

PCTEST ENGINEERING LABORATORY, INC.

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MEASUREMENT REPORT FCC Part 30 5G mmWave

Applicant Name:

Samsung Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, 16677, Korea Date of Testing: 10/11 - 12/06/2019 Test Site/Location: PCTEST Lab. Columbia, MD, USA Test Report Serial No.: 1M1910220166-06-R1.A3L

FCC ID:A3LSMG986UAPPLICANT:Samsung Electronics Co., Ltd.

Application Type:	Certification
Model:	SM-G986U
Additional Model(s):	SM-G986U1, SM-G986XU
EUT Type:	Portable Handset
FCC Classification:	Part 30 Mobile Transmitter (5GM)
FCC Rule Part(s):	30
Test Procedure(s):	ANSI C63.26-2015, KDB 971168 D01 v03r01, KDB 842590 D01 v01

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N: 1M1910220166-06-R1.A3L) supersedes and replaces the previously issued test report (S/N: 1M1910220166-06.A3L) on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Randy Ortanez President



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MEASUREMENT REPORT FCC Part 30

							EI	RP		
Band	FCC Rule Part	Mode	Antenna	Bandwidth (MHz)	CCs Active	Tx Frequency (MHz)	Max. Power (W)	Max. Power (dBm)	Emission Designator	Modulation
n261	30	SISO	Ant1	50	1	27500 - 28350	0.220	23.42	45M7G7D	QPSK
n261	30	SISO	Ant1	50	1	27500 - 28350	0.145	21.61	45M3W7D	16QAM
n261	30	SISO	Ant1	50	1	27500 - 28350	0.081	19.09	45M2W7D	64QAM
n261	30	MIMO	Ant1	50	1	27500 - 28350	0.159	22.00	45M7G7D	QPSK
n261	30	MIMO	Ant1	50	1	27500 - 28350	0.149	21.72	45M3W7D	16QAM
n261	30	MIMO	Ant1	50	1	27500 - 28350	0.081	19.07	45M2W7D	64QAM
n261	30	SISO	Ant1	50	2	27500 - 28350	0.144	21.58	94M9G7D	QPSK
n261	30	SISO	Ant1	50	2	27500 - 28350	0.105	20.20	94M6W7D	16QAM
n261	30	SISO	Ant1	50	2	27500 - 28350	0.061	17.85	94M4W7D	64QAM
n261	30	MIMO	Ant1	50	2	27500 - 28350	0.141	21.50	94M9G7D	QPSK
n261	30	MIMO	Ant1	50	2	27500 - 28350	0.085	19.28	94M6W7D	16QAM
n261	30	MIMO	Ant1	50	2	27500 - 28350	0.054	17.33	94M4W7D	64QAM
n261	30	SISO	Ant1	100	1	27500 - 28350	0.238	23.77	90M7G7D	QPSK
n261	30	SISO	Ant1	100	1	27500 - 28350	0.155	21.91	90M5W7D	16QAM
n261	30	SISO	Ant1	100	1	27500 - 28350	0.081	19.06	90M8W7D	64QAM
n261	30	MIMO	Ant1	100	1	27500 - 28350	0.232	23.65	90M7G7D	QPSK
n261	30	MIMO	Ant1	100	1	27500 - 28350	0.118	20.73	90M5W7D	16QAM
n261	30	MIMO	Ant1	100	1	27500 - 28350	0.063	18.00	90M8W7D	64QAM
n261	30	SISO	Ant1	100	2	27500 - 28350	0.224	23.51	189MG7D	QPSK
n261	30	SISO	Ant1	100	2	27500 - 28350	0.167	22.24	189MW7D	16QAM
n261	30	SISO	Ant1	100	2	27500 - 28350	0.106	20.25	190MW7D	64QAM
n261	30	MIMO	Ant1	100	2	27500 - 28350	0.127	21.03	189MG7D	QPSK
n261	30	MIMO	Ant1	100	2	27500 - 28350	0.091	19.57	189MW7D	16QAM
n261	30	MIMO	Ant1	100	2	27500 - 28350	0.066	18.19	190MW7D	64QAM

EUT Overview (J Patch / Ant1 - Band n261)

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Part Part <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>EI</th><th>RP</th><th></th><th></th></th<>								EI	RP		
n261 30 SISO Ant2 50 1 27500 - 28350 0.041 16.09 48M5W7D 16QA n261 30 SISO Ant2 50 1 27500 - 28350 0.031 14.95 48M1W7D 64QA n261 30 MIMO Ant2 50 1 27500 - 28350 0.064 18.03 48M5W7D 16QA n261 30 MIMO Ant2 50 1 27500 - 28350 0.034 15.26 48M5W7D 16QA n261 30 MIMO Ant2 50 1 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350	Band		Mode	Antenna		CCs Active					Modulation
n261 30 SISO Ant2 50 1 27500 - 28350 0.031 14.95 48M1W7D 64QA n261 30 MIMO Ant2 50 1 27500 - 28350 0.064 18.03 48M3G7D QPS n261 30 MIMO Ant2 50 1 27500 - 28350 0.034 15.26 48M5W7D 16QA n261 30 MIMO Ant2 50 1 27500 - 28350 0.034 15.26 48M5W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350	n261	30	30 SISO	Ant2	50	1	27500 - 28350	0.067	18.23	48M3G7D	QPSK
n261 30 MIMO Ant2 50 1 27500 - 28350 0.064 18.03 48M3G7D QPS n261 30 MIMO Ant2 50 1 27500 - 28350 0.034 15.26 48M5W7D 16QA n261 30 MIMO Ant2 50 1 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.024 13.77 95M0W7D 64QA n261 30 MIMO Ant2 50 2 27500 - 28350	n261	30	30 SISO	Ant2	50	1	27500 - 28350	0.041	16.09	48M5W7D	16QAM
n261 30 MIMO Ant2 50 1 27500 - 28350 0.034 15.26 48M5W7D 16QA n261 30 MIMO Ant2 50 1 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.057 17.56 94M9G7D QPS n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 SISO Ant2 50 2 27500 - 28350 0.024 13.77 95M0W7D 64QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350	n261	30	30 SISO	Ant2	50	1	27500 - 28350	0.031	14.95	48M1W7D	64QAM
n261 30 MIMO Ant2 50 1 27500 - 28350 0.023 13.70 48M1W7D 64QA n261 30 SISO Ant2 50 2 27500 - 28350 0.057 17.56 94M9G7D QPS n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 SISO Ant2 50 2 27500 - 28350 0.024 13.77 95M0W7D 64QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350	n261	30	BO MIMO	Ant2	50	1	27500 - 28350	0.064	18.03	48M3G7D	QPSK
n261 30 SISO Ant2 50 2 27500 - 28350 0.057 17.56 94M9G7D QPS n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 SISO Ant2 50 2 27500 - 28350 0.024 13.77 95M0W7D 64QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350	n261	30	BO MIMO	Ant2	50	1	27500 - 28350	0.034	15.26	48M5W7D	16QAM
n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 SISO Ant2 50 2 27500 - 28350 0.037 15.72 94M6W7D 16QA n261 30 SISO Ant2 50 2 27500 - 28350 0.024 13.77 95M0W7D 64QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.024 13.77 95M0W7D 64QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350	n261	30	BO MIMO	Ant2	50	1	27500 - 28350	0.023	13.70	48M1W7D	64QAM
n261 30 SISO Ant2 50 2 27500 - 28350 0.024 13.77 95M0W7D 64QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.024 13.77 95M0W7D 64QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.053 17.25 94M9G7D QPS n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350 0.079 18.95 90M4G7D QPS n261 30 SISO Ant2 100 1 27500 - 28350	n261	30	30 SISO	Ant2	50	2	27500 - 28350	0.057	17.56	94M9G7D	QPSK
n261 30 MIMO Ant2 50 2 27500 - 28350 0.053 17.25 94M9G7D QPS n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350 0.079 18.95 90M4G7D QPS n261 30 SISO Ant2 100 1 27500 - 28350 0.053 17.22 90M5W7D 16QA n261 30 SISO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350	n261	30	30 SISO	Ant2	50	2	27500 - 28350	0.037	15.72	94M6W7D	16QAM
n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.027 14.34 94M6W7D 16QA n261 30 MIMO Ant2 50 2 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350 0.079 18.95 90M4G7D QPS n261 30 SISO Ant2 100 1 27500 - 28350 0.053 17.22 90M5W7D 16QA n261 30 SISO Ant2 100 1 27500 - 28350 0.053 17.22 90M5W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350	n261	30	30 SISO	Ant2	50	2	27500 - 28350	0.024	13.77	95M0W7D	64QAM
n261 30 MIMO Ant2 50 2 27500 - 28350 0.020 13.02 95M0W7D 64QA n261 30 SISO Ant2 100 1 27500 - 28350 0.079 18.95 90M4G7D QPS n261 30 SISO Ant2 100 1 27500 - 28350 0.079 18.95 90M4G7D QPS n261 30 SISO Ant2 100 1 27500 - 28350 0.053 17.22 90M5W7D 16QA n261 30 SISO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.065 18.11 90M4G7D QPS n261 30 MIMO Ant2 100 1 27500 - 28350	n261	30	BO MIMO	Ant2	50	2	27500 - 28350	0.053	17.25	94M9G7D	QPSK
n261 30 SISO Ant2 100 1 27500 - 28350 0.079 18.95 90M4G7D QPS n261 30 SISO Ant2 100 1 27500 - 28350 0.079 18.95 90M4G7D QPS n261 30 SISO Ant2 100 1 27500 - 28350 0.053 17.22 90M5W7D 16QA n261 30 SISO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.065 18.11 90M4G7D QPS n261 30 MIMO Ant2 100 1 27500 - 28350 0.065 18.11 90M4G7D QPS n261 30 MIMO Ant2 100 1 27500 - 28350 0.033 15.20 90M5W7D 16QA n261 30 MIMO Ant2 100 1 27500 - 28350	n261	30	30 MIMO	Ant2	50	2	27500 - 28350	0.027	14.34	94M6W7D	16QAM
n261 30 SISO Ant2 100 1 27500 - 28350 0.053 17.22 90M5W7D 16QA n261 30 SISO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.065 18.11 90M4G7D QPS n261 30 MIMO Ant2 100 1 27500 - 28350 0.033 15.20 90M5W7D 16QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.020 12.95 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.020 12.95 90M2W7D 64QA	n261	30	30 MIMO	Ant2	50	2	27500 - 28350	0.020	13.02	95M0W7D	64QAM
n261 30 SISO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.045 16.55 90M2W7D 64QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.065 18.11 90M4G7D QPS n261 30 MIMO Ant2 100 1 27500 - 28350 0.033 15.20 90M5W7D 16QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.020 12.95 90M2W7D 64QA	n261	30	30 SISO	Ant2	100	1	27500 - 28350	0.079	18.95	90M4G7D	QPSK
n261 30 MIMO Ant2 100 1 27500 - 28350 0.065 18.11 90M4G7D QPS n261 30 MIMO Ant2 100 1 27500 - 28350 0.033 15.20 90M5W7D 16QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.020 12.95 90M2W7D 64QA	n261	30	30 SISO	Ant2	100	1	27500 - 28350	0.053	17.22	90M5W7D	16QAM
n261 30 MIMO Ant2 100 1 27500 - 28350 0.033 15.20 90M5W7D 16QA n261 30 MIMO Ant2 100 1 27500 - 28350 0.020 12.95 90M2W7D 64QA	n261	30	30 SISO	Ant2	100	1	27500 - 28350	0.045	16.55	90M2W7D	64QAM
n261 30 MIMO Ant2 100 1 27500 - 28350 0.020 12.95 90M2W7D 64QA	n261	30	30 MIMO	Ant2	100	1	27500 - 28350	0.065	18.11	90M4G7D	QPSK
	n261	30	BO MIMO	Ant2	100	1	27500 - 28350	0.033	15.20	90M5W7D	16QAM
n261 30 SISO Ant2 100 2 27500 - 28350 0.060 17.81 189MG7D QPS	n261	30	BO MIMO	Ant2	100	1	27500 - 28350	0.020	12.95	90M2W7D	64QAM
	n261	30	30 SISO	Ant2	100	2	27500 - 28350	0.060	17.81	189MG7D	QPSK
n261 30 SISO Ant2 100 2 27500 - 28350 0.040 16.05 189MW7D 16QA	n261	30	30 SISO	Ant2	100	2	27500 - 28350	0.040	16.05	189MW7D	16QAM
n261 30 SISO Ant2 100 2 27500 - 28350 0.025 14.01 190MW7D 64QA	n261	30	30 SISO	Ant2	100	2	27500 - 28350	0.025	14.01	190MW7D	64QAM
n261 30 MIMO Ant2 100 2 27500 - 28350 0.060 17.76 189MG7D QPS	n261	30	BO MIMO	Ant2	100	2	27500 - 28350	0.060	17.76	189MG7D	QPSK
n261 30 MIMO Ant2 100 2 27500 - 28350 0.031 14.86 189MW7D 16QA	n261	30	BO MIMO	Ant2	100	2	27500 - 28350	0.031	14.86	189MW7D	16QAM
n261 30 MIMO Ant2 100 2 27500 - 28350 0.018 12.51 190MW7D 64QA	n261	30	BO MIMO	Ant2	100	2	27500 - 28350	0.018	12.51	190MW7D	64QAM

EUT Overview (J Dipole / Ant2- Band n261)

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Part (MHz) (MHz) (MHz) (W) (eBm) Designator n261 30 SISO Ant3 50 1 27500 - 28350 0.129 21.11 45M2G7D QPSK n261 30 SISO Ant3 50 1 27500 - 28350 0.094 19.74 45M7W7D 16QAM n261 30 SISO Ant3 50 1 27500 - 28350 0.056 17.45 45M4W7D 64QAM n261 30 MIMO Ant3 50 1 27500 - 28350 0.077 18.85 45M7W7D 16QAM n261 30 MIMO Ant3 50 1 27500 - 28350 0.040 16.00 45M4W7D 64QAM n261 30 SISO Ant3 50 2 27500 - 28350 0.080 19.02 94M8G7D QPSK n261 30 SISO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64								EI	RP		
n261 30 SISO Ant3 50 1 27500 - 28350 0.094 19.74 45M7W7D 16QAM n261 30 SISO Ant3 50 1 27500 - 28350 0.056 17.45 45M4W7D 64QAM n261 30 MIMO Ant3 50 1 27500 - 28350 0.122 20.87 45M2G7D QPSK n261 30 MIMO Ant3 50 1 27500 - 28350 0.040 16.00 45M4W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.040 16.00 45M4W7D 64QAM n261 30 SISO Ant3 50 2 27500 - 28350 0.055 17.44 94M6W7D 16QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 <td>Band</td> <td></td> <td>Mode</td> <td>Antenna</td> <td></td> <td>CCs Active</td> <td>1 2</td> <td></td> <td></td> <td></td> <td>Modulation</td>	Band		Mode	Antenna		CCs Active	1 2				Modulation
n261 30 SISO Anta 50 1 27500 - 28350 0.056 17.45 45M4W7D 64QAM n261 30 MIMO Anta 50 1 27500 - 28350 0.056 17.45 45M4W7D 64QAM n261 30 MIMO Anta 50 1 27500 - 28350 0.077 18.85 45M7W7D 16QAM n261 30 MIMO Anta 50 1 27500 - 28350 0.040 16.00 45M4W7D 64QAM n261 30 MIMO Anta 50 2 27500 - 28350 0.040 16.00 45M4W7D 64QAM n261 30 SISO Anta 50 2 27500 - 28350 0.055 17.44 94M6W7D 16QAM n261 30 MIMO Anta 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Anta 50 2 27500 - 28350 </td <td>n261</td> <td>30</td> <td>SISO</td> <td>Ant3</td> <td>50</td> <td>1</td> <td>27500 - 28350</td> <td>0.129</td> <td>21.11</td> <td>45M2G7D</td> <td>QPSK</td>	n261	30	SISO	Ant3	50	1	27500 - 28350	0.129	21.11	45M2G7D	QPSK
n261 30 MIMO Ant3 50 1 27500 - 28350 0.122 20.87 45M2G7D QPSK n261 30 MIMO Ant3 50 1 27500 - 28350 0.077 18.85 45M7W7D 16QAM n261 30 MIMO Ant3 50 1 27500 - 28350 0.040 16.00 45M4W7D 64QAM n261 30 SISO Ant3 50 2 27500 - 28350 0.080 19.02 94M8G7D QPSK n261 30 SISO Ant3 50 2 27500 - 28350 0.055 17.44 94M6W7D 16QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 <td>n261</td> <td>30</td> <td>SISO</td> <td>Ant3</td> <td>50</td> <td>1</td> <td>27500 - 28350</td> <td>0.094</td> <td>19.74</td> <td>45M7W7D</td> <td>16QAM</td>	n261	30	SISO	Ant3	50	1	27500 - 28350	0.094	19.74	45M7W7D	16QAM
n261 30 MIMO Ant3 50 1 27500 - 28350 0.077 18.85 45M7W7D 16QAM n261 30 MIMO Ant3 50 1 27500 - 28350 0.040 16.00 45M4W7D 64QAM n261 30 SISO Ant3 50 2 27500 - 28350 0.080 19.02 94M8G7D QPSK n261 30 SISO Ant3 50 2 27500 - 28350 0.055 17.44 94M6W7D 16QAM n261 30 SISO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.037 18.82 94M6W7D 16QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 SISO Ant3 100 1 27500 - 28350 </td <td>n261</td> <td>30</td> <td>SISO</td> <td>Ant3</td> <td>50</td> <td>1</td> <td>27500 - 28350</td> <td>0.056</td> <td>17.45</td> <td>45M4W7D</td> <td>64QAM</td>	n261	30	SISO	Ant3	50	1	27500 - 28350	0.056	17.45	45M4W7D	64QAM
n261 30 MIMO Ani3 50 1 27500 - 28350 0.040 16.00 45M4W7D 64QAM n261 30 SISO Ani3 50 2 27500 - 28350 0.080 19.02 94M8G7D QPSK n261 30 SISO Ani3 50 2 27500 - 28350 0.055 17.44 94M6W7D 16QAM n261 30 SISO Ani3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ani3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ani3 50 2 27500 - 28350 0.018 20.74 94M8G7D QPSK n261 30 MIMO Ani3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 SISO Ani3 100 1 27500 - 28350 <td>n261</td> <td>30</td> <td>MIMO</td> <td>Ant3</td> <td>50</td> <td>1</td> <td>27500 - 28350</td> <td>0.122</td> <td>20.87</td> <td>45M2G7D</td> <td>QPSK</td>	n261	30	MIMO	Ant3	50	1	27500 - 28350	0.122	20.87	45M2G7D	QPSK
n261 30 SISO Ant3 50 2 27500 - 28350 0.080 19.02 94M8G7D QPSK n261 30 SISO Ant3 50 2 27500 - 28350 0.055 17.44 94M6W7D 16QAM n261 30 SISO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.018 20.74 94M8G7D QPSK n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Ant3 100 1 27500 - 28350 <td>n261</td> <td>30</td> <td>MIMO</td> <td>Ant3</td> <td>50</td> <td>1</td> <td>27500 - 28350</td> <td>0.077</td> <td>18.85</td> <td>45M7W7D</td> <td>16QAM</td>	n261	30	MIMO	Ant3	50	1	27500 - 28350	0.077	18.85	45M7W7D	16QAM
n261 30 SISO Ant3 50 2 27500 - 28350 0.055 17.44 94M6W7D 160AM n261 30 SISO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 640AM n261 30 MIMO Ant3 50 2 27500 - 28350 0.118 20.74 94M6W7D 160AM n261 30 MIMO Ant3 50 2 27500 - 28350 0.076 18.82 94M6W7D 16QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.076 18.82 94M6W7D 16QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Ant3 100 1 27500 - 28350<	n261	30	MIMO	Ant3	50	1	27500 - 28350	0.040	16.00	45M4W7D	64QAM
n261 30 SISO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.037 15.64 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.0118 20.74 94M8G7D QPSK n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 28350	n261	30	SISO	Ant3	50	2	27500 - 28350	0.080	19.02	94M8G7D	QPSK
n261 30 MIMO Ant3 50 2 27500 - 28350 0.118 20.74 94M8G7D QPSK n261 30 MIMO Ant3 50 2 27500 - 28350 0.076 18.82 94M6W7D 16QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Ant3 100 1 27500 - 28350 0.086 19.35 90M5W7D 16QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 2835	n261	30	SISO	Ant3	50	2	27500 - 28350	0.055	17.44	94M6W7D	16QAM
n261 30 MIMO Ant3 50 2 27500 - 28350 0.076 18.82 94M6W7D 16QAM n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M6W7D 64QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Ant3 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Ant3 100 1 27500 - 28350 0.086 19.35 90M5W7D 16QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 283	n261	30	SISO	Ant3	50	2	27500 - 28350	0.037	15.64	94M9W7D	64QAM
n261 30 MIMO Ant3 50 2 27500 - 28350 0.038 15.78 94M9W7D 64QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Ant3 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Ant3 100 1 27500 - 28350 0.086 19.35 90M5W7D 16QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.130 21.14 90M7G7D QPSK n261 30 MIMO Ant3 100 1 27500 - 28350 0.073 18.61 90M2W7D 64QAM n261 30 MIMO Ant3 100 2 27500 - 283	n261	30	MIMO	Ant3	50	2	27500 - 28350	0.118	20.74	94M8G7D	QPSK
n261 30 SISO Anta 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Anta 100 1 27500 - 28350 0.139 21.43 90M7G7D QPSK n261 30 SISO Anta 100 1 27500 - 28350 0.086 19.35 90M5W7D 16QAM n261 30 SISO Anta 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Anta 100 1 27500 - 28350 0.130 21.14 90M7G7D QPSK n261 30 MIMO Anta 100 1 27500 - 28350 0.130 21.14 90M7G7D QPSK n261 30 MIMO Anta 100 1 27500 - 28350 0.073 18.61 90M2W7D 64QAM n261 30 SISO Anta 100 2 27500 - 283	n261	30	MIMO	Ant3	50	2	27500 - 28350	0.076	18.82	94M6W7D	16QAM
n261 30 SISO Ant3 100 1 27500 - 28350 0.086 19.35 90M5W7D 16QAM n261 30 SISO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.130 21.14 90M7G7D QPSK n261 30 MIMO Ant3 100 1 27500 - 28350 0.073 18.61 90M5W7D 16QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.046 16.62 90M2W7D 64QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.046 16.62 90M2W7D 64QAM n261 30 SISO Ant3 100 2 27500 -	n261	30	MIMO	Ant3	50	2	27500 - 28350	0.038	15.78	94M9W7D	64QAM
n261 30 SISO Ant3 100 1 27500 - 28350 0.059 17.71 90M2W7D 64QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.130 21.14 90M7G7D QPSK n261 30 MIMO Ant3 100 1 27500 - 28350 0.073 18.61 90M5W7D 16QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.073 18.61 90M5W7D 16QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.046 16.62 90M2W7D 64QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.086 19.36 190MG7D QPSK n261 30 SISO Ant3 100 2 27500 - 28350 0.060 17.79 189MW7D 16QAM n261 30 SISO Ant3 100 2 27500 - 2	n261	30	SISO	Ant3	100	1	27500 - 28350	0.139	21.43	90M7G7D	QPSK
n261 30 MIMO Ant3 100 1 27500 - 28350 0.130 21.14 90M7G7D QPSK n261 30 MIMO Ant3 100 1 27500 - 28350 0.130 21.14 90M7G7D QPSK n261 30 MIMO Ant3 100 1 27500 - 28350 0.073 18.61 90M5W7D 16QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.046 16.62 90M2W7D 64QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.086 19.36 190MG7D QPSK n261 30 SISO Ant3 100 2 27500 - 28350 0.086 19.36 190MG7D QPSK n261 30 SISO Ant3 100 2 27500 - 28350 0.060 17.79 189MW7D 16QAM n261 30 SISO Ant3 100 2 27500 - 283	n261	30	SISO	Ant3	100	1	27500 - 28350	0.086	19.35	90M5W7D	16QAM
n261 30 MIMO Ant3 100 1 27500 - 28350 0.073 18.61 90M5W7D 16QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.073 18.61 90M5W7D 16QAM n261 30 MIMO Ant3 100 1 27500 - 28350 0.046 16.62 90M2W7D 64QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.086 19.36 190MG7D QPSK n261 30 SISO Ant3 100 2 27500 - 28350 0.060 17.79 189MW7D 16QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM n261 30 MIMO Ant3 100 2 27500 -	n261	30	SISO	Ant3	100	1	27500 - 28350	0.059	17.71	90M2W7D	64QAM
n261 30 MIMO Ant3 100 1 27500 - 28350 0.046 16.62 90M2W7D 64QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.046 19.36 190MG7D QPSK n261 30 SISO Ant3 100 2 27500 - 28350 0.086 19.36 190MG7D QPSK n261 30 SISO Ant3 100 2 27500 - 28350 0.060 17.79 189MW7D 16QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM n261 30 MIMO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM n261 30 MIMO Ant3 100 2 27500 - 28350 0.083 19.21 190MG7D QPSK	n261	30	MIMO	Ant3	100	1	27500 - 28350	0.130	21.14	90M7G7D	QPSK
n261 30 SISO Ant3 100 2 27500 - 28350 0.086 19.36 190MG7D QPSK n261 30 SISO Ant3 100 2 27500 - 28350 0.060 17.79 189MW7D 16QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM n261 30 MIMO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM	n261	30	MIMO	Ant3	100	1	27500 - 28350	0.073	18.61	90M5W7D	16QAM
n261 30 SISO Ant3 100 2 27500 - 28350 0.060 17.79 189MW7D 16QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.060 17.79 189MW7D 16QAM n261 30 SISO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM n261 30 MIMO Ant3 100 2 27500 - 28350 0.083 19.21 190MG7D QPSK	n261	30	MIMO	Ant3	100	1	27500 - 28350	0.046	16.62	90M2W7D	64QAM
n261 30 SISO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM n261 30 MIMO Ant3 100 2 27500 - 28350 0.040 16.02 189MW7D 64QAM n261 30 MIMO Ant3 100 2 27500 - 28350 0.083 19.21 190MG7D QPSK	n261	30	SISO	Ant3	100	2	27500 - 28350	0.086	19.36	190MG7D	QPSK
n261 30 MIMO Ant3 100 2 27500 - 28350 0.083 19.21 190MG7D QPSK	n261	30	SISO	Ant3	100	2	27500 - 28350	0.060	17.79	189MW7D	16QAM
	n261	30	SISO	Ant3	100	2	27500 - 28350	0.040	16.02	189MW7D	64QAM
201 20 MIMO Apt2 100 2 27500 28250 0.070 18.42 180MM/7D 160AM	n261	30	MIMO	Ant3	100	2	27500 - 28350	0.083	19.21	190MG7D	QPSK
1201 30 IVIIIVIO AILA 100 2 27500-28350 0.070 18.43 1891WW7D 16QAM	n261	30	MIMO	Ant3	100	2	27500 - 28350	0.070	18.43	189MW7D	16QAM
n261 30 MIMO Ant3 100 2 27500 - 28350 0.048 16.81 189MW7D 64QAM	n261	30	MIMO	Ant3	100	2	27500 - 28350	0.048	16.81	189MW7D	64QAM

EUT Overview (K Patch / Ant3 - Band n261)

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							EI	RP		
Band	FCC Rule Part	Mode	Antenna	Bandwidth (MHz)	CCs Active	Tx Frequency (MHz)	Max. Power (W)	Max. Power (dBm)	Emission Designator	Modulation
n261	30	SISO	Ant4	50	1	27500 - 28350	0.147	21.68	45M9G7D	QPSK
n261	30	SISO	Ant4	50	1	27500 - 28350	0.068	18.30	45M4W7D	16QAM
n261	30	SISO	Ant4	50	1	27500 - 28350	0.050	16.98	45M2W7D	64QAM
n261	30	MIMO	Ant4	50	1	27500 - 28350	0.128	21.07	45M9G7D	QPSK
n261	30	MIMO	Ant4	50	1	27500 - 28350	0.073	18.62	45M4W7D	16QAM
n261	30	MIMO	Ant4	50	1	27500 - 28350	0.046	16.60	45M2W7D	64QAM
n261	30	SISO	Ant4	50	2	27500 - 28350	0.128	21.07	94M8G7D	QPSK
n261	30	SISO	Ant4	50	2	27500 - 28350	0.096	19.84	94M5W7D	16QAM
n261	30	SISO	Ant4	50	2	27500 - 28350	0.054	17.31	94M5W7D	64QAM
n261	30	MIMO	Ant4	50	2	27500 - 28350	0.101	20.06	94M8G7D	QPSK
n261	30	MIMO	Ant4	50	2	27500 - 28350	0.064	18.04	94M5W7D	16QAM
n261	30	MIMO	Ant4	50	2	27500 - 28350	0.036	15.55	94M5W7D	64QAM
n261	30	SISO	Ant4	100	1	27500 - 28350	0.152	21.83	90M7G7D	QPSK
n261	30	SISO	Ant4	100	1	27500 - 28350	0.090	19.56	90M7W7D	16QAM
n261	30	SISO	Ant4	100	1	27500 - 28350	0.060	17.77	90M5W7D	64QAM
n261	30	MIMO	Ant4	100	1	27500 - 28350	0.123	20.91	90M7G7D	QPSK
n261	30	MIMO	Ant4	100	1	27500 - 28350	0.063	17.96	90M7W7D	16QAM
n261	30	MIMO	Ant4	100	1	27500 - 28350	0.036	15.59	90M5W7D	64QAM
n261	30	SISO	Ant4	100	2	27500 - 28350	0.160	22.04	189MG7D	QPSK
n261	30	SISO	Ant4	100	2	27500 - 28350	0.124	20.93	189MW7D	16QAM
n261	30	SISO	Ant4	100	2	27500 - 28350	0.070	18.48	189MW7D	64QAM
n261	30	MIMO	Ant4	100	2	27500 - 28350	0.123	20.89	189MG7D	QPSK
n261	30	MIMO	Ant4	100	2	27500 - 28350	0.087	19.37	189MW7D	16QAM
n261	30	MIMO	Ant4	100	2	27500 - 28350	0.045	16.50	189MW7D	64QAM
					iew (L Pa	tch / Ant4 - Ba				

EUT Overview (L Patch / Ant4 - Band n261)

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							EI	RP		
Band	FCC Rule Part	Mode	Antenna	Bandwidth (MHz)	CCs Active	Tx Frequency (MHz)	Max. Power (W)	Max. Power (dBm)	Emission Designator	Modulation
n260	30	SISO	Ant1	50	1	37000 - 40000	0.124	20.94	45M2G7D	QPSK
n260	30	SISO	Ant1	50	1	37000 - 40000	0.076	18.80	45M3W7D	16QAM
n260	30	SISO	Ant1	50	1	37000 - 40000	0.049	16.94	45M6W7D	64QAM
n260	30	MIMO	Ant1	50	1	37000 - 40000	0.105	20.22	45M2G7D	QPSK
n260	30	MIMO	Ant1	50	1	37000 - 40000	0.067	18.27	45M3W7D	16QAM
n260	30	MIMO	Ant1	50	1	37000 - 40000	0.046	16.61	45M6W7D	64QAM
n260	30	SISO	Ant1	50	2	37000 - 40000	0.065	18.12	94M8G7D	QPSK
n260	30	SISO	Ant1	50	2	37000 - 40000	0.045	16.53	94M8W7D	16QAM
n260	30	SISO	Ant1	50	2	37000 - 40000	0.031	14.88	94M8W7D	64QAM
n260	30	MIMO	Ant1	50	2	37000 - 40000	0.064	18.06	94M8G7D	QPSK
n260	30	MIMO	Ant1	50	2	37000 - 40000	0.034	15.31	94M8W7D	16QAM
n260	30	MIMO	Ant1	50	2	37000 - 40000	0.025	13.94	94M8W7D	64QAM
n260	30	SISO	Ant1	100	1	37000 - 40000	0.132	21.21	90M9G7D	QPSK
n260	30	SISO	Ant1	100	1	37000 - 40000	0.086	19.37	90M6W7D	16QAM
n260	30	SISO	Ant1	100	1	37000 - 40000	0.051	17.06	90M8W7D	64QAM
n260	30	MIMO	Ant1	100	1	37000 - 40000	0.136	21.34	90M9G7D	QPSK
n260	30	MIMO	Ant1	100	1	37000 - 40000	0.065	18.16	90M6W7D	16QAM
n260	30	MIMO	Ant1	100	1	37000 - 40000	0.034	15.38	90M8W7D	64QAM
n260	30	SISO	Ant1	100	2	37000 - 40000	0.070	18.43	189MG7D	QPSK
n260	30	SISO	Ant1	100	2	37000 - 40000	0.051	17.05	189MW7D	16QAM
n260	30	SISO	Ant1	100	2	37000 - 40000	0.036	15.59	190MW7D	64QAM
n260	30	MIMO	Ant1	100	2	37000 - 40000	0.080	19.06	189MG7D	QPSK
n260	30	MIMO	Ant1	100	2	37000 - 40000	0.046	16.60	189MW7D	16QAM
n260	30	MIMO	Ant1	100	2	37000 - 40000	0.027	14.34	190MW7D	64QAM
			F	IT Overv	iew (J Pa	tch / Ant1 - Ba	nd n260)			

EUT Overview (J Patch / Ant1 - Band n260)

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	LEGINECHING INCOMITORY INC.

