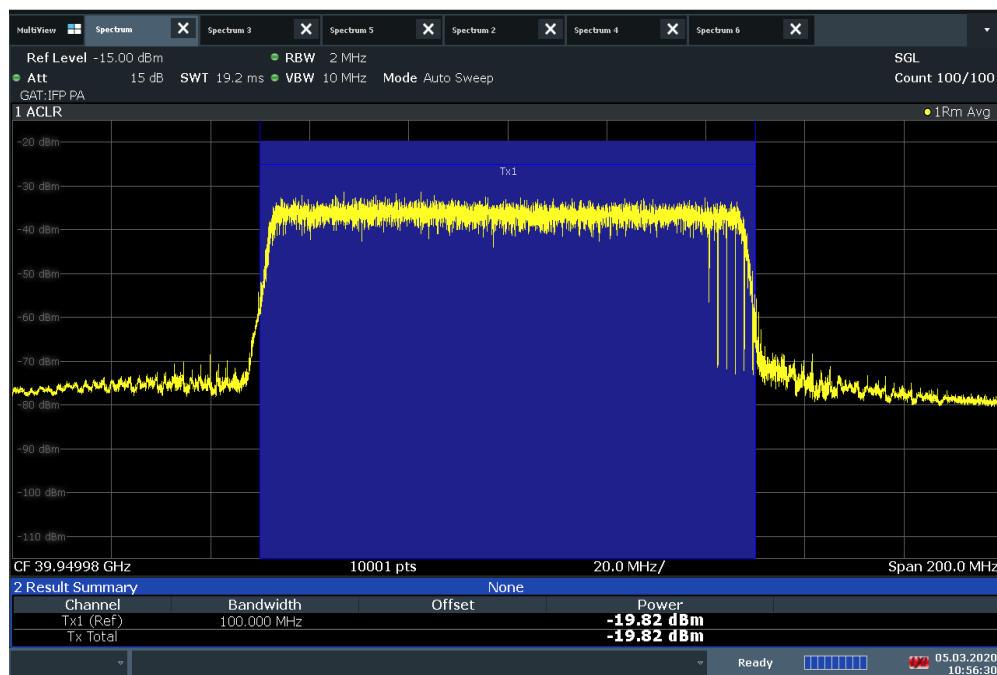


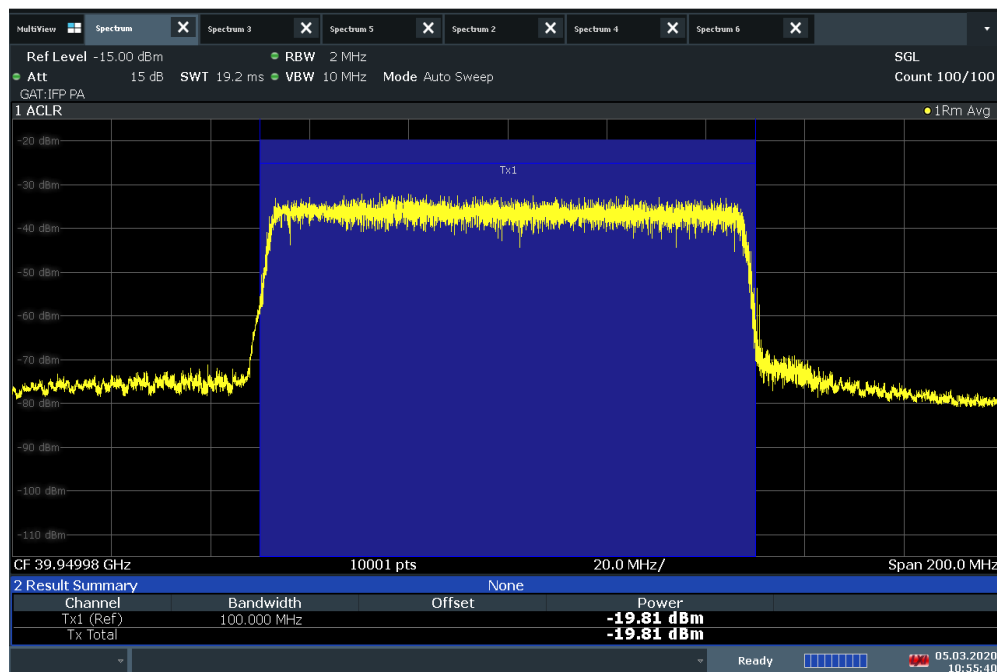
ACLRResults



10:56:31 05.03.2020

Plot 7-227. Antenna D EIRP Density Plot (100MHz BW 1CC 16QAM High Channel)

ACLRResults

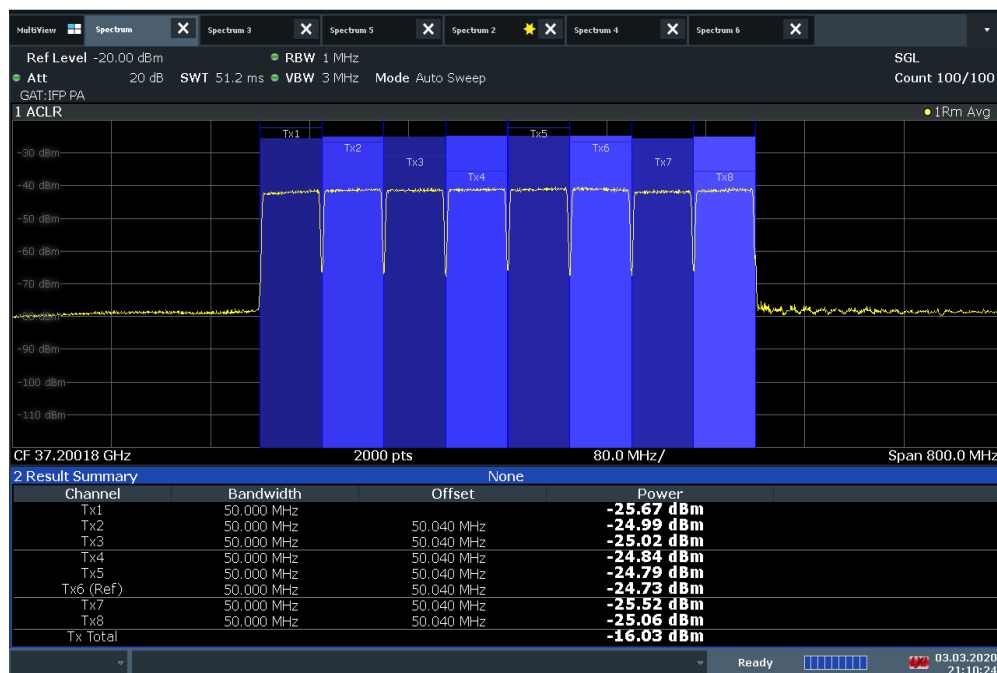


10:55:41 05.03.2020

Plot 7-228. Antenna D EIRP Density Plot (100MHz BW 1CC 64QAM High Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 143 of 360

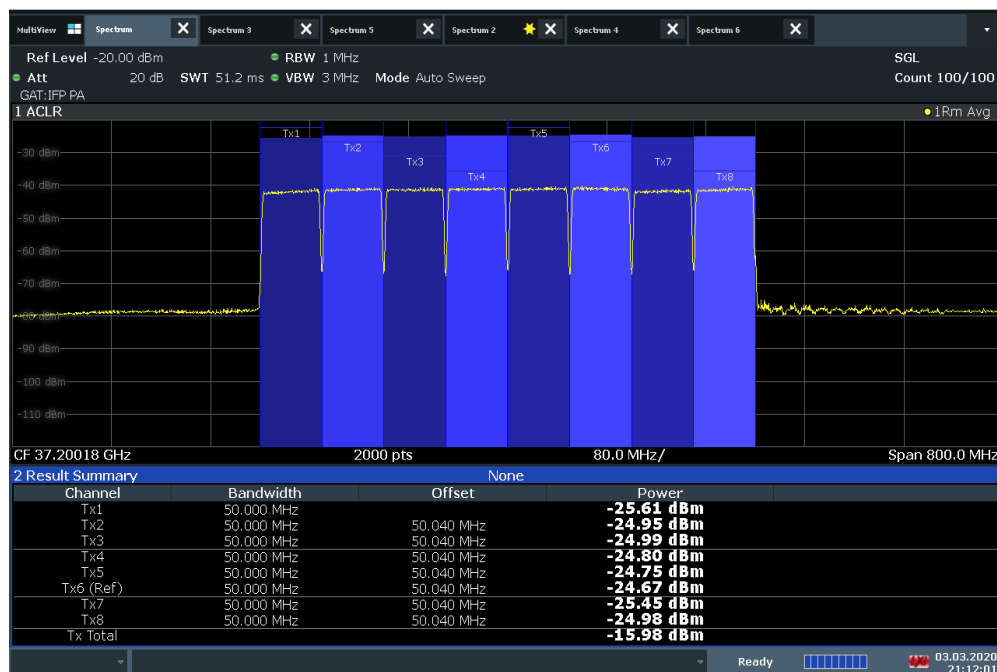
ACLRRResults



21:10:24 03.03.2020

Plot 7-229. Antenna D EIRP Density Plot (50MHz BW 8CC QPSK Low Channel)

ACLRRResults

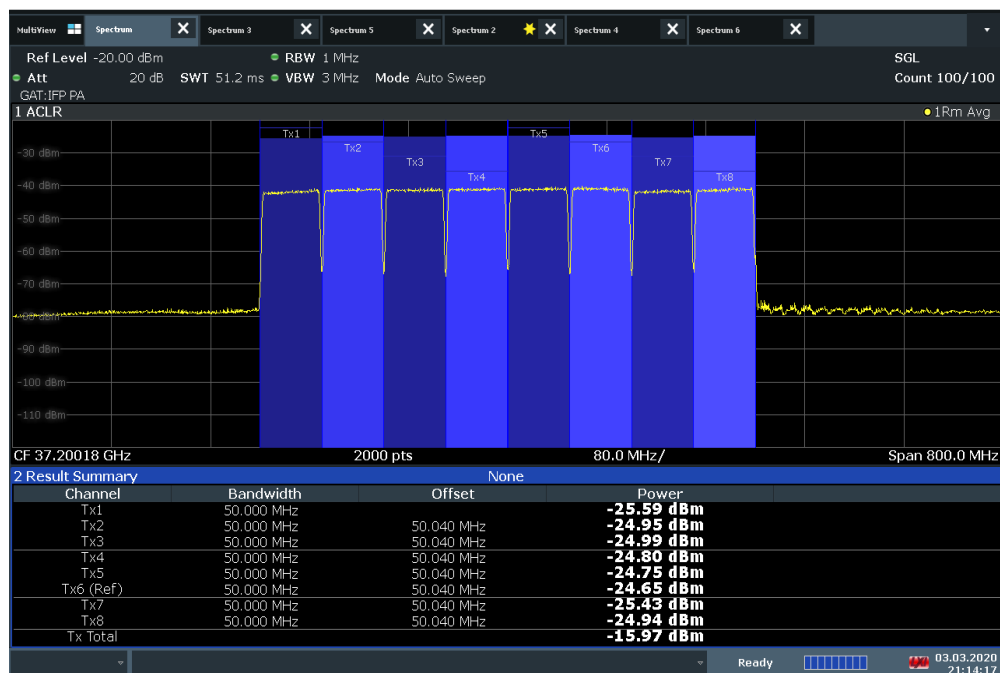


21:12:02 03.03.2020

Plot 7-230. Antenna D EIRP Density Plot (50MHz BW 8CC 16QAM Low Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 144 of 360

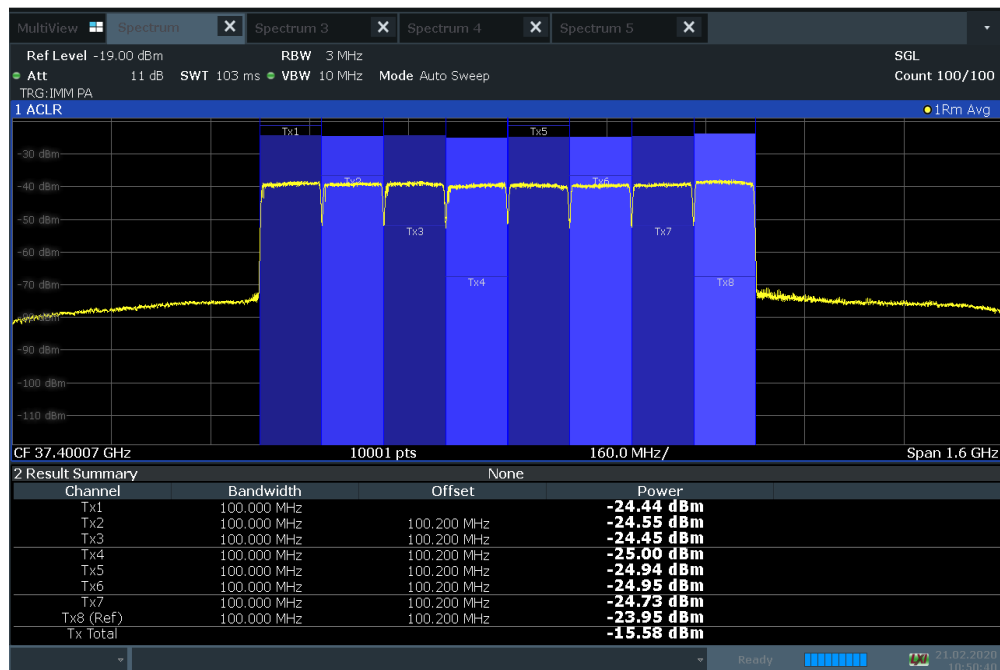
ACLRResults



21:14:17 03.03.2020

Plot 7-231. Antenna D EIRP Density Plot (50MHz BW 8CC 64QAM Low Channel)

ACLRResults

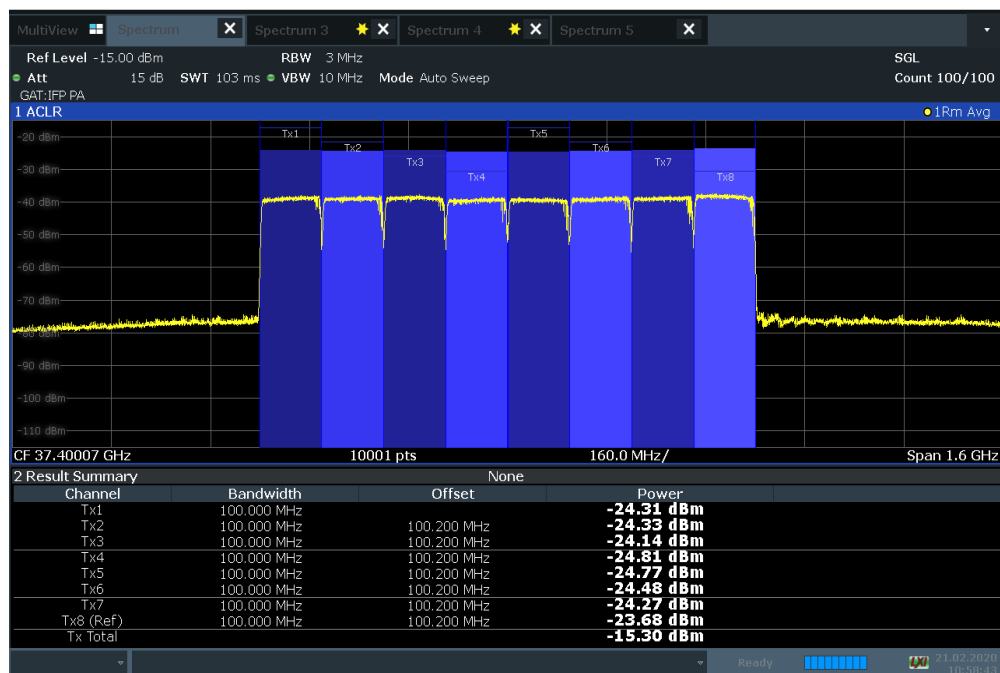


10:50:41 21.02.2020

Plot 7-232. Antenna D EIRP Density Plot (100MHz BW 8CC QPSK Low Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 145 of 360

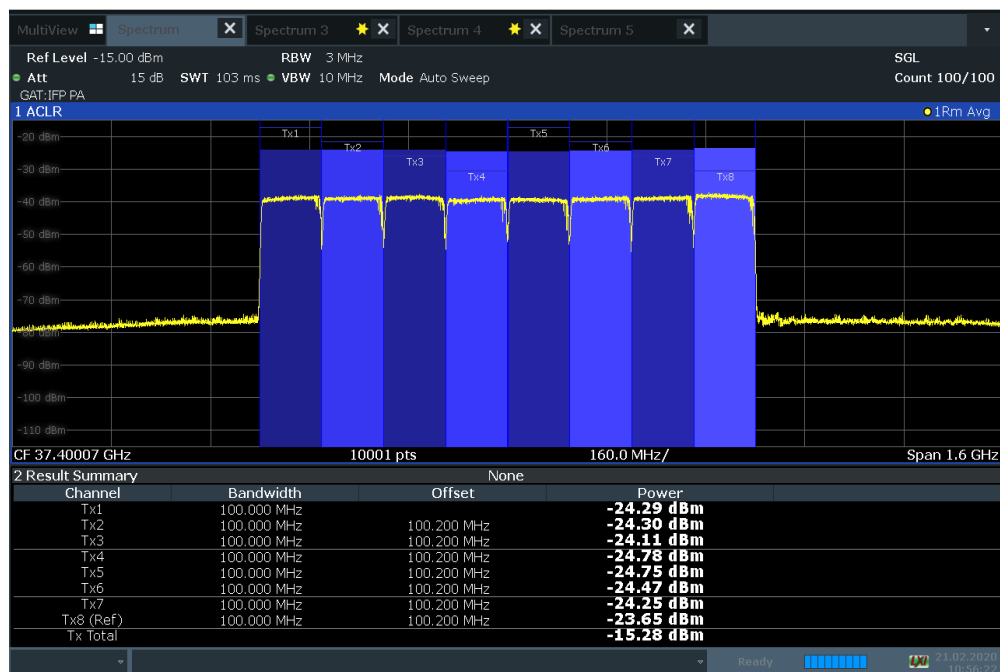
ACLRRResults



10:58:43 21.02.2020

Plot 7-233. Antenna D EIRP Density Plot (100MHz BW 8CC 16QAM Low Channel)

ACLRRResults

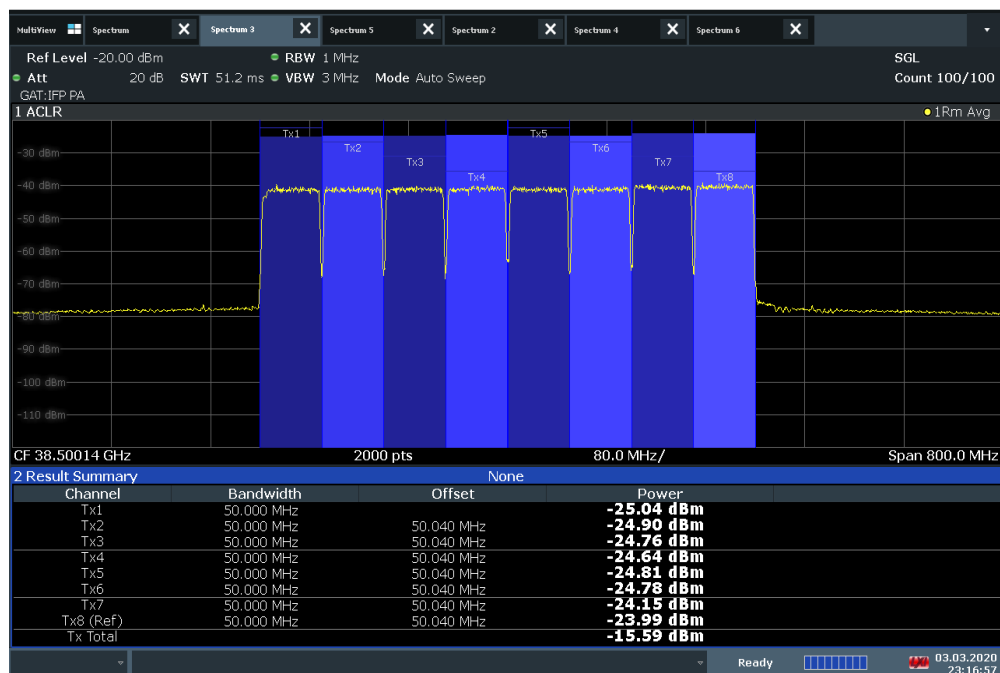


10:56:23 21.02.2020

Plot 7-234. Antenna D EIRP Density Plot (100MHz BW 8CC 64QAM Low Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 146 of 360

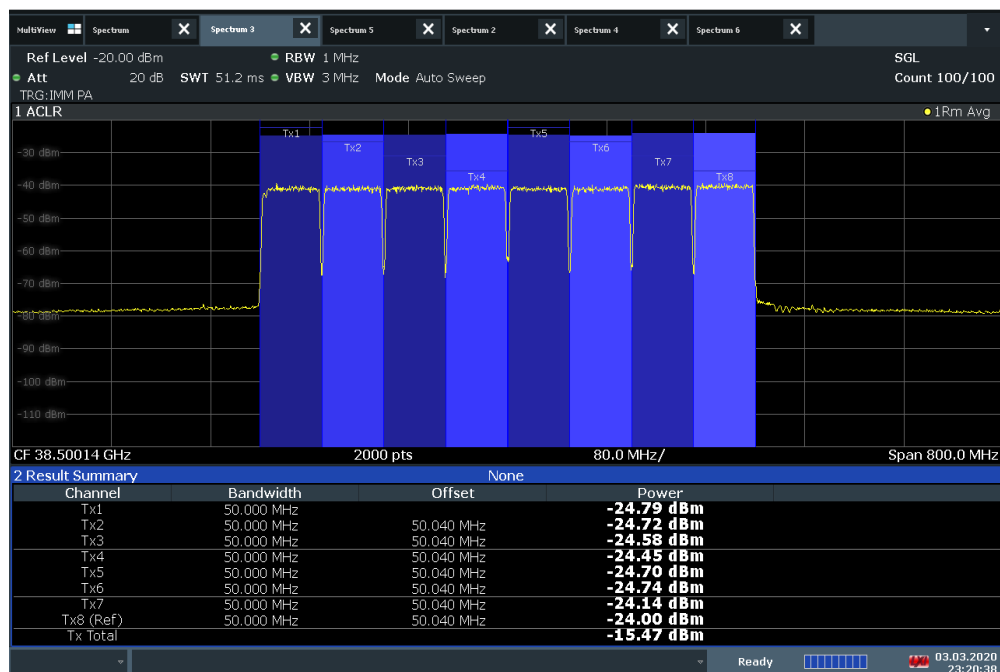
ACLRResults



23:16:57 03.03.2020

Plot 7-235. Antenna D EIRP Density Plot (50MHz BW 8CC QPSK Mid Channel)

ACLRResults

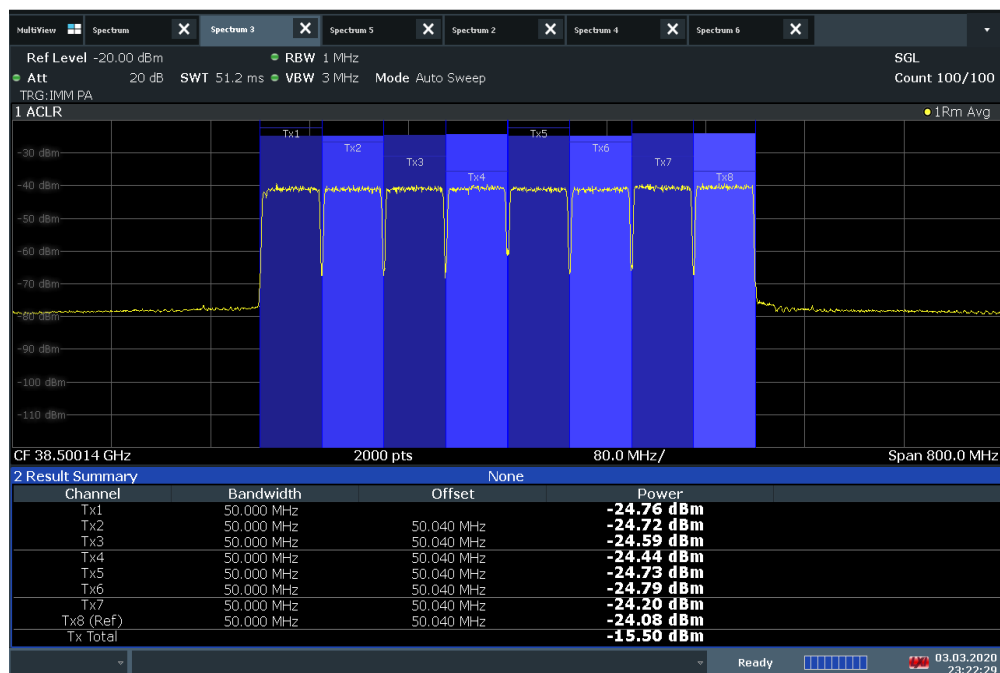


23:20:38 03.03.2020

Plot 7-236. Antenna D EIRP Density Plot (50MHz BW 8CC 16QAM Mid Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 147 of 360

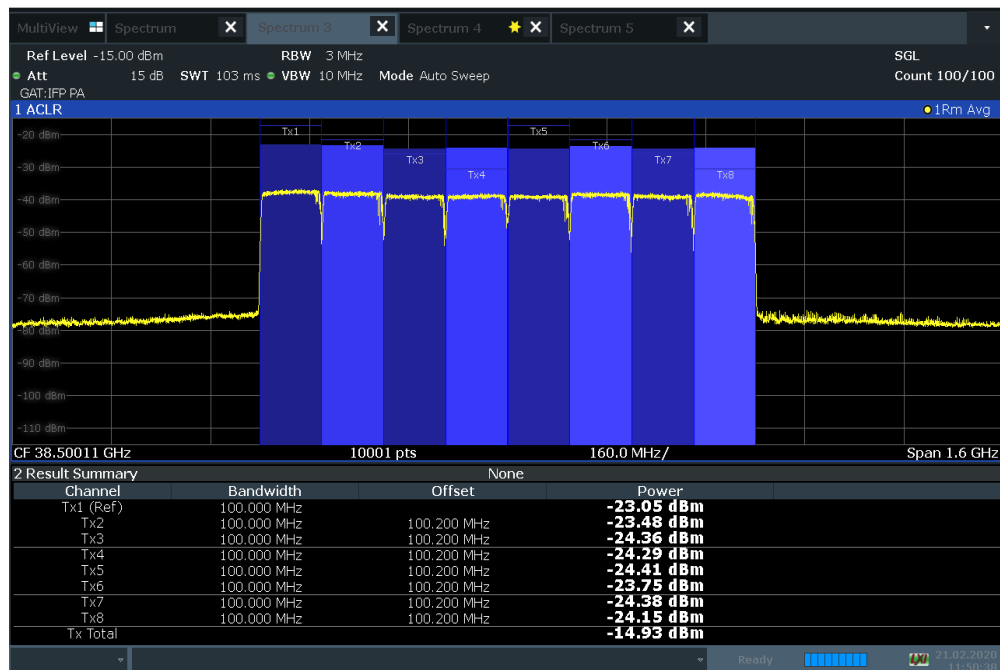
ACLRResults



23:22:30 03.03.2020

Plot 7-237. Antenna D EIRP Density Plot (50MHz BW 8CC 64QAM Mid Channel)

ACLRResults

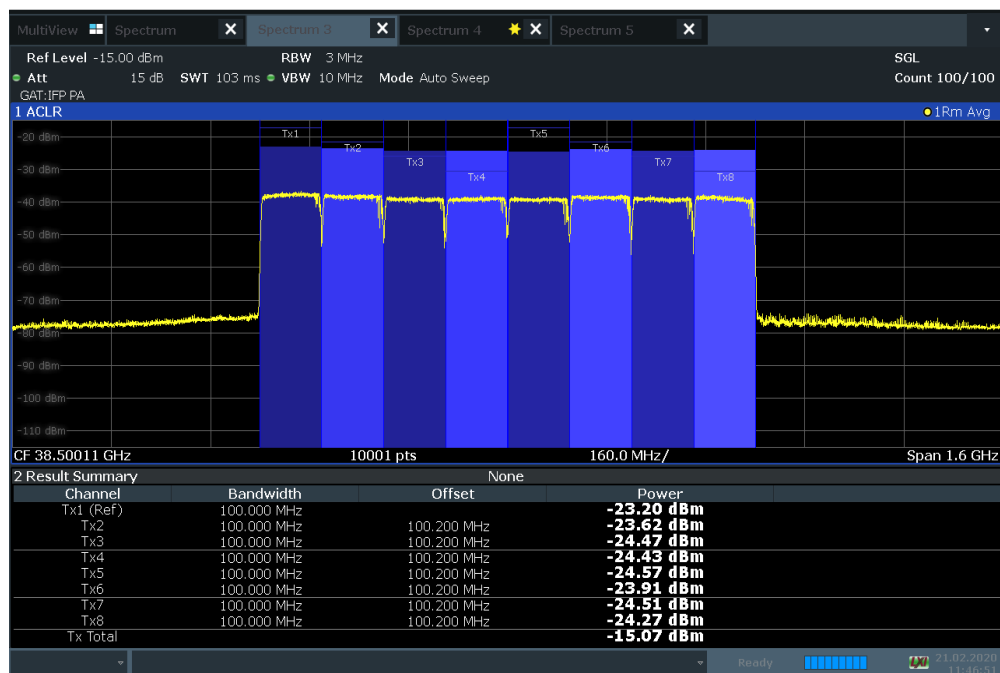


11:50:38 21.02.2020

Plot 7-238. Antenna D EIRP Density Plot (100MHz BW 8CC QPSK Mid Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 148 of 360

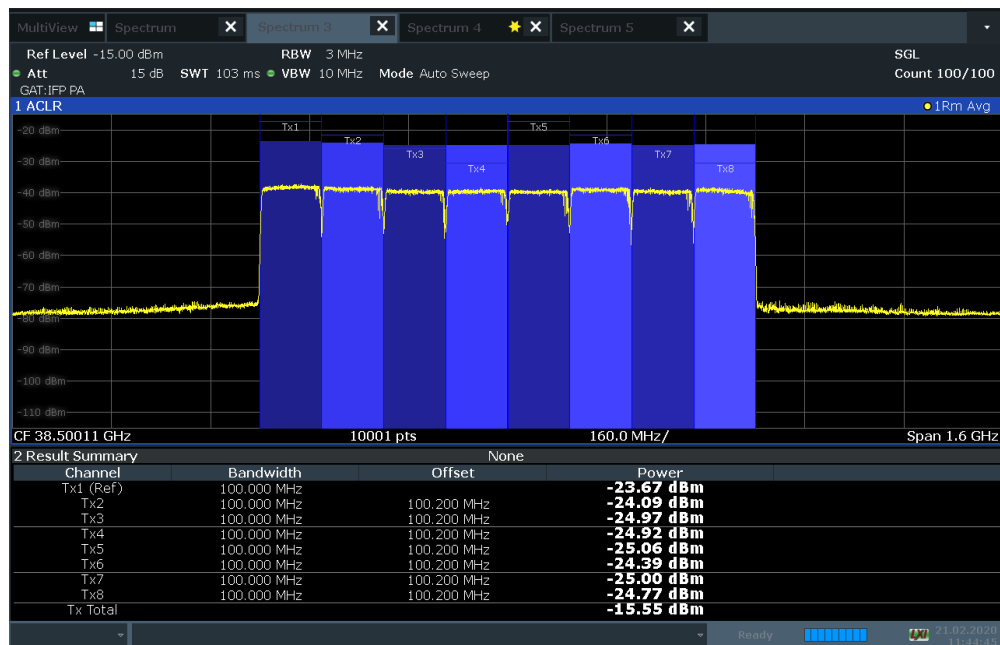
ACLRRResults



11:46:51 21.02.2020

Plot 7-239. Antenna D EIRP Density Plot (100MHz BW 8CC 16QAM Mid Channel)

ACLRRResults

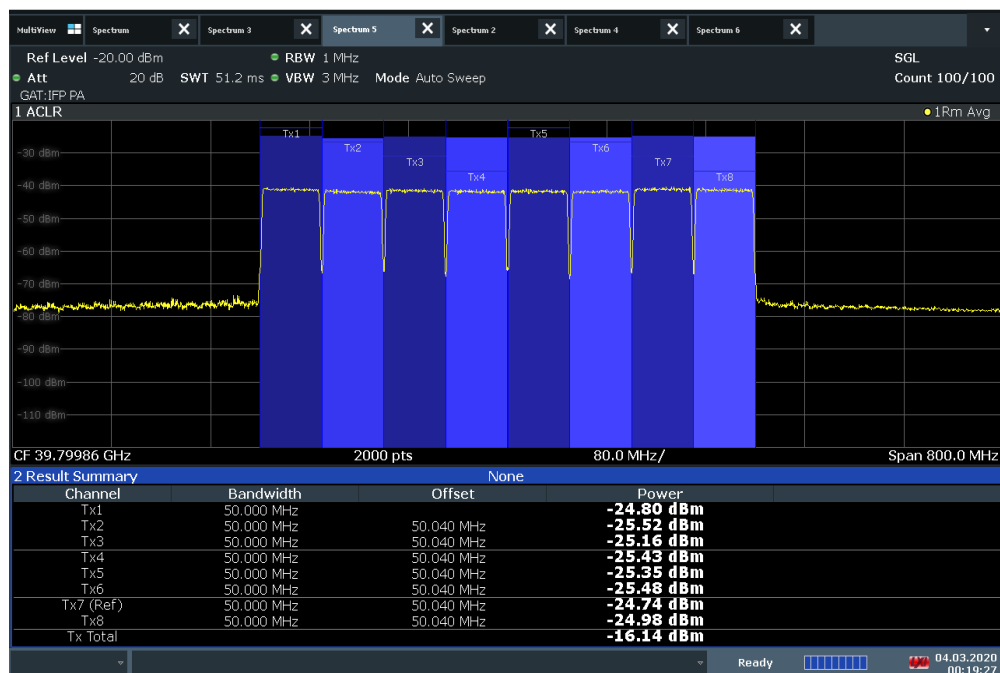


11:44:46 21.02.2020

Plot 7-240. Antenna D EIRP Density Plot (100MHz BW 8CC 64QAM Mid Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 149 of 360

