

Frequency Stability-TH/VN

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Deviation (Hz)	Deviation (ppm)	Limit(ppm)	Verdict	Environment
7	5.0	20775	2502.5	QPSK	25@0	-13.22	-0.00528	±2.5	PASS	TH/VN
7	5.0	20775	2502.5	16QAM	25@0	-0.37	-0.00015	±2.5	PASS	TH/VN
7	5.0	20775	2502.5	64QAM	25@0	-20.14	-0.00805	±2.5	PASS	TH/VN
7	5.0	21100	2535.0	QPSK	25@0	-6.07	-0.00239	±2.5	PASS	TH/VN
7	5.0	21100	2535.0	16QAM	25@0	0.79	0.00031	±2.5	PASS	TH/VN
7	5.0	21100	2535.0	64QAM	25@0	-3.72	-0.00147	±2.5	PASS	TH/VN
7	5.0	21425	2567.5	QPSK	25@0	-19.8	-0.00771	±2.5	PASS	TH/VN
7	5.0	21425	2567.5	16QAM	25@0	-9.37	-0.00365	±2.5	PASS	TH/VN
7	5.0	21425	2567.5	64QAM	25@0	-1.79	-0.0007	±2.5	PASS	TH/VN
7	10.0	20800	2505.0	QPSK	50@0	-0.2	-8e-05	±2.5	PASS	TH/VN
7	10.0	20800	2505.0	16QAM	50@0	-11.32	-0.00452	±2.5	PASS	TH/VN
7	10.0	20800	2505.0	64QAM	50@0	-3.73	-0.00149	±2.5	PASS	TH/VN
7	10.0	21100	2535.0	QPSK	50@0	0.32	0.00013	±2.5	PASS	TH/VN
7	10.0	21100	2535.0	16QAM	50@0	-15.15	-0.00598	±2.5	PASS	TH/VN
7	10.0	21100	2535.0	64QAM	50@0	2.96	0.00117	±2.5	PASS	TH/VN
7	10.0	21400	2565.0	QPSK	50@0	0.32	0.00012	±2.5	PASS	TH/VN
7	10.0	21400	2565.0	16QAM	50@0	-4.31	-0.00168	±2.5	PASS	TH/VN
7	10.0	21400	2565.0	64QAM	50@0	-16.94	-0.0066	±2.5	PASS	TH/VN
7	15.0	20825	2507.5	QPSK	75@0	-1.34	-0.00054	±2.5	PASS	TH/VN
7	15.0	20825	2507.5	16QAM	75@0	6.39	0.00255	±2.5	PASS	TH/VN
7	15.0	20825	2507.5	64QAM	75@0	-4.12	-0.00164	±2.5	PASS	TH/VN
7	15.0	21100	2535.0	QPSK	75@0	-9.4	-0.00371	±2.5	PASS	TH/VN
7	15.0	21100	2535.0	16QAM	75@0	3.36	0.00133	±2.5	PASS	TH/VN
7	15.0	21100	2535.0	64QAM	75@0	-13.48	-0.00532	±2.5	PASS	TH/VN
7	15.0	21375	2562.5	QPSK	75@0	-2.92	-0.00114	±2.5	PASS	TH/VN
7	15.0	21375	2562.5	16QAM	75@0	-3.62	-0.00141	±2.5	PASS	TH/VN
7	15.0	21375	2562.5	64QAM	75@0	-15.16	-0.00592	±2.5	PASS	TH/VN
7	20.0	20850	2510.0	QPSK	100@0	-5.85	-0.00233	±2.5	PASS	TH/VN
7	20.0	20850	2510.0	16QAM	100@0	-0.33	-0.00013	±2.5	PASS	TH/VN
7	20.0	20850	2510.0	64QAM	100@0	-14.46	-0.00576	±2.5	PASS	TH/VN
7	20.0	21100	2535.0	QPSK	100@0	1.37	0.00054	±2.5	PASS	TH/VN
7	20.0	21100	2535.0	16QAM	100@0	-3.52	-0.00139	±2.5	PASS	TH/VN
7	20.0	21100	2535.0	64QAM	100@0	-4.49	-0.00177	±2.5	PASS	TH/VN
7	20.0	21350	2560.0	QPSK	100@0	1.39	0.00054	±2.5	PASS	TH/VN
7	20.0	21350	2560.0	16QAM	100@0	7.81	0.00305	±2.5	PASS	TH/VN
7	20.0	21350	2560.0	64QAM	100@0	8.98	0.00351	±2.5	PASS	TH/VN
12	1.4	23017	699.7	QPSK	6@0	-5.34	-0.00763	±2.5	PASS	TH/VN
12	1.4	23017	699.7	16QAM	6@0	-4.68	-0.00669	±2.5	PASS	TH/VN
12	1.4	23017	699.7	64QAM	6@0	5.81	0.0083	±2.5	PASS	TH/VN
12	1.4	23095	707.5	QPSK	6@0	-8.1	-0.01144	±2.5	PASS	TH/VN



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12	1.4	23095	707.5	16QAM	6@0	-2.19	-0.00309	±2.5	PASS	TH/VN
12	1.4	23095	707.5	64QAM	6@0	-1.27	-0.0018	±2.5	PASS	TH/VN
12	1.4	23173	715.3	QPSK	6@0	-8.5	-0.01188	±2.5	PASS	TH/VN
12	1.4	23173	715.3	16QAM	6@0	2.02	0.00282	±2.5	PASS	TH/VN
12	1.4	23173	715.3	64QAM	6@0	-9.11	-0.01274	±2.5	PASS	TH/VN
12	3.0	23025	700.5	QPSK	15@0	-8.88	-0.01268	±2.5	PASS	TH/VN
12	3.0	23025	700.5	16QAM	15@0	-1.59	-0.00227	±2.5	PASS	TH/VN
12	3.0	23025	700.5	64QAM	15@0	0.32	0.00046	±2.5	PASS	TH/VN
12	3.0	23095	707.5	QPSK	15@0	-8.58	-0.01213	±2.5	PASS	TH/VN
12	3.0	23095	707.5	16QAM	15@0	1.2	0.0017	±2.5	PASS	TH/VN
12	3.0	23095	707.5	64QAM	15@0	-2.82	-0.00398	±2.5	PASS	TH/VN
12	3.0	23165	714.5	QPSK	15@0	-8.5	-0.01189	±2.5	PASS	TH/VN
12	3.0	23165	714.5	16QAM	15@0	-2.46	-0.00344	±2.5	PASS	TH/VN
12	3.0	23165	714.5	64QAM	15@0	-8.94	-0.01251	±2.5	PASS	TH/VN
12	5.0	23035	701.5	QPSK	25@0	0.67	0.00096	±2.5	PASS	TH/VN
12	5.0	23035	701.5	16QAM	25@0	1.8	0.00257	±2.5	PASS	TH/VN
12	5.0	23035	701.5	64QAM	25@0	-5.26	-0.0075	±2.5	PASS	TH/VN
12	5.0	23095	707.5	QPSK	25@0	-4.29	-0.00607	±2.5	PASS	TH/VN
12	5.0	23095	707.5	16QAM	25@0	-1.12	-0.00158	±2.5	PASS	TH/VN
12	5.0	23095	707.5	64QAM	25@0	-9.8	-0.01385	±2.5	PASS	TH/VN
12	5.0	23155	713.5	QPSK	25@0	1.82	0.00255	±2.5	PASS	TH/VN
12	5.0	23155	713.5	16QAM	25@0	-7.28	-0.01021	±2.5	PASS	TH/VN
12	5.0	23155	713.5	64QAM	25@0	-4.13	-0.00579	±2.5	PASS	TH/VN
12	10.0	23060	704.0	QPSK	50@0	0.32	0.00045	±2.5	PASS	TH/VN
12	10.0	23060	704.0	16QAM	50@0	-7.58	-0.01077	±2.5	PASS	TH/VN
12	10.0	23060	704.0	64QAM	50@0	-8.51	-0.01209	±2.5	PASS	TH/VN
12	10.0	23095	707.5	QPSK	50@0	-5.02	-0.0071	±2.5	PASS	TH/VN
12	10.0	23095	707.5	16QAM	50@0	-1.16	-0.00164	±2.5	PASS	TH/VN
12	10.0	23095	707.5	64QAM	50@0	-11.04	-0.01561	±2.5	PASS	TH/VN
12	10.0	23130	711.0	QPSK	50@0	-3.53	-0.00497	±2.5	PASS	TH/VN
12	10.0	23130	711.0	16QAM	50@0	-5.36	-0.00754	±2.5	PASS	TH/VN
12	10.0	23130	711.0	64QAM	50@0	0.66	0.00093	±2.5	PASS	TH/VN
17	5.0	23755	706.5	QPSK	25@0	0.84	0.00119	±2.5	PASS	TH/VN
17	5.0	23755	706.5	16QAM	25@0	-1.69	-0.00239	±2.5	PASS	TH/VN
17	5.0	23755	706.5	64QAM	25@0	-2.96	-0.00419	±2.5	PASS	TH/VN
17	5.0	23790	710.0	QPSK	25@0	-2.02	-0.00284	±2.5	PASS	TH/VN
17	5.0	23790	710.0	16QAM	25@0	-2.23	-0.00314	±2.5	PASS	TH/VN
17	5.0	23790	710.0	64QAM	25@0	0.32	0.00045	±2.5	PASS	TH/VN
17	5.0	23825	713.5	QPSK	25@0	-5.81	-0.00814	±2.5	PASS	TH/VN
17	5.0	23825	713.5	16QAM	25@0	-6.51	-0.00912	±2.5	PASS	TH/VN
17	5.0	23825	713.5	64QAM	25@0	-4.28	-0.00599	±2.5	PASS	TH/VN
17	10.0	23780	709.0	QPSK	50@0	-6.19	-0.00874	±2.5	PASS	TH/VN
17	10.0	23780	709.0	16QAM	50@0	-3.19	-0.0045	±2.5	PASS	TH/VN



