

Appendix G-4G Frequency Stability

Test Information:

Sample No.:	2UIA-7	Test Date:	2024/12/08~2024/12/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Usain Ou	Test Result:	Pass

Environmental Conditions:

Temperature: (°C):	24.7-26	Relative Humidity: (%)	36-40	ATM Pressure: (kPa)	101
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Frequency Stability

Band	Freq (MHz)	Lower Edge (MHz) (Result)	Limit (1850MHz)	Upper Edge(MHz) (Result)	Limit (1910MHz)	Environment
20MHz Bandwidth QPSK						
2	1860/1900	1850.0813	1850.000	1909.9940	1910.000	20℃/3.4V _{DC}
2	1860/1900	1850.0985	1850.000	1909.9844	1910.000	20℃/4.4V _{DC}
2	1860/1900	1850.1671	1850.000	1909.9294	1910.000	-30℃/3.85V _{DC}
2	1860/1900	1850.1342	1850.000	1909.8233	1910.000	-20℃/3.85V _{DC}
2	1860/1900	1850.0025	1850.000	1909.9382	1910.000	-10℃/3.85V _{DC}
2	1860/1900	1850.0624	1850.000	1909.8173	1910.000	0℃/3.85V _{DC}
2	1860/1900	1850.0328	1850.000	1909.9017	1910.000	10℃/3.85V _{DC}
2	1860/1900	1850.0942	1850.000	1909.9119	1910.000	20℃/3.85V _{DC}
2	1860/1900	1850.1538	1850.000	1909.8817	1910.000	30℃/3.85V _{DC}
2	1860/1900	1850.1912	1850.000	1909.9667	1910.000	40℃/3.85V _{DC}
2	1860/1900	1850.0961	1850.000	1909.9604	1910.000	50℃/3.85V _{DC}
20MHz Bandwidth 16QAM						
2	1860/1900	1850.0796	1850.000	1909.8602	1910.000	20℃/3.4V _{DC}
2	1860/1900	1850.1472	1850.000	1909.9004	1910.000	20℃/4.4V _{DC}
2	1860/1900	1850.1080	1850.000	1909.8565	1910.000	-30℃/3.85V _{DC}
2	1860/1900	1850.0176	1850.000	1909.8564	1910.000	-20℃/3.85V _{DC}
2	1860/1900	1850.1504	1850.000	1909.9366	1910.000	-10℃/3.85V _{DC}
2	1860/1900	1850.0750	1850.000	1909.9895	1910.000	0℃/3.85V _{DC}
2	1860/1900	1850.0169	1850.000	1909.9736	1910.000	10℃/3.85V _{DC}
2	1860/1900	1850.1621	1850.000	1909.9617	1910.000	20℃/3.85V _{DC}
2	1860/1900	1850.0631	1850.000	1909.8534	1910.000	30℃/3.85V _{DC}
2	1860/1900	1850.0846	1850.000	1909.9096	1910.000	40℃/3.85V _{DC}
2	1860/1900	1850.0697	1850.000	1909.8826	1910.000	50℃/3.85V _{DC}

Band	Freq (MHz)	Lower Edge (MHz) (Result)	Limit (1710MHz)	Upper Edge(MHz) (Result)	Limit (1755MHz)	Environment
20MHz Bandwidth QPSK						
4	1720/1745	1710.1207	1710.000	1754.8901	1755.000	20°C/3.4V _{DC}
4	1720/1745	1710.1336	1710.000	1754.9537	1755.000	20°C/4.4V _{DC}
4	1720/1745	1710.1613	1710.000	1754.8025	1755.000	-30°C/3.85V _{DC}
4	1720/1745	1710.0483	1710.000	1754.8257	1755.000	-20°C/3.85V _{DC}
4	1720/1745	1710.0832	1710.000	1754.9207	1755.000	-10°C/3.85V _{DC}
4	1720/1745	1710.0354	1710.000	1754.9571	1755.000	0°C/3.85V _{DC}
4	1720/1745	1710.0837	1710.000	1754.9668	1755.000	10°C/3.85V _{DC}
4	1720/1745	1710.0989	1710.000	1754.8511	1755.000	20°C/3.85V _{DC}
4	1720/1745	1710.1138	1710.000	1754.8779	1755.000	30°C/3.85V _{DC}
4	1720/1745	1710.1835	1710.000	1754.8407	1755.000	40°C/3.85V _{DC}
4	1720/1745	1710.1698	1710.000	1754.8598	1755.000	50°C/3.85V _{DC}
20MHz Bandwidth 16QAM						
4	1720/1745	1710.1946	1710.000	1754.9378	1755.000	20°C/3.4V _{DC}
4	1720/1745	1710.1219	1710.000	1754.8257	1755.000	20°C/4.4V _{DC}
4	1720/1745	1710.0787	1710.000	1754.8960	1755.000	-30°C/3.85V _{DC}
4	1720/1745	1710.0089	1710.000	1754.8344	1755.000	-20°C/3.85V _{DC}
4	1720/1745	1710.0656	1710.000	1754.8145	1755.000	-10°C/3.85V _{DC}
4	1720/1745	1710.1902	1710.000	1754.8609	1755.000	0°C/3.85V _{DC}
4	1720/1745	1710.0707	1710.000	1754.8024	1755.000	10°C/3.85V _{DC}
4	1720/1745	1710.1168	1710.000	1754.9129	1755.000	20°C/3.85V _{DC}
4	1720/1745	1710.0289	1710.000	1754.9048	1755.000	30°C/3.85V _{DC}
4	1720/1745	1710.0221	1710.000	1754.9050	1755.000	40°C/3.85V _{DC}
4	1720/1745	1710.1439	1710.000	1754.9767	1755.000	50°C/3.85V _{DC}