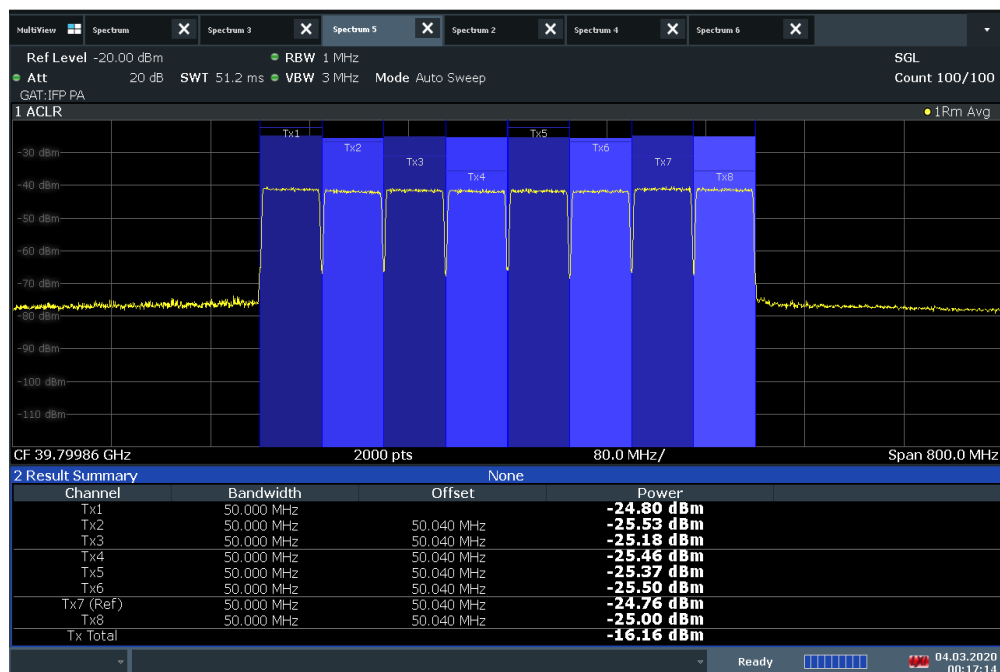
ACLRRResults



00:19:28 04.03.2020

Plot 7-241. Antenna D EIRP Density Plot (50MHz BW 8CC QPSK High Channel)

ACLRRResults

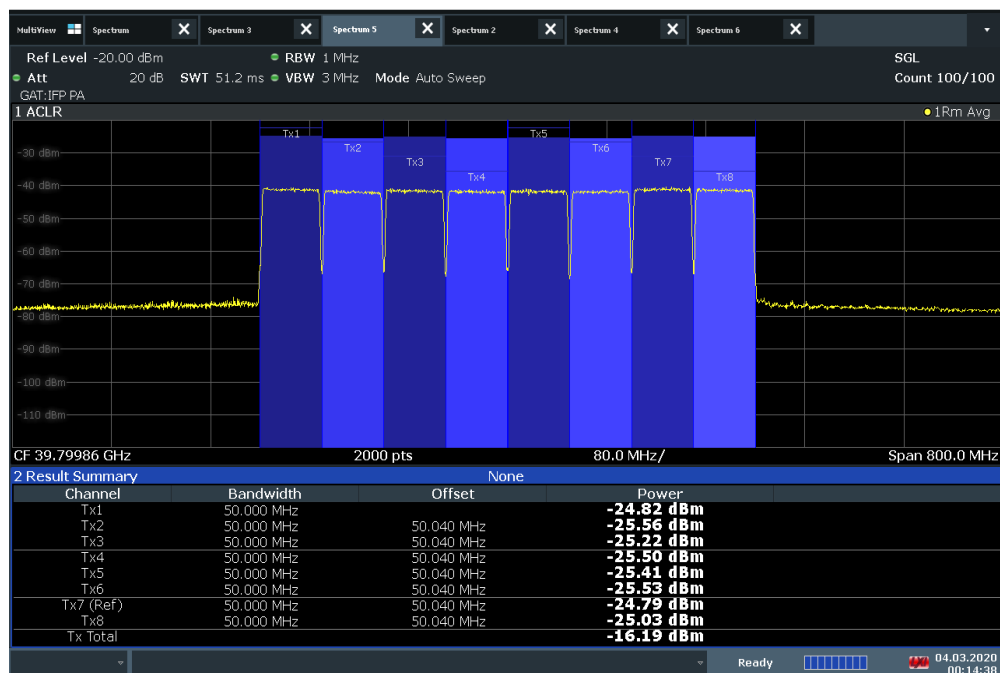


00:17:14 04.03.2020

Plot 7-242. Antenna D EIRP Density Plot (50MHz BW 8CC 16QAM High Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 150 of 360

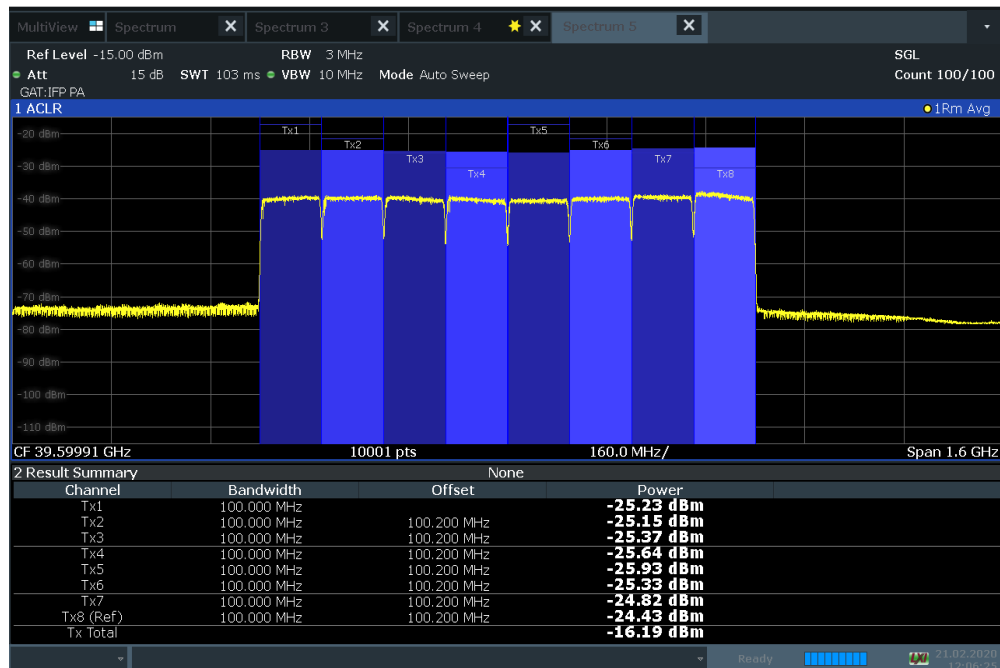
ACLRResults



00:14:39 04.03.2020

Plot 7-243. Antenna D EIRP Density Plot (50MHz BW 8CC 64QAM High Channel)

ACLRResults

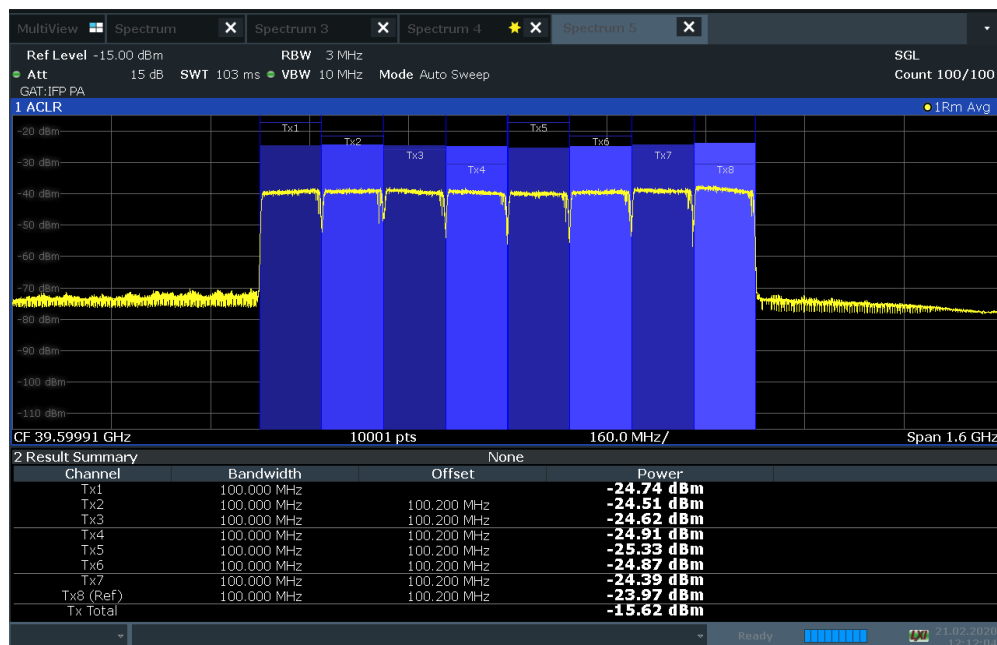


12:06:25 21.02.2020

Plot 7-244. Antenna D EIRP Density Plot (100MHz BW 8CC QPSK High Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 151 of 360

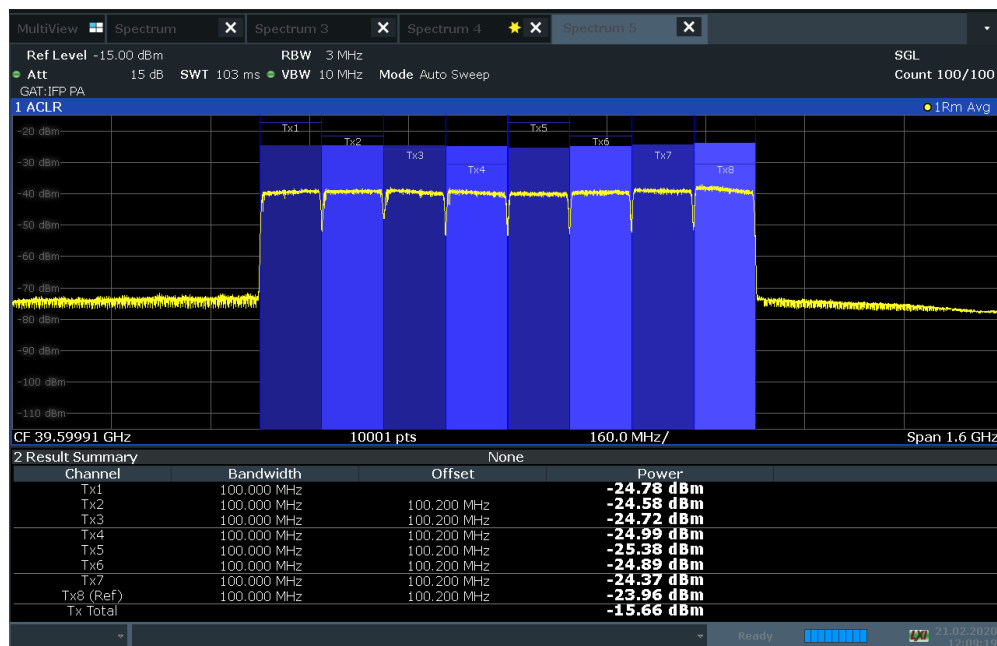
ACLRRResults



12:12:05 21.02.2020

Plot 7-245. Antenna D EIRP Density Plot (100MHz BW 8CC 16QAM High Channel)

ACLRRResults

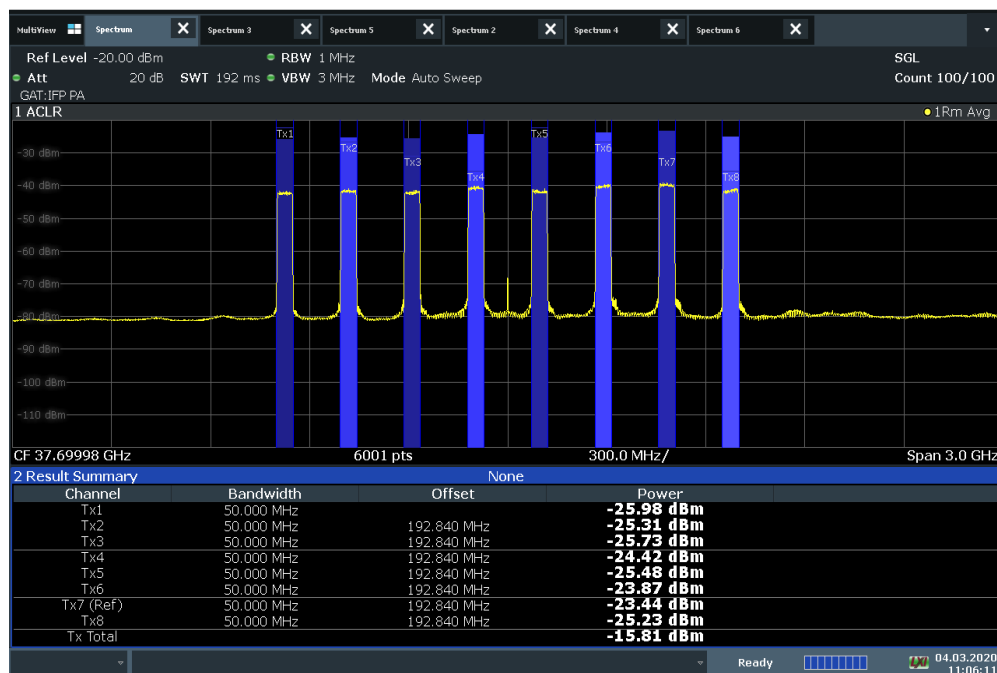


12:09:20 21.02.2020

Plot 7-246. Antenna D EIRP Density Plot (100MHz BW 8CC 64QAM High Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 152 of 360

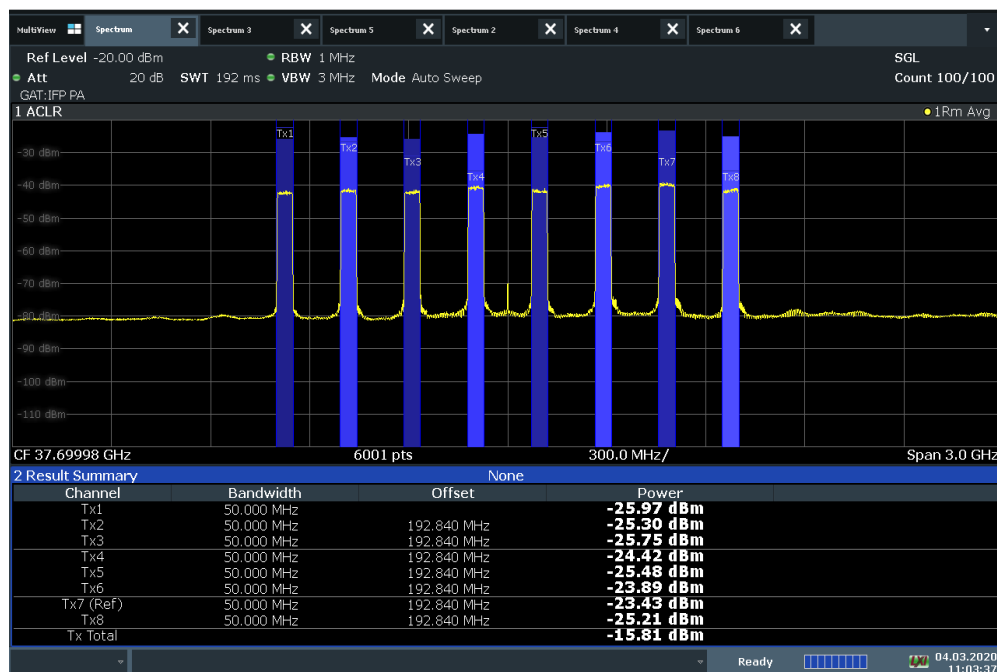
ACLRRResults



11:06:12 04.03.2020

Plot 7-247. Antenna C EIRP Density Plot (50MHz BW 8CC NC QPSK Low Channel)

ACLRRResults

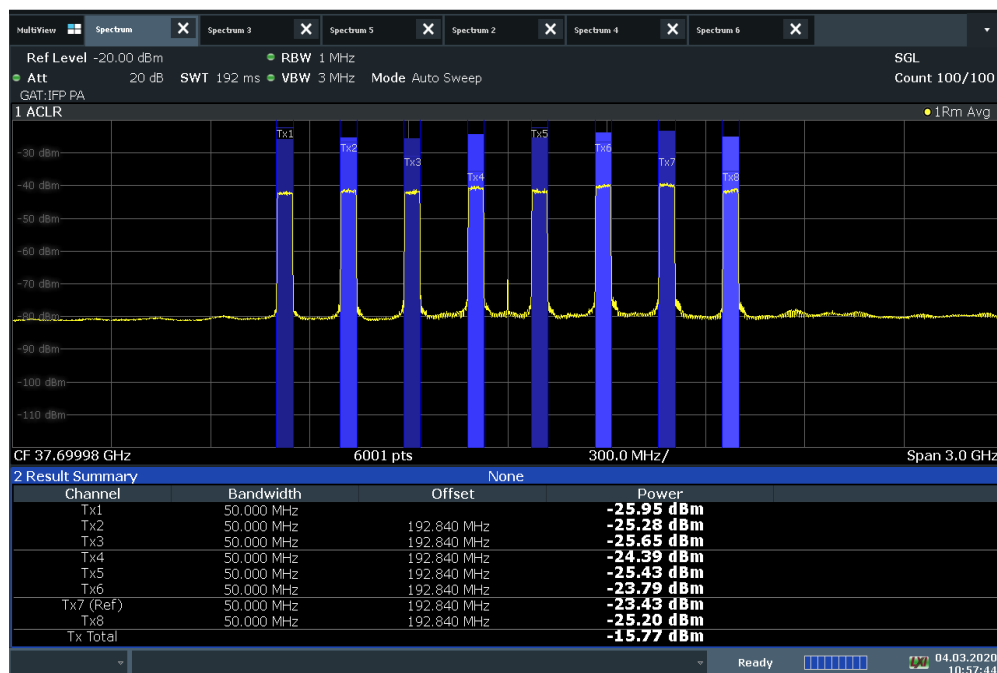


11:03:37 04.03.2020

Plot 7-248. Antenna C EIRP Density Plot (50MHz BW 8CC NC 16QAM Low Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 153 of 360

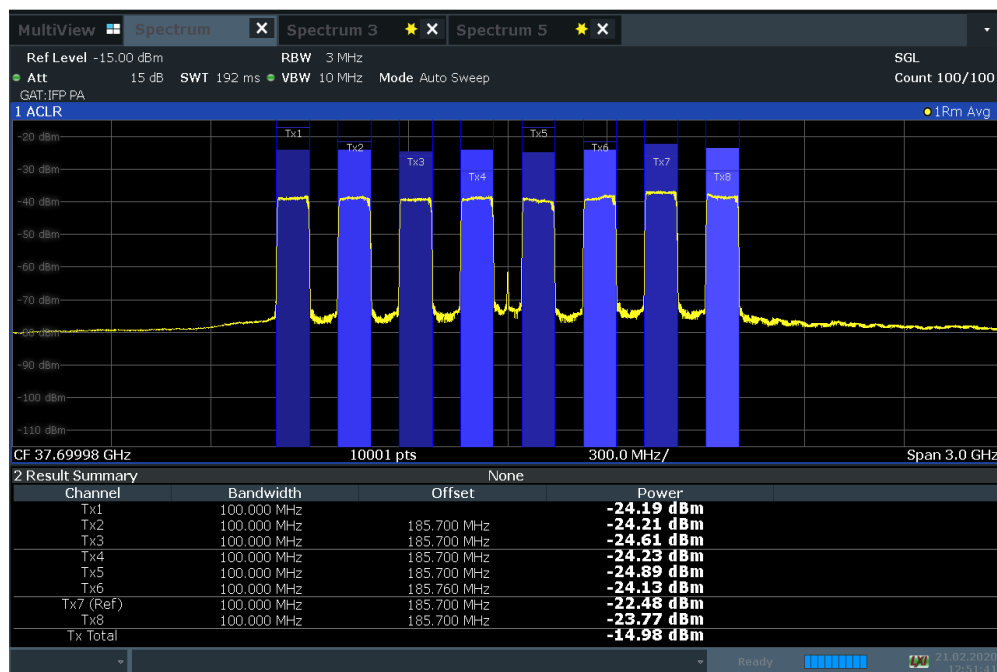
ACLRRResults



10:57:45 04.03.2020

Plot 7-249. Antenna C EIRP Density Plot (50MHz BW 8CC NC 64QAM Low Channel)

ACLRRResults

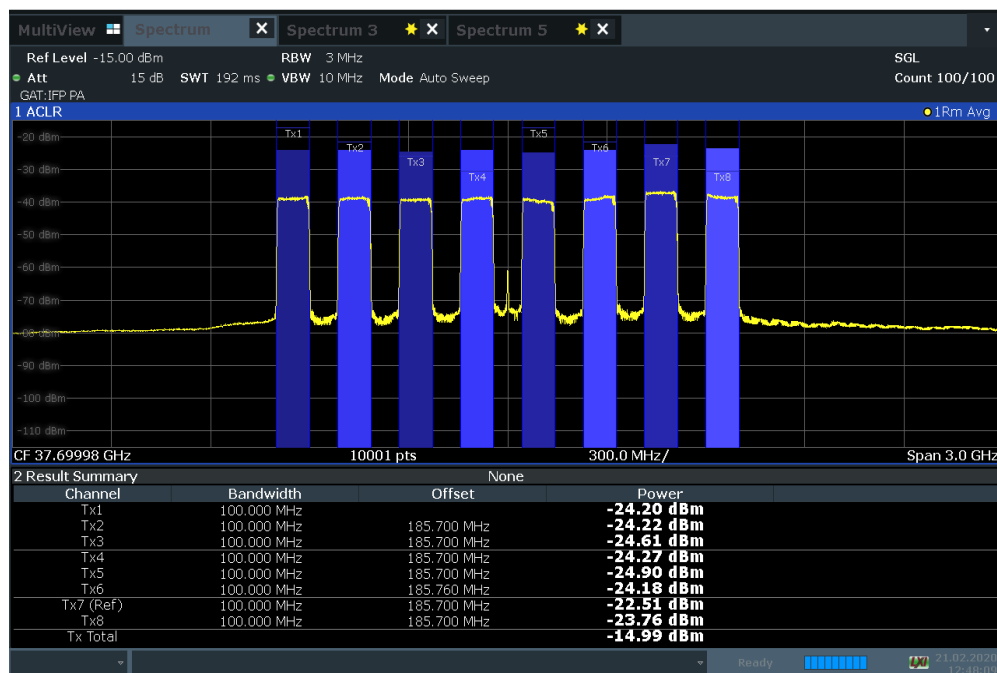


12:51:42 21.02.2020

Plot 7-250. Antenna C EIRP Density Plot (100MHz BW 8CC NC QPSK Low Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 154 of 360

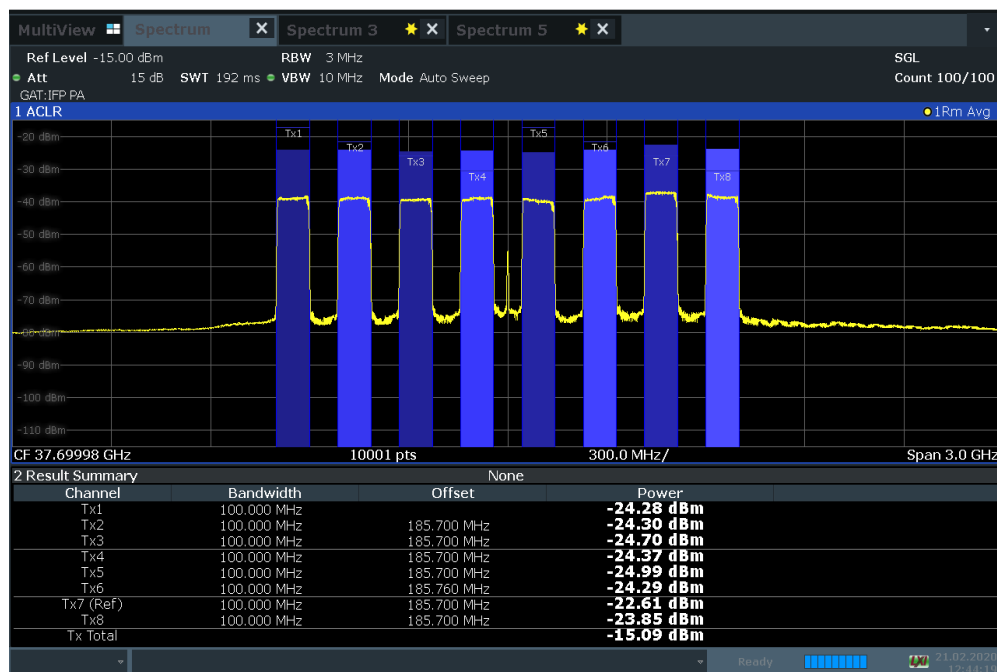
ACLRRResults



12:48:10 21.02.2020

Plot 7-251. Antenna C EIRP Density Plot (100MHz BW 8CC NC 16QAM Low Channel)

ACLRRResults

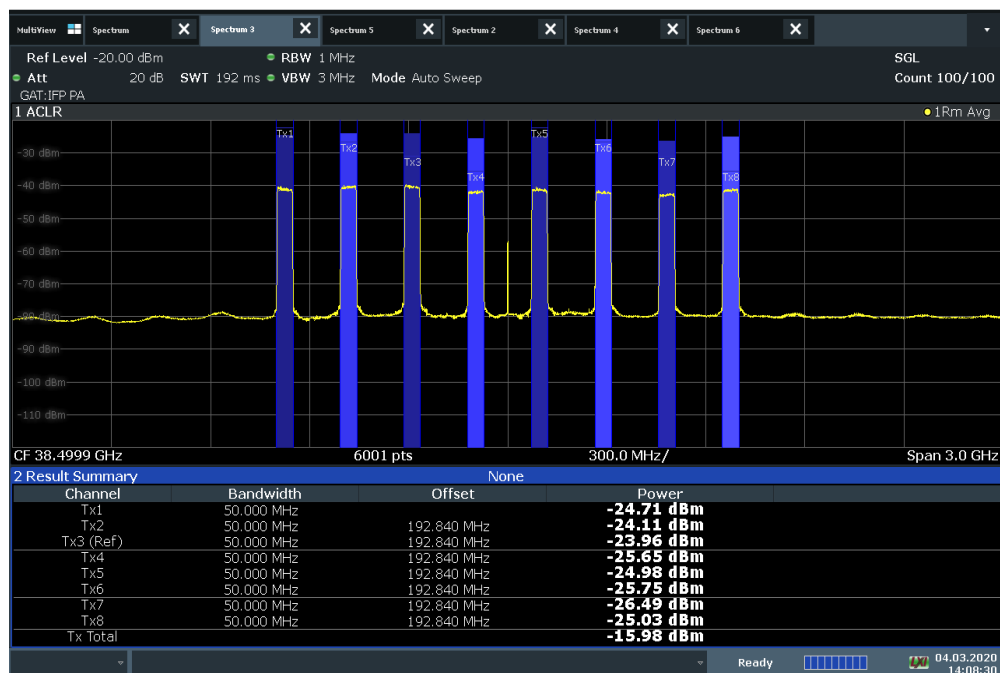


12:44:20 21.02.2020

Plot 7-252. Antenna C EIRP Density Plot (100MHz BW 8CC NC 64QAM Low Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 155 of 360

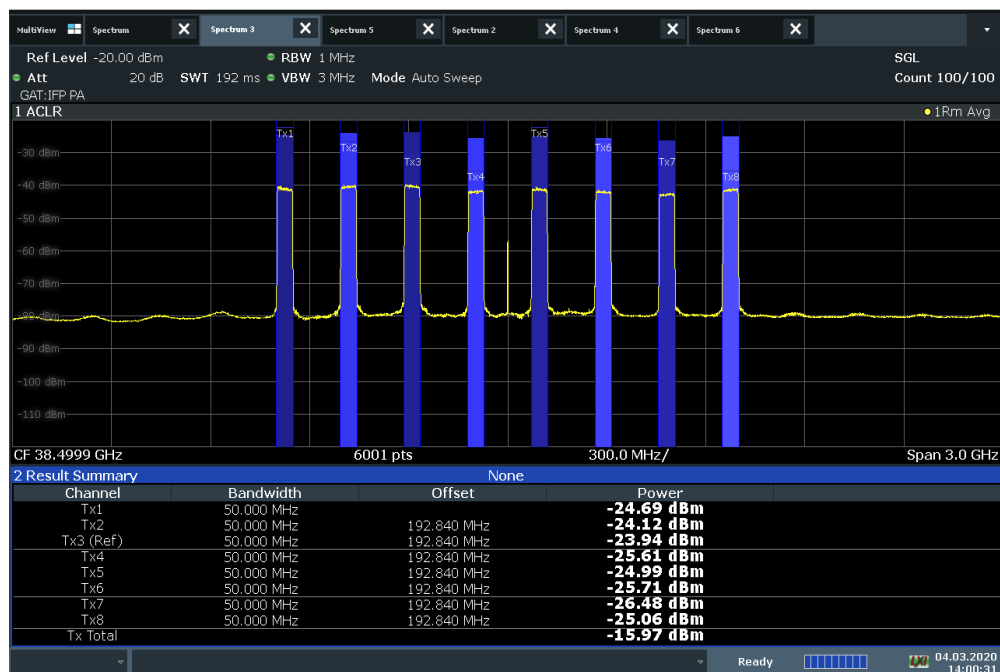
ACLRRResults



14:08:31 04.03.2020

Plot 7-253. Antenna C EIRP Density Plot (50MHz BW 8CC NC QPSK Mid Channel)

ACLRRResults

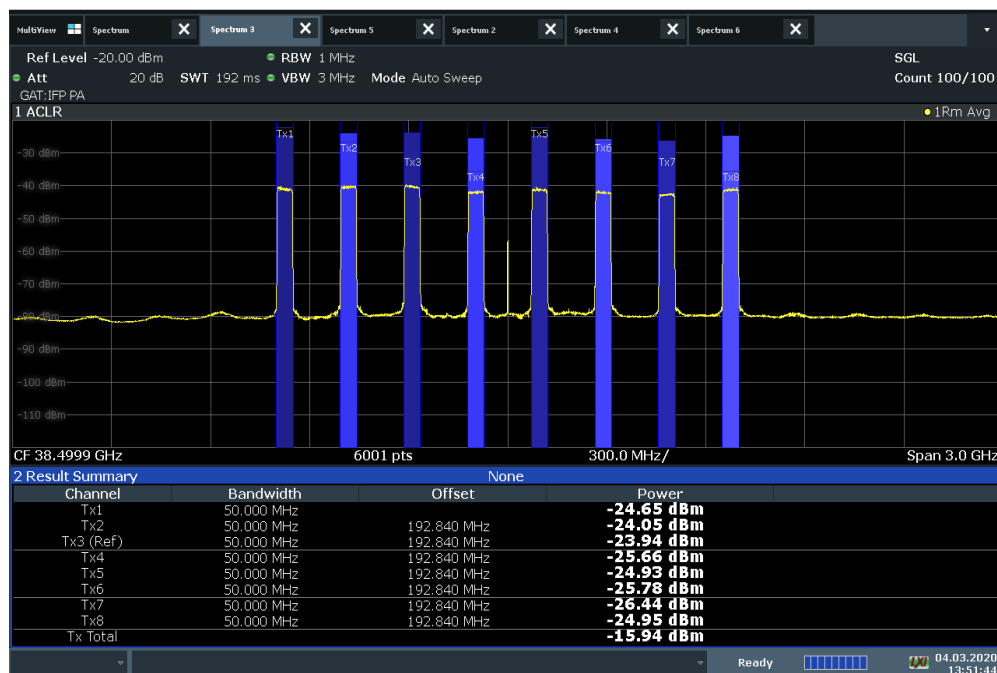


14:00:31 04.03.2020

Plot 7-254. Antenna C EIRP Density Plot (50MHz BW 8CC NC 16QAM Mid Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 156 of 360

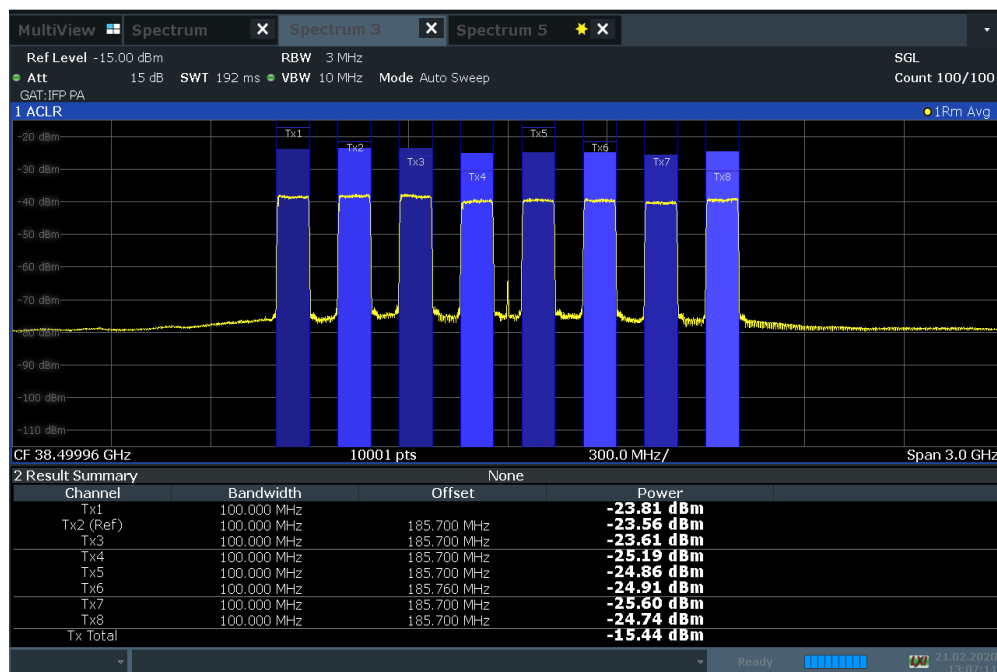
ACLRRResults



13:51:45 04.03.2020

Plot 7-255. Antenna C EIRP Density Plot (50MHz BW 8CC NC 64QAM Mid Channel)

