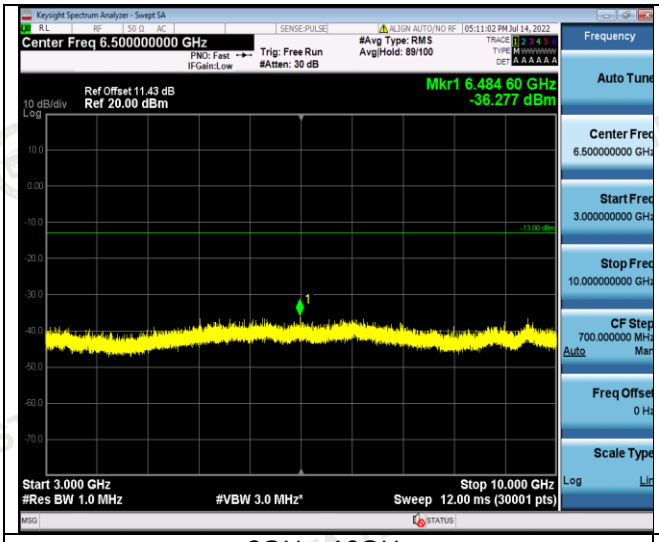
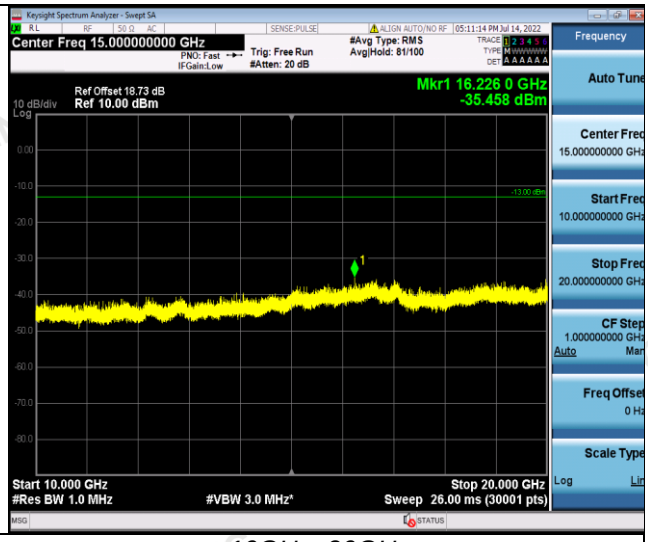
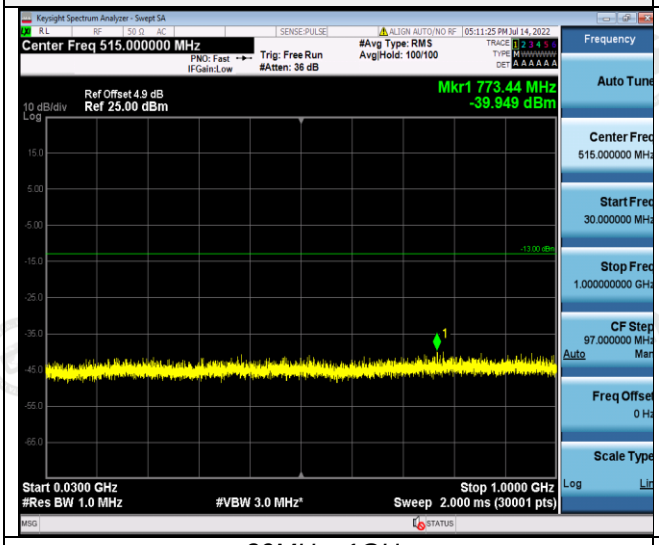