Band FCC Rule Part Mode Antenna Bandwidth (MHz) CCs Active Tx Frequency (MHz) Max. Power (W) Max. Power (dBm) Emission Designator Modulation n260 30 SISO Ant2 50 1 37000 - 40000 0.072 18.58 45M1G7D QPSK n260 30 SISO Ant2 50 1 37000 - 40000 0.046 16.59 45M1G7D QPSK n260 30 MIMO Ant2 50 1 37000 - 40000 0.075 18.76 45M1G7D QPSK n260 30 MIMO Ant2 50 1 37000 - 40000 0.075 18.76 45M1G7D QPSK n260 30 MIMO Ant2 50 1 37000 - 40000 0.075 18.76 45M1G7D QPSK n260 30 SISO Ant2 50 2 37000 - 40000 0.054 17.29 94M6G7D QPSK n260 30 MIMO Ant2								EI	RP		
n260 30 SISO Ant2 50 1 37000 - 40000 0.046 16.59 45M1W7D 16QAM n260 30 SISO Ant2 50 1 37000 - 40000 0.024 13.89 45M2W7D 64QAM n260 30 MIMO Ant2 50 1 37000 - 40000 0.075 18.76 45M1W7D 16QAM n260 30 MIMO Ant2 50 1 37000 - 40000 0.037 15.69 45M1W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.018 12.45 45M2W7D 64QAM n260 30 SISO Ant2 50 2 37000 - 40000 0.033 15.24 95M3W7D 16QAM n260 30 SISO Ant2 50 2 37000 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 </td <td>Band</td> <td></td> <td>Mode</td> <td>Antenna</td> <td></td> <td>CCs Active</td> <td></td> <td></td> <td></td> <td></td> <td>Modulation</td>	Band		Mode	Antenna		CCs Active					Modulation
n260 30 SISO Ant2 50 1 37000 - 40000 0.024 13.89 45M2W7D 64QAM n260 30 MIMO Ant2 50 1 37000 - 40000 0.075 18.76 45M1G7D QPSK n260 30 MIMO Ant2 50 1 37000 - 40000 0.037 15.69 45M1W7D 16QAM n260 30 MIMO Ant2 50 1 37000 - 40000 0.037 15.69 45M1W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.054 17.29 94M6G7D QPSK n260 30 SISO Ant2 50 2 37000 - 40000 0.023 13.53 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.023 13.53 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 <td>n260</td> <td>30</td> <td>SISO</td> <td>Ant2</td> <td>50</td> <td>1</td> <td>37000 - 40000</td> <td>0.072</td> <td>18.58</td> <td>45M1G7D</td> <td>QPSK</td>	n260	30	SISO	Ant2	50	1	37000 - 40000	0.072	18.58	45M1G7D	QPSK
n260 30 MIMO Ant2 50 1 37000 - 40000 0.075 18.76 45M1G7D QPSK n260 30 MIMO Ant2 50 1 37000 - 40000 0.037 15.69 45M1W7D 16QAM n260 30 MIMO Ant2 50 1 37000 - 40000 0.037 15.69 45M1W7D 64QAM n260 30 SISO Ant2 50 2 37000 - 40000 0.054 17.29 94M6G7D QPSK n260 30 SISO Ant2 50 2 37000 - 40000 0.033 15.24 95M3W7D 16QAM n260 30 SISO Ant2 50 2 37000 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 100 1 37000 - 40000 <td>n260</td> <td>30</td> <td>SISO</td> <td>Ant2</td> <td>50</td> <td>1</td> <td>37000 - 40000</td> <td>0.046</td> <td>16.59</td> <td>45M1W7D</td> <td>16QAM</td>	n260	30	SISO	Ant2	50	1	37000 - 40000	0.046	16.59	45M1W7D	16QAM
n260 30 MIMO Ant2 50 1 3700 - 40000 0.037 15.69 45M1W7D 16QAM n260 30 MIMO Ant2 50 1 3700 - 40000 0.018 12.45 45M2W7D 64QAM n260 30 SISO Ant2 50 2 3700 - 40000 0.054 17.29 94M6G7D QPSK n260 30 SISO Ant2 50 2 3700 - 40000 0.033 15.24 95M3W7D 16QAM n260 30 SISO Ant2 50 2 3700 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 3700 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 3700 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 3700 - 40000	n260	30	SISO	Ant2	50	1	37000 - 40000	0.024	13.89	45M2W7D	64QAM
n260 30 MIMO Ant2 50 1 37000 - 40000 0.018 12.45 45M2W7D 64QAM n260 30 SISO Ant2 50 2 37000 - 40000 0.054 17.29 94M6G7D QPSK n260 30 SISO Ant2 50 2 37000 - 40000 0.033 15.24 95M3W7D 16QAM n260 30 SISO Ant2 50 2 37000 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 </td <td>n260</td> <td>30</td> <td>MIMO</td> <td>Ant2</td> <td>50</td> <td>1</td> <td>37000 - 40000</td> <td>0.075</td> <td>18.76</td> <td>45M1G7D</td> <td>QPSK</td>	n260	30	MIMO	Ant2	50	1	37000 - 40000	0.075	18.76	45M1G7D	QPSK
n260 30 SISO Ant2 50 2 37000 - 40000 0.054 17.29 94M6G7D QPSK n260 30 SISO Ant2 50 2 37000 - 40000 0.033 15.24 95M3W7D 16QAM n260 30 SISO Ant2 50 2 37000 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.011 18.51 90M5G7D QPSK n260 30 SISO Ant2 100 1 37000 - 40000 </td <td>n260</td> <td>30</td> <td>MIMO</td> <td>Ant2</td> <td>50</td> <td>1</td> <td>37000 - 40000</td> <td>0.037</td> <td>15.69</td> <td>45M1W7D</td> <td>16QAM</td>	n260	30	MIMO	Ant2	50	1	37000 - 40000	0.037	15.69	45M1W7D	16QAM
n260 30 SISO Ant2 50 2 37000 - 40000 0.033 15.24 95M3W7D 16QAM n260 30 SISO Ant2 50 2 37000 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.071 18.51 90M5G7D QPSK n260 30 MIMO Ant2 100 1 37000 - 40000	n260	30	MIMO	Ant2	50	1	37000 - 40000	0.018	12.45	45M2W7D	64QAM
n260 30 SISO Ant2 50 2 3700 - 40000 0.023 13.53 95M7W7D 64QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.058 17.66 94M6G7D QPSK n260 30 MIMO Ant2 50 2 37000 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.015 11.71 95M7W7D 16QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000<	n260	30	SISO	Ant2	50	2	37000 - 40000	0.054	17.29	94M6G7D	QPSK
n260 30 MIMO Ant2 50 2 37000 - 40000 0.058 17.66 94M6G7D QPSK n260 30 MIMO Ant2 50 2 37000 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.071 18.51 90M5G7D QPSK n260 30 SISO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 4000	n260	30	SISO	Ant2	50	2	37000 - 40000	0.033	15.24	95M3W7D	16QAM
n260 30 MIMO Ant2 50 2 37000 - 40000 0.027 14.36 95M3W7D 16QAM n260 30 MIMO Ant2 50 2 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.071 18.51 90M5G7D QPSK n260 30 SISO Ant2 100 1 37000 - 40000 0.041 16.10 90M5W7D 16QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40	n260	30	SISO	Ant2	50	2	37000 - 40000	0.023	13.53	95M7W7D	64QAM
n260 30 MIMO Ant2 50 2 37000 - 40000 0.015 11.71 95M7W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.071 18.51 90M5G7D QPSK n260 30 SISO Ant2 100 1 37000 - 40000 0.071 18.51 90M5G7D QPSK n260 30 SISO Ant2 100 1 37000 - 40000 0.041 16.10 90M5W7D 16QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5G7D QPSK n260 30 MIMO Ant2 100 2 37000 - 400	n260	30	MIMO	Ant2	50	2	37000 - 40000	0.058	17.66	94M6G7D	QPSK
n260 30 SISO Ant2 100 1 37000 - 40000 0.071 18.51 90M5G7D QPSK n260 30 SISO Ant2 100 1 37000 - 40000 0.071 18.51 90M5G7D QPSK n260 30 SISO Ant2 100 1 37000 - 40000 0.041 16.10 90M5W7D 16QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.072 18.57 90M5G7D QPSK n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5W7D 16QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.018 12.56 91M2W7D 64QAM n260 30 SISO Ant2 100 2 37000 - 40	n260	30	MIMO	Ant2	50	2	37000 - 40000	0.027	14.36	95M3W7D	16QAM
n260 30 SISO Ant2 100 1 37000 - 40000 0.041 16.10 90M5W7D 16QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.072 18.57 90M5G7D QPSK n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5W7D 16QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5W7D 16QAM n260 30 MIMO Ant2 100 2 37000 - 40000 0.045 16.49 190MG7D QPSK n260 30 SISO Ant2 100 2 37000 - 4	n260	30	MIMO	Ant2	50	2	37000 - 40000	0.015	11.71	95M7W7D	64QAM
n260 30 SISO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.023 13.65 91M2W7D 64QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.072 18.57 90M5G7D QPSK n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5W7D 16QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5W7D 16QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.045 16.49 190MG7D QPSK n260 30 SISO Ant2 100 2 37000 - 40000 0.034 15.37 191MW7D 16QAM n260 30 SISO Ant2 100 2 37000 - 4	n260	30	SISO	Ant2	100	1	37000 - 40000	0.071	18.51	90M5G7D	QPSK
n260 30 MIMO Ant2 100 1 37000 - 40000 0.072 18.57 90M5G7D QPSK n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5G7D QPSK n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5W7D 16QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.018 12.56 91M2W7D 64QAM n260 30 SISO Ant2 100 2 37000 - 40000 0.045 16.49 190MG7D QPSK n260 30 SISO Ant2 100 2 37000 - 40000 0.034 15.37 191MW7D 16QAM n260 30 SISO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 - 40	n260	30	SISO	Ant2	100	1	37000 - 40000	0.041	16.10	90M5W7D	16QAM
n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5W7D 16QAM n260 30 MIMO Ant2 100 1 37000 - 40000 0.033 15.19 90M5W7D 16QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.018 12.56 91M2W7D 64QAM n260 30 SISO Ant2 100 2 37000 - 40000 0.045 16.49 190MG7D QPSK n260 30 SISO Ant2 100 2 37000 - 40000 0.034 15.37 191MW7D 16QAM n260 30 SISO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 -	n260	30	SISO	Ant2	100	1	37000 - 40000	0.023	13.65	91M2W7D	64QAM
n260 30 MIMO Ant2 100 1 37000 - 40000 0.018 12.56 91M2W7D 64QAM n260 30 SISO Ant2 100 1 37000 - 40000 0.018 12.56 91M2W7D 64QAM n260 30 SISO Ant2 100 2 37000 - 40000 0.045 16.49 190MG7D QPSK n260 30 SISO Ant2 100 2 37000 - 40000 0.034 15.37 191MW7D 16QAM n260 30 SISO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 - 40000 0.050 17.01 190MG7D QPSK n260 30 MIMO Ant2 100 2 37000 - 4	n260	30	MIMO	Ant2	100	1	37000 - 40000	0.072	18.57	90M5G7D	QPSK
n260 30 SISO Ant2 100 2 37000 - 40000 0.045 16.49 190MG7D QPSK n260 30 SISO Ant2 100 2 37000 - 40000 0.045 16.49 190MG7D QPSK n260 30 SISO Ant2 100 2 37000 - 40000 0.034 15.37 191MW7D 16QAM n260 30 SISO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 - 40000 0.050 17.01 190MG7D QPSK n260 30 MIMO Ant2 100 2 37000 - 40000 0.050 17.01 190MG7D QPSK n260 30 MIMO Ant2 100 2 37000 - 40000 0.031 14.89 191MW7D 16QAM	n260	30	MIMO	Ant2	100	1	37000 - 40000	0.033	15.19	90M5W7D	16QAM
n260 30 SISO Ant2 100 2 37000 - 40000 0.034 15.37 191MW7D 16QAM n260 30 SISO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 - 40000 0.050 17.01 190MG7D QPSK n260 30 MIMO Ant2 100 2 37000 - 40000 0.031 14.89 191MW7D 16QAM	n260	30	MIMO	Ant2	100	1	37000 - 40000	0.018	12.56	91M2W7D	64QAM
n260 30 SISO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 - 40000 0.027 14.36 195MW7D 64QAM n260 30 MIMO Ant2 100 2 37000 - 40000 0.050 17.01 190MG7D QPSK n260 30 MIMO Ant2 100 2 37000 - 40000 0.031 14.89 191MW7D 16QAM	n260	30	SISO	Ant2	100	2	37000 - 40000	0.045	16.49	190MG7D	QPSK
n260 30 MIMO Ant2 100 2 37000 - 40000 0.050 17.01 190MG7D QPSK n260 30 MIMO Ant2 100 2 37000 - 40000 0.050 17.01 190MG7D QPSK n260 30 MIMO Ant2 100 2 37000 - 40000 0.031 14.89 191MW7D 16QAM	n260	30	SISO	Ant2	100	2	37000 - 40000	0.034	15.37	191MW7D	16QAM
n260 30 MIMO Ant2 100 2 37000 - 40000 0.031 14.89 191MW7D 16QAM	n260	30	SISO	Ant2	100	2	37000 - 40000	0.027	14.36	195MW7D	64QAM
	n260	30	MIMO	Ant2	100	2	37000 - 40000	0.050	17.01	190MG7D	QPSK
	n260	30	MIMO	Ant2	100	2	37000 - 40000	0.031	14.89	191MW7D	16QAM
nzou 30 iviivio Antz 100 2 37000 - 40000 0.019 12.89 195MW7D 64QAM	n260	30	MIMO	Ant2	100	2	37000 - 40000	0.019	12.89	195MW7D	64QAM

EUT Overview (J Dipole / Ant2 - Band n260)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 8 of 286
1M1910220166-06-R1.A3L	10/11 - 12/06/2019	Portable Handset	able Handset	
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							EI	RP		
Band	FCC Rule Part	Mode	Antenna	Bandwidth (MHz)	CCs Active	Tx Frequency (MHz)	Max. Power (W)	Max. Power (dBm)	Emission Designator	Modulation
n260	30	SISO	Ant3	50	1	37000 - 40000	0.156	21.94	45M6G7D	QPSK
n260	30	SISO	Ant3	50	1	37000 - 40000	0.110	20.42	45M2W7D	16QAM
n260	30	SISO	Ant3	50	1	37000 - 40000	0.066	18.21	45M3W7D	64QAM
n260	30	MIMO	Ant3	50	1	37000 - 40000	0.151	21.79	45M6G7D	QPSK
n260	30	MIMO	Ant3	50	1	37000 - 40000	0.130	21.12	45M2W7D	16QAM
n260	30	MIMO	Ant3	50	1	37000 - 40000	0.084	19.22	45M3W7D	64QAM
n260	30	SISO	Ant3	50	2	37000 - 40000	0.154	21.88	94M3G7D	QPSK
n260	30	SISO	Ant3	50	2	37000 - 40000	0.105	20.20	94M9W7D	16QAM
n260	30	SISO	Ant3	50	2	37000 - 40000	0.068	18.36	94M9W7D	64QAM
n260	30	MIMO	Ant3	50	2	37000 - 40000	0.187	22.71	94M3G7D	QPSK
n260	30	MIMO	Ant3	50	2	37000 - 40000	0.115	20.61	94M9W7D	16QAM
n260	30	MIMO	Ant3	50	2	37000 - 40000	0.056	17.48	94M9W7D	64QAM
n260	30	SISO	Ant3	100	1	37000 - 40000	0.170	22.32	92M3G7D	QPSK
n260	30	SISO	Ant3	100	1	37000 - 40000	0.120	20.81	91M0W7D	16QAM
n260	30	SISO	Ant3	100	1	37000 - 40000	0.075	18.73	91M9W7D	64QAM
n260	30	MIMO	Ant3	100	1	37000 - 40000	0.169	22.27	92M3G7D	QPSK
n260	30	MIMO	Ant3	100	1	37000 - 40000	0.097	19.87	91M0W7D	16QAM
n260	30	MIMO	Ant3	100	1	37000 - 40000	0.057	17.54	91M9W7D	64QAM
n260	30	SISO	Ant3	100	2	37000 - 40000	0.207	23.17	189MG7D	QPSK
n260	30	SISO	Ant3	100	2	37000 - 40000	0.153	21.85	190MW7D	16QAM
n260	30	SISO	Ant3	100	2	37000 - 40000	0.092	19.66	190MW7D	64QAM
n260	30	MIMO	Ant3	100	2	37000 - 40000	0.223	23.49	189MG7D	QPSK
n260	30	MIMO	Ant3	100	2	37000 - 40000	0.117	20.66	190MW7D	16QAM
n260	30	MIMO	Ant3	100	2	37000 - 40000	0.063	18.02	190MW7D	64QAM
			FI	IT Overv	iow (K Pa	tch / Ant3 - Ba	and n_{260}			

EUT Overview (K Patch / Ant3 - Band n260)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 9 of 286
1M1910220166-06-R1.A3L	10/11 - 12/06/2019	Portable Handset	set	
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							EI	RP		
Band	FCC Rule Part	Mode	Antenna	Bandwidth (MHz)	CCs Active	Tx Frequency (MHz)	Max. Power (W)	Max. Power (dBm)	Emission Designator	Modulation
n260	30	SISO	Ant4	50	1	37000 - 40000	0.251	23.99	45M4G7D	QPSK
n260	30	SISO	Ant4	50	1	37000 - 40000	0.148	21.70	45M4W7D	16QAM
n260	30	SISO	Ant4	50	1	37000 - 40000	0.093	19.67	45M3W7D	64QAM
n260	30	MIMO	Ant4	50	1	37000 - 40000	0.285	24.55	45M4G7D	QPSK
n260	30	MIMO	Ant4	50	1	37000 - 40000	0.143	21.57	45M4W7D	16QAM
n260	30	MIMO	Ant4	50	1	37000 - 40000	0.071	18.54	45M3W7D	64QAM
n260	30	SISO	Ant4	50	2	37000 - 40000	0.207	23.15	94M6G7D	QPSK
n260	30	SISO	Ant4	50	2	37000 - 40000	0.151	21.79	94M6W7D	16QAM
n260	30	SISO	Ant4	50	2	37000 - 40000	0.093	19.69	95M1W7D	64QAM
n260	30	MIMO	Ant4	50	2	37000 - 40000	0.226	23.53	94M6G7D	QPSK
n260	30	MIMO	Ant4	50	2	37000 - 40000	0.121	20.82	94M6W7D	16QAM
n260	30	MIMO	Ant4	50	2	37000 - 40000	0.063	18.00	95M1W7D	64QAM
n260	30	SISO	Ant4	100	1	37000 - 40000	0.265	24.24	90M5G7D	QPSK
n260	30	SISO	Ant4	100	1	37000 - 40000	0.158	21.99	90M7W7D	16QAM
n260	30	SISO	Ant4	100	1	37000 - 40000	0.097	19.87	90M9W7D	64QAM
n260	30	MIMO	Ant4	100	1	37000 - 40000	0.309	24.90	90M5G7D	QPSK
n260	30	MIMO	Ant4	100	1	37000 - 40000	0.150	21.75	90M7W7D	16QAM
n260	30	MIMO	Ant4	100	1	37000 - 40000	0.078	18.91	90M9W7D	64QAM
n260	30	SISO	Ant4	100	2	37000 - 40000	0.218	23.39	189MG7D	QPSK
n260	30	SISO	Ant4	100	2	37000 - 40000	0.156	21.94	190MW7D	16QAM
n260	30	SISO	Ant4	100	2	37000 - 40000	0.097	19.85	190MW7D	64QAM
n260	30	MIMO	Ant4	100	2	37000 - 40000	0.265	24.24	189MG7D	QPSK
n260	30	MIMO	Ant4	100	2	37000 - 40000	0.128	21.06	190MW7D	16QAM
n260	30	MIMO	Ant4	100	2	37000 - 40000	0.069	18.41	190MW7D	64QAM
EUT Overview (L Patch / Ant4 - Band n260)										

EUT Overview (L Patch / Ant4 - Band n260)

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1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2 PCTEST Test Location

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

1.3 Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21046, U.S.A.

- PCTEST is an ISO 17025-2005 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- PCTEST facility is a registered (2451B) test laboratory with the site description on file with ISED.

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMG986U**. The test data contained in this report pertains only to the emissions due to the EUT's 5G mmWave function.

The EUT has 2 array antenna configurations. Type1: 4 patches and 4 dipoles, placed on the rear side (denoted as J Patch and J Dipole). Type 2: 4 patches only, placed on the left and right side (denoted as K patch and L Patch). Each of the patch antennas is comprised of two separate antenna feeds - one for horizontal and one for vertical polarization. Only one array antenna can be active at a time. Dipole antenna does not radiate when patch antenna radiates.

The EUT supports up to 8CC for DL, and 2CC for UL. For each CC, the EUT supports both 50MHz bandwidth and 100MHz bandwidth. For modulation, the EUT supports a subcarrier spacing (SCS) of 120kHz with two transmission schemes, CP-OFDM and DFT-s-OFDM, with QPSK, 16-QAM, and 64-QAM modulations. Different Beam IDs are supported, each corresponding to a different position in space for each antenna. During testing, FTM (Factory Test Mode) was used to operate the transmitter. MIMO operation was achieved by enabling two Beam IDs at the same time: one is from the list of H Beam IDs and other is from the list of V Beam IDs.

Antenna	Name
Ant1	J Patch
Ant2	J Dipole
Ant3	K Patch
Ant4	L Patch

Test Device Serial No.: 0923M, 0950M

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO Rev0/A, 1x Advanced (BC0, BC1, BC10), 850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, 5G NR (n71, n5, n66, n2, n41, n260, n261), 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, Bluetooth (1x, EDR, LE), NFC, ANT+, Wireless Power Transfer

2.3 Test Configuration

The EUT was tested per the guidance of KDB 842590 D01 v01 and ANSI C63.26-2015. See Section 7.0 of this test report for a description of the radiated tests.

EIRP Simulation data for all Beam IDs was used to determine the worst case Beam ID for SISO operation and Beam ID pair for MIMO operation. These Beam ID's were used for final measurements.

All testing was performed using FTM (Factory Test Mode) software at continuous Tx operation. When implemented out in the field, the EUT will operate with a maximum uplink configuration (i.e., a maximum uplink duty cycle of 100%). The FTM software was also used for the EUT operation in the ENDC mode.

2.4 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

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3.0 DESCRIPTION OF TESTS

3.1 Measurement Procedure

The measurement procedures described in the document titled "American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services" (ANSI C63.26-2015) and the guidance provided in KDB 842590 D01 v01 were used in the measurement of the EUT.

3.2 Radiated Power and Radiated Spurious Emissions §30.202, §30.203

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary for radiated emissions measurements in the spurious domain. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m for measurements above 1GHz.

Radiated power (EIRP) measurements were performed in a full anechoic chamber (FAC) conforming to the site validation requirements of CISPR 16-1-4. Radiated spurious emission measurements from 30MHz - 18GHz were performed in a semi anechoic chamber (SAC) conforming to the site validation requirements of CISPR 16-1-4. A positioner was used to manipulate the EUT through several positions in space by rotating about the roll axis as shown in the figure below. The positioner was mounted on top of a turntable bringing the total EUT height to 1.5m.

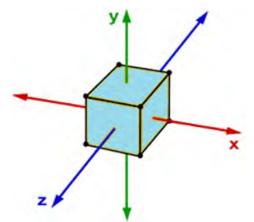


Figure 3-1. Rotation of the EUT Through Three Orthogonal Planes

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The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable. The measurement antenna is in the far field of the EUT per formula $2D^2/\lambda$ where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, "D" is the largest dimension of the measurement antenna. The EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

Frequency Range (GHz)	Wavelength(cm)	Far Field Distance (m)	Measurement Distance (m)
18-40	0.749	0.54	1.00
40-60	0.500	1.39	1.50
60-90	0.333	0.91	1.00
90-140	0.214	0.58	1.00
140-200	0.150	0.39	1.00

Table 3-1. Far-Field Distance & Measurment Distance per Frequency Range

Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning. It was determined that H=0 degree and V=90 degree are the worst case positions when the EUT was transmitting horizontally and vertically polarized beams, respectively.

The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration bandwidth set to the emissions' occupied bandwidth. The EIRP is calculated from the raw power level measured with the spectrum analyzer using the formulas shown below.

Effective Isotropic Radiated Power Sample Calculation

The measured e.i.r.p is converted to E-field in V/m. Then, the distance correction is applied before converting back to calculated e.i.r.p, as explained in KDB 971168 D01.

Field Strength [dBµV/m]	= Measured Value [dBm] + AFCL [dB/m] + 107
	= - 32.74 dBm + (40.7dB/m + 8.78dB) + 107 = 123.74dBuV/m
	= 10^(123.74/20)/1000000 = 1.54 V/m
e.i.r.p. [dBm]	= 10 * log((E-Field*D _m)^2/30) + 30dB
	= 10*log((1.54V/m * 1.00m)^2/30) + 30dB
	= 18.98 dBm e.i.r.p.

Sample MIMO e.i.r.p. Calculation:

The e.i.r.p of the H Beam and V Beam were first measured individually. The measured values were then summed in linear power units then converted back to dBm per the guidance of KDB 662911 D01.