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17	10.0	23780	709.0	64QAM	50@0	-2.46	-0.00347	±2.5	PASS	TH/VN
17	10.0	23790	710.0	QPSK	50@0	-4.39	-0.00619	±2.5	PASS	TH/VN
17	10.0	23790	710.0	16QAM	50@0	-2.47	-0.00349	±2.5	PASS	TH/VN
17	10.0	23790	710.0	64QAM	50@0	-5.72	-0.00806	±2.5	PASS	TH/VN
17	10.0	23800	711.0	QPSK	50@0	-2.5	-0.00352	±2.5	PASS	TH/VN
17	10.0	23800	711.0	16QAM	50@0	-4.15	-0.00583	±2.5	PASS	TH/VN
17	10.0	23800	711.0	64QAM	50@0	-7.6	-0.01068	±2.5	PASS	TH/VN

Frequency Stability-TL/VH

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Deviation (Hz)	Deviation (ppm)	Limit(ppm)	Verdict	Environment
7	5.0	20775	2502.5	QPSK	25@0	-4.55	-0.00182	±2.5	PASS	TL/VH
7	5.0	20775	2502.5	16QAM	25@0	-12.0	-0.0048	±2.5	PASS	TL/VH
7	5.0	20775	2502.5	64QAM	25@0	-10.21	-0.00408	±2.5	PASS	TL/VH
7	5.0	21100	2535.0	QPSK	25@0	-7.77	-0.00306	±2.5	PASS	TL/VH
7	5.0	21100	2535.0	16QAM	25@0	-15.12	-0.00596	±2.5	PASS	TL/VH
7	5.0	21100	2535.0	64QAM	25@0	2.6	0.00103	±2.5	PASS	TL/VH
7	5.0	21425	2567.5	QPSK	25@0	-16.22	-0.00632	±2.5	PASS	TL/VH
7	5.0	21425	2567.5	16QAM	25@0	3.55	0.00138	±2.5	PASS	TL/VH
7	5.0	21425	2567.5	64QAM	25@0	-18.7	-0.00728	±2.5	PASS	TL/VH
7	10.0	20800	2505.0	QPSK	50@0	-8.24	-0.00329	±2.5	PASS	TL/VH
7	10.0	20800	2505.0	16QAM	50@0	-12.85	-0.00513	±2.5	PASS	TL/VH
7	10.0	20800	2505.0	64QAM	50@0	3.46	0.00138	±2.5	PASS	TL/VH
7	10.0	21100	2535.0	QPSK	50@0	-13.69	-0.0054	±2.5	PASS	TL/VH
7	10.0	21100	2535.0	16QAM	50@0	-11.73	-0.00463	±2.5	PASS	TL/VH
7	10.0	21100	2535.0	64QAM	50@0	1.14	0.00045	±2.5	PASS	TL/VH
7	10.0	21400	2565.0	QPSK	50@0	2.53	0.00099	±2.5	PASS	TL/VH
7	10.0	21400	2565.0	16QAM	50@0	3.46	0.00135	±2.5	PASS	TL/VH
7	10.0	21400	2565.0	64QAM	50@0	-11.92	-0.00465	±2.5	PASS	TL/VH
7	15.0	20825	2507.5	QPSK	75@0	2.55	0.00102	±2.5	PASS	TL/VH
7	15.0	20825	2507.5	16QAM	75@0	-6.81	-0.00272	±2.5	PASS	TL/VH
7	15.0	20825	2507.5	64QAM	75@0	-10.93	-0.00436	±2.5	PASS	TL/VH
7	15.0	21100	2535.0	QPSK	75@0	0.44	0.00017	±2.5	PASS	TL/VH
7	15.0	21100	2535.0	16QAM	75@0	19.58	0.00773	±2.5	PASS	TL/VH
7	15.0	21100	2535.0	64QAM	75@0	-8.54	-0.00337	±2.5	PASS	TL/VH
7	15.0	21375	2562.5	QPSK	75@0	-8.2	-0.0032	±2.5	PASS	TL/VH
7	15.0	21375	2562.5	16QAM	75@0	-1.82	-0.00071	±2.5	PASS	TL/VH
7	15.0	21375	2562.5	64QAM	75@0	-10.86	-0.00424	±2.5	PASS	TL/VH
7	20.0	20850	2510.0	QPSK	100@0	-7.75	-0.00309	±2.5	PASS	TL/VH
7	20.0	20850	2510.0	16QAM	100@0	10.43	0.00415	±2.5	PASS	TL/VH
7	20.0	20850	2510.0	64QAM	100@0	-10.56	-0.00421	±2.5	PASS	TL/VH
7	20.0	21100	2535.0	QPSK	100@0	-10.93	-0.00431	±2.5	PASS	TL/VH
7	20.0	21100	2535.0	16QAM	100@0	-10.06	-0.00397	±2.5	PASS	TL/VH
7	20.0	21100	2535.0	64QAM	100@0	-16.05	-0.00633	±2.5	PASS	TL/VH
7	20.0	21350	2560.0	QPSK	100@0	5.14	0.00201	±2.5	PASS	TL/VH
7	20.0	21350	2560.0	16QAM	100@0	-8.03	-0.00313	±2.5	PASS	TL/VH
7	20.0	21350	2560.0	64QAM	100@0	-5.28	-0.00206	±2.5	PASS	TL/VH
12	1.4	23017	699.7	QPSK	6@0	-8.55	-0.01223	±2.5	PASS	TL/VH
12	1.4	23017	699.7	16QAM	6@0	-2.68	-0.00382	±2.5	PASS	TL/VH
12	1.4	23017	699.7	64QAM	6@0	3.3	0.00472	±2.5	PASS	TL/VH
12	1.4	23095	707.5	QPSK	6@0	-7.0	-0.00989	±2.5	PASS	TL/VH

12	1.4	23095	707.5	16QAM	6@0	-2.25	-0.00317	±2.5	PASS	TL/VH
12	1.4	23095	707.5	64QAM	6@0	0.92	0.00129	±2.5	PASS	TL/VH
12	1.4	23173	715.3	QPSK	6@0	-8.74	-0.01222	±2.5	PASS	TL/VH
12	1.4	23173	715.3	16QAM	6@0	-0.3	-0.00042	±2.5	PASS	TL/VH
12	1.4	23173	715.3	64QAM	6@0	-0.29	-0.0004	±2.5	PASS	TL/VH
12	3.0	23025	700.5	QPSK	15@0	-8.17	-0.01166	±2.5	PASS	TL/VH
12	3.0	23025	700.5	16QAM	15@0	-3.16	-0.00451	±2.5	PASS	TL/VH
12	3.0	23025	700.5	64QAM	15@0	1.82	0.00259	±2.5	PASS	TL/VH
12	3.0	23095	707.5	QPSK	15@0	-3.05	-0.00431	±2.5	PASS	TL/VH
12	3.0	23095	707.5	16QAM	15@0	-3.81	-0.00538	±2.5	PASS	TL/VH
12	3.0	23095	707.5	64QAM	15@0	1.1	0.00156	±2.5	PASS	TL/VH
12	3.0	23165	714.5	QPSK	15@0	-5.49	-0.00769	±2.5	PASS	TL/VH
12	3.0	23165	714.5	16QAM	15@0	0.82	0.00114	±2.5	PASS	TL/VH
12	3.0	23165	714.5	64QAM	15@0	-2.72	-0.0038	±2.5	PASS	TL/VH
12	5.0	23035	701.5	QPSK	25@0	-1.2	-0.00171	±2.5	PASS	TL/VH
12	5.0	23035	701.5	16QAM	25@0	-0.94	-0.00135	±2.5	PASS	TL/VH
12	5.0	23035	701.5	64QAM	25@0	2.83	0.00404	±2.5	PASS	TL/VH
12	5.0	23095	707.5	QPSK	25@0	-8.21	-0.01161	±2.5	PASS	TL/VH
12	5.0	23095	707.5	16QAM	25@0	-3.79	-0.00536	±2.5	PASS	TL/VH
12	5.0	23095	707.5	64QAM	25@0	2.46	0.00348	±2.5	PASS	TL/VH
12	5.0	23155	713.5	QPSK	25@0	-3.45	-0.00483	±2.5	PASS	TL/VH
12	5.0	23155	713.5	16QAM	25@0	-4.32	-0.00605	±2.5	PASS	TL/VH
12	5.0	23155	713.5	64QAM	25@0	-1.73	-0.00243	±2.5	PASS	TL/VH
12	10.0	23060	704.0	QPSK	50@0	2.06	0.00293	±2.5	PASS	TL/VH
12	10.0	23060	704.0	16QAM	50@0	0.3	0.00043	±2.5	PASS	TL/VH
12	10.0	23060	704.0	64QAM	50@0	-7.25	-0.0103	±2.5	PASS	TL/VH
12	10.0	23095	707.5	QPSK	50@0	-0.96	-0.00135	±2.5	PASS	TL/VH
12	10.0	23095	707.5	16QAM	50@0	-5.69	-0.00805	±2.5	PASS	TL/VH
12	10.0	23095	707.5	64QAM	50@0	1.67	0.00237	±2.5	PASS	TL/VH
12	10.0	23130	711.0	QPSK	50@0	-4.32	-0.00608	±2.5	PASS	TL/VH
12	10.0	23130	711.0	16QAM	50@0	-2.26	-0.00318	±2.5	PASS	TL/VH
12	10.0	23130	711.0	64QAM	50@0	-8.8	-0.01237	±2.5	PASS	TL/VH
17	5.0	23755	706.5	QPSK	25@0	-4.65	-0.00658	±2.5	PASS	TL/VH
17	5.0	23755	706.5	16QAM	25@0	-1.79	-0.00253	±2.5	PASS	TL/VH
17	5.0	23755	706.5	64QAM	25@0	-7.35	-0.01041	±2.5	PASS	TL/VH
17	5.0	23790	710.0	QPSK	25@0	0.32	0.00045	±2.5	PASS	TL/VH
17	5.0	23790	710.0	16QAM	25@0	-4.72	-0.00665	±2.5	PASS	TL/VH
17	5.0	23790	710.0	64QAM	25@0	-5.89	-0.0083	±2.5	PASS	TL/VH
17	5.0	23825	713.5	QPSK	25@0	-4.55	-0.00638	±2.5	PASS	TL/VH
17	5.0	23825	713.5	16QAM	25@0	1.29	0.0018	±2.5	PASS	TL/VH
17	5.0	23825	713.5	64QAM	25@0	0.87	0.00122	±2.5	PASS	TL/VH
17	10.0	23780	709.0	QPSK	50@0	-7.14	-0.01007	±2.5	PASS	TL/VH
17	10.0	23780	709.0	16QAM	50@0	2.36	0.00333	±2.5	PASS	TL/VH



