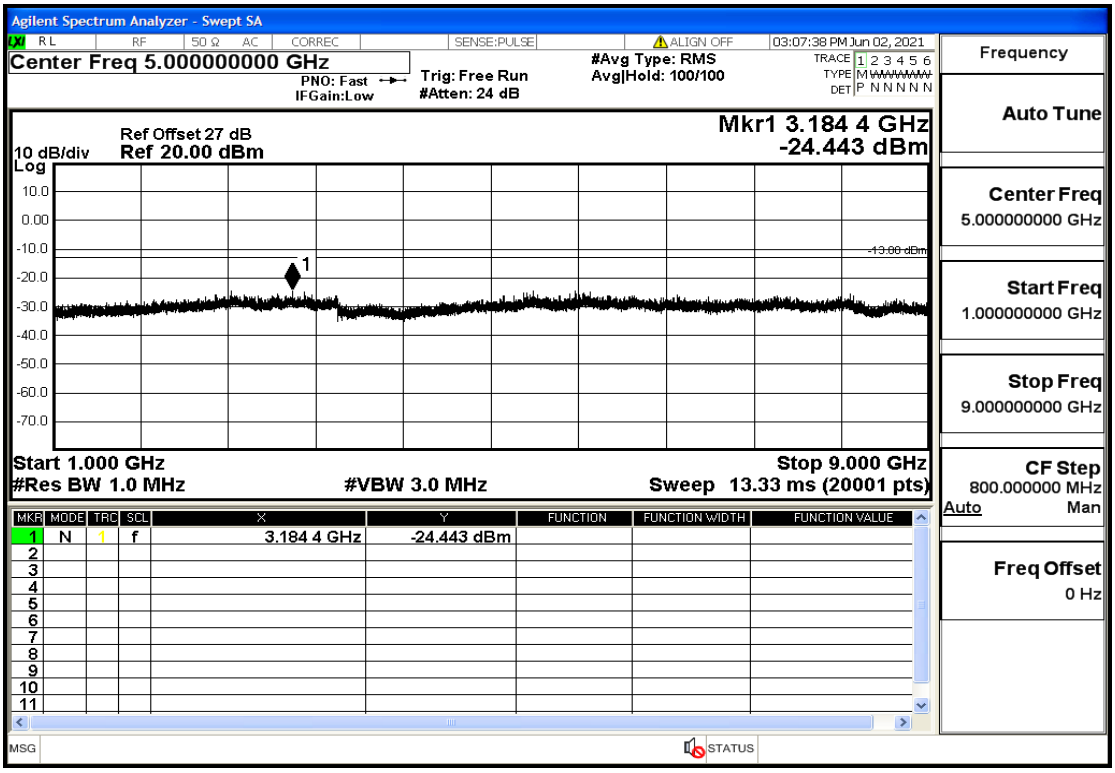
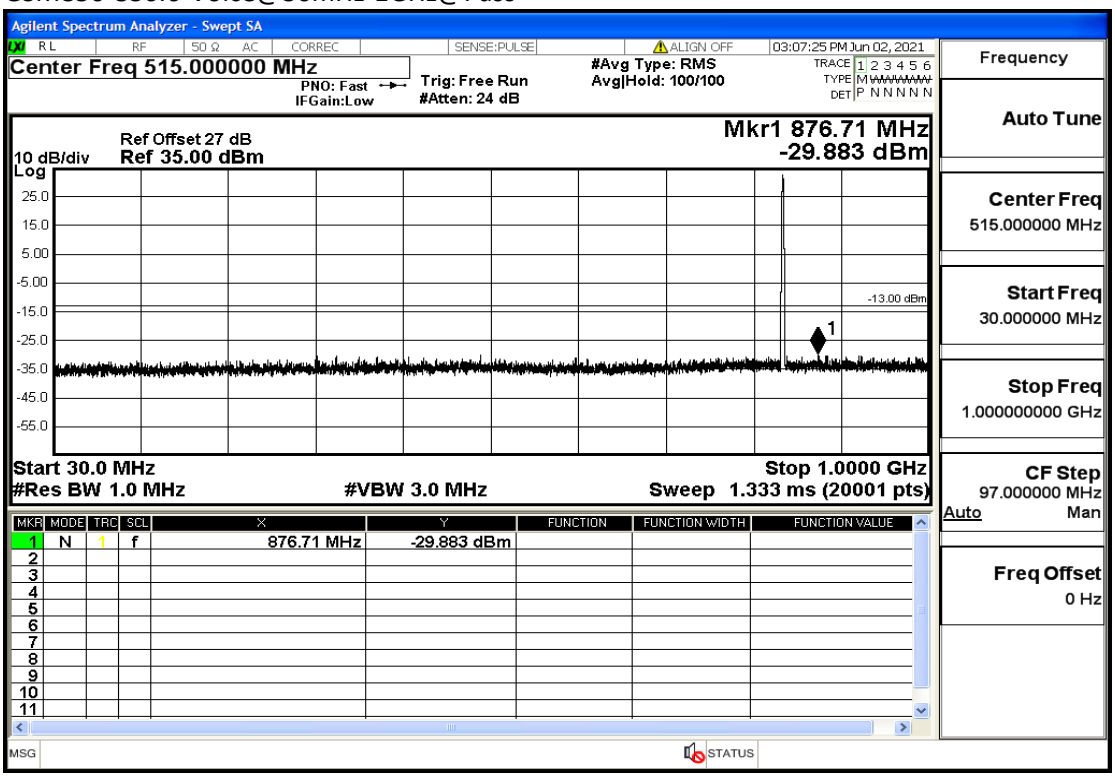
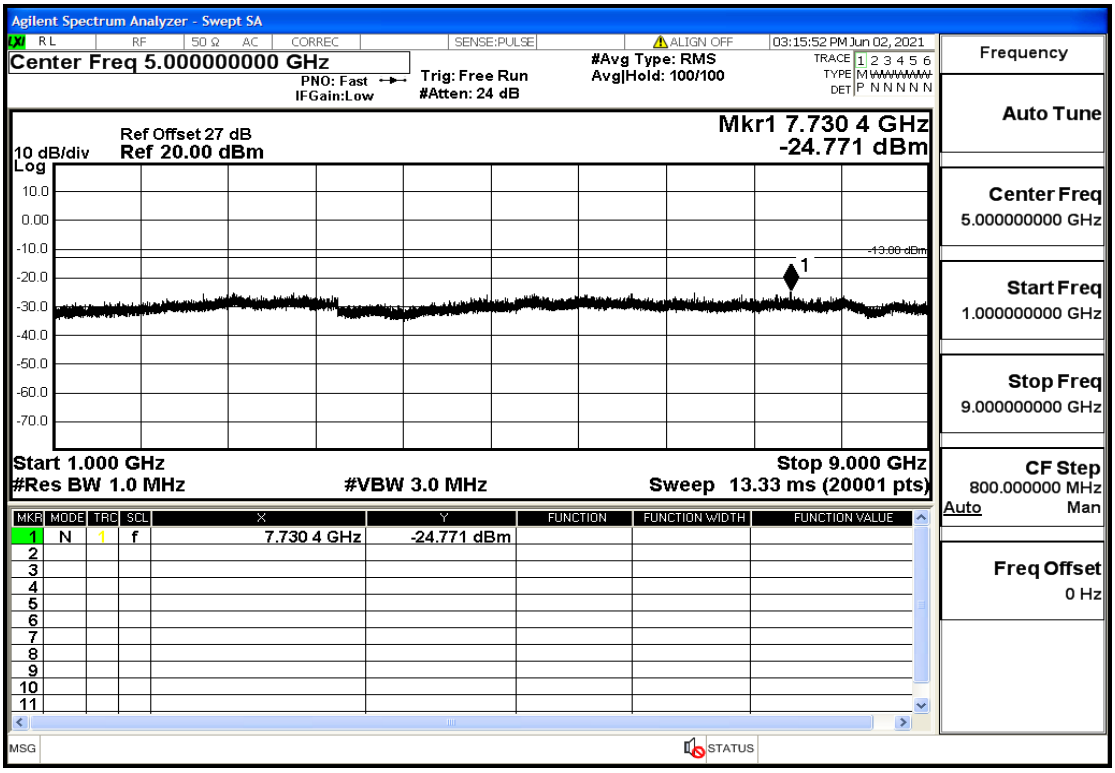
GSM850-836.6-Voice@1GHz-9GHz@Pass



