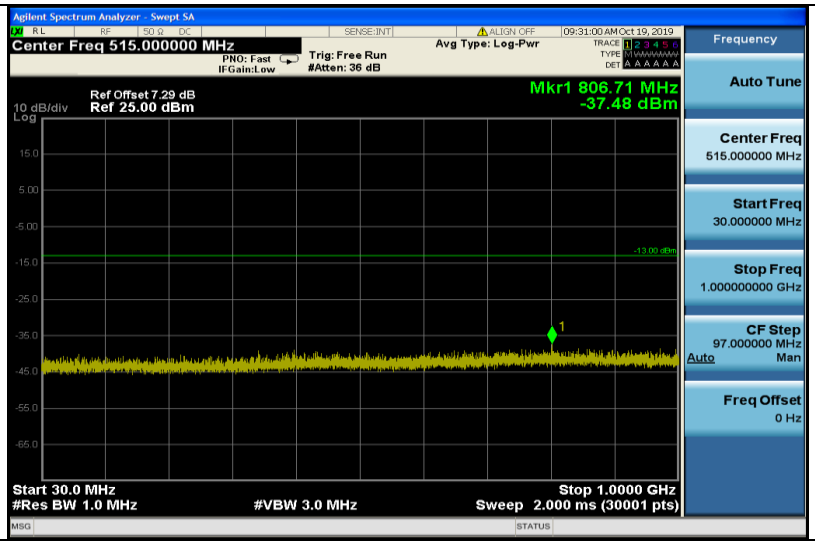
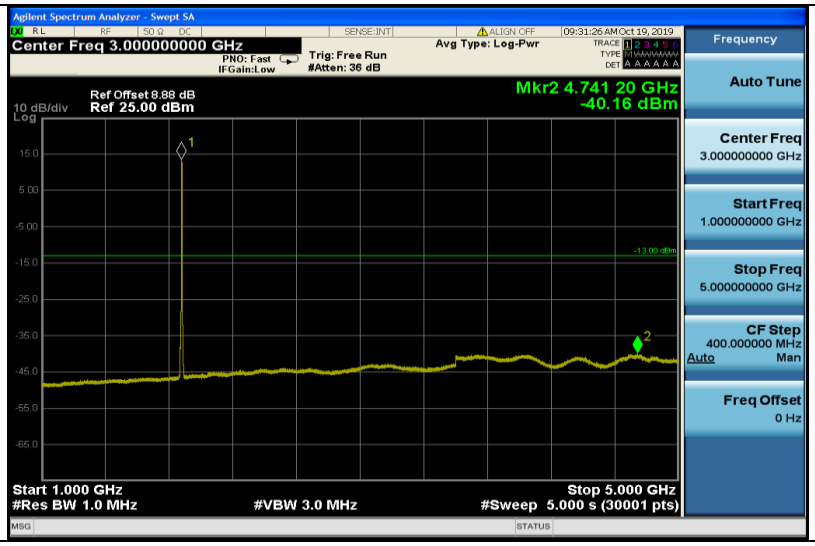
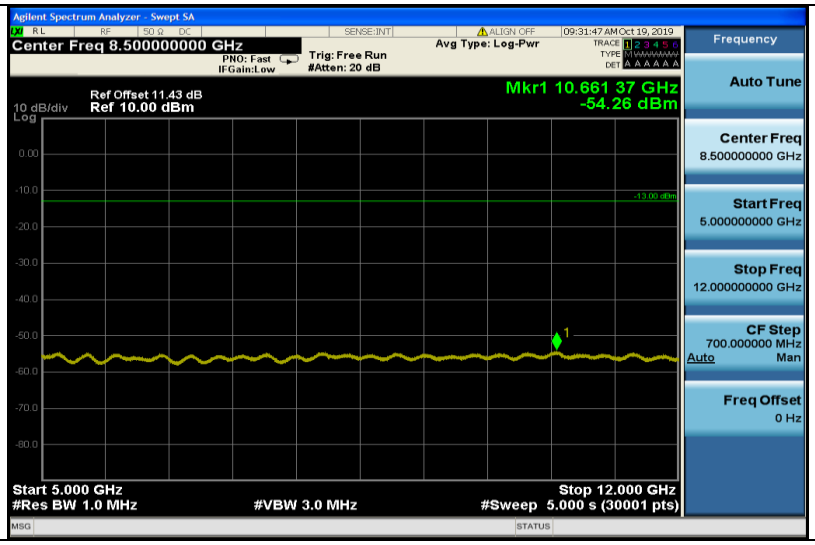
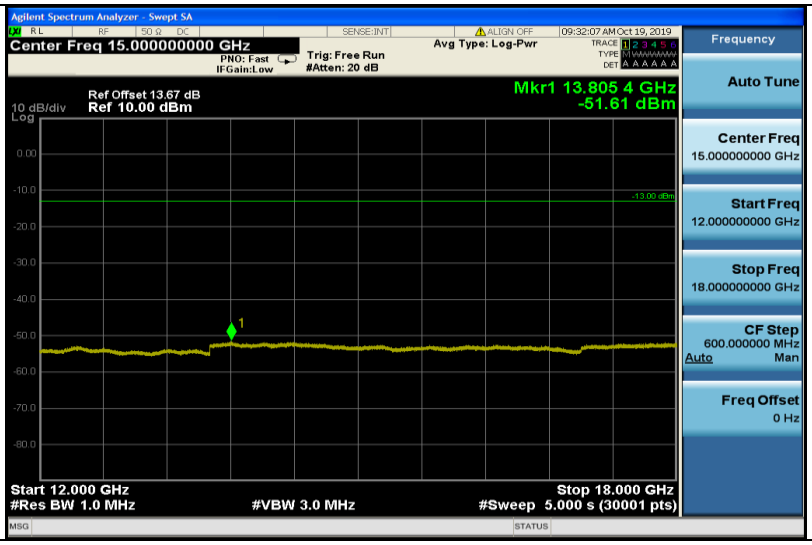
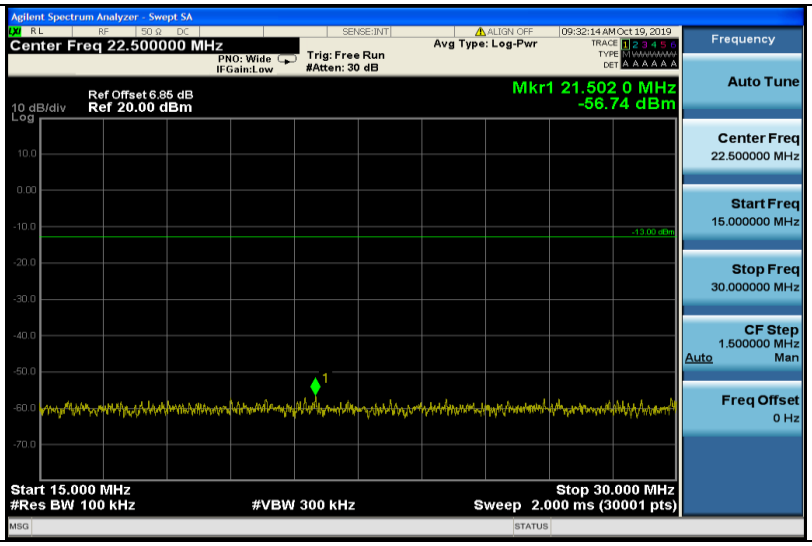
Band II-9400-30~1000