3GHz~10GHz

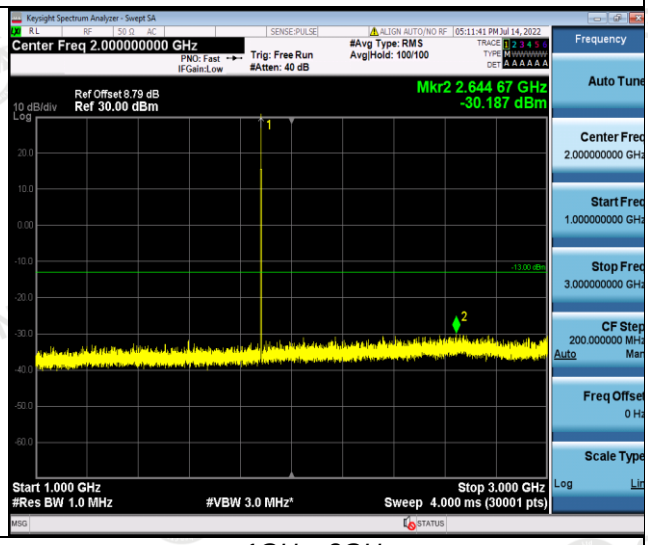


10GHz~20GHz

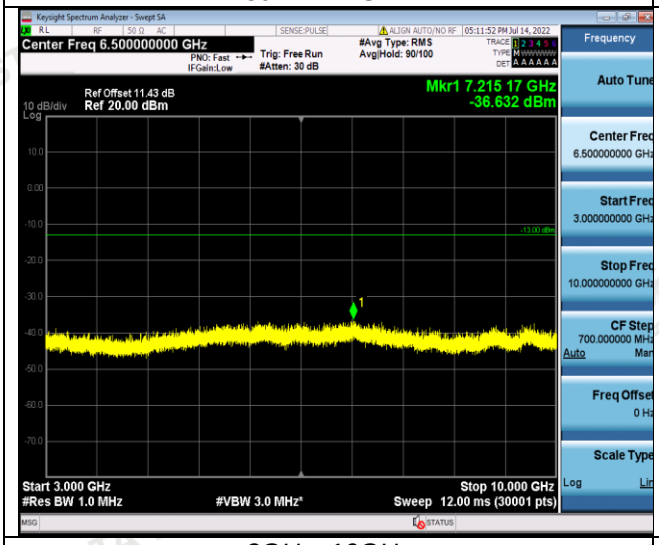
Channel: 810



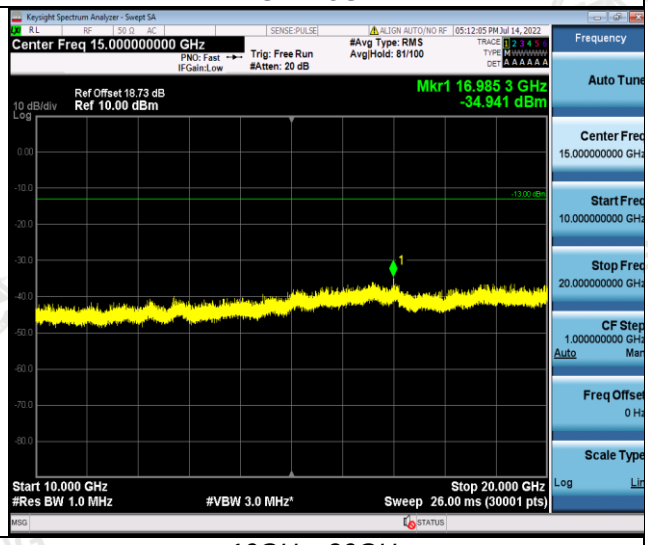
30MHz~1GHz



1GHz~3GHz

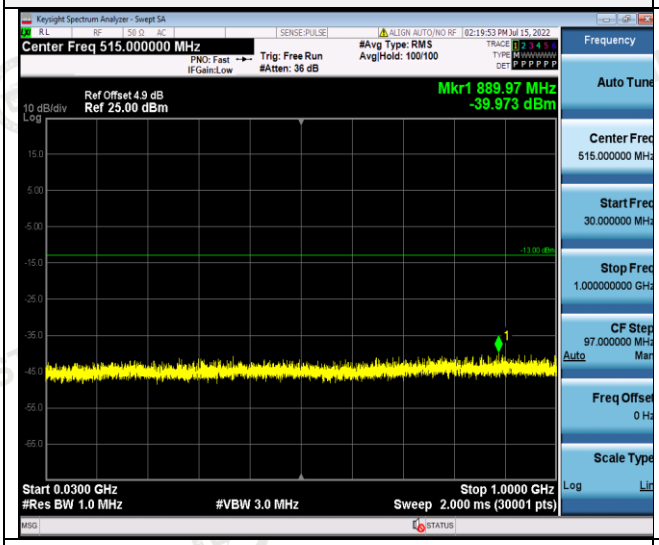
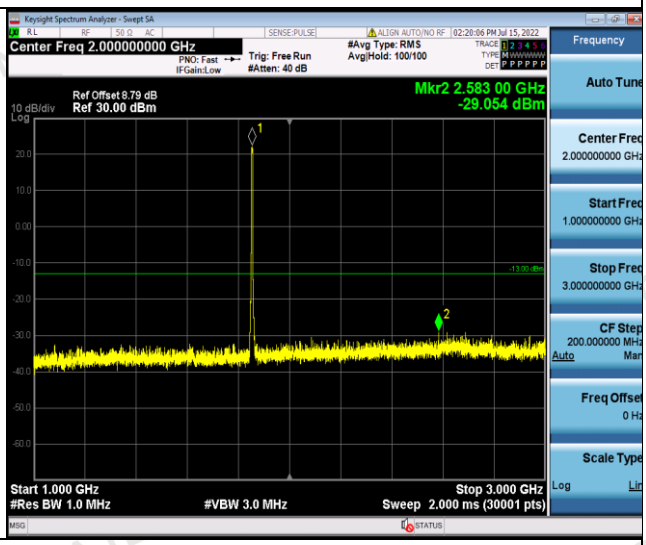
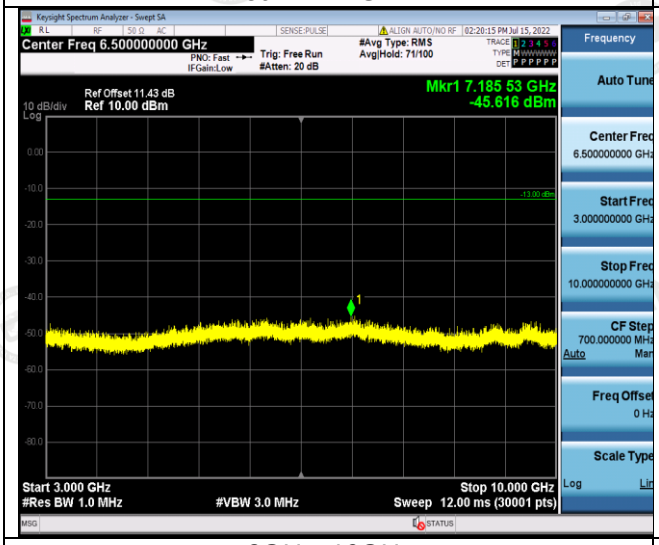
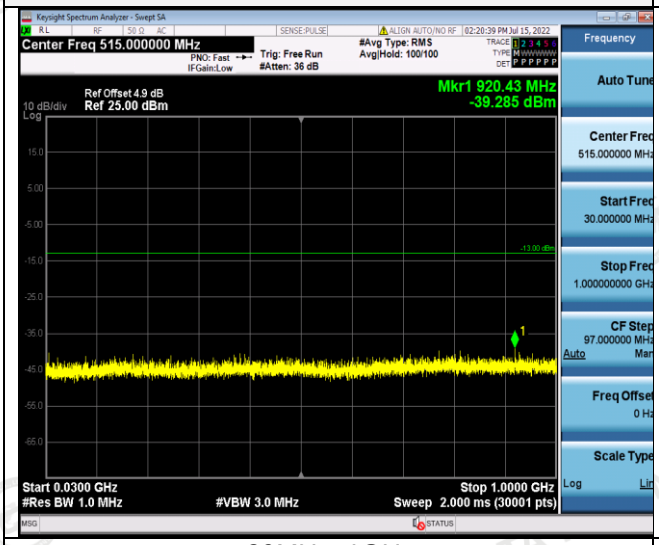
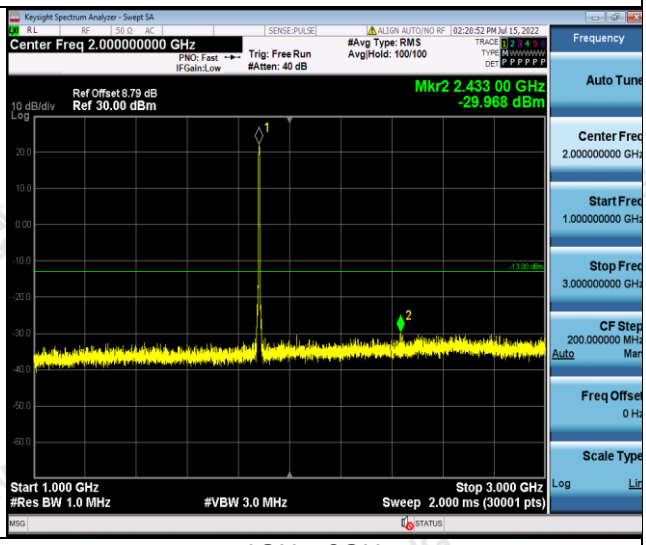