Conversion to linear value	= 10^(e.i.r.p/10) = 10^(17.45/10) = 55.59mW
MIMO e.i.r.p.	= e.i.r.p. _H + e.i.r.p. _V
	= 55.59mW + 20.04mW
	=10*log(75.63mW)

= 18.79dBm

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4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to an accredited ISO/IEC 17025 calibration facility. Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	N9030A	PXA Signal Analyzer (44GHz)	6/12/2019	Annual	6/12/2020	MY52350166
Agilent	N9030A	50GHz PXA Signal Analyzer	11/22/2019	Annual	11/22/2020	US51350301
COM-Power	AL-130R	Active Loop Antenna	8/22/2019	Annual	8/22/2020	121085
Com-Power	PAM-103	Pre-Amplifier (1-1000MHz)	5/10/2019	Annual	5/10/2020	441112
Emco	3115	Horn Antenna (1-18GHz)	3/28/2018	Biennial	3/28/2020	9704-5182
Espec	ESX-2CA	Environmental Chamber	6/13/2019	Annual	6/13/2020	17620
ETS-Lindgren	3116C	DRG Horn Antenna	3/11/2019	Annual	3/11/2020	218893
Keysight Technologies	N9030A	3Hz-44GHz PXA Signal Analyzer	5/2/2019	Annual	5/2/2020	MY49430494
OML Inc.	M05RH	WR-05 Horn antenna,24 dBi, 140 to 200GHz	10/31/2019	Annual	10/31/2020	18073001
OML Inc.	M08RH	WR-08 Horn Antenna, 24dBi, 90 to 140 GHz	7/30/2018	Biennial	7/30/2020	18073001
OML Inc.	M12RH	WR-12 Horn Antenna, 24dBi, 60 to 90 GHz	10/31/2019	Annual	10/31/2020	18073001
OML Inc.	M19RH	WR-19 Horn Antenna, 24dBi, 40 to 60 GHz	10/31/2019	Annual	10/31/2020	18073001
Rohde & Schwarz	180-442-KF	Horn (Small)	8/21/2018	Biennial	8/21/2020	U157403-01
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	6/5/2019	Annual	6/5/2020	100342
Rohde & Schwarz	ESW44	EMI Test Receiver 2Hz to 44 GHz	10/16/2019	Annual	10/16/2020	101716
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	5/6/2019	Annual	5/6/2020	103200
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	7/8/2019	Annual	7/8/2020	102133
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	4/19/2018	Biennial	4/19/2020	A051107
Virginia Diodes Inc	SAX252	SAX Module (60 - 90GHz)	9/30/2019	Annual	9/30/2020	SAX252
Virginia Diodes Inc	SAX253	SAX Module (90 - 140GHz)	9/30/2019	Annual	9/30/2020	SAX253
Virginia Diodes Inc	SAX254	SAX Module (140 - 220GHz)	9/30/2019	Annual	9/30/2020	SAX254
Virginia Diodes Inc	SAX411	SAX Module (40 - 60GHz)	10/2/2019	Annual	10/2/2020	SAX411

Table 5-1. Test Equipment

Notes:

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

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6.0 SAMPLE CALCULATIONS

Emission Designator

QPSK Modulation

Emission Designator = 800MG7D

BW = 800 MHz

- G = Phase Modulation
- 7 = Quantized/Digital Info
- D = Data transmission, telemetry, telecommand

QAM Modulation

Emission Designator = 802MW7D

BW = 802 MHz W = Amplitude/Angle Modulated 7 = Quantized/Digital Info D = Data transmission, telemetry, telecommand

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7.0 TEST RESULTS

7.1 Summary

Company Name:	Samsung Electronics Co., Ltd.
FCC ID:	A3LSMG986U
FCC Classification:	Part 30 Mobile Transmitter (5GM)
Mode(s):	<u>TDD</u>

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied Bandwidth	N/A		PASS	Section 7.2
2.1046, 30.202	Equivalent Isotropic Radiated Power	43dBm		PASS	Section 7.3
2.1051, 30.203	Spurious Emissions	-13dBm/MHz for all out-of-band emissions	RADIATED	PASS	Section 7.4
2.1051, 30.203	Out-of-Band Emissions at the Band Edge	-13dBm/MHz for all out-of- band emissions, -5dBm/MHz from the band edge up to 10% of the channel BW		PASS	Section 7.5
2.1055	Frequency Stability	Fundamental emissions stay within authorized frequency block		PASS	Section 7.6

Table 7-1. Summary of Radiated Test Results

Notes:

- 1) All modes of operation and modulations were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) Per 2.1057(a)(2), spurious emissions were investigated up to 100GHz for n261 and up to 200GHz for n260.
- 3) All radiated emission measurements at the band edge are converted to an equivalent conductive power by subtracting the known antenna gain from the EIRP measured at each frequency of interest. These emissions are compared to the 30.203 spurious emission limits as conductive power levels.
- 4) The radiated RF output power and all out-of-band emissions in the spurious domain are evaluated to the EIRP limits.
- 5) "CC" refers to "Component Carriers".
- 6) Beam IDs were chosed based on which Beam ID produces the highest EIRP during EIRP simulation.
- 7) All testing was performed using FTM (Factory Test Mode) software at continuous Tx operation (100% duty cycle).
- 8) The CP-OFDM and DFT-s-OFDM QPSK transmission schemes were investigated fully for each test type and only the worst case data is included.

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7.2 Occupied Bandwidth §2.1049

Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

ANSI C63.26-2015 Section 5.4.3 KDB 842590 D01 v01 Section 4.3

Test Settings

- 1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW \geq 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within

1-5% of the 99% occupied bandwidth observed in Step 7

Test Notes

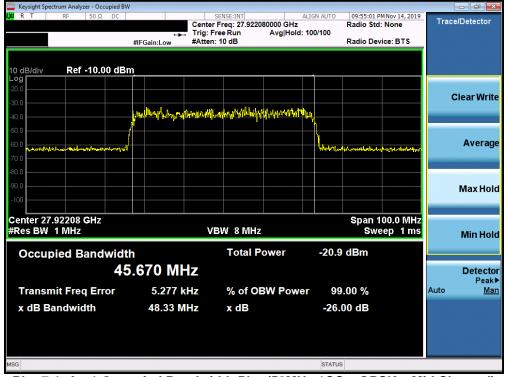
The EUT supports CP (QPSK) and DFT-s (QPSK). Both the types of QPSK modulations were investigated in detail. Data for the worst case has been included in the report.

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Channel	Bandwidth	CCs	Modulation	OBW
		Active		[MHz]
			QPSK	45.67
		1	16QAM	45.33
	50		64QAM	45.23
	50	2	QPSK	94.89
			16QAM	94.59
Mid			64QAM	94.43
IVIIU			QPSK	90.72
		1	16QAM	90.54
	100		64QAM	90.79
	100		QPSK	189.09
		2	16QAM	188.94
			64QAM	189.53

Table 7-2. Summar	y of Ant1 Occupied	Bandwidths (n261)
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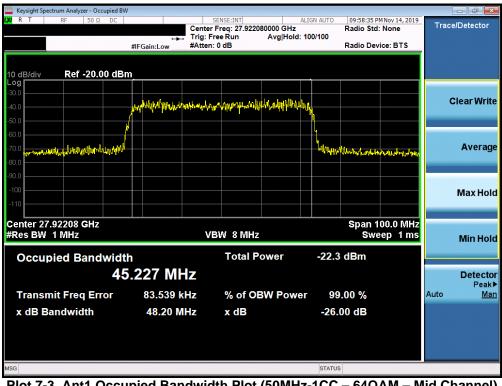
Plot 7-1. Ant1 Occupied Bandwidth Plot (50MHz-1CC – QPSK – Mid Channel)

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Keysight Spectrum Analyzer - Occupied B	W				
UX R T RF 50 Ω DC	Trig	SENSE:INT ter Freq: 27.922080000 GHz : Free Run Avg Hold en: 0 dB	Radio : 100/100	33 PM Nov 14, 2019 Std: None Device: BTS	Trace/Detector
10 dB/div Ref -10.00 dB	ßm				
-20.0					Clear Write
-40.0	when any prophylocological	Manalyslynystaansaydoorto	wry		
-60.0					Average
-70.0 8.44 -80.0			"hyper-ulle-transcalared	แห่งในแกะสมสหรุญได	
-100					Max Hold
Center 27.92208 GHz #Res BW 1 MHz		VBW 8 MHz		n 100.0 MHz weep 1 ms	Min Hold
Occupied Bandwid		Total Power	-30.3 dBm		
4	5.333 MHz				Detector Peak▶
Transmit Freq Error	-50.245 kHz	% of OBW Pow			Auto <u>Man</u>
x dB Bandwidth	48.56 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-2. Ant1 Occupied Bandwidth Plot (50MHz-1CC – 16QAM – Mid Channel)



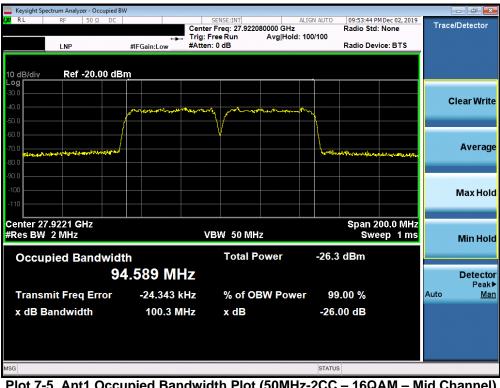
Plot 7-3. Ant1 Occupied Bandwidth Plot (50MHz-1CC - 64QAM - Mid Channel)

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Keysight Spectrum Analyzer - Occupied E	3W						ð
α RL RF 50Ω DC	Ce	SENSE:INT enter Freg: 27.9220	ALIGN B0000 GHz	AUTO 09:52:39 Radio Sto	PM Dec 02, 2019 : None	Trace/Def	tector
	😛 Tr	rig: Free Run Atten: 0 dB	Avg Hold: 100/	100 Radio De			
LNP	#IFGain:Low #A	Atten: 0 dB		Radio De	VICE: BIS		
10 dB/div Ref -20.00 dE	3m						
30.0							
40.0	Millimbonaria arthre a	where where	and the owned to a street			Clea	r Writ
50.0							
50.0		Y					
						A	verac
10.0 manyaraharandaraharaharaharaharaharahar				THINKEL AN ART WAR AND	an should have been		
30.0							
100							
						Ма	ix Hol
110							
enter 27.9221 GHz					200.0 MHz		
Res BW 2 MHz		VBW 50 MH:	Z	Sw	eep 1 ms	Mi	in Ho
Occupied Bandwid	th	Total P	ower	-24.6 dBm			
				24.0 0811			
9	4.891 MHz					D	etect Peak
Transmit Freq Error	-235.88 kHz	% of OE	W Power	99.00 %		Auto	Ma
x dB Bandwidth	100.5 MHz			-26.00 dB			
A de Bandwidth	100.5 MHZ	X UD		-20.00 uB			
iG				STATUS			

Plot 7-4. Ant1 Occupied Bandwidth Plot (50MHz-2CC – QPSK – Mid Channel)



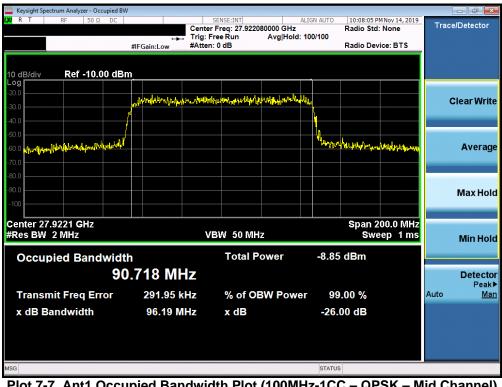
Plot 7-5. Ant1 Occupied Bandwidth Plot (50MHz-2CC - 16QAM - Mid Channel)

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Keysight Spectrum Analyzer - Occupied B RL RF 50 Ω DC		SENSE:INT AL	IGN AUTO 09:54:34 I Radio Sto	PM Dec 02, 2019	Trace/Detector
LNP		ree Run Avg Hold: 1			
0 dB/div Ref -20.00 dE	m				
10.0 50.0	monterment	A grant water a second	<u></u>		Clear Writ
0.0 0.0 0.0				*****	Avera
0.0					Max Ho
enter 27.9221 GHz Res BW 2 MHz	V	BW 50 MHz		200.0 MHz eep 1 ms	Min Ho
Occupied Bandwid 94	th 4.434 MHz	Total Power	-28.1 dBm		Detect
Transmit Freq Error x dB Bandwidth	-68.801 kHz 100.2 MHz	% of OBW Power x dB	99.00 % -26.00 dB	,	Pear Auto <u>M</u> a

Plot 7-6. Ant1 Occupied Bandwidth Plot (50MHz-2CC - 64QAM - Mid Channel)



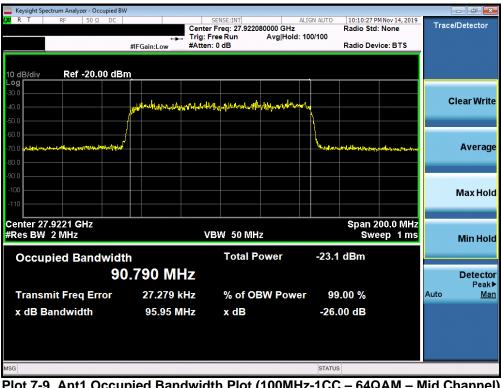
Plot 7-7. Ant1 Occupied Bandwidth Plot (100MHz-1CC – QPSK – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Keysight Spectrum Analyzer - Occupied B\	N			
μα R T RF 50 Ω DC	Trig:	SENSE:INT AI er Freq: 27.922080000 GHz Free Run Avg Hold: * en: 0 dB	LIGN AUTO 10:09:14 PM Nov 14, 20 Radio Std: None 100/100 Radio Device: BTS	¹⁹ Trace/Detector
10 dB/div Ref -20.00 dB Log -30.0 -40.0 -50.0		nrifund Kingdolfund fallstagen hangebleiten d		Clear Write
-60.0 -70.0 <mark>41144014-1/1./14/19/1444-1/14/14/14/4</mark> -60.0			V Historians and mouth statigations	4 Average
-100				Max Hold
Center 27.9221 GHz #Res BW 2 MHz Occupied Bandwidt		VBW 50 MHz Total Power	Span 200.0 M Sweep 1 n -17.0 dBm	
	0.538 MHz			Detector Peak▶
Transmit Freq Error x dB Bandwidth	-19.125 kHz 96.41 MHz	% of OBW Power x dB	r 99.00 % -26.00 dB	Auto <u>Man</u>
MSG			STATUS	

Plot 7-8. Ant1 Occupied Bandwidth Plot (100MHz-1CC – 16QAM – Mid Channel)



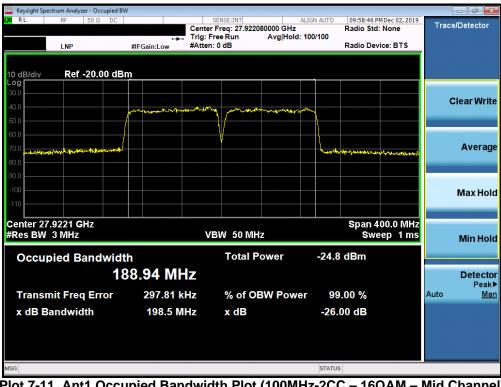
Plot 7-9. Ant1 Occupied Bandwidth Plot (100MHz-1CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 24 of 286		
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Keysight Spectrum Analyzer - Occupied BW					
LNP	Trig:	SENSE:INT er Freq: 27.922080000 (Free Run Avg) en: 0 dB	ALIGN AUTO 3Hz Hold: 100/100	09:57:36 PM Dec 02, 2019 Radio Std: None Radio Device: BTS	Trace/Detector
	#FGall:Low #All			Radio Device. B13	
10 dB/div Ref -20.00 dBn	<u>)</u>				
-30.0					Clear Writ
50.0	and the second		ALL RUN LAND		
60.0					
70.0 million water a second short bear and			(Deputy of the second s	www.a ^m a ⁿ afahalikenin.alp.c.,emp.yw	Averag
90.0					
-100					Max Hol
Center 27.9221 GHz				Span 400.0 MHz	
#Res BW 3 MHz		VBW 50 MHz		Sweep 1 ms	
Occupied Bandwidt	า	Total Power	-23.3	3 dBm	
18	9.09 MHz				Detecto Peak
Transmit Freq Error	328.64 kHz	% of OBW P	ower 99	0.00 %	Auto <u>Ma</u>
x dB Bandwidth	199.2 MHz	x dB	-26.	00 dB	
ISG			STATUS	S	

Plot 7-10. Ant1 Occupied Bandwidth Plot (100MHz-2CC – QPSK – Mid Channel)



Plot 7-11. Ant1 Occupied Bandwidth Plot (100MHz-2CC – 16QAM – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 25 of 286		
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Keysight Spectrum Analyzer - Occupied B	w							
<mark>0 RL</mark> RF 50 Ω DC	Ce	SENSE:INT nter Freg: 27.922		GN AUTO	09:59:33 Pl Radio Std:	MDec 02, 2019	Tracel	Detector
	🛶 Tri	g: Free Run	Avg Hold: 10	00/100				
LNP	#IFGain:Low #A	tten: 0 dB			Radio Dev	ice: BTS		
0 dB/div Ref -20.00 dB	m			_				
0.0							CI	ear Wri
	Var month the	man from	a management of	لمور				
0.0	/	17		1				
		Ψ		ł				Avora
0.0				Lendad	Moundar	anni than me		Avera
0.0								
0.0								
100								Max Ho
110								
enter 27.9221 GHz					Enon A	00.0 MHz		
Res BW 3 MHz		VBW 50 M	17			ep 1 ms		
								Min Ho
Occupied Bandwid	th	Total F	Power	-26.8	dBm			
1	89.53 MHz							Detect
	00.00 Mil 12							Pea
Transmit Freq Error	256.52 kHz	% of O	BW Power	99	.00 %		Auto	M
x dB Bandwidth	198.2 MHz	x dB		-26.	00 dB			
G				STATUS				
u				STATUS				

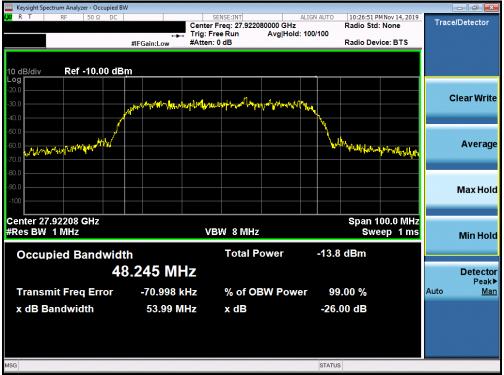
Plot 7-12. Ant1 Occupied Bandwidth Plot (100MHz-2CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:			
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Channel	Bandwidth	CCs Active Modulation		OBW [MHz]
			QPSK	48.25
		1	16QAM	48.50
	50		64QAM	48.14
	50		QPSK	94.88
		2	16QAM	94.64
Mid			64QAM	95.04
IVIIU	100		QPSK	90.41
		1	16QAM	90.53
			64QAM	90.16
	100		QPSK	189.44
		2	16QAM	189.40
			64QAM	190.22

Table 7-3. Summary of Ant2 Occupied Bandwidths (n261)



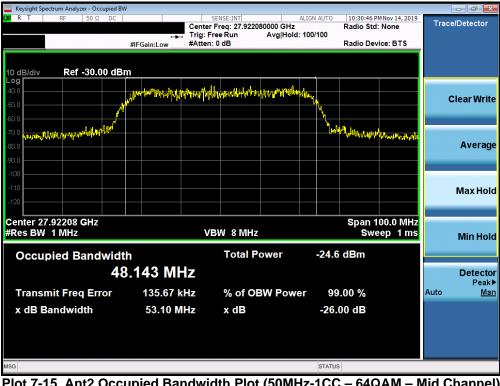
Plot 7-13. Ant2 Occupied Bandwidth Plot (50MHz-1CC - QPSK - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 07 of 000		
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Plot 7-14. Ant2 Occupied Bandwidth Plot (50MHz-1CC - 16QAM - Mid Channel)



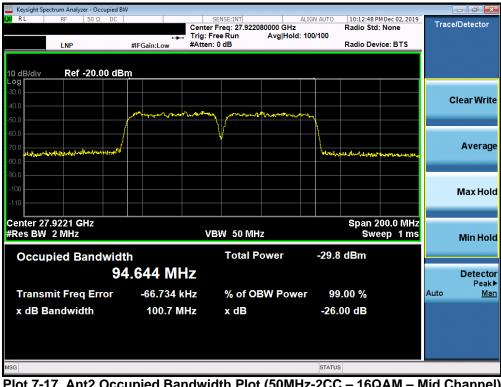
Plot 7-15. Ant2 Occupied Bandwidth Plot (50MHz-1CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Keysight Spectrum Analyzer - Occu						
C RL RF 50 Ω	DC	SENSE:INT Center Freq: 27.9220 Trig: Free Run	ALIGN AU 80000 GHz Avg Hold: 100/10	Radio Std:	1Dec 02, 2019 None	Trace/Detector
LNP	#IFGain:Low	#Atten: 0 dB		Radio Devi	ce: BTS	
0 dB/div Ref -20.00	dBm					
0.0						Clear Wri
0.0	, Marine Marine and	man manager	*+1-mman			Cieal Will
0.0						
0.0		Υ				Avera
0.0 <mark>ประเทศการแก่งสามหน้าสามหารีบ</mark>	huma		×	nterration and an and a start of the second s	why many when	Avera
0.0						
00						Max Ho
110						Maxino
enter 27.9221 GHz				Snan 2	00.0 MHz	
Res BW 2 MHz		VBW 50 MH	z		ep 1 ms	Min Ho
Occupied Bandy	width	Total P	ower -2	28.5 dBm		
occupica Ballal	94.876 MH	7				Detect
						Pea
Transmit Freq Erro	or -360.13 kl	Hz % of OE	3W Power	99.00 %	A	uto <u>M</u>
x dB Bandwidth	100.5 MI	Hz xdB	-	26.00 dB		
G				TATUS		
9			51	TATUS		

Plot 7-16. Ant2 Occupied Bandwidth Plot (50MHz-2CC – QPSK – Mid Channel)



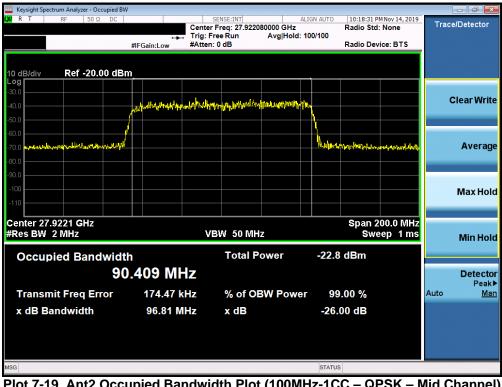
Plot 7-17. Ant2 Occupied Bandwidth Plot (50MHz-2CC – 16QAM – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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Keysight Spectrum Analyzer - Oc					
XI RL RF 50 Ω	DC	SENSE:INT Center Freq: 27.922080000		10:13:39 PM Dec 02, 2019 Radio Std: None	Trace/Detector
LNP	⊷⊶ #IFGain:Low	Trig: Free Run Av #Atten: 0 dB	g Hold: 100/100	Radio Device: BTS	
10 dB/div Ref -20.0	00 dBm				
_ og					
40.0					Clear Writ
50.0	manushing	manna phanana	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
60.0		V	h		
70.0			\	Underson manufactures and a set and a set of the set of	Averag
80.0				and and an all and a find a first of the state of the state	
90.0					
-100					Max Hol
-110					
Center 27.9221 GHz				Span 200.0 MHz	
Res BW 2 MHz		VBW 50 MHz		Sweep 1 ms	Min Ho
Occupied Band	width	Total Powe	er -32.2	2 dBm	
	95.044 MH	7			Detecto
					Peak
Transmit Freq Er				9.00 %	Auto <u>Ma</u>
x dB Bandwidth	101.1 MI	Hz xdB	-26.	00 dB	
G			STATU		
			STATU	3	

Plot 7-18. Ant2 Occupied Bandwidth Plot (50MHz-2CC - 64QAM - Mid Channel)



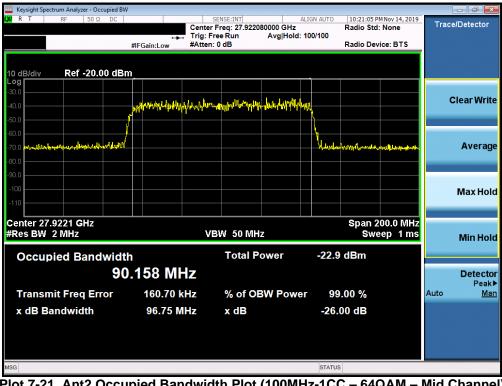
Plot 7-19. Ant2 Occupied Bandwidth Plot (100MHz-1CC - QPSK - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 20 of 296			
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Keysight Spectrum Analyzer - Occupied BW					
XX R T RF 50Ω DC		SENSE:INT er Freq: 27.922080000 GH		10:20:11 PM Nov 14, 2019 Radio Std: None	Trace/Detector
		Free Run Avg Ho en: 0 dB	ld: 100/100	Radio Device: BTS	
	#I Gam.Low #Pter				
10 dB/div Ref -30.00 dBr	'n				
Log					
-40.0	All a fair a fai	hy appropriate the American set	Market 1		Clear Writ
-50.0					
60.0			Sea heard	A	
-70.0				and a start and	Averag
-90.0					Averag
-30.0					
-110					
-120					Max Hol
-120					
Center 27.9221 GHz	ļ .			Span 200.0 MHz	
#Res BW 2 MHz		VBW 50 MHz		Sweep 1ms	Min Hol
Occupied Bandwidt	h	Total Power	-25.7 (dBm	
90	.529 MHz				Detecto
					Peak
Transmit Freq Error	238.49 kHz	% of OBW Pov	wer 99.0	00 %	Auto <u>Ma</u>
x dB Bandwidth	96.21 MHz	x dB	-26.0) dB	
ISG			STATUS		

Plot 7-20. Ant2 Occupied Bandwidth Plot (100MHz-1CC - 16QAM - Mid Channel)



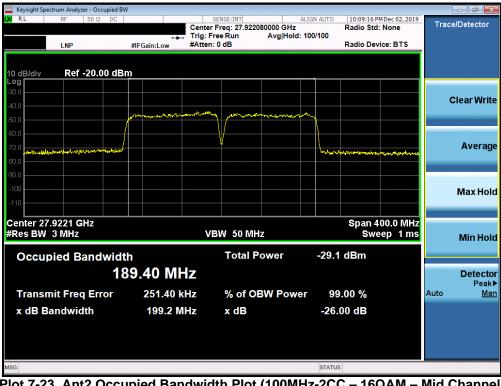
Plot 7-21. Ant2 Occupied Bandwidth Plot (100MHz-1CC – 64QAM – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION) Approve Quality M				
Test Report S/N:	Test Dates:	EUT Type:	Dage 21 of 200			
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	trum Analyzer - Oc		1									
X/RL	RF 50 Ω	DC			SENSE:INT	2080000 GHz	ALIGN	AUTO	10:08:27 F	M Dec 02, 2019	Trace	e/Detector
				📕 Trig: F	ree Run	Avg Hold	i: 100	/100				
	LNP		#IFGain:Low	#Atten	: 0 dB				Radio Dev	vice: BTS		
10 dB/div	Ref -20.0	00 dBr	n									
og												
30.0											0	lear Writ
40.0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	all and	1 Auron	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	n					
50.0		1			11							
60.0		+			\mathbb{Y}							
70.0	*****	Appropriate			V			terther of	a Marine a solution	herebynnautur		Averag
80.0												
30.0												
100												
-110												Max Ho
-110												
center 27.9	9221 GHz								Span 4	00.0 MHz		
Res BW	3 MHz			V	BW 50 M	Hz			Sw	eep 1ms		Min Ho
•					Tatal	Power		-27.5	d Days			
Occup	ied Band				TOLAT	rower		-27.5	авт			
		18	9.44 N	ΙHz								Detect
Transm	it Eron Er	FOF	63.711		9/ 050	BW Pow		00	.00 %		Auto	Peal M
	it Freq Er					BWPOW	er				Auto	IVI
x dB Ba	ndwidth		199.3	MHz	x dB			-26.0	00 dB			
SG								STATUS				

Plot 7-22. Ant2 Occupied Bandwidth Plot (100MHz-2CC – QPSK – Mid Channel)



Plot 7-23. Ant2 Occupied Bandwidth Plot (100MHz-2CC – 16QAM – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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Keysight Spectrum Analyzer - Occupied B	V				
XIRL RF 50Ω DC	Cente	SENSE:INT r Freg: 27.922080000 (ALIGN AUTO	10:10:04 PM Dec 02, 2019 Radio Std: None	Trace/Detector
LNP	Trig: I		Hold: 100/100	Radio Device: BTS	
10 dB/div Ref -20.00 dB	m				
30.0					Clear Writ
50.0	and and and the second and the	1 monorman			
					Averag
80.0 90 0			(artiger)	elletoopenelajoonelajoonel	
-100					Max Hol
-110 Center 27.9221 GHz				Span 400.0 MHz	
Res BW 3 MHz	V	/BW 50 MHz		Sweep 1 ms	Min Hol
Occupied Bandwidt	h	Total Power	-31.2	dBm	
19	90.22 MHz				Detecto Peak
Transmit Freq Error	199.39 kHz	% of OBW P	ower 99	.00 %	Auto <u>Ma</u>
x dB Bandwidth	198.6 MHz	x dB	-26.	00 dB	
SG			STATUS		

