068	30.00	-11.70
1779.30	1.4	16-QAM	н	133	211	1 / 0	12.69	9.26	21.95	0.157	30.00	-8.05
1779.30	1.4	64-QAM	н	133	211	1 / 5	11.09	9.26	20.35	0.108	30.00	-9.65
1710.70	1.4	256-QAM	н	154	210	1 / 0	9.13	9.44	18.57	0.072	30.00	-11.43
1711.50	3	QPSK	н	155	208	1 / 0	11.71	9.44	21.15	0.130	30.00	-8.85
1745.00	3	QPSK	н	140	215	1/0	13.93	9.23	23.16	0.207	30.00	-6.84
1778.50	3	QPSK	н	133	208	1 / 0	11.12	9.26	20.37	0.109	30.00	-9.63
1745.00	3	16-QAM	н	140	215	1 / 14	13.75	9.23	22.98	0.199	30.00	-7.02
1711.50	3	64-QAM	н	155	208	1/0	8.55	9.44	17.99	0.063	30.00	-12.01
1711.50	3	256-QAM	н	155	208	1/0	6.98	9.44	16.42	0.044	30.00	-13.58
1712.50	5	QPSK	н	155	210	1/0	12.86	9.43	22.29	0.170	30.00	-7.71
1745.00	5	QPSK	н	155	210	1 / 0	13.90	9.23	23.13	0.206	30.00	-6.87
1777.50	5	QPSK	н	124	211	1/0	12.30	9.26	21.56	0.143	30.00	-8.44
1745.00	5	16-QAM	н	155	210	1 / 24	13.29	9.23	22.52	0.179	30.00	-7.48
1712.50	5	64-QAM	н	155	210	1/0	10.16	9.43	19.59	0.091	30.00	-10.41
1712.50	5	256-QAM	н	155	210	1/0	8.48	9.43	17.91	0.062	30.00	-12.09
1715.00	10	QPSK	н	155	210	1/0	13.58	9.42	22.99	0.199	30.00	-7.01
1745.00	10	QPSK	н	140	215	1 / 0	13.72	9.23	22.95	0.197	30.00	-7.05
1775.00	10	QPSK	н	124	211	1 / 0	12.87	9.25	22.12	0.163	30.00	-7.88
1745.00	10	16-QAM	н	140	215	1 / 49	12.70	9.23	21.93	0.156	30.00	-8.07
1715.00	10	64-QAM	н	155	210	1 / 0	11.00	9.42	20.41	0.110	30.00	-9.59
1715.00	10	256-QAM	н	155	210	1/0	8.85	9.42	18.26	0.067	30.00	-11.74
1717.50	15	QPSK	н	155	210	1/0	13.78	9.40	23.18	0.208	30.00	-6.82
1745.00	15	QPSK	н	138	208	1 / 0	13.65	9.23	22.88	0.194	30.00	-7.12
1772.50	15	QPSK	н	124	207	1 / 0	13.06	9.25	22.31	0.170	30.00	-7.69
1745.00	15	16-QAM	н	138	208	1 / 0	13.42	9.23	22.65	0.184	30.00	-7.35
1717.50	15	64-QAM	н	155	210	1 / 0	11.41	9.40	20.81	0.121	30.00	-9.19
1717.50	15	256-QAM	н	155	210	1 / 0	9.28	9.40	18.68	0.074	30.00	-11.32
1720.00	20	QPSK	н	150	208	1/0	14.09	9.38	23.47	0.223	30.00	-6.53
1745.00	20	QPSK	н	138	208	1/0	13.82	9.23	23.05	0.202	30.00	-6.95
1770.00	20	QPSK	н	124	206	1/0	13.42	9.24	22.66	0.185	30.00	-7.34
1745.00	20	16-QAM	н	138	208	1/0	13.32	9.23	22.55	0.180	30.00	-7.45
1720.00	20	64-QAM	н	150	208	1/0	11.79	9.38	21.17	0.131	30.00	-8.83
1720.00	20	256-QAM	н	150	208	1/0	9.58	9.38	18.96	0.079	30.00	-11.04
1720.00	20	QPSK	V	155	333	1/0	12.99	9.38	22.37	0.173	30.00	-7.63

Table 7-17. EIRP Data (Band 66/4)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 202 of 405
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	н	123	351	1 / 5	14.08	9.48	23.56	0.227	33.01	-9.45
1882.50	1.4	QPSK	н	153	356	1 / 0	13.72	9.94	23.66	0.232	33.01	-9.36
1914.30	1.4	QPSK	н	115	355	1 / 0	13.33	10.29	23.62	0.230	33.01	-9.39
1882.50	1.4	16-QAM	н	153	356	1 / 5	13.50	9.94	23.44	0.221	33.01	-9.58
1882.50	1.4	64-QAM	н	153	356	1 / 5	12.53	9.94	22.47	0.176	33.01	-10.55
1914.30	1.4	256-QAM	Н	115	355	6/0	9.02	10.29	19.31	0.085	33.01	-13.70
1851.50	3	QPSK	н	126	358	1 / 14	14.19	9.50	23.69	0.234	33.01	-9.32
1882.50	3	QPSK	н	155	359	1 / 0	13.77	9.94	23.71	0.235	33.01	-9.31
1913.50	3	QPSK	н	117	350	1 / 0	13.41	10.29	23.70	0.234	33.01	-9.32
1882.50	3	16-QAM	н	155	359	1 / 14	13.46	9.94	23.40	0.219	33.01	-9.62
1882.50	3	64-QAM	н	155	359	1 / 0	12.06	9.94	22.00	0.158	33.01	-11.02
1882.50	3	256-QAM	н	155	359	15/0	9.28	9.94	19.22	0.083	33.01	-13.80
1852.50	5	QPSK	н	127	358	1 / 0	13.57	9.51	23.08	0.203	33.01	-9.93
1882.50	5	QPSK	н	153	336	1 / 24	13.44	9.94	23.38	0.218	33.01	-9.64
1912.50	5	QPSK	н	115	172	1 / 0	12.37	10.28	22.65	0.184	33.01	-10.36
1882.50	5	16-QAM	н	153	336	1 / 24	12.97	9.94	22.91	0.195	33.01	-10.11
1882.50	5	64-QAM	н	153	336	1 / 24	11.92	9.94	21.86	0.153	33.01	-11.16
1882.50	5	256-QAM	н	153	336	1 / 24	8.72	9.94	18.66	0.073	33.01	-14.36
1855.00	10	QPSK	н	216	354	1 / 0	13.75	9.55	23.30	0.214	33.01	-9.71
1882.50	10	QPSK	н	158	356	1 / 0	13.21	9.94	23.15	0.206	33.01	-9.87
1910.00	10	QPSK	н	189	354	1 / 49	12.59	10.26	22.85	0.193	33.01	-10.16
1882.50	10	16-QAM	н	158	356	1 / 0	12.70	9.94	22.64	0.183	33.01	-10.38
1882.50	10	64-QAM	н	158	356	1 / 0	11.28	9.94	21.22	0.132	33.01	-11.80
1855.00	10	256-QAM	н	216	354	1 / 0	9.19	9.55	18.74	0.075	33.01	-14.27
1857.50	15	QPSK	н	124	356	1 / 0	14.19	9.58	23.77	0.238	33.01	-9.24
1882.50	15	QPSK	н	150	356	1 / 74	13.78	9.94	23.72	0.235	33.01	-9.30
1907.50	15	QPSK	н	293	353	1 / 74	12.64	10.24	22.88	0.194	33.01	-10.13
1857.50	15	16-QAM	н	124	356	1 / 0	13.68	9.58	23.26	0.212	33.01	-9.75
1857.50	15	64-QAM	н	124	356	1 / 74	12.40	9.58	21.98	0.158	33.01	-11.03
1857.50	15	256-QAM	н	124	356	1 / 74	9.52	9.58	19.10	0.081	33.01	-13.91
1860.00	20	QPSK	н	110	349	1 / 99	13.52	9.62	23.14	0.206	33.01	-9.87
1882.50	20	QPSK	н	100	353	1/0	12.94	9.94	22.88	0.194	33.01	-10.14
1905.00	20	QPSK	н	102	349	1/0	12.05	10.22	22.27	0.169	33.01	-10.74
1860.00	20	16-QAM	н	110	349	1 / 99	13.36	9.62	22.98	0.198	33.01	-10.03
1860.00	20	64-QAM	н	110	349	1 / 99	11.81	9.62	21.43	0.139	33.01	-11.58
1860.00	20	256-QAM	н	110	349	1 / 99	9.69	9.62	19.31	0.085	33.01	-13.70
1857.50	15	QPSK	V	106	312	1/0	13.33	9.58	22.91	0.195	33.01	-10.10
1857.50	15 (WCP)	QPSK	н	151	222	1 / 0	11.92	9.58	21.50	0.141	33.01	-11.51