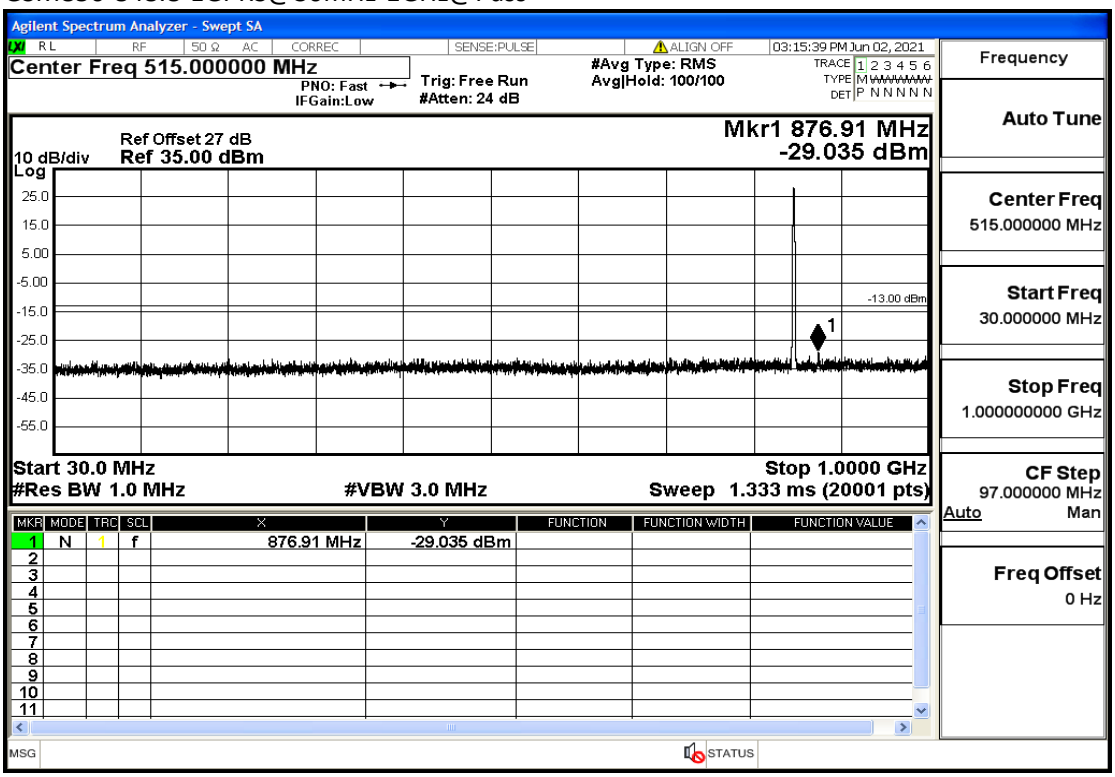
GSM850-836.6-Voice@30mHz-1GHz@Pass



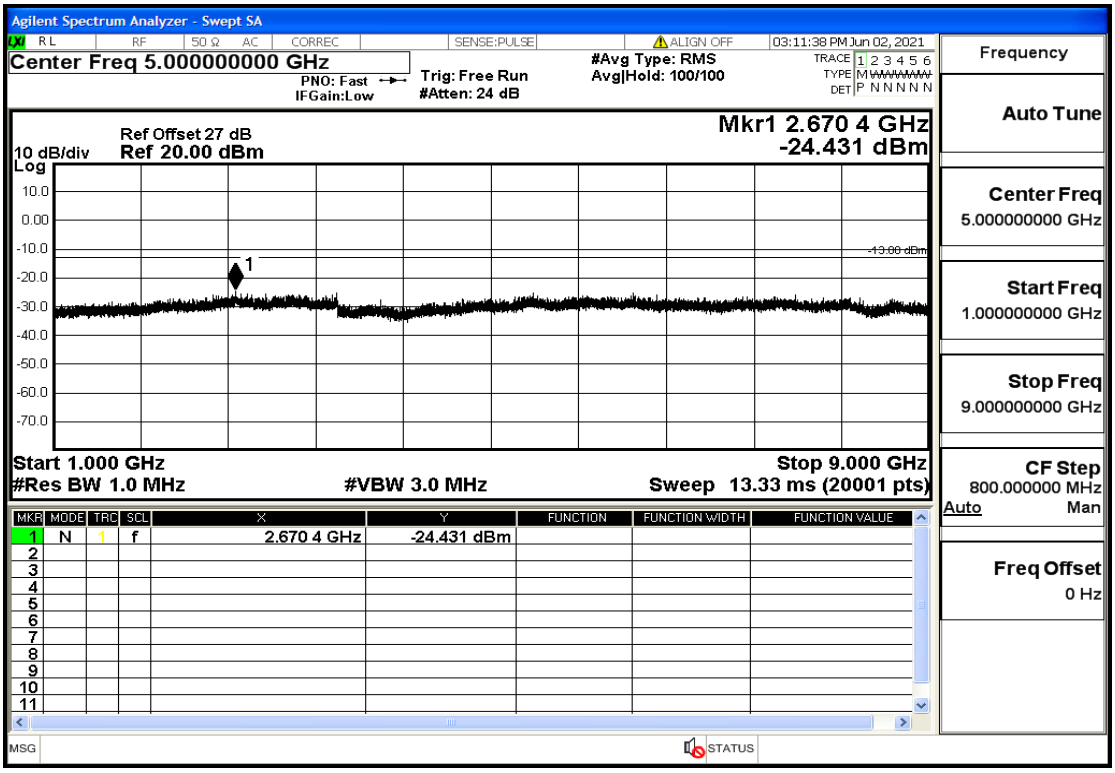
GSM850-848.8-EGPRS@1GHz-9GHz@Pass



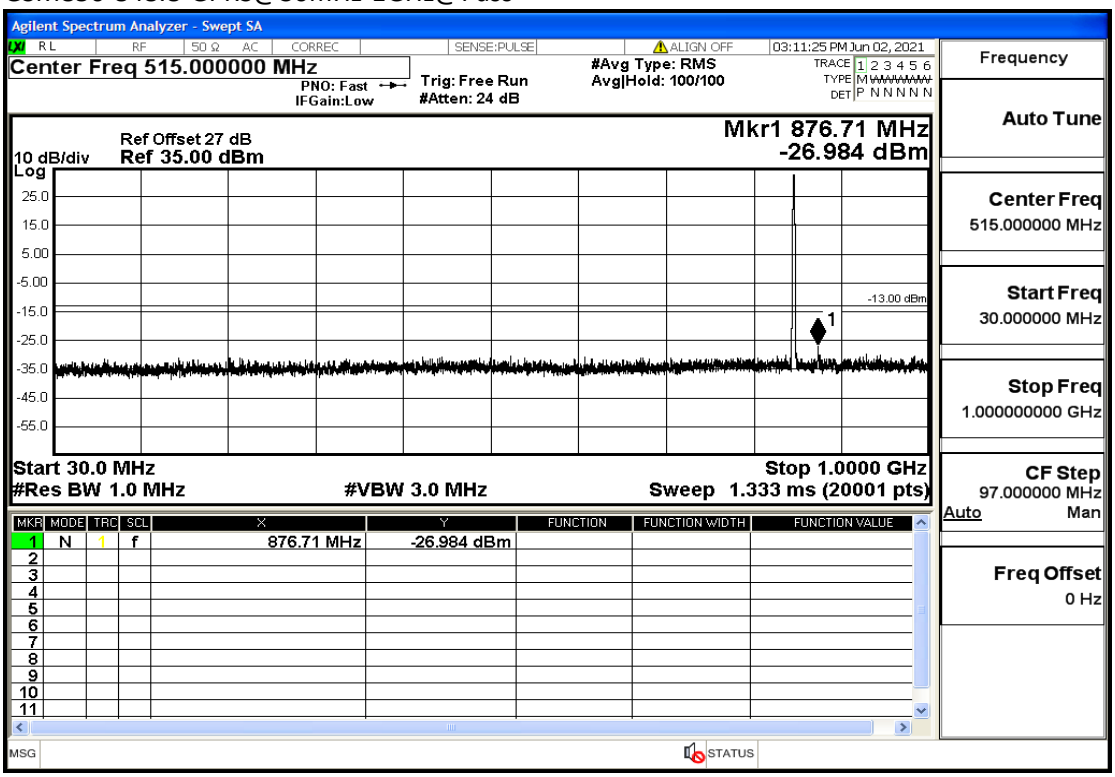
GSM850-848.8-EGPRS@30mHz-1GHz@Pass



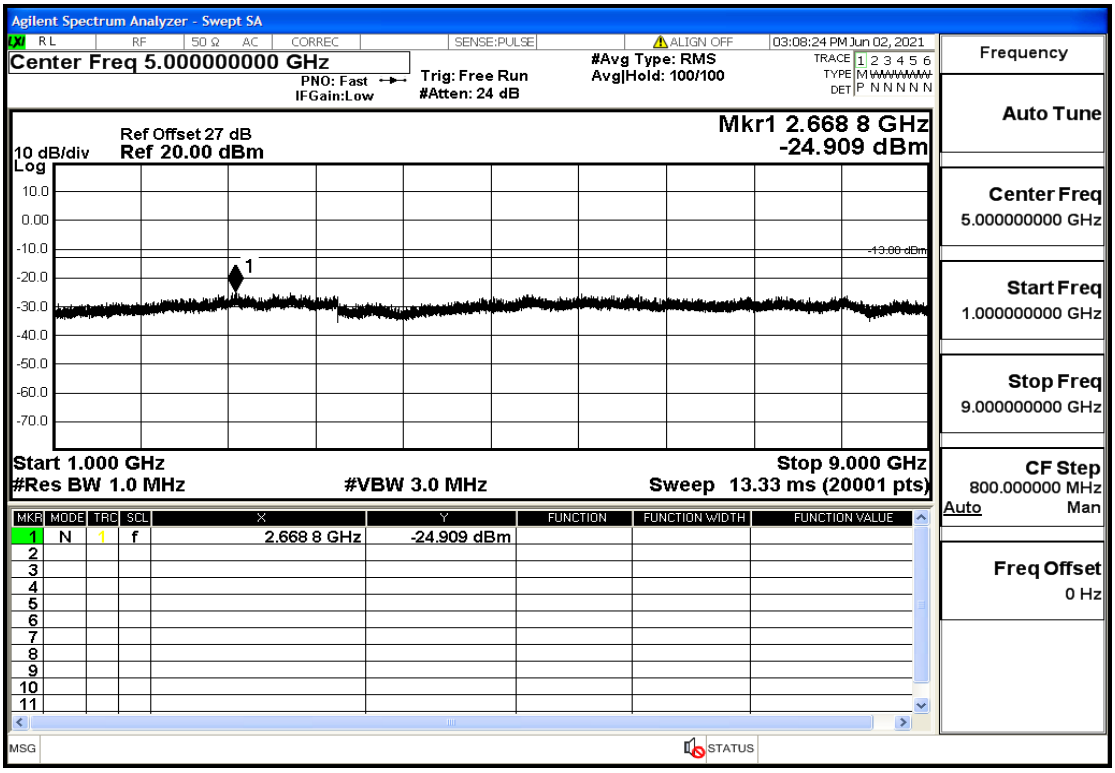
GSM850-848.8-GPRS@1GHz-9GHz@Pass



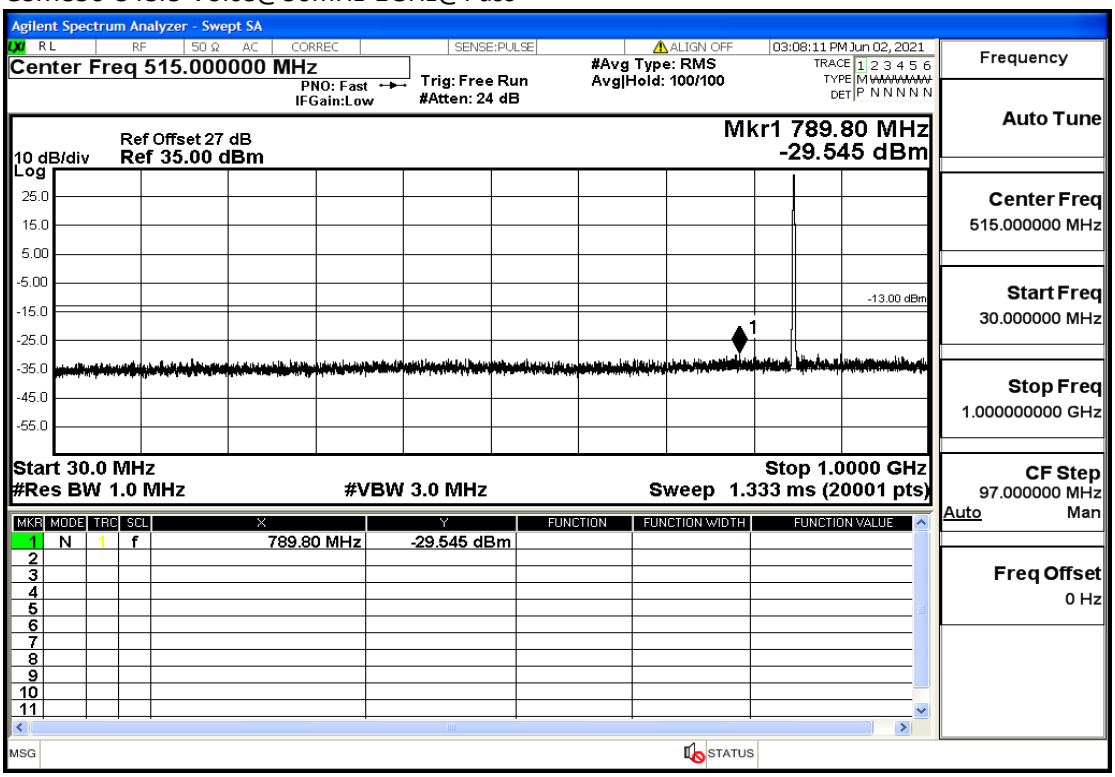
GSM850-848.8-GPRS@30mHz-1GHz@Pass



GSM850-848.8-Voice@1GHz-9GHz@Pass



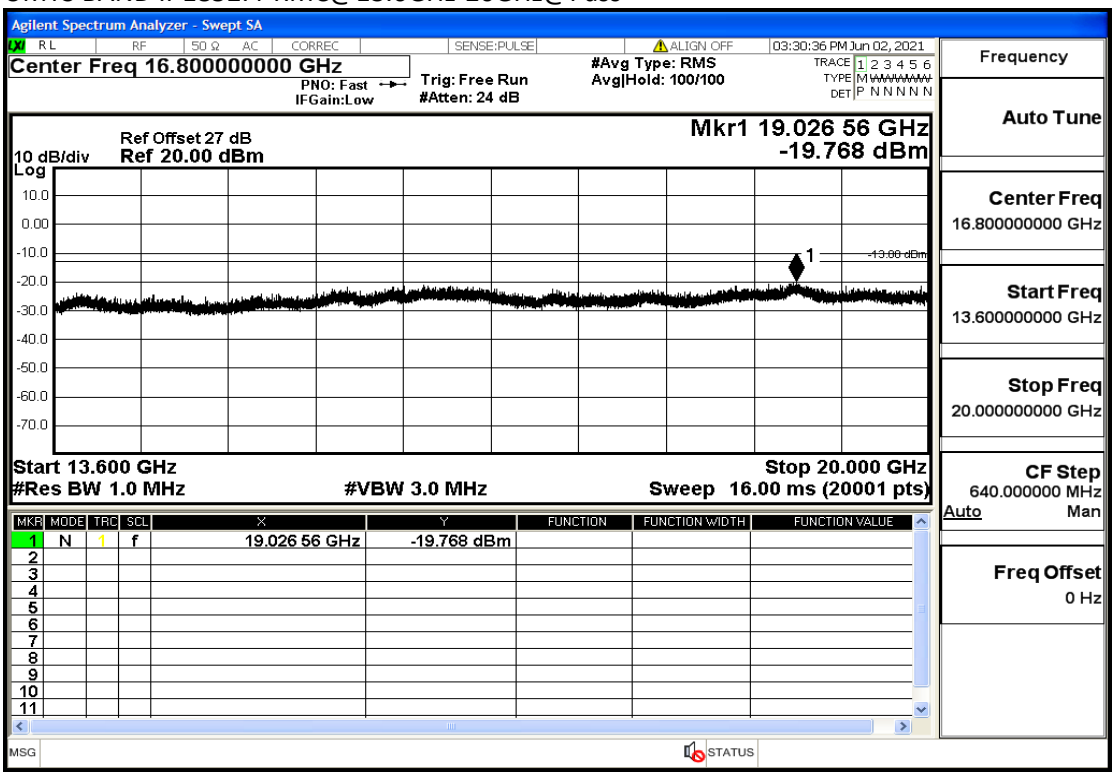
GSM850-848.8-Voice@30mHz-1GHz@Pass



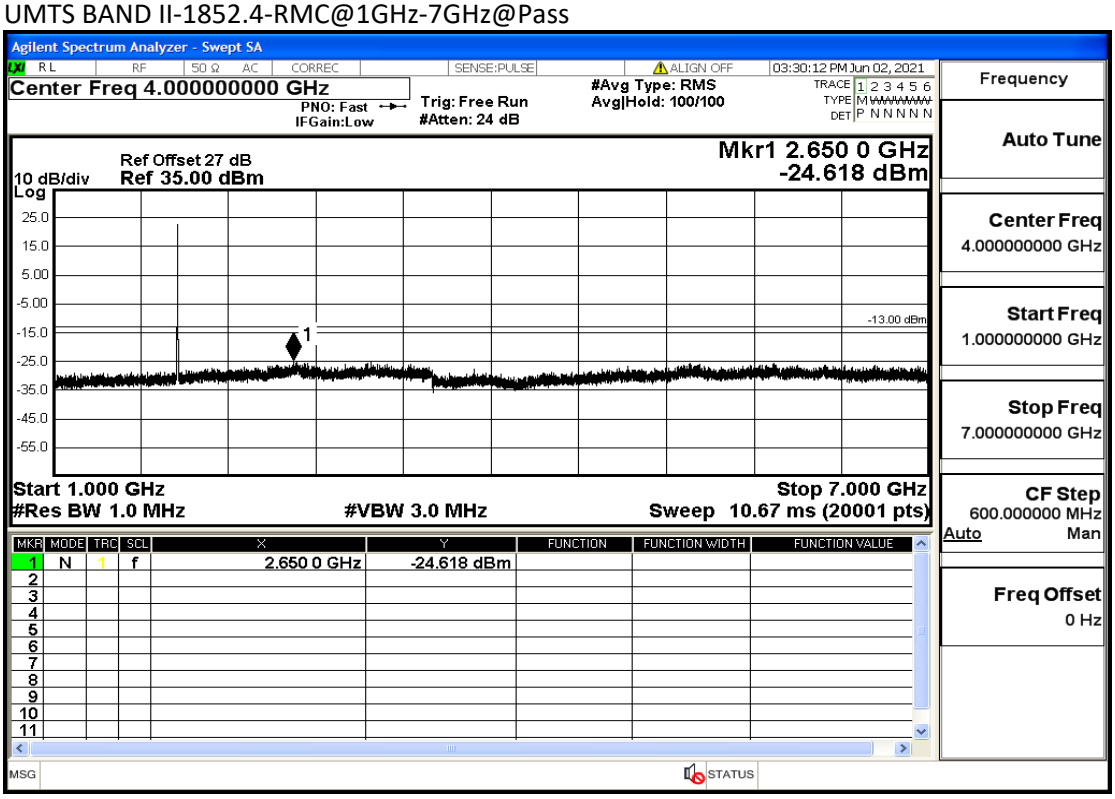
Test Band

Test Band=WCDMA850/ WCDMA1700/WCDMA1900

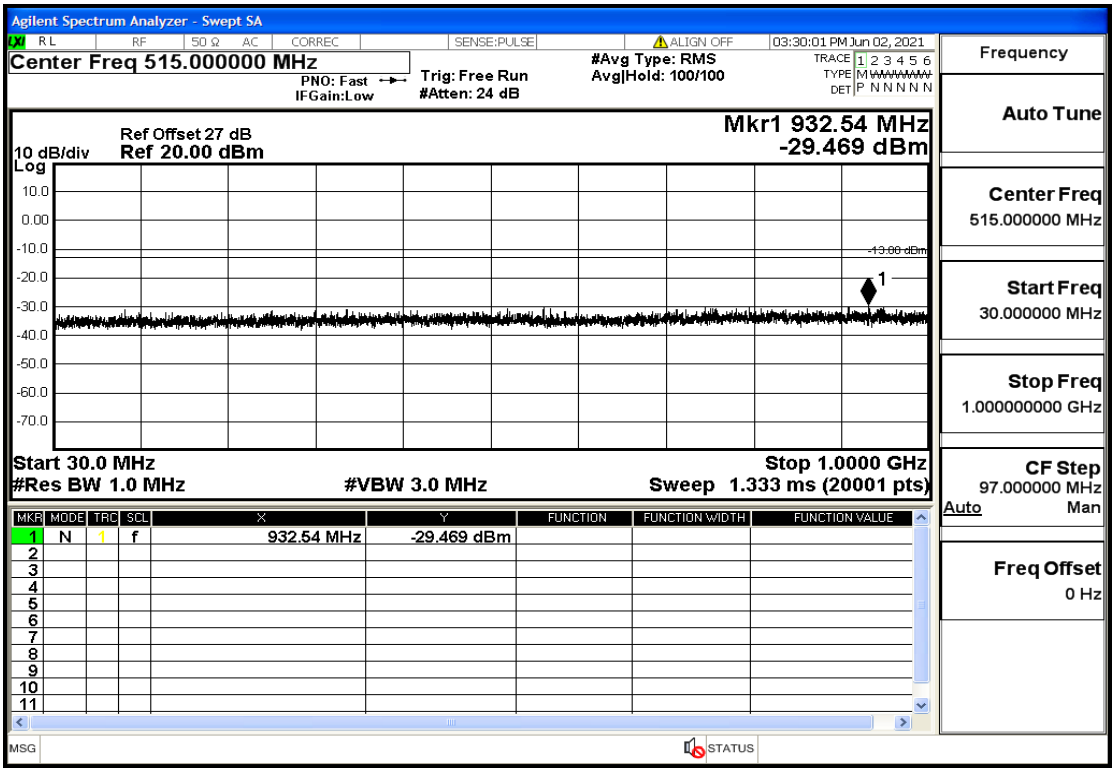
UMTS BAND II-1852.4-RMC@13.6GHz-20GHz@Pass



