

DSS Ratio	Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
				QPSK	16QAM	64QAM	256QAM		
LTE 4 : NR 6	Low	0	9 kHz to 150 kHz	-50.44	-50.19	-50.54	-50.55	-39.02	-11.17
			150 kHz to 30 MHz	-42.04	-42.23	-42.15	-42.02	-29.02	-13.00
			30 MHz to 858 MHz	-40.75	-40.88	-40.71	-40.82	-19.02	-21.69
			858 MHz to 868 MHz	-34.92	-34.74	-34.68	-33.95	-19.02	-14.93
			895 MHz to 1 GHz	-40.34	-40.09	-39.60	-39.67	-19.02	-20.58
			1 GHz to 10 GHz	-24.10	-24.21	-24.23	-23.66	-19.02	-4.64
		1	9 kHz to 150 kHz	-50.78	-50.35	-50.73	-49.91	-39.02	-10.89
			150 kHz to 30 MHz	-42.38	-42.45	-42.77	-42.75	-29.02	-13.36
			30 MHz to 858 MHz	-40.93	-41.22	-40.97	-41.03	-19.02	-21.91
			858 MHz to 868 MHz	-34.40	-34.31	-34.98	-34.61	-19.02	-15.29
			895 MHz to 1 GHz	-40.90	-40.73	-41.17	-41.17	-19.02	-21.71
			1 GHz to 10 GHz	-23.41	-23.91	-23.62	-23.21	-19.02	-4.19
		2	9 kHz to 150 kHz	-51.10	-50.72	-50.00	-50.89	-39.02	-10.98
			150 kHz to 30 MHz	-42.54	-42.30	-42.57	-42.54	-29.02	-13.28
			30 MHz to 858 MHz	-40.97	-41.26	-41.24	-40.93	-19.02	-21.91
			858 MHz to 868 MHz	-35.28	-35.14	-34.19	-36.00	-19.02	-15.17
			895 MHz to 1 GHz	-40.78	-40.64	-40.84	-39.59	-19.02	-20.57
			1 GHz to 10 GHz	-24.00	-24.24	-24.05	-23.51	-19.02	-4.49
		3	9 kHz to 150 kHz	-50.81	-50.37	-50.10	-50.14	-39.02	-11.08
			150 kHz to 30 MHz	-42.55	-42.46	-42.46	-42.44	-29.02	-13.42
			30 MHz to 858 MHz	-40.95	-40.71	-40.76	-40.36	-19.02	-21.34
			858 MHz to 868 MHz	-35.01	-35.25	-34.90	-35.74	-19.02	-15.88
			895 MHz to 1 GHz	-41.03	-40.97	-40.87	-41.07	-19.02	-21.85
			1 GHz to 10 GHz	-23.53	-23.42	-22.57	-23.18	-19.02	-3.55
	Middle	0	9 kHz to 150 kHz	-49.87	-50.18	-50.42	-49.91	-39.02	-10.85
			150 kHz to 30 MHz	-41.52	-41.61	-41.60	-41.65	-29.02	-12.50
			30 MHz to 858 MHz	-40.54	-40.69	-40.65	-40.47	-19.02	-21.45
			858 MHz to 868 MHz	-38.43	-39.68	-39.37	-39.39	-19.02	-19.41
			895 MHz to 1 GHz	-39.68	-39.75	-39.30	-38.52	-19.02	-19.50
			1 GHz to 10 GHz	-24.55	-24.28	-24.13	-23.94	-19.02	-4.92
		1	9 kHz to 150 kHz	-49.85	-50.05	-50.78	-50.32	-39.02	-10.83
			150 kHz to 30 MHz	-42.17	-42.00	-42.05	-42.00	-29.02	-12.98
			30 MHz to 858 MHz	-40.85	-40.78	-41.21	-40.80	-19.02	-21.76
			858 MHz to 868 MHz	-40.51	-40.19	-40.61	-40.46	-19.02	-21.17
			895 MHz to 1 GHz	-40.92	-40.79	-40.58	-40.21	-19.02	-21.19
			1 GHz to 10 GHz	-23.87	-23.75	-23.47	-23.70	-19.02	-4.45

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		2	9 kHz to 150 kHz	-50.30	-50.19	-50.06	-50.06	-39.02	-11.04
			150 kHz to 30 MHz	-41.84	-41.73	-42.07	-41.89	-29.02	-12.71
			30 MHz to 858 MHz	-40.64	-40.85	-40.35	-40.59	-19.02	-21.33
			858 MHz to 868 MHz	-38.92	-39.90	-40.07	-39.30	-19.02	-19.90
			895 MHz to 1 GHz	-39.84	-39.50	-39.31	-38.93	-19.02	-19.91
			1 GHz to 10 GHz	-23.61	-23.84	-23.94	-23.79	-19.02	-4.59
		3	9 kHz to 150 kHz	-50.36	-50.48	-50.10	-50.40	-39.02	-11.08
			150 kHz to 30 MHz	-41.75	-41.75	-41.76	-41.87	-29.02	-12.73
			30 MHz to 858 MHz	-40.57	-40.64	-40.84	-40.32	-19.02	-21.30
			858 MHz to 868 MHz	-40.20	-40.77	-40.32	-40.46	-19.02	-21.18
			895 MHz to 1 GHz	-39.99	-40.24	-40.03	-40.39	-19.02	-20.97
			1 GHz to 10 GHz	-23.37	-22.59	-23.01	-23.46	-19.02	-3.57
	High	0	9 kHz to 150 kHz	-50.08	-49.57	-50.05	-50.17	-39.02	-10.55
			150 kHz to 30 MHz	-41.80	-41.77	-41.57	-41.87	-29.02	-12.55
			30 MHz to 858 MHz	-43.81	-44.01	-44.08	-44.27	-19.02	-24.79
			858 MHz to 868 MHz	-44.07	-43.32	-43.21	-42.69	-19.02	-23.67
			895 MHz to 1 GHz	-35.76	-36.28	-33.26	-33.70	-19.02	-14.24
			1 GHz to 10 GHz	-23.54	-23.78	-23.92	-24.22	-19.02	-4.52
		1	9 kHz to 150 kHz	-50.42	-50.33	-50.43	-50.58	-39.02	-11.31
			150 kHz to 30 MHz	-42.07	-42.08	-42.13	-42.10	-29.02	-13.05
			30 MHz to 858 MHz	-44.58	-43.94	-44.60	-43.69	-19.02	-24.67
			858 MHz to 868 MHz	-45.19	-44.59	-44.61	-44.09	-19.02	-25.07
			895 MHz to 1 GHz	-38.68	-39.07	-37.50	-38.75	-19.02	-18.48
			1 GHz to 10 GHz	-23.72	-24.36	-24.17	-24.10	-19.02	-4.70
		2	9 kHz to 150 kHz	-50.24	-51.10	-50.86	-50.38	-39.02	-11.22
			150 kHz to 30 MHz	-41.85	-41.98	-42.10	-42.05	-29.02	-12.83
			30 MHz to 858 MHz	-43.53	-43.96	-44.00	-44.41	-19.02	-24.51
			858 MHz to 868 MHz	-43.67	-44.27	-43.76	-43.38	-19.02	-24.36
			895 MHz to 1 GHz	-34.11	-36.07	-34.02	-35.43	-19.02	-15.00
			1 GHz to 10 GHz	-24.12	-24.20	-24.04	-24.65	-19.02	-5.02
		3	9 kHz to 150 kHz	-50.20	-50.26	-50.50	-50.75	-39.02	-11.18
			150 kHz to 30 MHz	-41.88	-41.70	-41.80	-42.24	-29.02	-12.68
			30 MHz to 858 MHz	-42.92	-42.91	-42.87	-41.84	-19.02	-22.82
			858 MHz to 868 MHz	-45.12	-45.37	-44.92	-44.97	-19.02	-25.90
			895 MHz to 1 GHz	-38.33	-38.64	-36.02	-38.65	-19.02	-17.00
			1 GHz to 10 GHz	-23.48	-24.02	-24.05	-23.44	-19.02	-4.42

Table 7-123. Conducted Spurious Emission Summary Data (DSS_B5_10M_4:6_1C)

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DSS Ratio	Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
				QPSK	16QAM	64QAM	256QAM		
LTE 3 : NR 7	Low	0	9 kHz to 150 kHz	-50.27	-50.25	-49.83	-50.20	-39.02	-10.81
			150 kHz to 30 MHz	-41.98	-42.06	-41.94	-42.18	-29.02	-12.92
			30 MHz to 858 MHz	-40.55	-40.73	-40.74	-40.45	-19.02	-21.43
			858 MHz to 868 MHz	-34.45	-34.17	-34.39	-35.01	-19.02	-15.15
			895 MHz to 1 GHz	-40.06	-40.75	-39.61	-40.08	-19.02	-20.59
			1 GHz to 10 GHz	-24.11	-23.60	-23.83	-23.82	-19.02	-4.58
		1	9 kHz to 150 kHz	-50.34	-50.54	-50.66	-50.64	-39.02	-11.32
			150 kHz to 30 MHz	-42.48	-42.42	-42.58	-42.75	-29.02	-13.40
			30 MHz to 858 MHz	-40.81	-40.75	-41.08	-40.95	-19.02	-21.73
			858 MHz to 868 MHz	-34.05	-33.45	-34.18	-35.14	-19.02	-14.43
			895 MHz to 1 GHz	-41.31	-40.75	-40.50	-41.10	-19.02	-21.48
			1 GHz to 10 GHz	-23.65	-23.24	-23.51	-23.56	-19.02	-4.22
		2	9 kHz to 150 kHz	-50.09	-51.08	-50.63	-51.13	-39.02	-11.07
			150 kHz to 30 MHz	-42.49	-42.49	-42.28	-42.34	-29.02	-13.26
			30 MHz to 858 MHz	-41.00	-40.82	-40.53	-40.95	-19.02	-21.51
			858 MHz to 868 MHz	-33.96	-35.30	-33.48	-35.08	-19.02	-14.46
			895 MHz to 1 GHz	-41.11	-40.96	-40.62	-39.80	-19.02	-20.78
			1 GHz to 10 GHz	-23.68	-24.19	-23.79	-24.00	-19.02	-4.66
		3	9 kHz to 150 kHz	-50.47	-50.65	-50.25	-50.41	-39.02	-11.23
			150 kHz to 30 MHz	-42.13	-42.27	-42.34	-42.47	-29.02	-13.11
			30 MHz to 858 MHz	-40.65	-40.70	-40.82	-40.84	-19.02	-21.63
			858 MHz to 868 MHz	-34.90	-34.52	-35.45	-35.61	-19.02	-15.50
			895 MHz to 1 GHz	-40.94	-41.28	-41.30	-40.77	-19.02	-21.75
			1 GHz to 10 GHz	-23.04	-23.45	-22.71	-23.71	-19.02	-3.69
	Middle	0	9 kHz to 150 kHz	-49.55	-49.55	-49.79	-47.93	-39.02	-8.91
			150 kHz to 30 MHz	-41.66	-41.51	-41.69	-40.90	-29.02	-11.88
			30 MHz to 858 MHz	-40.36	-40.66	-40.77	-40.60	-19.02	-21.34
			858 MHz to 868 MHz	-39.31	-39.01	-39.76	-38.73	-19.02	-19.71
			895 MHz to 1 GHz	-40.06	-39.45	-39.25	-39.28	-19.02	-20.23
			1 GHz to 10 GHz	-24.10	-23.78	-24.02	-24.13	-19.02	-4.76
		1	9 kHz to 150 kHz	-50.80	-49.94	-51.00	-48.11	-39.02	-9.09
			150 kHz to 30 MHz	-42.13	-42.22	-41.97	-41.27	-29.02	-12.25
			30 MHz to 858 MHz	-40.97	-40.74	-40.87	-40.68	-19.02	-21.66
			858 MHz to 868 MHz	-40.43	-40.49	-40.43	-39.97	-19.02	-20.95
			895 MHz to 1 GHz	-40.96	-40.38	-40.52	-40.49	-19.02	-21.36
			1 GHz to 10 GHz	-23.69	-23.70	-23.47	-23.70	-19.02	-4.45

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		2	9 kHz to 150 kHz	-50.39	-50.32	-50.52	-48.27	-39.02	-9.25
			150 kHz to 30 MHz	-41.88	-41.89	-41.80	-41.17	-29.02	-12.15
			30 MHz to 858 MHz	-40.30	-40.65	-40.94	-41.01	-19.02	-21.28
			858 MHz to 868 MHz	-39.36	-40.11	-39.81	-39.29	-19.02	-20.27
			895 MHz to 1 GHz	-39.40	-39.29	-39.29	-36.60	-19.02	-17.58
			1 GHz to 10 GHz	-23.91	-23.62	-23.57	-23.62	-19.02	-4.55
		3	9 kHz to 150 kHz	-50.18	-50.00	-50.08	-47.97	-39.02	-8.95
			150 kHz to 30 MHz	-41.86	-41.66	-41.58	-41.06	-29.02	-12.04
			30 MHz to 858 MHz	-40.37	-40.07	-40.83	-40.69	-19.02	-21.05
			858 MHz to 868 MHz	-40.68	-40.49	-40.64	-38.87	-19.02	-19.85
			895 MHz to 1 GHz	-40.60	-40.19	-40.40	-40.61	-19.02	-21.17
			1 GHz to 10 GHz	-23.35	-23.23	-23.40	-23.26	-19.02	-4.21
	High	0	9 kHz to 150 kHz	-50.25	-50.60	-50.11	-50.09	-39.02	-11.07
			150 kHz to 30 MHz	-41.80	-41.69	-41.80	-41.85	-29.02	-12.67
			30 MHz to 858 MHz	-43.58	-44.15	-43.91	-44.02	-19.02	-24.56
			858 MHz to 868 MHz	-44.37	-43.24	-43.53	-40.63	-19.02	-21.61
			895 MHz to 1 GHz	-35.00	-35.98	-33.70	-34.96	-19.02	-14.68
			1 GHz to 10 GHz	-24.90	-23.75	-24.45	-24.92	-19.02	-4.73
		1	9 kHz to 150 kHz	-50.03	-50.17	-51.25	-50.08	-39.02	-11.01
			150 kHz to 30 MHz	-42.16	-42.10	-42.22	-42.13	-29.02	-13.08
			30 MHz to 858 MHz	-43.23	-44.08	-44.07	-44.50	-19.02	-24.21
			858 MHz to 868 MHz	-44.05	-44.98	-45.00	-44.11	-19.02	-25.03
			895 MHz to 1 GHz	-38.42	-40.15	-36.23	-37.65	-19.02	-17.21
			1 GHz to 10 GHz	-23.31	-23.16	-24.07	-24.00	-19.02	-4.14
		2	9 kHz to 150 kHz	-50.54	-50.07	-50.10	-50.02	-39.02	-11.00
			150 kHz to 30 MHz	-42.11	-41.91	-42.08	-42.03	-29.02	-12.89
			30 MHz to 858 MHz	-43.32	-43.57	-43.28	-44.01	-19.02	-24.26
			858 MHz to 868 MHz	-44.42	-44.16	-43.31	-44.17	-19.02	-24.29
			895 MHz to 1 GHz	-34.94	-37.20	-33.70	-35.43	-19.02	-14.68
			1 GHz to 10 GHz	-24.37	-24.12	-24.07	-24.32	-19.02	-5.05
		3	9 kHz to 150 kHz	-49.88	-50.22	-50.20	-49.97	-39.02	-10.86
			150 kHz to 30 MHz	-41.86	-42.13	-42.00	-41.91	-29.02	-12.84
			30 MHz to 858 MHz	-43.00	-43.14	-42.90	-42.16	-19.02	-23.14
			858 MHz to 868 MHz	-44.82	-44.70	-44.83	-43.69	-19.02	-24.67
			895 MHz to 1 GHz	-38.18	-39.20	-36.81	-38.95	-19.02	-17.79
			1 GHz to 10 GHz	-23.61	-23.96	-23.17	-24.09	-19.02	-4.15

Table 7-124. Conducted Spurious Emission Summary Data (DSS_B5_10M_3:7_1C)