Band II-9400-1000~5000

Band II-9400-5000~12000


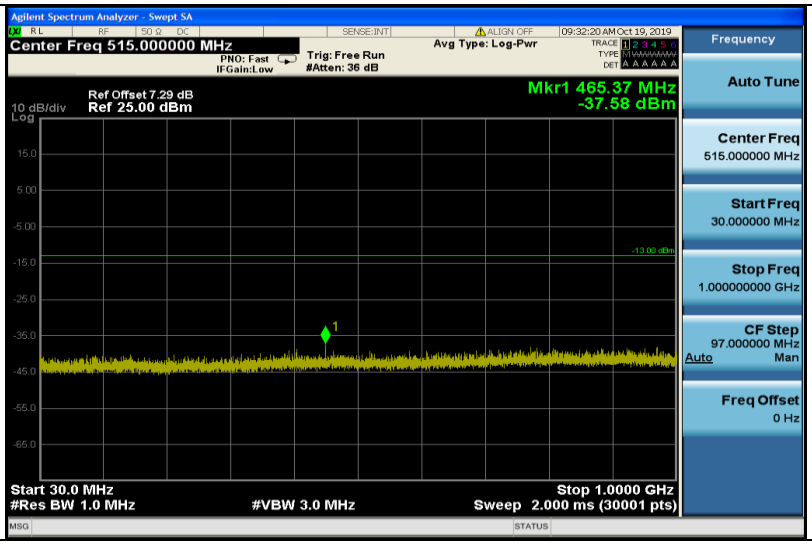
Band II-9400-12000~18000

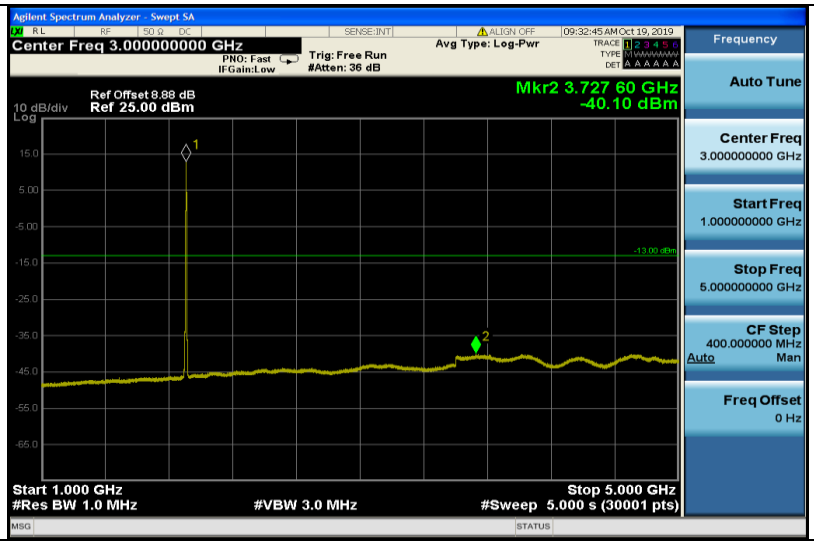
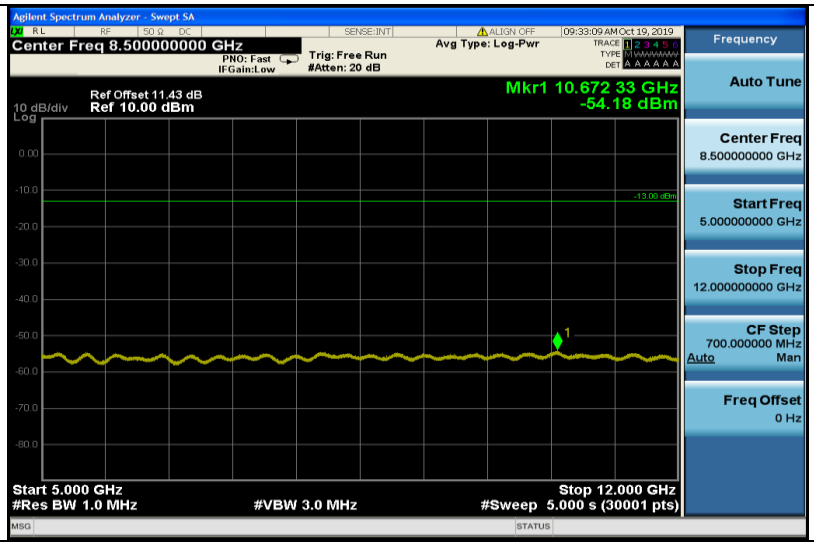
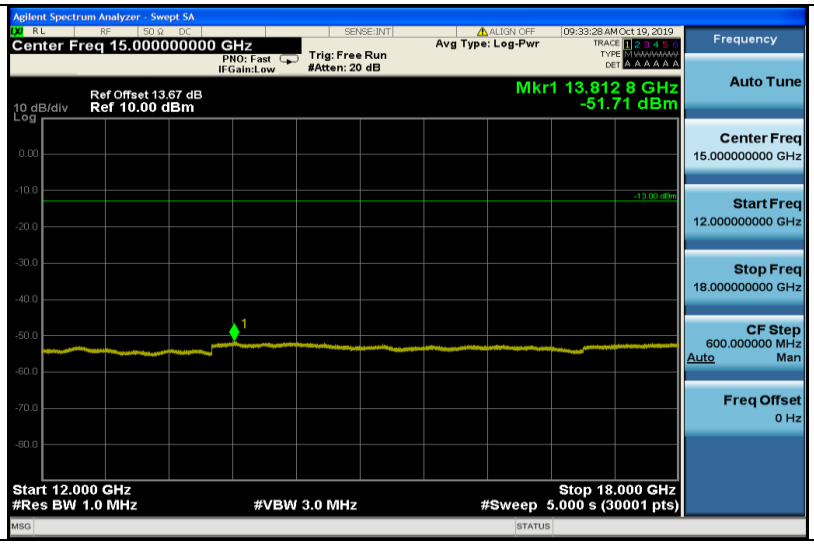


Band II-9538-15~30

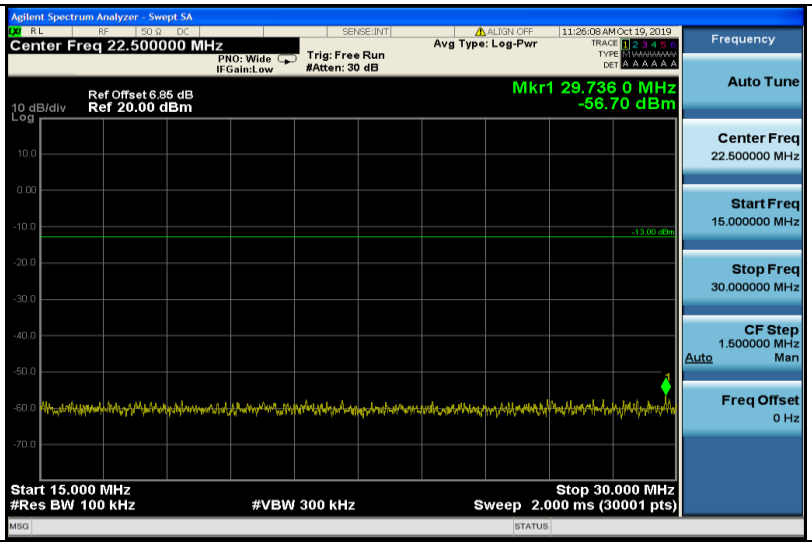
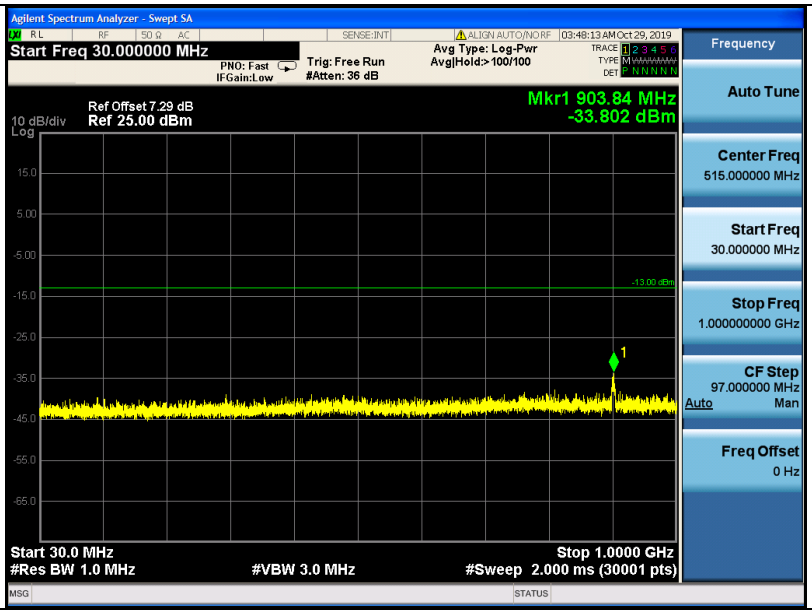
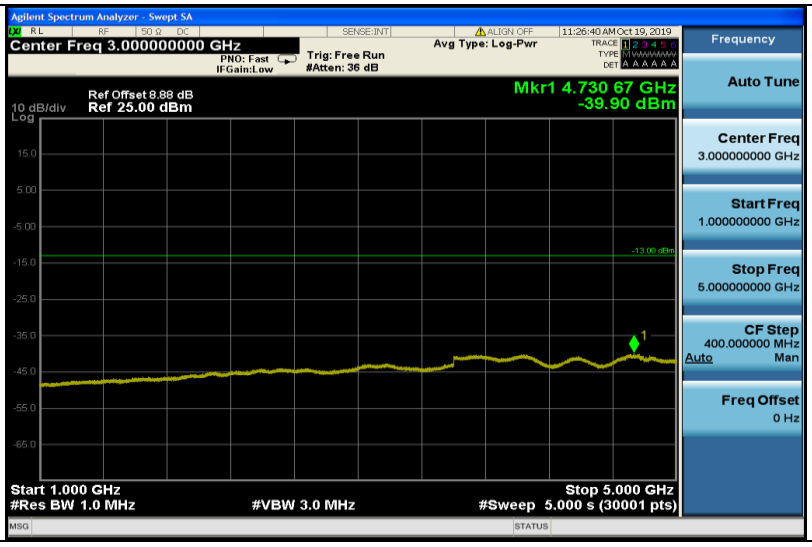


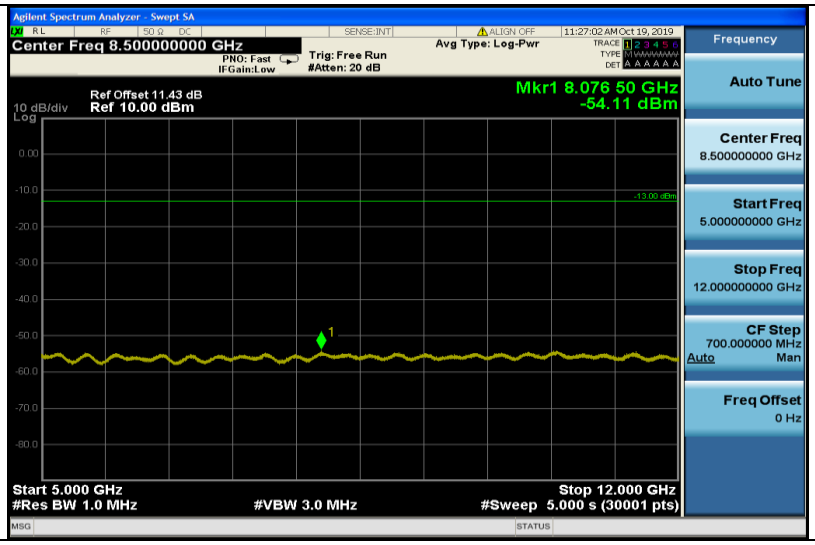
Band II-9538-30~1000

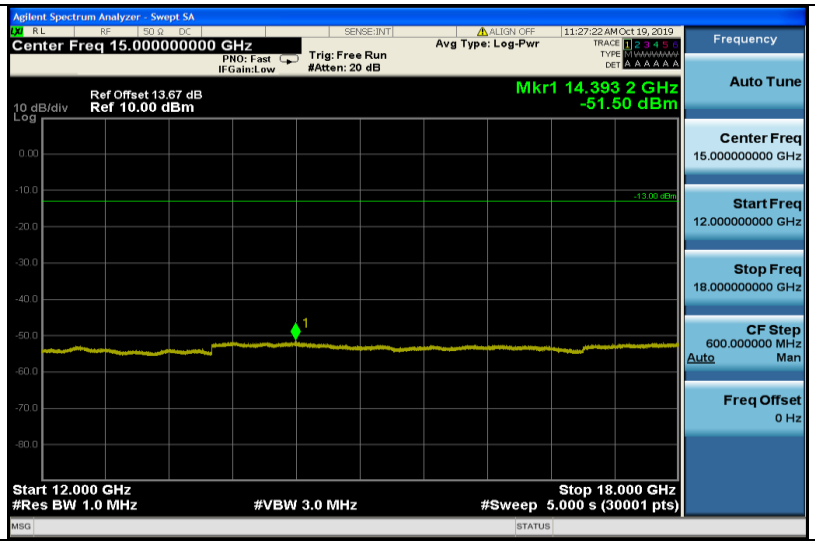
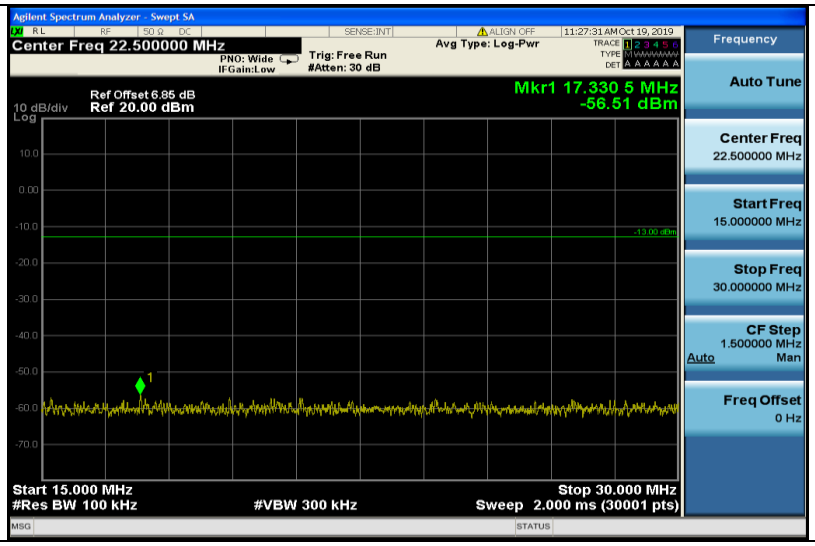
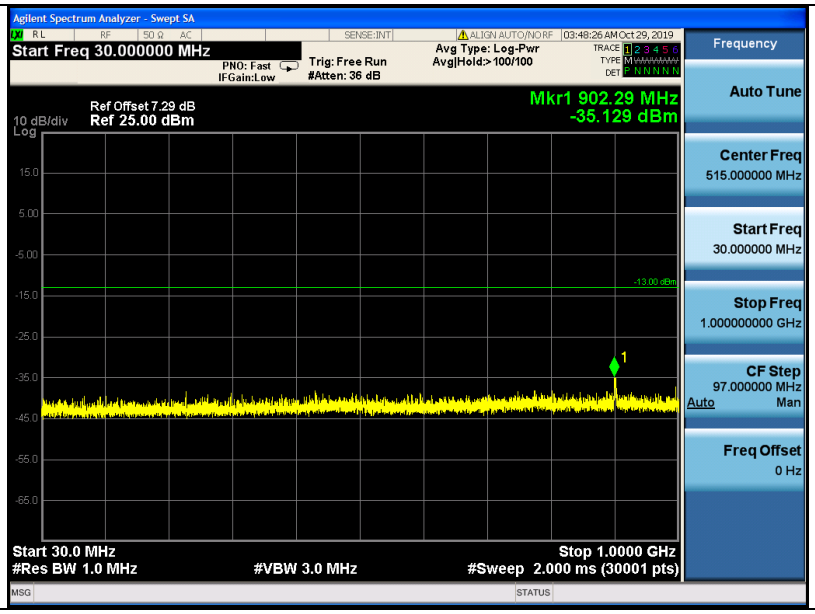


