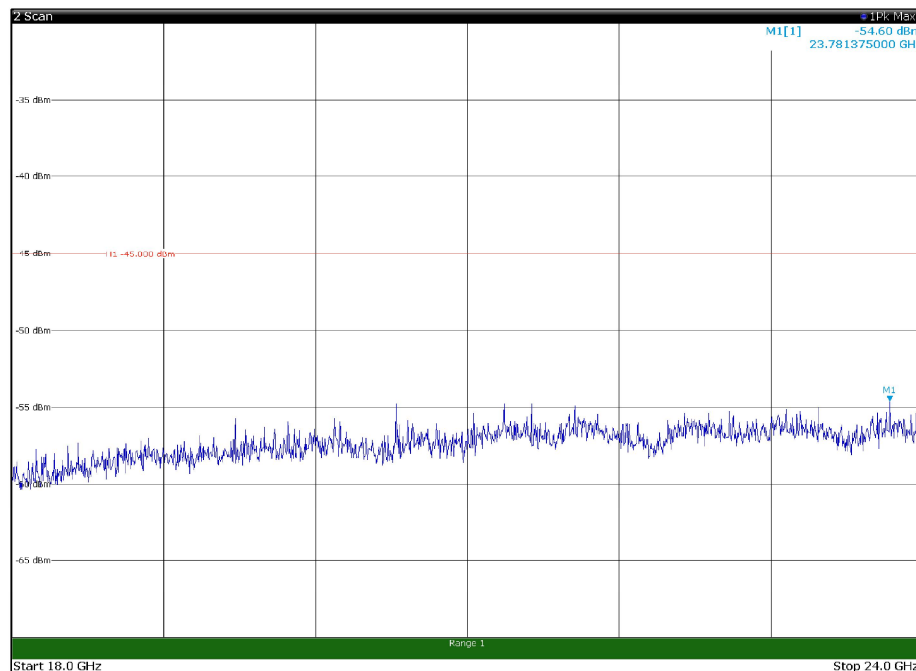
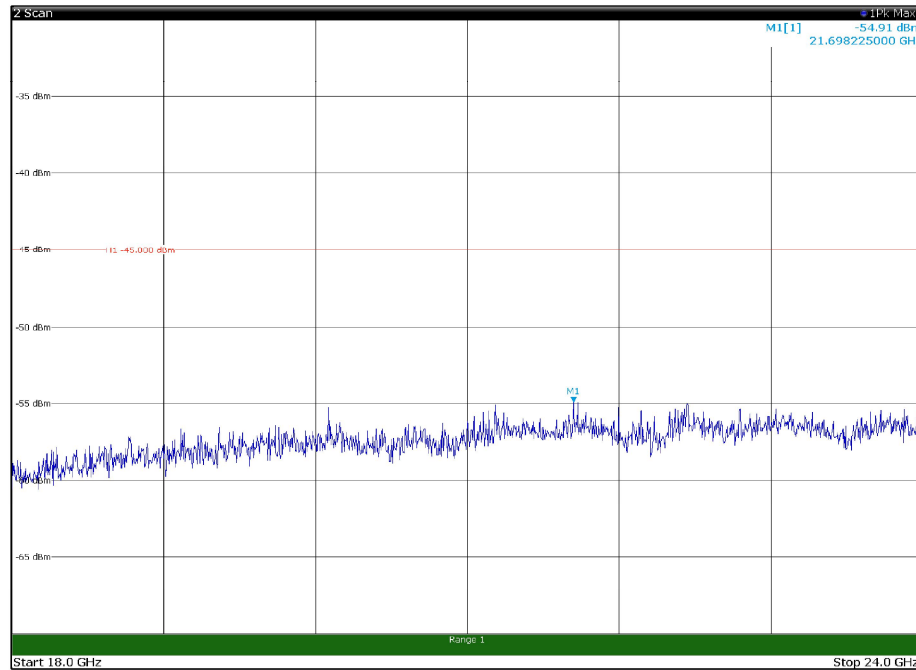
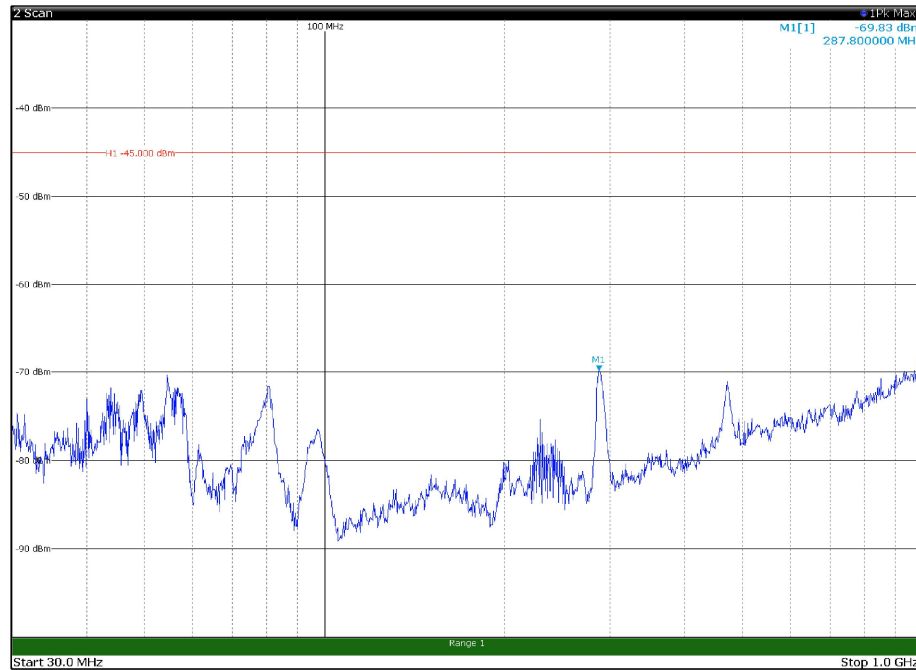
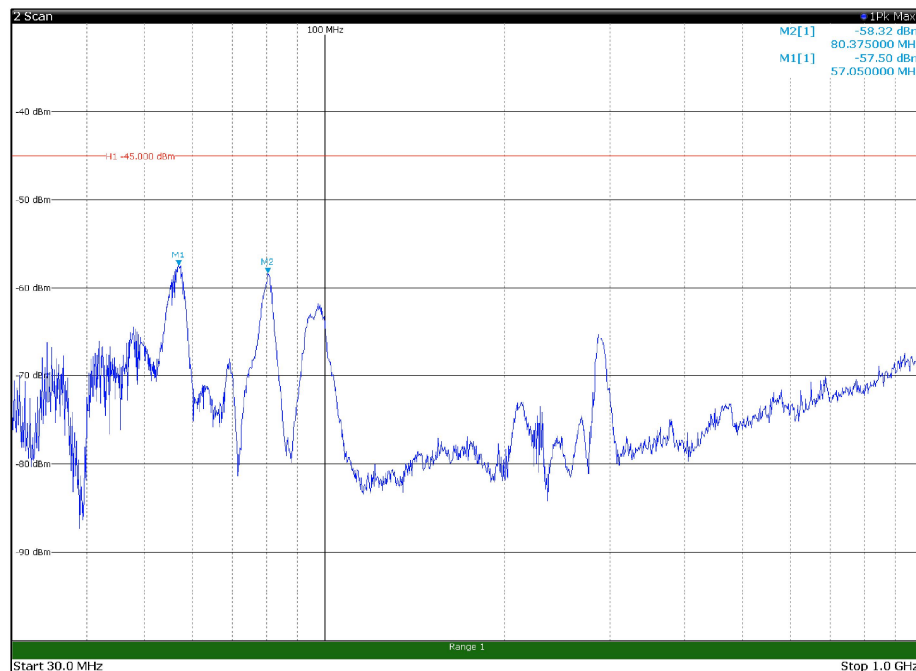