FCC ID: A3LRF4442D-13A	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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DSS Ratio	Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
				QPSK	16QAM	64QAM	256QAM		
LTE 2 : NR 8	Low	0	9 kHz to 150 kHz	-49.54	-50.16	-50.00	-50.46	-39.02	-10.52
			150 kHz to 30 MHz	-41.77	-41.82	-41.99	-41.82	-29.02	-12.75
			30 MHz to 858 MHz	-40.79	-40.36	-40.83	-40.66	-19.02	-21.34
			858 MHz to 868 MHz	-35.96	-35.14	-34.93	-35.97	-19.02	-15.91
			895 MHz to 1 GHz	-40.64	-40.85	-40.86	-40.38	-19.02	-21.36
			1 GHz to 10 GHz	-24.11	-24.32	-23.93	-24.43	-19.02	-4.91
		1	9 kHz to 150 kHz	-50.59	-50.55	-50.15	-50.35	-39.02	-11.13
			150 kHz to 30 MHz	-42.22	-42.36	-42.25	-42.38	-29.02	-13.20
			30 MHz to 858 MHz	-40.96	-41.07	-40.87	-41.14	-19.02	-21.85
			858 MHz to 868 MHz	-34.31	-34.94	-34.68	-35.44	-19.02	-15.29
			895 MHz to 1 GHz	-40.96	-40.94	-40.52	-40.87	-19.02	-21.50
			1 GHz to 10 GHz	-23.42	-23.79	-23.76	-23.78	-19.02	-4.40
		2	9 kHz to 150 kHz	-50.53	-50.17	-50.13	-50.32	-39.02	-11.11
			150 kHz to 30 MHz	-42.09	-42.45	-42.31	-42.10	-29.02	-13.07
			30 MHz to 858 MHz	-40.98	-40.95	-41.01	-41.04	-19.02	-21.93
			858 MHz to 868 MHz	-34.43	-34.38	-34.27	-35.40	-19.02	-15.25
			895 MHz to 1 GHz	-40.94	-40.38	-40.36	-40.28	-19.02	-21.26
			1 GHz to 10 GHz	-24.05	-23.86	-23.50	-23.77	-19.02	-4.48
		3	9 kHz to 150 kHz	-49.87	-50.16	-49.78	-50.83	-39.02	-10.76
			150 kHz to 30 MHz	-42.03	-42.18	-41.96	-42.14	-29.02	-12.94
			30 MHz to 858 MHz	-40.86	-40.85	-40.91	-40.62	-19.02	-21.60
			858 MHz to 868 MHz	-34.61	-35.06	-35.03	-36.04	-19.02	-15.59
			895 MHz to 1 GHz	-40.69	-41.59	-41.27	-40.68	-19.02	-21.66
			1 GHz to 10 GHz	-23.17	-23.37	-23.70	-23.21	-19.02	-4.15
	Middle	0	9 kHz to 150 kHz	-48.00	-48.67	-47.67	-48.06	-39.02	-8.65
			150 kHz to 30 MHz	-40.79	-40.89	-40.88	-40.93	-29.02	-11.77
			30 MHz to 858 MHz	-40.60	-40.41	-40.48	-40.61	-19.02	-21.39
			858 MHz to 868 MHz	-39.49	-39.61	-38.93	-38.91	-19.02	-19.89
			895 MHz to 1 GHz	-39.66	-39.32	-39.01	-39.16	-19.02	-19.99
			1 GHz to 10 GHz	-24.15	-24.23	-24.25	-24.14	-19.02	-5.12
		1	9 kHz to 150 kHz	-48.80	-47.98	-48.55	-48.41	-39.02	-8.96
			150 kHz to 30 MHz	-41.25	-41.25	-41.30	-41.18	-29.02	-12.16
			30 MHz to 858 MHz	-40.50	-40.97	-41.03	-41.23	-19.02	-21.48
			858 MHz to 868 MHz	-40.36	-39.64	-40.28	-40.18	-19.02	-20.62
			895 MHz to 1 GHz	-40.39	-40.41	-39.93	-38.50	-19.02	-19.48
			1 GHz to 10 GHz	-23.55	-23.21	-23.65	-23.72	-19.02	-4.19

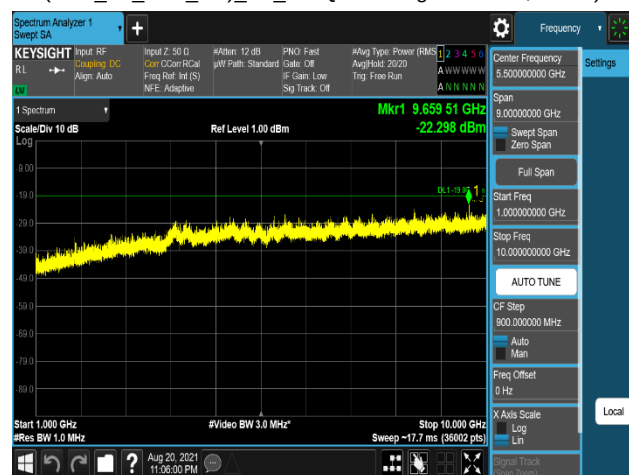
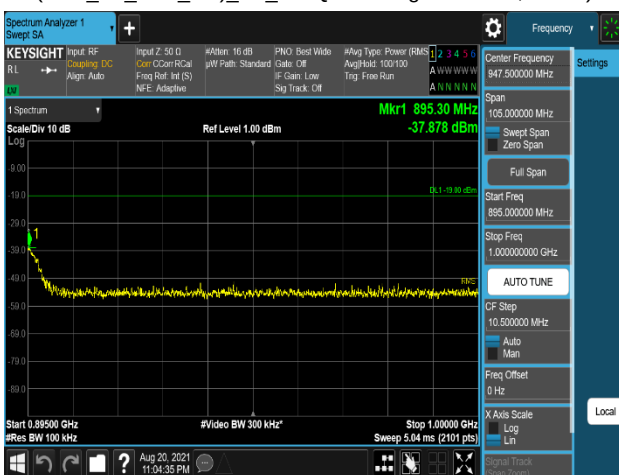
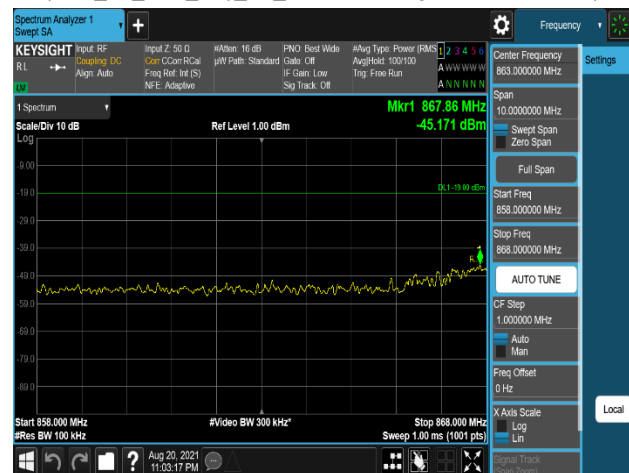
FCC ID: A3LRF4442D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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		2	9 kHz to 150 kHz	-48.28	-48.24	-47.97	-48.62	-39.02	-8.95
			150 kHz to 30 MHz	-41.12	-41.13	-40.95	-41.12	-29.02	-11.93
			30 MHz to 858 MHz	-40.84	-40.64	-40.73	-40.63	-19.02	-21.61
			858 MHz to 868 MHz	-39.51	-40.16	-39.24	-39.52	-19.02	-20.22
			895 MHz to 1 GHz	-39.92	-39.39	-39.39	-38.44	-19.02	-19.42
			1 GHz to 10 GHz	-23.87	-23.85	-24.14	-23.99	-19.02	-4.83
		3	9 kHz to 150 kHz	-48.34	-48.70	-48.09	-48.23	-39.02	-9.07
			150 kHz to 30 MHz	-41.14	-40.95	-40.98	-41.17	-29.02	-11.93
			30 MHz to 858 MHz	-40.68	-40.82	-40.60	-40.64	-19.02	-21.58
			858 MHz to 868 MHz	-40.83	-40.70	-40.64	-40.24	-19.02	-21.22
			895 MHz to 1 GHz	-40.45	-40.63	-40.06	-40.43	-19.02	-21.04
			1 GHz to 10 GHz	-23.53	-23.57	-23.71	-23.22	-19.02	-4.20
	High	0	9 kHz to 150 kHz	-49.96	-50.93	-50.10	-49.81	-39.02	-10.79
			150 kHz to 30 MHz	-41.72	-41.68	-41.69	-41.66	-29.02	-12.64
			30 MHz to 858 MHz	-44.07	-43.72	-43.90	-44.04	-19.02	-24.70
			858 MHz to 868 MHz	-43.65	-43.97	-43.20	-40.42	-19.02	-21.40
			895 MHz to 1 GHz	-34.95	-36.78	-33.69	-35.42	-19.02	-14.67
			1 GHz to 10 GHz	-24.06	-24.19	-24.89	-24.43	-19.02	-5.04
		1	9 kHz to 150 kHz	-50.67	-50.24	-50.98	-50.68	-39.02	-11.22
			150 kHz to 30 MHz	-42.36	-41.98	-42.20	-42.13	-29.02	-12.96
			30 MHz to 858 MHz	-43.45	-44.33	-44.11	-44.21	-19.02	-24.43
			858 MHz to 868 MHz	-44.40	-44.55	-43.90	-43.81	-19.02	-24.79
			895 MHz to 1 GHz	-38.25	-40.04	-36.89	-37.07	-19.02	-17.87
			1 GHz to 10 GHz	-24.45	-24.56	-24.31	-23.70	-19.02	-4.68
		2	9 kHz to 150 kHz	-49.81	-50.33	-49.76	-50.22	-39.02	-10.74
			150 kHz to 30 MHz	-42.10	-41.95	-41.81	-42.06	-29.02	-12.79
			30 MHz to 858 MHz	-43.19	-43.73	-43.54	-44.41	-19.02	-24.17
			858 MHz to 868 MHz	-43.63	-44.31	-43.36	-43.68	-19.02	-24.34
			895 MHz to 1 GHz	-34.35	-35.80	-34.61	-35.85	-19.02	-15.33
			1 GHz to 10 GHz	-24.47	-23.55	-23.73	-23.73	-19.02	-4.53
		3	9 kHz to 150 kHz	-50.44	-49.57	-50.64	-50.48	-39.02	-10.55
			150 kHz to 30 MHz	-41.89	-41.81	-41.92	-42.01	-29.02	-12.79
			30 MHz to 858 MHz	-42.84	-43.45	-42.93	-43.09	-19.02	-23.82
			858 MHz to 868 MHz	-44.59	-45.06	-45.05	-43.49	-19.02	-24.47
			895 MHz to 1 GHz	-37.19	-38.33	-35.72	-38.69	-19.02	-16.70
			1 GHz to 10 GHz	-23.37	-23.05	-24.56	-23.65	-19.02	-4.03

Table 7-125. Conducted Spurious Emission Summary Data (DSS_B5_10M_2:8_1C)

Note: Test result is no big difference depending on DSS Ratio. So, the only worst-ratio plots are included in this report.

FCC ID: A3LRF4442D-13A	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 193 of 225



FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 194 of 225

DSS Ratio	Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
				QPSK	16QAM	64QAM	256QAM		
LTE 5 : NR 5	Low	0	9 kHz to 150 kHz	-55.11	-55.18	-55.50	-55.17	-39.02	-16.09
			150 kHz to 30 MHz	-45.42	-45.92	-45.44	-45.55	-29.02	-16.40
			30 MHz to 858 MHz	-45.30	-44.98	-44.51	-45.11	-19.02	-25.49
			858 MHz to 868 MHz	-27.70	-30.08	-34.14	-32.47	-19.02	-8.68
			895 MHz to 1 GHz	-35.26	-37.48	-39.24	-37.11	-19.02	-16.24
			1 GHz to 10 GHz	-24.57	-24.79	-24.42	-25.35	-19.02	-5.40
		1	9 kHz to 150 kHz	-54.84	-55.85	-56.86	-55.73	-39.02	-15.82
			150 kHz to 30 MHz	-46.06	-46.07	-45.74	-45.77	-29.02	-16.72
			30 MHz to 858 MHz	-44.00	-43.89	-44.11	-44.31	-19.02	-24.87
			858 MHz to 868 MHz	-33.34	-27.90	-32.79	-31.92	-19.02	-8.88
			895 MHz to 1 GHz	-41.81	-37.13	-42.25	-40.38	-19.02	-18.11
			1 GHz to 10 GHz	-24.96	-24.10	-24.04	-23.33	-19.02	-4.31
		2	9 kHz to 150 kHz	-55.65	-55.14	-56.37	-56.27	-39.02	-16.12
			150 kHz to 30 MHz	-45.77	-45.88	-45.64	-45.59	-29.02	-16.57
			30 MHz to 858 MHz	-45.19	-45.18	-45.38	-44.41	-19.02	-25.39
			858 MHz to 868 MHz	-26.41	-29.08	-31.78	-30.18	-19.02	-7.39
			895 MHz to 1 GHz	-34.92	-32.01	-34.86	-37.67	-19.02	-12.99
			1 GHz to 10 GHz	-24.80	-24.26	-24.77	-23.74	-19.02	-4.72
		3	9 kHz to 150 kHz	-55.19	-54.91	-56.00	-55.32	-39.02	-15.89
			150 kHz to 30 MHz	-45.75	-45.52	-45.42	-45.49	-29.02	-16.40
			30 MHz to 858 MHz	-44.32	-44.34	-44.37	-44.46	-19.02	-25.30
			858 MHz to 868 MHz	-34.63	-35.03	-35.58	-36.52	-19.02	-15.61
			895 MHz to 1 GHz	-43.75	-41.55	-41.91	-41.66	-19.02	-22.53
			1 GHz to 10 GHz	-24.82	-23.66	-24.21	-23.91	-19.02	-4.64
	Middle	0	9 kHz to 150 kHz	-54.81	-54.94	-54.99	-55.24	-39.02	-15.79
			150 kHz to 30 MHz	-45.38	-45.67	-45.51	-45.80	-29.02	-16.36
			30 MHz to 858 MHz	-44.85	-43.81	-44.64	-44.63	-19.02	-24.79
			858 MHz to 868 MHz	-34.69	-35.36	-37.15	-34.67	-19.02	-15.65
			895 MHz to 1 GHz	-38.27	-35.23	-37.03	-35.25	-19.02	-16.21
			1 GHz to 10 GHz	-24.50	-24.07	-24.21	-24.90	-19.02	-5.05
		1	9 kHz to 150 kHz	-55.49	-55.40	-55.67	-55.80	-39.02	-16.38
			150 kHz to 30 MHz	-45.97	-46.16	-46.15	-45.95	-29.02	-16.93
			30 MHz to 858 MHz	-44.60	-43.99	-43.89	-44.00	-19.02	-24.87
			858 MHz to 868 MHz	-38.07	-38.31	-37.68	-35.90	-19.02	-16.88
			895 MHz to 1 GHz	-41.31	-37.05	-39.59	-37.52	-19.02	-18.03
			1 GHz to 10 GHz	-24.37	-24.19	-24.00	-23.72	-19.02	-4.70