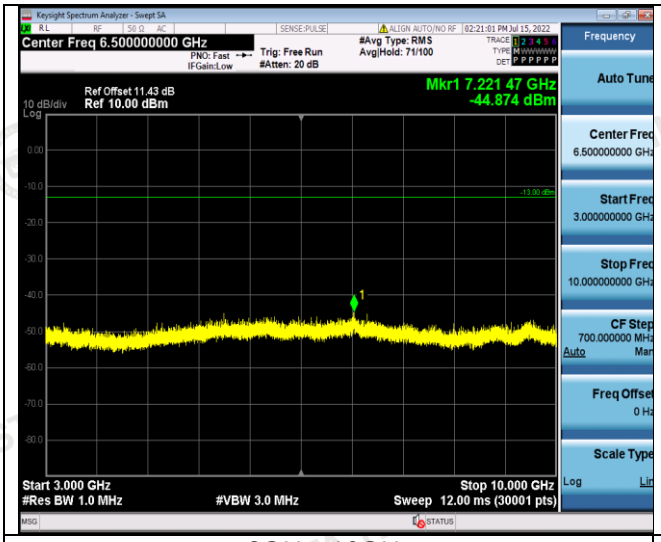
3GHz~10GHz



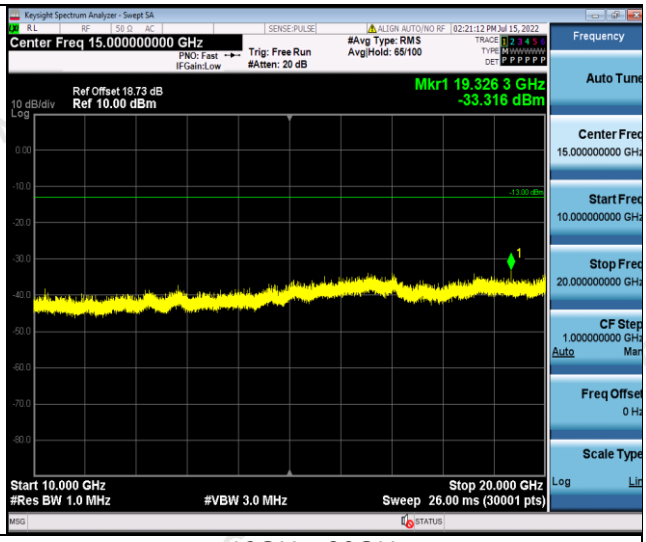
10GHz~20GHz

WCDMA Band II

Channel:	9262
	
30MHz~1GHz	*1GHz~3GHz*
	
3GHz~10GHz	*10GHz~20GHz*
Channel:	*9400*
	
30MHz~1GHz	*1GHz~3GHz*

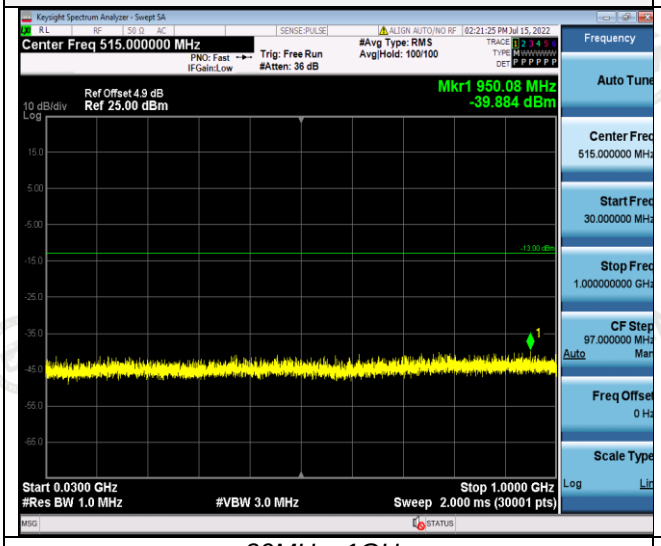


3GHz~10GHz

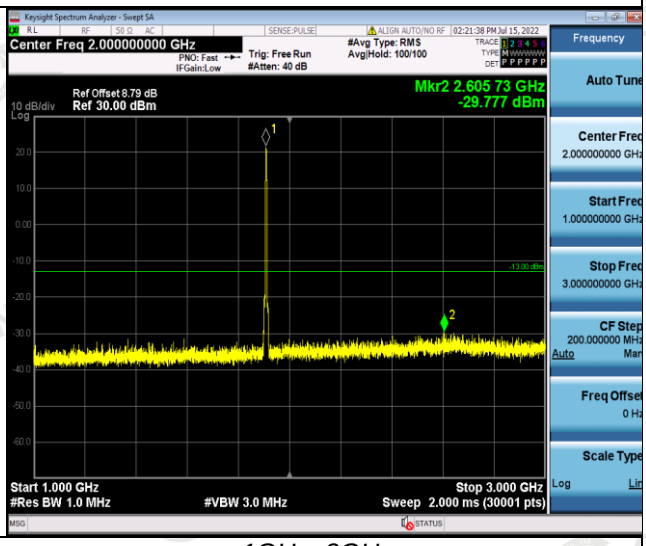


10GHz~20GHz

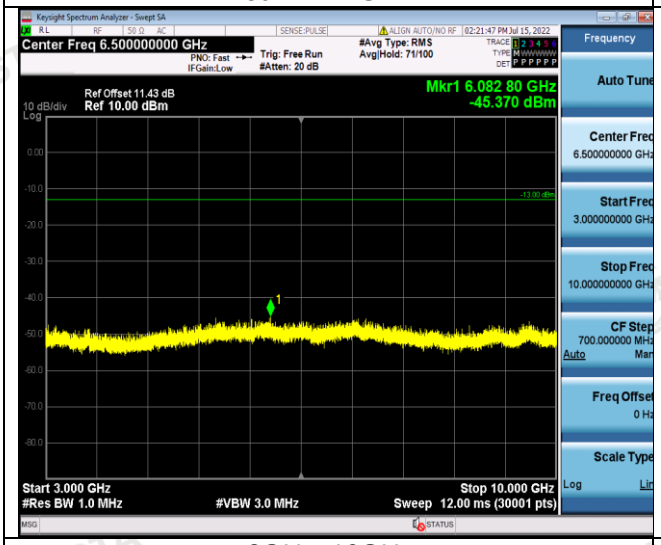
Channel: 9538



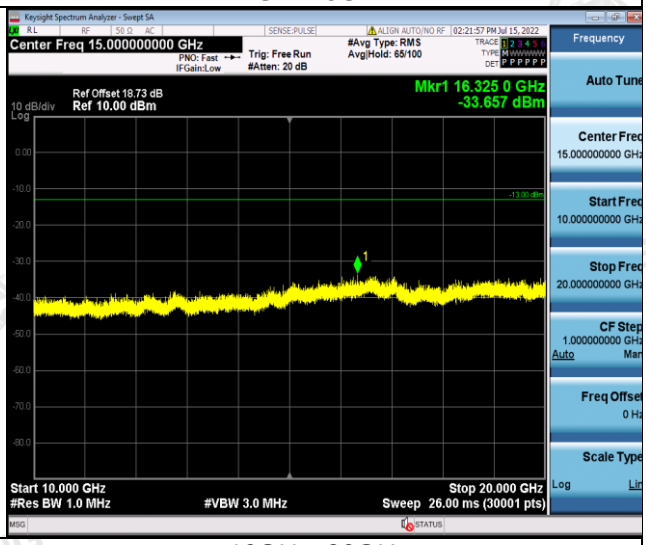
30MHz~1GHz



1GHz~3GHz

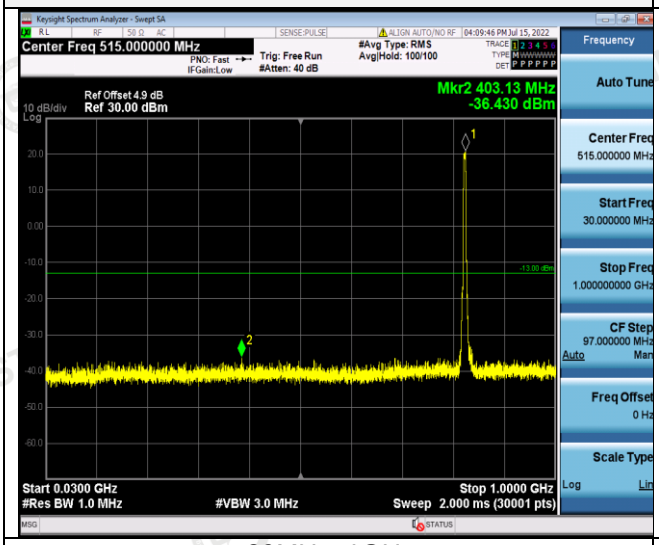
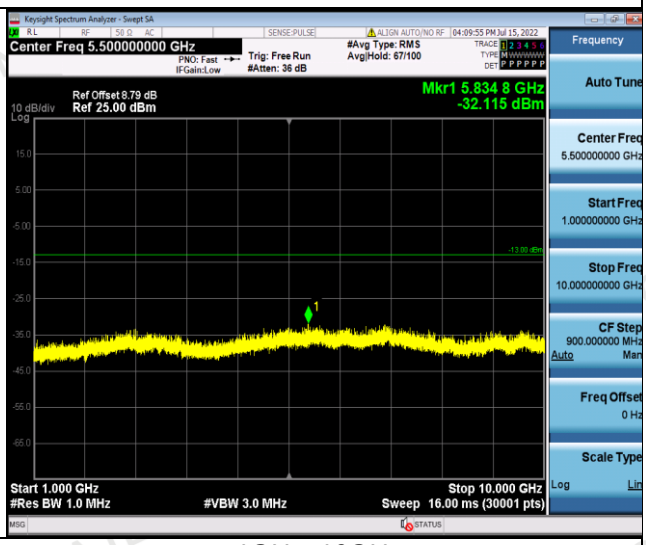
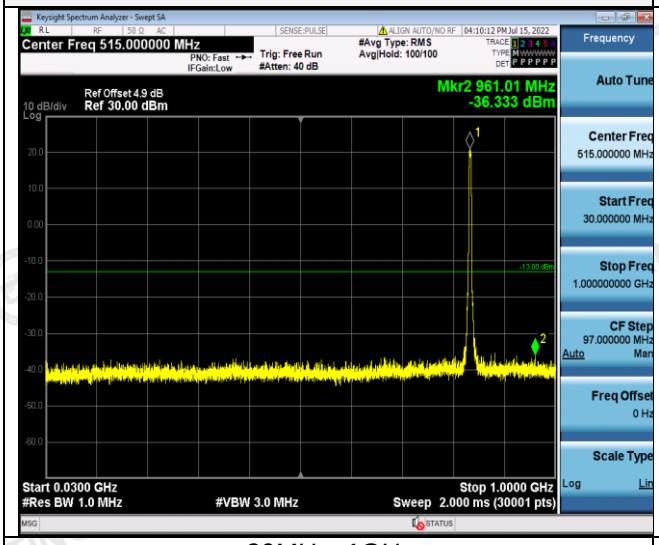
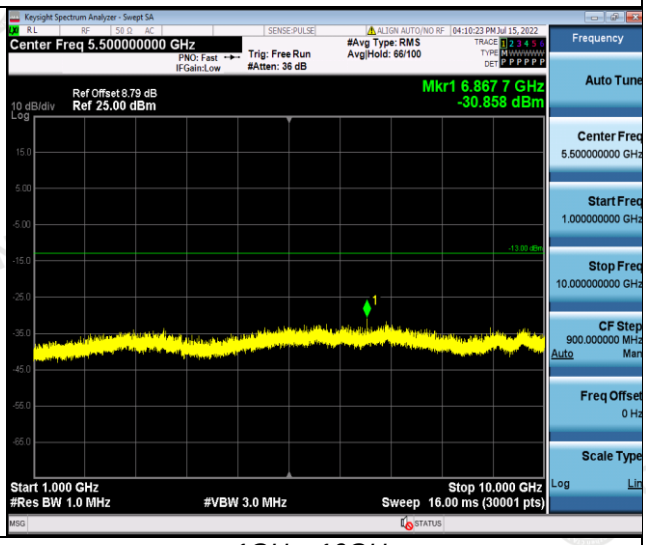
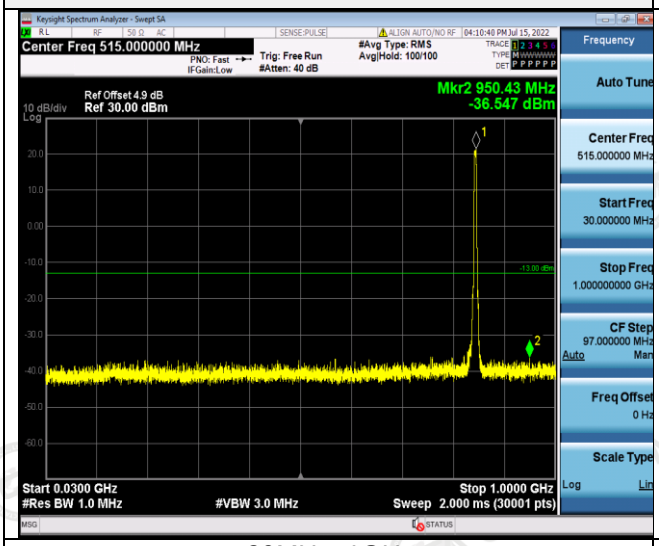
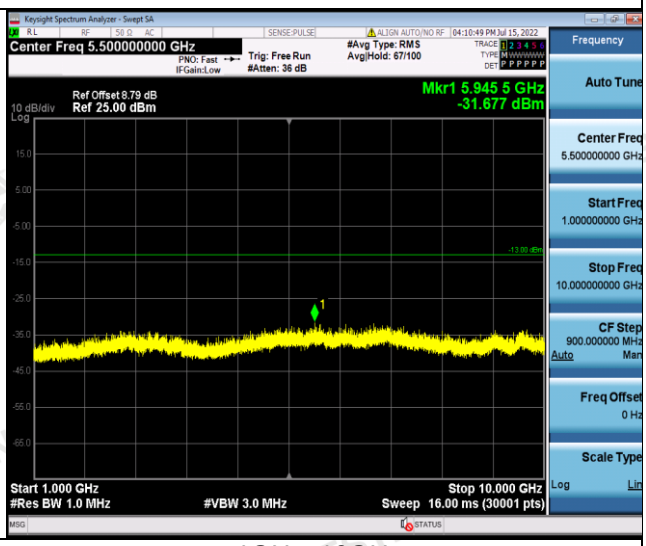


3GHz~10GHz



10GHz~20GHz

WCDMA Band V

Channel:	4132
	
30MHz~1GHz	*1GHz~10GHz*
Channel:	*4183*
	
30MHz~1GHz	*1GHz~10GHz*
Channel:	*4233*
	
30MHz~1GHz	*1GHz~10GHz*

Radiated Measurement:

GSM850

Channel	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
128	1648.40	-29.26	3.00	3.00	9.58	-22.68	-13.00	9.68	H
	2472.60	-35.05	3.03	3.00	10.72	-27.36	-13.00	14.36	H
	1648.40	-27.41	3.00	3.00	9.68	-20.73	-13.00	7.73	V
	2472.60	-33.49	3.03	3.00	10.72	-25.80	-13.00	12.8	V
190	1673.20	-28.27	3.00	3.00	9.61	-21.66	-13.00	8.66	H
	2509.80	-33.91	3.03	3.00	10.77	-26.17	-13.00	13.17	H
	1673.20	-26.52	3.00	3.00	9.61	-19.91	-13.00	6.91	V
	2509.80	-33.16	3.03	3.00	10.77	-25.42	-13.00	12.42	V
251	1697.60	-28.10	3.00	3.00	9.77	-21.33	-13.00	8.33	H
	2546.40	-35.45	3.03	3.00	10.89	-27.59	-13.00	14.59	H