Table 7-18. EIRP Data (Band 25/2)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2307.50	5	QPSK	н	152	194	1 / 24	12.70	10.31	23.01	0.200	23.98	-0.97
2312.50	5	QPSK	н	147	191	1 / 24	12.81	10.31	23.12	0.205	23.98	-0.86
2312.50	5	16-QAM	н	147	191	1 / 24	11.72	10.31	22.03	0.160	23.98	-1.95
2312.50	5	64-QAM	н	147	191	1 / 24	10.63	10.31	20.94	0.124	23.98	-3.04
2312.50	5	256-QAM	Н	147	191	1 / 24	7.44	10.31	17.75	0.060	23.98	-6.23
2310.00	10	QPSK	н	153	188	1 / 49	12.87	10.31	23.18	0.208	23.98	-0.80
2310.00	10	16-QAM	Н	153	188	1 / 49	11.70	10.31	22.01	0.159	23.98	-1.97
2310.00	10	64-QAM	Н	153	188	1 / 49	10.44	10.31	20.75	0.119	23.98	-3.23
2310.00	10	256-QAM	Н	153	188	1 / 49	7.16	10.31	17.47	0.056	23.98	-6.51
2310.00	10	QPSK	V	188	307	1 / 49	12.67	10.23	22.90	0.195	23.98	-1.08
2310.00	10 (WCP)	QPSK	Н	107	173	1 / 49	12.40	10.31	22.71	0.187	23.98	-1.27

Table 7-19. EIRP Data (Band 30)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2502.50	5	QPSK	Н	112	215	1 / 0	12.36	9.43	21.79	0.151	33.01	-11.22
2535.00	5	QPSK	Н	151	211	1 / 24	12.46	9.39	21.85	0.153	33.01	-11.16
2567.50	5	QPSK	Н	120	215	1 / 24	11.99	9.45	21.44	0.139	33.01	-11.57
2535.00	5	16-QAM	н	151	211	1 / 0	12.22	9.39	21.61	0.145	33.01	-11.40
2502.50	5	64-QAM	Н	112	215	1 / 24	10.44	9.43	19.87	0.097	33.01	-13.14
2567.50	5	256-QAM	Н	120	215	1 / 24	7.00	9.45	16.45	0.044	33.01	-16.56
2505.00	10	QPSK	Н	112	211	1 / 0	12.53	9.43	21.95	0.157	33.01	-11.06
2535.00	10	QPSK	Н	151	210	1 / 49	12.58	9.39	21.97	0.158	33.01	-11.04
2565.00	10	QPSK	Н	115	220	1 / 0	12.61	9.44	22.05	0.160	33.01	-10.96
2565.00	10	16-QAM	Н	115	220	1 / 0	12.10	9.44	21.54	0.143	33.01	-11.47
2535.00	10	64-QAM	Н	151	210	1 / 49	10.68	9.39	20.07	0.102	33.01	-12.94
2565.00	10	256-QAM	Н	115	220	1 / 49	7.79	9.44	17.23	0.053	33.01	-15.78
2507.50	15	QPSK	Н	119	211	1 / 0	12.47	9.42	21.89	0.155	33.01	-11.12
2535.00	15	QPSK	Н	151	202	1 / 74	12.59	9.39	21.98	0.158	33.01	-11.03
2562.50	15	QPSK	Н	120	220	1 / 0	12.63	9.43	22.06	0.161	33.01	-10.95
2535.00	15	16-QAM	н	151	202	1 / 74	12.44	9.39	21.83	0.153	33.01	-11.18
2535.00	15	64-QAM	Н	151	202	1 / 74	10.92	9.39	20.31	0.108	33.01	-12.70
2535.00	15	256-QAM	Н	151	202	1 / 74	8.18	9.39	17.57	0.057	33.01	-15.44
2510.00	20	QPSK	Н	118	210	1 / 0	12.52	9.42	21.94	0.156	33.01	-11.07
2535.00	20	QPSK	Н	151	200	1 / 99	12.76	9.39	22.15	0.164	33.01	-10.86
2560.00	20	QPSK	Н	116	224	1/0	12.59	9.42	22.01	0.159	33.01	-11.00
2535.00	20	16-QAM	Н	151	200	1 / 99	12.23	9.39	21.62	0.145	33.01	-11.39
2535.00	20	64-QAM	Н	151	200	1 / 99	11.21	9.39	20.60	0.115	33.01	-12.41
2535.00	20	256-QAM	Н	151	200	1 / 99	8.62	9.39	18.01	0.063	33.01	-15.00
2535.00	20	QPSK	V	130	349	1 / 99	12.13	9.39	21.52	0.142	33.01	-11.49
2535.00	20 (WCP)	QPSK	Н	155	245	1 / 99	11.71	9.39	21.10	0.129	33.01	-11.91

Table 7-20. EIRP Data (Band 7)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2502.50	5	QPSK	Н	125	193	1 / 0	14.76	9.43	24.19	0.262	33.01	-8.82
2593.00	5	QPSK	Н	166	192	1 / 24	15.45	9.55	25.00	0.317	33.01	-8.01
2687.50	5	QPSK	н	135	195	1 / 0	15.63	9.82	25.45	0.351	33.01	-7.56
2593.00	5	16-QAM	Н	166	192	1 / 0	15.56	9.55	25.11	0.325	33.01	-7.90
2593.00	5	64-QAM	Н	166	192	1 / 0	13.46	9.55	23.01	0.200	33.01	-10.00
2687.50	5	256-QAM	H	135	195	1 / 24	11.05	9.82	20.87	0.122	33.01	-12.14
2505.00	10	QPSK	Н	123	202	1 / 0	14.98	9.43	24.40	0.276	33.01	-8.61
2593.00	10	QPSK	Н	174	200	1 / 49	15.64	9.55	25.19	0.331	33.01	-7.82
2685.00	10	QPSK	Н	135	200	1 / 0	15.89	9.82	25.71	0.372	33.01	-7.30
2593.00	10	16-QAM	Н	174	200	1 / 0	15.54	9.55	25.09	0.323	33.01	-7.92
2593.00	10	64-QAM	Н	174	200	1 / 0	13.64	9.55	23.19	0.209	33.01	-9.82
2685.00	10	256-QAM	H	135	200	1 / 49	11.40	9.82	21.22	0.132	33.01	-11.79
2507.50	15	QPSK	Н	120	195	1 / 0	15.12	9.42	24.54	0.285	33.01	-8.47
2593.00	15	QPSK	Н	174	200	1 / 74	15.44	9.55	24.99	0.316	33.01	-8.02
2682.50	15	QPSK	Н	135	195	1 / 0	15.48	9.83	25.31	0.340	33.01	-7.70
2593.00	15	16-QAM	Н	174	200	1 / 0	15.32	9.55	24.87	0.307	33.01	-8.14
2593.00	15	64-QAM	Н	174	200	1 / 0	13.49	9.55	23.04	0.202	33.01	-9.97
2682.50	15	256-QAM	Н	135	195	1 / 74	10.97	9.83	20.80	0.120	33.01	-12.21
2510.00	20	QPSK	Н	119	196	1 / 0	15.35	9.42	24.77	0.300	33.01	-8.24
2593.00	20	QPSK	Н	174	203	1 / 99	15.89	9.55	25.44	0.350	33.01	-7.57
2680.00	20	QPSK	Н	135	210	1/0	15.93	9.83	25.76	0.377	33.01	-7.25
2680.00	20	16-QAM	Н	135	210	1/0	14.98	9.83	24.81	0.303	33.01	-8.20
2593.00	20	64-QAM	Н	174	203	1/0	13.92	9.55	23.47	0.223	33.01	-9.54
2593.00	20	256-QAM	Н	174	203	1/0	11.23	9.55	20.78	0.120	33.01	-12.23
2680.00	20	QPSK	V	157	149	1/0	13.78	9.83	23.61	0.230	33.01	-9.40
2680.00	20 (WCP)	QPSK	Н	149	208	1 / 0	14.79	9.83	24.62	0.290	33.01	-8.39