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		2	9 kHz to 150 kHz	-55.13	-55.43	-55.11	-55.10	-39.02	-16.08
			150 kHz to 30 MHz	-45.69	-45.90	-45.84	-45.76	-29.02	-16.67
			30 MHz to 858 MHz	-45.18	-44.32	-44.58	-45.12	-19.02	-25.30
			858 MHz to 868 MHz	-38.16	-26.96	-34.81	-34.71	-19.02	-7.94
			895 MHz to 1 GHz	-35.97	-34.96	-36.17	-35.95	-19.02	-15.94
			1 GHz to 10 GHz	-24.72	-24.04	-23.88	-24.79	-19.02	-4.86
		3	9 kHz to 150 kHz	-54.75	-54.78	-55.34	-54.89	-39.02	-15.73
			150 kHz to 30 MHz	-45.54	-45.50	-45.58	-45.51	-29.02	-16.48
			30 MHz to 858 MHz	-44.53	-43.99	-44.43	-44.72	-19.02	-24.97
			858 MHz to 868 MHz	-39.14	-38.06	-39.98	-39.89	-19.02	-19.04
			895 MHz to 1 GHz	-38.78	-41.59	-39.86	-39.61	-19.02	-19.76
			1 GHz to 10 GHz	-22.86	-24.05	-23.71	-24.13	-19.02	-3.84
	High	0	9 kHz to 150 kHz	-55.64	-55.96	-55.32	-56.05	-39.02	-16.30
			150 kHz to 30 MHz	-45.65	-45.71	-45.80	-45.54	-29.02	-16.52
			30 MHz to 858 MHz	-44.25	-43.51	-44.78	-43.76	-19.02	-24.49
			858 MHz to 868 MHz	-36.90	-33.85	-36.51	-35.48	-19.02	-14.83
			895 MHz to 1 GHz	-31.23	-31.17	-33.97	-29.92	-19.02	-10.90
			1 GHz to 10 GHz	-25.32	-24.01	-23.73	-24.81	-19.02	-4.71
		1	9 kHz to 150 kHz	-55.32	-55.87	-55.73	-56.30	-39.02	-16.30
			150 kHz to 30 MHz	-45.94	-45.91	-46.03	-46.13	-29.02	-16.89
			30 MHz to 858 MHz	-42.98	-43.48	-43.66	-43.66	-19.02	-23.96
			858 MHz to 868 MHz	-41.07	-42.39	-39.30	-41.08	-19.02	-20.28
			895 MHz to 1 GHz	-36.51	-35.01	-35.63	-35.27	-19.02	-15.99
			1 GHz to 10 GHz	-23.96	-23.90	-24.12	-23.67	-19.02	-4.65
		2	9 kHz to 150 kHz	-55.35	-56.17	-55.62	-55.76	-39.02	-16.33
			150 kHz to 30 MHz	-45.82	-45.90	-45.96	-45.64	-29.02	-16.62
			30 MHz to 858 MHz	-44.90	-44.24	-44.28	-43.70	-19.02	-24.68
			858 MHz to 868 MHz	-40.34	-37.98	-34.81	-37.66	-19.02	-15.79
			895 MHz to 1 GHz	-32.41	-30.67	-30.51	-31.31	-19.02	-11.49
			1 GHz to 10 GHz	-24.78	-24.73	-24.37	-24.59	-19.02	-5.35
		3	9 kHz to 150 kHz	-56.08	-55.11	-54.98	-55.81	-39.02	-15.96
			150 kHz to 30 MHz	-45.60	-45.63	-45.39	-45.74	-29.02	-16.37
			30 MHz to 858 MHz	-44.07	-44.51	-44.72	-44.43	-19.02	-25.05
			858 MHz to 868 MHz	-39.96	-40.11	-40.17	-40.72	-19.02	-20.94
			895 MHz to 1 GHz	-35.63	-34.61	-35.45	-36.63	-19.02	-15.59
			1 GHz to 10 GHz	-24.08	-23.80	-23.13	-23.75	-19.02	-4.11

Table 7-126. Conducted Spurious Emission Summary Data (DSS_B5_10M+5M_2C)

FCC ID: A3LRF4442D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 196 of 225

DSS Ratio	Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
				QPSK	16QAM	64QAM	256QAM		
LTE 5 : NR 5	Low	0	9 kHz to 150 kHz	-46.55	-45.21	-45.60	-46.31	-39.02	-6.19
			150 kHz to 30 MHz	-44.93	-45.03	-44.92	-44.83	-29.02	-15.81
			30 MHz to 858 MHz	-44.99	-44.25	-44.94	-44.80	-19.02	-25.23
			858 MHz to 868 MHz	-35.07	-34.14	-34.48	-33.05	-19.02	-14.03
			895 MHz to 1 GHz	-37.36	-37.59	-35.97	-36.87	-19.02	-16.95
			1 GHz to 10 GHz	-25.00	-25.86	-25.47	-25.23	-19.02	-5.98
		1	9 kHz to 150 kHz	-47.20	-45.24	-45.63	-45.04	-39.02	-6.02
			150 kHz to 30 MHz	-45.23	-45.17	-45.41	-45.25	-29.02	-16.15
			30 MHz to 858 MHz	-44.64	-43.86	-44.25	-43.70	-19.02	-24.68
			858 MHz to 868 MHz	-34.53	-34.19	-33.69	-33.14	-19.02	-14.12
			895 MHz to 1 GHz	-39.65	-37.62	-39.23	-37.06	-19.02	-18.04
			1 GHz to 10 GHz	-25.37	-25.00	-25.28	-24.17	-19.02	-5.15
		2	9 kHz to 150 kHz	-46.44	-46.04	-45.35	-45.08	-39.02	-6.06
			150 kHz to 30 MHz	-45.05	-45.10	-45.14	-45.12	-29.02	-16.03
			30 MHz to 858 MHz	-45.11	-44.96	-44.80	-44.99	-19.02	-25.78
			858 MHz to 868 MHz	-35.50	-34.18	-33.73	-35.06	-19.02	-14.71
			895 MHz to 1 GHz	-36.73	-36.19	-35.30	-34.59	-19.02	-15.57
			1 GHz to 10 GHz	-25.32	-25.74	-25.12	-25.82	-19.02	-6.10
		3	9 kHz to 150 kHz	-46.24	-44.75	-45.32	-45.32	-39.02	-5.73
			150 kHz to 30 MHz	-44.88	-44.95	-44.82	-44.77	-29.02	-15.75
			30 MHz to 858 MHz	-44.51	-44.44	-45.30	-44.72	-19.02	-25.42
			858 MHz to 868 MHz	-35.84	-35.03	-34.50	-36.46	-19.02	-15.48
			895 MHz to 1 GHz	-37.43	-38.21	-38.23	-40.02	-19.02	-18.41
			1 GHz to 10 GHz	-25.86	-24.70	-25.34	-25.23	-19.02	-5.68
	Middle	0	9 kHz to 150 kHz	-46.39	-45.96	-46.23	-45.76	-39.02	-6.74
			150 kHz to 30 MHz	-44.94	-44.92	-45.10	-44.89	-29.02	-15.87
			30 MHz to 858 MHz	-45.52	-44.77	-45.26	-44.07	-19.02	-25.05
			858 MHz to 868 MHz	-36.47	-36.71	-34.12	-36.37	-19.02	-15.10
			895 MHz to 1 GHz	-33.50	-35.73	-33.90	-35.58	-19.02	-14.48
			1 GHz to 10 GHz	-25.10	-26.49	-24.95	-24.91	-19.02	-5.89
		1	9 kHz to 150 kHz	-45.60	-45.86	-46.30	-45.52	-39.02	-6.50
			150 kHz to 30 MHz	-45.34	-45.40	-45.36	-45.28	-29.02	-16.26
			30 MHz to 858 MHz	-43.79	-44.55	-44.66	-44.11	-19.02	-24.77
			858 MHz to 868 MHz	-35.06	-36.24	-36.77	-35.91	-19.02	-16.04
			895 MHz to 1 GHz	-35.78	-36.90	-37.15	-36.67	-19.02	-16.76
			1 GHz to 10 GHz	-25.78	-24.86	-24.85	-25.08	-19.02	-5.83

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		2	9 kHz to 150 kHz	-46.18	-45.07	-45.46	-45.90	-39.02	-6.05
			150 kHz to 30 MHz	-45.28	-45.10	-45.28	-45.27	-29.02	-16.08
			30 MHz to 858 MHz	-44.83	-45.15	-45.50	-44.88	-19.02	-25.81
			858 MHz to 868 MHz	-36.09	-36.26	-35.07	-34.44	-19.02	-15.42
			895 MHz to 1 GHz	-33.33	-34.38	-34.60	-34.05	-19.02	-14.31
			1 GHz to 10 GHz	-25.28	-24.92	-25.64	-24.43	-19.02	-5.41
		3	9 kHz to 150 kHz	-46.34	-44.61	-45.18	-45.31	-39.02	-5.59
			150 kHz to 30 MHz	-44.77	-44.90	-44.90	-44.94	-29.02	-15.75
			30 MHz to 858 MHz	-44.89	-44.71	-44.41	-44.31	-19.02	-25.29
			858 MHz to 868 MHz	-37.75	-37.26	-38.04	-37.75	-19.02	-18.24
			895 MHz to 1 GHz	-38.11	-37.35	-36.77	-37.29	-19.02	-17.75
			1 GHz to 10 GHz	-24.25	-24.20	-25.60	-24.37	-19.02	-5.18
	High	0	9 kHz to 150 kHz	-53.03	-52.83	-52.40	-52.48	-39.02	-13.38
			150 kHz to 30 MHz	-44.89	-44.89	-44.92	-44.80	-29.02	-15.78
			30 MHz to 858 MHz	-43.61	-43.94	-43.52	-44.71	-19.02	-24.50
			858 MHz to 868 MHz	-34.91	-36.07	-37.66	-37.48	-19.02	-15.89
			895 MHz to 1 GHz	-33.07	-33.23	-33.00	-31.63	-19.02	-12.61
			1 GHz to 10 GHz	-25.58	-25.24	-24.57	-25.85	-19.02	-5.55
		1	9 kHz to 150 kHz	-51.83	-51.59	-52.90	-52.21	-39.02	-12.57
			150 kHz to 30 MHz	-45.31	-45.23	-45.37	-45.17	-29.02	-16.15
			30 MHz to 858 MHz	-43.74	-43.74	-44.56	-44.42	-19.02	-24.72
			858 MHz to 868 MHz	-37.71	-38.43	-37.49	-38.36	-19.02	-18.47
			895 MHz to 1 GHz	-35.17	-36.29	-34.73	-36.17	-19.02	-15.71
			1 GHz to 10 GHz	-24.88	-25.24	-25.07	-24.78	-19.02	-5.76
		2	9 kHz to 150 kHz	-52.32	-52.24	-52.62	-52.76	-39.02	-13.22
			150 kHz to 30 MHz	-45.38	-45.08	-45.13	-45.16	-29.02	-16.06
			30 MHz to 858 MHz	-44.45	-44.13	-44.23	-44.40	-19.02	-25.11
			858 MHz to 868 MHz	-34.82	-37.27	-37.62	-36.96	-19.02	-15.80
			895 MHz to 1 GHz	-33.14	-33.71	-33.78	-33.30	-19.02	-14.12
			1 GHz to 10 GHz	-25.70	-25.56	-25.30	-25.66	-19.02	-6.28
		3	9 kHz to 150 kHz	-51.90	-51.64	-52.45	-51.89	-39.02	-12.62
			150 kHz to 30 MHz	-45.06	-44.86	-44.68	-44.67	-29.02	-15.65
			30 MHz to 858 MHz	-44.44	-44.58	-44.83	-44.35	-19.02	-25.33
			858 MHz to 868 MHz	-38.40	-37.98	-37.86	-39.23	-19.02	-18.84
			895 MHz to 1 GHz	-39.55	-36.57	-35.75	-36.97	-19.02	-16.73
			1 GHz to 10 GHz	-24.66	-24.55	-23.84	-24.90	-19.02	-4.82

Table 7-127. Conducted Spurious Emission Summary Data (DSS_B5_10M+10M_2C)

FCC ID: A3LRF4442D-13A	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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DSS Ratio	Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
				QPSK	16QAM	64QAM	256QAM		
LTE 5 : NR 5	Middle	0	9 kHz to 150 kHz	-56.29	-56.69	-55.81	-56.42	-39.02	-16.79
			150 kHz to 30 MHz	-45.73	-45.54	-45.56	-45.83	-29.02	-16.52
			30 MHz to 858 MHz	-43.88	-43.93	-43.78	-43.94	-19.02	-24.76
			858 MHz to 868 MHz	-33.81	-34.16	-33.87	-33.88	-19.02	-14.79
			895 MHz to 1 GHz	-34.06	-33.33	-33.58	-34.99	-19.02	-14.31
			1 GHz to 10 GHz	-24.32	-24.78	-24.63	-24.70	-19.02	-5.30
		1	9 kHz to 150 kHz	-57.25	-56.57	-56.43	-56.45	-39.02	-17.41
			150 kHz to 30 MHz	-46.17	-45.90	-45.91	-45.95	-29.02	-16.88
			30 MHz to 858 MHz	-43.83	-43.83	-43.97	-43.69	-19.02	-24.67
			858 MHz to 868 MHz	-35.43	-36.27	-36.17	-36.11	-19.02	-16.41
			895 MHz to 1 GHz	-38.05	-36.10	-36.68	-37.65	-19.02	-17.08
			1 GHz to 10 GHz	-25.16	-24.39	-24.94	-24.34	-19.02	-5.32
		2	9 kHz to 150 kHz	-56.04	-56.58	-56.76	-56.47	-39.02	-17.02
			150 kHz to 30 MHz	-45.83	-45.62	-45.77	-45.91	-29.02	-16.60
			30 MHz to 858 MHz	-43.70	-43.96	-44.20	-44.17	-19.02	-24.68
			858 MHz to 868 MHz	-33.03	-33.73	-33.61	-32.91	-19.02	-13.89
			895 MHz to 1 GHz	-33.28	-32.37	-33.77	-32.68	-19.02	-13.35
			1 GHz to 10 GHz	-24.78	-25.02	-24.66	-24.39	-19.02	-5.37
		3	9 kHz to 150 kHz	-56.41	-56.47	-56.33	-55.63	-39.02	-16.61
			150 kHz to 30 MHz	-45.57	-45.41	-45.45	-45.48	-29.02	-16.39
			30 MHz to 858 MHz	-44.41	-44.52	-43.76	-44.09	-19.02	-24.74
			858 MHz to 868 MHz	-36.79	-36.23	-37.12	-36.39	-19.02	-17.21
			895 MHz to 1 GHz	-38.77	-38.28	-37.62	-38.47	-19.02	-18.60
			1 GHz to 10 GHz	-23.99	-23.79	-23.86	-24.10	-19.02	-4.77

Table 7-128. Conducted Spurious Emission Summary Data (DSS_B5_10M+10M+5M_3C)

FCC ID: A3LRF4442D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 199 of 225	

DSS Ratio	Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
				QPSK	16QAM	64QAM	256QAM		
LTE 5 : NR 5	Middle	0	9 kHz to 150 kHz	-55.06	-56.14	-56.44	-55.72	-39.02	-16.04
			150 kHz to 30 MHz	-45.93	-45.57	-45.91	-45.97	-29.02	-16.55
			30 MHz to 858 MHz	-43.07	-43.08	-43.59	-44.50	-19.02	-24.05
			858 MHz to 868 MHz	-28.85	-27.81	-30.99	-32.06	-19.02	-8.79
			895 MHz to 1 GHz	-23.55	-27.61	-29.35	-30.75	-19.02	-4.53
			1 GHz to 10 GHz	-25.47	-25.24	-23.29	-24.48	-19.02	-4.27
		1	9 kHz to 150 kHz	-56.50	-55.68	-56.58	-56.58	-39.02	-16.66
			150 kHz to 30 MHz	-46.10	-46.16	-46.14	-46.29	-29.02	-17.08
			30 MHz to 858 MHz	-43.22	-43.76	-43.43	-42.81	-19.02	-23.79
			858 MHz to 868 MHz	-30.11	-32.08	-32.51	-31.49	-19.02	-11.09
			895 MHz to 1 GHz	-29.45	-32.87	-36.40	-35.16	-19.02	-10.43
			1 GHz to 10 GHz	-25.10	-24.98	-24.67	-25.21	-19.02	-5.65
		2	9 kHz to 150 kHz	-56.62	-55.75	-56.66	-56.27	-39.02	-16.73
			150 kHz to 30 MHz	-45.99	-46.06	-46.24	-46.03	-29.02	-16.97
			30 MHz to 858 MHz	-43.57	-44.34	-43.68	-43.85	-19.02	-24.55
			858 MHz to 868 MHz	-23.65	-29.04	-25.28	-31.20	-19.02	-4.63
			895 MHz to 1 GHz	-23.25	-28.26	-28.29	-30.38	-19.02	-4.23
			1 GHz to 10 GHz	-23.77	-24.89	-24.35	-24.86	-19.02	-4.75
		3	9 kHz to 150 kHz	-56.32	-55.52	-55.69	-56.53	-39.02	-16.50
			150 kHz to 30 MHz	-45.62	-45.65	-45.77	-45.91	-29.02	-16.60
			30 MHz to 858 MHz	-44.15	-44.02	-44.00	-43.87	-19.02	-24.85
			858 MHz to 868 MHz	-35.44	-35.69	-36.88	-36.61	-19.02	-16.42
			895 MHz to 1 GHz	-34.15	-34.85	-34.80	-33.52	-19.02	-14.50
			1 GHz to 10 GHz	-24.28	-24.05	-24.46	-24.15	-19.02	-5.03

Table 7-129. Conducted Spurious Emission Summary Data (DSS_B5_10M+5M_2C - Non-contiguous)

FCC ID: A3LRF4442D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 200 of 225	