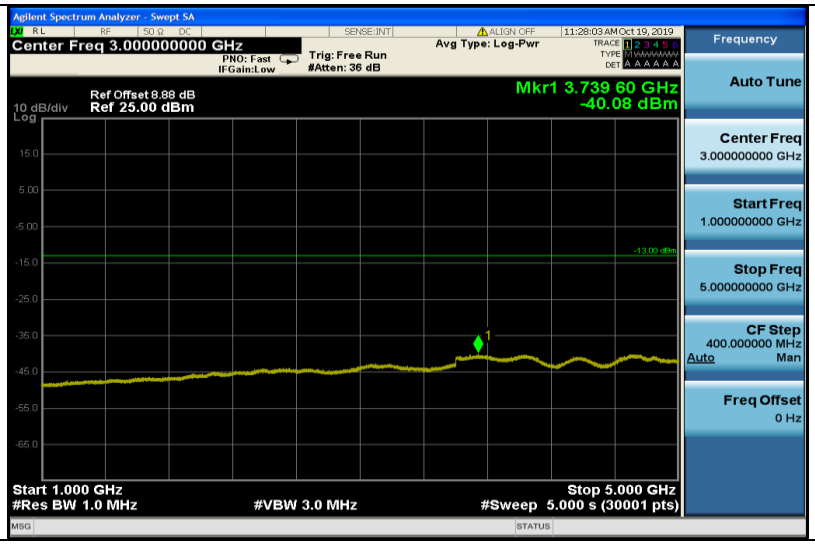
Band II-9538-1000~5000

Band II-9538-5000~12000

Band II-9538-12000~18000


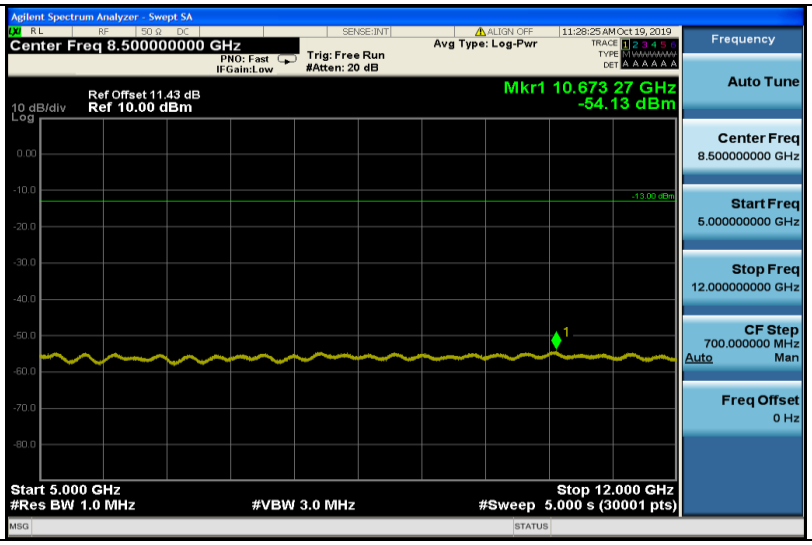
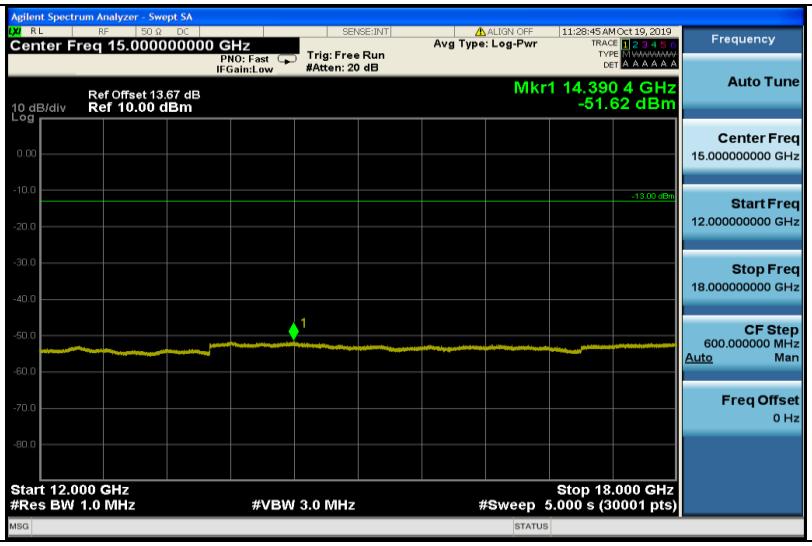
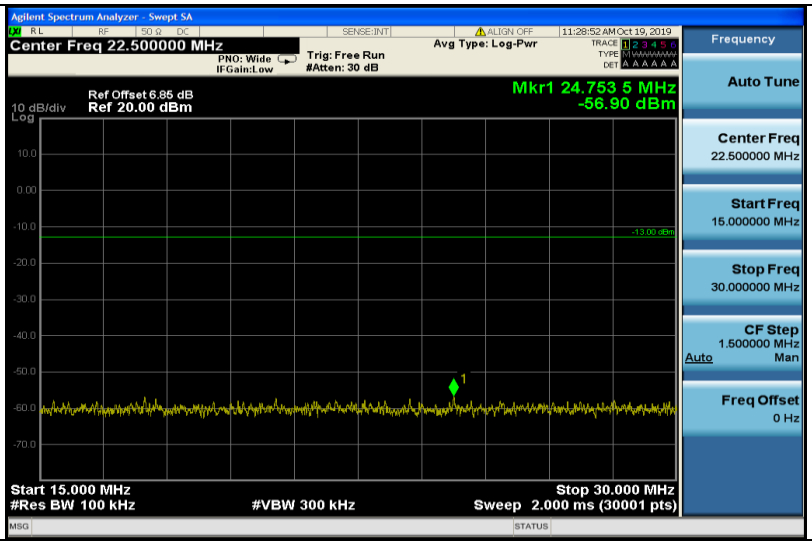
WCDMA Band V

Band V-4132-15~30

Band V-4132-30~1000

Band V-4132-1000~5000

Band V-4132-5000~12000

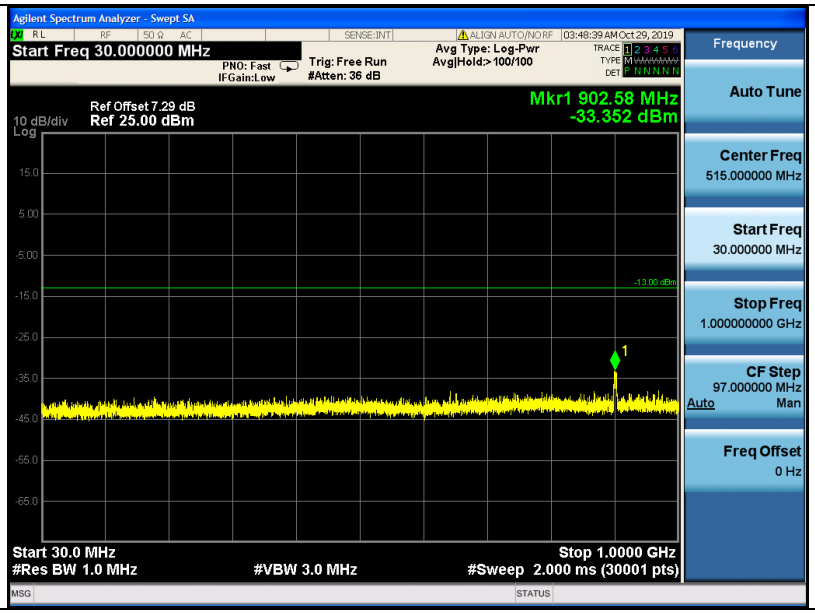

Agilent Spectrum Analyzer - Swept SA
Center Freq 8.500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
11:27:02 AM Oct 19, 2019
Ref Offset 11.43 dB
10 dB/div
Log
Ref 10.00 dBm
Mkr1 8.076 50 GHz
-54.11 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-13.00 dBm
Start 5.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 12.000 GHz
#Sweep 5.000 s (30001 pts)
Frequency
Auto Tune
Center Freq
8.500000000 GHz
Start Freq
5.000000000 GHz
Stop Freq
12.000000000 GHz
CF Step
700.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Band V-4132-12000~18000