Band 5

Test Modulation:	QPSK		Test Bandwidth:	10MHz	
			Test Channel:	836.5MHz	
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	8.69	0.01039	2.5
	-20	3.85	5.79	0.00692	2.5
	-10	3.85	1.93	0.00231	2.5
	0	3.85	4.92	0.00588	2.5
	10	3.85	3.49	0.00417	2.5
	20	3.85	5.17	0.00618	2.5
	30	3.85	8.36	0.00999	2.5
	40	3.85	7.14	0.00854	2.5
	50	3.85	5.11	0.00611	2.5
Frequency Stability vs. Voltage	20	3.40	1.50	0.00179	2.5
	20	4.40	0.74	0.00088	2.5

Test Modulation:	16QAM		Test Bandwidth:	10MHz	
			Test Channel:	836.5MHz	
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	6.30	0.00753	2.5
	-20	3.85	2.29	0.00274	2.5
	-10	3.85	-8.49	-0.01015	2.5
	0	3.85	7.12	0.00851	2.5
	10	3.85	6.70	0.00801	2.5
	20	3.85	-5.02	-0.00600	2.5
	30	3.85	1.29	0.00154	2.5
	40	3.85	7.08	0.00846	2.5
	50	3.85	-4.31	-0.00515	2.5
Frequency Stability vs. Voltage	20	3.40	2.77	0.00331	2.5
	20	4.40	3.55	0.00424	2.5

Band	Freq (MHz)	Lower Edge (MHz) (Result)	Limit (2500MHz)	Upper Edge(MHz) (Result)	Limit (2570MHz)	Environment
20MHz Bandwidth QPSK						
7	2510/2560	2500.1515	2500.000	2569.9412	2570.000	20℃/3.4V _{DC}
7	2510/2560	2500.0742	2500.000	2569.9865	2570.000	20℃/4.4V _{DC}
7	2510/2560	2500.1247	2500.000	2569.8747	2570.000	-30℃/3.85V _{DC}
7	2510/2560	2500.1005	2500.000	2569.9836	2570.000	-20℃/3.85V _{DC}
7	2510/2560	2500.0529	2500.000	2569.9398	2570.000	-10℃/3.85V _{DC}
7	2510/2560	2500.1134	2500.000	2569.9268	2570.000	0℃/3.85V _{DC}
7	2510/2560	2500.1711	2500.000	2569.8288	2570.000	10℃/3.85V _{DC}
7	2510/2560	2500.0535	2500.000	2569.8369	2570.000	20℃/3.85V _{DC}
7	2510/2560	2500.0834	2500.000	2569.8319	2570.000	30℃/3.85V _{DC}
7	2510/2560	2500.1922	2500.000	2569.9552	2570.000	40℃/3.85V _{DC}
7	2510/2560	2500.1939	2500.000	2569.8926	2570.000	50℃/3.85V _{DC}
20MHz Bandwidth 16QAM						
7	2510/2560	2500.1190	2500.000	2569.8426	2570.000	20℃/3.4V _{DC}
7	2510/2560	2500.1121	2500.000	2569.8998	2570.000	20℃/4.4V _{DC}
7	2510/2560	2500.0606	2500.000	2569.9554	2570.000	-30℃/3.85V _{DC}
7	2510/2560	2500.0970	2500.000	2569.9801	2570.000	-20℃/3.85V _{DC}
7	2510/2560	2500.1051	2500.000	2569.9844	2570.000	-10℃/3.85V _{DC}
7	2510/2560	2500.0495	2500.000	2569.9976	2570.000	0℃/3.85V _{DC}
7	2510/2560	2500.1998	2500.000	2569.8844	2570.000	10℃/3.85V _{DC}
7	2510/2560	2500.1395	2500.000	2569.8553	2570.000	20℃/3.85V _{DC}
7	2510/2560	2500.0875	2500.000	2569.9885	2570.000	30℃/3.85V _{DC}
7	2510/2560	2500.0933	2500.000	2569.8634	2570.000	40℃/3.85V _{DC}
7	2510/2560	2500.1714	2500.000	2569.8395	2570.000	50℃/3.85V _{DC}