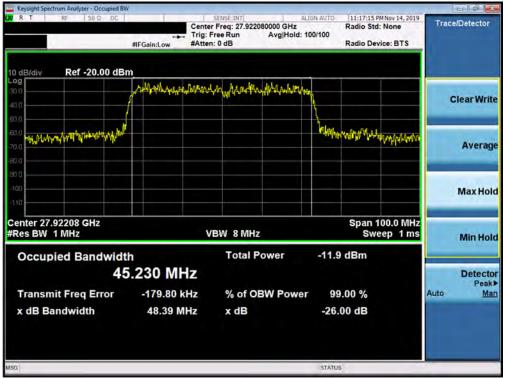
Plot 7-24. Ant2 Occupied Bandwidth Plot (100MHz-2CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		AMSUNC		MER OF THE OTHER OF THE SAMSON		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 00 of 000				
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Channel	Bandwidth	CCs Active	Modulation	OBW [MHz]	
	50		QPSK		
		1	16QAM	45.65	
			64QAM	45.41	
		2	QPSK	94.79	
			16QAM	94.58	
Mid			64QAM	94.86	
IVIIU	100		QPSK	90.72	
		1	16QAM	90.50	
			64QAM	90.19	
		2	QPSK	189.68	
			16QAM	188.79	
			64QAM	189.42	

Table 7-4. Summary of Ant3 Occupied Bandwidths (n261)



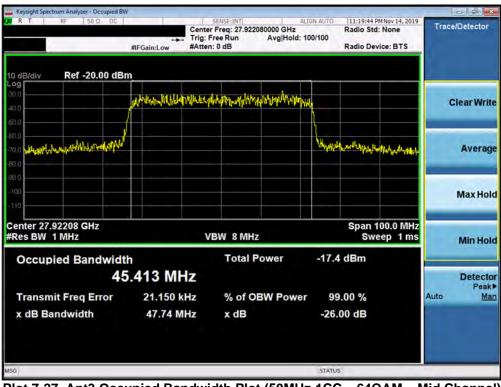
Plot 7-25. Ant3 Occupied Bandwidth Plot (50MHz-1CC - QPSK - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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Keysight Spectrum Analyzer - Occupied BW κ R T RF 50 Ω DC				MNov 14, 2019	Trace/Detector
	#IFGain:Low #Atten	r Freq: 27.922080000 GHz Free Run Avg Hold: 1 h: 0 dB	Radio Std 100/100 Radio Dev		Tacondetector
10 dB/div Ref -20.00 dBn	ņ				-
-40.0	yerr Helen with a subject of	shamata and a shall be have a	M		Clear Write
-50.0					
150.0 170.0 papel/mar/16/12/14/14/15/2 March 14.97 180.0			Marken drugens	wywww.	Average
90.0					
-110					Max Hold
Center 27.92208 GHz #Res BW 1 MHz	v	BW 8 MHz		00.0 MHz ep 1 ms	Min Hold
Occupied Bandwidth	า	Total Power	-16.1 dBm		
45	.650 MHz				Detector Peak
Transmit Freq Error	-119.35 kHz	% of OBW Power	99.00 %	+	Auto Mar
x dB Bandwidth	47.96 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-26. Ant3 Occupied Bandwidth Plot (50MHz-1CC - 16QAM - Mid Channel)



Plot 7-27. Ant3 Occupied Bandwidth Plot (50MHz-1CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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RL RF 50Ω DC						Radio Std:	1:33 PMDec 02, 2019 Std: None Trace/Detector		/Detector	
	LNP	#IFGain:Low	#Atten: 0 d	В			Radio Devi	ce: BTS		
0 dB/div .og 30,0 40,0	Ref -20.00 dE	Sm Junio no antinama		man					c	lear Write
50.0 50.0 70.0	and the second second second					here	Mangmusters	لارم ارور اسرور رور ارور ارور ارور ارور ارور		Average
80.0 90.0 -100 -110										Max Hold
Res BW				50 MH			Swe	00.0 MHz ep 1 ms		Min Hol
		4.786 MH	z	Fotal P			l dBm			Detecto Peak
	nit Freq Error andwidth	-282.47 k 100.6 M		% of OE c dB	3W Power		9.00 % 00 dB		Auto	Mar
						STATU				

Plot 7-28. Ant3 Occupied Bandwidth Plot (50MHz-2CC – QPSK – Mid Channel)



Plot 7-29. Ant3 Occupied Bandwidth Plot (50MHz-2CC - 16QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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RL RF 50Ω DC	#IFGain:Low	SENSE:INT Center Freq: 27.922 Trig: Free Run #Atten: 0 dB		Radio Std:		Trace/Detector
10 dB/div Ref -20.00 dE						
30,0 40,0 50,0	muton	winter provide	a three and the			Clear Write
50.0 70.0 80.0				benefistereter	ntroant	Averag
90.0 -100 -110						Max Hol
Center 27.9221 GHz Res BW 2 MHz		VBW 50 MI		Swe	00.0 MHz ep 1 ms	Min Hol
Occupied Bandwid 9	th 4.861 MH	Total F	Power	-31.2 dBm		Detecto
Transmit Freq Error x dB Bandwidth	-209.39 kl 100.8 Mł		BW Power	99.00 % -26.00 dB	^	uto <u>Ma</u>
SG				STATUS		

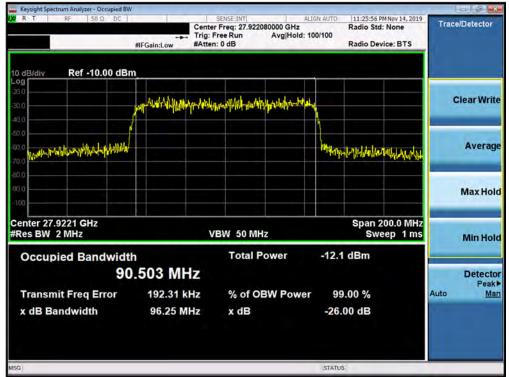
Plot 7-30. Ant3 Occupied Bandwidth Plot (50MHz-2CC - 64QAM - Mid Channel)



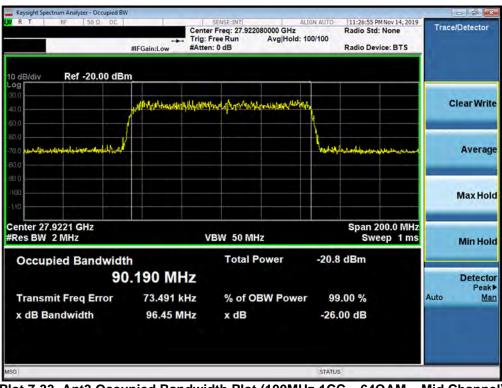
Plot 7-31. Ant3 Occupied Bandwidth Plot (100MHz-1CC – QPSK – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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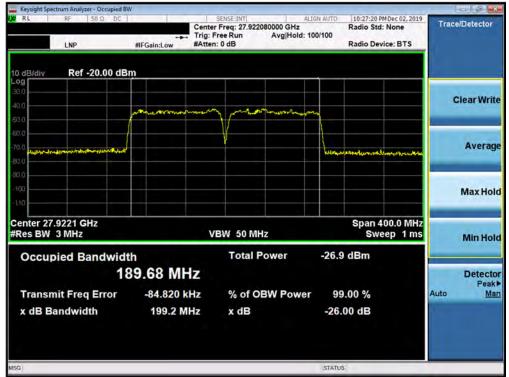
Plot 7-32. Ant3 Occupied Bandwidth Plot (100MHz-1CC – 16QAM – Mid Channel)



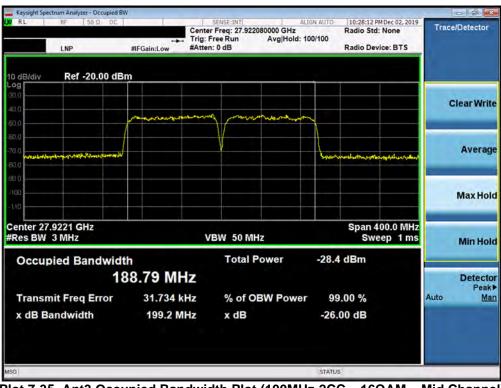
Plot 7-33. Ant3 Occupied Bandwidth Plot (100MHz-1CC – 64QAM – Mid Channel)

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Plot 7-34. Ant3 Occupied Bandwidth Plot (100MHz-2CC - QPSK - Mid Channel)



Plot 7-35. Ant3 Occupied Bandwidth Plot (100MHz-2CC – 16QAM – Mid Channel)

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RL	RF 50 Ω DC		SENSE:INT		Radio Std: N		race/Detector
	LNP	#IFGain:Low	Trig: Free Run #Atten: 0 dB	Avg Hold: 100/10	0 Radio Device	BTS	
10 dB/div	Ref -20.00 dl	3m					
30,0 -40,0							Clear Write
50.0 50.0		mannon	samp man	mont			
70.0 80.0	ertanisistaansertaatan en tekkente	J	V		untopolyhormoral	nplhenenene	Average
-100							Max Hold
Center 27	.9221 GHz 3 MHz		VBW 50 MH	17	Span 400 Sweet).0 MHz p 1 ms	
	pied Bandwid	lth	Total P		0.5 dBm		Min Hold
	1	89.42 MH	Iz				Detector Peak
	nit Freq Error andwidth	184.63 k 198.8 M		BW Power	99.00 % 26.00 dB	Auto	
					TATUS		

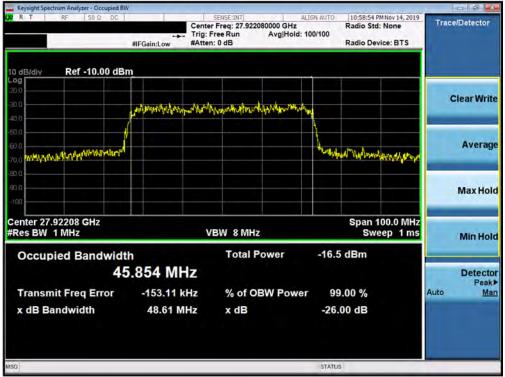
Plot 7-36. Ant3 Occupied Bandwidth Plot (100MHz-2CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSONS			
Test Report S/N:	Test Dates:	EUT Type:		Dage 40 of 296		
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Channel	Bandwidth	CCs Active	Modulation	OBW [MHz]
			QPSK	45.85
		1	16QAM	45.42
	50		64QAM	45.20
	50		QPSK	94.83
		2	16QAM	94.53
Mid			64QAM	94.49
iviiu	100		QPSK	90.69
		1	16QAM	90.67
			64QAM	90.54
	100		QPSK	188.79
		2	16QAM	189.32
			64QAM	188.90

Table 7-5. Summary of Ant4 Occupied Bandwidths (n261)



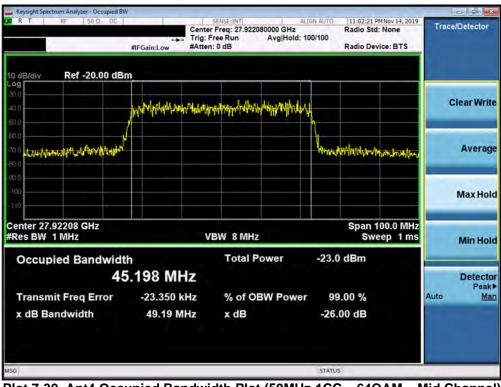
Plot 7-37. Ant4 Occupied Bandwidth Plot (50MHz-1CC - QPSK - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 41 of 296			
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Keysight Spectrum Analyzer - Occupied BW	V.			_ @ ×
R T RF 50Ω DC	#IFGain:Low #Att	SENSE:INT ter Freq: 27.922080000 GHz I: Free Run Avg Hold: ien: 0 dB	ALIGN AUTO 111:00:43 PM Nov 1- Radio Std: None 100/100 Radio Device: B	Trace/Detector
10 dB/div Ref -10.00 dBr		kPhankeranternettingerturtliktetter	••••	ClearWrite
20.0 50.0 70.0 philana palata ilika ang haitrin dalaman 70.0 philana palata ilika ang haitrin dalaman			Minuter way was followed	Average
3010				MaxHold
Center 27.92208 GHz Res BW 1 MHz		VBW 8 MHz	Span 100.0 Sweep	
Occupied Bandwidt 45 Transmit Freq Error	h 5.422 MHz 2.870 kHz	Total Power % of OBW Powe	-17.1 dBm er 99.00 %	Detector Peak
x dB Bandwidth	48.28 MHz	x dB	-26.00 dB	
sg			STATUS	

Plot 7-38. Ant4 Occupied Bandwidth Plot (50MHz-1CC - 16QAM - Mid Channel)



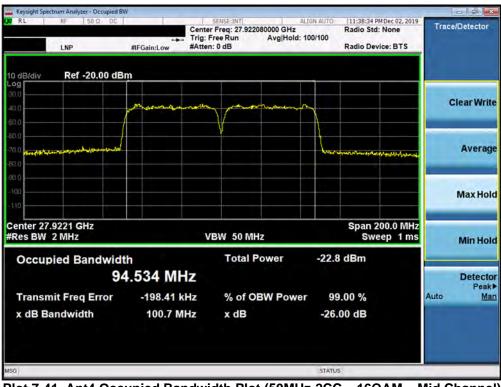
Plot 7-39. Ant4 Occupied Bandwidth Plot (50MHz-1CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 42 of 286			
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RL	RF 50 Ω DC		Trig: Free Run	7.922080000 GH	ALIGN	Radio	39 PM Dec 02, 2019 Std: None	Trace	Detector
	LNP	#IFGain:Low	#Atten: 0 dB			Radio	Device: BTS		
0 dB/div	Ref -20.00 dl	Bm							
30,0 40,0		Journa	man for	······································				c	lear Write
50.0 60.0			¥					-	
70.0 4 80.0	معينه المعادية المعالمين المعادية المعادية المعادية المعادية المعادية المعادية المعادية المعادية المعادية المع					Locaronation	newerenter	_	Average
30.0 100									Max Hol
110	.9221 GHz					Crac	000 0 MIL	-	
Res BW			VBW 5	0 MHz			n 200.0 MHz weep 1 ms		Min Hol
Occup	oied Bandwid	ith 4.827 MH		tal Power		21.3 dBm		_	Detecto
Transm	nit Freq Error	-209.72 k		of OBW Po	wer	99.00 %		Auto	Peak
x dB Ba	andwidth	100.6 M	Hz x d	B		-26.00 dB			
sg 🧿 Alread	dy in Single, press F	Restart to initiate a	new sweep or	sequence		STATUS			





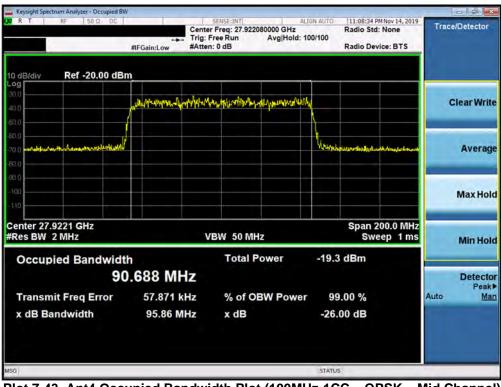
Plot 7-41. Ant4 Occupied Bandwidth Plot (50MHz-2CC - 16QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 42 of 200			
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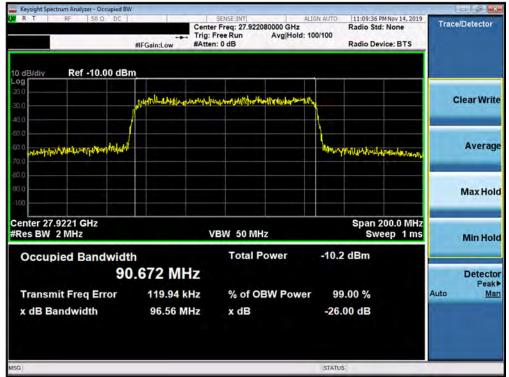
Plot 7-42. Ant4 Occupied Bandwidth Plot (50MHz-2CC - 64QAM - Mid Channel)



Plot 7-43. Ant4 Occupied Bandwidth Plot (100MHz-1CC – QPSK – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 44 of 286		
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Plot 7-44. Ant4 Occupied Bandwidth Plot (100MHz-1CC – 16QAM – Mid Channel)



Plot 7-45. Ant4 Occupied Bandwidth Plot (100MHz-1CC – 64QAM – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 45 of 286		
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Plot 7-46. Ant4 Occupied Bandwidth Plot (100MHz-2CC - QPSK - Mid Channel)



Plot 7-47. Ant4 Occupied Bandwidth Plot (100MHz-2CC – 16QAM – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 46 of 206
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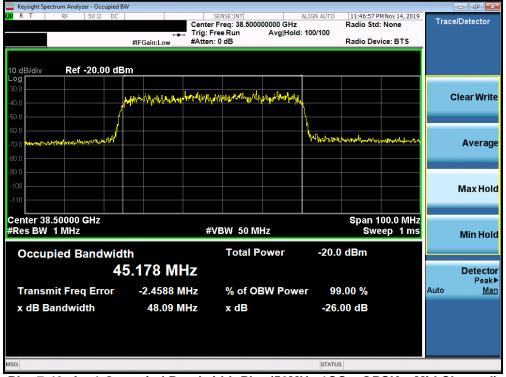
RL	RF 50 Ω DC		SENSE:INT Center Freq: 27.92 Trig: Free Run		Radio	01 PMDec 02, 2019 Std: None	Trace/Detector
	LNP	#IFGain:Low	#Atten: 0 dB			Device: BTS	
10 dB/div 30,0 40,0	Ref -20.00 dE	3m	many prom	the second s			Clear Write
50.0 60.0 70.0 80.0	Julia Manager Strategy		V		Laborarows	-1,-1,-1,	Average
30.0 100							Max Hold
Res BW 3	MHz	41-	VBW 50 M	Hz Power		n 400.0 MHz Sweep 1 ms	Min Hol
	ed Bandwid 1 it Freq Error	88.90 MH 326.84 k	Iz	BW Power	99.00 %		Detecto Peakl Auto <u>Mar</u>
x dB Ba		198.2 M			-26.00 dB		
SG					STATUS		

Plot 7-48. Ant4 Occupied Bandwidth Plot (100MHz-2CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 47 of 200
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Channel	Bandwidth	CCs Active	Modulation	OBW [MHz]			
		7.00170	QPSK	45.18			
		1	16QAM	45.32			
	FO		64QAM	45.58			
	50		QPSK	94.80			
		2	16QAM	94.80 94.79 94.83			
Mid			64QAM	94.83			
IVIIU			QPSK	90.85			
		1	16QAM	90.57			
	100		64QAM	90.85 90.57 90.76			
	100		QPSK	189.25			
		2	16QAM	189.45			
			64QAM	189.95			



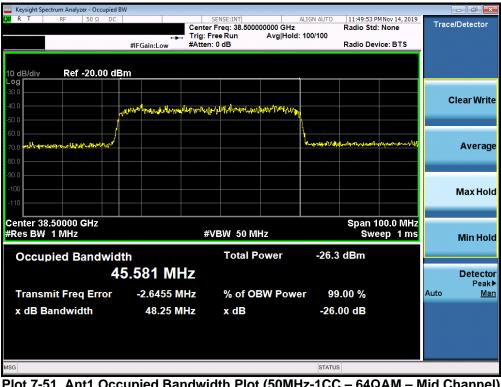
Plot 7-49. Ant1 Occupied Bandwidth Plot (50MHz-1CC – QPSK – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 49 of 200		
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Plot 7-50. Ant1 Occupied Bandwidth Plot (50MHz-1CC - 16QAM - Mid Channel)



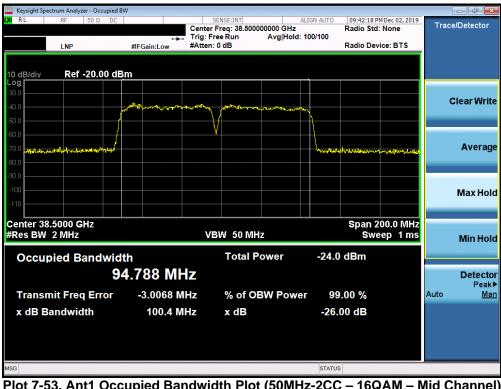
Plot 7-51. Ant1 Occupied Bandwidth Plot (50MHz-1CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 40 of 200
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Keysight Spectrum Analyzer - Occupied B	W				c f 🗾
LXI RE 50Ω DC	Ce	SENSE:INT enter Freg: 38.50000	ALIGN AUTO	09:41:19 PM Dec 02, 2019 Radio Std: None	Trace/Detector
	🛻 Tri	ig: Free Run .tten: 0 dB	Avg Hold: 100/100	Radio Device: BTS	
LNP	#IFGain:Low #A	itten: 0 db		Radio Device: B13	-
10 dB/div Ref -20.00 dE	m				
-30.0					
-40.0	and making the second	m martin	warman		Clear Write
-50.0			<u>}</u>		
-60.0		v			
-70.0 annumphane mouth mound				مەرىيەر مەرىمەر بەلغان ۋەر يەرىپىيە بەلغان يەرىپىيە بەلغان يە	Averag
-80.0					
-90.0					
-100					Max Hole
-110					
Center 38.5000 GHz				Span 200.0 MHz	
#Res BW 2 MHz		VBW 50 MHz	z	Sweep 1 ms	Min Hol
				•	WIIIT HOI
Occupied Bandwid	th	Total Po	ower -22.	5 dBm	
9	4.800 MHz				Detecto
Tuonomit From France	-3.0973 MHz	% -f OB	W Power 99	9.00 %	Peak Auto Ma
Transmit Freq Error					Auto <u>ivia</u>
x dB Bandwidth	100.2 MHz	x dB	-26	.00 dB	
ISG			STATU	s	

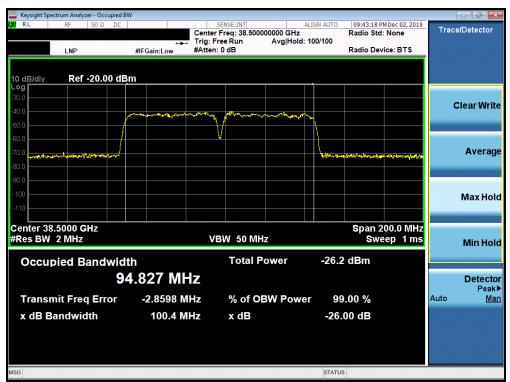
Plot 7-52. Ant1 Occupied Bandwidth Plot (50MHz-2CC – QPSK – Mid Channel)



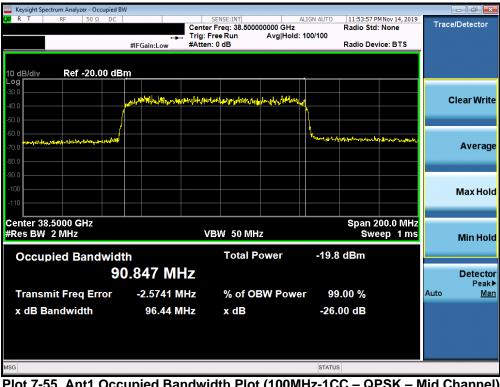
Plot 7-53. Ant1 Occupied Bandwidth Plot (50MHz-2CC – 16QAM – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-54. Ant1 Occupied Bandwidth Plot (50MHz-2CC - 64QAM - Mid Channel)



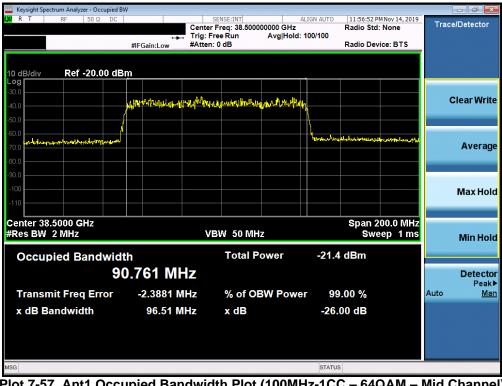
Plot 7-55. Ant1 Occupied Bandwidth Plot (100MHz-1CC – QPSK – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Keysight Spectrum Analyzer - Occupied B	W				
KX R T RF 50Ω DC	Trig	SENSE:INT ter Freq: 38.500000000 GHz g: Free Run Avg Hold: ten: 0 dB	Radio Sto : 100/100	PMNov 14, 2019 d: None vice: BTS	Trace/Detector
	#IFGain:Low #At	ten: V db	Radio De	VICE: DTS	
10 dB/div Ref -10.00 dB	Sm				
-20.0					
-30.0					Clear Write
-40.0	Mar Are by the branch	allanear of the address of the second states of the second s	vA		
-50.0	/				
-60.0					Average
-70.0 Bornwellen Marthan Andrew and a strange and and a strange and a strange and a strange and a strange and a			Walnesdallensteinethe	rennermen	monugo
-80.0					
-90.0					
					Max Hold
-100					
Center 38.5000 GHz				200.0 MHz	
#Res BW 2 MHz		VBW 50 MHz	Sw	eep 1 ms	Min Hold
Occupied Bandwid	th	Total Power	-18.1 dBm		
9	0.571 MHz				Detector Peak▶
Transmit Freq Error	-2.3966 MHz	% of OBW Powe	er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	95.75 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-56. Ant1 Occupied Bandwidth Plot (100MHz-1CC - 16QAM - Mid Channel)



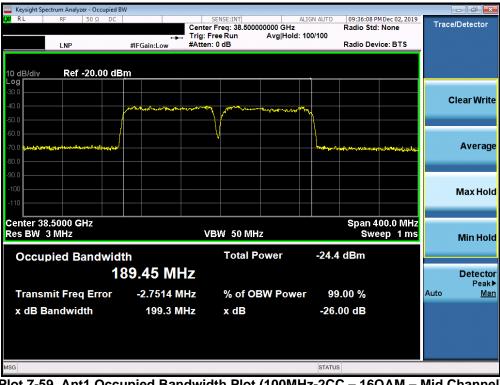
Plot 7-57. Ant1 Occupied Bandwidth Plot (100MHz-1CC – 64QAM – Mid Channel)

FCC ID: A3LSMG986U	A PORTE AND A MASSING		Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:	Daga 52 of 286				
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Keysight Spectrum Analyzer - Occupier					
LNP		SENSE:INT Center Freq: 38.500000 Trig: Free Run #Atten: 0 dB	ALIGN AUTO 0000 GHz Avg Hold: 100/100	09:35:07 PM Dec 02, 2019 Radio Std: None Radio Device: BTS	Trace/Detector
	an Guineow	Atten. 0 dB		Radio Device. B13	
10 dB/div Ref -20.00 d	Bm				
-40.0	provide and	en mon	way many more and		Clear Write
-50.0		\sim			
-70.0 september landare setting the setting of the	J		Harrison	algeographic and the second	Average
-80.0					
-100					Max Hole
Center 38.5000 GHz				Span 400.0 MHz	
Res BW 3 MHz		VBW 50 MHz		Sweep 1 ms	Min Hol
Occupied Bandwi		Total Po	wer -22.8	dBm	
Transmit Freq Error	2.7418 MHz-			0.00 %	Detecto Peak Auto Ma
x dB Bandwidth	-2.7418 MH			00 dB	<u>Mato <u>inta</u></u>
ISG			STATUS	3	

Plot 7-58. Ant1 Occupied Bandwidth Plot (100MHz-2CC - QPSK - Mid Channel)



Plot 7-59. Ant1 Occupied Bandwidth Plot (100MHz-2CC – 16QAM – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION) Approved b Quality Mana					
Test Report S/N:	Test Dates:	EUT Type:	Dage 52 of 286				
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Keysight Spectrum Analyzer - Occupied	BW					
<mark>0 RL RF 50 Ω DC</mark>	Cer	SENSE:INT nter Freg: 38.5000	ALIGN AL	UTO 09:37:12 PM Radio Std:	Dec 02, 2019 None	Trace/Detecto
	+++ Trig	g: Free Run	Avg Hold: 100/10			
LNP	#IFGain:Low #At	ten: 0 dB		Radio Devi	ce: BTS	
0 dB/div Ref -20.00 di	3m					
og						
0.0						Clear Wr
0.0	mount	my promo	mandmand			
0.0		V				Avera
0.0 sodiazazytanlassa atapatipapahana atapati				to a second state of the second states and	alifely all for a life	Avera
0.0						
0.0						
100						Max Ho
110						
enter 38.5000 GHz				Enon 4(0.0 MHz	
es BW 3 MHz		VBW 50 MH:	7		ep 1 ms	
					op i me	Min Ho
Occupied Bandwid	lth	Total P	ower -2	26.5 dBm		
1	89.95 MHz					Detec
•	00.00 10112					Pea
Transmit Freq Error	-2.4004 MHz	% of OE	3W Power	99.00 %	/	Auto <u>N</u>
x dB Bandwidth	267.2 MHz	x dB	_	26.00 dB		
G				TATUS		
5			8	TATUS		

