

Appendix for WCDMA test report

Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Results

Test Band	Test Mode	Test Channel	Conducted power[dBm]	EIRP(dBm)	Limit [dBm]	Verdict
WCDMA1900	UMTS/TM1	LCH	22.02	25.16	33	PASS
		MCH	21.96	25.1	33	PASS
		HCH	22.06	25.2	33	PASS

Test Band	Test Mode	Test Channel	Conducted power[dBm]	EIRP(dBm)	Limit [dBm]	Verdict
WCDMA1700	UMTS/TM1	LCH	23.29	27.04	30	PASS
		MCH	23.21	26.96	30	PASS
		HCH	22.98	26.73	30	PASS

Test Band	Test Mode	Test Channel	Conducted power[dBm]	ERP(dBm)	Limit [dBm]	Verdict
WCDMA850	UMTS/TM1	LCH	22.94	24.83	38.5	PASS
		MCH	23.08	24.97	38.5	PASS
		HCH	23.42	25.31	38.5	PASS

Note 1:

a, For getting the ERP (Efficient Radiated Power) or EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$ERP[dBm] = SGP[dBm] - \text{Cable Loss}[dB] + \text{Gain}[dBd]$$

$$EIRP[dBm] = SGP[dBm] - \text{Cable Loss}[dB] + \text{Gain}[dBd]$$

b, SGP=Signal Generator Level

c, Antenna gain of WCDMA1900 is 3.14dBi; Antenna gain of WCDMA1700 is 3.75dBi; Antenna gain of WCDMA850 is 4.04dBi;

Note 2:

SET Span=1.5*OBW

SET RBW=1% of the OBW, not to exceed 1MHz

SET VBW≥3*RBW

SET SWEEP time=auto couple

Detector: RMS

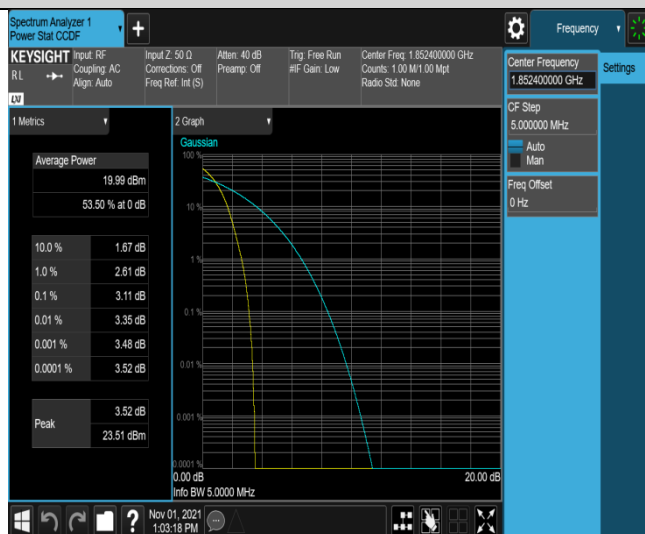
Appendix B: Peak-to-Average Ratio

Test Results

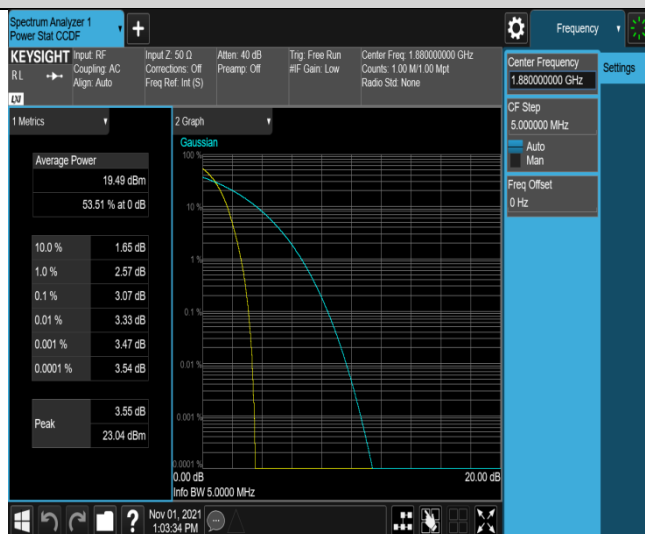
Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
WCDMA1900	UMTS/TM1	LCH	3.11	13	PASS
		MCH	3.07	13	PASS
		HCH	3.14	13	PASS
WCDMA1700	UMTS/TM1	LCH	3.12	13	PASS
		MCH	3.13	13	PASS
		HCH	3.04	13	PASS
WCDMA850	UMTS/TM1	LCH	3.13	13	PASS
		MCH	3.19	13	PASS
		HCH	3.15	13	PASS

