REPORT No.: SZ24080224W04

TEST REPORT

APPLICANT	:	Horizon Powered USA Inc.
PRODUCT NAME	:	5MF500
MODEL NAME	:	MH500C
BRAND NAME	:	Horizon
FCC ID	:	2BE94MH500C
STANDARD(S)	:	47 CFR Part 2 47 CFR Part 22 47 CFR Part 24 47 CFR Part 27 47 CFR Part 90 47 CFR Part 96
RECEIPT DATE	:	2024-08-23
TEST DATE	:	2024-10-01 to 2024-10-28
ISSUE DATE	:	2024-11-26

Edited by: Gan Jing (Rapporteur)

Approved by: Shen Junsheng (Supervisor)

MORLAB
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DIRECTORY

Change History		
Version	**Date**	**Reason for change**
1.0	2024-11-26	First edition

1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Horizon Powered USA Inc.
Applicant Address:	8350 NW 52nd Terrace, Suite 301 Miami, Florida 33166 United States
Manufacturer:	Horizon Powered USA Inc.
Manufacturer Address:	8350 NW 52nd Terrace, Suite 301 Miami, Florida 33166 United States

1.2. Equipment Under Test (EUT) Description

Product Name:	5MF500	
Sample No.:	1#,5#	
Hardware Version:	A1	
Software Version:	1.10.20	
Modulation Type:	QPSK, 16QAM, 64QAM,256QAM	
Operation Band:	Uplink: 2C; 5B; 7C; 38C; 41C; 48C; 66B; 66C	
Channel Bandwidth:	Band 2	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	Band 4	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	Band 5	1.4MHz, 3MHz, 5MHz, 10MHz
	Band 7	5 MHz, 10MHz, 15MHz, 20MHz
	Band 66	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE 2C	5MHz+20MHz,10MHz+15MHz,10MHz+20MHz, 15MHz+15MHz,15MHz+20MHz,20MHz+20MHz
	LTE 5B	3MHz+5MHz, 5MHz+3MHz, 5MHz+10MHz, 10MHz+5MHz, 10MHz+10MHz
	LTE 7C	15MHz+10MHz,10MHz+15MHz,10MHz+20MHz, 20MHz+10MHz,15MHz+15MHz,15MHz+20MHz, 20MHz+15MHz, 20MHz+20MHz
	LTE 38C	15MHz+15MHz, 20MHz+20MHz
	LTE 41C	5MHz+20MHz,20MHz+5MHz,10MHz+15MHz, 15MHz+10MHz,10MHz+20MHz,20MHz+10MHz， 15MHz+15MHz,15MHz+20MHz,20MHz+15MHz,20

		MHz+20MHz
	LTE 48C	5MHz+20MHz,20MHz+5MHz,10MHz+20MHz,20MHz+10MHz,15MHz+20MHz,20MHz+15MHz,20MHz+20MHz
	LTE 66B	5MHz+5MHz,5MHz+10MHz,10MHz+5MHz,5MHz+15MHz,15MHz+5MHz,10MHz+10MHz
	LTE 66C	5MHz+20MHz,20MHz+5MHz,10MHz+15MHz,15MHz+10MHz,10MHz+20MHz,20MHz+10MHz 15MHz+15MHz,15MHz+20MHz,20MHz+15MHz,20MHz+20MHz
Antenna Type:	Fixed FPC Internal	
Antenna Gain:	Band 2	ANT0: 1.70dBi,ANT1: -1.80dBi
	Band 5	ANT0: -3.10dBi,ANT1: -1.50dBi
	Band 7	ANT0: 2.60dBi,ANT1: 0.90dBi
	Band 38	ANT0: 2.60dBi,ANT1: 1.90dBi
	Band 41	ANT0: 2.60dBi,ANT1: 1.90dBi
	Band 48	ANT0: 1.20 dBi,ANT1: 1.50dBi
	Band 66	ANT0: 1.70dBi,ANT1: -1.80dBi
Accessory Information:	Battery	
	Brand Name:	Donpguan Lisheng
	Model No.:	BL5060
	Serial No.:	N/A
	Capacity:	5000mA
	Rated Voltage:	3.80V
	Charge Limit:	4.35V
	Manufacturer:	Donpguan Lisheng
	AC Adapter	
	Brand Name:	DONGGUAN GUANGSHU
	Model No.:	P050W3000LU
	Serial No.:	N/A
	Rated Output:	100-240V~50/60HZ, 1A
	Rated Input:	5V⎓3A or 9V⎓2A or 12V⎓1.5A
	Manufacturer:	DONGGUAN GUANGSHU

Note1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

Note 2: The test results of all conducted test items please refer to the module FCC test report (Report No.: 2204RSU037-U1 / 2204RSU037-U5, FCC ID: XMR2022RG520NNA), which

issued on Aug. 07, 2022 by MRT Technology (Suzhou) Co., Ltd.
we only recorded the radiated test result in this report.

1.3. Maximum E.R.P./E.I.R.P. and Emission Designator

Test Band	Channel Bandwidth (MHz)	Modulation	Output Power (dBm)	EIRP (dBm)	EIRP (W)	Limit (dBm)
CA_2C	20+20	QPSK	23.36	25.06	0.321	<33.01
CA_2C	20+15	QPSK	23.34	25.04	0.319	<33.01
CA_2C	15+20	QPSK	23.47	25.17	0.329	<33.01
CA_2C	20+10	QPSK	23.41	25.11	0.324	<33.01
CA_2C	10+20	QPSK	23.58	25.28	0.337	<33.01
CA_2C	20+5	QPSK	23.51	25.21	0.332	<33.01
CA_2C	5+20	QPSK	23.56	25.26	0.336	<33.01
CA_2C	15+15	QPSK	23.37	25.07	0.321	<33.01
CA_2C	10+15	QPSK	23.49	25.19	0.330	<33.01
CA_2C	15+10	QPSK	23.41	25.11	0.324	<33.01
CA_2C	20+20	16QAM	22.78	24.48	0.281	<33.01
CA_2C	20+15	16QAM	22.77	24.47	0.280	<33.01
CA_2C	15+20	16QAM	22.65	24.35	0.272	<33.01
CA_2C	20+10	16QAM	22.73	24.43	0.277	<33.01
CA_2C	10+20	16QAM	22.79	24.49	0.281	<33.01
CA_2C	20+5	16QAM	22.81	24.51	0.282	<33.01
CA_2C	5+20	16QAM	22.88	24.58	0.287	<33.01
CA_2C	15+15	16QAM	22.59	24.29	0.269	<33.01
CA_2C	10+15	16QAM	22.75	24.45	0.279	<33.01
CA_2C	15+10	16QAM	22.75	24.45	0.279	<33.01
CA_2C	20+20	64QAM	21.68	23.38	0.218	<33.01
CA_2C	20+15	64QAM	21.63	23.33	0.215	<33.01
CA_2C	15+20	64QAM	21.78	23.48	0.223	<33.01
CA_2C	20+10	64QAM	21.81	23.51	0.224	<33.01
CA_2C	10+20	64QAM	21.90	23.6	0.229	<33.01
CA_2C	20+5	64QAM	21.81	23.51	0.224	<33.01
CA_2C	5+20	64QAM	22.82	24.52	0.283	<33.01
CA_2C	15+15	64QAM	21.68	23.38	0.218	<33.01
CA_2C	10+15	64QAM	21.78	23.48	0.223	<33.01
CA_2C	15+10	64QAM	21.84	23.54	0.226	<33.01
CA_2C	20+20	256QAM	19.30	21	0.126	<33.01
CA_2C	20+15	256QAM	19.28	20.98	0.125	<33.01

CA_2C	15+20	256QAM	19.34	21.04	0.127	<33.01
CA_2C	20+10	256QAM	19.34	21.04	0.127	<33.01
CA_2C	10+20	256QAM	19.34	21.04	0.127	<33.01
CA_2C	20+5	256QAM	19.36	21.06	0.128	<33.01
CA_2C	5+20	256QAM	19.37	21.07	0.128	<33.01
CA_2C	15+15	256QAM	19.24	20.94	0.124	<33.01
CA_2C	10+15	256QAM	19.31	21.01	0.126	<33.01
CA_2C	15+10	256QAM	19.33	21.03	0.127	<33.01
CA_5B	5+10	QPSK	23.41	19.76	0.095	<38.45
CA_5B	10+5	QPSK	23.45	19.80	0.095	<38.45
CA_5B	10+10	QPSK	23.44	19.79	0.095	<38.45
CA_5B	5+10	16QAM	22.56	18.91	0.078	<38.45
CA_5B	10+5	16QAM	22.68	19.03	0.080	<38.45
CA_5B	10+10	16QAM	22.62	18.97	0.079	<38.45
CA_5B	5+10	64QAM	21.90	18.25	0.067	<38.45
CA_5B	10+5	64QAM	21.78	18.13	0.065	<38.45
CA_5B	10+10	64QAM	21.64	17.99	0.063	<38.45
CA_5B	5+10	256QAM	19.16	15.51	0.036	<38.45
CA_5B	10+5	256QAM	19.13	15.48	0.035	<38.45
CA_5B	10+10	256QAM	19.12	15.47	0.035	<38.45
CA_7C	20+20	QPSK	23.61	26.21	0.418	<33.01
CA_7C	20+15	QPSK	23.69	26.29	0.426	<33.01
CA_7C	15+20	QPSK	23.64	26.24	0.421	<33.01
CA_7C	15+15	QPSK	23.61	26.21	0.418	<33.01
CA_7C	10+20	QPSK	23.75	26.35	0.432	<33.01
CA_7C	20+10	QPSK	23.79	26.39	0.436	<33.01
CA_7C	15+10	QPSK	23.73	26.33	0.430	<33.01
CA_7C	20+20	16QAM	22.99	25.59	0.362	<33.01
CA_7C	20+15	16QAM	22.92	25.52	0.356	<33.01
CA_7C	15+20	16QAM	22.83	25.43	0.349	<33.01
CA_7C	15+15	16QAM	22.86	25.46	0.352	<33.01
CA_7C	10+20	16QAM	23.01	25.61	0.364	<33.01
CA_7C	20+10	16QAM	22.97	25.57	0.361	<33.01
CA_7C	15+10	16QAM	23.03	25.63	0.366	<33.01
CA_7C	20+20	64QAM	20.96	23.56	0.227	<33.01
CA_7C	20+15	64QAM	21.13	23.73	0.236	<33.01
CA_7C	15+20	64QAM	21.41	24.01	0.252	<33.01
CA_7C	15+15	64QAM	21.42	24.02	0.252	<33.01