ACLRRResults

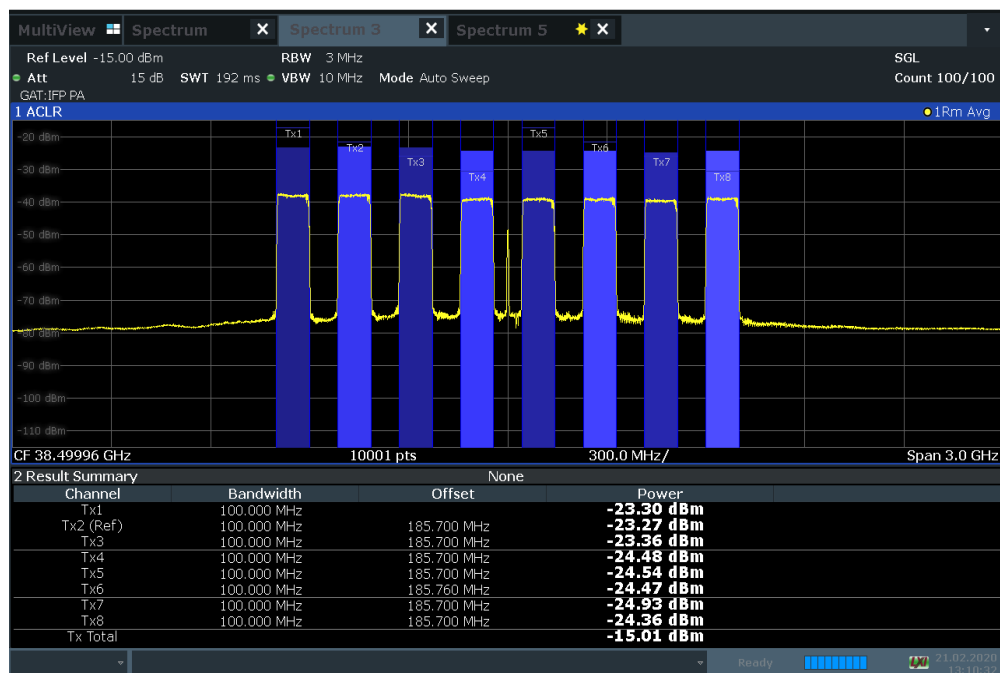


13:07:12 21.02.2020

Plot 7-256. Antenna C EIRP Density Plot (100MHz BW 8CC NC QPSK Mid Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 157 of 360

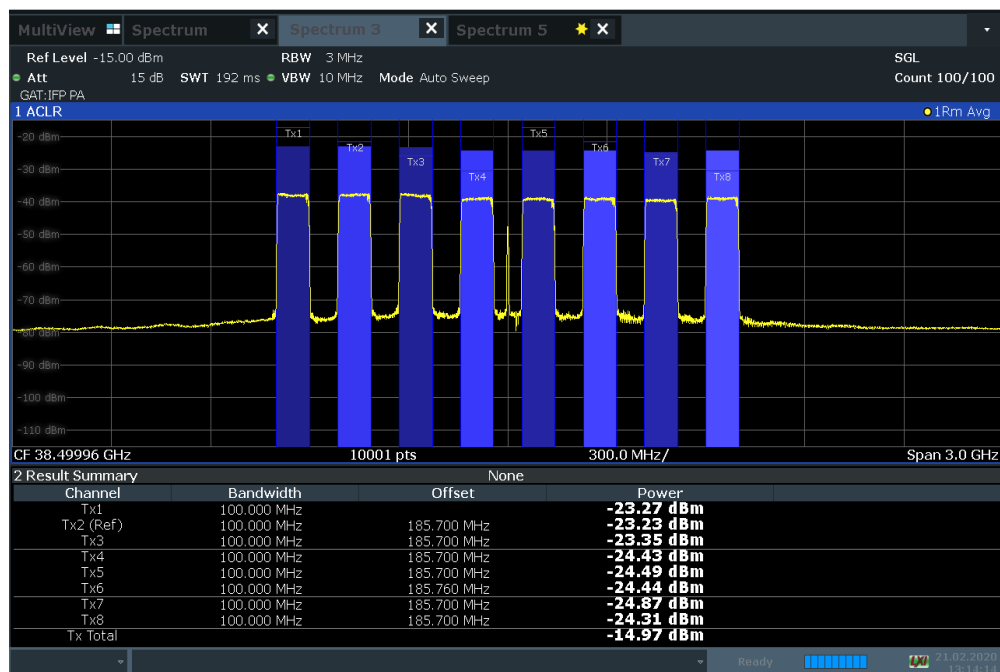
ACLRRResults



13:10:32 21.02.2020

Plot 7-257. Antenna C EIRP Density Plot (100MHz BW 8CC NC 16QAM Mid Channel)

ACLRRResults

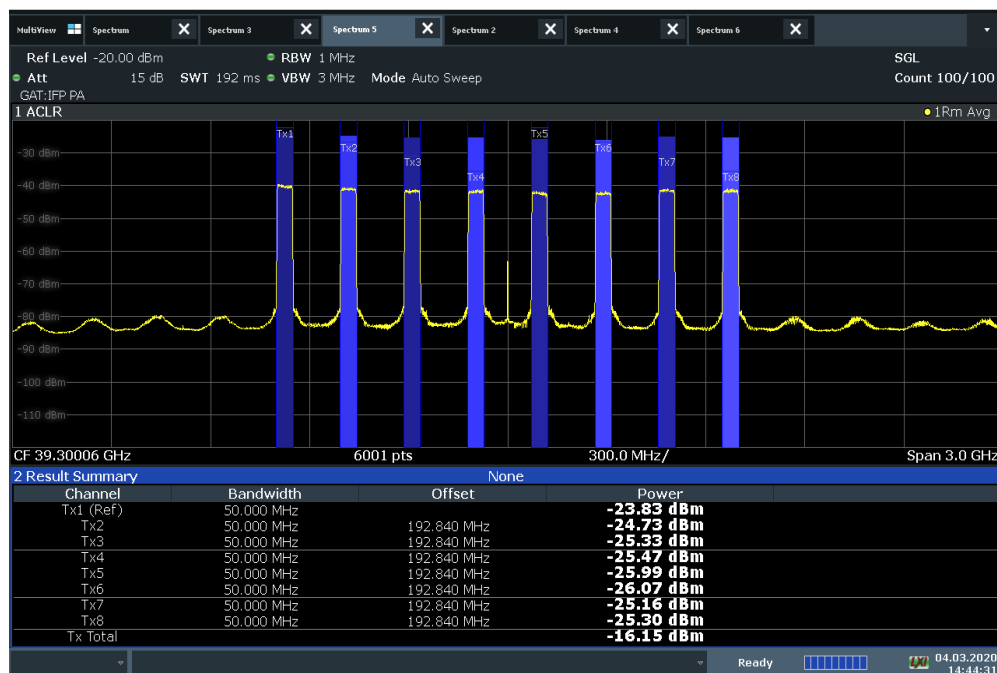


13:14:14 21.02.2020

Plot 7-258. Antenna C EIRP Density Plot (100MHz BW 8CC NC 64QAM Mid Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 158 of 360

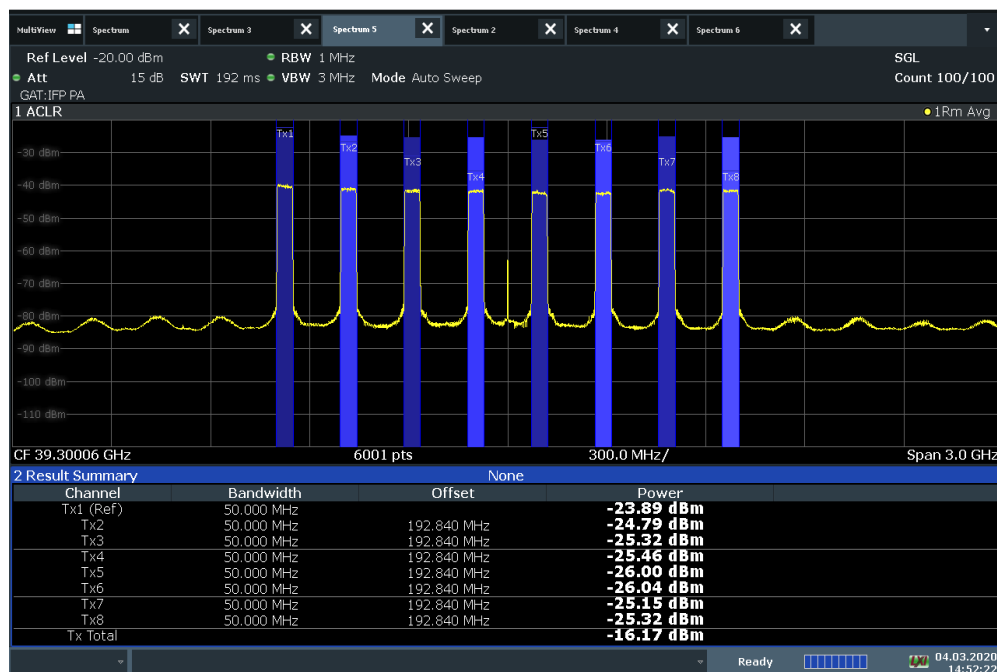
ACLRResults



14:44:32 04.03.2020

Plot 7-259. Antenna C EIRP Density Plot (50MHz BW 8CC NC QPSK High Channel)

ACLRResults

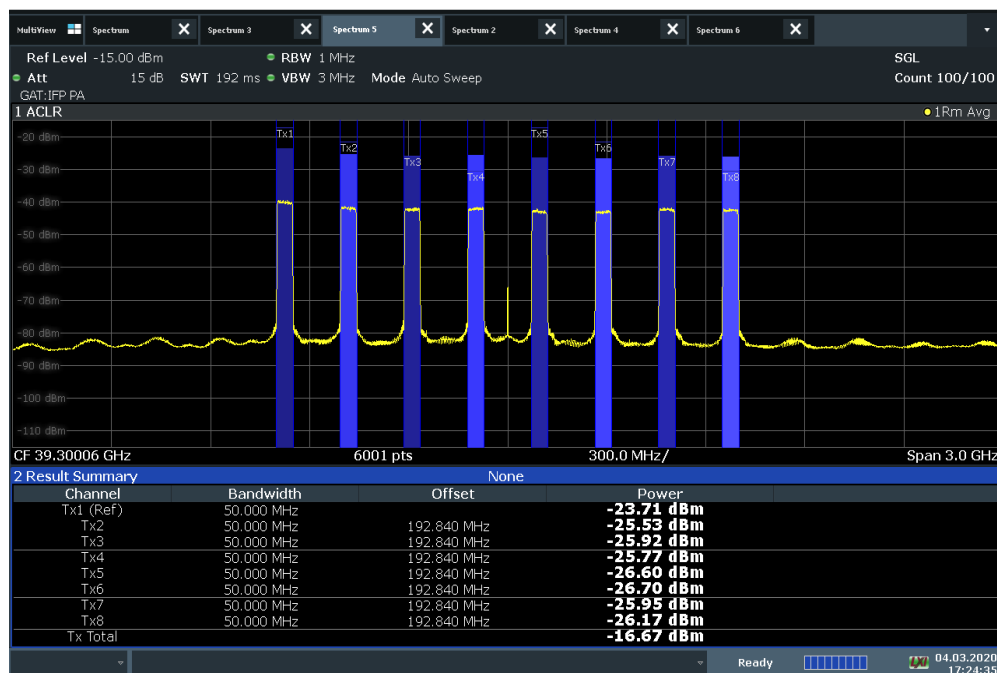


14:52:22 04.03.2020

Plot 7-260. Antenna C EIRP Density Plot (50MHz BW 8CC NC 16QAM High Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 159 of 360

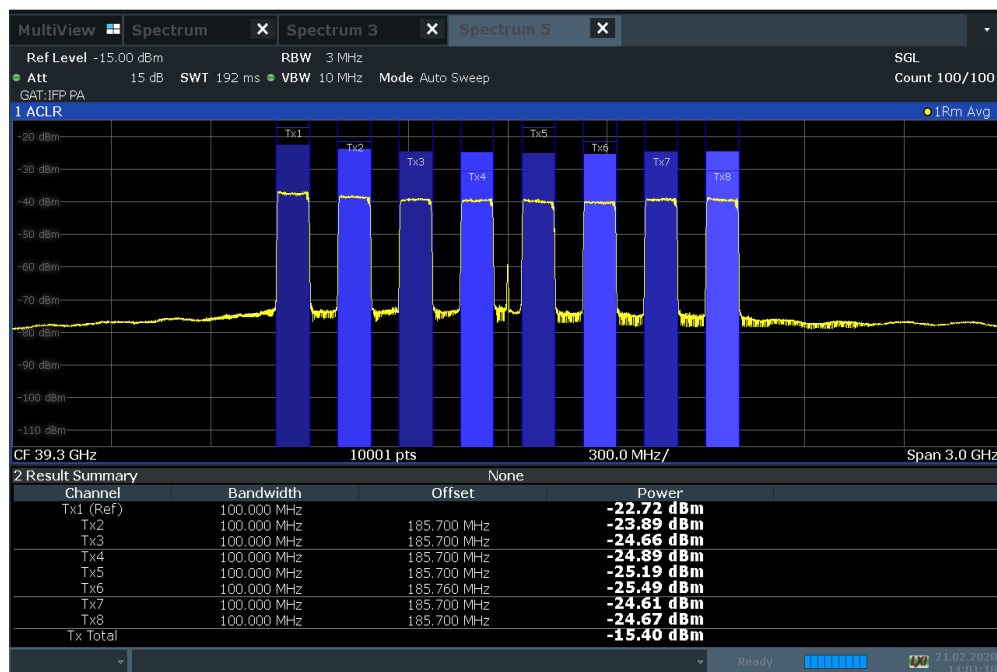
ACLRRResults



17:24:35 04.03.2020

Plot 7-261. Antenna C EIRP Density Plot (50MHz BW 8CC NC 64QAM High Channel)

ACLRRResults

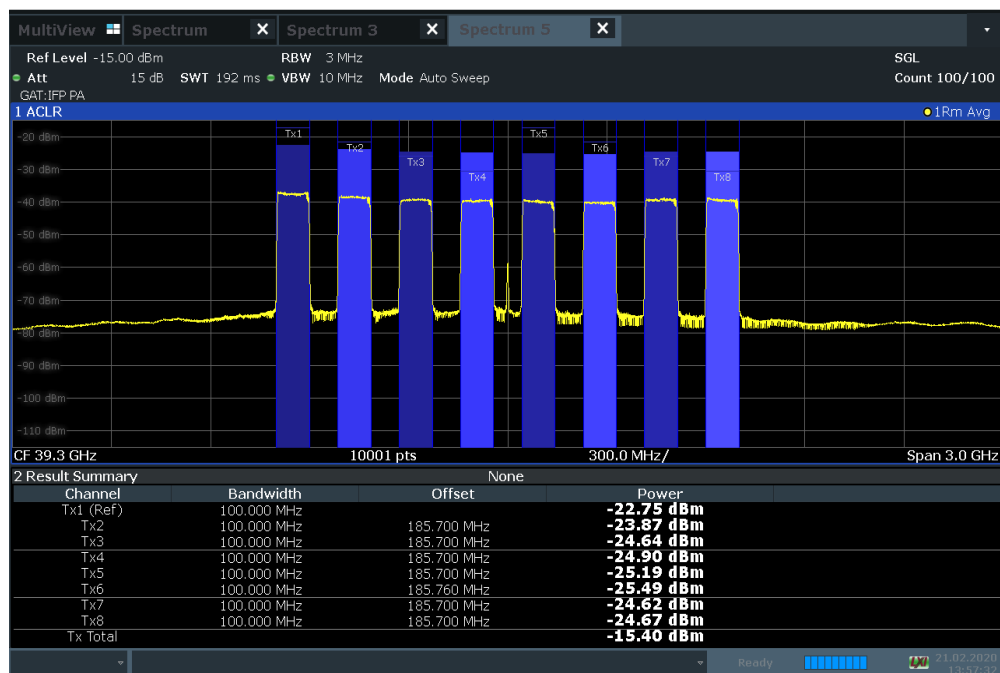


14:01:19 21.02.2020

Plot 7-262. Antenna C EIRP Density Plot (100MHz BW 8CC NC QPSK High Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 160 of 360

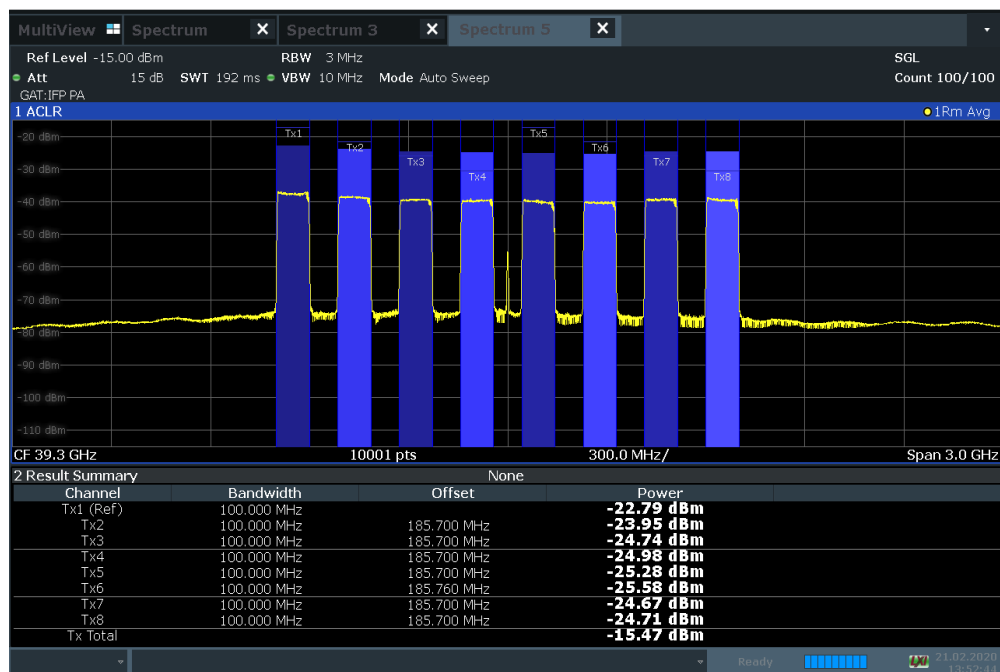
ACLRRResults



13:57:33 21.02.2020

Plot 7-263. Antenna C EIRP Density Plot (100MHz BW 8CC NC 16QAM High Channel)

ACLRRResults



13:52:45 21.02.2020

Plot 7-264. Antenna C EIRP Density Plot (100MHz BW 8CC NC 64QAM High Channel)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 161 of 360

7.3.5 MIMO EIRP Density

Antenna	Bandwidth	Channel	CCs active	Modulation	Horn Angle	Horn Height	Turntable Azimuth	Analyzer Level	AFCL	Average e.i.r.p. PSD	PSD Limit	Margin
	[MHz]				[degrees]	[cm]	[degrees]	[dBm]	[dB/m]	[dBm/100MHz]	[dBm/100MHz]	[dB]
A+C	50	Low	0	QPSK	135.0	155	7	-22.06	62.95	54.43	75.00	-23.58
		Low	0	16QAM	135.0	155	7	-22.02	62.90	54.42	75.00	-23.59
		Low	0	64QAM	135.0	155	7	-22.03	62.94	54.45	75.00	-23.56
	100	Low	0	QPSK	135.0	155	7	-18.81	60.16	51.88	75.00	-23.12
		Low	0	16QAM	135.0	155	7	-18.81	60.14	51.86	75.00	-23.14
		Low	0	64QAM	135.0	155	7	-18.81	60.12	51.84	75.00	-23.16
	50	Mid	4	QPSK	135.0	155	7	-22.01	62.86	54.39	75.00	-23.62
		Mid	4	16QAM	135.0	155	7	-22.00	62.87	54.41	75.00	-23.60
		Mid	4	64QAM	135.0	155	7	-21.99	62.87	54.42	75.00	-23.59
	100	Mid	4	QPSK	135.0	155	7	-19.30	60.24	51.47	75.00	-23.53
		Mid	4	16QAM	135.0	155	7	-19.30	60.25	51.48	75.00	-23.52
		Mid	4	64QAM	135.0	155	7	-19.30	60.25	51.48	75.00	-23.52
	50	High	7	QPSK	135.0	155	7	-22.86	64.66	55.34	75.00	-22.67
		High	7	16QAM	135.0	155	7	-22.92	64.69	55.32	75.00	-22.70
		High	7	64QAM	135.0	155	7	-22.97	64.72	55.29	75.00	-22.72
	100	High	7	QPSK	135.0	155	7	-19.55	61.87	52.85	75.00	-22.15
		High	7	16QAM	135.0	155	7	-19.55	61.95	52.93	75.00	-22.07
		High	7	64QAM	135.0	155	7	-19.67	62.01	52.87	75.00	-22.13
	50	Low	0-7	QPSK	135.0	155	7	-24.49	63.09	52.14	75.00	-25.87
		Low	0-7	16QAM	135.0	155	7	-24.37	63.06	52.23	75.00	-25.78
		Low	0-7	64QAM	135.0	155	7	-24.38	63.03	52.19	75.00	-25.82
	100	Low	0-7	QPSK	135.0	155	7	-24.51	60.48	46.50	75.00	-28.50
		Low	0-7	16QAM	135.0	155	7	-24.49	60.47	46.51	75.00	-28.49
		Low	0-7	64QAM	135.0	155	7	-24.47	60.45	46.51	75.00	-28.49
	50	Mid	0-7	QPSK	135.0	155	7	-23.93	63.10	52.71	75.00	-25.30
		Mid	0-7	16QAM	135.0	155	7	-23.93	63.08	52.69	75.00	-25.32
		Mid	0-7	64QAM	135.0	155	7	-23.95	63.09	52.68	75.00	-25.33
	100	Mid	0-7	QPSK	135.0	155	7	-23.46	60.36	47.43	75.00	-27.57
		Mid	0-7	16QAM	135.0	155	7	-23.51	60.31	47.33	75.00	-27.67
		Mid	0-7	64QAM	135.0	155	7	-23.55	60.34	47.32	75.00	-27.68
	50	High	0-7	QPSK	135.0	155	7	-24.56	64.64	53.62	75.00	-24.39
		High	0-7	16QAM	135.0	155	7	-24.56	64.64	53.62	75.00	-24.39
		High	0-7	64QAM	135.0	155	7	-24.60	64.66	53.60	75.00	-24.41
	100	High	0-7	QPSK	135.0	155	7	-24.30	62.20	48.43	75.00	-26.57
		High	0-7	16QAM	135.0	155	7	-24.33	62.22	48.42	75.00	-26.58
		High	0-7	64QAM	135.0	155	7	-24.36	62.24	48.41	75.00	-26.59
	50	Low	0-7(NC)	QPSK	135.0	155	7	-23.15	62.88	53.27	75.00	-24.74
		Low	0-7(NC)	16QAM	135.0	155	7	-23.11	62.86	53.29	75.00	-24.72
		Low	0-7(NC)	64QAM	135.0	155	7	-23.10	62.85	53.29	75.00	-24.72
	100	Low	0-7(NC)	QPSK	135.0	155	7	-24.19	60.55	46.89	75.00	-28.11
		Low	0-7(NC)	16QAM	135.0	155	7	-24.32	60.64	46.85	75.00	-28.15
		Low	0-7(NC)	64QAM	135.0	155	7	-24.33	60.61	46.81	75.00	-28.19
	50	Mid	0-7(NC)	QPSK	135.0	155	7	-23.51	62.96	52.99	75.00	-25.02
		Mid	0-7(NC)	16QAM	135.0	155	7	-23.49	62.93	52.98	75.00	-25.03
		Mid	0-7(NC)	64QAM	135.0	155	7	-23.44	62.90	53.00	75.00	-25.01
	100	Mid	0-7(NC)	QPSK	135.0	155	7	-24.41	60.35	46.47	75.00	-28.53
		Mid	0-7(NC)	16QAM	135.0	155	7	-24.42	60.32	46.43	75.00	-28.57
		Mid	0-7(NC)	64QAM	135.0	155	7	-24.31	60.26	46.48	75.00	-28.52
	50	High	0-7(NC)	QPSK	135.0	155	7	-22.96	64.61	55.19	75.00	-22.82
		High	0-7(NC)	16QAM	135.0	155	7	-22.99	64.61	55.16	75.00	-22.85
		High	0-7(NC)	64QAM	135.0	155	7	-22.96	64.60	55.18	75.00	-22.83
	100	High	0-7(NC)	QPSK	135.0	155	7	-24.17	62.49	48.85	75.00	-26.15
		High	0-7(NC)	16QAM	135.0	155	7	-24.17	62.39	48.75	75.00	-26.25
		High	0-7(NC)	64QAM	135.0	155	7	-24.16	62.38	48.75	75.00	-26.25

Table 7-11. MIMO EIRP Density Summary Data (Antenna A + Antenna C)

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Antenna	Bandwidth	Channel	CCs active	Modulation	Horn Angle	Horn Height	Turntable Azimuth	Analyzer Level	AFCL	Average e.i.r.p. PSD	PSD Limit	Margin
	[MHz]				[degrees]	[cm]	[degrees]	[dBm]	[dB/m]	[dBm/100MHz]	[dBm/100MHz]	[dB]
B+D	50	Low	0	QPSK	45.0	141	9	-21.90	62.89	54.53	75.00	-23.48
		Low	0	16QAM	45.0	141	9	-21.85	62.87	54.56	75.00	-23.45
		Low	0	64QAM	45.0	141	9	-21.85	62.86	54.55	75.00	-23.46
	100	Low	0	QPSK	45.0	141	9	-18.30	60.02	52.25	75.00	-22.75
		Low	0	16QAM	45.0	141	9	-18.30	60.02	52.25	75.00	-22.75
		Low	0	64QAM	45.0	141	9	-18.31	60.02	52.24	75.00	-22.76
	50	Mid	4	QPSK	45.0	141	9	-21.97	62.89	54.46	75.00	-23.55
		Mid	4	16QAM	45.0	141	9	-22.01	62.91	54.44	75.00	-23.57
		Mid	4	64QAM	45.0	141	9	-21.99	62.91	54.46	75.00	-23.55
	100	Mid	4	QPSK	45.0	141	9	-19.04	60.14	51.63	75.00	-23.37
		Mid	4	16QAM	45.0	141	9	-19.08	60.16	51.61	75.00	-23.39
		Mid	4	64QAM	45.0	141	9	-19.10	60.16	51.59	75.00	-23.41
	50	High	7	QPSK	45.0	141	9	-22.19	64.71	56.06	75.00	-21.95
		High	7	16QAM	45.0	141	9	-22.21	64.71	56.04	75.00	-21.97
		High	7	64QAM	45.0	141	9	-22.20	64.71	56.05	75.00	-21.96
	100	High	7	QPSK	45.0	141	9	-19.38	61.75	52.90	75.00	-22.10
		High	7	16QAM	45.0	141	9	-19.24	61.68	52.97	75.00	-22.03
		High	7	64QAM	45.0	141	9	-19.22	61.68	52.99	75.00	-22.01
	50	Low	0-7	QPSK	45.0	141	9	-24.04	62.91	52.41	75.00	-25.60
		Low	0-7	16QAM	45.0	141	9	-24.07	62.95	52.42	75.00	-25.59
		Low	0-7	64QAM	45.0	141	9	-24.14	63.00	52.40	75.00	-25.61
	100	Low	0-7	QPSK	45.0	141	9	-24.37	60.45	46.61	75.00	-28.39
		Low	0-7	16QAM	45.0	141	9	-24.03	60.41	46.91	75.00	-28.09
		Low	0-7	64QAM	45.0	141	9	-23.99	60.41	46.95	75.00	-28.05
	50	Mid	0-7	QPSK	45.0	141	9	-23.46	62.93	53.01	75.00	-25.00
		Mid	0-7	16QAM	45.0	141	9	-23.46	62.93	53.01	75.00	-25.00
		Mid	0-7	64QAM	45.0	141	9	-23.48	62.90	52.96	75.00	-25.05
	100	Mid	0-7	QPSK	45.0	141	9	-23.52	60.42	47.43	75.00	-27.57
		Mid	0-7	16QAM	45.0	141	9	-23.61	60.39	47.31	75.00	-27.69
		Mid	0-7	64QAM	45.0	141	9	-23.27	59.98	47.24	75.00	-27.76
	50	High	0-7	QPSK	45.0	141	9	-24.14	64.68	54.08	75.00	-23.93
		High	0-7	16QAM	45.0	141	9	-24.25	64.72	54.01	75.00	-24.00
		High	0-7	64QAM	45.0	141	9	-24.27	64.72	53.99	75.00	-24.02
	100	High	0-7	QPSK	45.0	141	9	-23.84	61.68	48.37	75.00	-26.63
		High	0-7	16QAM	45.0	141	9	-24.03	61.99	48.49	75.00	-26.51
		High	0-7	64QAM	45.0	141	9	-23.88	61.92	48.57	75.00	-26.43
	50	Low	0-7(NC)	QPSK	45.0	141	9	-23.09	63.07	53.52	75.00	-24.49
		Low	0-7(NC)	16QAM	45.0	141	9	-23.26	63.16	53.44	75.00	-24.57
		Low	0-7(NC)	64QAM	45.0	141	9	-23.29	63.17	53.42	75.00	-24.59
	100	Low	0-7(NC)	QPSK	45.0	141	9	-22.78	60.39	48.14	75.00	-26.86
		Low	0-7(NC)	16QAM	45.0	141	9	-22.81	60.39	48.11	75.00	-26.89
		Low	0-7(NC)	64QAM	45.0	141	9	-22.80	60.33	48.06	75.00	-26.94
	50	Mid	0-7(NC)	QPSK	45.0	141	9	-23.72	63.07	52.89	75.00	-25.12
		Mid	0-7(NC)	16QAM	45.0	141	9	-23.70	63.07	52.91	75.00	-25.10
		Mid	0-7(NC)	64QAM	45.0	141	9	-23.71	63.08	52.91	75.00	-25.10
	100	Mid	0-7(NC)	QPSK	45.0	141	9	-23.46	60.13	47.20	75.00	-27.80
		Mid	0-7(NC)	16QAM	45.0	141	9	-23.48	60.29	47.34	75.00	-27.66
		Mid	0-7(NC)	64QAM	45.0	141	9	-23.53	60.33	47.33	75.00	-27.67
	50	High	0-7(NC)	QPSK	45.0	141	9	-23.14	64.64	55.04	75.00	-22.97
		High	0-7(NC)	16QAM	45.0	141	9	-23.11	64.60	55.03	75.00	-22.98
		High	0-7(NC)	64QAM	45.0	141	9	-23.13	64.69	55.10	75.00	-22.91
	100	High	0-7(NC)	QPSK	45.0	141	9	-22.92	62.06	49.67	75.00	-25.33
		High	0-7(NC)	16QAM	45.0	141	9	-22.99	62.08	49.62	75.00	-25.38
		High	0-7(NC)	64QAM	45.0	141	9	-23.00	62.07	49.60	75.00	-25.40

Table 7-12. MIMO EIRP Density Summary Data (Antenna B + Antenna D)

Note:

The EIRP measurements of the co-polarized antenna arrays (Antenna A/C and Antenna B/D) were added together to address radiated MIMO concerns referenced in ANSI C63.26-2015 Section 6.4.

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7.4 RF Conducted Output Power

\$2.1046

Test Overview

RF conducted output power measurements are performed using broadband horn antennas. The conducted power is determined by maximizing the full spectrum EIRP for all component carrier configurations and then subtracting the known antenna gain from the EIRP. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

ANSI C63.26-2015 Section 5.2.4.4.1
ANSI C63.26-2015 Section 6.4

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW
3. VBW $\geq 3 \times$ RBW
4. Span = 2x to 3x the OBW
5. No. of sweep points $\geq 2 \times$ span / RBW
6. Detector = RMS
7. The integration bandwidth was roughly set equal to the measured RF Conducted Output Power of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
8. Trace mode = trace averaging (RMS) over 100 sweeps
9. The trace was allowed to stabilize

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Test Notes

- 1) The EUT was tested while positioned upright and mounted on a mast at 1.5m height. The worst case emissions are reported with the EUT in this fixed position and with the modulations and active component carriers shown in the tables below.
- 2) Elements within the same antenna array are correlated to produce beamforming array gain.
- 3) Measurements were taken in the far field of the mmWave signal based on the formula: $R \geq 2D^2/\text{wavelength}$.
- 4) The test case with 1 CC active, "CC0" representing the component carrier with the lowest frequency, was selected for the worst case emission testing as it created the highest EIRP within 50MHz and 100MHz bandwidth.
- 5) The average EIRP reported below is calculated per formula specified in d) of ANSI C63.26-2015 Section 5.2.7:

$\text{EIRP (dBm)} = E (\text{dB}\mu\text{V/m}) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.

For this section, all EIRP density measurements were performed at a distance of 2.61m, so the effective correction is:

$$\text{EIRP (dBm)} = E (\text{dB}\mu\text{V/m}) - 96.43\text{dB}$$

$$= \text{Analyzer Level (dBm)} + \text{AFCL (dB/m)} + 107 \text{ dB} - 96.43\text{dB}$$

$$= \text{Analyzer Level (dBm)} + \text{AFCL (dB/m)} + 10.53\text{dB}$$

- 6) The conducted average power over the full channel BW is calculated as follows:
 $\text{Conducted Average Power (dBm)} = \text{Average EIRP (dBm)} - \text{Antenna Gain (dBi)}$
- 7) Per ANSI C63.26-2015 Section 6.4, individual EIRPs are also summed before compared to the limit.
- 8) The angle of the horn antenna was rotated to maximize and find the worst case emissions. Worst case EIRP is reported below.
- 9) 7.3 Equivalent Isotropic Radiated Power (EIRP) Density plots cover for 7.4 Conducted Output Power plot.
- 10) A3LAT1K02-A10 test result is referenced as A3LAT1K02-A00 result which only difference of power type as AC and DC which supply condition affect to RF specification.