Table 7-21. EIRP Data (Band 41 – PC2)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2502.50	5	QPSK	Н	155	201	1 / 0	11.85	9.43	21.28	0.134	33.01	-11.73
2593.00	5	QPSK	Н	155	230	1 / 0	13.46	9.55	23.01	0.200	33.01	-10.00
2687.50	5	QPSK	Н	112	230	1 / 0	8.21	9.82	18.03	0.063	33.01	-14.98
2502.50	5	16-QAM	Н	155	201	1 / 0	12.99	9.43	22.41	0.174	33.01	-10.60
2502.50	5	64-QAM	Н	155	201	1 / 0	11.36	9.43	20.79	0.120	33.01	-12.22
2502.50	5	256-QAM	Н	155	201	1 / 0	7.26	9.43	16.69	0.047	33.01	-16.32
2505.00	10	QPSK	Н	157	201	1 / 0	12.34	9.43	21.77	0.150	33.01	-11.24
2593.00	10	QPSK	Н	155	246	1 / 0	13.25	9.55	22.80	0.191	33.01	-10.21
2685.00	10	QPSK	Н	110	225	1 / 0	11.32	9.82	21.15	0.130	33.01	-11.86
2505.00	10	16-QAM	Н	157	201	1 / 0	12.42	9.43	21.85	0.153	33.01	-11.16
2505.00	10	64-QAM	Н	157	201	1 / 0	11.71	9.43	21.14	0.130	33.01	-11.87
2505.00	10	256-QAM	H	157	201	1 / 0	8.72	9.43	18.15	0.065	33.01	-14.86
2507.50	15	QPSK	Н	157	199	1 / 0	12.51	9.42	21.93	0.156	33.01	-11.08
2593.00	15	QPSK	Н	152	246	1 / 0	12.63	9.55	22.18	0.165	33.01	-10.83
2682.50	15	QPSK	Н	108	222	1 / 0	13.22	9.83	23.05	0.202	33.01	-9.96
2507.50	15	16-QAM	Н	157	199	1 / 0	12.75	9.42	22.17	0.165	33.01	-10.84
2507.50	15	64-QAM	Н	157	199	1 / 0	11.69	9.42	21.11	0.129	33.01	-11.90
2507.50	15	256-QAM	H	157	199	1 / 0	9.31	9.42	18.73	0.075	33.01	-14.28
2510.00	20	QPSK	Н	157	199	1 / 0	12.76	9.42	22.18	0.165	33.01	-10.83
2593.00	20	QPSK	Н	152	246	1 / 0	12.81	9.55	22.36	0.172	33.01	-10.65
2680.00	20	QPSK	Н	108	222	1/0	13.89	9.83	23.72	0.236	33.01	-9.29
2680.00	20	16-QAM	Н	108	222	1/0	13.09	9.83	22.92	0.196	33.01	-10.09
2680.00	20	64-QAM	Н	108	222	1 / 0	11.62	9.83	21.45	0.140	33.01	-11.56
2510.00	20	256-QAM	Н	157	199	1 / 0	9.64	9.42	19.06	0.081	33.01	-13.95
20.00	20	QPSK	V	184	205	1/0	12.04	9.83	21.87	0.154	33.01	-11.14
20.00	20 (WCP)	QPSK	Н	252	45	1 / 0	12.13	9.83	21.96	0.157	33.01	-11.05

Table 7-22. EIRP Data (Band 41 – PC3)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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7.9 Radiated Spurious Emissions Measurements

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

Test Procedures Used

KDB 971168 D01 v03r01 - Section 5.8

ANSI/TIA-603-E-2016 - Section 2.2.12

Test Settings

- 1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 2. VBW \ge 3 x RBW
- 3. Span = 1.5 times the OBW
- 4. No. of sweep points > 2 x span / RBW
- 5. Detector = RMS
- 6. Trace mode = Average (Max Hold for pulsed emissions)
- 7. The trace was allowed to stabilize

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Lurntable 8. styrofoam block

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

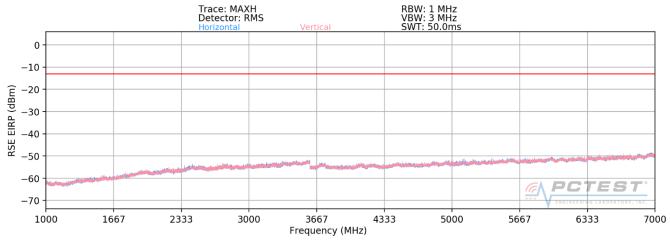
Figure 7-9. Test Instrument & Measurement Setup

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 4) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

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Plot 7-500. Radiated Spurious Plot above 1GHz (Band 71)

OPERATING FREQUENCY:	670.50		MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	15.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1341.00	V	169	351	-72.38	8.77	-63.62	-50.6
2011.50	V	177	179	-70.96	10.28	-60.68	-47.7
2682.00	V	385	310	-68.55	9.83	-58.72	-45.7
3352.50	V	-	-	-65.63	7.30	-58.33	-45.3
4023.00	V	-	-	-66.70	7.35	-59.35	-46.4

Table 7-23. Radiated Spurious Data (Band 71 – Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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OPERATING FREQUENCY:	68	0.50	MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	15.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	V	168	233	-70.83	8.61	-62.22	-49.2
2041.50	V	385	243	-67.18	10.04	-57.15	-44.1
2722.00	V	-	-	-69.61	9.58	-60.04	-47.0
3402.50	V	-	-	-66.24	7.33	-58.91	-45.9

Table 7-24. Radiated Spurious Data (Band 71 – Mid Channel)

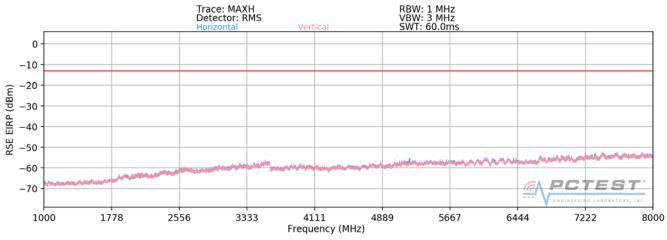
OPERATING FREQUENCY:	69	0.50	MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	15.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1381.00	V	207	123	-72.43	8.35	-64.08	-51.1
2071.50	V	280	187	-66.65	9.82	-56.83	-43.8
2762.00	V	-	-	-69.12	9.25	-59.87	-46.9
3452.50	V	-	-	-66.17	7.55	-58.62	-45.6

Table 7-25. Radiated Spurious Data (Band 71 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-501. Radiated Spurious Plot above 1GHz (Band 12)

OPERATING FREQUENCY:	701.50		
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	5.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	
		=	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1403.00	V	161	282	-37.90	8.12	-29.77	-16.8
2104.50	V	133	249	-37.02	9.62	-27.40	-14.4
2806.00	V	-	-	-39.48	9.09	-30.39	-17.4
3507.50	V	-	-	-37.34	7.44	-29.90	-16.9

Table 7-26. Radiated Spurious Data (Band 12 – Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
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OPERATING FREQUENCY:	707	7.50	MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	5.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	V	150	293	-38.89	8.22	-30.67	-17.7
2122.50	V	125	278	-37.38	9.59	-27.80	-14.8
2830.00	V	-	-	-39.42	9.10	-30.32	-17.3
3537.50	V	-	-	-37.24	7.26	-29.98	-17.0

Table 7-27. Radiated Spurious Data (Band 12 – Mid Channel)

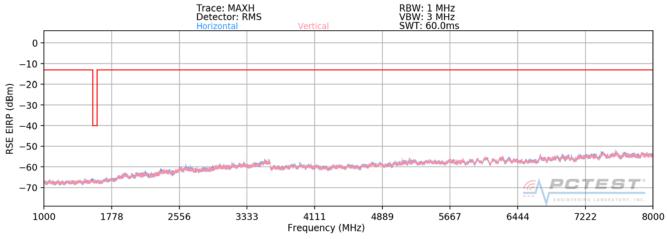
OPERATING FREQUENCY:	713	3.50	MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	5.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1427.00	V	398	282	-41.96	8.31	-33.65	-20.7
2140.50	V	183	279	-36.80	9.56	-27.25	-14.2
2854.00	V	-	-	-39.47	9.12	-30.35	-17.4
3567.50	V	-	-	-37.14	7.10	-30.04	-17.0

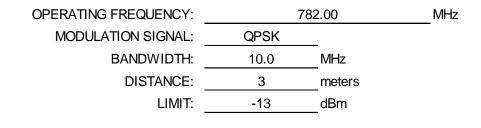
Table 7-28. Radiated Spurious Data (Band 12 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-502. Radiated Spurious Plot above 1GHz (Band 13)



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	V	137	113	-69.09	9.43	-59.66	-46.7
3128.00	V	-	-	-74.60	9.34	-65.26	-52.3
3910.00	V	-	-	-73.62	9.37	-64.25	-51.2

Table 7-29. Radiated Spurious Data (Band 13 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 205 of 405	
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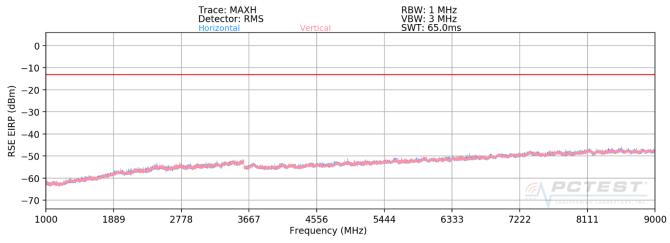
MODULATION SIGNAL:	QPSK	_
BANDWIDTH:	10.00	MHz
DISTANCE:	3	meters
NARROW BAND EMISSION LIMIT:	-50	dBm
WIDEBAND EMISSION LIMIT:	-40	dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1564.00	V	136	310	-78.29	8.53	-69.76	-29.8

Table 7-30. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 206 of 405	
1M1910220166-03.A3L	10/11 - 01/09/2020	Portable Handset		Page 306 of 495	
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Plot 7-503. Radiated Spurious Plot above 1GHz (Band 26/5)