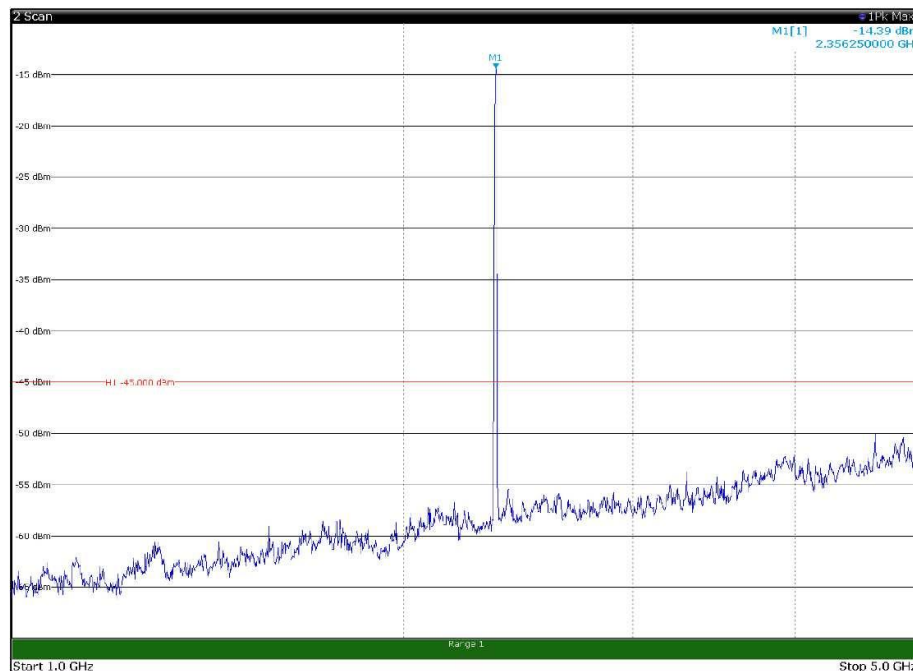
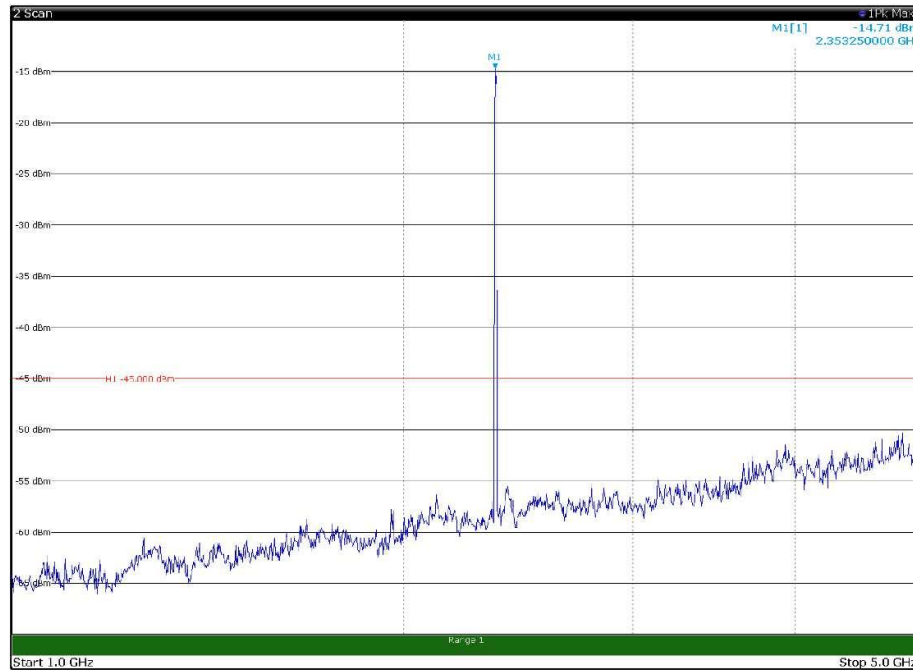


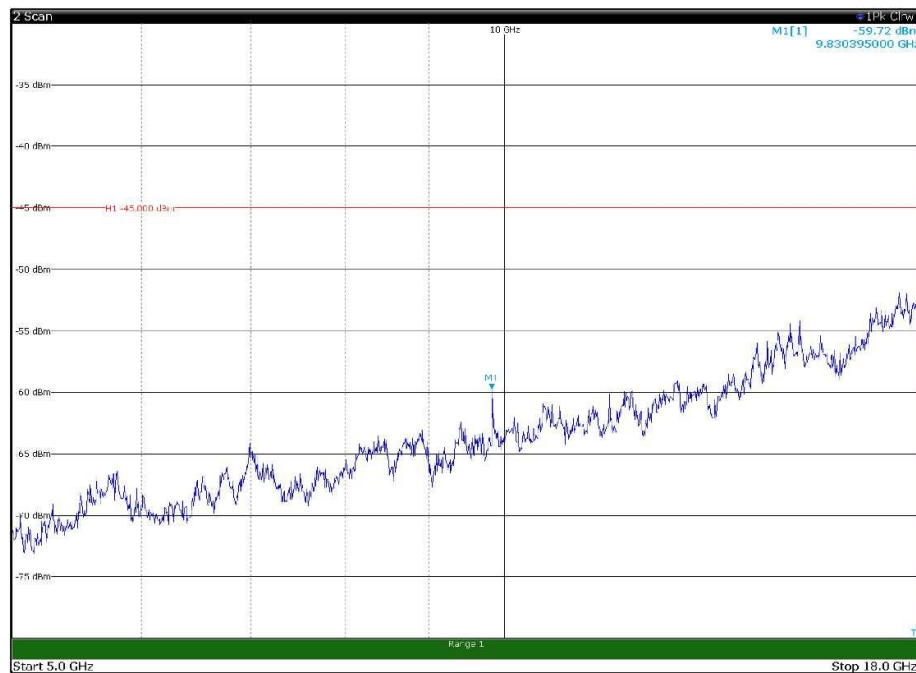
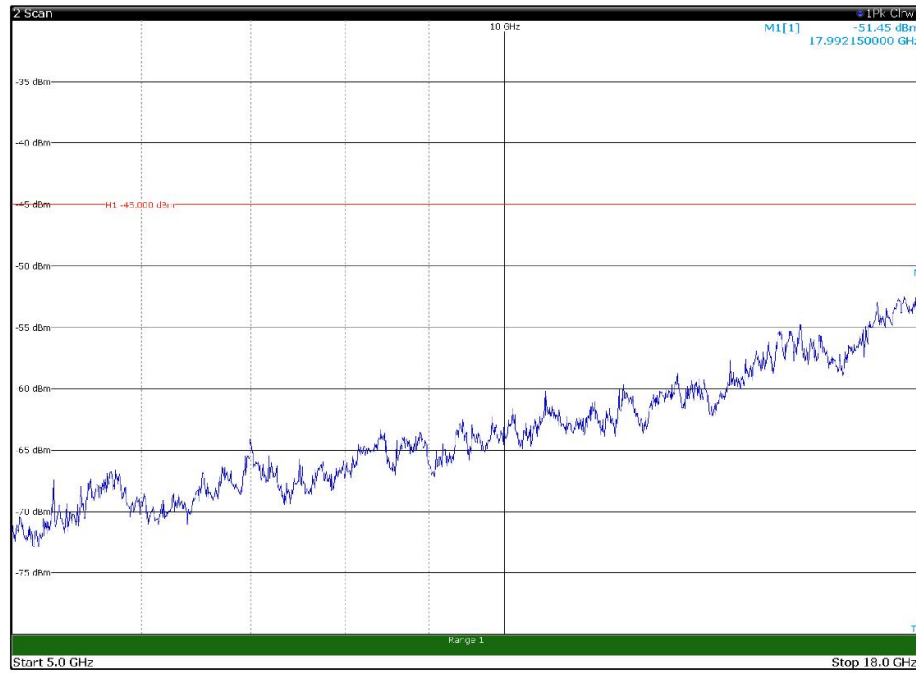