Band V-4182-15~30

Band V-4182-30~1000

Band V-4182-1000~5000

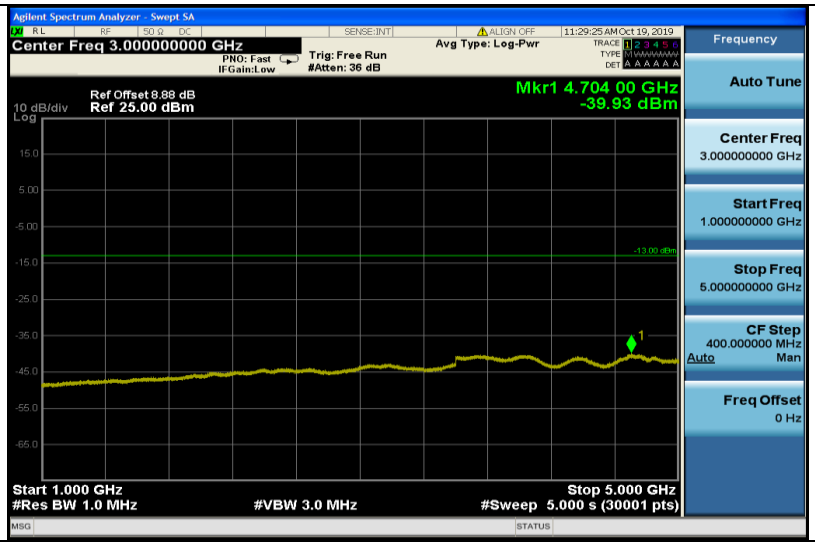

Agilent Spectrum Analyzer - Swept SA
Center Freq 3.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 36 dB
Avg Type: Log-Pwr
11:28:03 AM Oct 19, 2019
Frequency
Auto Tune
Ref Offset 8.88 dB
10 dB/div
Log
Ref 25.00 dBm
Mkr1 3.739 60 GHz
-40.08 dBm
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0
-13.00 dBm
Center Freq
3.000000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
5.000000000 GHz
CF Step
400.000000 MHz
Auto
Man
Freq Offset
0 Hz
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.000 GHz
#Sweep 5.000 s (30001 pts)
MSG
STATUS

Band V-4182-5000~12000

Band V-4182-12000~18000

Band V-4233-15~30


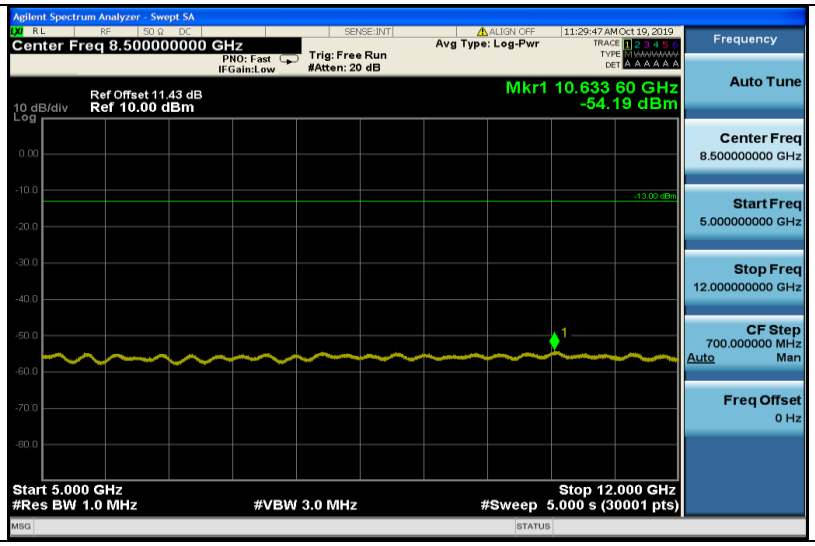
Band V-4233-30~1000



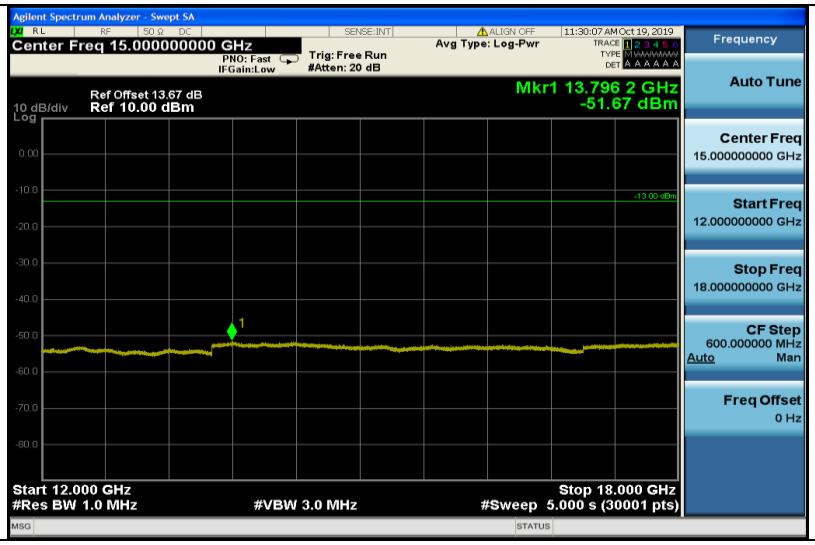
Band V-4233-1000~5000



Band V-4233-5000~12000



Band V-4233-12000~18000



Note: all modes of EUT have been tested; only the data of worst case mode is reported.

5.5 Band edge

5.5.1 Limits

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10log (P) dB, for all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm

5.5.2 Test method

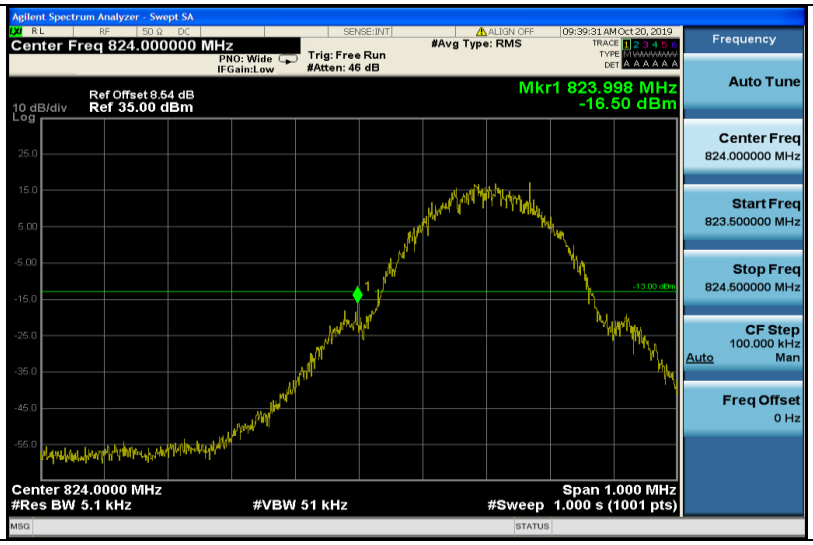
The testing follows FCC KDB 971168 D01v03r01 Section 6.0.
The EUT was connected to Spectrum Analyzer and Base Station via power divider.
The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
The band edges of low and high channels for the highest RF powers were measured.
The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)
= P(W) - [43 + 10log(P)] (dB)
= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
= -13dBm.

5.5.3 Test result

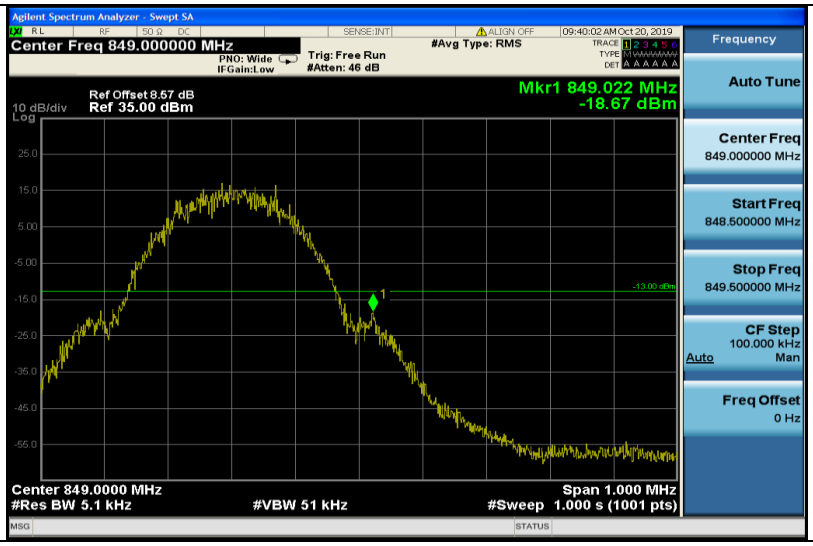
Band	Channel	Value(dBm)	Limit(dBm)	Verdict
GSM850	128	-16.50	-13	PASS
GSM850	251	-18.67	-13	PASS
GPRS850	128	-19.23	-13	PASS
GPRS850	251	-19.63	-13	PASS
GSM1900	512	-23.54	-13	PASS
GSM1900	810	-23.21	-13	PASS
GPRS1900	512	-23.91	-13	PASS
GPRS1900	810	-23.50	-13	PASS

Band	Channel	Value(dBm)	Limit(dBm)	Verdict
Band II	9262	-23.22	-13	PASS
Band II	9538	-25.53	-13	PASS
Band V	4132	-25.30	-13	PASS
Band V	4233	-26.10	-13	PASS