OPERATING FREQUENCY:

PERATING FREQUENCY:	829.00		MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	10.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	V	368	176	-75.10	9.55	-65.54	-52.5
2487.00	V	114	92	-69.91	9.45	-60.46	-47.5
3316.00	V	-	-	-69.19	7.44	-61.75	-48.7
4145.00	V	-	-	-70.06	8.05	-62.01	-49.0

Table 7-31. Radiated Spurious Data (Band 26/5 – Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 207 of 405
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OPERATING FREQUENCY:	83	6.50 MHz	<u>.</u>
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	10.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	V	241	8	-74.39	9.54	-64.85	-51.9
2509.50	V	108	80	-69.85	9.42	-60.43	-47.4
3346.00	V	-	-	-68.08	7.32	-60.77	-47.8
4182.50	V	-	-	-69.30	8.16	-61.14	-48.1

Table 7-32. Radiated Spurious Data (Band 26/5 – Mid Channel)

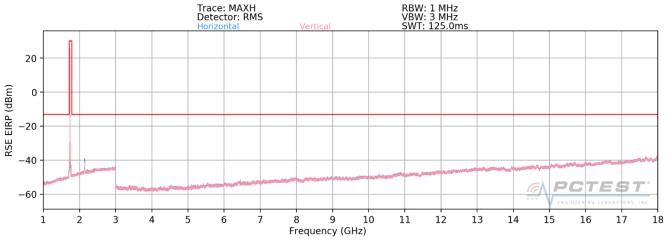
OPERATING FREQUENCY:	844.00		
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	10.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	V	185	155	-73.16	9.52	-63.64	-50.6
2532.00	V	138	113	-67.82	9.40	-58.42	-45.4
3376.00	V	-	-	-68.50	7.31	-61.19	-48.2
4220.00	V	-	-	-68.89	8.34	-60.56	-47.6

Table 7-33. Radiated Spurious Data (Band 26/5 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 200 of 405	
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Plot 7-504. Radiated Spurious Plot above 1GHz (Band 66/4)

OPERATING FREQUENCY:	172	20.00 MHz
MODULATION SIGNAL:	QPSK	_
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	Н	-	-	-66.60	7.51	-59.09	-46.1
5160.00	Н	-	-	-68.87	11.10	-57.77	-44.8

Table 7-34. Radiated Spurious Data (Band 66/4 - Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 200 of 405	
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OPERATING FREQUENCY:	174	MHz	
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	Н	-	-	-66.49	7.50	-58.99	-46.0
5235.00	Н	-	-	-69.57	11.26	-58.31	-45.3

Table 7-35. Radiated Spurious Data (Band 66/4 – Mid Channel)

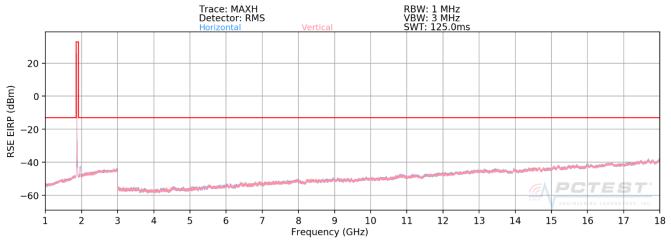
OPERATING FREQUENCY:	177	0.00 N	/Hz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	Н	-	-	-66.32	7.24	-59.07	-46.1
5310.00	Н	-	-	-69.83	11.51	-58.32	-45.3

Table 7-36. Radiated Spurious Data (Band 66/4 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:	Dega 210 of 105				
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Plot 7-505. Radiated Spurious Plot above 1GHz (Band 25/2)

OPERATING FREQUENCY:	186	0.00	MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3720.00	н	-	-	-72.67	9.51	-63.17	-50.2
5580.00	Н	-	-	-72.48	10.99	-61.50	-48.5

Table 7-37. Radiated Spurious Data (Band 25/2 – Low Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Dage 211 of 405			
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OPERATING FREQUENCY:	188	MHz	
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	Н	-	-	-73.14	9.36	-63.78	-50.8
5647.50	Н	-	-	-71.91	11.19	-60.71	-47.7

Table 7-38. Radiated Spurious Data (Band 25/2 - Mid Channel)

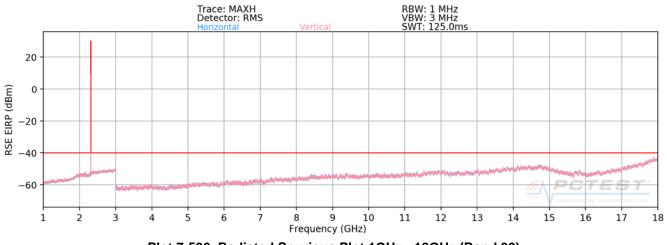
OPERATING FREQUENCY:	190	MHz	
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3810.00	Н	-	-	-72.74	9.29	-63.44	-50.4
5715.00	Н	-	-	-72.50	11.35	-61.15	-48.1

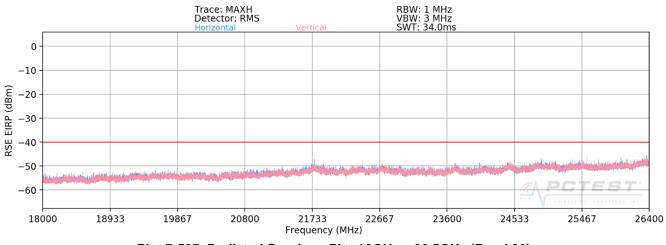
Table 7-39. Radiated Spurious Data (Band 25/2 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 212 of 105
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Plot 7-507. Radiated Spurious Plot 18GHz – 26.5GHz (Band 30)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 212 of 405
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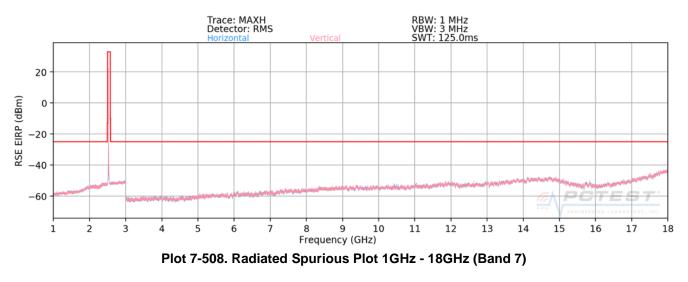
OPERATING FREQUENCY:	231	0.00	MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	10.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-40	dBm	

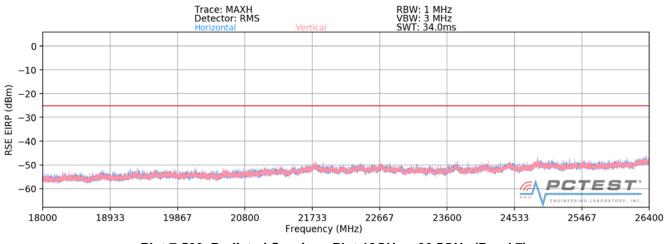
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
4620.00	Н	119	114	-73.46	10.92	-62.54	-22.5
6930.00	Н	-	-	-71.93	11.74	-60.19	-20.2
9240.00	Н	118	107	-68.24	11.62	-56.62	-16.6
11550.00	Н	250	281	-66.25	12.72	-53.53	-13.5
13860.00	Н	-	-	-62.78	11.99	-50.78	-10.8
16170.00	Н	-	-	-70.23	16.59	-53.63	-13.6

Table 7-40. Radiated Spurious Data (Band 30 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 214 of 405
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Plot 7-509. Radiated Spurious	S Plot 18GHz – 26.5GHz (Band 7)
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FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 215 of 405
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OPERATING FREQUENCY:	251	0.00	MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-25	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	Н	108	188	-66.12	10.80	-55.32	-30.3
7530.00	Н	-	-	-65.87	12.56	-53.32	-28.3
10040.00	Н	-	-	-61.08	9.75	-51.33	-26.3

Table 7-41. Radiated Spurious Data (Band 7 – Low Channel)

OPERATING FREQUENCY:

2535.00

MHz

MODULATION SIGNAL: QPSK

> BANDWIDTH: 20.0 MHz DISTANCE: 3 meters

LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	Н	124	194	-67.09	10.92	-56.17	-31.2
7605.00	Н	-	-	-65.42	12.40	-53.02	-28.0
10140.00	Н	-	-	-60.89	9.84	-51.05	-26.0

Table 7-42. Radiated Spurious Data (Band 7 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 216 of 405
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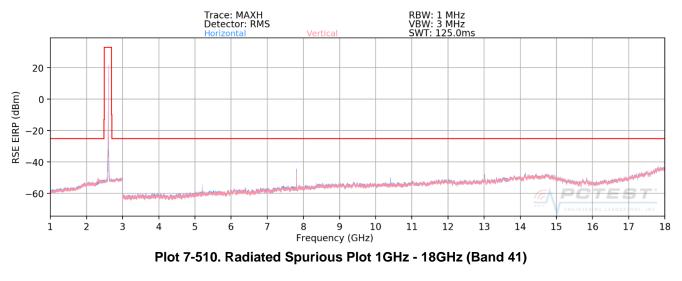
OPERATING FREQUENCY:	256	60.00	MHz
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-25	dBm	