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7.4.1 Antenna A Conducted Power

Antenna	Bandwidth	Chan.	CCs active	Modulation	Horn Angle	Horn Height	Turntable Azimuth	Analyzer Level(Total Pwr)	AFCL	EUT Antenna Gain	Average e.i.r.p.	Conducted Average Power
	[MHz]				[degrees]	[cm]	[degrees]	[dBm]	[dBm]	[dBi]	[dBm]	[dBm]
A	50	Low	0	QPSK	135.0	155	7	-22.06	57.22	27.04	45.69	18.65
		Low	0	16QAM	135.0	155	7	-22.02	57.22	27.04	45.73	18.69
		Low	0	64QAM	135.0	155	7	-22.03	57.22	27.04	45.72	18.68
	100	Low	0	QPSK	135.0	155	7	-18.81	57.22	27.04	48.94	21.90
		Low	0	16QAM	135.0	155	7	-18.86	57.22	27.04	48.89	21.85
		Low	0	64QAM	135.0	155	7	-18.89	57.22	27.04	48.86	21.82
	50	Mid	4	QPSK	135.0	155	7	-22.01	57.17	27.04	45.69	18.65
		Mid	4	16QAM	135.0	155	7	-22.00	57.17	27.04	45.70	18.66
		Mid	4	64QAM	135.0	155	7	-21.99	57.17	27.04	45.71	18.67
	100	Mid	4	QPSK	135.0	155	7	-19.30	57.17	27.04	48.40	21.36
		Mid	4	16QAM	135.0	155	7	-19.24	57.17	27.04	48.46	21.42
		Mid	4	64QAM	135.0	155	7	-19.21	57.17	27.04	48.49	21.45
	50	High	7	QPSK	135.0	155	7	-22.86	58.95	27.04	46.62	19.58
		High	7	16QAM	135.0	155	7	-22.92	58.95	27.04	46.56	19.52
		High	7	64QAM	135.0	155	7	-22.97	58.95	27.04	46.51	19.47
	100	High	7	QPSK	135.0	155	7	-19.55	58.95	27.04	49.93	22.89
		High	7	16QAM	135.0	155	7	-19.55	58.95	27.04	49.93	22.89
		High	7	64QAM	135.0	155	7	-19.67	58.95	27.04	49.81	22.77
	50	Low	0-7	QPSK	135.0	155	7	-24.49	57.22	27.04	43.26	16.22
		Low	0-7	16QAM	135.0	155	7	-24.37	57.22	27.04	43.38	16.34
		Low	0-7	64QAM	135.0	155	7	-24.38	57.22	27.04	43.37	16.33
	100	Low	0-7	QPSK	135.0	155	7	-24.51	57.22	27.04	43.24	16.20
		Low	0-7	16QAM	135.0	155	7	-24.49	57.22	27.04	43.26	16.22
		Low	0-7	64QAM	135.0	155	7	-24.47	57.22	27.04	43.28	16.24
	50	Mid	0-7	QPSK	135.0	155	7	-23.93	57.17	27.04	43.77	16.73
		Mid	0-7	16QAM	135.0	155	7	-23.93	57.17	27.04	43.77	16.73
		Mid	0-7	64QAM	135.0	155	7	-23.95	57.17	27.04	43.75	16.71
	100	Mid	0-7	QPSK	135.0	155	7	-23.46	57.17	27.04	44.24	17.20
		Mid	0-7	16QAM	135.0	155	7	-23.51	57.17	27.04	44.19	17.15
		Mid	0-7	64QAM	135.0	155	7	-23.55	57.17	27.04	44.15	17.11
	50	High	0-7	QPSK	135.0	155	7	-24.56	58.95	27.04	44.92	17.88
		High	0-7	16QAM	135.0	155	7	-24.56	58.95	27.04	44.92	17.88
		High	0-7	64QAM	135.0	155	7	-24.60	58.95	27.04	44.88	17.84
	100	High	0-7	QPSK	135.0	155	7	-24.30	58.95	27.04	45.18	18.14
		High	0-7	16QAM	135.0	155	7	-24.33	58.95	27.04	45.15	18.11
		High	0-7	64QAM	135.0	155	7	-24.36	58.95	27.04	45.12	18.08
	50	Low	0-7(NC)	QPSK	135.0	155	7	-23.15	57.22	27.04	44.60	17.56
		Low	0-7(NC)	16QAM	135.0	155	7	-23.11	57.22	27.04	44.64	17.60
		Low	0-7(NC)	64QAM	135.0	155	7	-23.10	57.22	27.04	44.65	17.61
	100	Low	0-7(NC)	QPSK	135.0	155	7	-24.19	57.22	27.04	43.56	16.52
		Low	0-7(NC)	16QAM	135.0	155	7	-24.32	57.22	27.04	43.43	16.39
		Low	0-7(NC)	64QAM	135.0	155	7	-24.33	57.22	27.04	43.42	16.38
	50	Mid	0-7(NC)	QPSK	135.0	155	7	-23.51	57.17	27.04	44.19	17.15
		Mid	0-7(NC)	16QAM	135.0	155	7	-23.49	57.17	27.04	44.21	17.17
		Mid	0-7(NC)	64QAM	135.0	155	7	-23.44	57.17	27.04	44.26	17.22
	100	Mid	0-7(NC)	QPSK	135.0	155	7	-24.41	57.17	27.04	43.29	16.25
		Mid	0-7(NC)	16QAM	135.0	155	7	-24.42	57.17	27.04	43.28	16.24
		Mid	0-7(NC)	64QAM	135.0	155	7	-24.31	57.17	27.04	43.39	16.35
	50	High	0-7(NC)	QPSK	135.0	155	7	-22.96	58.95	27.04	46.52	19.48
		High	0-7(NC)	16QAM	135.0	155	7	-22.99	58.95	27.04	46.49	19.45
		High	0-7(NC)	64QAM	135.0	155	7	-22.96	58.95	27.04	46.52	19.48
	100	High	0-7(NC)	QPSK	135.0	155	7	-24.17	58.95	27.04	45.31	18.27
		High	0-7(NC)	16QAM	135.0	155	7	-24.17	58.95	27.04	45.31	18.27
		High	0-7(NC)	64QAM	135.0	155	7	-24.16	58.95	27.04	45.32	18.28

Table 7-13. Antenna A Conducted Power Summary Data

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7.4.2 Antenna B Conducted Power

Antenna	Bandwidth	Chan.	CCs active	Modulation	Horn Angle	Horn Height	Turntable Azimuth	Analyzer Level(Total Pwr)	AFCL	EUT Antenna Gain	Average e.i.r.p.	Conducted Average Power
	[MHz]				[degrees]	[cm]	[degrees]	[dBm]	[dBm]	[dBi]	[dBm]	[dBm]
B	50	Low	0	QPSK	45.0	141	9	-21.89	57.22	27.04	45.86	18.82
		Low	0	16QAM	45.0	141	9	-21.85	57.22	27.04	45.90	18.86
		Low	0	64QAM	45.0	141	9	-21.85	57.22	27.04	45.90	18.86
	100	Low	0	QPSK	45.0	141	9	-18.30	57.22	27.04	49.45	22.41
		Low	0	16QAM	45.0	141	9	-18.30	57.22	27.04	49.45	22.41
		Low	0	64QAM	45.0	141	9	-18.31	57.22	27.04	49.44	22.40
	50	Mid	4	QPSK	45.0	141	9	-21.97	57.17	27.04	45.73	18.69
		Mid	4	16QAM	45.0	141	9	-22.01	57.17	27.04	45.69	18.65
		Mid	4	64QAM	45.0	141	9	-21.99	57.17	27.04	45.71	18.67
	100	Mid	4	QPSK	45.0	141	9	-19.04	57.17	27.04	48.66	21.62
		Mid	4	16QAM	45.0	141	9	-19.08	57.17	27.04	48.62	21.58
		Mid	4	64QAM	45.0	141	9	-19.10	57.17	27.04	48.60	21.56
	50	High	7	QPSK	45.0	141	9	-22.19	58.95	27.04	47.29	20.25
		High	7	16QAM	45.0	141	9	-22.21	58.95	27.04	47.27	20.23
		High	7	64QAM	45.0	141	9	-22.20	58.95	27.04	47.28	20.24
	100	High	7	QPSK	45.0	141	9	-19.38	58.95	27.04	50.10	23.06
		High	7	16QAM	45.0	141	9	-19.24	58.95	27.04	50.24	23.20
		High	7	64QAM	45.0	141	9	-19.22	58.95	27.04	50.26	23.22
	50	Low	0-7	QPSK	45.0	141	9	-24.04	57.22	27.04	43.71	16.67
		Low	0-7	16QAM	45.0	141	9	-24.07	57.22	27.04	43.68	16.64
		Low	0-7	64QAM	45.0	141	9	-24.14	57.22	27.04	43.61	16.57
	100	Low	0-7	QPSK	45.0	141	9	-24.37	57.22	27.04	43.38	16.34
		Low	0-7	16QAM	45.0	141	9	-24.03	57.22	27.04	43.72	16.68
		Low	0-7	64QAM	45.0	141	9	-23.99	57.22	27.04	43.76	16.72
	50	Mid	0-7	QPSK	45.0	141	9	-23.46	57.17	27.04	44.24	17.20
		Mid	0-7	16QAM	45.0	141	9	-23.46	57.17	27.04	44.24	17.20
		Mid	0-7	64QAM	45.0	141	9	-23.48	57.17	27.04	44.22	17.18
	100	Mid	0-7	QPSK	45.0	141	9	-23.52	57.17	27.04	44.18	17.14
		Mid	0-7	16QAM	45.0	141	9	-23.61	57.17	27.04	44.09	17.05
		Mid	0-7	64QAM	45.0	141	9	-23.27	57.17	27.04	44.43	17.39
	50	High	0-7	QPSK	45.0	141	9	-24.14	58.95	27.04	45.34	18.30
		High	0-7	16QAM	45.0	141	9	-24.25	58.95	27.04	45.23	18.19
		High	0-7	64QAM	45.0	141	9	-24.27	58.95	27.04	45.21	18.17
	100	High	0-7	QPSK	45.0	141	9	-23.84	58.95	27.04	45.64	18.60
		High	0-7	16QAM	45.0	141	9	-24.03	58.95	27.04	45.45	18.41
		High	0-7	64QAM	45.0	141	9	-23.88	58.95	27.04	45.60	18.56
	50	Low	0-7(NC)	QPSK	45.0	141	9	-23.09	57.22	27.04	44.66	17.62
		Low	0-7(NC)	16QAM	45.0	141	9	-23.26	57.22	27.04	44.49	17.45
		Low	0-7(NC)	64QAM	45.0	141	9	-23.29	57.22	27.04	44.46	17.42
	100	Low	0-7(NC)	QPSK	45.0	141	9	-22.78	57.22	27.04	44.97	17.93
		Low	0-7(NC)	16QAM	45.0	141	9	-22.81	57.22	27.04	44.94	17.90
		Low	0-7(NC)	64QAM	45.0	141	9	-22.80	57.22	27.04	44.95	17.91
	50	Mid	0-7(NC)	QPSK	45.0	141	9	-23.72	57.17	27.04	43.98	16.94
		Mid	0-7(NC)	16QAM	45.0	141	9	-23.70	57.17	27.04	44.00	16.96
		Mid	0-7(NC)	64QAM	45.0	141	9	-23.71	57.17	27.04	43.99	16.95
	100	Mid	0-7(NC)	QPSK	45.0	141	9	-23.46	57.17	27.04	44.24	17.20
		Mid	0-7(NC)	16QAM	45.0	141	9	-23.48	57.17	27.04	44.22	17.18
		Mid	0-7(NC)	64QAM	45.0	141	9	-23.53	57.17	27.04	44.17	17.13
	50	High	0-7(NC)	QPSK	45.0	141	9	-23.14	58.95	27.04	46.34	19.30
		High	0-7(NC)	16QAM	45.0	141	9	-23.11	58.95	27.04	46.37	19.33
		High	0-7(NC)	64QAM	45.0	141	9	-23.13	58.95	27.04	46.35	19.31
	100	High	0-7(NC)	QPSK	45.0	141	9	-22.92	58.95	27.04	46.56	19.52
		High	0-7(NC)	16QAM	45.0	141	9	-22.99	58.95	27.04	46.49	19.45
		High	0-7(NC)	64QAM	45.0	141	9	-23.00	58.95	27.04	46.48	19.44

Table 7-14. Antenna B Conducted Power Summary Data

FCC ID: A3LAT1K02-A10	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 167 of 360

7.4.3 Antenna C Conducted Power

Antenna	Bandwidth	Chan.	CCs active	Modulation	Horn Angle	Horn Height	Turntable Azimuth	Analyzer Level(Total Pwr)	AFCL	EUT Antenna Gain	Average e.i.r.p.	Conducted Average Power
	[MHz]				[degrees]	[cm]	[degrees]	[dBm]	[dB/m]	[dBi]	[dBm]	[dBm]
C	50	Low	0	QPSK	135.0	155	9	-22.66	57.22	27.04	45.09	18.05
		Low	0	16QAM	135.0	155	9	-22.73	57.22	27.04	45.02	17.98
		Low	0	64QAM	135.0	155	9	-22.66	57.22	27.04	45.09	18.05
	100	Low	0	QPSK	135.0	155	9	-18.95	57.22	27.04	48.80	21.76
		Low	0	16QAM	135.0	155	9	-18.94	57.22	27.04	48.81	21.77
		Low	0	64QAM	135.0	155	9	-18.95	57.22	27.04	48.80	21.76
	50	Mid	4	QPSK	135.0	155	9	-22.69	57.17	27.04	45.01	17.97
		Mid	4	16QAM	135.0	155	9	-22.67	57.17	27.04	45.03	17.99
		Mid	4	64QAM	135.0	155	9	-22.65	57.17	27.04	45.05	18.01
	100	Mid	4	QPSK	135.0	155	9	-19.19	57.17	27.04	48.51	21.47
		Mid	4	16QAM	135.0	155	9	-19.22	57.17	27.04	48.48	21.44
		Mid	4	64QAM	135.0	155	9	-19.25	57.17	27.04	48.45	21.41
	50	High	7	QPSK	135.0	155	9	-23.50	58.95	27.04	45.98	18.94
		High	7	16QAM	135.0	155	9	-23.49	58.95	27.04	45.99	18.95
		High	7	64QAM	135.0	155	9	-23.49	58.95	27.04	45.99	18.95
	100	High	7	QPSK	135.0	155	9	-19.73	58.95	27.04	49.75	22.71
		High	7	16QAM	135.0	155	9	-19.57	58.95	27.04	49.91	22.87
		High	7	64QAM	135.0	155	9	-19.57	58.95	27.04	49.91	22.87
	50	Low	0-7	QPSK	135.0	155	9	-24.81	57.22	27.04	42.94	15.90
		Low	0-7	16QAM	135.0	155	9	-24.74	57.22	27.04	43.01	15.97
		Low	0-7	64QAM	135.0	155	9	-24.81	57.22	27.04	42.94	15.90
	100	Low	0-7	QPSK	135.0	155	9	-24.03	57.22	27.04	43.72	16.68
		Low	0-7	16QAM	135.0	155	9	-24.02	57.22	27.04	43.73	16.69
		Low	0-7	64QAM	135.0	155	9	-24.04	57.22	27.04	43.71	16.67
	50	Mid	0-7	QPSK	135.0	155	9	-24.12	57.17	27.04	43.58	16.54
		Mid	0-7	16QAM	135.0	155	9	-24.15	57.17	27.04	43.55	16.51
		Mid	0-7	64QAM	135.0	155	9	-24.16	57.17	27.04	43.54	16.50
	100	Mid	0-7	QPSK	135.0	155	9	-23.11	57.17	27.04	44.59	17.55
		Mid	0-7	16QAM	135.0	155	9	-23.25	57.17	27.04	44.45	17.41
		Mid	0-7	64QAM	135.0	155	9	-23.24	57.17	27.04	44.46	17.42
	50	High	0-7	QPSK	135.0	155	9	-25.25	58.95	27.04	44.23	17.19
		High	0-7	16QAM	135.0	155	9	-25.25	58.95	27.04	44.23	17.19
		High	0-7	64QAM	135.0	155	9	-25.25	58.95	27.04	44.23	17.19
	100	High	0-7	QPSK	135.0	155	9	-23.83	58.95	27.04	45.65	18.61
		High	0-7	16QAM	135.0	155	9	-23.83	58.95	27.04	45.65	18.61
		High	0-7	64QAM	135.0	155	9	-23.81	58.95	27.04	45.67	18.63
	50	Low	0-7(NC)	QPSK	135.0	155	9	-23.92	57.22	27.04	43.83	16.79
		Low	0-7(NC)	16QAM	135.0	155	9	-23.91	57.22	27.04	43.84	16.80
		Low	0-7(NC)	64QAM	135.0	155	9	-23.93	57.22	27.04	43.82	16.78
	100	Low	0-7(NC)	QPSK	135.0	155	9	-23.57	57.22	27.04	44.18	17.14
		Low	0-7(NC)	16QAM	135.0	155	9	-23.55	57.22	27.04	44.20	17.16
		Low	0-7(NC)	64QAM	135.0	155	9	-23.61	57.22	27.04	44.14	17.10
	50	Mid	0-7(NC)	QPSK	135.0	155	9	-23.98	57.17	27.04	43.72	16.68
		Mid	0-7(NC)	16QAM	135.0	155	9	-24.03	57.17	27.04	43.67	16.63
		Mid	0-7(NC)	64QAM	135.0	155	9	-24.05	57.17	27.04	43.65	16.61
	100	Mid	0-7(NC)	QPSK	135.0	155	9	-24.07	57.17	27.04	43.63	16.59
		Mid	0-7(NC)	16QAM	135.0	155	9	-24.15	57.17	27.04	43.55	16.51
		Mid	0-7(NC)	64QAM	135.0	155	9	-24.15	57.17	27.04	43.55	16.51
	50	High	0-7(NC)	QPSK	135.0	155	9	-23.72	58.95	27.04	45.76	18.72
		High	0-7(NC)	16QAM	135.0	155	9	-23.74	58.95	27.04	45.74	18.70
		High	0-7(NC)	64QAM	135.0	155	9	-23.73	58.95	27.04	45.75	18.71
	100	High	0-7(NC)	QPSK	135.0	155	9	-23.17	58.95	27.04	46.31	19.27
		High	0-7(NC)	16QAM	135.0	155	9	-23.35	58.95	27.04	46.13	19.09
		High	0-7(NC)	64QAM	135.0	155	9	-23.36	58.95	27.04	46.12	19.08

Table 7-15. Antenna C Conducted Power Summary Data

FCC ID: A3LAT1K02-A10	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 168 of 360

7.4.4 Antenna D Conducted Power

Antenna	Bandwidth	Chan.	CCs active	Modulation	Horn Angle	Horn Height	Turntable Azimuth	Analyzer Level(Total Pwr)	AFCL	EUT Antenna Gain	Average e.i.r.p.	Conducted Average Power
	[MHz]				[degrees]	[cm]	[degrees]	[dBm]	[dBm]	[dBi]	[dBm]	[dBm]
D	50	Low	0	QPSK	45.0	141	10	-22.65	57.22	27.04	45.10	18.06
		Low	0	16QAM	45.0	141	10	-22.63	57.22	27.04	45.12	18.08
		Low	0	64QAM	45.0	141	10	-22.66	57.22	27.04	45.09	18.05
	100	Low	0	QPSK	45.0	141	10	-18.73	57.22	27.04	49.02	21.98
		Low	0	16QAM	45.0	141	10	-18.74	57.22	27.04	49.01	21.97
		Low	0	64QAM	45.0	141	10	-18.75	57.22	27.04	49.00	21.96
	50	Mid	4	QPSK	45.0	141	10	-22.59	57.17	27.04	45.11	18.07
		Mid	4	16QAM	45.0	141	10	-22.60	57.17	27.04	45.10	18.06
		Mid	4	64QAM	45.0	141	10	-22.58	57.17	27.04	45.12	18.08
	100	Mid	4	QPSK	45.0	141	10	-19.13	57.17	27.04	48.57	21.53
		Mid	4	16QAM	45.0	141	10	-19.13	57.17	27.04	48.57	21.53
		Mid	4	64QAM	45.0	141	10	-19.14	57.17	27.04	48.56	21.52
	50	High	7	QPSK	45.0	141	10	-22.73	58.95	27.04	46.75	19.71
		High	7	16QAM	45.0	141	10	-22.75	58.95	27.04	46.73	19.69
		High	7	64QAM	45.0	141	10	-22.74	58.95	27.04	46.74	19.70
	100	High	7	QPSK	45.0	141	10	-19.81	58.95	27.04	49.67	22.63
		High	7	16QAM	45.0	141	10	-19.82	58.95	27.04	49.66	22.62
		High	7	64QAM	45.0	141	10	-19.81	58.95	27.04	49.67	22.63
	50	Low	0-7	QPSK	45.0	141	10	-24.73	57.22	27.04	43.02	15.98
		Low	0-7	16QAM	45.0	141	10	-24.67	57.22	27.04	43.08	16.04
		Low	0-7	64QAM	45.0	141	10	-24.65	57.22	27.04	43.10	16.06
	100	Low	0-7	QPSK	45.0	141	10	-23.95	57.22	27.04	43.80	16.76
		Low	0-7	16QAM	45.0	141	10	-23.68	57.22	27.04	44.07	17.03
		Low	0-7	64QAM	45.0	141	10	-23.65	57.22	27.04	44.10	17.06
	50	Mid	0-7	QPSK	45.0	141	10	-23.99	57.17	27.04	43.71	16.67
		Mid	0-7	16QAM	45.0	141	10	-24.00	57.17	27.04	43.70	16.66
		Mid	0-7	64QAM	45.0	141	10	-24.08	57.17	27.04	43.62	16.58
	100	Mid	0-7	QPSK	45.0	141	10	-23.05	57.17	27.04	44.65	17.61
		Mid	0-7	16QAM	45.0	141	10	-23.20	57.17	27.04	44.50	17.46
		Mid	0-7	64QAM	45.0	141	10	-23.67	57.17	27.04	44.03	16.99
	50	High	0-7	QPSK	45.0	141	10	-24.74	58.95	27.04	44.74	17.70
		High	0-7	16QAM	45.0	141	10	-24.76	58.95	27.04	44.72	17.68
		High	0-7	64QAM	45.0	141	10	-24.79	58.95	27.04	44.69	17.65
	100	High	0-7	QPSK	45.0	141	10	-24.43	58.95	27.04	45.05	18.01
		High	0-7	16QAM	45.0	141	10	-23.97	58.95	27.04	45.51	18.47
		High	0-7	64QAM	45.0	141	10	-23.96	58.95	27.04	45.52	18.48
	50	Low	0-7(NC)	QPSK	45.0	141	10	-23.44	57.22	27.04	44.31	17.27
		Low	0-7(NC)	16QAM	45.0	141	10	-23.43	57.22	27.04	44.32	17.28
		Low	0-7(NC)	64QAM	45.0	141	10	-23.43	57.22	27.04	44.32	17.28
	100	Low	0-7(NC)	QPSK	45.0	141	10	-22.48	57.22	27.04	45.27	18.23
		Low	0-7(NC)	16QAM	45.0	141	10	-22.51	57.22	27.04	45.24	18.20
		Low	0-7(NC)	64QAM	45.0	141	10	-22.61	57.22	27.04	45.14	18.10
	50	Mid	0-7(NC)	QPSK	45.0	141	10	-23.96	57.17	27.04	43.74	16.70
		Mid	0-7(NC)	16QAM	45.0	141	10	-23.94	57.17	27.04	43.76	16.72
		Mid	0-7(NC)	64QAM	45.0	141	10	-23.94	57.17	27.04	43.76	16.72
	100	Mid	0-7(NC)	QPSK	45.0	141	10	-23.56	57.17	27.04	44.14	17.10
		Mid	0-7(NC)	16QAM	45.0	141	10	-23.27	57.17	27.04	44.43	17.39
		Mid	0-7(NC)	64QAM	45.0	141	10	-23.23	57.17	27.04	44.47	17.43
	50	High	0-7(NC)	QPSK	45.0	141	10	-23.83	58.95	27.04	45.65	18.61
		High	0-7(NC)	16QAM	45.0	141	10	-23.89	58.95	27.04	45.59	18.55
		High	0-7(NC)	64QAM	45.0	141	10	-23.71	58.95	27.04	45.77	18.73
	100	High	0-7(NC)	QPSK	45.0	141	10	-22.72	58.95	27.04	46.76	19.72
		High	0-7(NC)	16QAM	45.0	141	10	-22.75	58.95	27.04	46.73	19.69
		High	0-7(NC)	64QAM	45.0	141	10	-22.79	58.95	27.04	46.69	19.65

Table 7-16. Antenna D Conducted Power Summary Data

FCC ID: A3LAT1K02-A10	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 169 of 360

7.4.5 Total Conducted Power (Summed Across All Antennas)

Antenna	Bandwidth	Chan.	CCs active	Modulation	Ant A	Ant B	Ant C	Ant D	Conducted Average Power
	[MHz]				[dBm]	[dBm]	[dBm]	[dBm]	
A+B+C+D	50	Low	0	QPSK	18.7	18.8	18.1	18.1	24.43
		Low	0	16QAM	18.7	18.9	18.0	18.1	24.44
		Low	0	64QAM	18.7	18.9	18.1	18.1	24.45
	100	Low	0	QPSK	21.9	22.4	21.8	22.0	28.04
		Low	0	16QAM	21.9	22.4	21.8	22.0	28.03
		Low	0	64QAM	21.8	22.4	21.8	22.0	28.02
	50	Mid	4	QPSK	18.7	18.7	18.0	18.1	24.38
		Mid	4	16QAM	18.7	18.7	18.0	18.1	24.37
		Mid	4	64QAM	18.7	18.7	18.0	18.1	24.39
	100	Mid	4	QPSK	21.4	21.6	21.5	21.5	27.52
		Mid	4	16QAM	21.4	21.6	21.4	21.5	27.51
		Mid	4	64QAM	21.5	21.6	21.4	21.5	27.51
	50	High	7	QPSK	19.6	20.3	18.9	19.7	25.67
		High	7	16QAM	19.5	20.2	19.0	19.7	25.64
		High	7	64QAM	19.5	20.2	19.0	19.7	25.64
	100	High	7	QPSK	22.9	23.1	22.7	22.6	28.85
		High	7	16QAM	22.9	23.2	22.9	22.6	28.92
		High	7	64QAM	22.8	23.2	22.9	22.6	28.90
	50	Low	0-7	QPSK	16.2	16.7	15.9	16.0	22.23
		Low	0-7	16QAM	16.3	16.6	16.0	16.0	22.28
		Low	0-7	64QAM	16.3	16.6	15.9	16.1	22.25
	100	Low	0-7	QPSK	16.2	16.3	16.7	16.8	22.52
		Low	0-7	16QAM	16.2	16.7	16.7	17.0	22.69
		Low	0-7	64QAM	16.2	16.7	16.7	17.1	22.71
	50	Mid	0-7	QPSK	16.7	17.2	16.5	16.7	22.81
		Mid	0-7	16QAM	16.7	17.2	16.5	16.7	22.80
		Mid	0-7	64QAM	16.7	17.2	16.5	16.6	22.77
	100	Mid	0-7	QPSK	17.2	17.1	17.6	17.6	23.40
		Mid	0-7	16QAM	17.2	17.1	17.4	17.5	23.29
		Mid	0-7	64QAM	17.1	17.4	17.4	17.0	23.25
	50	High	0-7	QPSK	17.9	18.3	17.2	17.7	23.81
		High	0-7	16QAM	17.9	18.2	17.2	17.7	23.77
		High	0-7	64QAM	17.8	18.2	17.2	17.7	23.75
	100	High	0-7	QPSK	18.1	18.6	18.6	18.0	24.37
		High	0-7	16QAM	18.1	18.4	18.6	18.5	24.42
		High	0-7	64QAM	18.1	18.6	18.6	18.5	24.46
	50	Low	0-7(NC)	QPSK	17.6	17.6	16.8	17.3	23.35
		Low	0-7(NC)	16QAM	17.6	17.5	16.8	17.3	23.32
		Low	0-7(NC)	64QAM	17.6	17.4	16.8	17.3	23.31
	100	Low	0-7(NC)	QPSK	16.5	17.9	17.1	18.2	23.53
		Low	0-7(NC)	16QAM	16.4	17.9	17.2	18.2	23.49
		Low	0-7(NC)	64QAM	16.4	17.9	17.1	18.1	23.45
	50	Mid	0-7(NC)	QPSK	17.2	16.9	16.7	16.7	22.89
		Mid	0-7(NC)	16QAM	17.2	17.0	16.6	16.7	22.90
		Mid	0-7(NC)	64QAM	17.2	17.0	16.6	16.7	22.90
	100	Mid	0-7(NC)	QPSK	16.3	17.2	16.6	17.1	22.82
		Mid	0-7(NC)	16QAM	16.2	17.2	16.5	17.4	22.88
		Mid	0-7(NC)	64QAM	16.4	17.1	16.5	17.4	22.90
	50	High	0-7(NC)	QPSK	19.5	19.3	18.7	18.6	25.06
		High	0-7(NC)	16QAM	19.5	19.3	18.7	18.6	25.05
		High	0-7(NC)	64QAM	19.5	19.3	18.7	18.7	25.09
	100	High	0-7(NC)	QPSK	18.3	19.5	19.3	19.7	25.25
		High	0-7(NC)	16QAM	18.3	19.5	19.1	19.7	25.18
		High	0-7(NC)	64QAM	18.3	19.4	19.1	19.7	25.16

Table 7-17. Total Conducted Power Summary Data

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7.5 Radiated Spurious and Harmonic Emissions

\$2.1051 \$30.203

Test Overview

Out of band emissions were scanned from 30MHz to 100GHz in a radiated test setup with the EUT operating at maximum duty cycle and power. Spurious emission plots were obtained for Low, Mid, and High operating channels. All modulations and applicable CC settings were investigated to determine worst case condition.

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

ANSI C63.26-2015 Section 6.4

KDB 842590 D01 v01 Section 4.4.3

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 100 GHz. 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 = 1MHz

Test Notes

- 1) The EUT was tested while positioned upright and mounted on a mast 1.5m height. The worst case emissions are reported with the EUT in this fixed position and with the modulations and active component carriers shown in the tables below.
- 2) Emissions below 18GHz were measured at a 3 meter test distance, while emissions above 18GHz were measured at the appropriate far field distance. See Table 3-1 for distances used for measurements based on theoretical far field distance.
- 3) All appropriate Antenna Factors, Cable Losses, and Mixer Conversion Losses have been applied as an offset in the spectrum analyzer for each measurement.
- 4) The angle of the horn antenna was rotated to maximize and find the worst case emissions. The worst case is reported in this section.
- 5) Spurious emissions were measured with all EUT antennas transmitting simultaneously.
- 6) Some frequency points exceed the limit which requires to investigate with TRP method for this spurious emission evaluation according to 4.4 Unwanted Emission Measurements of KDB 842590 D01.
- 7) A3LAT1K02-A10 test result is referenced as A3LAT1K02-A00 result which only difference of power type as AC and DC which supply condition affect to RF specification.
- 8) No emissions were found below 1GHz.

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TRP Measurement Procedure

If the recorded EIRP value was close or above the TRP limit, a Two Cut TRP measurement was done according to KDB 842590 D01 v01 Section 4.4.3.3.2

- a) Align the EUT with a chosen xy-plane and the xz-plane of the antenna measurement coordinate system.
 NOTE 1 For harmonics and spurious emission frequencies which are beamforming as identified in exploratory scan, it may be required to align the orthogonal cuts to include the peak based on exploratory scans.

- b) Measure the EUT dimensions, i.e., depth (d), width (w), and height (h); see Figure A.1 in Appendix A.

- c) Calculate the spherical and cylindrical diameters (D and D_{cyl}) using Equations (A.1) and (A.2) (see Appendix A).

$$D = \sqrt{d^2 + w^2 + h^2} \quad (\text{A.1})$$

$$D_{\text{cyl}} = \sqrt{d^2 + w^2} \quad (\text{A.2})$$

- d) For the highest frequency (smallest wavelength) of the frequency band measured, calculate the reference angular steps $\Delta\theta_{\text{ref}}$ and $\Delta\phi_{\text{ref}}$ using Equations (A.3) and (A.4).

$$\Delta\theta_{\text{ref}} = \min(15^\circ, 180^\circ / (\pi D / \lambda)) \quad (\text{A.3})$$

$$\Delta\phi_{\text{ref}} = \min(15^\circ, 180^\circ / (\pi D_{\text{cyl}} / \lambda)) \quad (\text{A.4})$$

- e) Set the grid spatial sampling step $\Delta\theta \leq \Delta\theta_{\text{ref}}$ for the vertical angle and $\Delta\phi \leq \Delta\phi_{\text{ref}}$ for the horizontal cut.

