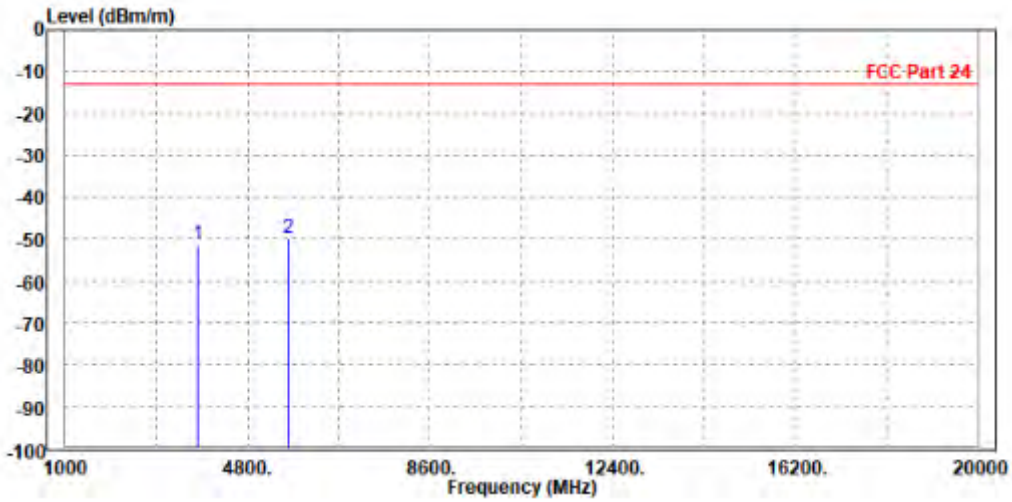
LTE Band 2

CHANNEL BANDWIDTH: 1.4MHz / QPSK

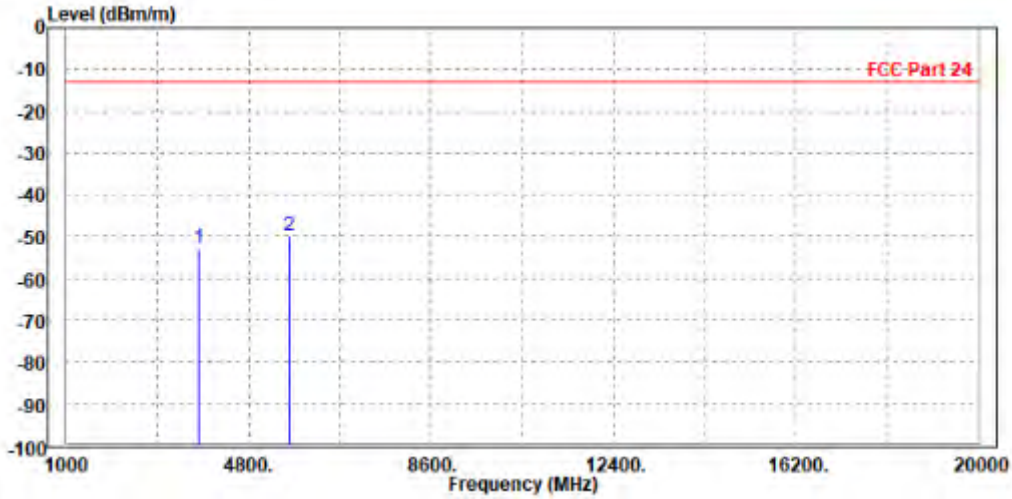
MODE	TX channel 18900	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-51.51	-59.49	-13.00	-38.51	7.98	Peak	Horizontal
2 PP	5636.000	-49.85	-60.58	-13.00	-36.85	10.73	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		3755.000	-52.69	-60.38	-13.00	-39.69	7.69	Peak	Vertical
2	PP	5640.000	-49.86	-60.99	-13.00	-36.86	11.13	Peak	Vertical