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17	10.0	23780	709.0	64QAM	50@0	-6.87	-0.00968	±2.5	PASS	TL/VH
17	10.0	23790	710.0	QPSK	50@0	-1.83	-0.00258	±2.5	PASS	TL/VH
17	10.0	23790	710.0	16QAM	50@0	0.76	0.00107	±2.5	PASS	TL/VH
17	10.0	23790	710.0	64QAM	50@0	-7.93	-0.01116	±2.5	PASS	TL/VH
17	10.0	23800	711.0	QPSK	50@0	-6.22	-0.00875	±2.5	PASS	TL/VH
17	10.0	23800	711.0	16QAM	50@0	-1.34	-0.00189	±2.5	PASS	TL/VH
17	10.0	23800	711.0	64QAM	50@0	-2.86	-0.00402	±2.5	PASS	TL/VH

Frequency Stability-TL/VL

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Deviation (Hz)	Deviation (ppm)	Limit(ppm)	Verdict	Environment
7	5.0	20775	2502.5	QPSK	25@0	-1.69	-0.00067	±2.5	PASS	TL/VL
7	5.0	20775	2502.5	16QAM	25@0	0.83	0.00033	±2.5	PASS	TL/VL
7	5.0	20775	2502.5	64QAM	25@0	-18.5	-0.00739	±2.5	PASS	TL/VL
7	5.0	21100	2535.0	QPSK	25@0	-18.17	-0.00717	±2.5	PASS	TL/VL
7	5.0	21100	2535.0	16QAM	25@0	-1.6	-0.00063	±2.5	PASS	TL/VL
7	5.0	21100	2535.0	64QAM	25@0	-8.45	-0.00334	±2.5	PASS	TL/VL
7	5.0	21425	2567.5	QPSK	25@0	-20.73	-0.00807	±2.5	PASS	TL/VL
7	5.0	21425	2567.5	16QAM	25@0	2.6	0.00101	±2.5	PASS	TL/VL
7	5.0	21425	2567.5	64QAM	25@0	-1.59	-0.00062	±2.5	PASS	TL/VL
7	10.0	20800	2505.0	QPSK	50@0	-3.16	-0.00126	±2.5	PASS	TL/VL
7	10.0	20800	2505.0	16QAM	50@0	-12.36	-0.00493	±2.5	PASS	TL/VL
7	10.0	20800	2505.0	64QAM	50@0	-23.1	-0.00922	±2.5	PASS	TL/VL
7	10.0	21100	2535.0	QPSK	50@0	-8.94	-0.00353	±2.5	PASS	TL/VL
7	10.0	21100	2535.0	16QAM	50@0	-6.41	-0.00253	±2.5	PASS	TL/VL
7	10.0	21100	2535.0	64QAM	50@0	-11.5	-0.00454	±2.5	PASS	TL/VL
7	10.0	21400	2565.0	QPSK	50@0	-10.63	-0.00414	±2.5	PASS	TL/VL
7	10.0	21400	2565.0	16QAM	50@0	2.13	0.00083	±2.5	PASS	TL/VL
7	10.0	21400	2565.0	64QAM	50@0	-3.08	-0.0012	±2.5	PASS	TL/VL
7	15.0	20825	2507.5	QPSK	75@0	5.51	0.0022	±2.5	PASS	TL/VL
7	15.0	20825	2507.5	16QAM	75@0	11.1	0.00443	±2.5	PASS	TL/VL
7	15.0	20825	2507.5	64QAM	75@0	-7.27	-0.0029	±2.5	PASS	TL/VL
7	15.0	21100	2535.0	QPSK	75@0	-7.34	-0.00289	±2.5	PASS	TL/VL
7	15.0	21100	2535.0	16QAM	75@0	-5.88	-0.00232	±2.5	PASS	TL/VL
7	15.0	21100	2535.0	64QAM	75@0	-7.35	-0.0029	±2.5	PASS	TL/VL
7	15.0	21375	2562.5	QPSK	75@0	-2.15	-0.00084	±2.5	PASS	TL/VL
7	15.0	21375	2562.5	16QAM	75@0	3.89	0.00152	±2.5	PASS	TL/VL
7	15.0	21375	2562.5	64QAM	75@0	-4.31	-0.00168	±2.5	PASS	TL/VL
7	20.0	20850	2510.0	QPSK	100@0	-10.7	-0.00426	±2.5	PASS	TL/VL
7	20.0	20850	2510.0	16QAM	100@0	3.81	0.00152	±2.5	PASS	TL/VL
7	20.0	20850	2510.0	64QAM	100@0	-5.68	-0.00226	±2.5	PASS	TL/VL
7	20.0	21100	2535.0	QPSK	100@0	-4.78	-0.00188	±2.5	PASS	TL/VL
7	20.0	21100	2535.0	16QAM	100@0	4.35	0.00172	±2.5	PASS	TL/VL
7	20.0	21100	2535.0	64QAM	100@0	-1.39	-0.00055	±2.5	PASS	TL/VL
7	20.0	21350	2560.0	QPSK	100@0	0.32	0.00013	±2.5	PASS	TL/VL
7	20.0	21350	2560.0	16QAM	100@0	20.76	0.00811	±2.5	PASS	TL/VL
7	20.0	21350	2560.0	64QAM	100@0	-0.23	-9e-05	±2.5	PASS	TL/VL
12	1.4	23017	699.7	QPSK	6@0	-9.11	-0.01302	±2.5	PASS	TL/VL
12	1.4	23017	699.7	16QAM	6@0	-2.0	-0.00286	±2.5	PASS	TL/VL
12	1.4	23017	699.7	64QAM	6@0	10.19	0.01456	±2.5	PASS	TL/VL
12	1.4	23095	707.5	QPSK	6@0	-5.35	-0.00756	±2.5	PASS	TL/VL