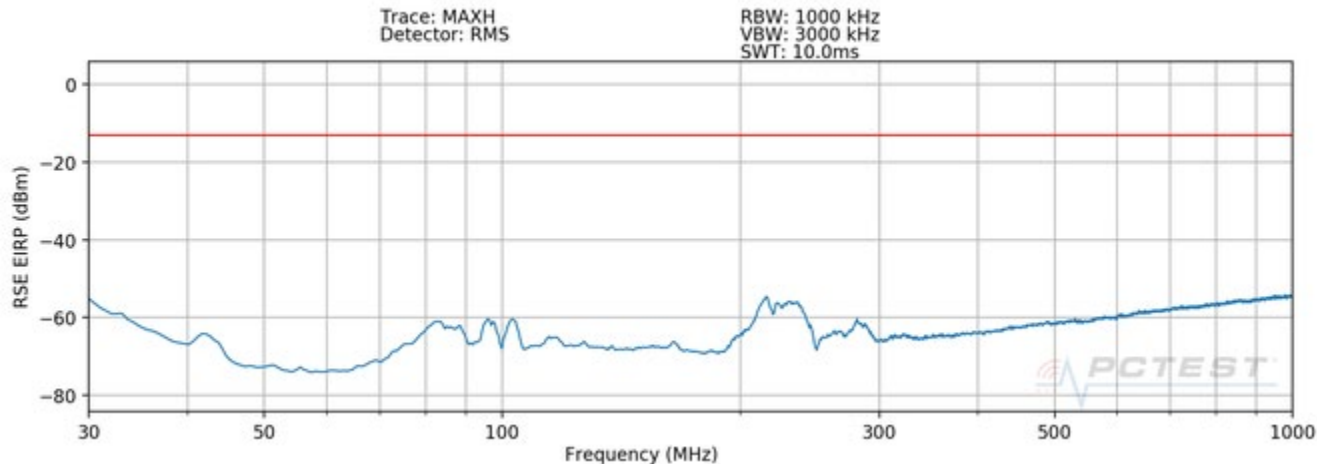
- f) For each emission frequency, measure the EIRP (as a sum of two orthogonal polarizations) at each spatial sampling step on the selected grid.

- g) For each emission frequency, calculate the average EIRP for both the cuts separately, and then take the average of these two average values.

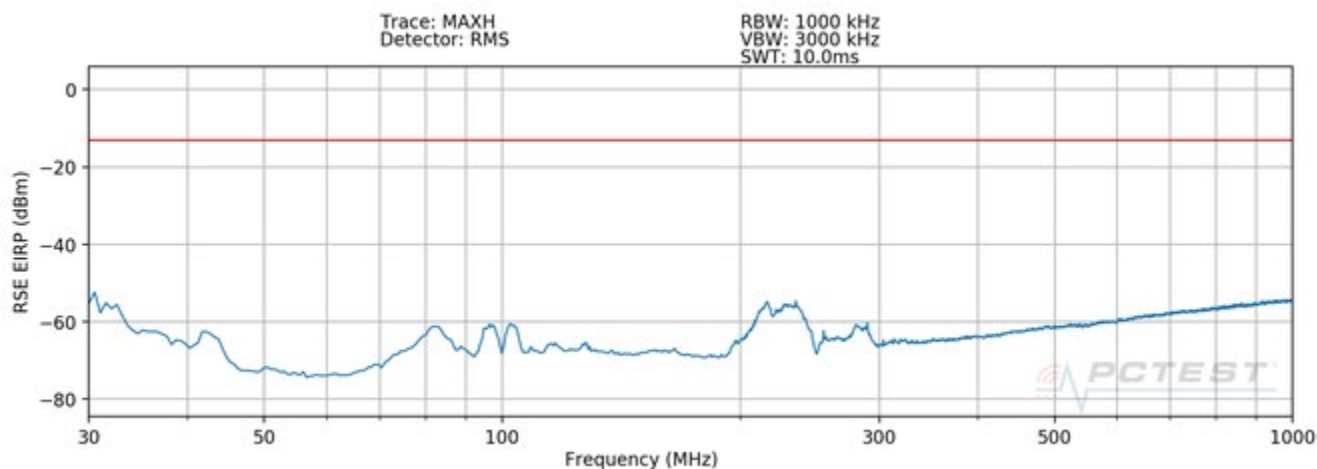
- h) Add 2 dB as a correction factor to the averaged value computed in step g).

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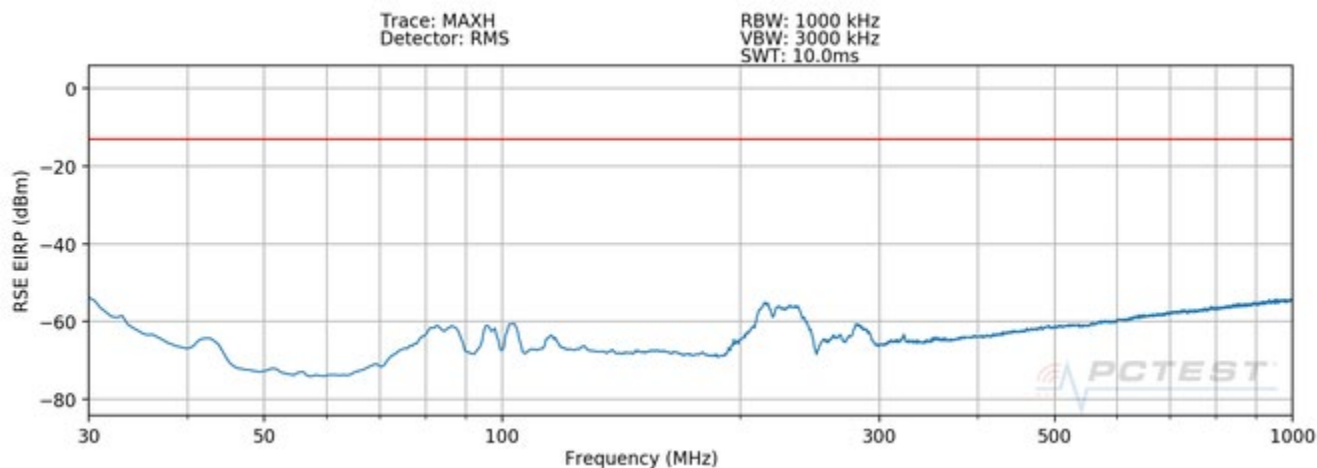
7.5.1 Radiated Spurious Emissions Plots (30MHz – 1GHz)



Plot 7-265. Radiated Spurious Plot 30 MHz-1 GHz (1CC QPSK Low Ch. Ant. Pol. H)

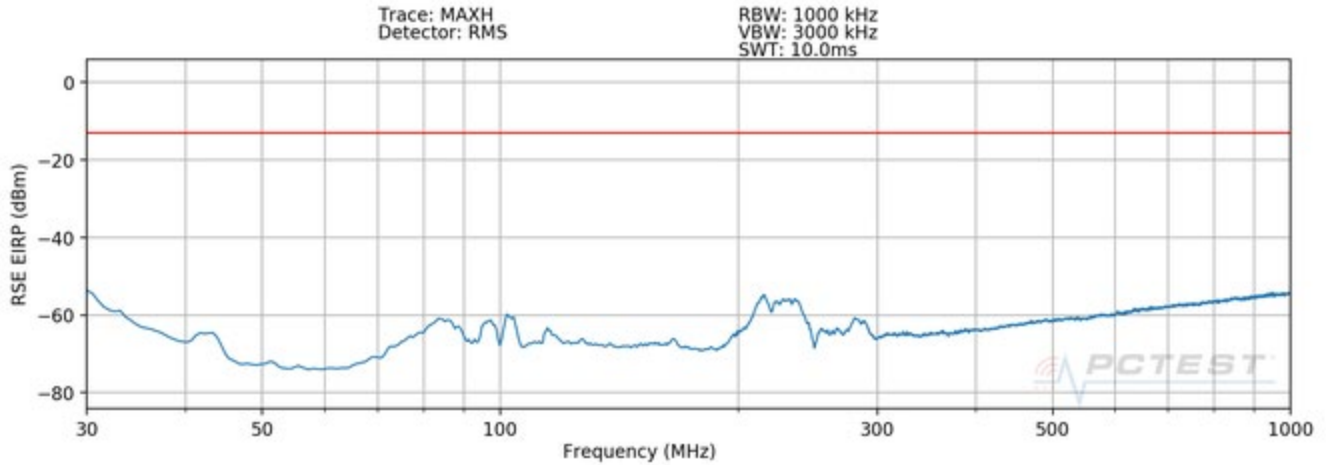


Plot 7-266. Radiated Spurious Plot 30 MHz-1 GHz (1CC QPSK Low Ch. Ant. Pol. V)

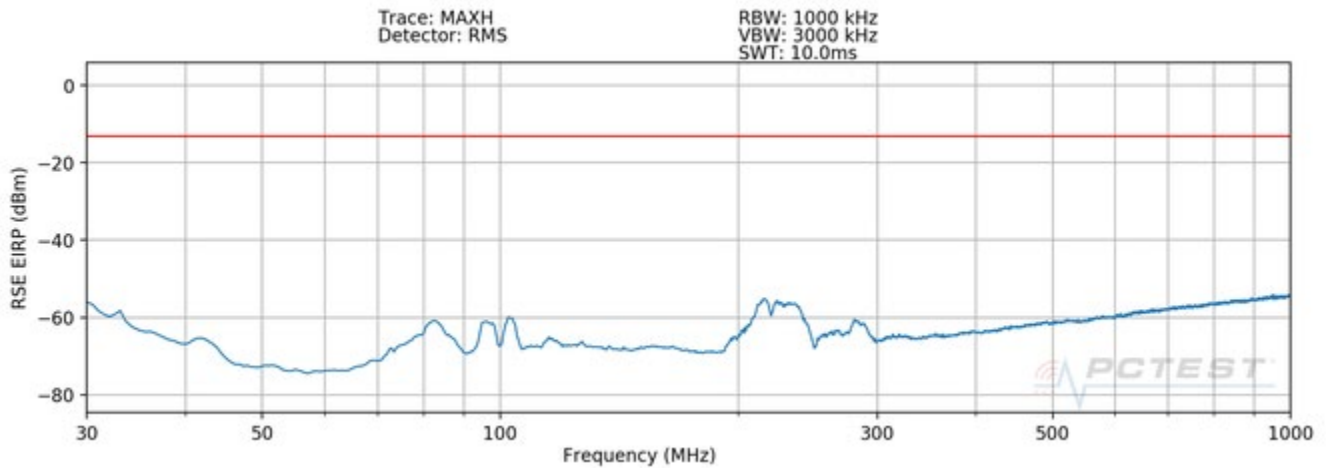


Plot 7-267. Radiated Spurious Plot 30 MHz-1 GHz (8CC QPSK Low Ch. Ant. Pol. H)

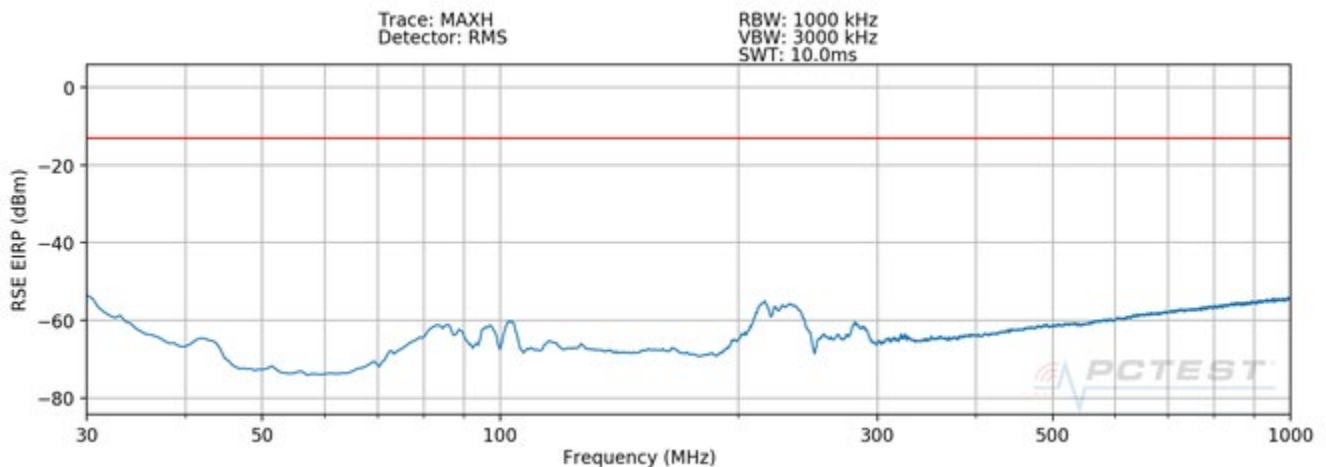
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 173 of 360



Plot 7-268. Radiated Spurious Plot 30 MHz-1 GHz (8CC QPSK Low Ch. Ant. Pol. V)

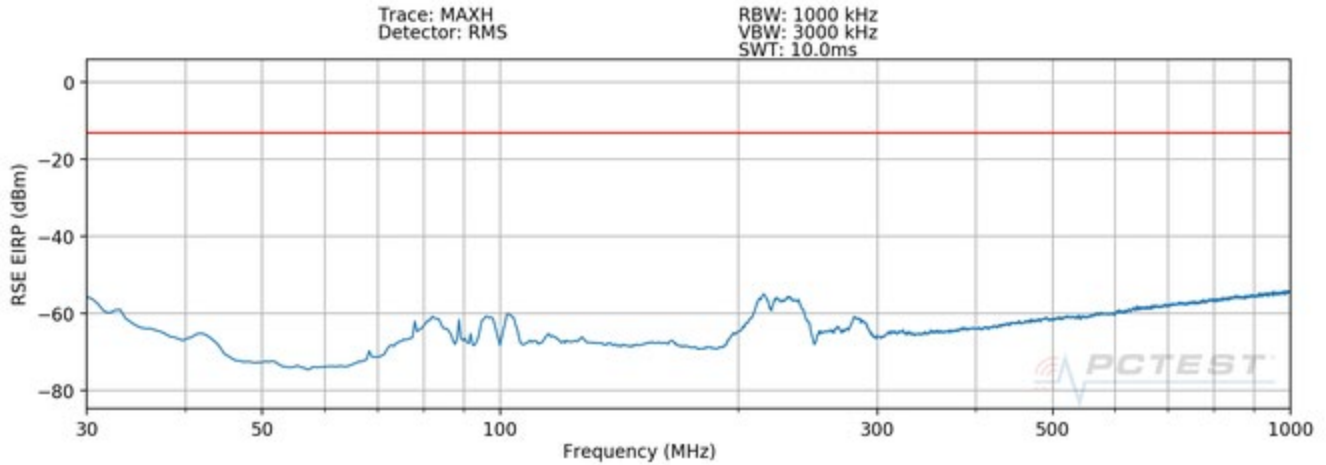


Plot 7-269. Radiated Spurious Plot 30 MHz-1 GHz (8CC NC QPSK Low Ch. Ant. Pol. H)

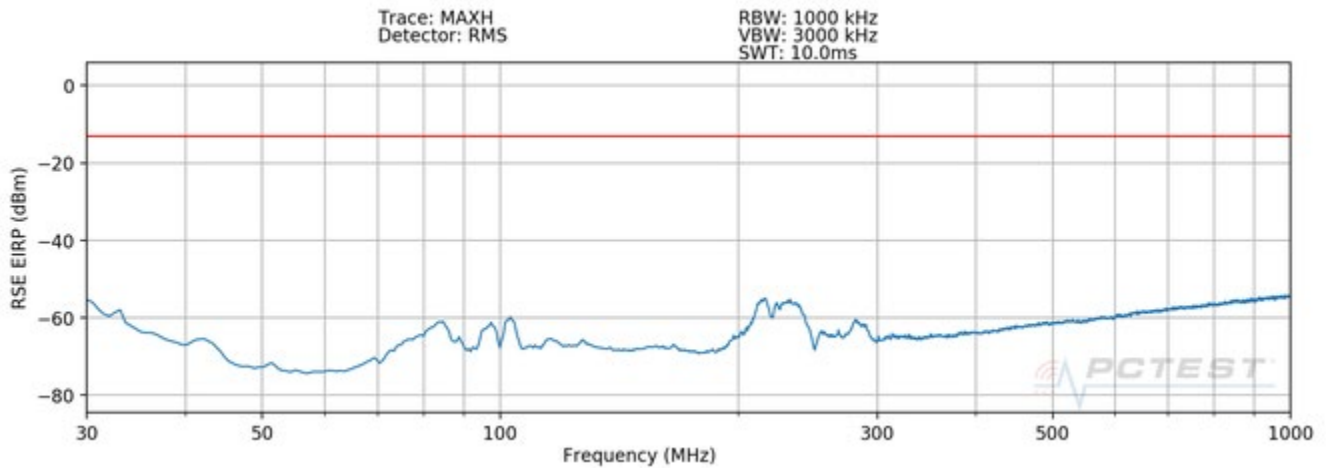


Plot 7-270. Radiated Spurious Plot 30 MHz-1 GHz (8CC NC QPSK Low Ch. Ant. Pol. V)

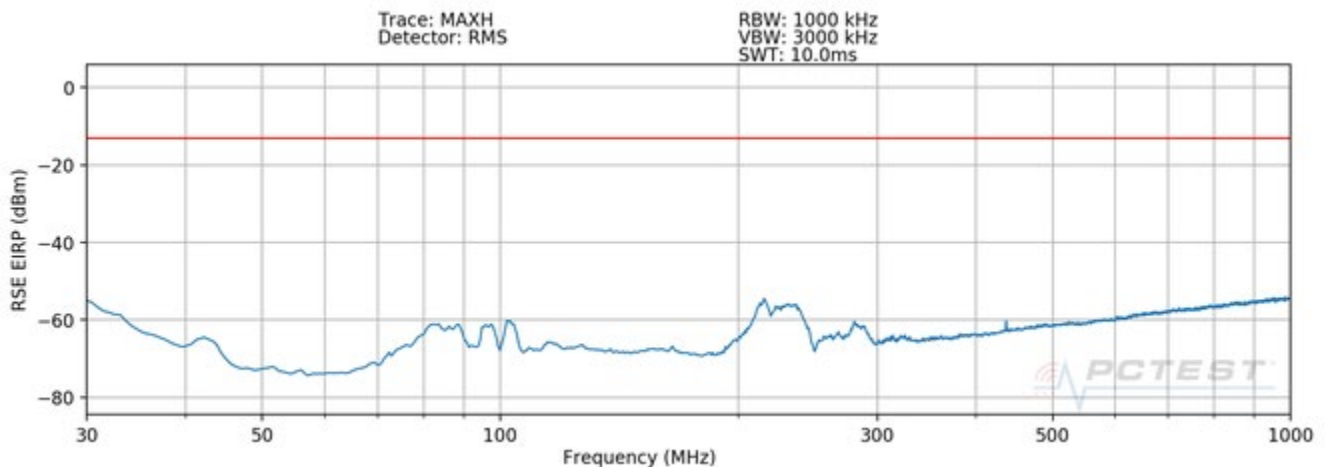
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-271. Radiated Spurious Plot 30 MHz-1 GHz (1CC QPSK Mid Ch. Ant. Pol. H)

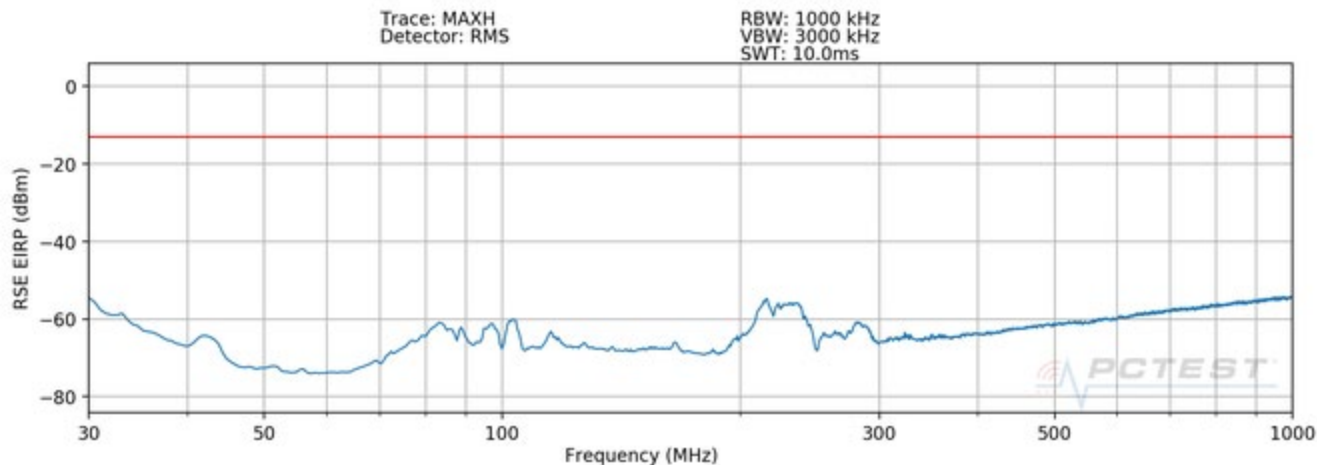


Plot 7-272. Radiated Spurious Plot 30 MHz-1 GHz (1CC QPSK Mid Ch. Ant. Pol. V)

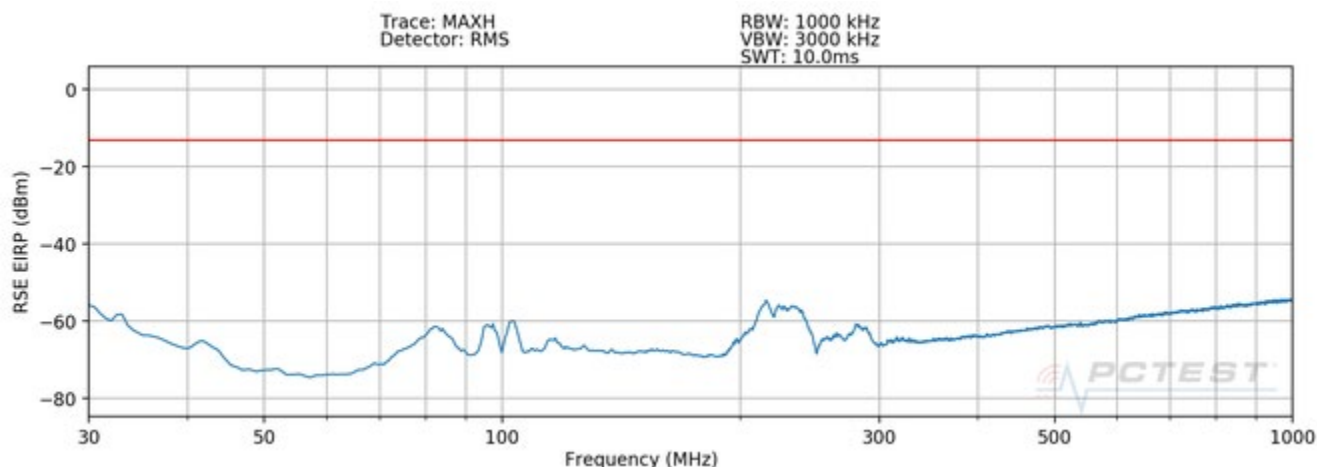


Plot 7-273. Radiated Spurious Plot 30 MHz-1 GHz (8CC QPSK Mid Ch. Ant. Pol. H)

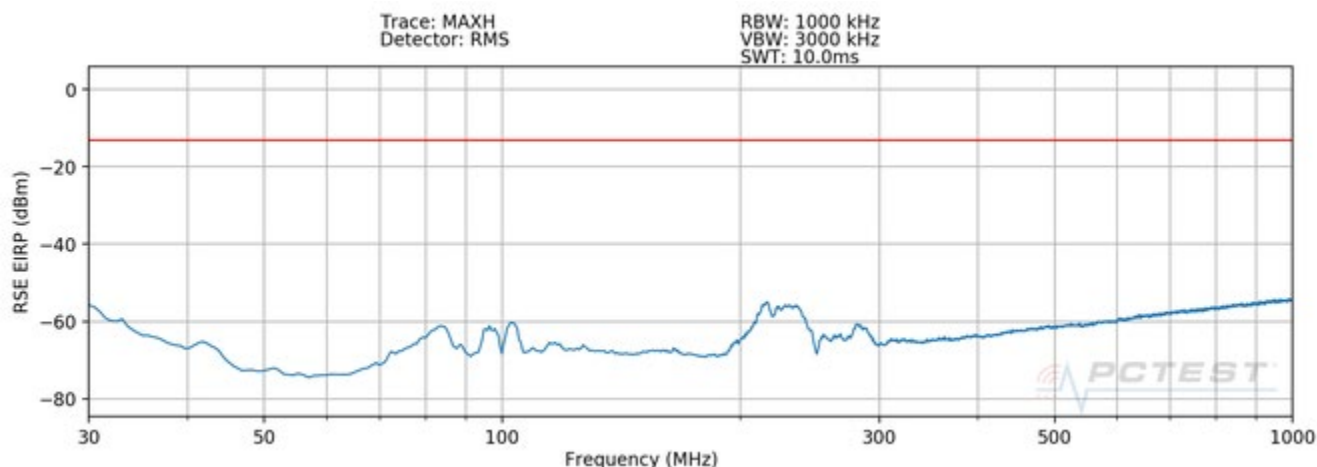
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-274. Radiated Spurious Plot 30 MHz-1 GHz (8CC QPSK Mid Ch. Ant. Pol. V)

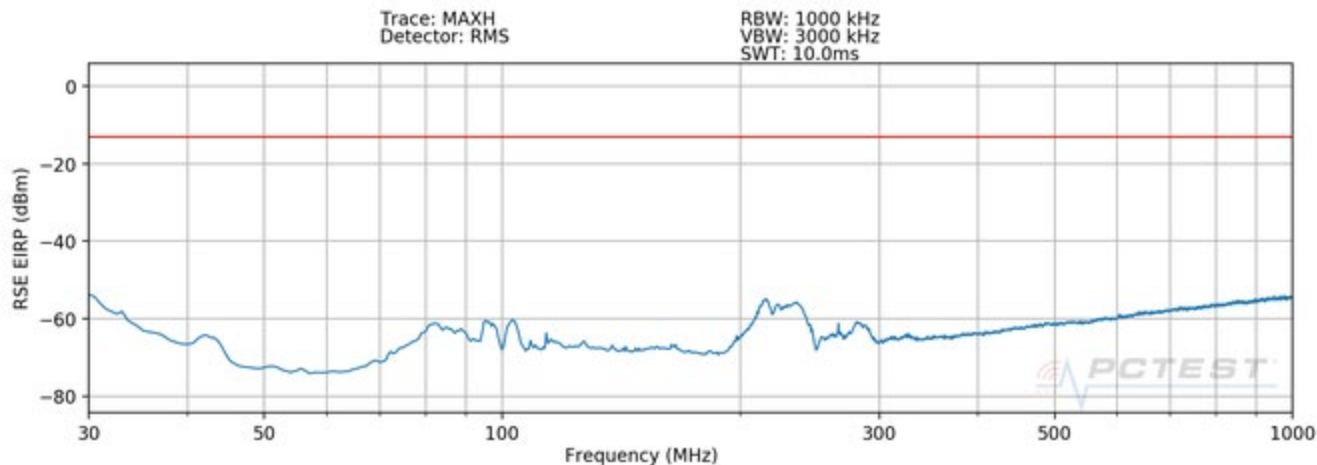


Plot 7-275. Radiated Spurious Plot 30 MHz-1 GHz (8CC NC QPSK Mid Ch. Ant. Pol. H)

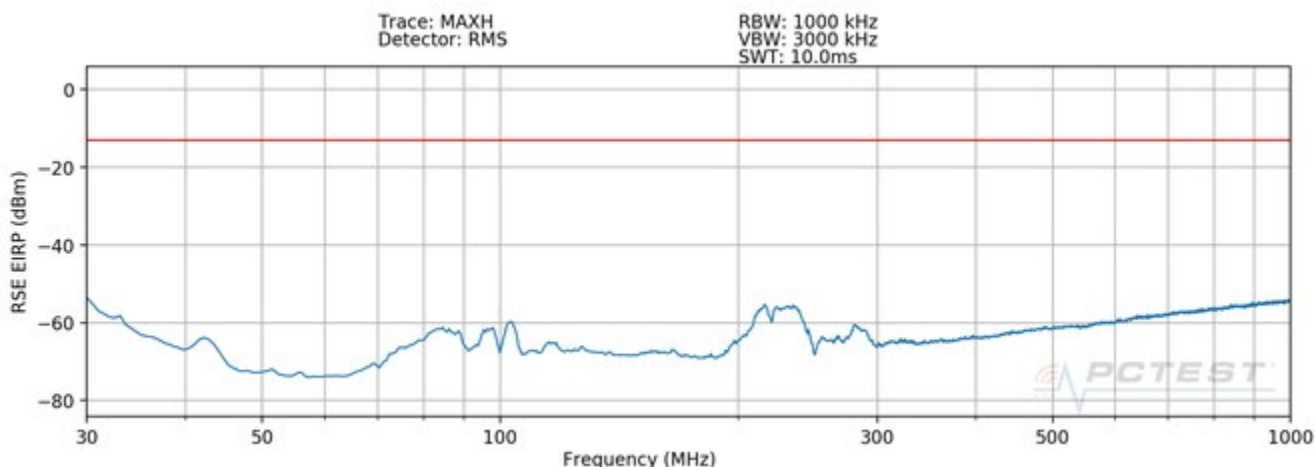


Plot 7-276. Radiated Spurious Plot 30 MHz-1 GHz (8CC NC QPSK Mid Ch. Ant. Pol. V)

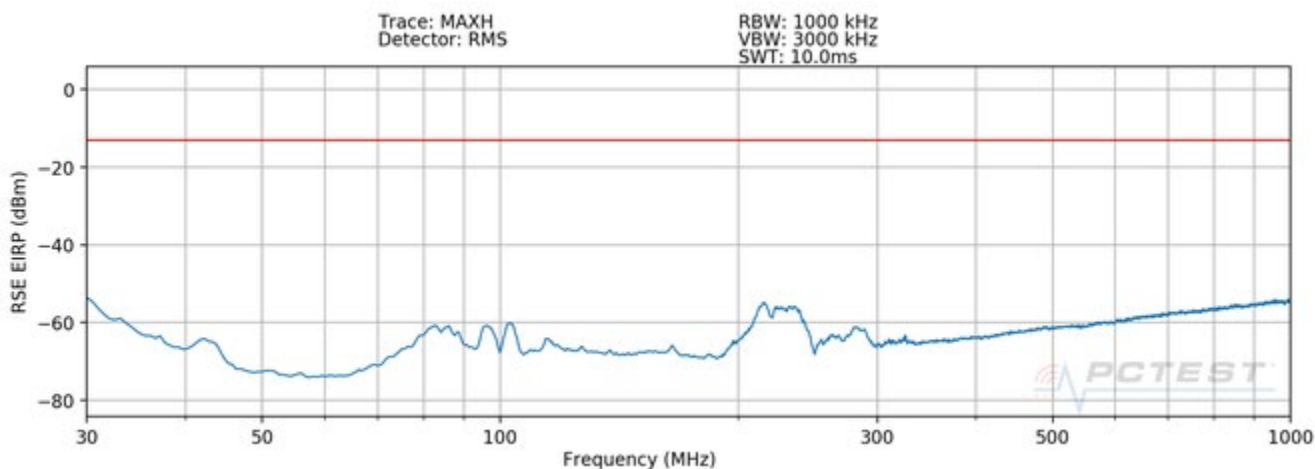
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-277. Radiated Spurious Plot 30 MHz-1 GHz (1CC QPSK High Ch. Ant. Pol. H)

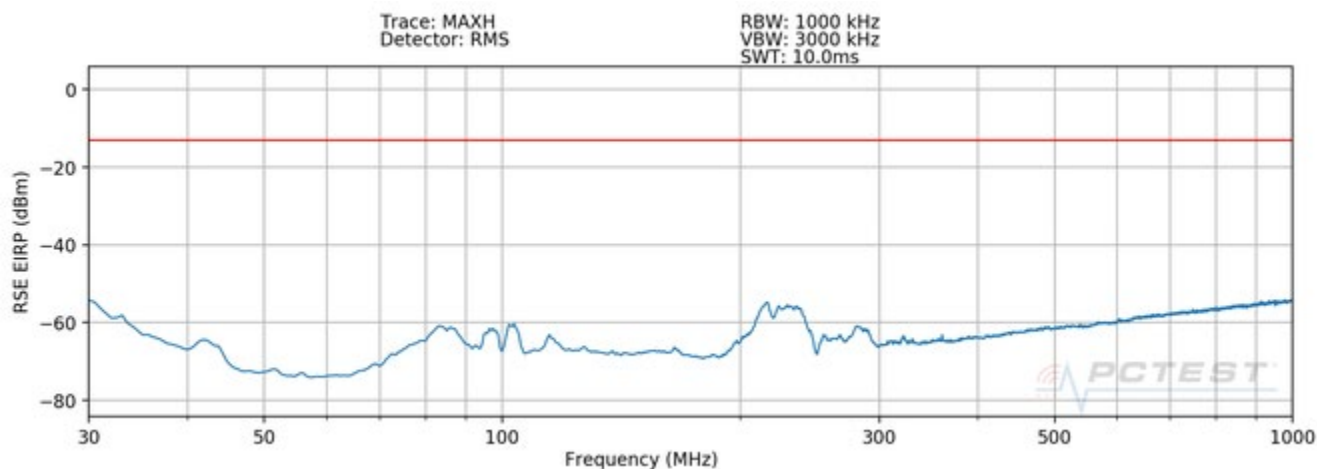


Plot 7-278. Radiated Spurious Plot 30 MHz-1 GHz (1CC QPSK High Ch. Ant. Pol. V)

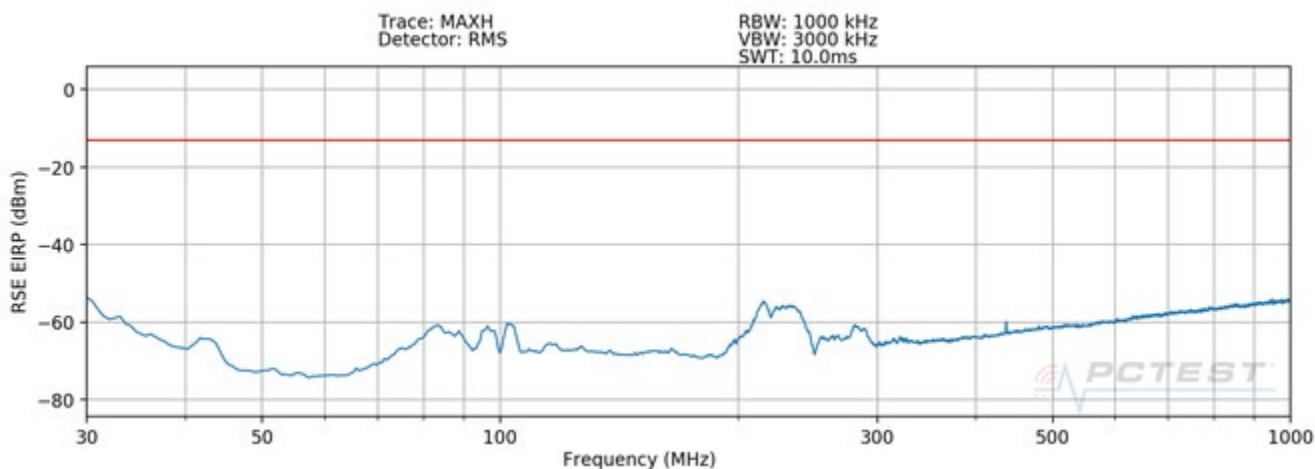


Plot 7-279. Radiated Spurious Plot 30 MHz-1 GHz (8CC QPSK High Ch. Ant. Pol. H)

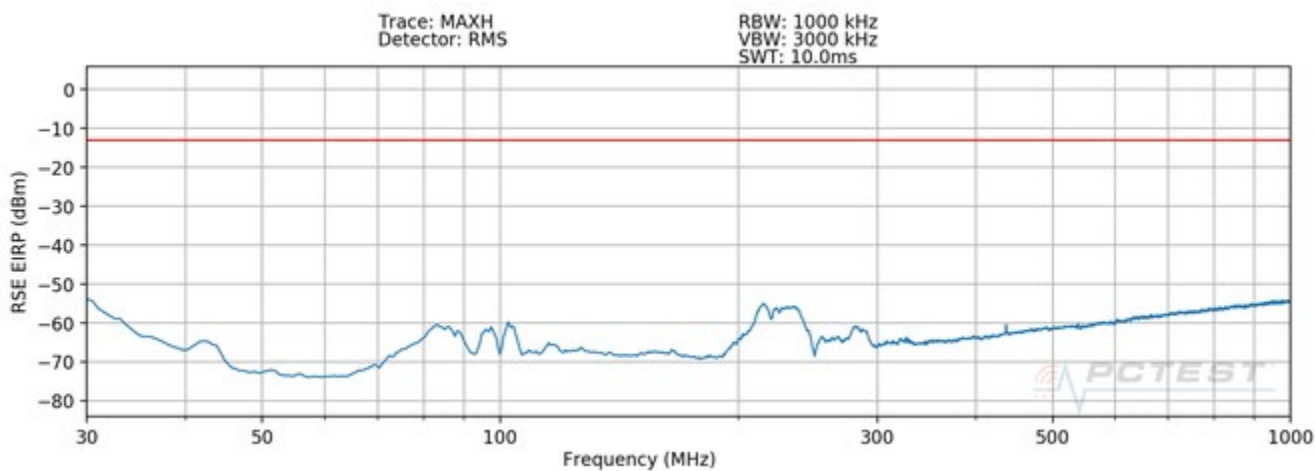
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-280. Radiated Spurious Plot 30 MHz-1 GHz (8CC QPSK High Ch. Ant. Pol. V)



Plot 7-281. Radiated Spurious Plot 30 MHz-1 GHz (8CC NC QPSK High Ch. Ant. Pol. H)



Plot 7-282. Radiated Spurious Plot 30 MHz-1 GHz (8CC NC QPSK High Ch. Ant. Pol. V)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Frequency [MHz]	Channel	CC Active	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turn Table Azimuth [degree]	Analyzer Level [dBm]	AFCL [dBm]	Field Strength [dBμV/m]	RSE EIRP [dBm]	Limit [dBm]	Margin [dB]
208.76	Mid	CC0-CC7(C)	QPSK	H	208	253	-85.00	18.27	40.27	-54.99	-13.00	-41.99

Table 7-18. Spurious Emissions (30MHz – 1GHz)

Spurious Emissions EIRP Sample Calculation

The raw radiated spurious level is converted to field strength in dBμV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 3 meters.