Test Graphs

Band2-9262



Band2-9400



Band2-9538



Band4-1312



Band4-1413



Band4-1513



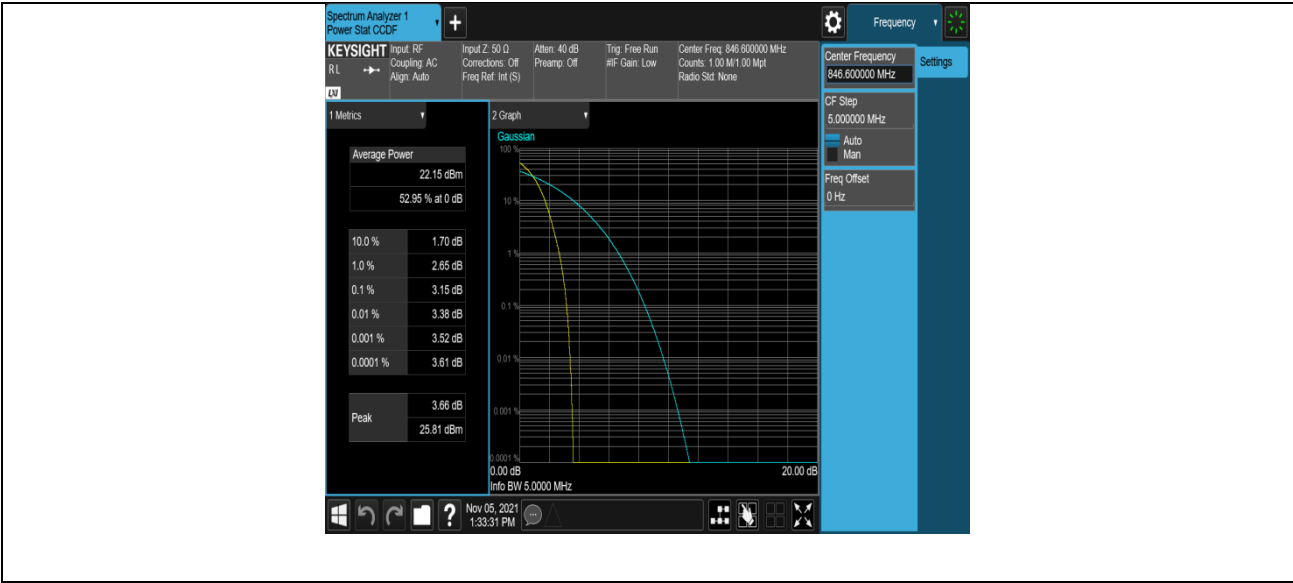
Band5-4132



Band5-4183



Band5-4233



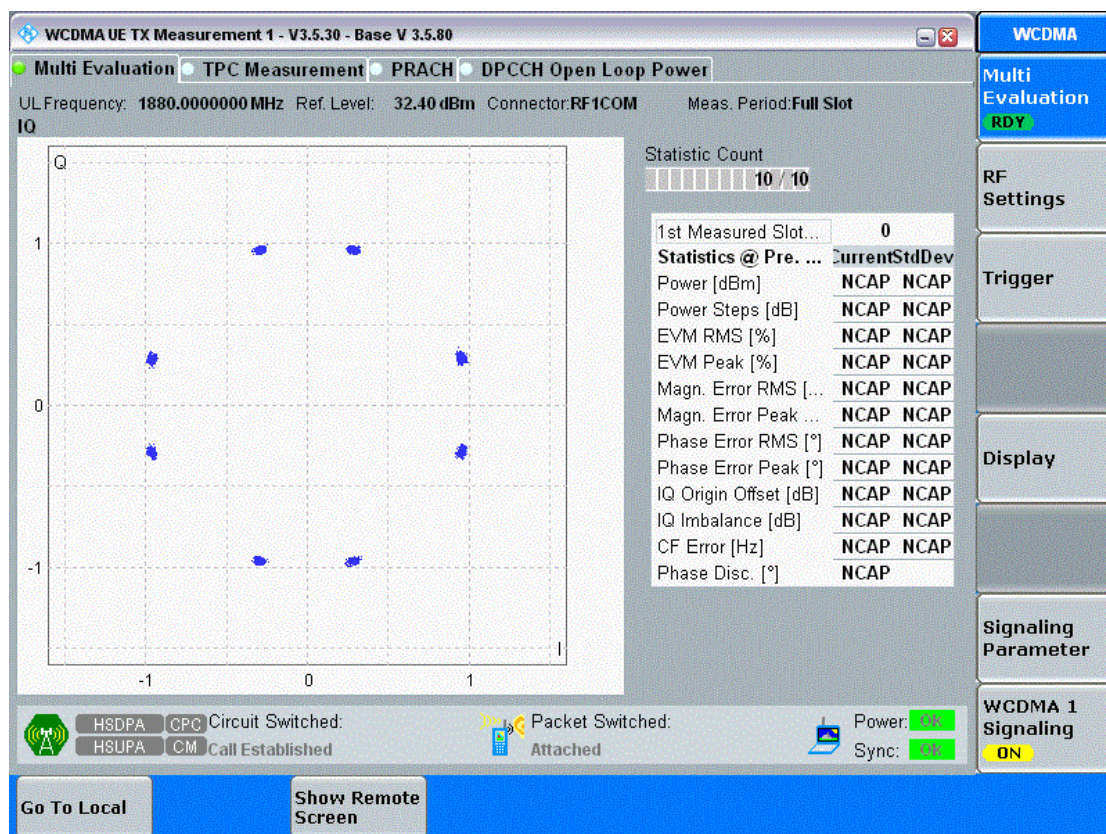
Appendix C: Modulation Characteristics

Test Graphs

Test Band = WCDMA1900