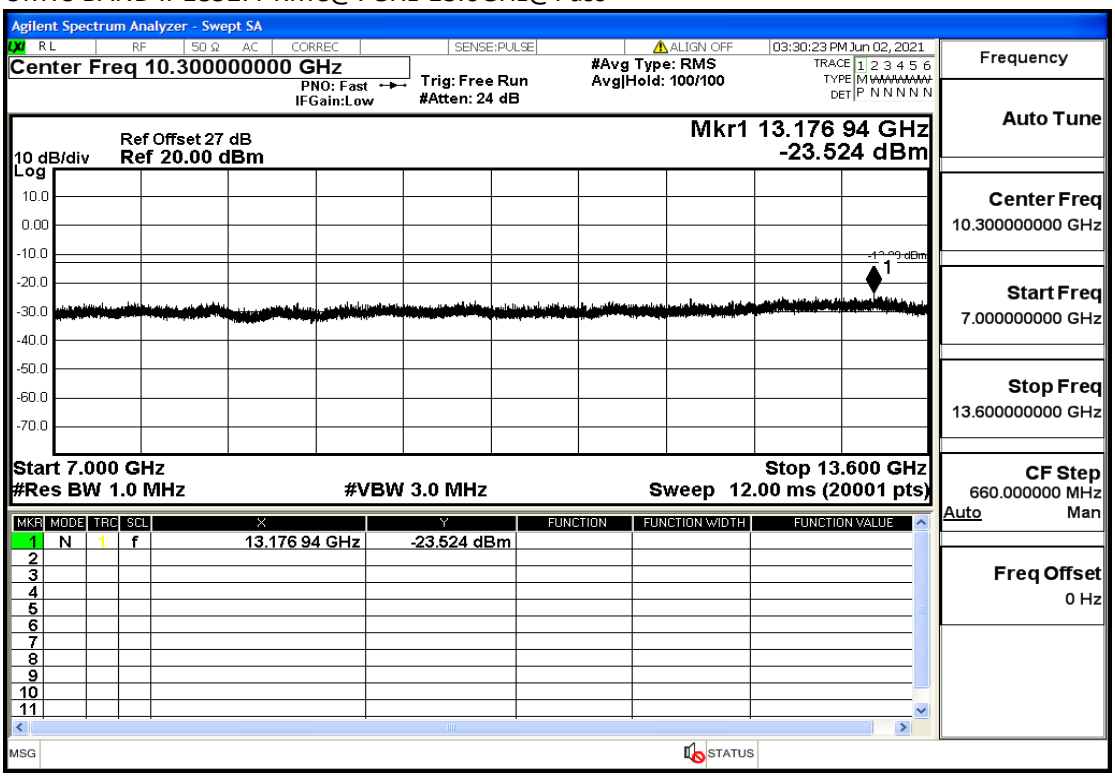
UMTS BAND II-1852.4-RMC@1GHz-7GHz@Pass



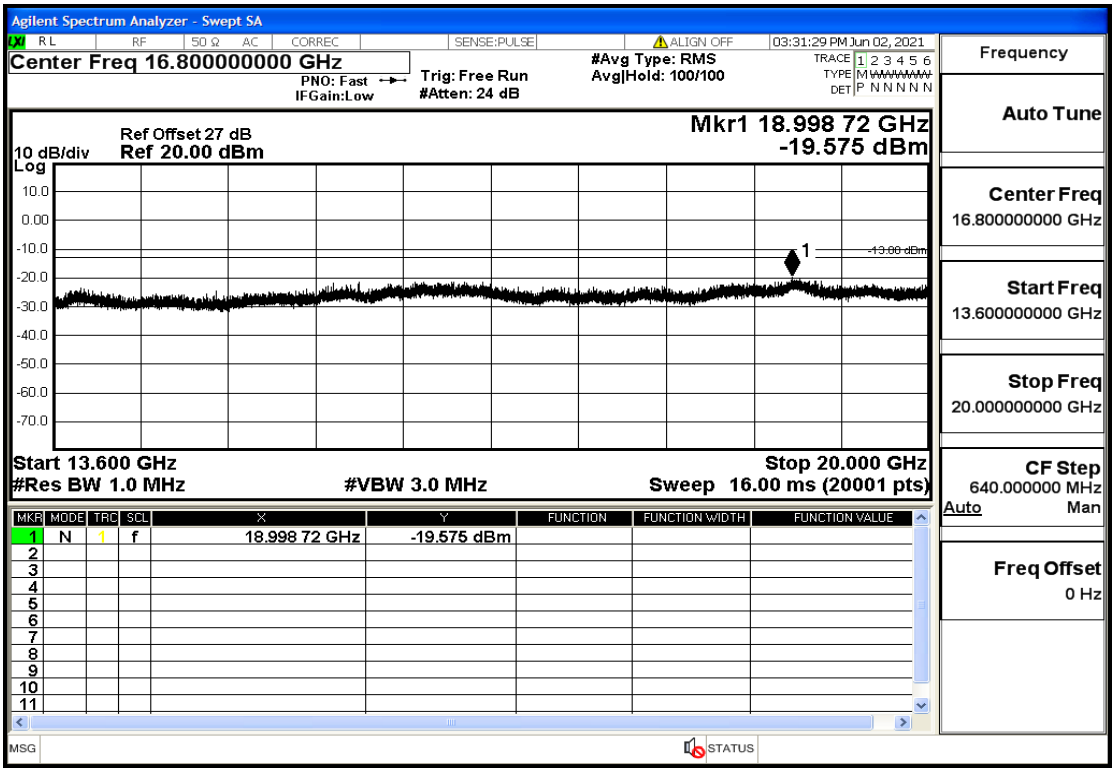
UMTS BAND II-1852.4-RMC@30mHz-1GHz@Pass



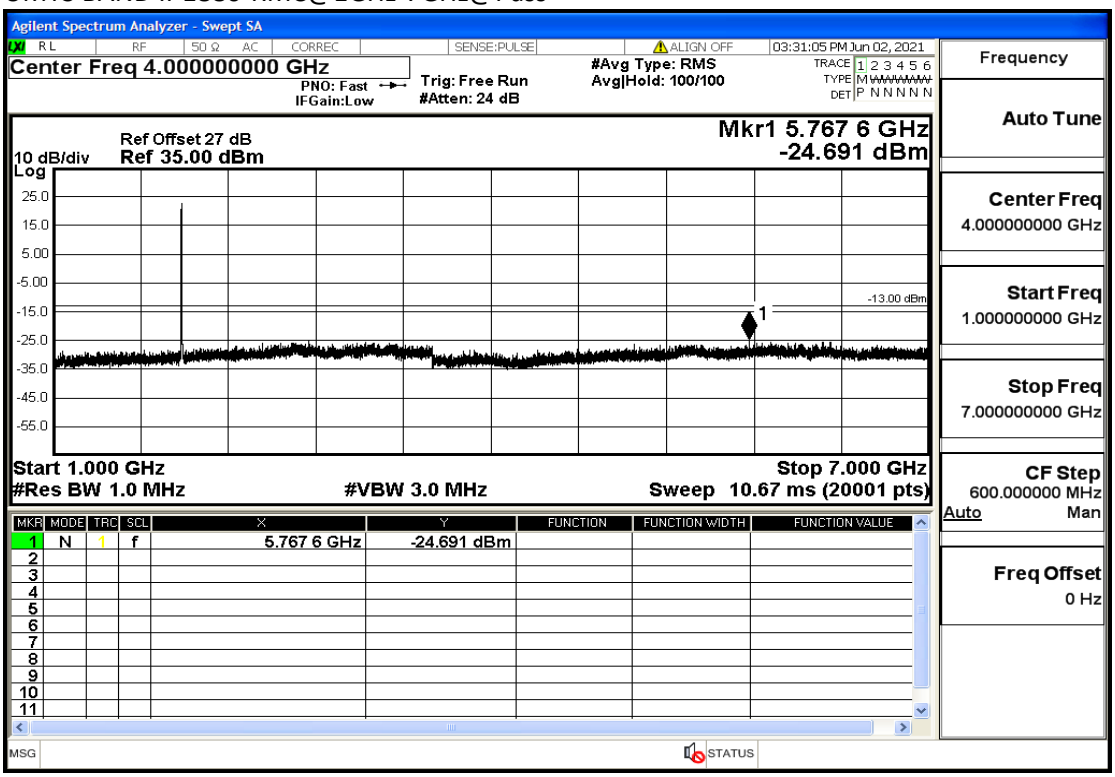
UMTS BAND II-1852.4-RMC@7GHz-13.6GHz@Pass



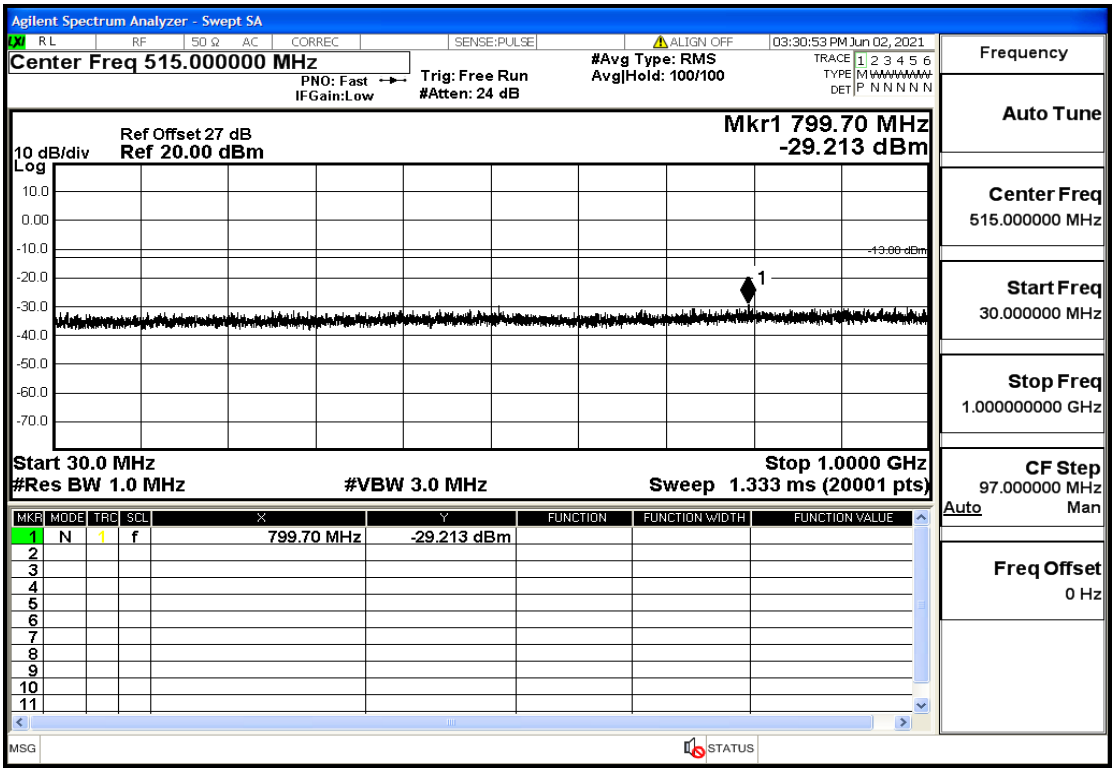
UMTS BAND II-1880-RMC@13.6GHz-20GHz@Pass



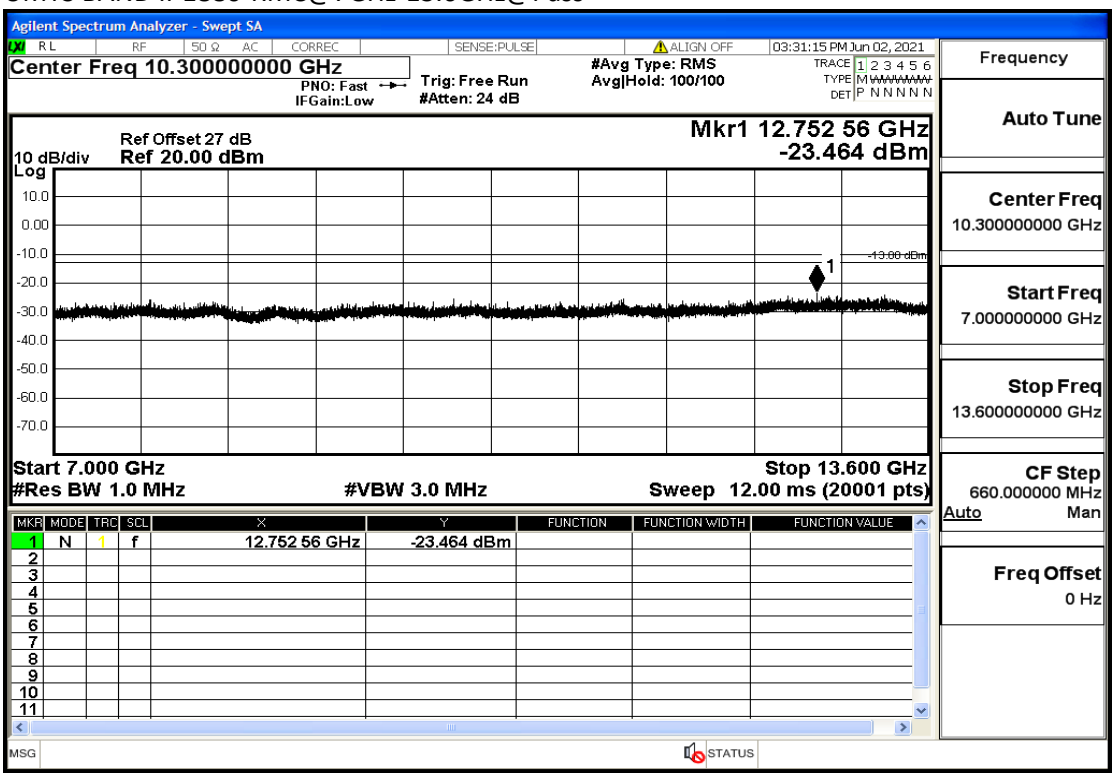
UMTS BAND II-1880-RMC@1GHz-7GHz@Pass



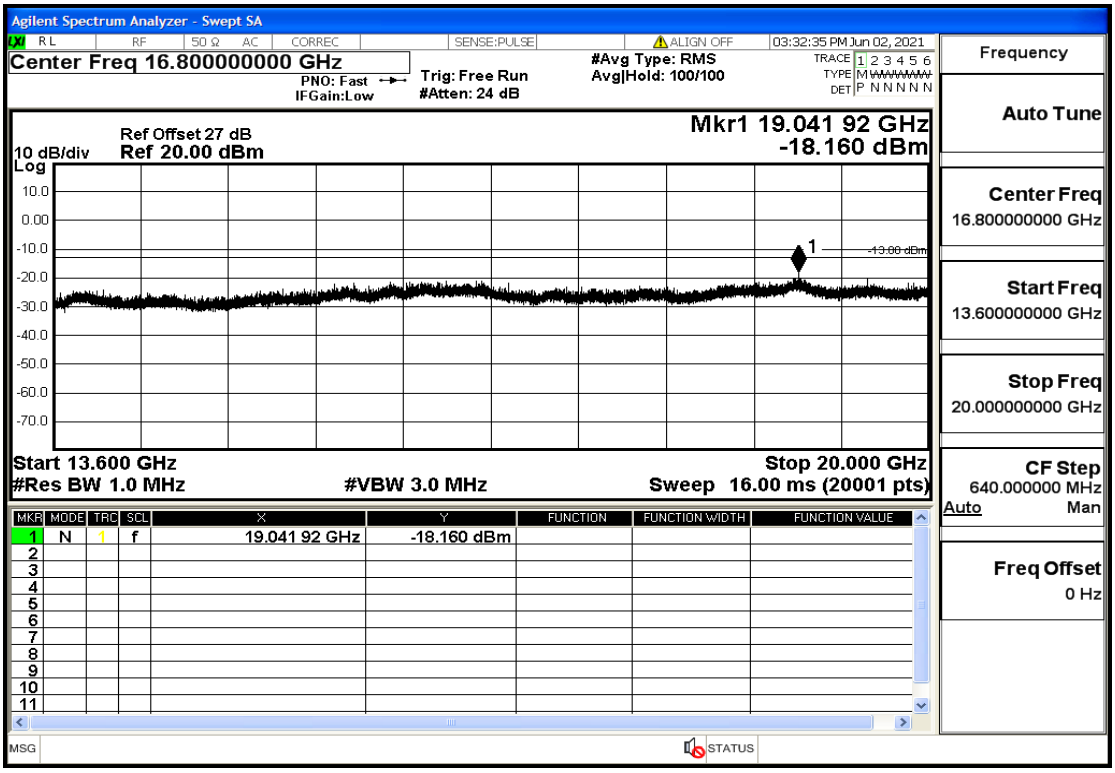
UMTS BAND II-1880-RMC@30mHz-1GHz@Pass



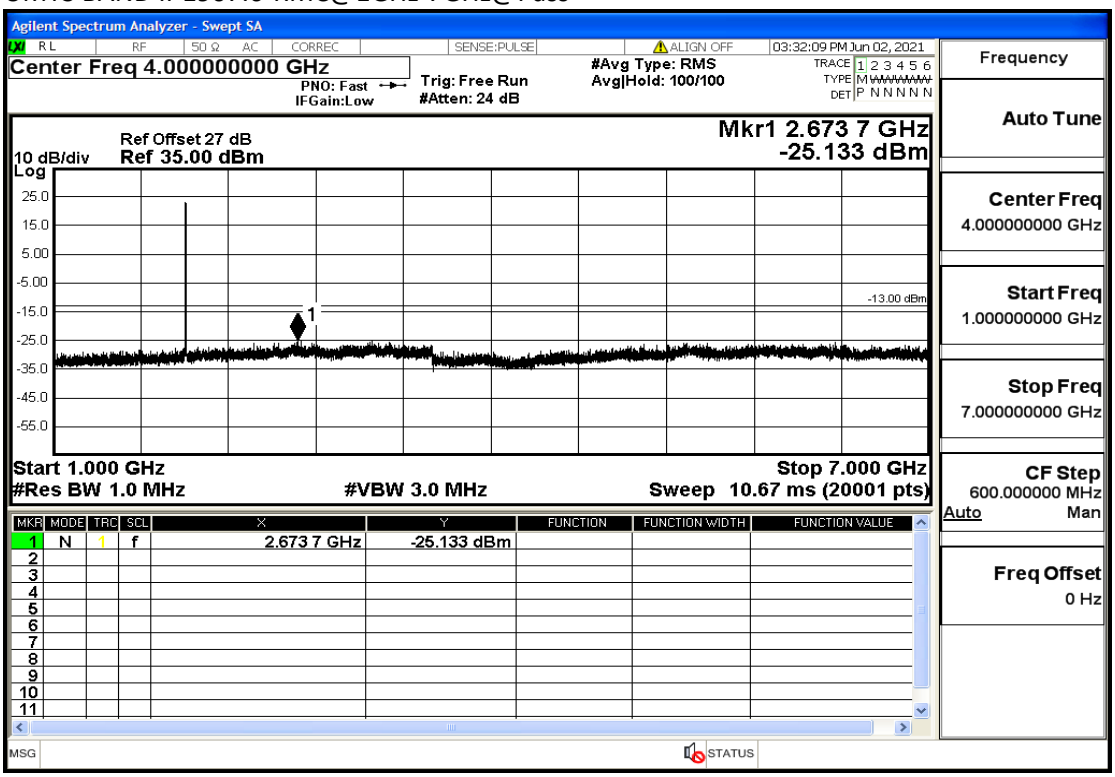
UMTS BAND II-1880-RMC@7GHz-13.6GHz@Pass



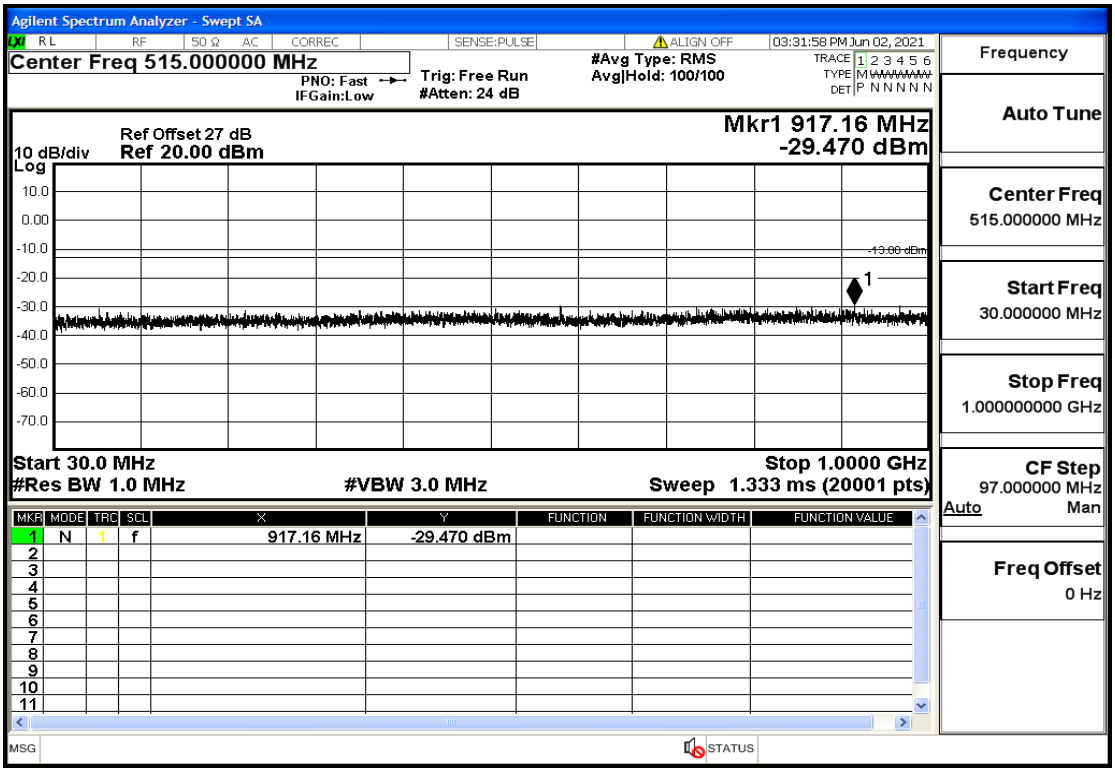
UMTS BAND II-1907.6-RMC@13.6GHz-20GHz@Pass