Spurious Level [dBμV/m] = Analyzer Level [dBm] + AFCL [dB/m] + 107

= - 56.01 dBm - 22.64 dB/m + 107

= 28.35dBμV/m

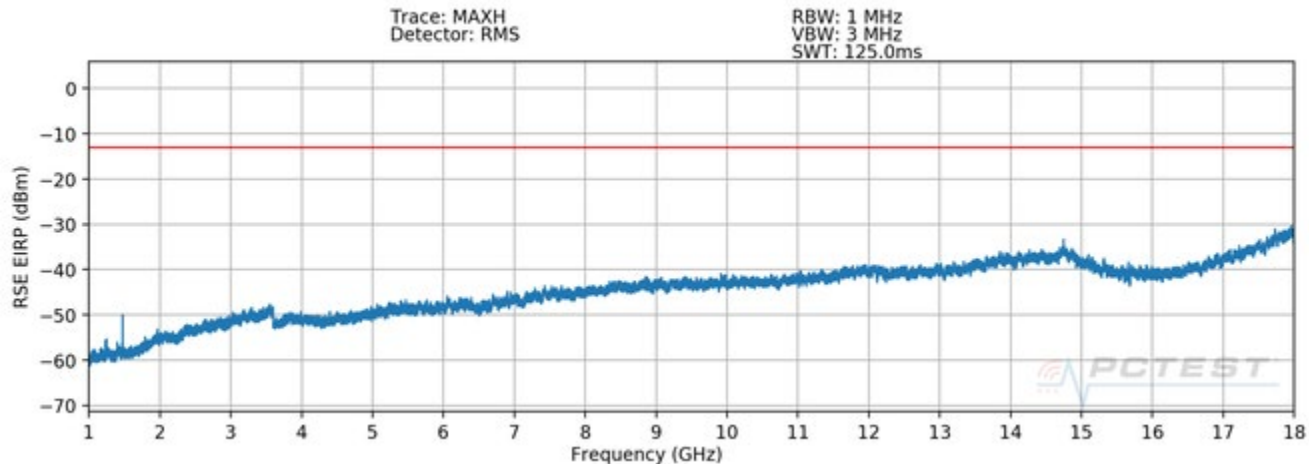
RSE EIRP [dBm] = Field Strength + 20Log(D_m) – 104.8

= 28.35dBμV/m + 20Log(3) – 104.8

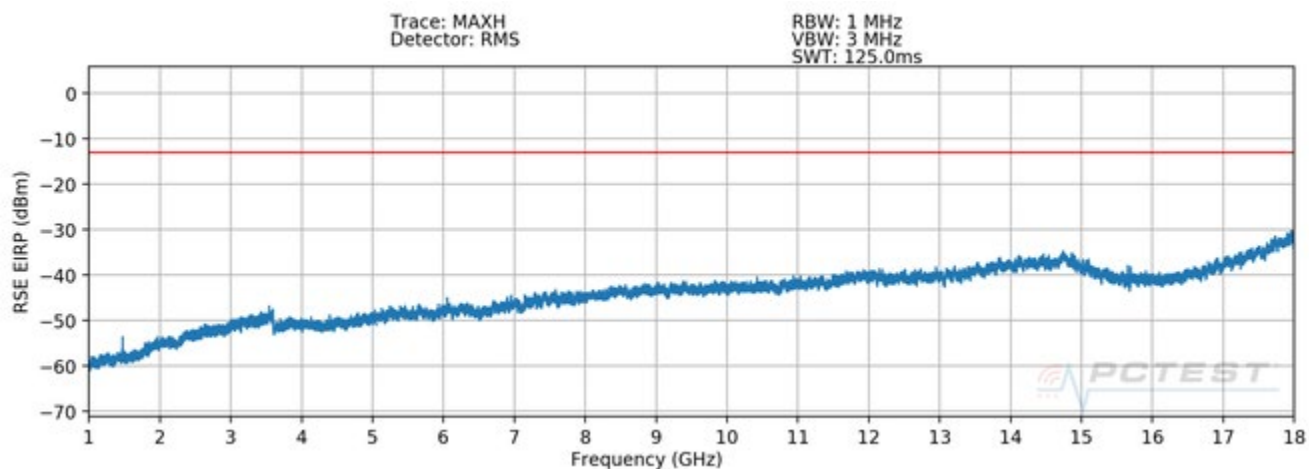
= -95.06dBm

FCC ID: A3LAT1K02-A10	 Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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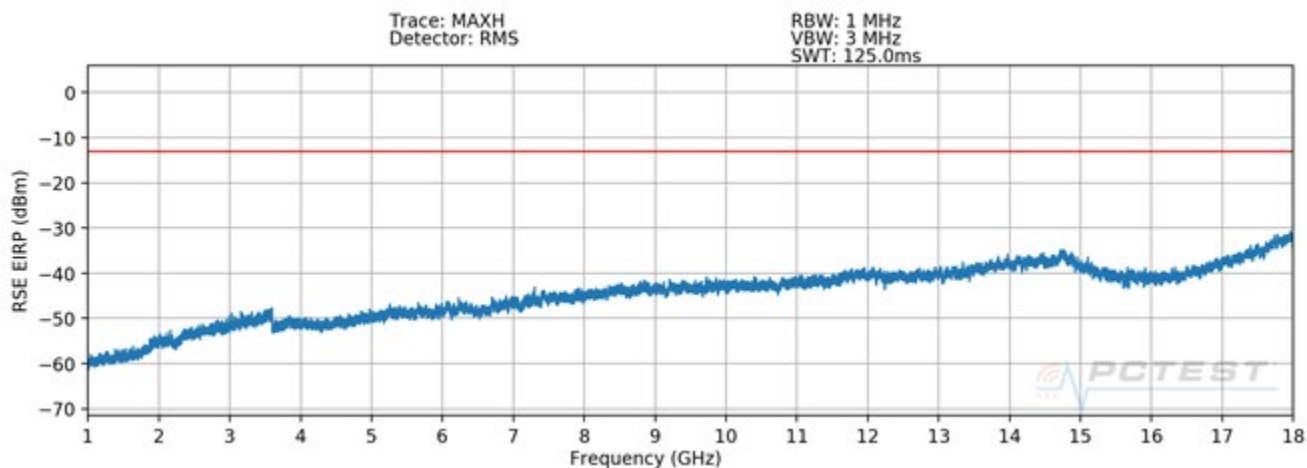
7.5.2 Radiated Spurious Emissions Plots (1 – 18GHz)



Plot 7-283. Radiated Spurious Plot 1-18 GHz (1CC QPSK Low Ch. Ant. Pol. H)

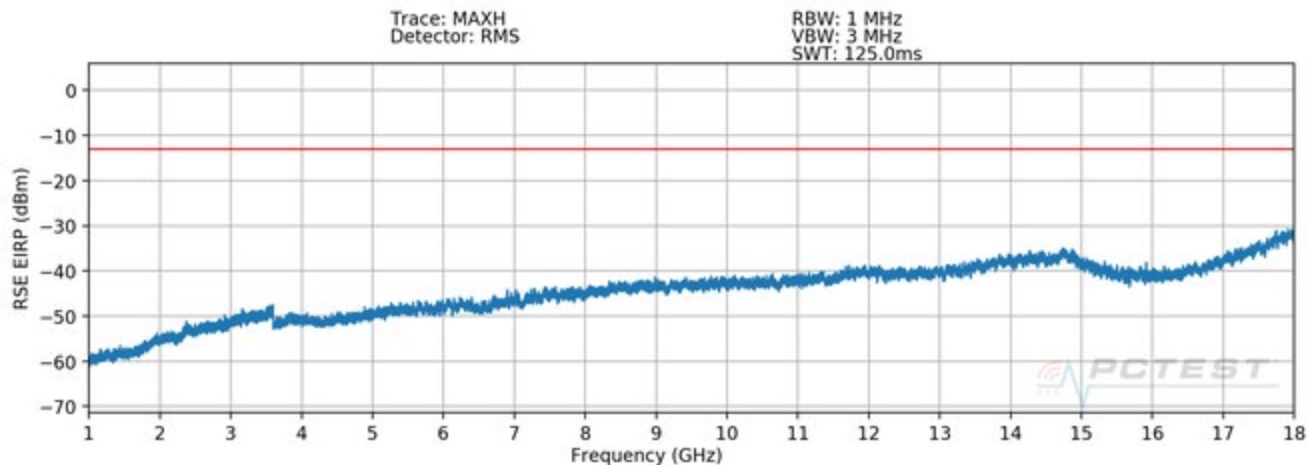


Plot 7-284. Radiated Spurious Plot 1-18 GHz (1CC QPSK Low Ch. Ant. Pol. V)

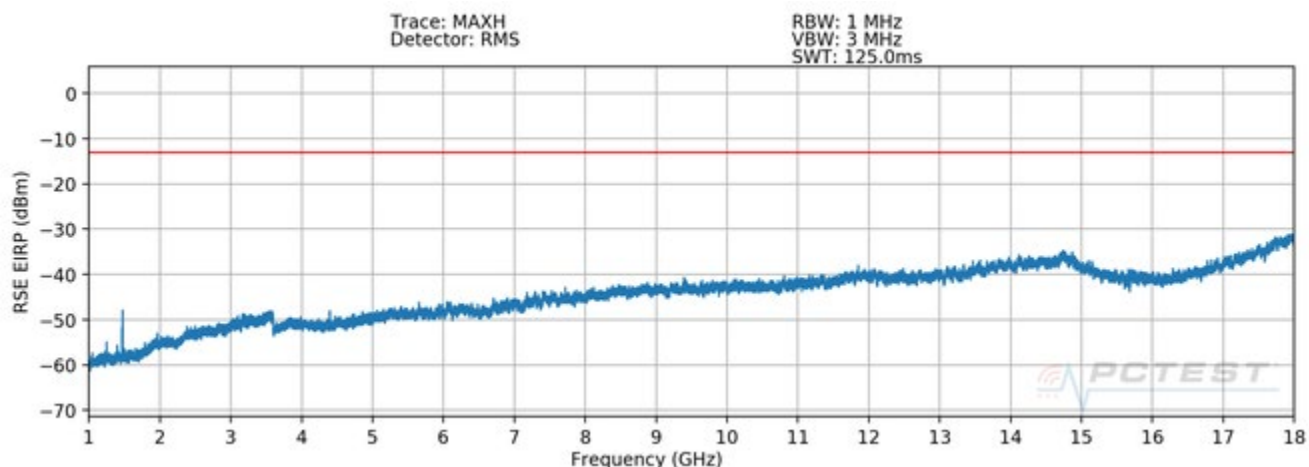


Plot 7-285. Radiated Spurious Plot 1-18 GHz (8CC QPSK Low Ch. Ant. Pol. H)

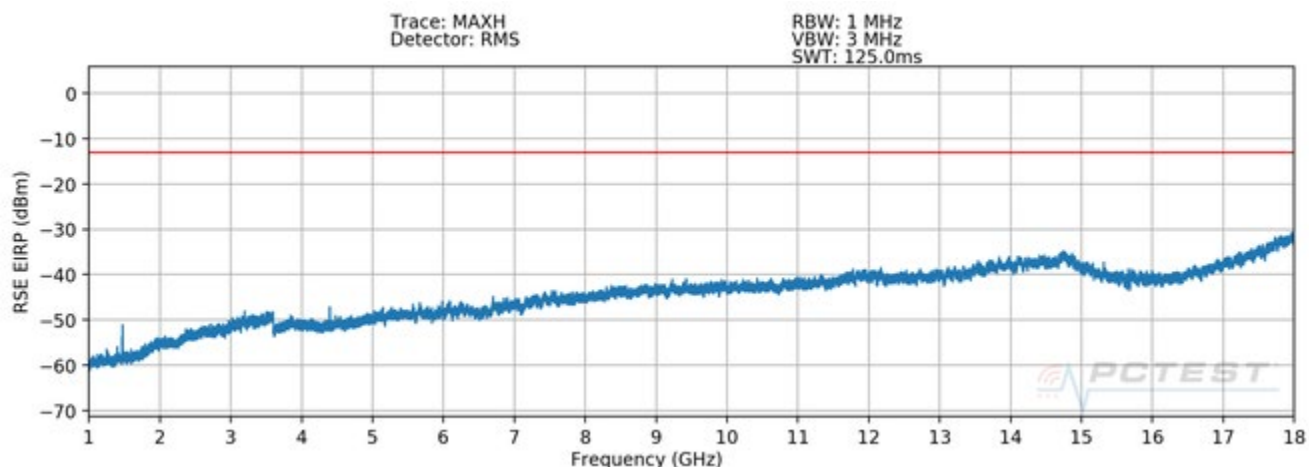
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-286. Radiated Spurious Plot 1-18 GHz (8CC QPSK Low Ch. Ant. Pol. V)

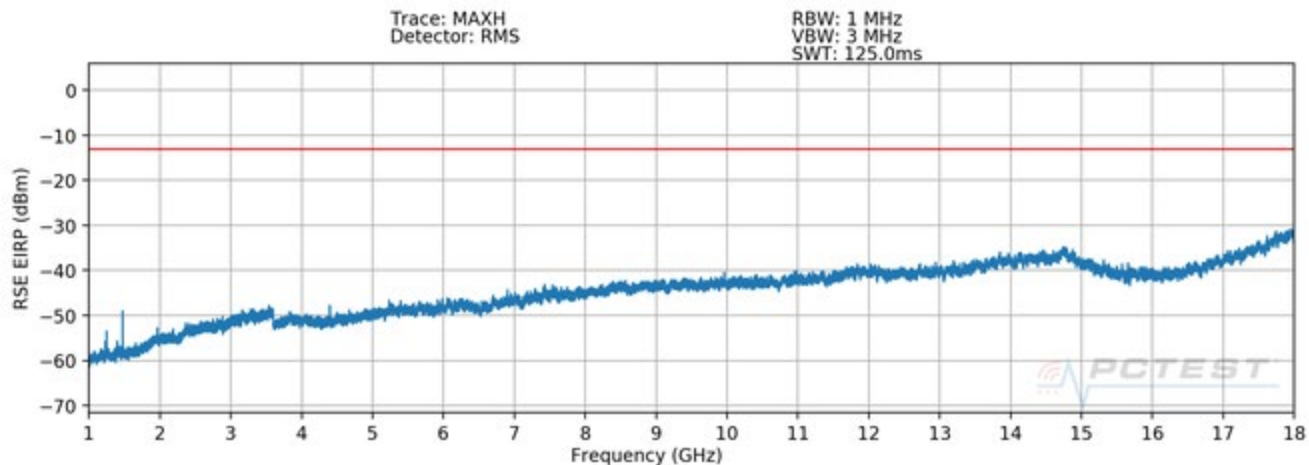


Plot 7-287. Radiated Spurious Plot 1-18 GHz (8CC NC QPSK Low Ch. Ant. Pol. H)

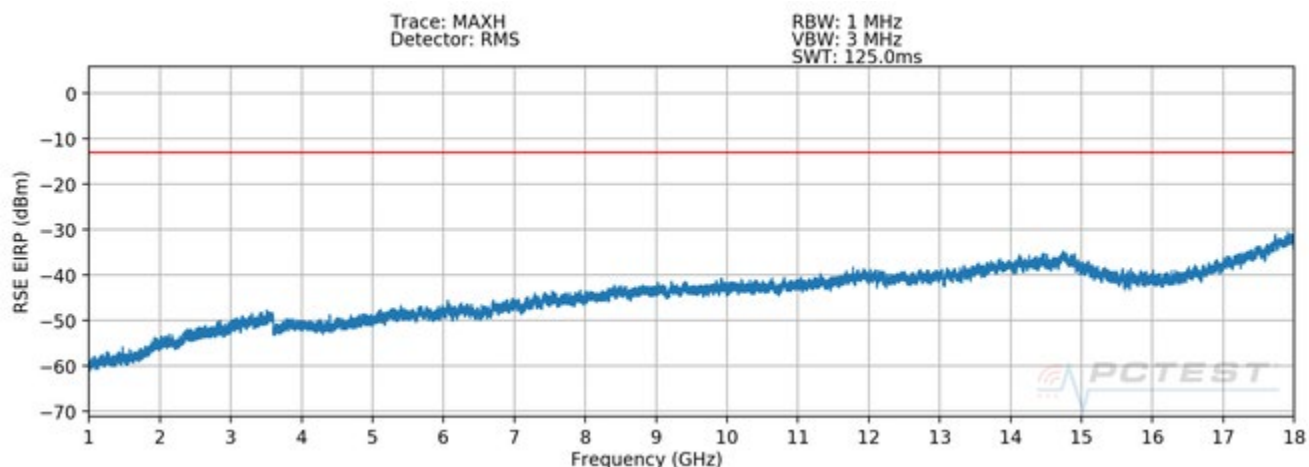


Plot 7-288. Radiated Spurious Plot 1-18 GHz (8CC NC QPSK Low Ch. Ant. Pol. V)

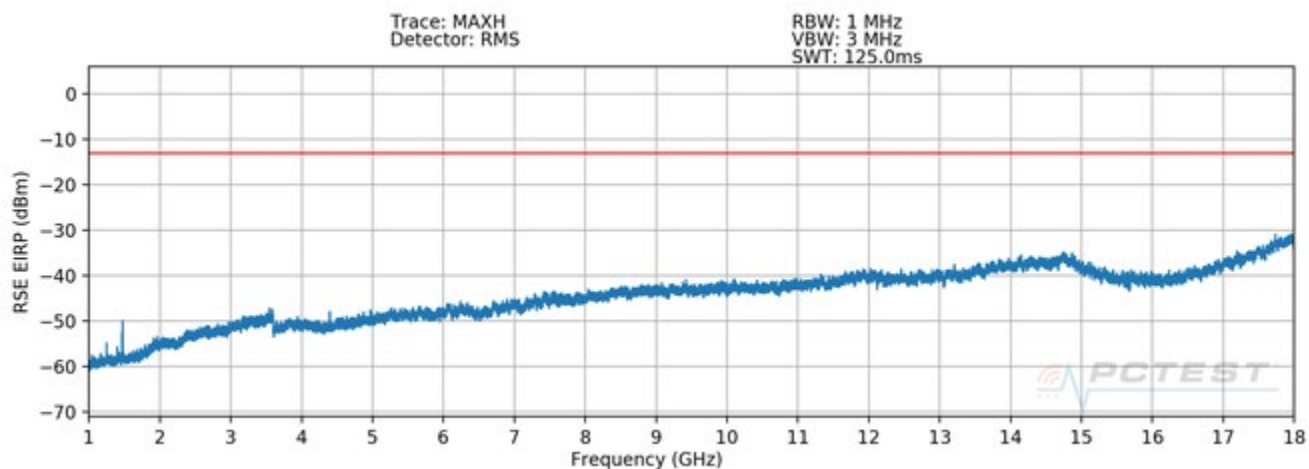
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-289. Radiated Spurious Plot 1-18 GHz (1CC QPSK Mid Ch. Ant. Pol. H)

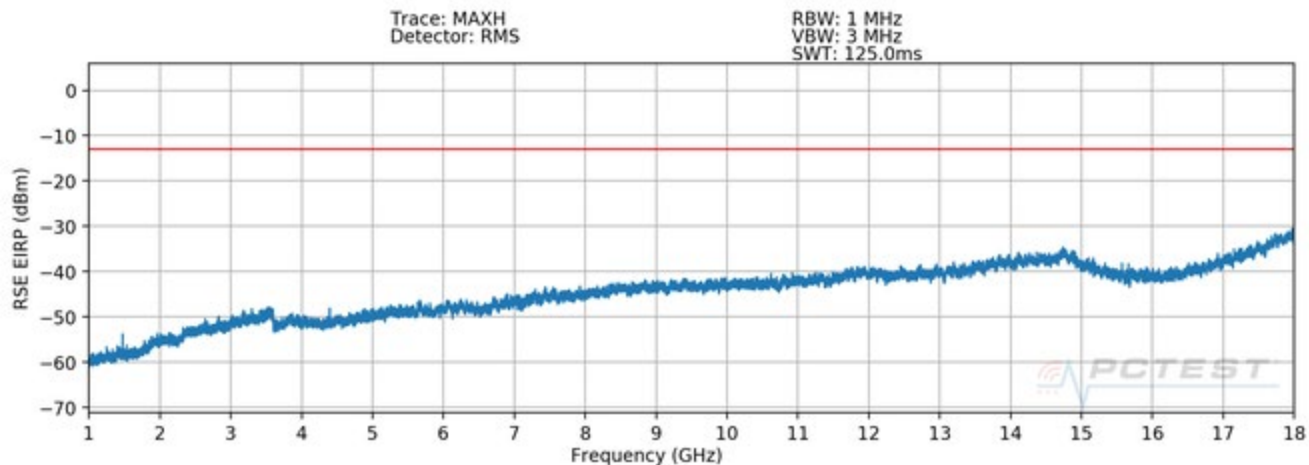


Plot 7-290. Radiated Spurious Plot 1-18 GHz (1CC QPSK Mid Ch. Ant. Pol. V)

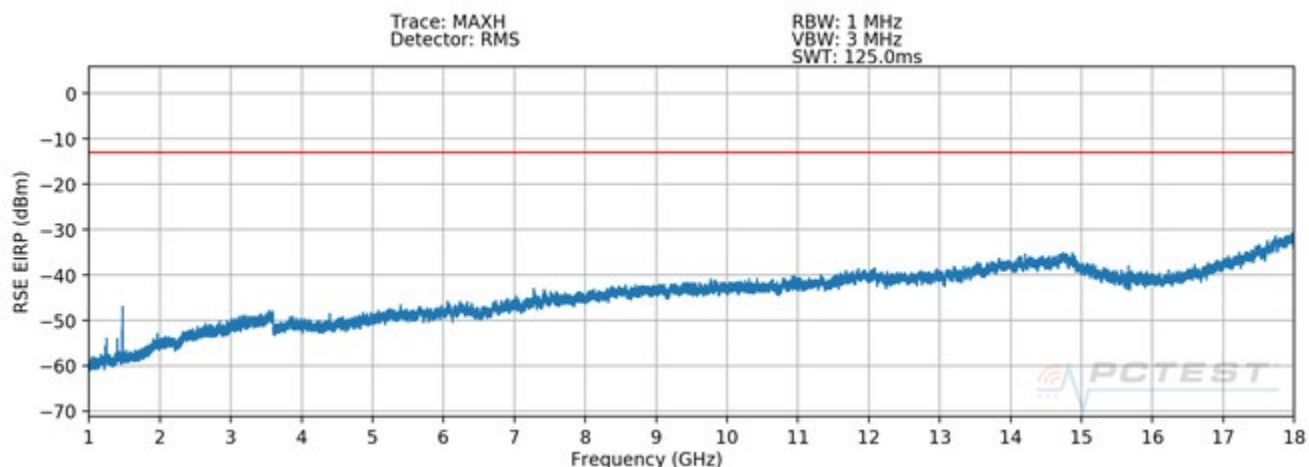


Plot 7-291. Radiated Spurious Plot 1-18 GHz (8CC QPSK Mid Ch. Ant. Pol. H)

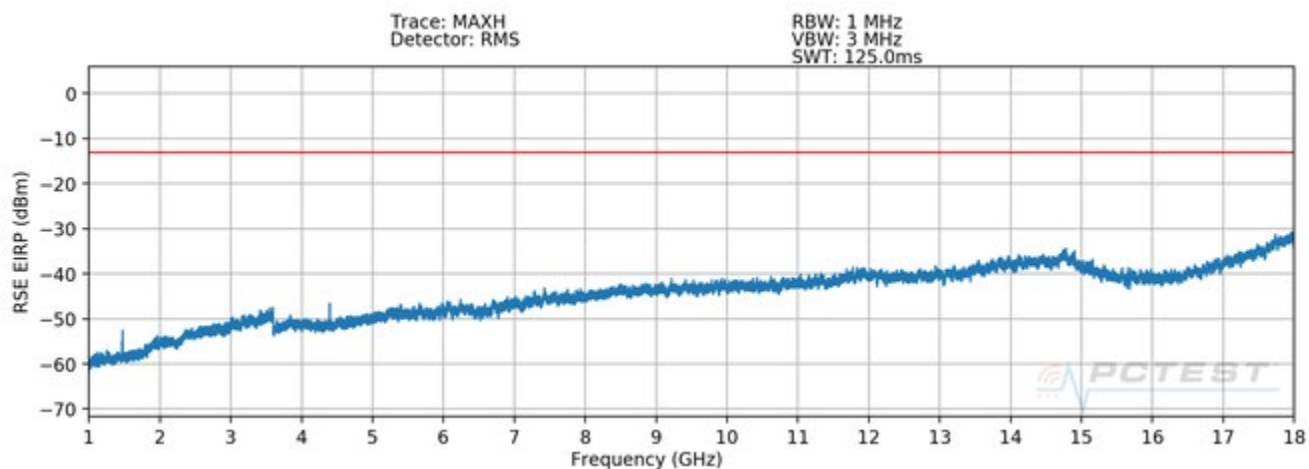
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-292. Radiated Spurious Plot 1-18 GHz (8CC QPSK Mid Ch. Ant. Pol. V)

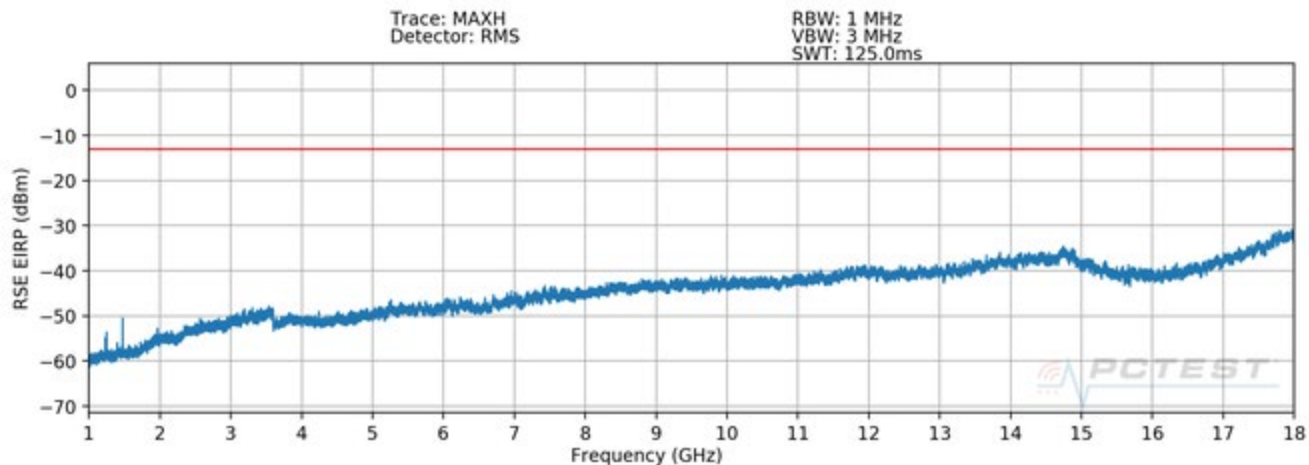


Plot 7-293. Radiated Spurious Plot 1-18 GHz (8CC NC QPSK Mid Ch. Ant. Pol. H)

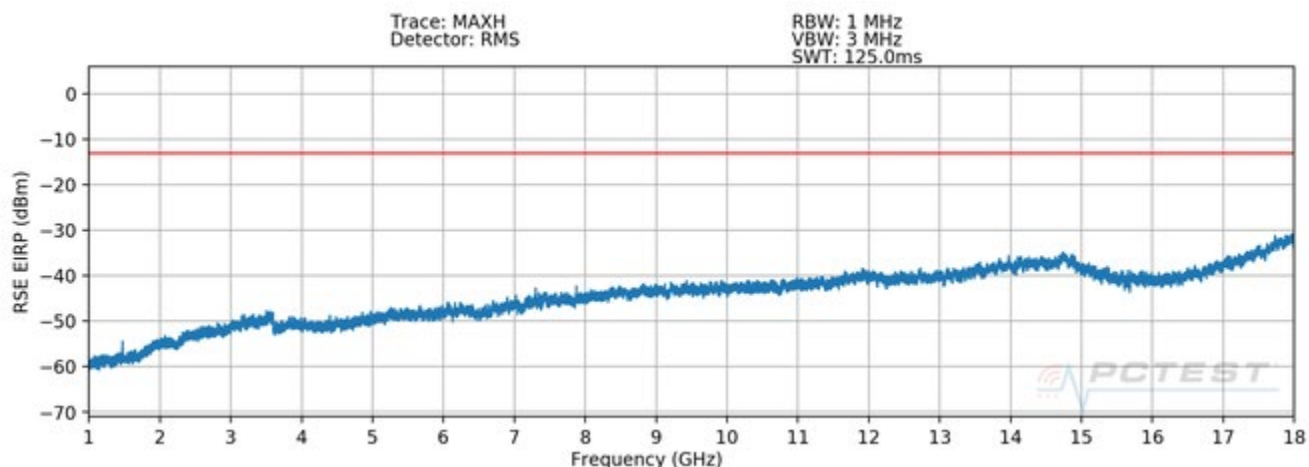


Plot 7-294. Radiated Spurious Plot 1-18 GHz (8CC NC QPSK Mid Ch. Ant. Pol. V)

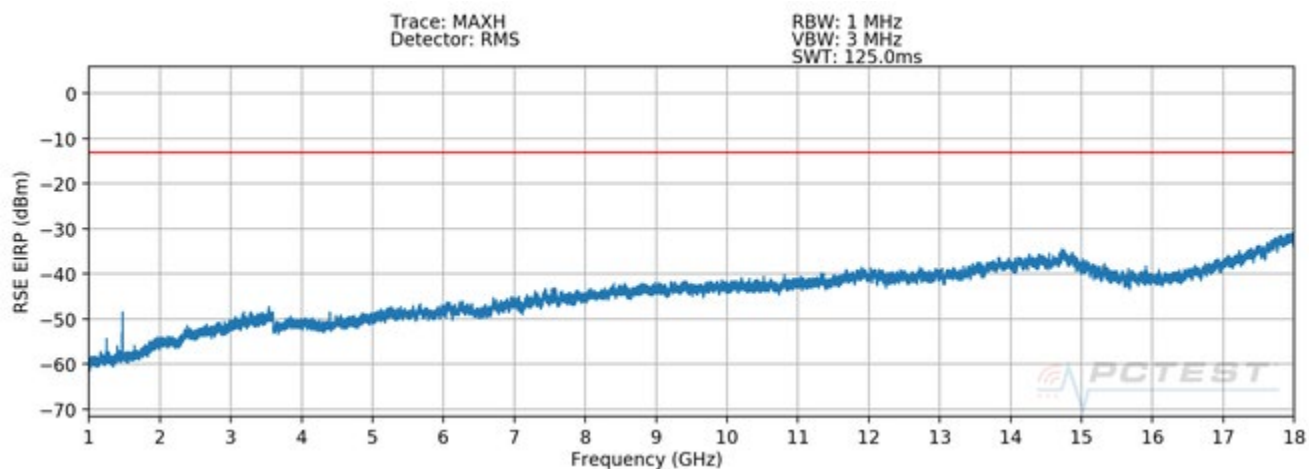
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 183 of 360