Test Mode = UMTS/TM1

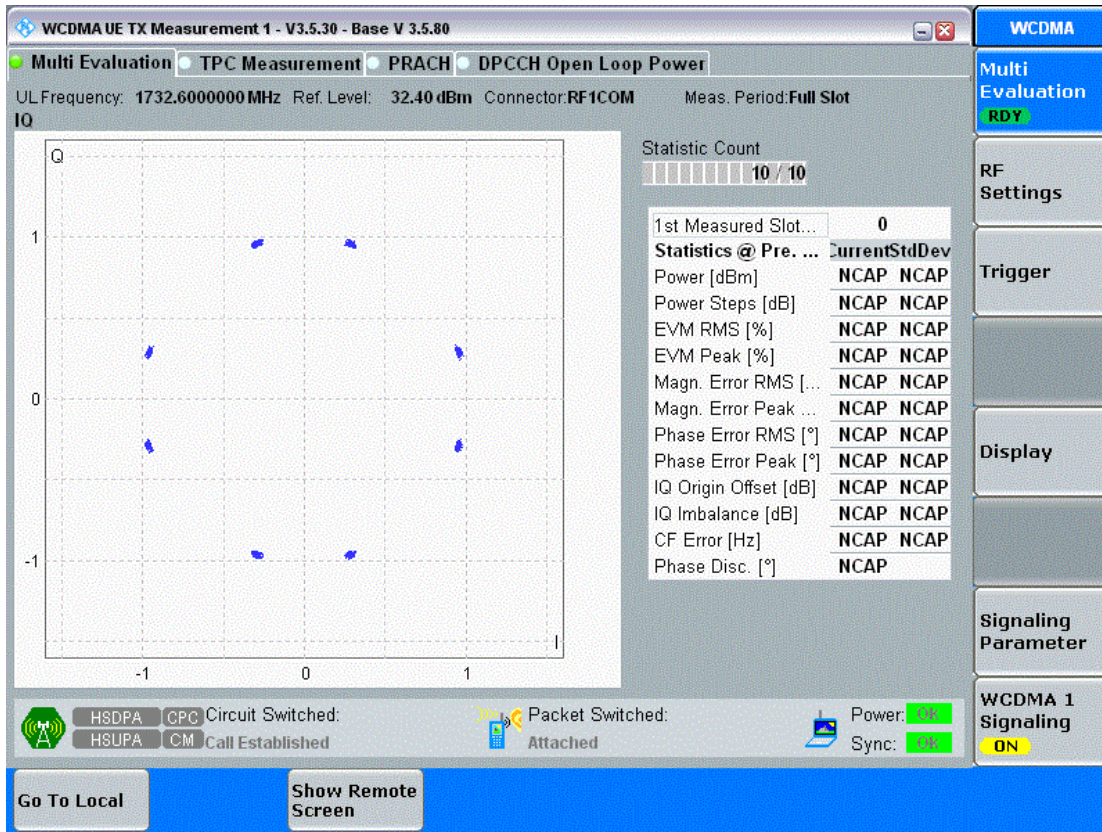
Test Channel = MCH



Test Band = WCDMA1700

Test Mode = UMTS/TM1

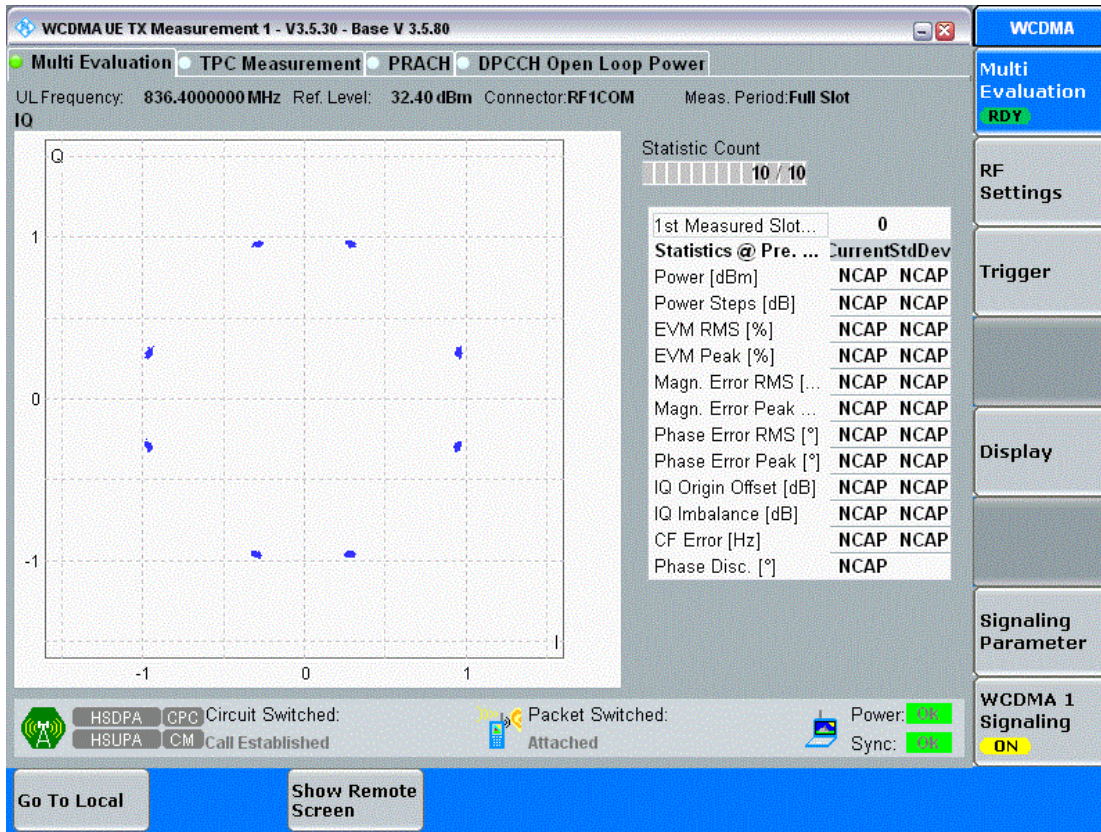
Test Channel = MCH



Test Band = WCDMA850

Test Mode = UMTS/TM1

Test Channel = MCH



Appendix D: Bandwidth

Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
WCDMA1900	UMTS/TM1	LCH	4.1226	4.697	Pass
		MCH	4.1224	4.699	Pass
		HCH	4.1246	4.692	Pass
WCDMA1700	UMTS/TM1	LCH	4.1235	4.704	Pass
		MCH	4.1254	4.705	Pass
		HCH	4.1233	4.716	Pass
WCDMA850	UMTS/TM1	LCH	4.1352	4.704	Pass
		MCH	4.1163	4.696	Pass
		HCH	4.1318	4.698	Pass