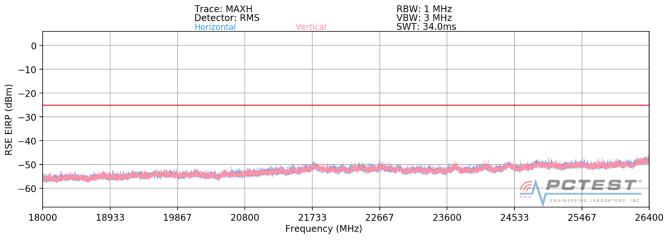
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	Н	128	185	-66.82	10.99	-55.83	-30.8
7680.00	Н	-	-	-65.85	12.35	-53.51	-28.5
10240.00	Н	-	-	-60.50	9.65	-50.84	-25.8

Table 7-43. Radiated Spurious Data (Band 7 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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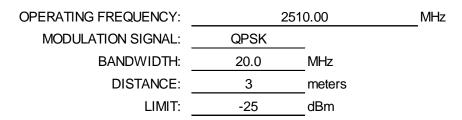




Plot 7-511. Radiated Spurious Plot 18GHz – 26.5GHz (Band 41)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage 210 of 405		
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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	V	395	280	-64.49	10.80	-53.69	-28.7
7530.00	V	286	194	-55.71	12.56	-43.16	-18.2
10040.00	V	264	39	-59.87	9.85	-50.02	-25.0
12550.00	V	105	81	-55.67	9.05	-46.62	-21.6
15060.00	V	-	-	-53.73	8.74	-44.99	-20.0
17570.00	V	-	-	-49.22	7.63	-41.59	-16.6

Table 7-44. Radiated Spurious Data (Band 41 – Low Channel)

QPSK

20.0

2593.00

MHz

MHz

OPERATING FREQUENCY:

MODULATION SIGNAL:

BANDWIDTH:

DISTANCE: 3 meters

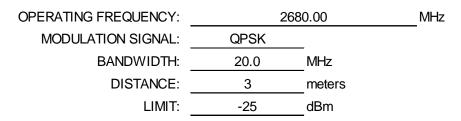
LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	V	114	290	-61.00	11.14	-49.87	-24.9
7779.00	V	110	197	-48.17	12.33	-35.84	-10.8
10372.00	V	108	15	-52.33	9.62	-42.70	-17.7
12965.00	V	100	1	-48.36	8.99	-39.37	-14.4
15558.00	V	-	-	-53.42	8.32	-45.11	-20.1

Table 7-45. Radiated Spurious Data (Band 41 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	V	261	284	-67.99	11.49	-56.50	-31.5
8040.00	V	130	209	-51.64	12.03	-39.61	-14.6
10720.00	V	108	12	-49.70	9.32	-40.38	-15.4
13400.00	V	166	284	-53.73	8.77	-44.96	-20.0
16080.00	V	-	-	-52.82	8.00	-44.82	-19.8

Table 7-46. Radiated Spurious Data (Band 41 – High Channel)

 OPERATING FREQUENCY:
 2680.00
 MHz

 MODULATION SIGNAL:
 QPSK

 BANDWIDTH:
 20.0
 MHz

 DISTANCE:
 3
 meters

 LIMIT:
 -25
 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	V	152	63	-59.48	8.99	-50.48	-25.5
8040.00	V	-	-	-57.13	9.35	-47.77	-22.8
10720.00	V	-	-	-54.25	9.39	-44.85	-19.9

Table 7-47. Radiated Spurious Data with WCP (Band 41 – PC2 High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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7.10 Uplink Carrier Aggregation Radiated Measurements §2.1053, §27.53(m)

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-D-2010 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v02r02 - Section 5.8

ANSI/TIA-603-D-2010 - Section 2.2.12

Test Settings

- 1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 2. VBW \geq 3 x RBW
- 3. No. of sweep points > 2 x span / RBW
- 4. Detector = RMS
- 5. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 6. The trace was allowed to stabilize

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 221 of 405	
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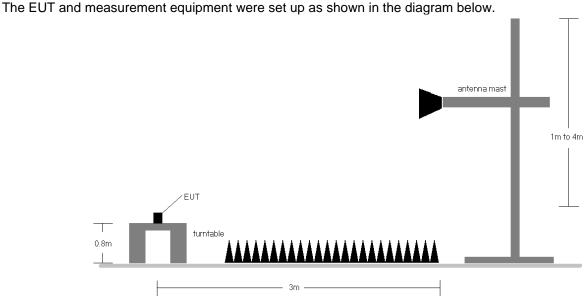


Figure 7-10. Test Instrument & Measurement Setup

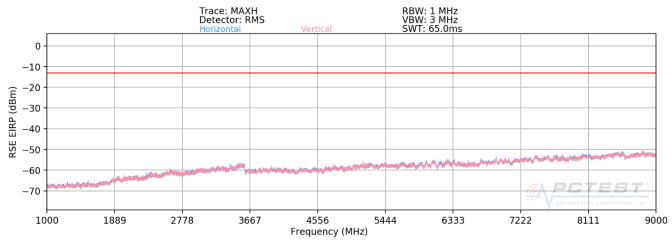
Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) Radiated spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. The worst case (highest) emissions were found while operating with QPSK modulation with both carriers set to transmit using 1RB.
- 4) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 5) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 6) No significant emissions were found as a result of two uplink carriers operating contiguously.

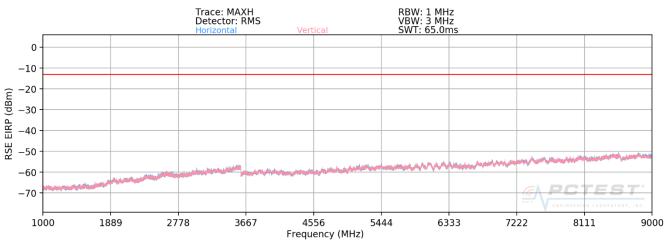
FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 222 of 405	
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Plot 7-512. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 5- Low Channel)



Plot 7-513. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 5- High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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OPERATING FREQUENCY (PCC):	82	9.00	MHz
OPERATING FREQUENCY (SCC):	83	8.90	MHz
CHANNEL (PCC):	20	450	_
CHANNEL (SCC):	20	549	_
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	10.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	_dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1658.00	V	398	166	-80.50	9.55	-70.94	-57.9
2487.00	V	400	67	-78.53	9.45	-69.08	-56.1
3316.00	V	-	-	-73.38	7.44	-65.94	-52.9
4145.00	V	-	-	-73.11	8.05	-65.06	-52.1

Table 7-48. Radiated Spurious Data (ULCA B5 PCC: RB 1 Offset 49, SCC: RB 1 Offset 0 - Low Channel)

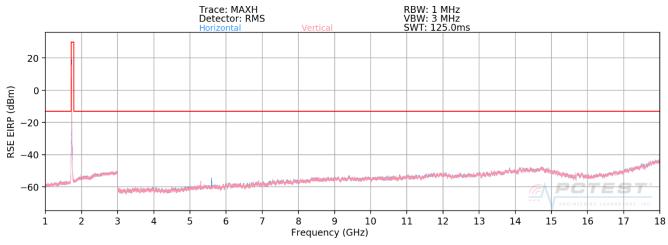
OPERATING FREQUENCY (PCC):	84	4.00	MHz
OPERATING FREQUENCY (SCC):	83	MHz	
CHANNEL (PCC):	20		
CHANNEL (SCC):	20		
MODULATION SIGNAL:	QPSK		
BANDWIDTH:	10.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

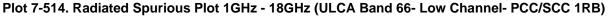
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1688.00	V	395	167	-80.36	9.52	-70.83	-57.8
2532.00	V	-	-	-79.06	9.40	-69.66	-56.7
3376.00	V	-	-	-73.73	7.31	-66.42	-53.4

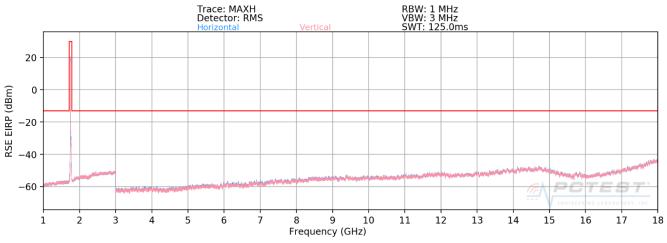
Table 7-49. Radiated Spurious Data (ULCA B5 PCC: RB 1 Offset 0, SCC: RB 1 Offset 49 – High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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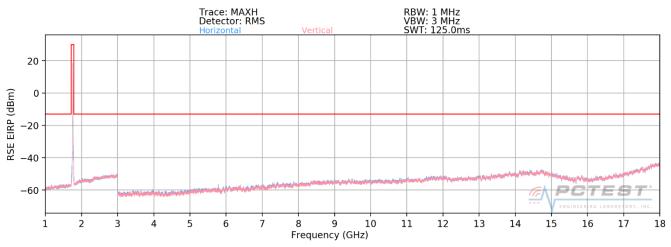