CA_7C	10+20	64QAM	21.17	23.77	0.238	<33.01
CA_7C	20+10	64QAM	21.55	24.15	0.260	<33.01
CA_7C	15+10	64QAM	21.57	24.17	0.261	<33.01
CA_7C	20+20	256QAM	17.91	20.51	0.112	<33.01
CA_7C	20+15	256QAM	17.95	20.55	0.114	<33.01
CA_7C	15+20	256QAM	18.83	21.43	0.139	<33.01
CA_7C	15+15	256QAM	18.21	20.81	0.121	<33.01
CA_7C	10+20	256QAM	18.14	20.74	0.119	<33.01
CA_7C	20+10	256QAM	18.19	20.79	0.120	<33.01
CA_7C	15+10	256QAM	18.28	20.88	0.122	<33.01
CA_38C	15+15	QPSK	24.30	26.9	0.490	<33.01
CA_38C	20+20	QPSK	24.51	27.11	0.514	<33.01
CA_38C	15+15	16QAM	23.56	26.16	0.413	<33.01
CA_38C	20+20	16QAM	23.62	26.22	0.419	<33.01
CA_38C	15+15	64QAM	22.66	25.26	0.336	<33.01
CA_38C	20+20	64QAM	22.83	25.43	0.349	<33.01
CA_38C	15+15	256QAM	20.14	22.74	0.188	<33.01
CA_38C	20+20	256QAM	20.15	22.75	0.188	<33.01
CA_41C	20+20	QPSK	24.29	26.89	0.489	<33.01
CA_41C	20+15	QPSK	24.29	26.89	0.489	<33.01
CA_41C	15+20	QPSK	23.78	26.38	0.435	<33.01
CA_41C	20+10	QPSK	24.31	26.91	0.491	<33.01
CA_41C	10+20	QPSK	23.72	26.32	0.429	<33.01
CA_41C	20+5	QPSK	24.46	27.06	0.508	<33.01
CA_41C	5+20	QPSK	24.34	26.94	0.494	<33.01
CA_41C	15+15	QPSK	23.71	26.31	0.428	<33.01
CA_41C	10+15	QPSK	23.74	26.34	0.431	<33.01
CA_41C	15+10	QPSK	23.88	26.48	0.445	<33.01
CA_41C	20+20	16QAM	23.46	26.06	0.404	<33.01
CA_41C	20+15	16QAM	23.56	26.16	0.413	<33.01
CA_41C	15+20	16QAM	22.96	25.56	0.360	<33.01
CA_41C	20+10	16QAM	23.62	26.22	0.419	<33.01
CA_41C	10+20	16QAM	22.94	25.54	0.358	<33.01
CA_41C	20+5	16QAM	23.76	26.36	0.433	<33.01
CA_41C	5+20	16QAM	23.22	25.82	0.382	<33.01
CA_41C	15+15	16QAM	22.93	25.53	0.357	<33.01
CA_41C	10+15	16QAM	22.99	25.59	0.362	<33.01
CA_41C	15+10	16QAM	23.19	25.79	0.379	<33.01

CA_41C	20+20	64QAM	22.54	25.14	0.327	<33.01
CA_41C	20+15	64QAM	22.72	25.32	0.340	<33.01
CA_41C	15+20	64QAM	22.06	24.66	0.292	<33.01
CA_41C	20+10	64QAM	22.78	25.38	0.345	<33.01
CA_41C	10+20	64QAM	22.08	24.68	0.294	<33.01
CA_41C	20+5	64QAM	22.78	25.38	0.345	<33.01
CA_41C	5+20	64QAM	22.28	24.88	0.308	<33.01
CA_41C	15+15	64QAM	22.07	24.67	0.293	<33.01
CA_41C	10+15	64QAM	22.04	24.64	0.291	<33.01
CA_41C	15+10	64QAM	22.25	24.85	0.305	<33.01
CA_41C	20+20	256QAM	20.08	22.68	0.185	<33.01
CA_41C	20+15	256QAM	20.11	22.71	0.187	<33.01
CA_41C	15+20	256QAM	19.78	22.38	0.173	<33.01
CA_41C	20+10	256QAM	20.14	22.74	0.188	<33.01
CA_41C	10+20	256QAM	19.63	22.23	0.167	<33.01
CA_41C	20+5	256QAM	20.25	22.85	0.193	<33.01
CA_41C	5+20	256QAM	19.85	22.45	0.176	<33.01
CA_41C	15+15	256QAM	19.66	22.26	0.168	<33.01
CA_41C	10+15	256QAM	19.62	22.22	0.167	<33.01
CA_41C	15+10	256QAM	19.68	22.28	0.169	<33.01
CA_66B	5+5	QPSK	23.57	25.27	0.337	<30
CA_66B	5+10	QPSK	23.52	25.22	0.333	<30
CA_66B	10+5	QPSK	23.35	25.05	0.320	<30
CA_66B	5+15	QPSK	23.65	25.35	0.343	<30
CA_66B	15+5	QPSK	23.55	25.25	0.335	<30
CA_66B	10+10	QPSK	23.65	25.35	0.343	<30
CA_66B	5+5	16QAM	22.98	24.68	0.294	<30
CA_66B	5+10	16QAM	22.77	24.47	0.280	<30
CA_66B	10+5	16QAM	22.65	24.35	0.272	<30
CA_66B	5+15	16QAM	22.81	24.51	0.282	<30
CA_66B	15+5	16QAM	22.88	24.58	0.287	<30
CA_66B	10+10	16QAM	22.82	24.52	0.283	<30
CA_66B	5+5	64QAM	21.92	23.62	0.230	<30
CA_66B	5+10	64QAM	21.76	23.46	0.222	<30
CA_66B	10+5	64QAM	21.68	23.38	0.218	<30
CA_66B	5+15	64QAM	21.83	23.53	0.225	<30
CA_66B	15+5	64QAM	21.94	23.64	0.231	<30
CA_66B	10+10	64QAM	21.96	23.66	0.232	<30

CA_66B	5+5	256QAM	19.33	21.03	0.127	<30
CA_66B	5+10	256QAM	19.22	20.92	0.124	<30
CA_66B	10+5	256QAM	19.21	20.91	0.123	<30
CA_66B	5+15	256QAM	19.23	20.93	0.124	<30
CA_66B	15+5	256QAM	19.32	21.02	0.126	<30
CA_66B	10+10	256QAM	19.30	21	0.126	<30
CA_66C	10+15	QPSK	23.39	25.09	0.323	<30
CA_66C	15+10	QPSK	23.31	25.01	0.317	<30
CA_66C	10+20	QPSK	23.46	25.16	0.328	<30
CA_66C	20+10	QPSK	23.21	24.91	0.310	<30
CA_66C	15+20	QPSK	23.22	24.92	0.310	<30
CA_66C	20+15	QPSK	23.28	24.98	0.315	<30
CA_66C	20+5	QPSK	23.29	24.99	0.316	<30
CA_66C	5+20	QPSK	23.32	25.02	0.318	<30
CA_66C	15+15	QPSK	23.27	24.97	0.314	<30
CA_66C	20+20	QPSK	23.31	25.01	0.317	<30
CA_66C	10+15	16QAM	22.52	24.22	0.264	<30
CA_66C	15+10	16QAM	22.56	24.26	0.267	<30
CA_66C	10+20	16QAM	22.66	24.36	0.273	<30
CA_66C	20+10	16QAM	22.68	24.38	0.274	<30
CA_66C	15+20	16QAM	22.54	24.24	0.265	<30
CA_66C	20+15	16QAM	22.51	24.21	0.264	<30
CA_66C	20+5	16QAM	22.57	24.27	0.267	<30
CA_66C	5+20	16QAM	22.56	24.26	0.267	<30
CA_66C	15+15	16QAM	22.56	24.26	0.267	<30
CA_66C	20+20	16QAM	22.64	24.34	0.272	<30
CA_66C	10+15	64QAM	21.63	23.33	0.215	<30
CA_66C	15+10	64QAM	21.55	23.25	0.211	<30
CA_66C	10+20	64QAM	21.69	23.39	0.218	<30
CA_66C	20+10	64QAM	21.56	23.26	0.212	<30
CA_66C	15+20	64QAM	21.83	23.53	0.225	<30
CA_66C	20+15	64QAM	21.62	23.32	0.215	<30
CA_66C	20+5	64QAM	21.45	23.15	0.207	<30
CA_66C	5+20	64QAM	21.54	23.24	0.211	<30
CA_66C	15+15	64QAM	21.66	23.36	0.217	<30
CA_66C	20+20	64QAM	21.62	23.32	0.215	<30
CA_66C	10+15	256QAM	19.03	20.73	0.118	<30
CA_66C	15+10	256QAM	18.96	20.66	0.116	<30

CA_66C	10+20	256QAM	19.11	20.81	0.121	<30
CA_66C	20+10	256QAM	19.52	21.22	0.132	<30
CA_66C	15+20	256QAM	19.16	20.86	0.122	<30
CA_66C	20+15	256QAM	19.01	20.71	0.118	<30
CA_66C	20+5	256QAM	18.96	20.66	0.116	<30
CA_66C	5+20	256QAM	19.06	20.76	0.119	<30
CA_66C	15+15	256QAM	19.09	20.79	0.120	<30
CA_66C	20+20	256QAM	19.09	20.79	0.120	<30
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)						