Plot 7-295. Radiated Spurious Plot 1-18 GHz (1CC QPSK High Ch. Ant. Pol. H)

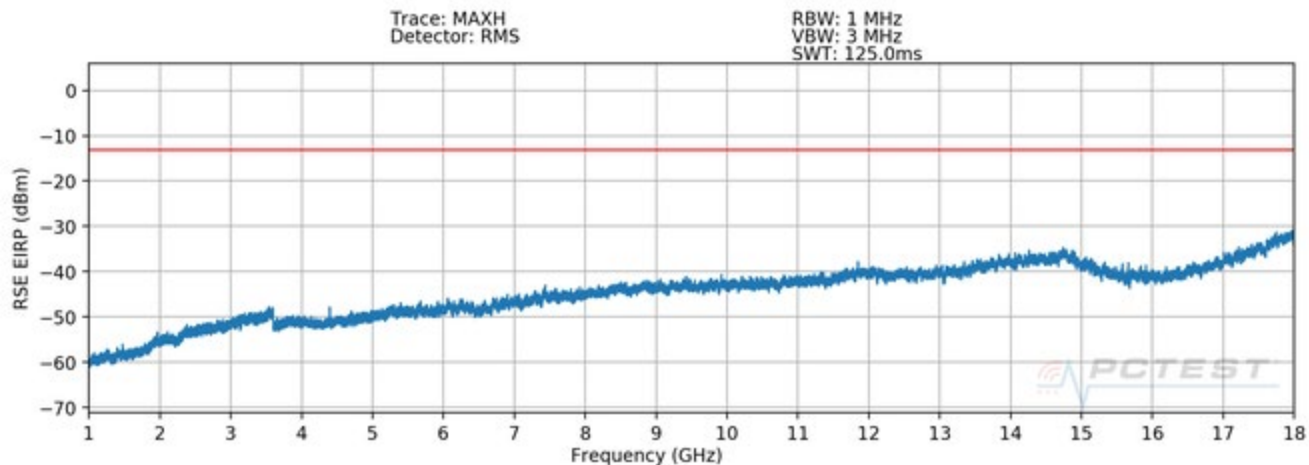


Plot 7-296. Radiated Spurious Plot 1-18 GHz (1CC QPSK High Ch. Ant. Pol. V)

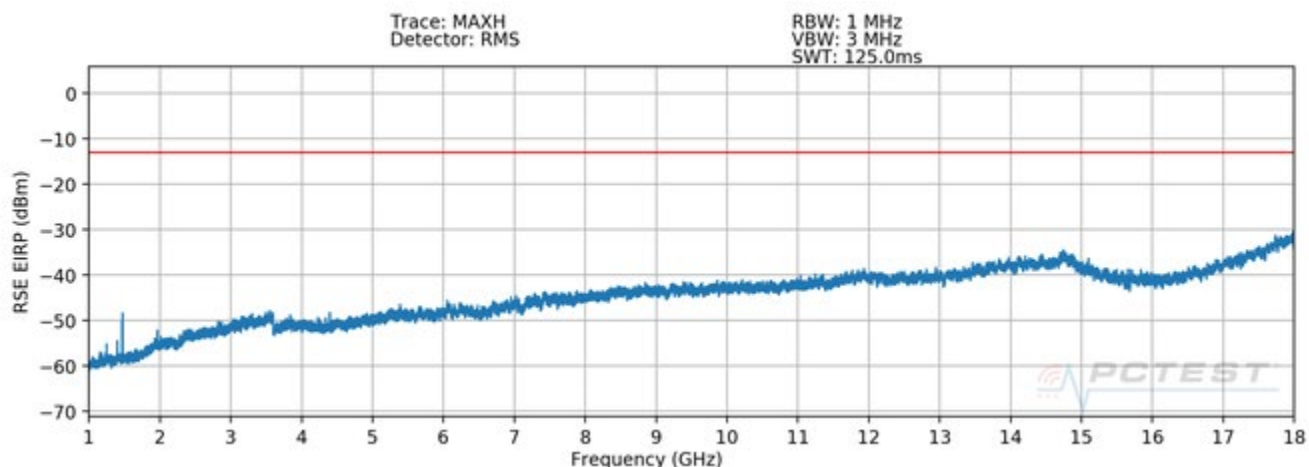


Plot 7-297. Radiated Spurious Plot 1-18 GHz (8CC QPSK High Ch. Ant. Pol. H)

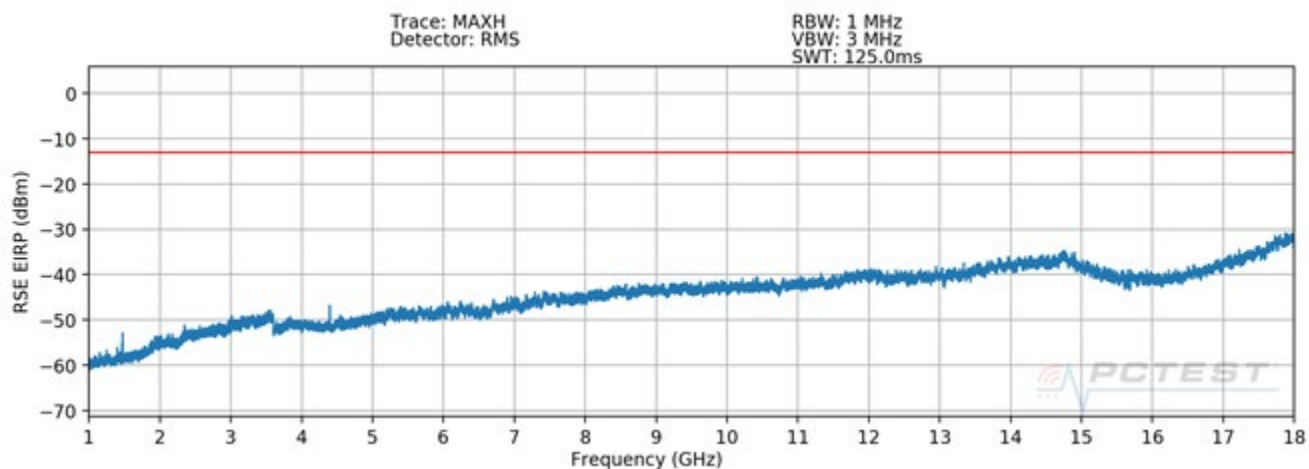
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 184 of 360



Plot 7-298. Radiated Spurious Plot 1-18 GHz (8CC QPSK High Ch. Ant. Pol. V)



Plot 7-299. Radiated Spurious Plot 1-18 GHz (8CC NC QPSK High Ch. Ant. Pol. H)



Plot 7-300. Radiated Spurious Plot 1-18 GHz (8CC NC QPSK High Ch. Ant. Pol. V)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Frequency [MHz]	Channel	CC Active	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turn Table Azimuth [degree]	Analyzer Level [dBm]	AFCL [dBm]	Field Strength [dBμV/m]	RSE EIRP [dBm]	Limit [dBm]	Margin [dB]
18000.00	Mid	CC0-CC7(C)	QPSK	H	162	154	-74.97	30.30	62.33	-32.93	-13.00	-19.93

Table 7-19. Spurious Emissions (1 – 18GHz)

Note:

The 1.575GHz emission is known GPS L1 band signal what requires for DUT operation. Otherwise, no peak search founded during test.

Spurious Emissions EIRP Sample Calculation

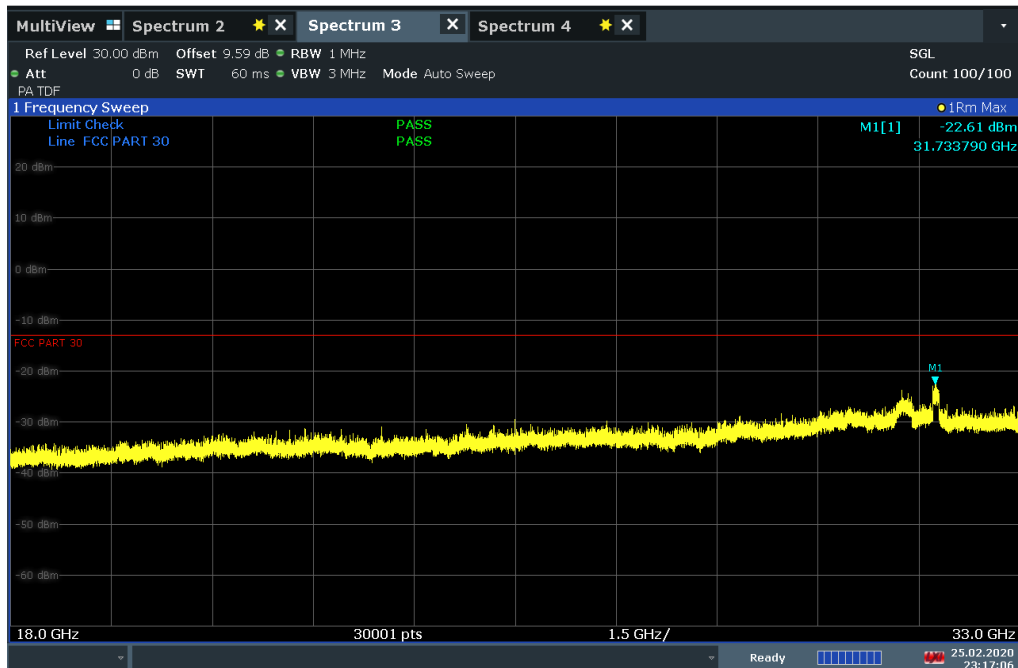
The raw radiated spurious level is converted to field strength in dBμV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 3 meters.

$$\text{RSE EIRP [dBm]} = \text{Analyzer Level [dBm]} + \text{AFCL [dB/m]} + 107 + 20\text{Log}(D_m) - 104.8$$

FCC ID: A3LAT1K02-A10		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 186 of 360

7.5.3 Radiated Spurious Emissions Plots (18 – 40GHz)

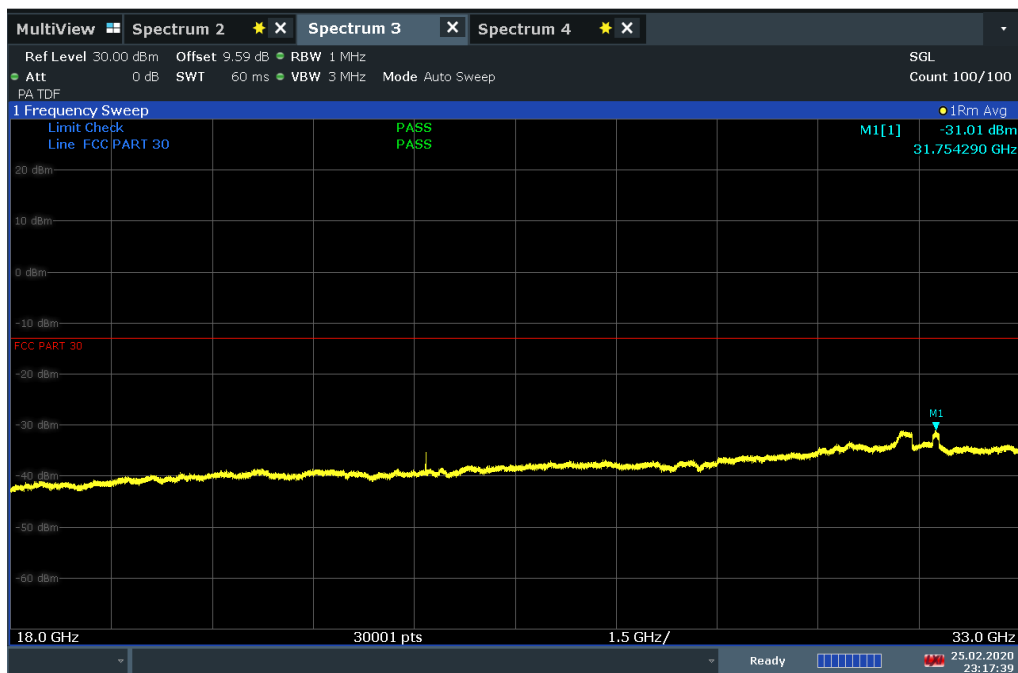
ACLRRResults



23:17:06 25.02.2020

Plot 7-301. Radiated Spurious Plot 18-33 GHz (1CC QPSK Low Ch. Ant. Angle 135)

ACLRRResults

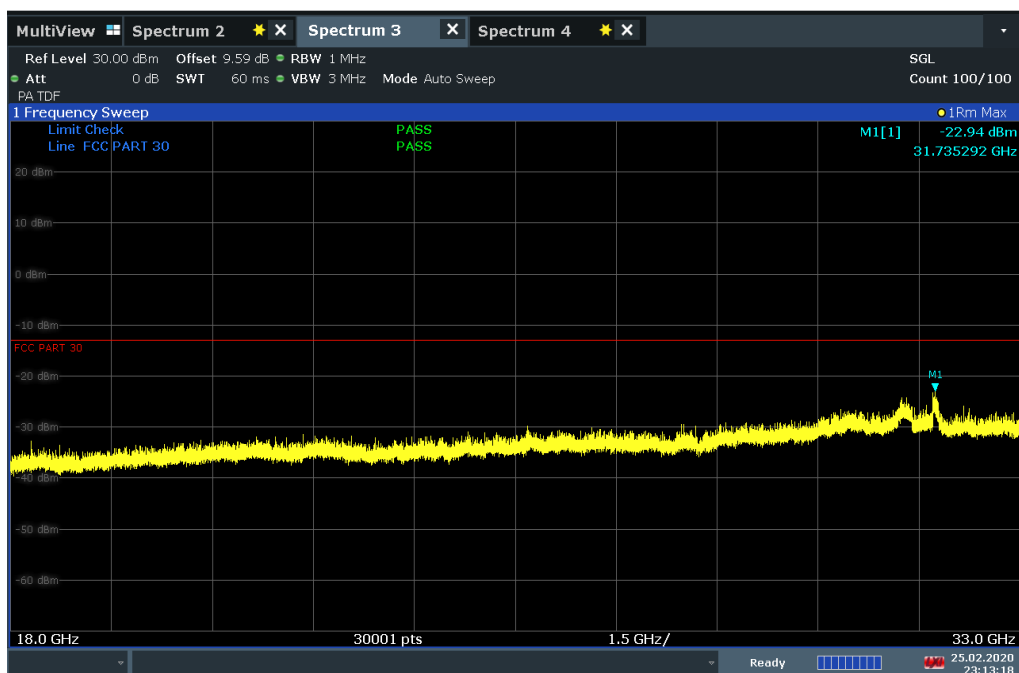


23:17:40 25.02.2020

Plot 7-302. Radiated Spurious Plot 18-33 GHz (1CC QPSK Low Ch. Ant. Angle 135, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 187 of 360

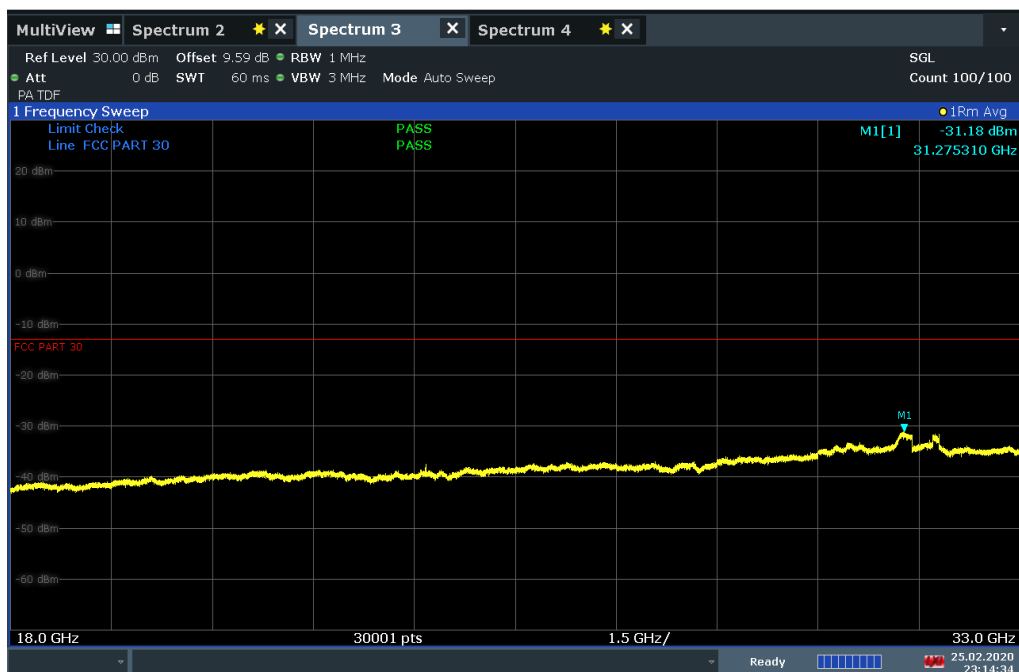
ACLRRResults



23:13:18 25.02.2020

Plot 7-303. Radiated Spurious Plot 18-33 GHz (1CC QPSK Low Ch. Ant. Angle 45)

ACLRRResults

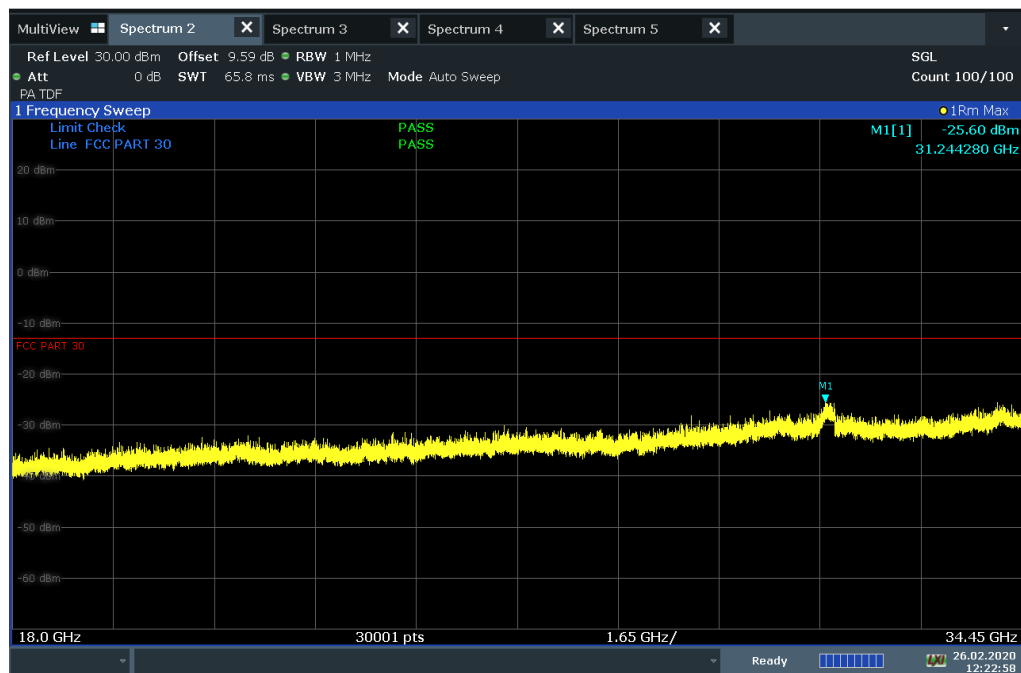


23:14:34 25.02.2020

Plot 7-304. Radiated Spurious Plot 18-33 GHz (1CC QPSK Low Ch. Ant. Angle 45, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 188 of 360

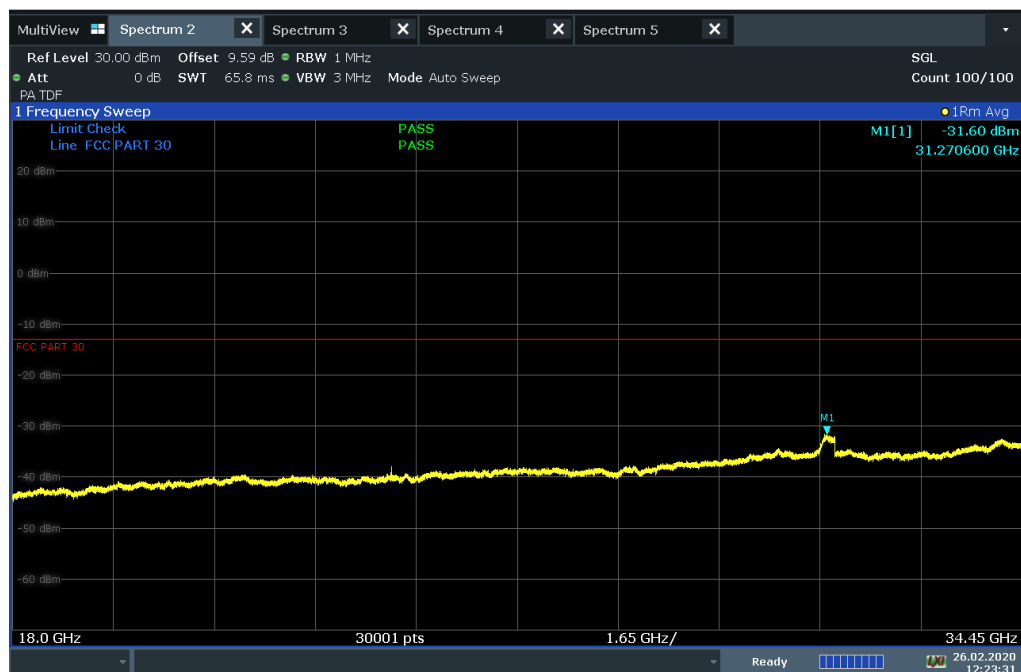
ACLRRResults



12:22:59 26.02.2020

Plot 7-305. Radiated Spurious Plot 18-33 GHz (8CC QPSK Low Ch. Ant. Angle 135)

ACLRRResults

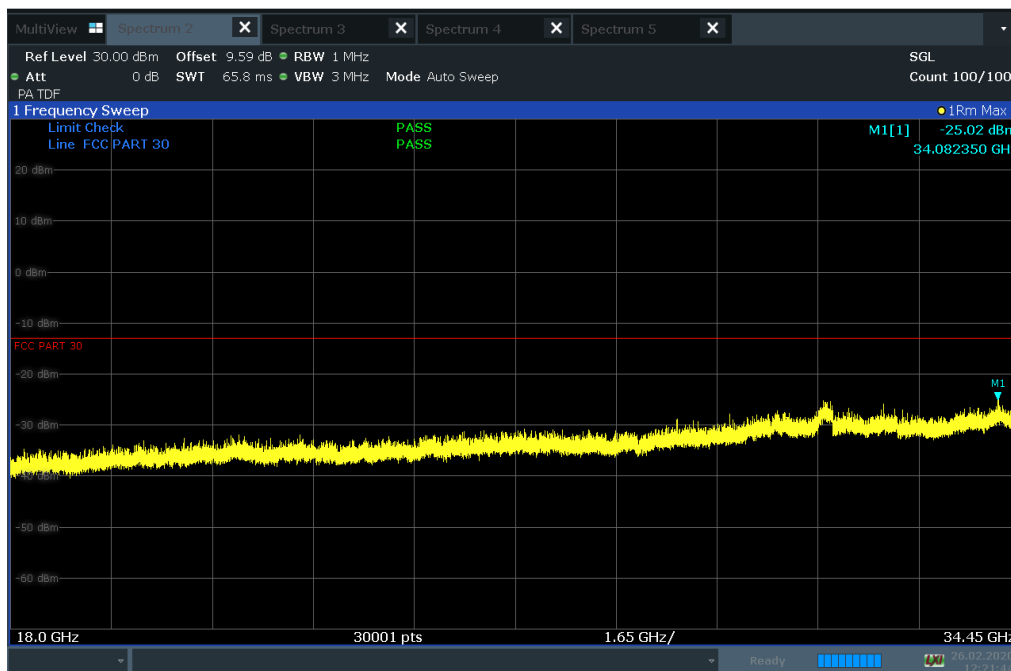


12:23:31 26.02.2020

Plot 7-306. Radiated Spurious Plot 18-33 GHz (8CC QPSK Low Ch. Ant. Angle 135, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 189 of 360

ACLRRResults



12:21:45 26.02.2020

Plot 7-307. Radiated Spurious Plot 18-33 GHz (8CC QPSK Low Ch. Ant. Angle 45)

ACLRRResults

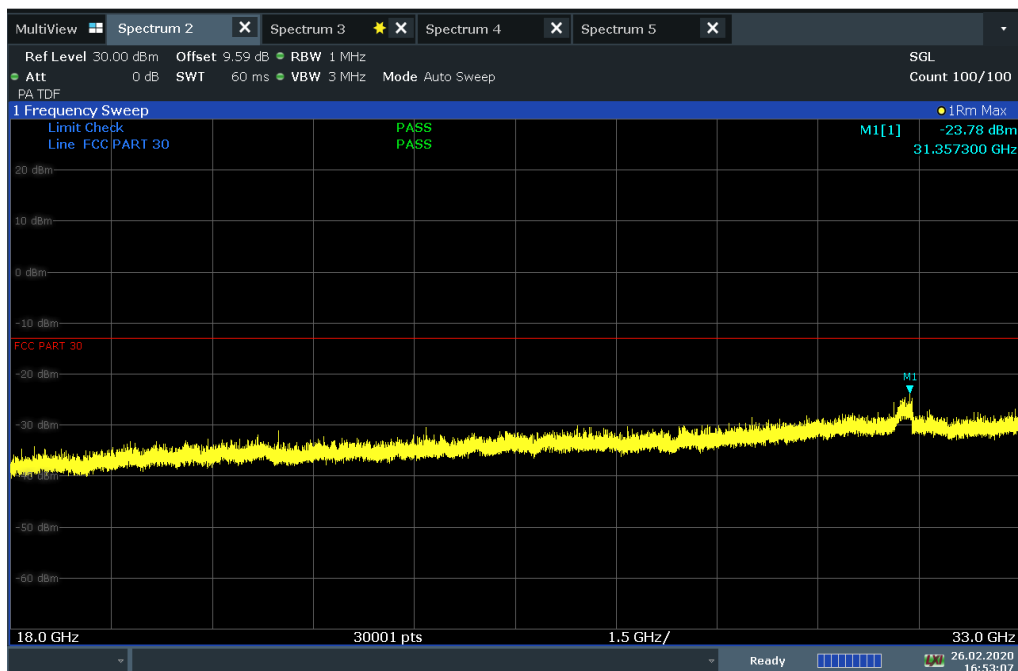


12:22:17 26.02.2020

Plot 7-308. Radiated Spurious Plot 18-33 GHz (8CC QPSK Low Ch. Ant. Angle 45, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 190 of 360

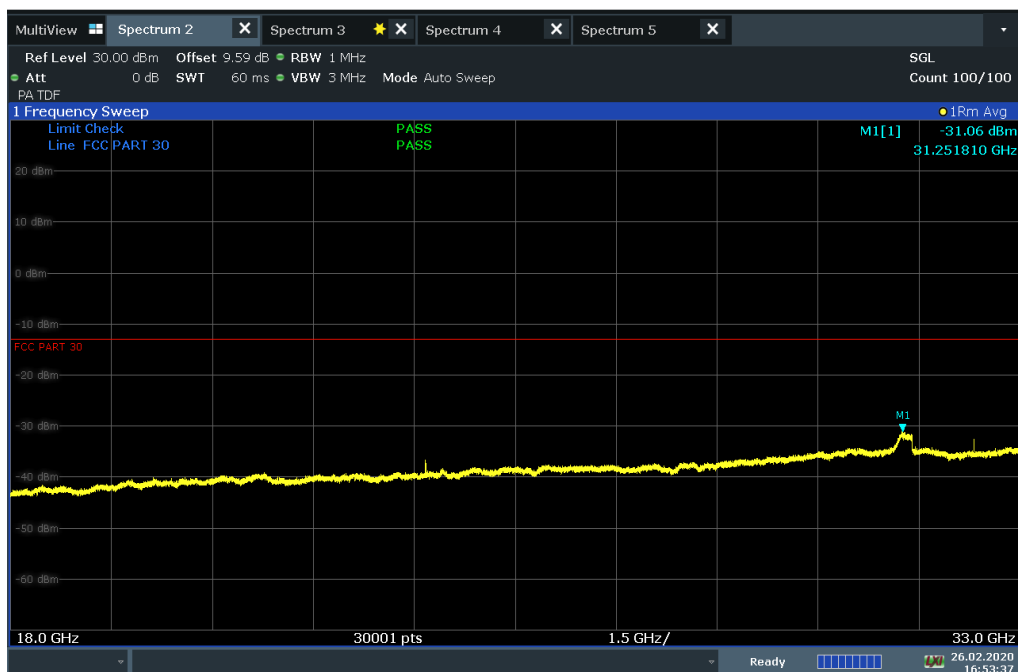
ACLRRResults



16:53:08 26.02.2020

Plot 7-309. Radiated Spurious Plot 18-33 GHz (8CC NC QPSK Low Ch. Ant. Angle 135)

ACLRRResults

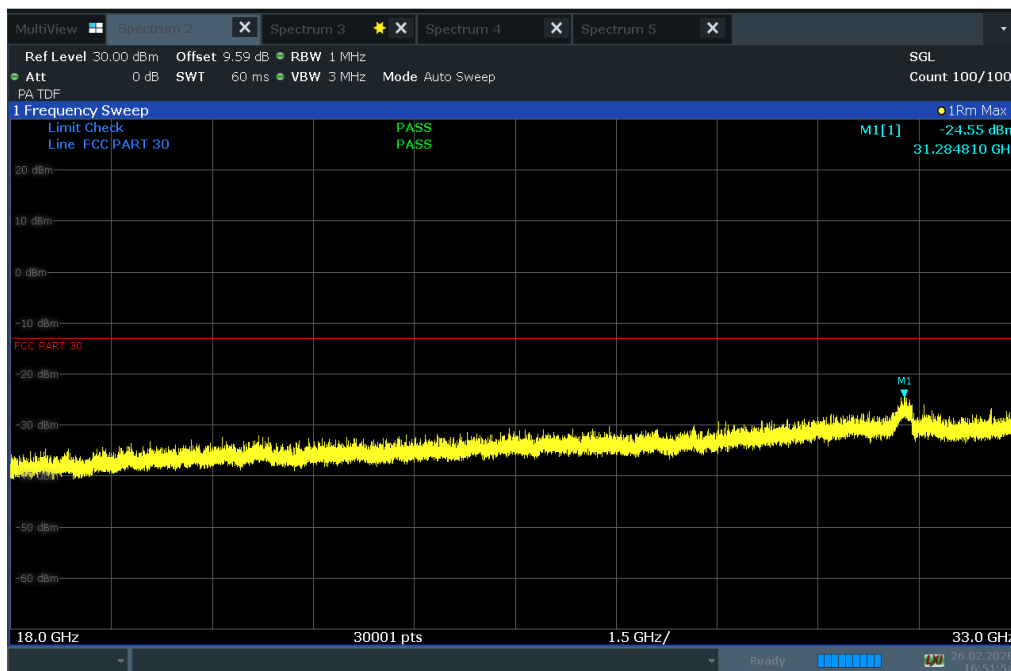


16:53:37 26.02.2020

Plot 7-310. Radiated Spurious Plot 18-33 GHz (8CC NC QPSK Low Ch. Ant. Angle 135, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 191 of 360

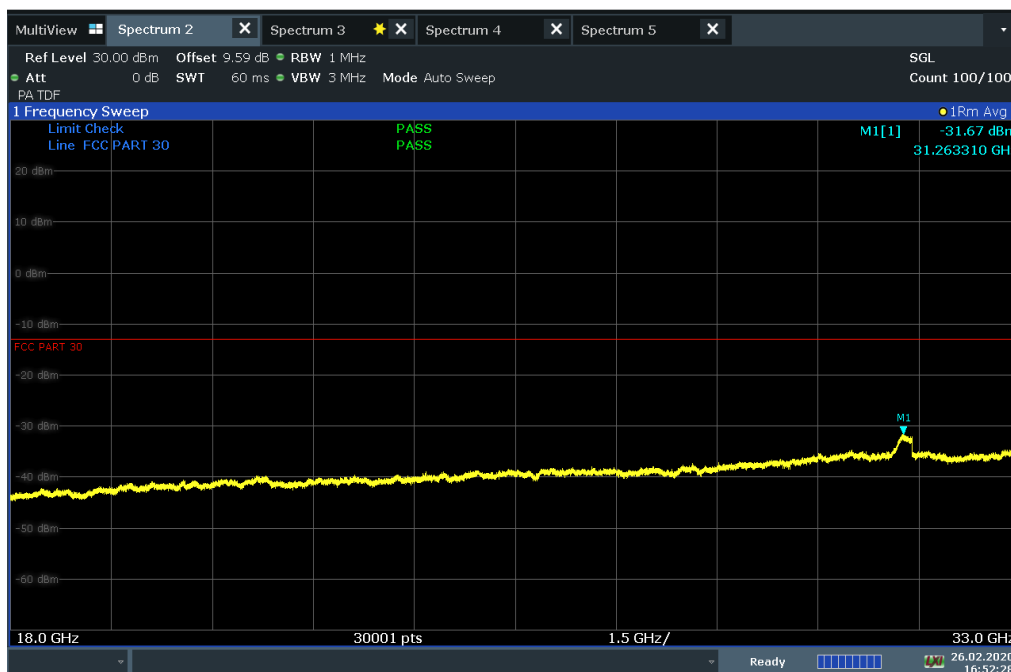
ACLRRResults



16:51:55 26.02.2020

Plot 7-311. Radiated Spurious Plot 18-33 GHz (8CC NC QPSK Low Ch. Ant. Angle 45)