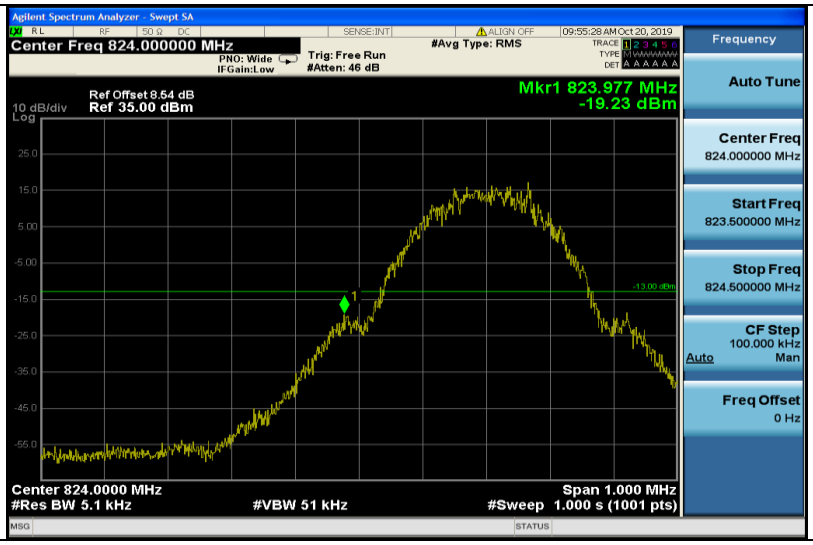
GSM850-128



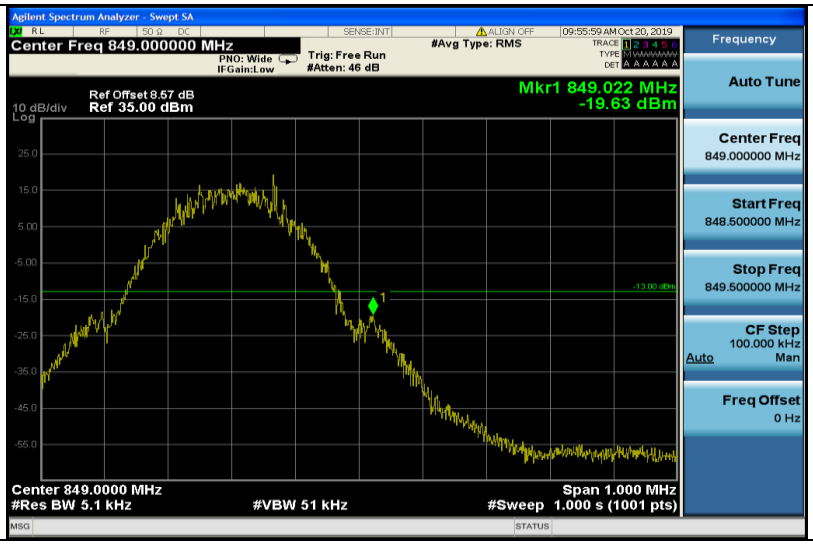
GSM850-251



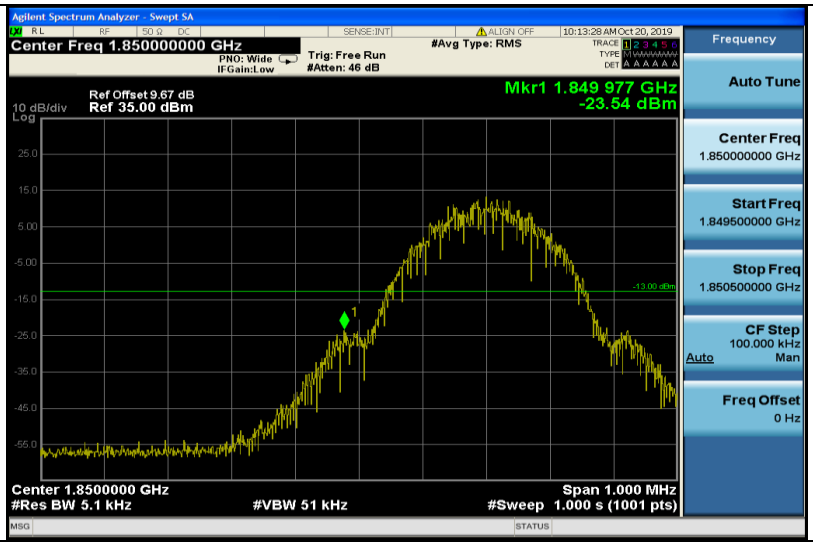
GPRS850-128



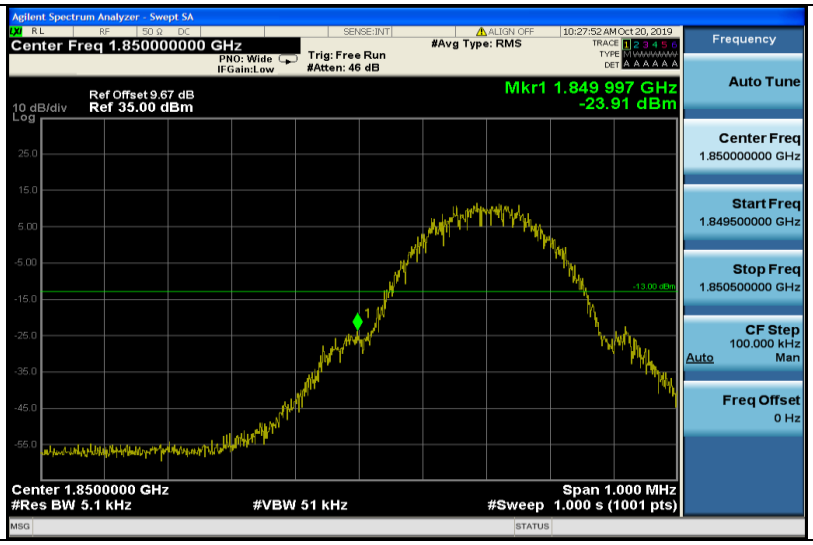
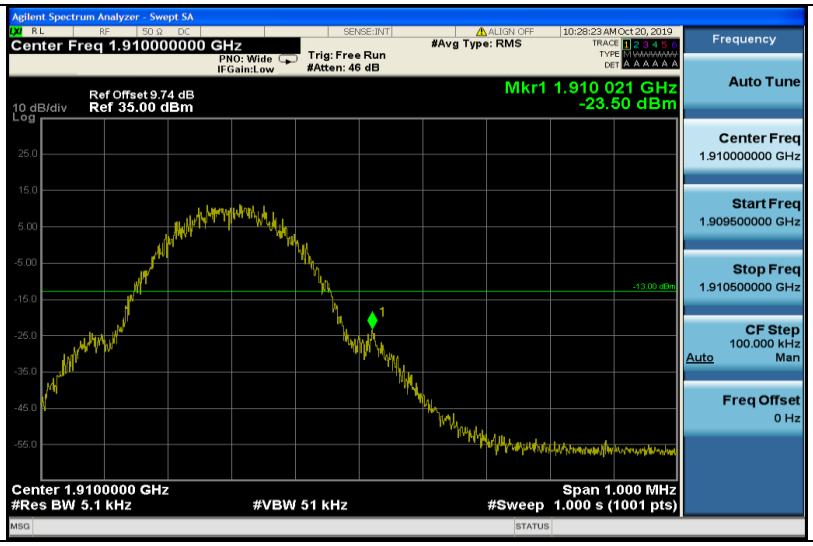
GPRS850-251



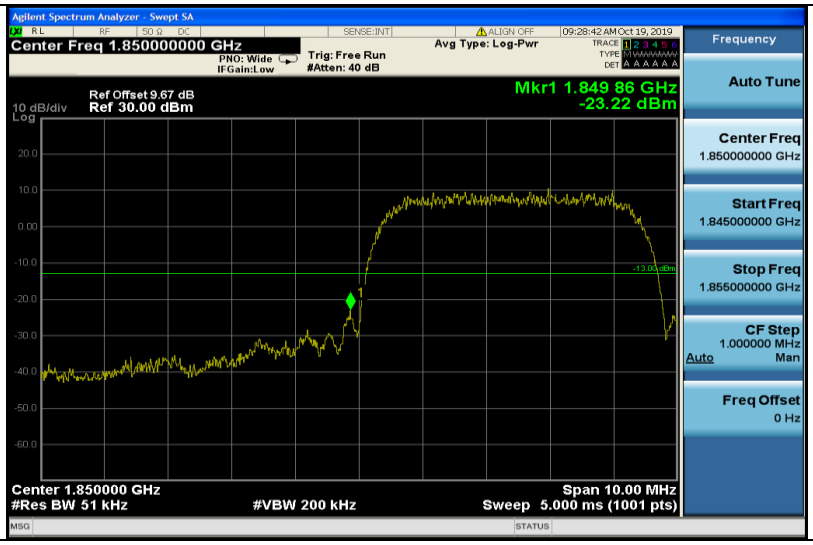
GSM1900-512



GSM1900-810

GPRS1900-512

GPRS1900-810


Band II-9262



Band II-9538

Band V-4132

Band V-4233


Note: all modes of EUT have been tested; only the data of worst case mode is reported.

5.6 Radiated spurious emission

5.6.1 Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10log (P) dB

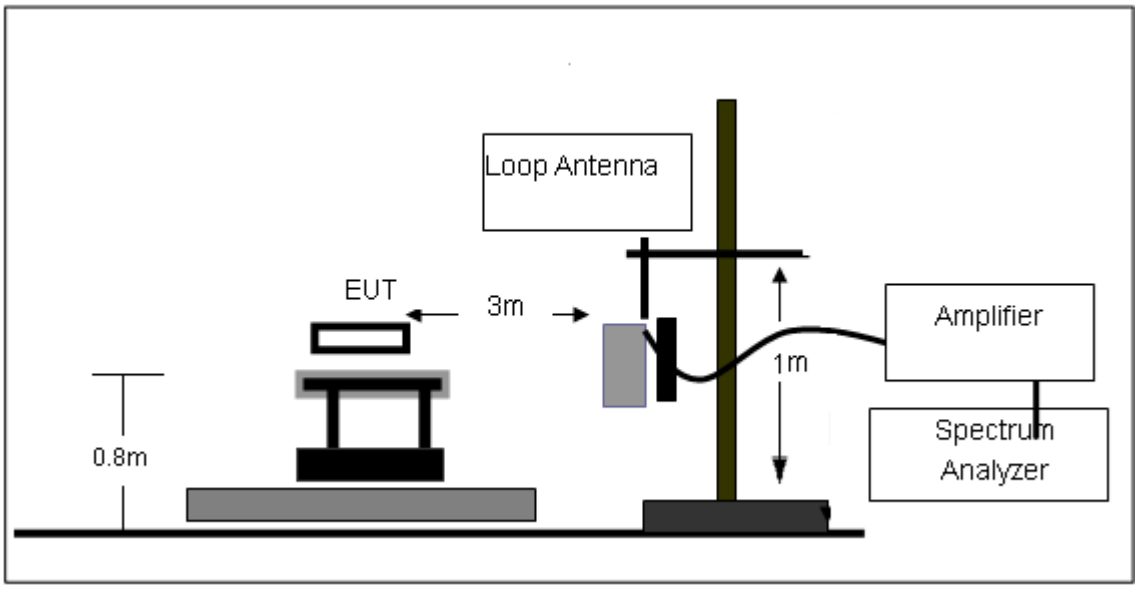
5.6.2 Test method

1. The test system setup as show in the block diagram above.
2. The EUT was placed on a non-conductive rotating platform in an anechoic chamber. The radiated spurious emissions from 30MHz to 10th harmonious of fundamental frequency were measured at 3 m with a test antenna and a spectrum analyzer with RBW=1 MHz, VBW=1 MHz, peak detector settings.
3. During the measurement, the EUT was enforced in maximum power and linked with a base station. All the spurious emissions at 3m were measured by rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
4. When found the maximum level of emissions from the EUT. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

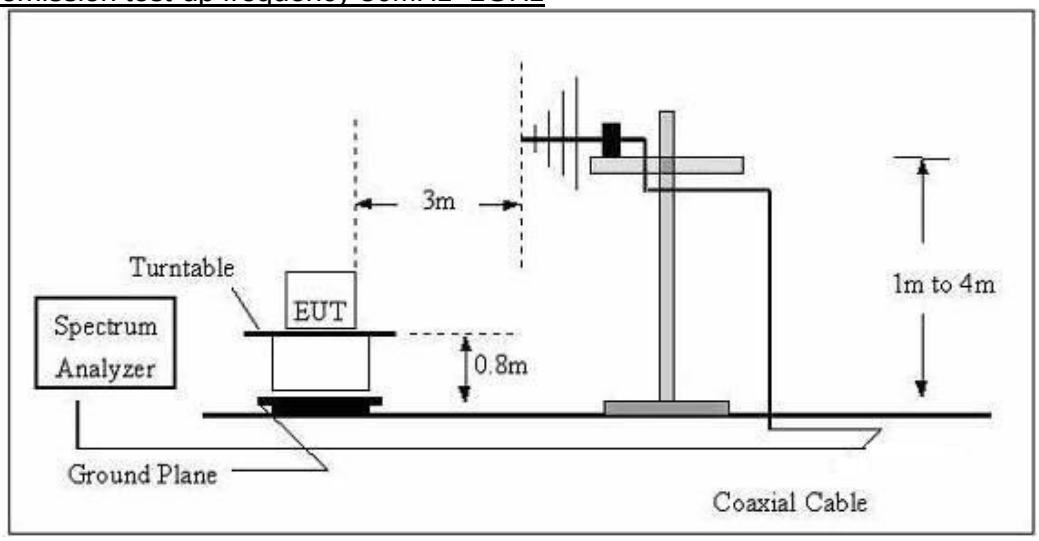
Spurious emissions in dB=10 log (TX power in Watts/0.001)-the absolute level
Spurious attenuation limit in dB=43+10 log (power out in Watts).