Test Band	Channel Bandwidth (MHz)	Modulation	Output Power (dBm/10MHz)	EIRP (dBm/ 10MHz)	EIRP (W/10MHz)	Limit (dBm/ 10MHz)
CA_48C	20+20	QPSK	17.95	19.45	0.088	<23
CA_48C	20+15	QPSK	18.01	19.51	0.089	<23
CA_48C	15+20	QPSK	19.2	20.7	0.117	<23
CA_48C	20+10	QPSK	17.38	18.88	0.077	<23
CA_48C	10+20	QPSK	20.21	21.71	0.148	<23
CA_48C	20+5	QPSK	17.73	19.23	0.084	<23
CA_48C	5+20	QPSK	20.44	21.94	0.156	<23
CA_48C	20+20	16QAM	18.58	20.08	0.102	<23
CA_48C	20+15	16QAM	18.51	20.01	0.100	<23
CA_48C	15+20	16QAM	19.79	21.29	0.135	<23
CA_48C	20+10	16QAM	17.91	19.41	0.087	<23
CA_48C	10+20	16QAM	20.7	22.2	0.166	<23
CA_48C	20+5	16QAM	18.38	19.88	0.097	<23
CA_48C	5+20	16QAM	21.01	22.51	0.178	<23
CA_48C	20+20	64QAM	18.01	19.51	0.089	<23
CA_48C	20+15	64QAM	18	19.5	0.089	<23
CA_48C	15+20	64QAM	19.31	20.81	0.121	<23
CA_48C	20+10	64QAM	17.82	19.32	0.086	<23
CA_48C	10+20	64QAM	20.5	22	0.158	<23
CA_48C	20+5	64QAM	17.82	19.32	0.086	<23
CA_48C	5+20	64QAM	20.8	22.3	0.170	<23
CA_48C	20+20	256QAM	16.45	17.95	0.062	<23
CA_48C	20+15	256QAM	16.48	17.98	0.063	<23
CA_48C	15+20	256QAM	17.77	19.27	0.085	<23

CA_48C	20+10	256QAM	16.23	17.73	0.059	<23
CA_48C	10+20	256QAM	18.71	20.21	0.105	<23
CA_48C	20+5	256QAM	16.43	17.93	0.062	<23
CA_48C	5+20	256QAM	18.85	20.35	0.108	<23
Note: The EIRP (dBm/10MHz) = Output Power (dBm/10MHz) + Antenna Gain (dBi)						

1.4. Test Standards and Results

The objective of the report is to perform testing according to Part 2, Part 22, Part 24, Part 27 and Part 96 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22	Public Mobile Services
3	47 CFR Part 24	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services
6	47 CFR Part 96	CITIZENS BROADBAND RADIO SERVICE

B2			
Item	**FCC Rule No.**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232(c)	EIRP ≤ 2 W	PASS
Peak-Average Ratio	§24.232(d)	Limit≤13 dB	PASS
Bandwidth	§2.1049	OBW: No limit EBW: No limit	PASS
Band Edges Compliance	§2.1051, §24.238(a)(b)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)(b)	≤ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	≤ -13 dBm/1MHz	PASS
Frequency Stability	§2.1055, §24.235	No limit	N/A

B4 & B66			
Item	**FCC Rule No.**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(d)(4)	EIRP ≤1 W	PASS
Peak-Average Ratio	§27.50(d) (5)	Limit≤13 dB	PASS

Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS
Band Edges Compliance	§2.1051, §27.53(h)(1) §27.53(h)(3)(i)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)(1)	≤ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §27.53(h)(1)	≤ -13 dBm/1MHz.	PASS
Frequency Stability	§2.1055, §27.54	No limit	N/A

B5			
Item	**FCC Rule No.**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	ERP ≤ 7W	PASS
Peak-Average Ratio	N/A	N/A	N/A
Bandwidth	§2.1049	OBW: No limit EBW: No limit	PASS
Band Edges Compliance	§2.1051, §22.917(a)(b)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §22.917(a)	≤ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §22.355	≤ -13 dBm/1MHz	PASS
Frequency Stability	§2.1055, §22.355	≤ ±2.5ppm	PASS

B7 & B41			
Item	**FCC Rule No.**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(h)(2)	EIRP ≤2W	PASS
Peak-Average Ratio	N/A	N/A	N/A
Bandwidth	§2.1049	OBW: No limit EBW: No limit	PASS
Band Edges Compliance	§2.1051, §27.53(m)(4)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §27.53(m)(4)	≤ -25 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §27.53(m)(4)	≤ -25 dBm/1MHz	PASS
Frequency Stability	§2.1055, §27.54	No limit	N/A

B48			
Item	**FCC Rule No.**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power Output Data	§2.1046, §96.41(b)	Refer to section 2.1	PASS
Peak-Average Ratio	N/A	N/A	N/A
Bandwidth	§2.1049	OBW: No limit EBW: No limit	PASS
Band Edges Compliance	§2.1051, §96.41(e)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §96.41(e)	≤ -40 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §96.41(e)	≤ -40 dBm/1MHz	PASS
Frequency Stability	§2.1055, §27.54	No limit	N/A

Test detailed items/section required by FCC rules and results are as below:

Test Item	Test Engineer	Result	Method Determination /Remark
Transmitter Conducted Output Power and E.R.P./E.I.R.P.	Gan Jing	PASS	No deviation
Radiated Spurious Emissions	Li Hanbin	PASS	No deviation
Note 1: The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 and ANSI/TIA-603-E-2016. **Note 2:** The path loss during the RF test is calibrated to correct the results by the offset setting in the test equipments. The ref offset 23.5dB contains two parts that cable loss 13.5dB and Attenuator 10dB.			

1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15-35
Relative Humidity (%):	30-60

2. Summary Test Results And Description

2.1. Radiated Spurious Emissions

2.1.1. Requirement

According to FCC section 2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P)dB. This calculated to be -13dBm.

Additional requirement for LTE Band 2:
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. This calculated to be -13dBm.

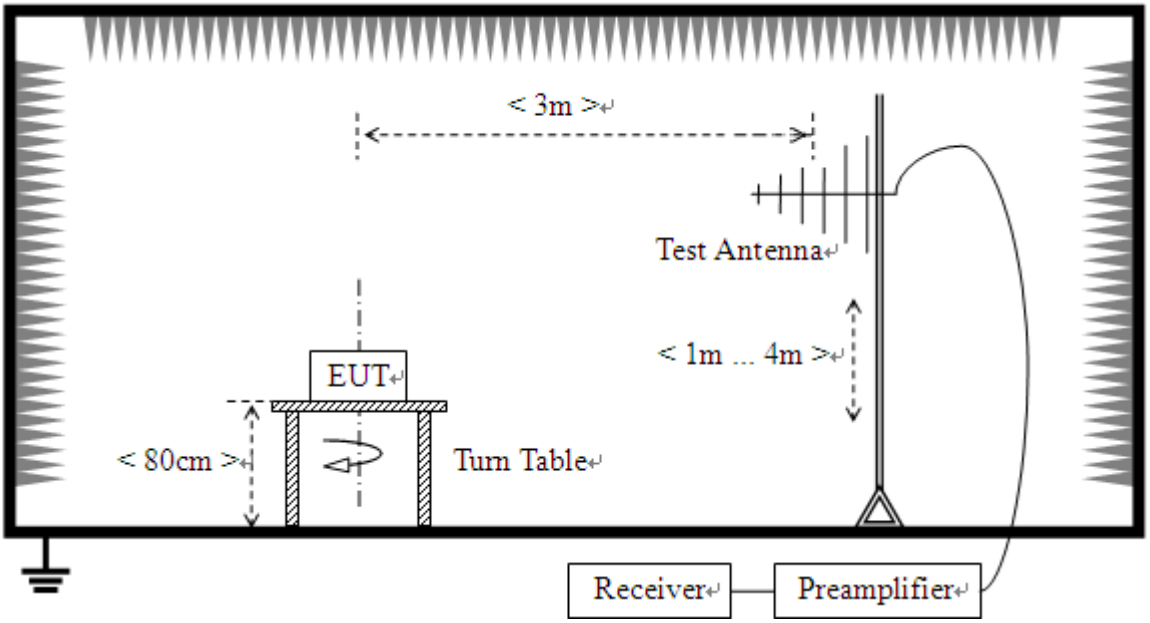
Additional requirement for LTE Band 4/66:
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB. This calculated to be -13dBm.

Additional requirement for LTE Band 5:
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. This calculated to be -13dBm.

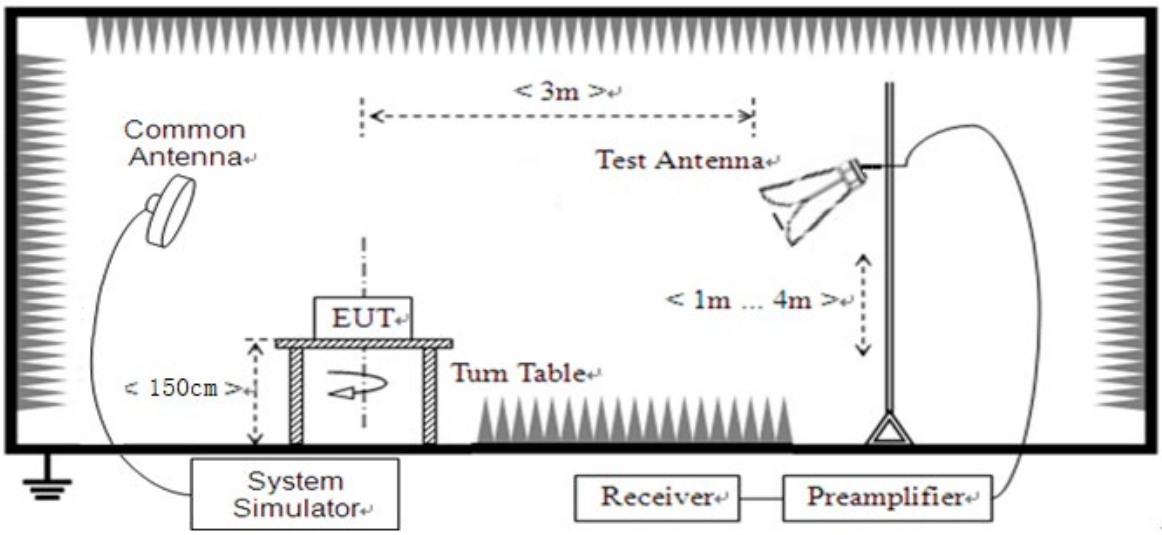
Additional requirement for LTE Band 7/41:
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 55 + 10 log(P) dB. This calculated to be -25dBm.

Additional requirement for LTE Band 48:
According to FCC section 96.41(e), the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

2.1.2. Test Description



(For the test frequency from 30MHz to1GHz)



(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.
A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test

result of the maximum output power was recorded.
In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360°to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.

Note: When doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.1.3. Test Procedure

KDB 971168 D01v03 Section 5.8and ANSI/TIA-603-E-2016.