DSS Ratio	Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
				QPSK	16QAM	64QAM	256QAM		
LTE 5 : NR 5	Middle	0	9 kHz to 150 kHz	-54.35	-54.57	-54.67	-53.97	-39.02	-14.95
			150 kHz to 30 MHz	-45.72	-45.61	-45.95	-45.73	-29.02	-16.59
			30 MHz to 858 MHz	-43.34	-42.90	-43.08	-43.71	-19.02	-23.88
			858 MHz to 868 MHz	-36.15	-34.10	-34.12	-33.46	-19.02	-14.44
			895 MHz to 1 GHz	-32.19	-31.56	-30.79	-31.55	-19.02	-11.77
			1 GHz to 10 GHz	-24.47	-24.27	-24.71	-24.34	-19.02	-5.25
		1	9 kHz to 150 kHz	-53.78	-54.57	-55.73	-55.07	-39.02	-14.76
			150 kHz to 30 MHz	-46.21	-46.12	-46.10	-46.27	-29.02	-17.08
			30 MHz to 858 MHz	-43.33	-43.11	-43.34	-43.73	-19.02	-24.09
			858 MHz to 868 MHz	-35.44	-34.37	-36.40	-35.67	-19.02	-15.35
			895 MHz to 1 GHz	-33.04	-32.94	-35.21	-33.83	-19.02	-13.92
			1 GHz to 10 GHz	-24.40	-24.26	-24.40	-24.36	-19.02	-5.24
		2	9 kHz to 150 kHz	-53.71	-54.84	-53.84	-54.94	-39.02	-14.69
			150 kHz to 30 MHz	-45.81	-45.94	-45.88	-45.89	-29.02	-16.79
			30 MHz to 858 MHz	-43.95	-43.84	-44.34	-44.24	-19.02	-24.82
			858 MHz to 868 MHz	-35.60	-35.72	-33.46	-34.30	-19.02	-14.44
			895 MHz to 1 GHz	-31.92	-30.45	-30.83	-30.89	-19.02	-11.43
			1 GHz to 10 GHz	-24.46	-23.94	-23.89	-24.61	-19.02	-4.87
		3	9 kHz to 150 kHz	-53.74	-53.71	-54.95	-54.50	-39.02	-14.69
			150 kHz to 30 MHz	-45.59	-45.67	-45.69	-45.55	-29.02	-16.53
			30 MHz to 858 MHz	-44.79	-43.64	-44.61	-44.67	-19.02	-24.62
			858 MHz to 868 MHz	-36.81	-35.77	-36.51	-37.17	-19.02	-16.75
			895 MHz to 1 GHz	-37.28	-36.16	-36.18	-35.87	-19.02	-16.85
			1 GHz to 10 GHz	-23.79	-23.48	-23.83	-23.63	-19.02	-4.46

Table 7-130. Conducted Spurious Emission Summary Data (DSS_B5_10M+10M_2C - Non-contiguous)

FCC ID: A3LRF4442D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 201 of 225	

DSS Ratio	Channel	Port	Measurement Range	Level (dBm)	Limit (dBm)	Worst Margin (dB)
LTE 5 : NR 5	Low	0	9 kHz to 150 kHz	-49.33	-39.02	-10.31
			150 kHz to 30 MHz	-37.18	-29.02	-8.16
			30 MHz to 745 MHz	-31.07	-19.02	-12.05
			757 MHz to 868 GHz	-29.21	-19.02	-10.19
			895 MHz to 1 GHz	-35.76	-19.02	-16.74
			1 GHz to 10 GHz	-25.36	-19.02	-6.34
		1	9 kHz to 150 kHz	-50.26	-39.02	-11.24
			150 kHz to 30 MHz	-35.75	-29.02	-6.73
			30 MHz to 745 MHz	-30.33	-19.02	-11.31
			757 MHz to 868 GHz	-30.90	-19.02	-11.88
			895 MHz to 1 GHz	-37.63	-19.02	-18.61
			1 GHz to 10 GHz	-24.36	-19.02	-5.34
		2	9 kHz to 150 kHz	-50.65	-39.02	-11.63
			150 kHz to 30 MHz	-36.74	-29.02	-7.72
			30 MHz to 745 MHz	-31.22	-19.02	-12.20
			757 MHz to 868 GHz	-28.64	-19.02	-9.62
			895 MHz to 1 GHz	-36.27	-19.02	-17.25
			1 GHz to 10 GHz	-24.88	-19.02	-5.86
		3	9 kHz to 150 kHz	-50.34	-39.02	-11.32
			150 kHz to 30 MHz	-38.01	-29.02	-8.99
			30 MHz to 745 MHz	-30.61	-19.02	-11.59
			757 MHz to 868 GHz	-29.79	-19.02	-10.77
			895 MHz to 1 GHz	-37.78	-19.02	-18.76
			1 GHz to 10 GHz	-23.66	-19.02	-4.64
	High	0	9 kHz to 150 kHz	-49.69	-39.02	-10.67
			150 kHz to 30 MHz	-37.89	-29.02	-8.87
			30 MHz to 745 MHz	-31.65	-19.02	-12.63
			757 MHz to 868 GHz	-32.39	-19.02	-13.37
			895 MHz to 1 GHz	-29.87	-19.02	-10.85
			1 GHz to 10 GHz	-24.66	-19.02	-5.64
		1	9 kHz to 150 kHz	-50.44	-39.02	-11.42
			150 kHz to 30 MHz	-37.48	-29.02	-8.46
			30 MHz to 745 MHz	-32.72	-19.02	-13.70
			757 MHz to 868 GHz	-34.31	-19.02	-15.29
			895 MHz to 1 GHz	-35.03	-19.02	-16.01
			1 GHz to 10 GHz	-25.11	-19.02	-6.09
		2	9 kHz to 150 kHz	-49.49	-39.02	-10.47
			150 kHz to 30 MHz	-36.67	-29.02	-7.65
			30 MHz to 745 MHz	-31.20	-19.02	-12.18
			757 MHz to 868 GHz	-32.79	-19.02	-13.77
			895 MHz to 1 GHz	-29.89	-19.02	-10.87
			1 GHz to 10 GHz	-24.67	-19.02	-5.65
		3	9 kHz to 150 kHz	-50.14	-39.02	-11.12
			150 kHz to 30 MHz	-38.48	-29.02	-9.46
			30 MHz to 745 MHz	-30.69	-19.02	-11.67
			757 MHz to 868 GHz	-32.22	-19.02	-13.20
			895 MHz to 1 GHz	-33.40	-19.02	-14.38
			1 GHz to 10 GHz	-24.64	-19.02	-5.62

**Table 7-131. Conducted Spurious Emission Summary Data
(Multi Band_B5_10M(DSS)_1C_Low + B13_5M_1C_High)**

FCC ID: A3LRF4442D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 202 of 225

DSS Ratio	Channel	Port	Measurement Range	Level (dBm)	Limit (dBm)	Worst Margin (dB)
LTE 5 : NR 5	Low	0	9 kHz to 150 kHz	-49.80	-39.02	-10.78
			150 kHz to 30 MHz	-36.27	-29.02	-7.25
			30 MHz to 745 MHz	-30.41	-19.02	-11.39
			757 MHz to 868 GHz	-28.89	-19.02	-9.87
			895 MHz to 1 GHz	-34.22	-19.02	-15.20
			1 GHz to 10 GHz	-24.23	-19.02	-5.21
		1	9 kHz to 150 kHz	-49.71	-39.02	-10.69
			150 kHz to 30 MHz	-38.46	-29.02	-9.44
			30 MHz to 745 MHz	-32.00	-19.02	-12.98
			757 MHz to 868 GHz	-31.18	-19.02	-12.16
			895 MHz to 1 GHz	-37.00	-19.02	-17.98
			1 GHz to 10 GHz	-24.10	-19.02	-5.08
		2	9 kHz to 150 kHz	-50.34	-39.02	-11.32
			150 kHz to 30 MHz	-38.23	-29.02	-9.21
			30 MHz to 745 MHz	-30.32	-19.02	-11.30
			757 MHz to 868 GHz	-29.50	-19.02	-10.48
			895 MHz to 1 GHz	-33.02	-19.02	-14.00
			1 GHz to 10 GHz	-25.28	-19.02	-6.26
		3	9 kHz to 150 kHz	-49.90	-39.02	-10.88
			150 kHz to 30 MHz	-38.80	-29.02	-9.78
			30 MHz to 745 MHz	-30.41	-19.02	-11.39
			757 MHz to 868 GHz	-30.88	-19.02	-11.86
			895 MHz to 1 GHz	-35.76	-19.02	-16.74
			1 GHz to 10 GHz	-24.71	-19.02	-5.69
	High	0	9 kHz to 150 kHz	-50.03	-39.02	-11.01
			150 kHz to 30 MHz	-37.47	-29.02	-8.45
			30 MHz to 745 MHz	-30.49	-19.02	-11.47
			757 MHz to 868 GHz	-31.14	-19.02	-12.12
			895 MHz to 1 GHz	-28.40	-19.02	-9.38
			1 GHz to 10 GHz	-24.72	-19.02	-5.70
		1	9 kHz to 150 kHz	-50.25	-39.02	-11.23
			150 kHz to 30 MHz	-38.14	-29.02	-9.12
			30 MHz to 745 MHz	-30.67	-19.02	-11.65
			757 MHz to 868 GHz	-32.90	-19.02	-13.88
			895 MHz to 1 GHz	-32.72	-19.02	-13.70
			1 GHz to 10 GHz	-25.06	-19.02	-6.04
		2	9 kHz to 150 kHz	-49.73	-39.02	-10.71
			150 kHz to 30 MHz	-42.16	-29.02	-13.14
			30 MHz to 745 MHz	-30.89	-19.02	-11.87
			757 MHz to 868 GHz	-31.74	-19.02	-12.72
			895 MHz to 1 GHz	-29.97	-19.02	-10.95
			1 GHz to 10 GHz	-24.98	-19.02	-5.96
		3	9 kHz to 150 kHz	-49.48	-39.02	-10.46
			150 kHz to 30 MHz	-38.52	-29.02	-9.50
			30 MHz to 745 MHz	-28.36	-19.02	-9.34
			757 MHz to 868 GHz	-31.85	-19.02	-12.83
			895 MHz to 1 GHz	-33.13	-19.02	-14.11
			1 GHz to 10 GHz	-23.92	-19.02	-4.90

**Table 7-132. Conducted Spurious Emission Summary Data
(Multi Band_B5_10M(DSS)_1C+ B13_10M+NB-lot(GB)+NB-lot(IB)_2C)**

FCC ID: A3LRF4442D-13A	 PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)	Page 203 of 225	

DSS Ratio	Channel	Port	Measurement Range	Level (dBm)	Limit (dBm)	Worst Margin (dB)
LTE 5 : NR 5	Low	0	9 kHz to 150 kHz	-49.59	-39.02	-10.57
			150 kHz to 30 MHz	-34.66	-29.02	-5.64
			30 MHz to 745 MHz	-28.49	-19.02	-9.47
			757 MHz to 868 GHz	-28.00	-19.02	-8.98
			895 MHz to 1 GHz	-37.00	-19.02	-17.98
			1 GHz to 10 GHz	-24.42	-19.02	-5.40
		1	9 kHz to 150 kHz	-50.29	-39.02	-11.27
			150 kHz to 30 MHz	-35.93	-29.02	-6.91
			30 MHz to 745 MHz	-30.27	-19.02	-11.25
			757 MHz to 868 GHz	-31.56	-19.02	-12.54
			895 MHz to 1 GHz	-40.26	-19.02	-21.24
			1 GHz to 10 GHz	-24.08	-19.02	-5.06
		2	9 kHz to 150 kHz	-49.94	-39.02	-10.92
			150 kHz to 30 MHz	-38.55	-29.02	-9.53
			30 MHz to 745 MHz	-29.55	-19.02	-10.53
			757 MHz to 868 GHz	-28.51	-19.02	-9.49
			895 MHz to 1 GHz	-37.17	-19.02	-18.15
			1 GHz to 10 GHz	-24.16	-19.02	-5.14
		3	9 kHz to 150 kHz	-49.85	-39.02	-10.83
			150 kHz to 30 MHz	-37.12	-29.02	-8.10
			30 MHz to 745 MHz	-27.90	-19.02	-8.88
			757 MHz to 868 GHz	-28.48	-19.02	-9.46
			895 MHz to 1 GHz	-37.98	-19.02	-18.96
			1 GHz to 10 GHz	-24.65	-19.02	-5.63
	High	0	9 kHz to 150 kHz	-50.01	-39.02	-10.99
			150 kHz to 30 MHz	-37.80	-29.02	-8.78
			30 MHz to 745 MHz	-34.69	-19.02	-15.67
			757 MHz to 868 GHz	-30.45	-19.02	-11.43
			895 MHz to 1 GHz	-30.36	-19.02	-11.34
			1 GHz to 10 GHz	-24.41	-19.02	-5.39
		1	9 kHz to 150 kHz	-50.04	-39.02	-11.02
			150 kHz to 30 MHz	-38.50	-29.02	-9.48
			30 MHz to 745 MHz	-34.73	-19.02	-15.71
			757 MHz to 868 GHz	-32.91	-19.02	-13.89
			895 MHz to 1 GHz	-35.51	-19.02	-16.49
			1 GHz to 10 GHz	-24.53	-19.02	-5.51
		2	9 kHz to 150 kHz	-50.76	-39.02	-11.74
			150 kHz to 30 MHz	-39.12	-29.02	-10.10
			30 MHz to 745 MHz	-33.83	-19.02	-14.81
			757 MHz to 868 GHz	-28.37	-19.02	-9.35
			895 MHz to 1 GHz	-30.17	-19.02	-11.15
			1 GHz to 10 GHz	-24.38	-19.02	-5.36
		3	9 kHz to 150 kHz	-49.90	-39.02	-10.88
			150 kHz to 30 MHz	-38.77	-29.02	-9.75
			30 MHz to 745 MHz	-33.90	-19.02	-14.88
			757 MHz to 868 GHz	-29.84	-19.02	-10.82
			895 MHz to 1 GHz	-33.79	-19.02	-14.77
			1 GHz to 10 GHz	-23.77	-19.02	-4.75

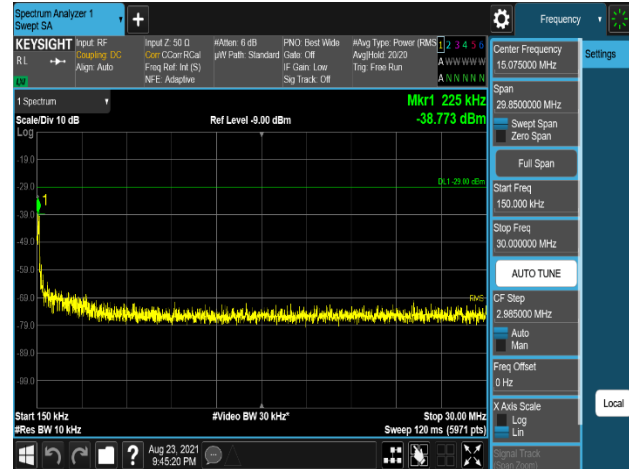
Table 7-133. Conducted Spurious Emission Summary Data
(Multi Band B5 5M+10M(DSS) 2C + B13 10M+NB-lot(GB)+NB-lot(IB) 2C)

Note: Test result is no big difference depending on DSS Ratio. So, the only worst-ratio plots are included in this report.

