

Appendix for WCDMA Band 4

Product Name: Smart Phone

Model No: N3

Appendix A: Conducted Average Power

Test Result

WCDMA

Band	Channel	Power(dBm)	Verdict
Band4	1312	22.74	PASS
Band4	1412	22.52	PASS
Band4	1513	22.56	PASS

HSDPA

Band	Channel	SubTest	Power(dBm)	Verdict
Band4	1312	1	21.73	PASS
Band4	1312	2	21.23	PASS
Band4	1312	3	21.23	PASS
Band4	1312	4	21.19	PASS
Band4	1412	1	21.50	PASS
Band4	1412	2	20.99	PASS
Band4	1412	3	21.00	PASS
Band4	1412	4	20.96	PASS
Band4	1513	1	21.55	PASS
Band4	1513	2	21.05	PASS
Band4	1513	3	21.06	PASS
Band4	1513	4	21.03	PASS

HSUPA

Band	Channel	SubTest	Power(dBm)	Verdict
Band4	1312	1	20.69	PASS
Band4	1312	2	20.19	PASS
Band4	1312	3	20.69	PASS
Band4	1312	4	20.71	PASS
Band4	1312	5	21.70	PASS
Band4	1412	1	20.47	PASS
Band4	1412	2	20.39	PASS
Band4	1412	3	20.51	PASS
Band4	1412	4	20.50	PASS

Band4	1412	5	21.50	PASS
Band4	1513	1	20.52	PASS
Band4	1513	2	20.04	PASS
Band4	1513	3	20.54	PASS
Band4	1513	4	20.55	PASS
Band4	1513	5	21.58	PASS

Sensor Mode:

WCDMA

Band	Channel	Power(dBm)	Verdict
Band4	1312	19.65	PASS
Band4	1412	19.46	PASS
Band4	1513	19.54	PASS

HSDPA

Band	Channel	SubTest	Power(dBm)	Verdict
Band2	9262	1	18.05	PASS
Band2	9262	2	17.54	PASS
Band2	9262	3	17.36	PASS
Band2	9262	4	17.54	PASS
Band2	9400	1	18.16	PASS
Band2	9400	2	17.53	PASS
Band2	9400	3	17.57	PASS
Band2	9400	4	17.53	PASS
Band2	9538	1	18.05	PASS
Band2	9538	2	17.39	PASS
Band2	9538	3	17.46	PASS
Band2	9538	4	17.48	PASS

HSUPA

Band	Channel	SubTest	Power(dBm)	Verdict
Band4	1312	1	17.82	PASS
Band4	1312	2	17.33	PASS
Band4	1312	3	17.68	PASS
Band4	1312	4	17.86	PASS
Band4	1312	5	18.70	PASS
Band4	1412	1	17.57	PASS

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Band4	1412	2	17.10	PASS
Band4	1412	3	17.63	PASS
Band4	1412	4	17.62	PASS
Band4	1412	5	18.45	PASS
Band4	1513	1	17.63	PASS
Band4	1513	2	17.18	PASS
Band4	1513	3	17.50	PASS
Band4	1513	4	17.67	PASS
Band4	1513	5	18.52	PASS

Receiver Mode:

WCDMA

Band	Channel	Power(dBm)	Limit(dBm)	Verdict
Band4	1312	14.73	30.00	PASS
Band4	1412	14.50	30.00	PASS
Band4	1513	14.53	30.00	PASS

HSDPA

Band	Channel	SubTest	Power(dBm)	Limit(dBm)	Verdict
Band4	1312	1	13.70	30.00	PASS
Band4	1312	2	13.17	30.00	PASS
Band4	1312	3	13.23	30.00	PASS
Band4	1312	4	13.19	30.00	PASS
Band4	1412	1	13.49	30.00	PASS
Band4	1412	2	12.95	30.00	PASS
Band4	1412	3	13.00	30.00	PASS
Band4	1412	4	12.96	30.00	PASS
Band4	1513	1	13.54	30.00	PASS
Band4	1513	2	13.00	30.00	PASS
Band4	1513	3	13.04	30.00	PASS
Band4	1513	4	13.03	30.00	PASS

HSUPA

Band	Channel	SubTest	Power(dBm)	Limit(dBm)	Verdict
Band4	1312	1	12.67	30.00	PASS
Band4	1312	2	12.17	30.00	PASS
Band4	1312	3	12.69	30.00	PASS

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Band4	1312	4	12.69	30.00	PASS
Band4	1312	5	13.71	30.00	PASS
Band4	1412	1	12.52	30.00	PASS
Band4	1412	2	12.96	30.00	PASS
Band4	1412	3	12.50	30.00	PASS
Band4	1412	4	12.57	30.00	PASS
Band4	1412	5	13.48	30.00	PASS
Band4	1513	1	12.51	30.00	PASS
Band4	1513	2	12.02	30.00	PASS
Band4	1513	3	12.53	30.00	PASS
Band4	1513	4	12.53	30.00	PASS
Band4	1513	5	13.54	30.00	PASS

Hotspot Mode:

WCDMA

Band	Channel	Power(dBm)	Limit(dBm)	Verdict
Band4	1312	18.69	30.00	PASS
Band4	1412	18.45	30.00	PASS
Band4	1513	18.51	30.00	PASS

HSDPA

Band	Channel	SubTest	Power(dBm)	Limit(dBm)	Verdict
Band4	1312	1	17.67	30.00	PASS
Band4	1312	2	17.44	30.00	PASS
Band4	1312	3	17.38	30.00	PASS
Band4	1312	4	17.35	30.00	PASS
Band4	1412	1	17.62	30.00	PASS
Band4	1412	2	17.23	30.00	PASS
Band4	1412	3	17.14	30.00	PASS
Band4	1412	4	17.10	30.00	PASS
Band4	1513	1	17.50	30.00	PASS
Band4	1513	2	17.23	30.00	PASS
Band4	1513	3	17.19	30.00	PASS
Band4	1513	4	17.17	30.00	PASS