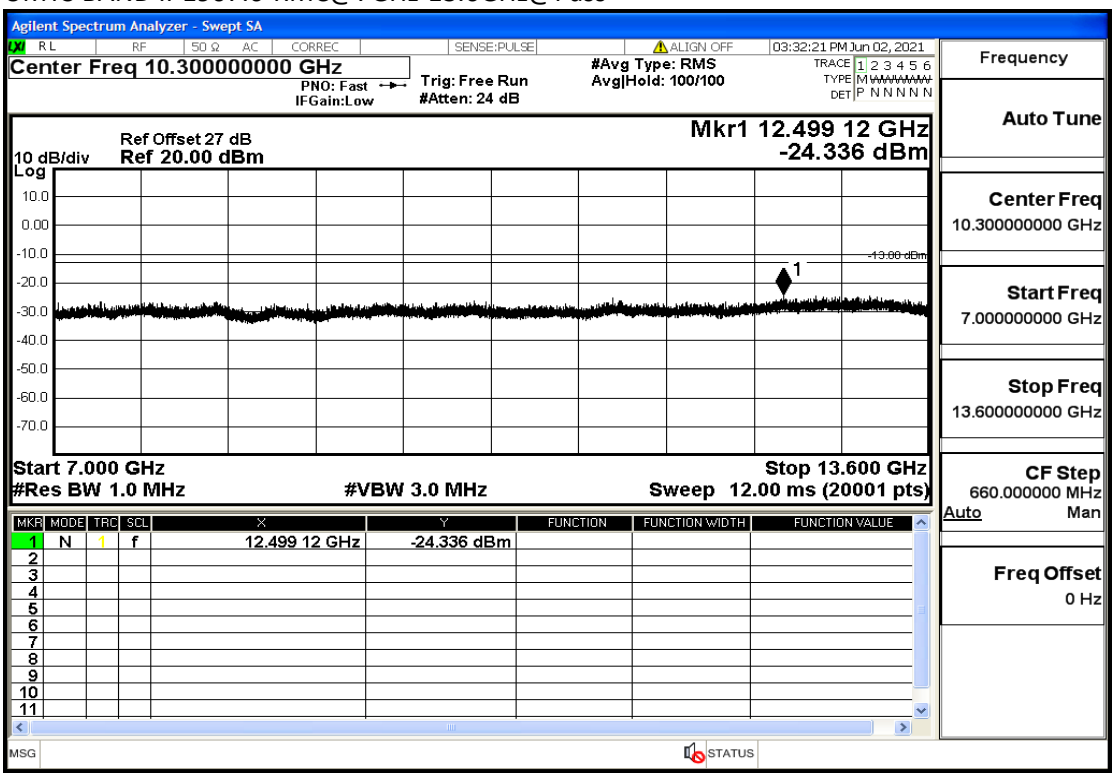
UMTS BAND II-1907.6-RMC@1GHz-7GHz@Pass



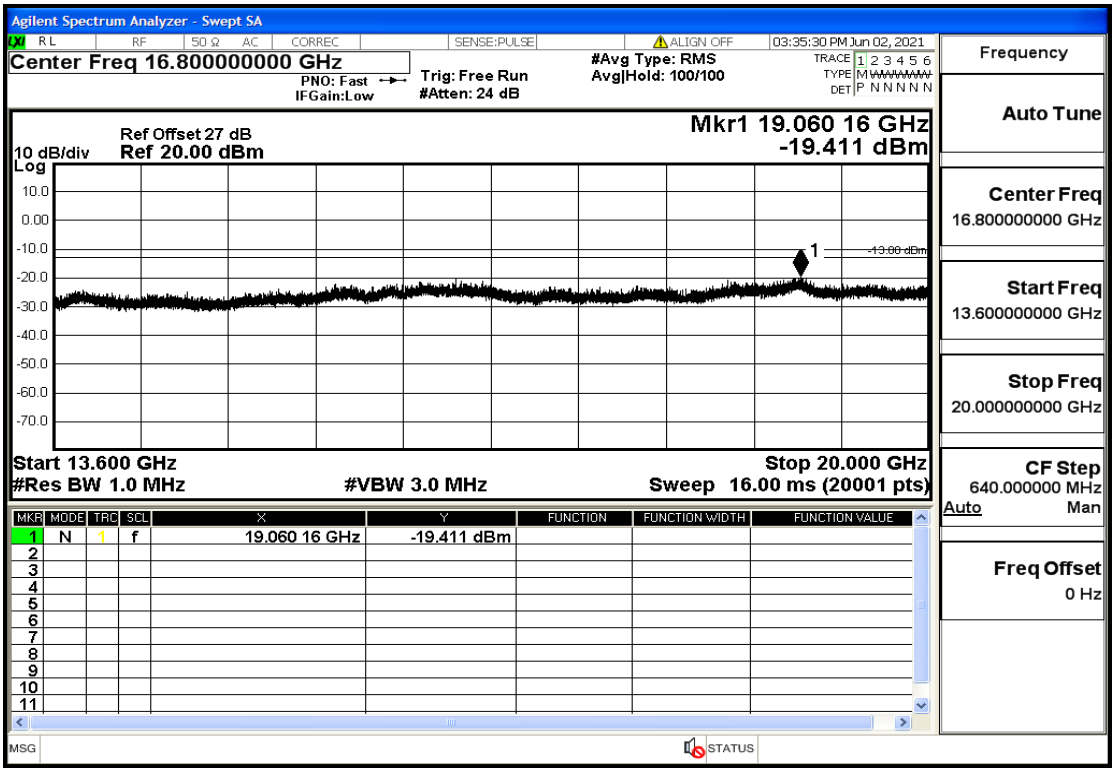
UMTS BAND II-1907.6-RMC@30mHz-1GHz@Pass



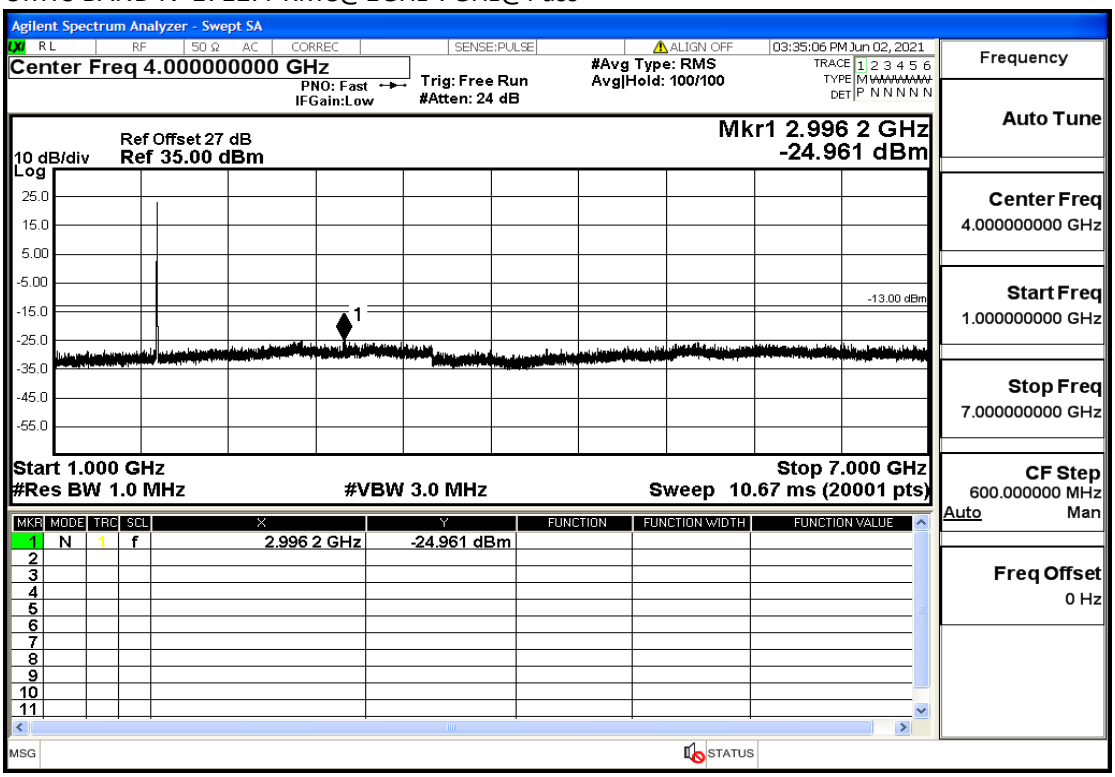
UMTS BAND II-1907.6-RMC@7GHz-13.6GHz@Pass



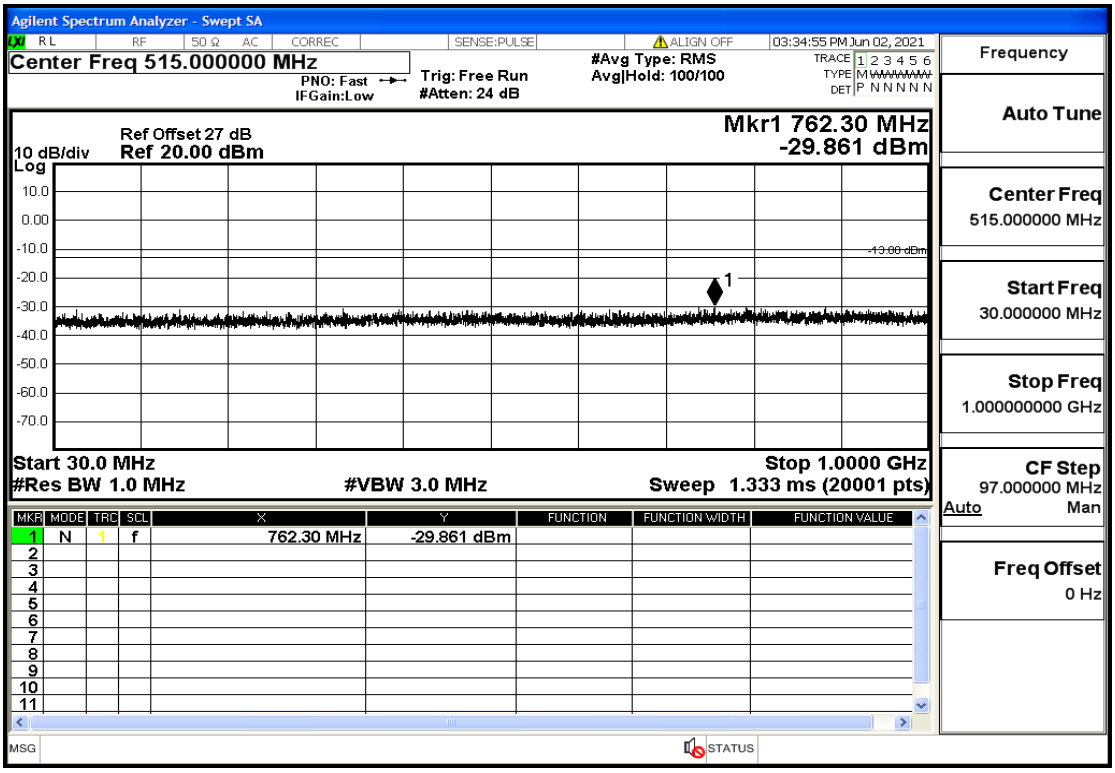
UMTS BAND IV-1712.4-RMC@13.6GHz-20GHz@Pass



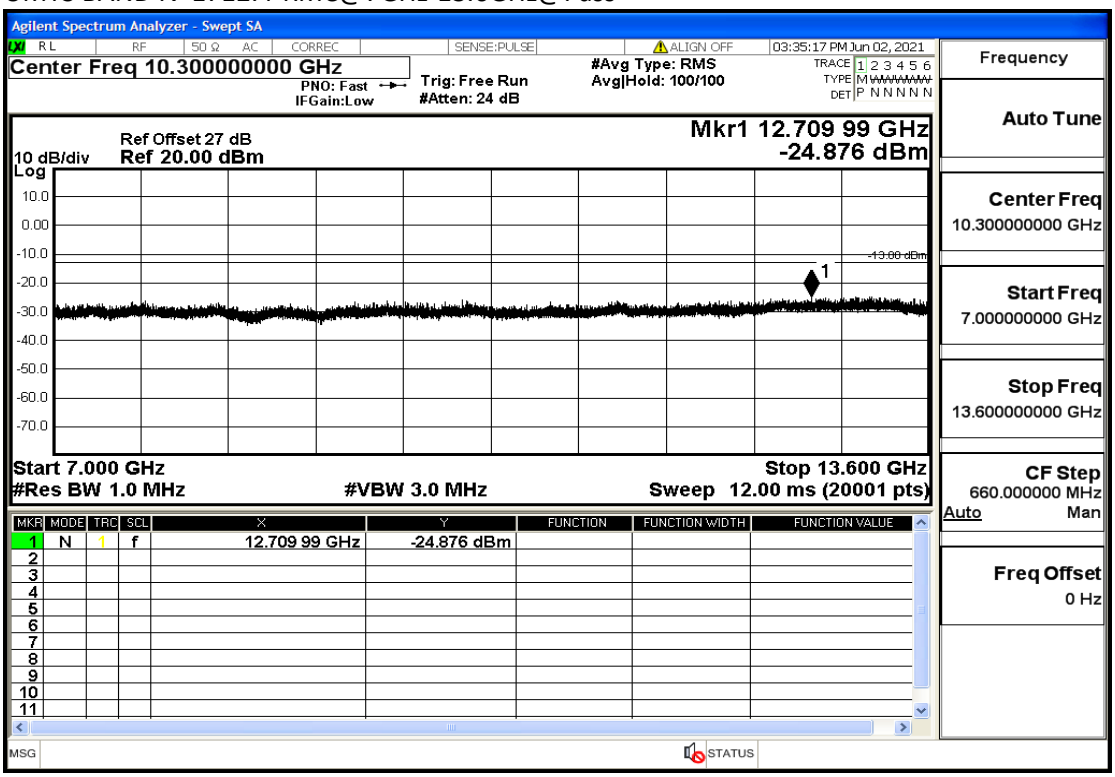
UMTS BAND IV-1712.4-RMC@1GHz-7GHz@Pass



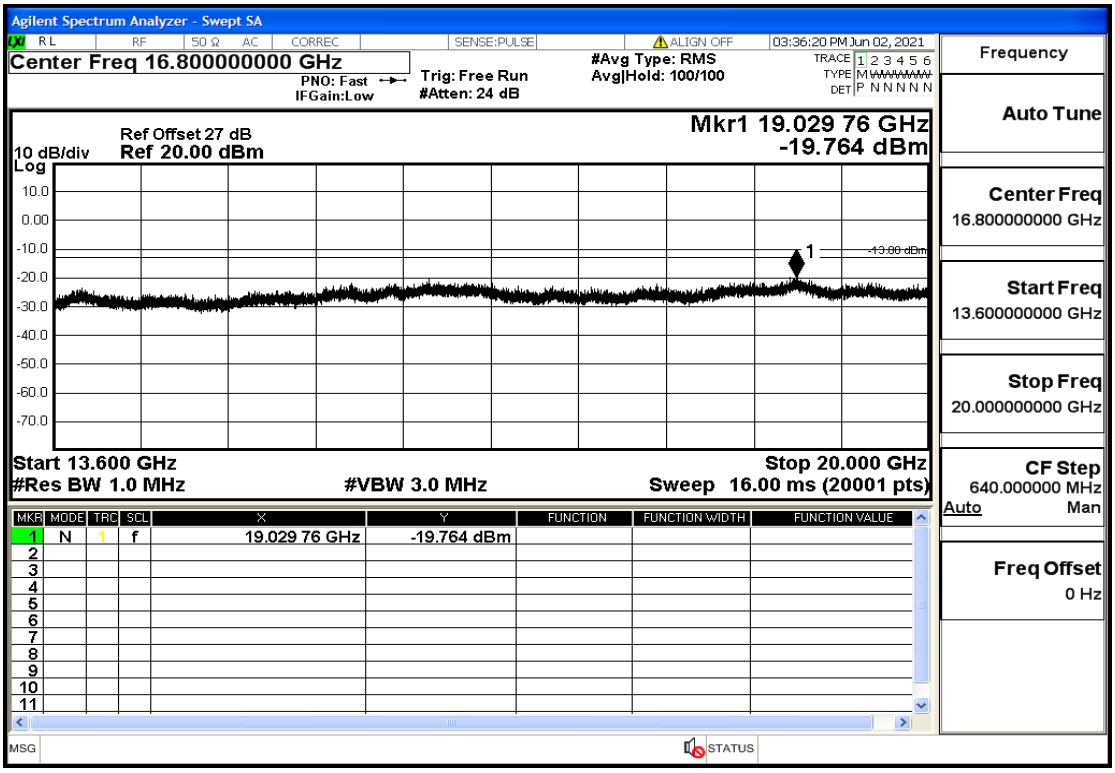
UMTS BAND IV-1712.4-RMC@30mHz-1GHz@Pass



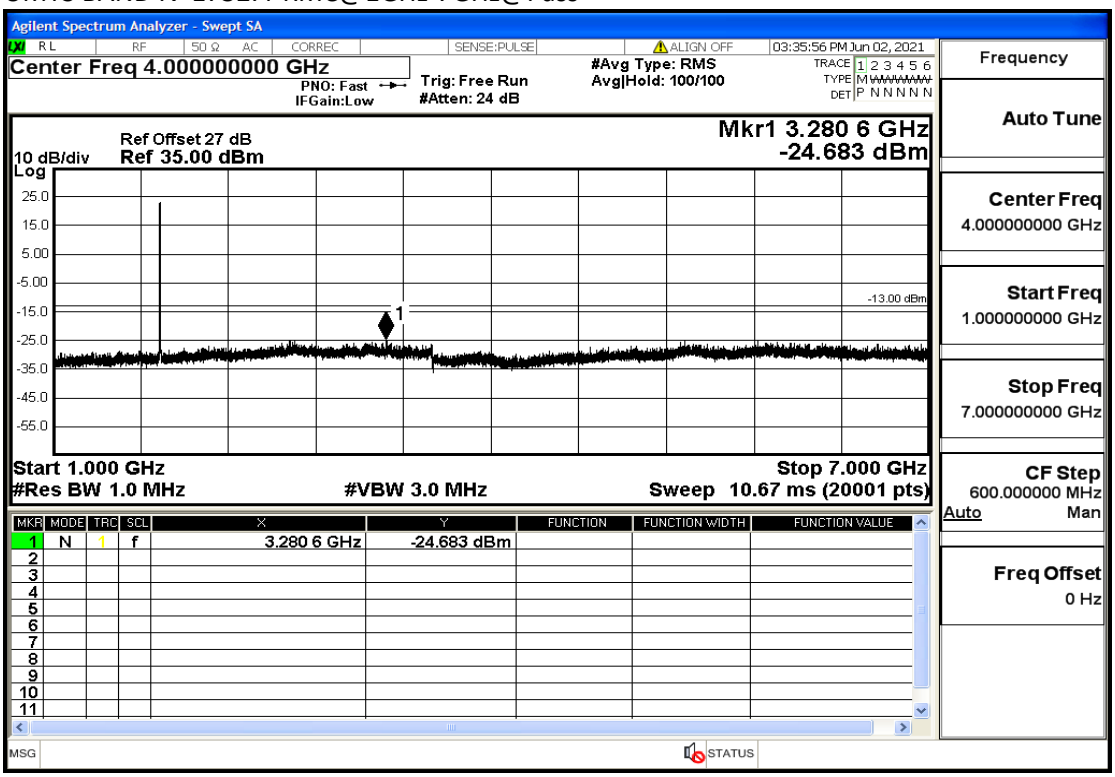
UMTS BAND IV-1712.4-RMC@7GHz-13.6GHz@Pass