Plot 7-515. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 66- Mid Channel- PCC/SCC 1RB)



Plot 7-516. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 66- High Channel- PCC/SCC 1RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 225 of 405
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OPERATING I	REQUENCY (PCC):		MHz	
OPERATING I	REQUENCY (SCC):		1739.80	MHz
	CHANNEL (PCC):		132072	
	CHANNEL (SCC):			
MC	DULATION SIGNAL:	QPSK		
	BANDWIDTH:	20.0	MHz	
	DISTANCE:	3	meters	
	LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3440.00	V	-	-	-71.81	7.51	-64.30	-51.3
5160.00	V	187	97	-67.91	11.10	-56.81	-43.8
6880.00	V	-	-	-70.62	11.72	-58.90	-45.9
8600.00	V	-	-	-64.24	8.83	-55.41	-42.4

Table 7-50. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 - Low Channel)

OPERATING FREQUENCY (PCC):	174	15.00	MHz
OPERATING FREQUENCY (SCC):	176	64.80	MHz
CHANNEL (PCC):	132	2322	
CHANNEL (SCC):	132	2520	
MODULATION SIGNAL:	QPSK		_
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	
		_	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	V	-	-	-72.71	7.50	-65.20	-52.2
5235.00	V	-	-	-74.53	11.26	-63.28	-50.3

Table 7-51. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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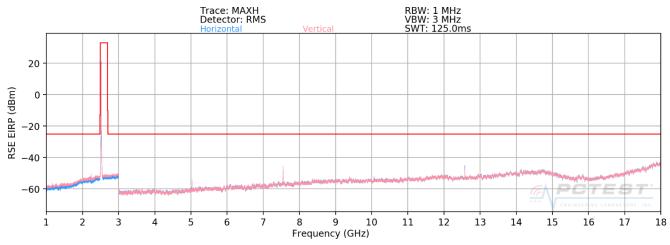
OPERATING FREQUENCY (PCC):	17	70.00	MHz
OPERATING FREQUENCY (SCC):	175	50.20	MHz
CHANNEL (PCC):	13	2572	
CHANNEL (SCC):	13	2374	
MODULATION SIGNAL:	QPSK		
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	_dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3540.00	V	-	-	-71.74	7.24	-64.50	-51.5
5310.00	V	-	-	-75.38	11.51	-63.87	-50.9

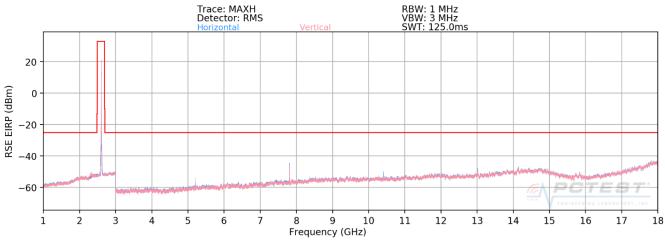
Table 7-52. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 - High Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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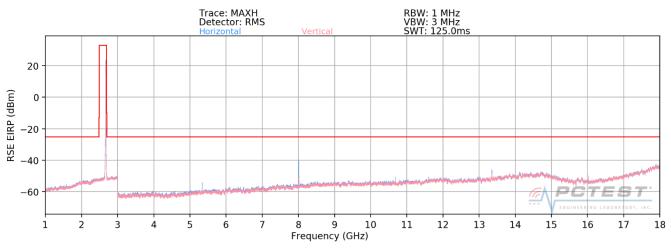




Plot 7-517. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 41 (PC2)- Low Channel- PCC/SCC 1RB)



Plot 7-518. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 41 (PC2) - Mid Channel- PCC/SCC 1RB)



Plot 7-519. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 41 (PC2) - High Channel- PCC/SCC 1RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 220 of 405
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OPERATING FREQUENCY (PCC): MHz 2506.00 **OPERATING FREQUENCY (SCC):** 2525.80 MHz CHANNEL (PCC): 39750 CHANNEL (SCC): 39948 MODULATION SIGNAL: QPSK BANDWIDTH: 20.0 MHz DISTANCE: 3 meters LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	V	136	346	-65.43	10.77	-54.66	-29.7
7518.00	V	113	353	-55.51	12.55	-42.96	-18.0
10024.00	V	252	5	-62.97	9.85	-53.12	-28.1
12530.00	V	208	330	-54.06	9.05	-45.01	-20.0
15036.00	V	-	-	-63.59	8.74	-54.85	-29.8
17542.00	V	-	-	-59.56	7.63	-51.93	-26.9

Table 7-53. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 - Low Channel)

OPERATING FREQUENCY (PCC): OPERATING FREQUENCY (SCC): CHANNEL (PCC): CHANNEL (SCC): MODULATION SIGNAL: BANDWIDTH: DISTANCE: LIMIT:

PCC):	259	MHz	
SCC):	261	MHz	
PCC):	40	620	
SCC):	40		
SNAL:	QPSK	_	
DTH:	20.0	MHz	
NCE:	3	meters	
IMIT:	-25	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	V	226	9	-64.64	11.14	-53.50	-28.5
7779.00	V	116	3	-54.49	12.33	-42.16	-17.2
10372.00	V	268	2	-61.52	9.62	-51.89	-26.9
12965.00	V	226	323	-52.65	8.99	-43.66	-18.7
15558.00	V	238	354	-61.32	8.32	-53.01	-28.0

Table 7-54. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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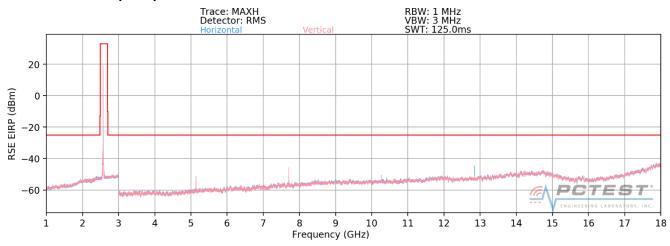
OPERATING FREQUENCY (PCC):	268	0.00	MHz
OPERATING FREQUENCY (SCC):	266	0.20	MHz
CHANNEL (PCC):	41	490	_
CHANNEL (SCC):	41	292	_
MODULATION SIGNAL:	QPSK	_	_
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-25	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	V	283	344	-67.14	11.49	-55.66	-30.7
8040.00	V	116	350	-55.81	12.03	-43.79	-18.8
10720.00	V	236	19	-59.41	9.32	-50.09	-25.1
13400.00	V	209	322	-55.69	8.77	-46.92	-21.9
16080.00	V	179	18	-59.35	8.00	-51.35	-26.4

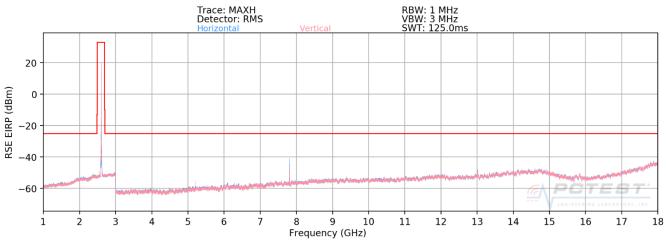
Table 7-55. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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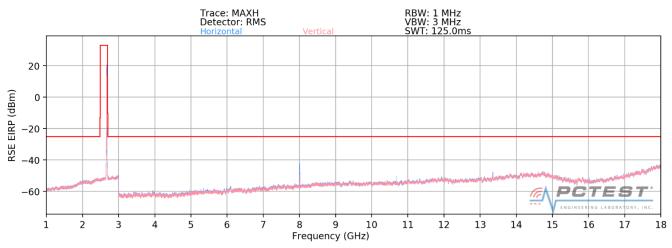




Plot 7-520. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 41 (PC3)- Low Channel- PCC/SCC 1RB)



Plot 7-521. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 41 (PC3) - Mid Channel- PCC/SCC 1RB)



Plot 7-522. Radiated Spurious Plot 1GHz - 18GHz (ULCA Band 41 (PC3)- High Channel- PCC/SCC 1RB)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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OPERATING FREQUENCY (PCC):	250	6.00	MHz
OPERATING FREQUENCY (SCC):	252	25.80	MHz
CHANNEL (PCC):	39	750	_
CHANNEL (SCC):	39	948	_
MODULATION SIGNAL:	QPSK	_	_
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-25	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	V	133	93	-68.01	10.77	-57.24	-32.2
7518.00	V	282	357	-57.01	12.55	-44.46	-19.5
10024.00	V	171	10	-64.27	9.85	-54.42	-29.4
12530.00	V	252	323	-55.98	9.05	-46.93	-21.9
15036.00	V	-	-	-63.45	8.74	-54.71	-29.7
17542.00	V	-	-	-59.64	7.63	-52.01	-27.0