Band	Freq (MHz)	Lower Edge (MHz) (Result)	Limit (699MHz)	Upper Edge(MHz) (Result)	Limit (716MHz)	Environment
10MHz Bandwidth QPSK						
12	704/711	699.1744	699.000	715.8640	716.000	20°C/3.4V _{DC}
12	704/711	699.1463	699.000	715.9076	716.000	20°C/4.4V _{DC}
12	704/711	699.0880	699.000	715.9981	716.000	-30°C/3.85V _{DC}
12	704/711	699.1193	699.000	715.8317	716.000	-20°C/3.85V _{DC}
12	704/711	699.0142	699.000	715.9127	716.000	-10°C/3.85V _{DC}
12	704/711	699.1301	699.000	715.8062	716.000	0°C/3.85V _{DC}
12	704/711	699.0666	699.000	715.9099	716.000	10°C/3.85V _{DC}
12	704/711	699.0007	699.000	715.9672	716.000	20°C/3.85V _{DC}
12	704/711	699.1256	699.000	715.8477	716.000	30°C/3.85V _{DC}
12	704/711	699.0621	699.000	715.9803	716.000	40°C/3.85V _{DC}
12	704/711	699.1744	699.000	715.8544	716.000	50°C/3.85V _{DC}
10MHz Bandwidth 16QAM						
12	704/711	699.0452	699.000	715.8763	716.000	20°C/3.4V _{DC}
12	704/711	699.0216	699.000	715.9565	716.000	20°C/4.4V _{DC}
12	704/711	699.0474	699.000	715.9733	716.000	-30°C/3.85V _{DC}
12	704/711	699.1438	699.000	715.9370	716.000	-20°C/3.85V _{DC}
12	704/711	699.1766	699.000	715.8806	716.000	-10°C/3.85V _{DC}
12	704/711	699.1969	699.000	715.9352	716.000	0°C/3.85V _{DC}
12	704/711	699.0159	699.000	715.9484	716.000	10°C/3.85V _{DC}
12	704/711	699.1743	699.000	715.8009	716.000	20°C/3.85V _{DC}
12	704/711	699.0756	699.000	715.9478	716.000	30°C/3.85V _{DC}
12	704/711	699.0032	699.000	715.8765	716.000	40°C/3.85V _{DC}
12	704/711	699.0137	699.000	715.9252	716.000	50°C/3.85V _{DC}