12	1.4	23095	707.5	16QAM	6@0	0.8	0.00113	±2.5	PASS	TL/VL
12	1.4	23095	707.5	64QAM	6@0	-12.57	-0.01777	±2.5	PASS	TL/VL
12	1.4	23173	715.3	QPSK	6@0	-4.92	-0.00688	±2.5	PASS	TL/VL
12	1.4	23173	715.3	16QAM	6@0	-0.57	-0.0008	±2.5	PASS	TL/VL
12	1.4	23173	715.3	64QAM	6@0	7.6	0.01062	±2.5	PASS	TL/VL
12	3.0	23025	700.5	QPSK	15@0	-6.72	-0.0096	±2.5	PASS	TL/VL
12	3.0	23025	700.5	16QAM	15@0	-3.86	-0.00551	±2.5	PASS	TL/VL
12	3.0	23025	700.5	64QAM	15@0	0.64	0.00092	±2.5	PASS	TL/VL
12	3.0	23095	707.5	QPSK	15@0	-3.56	-0.00503	±2.5	PASS	TL/VL
12	3.0	23095	707.5	16QAM	15@0	-0.7	-0.00099	±2.5	PASS	TL/VL
12	3.0	23095	707.5	64QAM	15@0	-5.12	-0.00724	±2.5	PASS	TL/VL
12	3.0	23165	714.5	QPSK	15@0	-7.01	-0.00981	±2.5	PASS	TL/VL
12	3.0	23165	714.5	16QAM	15@0	1.8	0.00252	±2.5	PASS	TL/VL
12	3.0	23165	714.5	64QAM	15@0	10.67	0.01494	±2.5	PASS	TL/VL
12	5.0	23035	701.5	QPSK	25@0	-1.62	-0.0023	±2.5	PASS	TL/VL
12	5.0	23035	701.5	16QAM	25@0	-4.25	-0.00606	±2.5	PASS	TL/VL
12	5.0	23035	701.5	64QAM	25@0	-1.43	-0.00204	±2.5	PASS	TL/VL
12	5.0	23095	707.5	QPSK	25@0	-2.16	-0.00305	±2.5	PASS	TL/VL
12	5.0	23095	707.5	16QAM	25@0	0.27	0.00038	±2.5	PASS	TL/VL
12	5.0	23095	707.5	64QAM	25@0	-9.08	-0.01284	±2.5	PASS	TL/VL
12	5.0	23155	713.5	QPSK	25@0	-3.52	-0.00493	±2.5	PASS	TL/VL
12	5.0	23155	713.5	16QAM	25@0	-3.83	-0.00537	±2.5	PASS	TL/VL
12	5.0	23155	713.5	64QAM	25@0	8.68	0.01217	±2.5	PASS	TL/VL
12	10.0	23060	704.0	QPSK	50@0	-0.21	-0.0003	±2.5	PASS	TL/VL
12	10.0	23060	704.0	16QAM	50@0	-1.06	-0.0015	±2.5	PASS	TL/VL
12	10.0	23060	704.0	64QAM	50@0	-12.66	-0.01798	±2.5	PASS	TL/VL
12	10.0	23095	707.5	QPSK	50@0	-2.47	-0.0035	±2.5	PASS	TL/VL
12	10.0	23095	707.5	16QAM	50@0	-3.2	-0.00453	±2.5	PASS	TL/VL
12	10.0	23095	707.5	64QAM	50@0	-4.63	-0.00655	±2.5	PASS	TL/VL
12	10.0	23130	711.0	QPSK	50@0	0.32	0.00045	±2.5	PASS	TL/VL
12	10.0	23130	711.0	16QAM	50@0	-3.48	-0.00489	±2.5	PASS	TL/VL
12	10.0	23130	711.0	64QAM	50@0	-1.8	-0.00254	±2.5	PASS	TL/VL
17	5.0	23755	706.5	QPSK	25@0	-1.17	-0.00166	±2.5	PASS	TL/VL
17	5.0	23755	706.5	16QAM	25@0	-3.03	-0.00429	±2.5	PASS	TL/VL
17	5.0	23755	706.5	64QAM	25@0	-0.63	-0.00089	±2.5	PASS	TL/VL
17	5.0	23790	710.0	QPSK	25@0	-3.13	-0.00441	±2.5	PASS	TL/VL
17	5.0	23790	710.0	16QAM	25@0	-0.96	-0.00135	±2.5	PASS	TL/VL
17	5.0	23790	710.0	64QAM	25@0	-3.86	-0.00544	±2.5	PASS	TL/VL
17	5.0	23825	713.5	QPSK	25@0	0.32	0.00045	±2.5	PASS	TL/VL
17	5.0	23825	713.5	16QAM	25@0	-1.57	-0.00221	±2.5	PASS	TL/VL
17	5.0	23825	713.5	64QAM	25@0	-4.05	-0.00567	±2.5	PASS	TL/VL
17	10.0	23780	709.0	QPSK	50@0	0.32	0.00045	±2.5	PASS	TL/VL
17	10.0	23780	709.0	16QAM	50@0	0.32	0.00045	±2.5	PASS	TL/VL



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17	10.0	23780	709.0	64QAM	50@0	0.77	0.00109	±2.5	PASS	TL/VL
17	10.0	23790	710.0	QPSK	50@0	-1.72	-0.00242	±2.5	PASS	TL/VL
17	10.0	23790	710.0	16QAM	50@0	-3.19	-0.00449	±2.5	PASS	TL/VL
17	10.0	23790	710.0	64QAM	50@0	-12.93	-0.01821	±2.5	PASS	TL/VL
17	10.0	23800	711.0	QPSK	50@0	-5.29	-0.00744	±2.5	PASS	TL/VL
17	10.0	23800	711.0	16QAM	50@0	-3.91	-0.00549	±2.5	PASS	TL/VL
17	10.0	23800	711.0	64QAM	50@0	-8.78	-0.01235	±2.5	PASS	TL/VL

Frequency Stability-TL/VN

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Deviation (Hz)	Deviation (ppm)	Limit(ppm)	Verdict	Environment
7	5.0	20775	2502.5	QPSK	25@0	-13.32	-0.00532	±2.5	PASS	TL/VN
7	5.0	20775	2502.5	16QAM	25@0	-11.01	-0.0044	±2.5	PASS	TL/VN
7	5.0	20775	2502.5	64QAM	25@0	-7.8	-0.00312	±2.5	PASS	TL/VN
7	5.0	21100	2535.0	QPSK	25@0	-5.16	-0.00204	±2.5	PASS	TL/VN
7	5.0	21100	2535.0	16QAM	25@0	-8.91	-0.00352	±2.5	PASS	TL/VN
7	5.0	21100	2535.0	64QAM	25@0	5.38	0.00212	±2.5	PASS	TL/VN
7	5.0	21425	2567.5	QPSK	25@0	-1.76	-0.00069	±2.5	PASS	TL/VN
7	5.0	21425	2567.5	16QAM	25@0	-10.51	-0.0041	±2.5	PASS	TL/VN
7	5.0	21425	2567.5	64QAM	25@0	-2.52	-0.00098	±2.5	PASS	TL/VN
7	10.0	20800	2505.0	QPSK	50@0	-14.06	-0.00561	±2.5	PASS	TL/VN
7	10.0	20800	2505.0	16QAM	50@0	-3.85	-0.00154	±2.5	PASS	TL/VN
7	10.0	20800	2505.0	64QAM	50@0	-2.35	-0.00094	±2.5	PASS	TL/VN
7	10.0	21100	2535.0	QPSK	50@0	-5.71	-0.00225	±2.5	PASS	TL/VN
7	10.0	21100	2535.0	16QAM	50@0	-2.39	-0.00094	±2.5	PASS	TL/VN
7	10.0	21100	2535.0	64QAM	50@0	-2.53	-0.001	±2.5	PASS	TL/VN
7	10.0	21400	2565.0	QPSK	50@0	-7.48	-0.00292	±2.5	PASS	TL/VN
7	10.0	21400	2565.0	16QAM	50@0	-4.72	-0.00184	±2.5	PASS	TL/VN
7	10.0	21400	2565.0	64QAM	50@0	-10.47	-0.00408	±2.5	PASS	TL/VN
7	15.0	20825	2507.5	QPSK	75@0	-12.47	-0.00497	±2.5	PASS	TL/VN
7	15.0	20825	2507.5	16QAM	75@0	-3.56	-0.00142	±2.5	PASS	TL/VN
7	15.0	20825	2507.5	64QAM	75@0	12.9	0.00515	±2.5	PASS	TL/VN
7	15.0	21100	2535.0	QPSK	75@0	-13.32	-0.00525	±2.5	PASS	TL/VN
7	15.0	21100	2535.0	16QAM	75@0	-4.15	-0.00164	±2.5	PASS	TL/VN
7	15.0	21100	2535.0	64QAM	75@0	-20.7	-0.00817	±2.5	PASS	TL/VN
7	15.0	21375	2562.5	QPSK	75@0	-7.41	-0.00289	±2.5	PASS	TL/VN
7	15.0	21375	2562.5	16QAM	75@0	5.05	0.00197	±2.5	PASS	TL/VN
7	15.0	21375	2562.5	64QAM	75@0	7.1	0.00277	±2.5	PASS	TL/VN
7	20.0	20850	2510.0	QPSK	100@0	-2.19	-0.00087	±2.5	PASS	TL/VN
7	20.0	20850	2510.0	16QAM	100@0	1.66	0.00066	±2.5	PASS	TL/VN
7	20.0	20850	2510.0	64QAM	100@0	-9.73	-0.00388	±2.5	PASS	TL/VN
7	20.0	21100	2535.0	QPSK	100@0	1.44	0.00057	±2.5	PASS	TL/VN
7	20.0	21100	2535.0	16QAM	100@0	-9.44	-0.00372	±2.5	PASS	TL/VN
7	20.0	21100	2535.0	64QAM	100@0	-4.75	-0.00187	±2.5	PASS	TL/VN
7	20.0	21350	2560.0	QPSK	100@0	-17.51	-0.00684	±2.5	PASS	TL/VN
7	20.0	21350	2560.0	16QAM	100@0	-9.74	-0.00381	±2.5	PASS	TL/VN
7	20.0	21350	2560.0	64QAM	100@0	-14.73	-0.00576	±2.5	PASS	TL/VN
12	1.4	23017	699.7	QPSK	6@0	-5.69	-0.00814	±2.5	PASS	TL/VN
12	1.4	23017	699.7	16QAM	6@0	-3.25	-0.00464	±2.5	PASS	TL/VN
12	1.4	23017	699.7	64QAM	6@0	-3.82	-0.00546	±2.5	PASS	TL/VN
12	1.4	23095	707.5	QPSK	6@0	-2.02	-0.00285	±2.5	PASS	TL/VN