Test Graphs

Test Mode = UMTS/TM1

Band2-9262-4.697



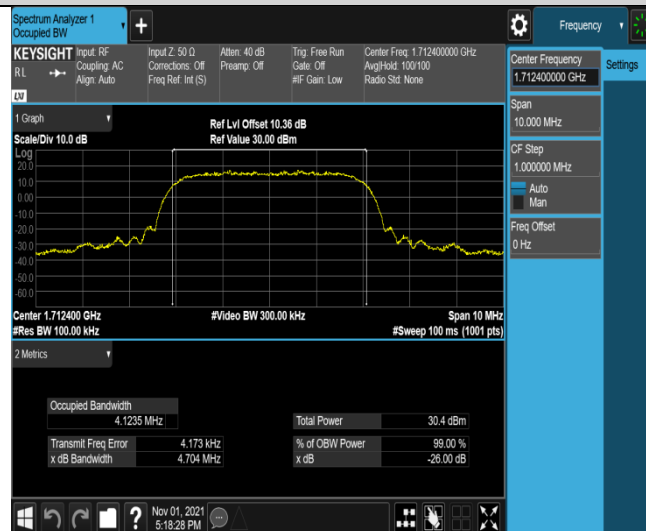
Band2-9400-4.699



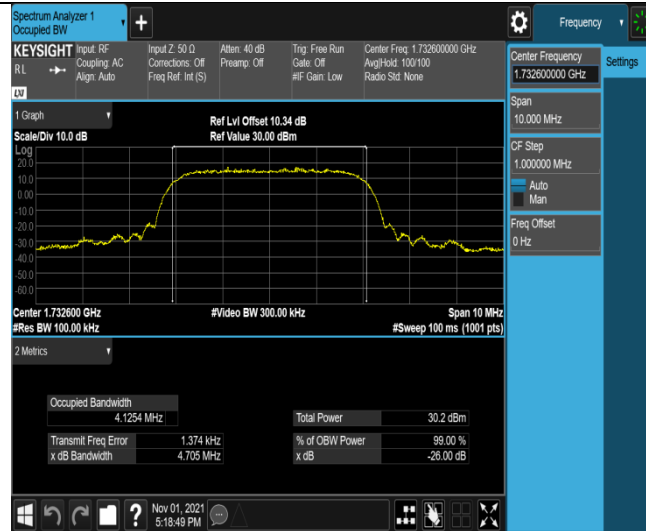
Band2-9538-4.692



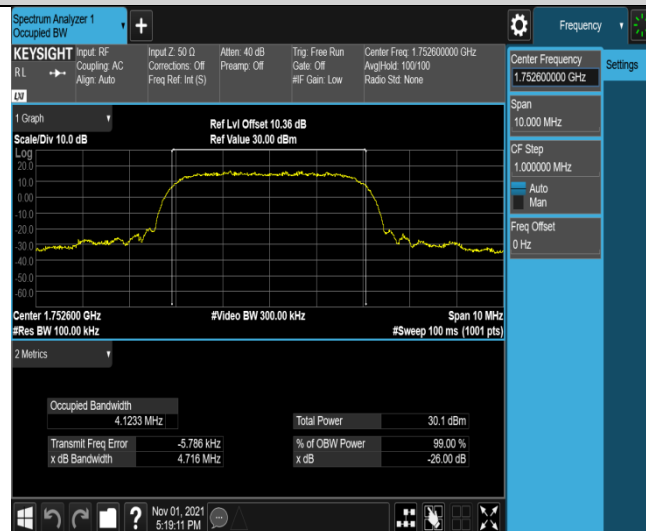
Band4-1312-4.704



Band4-1413-4.705



Band4-1513-4.716



Band5-4132-4.704



Band5-4183-4.696



Band5-4233-4.698



Appendix E: Band Edges Compliance

Test Results

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1850.00	-22.16	-13	PASS
Band2	9538	1910.00	-24.46	-13	PASS
Band4	1312	1710.00	-23.82	-13	PASS
Band4	1513	1755.00	-23.79	-13	PASS
Band5	4132	824.00	-19.95	-13	PASS
Band5	4233	849.00	-20.13	-13	PASS

Test Graphs

Band2-9262



Band2-9538



Band4-1312



Band4-1513



Band5-4132



Band5-4233



Appendix F: Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Test Results

Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	0.009~0.15MHz	0.14	-79.15	-43	PASS
Band2	9262	0.15~30MHz	0.15	-55.89	-23	PASS
Band2	9262	30~1000MHz	889.97	-53.52	-13	PASS
Band2	9262	1000~3000MHz	2676.13	-50.32	-13	PASS
Band2	9262	3000~20000MHz	18275.07	-39.04	-13	PASS
Band2	9400	0.009~0.15MHz	0.12	-80.09	-43	PASS
Band2	9400	0.15~30MHz	0.15	-55.04	-23	PASS
Band2	9400	30~1000MHz	882.76	-53.19	-13	PASS
Band2	9400	1000~3000MHz	2670.27	-50.43	-13	PASS
Band2	9400	3000~20000MHz	18293.2	-39.03	-13	PASS
Band2	9538	0.009~0.15MHz	0.11	-79.62	-43	PASS
Band2	9538	0.15~30MHz	0.16	-57.05	-23	PASS
Band2	9538	30~1000MHz	853.27	-53.56	-13	PASS
Band2	9538	1000~3000MHz	2677.93	-50.43	-13	PASS
Band2	9538	3000~20000MHz	18263.17	-38.99	-13	PASS
Band4	1312	0.009~0.15MHz	0.15	-79.88	-43	PASS
Band4	1312	0.15~30MHz	0.15	-56.94	-23	PASS
Band4	1312	30~1000MHz	741.5	-53.36	-13	PASS
Band4	1312	1000~3000MHz	2671.8	-50.53	-13	PASS
Band4	1312	3000~20000MHz	18289.23	-39.15	-13	PASS
Band4	1413	0.009~0.15MHz	0.14	-79.81	-43	PASS
Band4	1413	0.15~30MHz	0.15	-56.27	-23	PASS
Band4	1413	30~1000MHz	857.83	-53.85	-13	PASS
Band4	1413	1000~3000MHz	2668.93	-50.47	-13	PASS
Band4	1413	3000~20000MHz	18288.67	-39.14	-13	PASS
Band4	1513	0.009~0.15MHz	0.14	-79.73	-43	PASS
Band4	1513	0.15~30MHz	0.15	-56.7	-23	PASS
Band4	1513	30~1000MHz	898.02	-53.56	-13	PASS
Band4	1513	1000~3000MHz	2680	-50.52	-13	PASS
Band4	1513	3000~20000MHz	18256.93	-39.18	-13	PASS
Band5	4132	0.009~0.15MHz	0.11	-79.87	-33	PASS
Band5	4132	0.15~30MHz	0.15	-57	-13	PASS
Band5	4132	30~1000MHz	963.17	-63.93	-13	PASS
Band5	4132	1000~10000MHz	3685.3	-46.08	-13	PASS
Band5	4183	0.009~0.15MHz	0.08	-79.79	-33	PASS
Band5	4183	0.15~30MHz	0.16	-58.2	-13	PASS
Band5	4183	30~1000MHz	683.75	-63.99	-13	PASS