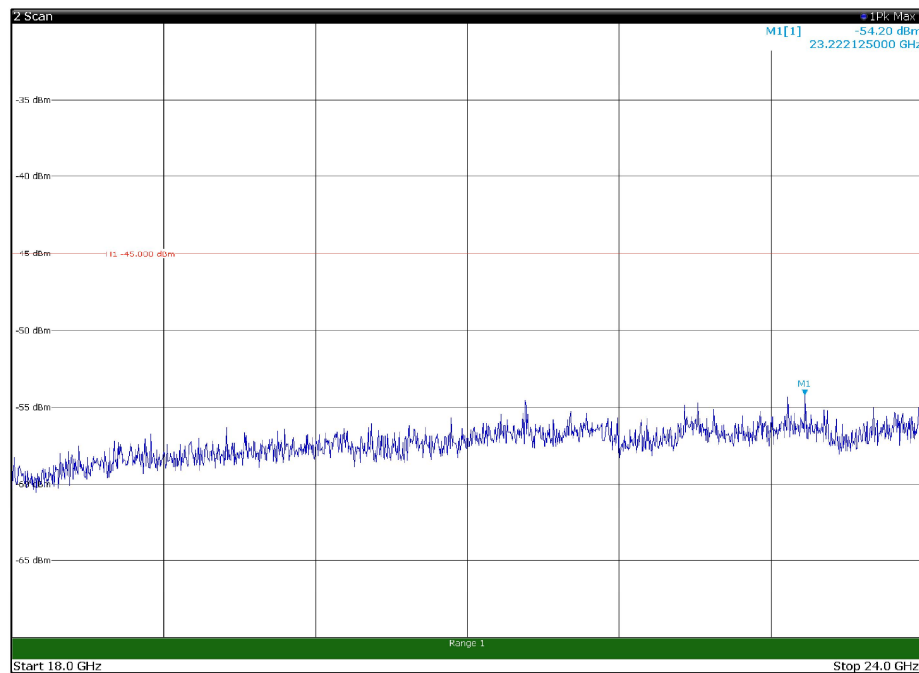
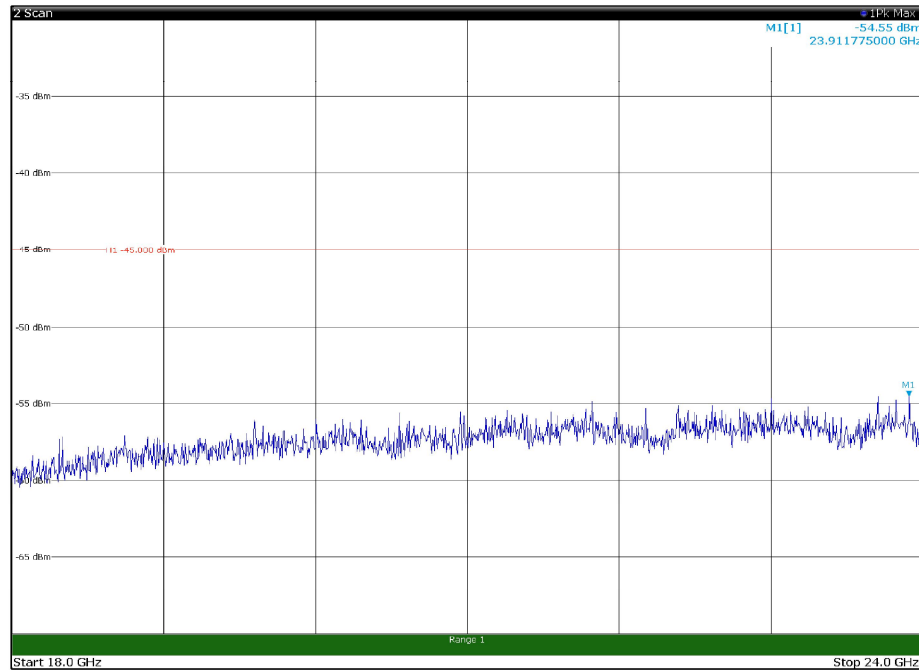
Channel: MIDDLE, Modulation: 64QAM,
BW=10MHz, Range: 30MHz - 1GHz, Polarization: Horizontal

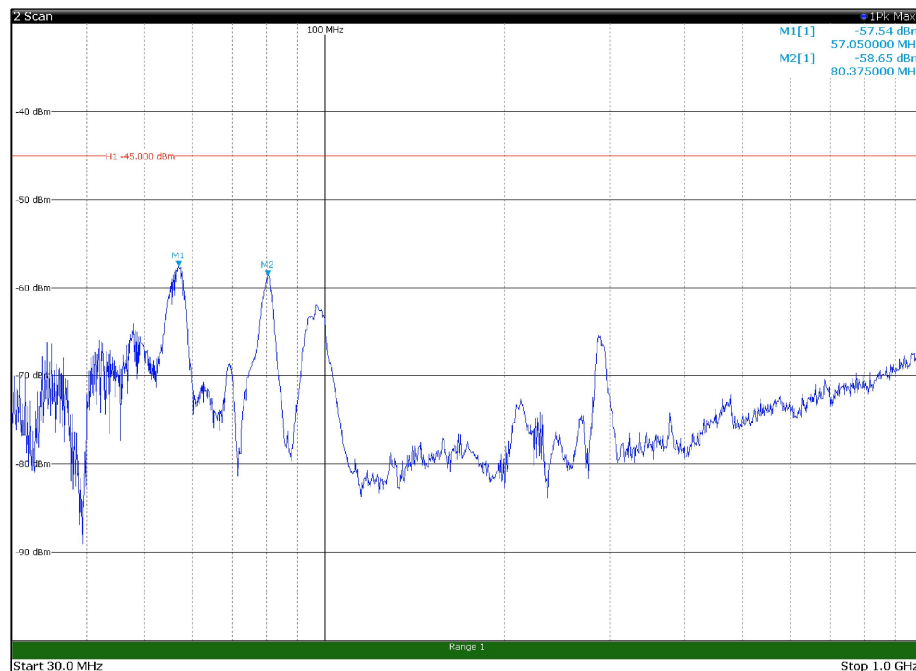
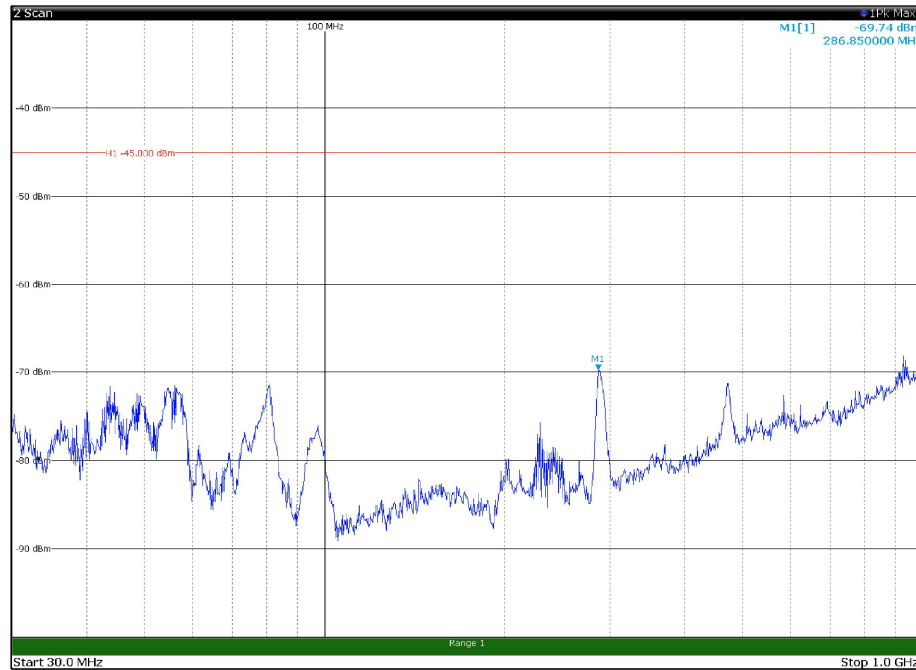