Table 7-56. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 - Low Channel)

OPERATING FREQUENCY (PCC):	259	93.00	MHz
OPERATING FREQUENCY (SCC):	261	2.80	MHz
CHANNEL (PCC):	40	620	
CHANNEL (SCC):	40	818	
MODULATION SIGNAL:	QPSK	_	_
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-25	dBm	
		_	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	V	262	227	-72.52	11.14	-61.38	-36.4
7779.00	V	287	19	-52.20	12.33	-39.87	-14.9
10372.00	V	262	358	-61.63	9.62	-52.00	-27.0
12965.00	V	216	319	-53.25	8.99	-44.26	-19.3
15558.00	V	-	-	-62.77	8.32	-54.46	-29.5

Table 7-57. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0 - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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OPERATING FREQUENCY (PCC):	268	MHz	
OPERATING FREQUENCY (SCC):	2660.20		MHz
CHANNEL (PCC):	41490		
CHANNEL (SCC):	41292		
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	20.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-25	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	V	400	336	-66.94	11.49	-55.46	-30.5
8040.00	V	121	4	-50.35	12.03	-38.33	-13.3
10720.00	V	261	21	-59.85	9.32	-50.53	-25.5
13400.00	V	400	16	-52.16	8.77	-43.39	-18.4
16080.00	V	168	346	-59.76	8.00	-51.76	-26.8

Table 7-58. Radiated Spurious Data (ULCA B66 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99 – High Channel

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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7.11 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency. For Part 24, Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-E-2016

Test Settings

- 1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- 2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- 3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

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Band 71 Frequency Stability Measurements

OPERATING FREQUENCY:	680,500,000	Hz
REFERENCE VOLTAGE:	4.19	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	680,499,802	-198	-0.0000291
100 %		- 20	680,500,061	61	0.0000090
100 %		- 10	680,500,205	205	0.0000301
100 %		0	680,499,976	-24	-0.0000035
100 %		+ 10	680,500,098	98	0.0000144
100 %		+ 20	680,499,751	-249	-0.0000366
100 %		+ 30	680,500,383	383	0.0000563
100 %		+ 40	680,500,327	327	0.0000481
100 %		+ 50	680,499,881	-119	-0.0000175
BATT. ENDPOINT	3.79	+ 20	680,499,803	-197	-0.0000289

Table 7-59. Frequency Stability Data (Band 71)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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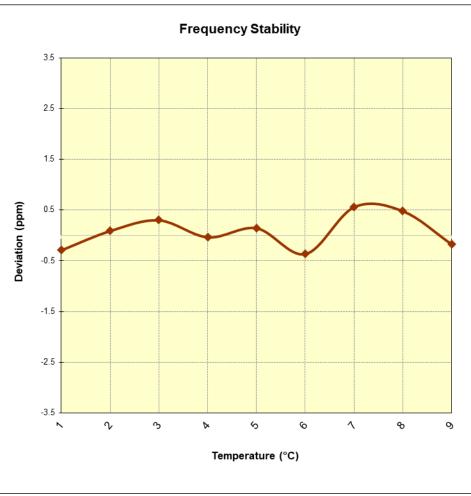


Figure 7-11. Frequency Stability Graph (Band 71)

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Band 12 Frequency Stability Measurements

OPERATING FREQUENCY:	707,500,000	Hz
REFERENCE VOLTAGE:	4.19	VDC

VOLTAGE (%)	POWER (VDC)	ТЕМР (°С)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	707,499,838	-162	-0.0000229
100 %		- 20	707,500,253	253	0.0000358
100 %		- 10	707,499,929	-71	-0.0000100
100 %		0	707,499,756	-244	-0.0000345
100 %		+ 10	707,499,988	-12	-0.0000017
100 %		+ 20	707,499,886	-114	-0.0000161
100 %		+ 30	707,500,237	237	0.0000335
100 %		+ 40	707,500,029	29	0.0000041
100 %		+ 50	707,500,079	79	0.0000112
BATT. ENDPOINT	3.79	+ 20	707,500,076	76	0.0000107

Table 7-60. Frequency Stability Data (Band 12)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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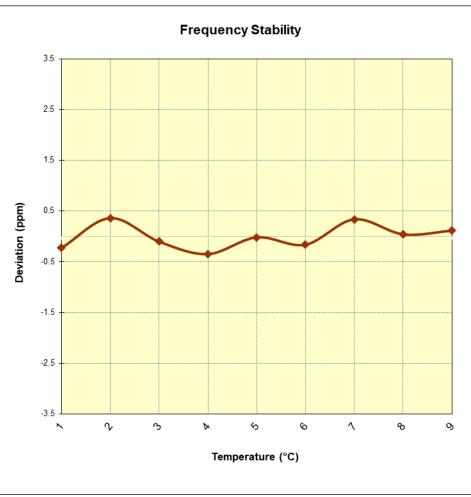


Figure 7-12. Frequency Stability Graph (Band 12)

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Band 13 Frequency Stability Measurements

OPERATING FREQUENCY:	782,000,000	_Hz
REFERENCE VOLTAGE:	4.19	VDC

VOLTAGE (%)	POWER (VDC)	ТЕМР (°С)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	782,000,117	117	0.0000150
100 %		- 20	781,999,879	-121	-0.0000155
100 %		- 10	782,000,260	260	0.0000332
100 %		0	782,000,066	66	0.0000084
100 %		+ 10	781,999,933	-67	-0.0000086
100 %		+ 20	781,999,891	-109	-0.0000139
100 %		+ 30	782,000,186	186	0.0000238
100 %		+ 40	782,000,194	194	0.0000248
100 %		+ 50	782,000,221	221	0.0000283
BATT. ENDPOINT	3.79	+ 20	781,999,844	-156	-0.0000199

Table 7-61. Frequency Stability Data (Band 13)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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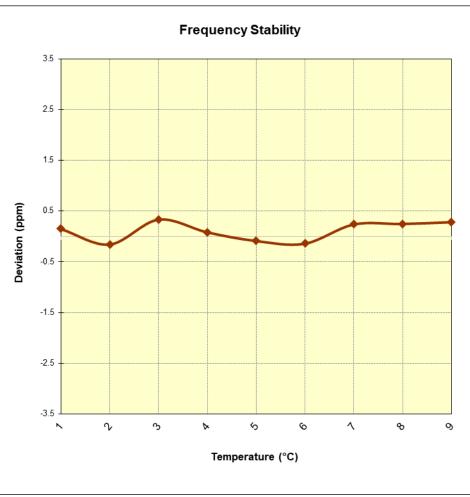


Figure 7-13. Frequency Stability Graph (Band 13)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 26/5 Frequency Stability Measurements

OPERATING FREQUENCY:	831,500,000	_Hz
REFERENCE VOLTAGE:	4.19	VDC

VOLTAGE (%)	POWER (VDC)	ТЕМР ([°] С)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	831,499,835	-165	-0.0000198
100 %		- 20	831,499,589	-411	-0.0000494
100 %		- 10	831,499,919	-81	-0.0000097
100 %		0	831,499,997	-3	-0.0000004
100 %		+ 10	831,500,237	237	0.0000285
100 %		+ 20	831,500,168	168	0.0000202
100 %		+ 30	831,500,013	13	0.0000016
100 %		+ 40	831,499,727	-273	-0.0000328
100 %		+ 50	831,500,012	12	0.0000014
BATT. ENDPOINT	3.79	+ 20	831,499,915	-85	-0.0000102

Table 7-62. Frequency Stability Data (Band 26/5)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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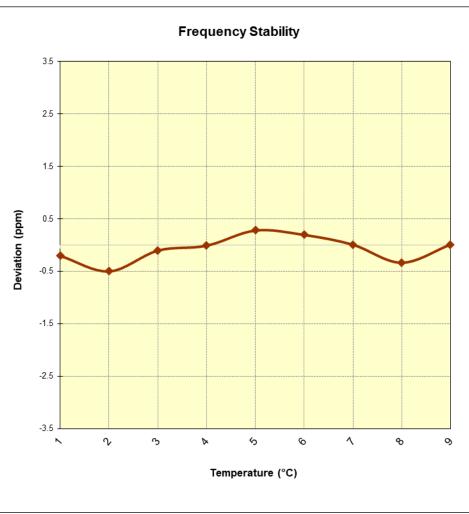


Figure 7-14. Frequency Stability Graph (Band 26/5)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 66/4 Frequency Stability Measurements