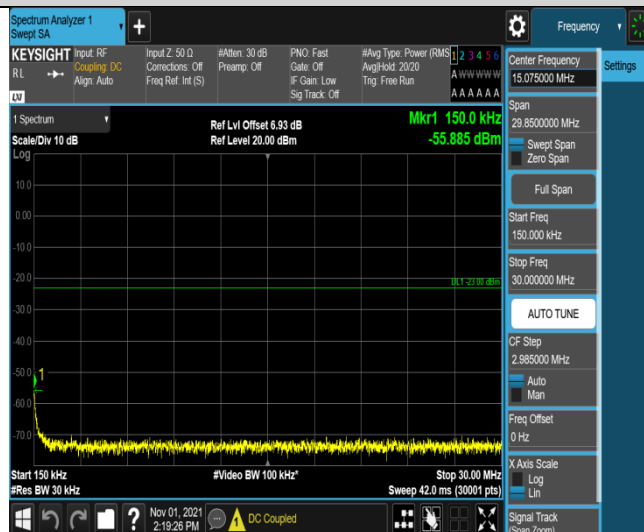
Band5	4183	1000~10000MHz	3696.7	-46.1	-13	PASS
Band5	4233	0.009~0.15MHz	0.15	-79.42	-33	PASS
Band5	4233	0.15~30MHz	0.17	-57.03	-13	PASS
Band5	4233	30~1000MHz	994.24	-63.95	-13	PASS
Band5	4233	1000~10000MHz	3691.6	-46.08	-13	PASS