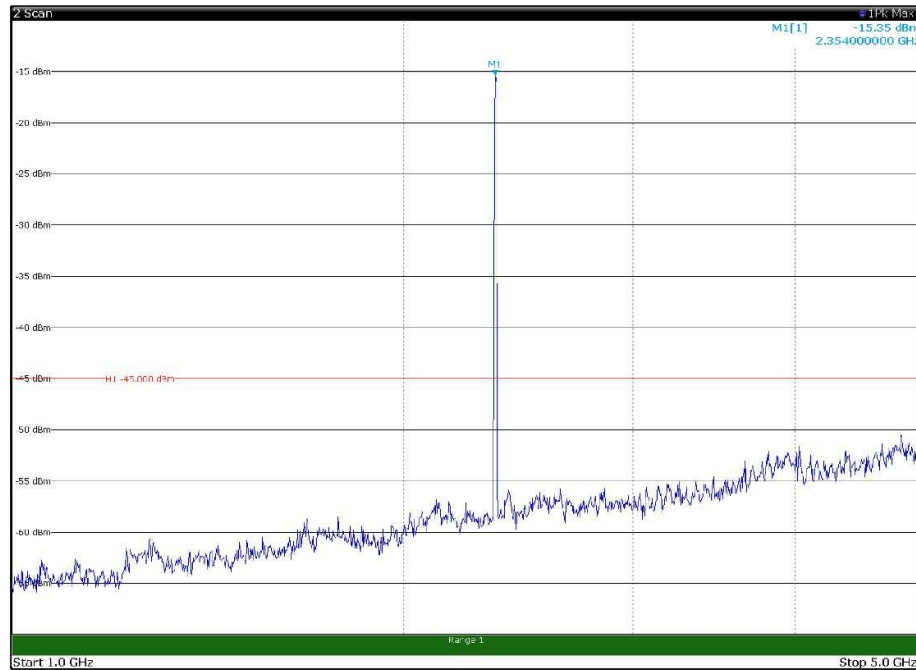
Channel: MIDDLE, Modulation: 64QAM,
BW=10MHz, Range: 30MHz - 1GHz, Polarization: Vertical



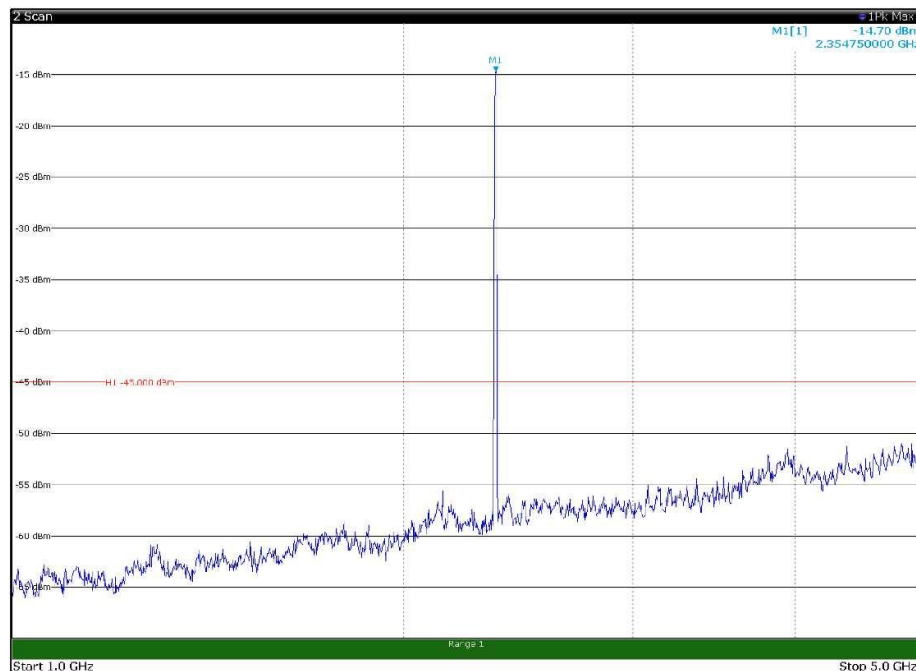




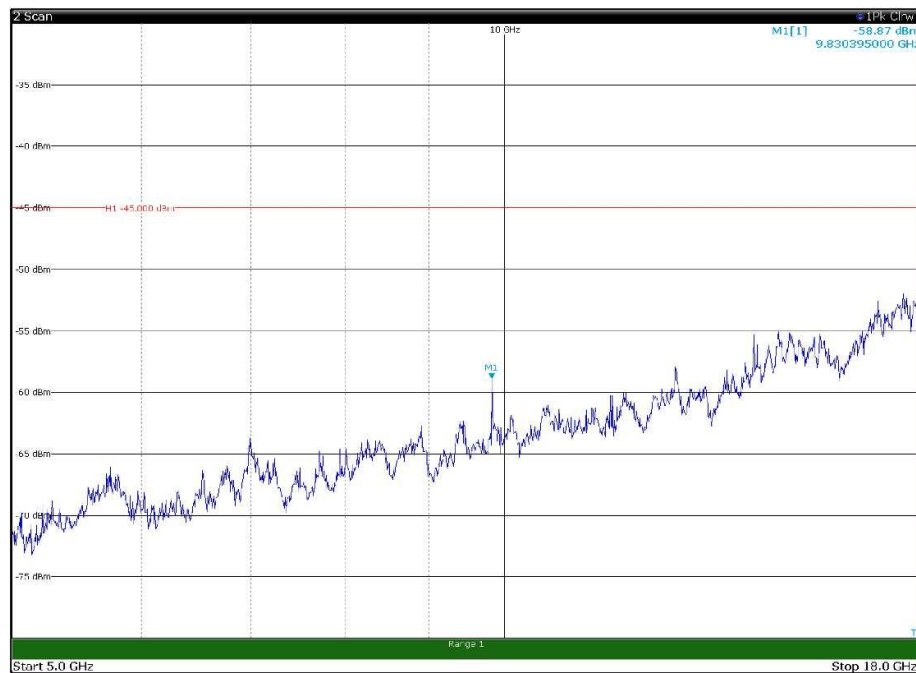
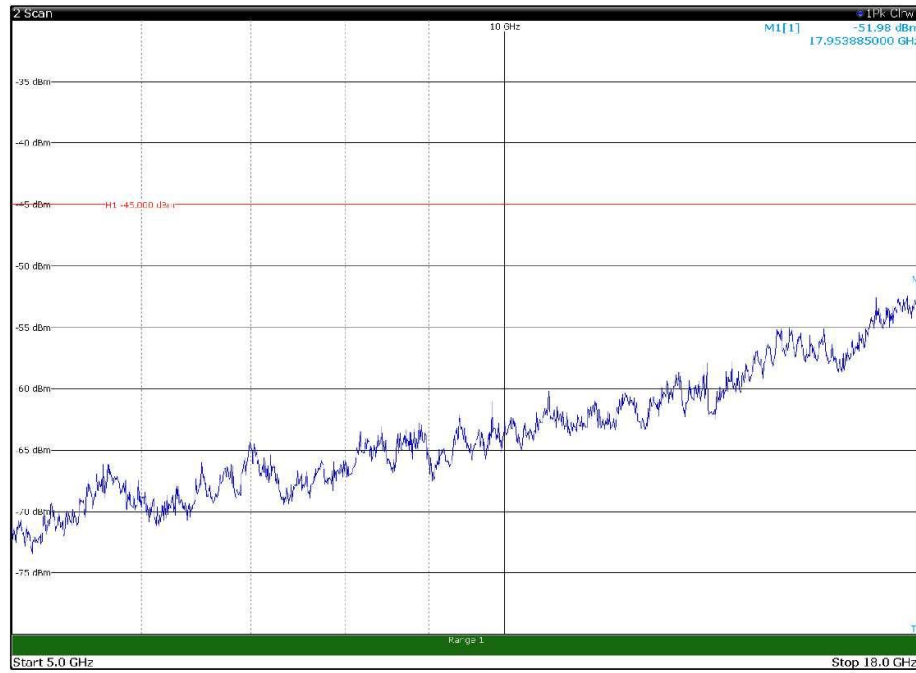