OPERATING FRE	QUENCY:	1,7	45,000,000	Hz	
REFERENCE V	REFERENCE VOLTAGE:		4.19	VDC	
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	1,745,000,285	285	0.0000163
100 %		- 20	1,745,000,085	85	0.0000049
100 %		- 10	1,744,999,829	-171	-0.0000098
100 %		0	1,745,000,156	156	0.000089
100 %		+ 10	1,745,000,121	121	0.0000069
100 %		+ 20	1,744,999,903	-97	-0.0000056
100 %		+ 30	1,745,000,023	23	0.0000013
100 %		+ 40	1,744,999,855	-145	-0.0000083
100 %		+ 50	1,744,999,934	-66	-0.000038
BATT. ENDPOINT	3.79	+ 20	1,745,000,001	1	0.0000001

Table 7-63. Frequency Stability Data (Band 66/4)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 66/4 Frequency Stability Measurements

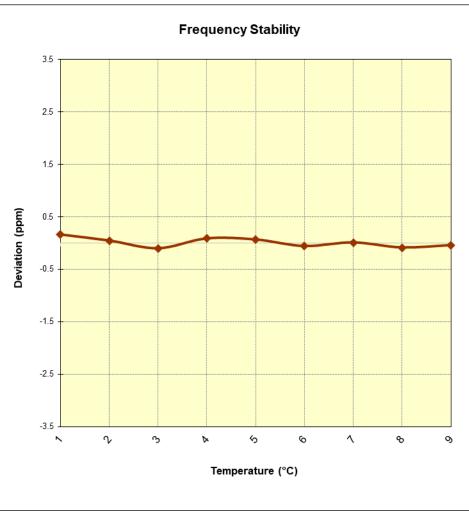


Figure 7-15. Frequency Stability Graph (Band 66/4)

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Band 25/2 Frequency Stability Measurements

OPERATING FREQUENCY:	1,882,500,000	_Hz
REFERENCE VOLTAGE:	4.19	VDC

VOLTAGE (%)	POWER (VDC)	ТЕМР ([°] С)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	1,882,500,224	224	0.0000119
100 %		- 20	1,882,499,985	-15	-0.0000008
100 %		- 10	1,882,500,121	121	0.0000064
100 %		0	1,882,500,214	214	0.0000114
100 %		+ 10	1,882,499,914	-86	-0.0000046
100 %		+ 20	1,882,500,029	29	0.0000015
100 %		+ 30	1,882,500,011	11	0.0000006
100 %		+ 40	1,882,500,299	299	0.0000159
100 %		+ 50	1,882,499,827	-173	-0.0000092
BATT. ENDPOINT	3.79	+ 20	1,882,500,183	183	0.0000097

Table 7-64. Frequency Stability Data (Band 25/2)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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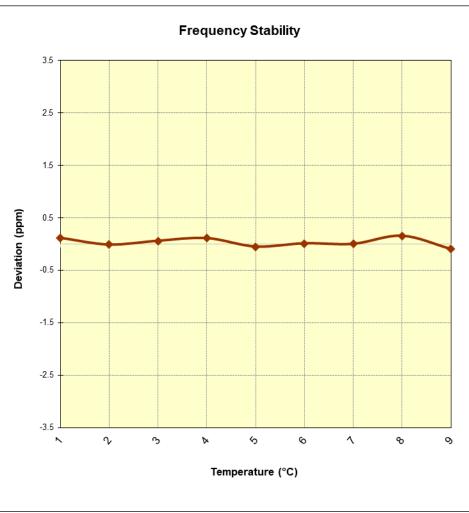


Figure 7-16. Frequency Stability Graph (Band 25/2)

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Band 30 Frequency Stability Measurements

OPERATING FRE	RATING FREQUENCY: 2,3		310,000,000	Hz	
REFERENCE V	OLTAGE:		4.19	VDC	
VOLTAGE (%)	POWER (VDC)	ТЕМР ([°] С)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	2,310,000,028	28	0.0000012
100 %		- 20	2,310,000,005	5	0.0000002
100 %		- 10	2,310,000,011	11	0.0000005
100 %		0	2,309,999,894	-106	-0.0000046
100 %		+ 10	2,309,999,603	-397	-0.0000172
100 %		+ 20	2,309,999,942	-58	-0.0000025
100 %		+ 30	2,309,999,930	-70	-0.0000030
100 %		+ 40	2,309,999,800	-200	-0.000087
100 %		+ 50	2,309,999,685	-315	-0.0000136
BATT. ENDPOINT	3.79	+ 20	2,309,999,669	-331	-0.0000143

Table 7-65. Frequency Stability Data (Band 30)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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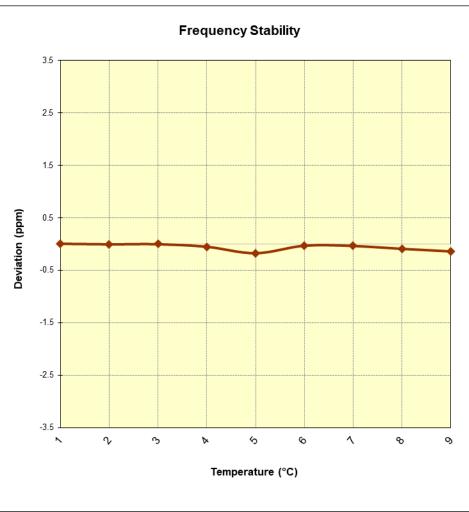


Figure 7-17. Frequency Stability Graph (Band 30)

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Band 7 Frequency Stability Measurements

OPERATING FREQUENCY:	2,535,000,000	Hz
REFERENCE VOLTAGE:	4.19	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	2,535,000,305	305	0.0000120
100 %		- 20	2,535,000,032	32	0.0000013
100 %		- 10	2,534,999,691	-309	-0.0000122
100 %		0	2,535,000,315	315	0.0000124
100 %		+ 10	2,535,000,008	8	0.0000003
100 %		+ 20	2,534,999,846	-154	-0.0000061
100 %		+ 30	2,534,999,923	-77	-0.0000030
100 %		+ 40	2,535,000,042	42	0.0000017
100 %		+ 50	2,534,999,896	-104	-0.0000041
BATT. ENDPOINT	3.79	+ 20	2,534,999,957	-43	-0.0000017

Table 7-66. Frequency Stability Data (Band 7)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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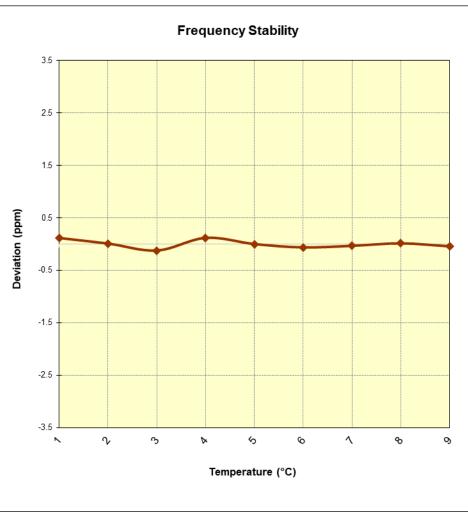


Figure 7-18. Frequency Stability Graph (Band 7)

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Band 41 Frequency Stability Measurements

OPERATING FREQUENCY:		2,5	93,000,000	Hz	
REFERENCE V	OLTAGE:	4.19		VDC	
VOLTAGE (%)	POWER (VDC)	ТЕМР ([°] С)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.19	- 30	2,593,000,112	112	0.0000043
100 %		- 20	2,592,999,885	-115	-0.0000044
100 %		- 10	2,592,999,832	-168	-0.0000065
100 %		0	2,593,000,031	31	0.0000012
100 %		+ 10	2,592,999,792	-208	-0.0000080
100 %		+ 20	2,592,999,944	-56	-0.0000022
100 %		+ 30	2,592,999,872	-128	-0.0000049
100 %		+ 40	2,592,999,830	-170	-0.0000066
100 %		+ 50	2,592,999,882	-118	-0.0000046
BATT. ENDPOINT	3.79	+ 20	2,593,000,236	236	0.0000091

Table 7-67. Frequency Stability Data (Band 41)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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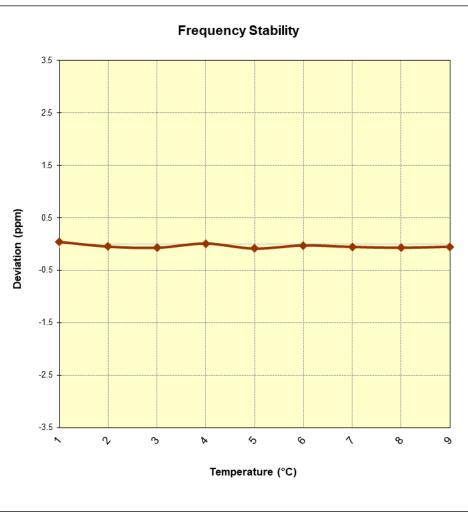


Figure 7-19. Frequency Stability Graph (Band 41)

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7.12 Sub 6GHz NR / EN-DC Test Results

Occupied Bandwidth

All SCS's and Waveforms (CP-OFDM vs 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.

NR Band n5



Plot 7-523. Occupied Bandwidth Plot (n5 5MHz QPSK-CP-OFDM - Full RB Configuration)

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