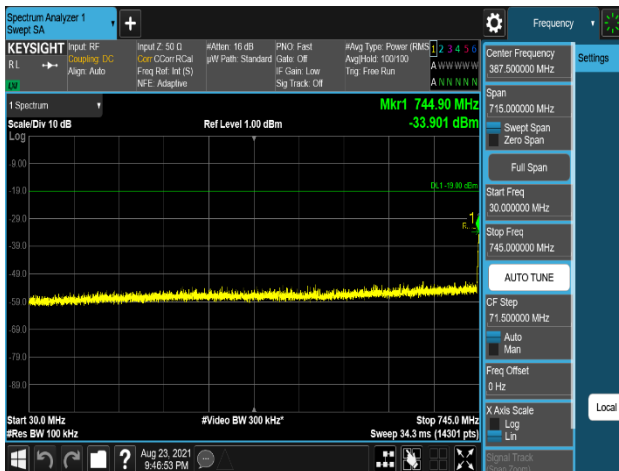
FCC ID: A3LRF4442D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)	Page 204 of 225	



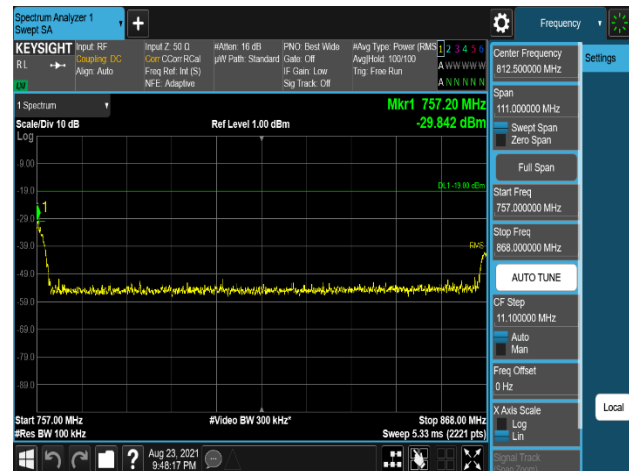
Plot 7-469. Conducted Spurious Emission Plot
9 kHz to 150 kHz
(Multi Band_B5_5M+10M(DSS)_2C + B13_10M+NB-IoT(GB)+NB-IoT(IB)_3C_QPSK
-- High Channel, Port 3)



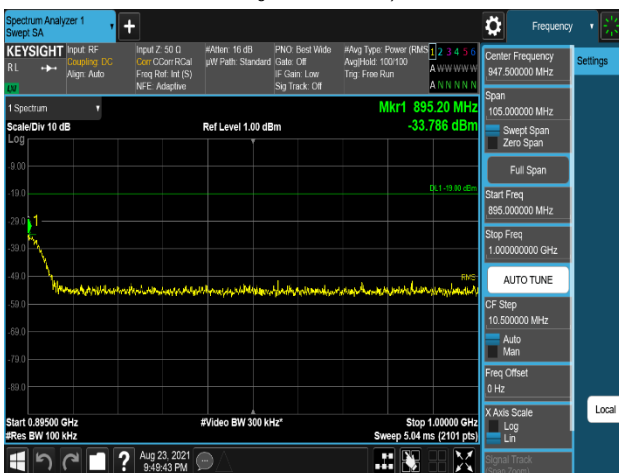
Plot 7-470. Conducted Spurious Emission Plot
150 kHz to 30 MHz
(Multi Band_B5_5M+10M(DSS)_2C + B13_10M+NB-IoT(GB)+NB-IoT(IB)_3C_QPSK
-- High Channel, Port 3)



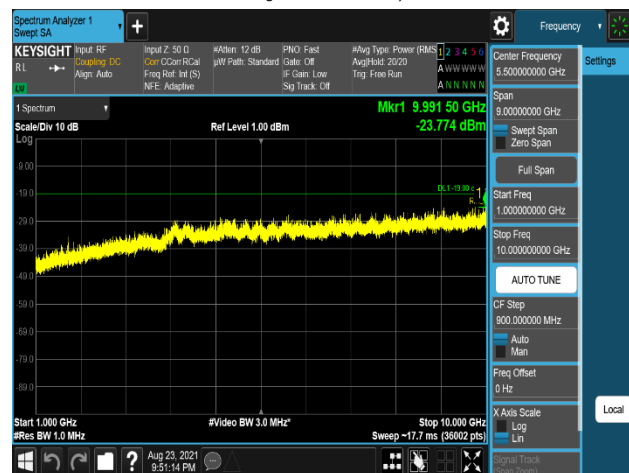
Plot 7-471. Conducted Spurious Emission Plot
30 MHz to 858 MHz
(Multi Band_B5_10M(DSS)_1C+ B13_10M+NB-IoT(GB)+NB-IoT(IB)_3C_QPSK
-- High Channel, Port 3)



Plot 7-472. Conducted Spurious Emission Plot
858 MHz to 868 MHz
(Multi Band_B5_10M(DSS)_1C+ B13_10M+NB-IoT(GB)+NB-IoT(IB)_3C_QPSK
-- High Channel, Port 3)



Plot 7-473. Conducted Spurious Emission Plot
895 MHz to 1 GHz
(Multi Band_B5_10M(DSS)_1C+ B13_10M+NB-IoT(GB)+NB-IoT(IB)_3C_QPSK
-- High Channel, Port 3)



Plot 7-474. Conducted Spurious Emission Plot
1 GHz to 10 GHz
(Multi Band_B5_10M(DSS)_1C+ B13_10M+NB-IoT(GB)+NB-IoT(IB)_3C_QPSK
-- High Channel, Port 3)

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7.7 Radiated spurious emission

\$2.1051, \$22.917, \$27.53(c)

Test Overview

Radiated spurious emissions measurements are performed using the field strength method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized broadband trilob antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

Test Procedure Used

ANSI C63.26 - Section 5.5.3.2

Test Setting

1. Start frequency was set to 30 MHz and stop frequency was set to at least 10 * the fundamental frequency
2. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1GHz
3. VBW $\geq 3 \times$ RBW
4. No. of sweep points $\geq 2 \times$ span / RBW
5. Detector = Peak for the prescan, (In cases where the level is within 2 dB of the limit, the final measurement is taken using RMS detector.)
6. Trace mode = Max Hold (In cases where the level is within 2 dB of the limit, the final measurement is taken using triggering/gating and trace averaging.)
7. The trace was allowed to stabilize.

Limit

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

The power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm.

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Test Setup

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

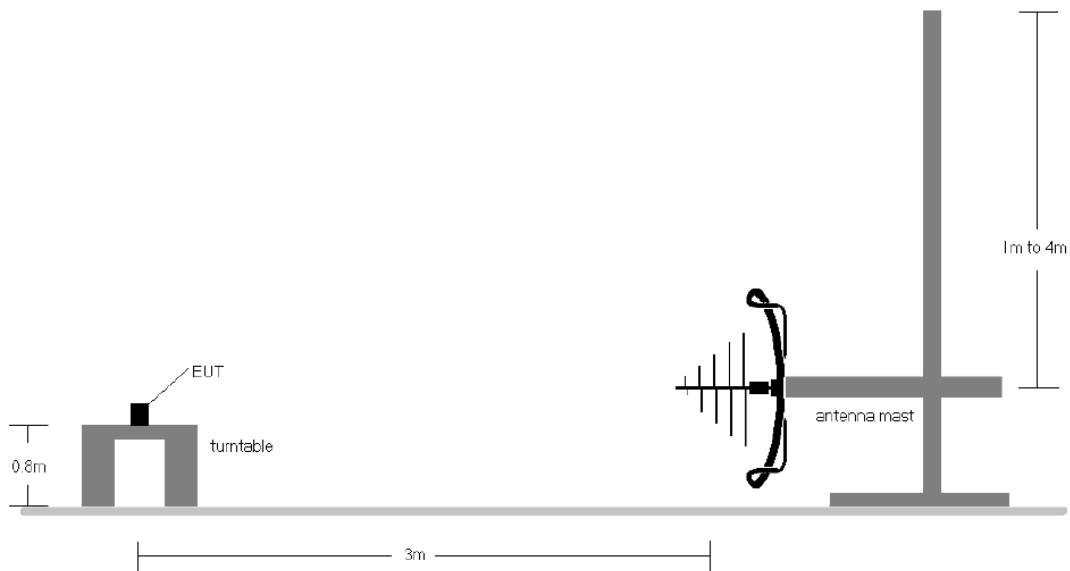


Figure 7-7. Test Instrument & Measurement Setup < 1GHz

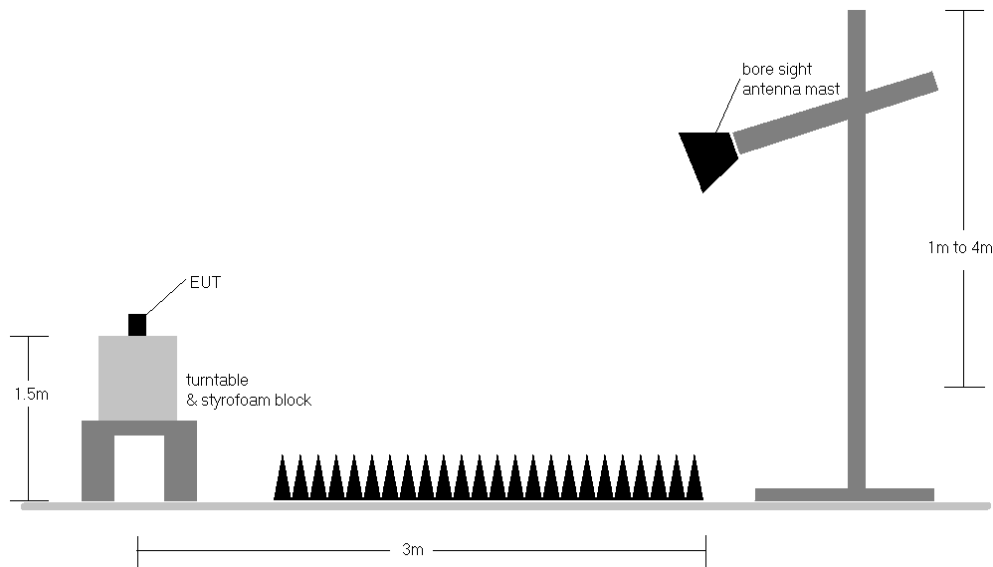


Figure 7-8. Test Instrument & Measurement Setup > 1GHz

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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Test Notes

1. The average EIRP reported below is calculated per 5.2.7 of ANSI C63.26-2015 which states:

The measured e.i.r.p is converted to E-field in V/m. Then the distance correction is applied before converted back to calculated e.i.r.p.as explained in KDB 971168 D01 D01 v03r01.

Effective Isotropic Radiated Power Sample Calculation

$$\begin{aligned}
 \text{Field Strength [dB}\mu\text{V/m]} &= \text{Measured Value [dBm]} + \text{AFCL [dB/m]} + 107 \\
 &= -82.15 \text{ dBm} + (22.97 \text{ dBm} + 2.63 \text{ dBm}) + 107 = 51.46 \text{ dB}\mu\text{V/m} \\
 &= 10^{(50.46/20)/1000000} = 0.000374 \text{ V/m} \\
 \text{e.i.r.p. [dBm]} &= E[\text{dB } \mu\text{V/m}] + 20 \log_{10}(d[\text{m}]) - 104.8 \\
 &= 51.46 + (20 \cdot \log(3)) - 104.8 \\
 &= -44.80 \text{ dBm e.i.r.p.}
 \end{aligned}$$

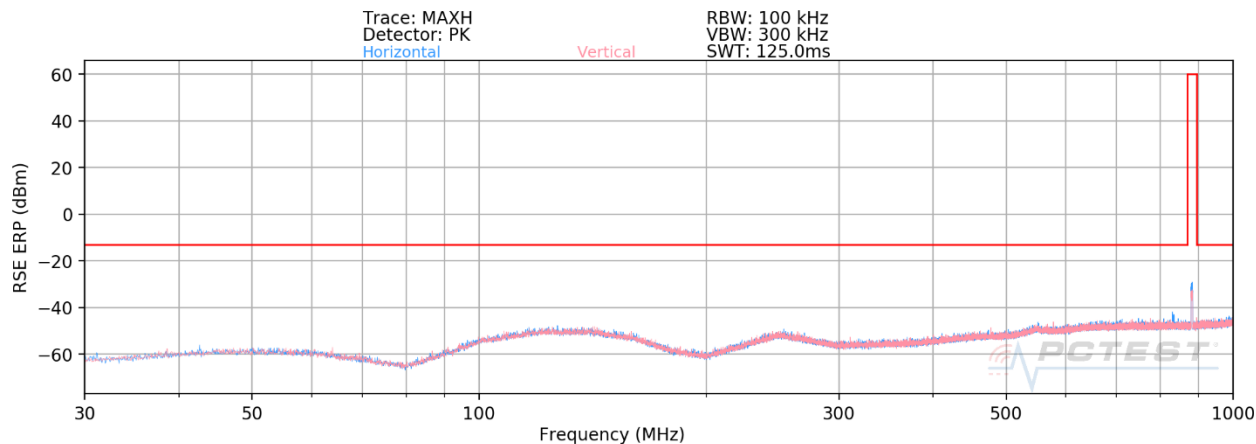
*AFCL (dB/m) contains measurement antenna factor(dB/m) and cable loss(dB) as below:

Frequency [MHz]	Antenna Factor (dB/m)	Cable loss [dB]	AFCL (dB/m)
911.68	22.97	2.63	25.60
12165.06	39.42	-23.85	15.58
17980.75	47.73	-21.84	25.89

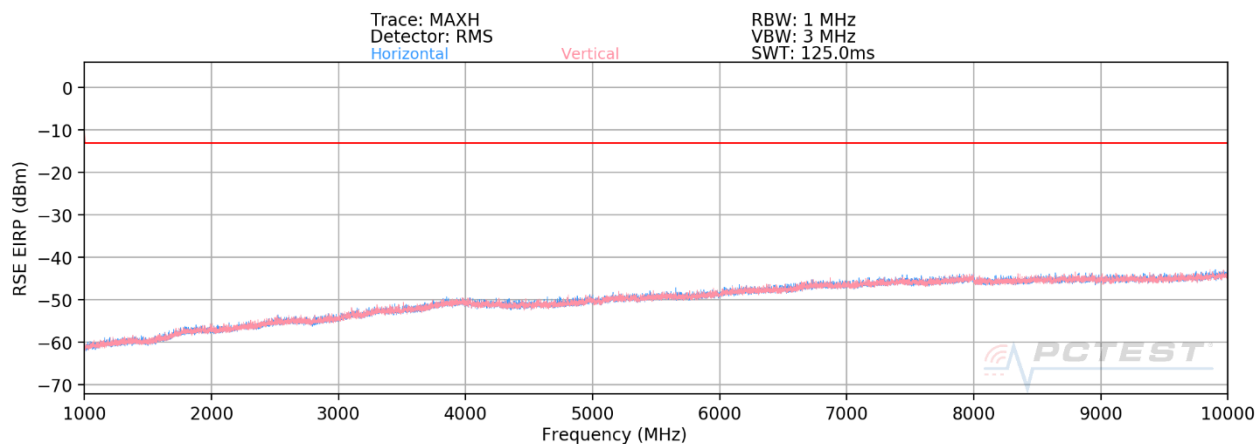
Table 7-134. Adopted AFCL value in the calculation

2. The EUT was tested in both horizontal and vertical antenna polarizations and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, channel bandwidth configurations shown in the tables below.
3. The spectrum is measured from 30 MHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
4. All emissions were measured at a 3 meter test distance with the application of a distance correction factor.
5. Spurious emissions were measured with all EUT antennas transmitting simultaneously.
6. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

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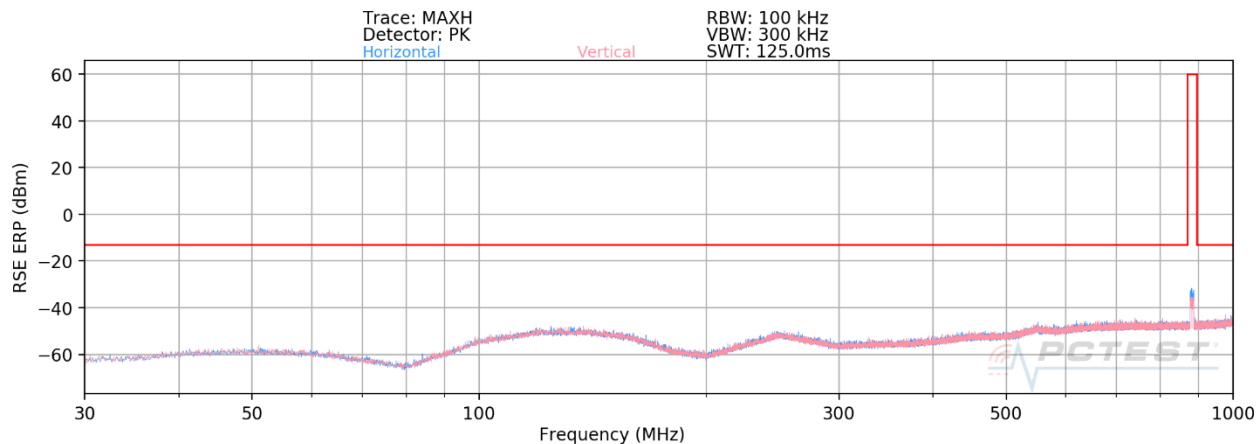