2.1.4. Test Result

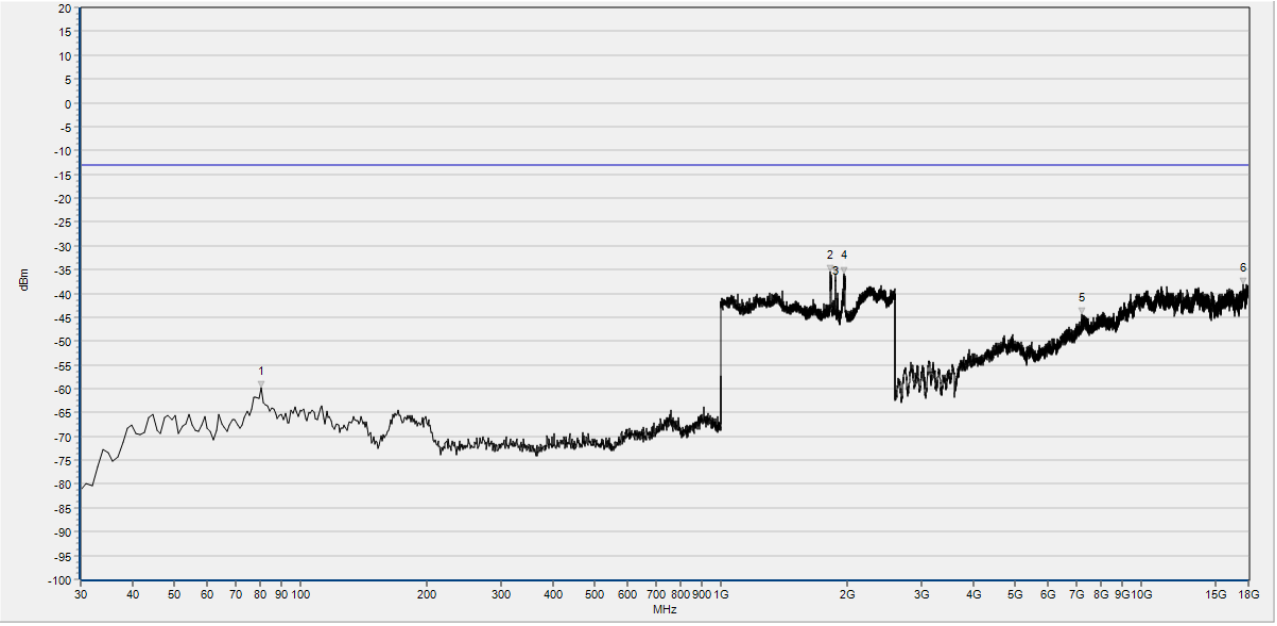
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.
The substitution corrections are obtained as described below:

$A_{SUBST} = P_{SUBST\_TX} - P_{SUBST\_RX} - L_{SUBST\_CABLES} + G_{SUBST\_TX\_ANT}$

$A_{TOT} = L_{CABLES} + A_{SUBST}$

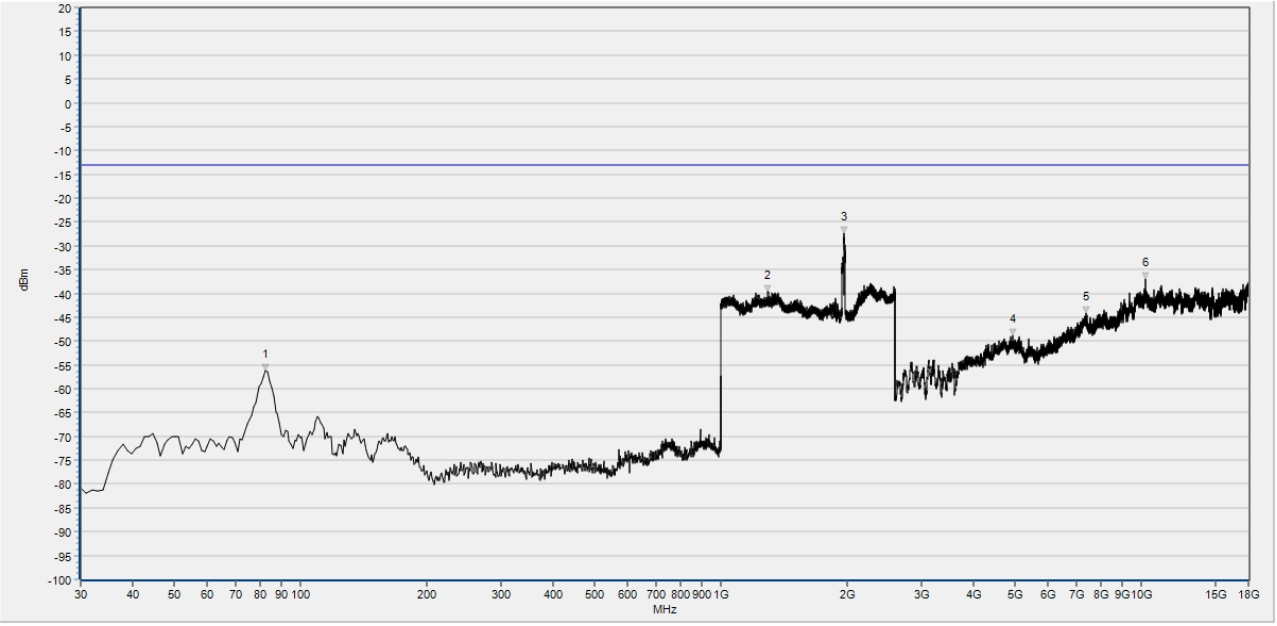
Where A_{SUBST} is the final substitution correction including receive antenna gain.
P_{SUBST_TX} is signal generator level,
P_{SUBST_RX} is receiver level,
L_{SUBST_CABLES} is cable losses including TX cable,
$G_{SUBST\_TX\_ANT}$ is substitution antenna gain.
A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the test spectrum analyze, so spectrum analyze reading is the final values which contain the data of A_{TOT}.
Note1: The power of the EUT transmitting frequency should be ignored.
Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.
Note3: All bandwidth and modulation were considered and evaluated respectively by performing full test for each band; only the worst cases (Max Bandwidth and QPSK mode) were recorded in this test report.
Note 4: N/A means the frequency is the basic frequency or the base station frequency; they are no need to verdict.



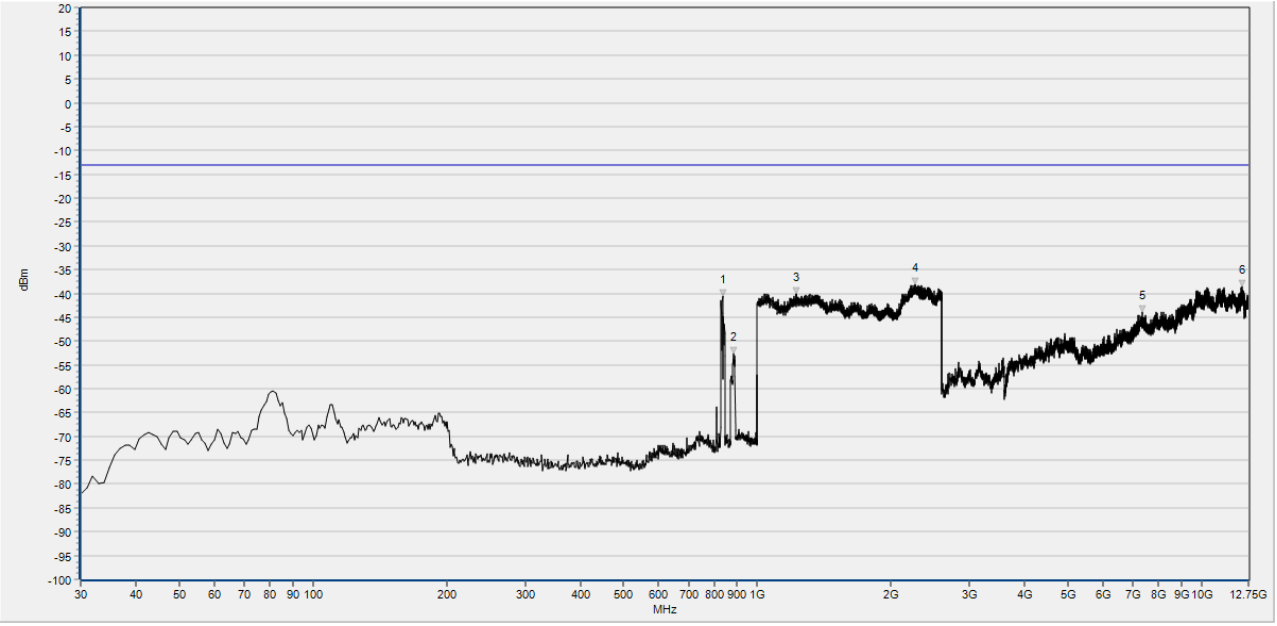
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	80.440	-59.70	-13.00	96.2	H	PASS
2	1822.729	-35.50	-13.00	253.6	H	NA
3	1873.950	-35.82	-13.00	91.8	H	NA
4	1964.226	-35.94	-13.00	220.9	H	NA
5	7204.037	-44.36	-13.00	134.8	H	PASS
6	17529.514	-38.10	-13.00	340.9	H	PASS