HSUPA

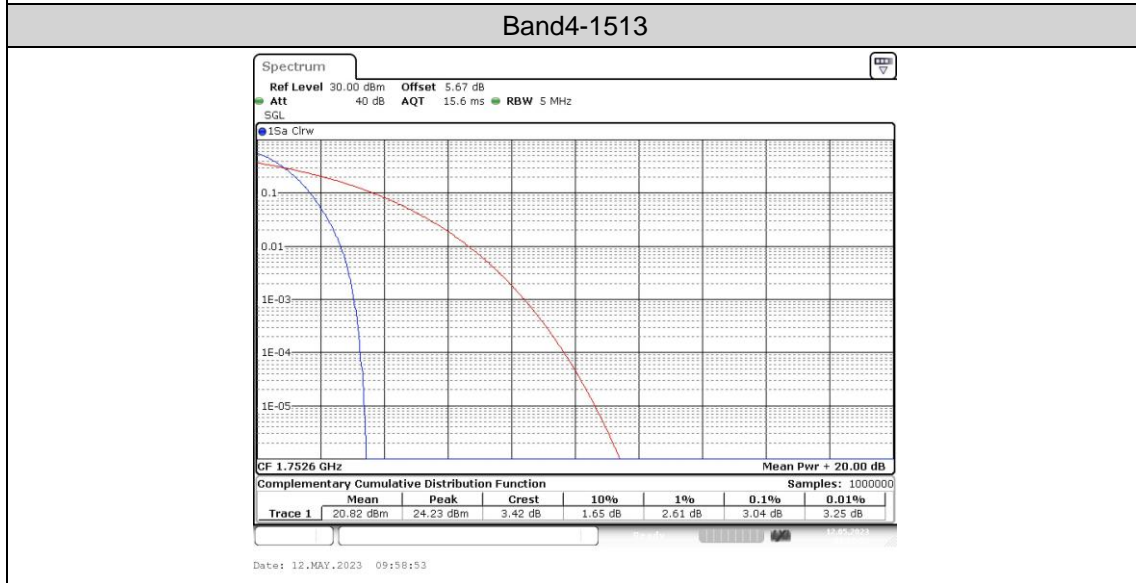
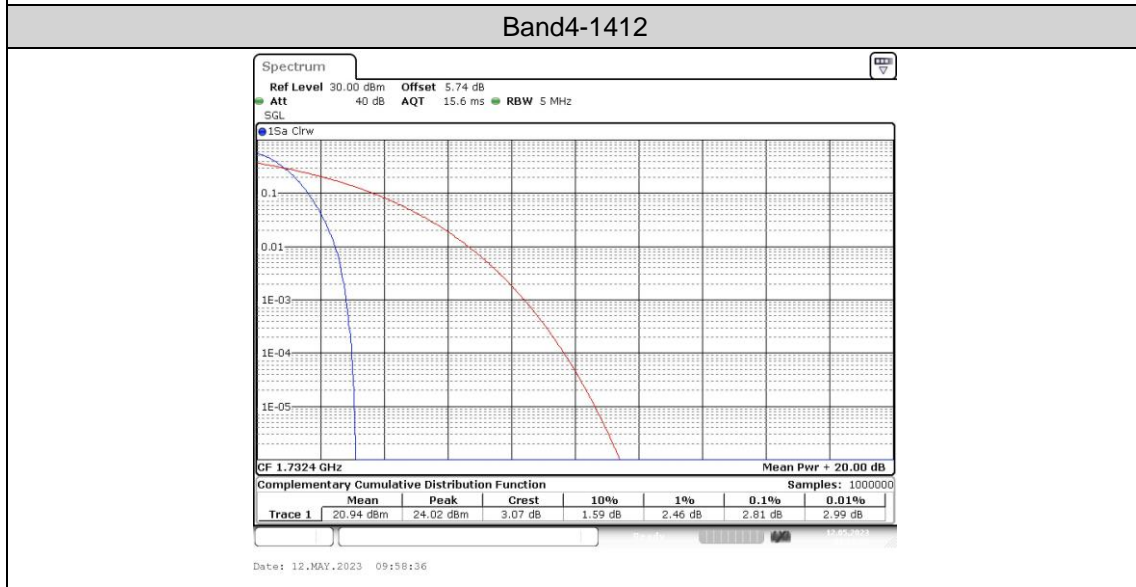
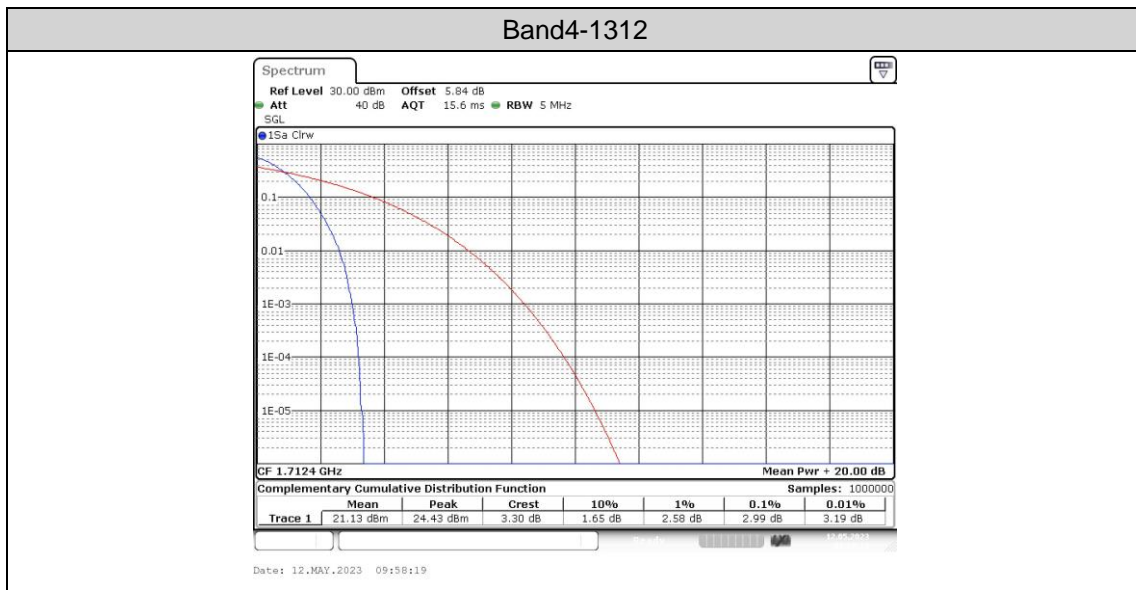
Band	Channel	SubTest	Power(dBm)	Verdict
Band4	1312	1	16.72	PASS
Band4	1312	2	16.23	PASS
Band4	1312	3	16.56	PASS
Band4	1312	4	16.68	PASS
Band4	1312	5	17.75	PASS
Band4	1412	1	16.53	PASS
Band4	1412	2	16.43	PASS
Band4	1412	3	16.54	PASS
Band4	1412	4	16.51	PASS
Band4	1412	5	17.53	PASS
Band4	1513	1	16.46	PASS
Band4	1513	2	16.36	PASS
Band4	1513	3	16.42	PASS
Band4	1513	4	16.56	PASS
Band4	1513	5	17.47	PASS