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12	1.4	23095	707.5	16QAM	6@0	0.4	0.00057	±2.5	PASS	TL/VN
12	1.4	23095	707.5	64QAM	6@0	1.96	0.00277	±2.5	PASS	TL/VN
12	1.4	23173	715.3	QPSK	6@0	-4.01	-0.0056	±2.5	PASS	TL/VN
12	1.4	23173	715.3	16QAM	6@0	-1.2	-0.00168	±2.5	PASS	TL/VN
12	1.4	23173	715.3	64QAM	6@0	-3.96	-0.00554	±2.5	PASS	TL/VN
12	3.0	23025	700.5	QPSK	15@0	-4.12	-0.00588	±2.5	PASS	TL/VN
12	3.0	23025	700.5	16QAM	15@0	-0.39	-0.00055	±2.5	PASS	TL/VN
12	3.0	23025	700.5	64QAM	15@0	-4.72	-0.00674	±2.5	PASS	TL/VN
12	3.0	23095	707.5	QPSK	15@0	1.99	0.00281	±2.5	PASS	TL/VN
12	3.0	23095	707.5	16QAM	15@0	1.23	0.00174	±2.5	PASS	TL/VN
12	3.0	23095	707.5	64QAM	15@0	4.81	0.00679	±2.5	PASS	TL/VN
12	3.0	23165	714.5	QPSK	15@0	-8.4	-0.01175	±2.5	PASS	TL/VN
12	3.0	23165	714.5	16QAM	15@0	-3.12	-0.00436	±2.5	PASS	TL/VN
12	3.0	23165	714.5	64QAM	15@0	12.17	0.01704	±2.5	PASS	TL/VN
12	5.0	23035	701.5	QPSK	25@0	-4.94	-0.00704	±2.5	PASS	TL/VN
12	5.0	23035	701.5	16QAM	25@0	-3.86	-0.00551	±2.5	PASS	TL/VN
12	5.0	23035	701.5	64QAM	25@0	1.92	0.00273	±2.5	PASS	TL/VN
12	5.0	23095	707.5	QPSK	25@0	-3.23	-0.00457	±2.5	PASS	TL/VN
12	5.0	23095	707.5	16QAM	25@0	-4.84	-0.00683	±2.5	PASS	TL/VN
12	5.0	23095	707.5	64QAM	25@0	-5.48	-0.00774	±2.5	PASS	TL/VN
12	5.0	23155	713.5	QPSK	25@0	-0.64	-0.0009	±2.5	PASS	TL/VN
12	5.0	23155	713.5	16QAM	25@0	-3.02	-0.00423	±2.5	PASS	TL/VN
12	5.0	23155	713.5	64QAM	25@0	-3.35	-0.00469	±2.5	PASS	TL/VN
12	10.0	23060	704.0	QPSK	50@0	-3.86	-0.00549	±2.5	PASS	TL/VN
12	10.0	23060	704.0	16QAM	50@0	-4.05	-0.00575	±2.5	PASS	TL/VN
12	10.0	23060	704.0	64QAM	50@0	-7.94	-0.01128	±2.5	PASS	TL/VN
12	10.0	23095	707.5	QPSK	50@0	0.84	0.00119	±2.5	PASS	TL/VN
12	10.0	23095	707.5	16QAM	50@0	-3.06	-0.00433	±2.5	PASS	TL/VN
12	10.0	23095	707.5	64QAM	50@0	0.49	0.00069	±2.5	PASS	TL/VN
12	10.0	23130	711.0	QPSK	50@0	-3.66	-0.00515	±2.5	PASS	TL/VN
12	10.0	23130	711.0	16QAM	50@0	1.24	0.00175	±2.5	PASS	TL/VN
12	10.0	23130	711.0	64QAM	50@0	-2.59	-0.00364	±2.5	PASS	TL/VN
17	5.0	23755	706.5	QPSK	25@0	-5.58	-0.0079	±2.5	PASS	TL/VN
17	5.0	23755	706.5	16QAM	25@0	-2.46	-0.00348	±2.5	PASS	TL/VN
17	5.0	23755	706.5	64QAM	25@0	-5.84	-0.00826	±2.5	PASS	TL/VN
17	5.0	23790	710.0	QPSK	25@0	-5.89	-0.0083	±2.5	PASS	TL/VN
17	5.0	23790	710.0	16QAM	25@0	-6.71	-0.00945	±2.5	PASS	TL/VN
17	5.0	23790	710.0	64QAM	25@0	-10.84	-0.01527	±2.5	PASS	TL/VN
17	5.0	23825	713.5	QPSK	25@0	-0.27	-0.00038	±2.5	PASS	TL/VN
17	5.0	23825	713.5	16QAM	25@0	-3.66	-0.00513	±2.5	PASS	TL/VN
17	5.0	23825	713.5	64QAM	25@0	-3.59	-0.00503	±2.5	PASS	TL/VN
17	10.0	23780	709.0	QPSK	50@0	-4.43	-0.00625	±2.5	PASS	TL/VN
17	10.0	23780	709.0	16QAM	50@0	-2.78	-0.00391	±2.5	PASS	TL/VN



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17	10.0	23780	709.0	64QAM	50@0	-13.1	-0.01848	±2.5	PASS	TL/VN
17	10.0	23790	710.0	QPSK	50@0	-3.26	-0.00459	±2.5	PASS	TL/VN
17	10.0	23790	710.0	16QAM	50@0	-2.85	-0.00401	±2.5	PASS	TL/VN
17	10.0	23790	710.0	64QAM	50@0	-5.72	-0.00806	±2.5	PASS	TL/VN
17	10.0	23800	711.0	QPSK	50@0	-3.4	-0.00479	±2.5	PASS	TL/VN
17	10.0	23800	711.0	16QAM	50@0	-3.03	-0.00427	±2.5	PASS	TL/VN
17	10.0	23800	711.0	64QAM	50@0	-8.37	-0.01177	±2.5	PASS	TL/VN

Frequency Stability-TN/VH

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Deviation (Hz)	Deviation (ppm)	Limit(ppm)	Verdict	Environment
7	5.0	20775	2502.5	QPSK	25@0	-20.43	-0.00816	±2.5	PASS	TN/VH
7	5.0	20775	2502.5	16QAM	25@0	-4.55	-0.00182	±2.5	PASS	TN/VH
7	5.0	20775	2502.5	64QAM	25@0	-5.31	-0.00212	±2.5	PASS	TN/VH
7	5.0	21100	2535.0	QPSK	25@0	-8.1	-0.00319	±2.5	PASS	TN/VH
7	5.0	21100	2535.0	16QAM	25@0	5.64	0.00222	±2.5	PASS	TN/VH
7	5.0	21100	2535.0	64QAM	25@0	6.64	0.00262	±2.5	PASS	TN/VH
7	5.0	21425	2567.5	QPSK	25@0	-3.71	-0.00144	±2.5	PASS	TN/VH
7	5.0	21425	2567.5	16QAM	25@0	4.08	0.00159	±2.5	PASS	TN/VH
7	5.0	21425	2567.5	64QAM	25@0	-9.6	-0.00374	±2.5	PASS	TN/VH
7	10.0	20800	2505.0	QPSK	50@0	-2.12	-0.00085	±2.5	PASS	TN/VH
7	10.0	20800	2505.0	16QAM	50@0	1.12	0.00045	±2.5	PASS	TN/VH
7	10.0	20800	2505.0	64QAM	50@0	-8.27	-0.0033	±2.5	PASS	TN/VH
7	10.0	21100	2535.0	QPSK	50@0	-10.44	-0.00412	±2.5	PASS	TN/VH
7	10.0	21100	2535.0	16QAM	50@0	2.3	0.00091	±2.5	PASS	TN/VH
7	10.0	21100	2535.0	64QAM	50@0	-3.2	-0.00126	±2.5	PASS	TN/VH
7	10.0	21400	2565.0	QPSK	50@0	0.93	0.00036	±2.5	PASS	TN/VH
7	10.0	21400	2565.0	16QAM	50@0	-5.52	-0.00215	±2.5	PASS	TN/VH
7	10.0	21400	2565.0	64QAM	50@0	7.9	0.00308	±2.5	PASS	TN/VH
7	15.0	20825	2507.5	QPSK	75@0	-13.52	-0.00539	±2.5	PASS	TN/VH
7	15.0	20825	2507.5	16QAM	75@0	-4.59	-0.00183	±2.5	PASS	TN/VH
7	15.0	20825	2507.5	64QAM	75@0	-2.3	-0.00092	±2.5	PASS	TN/VH
7	15.0	21100	2535.0	QPSK	75@0	-3.16	-0.00125	±2.5	PASS	TN/VH
7	15.0	21100	2535.0	16QAM	75@0	-10.69	-0.00422	±2.5	PASS	TN/VH
7	15.0	21100	2535.0	64QAM	75@0	-5.26	-0.00208	±2.5	PASS	TN/VH
7	15.0	21375	2562.5	QPSK	75@0	-4.23	-0.00165	±2.5	PASS	TN/VH
7	15.0	21375	2562.5	16QAM	75@0	5.48	0.00214	±2.5	PASS	TN/VH
7	15.0	21375	2562.5	64QAM	75@0	-14.72	-0.00574	±2.5	PASS	TN/VH
7	20.0	20850	2510.0	QPSK	100@0	0.47	0.00019	±2.5	PASS	TN/VH
7	20.0	20850	2510.0	16QAM	100@0	-4.41	-0.00176	±2.5	PASS	TN/VH
7	20.0	20850	2510.0	64QAM	100@0	-0.8	-0.00032	±2.5	PASS	TN/VH
7	20.0	21100	2535.0	QPSK	100@0	-0.94	-0.00037	±2.5	PASS	TN/VH
7	20.0	21100	2535.0	16QAM	100@0	0.69	0.00027	±2.5	PASS	TN/VH
7	20.0	21100	2535.0	64QAM	100@0	-1.03	-0.00041	±2.5	PASS	TN/VH
7	20.0	21350	2560.0	QPSK	100@0	-5.97	-0.00233	±2.5	PASS	TN/VH
7	20.0	21350	2560.0	16QAM	100@0	4.48	0.00175	±2.5	PASS	TN/VH
7	20.0	21350	2560.0	64QAM	100@0	-5.31	-0.00207	±2.5	PASS	TN/VH
12	1.4	23017	699.7	QPSK	6@0	-9.87	-0.01411	±2.5	PASS	TN/VH
12	1.4	23017	699.7	16QAM	6@0	-4.32	-0.00617	±2.5	PASS	TN/VH
12	1.4	23017	699.7	64QAM	6@0	-8.44	-0.01206	±2.5	PASS	TN/VH
12	1.4	23095	707.5	QPSK	6@0	-6.9	-0.00975	±2.5	PASS	TN/VH