CA_2C Mid 30M-18G H



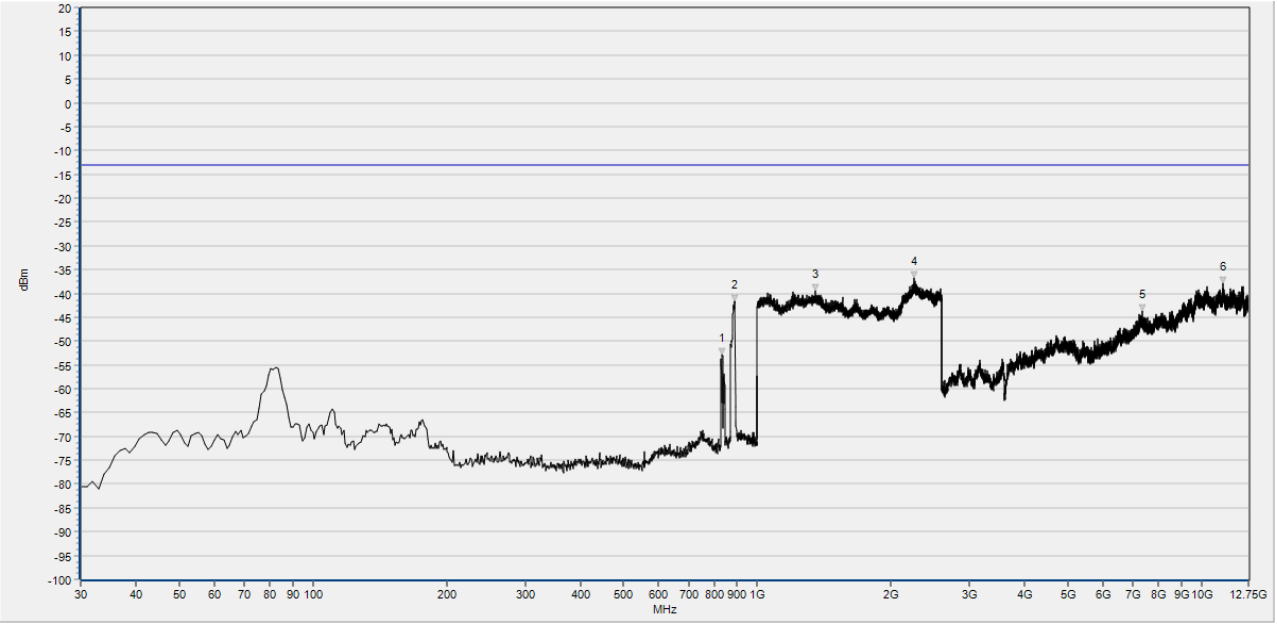
Num	Freq (MHz)	PK	limit PK	Degree	Antenna	Verdict
1	82.380	-56.30	-13.00	172.3	V	PASS
2	1295.158	-39.61	-13.00	355.4	V	PASS
3	1962.305	-27.46	-13.00	170.4	V	NA
4	4949.627	-48.86	-13.00	119.2	V	PASS
5	7408.474	-44.23	-13.00	271.4	V	PASS
6	10231.388	-36.93	-13.00	171.4	V	PASS

CA_2C Mid 30M-18G V



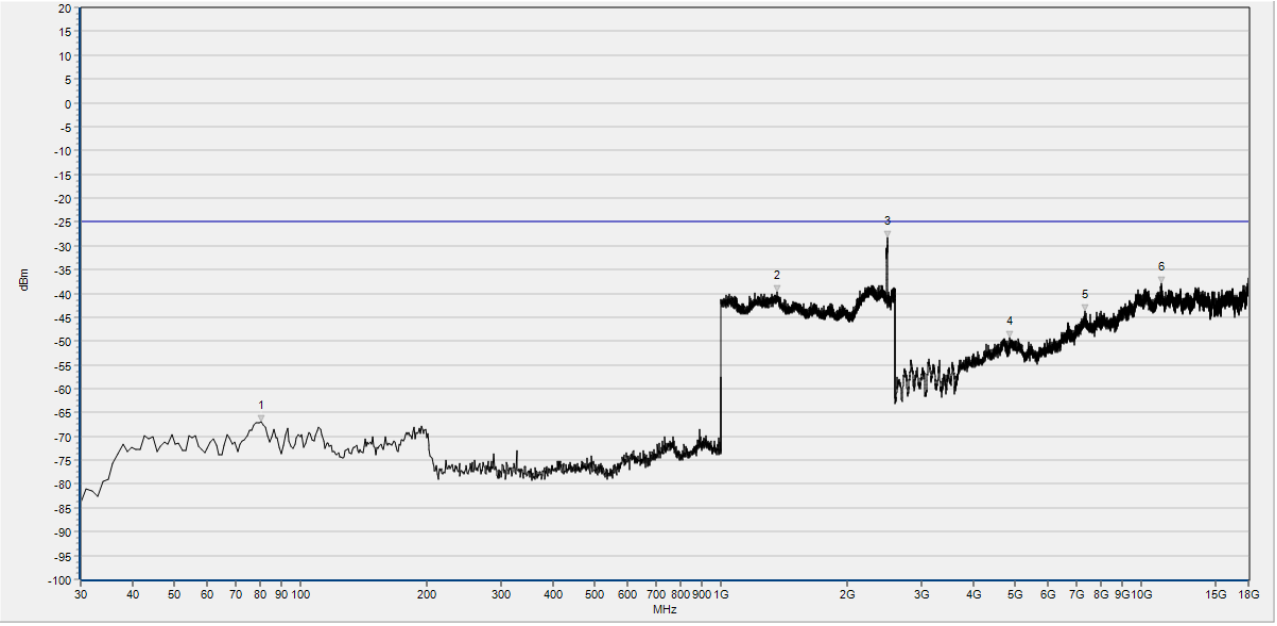
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	835.100	-40.63	-13.00	165.3	H	NA
2	885.540	-52.70	-13.00	202.2	H	NA
3	1223.449	-40.16	-13.00	181.1	H	PASS
4	2266.427	-38.21	-13.00	267.5	H	PASS
5	7338.143	-43.85	-13.00	273.3	H	PASS
6	12367.921	-38.49	-13.00	48.3	H	PASS

CA_5B Mid 30M-12.75G H



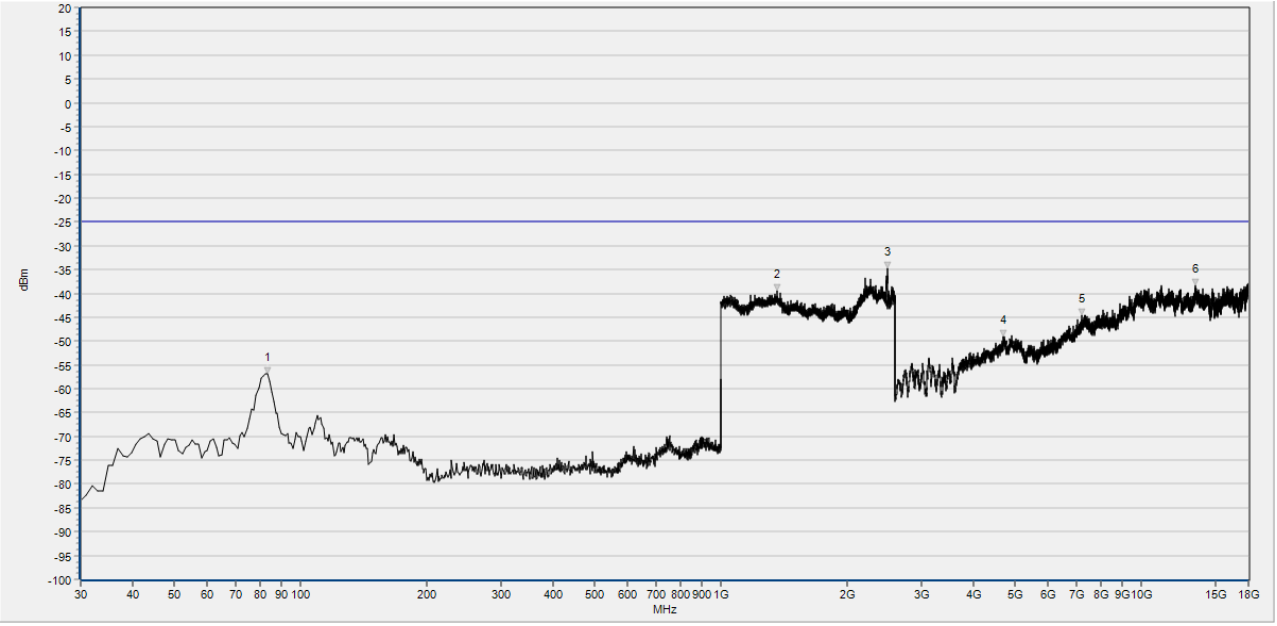
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	834.130	-52.77	-13.00	34.3	V	NA
2	888.450	-41.63	-13.00	292.4	V	NA
3	1348.940	-39.36	-13.00	62.2	V	PASS
4	2248.499	-36.70	-13.00	44.9	V	PASS
5	7371.368	-43.68	-13.00	158.0	V	PASS
6	11155.237	-37.98	-13.00	246.6	V	PASS

CA_5B Mid 30M-12.75G V



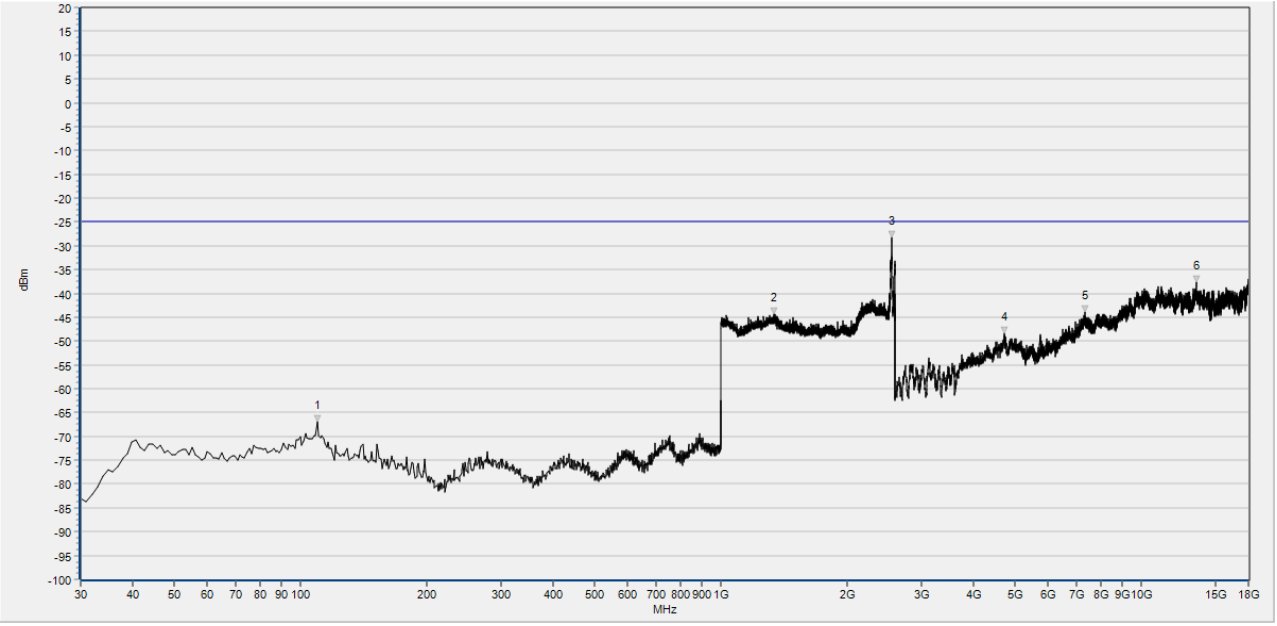
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	80.440	-67.04	-25.00	283.7	H	PASS
2	1363.025	-39.76	-25.00	286.0	H	PASS
3	2486.675	-28.32	-25.00	93.8	H	NA
4	4874.013	-49.23	-25.00	228.9	H	PASS
5	7330.060	-43.69	-25.00	350.4	H	PASS
6	11200.364	-37.91	-25.00	47.4	H	PASS