Appendix B: Peak-to-Average Ratio

Test Result

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
Band4	1312	2.99	13	PASS
Band4	1412	2.81	13	PASS
Band4	1513	3.04	13	PASS

Test Graphs

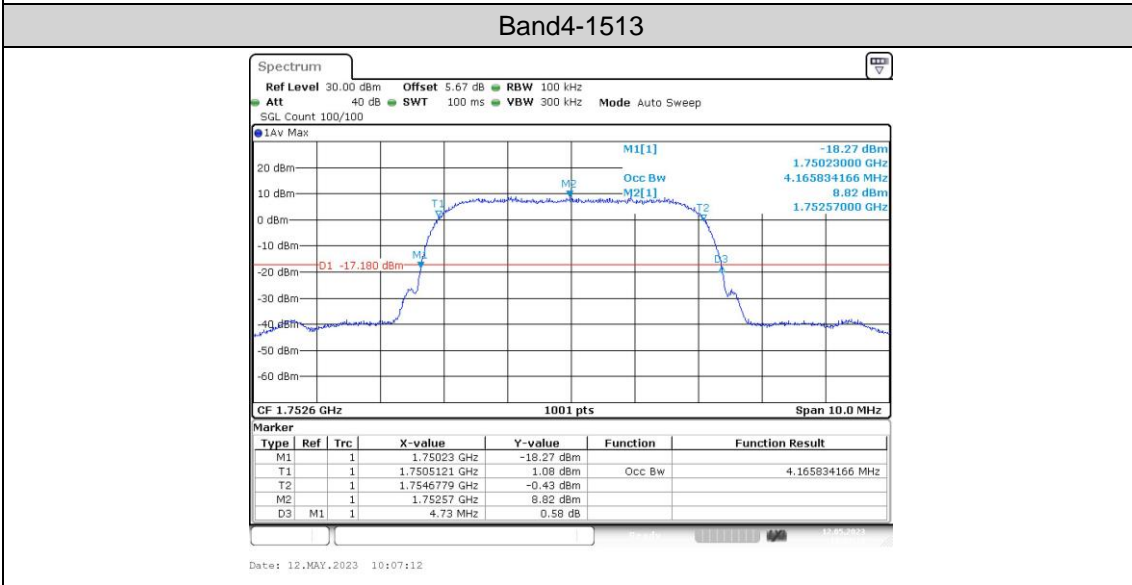
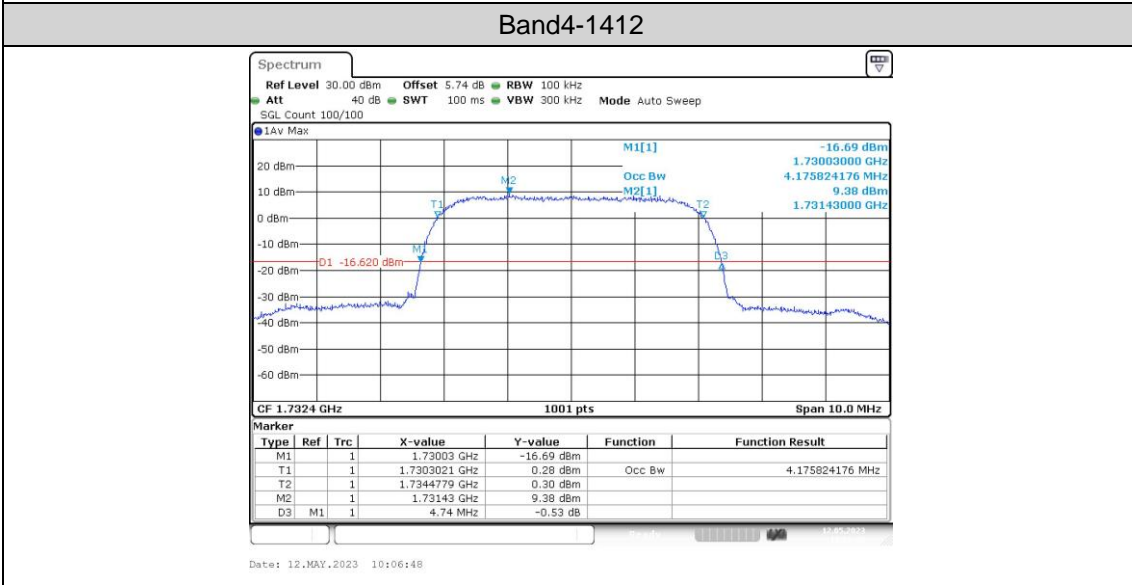
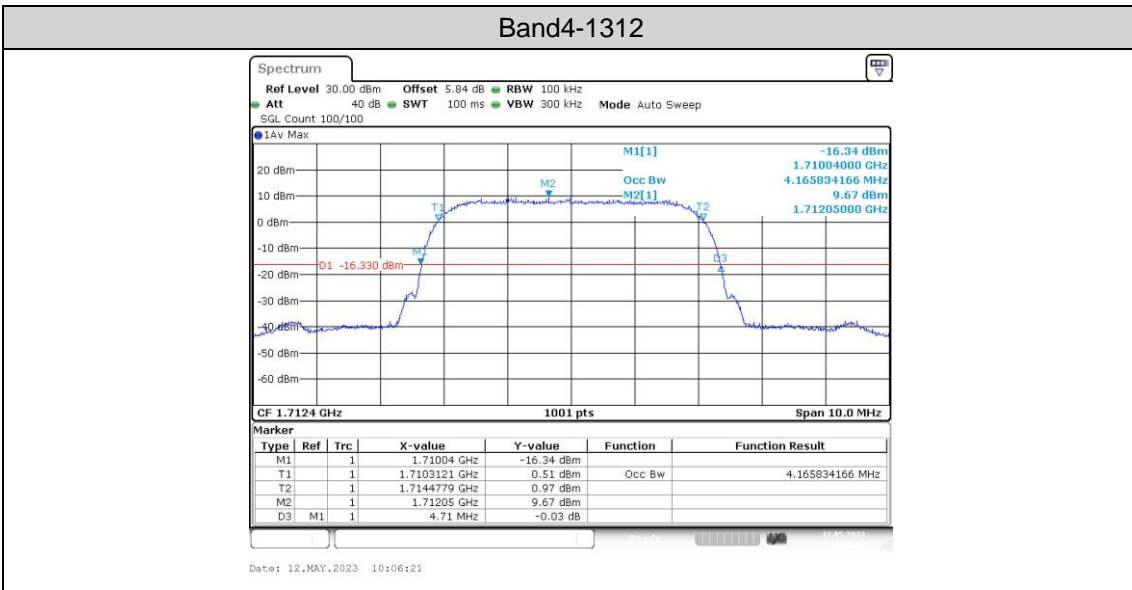


Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band4	1312	4.166	4.71	---	PASS
Band4	1412	4.176	4.74	---	PASS
Band4	1513	4.166	4.73	---	PASS

Test Graphs

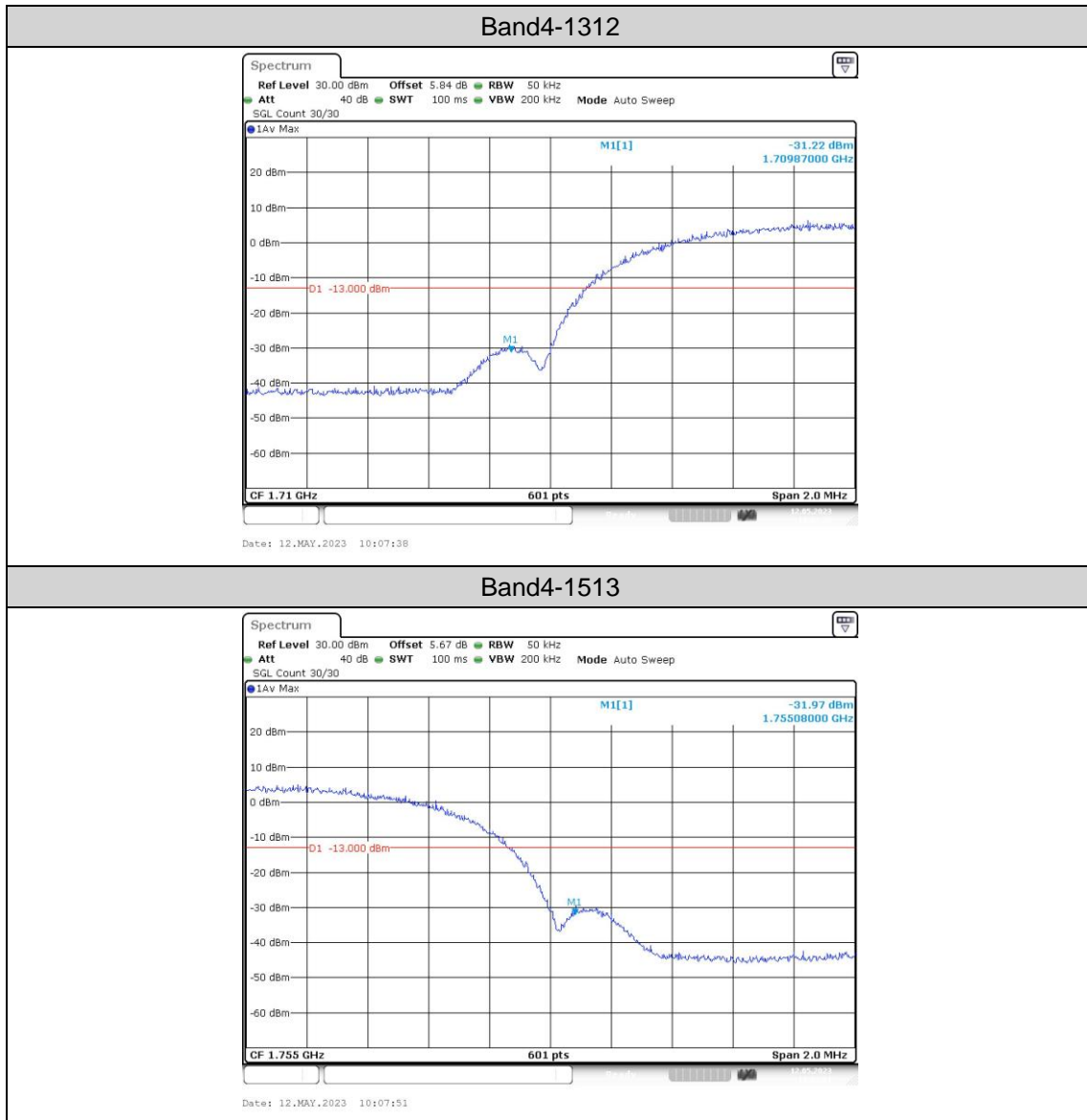


Appendix D: Band Edge

Test Result

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band4	1312	1709.87	-29.18	-13	PASS
Band4	1513	1755.08	-29.37	-13	PASS