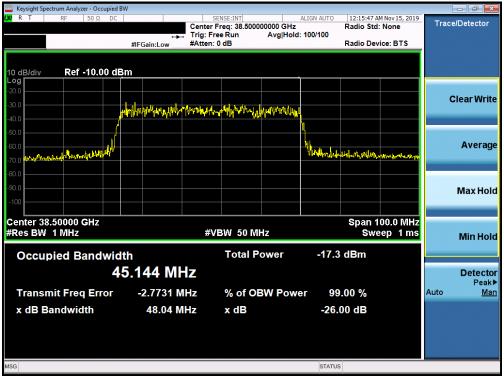
Plot 7-60. Ant1 Occupied Bandwidth Plot (100MHz-2CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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Channel	Bandwidth	CCs Active	Modulation	OBW [MHz]
			QPSK	45.14
		1	16QAM	45.14
	50		64QAM	45.20
	50	2	QPSK	94.59
			16QAM	95.30
Mid			64QAM	95.72
iviiu	100		QPSK	90.54
		1	16QAM	90.53
			64QAM	91.19
	100		QPSK	190.49
		2	16QAM	191.26
			64QAM	194.53

Table 7-7. Summary of Ant2 Occupied Bandwidths (n260)



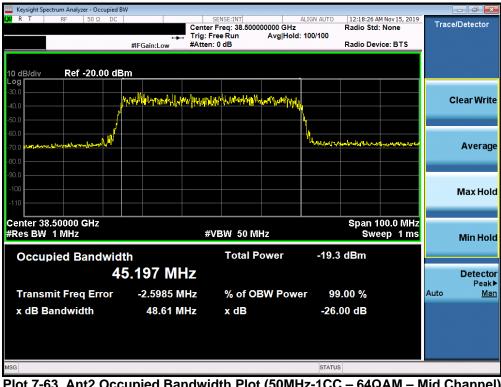
Plot 7-61. Ant2 Occupied Bandwidth Plot (50MHz-1CC - QPSK - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION) Approve Quality M	
Test Report S/N:	Test Dates:	EUT Type:	Dage FE of 200
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Keysight Spectrum Analyzer - Occupied E	W						- 0 .
<mark>(X)</mark> R T RF 50Ω DC		SENSE:INT Center Freg: 38.5000		GN AUTO 12:17:07 A Radio Sto	M Nov 15, 2019	Trace	Detector
		Trig: Free Run	Avg Hold: 10	00/100			
	#IFGain:Low	#Atten: 0 dB		Radio De	vice: BTS		
10 dB/div Ref -20.00 dE	ßm						
-30.0							
-40.0	Murth May range have	up hand a burger burger	ni langungan			С	lear Write
-50.0	المتكلي الت		1919				
-60.0			1				
-70 0 performance with the second with the			۲.	Apropantic may be warmed	Uto any the second		Average
							Average
-80.0							
-90.0							
-100							Max Hold
-110							
Center 38.50000 GHz				Span '	00.0 MHz		
#Res BW 1 MHz		#VBW 50 M	Hz		eep 1 ms		Min Hold
							Millinoid
Occupied Bandwid		Total P	ower	-21.4 dBm			
4	5.143 MH	Z					Detector
The second Frances Frances	0 7040 841			00.00.0/		A	Peak►
Transmit Freq Error	-2.7319 MH	z % of Of	3W Power	99.00 %		Auto	Man
x dB Bandwidth	48.44 MH	z xdB		-26.00 dB			
MSG				STATUS			

Plot 7-62. Ant2 Occupied Bandwidth Plot (50MHz-1CC – 16QAM – Mid Channel)



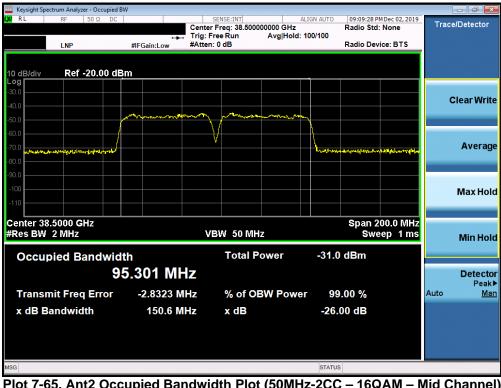
Plot 7-63. Ant2 Occupied Bandwidth Plot (50MHz-1CC – 64QAM – Mid Channel)

FCC ID: A3LSMG986U	A AMSUNC		Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:	Daga 56 of 296				
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Keysight Spectrum											- 6
RL R	F 50 Ω	DC			SENSE:INT Frea: 38.500	000000 GHz	ALIGN AUTO	09:08:28 Pf	None	Trace	Detector
				Trig: F	ree Run	Avg Hold	1: 100/100				
	NP		#IFGain:Low	#Atten	: U dB			Radio Dev	ICE: BIS		
0 dB/div .og	Ref -20.0	0 dBn	<u>1</u>								
80.0											
10.0										(lear Wri
0.0		m	way miran	v thut have	and the second	Law and and	r+~~~				
0.0					V/						
					¥						Avera
0.0 www.haim.www.	~hhill	Mart					harlandy	ale Mikelinan Mareline	- the man and the		
0.0											
100											Max Ho
110											
enter 38.50	00 GHz	I						Span 2	00.0 MHz		
ResBW/2N	/IHz			V	BW 50 M	Hz		Swe	ep 1 ms		Min Ho
0			_		Total	Power	20.2	2 dBm			
Occupie	d Bandi				TOLAT	ower	-29.4				
		94	.585 N	IHZ							Detect
Transmit	Freg Err	or	-2.8005	MHz	% of C	BW Pow	er 90	.00 %		Auto	Peal M
						200100					
x dB Band	width		100.9	MHŻ	x dB		-26.	00 dB			
G							STATU	S			

Plot 7-64. Ant2 Occupied Bandwidth Plot (50MHz-2CC – QPSK – Mid Channel)



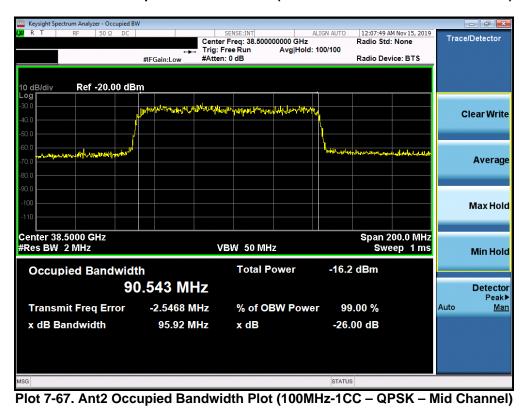
Plot 7-65. Ant2 Occupied Bandwidth Plot (50MHz-2CC – 16QAM – Mid Channel)

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	rum Analyzer - Occu										
RL	RF 50 Ω	DC			ENSE:INT	000000 GHz	ALIGN AUTO	09:10:30 Radio St	PM Dec 02, 2019	Trac	e/Detector
	LNP		↔ #IFGain:Low	Tata -	e Run		d: 100/100		vice: BTS		
	LIN		In Guin.Low								
	D-6 20 00) dDma									
0 dB/div og	Ref -20.00										
0.0											
0.0										(Clear Wri
0.0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	hardenand	Jul Agen	-	-				
0.0					1						
		1		V							Avera
0.0 bits/-iq es.lev	un anno an anno an an anno an	MM					halar hala	antiles and a state	willighterent		, arona
0.0											
100											Max Ho
110											
enter 38.5	5000 GHz			1				Span	200.0 MHz		
Res BW 2				VB	W 50 M	Hz			eep 1 ms		Min Ho
											MITTIC
Occupi	ied Bandv	vidth			Total	Power	-33.0) dBm			
		95	723 M	Hz							Detect
			0.0450.							A	Pea
Transm	it Freq Erro	or	-2.6456	ИНZ	% of C	BW Pow	/er 9	9.00 %		Auto	M
x dB Ba	ndwidth		198.9 N	٨Hz	x dB		-26	.00 dB			

Plot 7-66. Ant2 Occupied Bandwidth Plot (50MHz-2CC - 64QAM - Mid Channel)

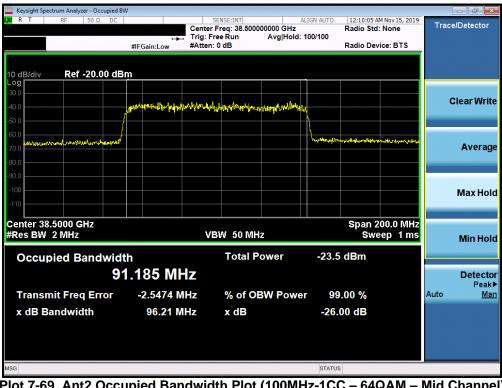


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Keysight Spectrum Analyzer - Occupied	BW				
10 dB/div Ref -20.00 dB	ہے۔ Trig: #IFGain:Low #Atte	SENSE:INT er Freq: 38.50000000 GHz Free Run Avg Hold en: 0 dB	Radio Std:		Trace/Detector
-40.0		42htrladeredrebbergetaglest-v-11%	×		Clear Write
-60.0 -70.0 -80.0			line line and the second secon	4mgarwyariyarikanila	Average
-100					Max Hold
Center 38.5000 GHz #Res BW 2 MHz Occupied Bandwid		VBW 50 MHz Total Power		00.0 MHz ep 1 ms	Min Hold
	0.527 MHz				Detector Peak▶
Transmit Freq Error x dB Bandwidth	-2.4781 MHz 96.12 MHz	% of OBW Powe x dB	ər 99.00 % -26.00 dB		Auto <u>Man</u>
MSG			STATUS		

Plot 7-68. Ant2 Occupied Bandwidth Plot (100MHz-1CC - 16QAM - Mid Channel)



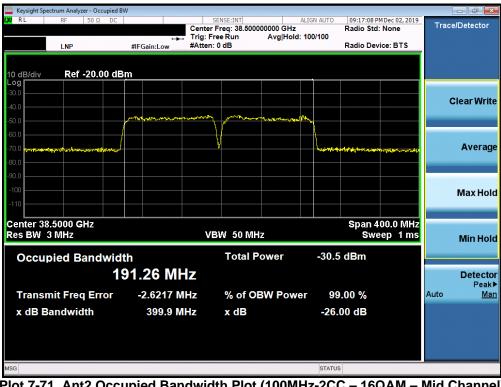
Plot 7-69. Ant2 Occupied Bandwidth Plot (100MHz-1CC – 64QAM – Mid Channel)

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Keysight Spectrum An	alyzer - Occu 50 Ω		/		SENSE:INT		ALIGN AUTO	00,12,59	M Dec 02, 2019		
KL RF	50.22	DC		Cente	r Freq: 38.500		ALIGN AUTO	Radio Std		Trace	Detector
					Free Run h: 0 dB	Avg Hold	100/100	Dedie De	den DTC		
LNP			#IFGain:Low	#Atter	n: V dB			Radio Dev	/ice: BTS		
	ef -20.0	0 dB	n			_					
og 80.0											
0.0										c	lear Writ
			millingenan	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	e ma	maria	and and				
0.0		ľ			\mathbf{Y}						
0.0		- 1			V		}				
0.0 personal second	مەرمەر مەربەيەر يېل	-true			<u> </u>		how	and a start of the second second	and the state of the		Averag
0.0											
0.0											
100											Max Ho
110											
enter 38.5000 es BW 3 MHz				L.	DW 60 M			Span 4	00.0 MHz		
				v	BW 50 M	nZ		SW	eep 1 ms		Min Ho
Occupied	Band	widt	h		Total	Power	-29.0) dBm			
occupica	Bana			/							
		18	0.49 N	/IHZ							Detect
Transmit Fr	ea Erro	or	-2.7100) MHz	% of C	BW Powe	er 99	.00 %		Auto	M
			205.2	MHz				00 dB			
x dB Bandw			395.3		x dB		-20.				
							STATU				

Plot 7-70. Ant2 Occupied Bandwidth Plot (100MHz-2CC – QPSK – Mid Channel)



Plot 7-71. Ant2 Occupied Bandwidth Plot (100MHz-2CC – 16QAM – Mid Channel)

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	m Analyzer - Occupi						
X/RL	RF 50Ω [DC	SENSE:INT Center Freg: 38.5		AUTO 09:18:37 Radio Sto	PM Dec 02, 2019 d: None	Trace/Detector
,	LNP	#IFGain:Low	↔ Trig: Free Run #Atten: 0 dB	Avg Hold: 10		vice: BTS	
10 dB/div	Ref -20.00	dBm					
Log	Rei -20.00						
-30.0							Clear Writ
50.0		www.	manon man	man and the start			
60.0			\{				
70.0 <mark>avnia-protestasta</mark> e	alud of the second	ww	Y		were brough the other stores the	antataratar	Averag
80.0							
90.0							
-110							Max Hol
Center 38.50					On on		
Res BW 3 N			VBW 50 N	ЛНz		400.0 MHz eep 1 ms	Min Hol
Occupio	d Bandw	idth	Total	Power	-32.5 dBm		
Occupie		194.53 N			02.0 dBm		Detecto
							Peak
	Freq Erro			OBW Power	99.00 %		Auto <u>Ma</u>
x dB Ban	dwidth	400.0	MHz x dB		-26.00 dB		
SG					STATUS		

Plot 7-72. Ant2 Occupied Bandwidth Plot (100MHz-2CC - 64QAM - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	-	pproved by: uality Manager
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Channel	Bandwidth	CCs Active	Modulation	OBW [MHz]
		, lettre	QPSK	45.58
		1	16QAM	45.16
	FO		64QAM	45.33
	50		QPSK	94.31
		2	16QAM	94.92
Mid			64QAM	94.89
IVIIU			QPSK	92.28
		1	16QAM	90.98
	100		64QAM	91.93
	100		QPSK	189.32
		2	16QAM	189.93
			64QAM	190.13

 Table 7-8. Summary of Ant3 Occupied Bandwidths (n260)

Keysight Spectrum Analyzer - Occu					
<mark>X/</mark> R T RF 50 Ω	DC	SENSE:INT Center Freg: 38.500	ALIGN AUTO	01:10:54 AM Nov 15, 2019 Radio Std: None	Trace/Detector
	+ #IFGain:Low	► Trig: Free Run #Atten: 0 dB	Avg Hold: 100/100	Radio Device: BTS	
10 dB/div Ref -20.0	0 dBm				
30.0 40.0					Clear Write
-50.0	plipe player with the	manananaphila	style free the second states and second		
-60.0	{				
 -70,0 <u>herredon fisher solet of the so</u>	und ^{yd}		hummen	๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛	Average
90.0					
-100					Max Hol
-110					Max Hold
Center 38.50000 GHz				Span 100.0 MHz	
#Res BW 1 MHz		#VBW 50 M	IHz	Sweep 1ms	Min Hol
Occupied Band	width	Total F	Power -26.6	dBm	
	45.584 M	Hz			Detecto Peakl
Transmit Freq Erro	or -2.6195	MHz % of O	BW Power 99	0.00 %	Auto <u>Ma</u>
x dB Bandwidth	48.04	MHz x dB	-26.	00 dB	
sg			STATUS		

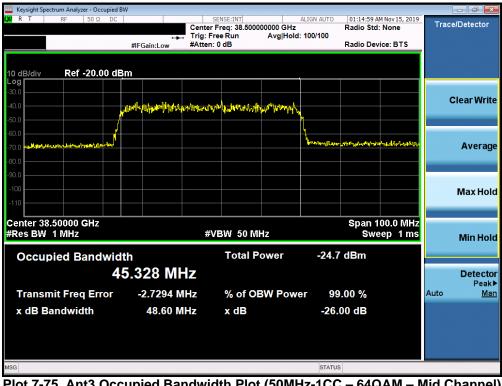
Plot 7-73. Ant3 Occupied Bandwidth Plot (50MHz-1CC – QPSK – Mid Channel)

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Keysight Spectrum Analyzer - Occupied B	W				
L X R T RF 50 Ω DC	Trig	SENSE:INT ter Freq: 38.500000000 GH I: Free Run Avg He ten: 0 dB			Trace/Detector
10 dB/div Ref -10.00 dB	m				
-20.0 -30.0 -40.0	withing and the second start for which	aligelight of the Angel of the Press	4/m N		Clear Write
-50.0 -60.0 -70.0 mm.M.m.dv./W.M.M.M.M.M.M.			h Universited	๖๛๚แก[ฝ างงกาม	Average
-80.0					Max Hold
Center 38.50000 GHz #Res BW 1 MHz		#VBW 50 MHz		00.0 MHz ep 1 ms	Min Hold
Occupied Bandwid	th	Total Power	-11.6 dBm		
4	5.161 MHz				Detector Peak►
Transmit Freq Error	-2.7503 MHz	% of OBW Po	wer 99.00 %	1	Auto <u>Man</u>
x dB Bandwidth	48.33 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-74. Ant3 Occupied Bandwidth Plot (50MHz-1CC - 16QAM - Mid Channel)



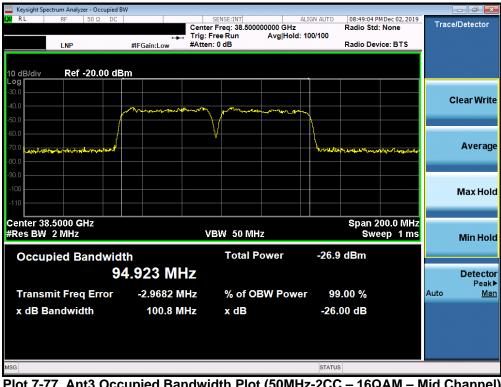
Plot 7-75. Ant3 Occupied Bandwidth Plot (50MHz-1CC – 64QAM – Mid Channel)

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Keysight Spectrum Analyzer - Occ					
XIRL RF 50 Ω	DC	SENSE:INT Center Freg: 38.50000	ALIGN AUTO	08:48:06 PM Dec 02, 2019 Radio Std: None	Trace/Detector
LNP	, #IFGain:Low	Take Free Press	Avg Hold: 100/100	Radio Device: BTS	
	#IFGall.LOW	#Atten: 0 db		Rudio Betrice. B To	
	0.10				
I0 dB/div Ref -20.0					
30.0					
40.0	Mary and a second	my com some man	make make man		Clear Wri
50.0		<u> </u>			
60.0		V			
0.0 Horand all the state of produces				mulphanentheartuger	Avera
80.0				Lance by some contract of the Addian	
0.0					
100					
110					Max Ho
enter 38.5000 GHz				Span 200.0 MHz	
Res BW 2 MHz		VBW 50 MHz	2	Sweep 1 ms	Min Ho
Occupied Band	width	Total Po	ower -25.2	dBm	
Occupica Dalla					
	94.311 MI	ΠZ			Detect
Transmit Freq Err	or -2.9221 M	NHz % of OB	W Power 99	.00 %	Auto <u>M</u>
x dB Bandwidth	100.7 N	/Hz xdB	26	00 dB	
	100.7 1		-20.		
G			STATUS	3	

Plot 7-76. Ant3 Occupied Bandwidth Plot (50MHz-2CC – QPSK – Mid Channel)



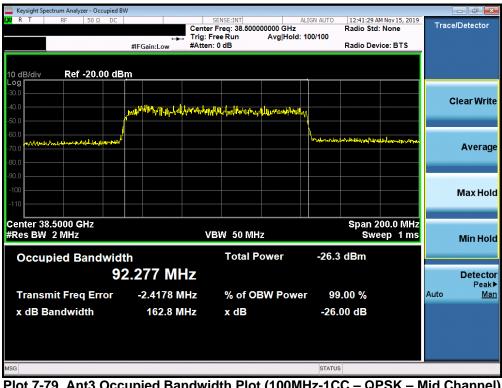
Plot 7-77. Ant3 Occupied Bandwidth Plot (50MHz-2CC – 16QAM – Mid Channel)

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Keysight Spectrum A											- 6
CRL RF	50 Ω	DC			ENSE:INT	000000 GHz	ALIGN A		3 PM Dec 02, 2019 td: None	Trac	e/Detector
			+	Trig: Fr	ee Run	Avg Hold	1: 100/10	00			
LN	Р	#	IFGain:Low	#Atten:	0 dB			Radio D	evice: BTS		
0 dB/div	ef -20.00) dBm									
.og											
30.0											Clear Writ
40.0		_		has marine	all the second						
50.0					(· · · · · · · · · · · · · · · · · · ·						
60.0					4		+				
70.0	No. 4. 1345.14							have have been and the second s	and the first state of the second		Averag
80.0	and the state of the state of the	~~ <u>`</u>						a na amin'ny fivondrona dia			
90.0											
100											
											Max Ho
-110											
enter 38.500	0 GHz							Span	200.0 MHz		
Res BW 2 MI				VE	W 50 MI	Iz			veep 1 ms		Min Ho
											WIIITHO
Occupied	Bandv	vidth			Total I	Power	-7	28.9 dBm			
		94	887 M	Hz							Detect
											Peal
Transmit F	req Erro	r	-2.7637	MHz	% of O	BW Pow	er	99.00 %		Auto	<u>M</u>
x dB Bandy	width		100.4	MHz	x dB			26.00 dB			
	matti		100.41	11112	A GD			20.00 48			
G							S	TATUS			

Plot 7-78. Ant3 Occupied Bandwidth Plot (50MHz-2CC - 64QAM - Mid Channel)



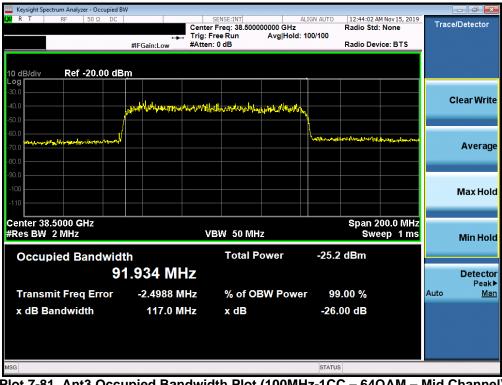
Plot 7-79. Ant3 Occupied Bandwidth Plot (100MHz-1CC - QPSK - Mid Channel)

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Keysight Spectrum Analyzer - Occupied B	W				-0	
LXXIR T RF 50Ω DC	🛶 Trig	SENSE:INT ter Freq: 38.500000000 GHz : Free Run Avg Holo ten: 0 dB	Radio St d: 100/100	AM Nov 15, 2019 cd: None	Trace/D	etector
	#IFGain:Low #Au		Radio Di	evice. DT3		
10 dB/div Ref -10.00 dB	m					
-20.0						
-30.0					Cle	ar Write
-40.0	white the standard and the	Milden Lab fransku shrila May Scorel	N			
-50.0						
-60.0			Landhill mountain	and the track of	1	Average
-70.0			of a start of Mana desce			
-80.0						
-90.0					M	ax Hold
-100						ux nord
Center 38.5000 GHz #Res BW 2 MHz		VBW 50 MHz		200.0 MHz /eep 1 ms	_	
#RC5 DVV 2 WII 12		4D44 30 14112	54	reep mis	N	lin Hold
Occupied Bandwid	th	Total Power	-22.1 dBm			
9	0.981 MHz				Г	Detector
						Peak►
Transmit Freq Error	-2.6923 MHz	% of OBW Pow	er 99.00 %		Auto	Man
x dB Bandwidth	95.98 MHz	x dB	-26.00 dB			
MSG			STATUS			

Plot 7-80. Ant3 Occupied Bandwidth Plot (100MHz-1CC - 16QAM - Mid Channel)



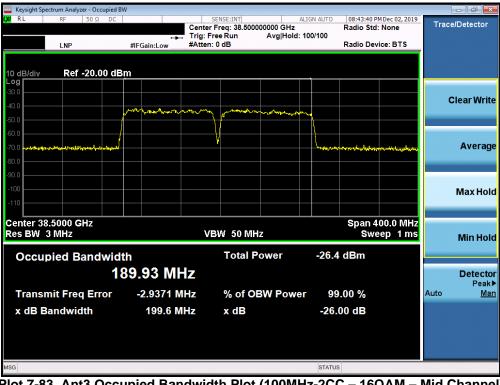
Plot 7-81. Ant3 Occupied Bandwidth Plot (100MHz-1CC – 64QAM – Mid Channel)

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	ectrum Analyzer		BW						anacoming a commence of the		
X/RL	RF	50 Ω DC		Cente	SENSE:INT	0000000 GHz	IGN AUTO	08:42:25 P Radio Std	MDec 02, 2019	Trace	/Detector
				Trig: F	Free Run	Avg Hold:>	100/100				
,	LNP		#IFGain:Lo	w #Atter	n: 0 dB			Radio Dev	vice: BTS		
10 dB/div	Ref -	20.00 dE	3m				_				
-og 30.0											
40.0										C	lear Writ
			m	and and an	$\sqrt{2}$		-				
50.0					\mathcal{M}		N N				
60.0					V						
70.0 - 70.0	Andread Andread and a state of the state of						Second dist	and the property	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		Averag
80.0											
-90.0											
-100											Max Hol
-110											
Contor 20	3.5000 GF	1-						Enon (00.0 MHz		
Res BW		12		v	BW 50 M	Hz			ep 1 ms		Mindled
											Min Hol
Occu	pied Ba	ndwid	lth		Total	Power	-24.	5 dBm			
		1	89.32	MHz							Detecto
											Peak
Transr	mit Freq	Error	-2.735	7 MHz	% of C	BW Power	99	9.00 %		Auto	<u>Ma</u>
x dB B	andwidt	th	198	9 MHz	x dB		-26.	.00 dB			
SG							STATU	c			
							STATU	-			

Plot 7-82. Ant3 Occupied Bandwidth Plot (100MHz-2CC – QPSK – Mid Channel)



Plot 7-83. Ant3 Occupied Bandwidth Plot (100MHz-2CC – 16QAM – Mid Channel)

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RL RF	F 50 Ω	DC									
					NSE:INT	000000 GHz	LIGN AUTO	08:46:02 F	MDec 02, 2019	Trac	e/Detector
			+	🗖 Trig: Fre	e Run	Avg Hold:	100/100				
	NP		#IFGain:Low	#Atten:) dB			Radio Dev	vice: BTS		
	Ref -20.0	0 dBņ	n								
og nn											
										(lear Wri
0.0			and the second second	Amport	and the state of the state	-	(M.				
0.0		(1							
0.0											
0.0 watering man	, in the state of the second	house					hallow	and solution and	Morrishington		Avera
0.0											
0.0											
100											MaxHo
110											Maxin
enter 38.500									00.0 MHz		
esBW/3MH	Z			VB	W 50 MH	Z		Sw	eep 1 ms		Min Ho
Osseria	d Dan de		-		Total P	owor	20.7	/ dBm			
Occupied	a Banav				TOLAT	OWEI	-20.	UDIII			
		19	0.13 M	Hz							Detec
Transmit I	Erea Erra	or	-2.5966		% of O	BW Powe	r 00	9.00 %		Auto	Pea N
						DALLOWS				late	<u>III</u>
x dB Band	width		373.0	MHz	x dB		-26	00 dB			
G							STATU	s			

Plot 7-84. Ant3 Occupied Bandwidth Plot (100MHz-2CC - 64QAM - Mid Channel)

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Channel	Bandwidth	CCs Active	Modulation	OBW [MHz]	
			QPSK	45.35	
		1	16QAM	45.37	
	50		45.27		
	50	2	QPSK	94.56	
			16QAM	94.58	
Mid			64QAM	95.09	
iviiu			QPSK	94.56 94.58 95.09 90.52 90.70 90.89	
		1	16QAM	90.70	
	100		64QAM	90.89	
	100		QPSK	189.31	
		2	16QAM	189.57	
			64QAM	190.02	

Table 7-9. Summary of Ant4 Occupied Bandwidths (n260)

Keysight Spectrum Analyzer - O							10.00.47			
K R T RF 50 S	DC DC		Center F	NSE:INT req: 38.5000		ALIGN AUTO	Radio Sto	AM Nov 15, 2019 : None	Trace	Detector
			Trig: Fre #Atten: (Avg Hold	: 100/100	Dedie De	vice: BTS		
		#IFGain:Low	#Atten. (7 ub			Radio De	VICE. DT 3		
		_								
10 dB/div Ref -20.	00 d	Bm				1				
30.0		<u> </u>								
40.0		and the second	The all all and a start and a start a s	repting "Hill to refug	Hall Markey				C	lear Writ
50.0	<u> </u>				· · ·	<u>\</u>				
60.0	/					<u>\</u>				
70.0 Whay Hannahan Mary	unt					Warmond	mostillan	vollinnon		Averag
80.0										
90.0										
-100										Maxila
-110										Max Hol
Center 38.50000 GHz								100.0 MHz		
#Res BW 1 MHz			#V	BW 50 M	HZ		SW	eep 1 ms		Min Hol
Occupied Band	lwic	lth		Total P	ower	-22.0	dBm			
Occupied Bailt			LI							B -44
	4	5.345 M	ΠΖ							Detecto Peak
Transmit Freq Er	ror	-2.8383	MHz	% of O	BW Pow	er 99	.00 %		Auto	Ma
x dB Bandwidth		48.37	MHz	x dB		-26	00 dB			
ISG						STATUS	2			
						GIATOS				

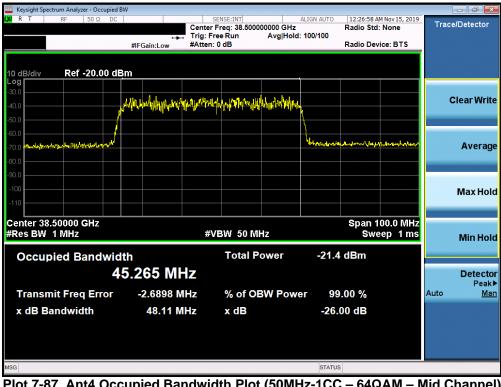
Plot 7-85. Ant4 Occupied Bandwidth Plot (50MHz-1CC – QPSK – Mid Channel)