12	1.4	23095	707.5	16QAM	6@0	-7.2	-0.01017	±2.5	PASS	TN/VH
12	1.4	23095	707.5	64QAM	6@0	4.43	0.00627	±2.5	PASS	TN/VH
12	1.4	23173	715.3	QPSK	6@0	-9.8	-0.0137	±2.5	PASS	TN/VH
12	1.4	23173	715.3	16QAM	6@0	-2.63	-0.00368	±2.5	PASS	TN/VH
12	1.4	23173	715.3	64QAM	6@0	-9.88	-0.01382	±2.5	PASS	TN/VH
12	3.0	23025	700.5	QPSK	15@0	-8.58	-0.01225	±2.5	PASS	TN/VH
12	3.0	23025	700.5	16QAM	15@0	-2.66	-0.0038	±2.5	PASS	TN/VH
12	3.0	23025	700.5	64QAM	15@0	3.69	0.00527	±2.5	PASS	TN/VH
12	3.0	23095	707.5	QPSK	15@0	-4.72	-0.00667	±2.5	PASS	TN/VH
12	3.0	23095	707.5	16QAM	15@0	-1.49	-0.0021	±2.5	PASS	TN/VH
12	3.0	23095	707.5	64QAM	15@0	-0.99	-0.0014	±2.5	PASS	TN/VH
12	3.0	23165	714.5	QPSK	15@0	-5.89	-0.00825	±2.5	PASS	TN/VH
12	3.0	23165	714.5	16QAM	15@0	0.32	0.00045	±2.5	PASS	TN/VH
12	3.0	23165	714.5	64QAM	15@0	-4.95	-0.00693	±2.5	PASS	TN/VH
12	5.0	23035	701.5	QPSK	25@0	-3.62	-0.00516	±2.5	PASS	TN/VH
12	5.0	23035	701.5	16QAM	25@0	-4.36	-0.00622	±2.5	PASS	TN/VH
12	5.0	23035	701.5	64QAM	25@0	-8.05	-0.01148	±2.5	PASS	TN/VH
12	5.0	23095	707.5	QPSK	25@0	-5.49	-0.00776	±2.5	PASS	TN/VH
12	5.0	23095	707.5	16QAM	25@0	-1.69	-0.00239	±2.5	PASS	TN/VH
12	5.0	23095	707.5	64QAM	25@0	-8.17	-0.01155	±2.5	PASS	TN/VH
12	5.0	23155	713.5	QPSK	25@0	-2.22	-0.00311	±2.5	PASS	TN/VH
12	5.0	23155	713.5	16QAM	25@0	-1.77	-0.00249	±2.5	PASS	TN/VH
12	5.0	23155	713.5	64QAM	25@0	0.32	0.00045	±2.5	PASS	TN/VH
12	10.0	23060	704.0	QPSK	50@0	-6.35	-0.00902	±2.5	PASS	TN/VH
12	10.0	23060	704.0	16QAM	50@0	-2.76	-0.00392	±2.5	PASS	TN/VH
12	10.0	23060	704.0	64QAM	50@0	-4.94	-0.00701	±2.5	PASS	TN/VH
12	10.0	23095	707.5	QPSK	50@0	-2.55	-0.0036	±2.5	PASS	TN/VH
12	10.0	23095	707.5	16QAM	50@0	-0.87	-0.00123	±2.5	PASS	TN/VH
12	10.0	23095	707.5	64QAM	50@0	-6.92	-0.00979	±2.5	PASS	TN/VH
12	10.0	23130	711.0	QPSK	50@0	-0.73	-0.00103	±2.5	PASS	TN/VH
12	10.0	23130	711.0	16QAM	50@0	-4.94	-0.00694	±2.5	PASS	TN/VH
12	10.0	23130	711.0	64QAM	50@0	-11.96	-0.01682	±2.5	PASS	TN/VH
17	5.0	23755	706.5	QPSK	25@0	0.32	0.00045	±2.5	PASS	TN/VH
17	5.0	23755	706.5	16QAM	25@0	-0.54	-0.00077	±2.5	PASS	TN/VH
17	5.0	23755	706.5	64QAM	25@0	-8.47	-0.01199	±2.5	PASS	TN/VH
17	5.0	23790	710.0	QPSK	25@0	-3.03	-0.00427	±2.5	PASS	TN/VH
17	5.0	23790	710.0	16QAM	25@0	-3.4	-0.0048	±2.5	PASS	TN/VH
17	5.0	23790	710.0	64QAM	25@0	-1.1	-0.00155	±2.5	PASS	TN/VH
17	5.0	23825	713.5	QPSK	25@0	-7.44	-0.01043	±2.5	PASS	TN/VH
17	5.0	23825	713.5	16QAM	25@0	-3.66	-0.00513	±2.5	PASS	TN/VH
17	5.0	23825	713.5	64QAM	25@0	9.88	0.01385	±2.5	PASS	TN/VH
17	10.0	23780	709.0	QPSK	50@0	0.32	0.00045	±2.5	PASS	TN/VH
17	10.0	23780	709.0	16QAM	50@0	-2.25	-0.00317	±2.5	PASS	TN/VH



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17	10.0	23780	709.0	64QAM	50@0	-7.05	-0.00995	±2.5	PASS	TN/VH
17	10.0	23790	710.0	QPSK	50@0	0.32	0.00045	±2.5	PASS	TN/VH
17	10.0	23790	710.0	16QAM	50@0	-3.62	-0.0051	±2.5	PASS	TN/VH
17	10.0	23790	710.0	64QAM	50@0	4.15	0.00584	±2.5	PASS	TN/VH
17	10.0	23800	711.0	QPSK	50@0	0.63	0.00089	±2.5	PASS	TN/VH
17	10.0	23800	711.0	16QAM	50@0	-4.48	-0.0063	±2.5	PASS	TN/VH
17	10.0	23800	711.0	64QAM	50@0	-12.1	-0.01702	±2.5	PASS	TN/VH

Frequency Stability-TN/VL

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Deviation (Hz)	Deviation (ppm)	Limit(ppm)	Verdict	Environment
7	5.0	20775	2502.5	QPSK	25@0	3.78	0.00151	±2.5	PASS	TN/VL
7	5.0	20775	2502.5	16QAM	25@0	-8.5	-0.0034	±2.5	PASS	TN/VL
7	5.0	20775	2502.5	64QAM	25@0	-28.92	-0.01156	±2.5	PASS	TN/VL
7	5.0	21100	2535.0	QPSK	25@0	-6.69	-0.00264	±2.5	PASS	TN/VL
7	5.0	21100	2535.0	16QAM	25@0	6.32	0.00249	±2.5	PASS	TN/VL
7	5.0	21100	2535.0	64QAM	25@0	-6.58	-0.0026	±2.5	PASS	TN/VL
7	5.0	21425	2567.5	QPSK	25@0	0.43	0.00017	±2.5	PASS	TN/VL
7	5.0	21425	2567.5	16QAM	25@0	3.42	0.00133	±2.5	PASS	TN/VL
7	5.0	21425	2567.5	64QAM	25@0	-4.86	-0.00189	±2.5	PASS	TN/VL
7	10.0	20800	2505.0	QPSK	50@0	3.23	0.00129	±2.5	PASS	TN/VL
7	10.0	20800	2505.0	16QAM	50@0	-6.74	-0.00269	±2.5	PASS	TN/VL
7	10.0	20800	2505.0	64QAM	50@0	-6.92	-0.00276	±2.5	PASS	TN/VL
7	10.0	21100	2535.0	QPSK	50@0	-4.31	-0.0017	±2.5	PASS	TN/VL
7	10.0	21100	2535.0	16QAM	50@0	-0.67	-0.00027	±2.5	PASS	TN/VL
7	10.0	21100	2535.0	64QAM	50@0	-4.51	-0.00178	±2.5	PASS	TN/VL
7	10.0	21400	2565.0	QPSK	50@0	0.32	0.00012	±2.5	PASS	TN/VL
7	10.0	21400	2565.0	16QAM	50@0	-2.59	-0.00101	±2.5	PASS	TN/VL
7	10.0	21400	2565.0	64QAM	50@0	3.66	0.00143	±2.5	PASS	TN/VL
7	15.0	20825	2507.5	QPSK	75@0	-9.26	-0.00369	±2.5	PASS	TN/VL
7	15.0	20825	2507.5	16QAM	75@0	-5.56	-0.00222	±2.5	PASS	TN/VL
7	15.0	20825	2507.5	64QAM	75@0	-2.62	-0.00104	±2.5	PASS	TN/VL
7	15.0	21100	2535.0	QPSK	75@0	-9.11	-0.00359	±2.5	PASS	TN/VL
7	15.0	21100	2535.0	16QAM	75@0	6.79	0.00268	±2.5	PASS	TN/VL
7	15.0	21100	2535.0	64QAM	75@0	-16.88	-0.00666	±2.5	PASS	TN/VL
7	15.0	21375	2562.5	QPSK	75@0	-3.55	-0.00138	±2.5	PASS	TN/VL
7	15.0	21375	2562.5	16QAM	75@0	-4.18	-0.00163	±2.5	PASS	TN/VL
7	15.0	21375	2562.5	64QAM	75@0	-16.37	-0.00639	±2.5	PASS	TN/VL
7	20.0	20850	2510.0	QPSK	100@0	-9.54	-0.0038	±2.5	PASS	TN/VL
7	20.0	20850	2510.0	16QAM	100@0	2.46	0.00098	±2.5	PASS	TN/VL
7	20.0	20850	2510.0	64QAM	100@0	-10.36	-0.00413	±2.5	PASS	TN/VL
7	20.0	21100	2535.0	QPSK	100@0	-15.48	-0.00611	±2.5	PASS	TN/VL
7	20.0	21100	2535.0	16QAM	100@0	4.28	0.00169	±2.5	PASS	TN/VL
7	20.0	21100	2535.0	64QAM	100@0	-0.49	-0.00019	±2.5	PASS	TN/VL
7	20.0	21350	2560.0	QPSK	100@0	-9.87	-0.00386	±2.5	PASS	TN/VL
7	20.0	21350	2560.0	16QAM	100@0	4.33	0.00169	±2.5	PASS	TN/VL
7	20.0	21350	2560.0	64QAM	100@0	-16.71	-0.00653	±2.5	PASS	TN/VL
12	1.4	23017	699.7	QPSK	6@0	-8.88	-0.0127	±2.5	PASS	TN/VL
12	1.4	23017	699.7	16QAM	6@0	-4.08	-0.00583	±2.5	PASS	TN/VL
12	1.4	23017	699.7	64QAM	6@0	4.08	0.00583	±2.5	PASS	TN/VL
12	1.4	23095	707.5	QPSK	6@0	-1.54	-0.00218	±2.5	PASS	TN/VL