5.6.3 Test setup

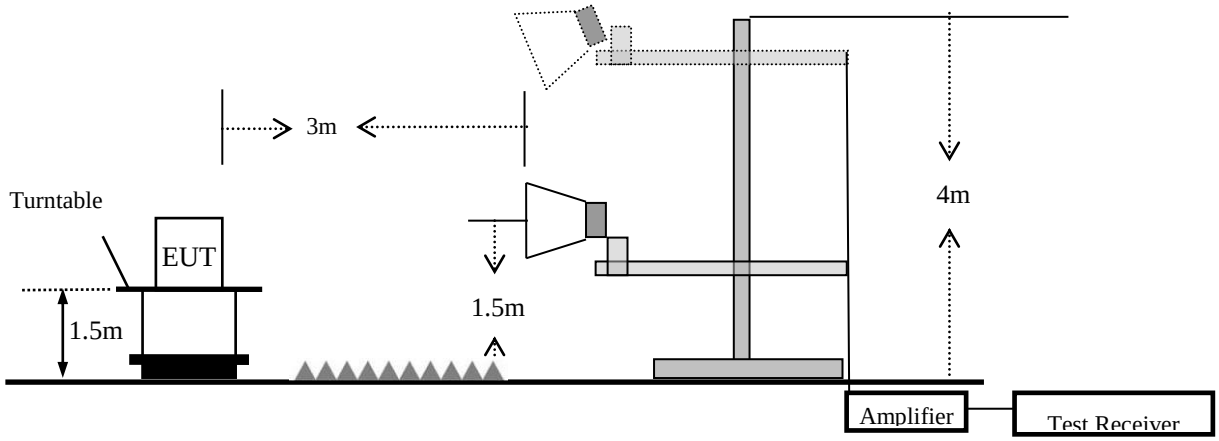
Radiated emission test-up frequency below 30MHz



Radiated emission test-up frequency 30MHz~1GHz



Radiated emission test-up frequency above 1GHz



5.6.4 Test Result

Note: All the configuration was tested and only the worse case was reported

For GSM850 (30MHz – 9GHz)

GSM850_ Low Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
1648.4	-42.02	5.98	3	1	-47.00	-13	-34.00	H
2472.6	-46.70	6.84	3	1	-52.54	-13	-39.54	H
1648.4	-37.28	5.98	3	1	-42.26	-13	-29.26	V
2472.6	-42.59	6.84	3	1	-48.43	-13	-35.43	V
GSM850_ Middle Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
1673.2	-39.40	5.98	3	1	-44.38	-13	-31.38	H
2509.8	-42.07	6.84	3	1	-47.91	-13	-34.91	H
1673.2	-34.93	5.98	3	1	-39.91	-13	-26.91	V
2509.8	-37.90	6.84	3	1	-43.74	-13	-30.74	V
GSM850_ High Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
1697.6	-45.98	5.98	3	1	-50.96	-13	-37.96	H
2546.4	-49.74	6.84	3	1	-55.58	-13	-42.58	H
1697.6	-41.00	5.98	3	1	-45.98	-13	-32.98	V
2546.4	-46.06	6.84	3	1	-51.90	-13	-38.90	V

GSM1900_ Low Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
3700.4	-43.44	5.26	3	1	-47.70	-13	-34.70	H
5550.6	-46.52	6.11	3	1	-51.63	-13	-38.63	H
3700.4	-44.87	5.26	3	1	-49.13	-13	-36.13	V
5550.6	-49.50	6.11	3	1	-54.61	-13	-41.61	V
GSM1900_ Middle Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
3760	-40.40	5.32	3	1	-44.72	-13	-31.72	H
5640	-44.86	6.19	3	1	-50.05	-13	-37.05	H
3760	-43.17	5.32	3	1	-47.49	-13	-34.49	V
5640	-47.76	6.19	3	1	-52.95	-13	-39.95	V
GSM1900_ High Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
3819.6	-46.50	5.36	3	1	-50.86	-13	-37.86	H
5729.4	-51.37	6.24	3	1	-56.61	-13	-43.61	H
3819.6	-50.14	5.36	3	1	-54.50	-13	-41.50	V
5729.4	-54.87	6.24	3	1	-60.11	-13	-47.11	V

GPRS850_ Low Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
1648.4	-48.99	3.86	3	1	-51.85	-13	-38.85	H
2472.6	-52.95	4.29	3	1	-56.24	-13	-43.24	H
1648.4	-44.42	3.86	3	1	-47.28	-13	-34.28	V
2472.6	-51.52	4.29	3	1	-54.81	-13	-41.81	V
GPRS850_ Middle Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
1673.2	-46.92	3.9	3	1	-49.82	-13	-36.82	H
2509.8	-52.43	4.32	3	1	-55.75	-13	-42.75	H
1673.2	-42.36	3.9	3	1	-45.26	-13	-32.26	V
2509.8	-49.13	4.32	3	1	-52.45	-13	-39.45	V
GPRS850_ High Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)			(dBm)	(dBm)	(dB)	
1697.6	-54.21	3.91	3	1	-57.12	-13	-44.12	H
2546.4	-54.94	4.32	3	1	-58.26	-13	-45.26	H
1697.6	-51.03	3.91	3	1	-53.94	-13	-40.94	V
2546.4	-51.30	4.32	3	1	-54.62	-13	-41.62	V

GPRS1900_ Low Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
3700.4	-50.98	5.26	3	1	-55.24	-13	-42.24	H
5550.6	-57.75	6.11	3	1	-62.86	-13	-49.86	H
3700.4	-54.42	5.26	3	1	-58.68	-13	-45.68	V
5550.6	-62.76	6.11	3	1	-67.87	-13	-54.87	V
GPRS1900_ Middle Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	EIRP(dBm)	(dBm)	(dB)	
3760	-47.63	5.32	3	1	-51.95	-13	-38.95	H
5640	-56.13	6.19	3	1	-61.32	-13	-48.32	H
3760	-50.02	5.32	3	1	-54.34	-13	-41.34	V
5640	-58.27	6.19	3	1	-63.46	-13	-50.46	V
GPRS1900_ High Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
3819.6	-59.60	5.36	3	1	-63.96	-13	-50.96	H
5729.4	-61.75	6.24	3	1	-66.99	-13	-53.99	H
3819.6	-60.58	5.36	3	1	-64.94	-13	-51.94	V
5729.4	-64.51	6.24	3	1	-69.75	-13	-56.75	V

WCDMA Band II _ Low Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
3704.8	-44.98	5.26	3	1	-49.24	-13	-36.24	H
5557.2	-49.26	6.11	3	1	-54.37	-13	-41.37	H
3704.8	-49.50	5.26	3	1	-53.76	-13	-40.76	V
5557.2	-56.33	6.11	3	1	-61.44	-13	-48.44	V
WCDMA Band II _ Middle Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
3760	-38.79	5.32	3	1	-43.11	-13	-30.11	H
5640	-48.47	6.19	3	1	-53.66	-13	-40.66	H
3760	-46.44	5.32	3	1	-50.76	-13	-37.76	V
5640	-54.55	6.19	3	1	-59.74	-13	-46.74	V
WCDMA Band II _ High Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
3815.2	-49.07	5.36	3	1	-53.43	-13	-40.43	H
5722.8	-54.78	6.24	3	1	-60.02	-13	-47.02	H
3815.2	-53.53	5.36	3	1	-57.89	-13	-44.89	V
5722.8	-57.64	6.24	3	1	-62.88	-13	-49.88	V

WCDMA Band V _ Low Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
1652.8	-46.27	3.86	3	1	-49.13	-13	-36.13	H
2479.2	-48.33	4.29	3	1	-51.62	-13	-38.62	H
1652.8	-42.57	3.86	3	1	-45.43	-13	-32.43	V
2479.2	-43.00	4.29	3	1	-46.29	-13	-33.29	V
WCDMA Band V _ Middle Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
1672.8	-44.54	3.9	3	1	-47.44	-13	-34.44	H
2509.2	-44.86	4.32	3	1	-48.18	-13	-35.18	H
1672.8	-39.02	3.9	3	1	-41.92	-13	-28.92	V
2509.2	-42.64	4.32	3	1	-45.96	-13	-32.96	V
WCDMA Band V _ High Channel								
Frequency	SG Level	Cable Loss	Diatance	Antenna Gain	Absolute Level	Limit	Margin	Polarization
(MHz)	(dBm)	(dB)		(dB)	(dBm)	(dBm)	(dB)	
1693.2	-47.33	3.91	3	1	-50.24	-13	-37.24	H
2539.8	-48.30	4.32	3	1	-51.62	-13	-38.62	H
1693.2	-43.59	3.91	3	1	-46.50	-13	-33.50	V
2539.8	-45.08	4.32	3	1	-48.40	-13	-35.40	V

5.7 Frequency stability

5.7.1 Limit

For FCC part 22.355: the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances 2.5ppm for mobile ≤ 3W condition.

For FCC part 24.235: The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.7.2 Test method

Test Procedures for Temperature Variation:

1, The EUT was set up in the thermal chamber and connected with the base station.
2, With power off, the temperature was decreased to -30℃ and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
3, With power off, the temperature was raised in 10℃ set up to 50℃ and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
4, measure the carrier frequency error.

Test Procedures for Voltage Variation:

1, The EUT was placed in a temperature chamber at 25±5℃ and connected with the base station.
2, Reduce the primary supply voltage to the battery operating end point.
3, measure the carrier frequency error.