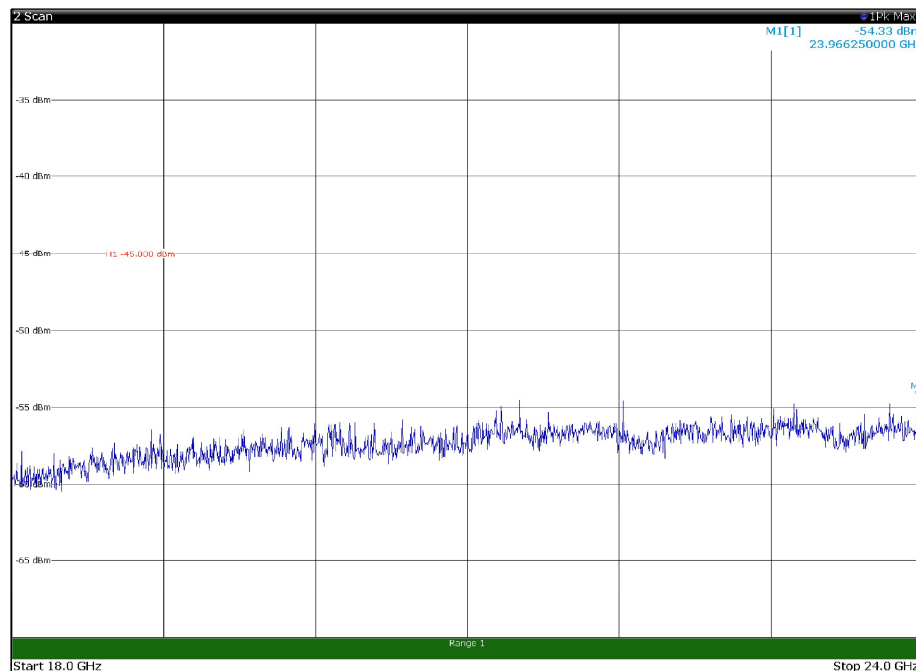
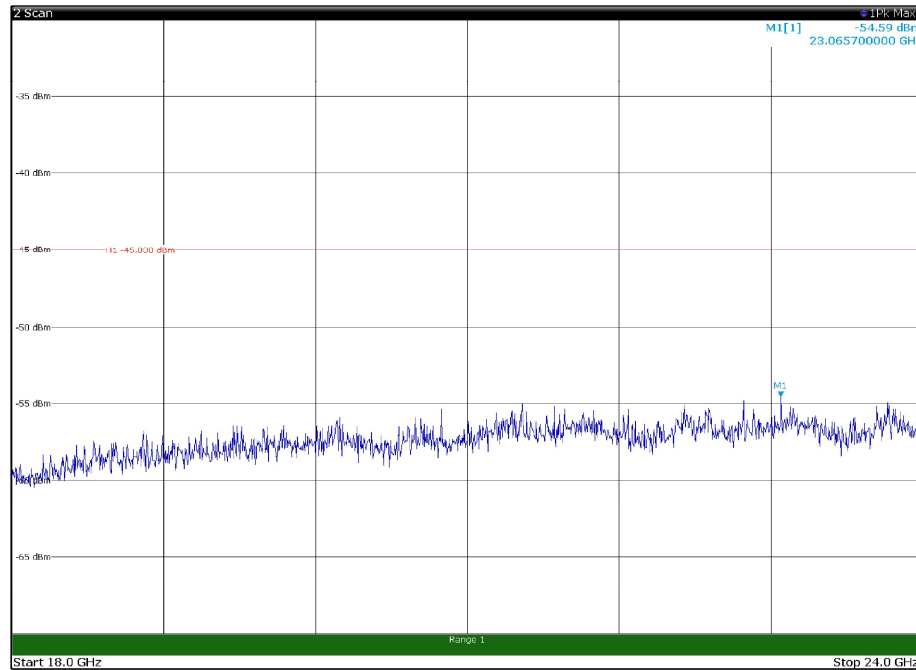


Channel: MIDDLE, Modulation: 256QAM,
BW=10MHz, Range: 1GHz - 5GHz, Polarization: Horizontal



Channel: MIDDLE, Modulation: 256QAM,
BW=10MHz, Range: 1GHz - 5GHz, Polarization: Vertical





Clause 27.54 Frequency stability

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized bands of operation.

Test date: 10/21/2019 to 12/13/2019

Test results: Pass

Special notes

Test are performed at 85% (40,8Vdc) and 115% (55,2Vdc) of the primary supply voltage and the same result was found.

Test data

RF PORT 1

Temperature = -30°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	-155.23	mHz
BOTTOM	LTE 5 MHz	16QAM	725.52	mHz
BOTTOM	LTE 5 MHz	64QAM	76.202	mHz
BOTTOM	LTE 5 MHz	256QAM	-507.24	mHz
MIDDLE	LTE 5 MHz	QPSK	-62.961	mHz
MIDDLE	LTE 5 MHz	16QAM	145.82	mHz
MIDDLE	LTE 5 MHz	64QAM	1.8829	Hz
MIDDLE	LTE 5 MHz	256QAM	462.52	mHz
TOP	LTE 5 MHz	QPSK	834.36	mHz
TOP	LTE 5 MHz	16QAM	-574.48	mHz
TOP	LTE 5 MHz	64QAM	-84.983	mHz
TOP	LTE 5 MHz	256QAM	58.935	mHz
MIDDLE	LTE 10 MHz	QPSK	861.67	mHz
MIDDLE	LTE 10 MHz	16QAM	-311.7	mHz
MIDDLE	LTE 10 MHz	64QAM	847.86	mHz
MIDDLE	LTE 10 MHz	256QAM	-83.266	mHz

Temperature = -20°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	786	mHz
BOTTOM	LTE 5 MHz	16QAM	71	mHz
BOTTOM	LTE 5 MHz	64QAM	-1.059	Hz
BOTTOM	LTE 5 MHz	256QAM	345	mHz
MIDDLE	LTE 5 MHz	QPSK	600	mHz
MIDDLE	LTE 5 MHz	16QAM	-541	mHz
MIDDLE	LTE 5 MHz	64QAM	41	mHz
MIDDLE	LTE 5 MHz	256QAM	642	mHz
TOP	LTE 5 MHz	QPSK	1.08	Hz
TOP	LTE 5 MHz	16QAM	-983	mHz
TOP	LTE 5 MHz	64QAM	-941	mHz
TOP	LTE 5 MHz	256QAM	-79	mHz
MIDDLE	LTE 10 MHz	QPSK	-676	mHz
MIDDLE	LTE 10 MHz	16QAM	-1.275	Hz
MIDDLE	LTE 10 MHz	64QAM	747	mHz
MIDDLE	LTE 10 MHz	256QAM	965	mHz

Temperature = -10°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	1.058	Hz
BOTTOM	LTE 5 MHz	16QAM	593	mHz
BOTTOM	LTE 5 MHz	64QAM	1.002	Hz
BOTTOM	LTE 5 MHz	256QAM	1.447	Hz
MIDDLE	LTE 5 MHz	QPSK	285	mHz
MIDDLE	LTE 5 MHz	16QAM	-1.356	Hz
MIDDLE	LTE 5 MHz	64QAM	265	mHz
MIDDLE	LTE 5 MHz	256QAM	-380	mHz
TOP	LTE 5 MHz	QPSK	419	mHz
TOP	LTE 5 MHz	16QAM	-103	mHz
TOP	LTE 5 MHz	64QAM	-512	mHz
TOP	LTE 5 MHz	256QAM	-1.084	Hz
MIDDLE	LTE 10 MHz	QPSK	965	mHz
MIDDLE	LTE 10 MHz	16QAM	-174	mHz
MIDDLE	LTE 10 MHz	64QAM	-1.482	Hz
MIDDLE	LTE 10 MHz	256QAM	464	mHz