	1697.60	-26.76	3.00	3.00	9.77	-19.99	-13.00	6.99	V
	2546.40	-33.91	3.03	3.00	10.89	-26.05	-13.00	13.05	V

EGPRS850

Channel	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
128	1648.40	-31.71	3.00	3.00	9.58	-25.13	-13.00	12.13	H
	2472.60	-36.15	3.03	3.00	10.72	-28.46	-13.00	15.46	H
	1648.40	-30.37	3.00	3.00	9.68	-23.69	-13.00	10.69	V
	2472.60	-34.89	3.03	3.00	10.72	-27.20	-13.00	14.20	V
190	1673.20	-32.02	3.00	3.00	9.61	-25.41	-13.00	12.41	H
	2509.80	-34.94	3.03	3.00	10.77	-27.20	-13.00	14.20	H
	1673.20	-31.27	3.00	3.00	9.61	-24.66	-13.00	11.66	V
	2509.80	-34.36	3.03	3.00	10.77	-26.62	-13.00	13.62	V
251	1697.60	-30.61	3.00	3.00	9.77	-23.84	-13.00	10.84	H
	2546.40	-36.48	3.03	3.00	10.89	-28.62	-13.00	15.62	H
	1697.60	-29.76	3.00	3.00	9.77	-22.99	-13.00	9.99	V
	2546.40	-35.81	3.03	3.00	10.89	-27.95	-13.00	14.95	V

GSM1900

Channel	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
512	3700.40	-40.61	4.39	3.00	12.34	-32.66	-13.00	19.66	H
	5550.60	-43.89	5.31	3.00	13.52	-35.68	-13.00	22.68	H
	3700.40	-39.34	4.39	3.00	12.34	-31.39	-13.00	18.39	V
	5550.60	-42.78	5.31	3.00	13.52	-34.57	-13.00	21.57	V
661	3760.00	-41.04	4.41	3.00	12.34	-33.11	-13.00	20.11	H
	5640.00	-44.38	5.38	3.00	13.58	-36.18	-13.00	23.18	H
	3760.00	-39.54	4.41	3.00	12.34	-31.61	-13.00	18.61	V
	5640.00	-42.91	5.38	3.00	13.58	-34.71	-13.00	21.71	V
810	3819.60	-40.67	4.45	3.00	12.45	-32.67	-13.00	19.67	H
	5729.40	-44.75	5.47	3.00	13.66	-36.56	-13.00	23.56	H
	3819.60	-39.72	4.45	3.00	12.45	-31.72	-13.00	18.72	V
	5729.40	-43.68	5.47	3.00	13.66	-35.49	-13.00	22.49	V