Test Graphs

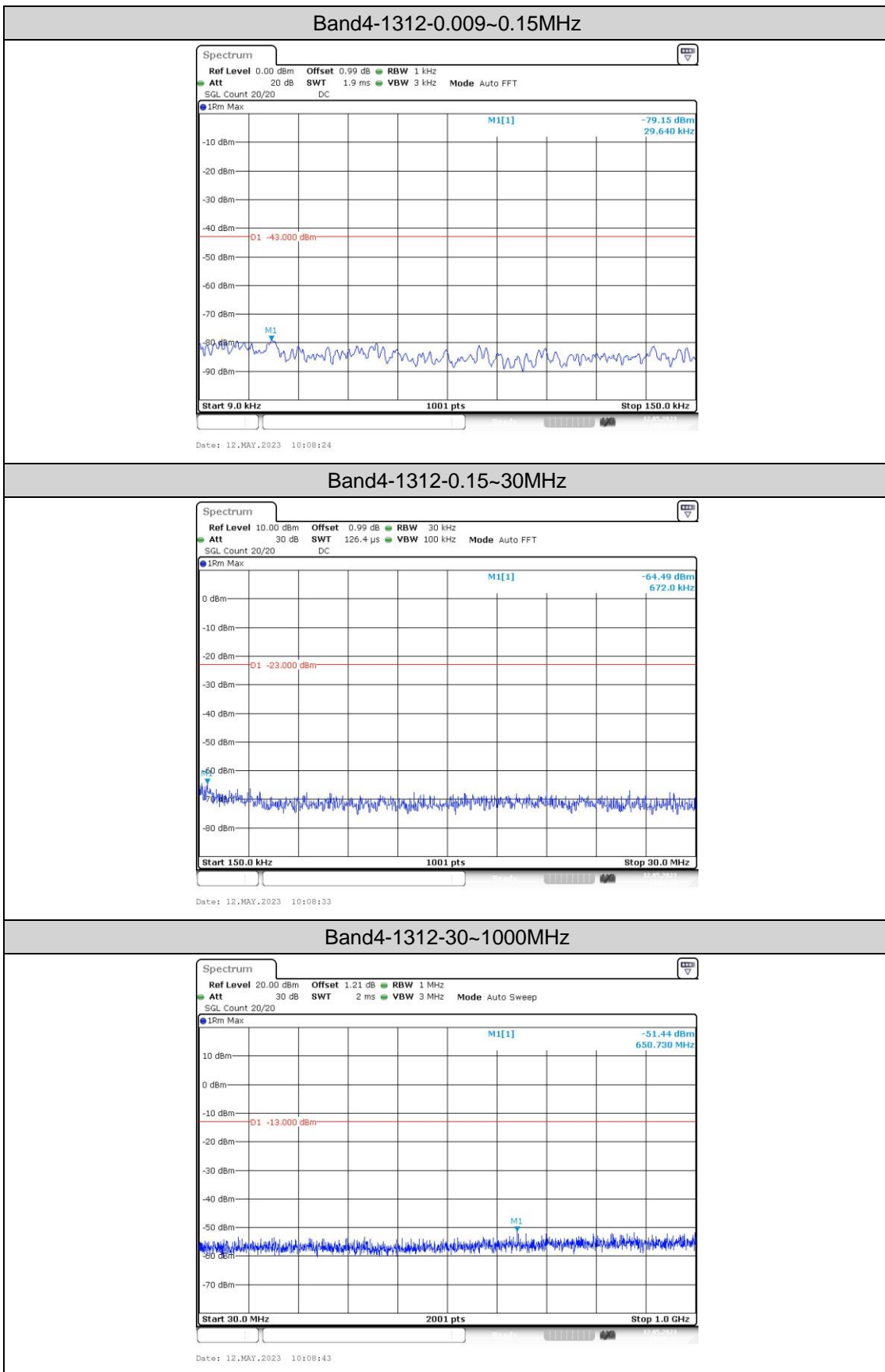


Appendix E: Conducted Spurious Emission

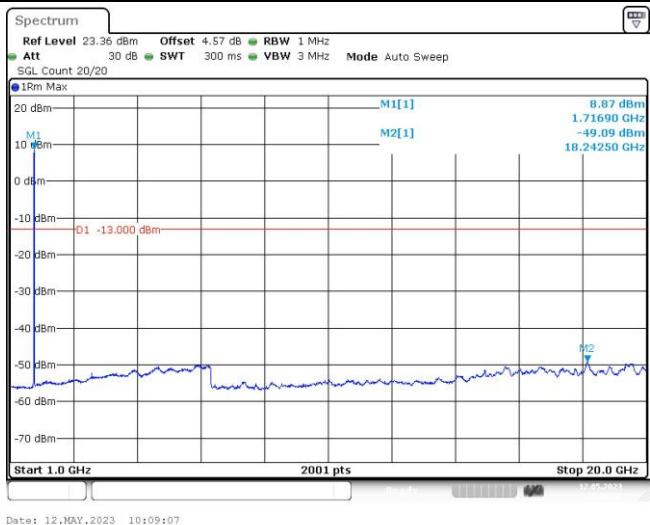
Test Result

Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band4	1312	0.009~0.15MHz	0.03	-79.15	-43	PASS
Band4	1312	0.15~30MHz	0.67	-64.49	-23	PASS
Band4	1312	30~1000MHz	650.73	-51.44	-13	PASS
Band4	1312	1000~20000MHz	18242.5	-49.09	-13	PASS
Band4	1412	0.009~0.15MHz	0.01	-78.18	-43	PASS
Band4	1412	0.15~30MHz	0.7	-63.77	-23	PASS
Band4	1412	30~1000MHz	996.85	-51.31	-13	PASS
Band4	1412	1000~20000MHz	18223.5	-49.08	-13	PASS
Band4	1513	0.009~0.15MHz	0.02	-77.46	-43	PASS
Band4	1513	0.15~30MHz	0.31	-62.33	-23	PASS
Band4	1513	30~1000MHz	656.06	-51.65	-13	PASS
Band4	1513	1000~20000MHz	18233	-49.11	-13	PASS