Band	Freq (MHz)	Lower Edge (MHz) (Result)	Limit (777MHz)	Upper Edge(MHz) (Result)	Limit (787MHz)	Environment
10MHz Bandwidth QPSK						
13	782	777.1124	777.000	786.9828	787.000	20°C/3.4V _{DC}
13	782	777.1436	777.000	786.9755	787.000	20°C/4.4V _{DC}
13	782	777.1085	777.000	786.9526	787.000	-30°C/3.85V _{DC}
13	782	777.1922	777.000	786.8105	787.000	-20°C/3.85V _{DC}
13	782	777.1966	777.000	786.8704	787.000	-10°C/3.85V _{DC}
13	782	777.0436	777.000	786.9601	787.000	0°C/3.85V _{DC}
13	782	777.1036	777.000	786.8581	787.000	10°C/3.85V _{DC}
13	782	777.1232	777.000	786.9692	787.000	20°C/3.85V _{DC}
13	782	777.1100	777.000	786.8688	787.000	30°C/3.85V _{DC}
13	782	777.0193	777.000	786.8055	787.000	40°C/3.85V _{DC}
13	782	777.1168	777.000	786.8813	787.000	50°C/3.85V _{DC}
10MHz Bandwidth 16QAM						
13	782	777.0334	777.000	786.9067	787.000	20°C/3.4V _{DC}
13	782	777.1971	777.000	786.9659	787.000	20°C/4.4V _{DC}
13	782	777.0052	777.000	786.9024	787.000	-30°C/3.85V _{DC}
13	782	777.0932	777.000	786.9600	787.000	-20°C/3.85V _{DC}
13	782	777.1390	777.000	786.9004	787.000	-10°C/3.85V _{DC}
13	782	777.0519	777.000	786.8584	787.000	0°C/3.85V _{DC}
13	782	777.1631	777.000	786.8142	787.000	10°C/3.85V _{DC}
13	782	777.1654	777.000	786.8596	787.000	20°C/3.85V _{DC}
13	782	777.1871	777.000	786.9065	787.000	30°C/3.85V _{DC}
13	782	777.0338	777.000	786.9156	787.000	40°C/3.85V _{DC}
13	782	777.1516	777.000	786.9854	787.000	50°C/3.85V _{DC}

Band	Freq (MHz)	Lower Edge (MHz) (Result)	Limit (704MHz)	Upper Edge(MHz) (Result)	Limit (716MHz)	Environment
10MHz Bandwidth QPSK						
17	709/711	704.1208	704.000	715.9330	716.000	20℃/3.4V _{DC}
17	709/711	704.0364	704.000	715.9321	716.000	20℃/4.4V _{DC}
17	709/711	704.1985	704.000	715.8216	716.000	-30℃/3.85V _{DC}
17	709/711	704.1778	704.000	715.8877	716.000	-20℃/3.85V _{DC}
17	709/711	704.0830	704.000	715.9910	716.000	-10℃/3.85V _{DC}
17	709/711	704.1525	704.000	715.9595	716.000	0℃/3.85V _{DC}
17	709/711	704.0395	704.000	715.9188	716.000	10℃/3.85V _{DC}
17	709/711	704.1046	704.000	715.9499	716.000	20℃/3.85V _{DC}
17	709/711	704.0805	704.000	715.8425	716.000	30℃/3.85V _{DC}
17	709/711	704.0141	704.000	715.8082	716.000	40℃/3.85V _{DC}
17	709/711	704.1936	704.000	715.9764	716.000	50℃/3.85V _{DC}
10MHz Bandwidth 16QAM						
17	709/711	704.1739	704.000	715.9060	716.000	20℃/3.4V _{DC}
17	709/711	704.1151	704.000	715.8565	716.000	20℃/4.4V _{DC}
17	709/711	704.0996	704.000	715.8286	716.000	-30℃/3.85V _{DC}
17	709/711	704.0499	704.000	715.9233	716.000	-20℃/3.85V _{DC}
17	709/711	704.1275	704.000	715.9246	716.000	-10℃/3.85V _{DC}
17	709/711	704.1662	704.000	715.9360	716.000	0℃/3.85V _{DC}
17	709/711	704.0124	704.000	715.9537	716.000	10℃/3.85V _{DC}
17	709/711	704.1297	704.000	715.9538	716.000	20℃/3.85V _{DC}
17	709/711	704.0398	704.000	715.8795	716.000	30℃/3.85V _{DC}
17	709/711	704.1543	704.000	715.8776	716.000	40℃/3.85V _{DC}
17	709/711	704.1677	704.000	715.9223	716.000	50℃/3.85V _{DC}