**Plot 7-475. Radiated spurious emission_30 MHz to 1000 MHz
(LTE_B5_5M_1C_Mid Channel)**

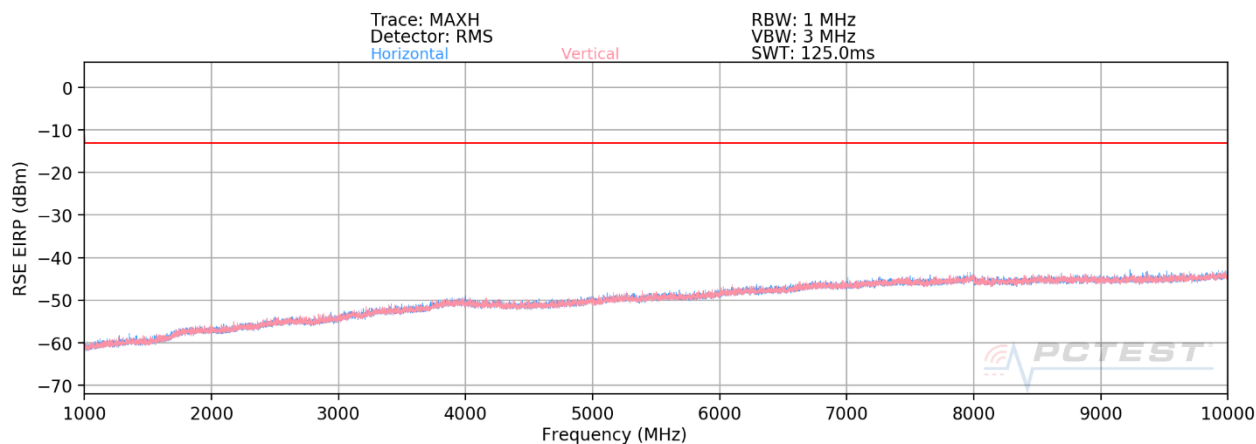


**Plot 7-476. Radiated spurious emission_1 GHz to 10 GHz
(LTE_B5_5M_1C_Mid Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 209 of 225

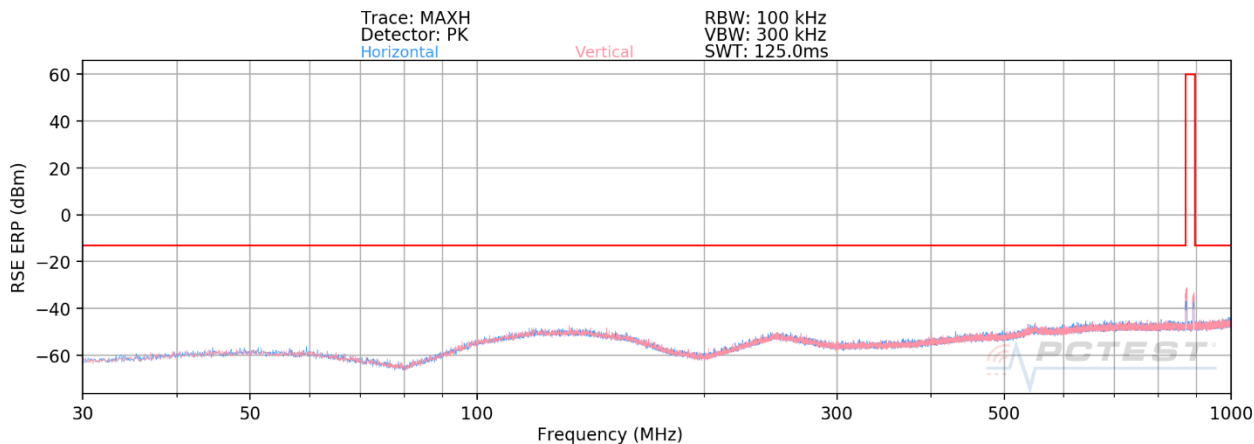


**Plot 7-477. Radiated spurious emission_30 MHz to 1000 MHz
(LTE_B5_5M+5M_2C_Mid Channel)**

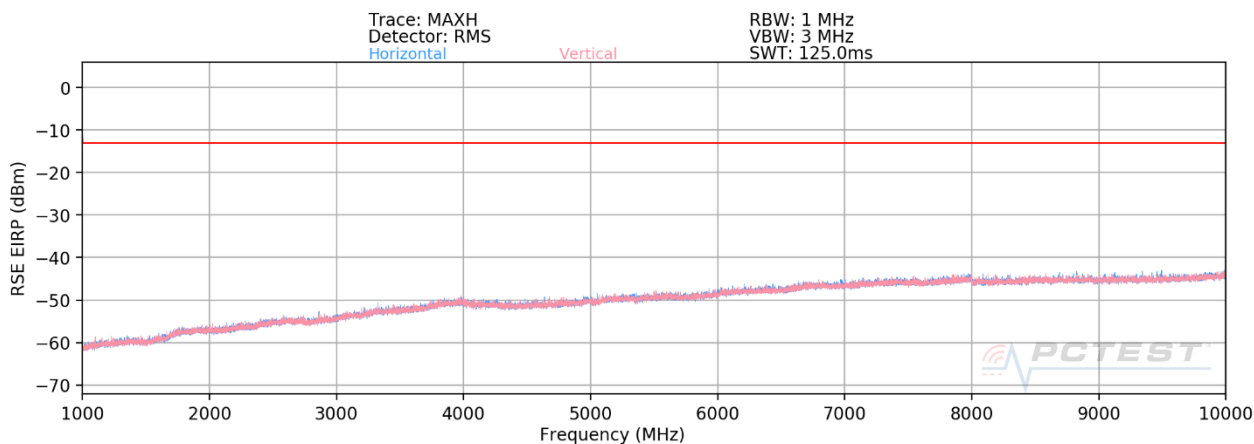


**Plot 7-478. Radiated spurious emission_1 GHz to 10 GHz
(LTE_B5_5M+5M_2C_Mid Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 210 of 225

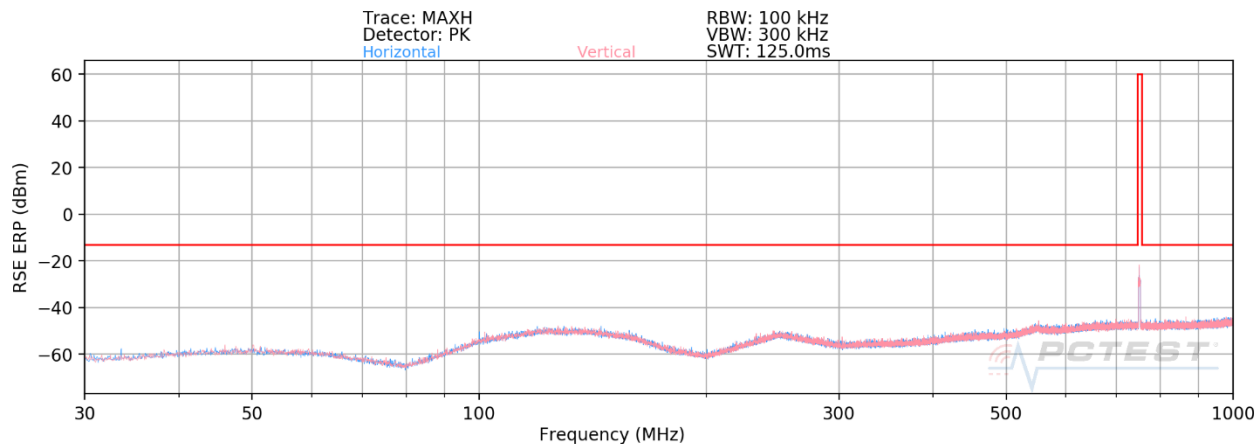


**Plot 7-479. Radiated spurious emission_30 MHz to 1000 MHz
(LTE_B5_5M+5M_2C_ Non-contiguous)**

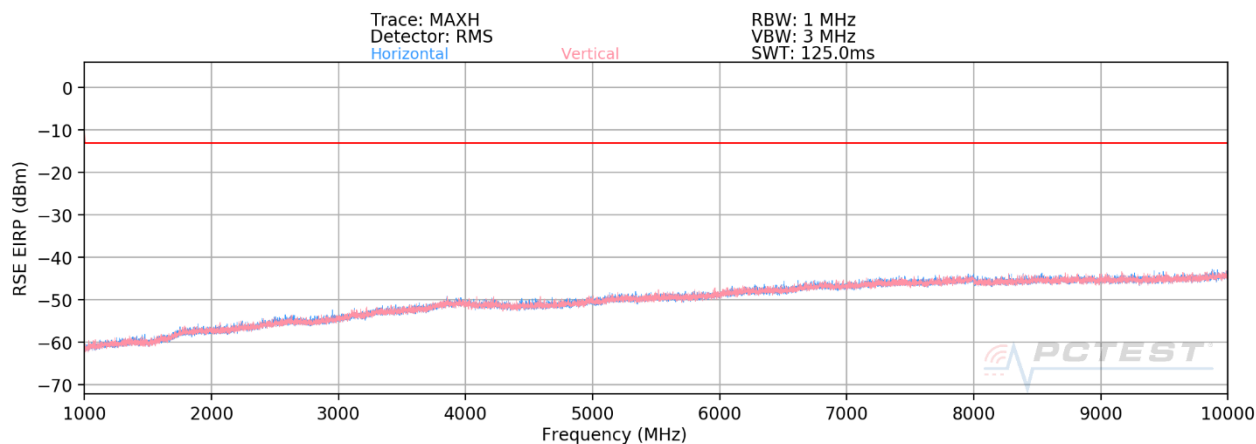


**Plot 7-480. Radiated spurious emission_1 GHz to 10 GHz
(LTE_B5_5M+5M_2C_ Non-contiguous)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 211 of 225

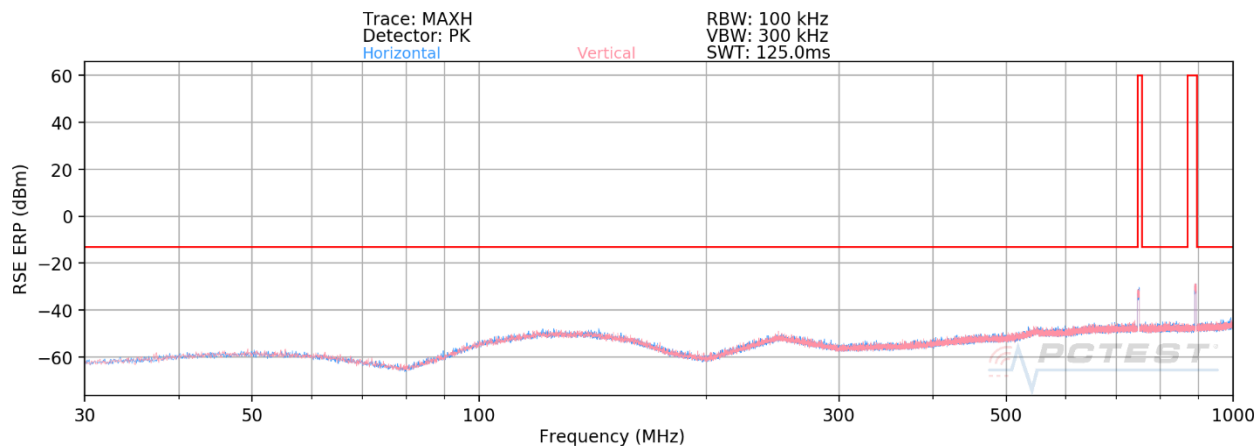


**Plot 7-481. Radiated spurious emission_30 MHz to 1000 MHz
(LTE_B13_10M+NB-Iot(IB)_2C)**

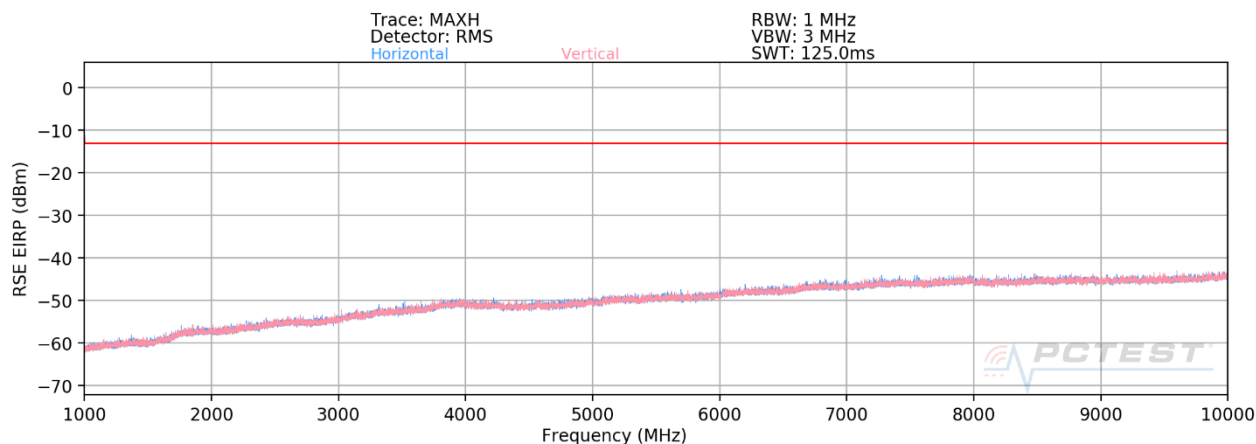


**Plot 7-482. Radiated spurious emission_1 GHz to 10 GHz
(LTE_B13_10M+NB-Iot(IB)_2C)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 212 of 225

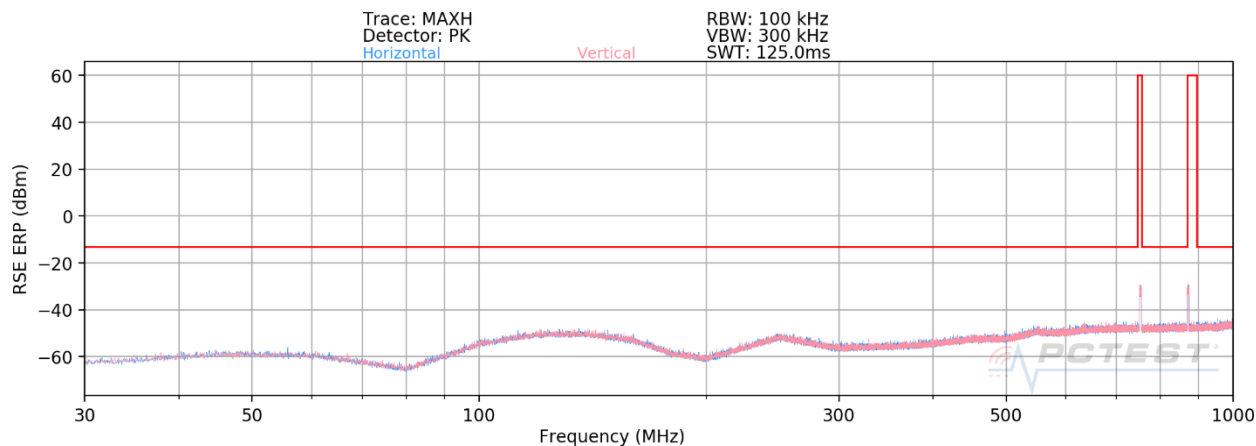


**Plot 7-483. Radiated spurious emission_30 MHz to 1000 MHz
(Multi Band_B5_5M_1C_Low + B13_5M_1C_High_Low Channel)**

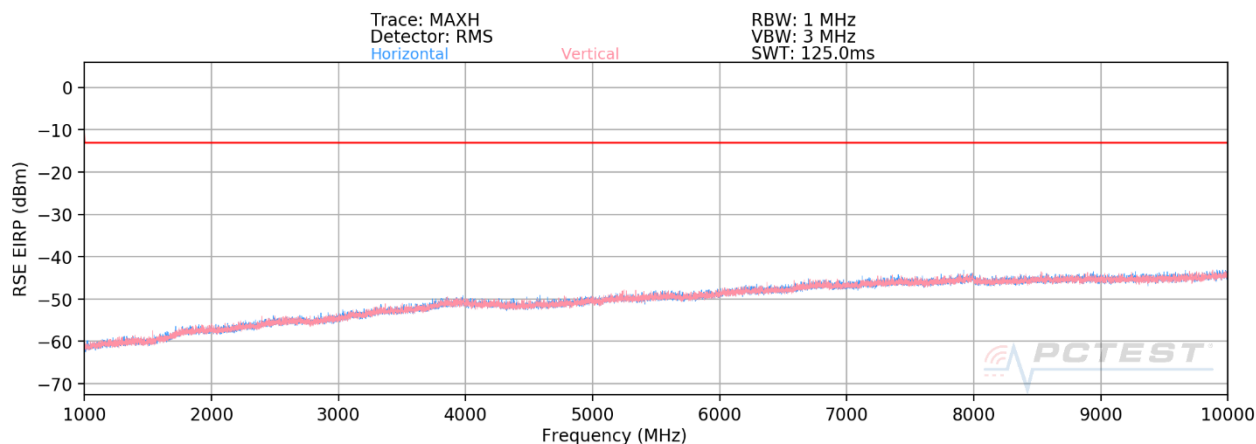


**Plot 7-484. Radiated spurious emission_1 GHz to 10 GHz
(Multi Band_B5_5M_1C_Low + B13_5M_1C_High_Low Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 213 of 225