CA_7C Mid 30M-18G H



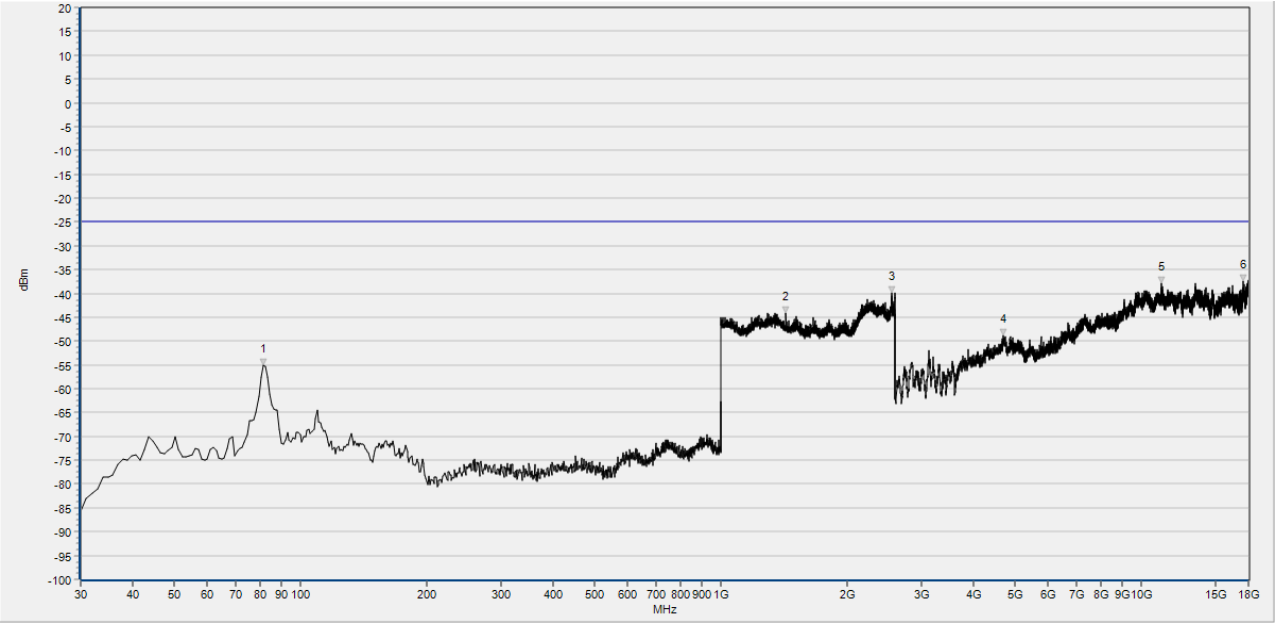
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	83.350	-56.85	-25.00	140.3	V	PASS
2	1361.745	-39.54	-25.00	338.7	V	PASS
3	2486.034	-34.72	-25.00	104.6	V	NA
4	4705.983	-49.15	-25.00	83.1	V	PASS
5	7234.843	-44.59	-25.00	228.6	V	PASS
6	13493.981	-38.43	-25.00	0.0	V	PASS

CA_7C Mid 30M-18G V



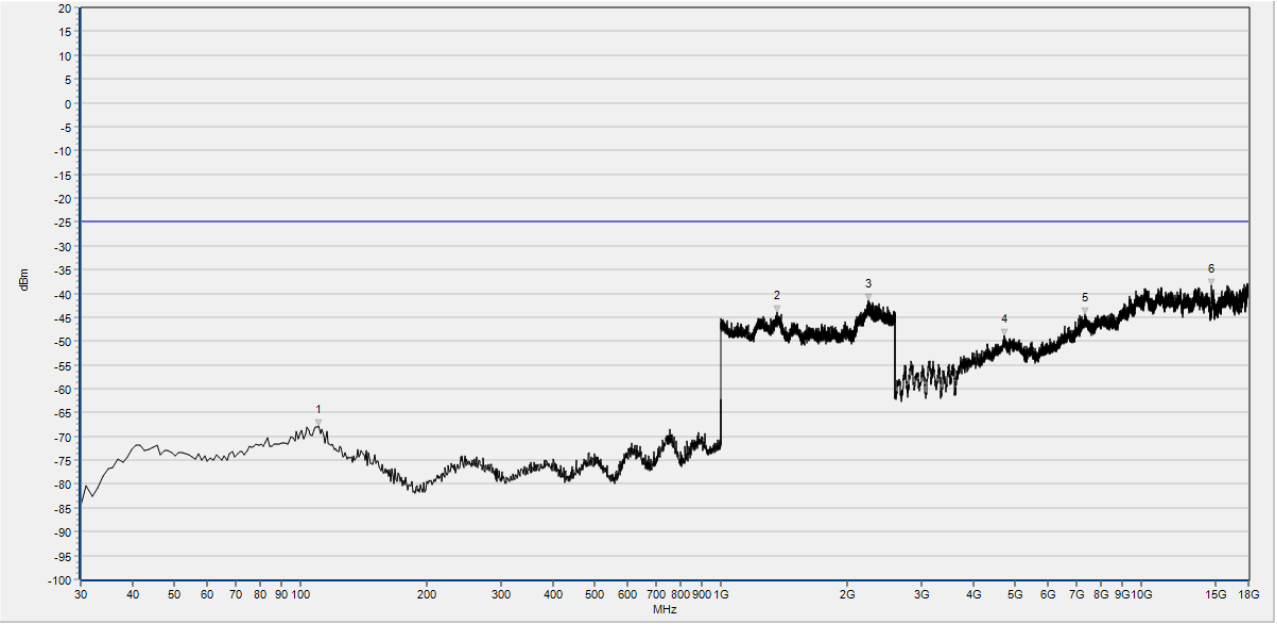
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	109.540	-66.83	-25.00	62.7	H	PASS
2	1336.134	-44.25	-25.00	19.4	H	PASS
3	2551.981	-28.33	-25.00	121.0	H	NA
4	4736.789	-48.48	-25.00	16.5	H	PASS
5	7341.262	-43.96	-25.00	60.0	H	PASS
6	13502.382	-37.71	-25.00	273.4	H	PASS

CA_38C Mid 30M-18G H



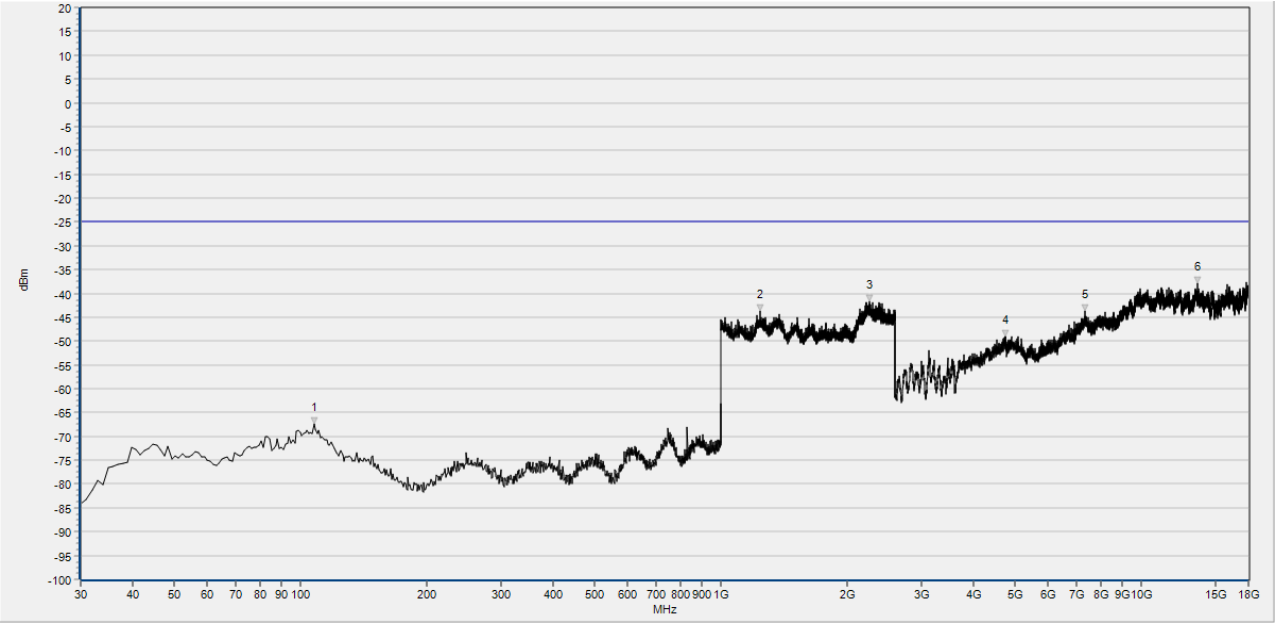
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	81.410	-55.06	-25.00	239.7	V	PASS
2	1429.612	-44.08	-25.00	13.5	V	PASS
3	2551.341	-39.80	-25.00	82.6	V	PASS
4	4689.180	-48.82	-25.00	15.3	V	PASS
5	11149.955	-37.98	-25.00	212.4	V	PASS
6	17509.911	-37.46	-25.00	358.0	V	PASS