5.7.3 Test Result

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VL	TN	-19.27	-0.023386	±2.5	PASS
GSM850	128	VN	TN	-17.31	-0.020996	±2.5	PASS
GSM850	128	VH	TN	-15.92	-0.019312	±2.5	PASS
GSM850	190	VL	TN	-18.47	-0.022074	±2.5	PASS
GSM850	190	VN	TN	-20.89	-0.024969	±2.5	PASS
GSM850	190	VH	TN	-21.63	-0.025856	±2.5	PASS
GSM850	251	VL	TN	-19.86	-0.023393	±2.5	PASS
GSM850	251	VN	TN	-18.47	-0.021757	±2.5	PASS
GSM850	251	VH	TN	-20.02	-0.023583	±2.5	PASS
GPRS850	128	VL	TN	-19.18	-0.023268	±2.5	PASS
GPRS850	128	VN	TN	-23.73	-0.028792	±2.5	PASS
GPRS850	128	VH	TN	-24.50	-0.029732	±2.5	PASS
GPRS850	190	VL	TN	-23.02	-0.027516	±2.5	PASS
GPRS850	190	VN	TN	-21.34	-0.025509	±2.5	PASS
GPRS850	190	VH	TN	-21.92	-0.026204	±2.5	PASS
GPRS850	251	VL	TN	-21.08	-0.024838	±2.5	PASS
GPRS850	251	VN	TN	-22.21	-0.026169	±2.5	PASS
GPRS850	251	VH	TN	-23.96	-0.028223	±2.5	PASS
GSM1900	512	VL	TN	-23.18	-0.012529	within1850-1910	PASS
GSM1900	512	VN	TN	-24.18	-0.013070	within1850-1910	PASS
GSM1900	512	VH	TN	-24.34	-0.013157	within1850-1910	PASS
GSM1900	661	VL	TN	-22.02	-0.011712	within1850-1910	PASS
GSM1900	661	VN	TN	-20.70	-0.011008	within1850-1910	PASS
GSM1900	661	VH	TN	-28.25	-0.015027	within1850-1910	PASS
GSM1900	810	VL	TN	-38.00	-0.019898	within1850-1910	PASS
GSM1900	810	VN	TN	-36.55	-0.019137	within1850-1910	PASS
GSM1900	810	VH	TN	-33.03	-0.017294	within1850-1910	PASS
GPRS1900	512	VL	TN	-26.86	-0.014518	within1850-1910	PASS
GPRS1900	512	VN	TN	-27.57	-0.014902	within1850-1910	PASS
GPRS1900	512	VH	TN	-28.54	-0.015426	within1850-1910	PASS
GPRS1900	661	VL	TN	-27.25	-0.014494	within1850-1910	PASS
GPRS1900	661	VN	TN	-30.22	-0.016074	within1850-1910	PASS
GPRS1900	661	VH	TN	-26.05	-0.013859	within1850-1910	PASS
GPRS1900	810	VL	TN	-37.58	-0.019678	within1850-1910	PASS
GPRS1900	810	VN	TN	-35.39	-0.018528	within1850-1910	PASS
GPRS1900	810	VH	TN	-38.65	-0.020236	within1850-1910	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VN	-30	-21.11	-0.025619	±2.5	PASS
GSM850	128	VN	-20	-21.41	-0.025971	±2.5	PASS
GSM850	128	VN	-10	-18.60	-0.022563	±2.5	PASS
GSM850	128	VN	0	-19.63	-0.023817	±2.5	PASS
GSM850	128	VN	10	-20.50	-0.024874	±2.5	PASS
GSM850	128	VN	20	-21.63	-0.026245	±2.5	PASS
GSM850	128	VN	30	-18.05	-0.021897	±2.5	PASS
GSM850	128	VN	40	-18.05	-0.021897	±2.5	PASS
GSM850	128	VN	50	-17.05	-0.020683	±2.5	PASS
GSM850	190	VN	-30	-19.57	-0.023387	±2.5	PASS
GSM850	190	VN	-20	-17.69	-0.021148	±2.5	PASS
GSM850	190	VN	-10	-21.41	-0.025586	±2.5	PASS
GSM850	190	VN	0	-18.98	-0.022692	±2.5	PASS
GSM850	190	VN	10	-19.82	-0.023695	±2.5	PASS
GSM850	190	VN	20	-20.08	-0.024004	±2.5	PASS
GSM850	190	VN	30	-20.57	-0.024583	±2.5	PASS
GSM850	190	VN	40	-19.63	-0.023464	±2.5	PASS
GSM850	190	VN	50	-18.89	-0.022576	±2.5	PASS
GSM850	251	VN	-30	-19.57	-0.023050	±2.5	PASS
GSM850	251	VN	-20	-20.53	-0.024192	±2.5	PASS
GSM850	251	VN	-10	-18.44	-0.021719	±2.5	PASS
GSM850	251	VN	0	-20.70	-0.024382	±2.5	PASS
GSM850	251	VN	10	-19.89	-0.023431	±2.5	PASS
GSM850	251	VN	20	-19.73	-0.023241	±2.5	PASS
GSM850	251	VN	30	-20.66	-0.024344	±2.5	PASS
GSM850	251	VN	40	-18.56	-0.021871	±2.5	PASS
GSM850	251	VN	50	-20.89	-0.024610	±2.5	PASS
GPRS850	128	VN	-30	-23.05	-0.027969	±2.5	PASS
GPRS850	128	VN	-20	-22.37	-0.027146	±2.5	PASS
GPRS850	128	VN	-10	-23.54	-0.028557	±2.5	PASS
GPRS850	128	VN	0	-23.63	-0.028674	±2.5	PASS
GPRS850	128	VN	10	-22.24	-0.026990	±2.5	PASS
GPRS850	128	VN	20	-19.34	-0.023464	±2.5	PASS
GPRS850	128	VN	30	-20.28	-0.024600	±2.5	PASS
GPRS850	128	VN	40	-22.18	-0.026911	±2.5	PASS
GPRS850	128	VN	50	-23.18	-0.028126	±2.5	PASS
GPRS850	190	VN	-30	-22.63	-0.027053	±2.5	PASS
GPRS850	190	VN	-20	-21.83	-0.026088	±2.5	PASS
GPRS850	190	VN	-10	-20.73	-0.024776	±2.5	PASS
GPRS850	190	VN	0	-21.11	-0.025239	±2.5	PASS
GPRS850	190	VN	10	-22.21	-0.026551	±2.5	PASS
GPRS850	190	VN	20	-23.12	-0.027632	±2.5	PASS
GPRS850	190	VN	30	-22.66	-0.027091	±2.5	PASS
GPRS850	190	VN	40	-21.05	-0.025162	±2.5	PASS
GPRS850	190	VN	50	-23.73	-0.028365	±2.5	PASS
GPRS850	251	VN	-30	-22.96	-0.027044	±2.5	PASS
GPRS850	251	VN	-20	-21.60	-0.025447	±2.5	PASS
GPRS850	251	VN	-10	-22.24	-0.026208	±2.5	PASS

GPRS850	251	VN	0	-21.18	-0.024952	±2.5	PASS
GPRS850	251	VN	10	-21.31	-0.025104	±2.5	PASS
GPRS850	251	VN	20	-23.92	-0.028185	±2.5	PASS
GPRS850	251	VN	30	-23.41	-0.027577	±2.5	PASS
GPRS850	251	VN	40	-22.99	-0.027082	±2.5	PASS
GPRS850	251	VN	50	-20.76	-0.024458	±2.5	PASS
GSM1900	512	VN	-30	-25.05	-0.013541	within1850-1910	PASS
GSM1900	512	VN	-20	-24.21	-0.013087	within1850-1910	PASS
GSM1900	512	VN	-10	-23.12	-0.012494	within1850-1910	PASS
GSM1900	512	VN	0	-22.73	-0.012285	within1850-1910	PASS
GSM1900	512	VN	10	-22.50	-0.012163	within1850-1910	PASS
GSM1900	512	VN	20	-28.54	-0.015426	within1850-1910	PASS
GSM1900	512	VN	30	-21.05	-0.011377	within1850-1910	PASS
GSM1900	512	VN	40	-24.57	-0.013279	within1850-1910	PASS
GSM1900	512	VN	50	-26.54	-0.014344	within1850-1910	PASS
GSM1900	661	VN	-30	-21.21	-0.011283	within1850-1910	PASS
GSM1900	661	VN	-20	-22.12	-0.011764	within1850-1910	PASS
GSM1900	661	VN	-10	-24.96	-0.013275	within1850-1910	PASS
GSM1900	661	VN	0	-21.95	-0.011678	within1850-1910	PASS
GSM1900	661	VN	10	-23.21	-0.012348	within1850-1910	PASS
GSM1900	661	VN	20	-24.73	-0.013155	within1850-1910	PASS
GSM1900	661	VN	30	-22.86	-0.012159	within1850-1910	PASS
GSM1900	661	VN	40	-22.31	-0.011867	within1850-1910	PASS
GSM1900	661	VN	50	-22.76	-0.012107	within1850-1910	PASS
GSM1900	810	VN	-30	-36.10	-0.018900	within1850-1910	PASS
GSM1900	810	VN	-20	-35.09	-0.018376	within1850-1910	PASS
GSM1900	810	VN	-10	-38.36	-0.020084	within1850-1910	PASS
GSM1900	810	VN	0	-37.35	-0.019559	within1850-1910	PASS
GSM1900	810	VN	10	-30.74	-0.016094	within1850-1910	PASS
GSM1900	810	VN	20	-38.10	-0.019948	within1850-1910	PASS
GSM1900	810	VN	30	-32.54	-0.017041	within1850-1910	PASS
GSM1900	810	VN	40	-36.55	-0.019137	within1850-1910	PASS
GSM1900	810	VN	50	-34.00	-0.017801	within1850-1910	PASS
GPRS1900	512	VN	-30	-28.73	-0.015530	within1850-1910	PASS
GPRS1900	512	VN	-20	-26.41	-0.014274	within1850-1910	PASS
GPRS1900	512	VN	-10	-28.02	-0.015147	within1850-1910	PASS
GPRS1900	512	VN	0	-24.83	-0.013419	within1850-1910	PASS
GPRS1900	512	VN	10	-27.31	-0.014763	within1850-1910	PASS
GPRS1900	512	VN	20	-28.31	-0.015304	within1850-1910	PASS
GPRS1900	512	VN	30	-26.70	-0.014431	within1850-1910	PASS
GPRS1900	512	VN	40	-26.86	-0.014518	within1850-1910	PASS
GPRS1900	512	VN	50	-22.28	-0.012040	within1850-1910	PASS
GPRS1900	661	VN	-30	-26.86	-0.014288	within1850-1910	PASS
GPRS1900	661	VN	-20	-21.73	-0.011558	within1850-1910	PASS
GPRS1900	661	VN	-10	-24.12	-0.012828	within1850-1910	PASS
GPRS1900	661	VN	0	-25.25	-0.013430	within1850-1910	PASS
GPRS1900	661	VN	10	-25.70	-0.013670	within1850-1910	PASS
GPRS1900	661	VN	20	-27.02	-0.014374	within1850-1910	PASS
GPRS1900	661	VN	30	-24.02	-0.012777	within1850-1910	PASS
GPRS1900	661	VN	40	-23.12	-0.012296	within1850-1910	PASS
GPRS1900	661	VN	50	-29.22	-0.015542	within1850-1910	PASS
GPRS1900	810	VN	-30	-37.45	-0.019610	within1850-1910	PASS