EGPRS1900

Channel	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
512	3700.40	-41.38	4.39	3.00	12.34	-33.43	-13.00	20.43	H
	5550.60	-42.03	5.31	3.00	13.52	-33.82	-13.00	20.82	H
	3700.40	-40.61	4.39	3.00	12.34	-32.66	-13.00	19.66	V
	5550.60	-40.87	5.31	3.00	13.52	-32.66	-13.00	19.66	V
661	3760.00	-41.23	4.41	3.00	12.34	-33.30	-13.00	20.30	H
	5640.00	-42.88	5.38	3.00	13.58	-34.68	-13.00	21.68	H
	3760.00	-39.30	4.41	3.00	12.34	-31.37	-13.00	18.37	V
	5640.00	-41.45	5.38	3.00	13.58	-33.25	-13.00	20.25	V
810	3819.60	-39.83	4.45	3.00	12.45	-31.83	-13.00	18.83	H
	5729.40	-43.51	5.47	3.00	13.66	-35.32	-13.00	22.32	H
	3819.60	-38.24	4.45	3.00	12.45	-30.24	-13.00	17.24	V
	5729.40	-41.65	5.47	3.00	13.66	-33.46	-13.00	20.46	V

WCDMA Band II

Channel	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
9262	3704.80	-40.76	4.39	3.00	12.34	-32.81	-13.00	19.81	H
	5557.20	-43.30	5.31	3.00	13.52	-35.09	-13.00	22.09	H
	3704.80	-38.90	4.39	3.00	12.34	-30.95	-13.00	17.95	V
	5557.20	-42.01	5.31	3.00	13.52	-33.80	-13.00	20.80	V
9400	3760.00	-39.67	4.41	3.00	12.34	-31.74	-13.00	18.74	H
	5640.00	-42.68	5.38	3.00	13.58	-34.48	-13.00	21.48	H
	3760.00	-37.76	4.41	3.00	12.34	-29.83	-13.00	16.83	V
	5640.00	-41.12	5.38	3.00	13.58	-32.92	-13.00	19.92	V
9538	3815.20	-40.49	4.45	3.00	12.45	-32.49	-13.00	19.49	H
	5722.80	-45.00	5.47	3.00	13.66	-36.81	-13.00	23.81	H
	3815.20	-39.90	4.45	3.00	12.45	-31.90	-13.00	18.90	V
	5722.80	-43.65	5.47	3.00	13.66	-35.46	-13.00	22.46	V

WCDMA Band V

Channel	Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
9262	1652.80	-39.70	3.00	3.00	9.58	-33.12	-13.00	20.12	H
	2479.20	-42.34	3.03	3.00	10.72	-34.65	-13.00	21.65	H
	1652.80	-38.60	3.00	3.00	9.68	-31.92	-13.00	18.92	V
	2479.20	-40.92	3.03	3.00	10.72	-33.23	-13.00	20.23	V
9400	1673.20	-38.93	3.00	3.00	9.61	-32.32	-13.00	19.32	H
	2509.80	-42.32	3.03	3.00	10.77	-34.58	-13.00	21.58	H
	1673.20	-37.25	3.00	3.00	9.61	-30.64	-13.00	17.64	V
	2509.80	-40.53	3.03	3.00	10.77	-32.79	-13.00	19.79	V
9538	1693.20	-38.15	3.00	3.00	9.77	-31.38	-13.00	18.38	H
	2539.80	-43.27	3.03	3.00	10.89	-35.41	-13.00	22.41	H
	1693.20	-36.83	3.00	3.00	9.77	-30.06	-13.00	17.06	V
	2539.80	-42.43	3.03	3.00	10.89	-34.57	-13.00	21.57	V

Remark:

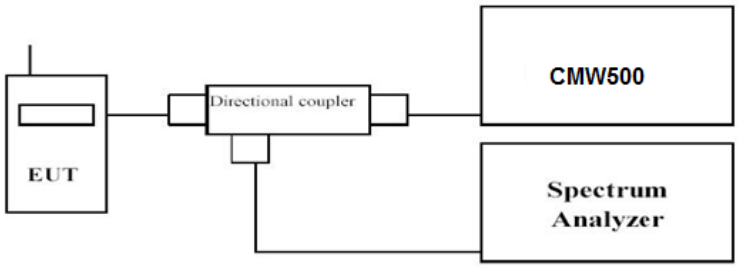
1. *$EIRP=P_{Mea}(dBm)-P_{cl}(dB)+G_a(dBi)$*
2. *We were not recorded other points as values lower than limits.*
3. *Margin = Limit - EIRP*

4.5 Peak-to-Average Ratio (PAR)

LIMIT

The Peak-to-Average Ratio (PAR) of the transmission may not exceed 13 dB.

TEST CONFIGURATION



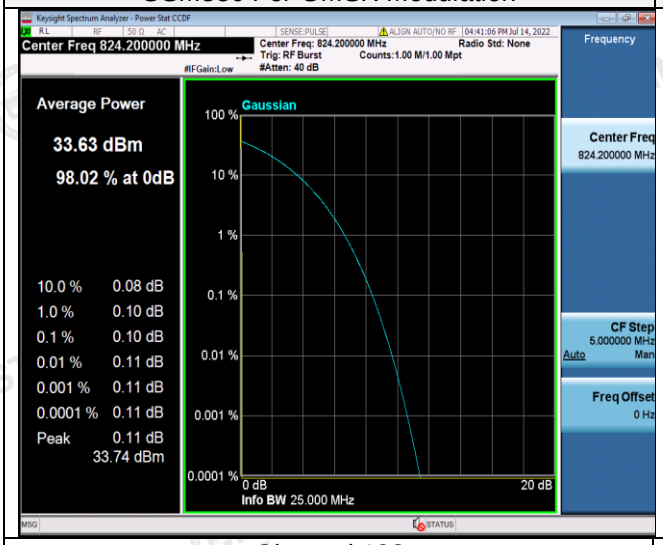
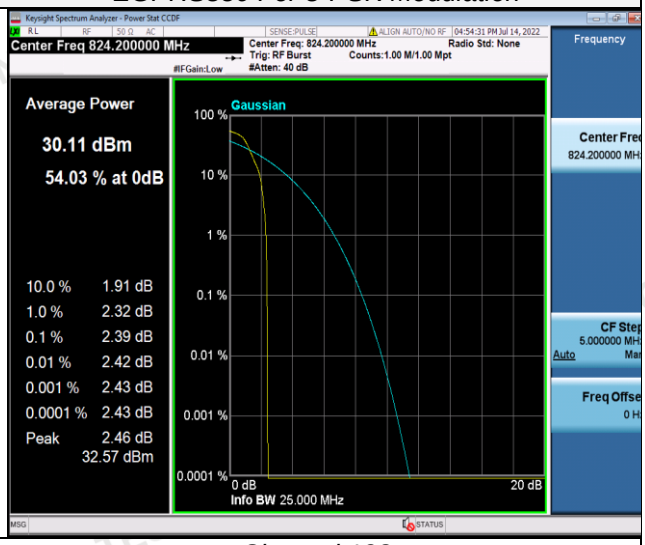
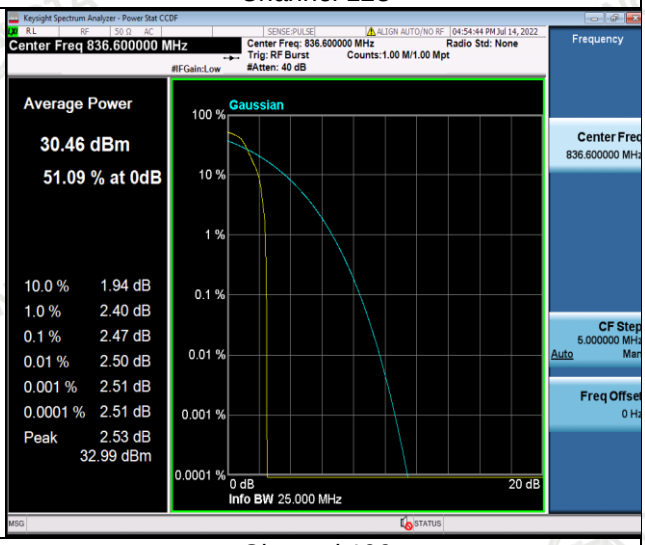
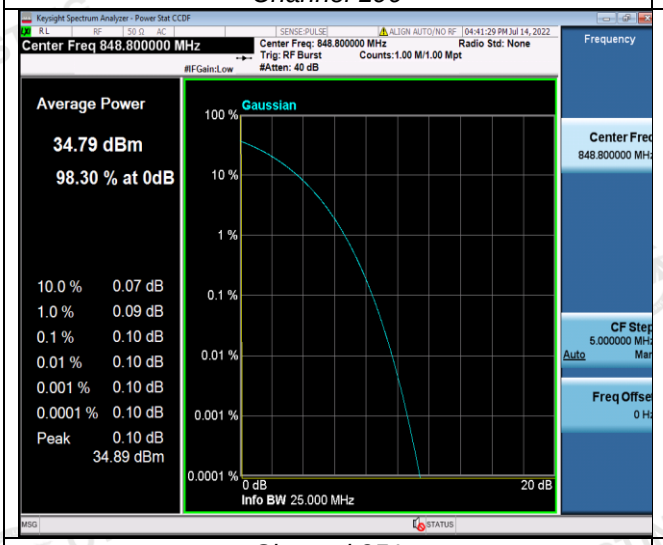
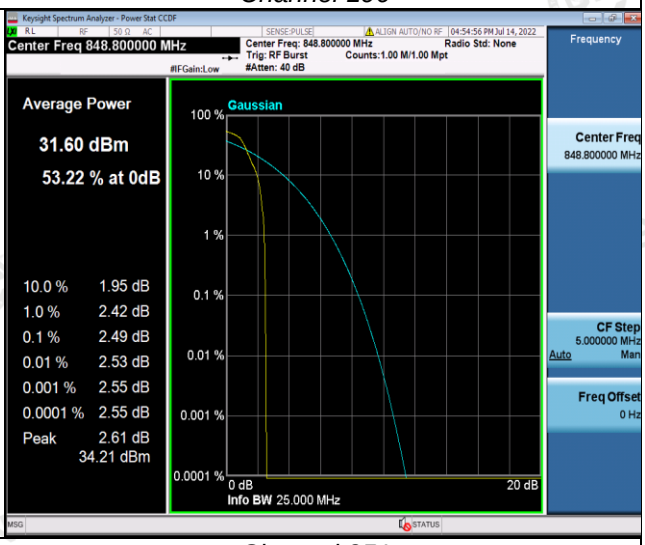
TEST PROCEDURE