Band	Freq (MHz)	Lower Edge (MHz) (Result)	Limit (2570MHz)	Upper Edge(MHz) (Result)	Limit (2620MHz)	Environment
20MHz Bandwidth QPSK						
38	2580/2610	2570.1270	2570.000	2619.8705	2620.000	20℃/3.4V _{DC}
38	2580/2610	2570.0981	2570.000	2619.9073	2620.000	20℃/4.4V _{DC}
38	2580/2610	2570.0214	2570.000	2619.8831	2620.000	-30℃/3.85V _{DC}
38	2580/2610	2570.0788	2570.000	2619.9894	2620.000	-20℃/3.85V _{DC}
38	2580/2610	2570.0042	2570.000	2619.9528	2620.000	-10℃/3.85V _{DC}
38	2580/2610	2570.1927	2570.000	2619.8875	2620.000	0℃/3.85V _{DC}
38	2580/2610	2570.0220	2570.000	2619.9108	2620.000	10℃/3.85V _{DC}
38	2580/2610	2570.1436	2570.000	2619.9699	2620.000	20℃/3.85V _{DC}
38	2580/2610	2570.0526	2570.000	2619.8308	2620.000	30℃/3.85V _{DC}
38	2580/2610	2570.1453	2570.000	2619.8955	2620.000	40℃/3.85V _{DC}
38	2580/2610	2570.0182	2570.000	2619.8897	2620.000	50℃/3.85V _{DC}
20MHz Bandwidth 16QAM						
38	2580/2610	2570.1742	2570.000	2619.9385	2620.000	20℃/3.4V _{DC}
38	2580/2610	2570.1404	2570.000	2619.9994	2620.000	20℃/4.4V _{DC}
38	2580/2610	2570.0749	2570.000	2619.8636	2620.000	-30℃/3.85V _{DC}
38	2580/2610	2570.0707	2570.000	2619.9260	2620.000	-20℃/3.85V _{DC}
38	2580/2610	2570.0453	2570.000	2619.9004	2620.000	-10℃/3.85V _{DC}
38	2580/2610	2570.0591	2570.000	2619.9906	2620.000	0℃/3.85V _{DC}
38	2580/2610	2570.0170	2570.000	2619.9363	2620.000	10℃/3.85V _{DC}
38	2580/2610	2570.0539	2570.000	2619.9248	2620.000	20℃/3.85V _{DC}
38	2580/2610	2570.1879	2570.000	2619.8513	2620.000	30℃/3.85V _{DC}
38	2580/2610	2570.1138	2570.000	2619.8210	2620.000	40℃/3.85V _{DC}
38	2580/2610	2570.0040	2570.000	2619.8297	2620.000	50℃/3.85V _{DC}

Band	Freq (MHz)	Lower Edge (MHz) (Result)	Limit (2535MHz)	Upper Edge(MHz) (Result)	Limit (2655MHz)	Environment
20MHz Bandwidth QPSK						
41	2545/2645	2535.1017	2535.000	2654.8109	2655.000	20℃/3.4V _{DC}
41	2545/2645	2535.0806	2535.000	2654.9572	2655.000	20℃/4.4V _{DC}
41	2545/2645	2535.0562	2535.000	2654.8297	2655.000	-30℃/3.85V _{DC}
41	2545/2645	2535.1764	2535.000	2654.8391	2655.000	-20℃/3.85V _{DC}
41	2545/2645	2535.1221	2535.000	2654.8616	2655.000	-10℃/3.85V _{DC}
41	2545/2645	2535.1475	2535.000	2654.8252	2655.000	0℃/3.85V _{DC}
41	2545/2645	2535.1857	2535.000	2654.9681	2655.000	10℃/3.85V _{DC}
41	2545/2645	2535.1256	2535.000	2654.8402	2655.000	20℃/3.85V _{DC}
41	2545/2645	2535.0503	2535.000	2654.8281	2655.000	30℃/3.85V _{DC}
41	2545/2645	2535.0033	2535.000	2654.8124	2655.000	40℃/3.85V _{DC}
41	2545/2645	2535.0326	2535.000	2654.9962	2655.000	50℃/3.85V _{DC}
20MHz Bandwidth 16QAM						
41	2545/2645	2535.0245	2535.000	2654.8023	2655.000	20℃/3.4V _{DC}
41	2545/2645	2535.0205	2535.000	2654.9336	2655.000	20℃/4.4V _{DC}
41	2545/2645	2535.1895	2535.000	2654.9338	2655.000	-30℃/3.85V _{DC}
41	2545/2645	2535.0227	2535.000	2654.9583	2655.000	-20℃/3.85V _{DC}
41	2545/2645	2535.1561	2535.000	2654.9264	2655.000	-10℃/3.85V _{DC}
41	2545/2645	2535.1434	2535.000	2654.8026	2655.000	0℃/3.85V _{DC}
41	2545/2645	2535.1182	2535.000	2654.9144	2655.000	10℃/3.85V _{DC}
41	2545/2645	2535.0628	2535.000	2654.8872	2655.000	20℃/3.85V _{DC}
41	2545/2645	2535.1703	2535.000	2654.8763	2655.000	30℃/3.85V _{DC}
41	2545/2645	2535.1018	2535.000	2654.9711	2655.000	40℃/3.85V _{DC}
41	2545/2645	2535.1214	2535.000	2654.9312	2655.000	50℃/3.85V _{DC}