CA_38C Mid 30M-18G V



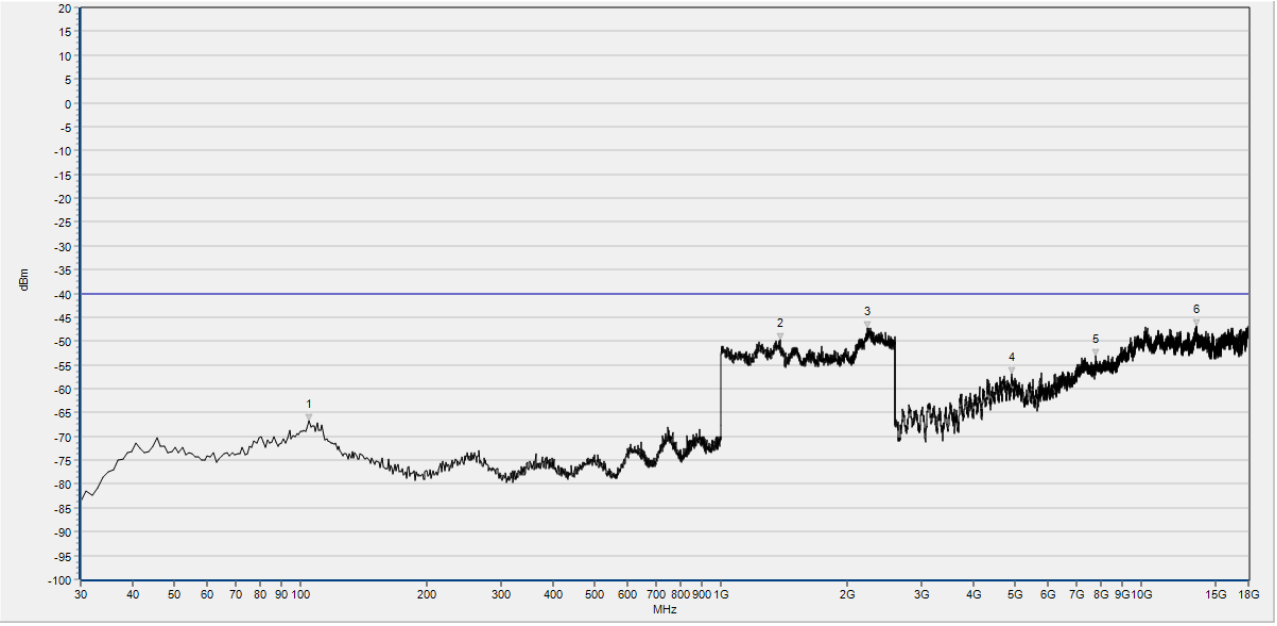
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	110.510	-67.87	-25.00	175.6	H	PASS
2	1358.543	-43.91	-25.00	91.4	H	PASS
3	2249.780	-41.52	-25.00	82.6	H	PASS
4	4731.187	-48.87	-25.00	78.7	H	PASS
5	7360.866	-44.46	-25.00	252.4	H	PASS
6	14726.205	-38.22	-25.00	295.6	H	PASS

CA_41C Mid 30M-18G H



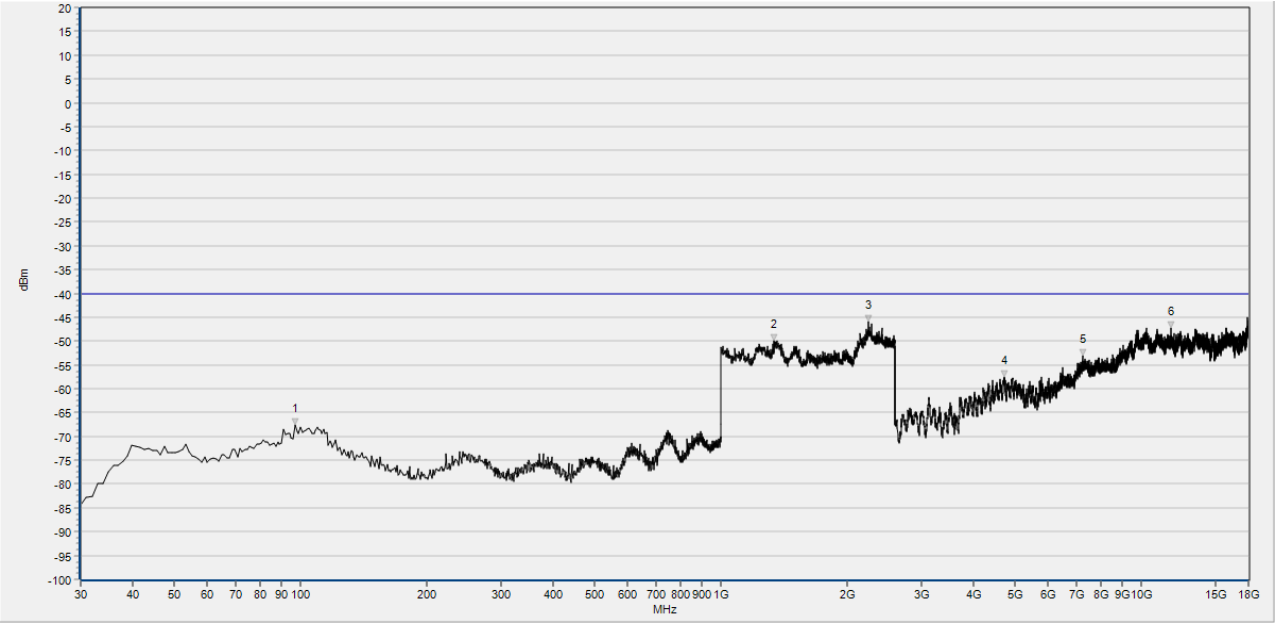
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	107.600	-67.31	-25.00	58.6	V	PASS
2	1238.816	-43.79	-25.00	174.2	V	PASS
3	2252.981	-41.69	-25.00	99.5	V	PASS
4	4753.592	-49.05	-25.00	299.0	V	PASS
5	7352.464	-43.65	-25.00	35.2	V	PASS
6	13594.799	-37.94	-25.00	26.3	V	PASS

CA_41C Mid 30M-18G V



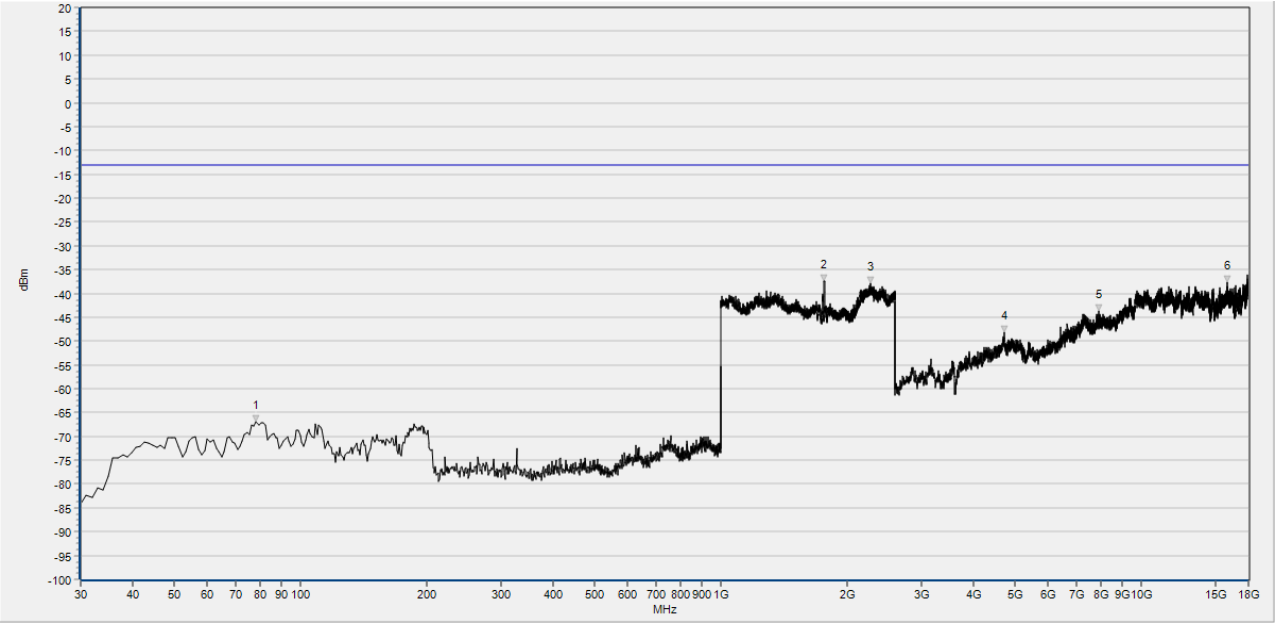
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	104.765	-66.76	-40.00	250.6	H	PASS
2	1385.986	-49.65	-40.00	79.4	H	PASS
3	2230.030	-47.33	-40.00	48.1	H	PASS
4	4919.704	-56.90	-40.00	39.8	H	PASS
5	7812.402	-53.13	-40.00	180.3	H	PASS
6	13508.462	-46.80	-40.00	227.9	H	PASS

CA_48C Mid 30M-18G H



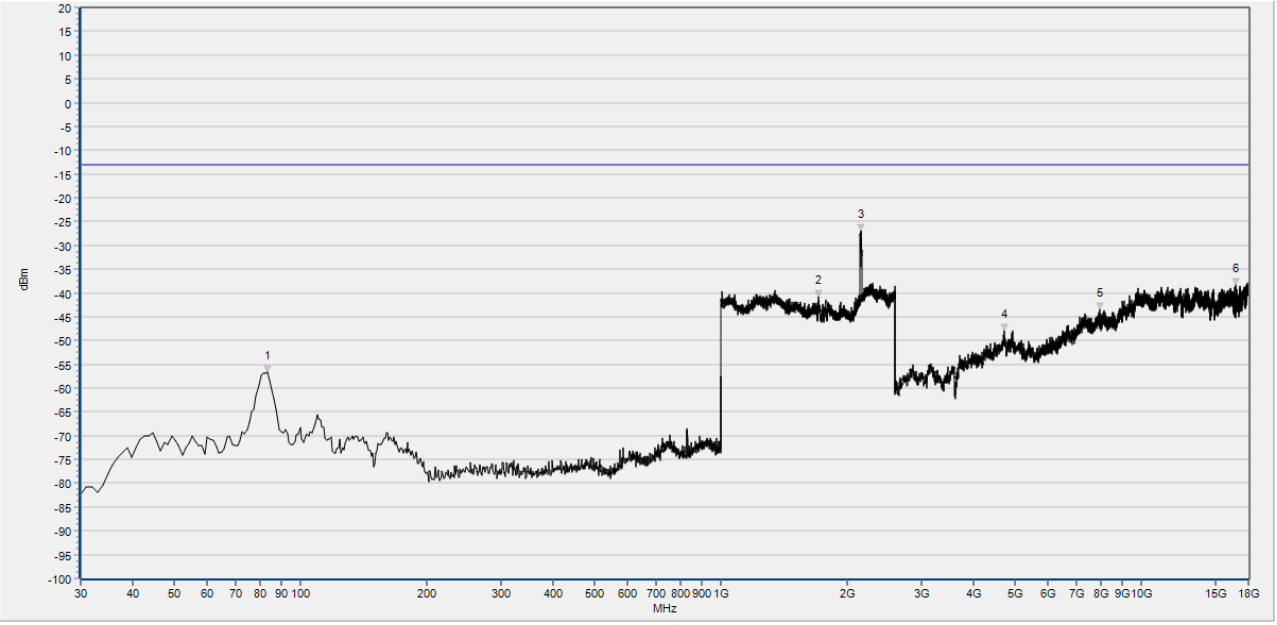
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	96.997	-67.56	-40.00	82.5	V	PASS
2	1336.336	-49.93	-40.00	174.6	V	PASS
3	2246.046	-46.02	-40.00	219.3	V	PASS
4	4737.948	-57.49	-40.00	45.6	V	PASS
5	7245.569	-53.04	-40.00	274.2	V	PASS
6	11783.317	-47.37	-40.00	131.8	V	PASS