ACLRRResults

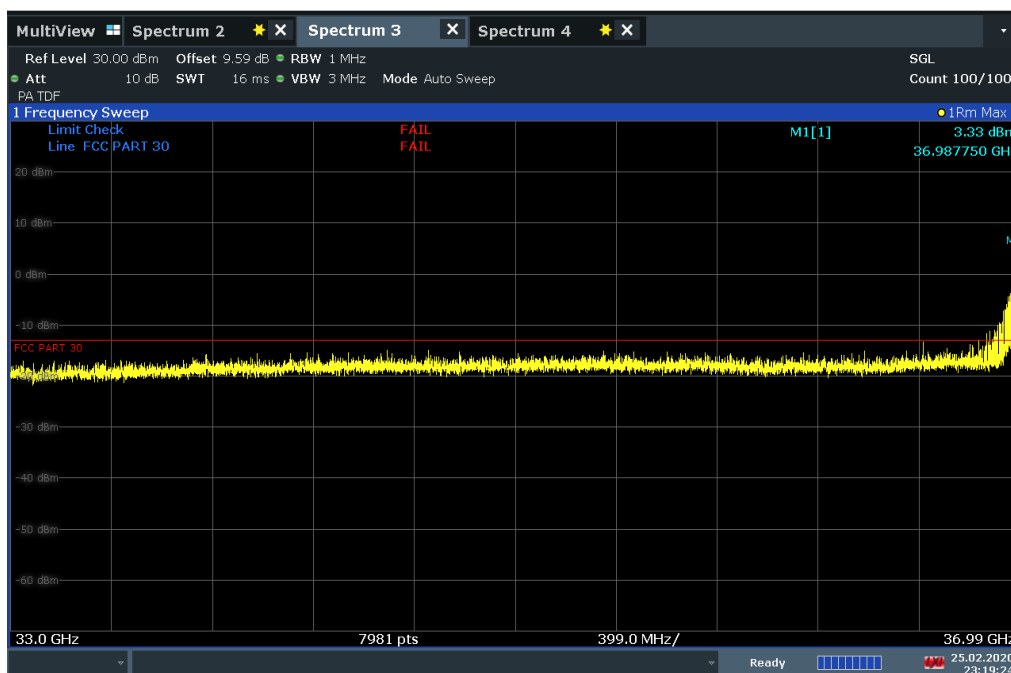


16:52:29 26.02.2020

Plot 7-312. Radiated Spurious Plot 18-33 GHz (8CC NC QPSK Low Ch. Ant. Angle 45, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 192 of 360

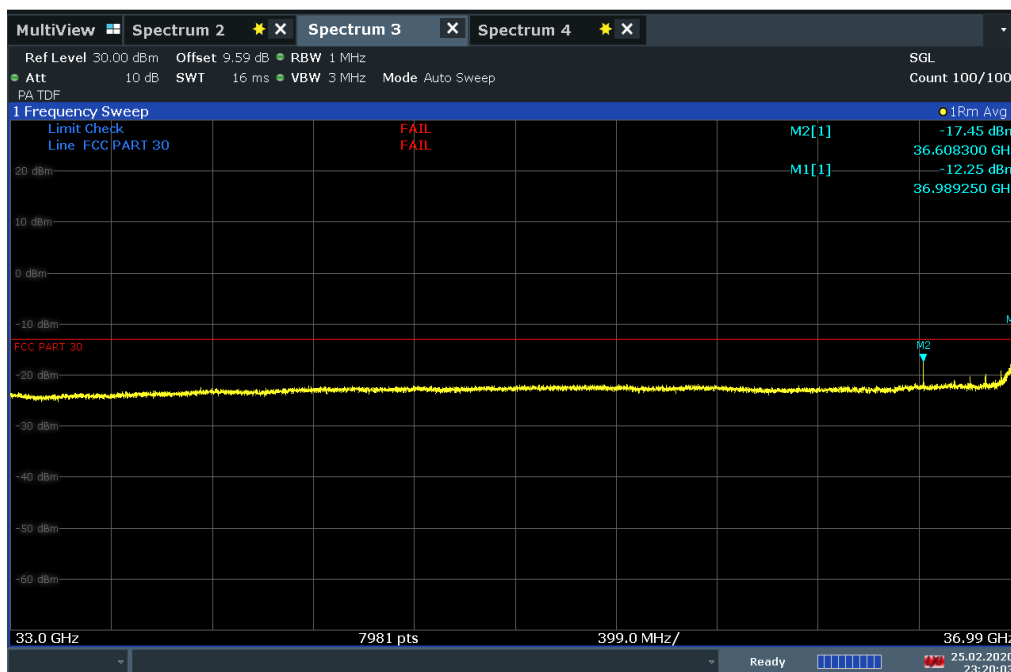
ACLRRResults



23:19:24 25.02.2020

Plot 7-313. Radiated Spurious Plot 33-36.99 GHz (1CC QPSK Low Ch. Ant. Angle 135)

ACLRRResults

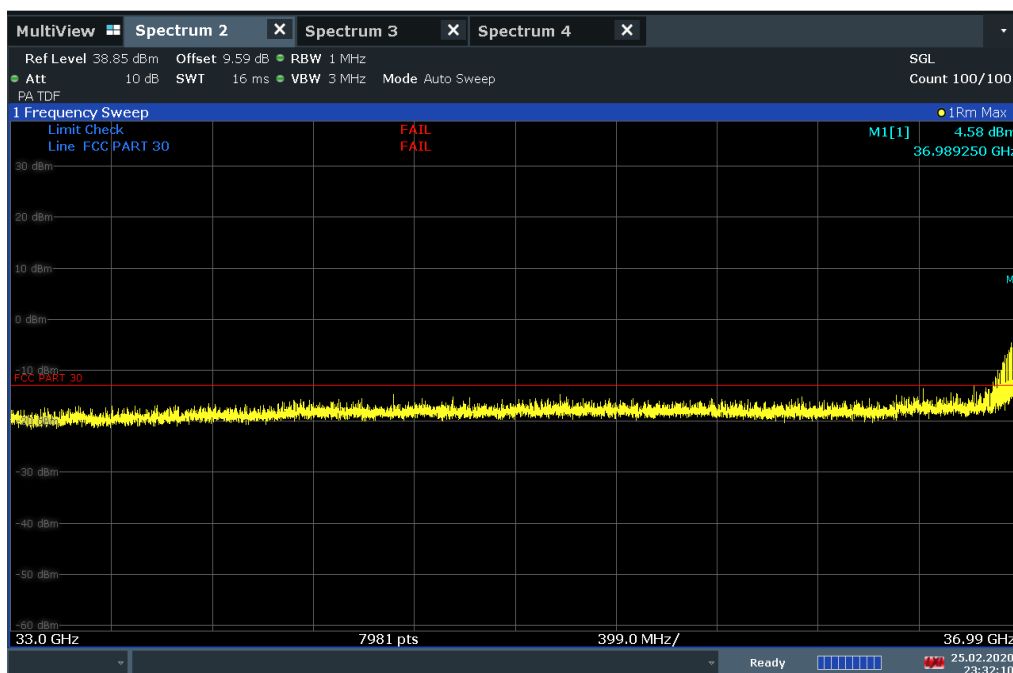


23:20:03 25.02.2020

Plot 7-314. Radiated Spurious Plot 33-36.99 GHz (1CC QPSK Low Ch. Ant. Angle 135, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 193 of 360

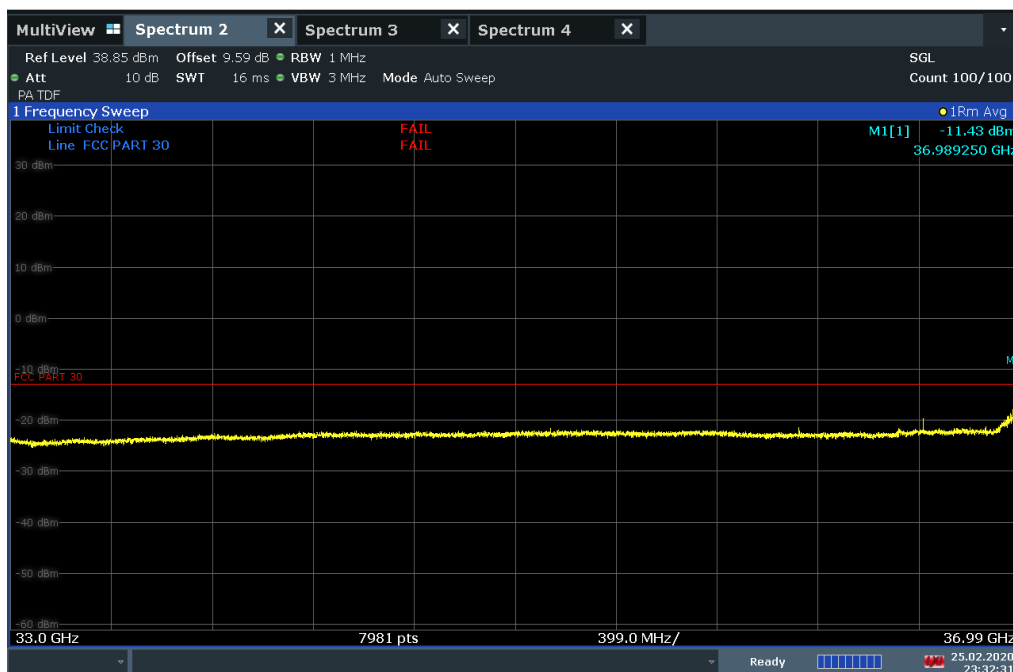
ACLRRResults



23:32:11 25.02.2020

Plot 7-315. Radiated Spurious Plot 33-36.99 GHz (1CC QPSK Low Ch. Ant. Angle 45)

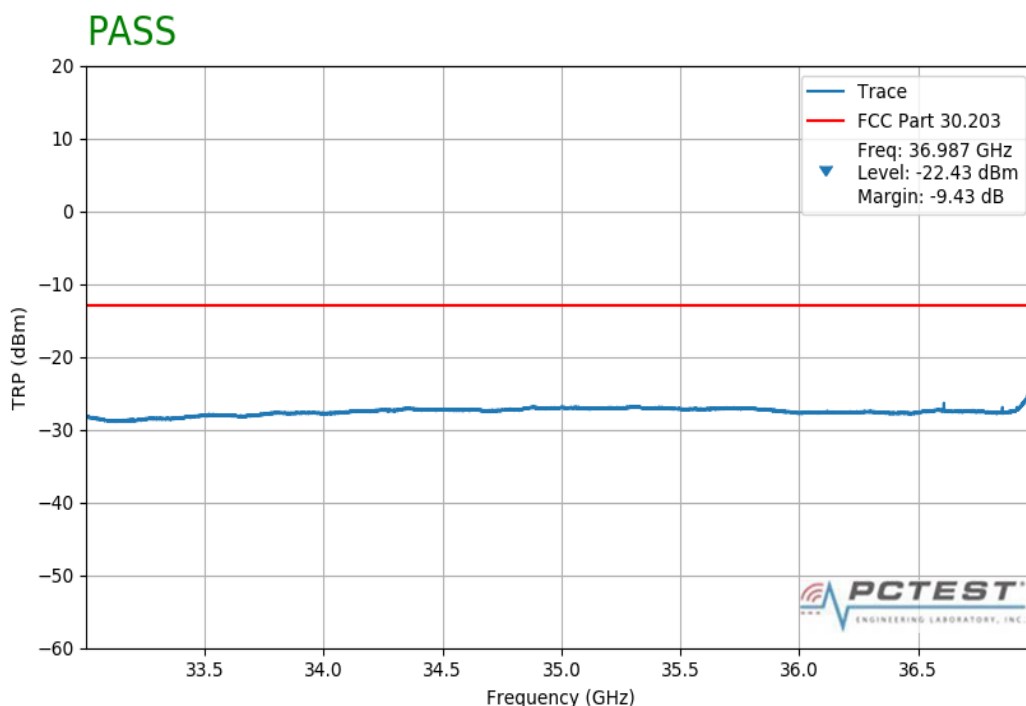
ACLRRResults



23:32:31 25.02.2020

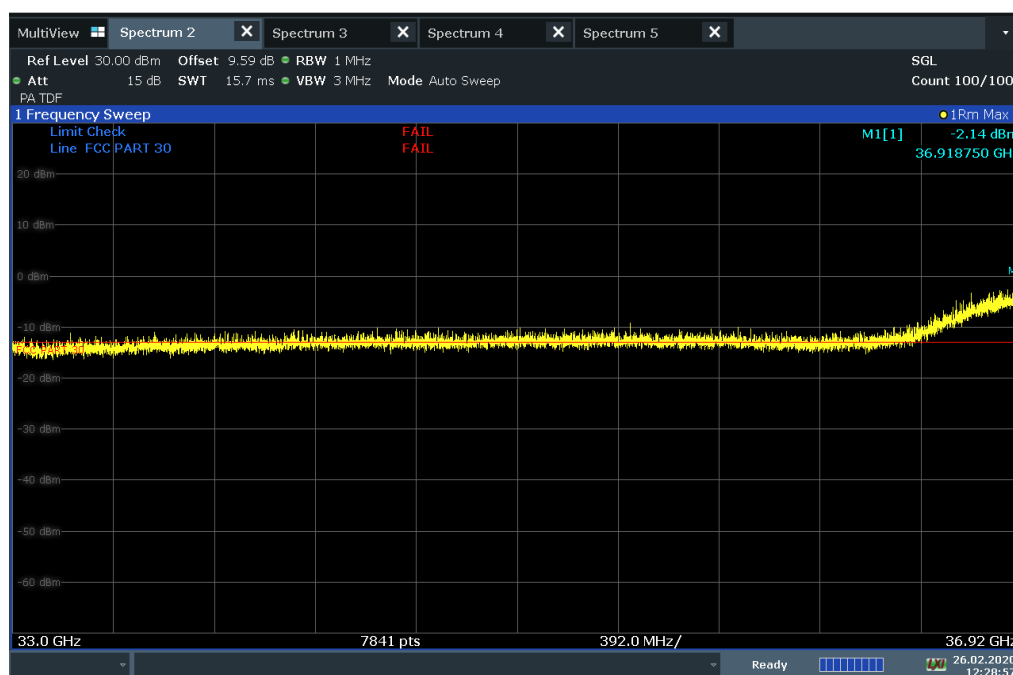
Plot 7-316. Radiated Spurious Plot 33-36.99 GHz (1CC QPSK Low Ch. Ant. Angle 45, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 194 of 360



Plot 7-317. Radiated Spurious Plot 33-36.99 GHz (1CC QPSK Low Ch. TRP)

ACLRRResults

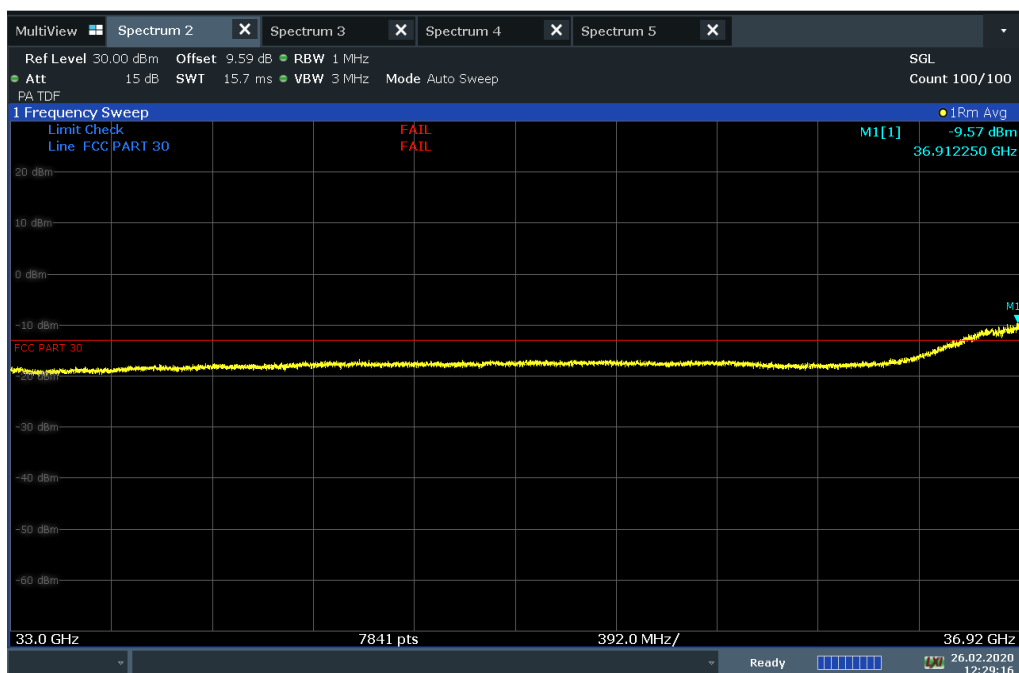


12:28:58 26.02.2020

Plot 7-318. Radiated Spurious Plot 33-36.92 GHz (8CC QPSK Low Ch. Ant. Angle 135)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 195 of 360

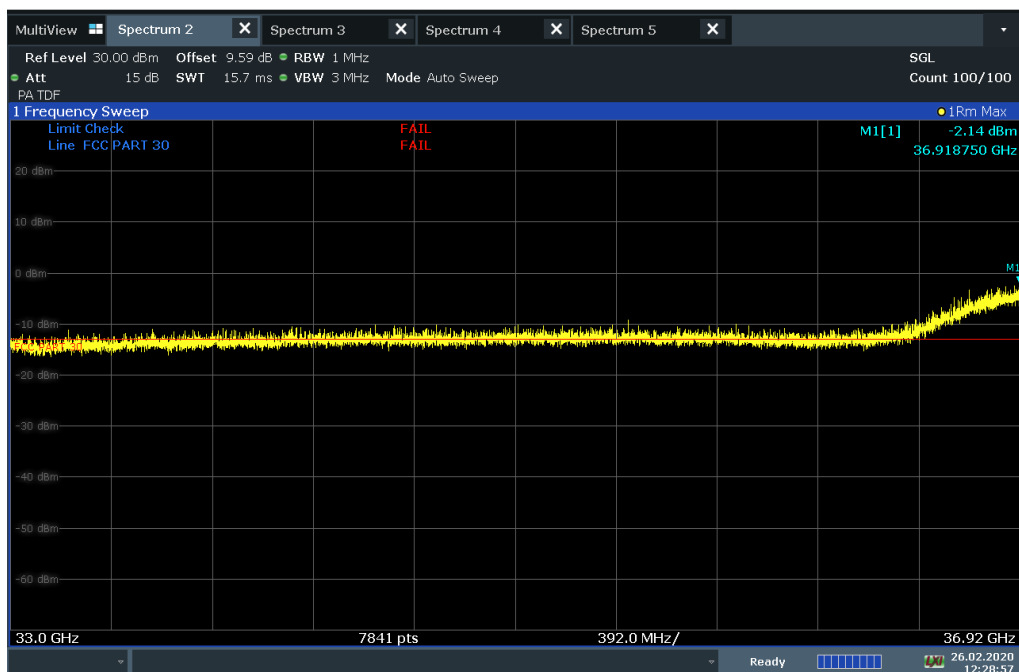
ACLRRResults



12:29:16 26.02.2020

Plot 7-319. Radiated Spurious Plot 33-36.92 GHz (8CC QPSK Low Ch. Ant. Angle 135, Final)

ACLRRResults

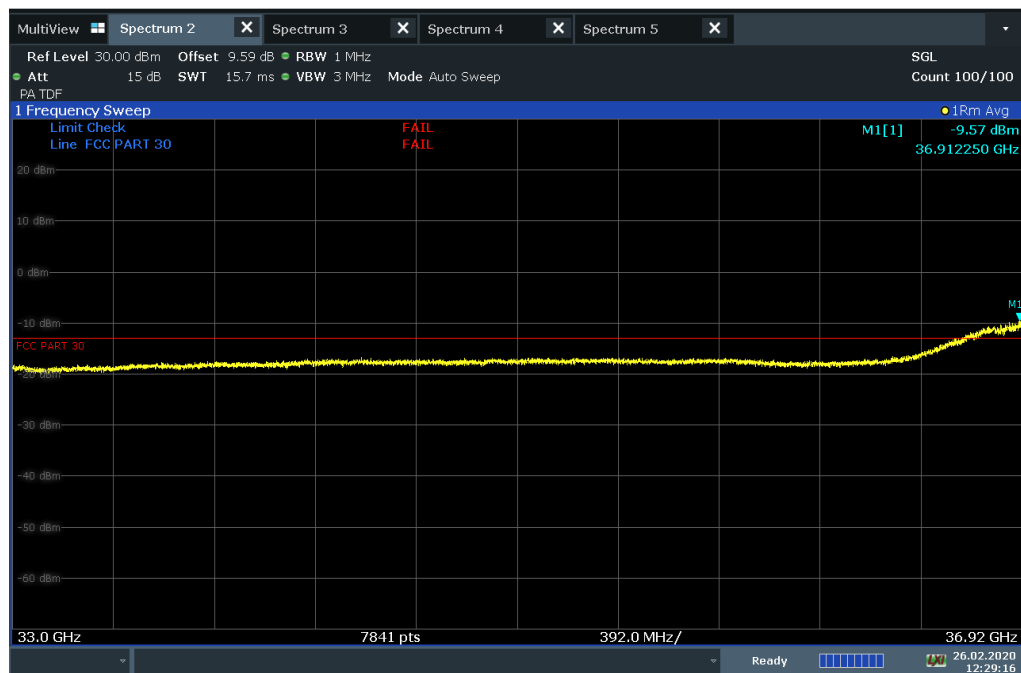


12:28:58 26.02.2020

Plot 7-320. Radiated Spurious Plot 33-36.92 GHz (8CC QPSK Low Ch. Ant. Angle 45)

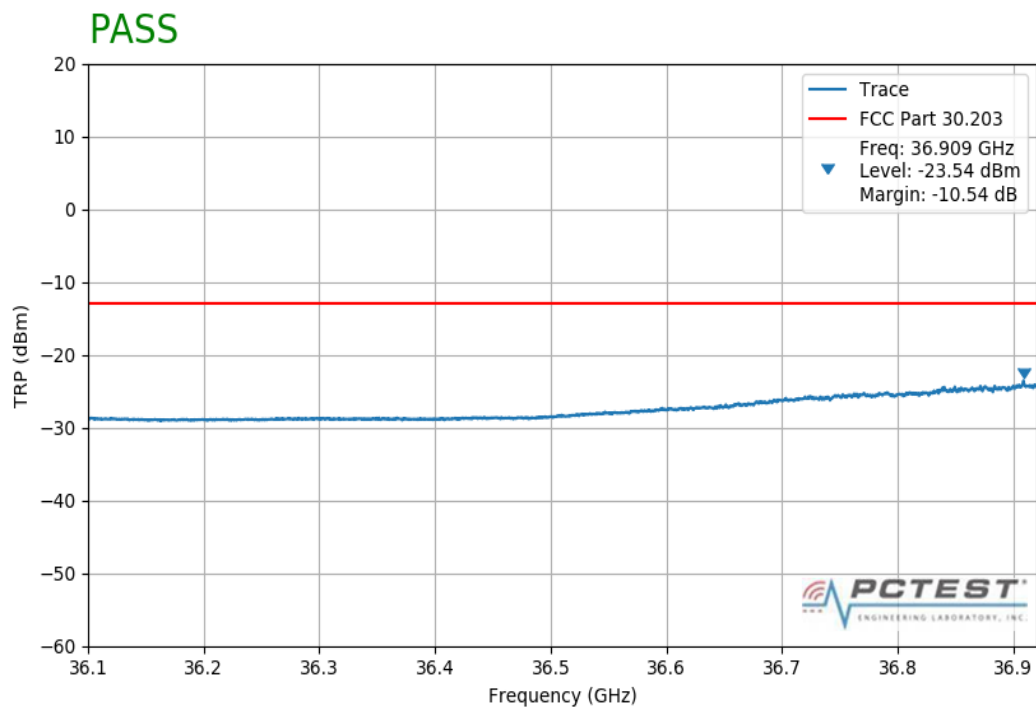
FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 196 of 360

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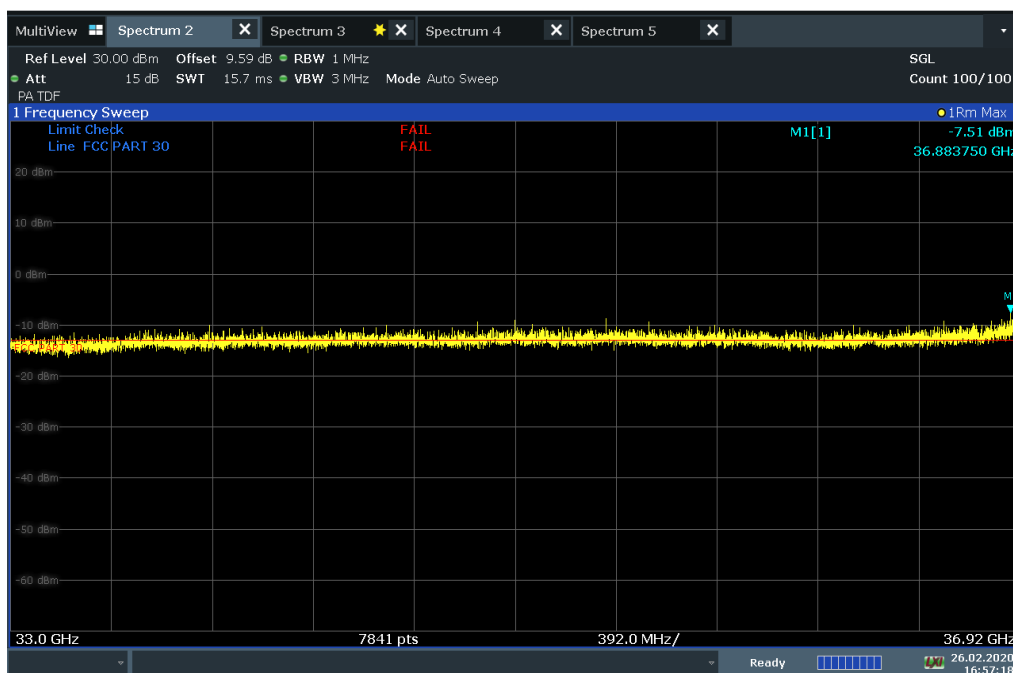
Plot 7-321. Radiated Spurious Plot 33-36.92 GHz (8CC QPSK Low Ch. Ant. Angle 45, Final)



Plot 7-322. Radiated Spurious Plot 36.1-36.92 GHz (8CC QPSK Low Ch. TRP)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 197 of 360

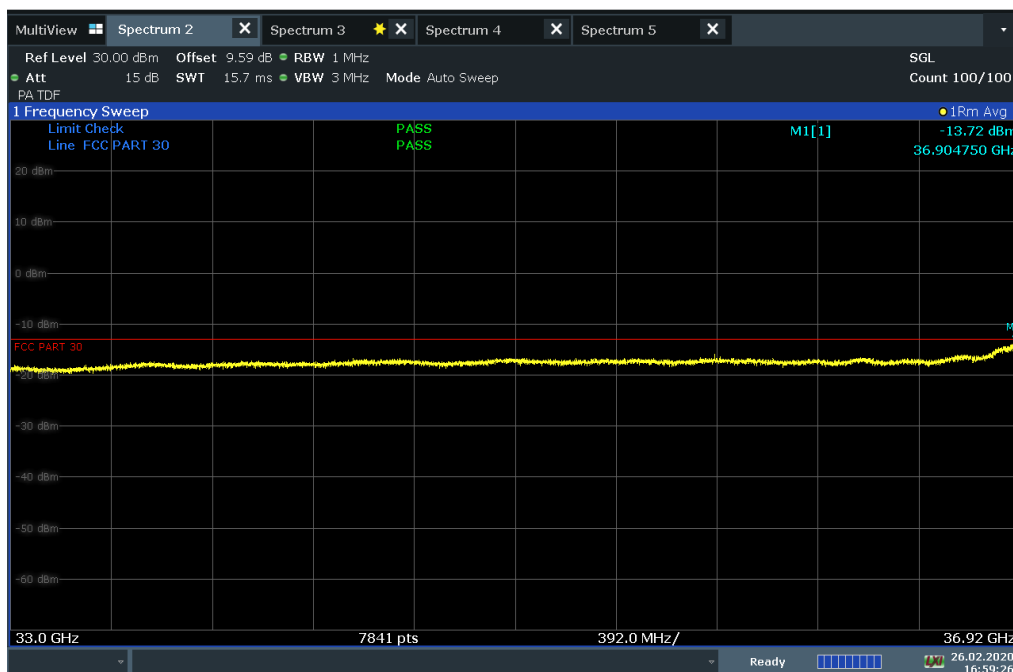
ACLRRResults



16:57:18 26.02.2020

Plot 7-323. Radiated Spurious Plot 33-36.92 GHz (8CC NC QPSK Low Ch. Ant. Angle 135)

ACLRRResults

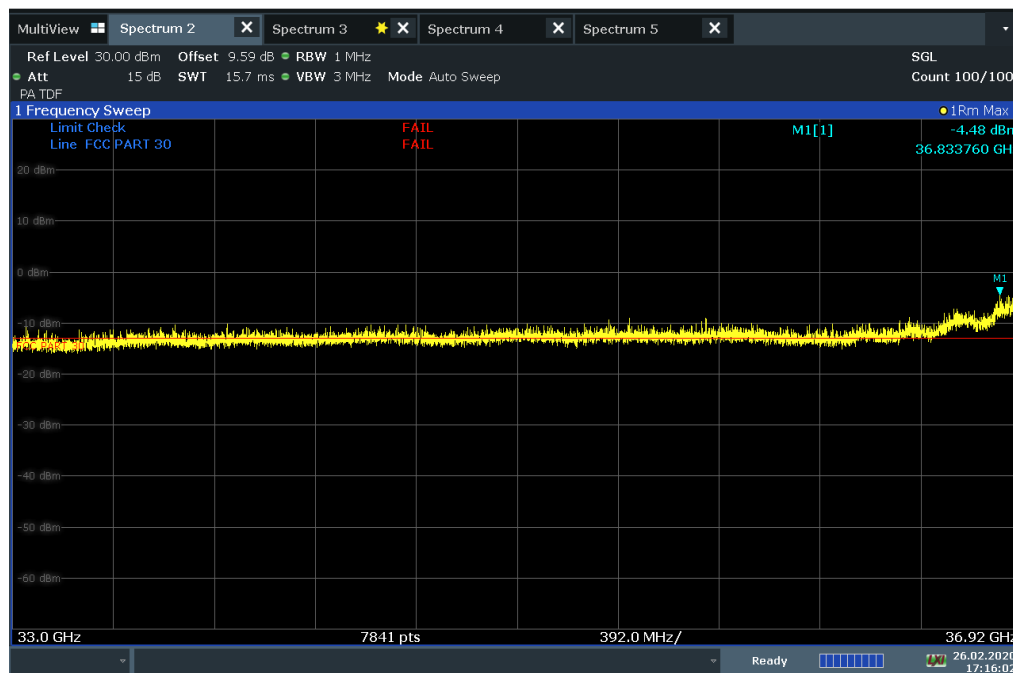


16:59:27 26.02.2020

Plot 7-324. Radiated Spurious Plot 33-36.92 GHz (8CC NC QPSK Low Ch. Ant. Angle 135, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 198 of 360

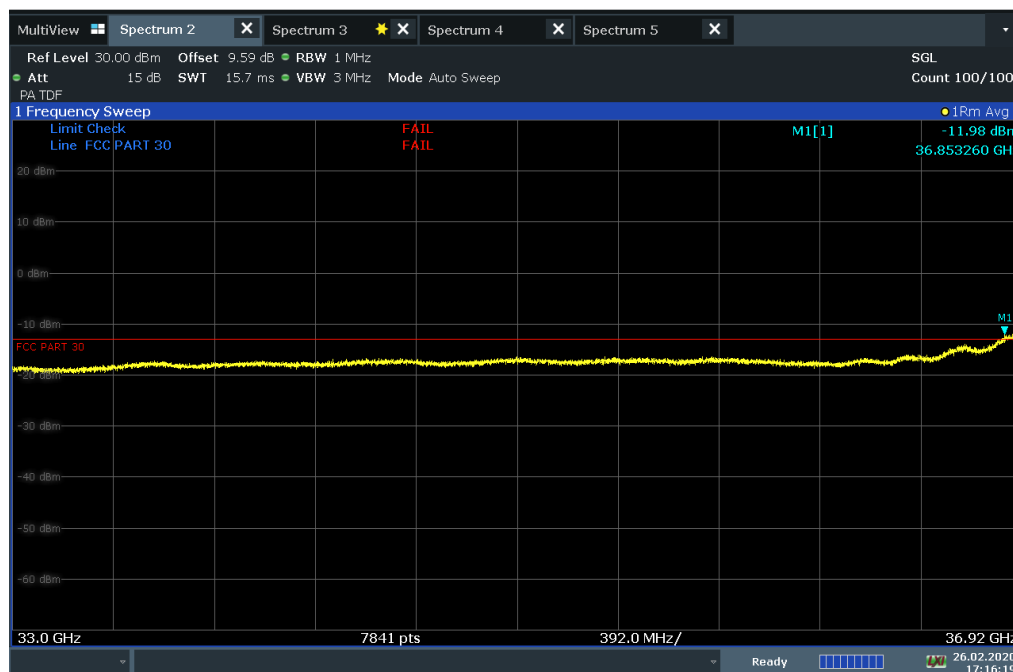
ACLRRResults



17:16:03 26.02.2020

Plot 7-325. Radiated Spurious Plot 33-36.92 GHz (8CC NC QPSK Low Ch. Ant. Angle 45)

ACLRRResults



17:16:19 26.02.2020

Plot 7-326. Radiated Spurious Plot 33-36.92 GHz (8CC NC QPSK Low Ch. Ant. Angle 45, Final)

FCC ID: A3LAT1K02-A10	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 8K19110702-01-R1.A3L	Test Dates: 02/18/2020-03/06/2020	EUT Type: 5G Access Unit		Page 199 of 360