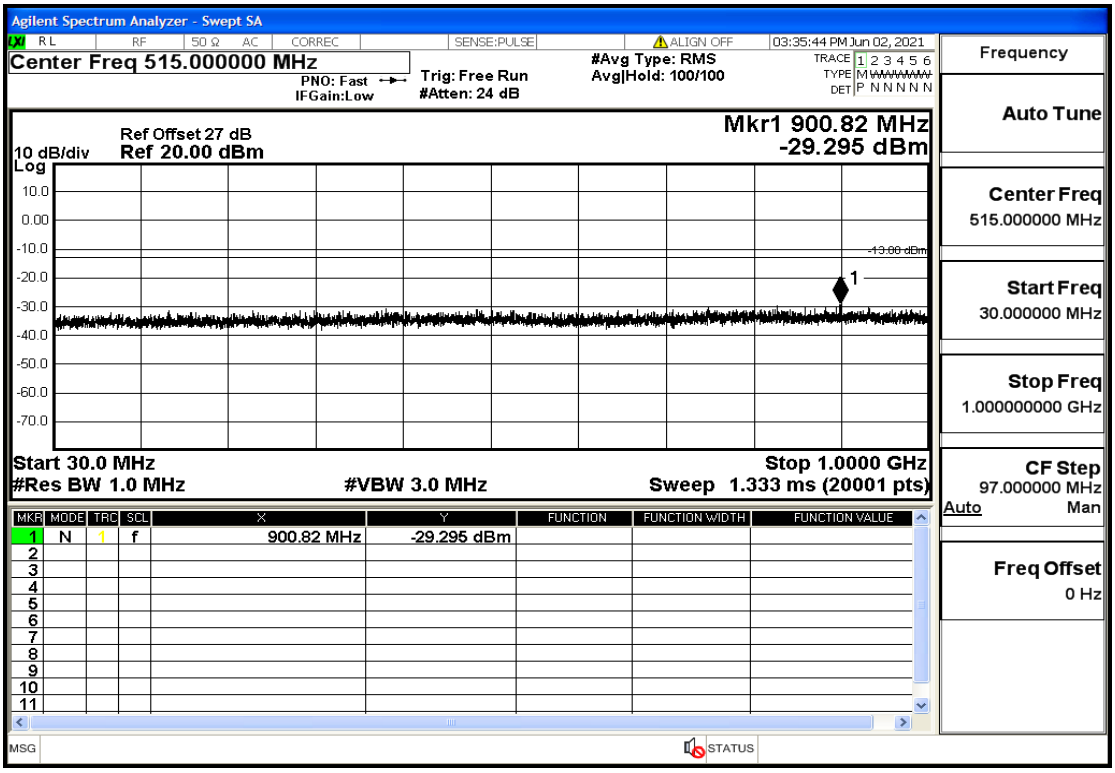
UMTS BAND IV-1732.4-RMC@13.6GHz-20GHz@Pass



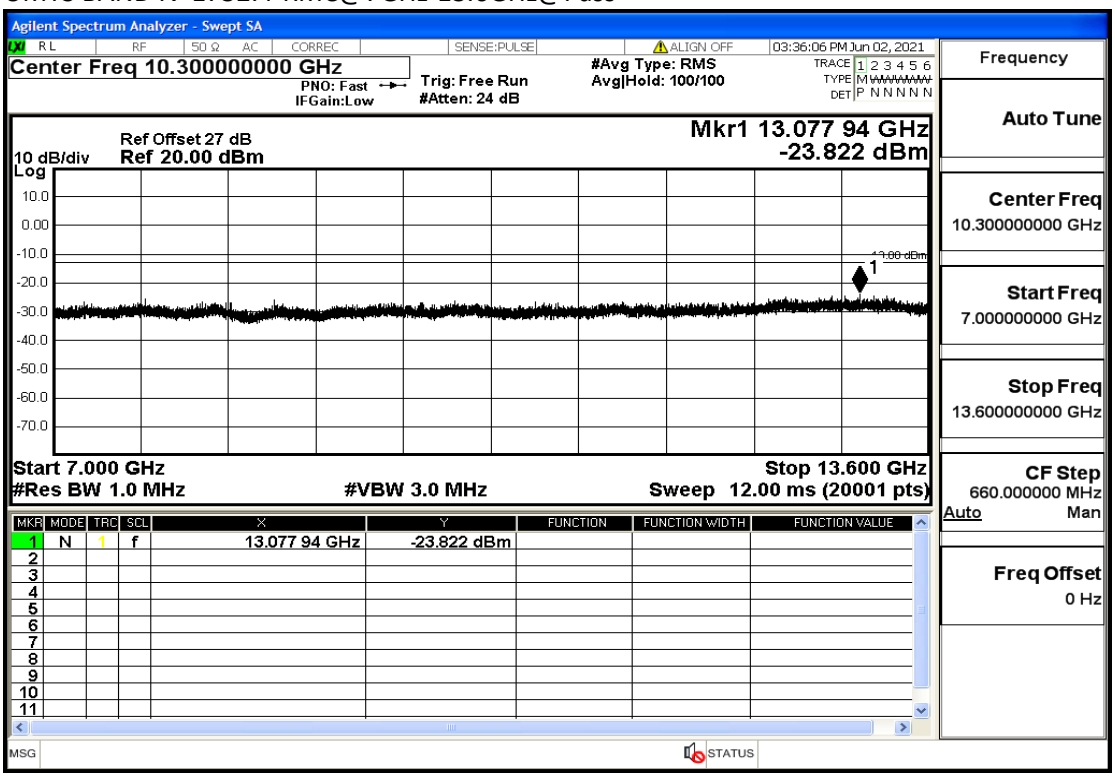
UMTS BAND IV-1732.4-RMC@1GHz-7GHz@Pass



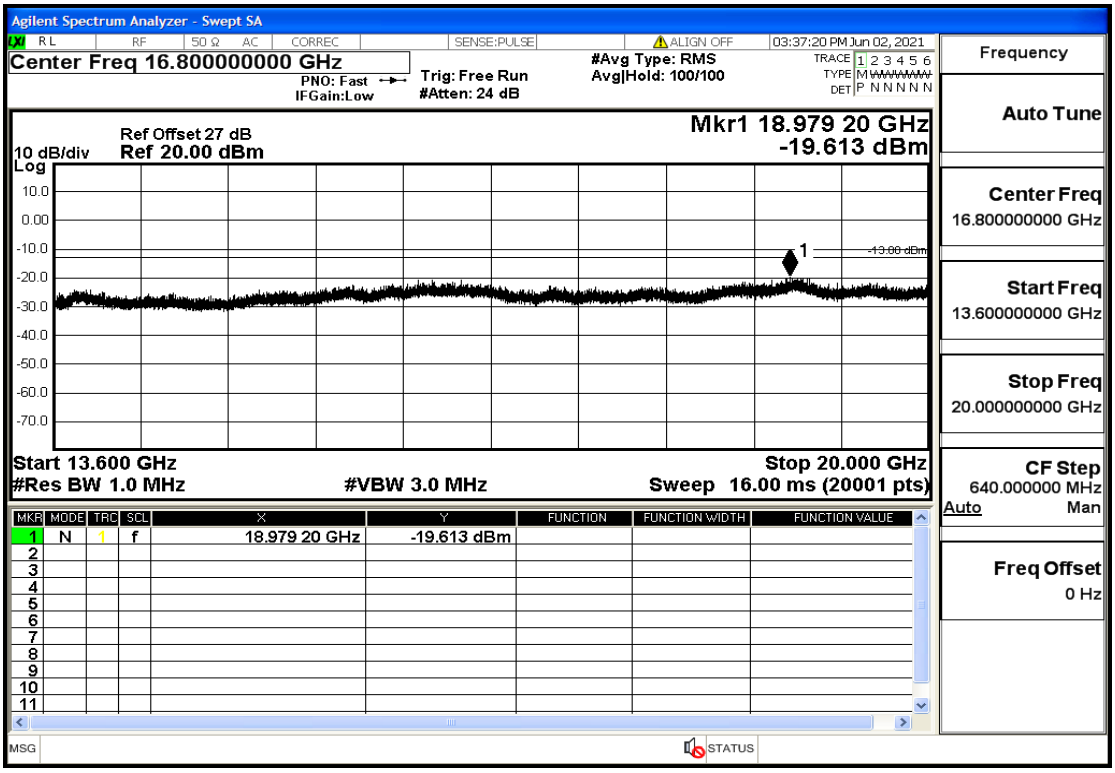
UMTS BAND IV-1732.4-RMC@30mHz-1GHz@Pass



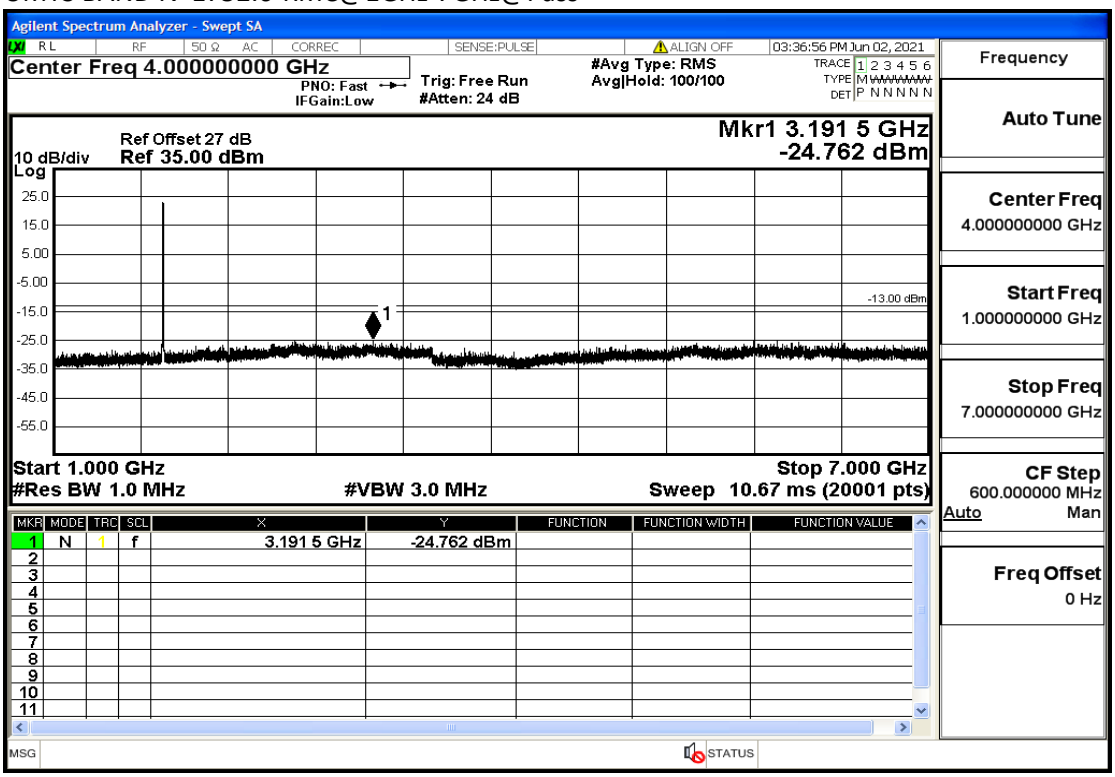
UMTS BAND IV-1732.4-RMC@7GHz-13.6GHz@Pass



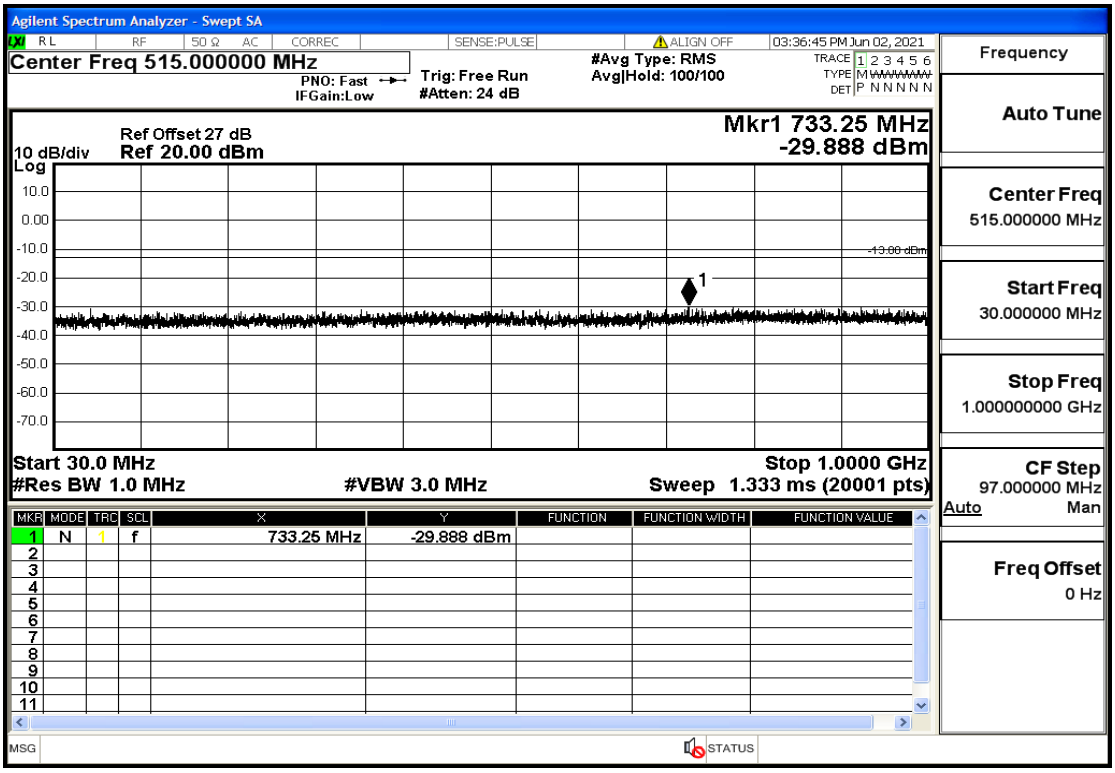
UMTS BAND IV-1752.6-RMC@13.6GHz-20GHz@Pass