Test Graphs

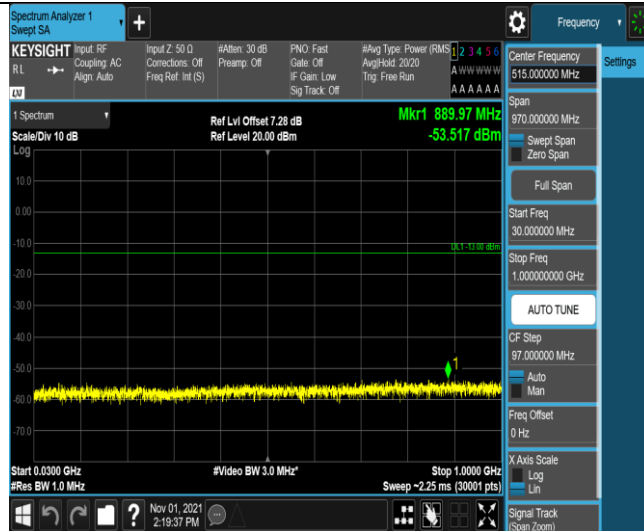
Band2-9262-0.009~0.15MHz



Band2-9262-0.15~30MHz



Band2-9262-30~1000MHz



Band2-9262-1000~3000MHz



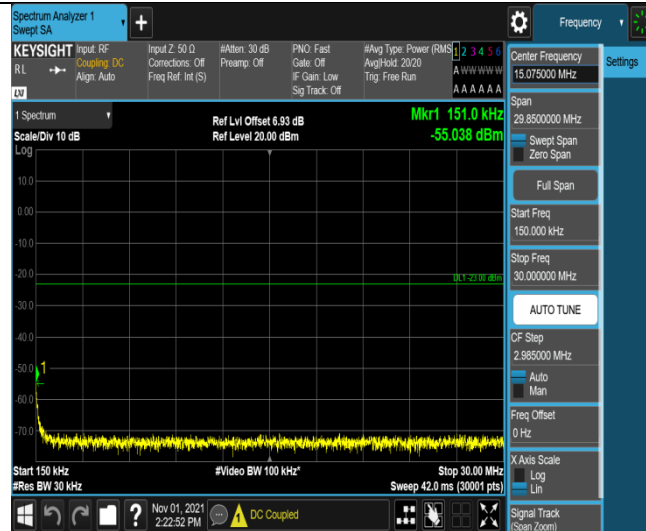
Band2-9262-3000~20000MHz



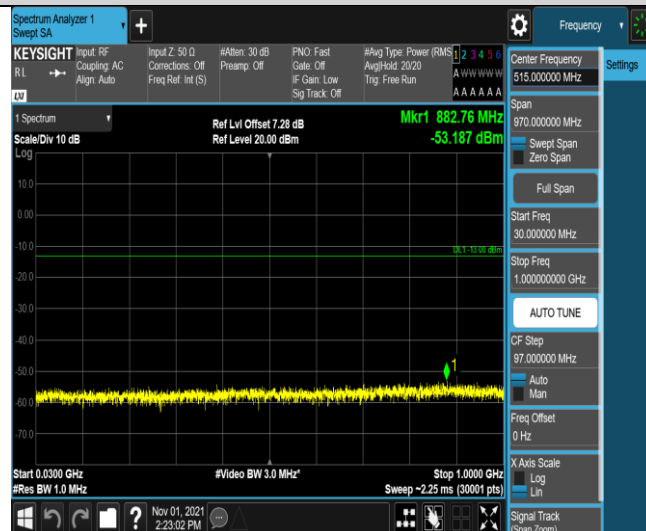
Band2-9400-0.009~0.15MHz



Band2-9400-0.15~30MHz



Band2-9400-30~1000MHz



Band2-9400-1000~3000MHz



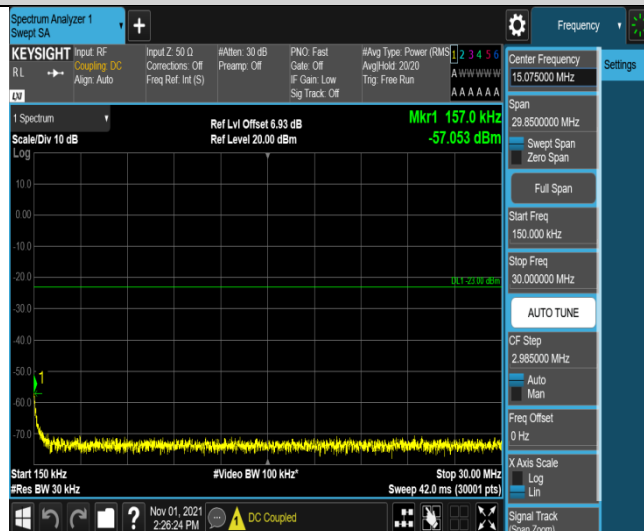
Band2-9400-3000~20000MHz



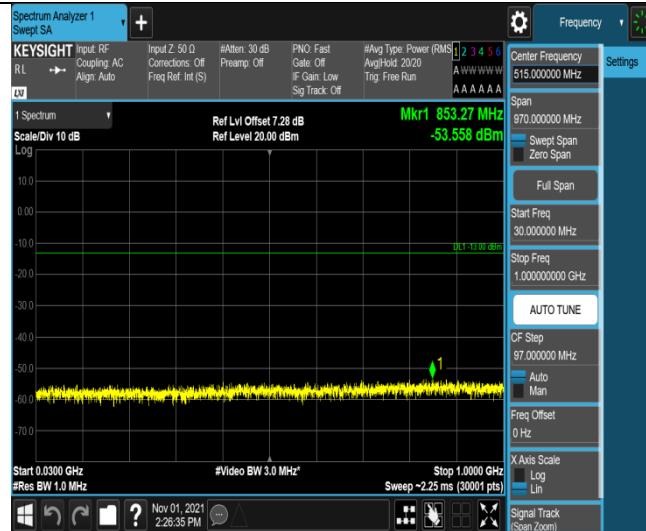
Band2-9538-0.009~0.15MHz