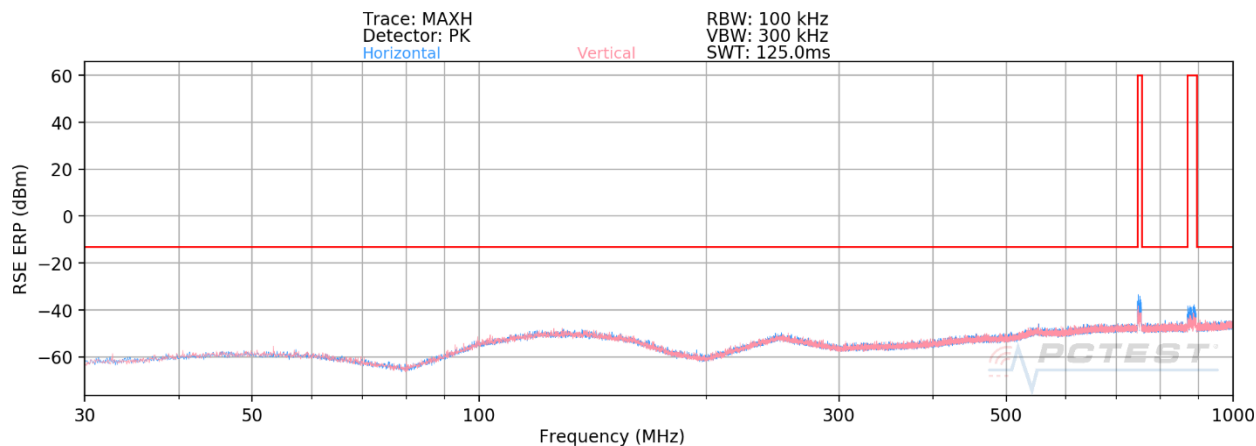


**Plot 7-485. Radiated spurious emission_30 MHz to 1000 MHz
(Multi Band_B5_5M_1C_High + B13_5M_1C_Low_Low Channel)**

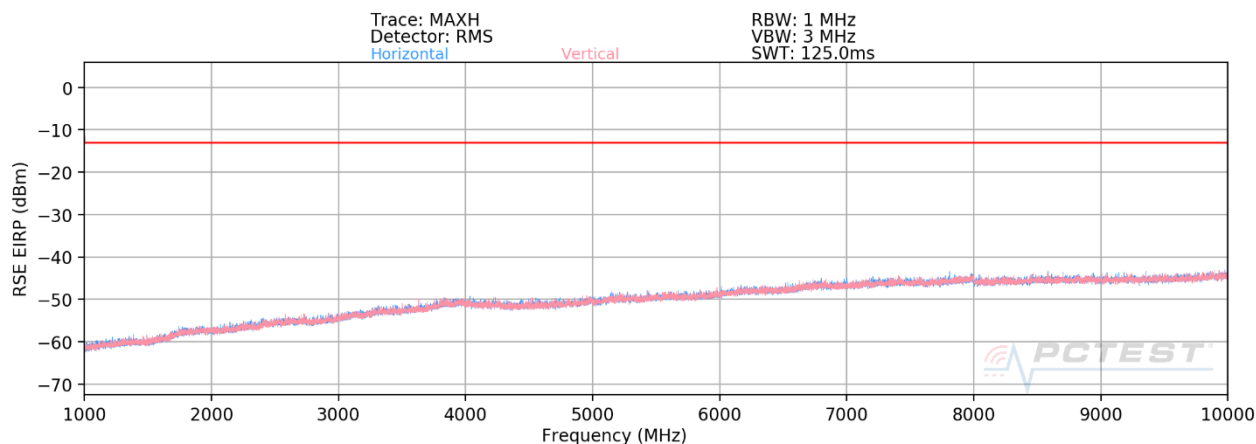


**Plot 7-486. Radiated spurious emission_1 GHz to 10 GHz
(Multi Band_B5_5M_1C_High + B13_5M_1C_Low_Low Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 214 of 225

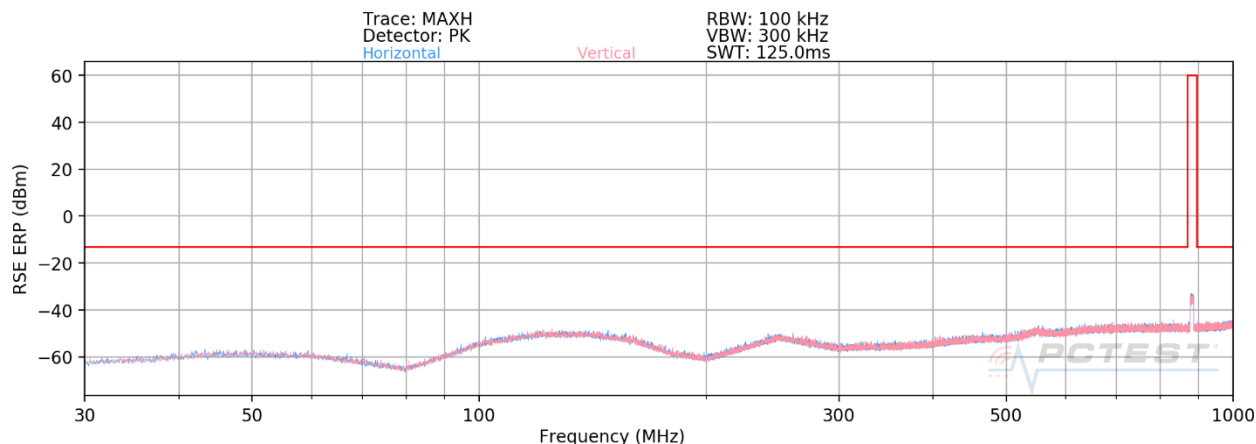


**Plot 7-487. Radiated spurious emission_30 MHz to 1000 MHz
(Multi Band_DSS_B5_5M+10M+10M_3C + B13_5M+5M_2C)**

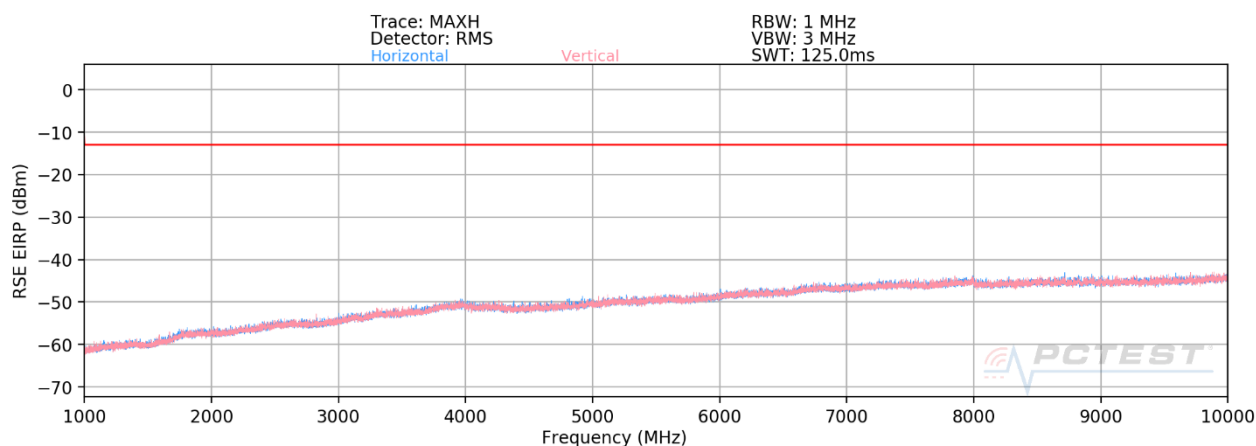


**Plot 7-488. Radiated spurious emission_1 GHz to 10 GHz
(Multi Band_DSS_B5_5M+10M+10M_3C + B13_5M+5M_2C)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 215 of 225

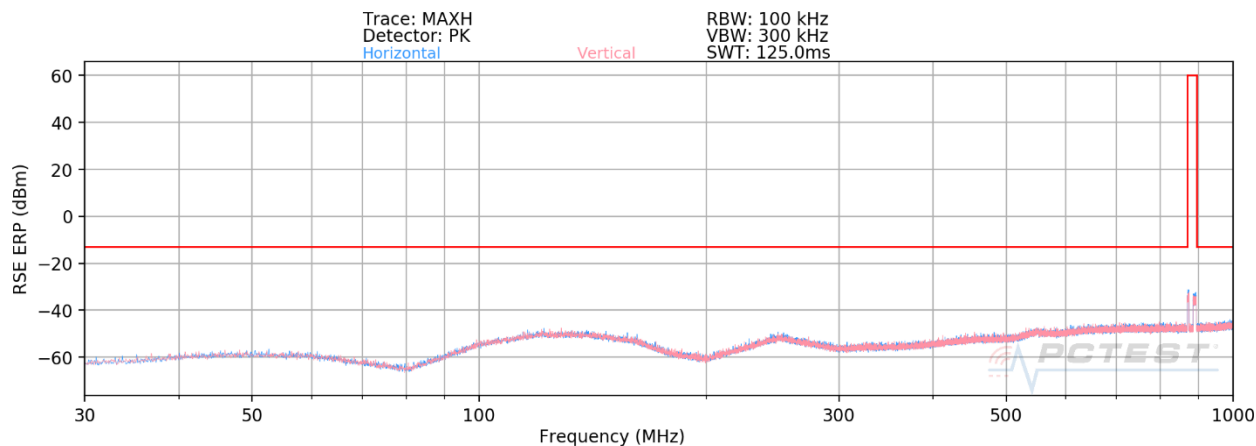


**Plot 7-489. Radiated spurious emission_30 MHz to 1000 MHz
(DSS_B5_10M_1C_Mid Channel)**

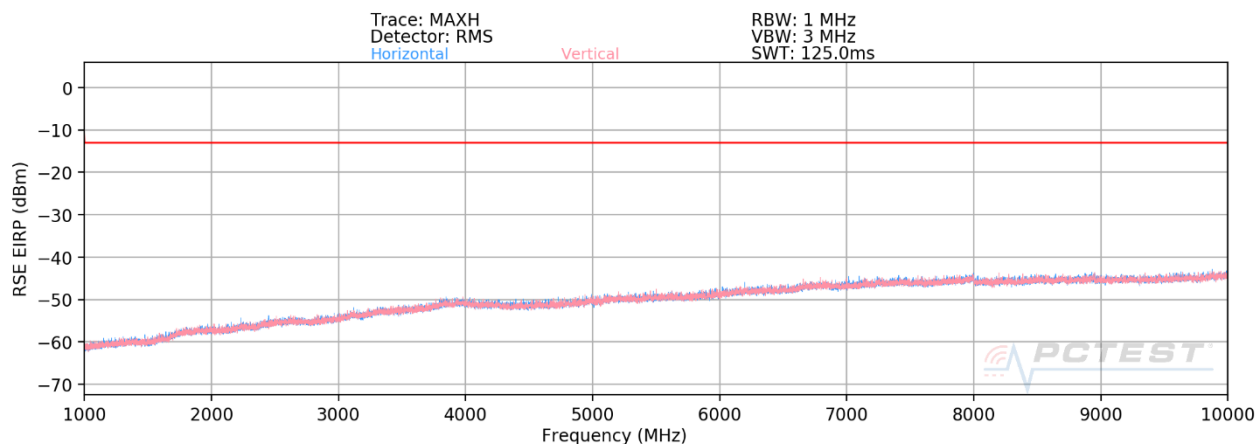


**Plot 7-490. Radiated spurious emission_1 GHz to 10 GHz
(DSS_B5_10M_1C_Mid Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 216 of 225

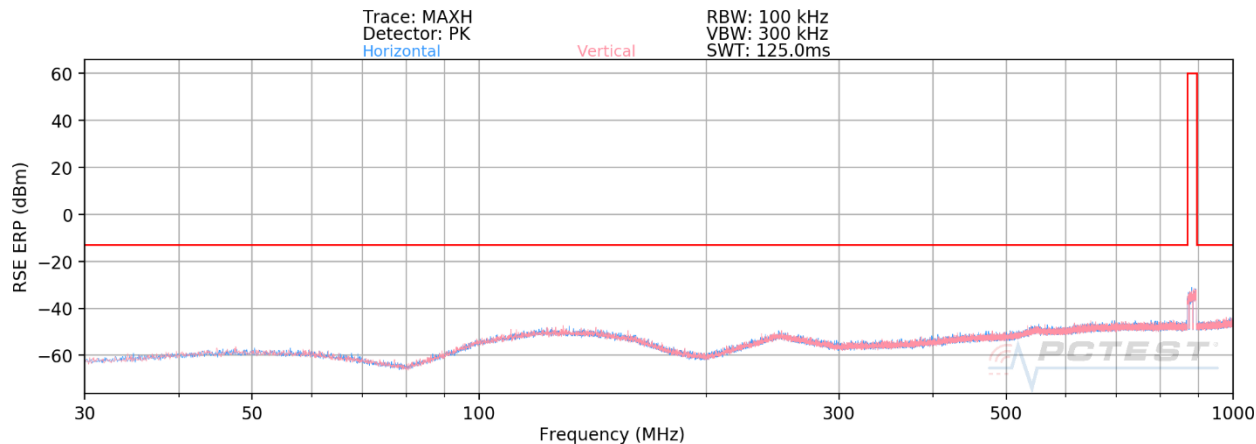


**Plot 7-491. Radiated spurious emission_30 MHz to 1000 MHz
(DSS_B5_10M+5M_2C_Mid Channel)**

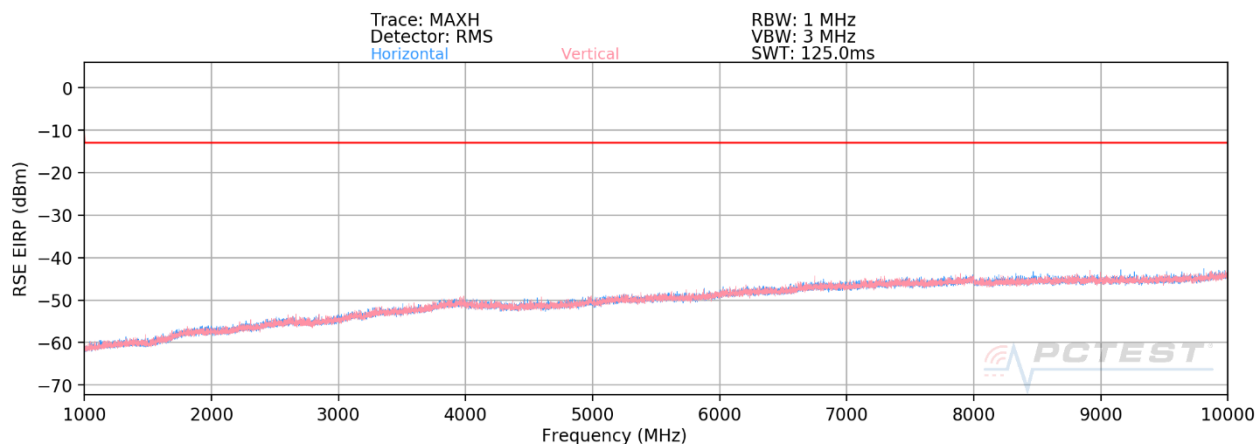


**Plot 7-492. Radiated spurious emission_1 GHz to 10 GHz
(DSS_B5_10M+5M_2C)_Mid Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 217 of 225