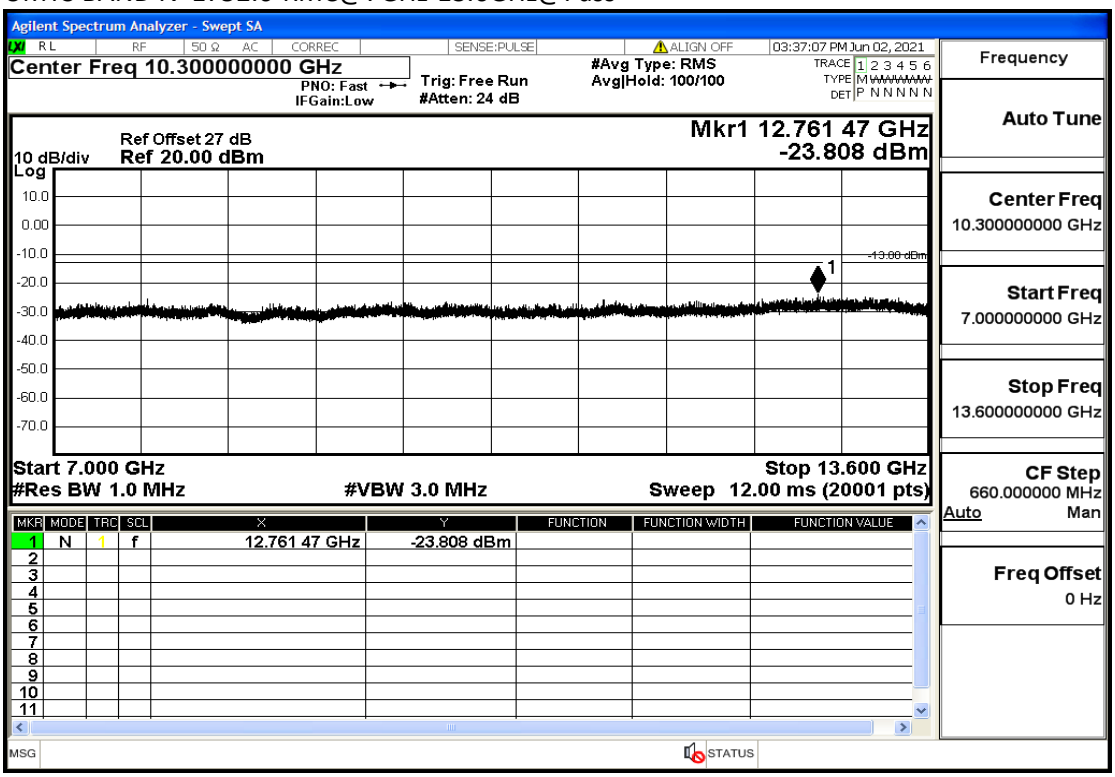
UMTS BAND IV-1752.6-RMC@1GHz-7GHz@Pass



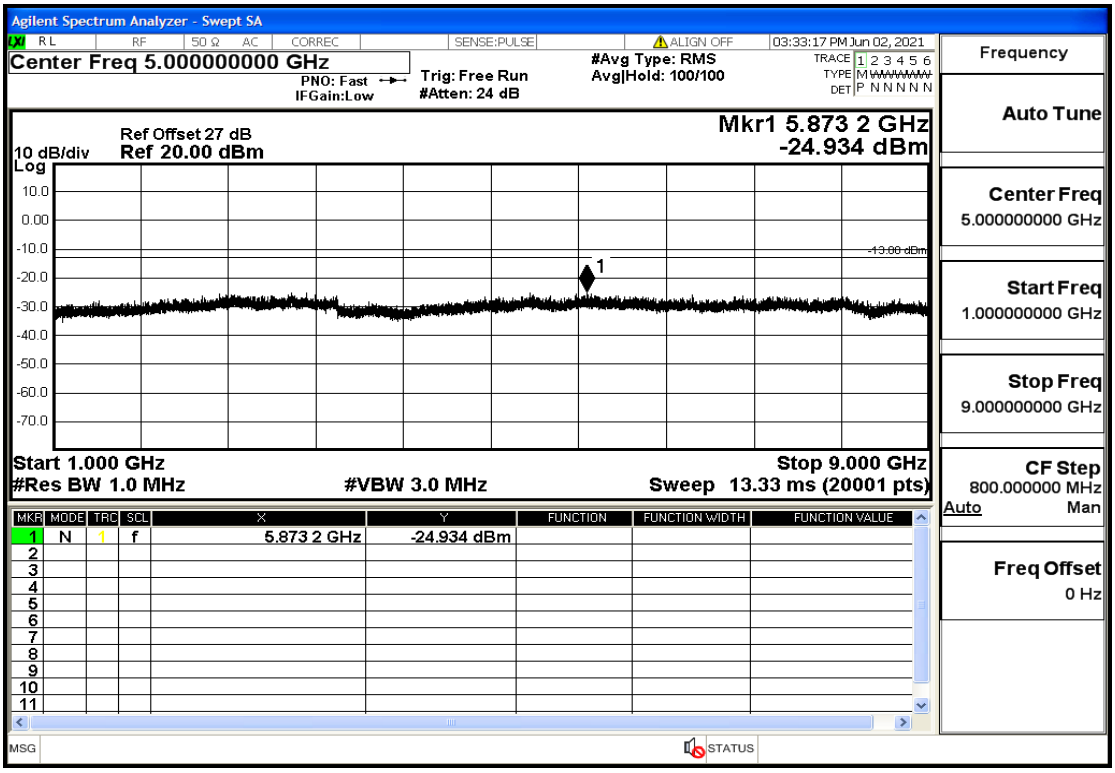
UMTS BAND IV-1752.6-RMC@30mHz-1GHz@Pass



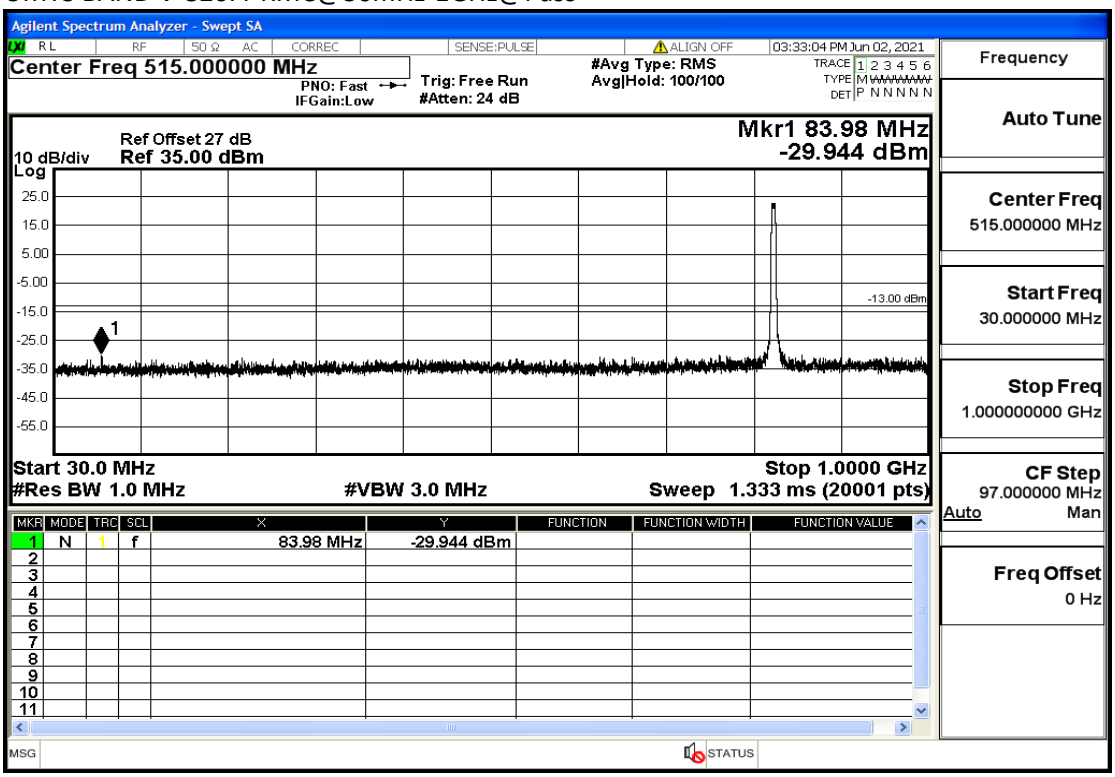
UMTS BAND IV-1752.6-RMC@7GHz-13.6GHz@Pass



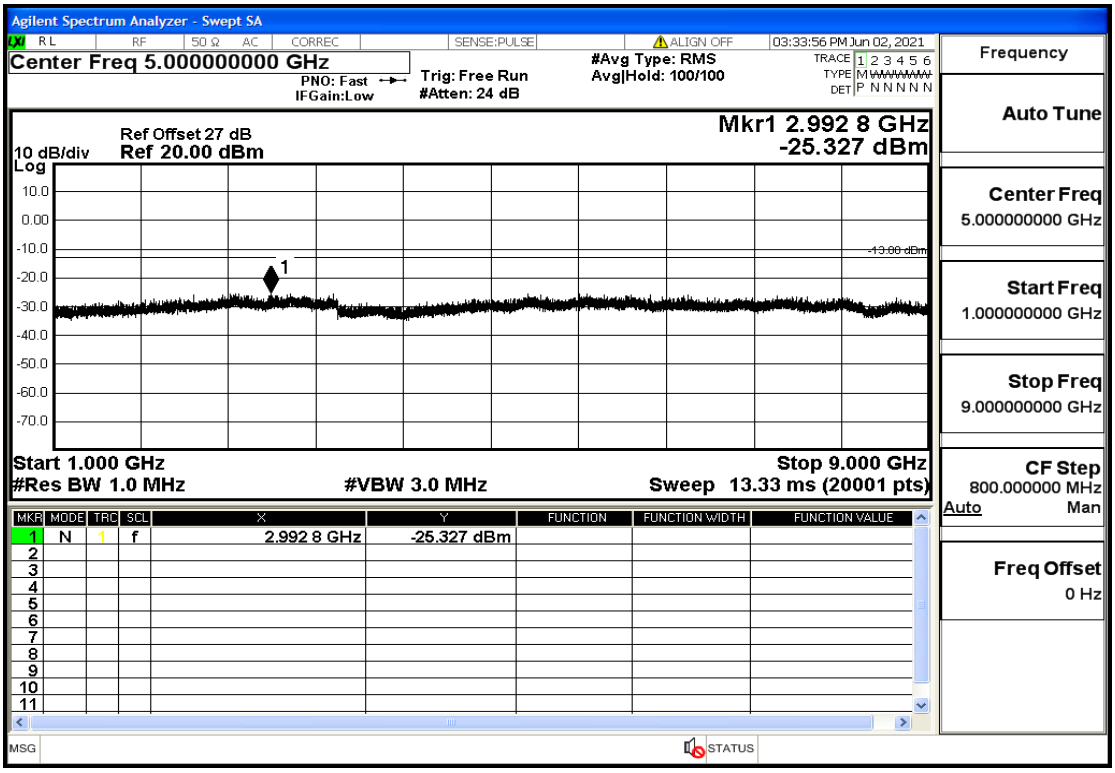
UMTS BAND V-826.4-RMC@1GHz-9GHz@Pass



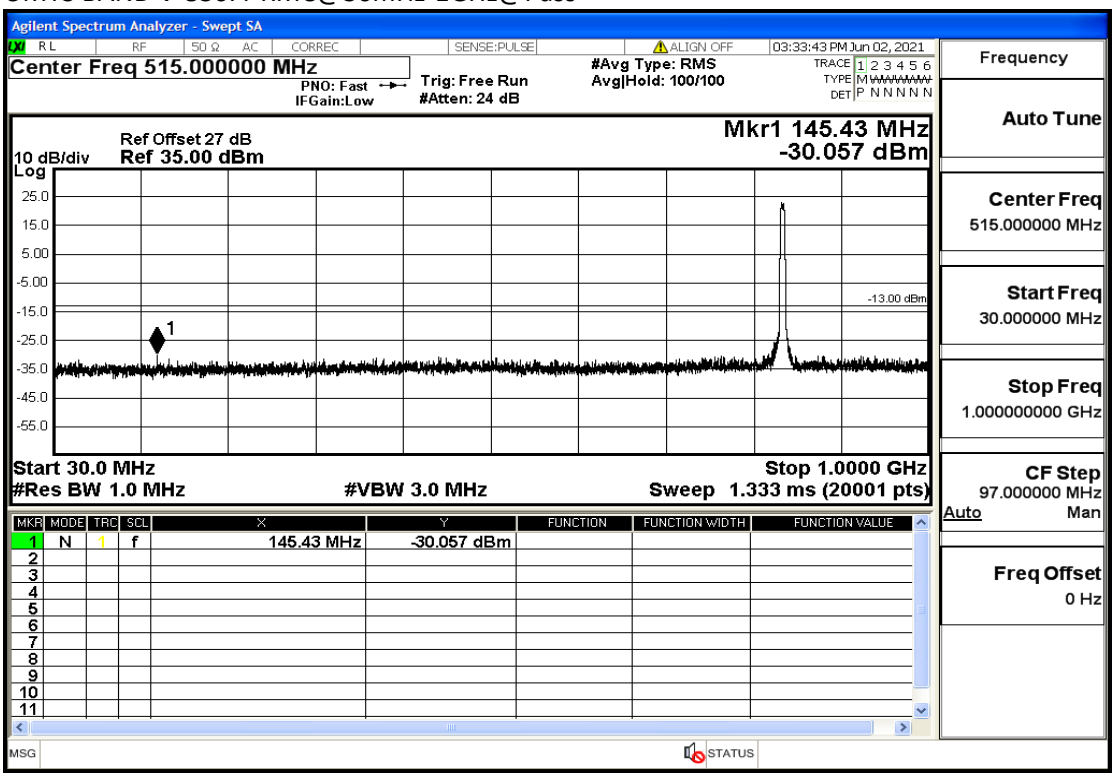
UMTS BAND V-826.4-RMC@30mHz-1GHz@Pass



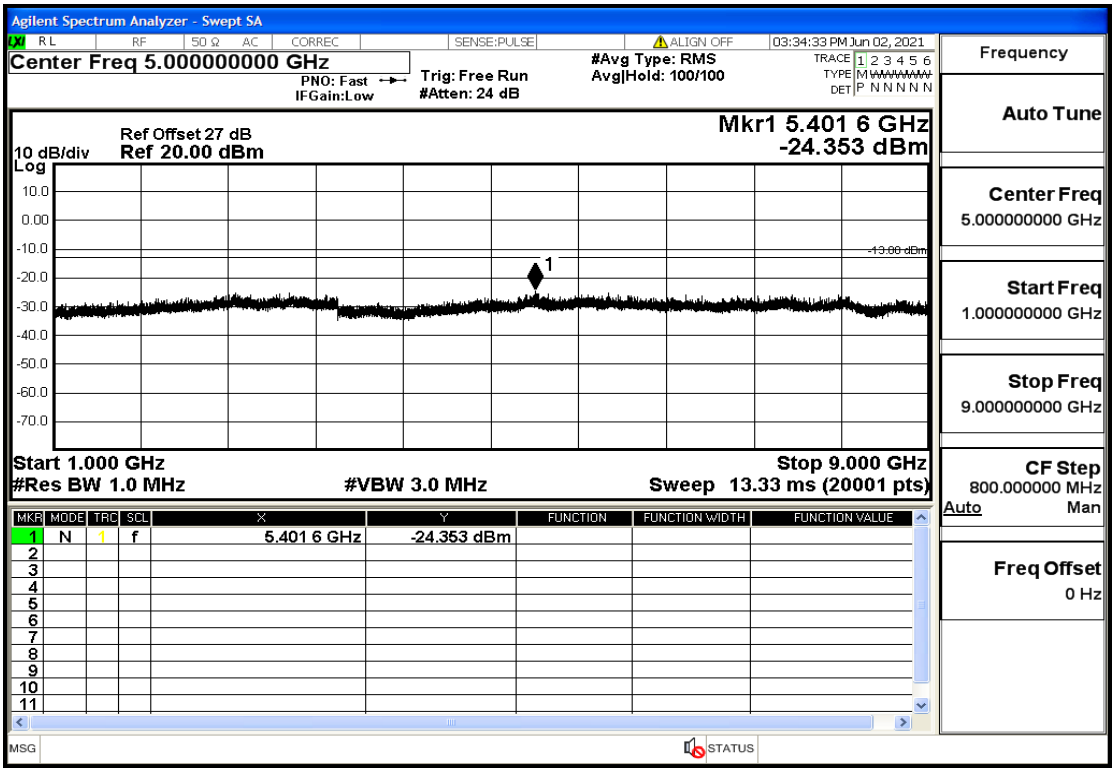
UMTS BAND V-836.4-RMC@1GHz-9GHz@Pass



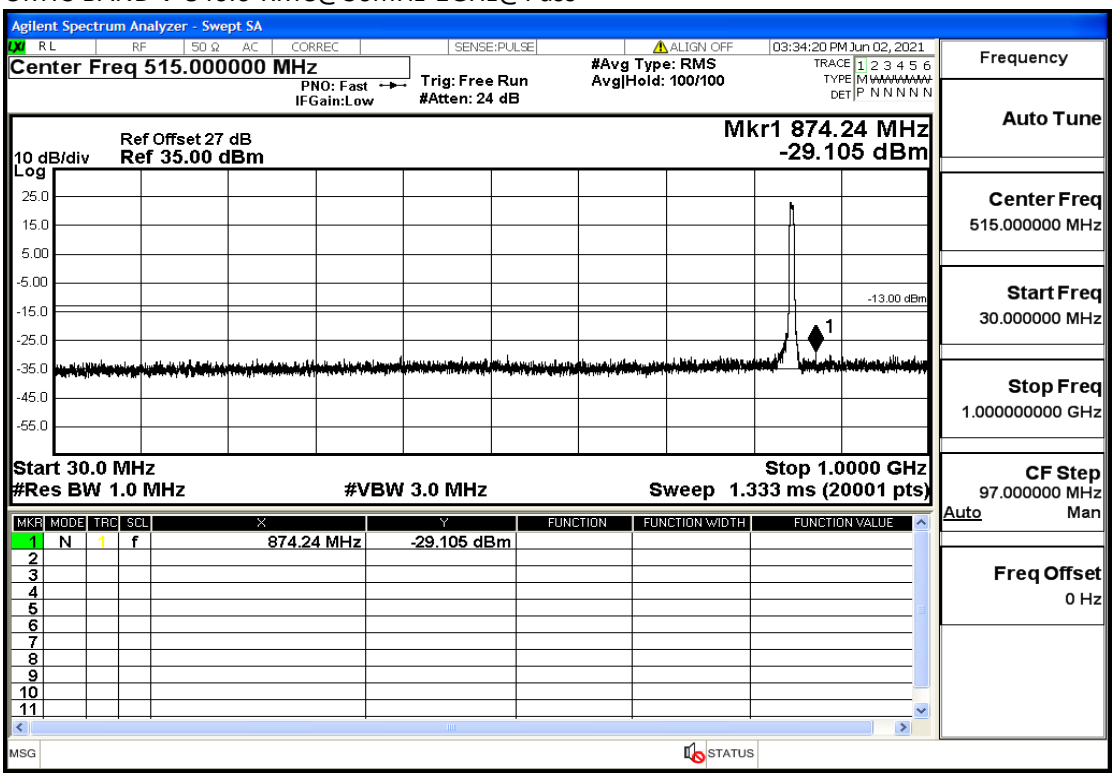
UMTS BAND V-836.4-RMC@30mHz-1GHz@Pass



UMTS BAND V-846.6-RMC@1GHz-9GHz@Pass



UMTS BAND V-846.6-RMC@30mHz-1GHz@Pass



Note:1. Below 30MHZ no Spurious found and Above is the worst mode data.
2. As no emission found in standby or receive mode, no recording in this report.