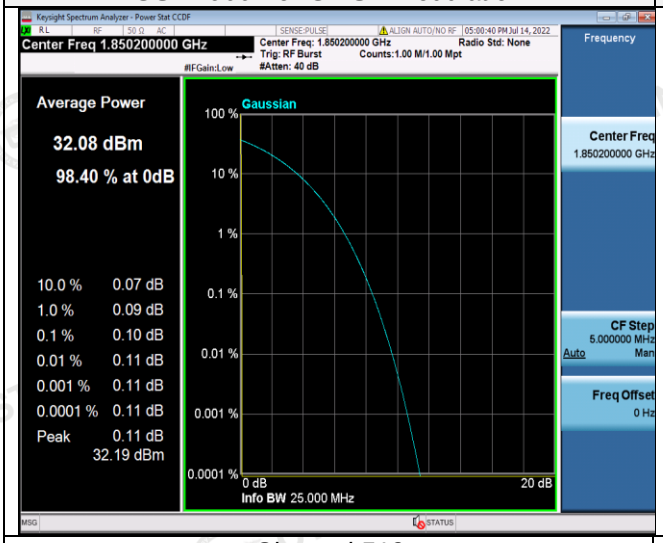
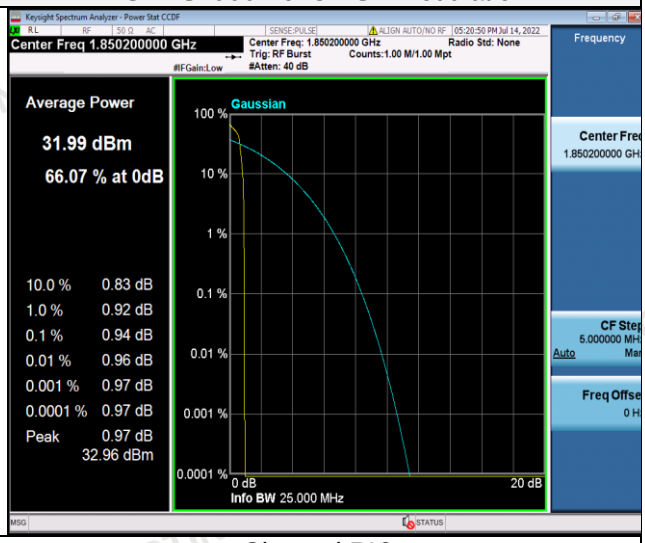
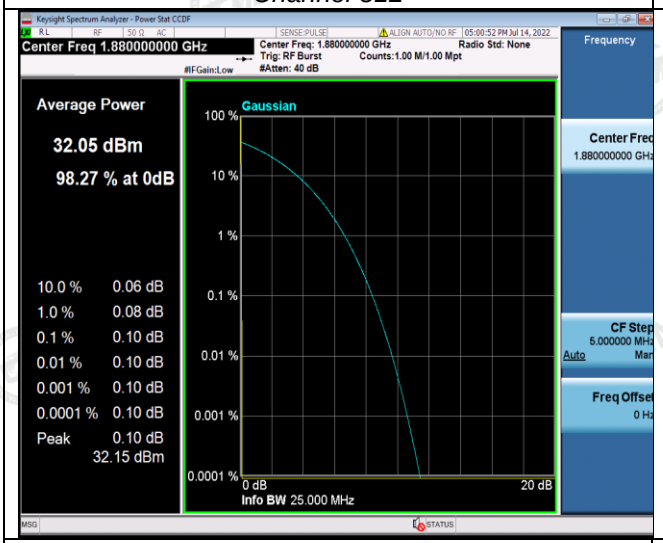
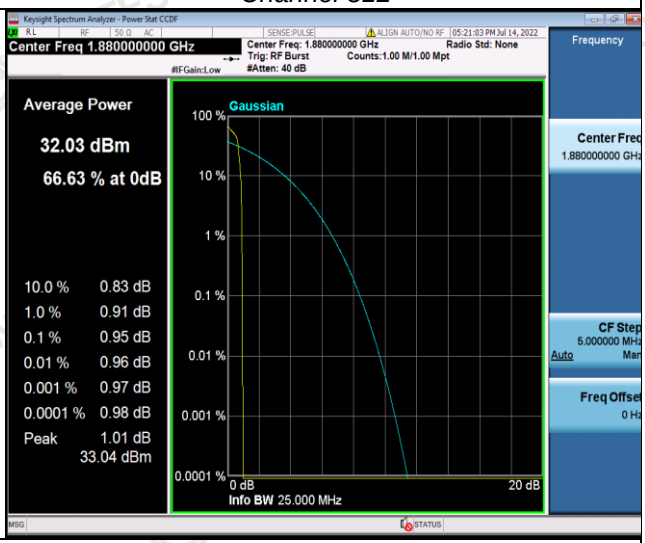
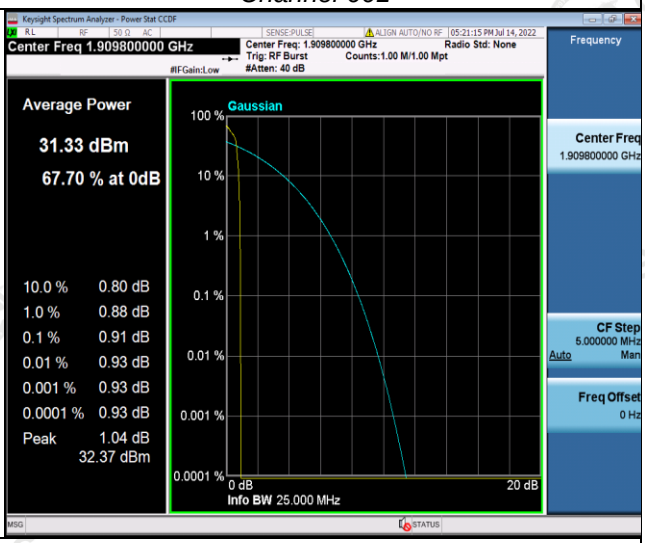
1. Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
2. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
3. Set the number of counts to a value that stabilizes the measured CCDF curve;
4. Set the measurement interval as follows: 1). for continuous transmissions, set to 1 ms, 2). for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
5. Record the maximum PAPR level associated with a probability of 0.1%.