CA_48C Mid 30M-18G V



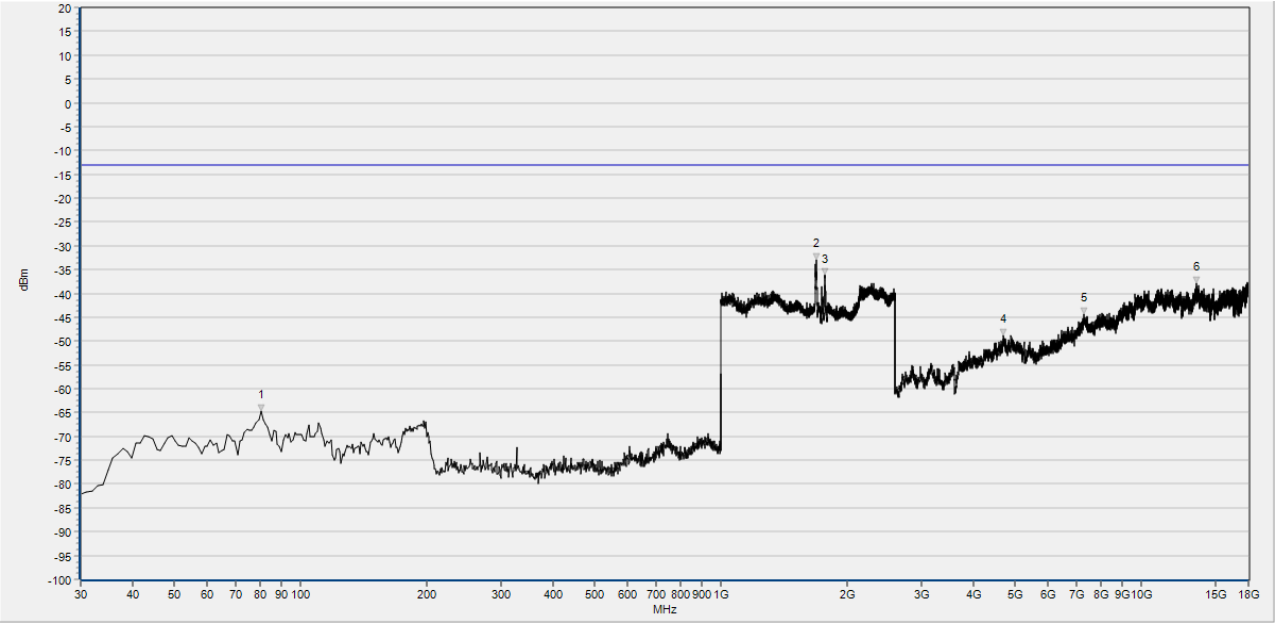
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	78.500	-66.89	-13.00	74.9	H	PASS
2	1763.185	-37.44	-13.00	118.6	H	NA
3	2270.268	-37.81	-13.00	352.9	H	PASS
4	4725.586	-48.09	-13.00	55.0	H	PASS
5	7912.566	-43.79	-13.00	333.9	H	PASS
6	16000.436	-37.70	-13.00	20.0	H	PASS

CA_66B Mid 30M-18G H



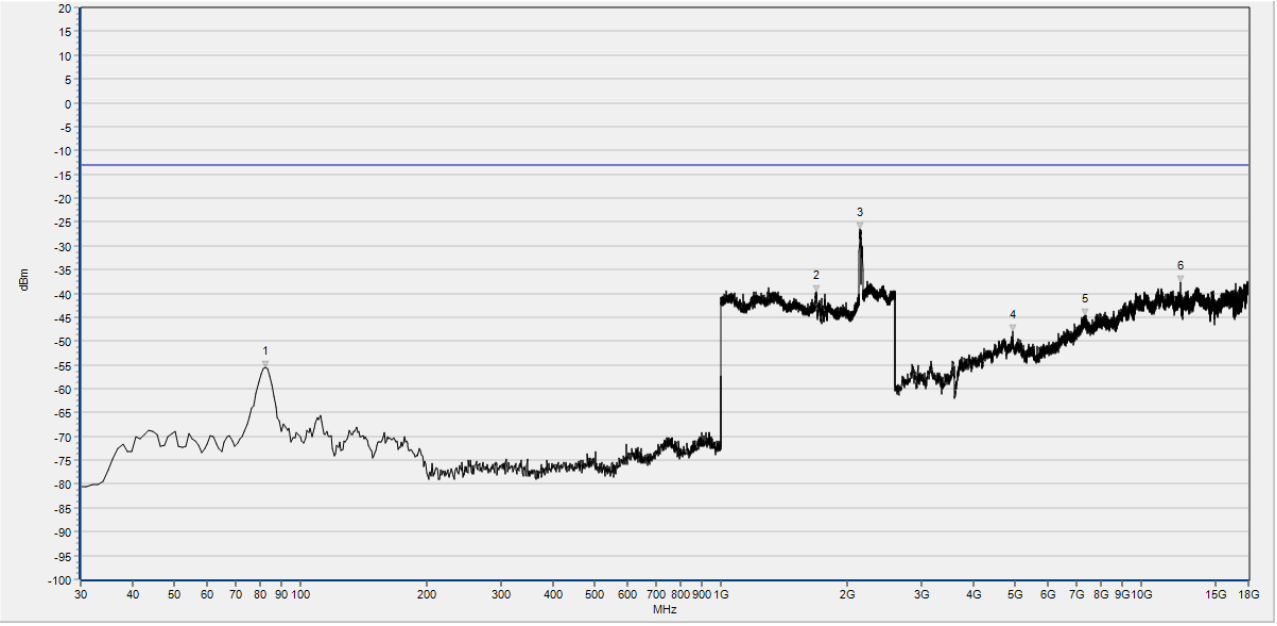
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	83.350	-56.65	-13.00	51.2	V	PASS
2	1711.965	-40.74	-13.00	302.8	V	PASS
3	2149.900	-27.03	-13.00	29.1	V	NA
4	4717.185	-47.84	-13.00	333.4	V	PASS
5	7985.379	-43.44	-13.00	254.6	V	PASS
6	16798.582	-38.28	-13.00	228.4	V	PASS

CA_66B Mid 30M-18G V



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	80.440	-64.80	-13.00	263.9	H	PASS
2	1685.074	-32.87	-13.00	90.4	H	PASS
3	1767.667	-36.16	-13.00	112.0	H	NA
4	4708.783	-48.75	-13.00	220.5	H	PASS
5	7293.653	-44.33	-13.00	65.2	H	PASS
6	13507.983	-37.88	-13.00	211.8	H	PASS

CA_66C Mid 30M-18G H



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	82.380	-55.45	-13.00	195.2	V	PASS
2	1683.794	-39.75	-13.00	355.0	V	PASS
3	2142.857	-26.59	-13.00	111.6	V	NA
4	4938.425	-47.89	-13.00	272.4	V	PASS
5	7363.666	-44.50	-13.00	73.8	V	PASS
6	12415.785	-37.74	-13.00	195.5	V	PASS

CA_66C Mid 30M-18G V

Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test Items	Uncertainty
Output Power	±2.22 dB
Bandwidth	±5%
Conducted Spurious Emission	±2.77 dB
Band Edge	±2.77 dB
Equivalent Isotropic Radiated Power	±2.22 dB
Radiated Spurious Emissions	±6 dB

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.

4. Test Equipments Utilized

4.1 List of Software Used

Description	Manufacturer	Software Version
MORLAB EMCR	MORLAB	V1.2

4.2 Radiated Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Loop Antenna	00131	FMZB 1519B	SCHWARZBECK	2024/9/19	2025/9/18
Bi-Log Antenna	9163-274	VULB 9163	SCHWARZBECK	2024/6/29	2025/6/28
Horn Antenna	9120D-963	BBHA 9120D	SCHWARZBECK	2024/6/3	2025/6/2
Horn Antenna	BBHA9170#773	BBHA9170	SCHWARZBECK	2024/6/22	2025/6/21
Signal Analyzer	MY56060145	N9020A	Agilent	2024/5/30	2025/5/29
6db Attenuator	E191001	BW-N6W5+	Mini-circuits	2024/9/11	2025/9/10
Preamplifier（2GHz-18GHz）	61171/61172	S020180L3203	LUCIX CORP.	2024/5/30	2025/5/29
Preamplifier（10MHz-6GHz）	46732	S10M100L3802	LUCIX CORP.	2024/5/30	2025/5/29
Preamplifier（18GHz-40GHz）	DS77209	DCLNA0118-40C-S	Decentest	2024/5/30	2025/5/29
System Simulator	152038	CMW500	R&S	2024/9/11	2025/9/10
System Simulator	6262148249	MT8000A	anritsu	2024/6/30	2025/6/29
System Simulator	6261830572	MT8821C	anritsu	2024/1/25	2025/1/24
RF Coaxial Cable（DC-18GHz）	MRE001	PE330	Pasternack	2024/5/30	2025/5/29
RF Coaxial Cable（DC-18GHz）	MRE002	CLU18	Pasternack	2024/5/30	2025/5/29
RF Coaxial Cable（DC-18GHz）	MRE003	CLU18	Pasternack	2024/5/30	2025/5/29
RF Coaxial Cable	22290045	QA360-40-KK-	Qualwave	2024/9/11	2025/9/10

（DC-40GHz）		0.5			
RF Coaxial Cable （DC-40GHz）	22290046	QA360-40-KKF-2	Qualwave	2024/9/11	2025/9/10
RF Coaxial Cable （DC-18GHz）	22120181	QA500-18-NN-5	Qualwave	2024/9/11	2025/9/10

END OF REPORT