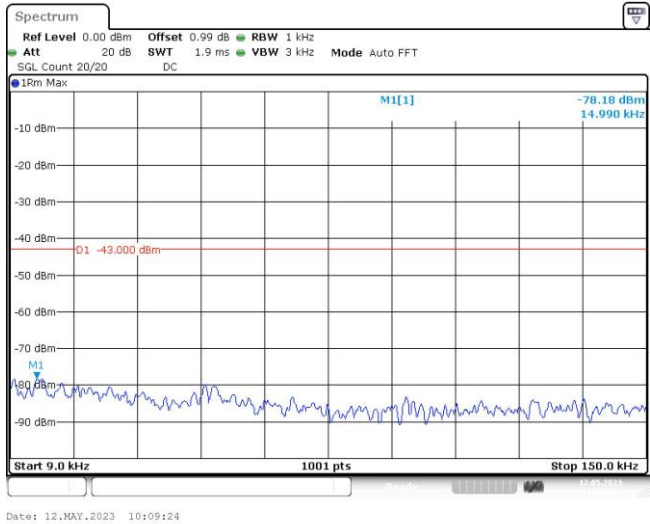
Test Graphs



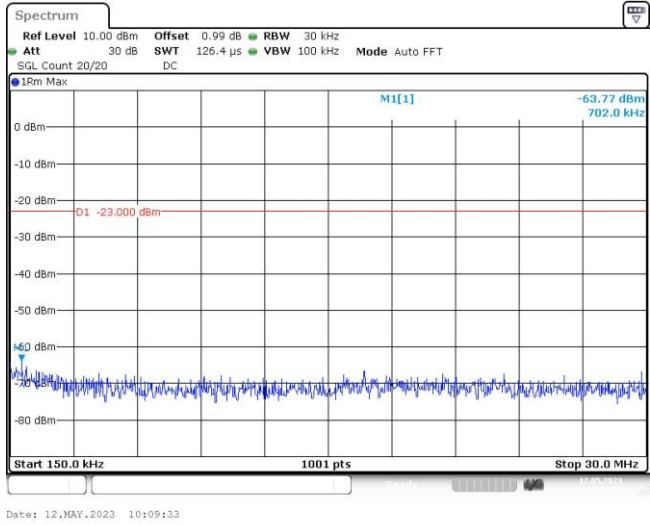
Band4-1312-1000~20000MHz



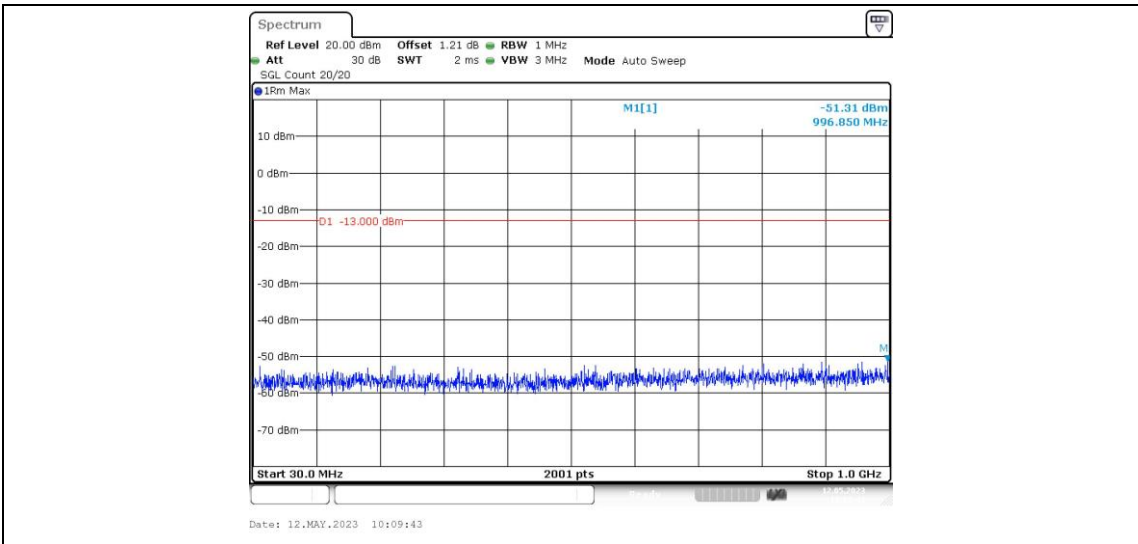
Band4-1412-0.009~0.15MHz



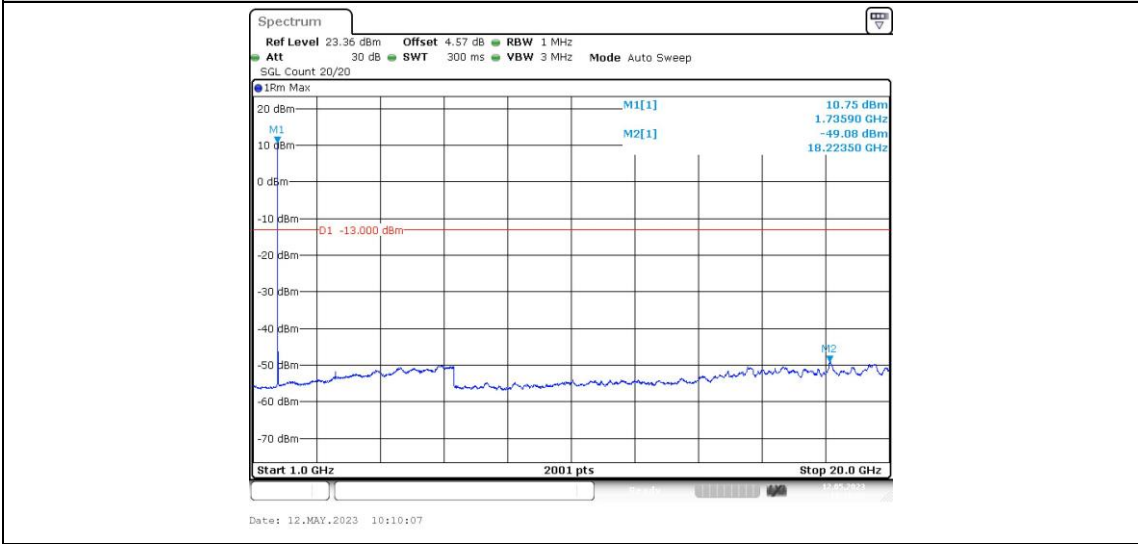
Band4-1412-0.15~30MHz



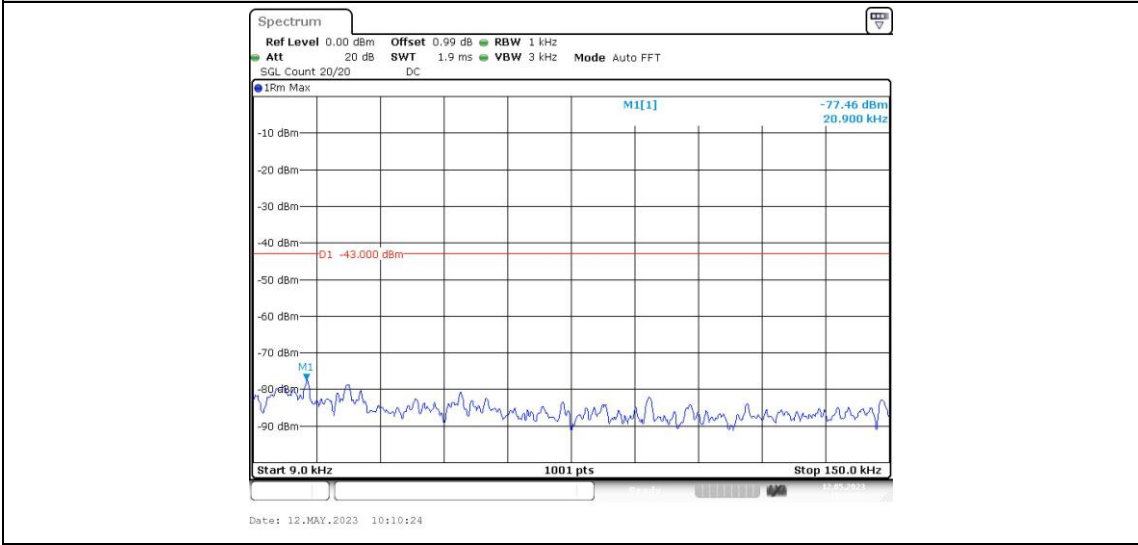
Band4-1412-30~1000MHz



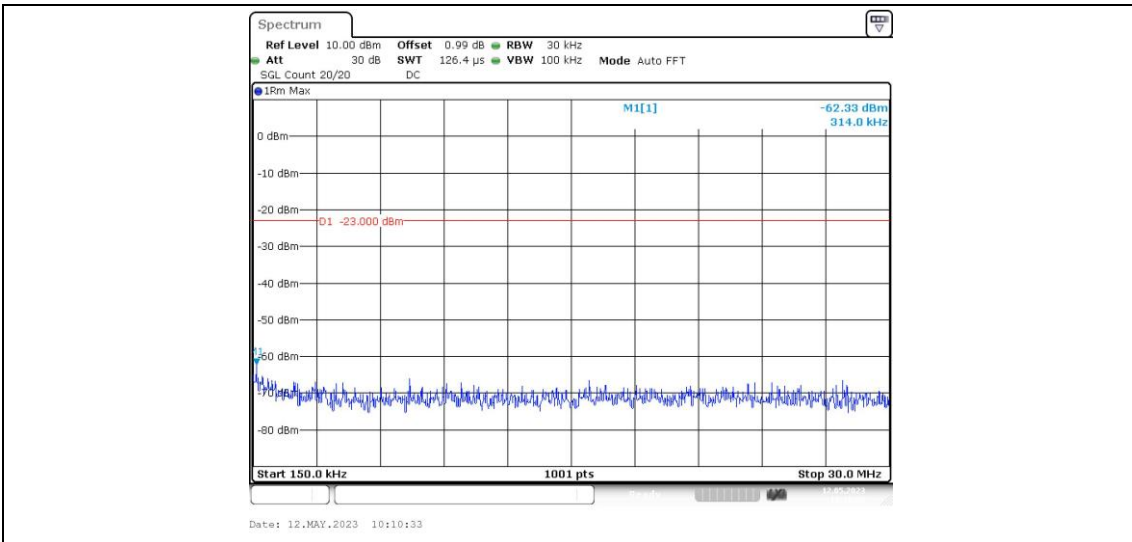
Band4-1412-1000~20000MHz



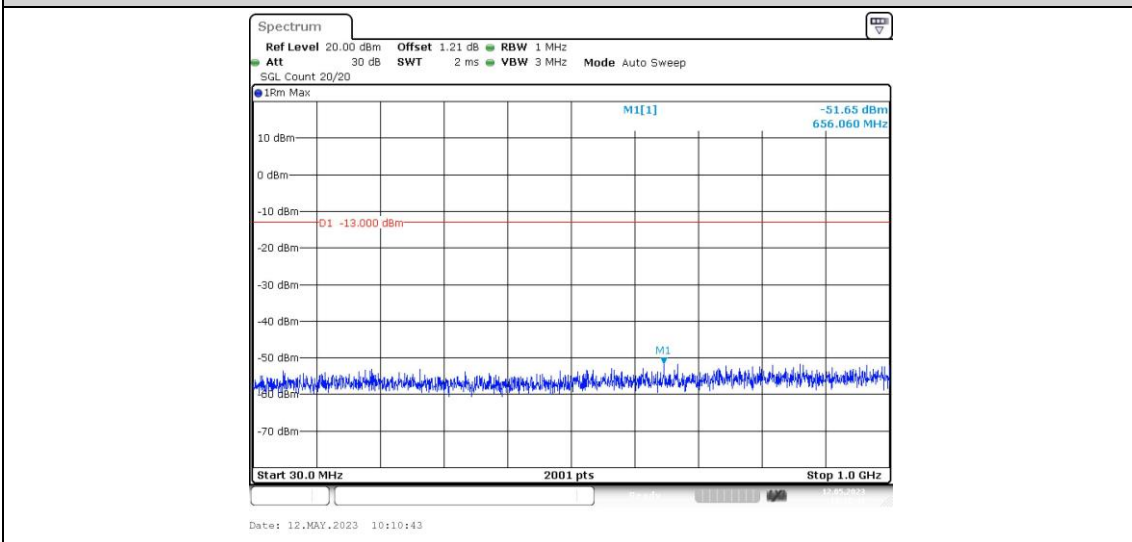
Band4-1513-0.009~0.15MHz



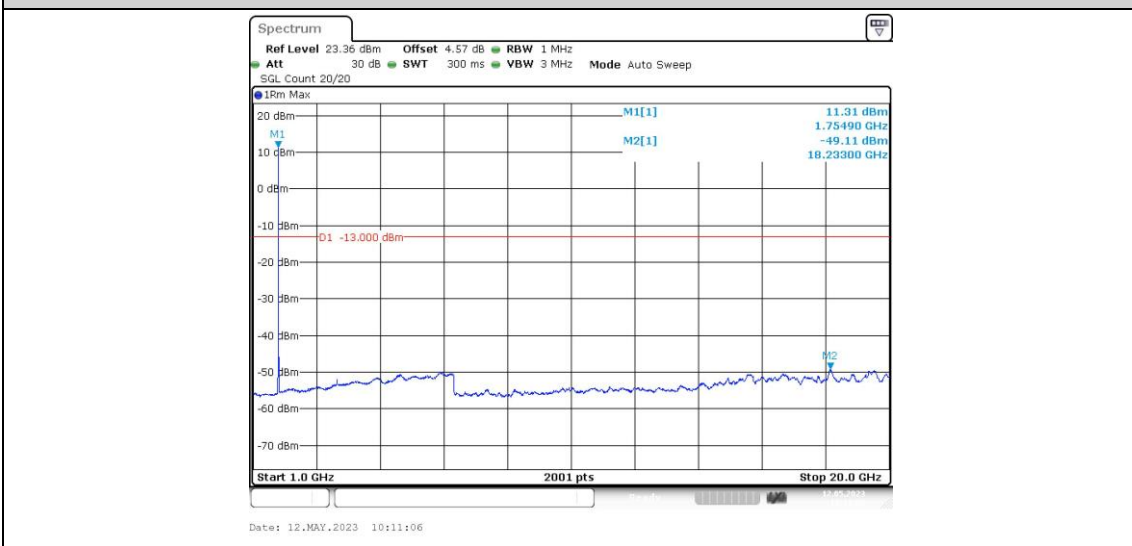
Band4-1513-0.15~30MHz



Band4-1513-30~1000MHz



Band4-1513-1000~20000MHz



Appendix F: Frequency Stability

Test Result

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band4	1312	VL	NT	2.55	0.001489	±2.5	PASS
Band4	1312	VN	NT	2.39	0.001396	±2.5	PASS
Band4	1312	VH	NT	2.60	0.001518	±2.5	PASS