GPRS1900	810	VN	-20	-36.71	-0.019221	within1850-1910	PASS
GPRS1900	810	VN	-10	-40.84	-0.021385	within1850-1910	PASS
GPRS1900	810	VN	0	-42.55	-0.022281	within1850-1910	PASS
GPRS1900	810	VN	10	-38.94	-0.020388	within1850-1910	PASS
GPRS1900	810	VN	20	-40.10	-0.020996	within1850-1910	PASS
GPRS1900	810	VN	30	-38.16	-0.019982	within1850-1910	PASS
GPRS1900	810	VN	40	-39.68	-0.020777	within1850-1910	PASS
GPRS1900	810	VN	50	-42.52	-0.022264	within1850-1910	PASS

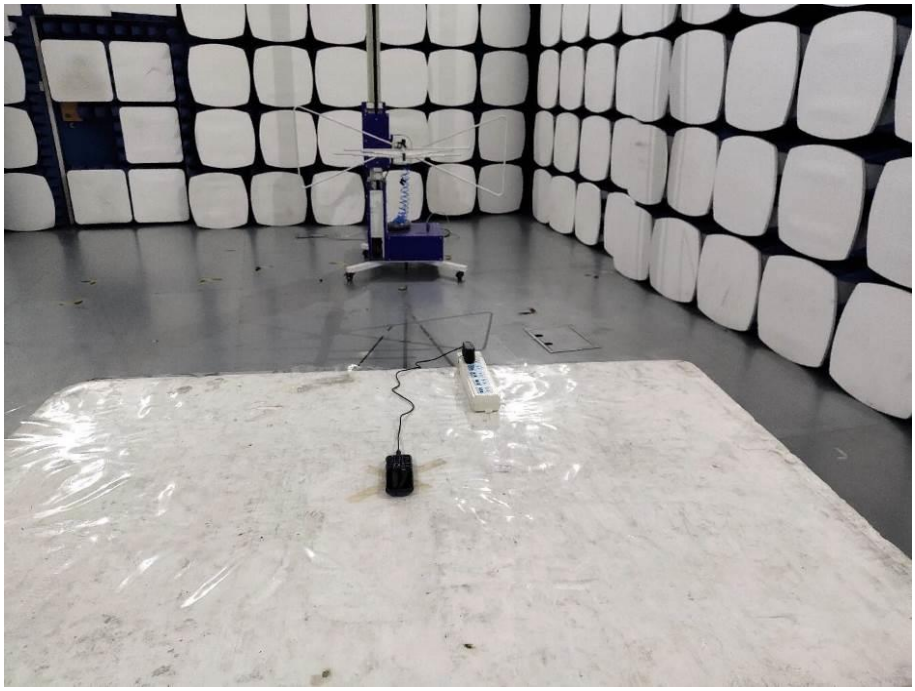
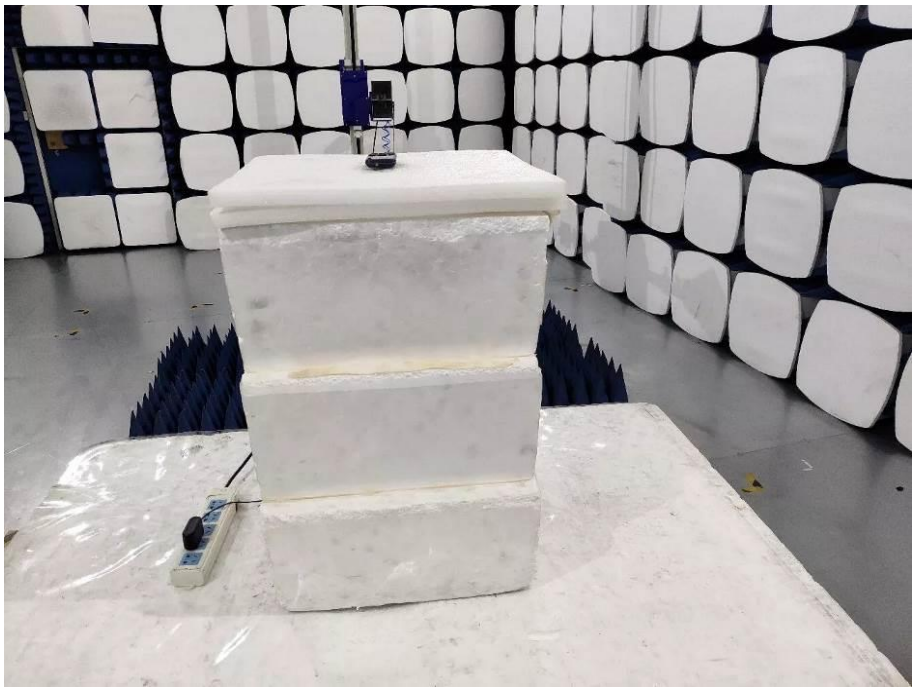
Voltage							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	9262	VL	TN	2.98	0.001606	within1850-1910	PASS
Band II	9262	VN	TN	3.35	0.001811	within1850-1910	PASS
Band II	9262	VH	TN	4.58	0.002471	within1850-1910	PASS
Band II	9400	VL	TN	6.24	0.003321	within1850-1910	PASS
Band II	9400	VN	TN	3.61	0.001921	within1850-1910	PASS
Band II	9400	VH	TN	3.93	0.002093	within1850-1910	PASS
Band II	9538	VL	TN	-5.86	-0.003071	within1850-1910	PASS
Band II	9538	VN	TN	9.69	0.005081	within1850-1910	PASS
Band II	9538	VH	TN	4.90	0.002568	within1850-1910	PASS
Band V	4132	VL	TN	-2.85	-0.003445	±2.5	PASS
Band V	4132	VN	TN	-3.20	-0.003869	±2.5	PASS
Band V	4132	VH	TN	0.01	0.000009	±2.5	PASS
Band V	4182	VL	TN	-0.12	-0.000145	±2.5	PASS
Band V	4182	VN	TN	-2.04	-0.002437	±2.5	PASS
Band V	4182	VH	TN	-1.87	-0.002241	±2.5	PASS
Band V	4233	VL	TN	0.80	0.000946	±2.5	PASS
Band V	4233	VN	TN	4.70	0.005551	±2.5	PASS
Band V	4233	VH	TN	1.31	0.001546	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	9262	VN	-30	5.19	0.002803	within1850-1910	PASS
Band II	9262	VN	-20	5.72	0.003089	within1850-1910	PASS
Band II	9262	VN	-10	6.07	0.003278	within1850-1910	PASS
Band II	9262	VN	0	11.62	0.006275	within1850-1910	PASS
Band II	9262	VN	10	10.08	0.005440	within1850-1910	PASS
Band II	9262	VN	20	8.67	0.004680	within1850-1910	PASS
Band II	9262	VN	30	9.08	0.004900	within1850-1910	PASS
Band II	9262	VN	40	4.88	0.002633	within1850-1910	PASS
Band II	9262	VN	50	0.62	0.000332	within1850-1910	PASS
Band II	9400	VN	-30	7.75	0.004124	within1850-1910	PASS
Band II	9400	VN	-20	7.74	0.004117	within1850-1910	PASS
Band II	9400	VN	-10	7.39	0.003930	within1850-1910	PASS
Band II	9400	VN	0	2.32	0.001236	within1850-1910	PASS
Band II	9400	VN	10	5.94	0.003158	within1850-1910	PASS
Band II	9400	VN	20	1.64	0.000871	within1850-1910	PASS
Band II	9400	VN	30	6.74	0.003588	within1850-1910	PASS
Band II	9400	VN	40	10.01	0.005323	within1850-1910	PASS
Band II	9400	VN	50	7.23	0.003846	within1850-1910	PASS
Band II	9538	VN	-30	3.09	0.001620	within1850-1910	PASS
Band II	9538	VN	-20	-0.54	-0.000281	within1850-1910	PASS
Band II	9538	VN	-10	7.47	0.003914	within1850-1910	PASS
Band II	9538	VN	0	2.91	0.001526	within1850-1910	PASS
Band II	9538	VN	10	3.68	0.001927	within1850-1910	PASS
Band II	9538	VN	20	8.45	0.004428	within1850-1910	PASS
Band II	9538	VN	30	3.68	0.001927	within1850-1910	PASS
Band II	9538	VN	40	6.02	0.003153	within1850-1910	PASS
Band II	9538	VN	50	4.53	0.002373	within1850-1910	PASS
Band V	4132	VN	-30	-4.57	-0.005531	±2.5	PASS
Band V	4132	VN	-20	-7.01	-0.008482	±2.5	PASS
Band V	4132	VN	-10	-3.42	-0.004137	±2.5	PASS
Band V	4132	VN	0	-6.06	-0.007331	±2.5	PASS
Band V	4132	VN	10	-4.86	-0.005885	±2.5	PASS
Band V	4132	VN	20	-7.90	-0.009564	±2.5	PASS
Band V	4132	VN	30	-5.51	-0.006673	±2.5	PASS
Band V	4132	VN	40	-6.10	-0.007383	±2.5	PASS
Band V	4132	VN	50	-3.27	-0.003955	±2.5	PASS
Band V	4182	VN	-30	-0.44	-0.000522	±2.5	PASS
Band V	4182	VN	-20	-0.58	-0.000693	±2.5	PASS
Band V	4182	VN	-10	-0.57	-0.000676	±2.5	PASS
Band V	4182	VN	0	-1.60	-0.001916	±2.5	PASS
Band V	4182	VN	10	-1.37	-0.001642	±2.5	PASS
Band V	4182	VN	20	-6.39	-0.007645	±2.5	PASS
Band V	4182	VN	30	2.14	0.002557	±2.5	PASS
Band V	4182	VN	40	-2.35	-0.002813	±2.5	PASS
Band V	4182	VN	50	-5.82	-0.006952	±2.5	PASS
Band V	4233	VN	-30	5.64	0.006657	±2.5	PASS
Band V	4233	VN	-20	6.17	0.007291	±2.5	PASS
Band V	4233	VN	-10	3.39	0.004005	±2.5	PASS

Band V	4233	VN	0	2.07	0.002442	±2.5	PASS
Band V	4233	VN	10	3.72	0.004393	±2.5	PASS
Band V	4233	VN	20	-0.87	-0.001031	±2.5	PASS
Band V	4233	VN	30	0.19	0.000228	±2.5	PASS
Band V	4233	VN	40	3.87	0.004571	±2.5	PASS
Band V	4233	VN	50	3.47	0.004098	±2.5	PASS

Note:
1. Normal Voltage = 3.7V; Battery End Point (BEP) = 3.33V; Maximum Voltage =4.07V
2. All modes of EUT have been tested; only the data of worst case mode is reported.

Photographs of the Test Setup

Radiated emission



Photographs of the EUT

See the APPENDIX 1: EUT PHOTO in the report No.: MTi19070905-2E1-1.

----END OF REPORT----