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Keysight Spectrum Analyzer - Occupied	BW						
LXIRT RF 50Ω DC		SENSE:INT			25 AM Nov 15, 2019 Std: None		etector
	→	Trig: Free Run	Avg Hold	: 100/100			
	#IFGain:Low	#Atten: 0 dB		Radio	Device: BTS		
10 dB/div Ref -20.00 dl	Bm						
-30.0							
		the second second	n Mara			Cle	ear Write
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-50.0				4			
-60.0							
-70.0 minter and the mark whether the				Sport Martin Martin	and the second		Average
-80.0							
-90.0							
-100						N	lax Hold
-110							aux nora
Center 38.50000 GHz			-		n 100.0 MHz		
#Res BW 1 MHz		#VBW 50	WIHZ	8	weep 1 ms	I	Min Hold
Occupied Bandwid	lth	Tota	l Power	-24.3 dBm			
4	5.365 M	HZ					Detector Peak▶
Transmit Freq Error	-2.6285 N	/Hz % of	OBW Powe	er 99.00 %		Auto	Man
x dB Bandwidth	48.17 N	/Hz xdB		-26.00 dB			
MSG				STATUS			
MSG				STATUS			

Plot 7-86. Ant4 Occupied Bandwidth Plot (50MHz-1CC – 16QAM – Mid Channel)



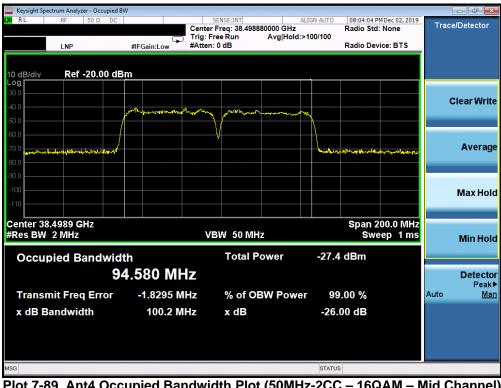
Plot 7-87. Ant4 Occupied Bandwidth Plot (50MHz-1CC – 64QAM – Mid Channel)

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Keysight Spec	ctrum Analyzer - C	Occupied BV Ω DC	V		SENSE:INT		ALIGN A	UTO	08:02:24 0	M Dec 02, 2019		
KL	RF 50	SZ DC			r Freq: 38.49	3880000 GHz			Radio Std		Trac	e/Detector
					Free Run h: 0 dB	Avg Hold	d:>100/1		Radio Dev			
	LNP		#IFGain:Lo	w #Atter					Radio Dev	ICE: DIS		
0 dB/div .og	Ref -20	.00 dB	m									
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10.0											(Clear Wri
50.0		1	and the second	m	1 Jum	www.	m.					
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	and the street of the state	Martahand"					<u>۲</u>	-trolyn-	Physical Contraction of the Cont	Kulinharyaddar		Avera
0.0												
0.0												
100												Max Ho
110												
anter 39	.4989 GHz								Snan 2	00.0 MHz		
Res BW				v	BW 50 M	Hz			Swe	ep 1 ms		
												Min Ho
Occup	bied Ban	dwidt	:h		Total	Power	-	25.7	dBm			
		94	1.555	MHz								Detect
												Peal
Transm	nit Freq E	rror	-1.772	4 MHz	% of C	BW Pow	er	99.	00 %		Auto	<u>M</u>
x dB Ba	andwidth		100	4 MHz	x dB			-26.0	0 dB			
0								STATUS				
SG							S	STATUS				

Plot 7-88. Ant4 Occupied Bandwidth Plot (50MHz-2CC – QPSK – Mid Channel)



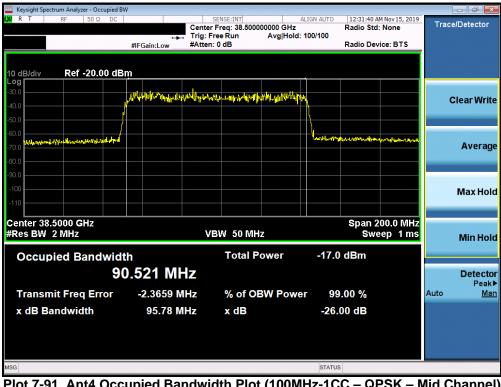
Plot 7-89. Ant4 Occupied Bandwidth Plot (50MHz-2CC – 16QAM – Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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Keysight Spectrum A										- 0
KI RE RF	50 Ω	DC		SENSE:INT Freq: 38.498		ALIGN AUTO	08:19:34 Radio Sto	PM Dec 02, 2019	Trace	Detector
			Trig: F	ree Run	Avg Hold	: 100/100				
LNF)	#IFGain:L	ow #Atten	: 0 dB			Radio De	vice: BTS		
	ef -20.00	dBm								
-og 30.0										
40.0									C	lear Writ
50.0		man	topom port	man		- m				
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90.0										
-100										Max Hol
-110										
Center 38.4989 Res BW 2 MH			v	BW 50 M	H7			200.0 MHz eep 1 ms		
	12		V	D11 30 141	12		011	cep ma		Min Ho
Occupied	Bandw	vidth		Total I	Power	-29.	6 dBm			
		95.091	MHz							Detect
		33.031								Peak
Transmit F	req Erro	r -1.82	98 MHz	% of C	BW Powe	er 99	9.00 %		Auto	Ma
x dB Bandv	vidth	10).9 MHz	x dB		-26	.00 dB			
	- Tallin	10		A GB		LU	.00 00			
SG						STATU	S			

Plot 7-90. Ant4 Occupied Bandwidth Plot (50MHz-2CC - 64QAM - Mid Channel)



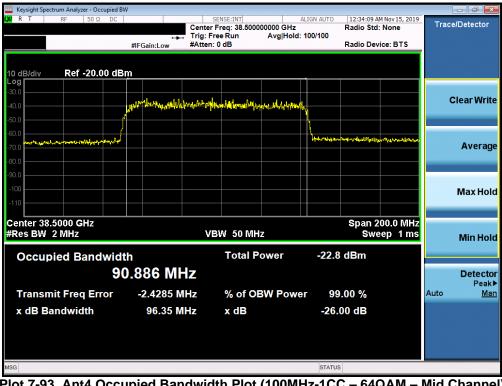
Plot 7-91. Ant4 Occupied Bandwidth Plot (100MHz-1CC - QPSK - Mid Channel)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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Keysight Spectrum Analyzer - Occupied B	W					_	
ί χύ R T RF 50Ω DC	- + -	SENSE:INT Center Freq: 38.500000000 Trig: Free Run Av #Atten: 0 dB	ALIGN AUTO GHz g Hold: 100/100	Radio Std: M Radio Devic	None	Trace/	Detector
10 dB/div Ref -20.00 dE	١m						
-40.0	p.MMMM.Jn.mandr	ruthuturuturuturutu	MRHAM			С	ear Write
-50.0 -60.0 -70.0			hpunerbruk	han maglar the Mathematica	the second second		Average
-80.0						1	Max Hold
Center 38.5000 GHz #Res BW 2 MHz		VBW 50 MHz		Span 20 Swee	0.0 MHz p 1 ms		Min Hold
-	Occupied Bandwidth Total Power -17.9 dBm 90.699 MHz						Detector
Transmit Freq Error	-2.4646 MH	z % of OBW		9.00 %		Auto	Peak▶ <u>Man</u>
x dB Bandwidth	95.89 MH	lz x dB	-26.	.00 dB			
MSG			STATU	s			

Plot 7-92. Ant4 Occupied Bandwidth Plot (100MHz-1CC – 16QAM – Mid Channel)



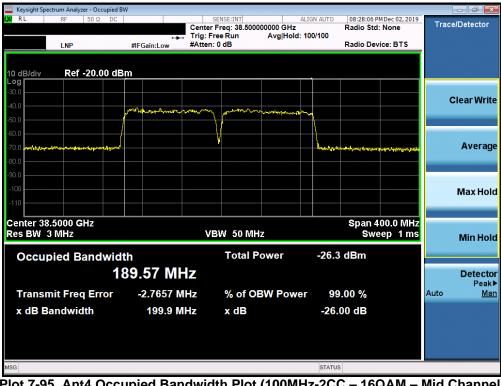
Plot 7-93. Ant4 Occupied Bandwidth Plot (100MHz-1CC – 64QAM – Mid Channel)

FCC ID: A3LSMG986U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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	ectrum Analyzer											
RL	RF	50 Ω I	DC			SENSE:INT Freg: 38.50	0000000 GHz	IGN AUTO	08:27:05	PM Dec 02, 2019	Trac	e/Detector
	LNP		1	۔ _ #IFGain:Low		ree Run	Avg Hold: 1	100/100		vice: BTS		
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0 dB/div	Ref -2	20.00	dBm					_				
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onter 39	3.5000 GH	-							Snan /	100.0 MHz		
es BW		12			v	BW 50 M	Hz		Span 2 Sw	eep 1 ms		Min Ho
Occur	pied Ba	ndw	vidth			Total	Power	-24.6	6 dBm			
				9.31 N	IHz							Detect
_												Pea
	nit Freq		r	-2.8295			BW Power		9.00 %		Auto	M
x dB B	andwidt	h		198.5	MHz	x dB		-26.	.00 dB			

Plot 7-94. Ant4 Occupied Bandwidth Plot (100MHz-2CC – QPSK – Mid Channel)



Plot 7-95. Ant4 Occupied Bandwidth Plot (100MHz-2CC – 16QAM – Mid Channel)

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Keysight Spectrum			V		OF NOT THE			00.00.00			
RL R	F 50 \	DC		Cente	SENSE:INT	0000000 GHz	ALIGN AUTO	Radio St	PM Dec 02, 2019 d: None	Trac	e/Detector
					Free Run h: 0 dB	Avg Hold	I: 100/100	D-4- D	vice: BTS		
	.NP		#IFGain:Low	#Atter				Radio De	evice: BTS		
0 dB/div .og	Ref -20.	00 dB	m				_				
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	of the province	and the					*****	and the second	na sanaka ka		Avera
0.0											
0.0											
100											Max Ho
110											
enter 38.50								Snan	400.0 MHz		
es BW 3 Mi				v	BW 50 M	Hz			reep 1 ms		Min Ho
Occupie	d Band	lwidt	:h		Total	Power	-28	.4 dBm			
		19	0.02 N	1Hz							Detect
											Pea
Transmit	Freq Er	ror	-2.6228	MHz	% of C	BW Pow	er 🤉	99.00 %		Auto	<u>M</u>
x dB Band	dwidth		305.3	MHz	x dB		-2	6.00 dB			
G							STAT	2115			
-							STAT				

Plot 7-96. Ant4 Occupied Bandwidth Plot (100MHz-2CC - 64QAM - Mid Channel)

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7.3 Equivalent Isotropic Radiated Power §2.1046, §30.202

Test Overview

Equivalent Isotropic Radiated Power (EIRP) measurements are performed using 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.

The average power of the sum of all antenna elements is limited to a maximum EIRP of +43 dBm.

Test Procedures Used

ANSI C63.26-2015 Section 5.2.4.4.1 KDB 842590 D01 v01 Section 4.2

Test Settings

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

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- 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) Elements within the same antenna array are correlated to produce beamforming array gain. Antenna arrays cannot be correlated with another antenna array. During testing, only one antenna array was active.
- 3) EIRP measurements were taken at 1m test distance.
- 4) The average EIRP reported below is calculated per section 5.2.7 of ANSI C63.26-2015 which states: EIRP (dBm) = E (dBμV/m) + 20log(D) 104.8; where D is the measurement distance (in the far field region) in m. The field strength E is calculated E (dBμV/m) = Spectrum Analyzer Channel Power Level (dBm) + Antenna Factor (dB/m) + Cable Loss (dB) + 107.
- 5) Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning. It was determined that H=0 degree and V=90 degree are the worst case positions when the EUT was transmitting horizontally and vertically polarized beams, respectively.

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Band n261 Beam ID Configurations

Mode	Beam Polarization	Beam ID
SISO	Н	168
	V	26
мімо	Н	167
	V	41

Mode	Beam Polarization	Beam ID
SISO	Н	147
3130	V	9
	Н	147
MIMO	V	18

Table 7-11. Ant2 Wor	st Case Beam ID
----------------------	-----------------

Mode	Beam Polarization	Beam ID
SISO	Н	177
3130	V	36
мімо	Н	176
	V	49

Table 7-12.	Ant3	Worst	Case	Beam	ID
-------------	------	-------	------	------	----

Mode	Beam Polarization	Beam ID
SISO	Н	172
3130	V	31
МІМО	Н	158
	V	31

Table 7-13.	Ant4	Worst	Case	Beam	ID
-------------	------	-------	------	------	----

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Band n261

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27534.84	Low	Н	QPSK	Н	93	72	1/16	23.34
	27534.84	Low	V	QPSK	V	83	125	1/16	23.42
	27922.08	Mid	Н	QPSK	Н	97	73	1/16	21.81
SISO	27922.08	Mid	V	QPSK	V	85	125	1/16	21.54
3130	28319.52	High	Н	QPSK	Н	94	83	1/16	22.97
	28319.52	High	V	QPSK	V	88	126	1/16	21.48
	27534.84	Low	Н	16QAM	Н	93	72	1/16	21.61
	27534.84	Low	Н	64QAM	Н	93	72	1/16	19.09
	27534.84	Low	Н	QPSK	Н	93	72	1/16	22.00
	27534.84	Low	V	QPSK	V	83	125	1/10	22.00
мімо	27534.84	Low	Н	16QAM	Н	93	72	1/16	21.72
	27534.84	Low	V	16QAM	V	83	125	1/16	21.72
	27534.84	Low	Н	64QAM	Н	93	72	1/16	19.07
	27534.84	Low	V	64QAM	V	83	125	1/10	19.07

 Table 7-14. Ant1 EIRP Data (Band n261 - 50MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27922.08	Mid	Н	QPSK	V	99	65	32/0	20.38
SISO	27922.08	Mid	V	QPSK	V	83	126	32/0	21.58
3130	27922.08	Mid	V	16QAM	V	83	126	1/16	20.20
	27922.08	Mid	V	64QAM	V	83	126	32/0	17.85
	27922.08	Mid	Н	QPSK	V	99	65	32/0	21.50
	27922.08	Mid	V	QPSK	V	83	126	52/0	21.50
мімо	27922.08	Mid	Н	16QAM	V	99	65	32/0	19.28
IVIIIVIO	27922.08	Mid	V	16QAM	V	83	126	52/0	19.20
	27922.08	Mid	Н	64QAM	V	99	65	32/0	17.33
	27922.08	Mid	V	64QAM	V	83	126	52/0	17.55

Table 7-15. Ant1 EIRP Data (Band n261 - 50MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27559.32	Low	Н	QPSK	Н	94	75	1/32	23.74
	27559.32	Low	V	QPSK	V	81	124	1/32	23.77
	27923.52	Mid	Н	QPSK	Н	93	74	1/32	22.36
SISO	27923.52	Mid	V	QPSK	V	81	125	1/32	23.44
3130	28292.16	High	Н	QPSK	Н	95	83	1/32	21.91
	28292.16	High	V	QPSK	V	84	122	1/32	22.60
	27559.32	Low	V	16QAM	V	81	124	1/32	21.91
	27923.52	Mid	V	64QAM	V	81	125	1/32	19.06
	27559.32	Low	Н	QPSK	Н	94	75	1/16	23.65
	27559.32	Low	V	QPSK	V	81	124	1/10	25.05
мімо	27559.32	Low	Н	16QAM	Н	94	75	1/16	20.73
IVITIVIO	27559.32	Low	V	16QAM	V	81	124	1/16	20.75
	27559.32	Low	Н	64QAM	Н	94	75	1/16	18.00
	27559.32	Low	V	64QAM	V	81	124	1/10	18.00

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Table 7-16. Ant1 EIRP Data (Band n261 - 100MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27923.52	Mid	Н	QPSK	V	100	64	64/0	20.12
SISO	27923.52	Mid	V	QPSK	V	82	126	64/0	23.51
3130	27923.52	Mid	V	16QAM	V	82	126	1/32	22.24
	27923.52	Mid	V	64QAM	V	82	126	1/32	20.25
	27923.52	Mid	Н	QPSK	V	100	64	32/0	21.03
	27923.52	Mid	V	QPSK	V	82	126	52/0	21.05
мімо	27923.52	Mid	Н	16QAM	V	100	64	32/0	19.57
IVIIIVIO	27923.52	Mid	V	16QAM	V	82	126	52/0	19.57
	27923.52	Mid	Н	64QAM	V	100	64	22/0	18.19
	27923.52	Mid	V	64QAM	V	82	126	32/0	10.19

Table 7-17. Ant1 EIRP Data (Band n261 - 100MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27534.84	Low	Н	QPSK	Н	119	49	1/16	17.45
	27534.84	Low	V	QPSK	V	66	121	1/16	15.84
	27922.08	Mid	Н	QPSK	Н	148	33	1/16	15.21
SISO	27922.08	Mid	V	QPSK	V	50	123	1/16	17.51
3130	28319.52	High	Н	QPSK	Н	116	49	1/16	18.23
	28319.52	High	V	QPSK	V	53	118	1/16	17.93
	28319.52	High	Н	16QAM	Н	116	49	1/16	16.09
	27534.84	Low	V	64QAM	V	66	121	1/16	14.95
	28319.52	High	Н	QPSK	Н	116	49	1/16	18.03
	28319.52	High	V	QPSK	V	53	118	1/10	10.05
мімо	28319.52	High	Н	16QAM	Н	116	49	1/16	15.26
	28319.52	High	V	16QAM	V	53	118	1/16	13.20
	28319.52	High	Н	64QAM	Н	116	49	1/16	13.70
	28319.52	High	V	64QAM	V	53	118	1/10	13.70

Table 7-18. Ant2 EIRP Data (Band n261 - 50MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27922.08	Mid	Н	QPSK	Н	150	36	1/16	17.56
SISO	27922.08	Mid	V	QPSK	V	50	117	32/0	14.87
3130	27922.08	Mid	Н	16QAM	Н	150	36	32/0	15.72
	27922.08	Mid	Н	64QAM	Н	150	36	32/0	13.77
	27922.08	Mid	Н	QPSK	Н	150	36	1/16	17.25
	27922.08	Mid	V	QPSK	V	50	117	1/10	17.25
мімо	27922.08	Mid	Н	16QAM	Н	150	36	1/16	14.34
	27922.08	Mid	V	16QAM	V	50	117	1/10	14.54
	27922.08	Mid	Н	64QAM	Н	150	36	1/16	13.02
	27922.08	Mid	V	64QAM	V	50	117	1/10	15.02

Table 7-19. Ant2 EIRP Data (Band n261 - 50MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27559.32	Low	Н	QPSK	Н	118	48	1/32	18.32
	27559.32	Low	V	QPSK	V	60	121	1/32	18.17
	27923.52	Mid	Н	QPSK	Н	148	33	1/32	17.07
SISO	27923.52	Mid	V	QPSK	V	51	124	1/32	18.95
3130	28292.16	High	Н	QPSK	Н	117	49	1/32	18.50
	28292.16	High	V	QPSK	V	54	119	1/32	17.80
	27559.32	Low	Н	16QAM	Н	118	48	1/32	17.22
	27559.32	Low	Н	64QAM	Н	118	48	1/32	16.55
	27923.52	Mid	Н	QPSK	Н	148	33	1/16	18.11
	27923.52	Mid	V	QPSK	V	51	124	1/10	10.11
мімо	27923.52	Mid	Н	16QAM	Н	148	33	1/16	15.20
IVIIIVIO	27923.52	Mid	V	16QAM	V	51	124	1/10	15.20
	27923.52	Mid	Н	64QAM	Н	148	33	1/16	12.95
	27923.52	Mid	V	64QAM	V	51	124	1/10	12.95

Table 7-20. Ant2 EIRP Data (Band n261 - 100MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27923.52	Mid	Н	QPSK	Н	151	33	1/0	17.81
SISO	27923.52	Mid	V	QPSK	V	51	119	64/0	16.35
3130	27923.52	Mid	Н	16QAM	Н	151	33	64/0	16.05
	27923.52	Mid	Н	64QAM	Н	151	33	64/0	14.01
	27923.52	Mid	Н	QPSK	Н	151	33	1/16	17.76
	27923.52	Mid	V	QPSK	V	51	119	1/10	17.70
мімо	27923.52	Mid	Н	16QAM	Н	151	33	32/0	14.86
IVIIIVIO	27923.52	Mid	V	16QAM	V	51	119	52/0	14.00
	27923.52	Mid	Н	64QAM	Н	151	33	32/0	12.51
	27923.52	Mid	V	64QAM	V	51	119	52/0	12.51

Table 7-21. Ant2 EIRP Data (Band n261 - 100MHz-2CC)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27534.84	Low	Н	QPSK	Н	256	322	1/16	20.51
	27534.84	Low	V	QPSK	V	170	129	1/16	21.02
	27922.08	Mid	Н	QPSK	Н	255	323	1/16	19.60
SISO	27922.08	Mid	V	QPSK	V	165	133	1/16	19.15
3130	28319.52	High	Н	QPSK	Н	251	322	1/16	20.85
	28319.52	High	V	QPSK	V	160	130	1/16	21.11
	27534.84	Low	Н	16QAM	Н	256	322	1/16	19.74
	27534.84	Low	V	64QAM	V	170	129	1/16	17.45
	28319.52	High	Н	QPSK	Н	251	322	1/16	20.87
	28319.52	High	V	QPSK	V	160	130	1/10	20.87
мімо	28319.52	High	Н	16QAM	Н	251	322	1/16	18.85
WIIWIO	28319.52	High	V	16QAM	V	160	130	1/16	10.05
	28319.52	High	Н	64QAM	Н	251	322	1/16	16.00
	28319.52	High	V	64QAM	V	160	130	1/10	10.00

Table 7-22. Ant3 EIRP Data (Band n261 - 50MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27922.08	Mid	Н	QPSK	Н	76	37	32/0	19.02
SISO	27922.08	Mid	V	QPSK	Н	165	134	1/16	18.50
3130	27922.08	Mid	Н	16QAM	Н	76	37	32/0	17.44
	27922.08	Mid	Н	64QAM	Н	76	37	1/0	15.64
	27922.08	Mid	Н	QPSK	Н	76	37	1/16	20.74
	27922.08	Mid	V	QPSK	Н	165	134	1/10	20.74
мімо	27922.08	Mid	Н	16QAM	Н	76	37	1/16	18.82
IVIIIVIO	27922.08	Mid	V	16QAM	Н	165	134	1/10	10.02
	27922.08	Mid	Н	64QAM	Н	76	37	1/16	15.78
	27922.08	Mid	V	64QAM	Н	165	134	1/16	15.78

Table 7-23. Ant3 EIRP Data (Band n261 - 50MHz-2CC)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27559.32	Low	Н	QPSK	Н	255	322	1/32	21.11
	27559.32	Low	V	QPSK	V	171	130	1/32	21.31
	27923.52	Mid	Н	QPSK	Н	256	323	1/32	20.32
SISO	27923.52	Mid	V	QPSK	V	166	132	1/32	20.05
3130	28292.16	High	Н	QPSK	Н	255	320	1/32	20.70
	28292.16	High	V	QPSK	V	160	131	1/32	21.43
	27559.32	Low	V	16QAM	V	171	130	1/32	19.35
	27559.32	Low	Н	64QAM	Н	255	322	1/32	17.71
	27559.32	Low	Н	QPSK	Н	255	322	1/16	21.14
	27559.32	Low	V	QPSK	V	171	130	1/10	21.14
мімо	27559.32	Low	Н	16QAM	Н	255	322	1/16	18.61
WIIWO	27559.32	Low	V	16QAM	V	171	130	1/16	10.01
	27559.32	Low	Н	64QAM	Н	255	322	1/16	16.62
	27559.32	Low	V	64QAM	V	171	130	1/10	10.02

Table 7-24. Ant3 EIRP Data (Band n261 - 100MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27923.52	Mid	Н	QPSK	Н	74	36	64/0	19.36
SISO	27923.52	Mid	V	QPSK	Н	165	132	1/63	18.79
3130	27923.52	Mid	Н	16QAM	Н	74	36	64/0	17.79
	27923.52	Mid	Н	64QAM	Н	74	36	1/0	16.02
	27923.52	Mid	Н	QPSK	Н	74	36	22/0	19.21
	27923.52	Mid	V	QPSK	Н	165	132	32/0	19.21
мімо	27923.52	Mid	Н	16QAM	Н	74	36	32/0	18.43
IVIIIVIO	27923.52	Mid	V	16QAM	Н	165	132	52/0	10.45
	27923.52	Mid	Н	64QAM	Н	74	36	22/0	16 01
	27923.52	Mid	V	64QAM	Н	165	132	32/0	16.81

Table 7-25. Ant3 EIRP Data (Band n261 - 100MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27534.84	Low	Н	QPSK	Н	91	30	1/16	20.08
	27534.84	Low	V	QPSK	V	103	32	1/16	21.05
	27922.08	Mid	Н	QPSK	Н	91	31	1/16	19.49
SISO	27922.08	Mid	V	QPSK	V	102	33	1/16	19.57
3130	28319.52	High	Н	QPSK	Н	96	36	1/16	21.68
	28319.52	High	V	QPSK	V	105	33	1/16	20.63
	28319.52	High	Н	16QAM	Н	96	36	1/16	18.30
	28319.52	High	Н	64QAM	Н	96	36	1/16	16.98
	28319.52	High	Н	QPSK	Н	96	36	1/16	21.07
	28319.52	High	V	QPSK	V	105	33	1/10	21.07
мімо	28319.52	High	Н	16QAM	Н	96	36	1/16	18.62
IVITIVIO	28319.52	High	V	16QAM	V	105	33	1/16	10.02
	28319.52	High	Н	64QAM	Н	96	36	1/16	16.60
	28319.52	High	V	64QAM	V	105	33	1/10	10.00

Table 7-26. Ant4 EIRP Data (Band n261 - 50MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27922.08	Mid	Н	QPSK	V	278	325	32/0	19.11
SISO	27922.08	Mid	V	QPSK	V	47	83	1/16	21.07
3130	27922.08	Mid	V	16QAM	V	47	83	1/16	19.84
	27922.08	Mid	V	64QAM	V	47	83	32/0	17.31
	27922.08	Mid	Н	QPSK	V	278	325	22/0	20.06
	27922.08	Mid	V	QPSK	V	47	83	32/0	20.06
мімо	27922.08	Mid	Н	16QAM	V	278	325	22/0	18.04
IVITIVIO	27922.08	Mid	V	16QAM	V	47	83	32/0	10.04
	27922.08	Mid	Н	64QAM	V	278	325	22/0	15 55
	27922.08	Mid	V	64QAM	V	47	83	32/0	15.55

Table 7-27. Ant4 EIRP Data (Band n261 - 50MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27559.32	Low	Н	QPSK	Н	97	29	1/32	20.50
	27559.32	Low	V	QPSK	V	104	33	1/32	21.10
	27923.52	Mid	Н	QPSK	Н	90	30	1/32	19.22
SISO	27923.52	Mid	V	QPSK	V	102	32	1/32	20.05
3130	28292.16	High	Н	QPSK	Н	96	36	1/32	21.83
	28292.16	High	V	QPSK	V	102	32	1/32	20.09
	28292.16	High	Н	16QAM	Н	96	36	1/32	19.56
	28292.16	High	Н	64QAM	Н	96	36	1/32	17.77
	28292.16	High	Н	QPSK	Н	96	36	1/16	20.01
	28292.16	High	V	QPSK	V	102	32	1/10	20.91
	28292.16	High	Н	16QAM	Н	96	36	1/10	17.96
MIMO	28292.16	High	V	16QAM	V	102	32	1/16	17.90
	28292.16	High	Н	64QAM	Н	96	36	1/16	15.59
	28292.16	High	V	64QAM	V	102	32	1/10	15.59

Table 7-28. Ant4 EIRP Data (Band n261 - 100MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	27923.52	Mid	Н	QPSK	V	277	325	1/63	19.84
SISO	27923.52	Mid	V	QPSK	V	46	83	1/32	22.04
3130	27923.52	Mid	V	16QAM	V	46	83	1/63	20.93
	27923.52	Mid	V	64QAM	V	46	83	1/63	18.48
	27923.52	Mid	Н	QPSK	V	277	325	1/0	20.89
	27923.52	Mid	V	QPSK	V	46	83	1/0	20.89
мімо	27923.52	Mid	Н	16QAM	V	277	325	1/21	19.37
IVITIVIO	27923.52	Mid	V	16QAM	V	46	83	1/31	19.57
	27923.52	Mid	Н	64QAM	V	277	325	1/21	16 50
	27923.52	Mid	V	64QAM	V	46	83	1/31	16.50

Table 7-29. Ant4 EIRP Data (Band n261 - 100MHz-2CC)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Band n260 Beam ID Configurations

Mode	Beam Polarization	Beam ID
SISO	Н	167
	V	26
	Н	169
MIMO	V	41

Table 7-30. Ant1 Worst Case Beam ID

Mode	Beam Polarization	Beam ID
SISO	Н	137
	V	8
	Н	146
MIMO	V	18

Table 7-31.	Ant2	Worst	Case	Beam	ID
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Mode	Beam Polarization	Beam ID
5150	Н	164
SISO	V	36
МІМО	Н	176
	V	48