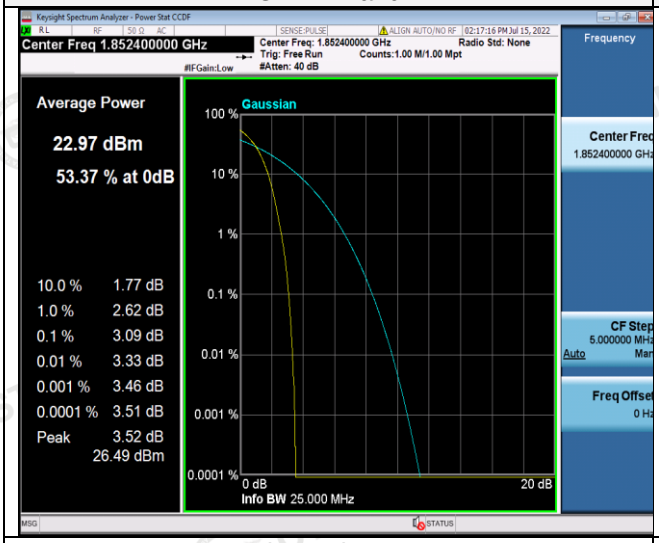
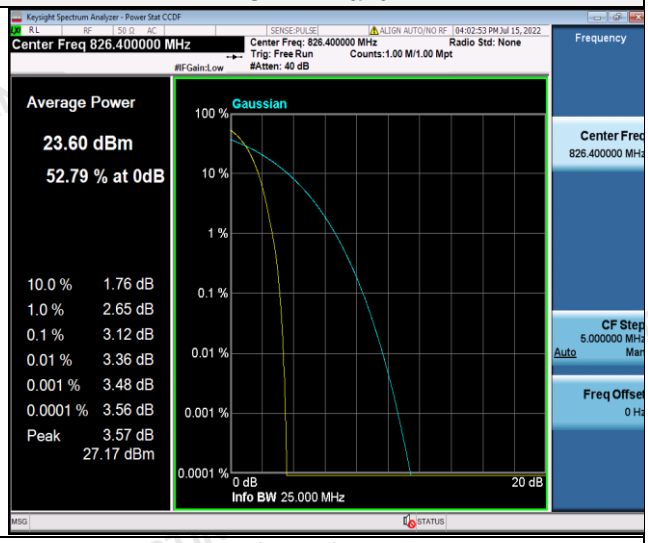
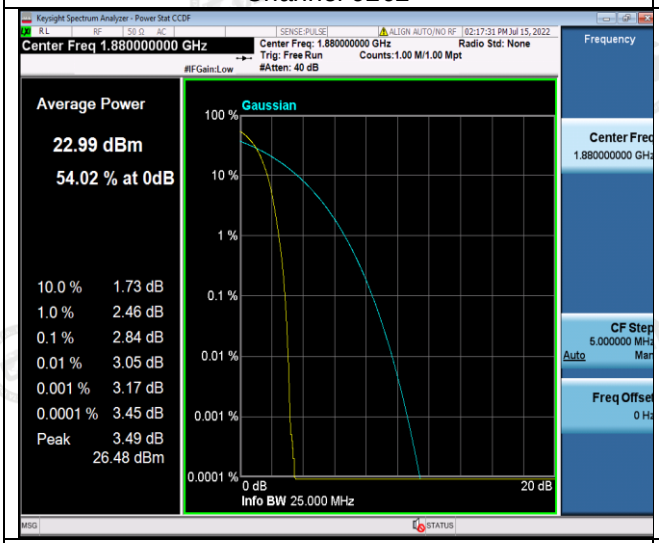
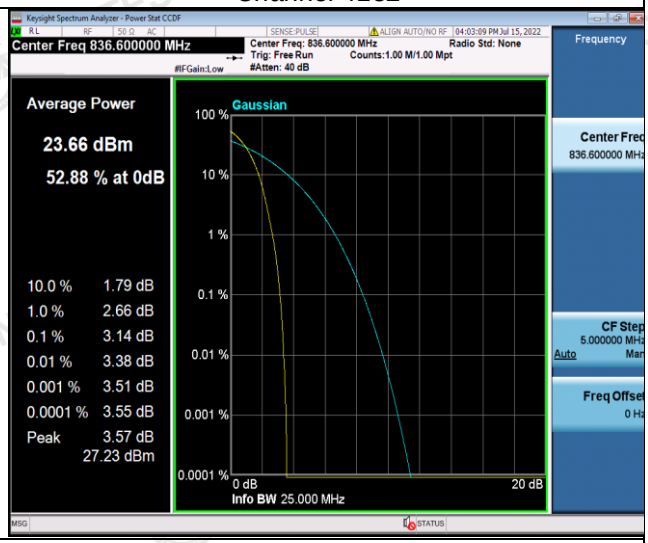
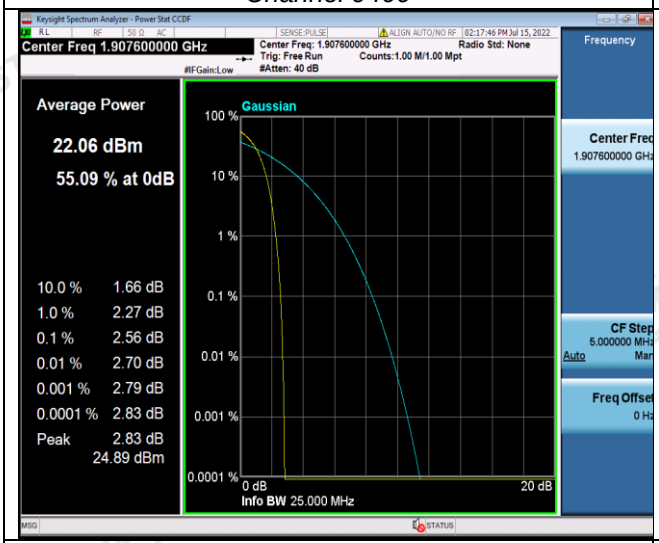
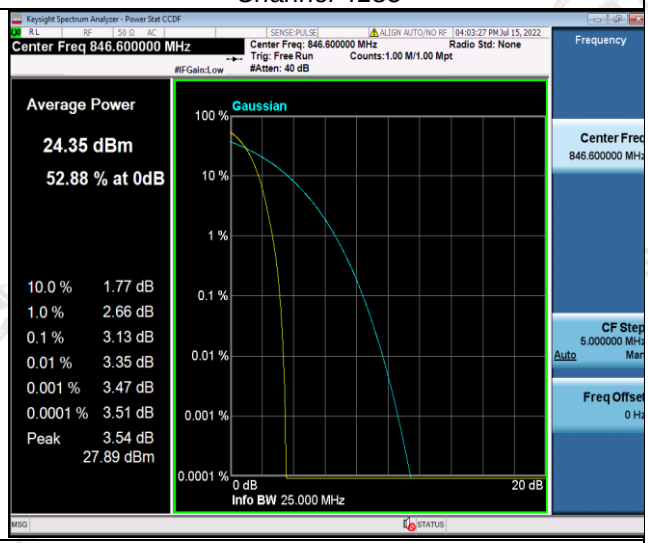
TEST RESULTS

Test mode	Channel	Frequency (MHz)	PAPR Value (dB)	Limits (dB)	Verdict
GSM850	128	824.2	0.10	13.0	Pass
	190	836.6	0.10	13.0	Pass
	251	848.8	0.10	13.0	Pass
EGPRS850	128	824.2	2.39	13.0	Pass
	190	836.6	2.47	13.0	Pass
	251	848.8	2.49	13.0	Pass
PCS1900	512	1850.2	0.10	13.0	Pass
	661	1880.0	0.10	13.0	Pass
	810	1909.8	0.09	13.0	Pass
EGPRS1900	512	1850.2	0.94	13.0	Pass
	661	1880.0	0.95	13.0	Pass
	810	1909.8	0.91	13.0	Pass
WCDMA Band II	9262	1852.4	3.09	13.0	Pass
	9400	1880.0	2.84	13.0	Pass
	9538	1907.6	2.56	13.0	Pass
WCDMA Band V	4132	826.4	3.12	13.0	Pass
	4183	836.6	3.14	13.0	Pass
	4233	846.6	3.13	13.0	Pass