Band2-9538-0.15~30MHz



Band2-9538-30~1000MHz



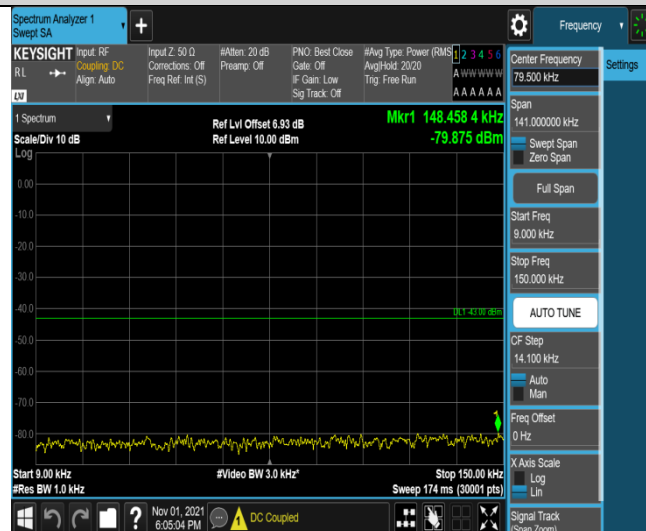
Band2-9538-1000~3000MHz



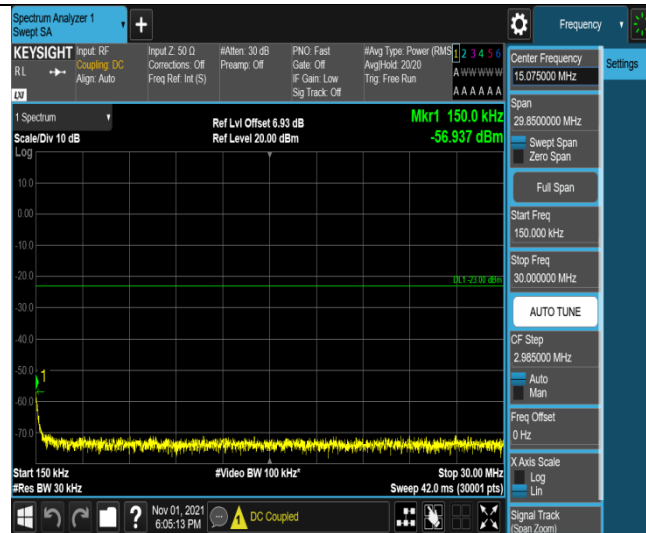
Band2-9538-3000~20000MHz



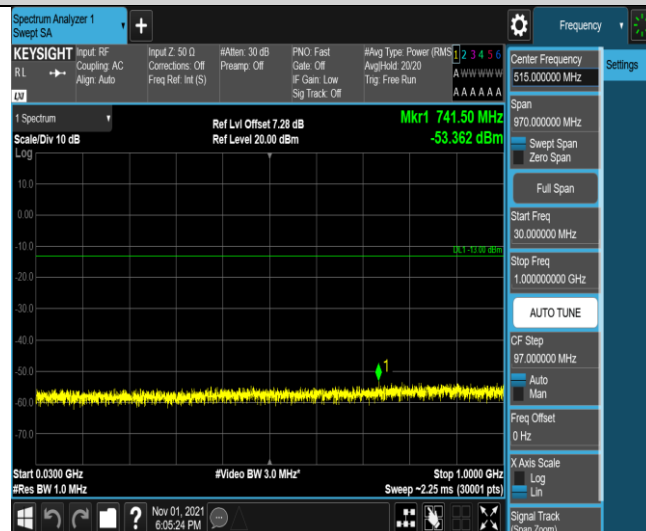
Band4-1312-0.009~0.15MHz



Band4-1312-0.15~30MHz



Band4-1312-30~1000MHz



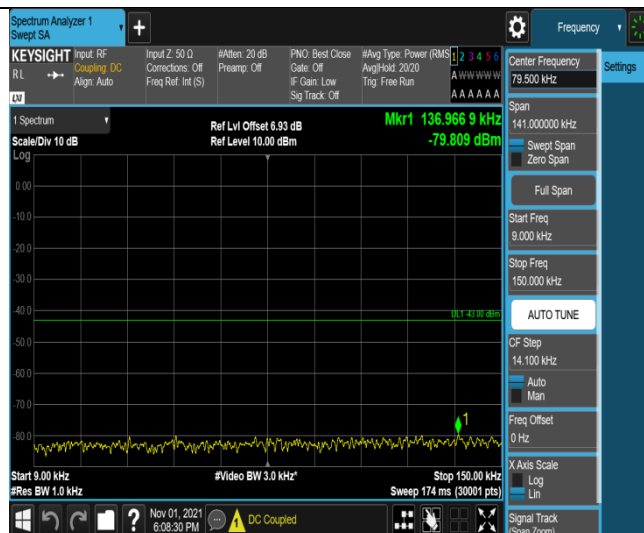
Band4-1312-1000~3000MHz



Band4-1312-3000~20000MHz



Band4-1413-0.009~0.15MHz



Band4-1413-0.15~30MHz



Band4-1413-30~1000MHz



Band4-1413-1000~3000MHz



Band4-1413-3000~20000MHz