Table 7-32. Ant3 Worst Cas	se Beam ID
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Mode	Beam Polarization	Beam ID
SISO	Н	159
	V	30
MIMO	Н	172
	V	44

Table 7-33. Ant4 Worst Case Beam ID

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	37027.32	Low	Н	QPSK	Н	118	100	1/16	19.40
	37027.32	Low	V	QPSK	V	89	70	1/16	19.54
	38497.44	Mid	Н	QPSK	Н	112	54	1/16	20.94
SISO	38497.44	Mid	V	QPSK	V	89	60	1/16	19.44
3130	39966.24	High	Н	QPSK	Н	124	100	1/16	18.81
	39966.24	High	V	QPSK	V	90	39	1/16	20.40
	38497.44	Mid	Н	16QAM	Н	112	54	1/16	18.80
	38497.44	Mid	V	64QAM	V	89	60	1/16	16.94
	38497.44	Mid	Н	QPSK	Н	112	54	1/16	20.22
	38497.44	Mid	V	QPSK	V	89	60	1/10	20.22
	38497.44	Mid	Н	16QAM	Н	112	54	1/16	18.27
MIMO	38497.44	Mid	V	16QAM	V	89	60	1/10	10.27
	38497.44	Mid	Н	64QAM	Н	112	54	1/16	16 61
	38497.44	Mid	V	64QAM	V	89	60	1/10	16.61

Table 7-34. Ant1 EIRP Data (Band n260 - 50MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	38497.44	Mid	Н	QPSK	V	112	57	32/0	18.08
SISO	38497.44	Mid	V	QPSK	V	89	52	32/0	18.12
3130	38497.44	Mid	Н	16QAM	V	112	57	1/16	16.53
	38497.44	Mid	V	64QAM	V	89	52	1/31	14.88
	38497.44	Mid	Н	QPSK	V	112	57	32/0	18.06
	38497.44	Mid	V	QPSK	V	89	52	52/0	18.00
мімо	38497.44	Mid	Н	16QAM	V	112	57	32/0	15.31
IVIIIVIO	38497.44	Mid	V	16QAM	V	89	52	52/0	13.51
	38497.44	Mid	Н	64QAM	V	112	57	32/0	13.94
	38497.44	Mid	V	64QAM	V	89	52	52/0	15.94

Table 7-35. Ant1 EIRP Data (Band n260 - 50MHz-2CC)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	37051.80	Low	Н	QPSK	Н	114	93	1/32	20.22
	37051.80	Low	V	QPSK	V	86	69	1/32	19.74
	38498.88	Mid	Н	QPSK	Н	109	53	1/32	21.21
SISO	38498.88	Mid	V	QPSK	V	89	87	1/0	20.19
3130	39949.92	High	Н	QPSK	Н	35	116	64/0	17.33
	39949.92	High	V	QPSK	V	91	36	1/32	20.97
	38498.88	Mid	Н	16QAM	Н	109	53	1/32	19.37
	38498.88	Mid	Н	64QAM	Н	109	53	1/32	17.06
	38498.88	Mid	Н	QPSK	Н	109	53	1/0	21.34
	38498.88	Mid	V	QPSK	V	89	87	1/0	21.54
	38498.88	Mid	Н	16QAM	Н	109	53	1/0	18.16
МІМО	38498.88	Mid	V	16QAM	V	89	87	1/0	10.10
	38498.88	Mid	Н	64QAM	Н	109	53	1/0	15.38
	38498.88	Mid	V	64QAM	V	89	87	1/0	13.50

Table 7-36. Ant1 EIRP Data (Band n260 - 100MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	38498.88	Mid	Н	QPSK	V	111	56	64/0	17.91
SISO	38498.88	Mid	V	QPSK	V	91	52	64/0	18.43
3130	38498.88	Mid	V	16QAM	V	91	52	1/32	17.05
	38498.88	Mid	V	64QAM	V	91	52	1/32	15.59
	38498.88	Mid	Н	QPSK	V	111	56	32/0	19.06
	38498.88	Mid	V	QPSK	V	91	52	52/0	19.00
мімо	38498.88	Mid	Н	16QAM	V	111	56	1/0	16.60
IVIIIVIO	38498.88	Mid	V	16QAM	V	91	52	1/0	10.00
	38498.88	Mid	Н	64QAM	V	111	56	1/0	14.34
	38498.88	Mid	V	64QAM	V	91	52	1/0	14.34

Table 7-37. Ant1 EIRP Data (Band n260 - 100MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	37027.32	Low	Н	QPSK	Н	53	91	1/16	16.51
	37027.32	Low	V	QPSK	V	99	260	1/16	17.27
	38497.44	Mid	Н	QPSK	Н	51	78	1/16	18.58
SISO	38497.44	Mid	V	QPSK	V	113	266	1/16	16.79
3130	39966.24	High	Н	QPSK	Н	51	78	1/16	17.48
	39966.24	High	V	QPSK	V	163	234	1/16	15.86
	38497.44	Mid	Н	16QAM	Н	51	78	1/16	16.59
	38497.44	Mid	Н	64QAM	Н	51	78	1/16	13.89
	38497.44	Mid	Н	QPSK	Н	51	78	1/16	18.76
	38497.44	Mid	V	QPSK	V	113	266	1/10	10.70
	38497.44	Mid	Н	16QAM	Н	51	78	1/16	15.69
	38497.44	Mid	V	16QAM	V	113	266	1/10	12.09
	38497.44	Mid	Н	64QAM	Н	51	78	1/16	12 /5
	38497.44	Mid	V	64QAM	V	113	266	1/10	12.45

Table 7-38. Ant2 EIRP Data (Band n260 - 50MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	38497.44	Mid	Н	QPSK	Н	116	95	1/16	17.29
SISO	38497.44	Mid	V	QPSK	V	108	272	1/16	14.85
3130	38497.44	Mid	Н	16QAM	Н	116	95	1/16	15.24
	38497.44	Mid	Н	64QAM	Н	116	95	1/16	13.53
	38497.44	Mid	Н	QPSK	Н	116	95	1/16	17.66
	38497.44	Mid	V	QPSK	V	108	272	1/10	17.00
мімо	38497.44	Mid	Н	16QAM	Н	116	95	1/16	14.36
IVIIIVIO	38497.44	Mid	V	16QAM	V	108	272	1/10	14.50
	38497.44	Mid	Н	64QAM	Н	116	95	1/16	11.71
	38497.44	Mid	V	64QAM	V	108	272	1/10	11./1

Table 7-39. Ant2 EIRP Data (Band n260 - 50MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	37051.80	Low	Н	QPSK	Н	51	89	1/32	16.66
	37051.80	Low	V	QPSK	V	102	260	1/32	18.51
	38498.88	Mid	Н	QPSK	Н	66	90	1/32	17.08
SISO	38498.88	Mid	V	QPSK	V	113	267	1/32	17.31
3130	39949.92	High	Н	QPSK	Н	50	79	1/32	17.29
	39949.92	High	V	QPSK	V	161	240	1/32	16.04
	38498.88	Mid	V	16QAM	V	113	267	1/32	16.10
	37051.80	Low	V	64QAM	V	102	260	1/32	13.65
	37051.80	Low	Н	QPSK	Н	51	89	1/0	18.57
	37051.80	Low	V	QPSK	V	102	260	1/0	10.57
	37051.80	Low	Н	16QAM	Н	51	89	1/0	15.19
MIMO	37051.80	Low	V	16QAM	V	102	260	1/0	15.19
	37051.80	Low	Н	64QAM	Н	51	89	1/0	12.56
	37051.80	Low	V	64QAM	V	102	260	1/0	12.30

Table 7-40. Ant2 EIRP Data (Band n260 - 100MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	38498.88	Mid	Н	QPSK	Н	68	22	1/32	15.64
SISO	38498.88	Mid	V	QPSK	V	102	274	1/0	16.49
3130	38498.88	Mid	V	16QAM	V	102	274	1/0	15.37
	38498.88	Mid	V	64QAM	V	102	274	1/0	14.36
	38498.88	Mid	Н	QPSK	Н	68	22	1/0	17.01
	38498.88	Mid	V	QPSK	V	102	274	1/0	17.01
мімо	38498.88	Mid	Н	16QAM	Н	68	22	32/0	14.89
	38498.88	Mid	V	16QAM	V	102	274	52/0	14.09
	38498.88	Mid	Н	64QAM	Н	68	22	32/0	12.89
	38498.88	Mid	V	64QAM	V	102	274	52/0	12.89

Table 7-41. Ant2 EIRP Data (Band n260 - 100MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	37027.32	Low	Н	QPSK	Н	342	59	1/16	20.31
	37027.32	Low	V	QPSK	V	35	312	1/31	20.39
	38497.44	Mid	Н	QPSK	Н	351	56	1/0	21.74
SISO	38497.44	Mid	V	QPSK	V	29	310	1/0	21.94
3130	39966.24	High	Н	QPSK	Н	204	294	1/16	21.08
	39966.24	High	V	QPSK	V	28	329	1/0	19.35
	38497.44	Mid	Н	16QAM	Н	351	56	1/16	20.42
	38497.44	Mid	Н	64QAM	Н	351	56	1/16	18.21
	38497.44	Mid	Н	QPSK	Н	351	56	1/16	21.79
	38497.44	Mid	V	QPSK	V	29	310	1/10	21.79
мімо	38497.44	Mid	Н	16QAM	Н	351	56	1/16	21.12
	38497.44	Mid	V	16QAM	V	29	310	1/10	21.12
	38497.44	Mid	Н	64QAM	Н	351	56	1/16	19.22
	38497.44	Mid	V	64QAM	V	29	310	1/10	19.22

Table 7-42. Ant3 EIRP Data (Band n260 - 50MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	38497.44	Mid	Н	QPSK	V	353	51	1/31	21.88
SISO	38497.44	Mid	V	QPSK	V	32	323	32/0	21.00
3130	38497.44	Mid	Н	16QAM	V	353	51	1/31	20.20
	38497.44	Mid	Н	64QAM	V	353	51	1/31	18.36
	38497.44	Mid	Н	QPSK	V	353	51	1/31	22.71
	38497.44	Mid	V	QPSK	V	32	323	1/51	22.71
мімо	38497.44	Mid	Н	16QAM	V	353	51	1/31	20.61
IVITIVIO	38497.44	Mid	V	16QAM	V	32	323	1/51	20.01
	38497.44	Mid	Н	64QAM	V	353	51	1/21	17.48
	38497.44	Mid	V	64QAM	V	32	323	1/31	17.48

Table 7-43. Ant3 EIRP Data (Band n260 - 50MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	37051.80	Low	Н	QPSK	Н	206	50	1/32	21.03
	37051.80	Low	V	QPSK	V	35	312	1/32	22.07
	38498.88	Mid	Н	QPSK	Н	195	302	1/32	22.32
SISO	38498.88	Mid	V	QPSK	V	34	312	1/32	21.93
3130	39949.92	High	Н	QPSK	Н	195	297	1/32	21.03
	39949.92	High	V	QPSK	V	27	333	1/32	21.43
	38498.88	Mid	V	16QAM	V	34	312	1/32	20.81
	38498.88	Mid	V	64QAM	V	34	312	1/32	18.73
	38498.88	Mid	Н	QPSK	Н	195	302	1/31	22.27
	38498.88	Mid	V	QPSK	V	34	312	1/51	22.27
	38498.88	Mid	Н	16QAM	Н	195	302	1/31	19.87
MIMO	38498.88	Mid	V	16QAM	V	34	312	1/51	19.07
	38498.88	Mid	Н	64QAM	Н	195	302	1/31	17.54
	38498.88	Mid	V	64QAM	V	34	312	1/31	

Table 7-44. Ant3 EIRP Data (Band n260 - 100MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	38498.88	Mid	Н	QPSK	V	351	54	1/32	23.17
SISO	38498.88	Mid	V	QPSK	V	32	320	1/32	21.30
3130	38498.88	Mid	Н	16QAM	V	351	54	1/32	21.85
	38498.88	Mid	Н	64QAM	V	351	54	64/0	19.66
	38498.88	Mid	Н	QPSK	V	351	54	1/16	23.49
	38498.88	Mid	V	QPSK	V	32	320	1/10	23.49
мімо	38498.88	Mid	Н	16QAM	V	351	54	32/0	20.66
IVIIIVIO	38498.88	Mid	V	16QAM	V	32	320	52/0	20.00
	38498.88	Mid	Н	64QAM	V	351	54	22/0	19.02
	38498.88	Mid	V	64QAM	V	32	320	32/0	18.02

Table 7-45. Ant3 EIRP Data (Band n260 - 100MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	37027.32	Low	Н	QPSK	Н	35	50	1/16	22.74
	37027.32	Low	V	QPSK	V	69	40	1/16	21.48
	38497.44	Mid	Н	QPSK	Н	35	75	1/16	23.24
SISO	38497.44	Mid	V	QPSK	V	102	35	1/16	23.99
3130	39966.24	High	Н	QPSK	Н	38	77	1/16	21.16
	39966.24	High	V	QPSK	V	102	21	1/16	21.14
	38497.44	Mid	V	16QAM	V	102	35	1/0	21.70
	38497.44	Mid	V	64QAM	V	102	35	1/0	19.67
	38497.44	Mid	Н	QPSK	Н	35	75	1/16	24.55
	38497.44	Mid	V	QPSK	V	102	35	1/10	24.55
	38497.44	Mid	Н	16QAM	Н	35	75	1/0	21.57
MIMO	38497.44	Mid	V	16QAM	V	102	35	1/0	21.57
	38497.44	Mid	Н	64QAM	Н	35	75	1/0	10 E <i>1</i>
	38497.44	Mid	V	64QAM	V	102	35	1/0	18.54

Table 7-46. Ant4 EIRP Data (Band n260 - 50MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	38497.44	Mid	Н	QPSK	V	29	78	32/0	23.15
SISO	38497.44	Mid	V	QPSK	Н	279	320	32/0	21.57
3130	38497.44	Mid	Н	16QAM	V	29	78	1/31	21.79
	38497.44	Mid	Н	64QAM	V	29	78	1/31	19.69
	38497.44	Mid	Н	QPSK	V	29	78	1/16	23.53
	38497.44	Mid	V	QPSK	Н	279	320	1/10	23.53
мімо	38497.44	Mid	Н	16QAM	V	29	78	1/31	20.82
IVIIIVIO	38497.44	Mid	V	16QAM	Н	279	320	1/51	20.82
	38497.44	Mid	Н	64QAM	V	29	78	22/0	18.00
	38497.44	Mid	V	64QAM	Н	279	320	32/0	10.00

Table 7-47. Ant4 EIRP Data (Band n260 - 50MHz-2CC)

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Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	37051.80	Low	Н	QPSK	V	36	48	1/32	23.34
	37051.80	Low	V	QPSK	Н	69	37	1/32	21.99
	38498.88	Mid	Н	QPSK	V	30	71	1/32	23.63
SISO	38498.88	Mid	V	QPSK	Н	102	32	1/32	24.24
3130	39949.92	High	Н	QPSK	V	39	75	1/32	20.93
	39949.92	High	V	QPSK	Н	102	19	1/32	21.08
	38498.88	Mid	V	16QAM	Н	102	32	1/32	21.99
	38498.88	Mid	V	64QAM	Н	102	32	1/32	19.87
	38498.88	Mid	Н	QPSK	V	30	71	1/0	24.90
	38498.88	Mid	V	QPSK	Н	102	32	1/0	24.90
	38498.88	Mid	Н	16QAM	V	30	71	1/0	21.75
MIMO	38498.88	Mid	V	16QAM	Н	102	32	1/0	21.75
	38498.88	Mid	Н	64QAM	V	30	71	1/0	19.01
	38498.88	Mid	V	64QAM	Н	102	32	1/0	18.91

Table 7-48. Ant4 EIRP Data (Band n260 - 100MHz-1CC)

Mode	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol. [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	RB Size/Offset	EIRP [dBm]
	38498.88	Mid	Н	QPSK	V	29	75	64/0	23.39
SISO	38498.88	Mid	V	QPSK	Н	279	328	1/63	22.28
3130	38498.88	Mid	Н	16QAM	V	29	75	1/32	21.94
	38498.88	Mid	Н	64QAM	V	29	75	64/0	19.85
	38498.88	Mid	Н	QPSK	V	29	75	1/16	24.24
	38498.88	Mid	V	QPSK	Н	279	328	1/10	24.24
мімо	38498.88	Mid	Н	16QAM	V	29	75	32/0	21.06
IVIIIVIO	38498.88	Mid	V	16QAM	Н	279	328	52/0	21.00
	38498.88	Mid	Н	64QAM	V	29	75	32/0	18.41
	38498.88	Mid	V	64QAM	Н	279	328	52/0	10.41

Table 7-49. Ant4 EIRP Data (Band n260 - 100MHz-2CC)

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7.4 Radiated Spurious and Harmonic Emissions §2.1051, §30.203

Test Overview

The spectrum is scanned from 30MHz to 100GHz for n261 and from 30MHz to 200GHz for n260. All out of band emissions are measured in a radiated test setup while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All modulations were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The conductive power or total radiated power of any emissions outside a licensee's frequency block shall be -13dBm/1MHz.

Test Procedure Used

ANSI C63.26-2015 Section 5.7.4 KDB 842590 D01 v01 Section 4.4.2 and Section 4.4.3

Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to 100 GHz for n261 and 200GHz for n260. Several plots are used to show investigations in this entire span.
- 2. Detector = RMS
- 3. Trace mode = trace average
- 4. Sweep time = auto couple
- 5. Number of sweep points $\geq 2 \times \text{Span/RBW}$
- 6. The trace was allowed to stabilize
- 7. RBW = 1MHz, VBW = 3MHz

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) All radiated spurious emissions were measured as EIRP to compare with the §30.203 TRP limits.
- 3) Elements within the same antenna array are correlated to produce beamforming array gain. Antenna arrays cannot be correlated with another antenna array. During testing, only one antenna array was active.
- 4) The plots from 1-200GHz show corrected average EIRP levels. Plots below 1GHz are corrected field strength levels. The average EIRP reported below is calculated per section 5.2.7 of ANSI C63.26-2015 which states: EIRP (dBm) = E (dBµV/m) + 20log(D) 104.8; where D is the measurement distance (in the far field region) in m. The field strength E is calculated E (dBµV/m) = Spectrum Analyzer Level (dBm) + Antenna Factor (dB/m) + Cable Loss (dB) + Harmonic Mixer Conversion Loss (dB) + 107. All appropriate Antenna Factor and Cable Loss have been applied in the spectrum analyzer for each measurement. For measurements > 40GHz, Harmonic Mixer Conversion Loss was also applied to the spectrum analyzer.
- 5) Emissions below 18GHz were measured at a 3 meter test distance, while emissions above 18GHz were measured at the appropriate far field distance. The far field of the mmWave signal is based on formula: R > 2D^2/wavelength, where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, D is the largest dimension of the measurement antenna.

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Frequency Range (GHz)	Wavelength(cm)	Far Field Distance (m)	Measurement Distance (m)
18-40	0.749	0.54	1.00
40-60	0.500	1.39	1.50
60-90	0.333	0.91	1.00
90-140	0.214	0.58	1.00
140-200	0.150	0.39	1.00

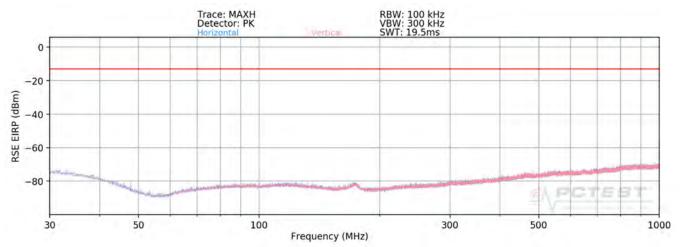
Table 7-50. Far-Field Distance & Measurement Distance per Frequency Range

- 6) All emissions from 30MHz 60GHz were measured using a spectrum analyzer with an internal preamplifier. Emissions >60GHz were measured using a harmonic mixer with the spectrum analyzer.
- All RSE's were measured with 1CC. It was determined that adding more CC's causes the overall amplitude of just 1CC to decrease, therefore, 1CC is the worst case for the purposes of spurious emissions measurements.
- 8) The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9) All RSE's were investigated in EN-DC mode and with 802.11 chipset active. It was determined that there is no new emission introduced by EN-DC mode, or the 802.11 chipset. For EN-DC mode, n261 uses LTE B13, B5, B4, B66 and B2, and n260 uses LTE B12, B13, B5, B4, B66, B2 and B30.
- 10) There was no discernible difference in the spurious emission levels when using different LTE anchor bands. Thus, LTE Band 2 was used as a representative anchor band for EN-DC investigations.
- 11) For the n261 band spurious emission measurements, the spectrum directly below the fundamental frequency is investigated from 18 27.375GHz and the spectrum directly above the fundamental frequency is investigated from 28.475 40GHz. The portion of spectrum from 27.375 27.5GHz and 28.35 28.475GHz is shown Section 7.5 which covers band edge emissions.
- 12) For the n260 band spurious emission measurements, the spectrum directly below the fundamental frequency is investigated from 18 36.85GHz and the spectrum directly above the fundamental frequency is investigated from 40.15 60GHz. The portion of spectrum from 36.85 40GHz and 40 40.15GHz is shown Section 7.5 which covers band edge emissions.

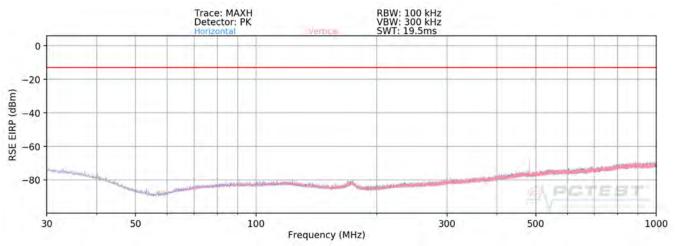
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Band n261 – Ant1 30MHz - 1GHz



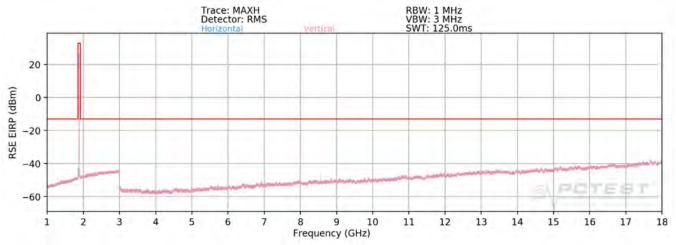




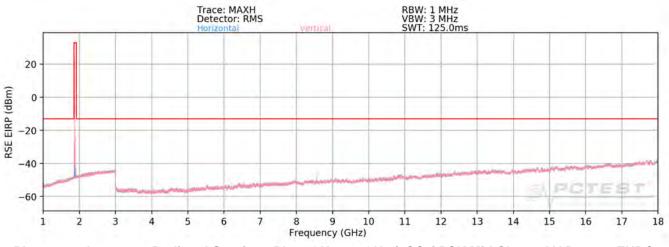
Plot 7-98. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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Plot 7-99. Ant1-n261 Radiated Spurious Plot 1GHz - 18GHz (1CC QPSK Mid Channel H Beam – ENDC Anchor Band 2)



Plot 7-100. Ant1-n261 Radiated Spurious Plot 1GHz - 18GHz (1CC QPSK Mid Channel V Beam – ENDC Anchor Band 2)

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Spurious Emissions EIRP Sample Calculation (n261)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Antenna Height [cm]	Turntable Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
8821.85	Low	50	Н	QPSK	Н	272	5	-41.24	-13.00	-28.24
8821.85	Low	50	V	QPSK	Н	288	9	-42.74	-13.00	-29.74
8569.16	Mid	50	Н	QPSK	Н	285	23	-43.36	-13.00	-30.36
8569.16	Mid	50	V	QPSK	Н	284	14	-43.34	-13.00	-30.34
8966.56	High	50	Н	QPSK	Н	289	9	-42.48	-13.00	-29.48
8966.56	High	50	V	QPSK	Н	290	359	-43.62	-13.00	-30.62

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-51. Ant1 - SISO -Spurious Emissions Table (1GHz - 18GHz)

Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
50	QPSK	-38.92	-13.00	-25.92
50	QPSK	-40.34	-13.00	-27.34
50	QPSK	-40.00	-13.00	-27.00
	(MHz) 50 50	(MHz)Modulation50QPSK50QPSK	Bandwidth (MHz)ModulationEmission Level [dBm]50QPSK-38.9250QPSK-40.34	Bandwidth (MHz)ModulationEmission Level [dBm]Limit [dBm]50QPSK-38.92-13.0050QPSK-40.34-13.00

Table 7-52. Ant1 - MIMO -Spurious Emissions Table (1GHz - 18GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

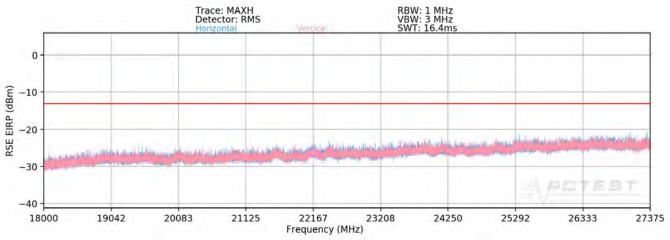
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

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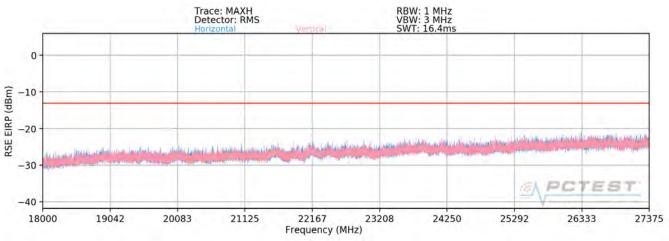
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18GHz - 27.375GHz



Plot 7-101. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-102. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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Spurious Emissions EIRP Sample Calculation (n261)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
27228.39	Low	50	Н	QPSK	V	89	79	-27.51	-13.00	-14.51
27381.83	Low	50	V	QPSK	V	88	74	-33.10	-13.00	-20.10
27307.85	Mid	50	Н	QPSK	V	97	80	-35.46	-13.00	-22.46
27385.32	Mid	50	V	QPSK	V	91	74	-34.67	-13.00	-21.67
26477.22	High	50	Н	QPSK	V	94	74	-35.49	-13.00	-22.49
25584.11	High	50	V	QPSK	V	90	62	-36.00	-13.00	-23.00

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-53. Ant1 - SISO -Spurious Emissions Table (18GHz - 27.375GHz)

Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
50	QPSK	-26.45	-13.00	-13.45
50	QPSK	-32.04	-13.00	-19.04
50	QPSK	-32.73	-13.00	-19.73
	(MHz) 50 50 50	(MHz)Modulation50QPSK50QPSK50QPSK	Bandwidth (MHz)ModulationEmission Level [dBm]50QPSK-26.4550QPSK-32.0450QPSK-32.73	Bandwidth (MHz) Modulation Emission Level [dBm] Limit [dBm] 50 QPSK -26.45 -13.00 50 QPSK -32.04 -13.00 50 QPSK -32.73 -13.00

Table 7-54. Ant1 - MIMO -Spurious Emissions Table (18GHz - 27.375GHz)

<u>Notes</u>

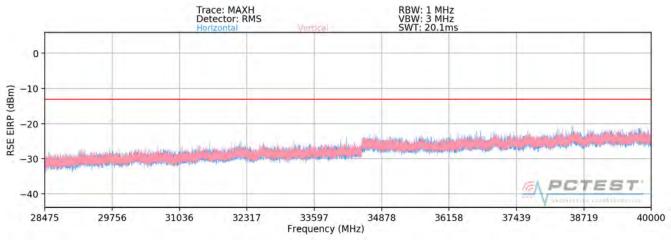
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

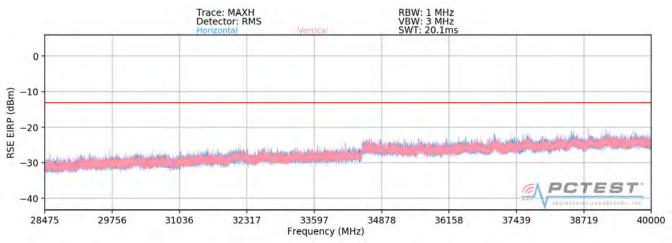
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

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Plot 7-103. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-104. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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Spurious Emissions EIRP Sample Calculation (n261)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
28605.69	Low	50	Н	QPSK	V	104	65	-23.53	-13.00	-10.53
28605.34	Low	50	V	QPSK	V	129	68	-25.70	-13.00	-12.70
30138.10	Mid	50	Н	QPSK	V	109	68	-30.10	-13.00	-17.10
30137.75	Mid	50	V	QPSK	V	132	61	-30.09	-13.00	-17.09
29740.61	High	50	Н	QPSK	V	104	74	-26.58	-13.00	-13.58
29740.61	High	50	V	QPSK	V	131	60	-27.82	-13.00	-14.82

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-55. Ant1 - SISO -Spurious Emissions Table (28.475GHz - 40GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-21.47	-13.00	-8.47
Mid	50	QPSK	-27.08	-13.00	-14.08
High	50	QPSK	-24.14	-13.00	-11.14
Table 7 56	Apt MIMC	Sourious E	missions Table (

Table 7-56. Ant1 - MIMO -Spurious Emissions Table (28.475GHz - 40GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