12	1.4	23095	707.5	16QAM	6@0	-2.3	-0.00326	±2.5	PASS	TN/VL
12	1.4	23095	707.5	64QAM	6@0	-7.0	-0.00989	±2.5	PASS	TN/VL
12	1.4	23173	715.3	QPSK	6@0	0.99	0.00138	±2.5	PASS	TN/VL
12	1.4	23173	715.3	16QAM	6@0	1.86	0.0026	±2.5	PASS	TN/VL
12	1.4	23173	715.3	64QAM	6@0	-4.31	-0.00602	±2.5	PASS	TN/VL
12	3.0	23025	700.5	QPSK	15@0	-2.2	-0.00314	±2.5	PASS	TN/VL
12	3.0	23025	700.5	16QAM	15@0	2.72	0.00388	±2.5	PASS	TN/VL
12	3.0	23025	700.5	64QAM	15@0	-4.95	-0.00707	±2.5	PASS	TN/VL
12	3.0	23095	707.5	QPSK	15@0	-4.76	-0.00673	±2.5	PASS	TN/VL
12	3.0	23095	707.5	16QAM	15@0	-4.31	-0.00609	±2.5	PASS	TN/VL
12	3.0	23095	707.5	64QAM	15@0	-10.14	-0.01434	±2.5	PASS	TN/VL
12	3.0	23165	714.5	QPSK	15@0	-5.11	-0.00715	±2.5	PASS	TN/VL
12	3.0	23165	714.5	16QAM	15@0	-3.35	-0.00468	±2.5	PASS	TN/VL
12	3.0	23165	714.5	64QAM	15@0	-1.44	-0.00202	±2.5	PASS	TN/VL
12	5.0	23035	701.5	QPSK	25@0	-0.76	-0.00108	±2.5	PASS	TN/VL
12	5.0	23035	701.5	16QAM	25@0	-2.42	-0.00345	±2.5	PASS	TN/VL
12	5.0	23035	701.5	64QAM	25@0	-5.35	-0.00763	±2.5	PASS	TN/VL
12	5.0	23095	707.5	QPSK	25@0	-4.76	-0.00673	±2.5	PASS	TN/VL
12	5.0	23095	707.5	16QAM	25@0	-2.79	-0.00394	±2.5	PASS	TN/VL
12	5.0	23095	707.5	64QAM	25@0	-11.0	-0.01555	±2.5	PASS	TN/VL
12	5.0	23155	713.5	QPSK	25@0	-2.65	-0.00371	±2.5	PASS	TN/VL
12	5.0	23155	713.5	16QAM	25@0	-7.01	-0.00982	±2.5	PASS	TN/VL
12	5.0	23155	713.5	64QAM	25@0	-14.92	-0.02091	±2.5	PASS	TN/VL
12	10.0	23060	704.0	QPSK	50@0	-2.96	-0.00421	±2.5	PASS	TN/VL
12	10.0	23060	704.0	16QAM	50@0	-1.52	-0.00215	±2.5	PASS	TN/VL
12	10.0	23060	704.0	64QAM	50@0	2.56	0.00364	±2.5	PASS	TN/VL
12	10.0	23095	707.5	QPSK	50@0	-2.6	-0.00368	±2.5	PASS	TN/VL
12	10.0	23095	707.5	16QAM	50@0	-1.12	-0.00158	±2.5	PASS	TN/VL
12	10.0	23095	707.5	64QAM	50@0	-2.8	-0.00396	±2.5	PASS	TN/VL
12	10.0	23130	711.0	QPSK	50@0	0.47	0.00066	±2.5	PASS	TN/VL
12	10.0	23130	711.0	16QAM	50@0	-2.78	-0.0039	±2.5	PASS	TN/VL
12	10.0	23130	711.0	64QAM	50@0	-18.25	-0.02567	±2.5	PASS	TN/VL
17	5.0	23755	706.5	QPSK	25@0	-0.99	-0.0014	±2.5	PASS	TN/VL
17	5.0	23755	706.5	16QAM	25@0	-3.81	-0.00539	±2.5	PASS	TN/VL
17	5.0	23755	706.5	64QAM	25@0	-11.23	-0.01589	±2.5	PASS	TN/VL
17	5.0	23790	710.0	QPSK	25@0	-5.29	-0.00745	±2.5	PASS	TN/VL
17	5.0	23790	710.0	16QAM	25@0	-5.18	-0.00729	±2.5	PASS	TN/VL
17	5.0	23790	710.0	64QAM	25@0	-3.96	-0.00558	±2.5	PASS	TN/VL
17	5.0	23825	713.5	QPSK	25@0	-1.76	-0.00247	±2.5	PASS	TN/VL
17	5.0	23825	713.5	16QAM	25@0	-2.1	-0.00295	±2.5	PASS	TN/VL
17	5.0	23825	713.5	64QAM	25@0	-1.95	-0.00273	±2.5	PASS	TN/VL
17	10.0	23780	709.0	QPSK	50@0	-3.1	-0.00438	±2.5	PASS	TN/VL
17	10.0	23780	709.0	16QAM	50@0	-2.43	-0.00343	±2.5	PASS	TN/VL

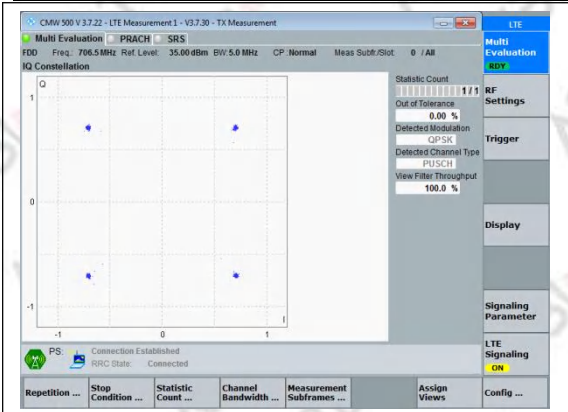
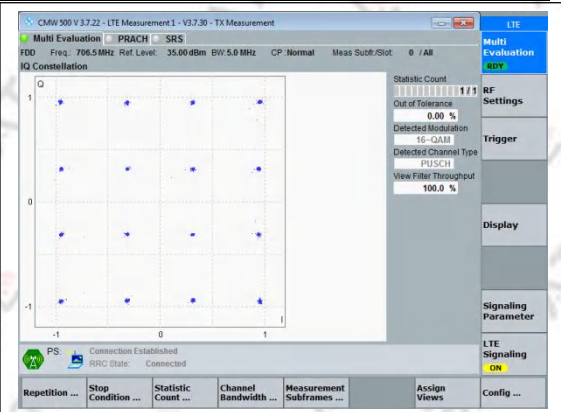
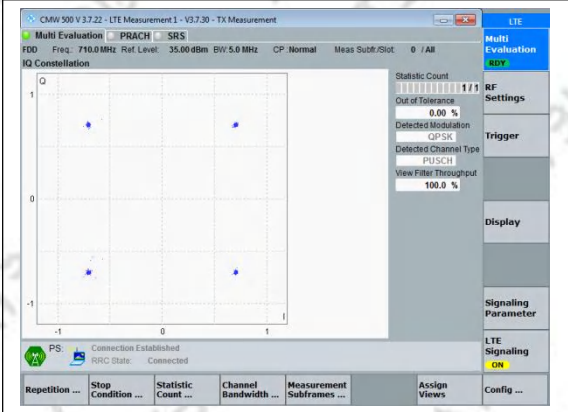
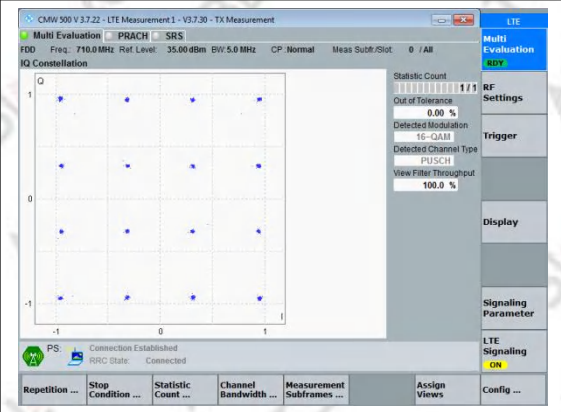
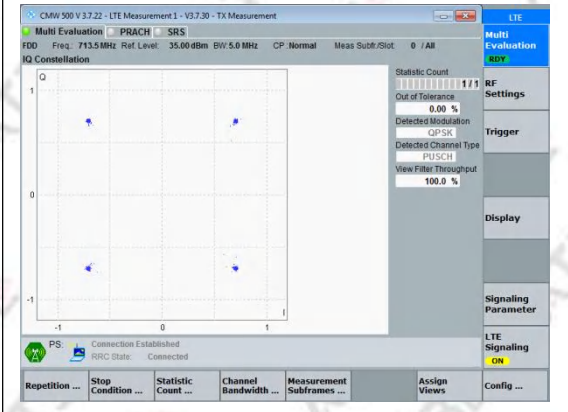
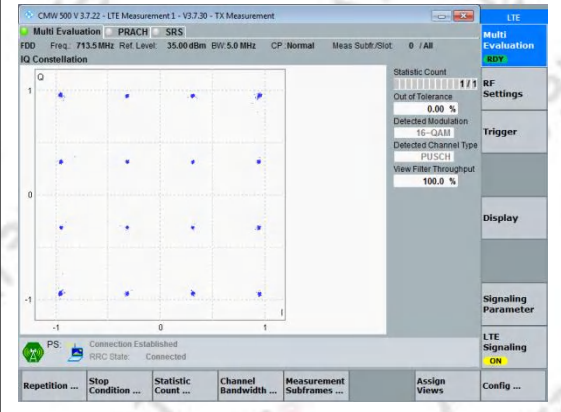