Band4	1412	VL	NT	0.47	0.000271	±2.5	PASS
Band4	1412	VN	NT	-0.38	-0.000219	±2.5	PASS
Band4	1412	VH	NT	0.66	0.000381	±2.5	PASS
Band4	1513	VL	NT	-3.26	-0.001860	±2.5	PASS
Band4	1513	VN	NT	-3.53	-0.002014	±2.5	PASS
Band4	1513	VH	NT	-2.30	-0.001312	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band4	1312	NV	-30	2.35	0.001372	±2.5	PASS
Band4	1312	NV	-20	2.71	0.001583	±2.5	PASS
Band4	1312	NV	-10	2.45	0.001431	±2.5	PASS
Band4	1312	NV	0	2.68	0.001565	±2.5	PASS
Band4	1312	NV	10	1.71	0.000999	±2.5	PASS
Band4	1312	NV	20	2.25	0.001314	±2.5	PASS
Band4	1312	NV	30	3.01	0.001758	±2.5	PASS
Band4	1312	NV	40	2.20	0.001285	±2.5	PASS
Band4	1312	NV	50	1.99	0.001162	±2.5	PASS
Band4	1412	NV	-30	-0.36	-0.000208	±2.5	PASS
Band4	1412	NV	-20	-0.17	-0.000098	±2.5	PASS
Band4	1412	NV	-10	-0.11	-0.000063	±2.5	PASS