Temperature = 0°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	972	mHz
BOTTOM	LTE 5 MHz	16QAM	-1.47	Hz
BOTTOM	LTE 5 MHz	64QAM	529	mHz
BOTTOM	LTE 5 MHz	256QAM	-651	mHz
MIDDLE	LTE 5 MHz	QPSK	11.374	mHz
MIDDLE	LTE 5 MHz	16QAM	305.35	mHz
MIDDLE	LTE 5 MHz	64QAM	-866.67	mHz
MIDDLE	LTE 5 MHz	256QAM	-647.8	mHz
TOP	LTE 5 MHz	QPSK	1.111	Hz
TOP	LTE 5 MHz	16QAM	-863	mHz
TOP	LTE 5 MHz	64QAM	-252	mHz
TOP	LTE 5 MHz	256QAM	-546	mHz
MIDDLE	LTE 10 MHz	QPSK	-446.1	mHz
MIDDLE	LTE 10 MHz	16QAM	-1.5034	Hz
MIDDLE	LTE 10 MHz	64QAM	145.28	mHz
MIDDLE	LTE 10 MHz	256QAM	980.68	mHz

Temperature = 10°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	750	mHz
BOTTOM	LTE 5 MHz	16QAM	1.243	Hz
BOTTOM	LTE 5 MHz	64QAM	245	mHz
BOTTOM	LTE 5 MHz	256QAM	297	mHz
MIDDLE	LTE 5 MHz	QPSK	716	mHz
MIDDLE	LTE 5 MHz	16QAM	335	mHz
MIDDLE	LTE 5 MHz	64QAM	-145	mHz
MIDDLE	LTE 5 MHz	256QAM	217	mHz
TOP	LTE 5 MHz	QPSK	1.498	Hz
TOP	LTE 5 MHz	16QAM	-561	mHz
TOP	LTE 5 MHz	64QAM	219	mHz
TOP	LTE 5 MHz	256QAM	-1.471	Hz
MIDDLE	LTE 10 MHz	QPSK	-1.199	Hz
MIDDLE	LTE 10 MHz	16QAM	543	mHz
MIDDLE	LTE 10 MHz	64QAM	1.303	Hz
MIDDLE	LTE 10 MHz	256QAM	489	mHz

Temperature = 20°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	481.72	mHz
BOTTOM	LTE 5 MHz	16QAM	948.29	mHz
BOTTOM	LTE 5 MHz	64QAM	-360.66	mHz
BOTTOM	LTE 5 MHz	256QAM	-245.15	mHz
MIDDLE	LTE 5 MHz	QPSK	1.3136	Hz
MIDDLE	LTE 5 MHz	16QAM	-431.39	mHz
MIDDLE	LTE 5 MHz	64QAM	-433.73	mHz
MIDDLE	LTE 5 MHz	256QAM	366.48	mHz
TOP	LTE 5 MHz	QPSK	1.8595	Hz
TOP	LTE 5 MHz	16QAM	-648.41	mHz
TOP	LTE 5 MHz	64QAM	-31.665	mHz
TOP	LTE 5 MHz	256QAM	1.0583	Hz
MIDDLE	LTE 10 MHz	QPSK	741.65	mHz
MIDDLE	LTE 10 MHz	16QAM	1.0415	Hz
MIDDLE	LTE 10 MHz	64QAM	-917.86	mHz
MIDDLE	LTE 10 MHz	256QAM	813.28	mHz

Temperature = 30°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	-28	mHz
BOTTOM	LTE 5 MHz	16QAM	203	mHz
BOTTOM	LTE 5 MHz	64QAM	-441	mHz
BOTTOM	LTE 5 MHz	256QAM	-600	mHz
MIDDLE	LTE 5 MHz	QPSK	-633	mHz
MIDDLE	LTE 5 MHz	16QAM	-887	mHz
MIDDLE	LTE 5 MHz	64QAM	-578	mHz
MIDDLE	LTE 5 MHz	256QAM	-637	mHz
TOP	LTE 5 MHz	QPSK	-513	mHz
TOP	LTE 5 MHz	16QAM	-1.369	Hz
TOP	LTE 5 MHz	64QAM	1.217	Hz
TOP	LTE 5 MHz	256QAM	-1.496	Hz
MIDDLE	LTE 10 MHz	QPSK	-979	mHz
MIDDLE	LTE 10 MHz	16QAM	111	mHz
MIDDLE	LTE 10 MHz	64QAM	210	mHz
MIDDLE	LTE 10 MHz	256QAM	1.016	Hz

Temperature = 40°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	1.361	Hz
BOTTOM	LTE 5 MHz	16QAM	-619	mHz
BOTTOM	LTE 5 MHz	64QAM	498	mHz
BOTTOM	LTE 5 MHz	256QAM	593	mHz
MIDDLE	LTE 5 MHz	QPSK	357	mHz
MIDDLE	LTE 5 MHz	16QAM	1.18	Hz
MIDDLE	LTE 5 MHz	64QAM	-642	mHz
MIDDLE	LTE 5 MHz	256QAM	-490	mHz
TOP	LTE 5 MHz	QPSK	886	mHz
TOP	LTE 5 MHz	16QAM	955	mHz
TOP	LTE 5 MHz	64QAM	471	mHz
TOP	LTE 5 MHz	256QAM	103	mHz
MIDDLE	LTE 10 MHz	QPSK	-1.307	Hz
MIDDLE	LTE 10 MHz	16QAM	-590	mHz
MIDDLE	LTE 10 MHz	64QAM	425	mHz
MIDDLE	LTE 10 MHz	256QAM	-276	mHz

Temperature = 50°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	957.590	mHz
BOTTOM	LTE 5 MHz	16QAM	-485.940	mHz
BOTTOM	LTE 5 MHz	64QAM	-317.580	mHz
BOTTOM	LTE 5 MHz	256QAM	-541.770	mHz
MIDDLE	LTE 5 MHz	QPSK	389.510	mHz
MIDDLE	LTE 5 MHz	16QAM	378.520	mHz
MIDDLE	LTE 5 MHz	64QAM	-302.230	mHz
MIDDLE	LTE 5 MHz	256QAM	499.010	mHz
TOP	LTE 5 MHz	QPSK	392.480	mHz
TOP	LTE 5 MHz	16QAM	916.460	mHz
TOP	LTE 5 MHz	64QAM	182.640	mHz
TOP	LTE 5 MHz	256QAM	769.850	mHz
MIDDLE	LTE 10 MHz	QPSK	-1.353	Hz
MIDDLE	LTE 10 MHz	16QAM	351.890	mHz
MIDDLE	LTE 10 MHz	64QAM	161.580	mHz
MIDDLE	LTE 10 MHz	256QAM	526.040	mHz

RF PORT 2

Temperature = -30°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	-155.23	mHz
BOTTOM	LTE 5 MHz	16QAM	725.52	mHz
BOTTOM	LTE 5 MHz	64QAM	76.202	mHz
BOTTOM	LTE 5 MHz	256QAM	-507.24	mHz
MIDDLE	LTE 5 MHz	QPSK	300.23	mHz
MIDDLE	LTE 5 MHz	16QAM	-452.1	mHz
MIDDLE	LTE 5 MHz	64QAM	667.96	mHz
MIDDLE	LTE 5 MHz	256QAM	-712.09	mHz
TOP	LTE 5 MHz	QPSK	834.36	mHz
TOP	LTE 5 MHz	16QAM	-574.48	mHz
TOP	LTE 5 MHz	64QAM	-84.983	mHz
TOP	LTE 5 MHz	256QAM	58.935	mHz
MIDDLE	LTE 10 MHz	QPSK	572.89	mHz
MIDDLE	LTE 10 MHz	16QAM	-618.11	mHz
MIDDLE	LTE 10 MHz	64QAM	-903.94	mHz
MIDDLE	LTE 10 MHz	256QAM	-247.05	mHz