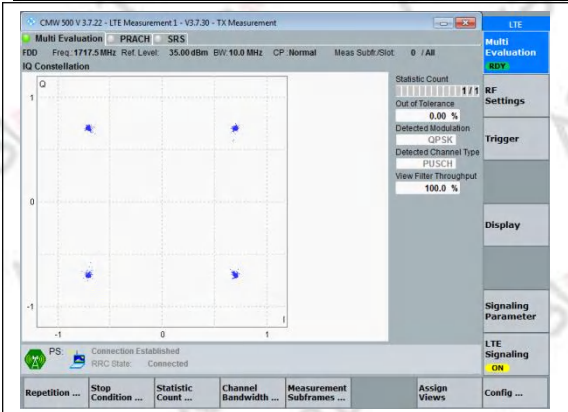
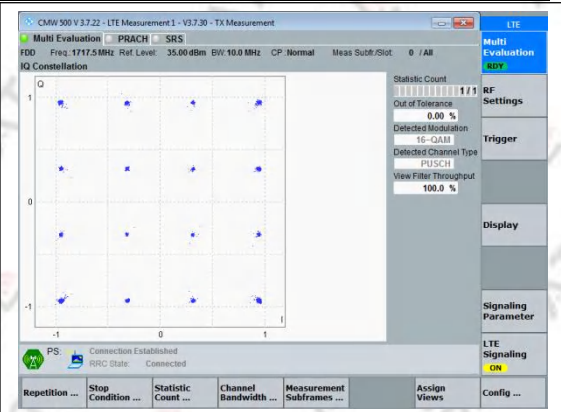
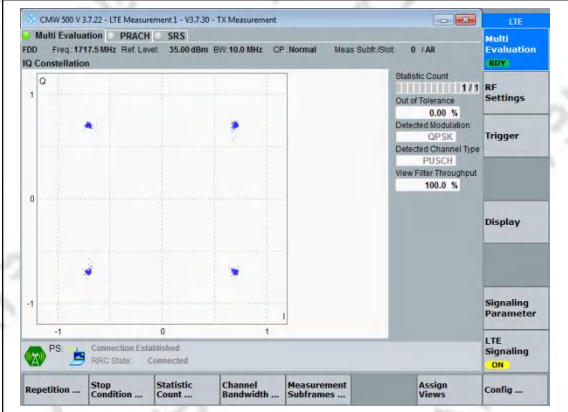
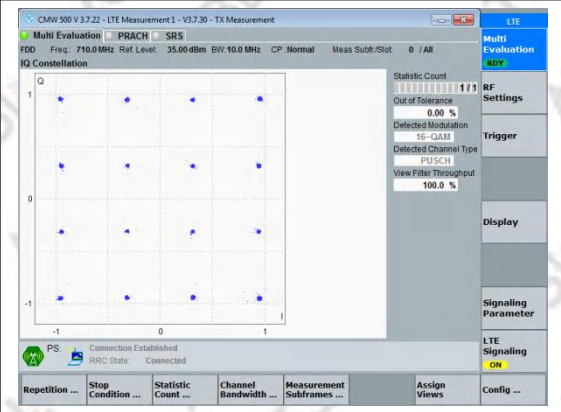
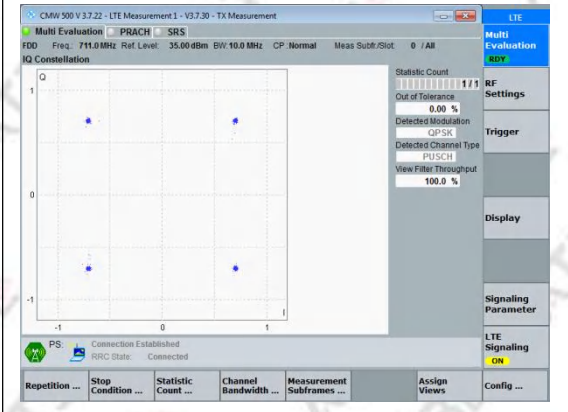
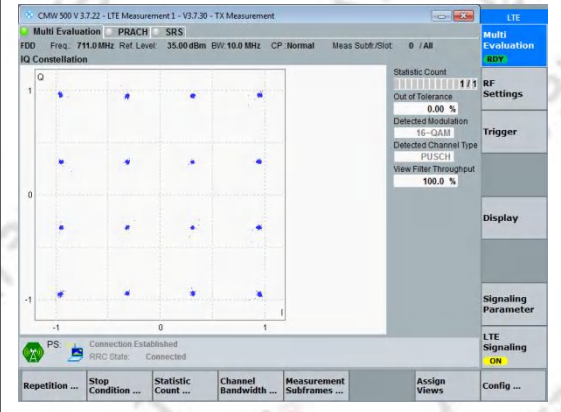
Report No.:SHATBL2601003W07

17	10.0	23780	709.0	64QAM	50@0	-3.48	-0.0049	±2.5	PASS	TN/VL
17	10.0	23790	710.0	QPSK	50@0	-3.12	-0.00439	±2.5	PASS	TN/VL
17	10.0	23790	710.0	16QAM	50@0	-4.02	-0.00566	±2.5	PASS	TN/VL
17	10.0	23790	710.0	64QAM	50@0	-3.06	-0.00431	±2.5	PASS	TN/VL
17	10.0	23800	711.0	QPSK	50@0	-3.58	-0.00503	±2.5	PASS	TN/VL
17	10.0	23800	711.0	16QAM	50@0	-1.82	-0.00256	±2.5	PASS	TN/VL
17	10.0	23800	711.0	64QAM	50@0	-8.48	-0.01193	±2.5	PASS	TN/VL

H7.Modulation Characteristics

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Verdict
17	5.0	23755	706.5	QPSK	25@0	PASS
17	5.0	23755	706.5	16QAM	25@0	PASS
17	5.0	23790	710.0	QPSK	25@0	PASS
17	5.0	23790	710.0	16QAM	25@0	PASS
17	5.0	23825	713.5	QPSK	25@0	PASS
17	5.0	23825	713.5	16QAM	25@0	PASS
17	10.0	23780	1717.5	QPSK	50@0	PASS
17	10.0	23780	1717.5	16QAM	50@0	PASS
17	10.0	23790	1717.5	QPSK	50@0	PASS
17	10.0	23790	710.0	16QAM	50@0	PASS
17	10.0	23800	711.0	QPSK	50@0	PASS
17	10.0	23800	711.0	16QAM	50@0	PASS

	
Band 17 5MHz/706.5/Low QPSK 25@0	Band 17 5MHz/706.5/Low 16QAM 25@0
	
Band 17 5MHz/710.0/Mid QPSK 25@0	Band 17 5MHz/710.0/Mid 16QAM 25@0
	
Band 17 5MHz/713.5/High QPSK 25@0	Band 17 5MHz/713.5/High 16QAM 25@0

	
Band 17 10MHz/709.0/Low QPSK 50@0	Band 17 10MHz/709.0/Low 16QAM 50@0
	
Band 17 10MHz/710.0/Mid QPSK 50@0	Band 17 10MHz/710.0/Mid 16QAM 50@0
	
Band 17 10MHz/711.0/High QPSK 50@0	Band 17 10MHz/711.0/High 16QAM 50@0