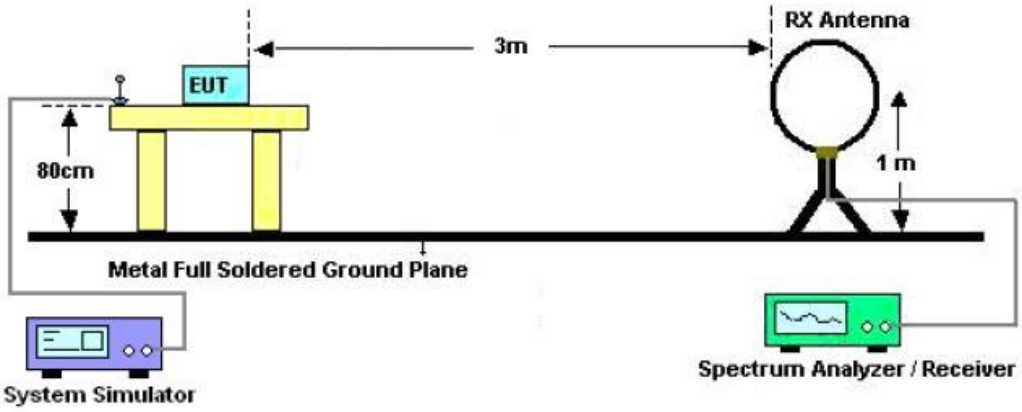
5.5.2 RADIATED SPURIOUS EMISSION

5.5.2.1 MEASUREMENT METHOD

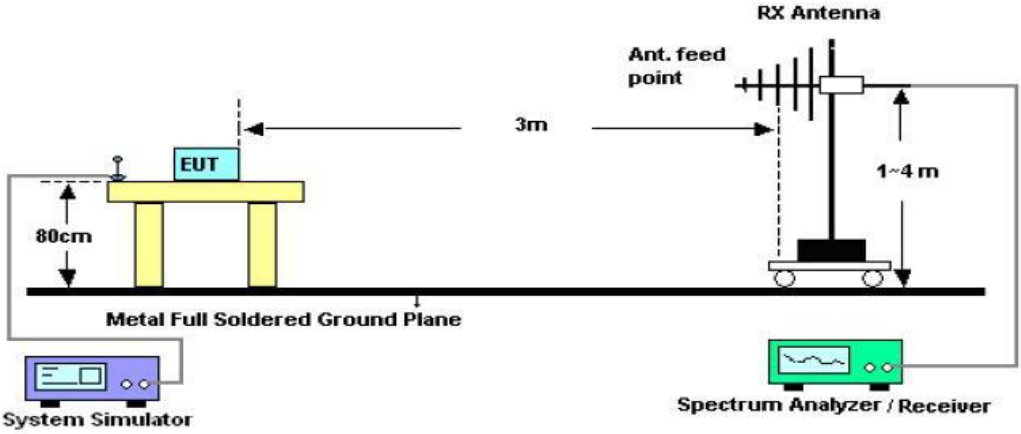
1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

5.5.2.2 TEST SETUP

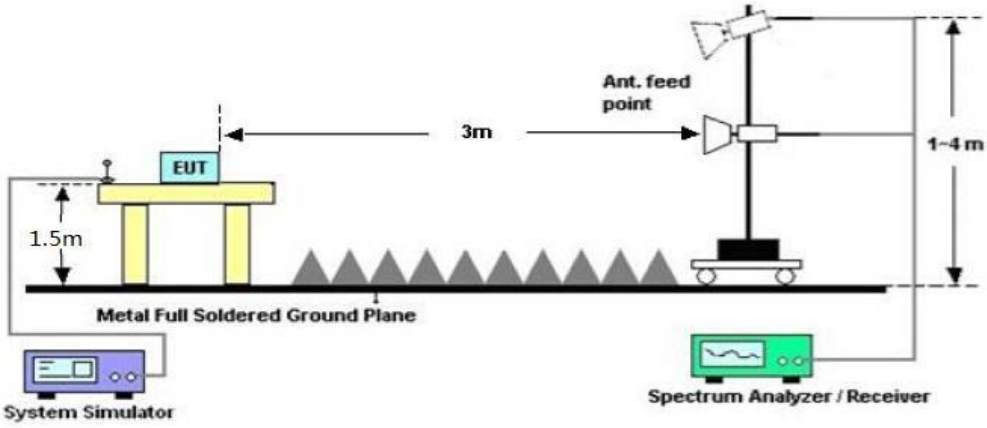
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



5.5.2.3 PROVISIONS APPLICABLE

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(P) dB. The specification that emissions shall be attenuated below the transmitter power (P) by at

least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

Note: only result the worst condition of each test mode:

5.5.2.4 MEASUREMENT RESULT

GSM 850:

The Worst Test Results for Channel 128/824.2 MHz				
Frequency (MHz)	Emission Level (dBm)	Limits (dBm)	Margin (dB)	Comment
1648.19	-56.33	-13	43.33	Horizontal
3296.49	-40.38	-13	27.38	Horizontal
4944.92	-51.82	-13	38.82	Horizontal
1648.19	-39.52	-13	26.52	Vertical
3296.44	-53.01	-13	40.01	Vertical
4944.94	-45.14	-13	32.14	Vertical

PCS 1900:

The Worst Test Results for Channel 661/1880 MHz				
Frequency (MHz)	Emission Level (dBm)	Limits (dBm)	Margin (dB)	Comment
3759.79	-58.51	-13	45.51	Horizontal
7519.71	-39.83	-13	26.83	Horizontal
11279.72	-53.78	-13	40.78	Horizontal
3759.63	-40.01	-13	27.01	Vertical
7519.75	-51.77	-13	38.77	Vertical
11279.73	-43.91	-13	30.91	Vertical

WCDMA BAND II:

The Worst Test Results for Channel 9400/1880MHz				
Frequency (MHz)	Emission Level (dBm)	Limits (dBm)	Margin (dB)	Comment
3759.70	-56.30	-13	43.30	Horizontal
7519.68	-38.22	-13	25.22	Horizontal
11279.78	-55.78	-13	42.78	Horizontal
3759.63	-38.45	-13	25.45	Vertical
7519.79	-50.42	-13	37.42	Vertical
11279.74	-46.86	-13	33.86	Vertical

WCDMA BAND IV:

The Worst Test Results for Channel 1412/1732.4MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
3456.18	-57.43	-13	44.43	Horizontal
6921.93	-38.07	-13	25.07	Horizontal
10387.78	-52.21	-13	39.21	Horizontal
3455.24	-38.09	-13	25.09	Vertical
6921.30	-53.71	-13	40.71	Vertical
10384.76	-46.03	-13	33.03	Vertical

WCDMA BAND V:

The Worst Test Results for Channel 4132/826.4MHz				
Frequency	Emission Level	Limits	Margin	Comment
(MHz)	(dBm)	(dBm)	(dB)	
1644.95	-57.21	-13	44.21	Horizontal
3296.23	-39.29	-13	26.29	Horizontal
4950.14	-53.13	-13	40.13	Horizontal
1644.63	-38.41	-13	25.41	Vertical
3300.10	-53.71	-13	40.71	Vertical
4950.07	-44.49	-13	31.49	Vertical

RESULT: PASS

Note:

11. Margin = Limit - Emission Level
12. Below 30MHZ no Spurious found and Above is the worst mode data.

5.6 FREQUENCY STABILITY

5.6.1 MEASUREMENT METHOD

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMU200 DIGITAL RADIO COMMUNICATION TESTER.

1 Measure the carrier frequency at room temperature.

2 Subject the EUT to overnight soak at -30℃.

3 With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on channel 661 for PCS 1900 band , channel 190 for GSM 850 band, channel 9400 for UMTS band II, channel 1412 for UMTS band IV and channel 4175 for UMTS band V measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.

4 Repeat the above measurements at 10℃ increments from -30℃ to +50℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

5 Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.

6 Subject the EUT to overnight soak at +50℃.

7 With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.

8 Repeat the above measurements at 10℃ increments from +50℃ to -30℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

9 At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

5.6.2 PROVISIONS APPLICABLE

5.6.2.1 FOR HAND CARRIED BATTERY POWERED EQUIPMENT

According to the ANSI/TIA-603-E-2016, the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.5VDC and 4.2VDC, with a nominal voltage of 3.7VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. These voltages represent a tolerance of -10 % and +12.5 %. For the purposes of measuring frequency stability these voltage limits are to be used.

5.6.2.2 FOR EQUIPMENT POWERED BY PRIMARY SUPPLY VOLTAGE

According to the ANSI/TIA-603-E-2016,the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. For this EUT section 2.1055(d)(1) applies. This requires varying primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment, the normal environment temperature is 20°C.

5.6.3 MEASUREMENT RESULT

Pass

For GSM

Test Band=GSM850/GSM1900

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VL	TN	10.99	0.0131	2.5	PASS
GSM850	128	VN	TN	8.48	0.0101	2.5	PASS
GSM850	128	VH	TN	12.09	0.0145	2.5	PASS
GSM850	190	VL	TN	8.05	0.0096	2.5	PASS
GSM850	190	VN	TN	11.57	0.0138	2.5	PASS
GSM850	190	VH	TN	8.29	0.0099	2.5	PASS
GSM850	251	VL	TN	8.24	0.0099	2.5	PASS
GSM850	251	VN	TN	6.98	0.0083	2.5	PASS
GSM850	251	VH	TN	10.25	0.0123	2.5	PASS
GPRS850	128	VL	TN	3.23	0.0039	2.5	PASS
GPRS850	128	VN	TN	4.42	0.0053	2.5	PASS
GPRS850	128	VH	TN	5.51	0.0066	2.5	PASS
GPRS850	190	VL	TN	5.7	0.0068	2.5	PASS
GPRS850	190	VN	TN	4.87	0.0058	2.5	PASS
GPRS850	190	VH	TN	1.62	0.0019	2.5	PASS
GPRS850	251	VL	TN	6.61	0.0079	2.5	PASS
GPRS850	251	VN	TN	5.62	0.0067	2.5	PASS
GPRS850	251	VH	TN	5.48	0.0066	2.5	PASS
EGPRS850	128	VL	TN	13.91	0.0166	2.5	PASS
EGPRS850	128	VN	TN	10.12	0.0121	2.5	PASS
EGPRS850	128	VH	TN	14.01	0.0168	2.5	PASS
EGPRS850	190	VL	TN	13.44	0.0161	2.5	PASS
EGPRS850	190	VN	TN	13.73	0.0164	2.5	PASS
EGPRS850	190	VH	TN	11.79	0.0141	2.5	PASS
EGPRS850	251	VL	TN	13.64	0.0163	2.5	PASS
EGPRS850	251	VN	TN	12.56	0.0150	2.5	PASS
EGPRS850	251	VH	TN	9.46	0.0113	2.5	PASS
GSM1900	512	VL	TN	11.96	0.0064	2.5	PASS
GSM1900	512	VN	TN	11.5	0.0061	2.5	PASS
GSM1900	512	VH	TN	12.45	0.0066	2.5	PASS
GSM1900	661	VL	TN	23.09	0.0123	2.5	PASS
GSM1900	661	VN	TN	23.48	0.0125	2.5	PASS
GSM1900	661	VH	TN	24.3	0.0129	2.5	PASS
GSM1900	810	VL	TN	29.73	0.0158	2.5	PASS
GSM1900	810	VN	TN	26.12	0.0139	2.5	PASS
GSM1900	810	VH	TN	23.2	0.0123	2.5	PASS
GPRS1900	512	VL	TN	7.31	0.0039	2.5	PASS

GPRS1900	512	VN	TN	10.43	0.0055	2.5	PASS
GPRS1900	512	VH	TN	11.86	0.0063	2.5	PASS
GPRS1900	661	VL	TN	26.07	0.0139	2.5	PASS
GPRS1900	661	VN	TN	24.38	0.0130	2.5	PASS
GPRS1900	661	VH	TN	28.22	0.0150	2.5	PASS
GPRS1900	810	VL	TN	25.31	0.0135	2.5	PASS
GPRS1900	810	VN	TN	21.3	0.0113	2.5	PASS
GPRS1900	810	VH	TN	25.8	0.0137	2.5	PASS
EGPRS1900	512	VL	TN	30.28	0.0161	2.5	PASS
EGPRS1900	512	VN	TN	26.87	0.0143	2.5	PASS
EGPRS1900	512	VH	TN	30.1	0.0160	2.5	PASS
EGPRS1900	661	VL	TN	31.83	0.0169	2.5	PASS
EGPRS1900	661	VN	TN	33.82	0.0180	2.5	PASS
EGPRS1900	661	VH	TN	35.39	0.0188	2.5	PASS
EGPRS1900	810	VL	TN	30.16	0.0160	2.5	PASS
EGPRS1900	810	VN	TN	31.24	0.0166	2.5	PASS
EGPRS1900	810	VH	TN	31.06	0.0165	2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VN	-30	9.63	0.0115	2.5	PASS
GSM850	128	VN	-20	7.49	0.0090	2.5	PASS
GSM850	128	VN	-10	9.77	0.0117	2.5	PASS
GSM850	128	VN	0	8.96	0.0107	2.5	PASS
GSM850	128	VN	10	10.17	0.0122	2.5	PASS
GSM850	128	VN	20	8.48	0.0101	2.5	PASS
GSM850	128	VN	30	9.45	0.0113	2.5	PASS
GSM850	128	VN	40	11.06	0.0132	2.5	PASS
GSM850	128	VN	50	8.86	0.0106	2.5	PASS
GSM850	190	VN	-30	8.93	0.0107	2.5	PASS
GSM850	190	VN	-20	12.92	0.0155	2.5	PASS
GSM850	190	VN	-10	7.34	0.0088	2.5	PASS
GSM850	190	VN	0	11.15	0.0133	2.5	PASS
GSM850	190	VN	10	8.45	0.0101	2.5	PASS
GSM850	190	VN	20	9.03	0.0108	2.5	PASS
GSM850	190	VN	30	9.24	0.0111	2.5	PASS
GSM850	190	VN	40	8.53	0.0102	2.5	PASS
GSM850	190	VN	50	10.56	0.0126	2.5	PASS
GSM850	251	VN	-30	8.37	0.0100	2.5	PASS
GSM850	251	VN	-20	7.57	0.0091	2.5	PASS
GSM850	251	VN	-10	9.21	0.0110	2.5	PASS
GSM850	251	VN	0	11.51	0.0138	2.5	PASS
GSM850	251	VN	10	6.61	0.0079	2.5	PASS
GSM850	251	VN	20	6.95	0.0083	2.5	PASS
GSM850	251	VN	30	6.72	0.0080	2.5	PASS
GSM850	251	VN	40	10.95	0.0131	2.5	PASS

GSM850	251	VN	50	10.19	0.0122	2.5	PASS
GPRS850	128	VN	-30	5.03	0.0060	2.5	PASS
GPRS850	128	VN	-20	8.59	0.0103	2.5	PASS
GPRS850	128	VN	-10	8.92	0.0107	2.5	PASS
GPRS850	128	VN	0	11.18	0.0134	2.5	PASS
GPRS850	128	VN	10	8.77	0.0105	2.5	PASS
GPRS850	128	VN	20	7.4	0.0089	2.5	PASS
GPRS850	128	VN	30	9.05	0.0108	2.5	PASS
GPRS850	128	VN	40	7.42	0.0089	2.5	PASS
GPRS850	128	VN	50	8.78	0.0105	2.5	PASS
GPRS850	190	VN	-30	5.15	0.0062	2.5	PASS
GPRS850	190	VN	-20	8.27	0.0099	2.5	PASS
GPRS850	190	VN	-10	3.93	0.0047	2.5	PASS
GPRS850	190	VN	0	0.69	0.0008	2.5	PASS
GPRS850	190	VN	10	-0.2	-0.0002	2.5	PASS
GPRS850	190	VN	20	2.5	0.0030	2.5	PASS
GPRS850	190	VN	30	-1.11	-0.0013	2.5	PASS
GPRS850	190	VN	40	0.06	0.0001	2.5	PASS
GPRS850	190	VN	50	-0.33	-0.0004	2.5	PASS
GPRS850	251	VN	-30	9.09	0.0109	2.5	PASS
GPRS850	251	VN	-20	7.2	0.0086	2.5	PASS
GPRS850	251	VN	-10	6.89	0.0082	2.5	PASS
GPRS850	251	VN	0	7.47	0.0089	2.5	PASS
GPRS850	251	VN	10	6.13	0.0073	2.5	PASS
GPRS850	251	VN	20	4.96	0.0059	2.5	PASS
GPRS850	251	VN	30	2.81	0.0034	2.5	PASS
GPRS850	251	VN	40	5.9	0.0071	2.5	PASS
GPRS850	251	VN	50	6.32	0.0076	2.5	PASS
EGPRS850	128	VN	-30	10.59	0.0127	2.5	PASS
EGPRS850	128	VN	-20	10.72	0.0128	2.5	PASS
EGPRS850	128	VN	-10	10.32	0.0123	2.5	PASS
EGPRS850	128	VN	0	12.81	0.0153	2.5	PASS
EGPRS850	128	VN	10	10.6	0.0127	2.5	PASS
EGPRS850	128	VN	20	8.72	0.0104	2.5	PASS
EGPRS850	128	VN	30	9.98	0.0119	2.5	PASS
EGPRS850	128	VN	40	11.29	0.0135	2.5	PASS
EGPRS850	128	VN	50	13.63	0.0163	2.5	PASS
EGPRS850	190	VN	-30	10.74	0.0128	2.5	PASS
EGPRS850	190	VN	-20	9.91	0.0119	2.5	PASS
EGPRS850	190	VN	-10	10.07	0.0120	2.5	PASS
EGPRS850	190	VN	0	8.34	0.0100	2.5	PASS
EGPRS850	190	VN	10	8.72	0.0104	2.5	PASS
EGPRS850	190	VN	20	9.07	0.0108	2.5	PASS
EGPRS850	190	VN	30	8.93	0.0107	2.5	PASS
EGPRS850	190	VN	40	8.3	0.0099	2.5	PASS
EGPRS850	190	VN	50	8	0.0096	2.5	PASS
EGPRS850	251	VN	-30	9.6	0.0115	2.5	PASS

EGPRS850	251	VN	-20	10.23	0.0122	2.5	PASS
EGPRS850	251	VN	-10	9.83	0.0118	2.5	PASS
EGPRS850	251	VN	0	8.23	0.0098	2.5	PASS
EGPRS850	251	VN	10	9.16	0.0110	2.5	PASS
EGPRS850	251	VN	20	7.29	0.0087	2.5	PASS
EGPRS850	251	VN	30	7.36	0.0088	2.5	PASS
EGPRS850	251	VN	40	9.46	0.0113	2.5	PASS
EGPRS850	251	VN	50	6.46	0.0077	2.5	PASS
GSM1900	512	VN	-30	10.88	0.0058	2.5	PASS
GSM1900	512	VN	-20	10.04	0.0053	2.5	PASS
GSM1900	512	VN	-10	7.57	0.0040	2.5	PASS
GSM1900	512	VN	0	11.07	0.0059	2.5	PASS
GSM1900	512	VN	10	7.67	0.0041	2.5	PASS
GSM1900	512	VN	20	7.02	0.0037	2.5	PASS
GSM1900	512	VN	30	7.92	0.0042	2.5	PASS
GSM1900	512	VN	40	12.08	0.0064	2.5	PASS
GSM1900	512	VN	50	10.77	0.0057	2.5	PASS
GSM1900	661	VN	-30	28.57	0.0152	2.5	PASS
GSM1900	661	VN	-20	22.63	0.0120	2.5	PASS
GSM1900	661	VN	-10	27.05	0.0144	2.5	PASS
GSM1900	661	VN	0	25.01	0.0133	2.5	PASS
GSM1900	661	VN	10	26.94	0.0143	2.5	PASS
GSM1900	661	VN	20	24.17	0.0129	2.5	PASS
GSM1900	661	VN	30	27.19	0.0145	2.5	PASS
GSM1900	661	VN	40	24.68	0.0131	2.5	PASS
GSM1900	661	VN	50	31.75	0.0169	2.5	PASS
GSM1900	810	VN	-30	26.89	0.0143	2.5	PASS
GSM1900	810	VN	-20	23.62	0.0126	2.5	PASS
GSM1900	810	VN	-10	25.44	0.0135	2.5	PASS
GSM1900	810	VN	0	20.67	0.0110	2.5	PASS
GSM1900	810	VN	10	23.57	0.0125	2.5	PASS
GSM1900	810	VN	20	26.07	0.0139	2.5	PASS
GSM1900	810	VN	30	29.66	0.0158	2.5	PASS
GSM1900	810	VN	40	29.86	0.0159	2.5	PASS
GSM1900	810	VN	50	28.39	0.0151	2.5	PASS
GPRS1900	512	VN	-30	11.72	0.0062	2.5	PASS
GPRS1900	512	VN	-20	11.78	0.0063	2.5	PASS
GPRS1900	512	VN	-10	17.47	0.0093	2.5	PASS
GPRS1900	512	VN	0	16.02	0.0085	2.5	PASS
GPRS1900	512	VN	10	17.8	0.0095	2.5	PASS
GPRS1900	512	VN	20	11.57	0.0062	2.5	PASS
GPRS1900	512	VN	30	17.32	0.0092	2.5	PASS
GPRS1900	512	VN	40	19.32	0.0103	2.5	PASS
GPRS1900	512	VN	50	19.5	0.0104	2.5	PASS
GPRS1900	661	VN	-30	28.01	0.0149	2.5	PASS
GPRS1900	661	VN	-20	24.77	0.0132	2.5	PASS
GPRS1900	661	VN	-10	21.39	0.0114	2.5	PASS