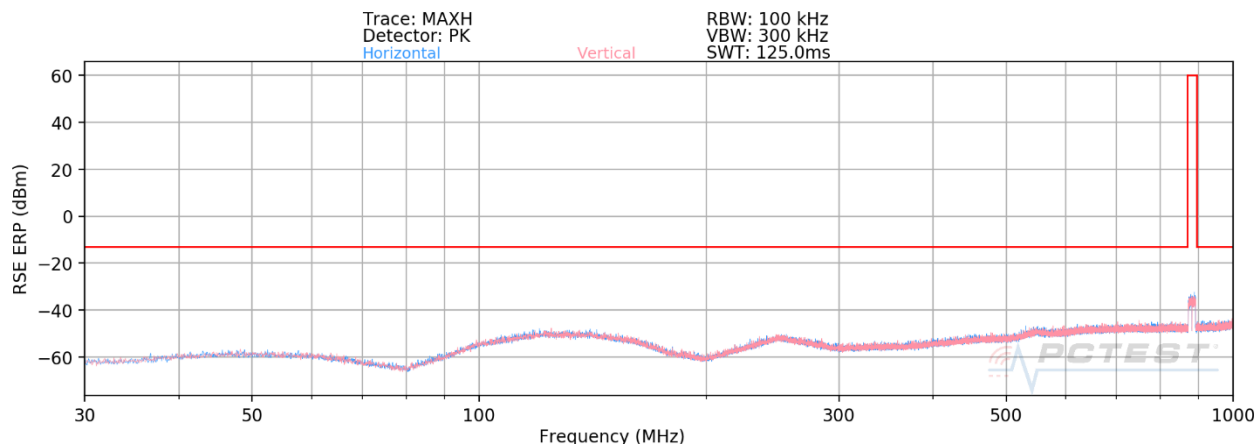


**Plot 7-493. Radiated spurious emission_30 MHz to 1000 MHz
(DSS_B5_10M+10M_2C_Mid Channel)**

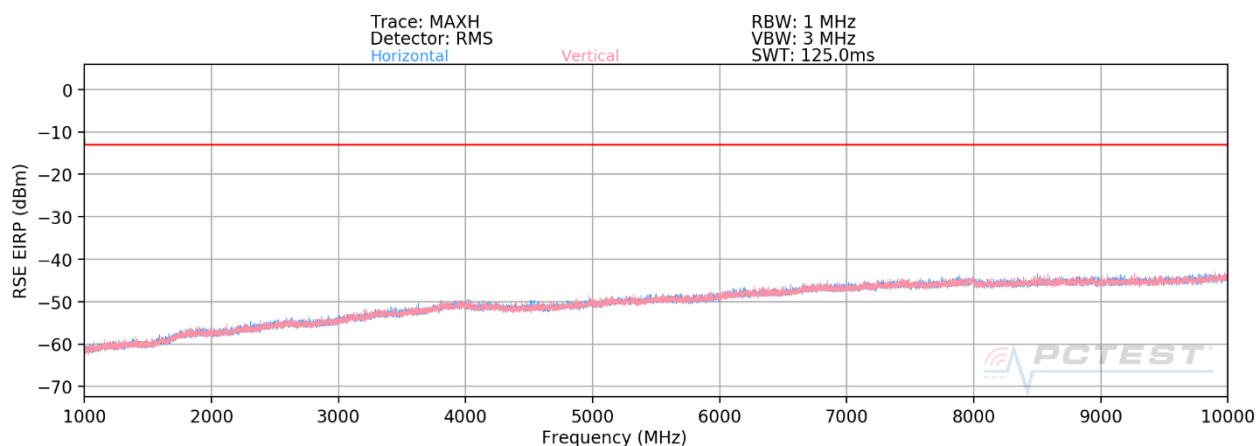


**Plot 7-494. Radiated spurious emission_1 GHz to 10 GHz
(DSS_B5_10M+10M_2C)_Mid Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 218 of 225

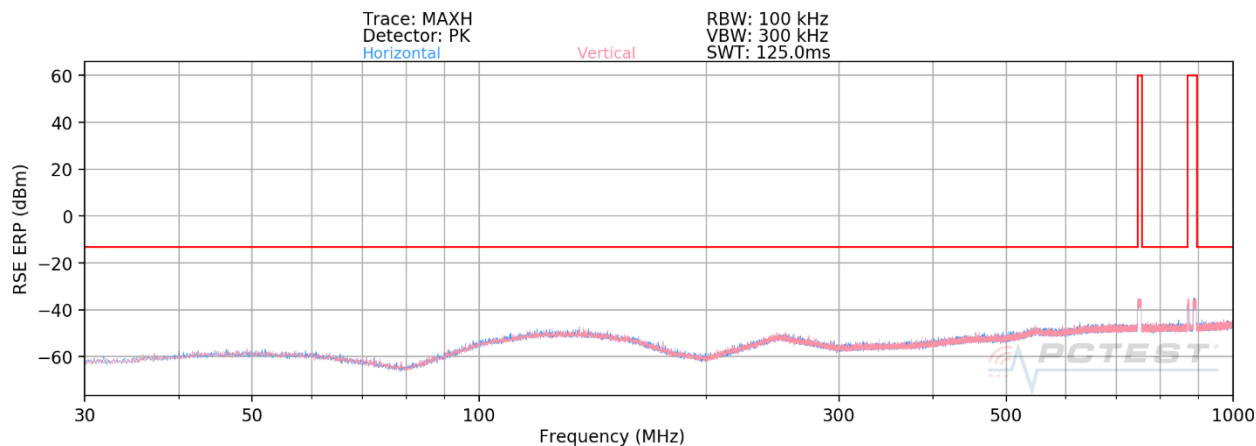


**Plot 7-495. Radiated spurious emission_30 MHz to 1000 MHz
(DSS_B5_10M+10M+5M_3C_Mid Channel)**

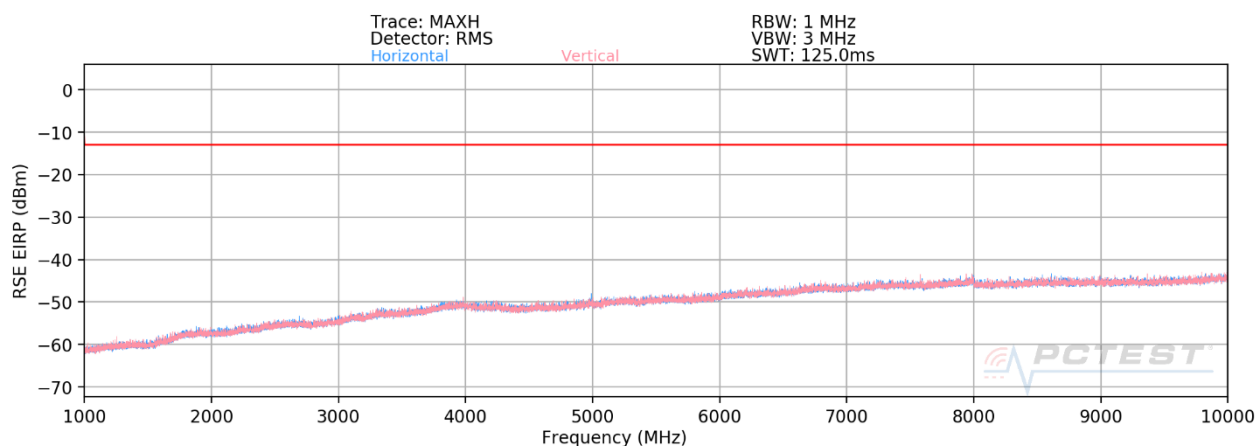


**Plot 7-496. Radiated spurious emission_1 GHz to 10 GHz
(DSS_B5_10M+10M+5M_3C_Mid Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 219 of 225



**Plot 7-497. Radiated spurious emission_30 MHz to 1000 MHz
(Multi Band_DSS_B5_5M+10M+10M_3C + B13_5M+5M_2C_Low Channel)**



**Plot 7-498. Radiated spurious emission_1 GHz to 10 GHz
(Multi Band_DSS_B5_5M+10M+10M_3C + B13_5M+5M_2C_Low Channel)**

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 220 of 225

Bandwidth (MHz):	B5_5MHz + B13_5MHz
Frequency (MHz):	1 st Carrier : B5_891.5 2 st Carrier : B13_748.5
Modulation Signal:	QPSK

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable azimuth [degree]	Analyzer Level [dBm]	AFCL [dBm]	Field Strength [dB μ V/m]	RSE EIRP [dBm]	Limit [dBm]	Margin [dB]
945.36	H	120	345	-82.15	22.97	50.46	-44.80	-13.00	-31.80
948.23	V	100	20	-82.19	23.00	50.44	-44.82	-13.00	-31.82
9658.16	H	180	120	-81.13	21.44	47.30	-47.92	-13.00	-34.90
9594.09	V	200	350	-81.16	21.40	47.20	-47.99	-13.00	-35.00

**Table 7-135. Radiated transmitter Emission Table
(Multi Band_B5_5M_1C_Low + B13_5M_1C_High)**

FCC ID: A3LRF4442D-13A	 PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)	Page 221 of 225	

7.8 Frequency Stability

\$2.1055

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015. The frequency stability of the transmitter is measured by:

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

Test Procedure Used

ANSI C63.26-2015 – Section 5.6

Test Settings

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

Test Setup

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

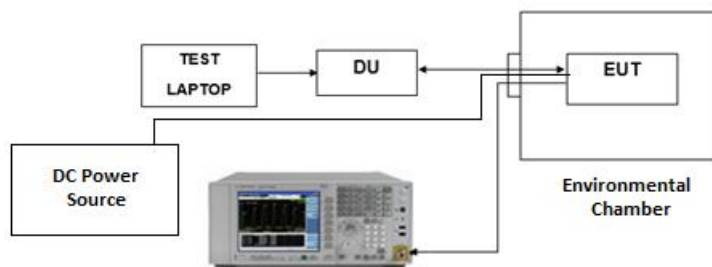


Figure 7-9. Test Instrument & Measurement Setup

Test Notes

None

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 222 of 225

Band 5 Frequency Stability Measurements

OPERATING FREQUENCY: 881,500,000 Hz
REFERENCE VOLTAGE: -48.00 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	-48	+ 20 (Ref)	881,514,937.256	0.00	0.0000000
100 %		- 30	881,514,854.286	-82.97	-0.0000094
100 %		- 20	881,514,858.361	-78.90	-0.0000089
100 %		- 10	881,514,845.612	-91.64	-0.0000104
100 %		0	881,514,879.832	-57.42	-0.0000065
100 %		+ 10	881,514,917.758	-19.50	-0.0000022
100 %		+ 20	881,514,937.256	0.00	0.0000000
100 %		+ 30	881,514,929.303	-7.95	-0.0000009
100 %		+ 40	881,514,921.707	-15.55	-0.0000018
100 %		+ 50	881,514,914.182	-23.07	-0.0000026
85 %	-40.80	+ 20	881,514,937.268	0.01	0.0000000
115 %	-55.20	+ 20	881,514,937.199	-0.06	0.0000000

Table 7-136. Frequency Stability Data

Note:

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

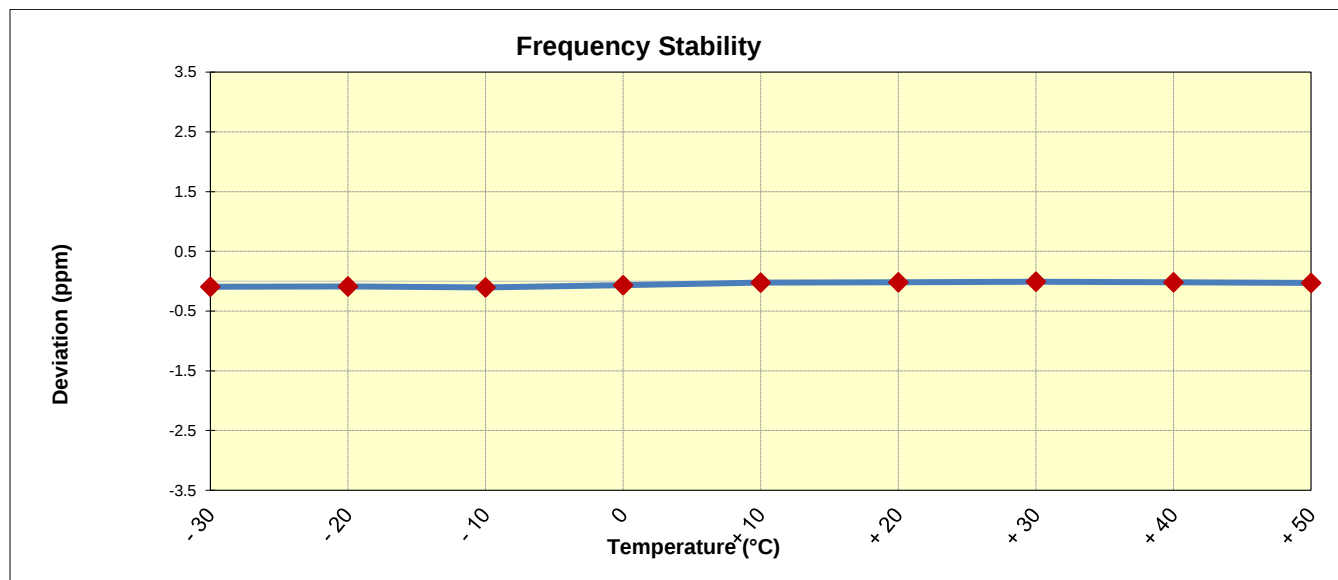


Figure 7-10. Frequency Stability Graph – Band 5_5 MHz 1C Mid Channel

FCC ID: A3LRF4442D-13A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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Band 13 Frequency Stability Measurements

OPERATING FREQUENCY: 751,000,000 Hz
REFERENCE VOLTAGE: -48.00 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	-48	+ 20 (Ref)	751,014,946.529	0.00	0.0000000
100 %		- 30	751,014,883.222	-63.31	-0.0000084
100 %		- 20	751,014,879.430	-67.10	-0.0000089
100 %		- 10	751,014,868.575	-77.95	-0.0000104
100 %		0	751,014,890.135	-56.39	-0.0000075
100 %		+ 10	751,014,929.943	-16.59	-0.0000022
100 %		+ 20	751,014,946.529	0.00	0.0000000
100 %		+ 30	751,014,932.324	-14.21	-0.0000019
100 %		+ 40	751,014,933.280	-13.25	-0.0000018
100 %		+ 50	751,014,926.748	-19.78	-0.0000026
85 %	-40.80	+ 20	751,014,946.619	0.09	0.0000000
115 %	-55.20	+ 20	751,014,946.490	-0.04	0.0000000

Table 7-137. Frequency Stability Data

Note:

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

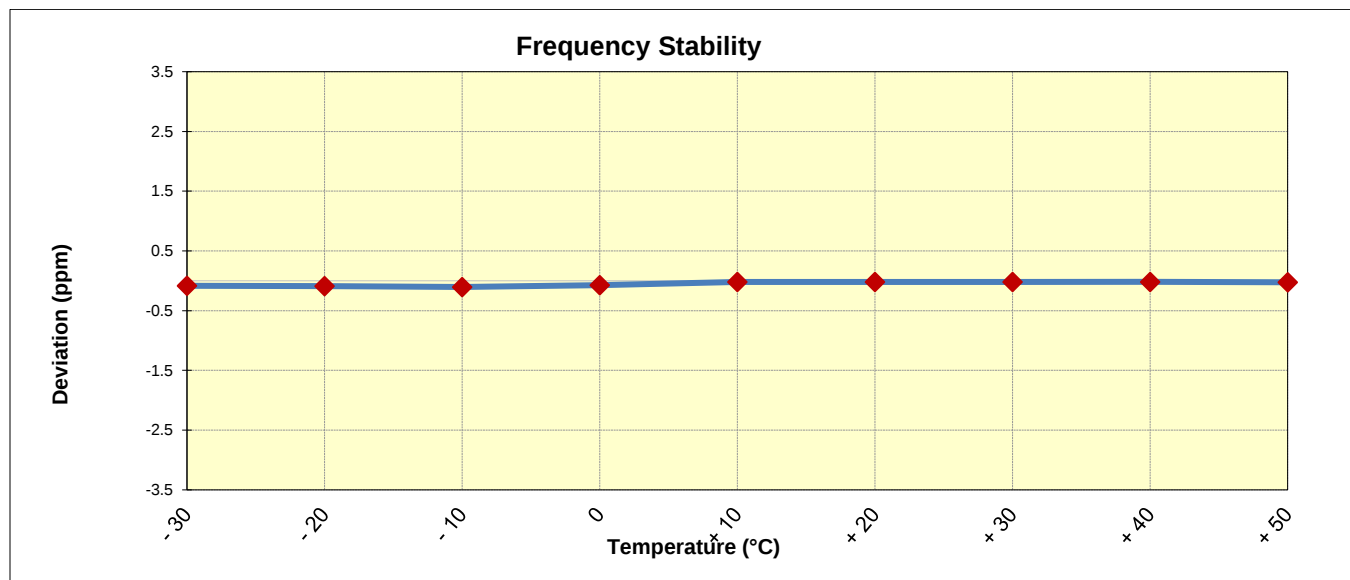


Figure 7-11. Frequency Stability Graph – Band 13_5 MHz 1C Mid Channel

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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung RRU (RF4420d)**
FCC ID: A3LRF4442D-13A complies with all of the requirements of Part22 and 27 of the FCC Rules.

FCC ID: A3LRF4442D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070502R3.A3L	Test Dates: 07/09/2021 - 08/26/2021	EUT Type: RRU (RF4442d)		Page 225 of 225