Band4	1412	NV	0	0.13	0.000075	±2.5	PASS
Band4	1412	NV	10	-0.68	-0.000393	±2.5	PASS
Band4	1412	NV	20	0.12	0.000069	±2.5	PASS
Band4	1412	NV	30	-0.71	-0.000410	±2.5	PASS
Band4	1412	NV	40	-2.51	-0.001449	±2.5	PASS
Band4	1412	NV	50	0.46	0.000266	±2.5	PASS
Band4	1513	NV	-30	-2.65	-0.001512	±2.5	PASS
Band4	1513	NV	-20	-3.17	-0.001809	±2.5	PASS
Band4	1513	NV	-10	-3.10	-0.001769	±2.5	PASS
Band4	1513	NV	0	-2.28	-0.001301	±2.5	PASS

Band4	1513	NV	10	-2.49	-0.001421	±2.5	PASS
Band4	1513	NV	20	-2.66	-0.001518	±2.5	PASS
Band4	1513	NV	30	-2.73	-0.001558	±2.5	PASS
Band4	1513	NV	40	-3.15	-0.001797	±2.5	PASS
Band4	1513	NV	50	-2.97	-0.001695	±2.5	PASS

Appendix G: Modulation Characteristics

Test Result

Band	Channel	Result	Verdict
Band4	1312	PASS	PASS
Band4	1412	PASS	PASS
Band4	1513	PASS	PASS

Test Graphs