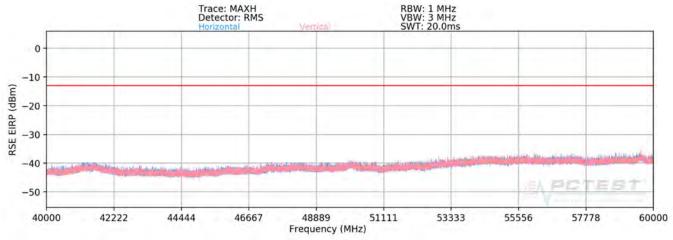
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

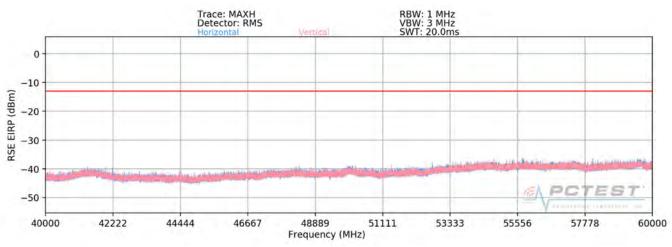
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Plot 7-105. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-106. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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Spurious Emissions EIRP Sample Calculation (n261)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1.5 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
55070.82	Low	50	Н	QPSK	V	78	281	-53.71	-13.00	-40.71
55070.83	Low	50	V	QPSK	V	23	255	-50.18	-13.00	-37.18
55845.18	Mid	50	Н	QPSK	V	85	322	-50.49	-13.00	-37.49
55845.50	Mid	50	V	QPSK	V	15	239	-52.22	-13.00	-39.22
56640.44	High	50	Н	QPSK	V	250	108	-54.19	-13.00	-41.19
56640.24	High	50	V	QPSK	V	76	327	-52.71	-13.00	-39.71

Table 7-57. Ant1 - SISO -Spurious Emissions Table (40GHz - 60GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-48.58	-13.00	-35.58
Mid	50	QPSK	-48.26	-13.00	-35.26
High	50	QPSK	-50.38	-13.00	-37.38
Table 7 6		10 Courieus	Emissiana Tabla	(40011-	

 Table 7-58. Ant1 - MIMO - Spurious Emissions Table (40GHz - 60GHz)

<u>Notes</u>

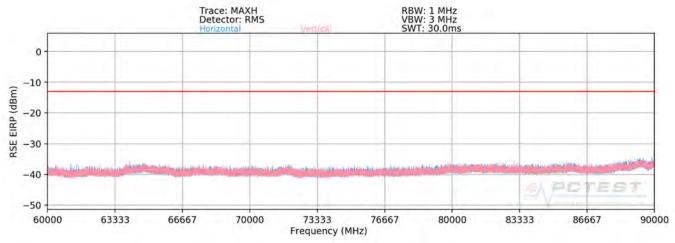
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

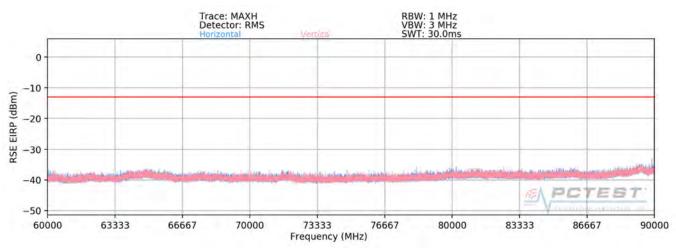
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

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Plot 7-107. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-108. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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Spurious Emissions EIRP Sample Calculation (n261)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
82600.92	Low	50	Н	QPSK	Н	-	-	-51.57	-13.00	-38.57
82606.68	Low	50	V	QPSK	Н	24	209	-50.61	-13.00	-37.61
83768.01	Mid	50	Н	QPSK	Н	257	120	-51.05	-13.00	-38.05
83768.70	Mid	50	V	QPSK	Н	94	302	-51.09	-13.00	-38.09
84952.62	High	50	Н	QPSK	Н	-	-	-51.35	-13.00	-38.35
84961.26	High	50	V	QPSK	Н	37	16	-51.06	-13.00	-38.06

Table 7-59. Ant1 - SISO -Spurious Emissions Table (60GHz - 90GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-48.05	-13.00	-35.05
Mid	50	QPSK	-48.06	-13.00	-35.06
High	50	QPSK	-48.19	-13.00	-35.19
Table 7 (Emissiana Tabla		0000-1

 Table 7-60. Ant1 - MIMO -Spurious Emissions Table (60GHz - 90GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

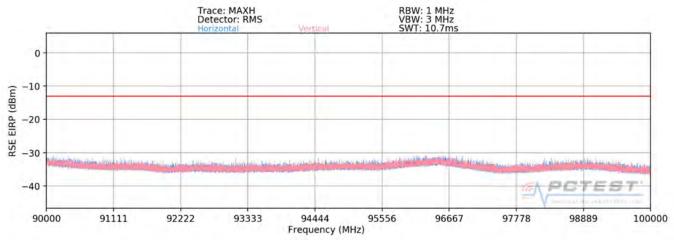
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

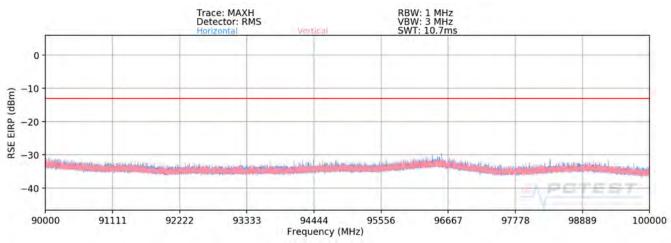
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Plot 7-109. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-110. Ant1-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
96546.35	Low	50	Н	QPSK	V	189	270	-39.14	-13.00	-26.14
96456.35	Low	50	V	QPSK	V	13	352	-40.04	-13.00	-27.04
96470.10	Mid	50	Н	QPSK	V	-	-	-39.95	-13.00	-26.95
96472.15	Mid	50	V	QPSK	V	31	80	-39.46	-13.00	-26.46
96491.40	High	50	Н	QPSK	V	-	-	-40.01	-13.00	-27.01
96493.50	High	50	V	QPSK	V	-	-	-39.58	-13.00	-26.58

Table 7-61. Ant1 - SISO -Spurious Emissions Table (90GHz - 100GHz)

Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
50	QPSK	-36.56	-13.00	-23.56
50	QPSK	-36.69	-13.00	-23.69
50	QPSK	-36.78	-13.00	-23.78
	(MHz) 50 50	(MHz)Modulation50QPSK50QPSK50QPSK	Bandwidth (MHz)ModulationEmission Level [dBm]50QPSK-36.5650QPSK-36.6950QPSK-36.78	Bandwidth (MHz) Modulation Emission Level [dBm] Limit [dBm] 50 QPSK -36.56 -13.00 50 QPSK -36.69 -13.00 50 QPSK -36.78 -13.00

Table 7-62. Ant1 - MIMO -Spurious Emissions Table (90GHz - 100GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

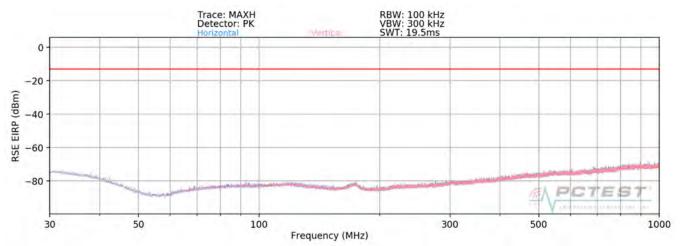
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

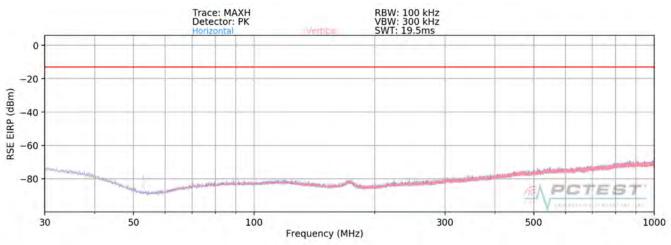
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Band n261 – Ant2 30MHz - 1GHz



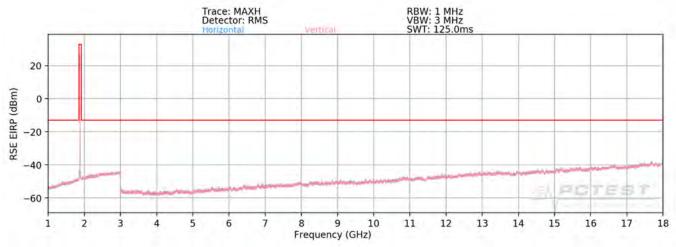




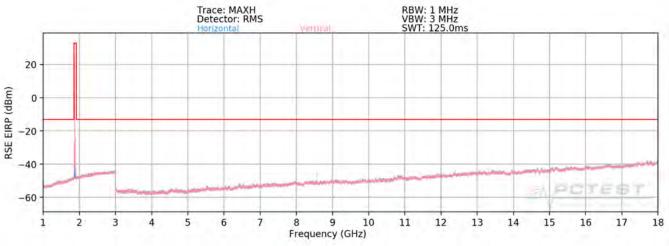
Plot 7-112. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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Plot 7-113. Ant2-n261 Radiated Spurious Plot 1GHz - 18GHz (1CC QPSK Mid Channel H Beam – ENDC Anchor Band 2)



Plot 7-114. Ant2-n261 Radiated Spurious Plot 1GHz - 18GHz (1CC QPSK Mid Channel V Beam – ENDC Anchor Band 2)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Antenna Height [cm]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
8821.85	Low	50	Н	QPSK	V	142	346	-40.09	-13.00	-27.09
8821.85	Low	50	V	QPSK	Н	286	10	-42.46	-13.00	-29.46
8569.16	Mid	50	Н	QPSK	V	155	326	-42.89	-13.00	-29.89
8569.16	Mid	50	V	QPSK	Н	284	21	-43.67	-13.00	-30.67
8966.56	High	50	Н	QPSK	V	136	349	-38.28	-13.00	-25.28
8966.56	High	50	V	QPSK	Н	290	10	-40.56	-13.00	-27.56

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-63. Ant2 - SISO -Spurious Emissions Table (1GHz - 18GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-38.10	-13.00	-25.10
Mid	50	QPSK	-40.25	-13.00	-27.25
High	50	QPSK	-36.26	-13.00	-23.26

Table 7-64. Ant2 - MIMO -Spurious Emissions Table (1GHz - 18GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

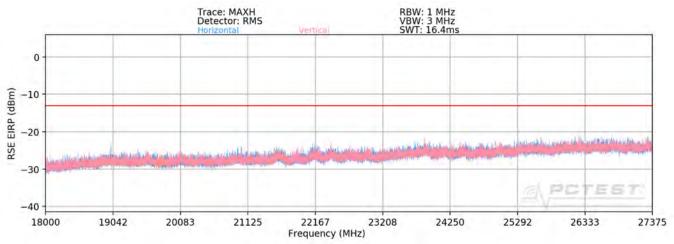
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

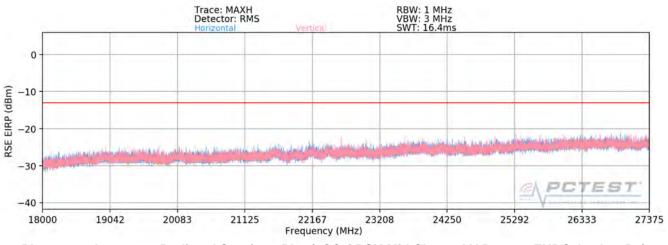
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18GHz - 27.375GHz



Plot 7-115. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-116. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
27228.14	Low	50	Н	QPSK	Н	121	47	-27.91	-13.00	-14.91
27381.83	Low	50	V	QPSK	V	57	120	-33.44	-13.00	-20.44
27307.66	Mid	50	Н	QPSK	Н	121	50	-35.61	-13.00	-22.61
27384.47	Mid	50	V	QPSK	V	57	119	-34.76	-13.00	-21.76
25571.95	High	50	Н	QPSK	Н	-	-	-36.34	-13.00	-23.34
25610.03	High	50	V	QPSK	V	-	-	-36.59	-13.00	-23.59

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-65. Ant2 - SISO -Spurious Emissions Table (18GHz - 27.375GHz)

Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
50	QPSK	-26.84	-13.00	-13.84
50	QPSK	-32.15	-13.00	-19.15
50	QPSK	-33.45	-13.00	-20.45
	(MHz) 50 50 50	(MHz)Modulation50QPSK50QPSK50QPSK	Modulation Emission Level [dBm] 50 QPSK -26.84 50 QPSK -32.15 50 QPSK -33.45	(MHz) Modulation Emission Level [dBm] [dBm] 50 QPSK -26.84 -13.00 50 QPSK -32.15 -13.00 50 QPSK -33.45 -13.00

Table 7-66. Ant2 - MIMO -Spurious Emissions Table (18GHz - 27.375GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

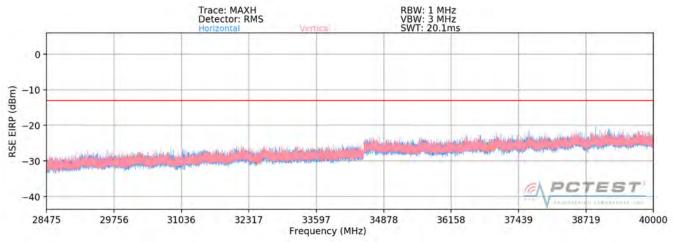
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

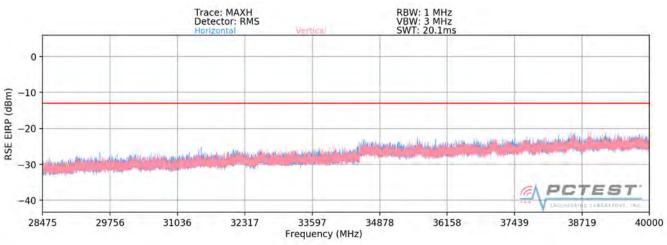
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Plot 7-117. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-118. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
28604.99	Low	50	Н	QPSK	Н	116	32	-33.20	-13.00	-20.20
28605.11	Low	50	V	QPSK	V	45	118	-32.78	-13.00	-19.78
30138.22	Mid	50	Н	QPSK	Н	120	26	-32.13	-13.00	-19.13
30138.10	Mid	50	V	QPSK	V	55	117	-34.14	-13.00	-21.14
28627.22	High	50	Н	QPSK	Н	123	37	-29.63	-13.00	-16.63
29740.27	High	50	V	QPSK	V	52	117	-33.09	-13.00	-20.09

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-67. Ant2 - SISO -Spurious Emissions Table (28.475GHz - 40GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-29.98	-13.00	-16.98
Mid	50	QPSK	-30.01	-13.00	-17.01
High	50	QPSK	-28.01	-13.00	-15.01

Table 7-68. Ant2 - MIMO - Spurious Emissions Table (28.475GHz - 40GHz)

<u>Notes</u>

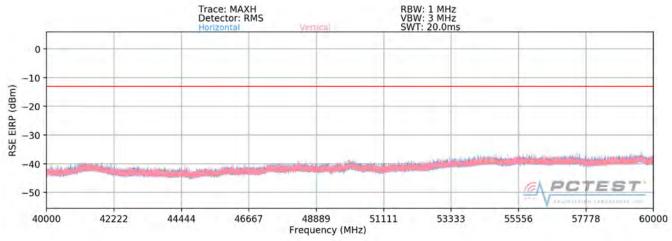
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

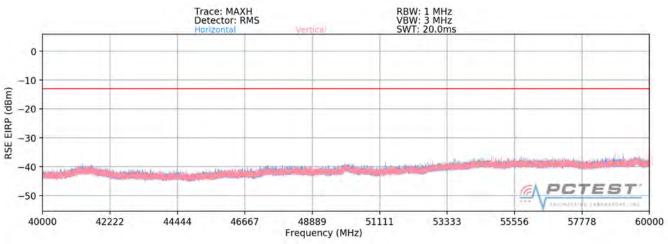
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

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Plot 7-119. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-120. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1.5 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
55070.68	Low	50	Н	QPSK	Н	48	337	-52.74	-13.00	-39.74
55070.78	Low	50	V	QPSK	Н	228	24	-54.60	-13.00	-41.60
55845.06	Mid	50	Н	QPSK	Н	166	267	-46.86	-13.00	-33.86
55845.46	Mid	50	V	QPSK	Н	235	58	-52.20	-13.00	-39.20
56640.33	High	50	Н	QPSK	Н	288	169	-46.88	-13.00	-33.88
56640.51	High	50	V	QPSK	Н	31	345	-54.83	-13.00	-41.83

Table 7-69. Ant2 - SISO -Spurious Emissions Table (40GHz - 60GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-50.56	-13.00	-37.56
Mid	50	QPSK	-45.74	-13.00	-32.74
High	50	QPSK	-46.23	-13.00	-33.23
Table 7.7	70 Ap+2 MIN	10 Sourious	Emissions Table		60CU-)

 Table 7-70. Ant2 - MIMO -Spurious Emissions Table (40GHz - 60GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

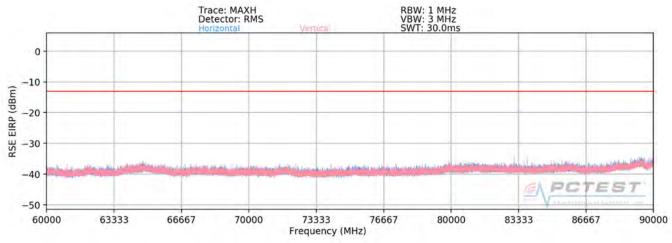
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

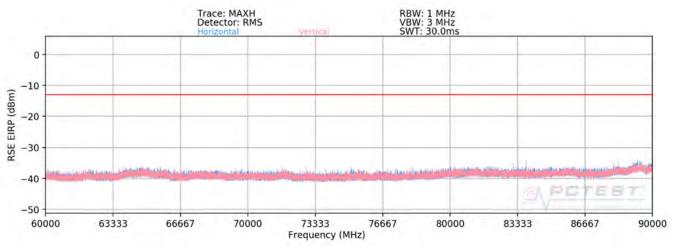
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Plot 7-121. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-122. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
82601.45	Low	50	Н	QPSK	Н	290	110	-46.54	-13.00	-33.54
82606.48	Low	50	V	QPSK	V	207	35	-46.55	-13.00	-33.55
83768.15	Mid	50	Н	QPSK	Н	221	80	-47.31	-13.00	-34.31
83768.94	Mid	50	V	QPSK	V	215	70	-46.75	-13.00	-33.75
84962.51	High	50	Н	QPSK	Н	300	17	-46.43	-13.00	-33.43
84961.47	High	50	V	QPSK	V	140	255	-51.30	-13.00	-38.30

Table 7-71. Ant2 - SISO -Spurious Emissions Table (60GHz - 90GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-43.54	-13.00	-30.54
Mid	50	QPSK	-44.01	-13.00	-31.01
High	50	QPSK	-45.20	-13.00	-32.20

Table 7-72. Ant2 - MIMO -Spurious Emissions Table (60GHz - 90GHz)

<u>Notes</u>

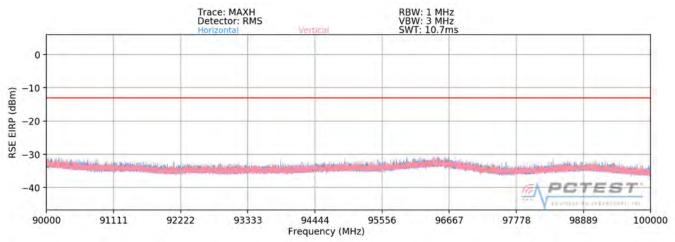
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

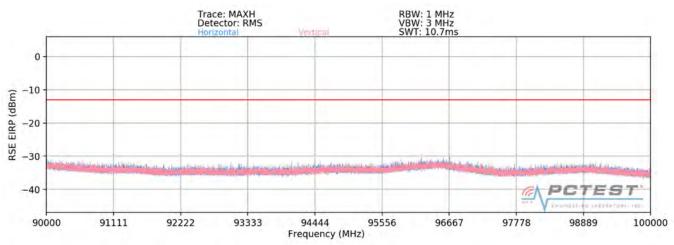
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

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Plot 7-123. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-124. Ant2-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
96476.10	Low	50	Н	QPSK	V	-	-	-40.01	-13.00	-27.01
96476.12	Low	50	V	QPSK	V	-	-	-41.12	-13.00	-28.12
96470.85	Mid	50	Н	QPSK	V	-	-	-39.59	-13.00	-26.59
96464.15	Mid	50	V	QPSK	V	-	-	-40.14	-13.00	-27.14
96471.11	High	50	Н	QPSK	V	-	-	-39.49	-13.00	-26.49
96473.65	High	50	V	QPSK	V	· · _ · .	-	-39.93	-13.00	-26.93

Table 7-73. Ant2 - SISO -Spurious Emissions Table (90GHz - 100GHz)

Channnel	Bandwidth (MHz)	Modulation Spurious [dBm]		Limit [dBm]	Margin [dB]
Low	50	QPSK	-37.52	-13.00	-24.52
Mid	50	QPSK	-36.84	-13.00	-23.84
High	50	QPSK	-36.69	-13.00	-23.69

Table 7-74. Ant2 - MIMO -Spurious Emissions Table (90GHz - 100GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

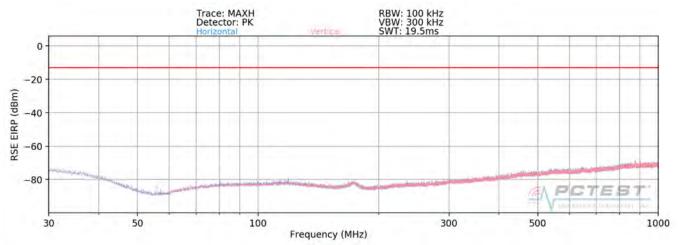
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

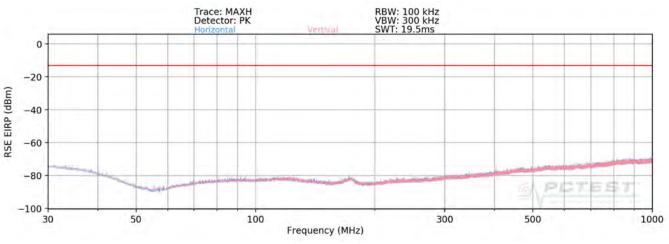
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Band n261 – Ant3 30MHz - 1GHz



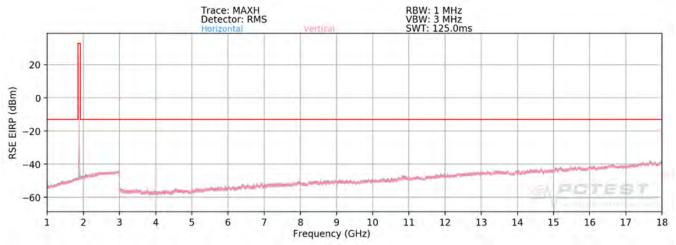
Plot 7-125. Ant3-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



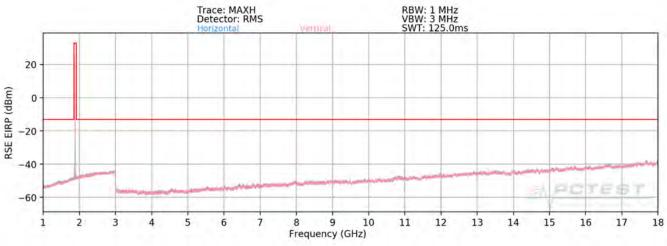
Plot 7-126. Ant3-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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Plot 7-127. Ant3-n261 Radiated Spurious Plot 1GHz - 18GHz (1CC QPSK Mid Channel H Beam – ENDC Anchor Band 2)



Plot 7-128. Ant3-n261 Radiated Spurious Plot 1GHz - 18GHz (1CC QPSK Mid Channel V Beam - – ENDC Anchor Band 2)

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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Antenna Height [cm]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
8821.85	Low	50	Н	QPSK	V	101	28	-46.63	-13.00	-33.63
8821.85	Low	50	V	QPSK	V	102	351	-43.82	-13.00	-30.82
8569.16	Mid	50	Н	QPSK	V	112	15	-48.46	-13.00	-35.46
8569.16	Mid	50	V	QPSK	V	100	4	-45.24	-13.00	-32.24
8966.56	High	50	Н	QPSK	V	102	25	-45.11	-13.00	-32.11
8966.56	High	50	V	QPSK	V	100	354	-44.25	-13.00	-31.25

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-75. Ant3 - SISO -Spurious Emissions Table (1GHz - 18GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]	
Low	50	QPSK	-41.99	-13.00	-28.99	
Mid	50	QPSK	-43.55	-13.00	-30.55	
High	50	QPSK	-41.65	-13.00	-28.65	

Table 7-76. Ant3 - MIMO -Spurious Emissions Table (1GHz - 18GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

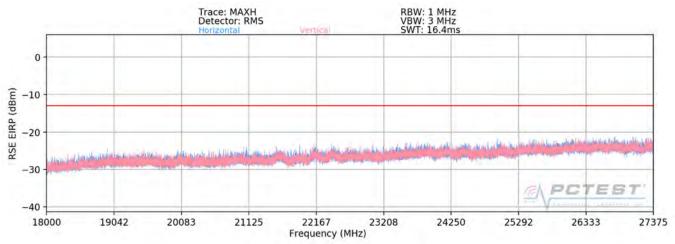
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

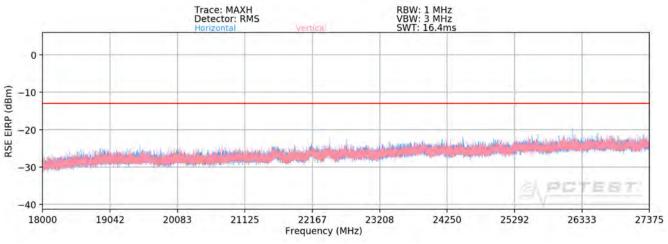
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18GHz - 27.375GHz



Plot 7-129. Ant3-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-130. Ant3-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
27228.21	Low	50	Н	QPSK	Н	75	52	-26.02	-13.00	-13.02
27381.17	Low	50	V	QPSK	Н	178	138	-30.74	-13.00	-17.74
27384.94	Mid	50	Н	QPSK	Н	72	42	-35.11	-13.00	-22.11
27385.04	Mid	50	V	QPSK	Н	174	135	-33.61	-13.00	-20.61
27398.61	High	50	Н	QPSK	Н	75	51	-34.81	-13.00	-21.81
26199.75	High	50	V	QPSK	Н	-	-	-35.75	-13.00	-22.75

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-77. Ant3 - SISO -Spurious Emissions Table (18GHz - 27.375GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-24.76	-13.00	-11.76
Mid	50	QPSK	-31.29	-13.00	-18.29
High	50	QPSK	-32.24	-13.00	-19.24

Table 7-78. Ant3 - MIMO -Spurious Emissions Table (18GHz - 27.375GHz)

<u>Notes</u>

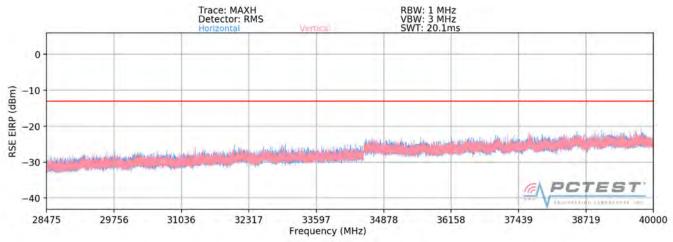
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

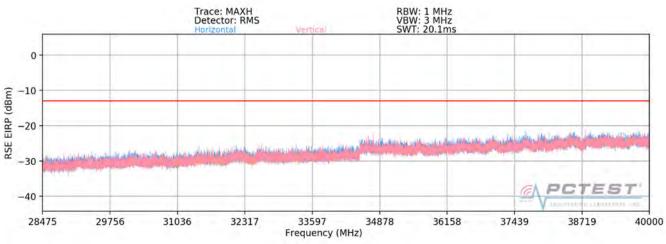
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

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Plot 7-131. Ant3-n261 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – ENDC Anchor B2)



Plot 7-132. Ant3-n261 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam – ENDC Anchor B2)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dama 400 at 000		
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The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
28605.11	Low	50	Н	QPSK	Н	83	49	-25.28	-13.00	-12.28
28605.34	Low	50	V	QPSK	Н	196	141	-23.55	-13.00	-10.55
30137.87	Mid	50	Н	QPSK	Н	75	52	-29.57	-13.00	-16.57
30137.87	Mid	50	V	QPSK	Н	192	128	-28.73	-13.00	-15.73
29740.61	High	50	Н	QPSK	Н	79	46	-27.50	-13.00	-14.50
29740.61	High	50	V	QPSK	Н	190	133	-26.32	-13.00	-13.32

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) - 104.8

Table 7-79. Ant3 - SISO -Spurious Emissions Table (28.475GHz - 40GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-21.32	-13.00	-8.32
Mid	50	QPSK	-26.12	-13.00	-13.12
High	50	QPSK	-23.86	-13.00	-10.86
Table 7 00	A to 42 MINAC		miasiana Tahla //		

Table 7-80. Ant3 - MIMO -Spurious Emissions Table (28.475GHz - 40GHz)

<u>Notes</u>

1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)	AMSONG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dega 120 of 200		
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