Temperature = -20°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	1.447	Hz
BOTTOM	LTE 5 MHz	16QAM	1.301	Hz
BOTTOM	LTE 5 MHz	64QAM	1.241	Hz
BOTTOM	LTE 5 MHz	256QAM	331	mHz
MIDDLE	LTE 5 MHz	QPSK	1.138	Hz
MIDDLE	LTE 5 MHz	16QAM	266	mHz
MIDDLE	LTE 5 MHz	64QAM	-1.176	Hz
MIDDLE	LTE 5 MHz	256QAM	-1.324	Hz
TOP	LTE 5 MHz	QPSK	52	mHz
TOP	LTE 5 MHz	16QAM	-674	mHz
TOP	LTE 5 MHz	64QAM	-351	mHz
TOP	LTE 5 MHz	256QAM	744	mHz
MIDDLE	LTE 10 MHz	QPSK	1.101	Hz
MIDDLE	LTE 10 MHz	16QAM	224	mHz
MIDDLE	LTE 10 MHz	64QAM	294	mHz
MIDDLE	LTE 10 MHz	256QAM	-438	mHz

Temperature = -10°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	208	mHz
BOTTOM	LTE 5 MHz	16QAM	-857	mHz
BOTTOM	LTE 5 MHz	64QAM	-1.357	Hz
BOTTOM	LTE 5 MHz	256QAM	-710	mHz
MIDDLE	LTE 5 MHz	QPSK	-878	mHz
MIDDLE	LTE 5 MHz	16QAM	1.247	Hz
MIDDLE	LTE 5 MHz	64QAM	624	mHz
MIDDLE	LTE 5 MHz	256QAM	420	mHz
TOP	LTE 5 MHz	QPSK	-1.311	Hz
TOP	LTE 5 MHz	16QAM	1.125	Hz
TOP	LTE 5 MHz	64QAM	757	mHz
TOP	LTE 5 MHz	256QAM	-882	mHz
MIDDLE	LTE 10 MHz	QPSK	-850	mHz
MIDDLE	LTE 10 MHz	16QAM	-559	mHz
MIDDLE	LTE 10 MHz	64QAM	-1.189	Hz
MIDDLE	LTE 10 MHz	256QAM	71	mHz

Temperature = 0°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	-188	mHz
BOTTOM	LTE 5 MHz	16QAM	1.064	Hz
BOTTOM	LTE 5 MHz	64QAM	88	mHz
BOTTOM	LTE 5 MHz	256QAM	1.343	Hz
MIDDLE	LTE 5 MHz	QPSK	481.8	mHz
MIDDLE	LTE 5 MHz	16QAM	-596.34	mHz
MIDDLE	LTE 5 MHz	64QAM	1.2156	Hz
MIDDLE	LTE 5 MHz	256QAM	-791.37	mHz
TOP	LTE 5 MHz	QPSK	-875	mHz
TOP	LTE 5 MHz	16QAM	-458	mHz
TOP	LTE 5 MHz	64QAM	1.025	Hz
TOP	LTE 5 MHz	256QAM	-1.271	Hz
MIDDLE	LTE 10 MHz	QPSK	1.7617	Hz
MIDDLE	LTE 10 MHz	16QAM	101.96	mHz
MIDDLE	LTE 10 MHz	64QAM	859.74	mHz
MIDDLE	LTE 10 MHz	256QAM	-691.42	mHz

Temperature = 10°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	647	mHz
BOTTOM	LTE 5 MHz	16QAM	780	mHz
BOTTOM	LTE 5 MHz	64QAM	1.493	Hz
BOTTOM	LTE 5 MHz	256QAM	-162	mHz
MIDDLE	LTE 5 MHz	QPSK	-498	mHz
MIDDLE	LTE 5 MHz	16QAM	509	mHz
MIDDLE	LTE 5 MHz	64QAM	465	mHz
MIDDLE	LTE 5 MHz	256QAM	400	mHz
TOP	LTE 5 MHz	QPSK	-71	mHz
TOP	LTE 5 MHz	16QAM	-822	mHz
TOP	LTE 5 MHz	64QAM	796	mHz
TOP	LTE 5 MHz	256QAM	-1.345	Hz
MIDDLE	LTE 10 MHz	QPSK	687	mHz
MIDDLE	LTE 10 MHz	16QAM	1.409	Hz
MIDDLE	LTE 10 MHz	64QAM	1.125	Hz
MIDDLE	LTE 10 MHz	256QAM	588	mHz

Temperature = 20°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	-793.49	mHz
BOTTOM	LTE 5 MHz	16QAM	333.58	mHz
BOTTOM	LTE 5 MHz	64QAM	-426.53	mHz
BOTTOM	LTE 5 MHz	256QAM	-662.85	mHz
MIDDLE	LTE 5 MHz	QPSK	-135.95	mHz
MIDDLE	LTE 5 MHz	16QAM	805.75	mHz
MIDDLE	LTE 5 MHz	64QAM	-179.8	mHz
MIDDLE	LTE 5 MHz	256QAM	824.1	mHz
TOP	LTE 5 MHz	QPSK	899.8	mHz
TOP	LTE 5 MHz	16QAM	337.65	mHz
TOP	LTE 5 MHz	64QAM	921.71	mHz
TOP	LTE 5 MHz	256QAM	441.87	mHz
MIDDLE	LTE 10 MHz	QPSK	-974.82	mHz
MIDDLE	LTE 10 MHz	16QAM	-880.52	mHz
MIDDLE	LTE 10 MHz	64QAM	-149.23	mHz
MIDDLE	LTE 10 MHz	256QAM	416.14	mHz

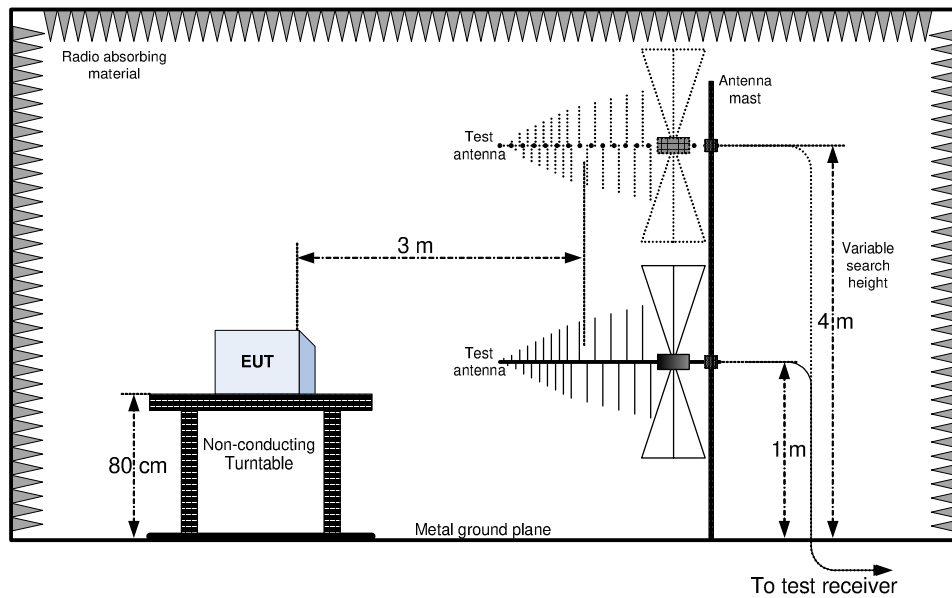
Temperature = 30°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	-761	mHz
BOTTOM	LTE 5 MHz	16QAM	315	mHz
BOTTOM	LTE 5 MHz	64QAM	1.247	Hz
BOTTOM	LTE 5 MHz	256QAM	348	mHz
MIDDLE	LTE 5 MHz	QPSK	-680	mHz
MIDDLE	LTE 5 MHz	16QAM	294	mHz
MIDDLE	LTE 5 MHz	64QAM	-204	mHz
MIDDLE	LTE 5 MHz	256QAM	909	mHz
TOP	LTE 5 MHz	QPSK	-631	mHz
TOP	LTE 5 MHz	16QAM	-1.259	Hz
TOP	LTE 5 MHz	64QAM	28	mHz
TOP	LTE 5 MHz	256QAM	637	mHz
MIDDLE	LTE 10 MHz	QPSK	-345	mHz
MIDDLE	LTE 10 MHz	16QAM	542	mHz
MIDDLE	LTE 10 MHz	64QAM	482	mHz
MIDDLE	LTE 10 MHz	256QAM	-1.494	Hz