GPRS1900	661	VN	0	31.39	0.0167	2.5	PASS
GPRS1900	661	VN	10	23.46	0.0125	2.5	PASS
GPRS1900	661	VN	20	30.32	0.0161	2.5	PASS
GPRS1900	661	VN	30	33.47	0.0178	2.5	PASS
GPRS1900	661	VN	40	21.54	0.0115	2.5	PASS
GPRS1900	661	VN	50	27.66	0.0147	2.5	PASS
GPRS1900	810	VN	-30	22.83	0.0121	2.5	PASS
GPRS1900	810	VN	-20	21.19	0.0113	2.5	PASS
GPRS1900	810	VN	-10	28.51	0.0152	2.5	PASS
GPRS1900	810	VN	0	29.11	0.0155	2.5	PASS
GPRS1900	810	VN	10	29.25	0.0156	2.5	PASS
GPRS1900	810	VN	20	26.66	0.0142	2.5	PASS
GPRS1900	810	VN	30	28.94	0.0154	2.5	PASS
GPRS1900	810	VN	40	29.3	0.0156	2.5	PASS
GPRS1900	810	VN	50	29.87	0.0159	2.5	PASS
EGPRS1900	512	VN	-30	35.41	0.0188	2.5	PASS
EGPRS1900	512	VN	-20	34.68	0.0184	2.5	PASS
EGPRS1900	512	VN	-10	37.17	0.0198	2.5	PASS
EGPRS1900	512	VN	0	35	0.0186	2.5	PASS
EGPRS1900	512	VN	10	28.89	0.0154	2.5	PASS
EGPRS1900	512	VN	20	35.94	0.0191	2.5	PASS
EGPRS1900	512	VN	30	28.9	0.0154	2.5	PASS
EGPRS1900	512	VN	40	27.73	0.0148	2.5	PASS
EGPRS1900	512	VN	50	33.75	0.0180	2.5	PASS
EGPRS1900	661	VN	-30	33.44	0.0178	2.5	PASS
EGPRS1900	661	VN	-20	32.04	0.0170	2.5	PASS
EGPRS1900	661	VN	-10	27.69	0.0147	2.5	PASS
EGPRS1900	661	VN	0	29.93	0.0159	2.5	PASS
EGPRS1900	661	VN	10	32.24	0.0171	2.5	PASS
EGPRS1900	661	VN	20	31.75	0.0169	2.5	PASS
EGPRS1900	661	VN	30	34.54	0.0184	2.5	PASS
EGPRS1900	661	VN	40	28.82	0.0153	2.5	PASS
EGPRS1900	661	VN	50	33.77	0.0180	2.5	PASS
EGPRS1900	810	VN	-30	30.29	0.0161	2.5	PASS
EGPRS1900	810	VN	-20	25.12	0.0134	2.5	PASS
EGPRS1900	810	VN	-10	31.67	0.0168	2.5	PASS
EGPRS1900	810	VN	0	25.37	0.0135	2.5	PASS
EGPRS1900	810	VN	10	25.64	0.0136	2.5	PASS
EGPRS1900	810	VN	20	27.38	0.0146	2.5	PASS
EGPRS1900	810	VN	30	30.94	0.0165	2.5	PASS
EGPRS1900	810	VN	40	27.81	0.0148	2.5	PASS
EGPRS1900	810	VN	50	21.76	0.0116	2.5	PASS

For WCDMA

Test Band=WCDMA Band II/ WCDMA Band IV / WCDMA Band V

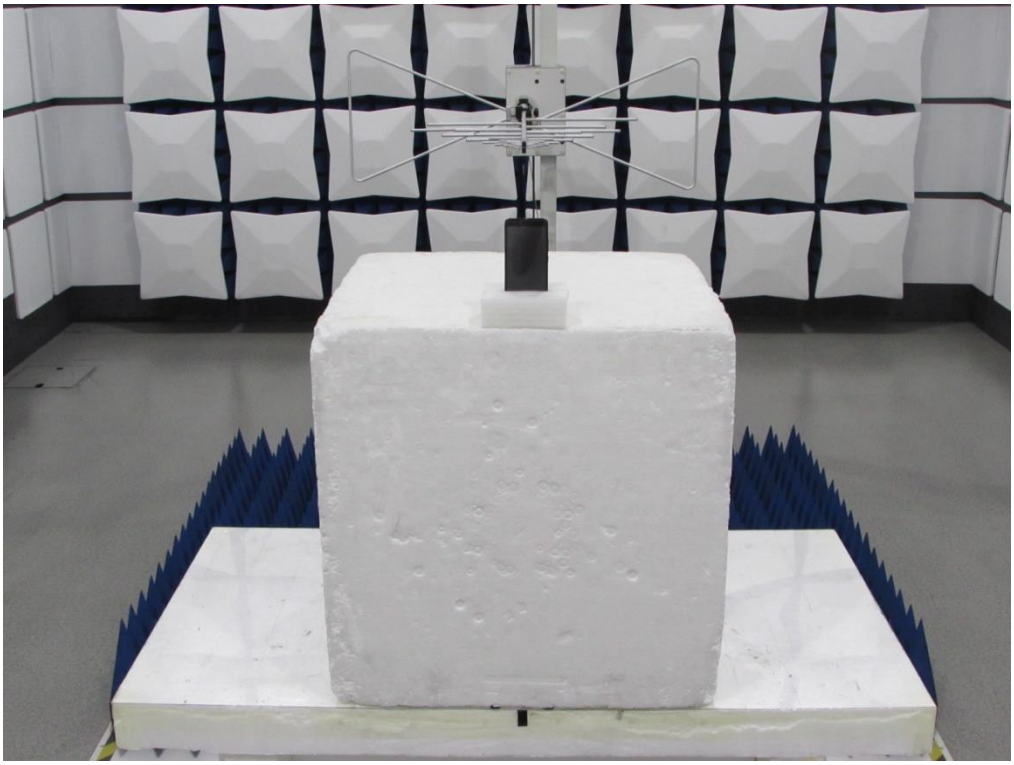
Voltage							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	9262	VL	TN	-22.52	-0.0120	2.5	PASS
Band II	9262	VN	TN	-23.96	-0.0127	2.5	PASS
Band II	9262	VH	TN	-23.71	-0.0126	2.5	PASS
Band II	9400	VL	TN	-18.75	-0.0100	2.5	PASS
Band II	9400	VN	TN	-29.79	-0.0158	2.5	PASS
Band II	9400	VH	TN	-26.11	-0.0139	2.5	PASS
Band II	9538	VL	TN	-25.29	-0.0135	2.5	PASS
Band II	9538	VN	TN	-27.74	-0.0148	2.5	PASS
Band II	9538	VH	TN	-29.43	-0.0157	2.5	PASS
Band IV	1312	VL	TN	-11.51	-0.0138	2.5	PASS
Band IV	1312	VN	TN	-12.27	-0.0147	2.5	PASS
Band IV	1312	VH	TN	-15.09	-0.0181	2.5	PASS
Band IV	1413	VL	TN	-4.24	-0.0051	2.5	PASS
Band IV	1413	VN	TN	-8.17	-0.0098	2.5	PASS
Band IV	1413	VH	TN	-14.76	-0.0177	2.5	PASS
Band IV	1513	VL	TN	-8.22	-0.0098	2.5	PASS
Band IV	1513	VN	TN	-9.37	-0.0112	2.5	PASS
Band IV	1513	VH	TN	-18.41	-0.0220	2.5	PASS
Band V	4132	VL	TN	-13.47	-0.0161	2.5	PASS
Band V	4132	VN	TN	-10.46	-0.0125	2.5	PASS
Band V	4132	VH	TN	-13.7	-0.0164	2.5	PASS
Band V	4182	VL	TN	-4.07	-0.0049	2.5	PASS
Band V	4182	VN	TN	-6.92	-0.0083	2.5	PASS
Band V	4182	VH	TN	-13.44	-0.0161	2.5	PASS
Band V	4233	VL	TN	-8.36	-0.0100	2.5	PASS
Band V	4233	VN	TN	-9.04	-0.0108	2.5	PASS
Band V	4233	VH	TN	-19.18	-0.0229	2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	9262	VN	-30	-20.22	-0.0108	2.5	PASS
Band II	9262	VN	-20	-22.01	-0.0117	2.5	PASS
Band II	9262	VN	-10	-26.76	-0.0142	2.5	PASS
Band II	9262	VN	0	-18.28	-0.0097	2.5	PASS
Band II	9262	VN	10	-22.92	-0.0122	2.5	PASS
Band II	9262	VN	20	-26.39	-0.0140	2.5	PASS
Band II	9262	VN	30	-26.35	-0.0140	2.5	PASS
Band II	9262	VN	40	-19.54	-0.0104	2.5	PASS
Band II	9262	VN	50	-27.42	-0.0146	2.5	PASS
Band II	9400	VN	-30	-30.41	-0.0162	2.5	PASS
Band II	9400	VN	-20	-27.21	-0.0145	2.5	PASS
Band II	9400	VN	-10	-27.12	-0.0144	2.5	PASS
Band II	9400	VN	0	-22.28	-0.0119	2.5	PASS
Band II	9400	VN	10	-22.43	-0.0119	2.5	PASS
Band II	9400	VN	20	-27.21	-0.0145	2.5	PASS
Band II	9400	VN	30	-23.32	-0.0124	2.5	PASS
Band II	9400	VN	40	-21.5	-0.0114	2.5	PASS
Band II	9400	VN	50	-20.28	-0.0108	2.5	PASS
Band II	9538	VN	-30	-21.7	-0.0115	2.5	PASS
Band II	9538	VN	-20	-23.58	-0.0125	2.5	PASS
Band II	9538	VN	-10	-25.65	-0.0136	2.5	PASS
Band II	9538	VN	0	-22.85	-0.0122	2.5	PASS
Band II	9538	VN	10	-22.38	-0.0119	2.5	PASS
Band II	9538	VN	20	-23.71	-0.0126	2.5	PASS
Band II	9538	VN	30	-22.62	-0.0120	2.5	PASS
Band II	9538	VN	40	-22.89	-0.0122	2.5	PASS
Band II	9538	VN	50	-21.69	-0.0115	2.5	PASS
Band IV	1312	VN	-30	-8.7	-0.0050	2.5	PASS
Band IV	1312	VN	-20	-12.45	-0.0072	2.5	PASS
Band IV	1312	VN	-10	-10.41	-0.0060	2.5	PASS
Band IV	1312	VN	0	-13.59	-0.0078	2.5	PASS
Band IV	1312	VN	10	-12.57	-0.0073	2.5	PASS
Band IV	1312	VN	20	-13.79	-0.0080	2.5	PASS
Band IV	1312	VN	30	-8.62	-0.0050	2.5	PASS
Band IV	1312	VN	40	-11.09	-0.0064	2.5	PASS
Band IV	1312	VN	50	-12.74	-0.0074	2.5	PASS
Band IV	1412	VN	-30	-12.8	-0.0074	2.5	PASS
Band IV	1412	VN	-20	-9.02	-0.0052	2.5	PASS
Band IV	1412	VN	-10	-14.03	-0.0081	2.5	PASS
Band IV	1412	VN	0	-6.47	-0.0037	2.5	PASS
Band IV	1412	VN	10	-12.05	-0.0070	2.5	PASS
Band IV	1412	VN	20	-15.23	-0.0088	2.5	PASS
Band IV	1412	VN	30	-6.28	-0.0036	2.5	PASS

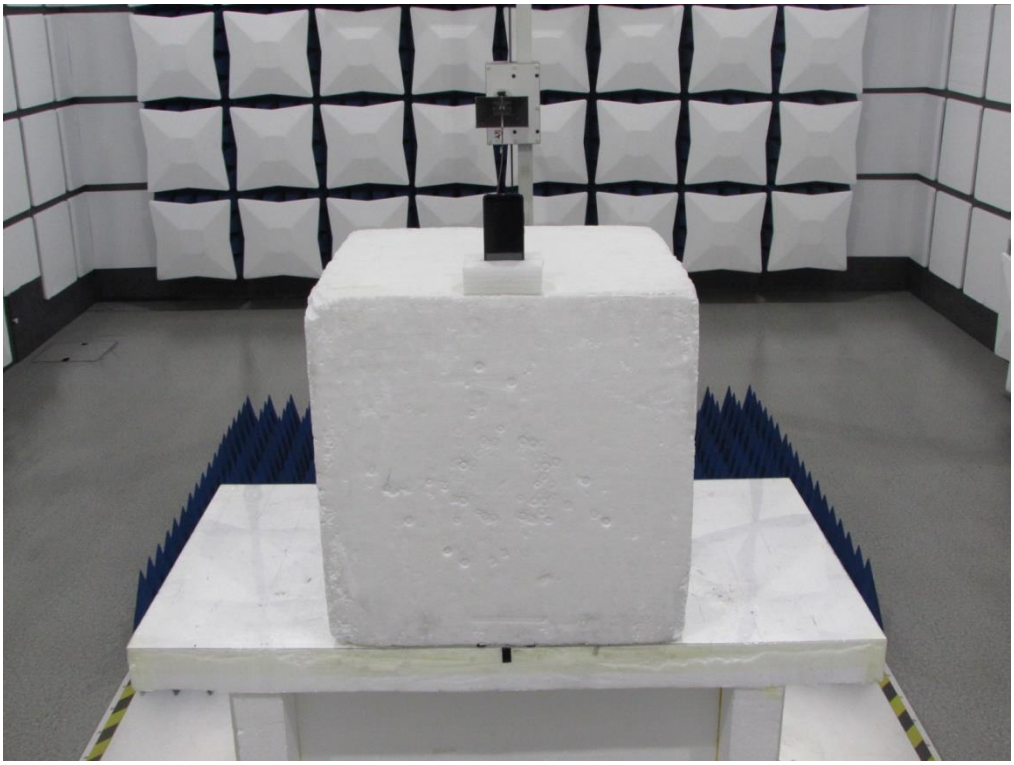
Band IV	1412	VN	40	-6.56	-0.0038	2.5	PASS
Band IV	1412	VN	50	-9.16	-0.0053	2.5	PASS
Band IV	1513	VN	-30	-9.69	-0.0056	2.5	PASS
Band IV	1513	VN	-20	-8.09	-0.0047	2.5	PASS
Band IV	1513	VN	-10	-9.88	-0.0057	2.5	PASS
Band IV	1513	VN	0	-9.41	-0.0054	2.5	PASS
Band IV	1513	VN	10	-10.95	-0.0063	2.5	PASS
Band IV	1513	VN	20	-4.92	-0.0028	2.5	PASS
Band IV	1513	VN	30	-8.37	-0.0048	2.5	PASS
Band IV	1513	VN	40	-2.35	-0.0014	2.5	PASS
Band IV	1513	VN	50	-8.58	-0.0050	2.5	PASS
Band V	4132	VN	-30	-8.23	-0.0098	2.5	PASS
Band V	4132	VN	-20	-10.94	-0.0131	2.5	PASS
Band V	4132	VN	-10	-11.34	-0.0136	2.5	PASS
Band V	4132	VN	0	-11.79	-0.0141	2.5	PASS
Band V	4132	VN	10	-12.57	-0.0150	2.5	PASS
Band V	4132	VN	20	-14.87	-0.0178	2.5	PASS
Band V	4132	VN	30	-10	-0.0120	2.5	PASS
Band V	4132	VN	40	-11.23	-0.0134	2.5	PASS
Band V	4132	VN	50	-15.16	-0.0181	2.5	PASS
Band V	4182	VN	-30	-12.24	-0.0146	2.5	PASS
Band V	4182	VN	-20	-10.64	-0.0127	2.5	PASS
Band V	4182	VN	-10	-11.84	-0.0142	2.5	PASS
Band V	4182	VN	0	-6.17	-0.0074	2.5	PASS
Band V	4182	VN	10	-11.23	-0.0134	2.5	PASS
Band V	4182	VN	20	-15.44	-0.0185	2.5	PASS
Band V	4182	VN	30	-5.87	-0.0070	2.5	PASS
Band V	4182	VN	40	-6.57	-0.0079	2.5	PASS
Band V	4182	VN	50	-9.39	-0.0112	2.5	PASS
Band V	4233	VN	-30	-10	-0.0120	2.5	PASS
Band V	4233	VN	-20	-7.04	-0.0084	2.5	PASS
Band V	4233	VN	-10	-9.79	-0.0117	2.5	PASS
Band V	4233	VN	0	-8.56	-0.0102	2.5	PASS
Band V	4233	VN	10	-11.23	-0.0134	2.5	PASS
Band V	4233	VN	20	-4.47	-0.0053	2.5	PASS
Band V	4233	VN	30	-8.22	-0.0098	2.5	PASS
Band V	4233	VN	40	-2.37	-0.0028	2.5	PASS
Band V	4233	VN	50	-7.96	-0.0095	2.5	PASS

6 APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



----END OF REPORT----