Test plots as follow:

GSM850 For GMSK Modulation	EGPRS850 For 8-PSK Modulation
	
Channel 128	Channel 128
	
Channel 190	Channel 190
	
Channel 251	Channel 251

GSM1900 For GMSK Modulation	*EGPRS1900 For 8-PSK Modulation*
	
Channel 512	*Channel 512*
	
Channel 661	*Channel 661*
	
Channel 810	*Channel 810*

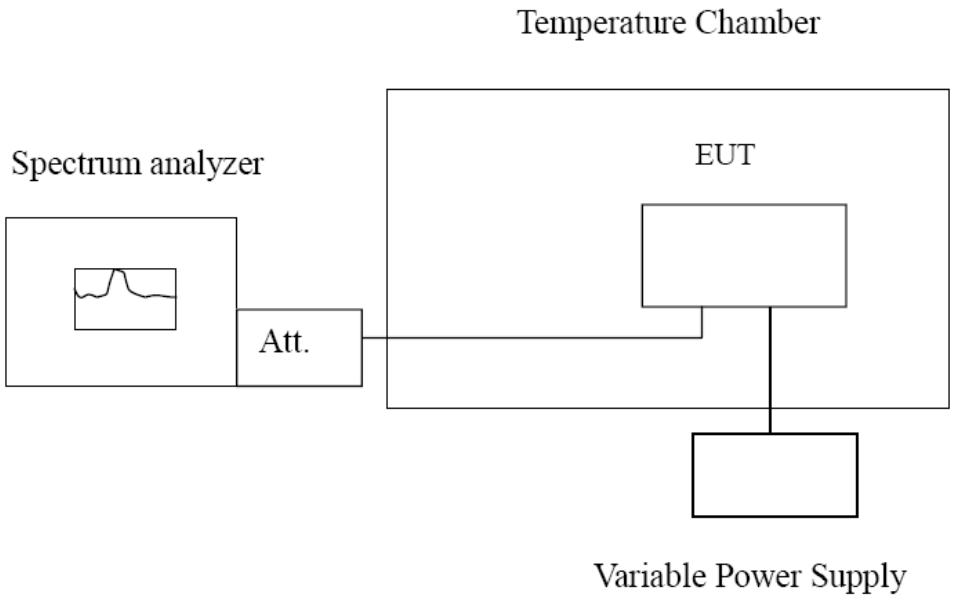
WCDMA Band II	WCDMA Band V
	
Channel 9262	Channel 4132
	
Channel 9400	Channel 4183
	
Channel 9538	Channel 4233

4.6 Frequency Stability under Temperature & Voltage Variations

LIMIT

Cellular Band: ±2.5ppm PCS Band: Within the authorized frequency block

TEST CONFIGURATION



TEST PROCEDURE

The EUT was setup according to EIA/TIA 603E

Frequency Stability under Temperature Variations:
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached.

Frequency Stability under Voltage Variations:
Set chamber temperature to 20℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.
Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change.

TEST RESULTS

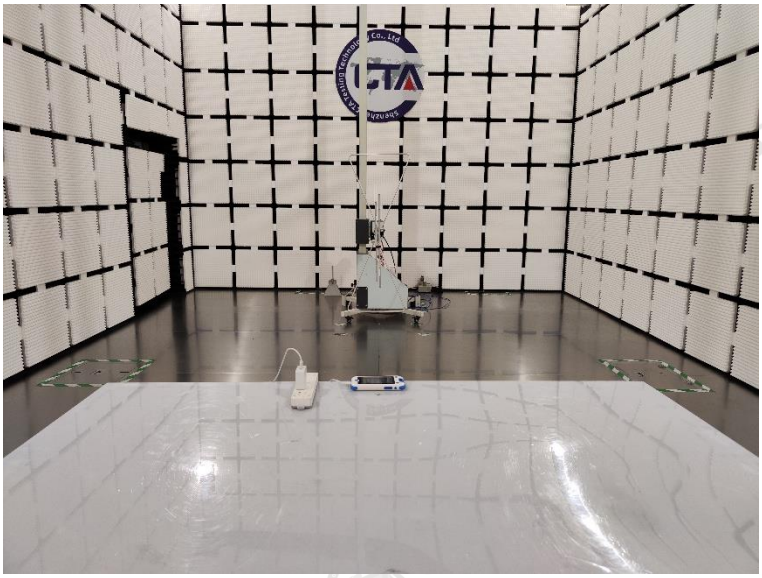
Reference Frequency: GSM850 Middle channel=190 channel=836.6MHz					
Voltage (V)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	3.49	0.004	±2.5	Pass
	-20	16.27	0.019		
	-10	3.74	0.004		
	0	19.24	0.023		
	10	-1.40	-0.002		
	20	18.42	0.022		
	30	2.56	0.003		
	40	13.11	0.016		
	50	13.58	0.016		
4.26	25	6.74	0.008		
End point 3.15	25	9.76	0.012		

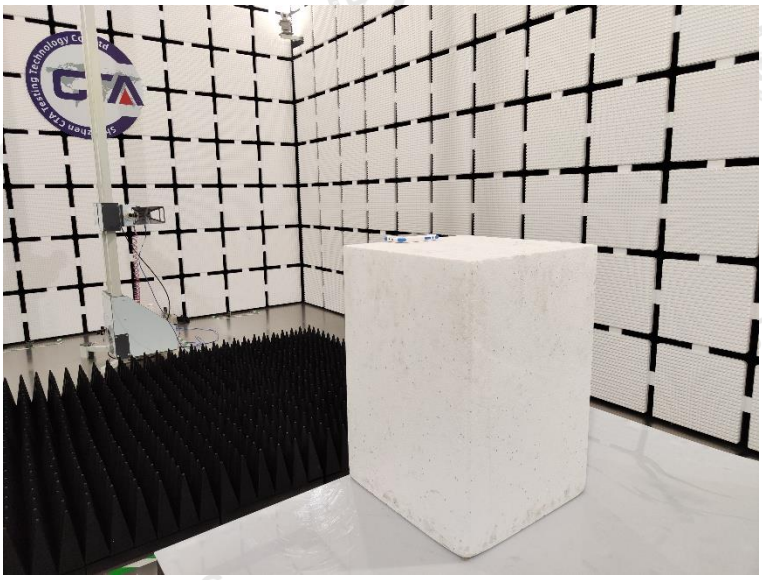
Reference Frequency: PCS1900 Middle channel=661 channel=1880MHz					
Voltage (V)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	-3.20	-0.002	Within the authorized frequency block	Pass
	-20	6.30	0.003		
	-10	-1.42	-0.001		
	0	-5.63	-0.003		
	10	3.44	0.002		
	20	11.41	0.006		
	30	9.16	0.005		
	40	12.97	0.007		
	50	-5.60	-0.003		
4.26	25	6.13	0.003		
End point 3.15	25	-3.69	-0.002		

Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880MHz					
Voltage (V)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	6.34	0.003	Within the authorized frequency block	Pass
	-20	18.21	0.010		
	-10	-5.39	-0.003		
	0	5.39	0.003		
	10	1.42	0.001		
	20	-2.39	-0.001		
	30	13.92	0.007		
	40	3.17	0.002		
	50	-3.61	-0.002		
4.26	25	1.94	0.001		
End point 3.15	25	-5.98	-0.003		

Reference Frequency: WCDMA Band V Middle channel=4182 channel=836.6MHz					
Voltage (V)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	4.20	0.005	±2.5	Pass
	-20	-5.12	-0.006		
	-10	17.67	0.021		
	0	8.84	0.011		
	10	18.31	0.022		
	20	4.18	0.005		
	30	18.33	0.022		
	40	0.85	0.001		
	50	13.54	0.016		
4.26	25	15.76	0.019		
End point 3.15	25	12.22	0.015		

5 Test Setup Photos of the EUT





6 Photos of the EUT

Reference to the test report No. CTA22071900701

********** End of Report **********