Temperature = 40°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	-742	mHz
BOTTOM	LTE 5 MHz	16QAM	875	mHz
BOTTOM	LTE 5 MHz	64QAM	-920	mHz
BOTTOM	LTE 5 MHz	256QAM	-266	mHz
MIDDLE	LTE 5 MHz	QPSK	1.266	Hz
MIDDLE	LTE 5 MHz	16QAM	-1.187	Hz
MIDDLE	LTE 5 MHz	64QAM	-714	mHz
MIDDLE	LTE 5 MHz	256QAM	51	mHz
TOP	LTE 5 MHz	QPSK	-714	mHz
TOP	LTE 5 MHz	16QAM	-944	mHz
TOP	LTE 5 MHz	64QAM	-175	mHz
TOP	LTE 5 MHz	256QAM	964	mHz
MIDDLE	LTE 10 MHz	QPSK	377	mHz
MIDDLE	LTE 10 MHz	16QAM	-624	mHz
MIDDLE	LTE 10 MHz	64QAM	-1.295	Hz
MIDDLE	LTE 10 MHz	256QAM	976	mHz

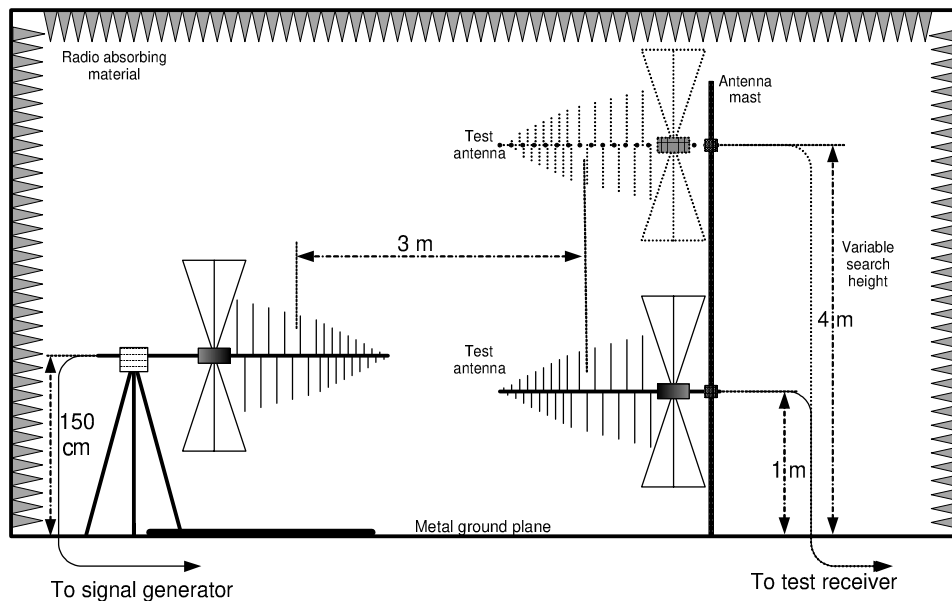
Temperature = 50°C				
Channel	Signal	Modulation	Frequency Error	
BOTTOM	LTE 5 MHz	QPSK	957.590	mHz
BOTTOM	LTE 5 MHz	16QAM	-485.940	mHz
BOTTOM	LTE 5 MHz	64QAM	-317.580	mHz
BOTTOM	LTE 5 MHz	256QAM	-541.770	mHz
MIDDLE	LTE 5 MHz	QPSK	389.510	mHz
MIDDLE	LTE 5 MHz	16QAM	378.520	mHz
MIDDLE	LTE 5 MHz	64QAM	-302.230	mHz
MIDDLE	LTE 5 MHz	256QAM	499.010	mHz
TOP	LTE 5 MHz	QPSK	392.480	mHz
TOP	LTE 5 MHz	16QAM	916.460	mHz
TOP	LTE 5 MHz	64QAM	182.640	mHz
TOP	LTE 5 MHz	256QAM	769.850	mHz
MIDDLE	LTE 10 MHz	QPSK	-1.353	Hz
MIDDLE	LTE 10 MHz	16QAM	351.890	mHz
MIDDLE	LTE 10 MHz	64QAM	161.580	mHz
MIDDLE	LTE 10 MHz	256QAM	526.040	mHz

Appendix B: Block diagrams of test set-ups

Radiated emissions set-up



Substitution method set-up



Appendix C: EUT Photos

Photo Set up

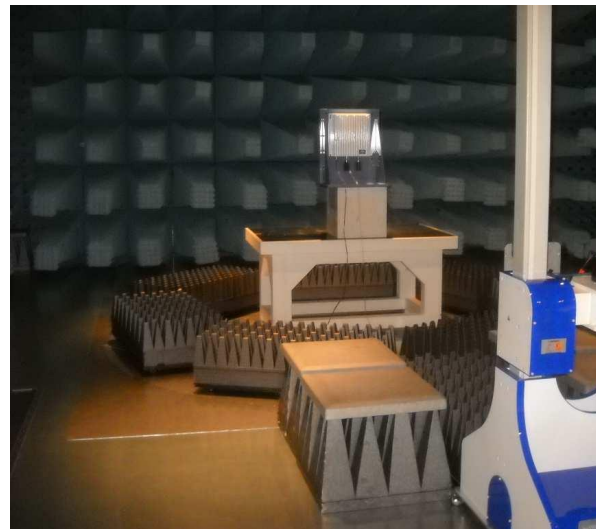
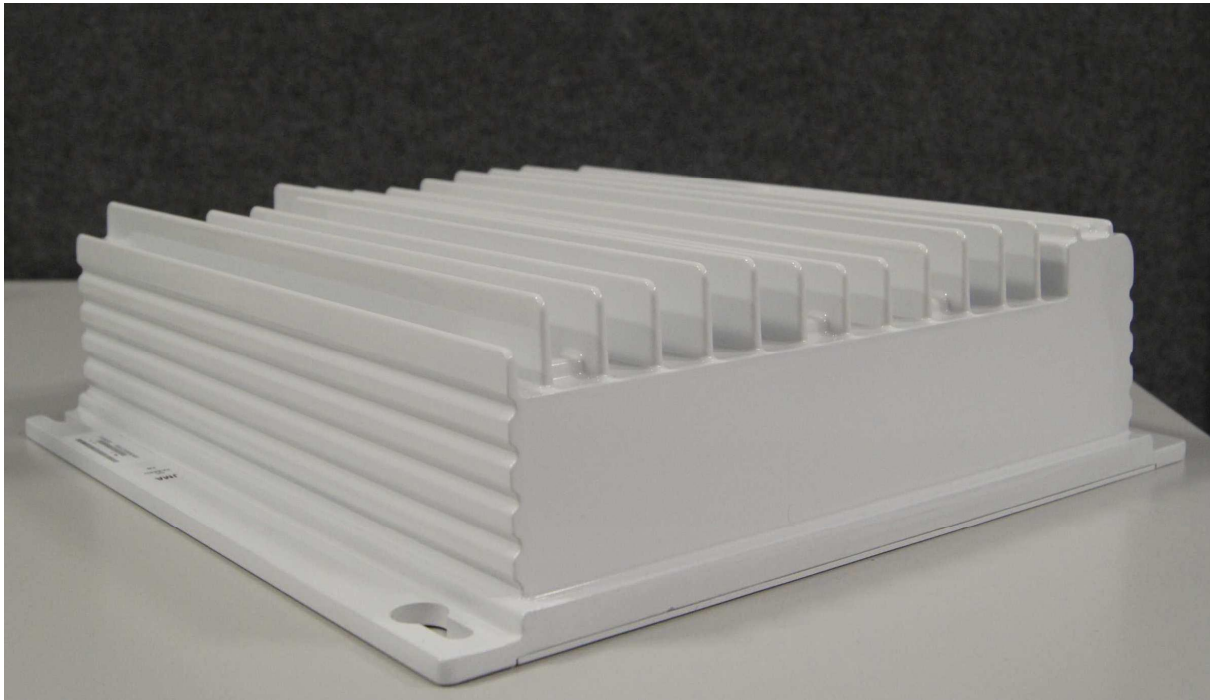


Photo EUT





END OF TEST REPORT