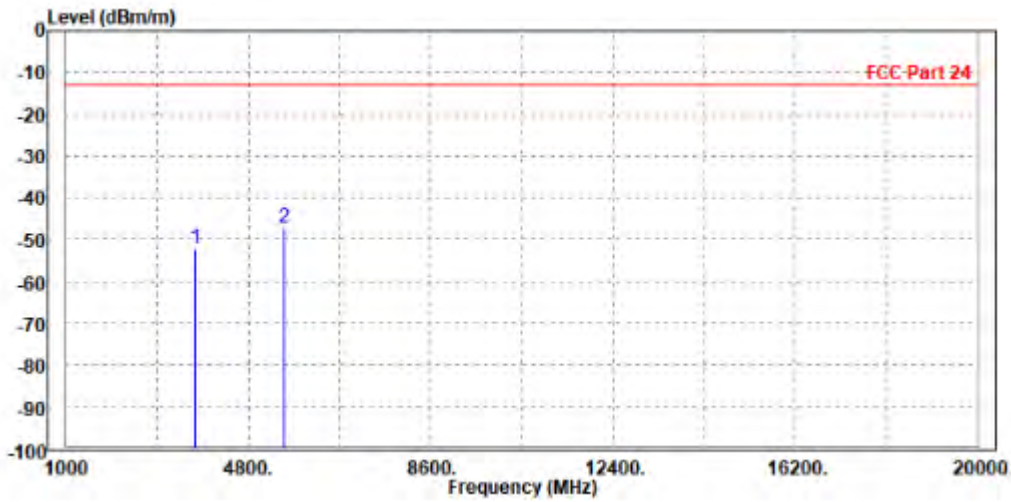


CHANNEL BANDWIDTH: 3MHz / QPSK

CH18615

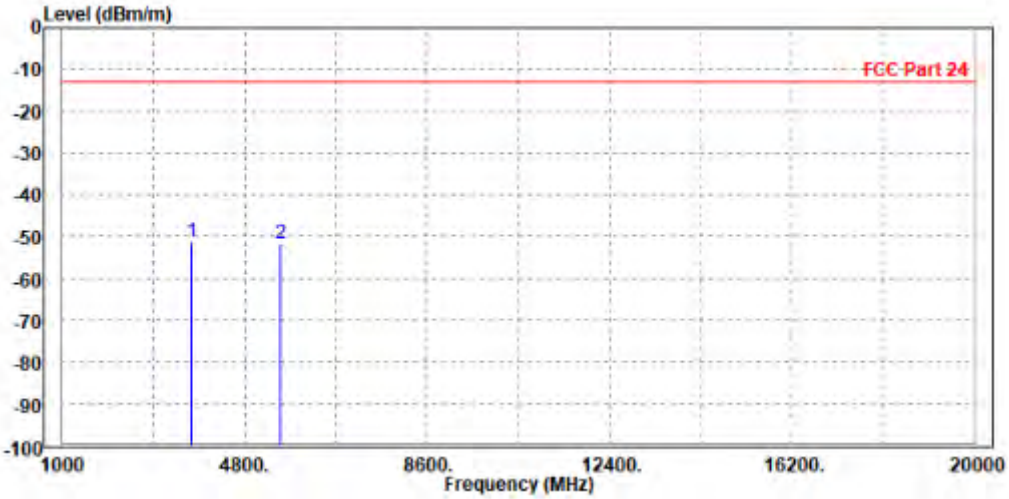
MODE	TX channel 18615	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3703.000	-52.11	-59.95	-13.00	-39.11	7.84	Peak	Horizontal
2 PP	5560.000	-47.14	-57.73	-13.00	-34.14	10.59	Peak	Horizontal



MODE	TX channel 18615	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

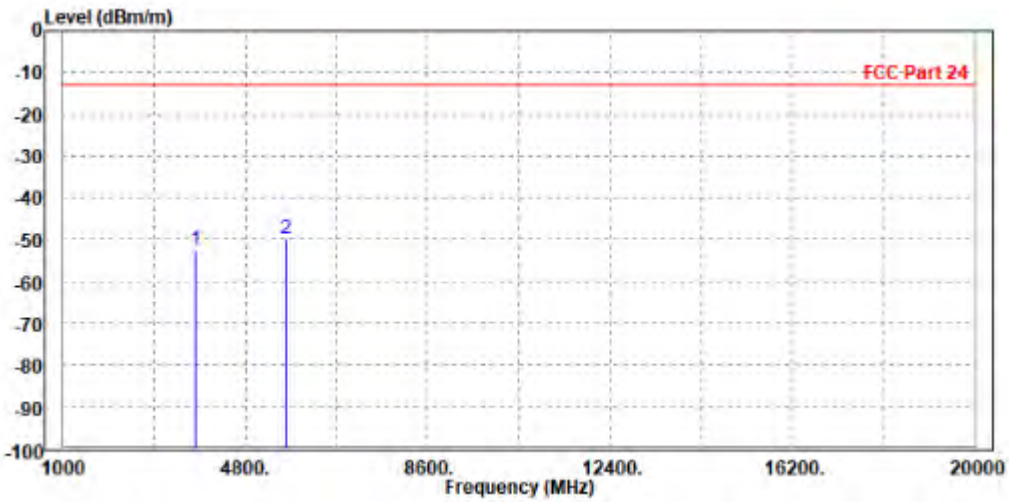
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3698.000	-51.49	-59.10	-13.00	-38.49	7.61	Peak	Vertical
2	5554.500	-51.78	-62.66	-13.00	-38.78	10.88	Peak	Vertical



CH18900

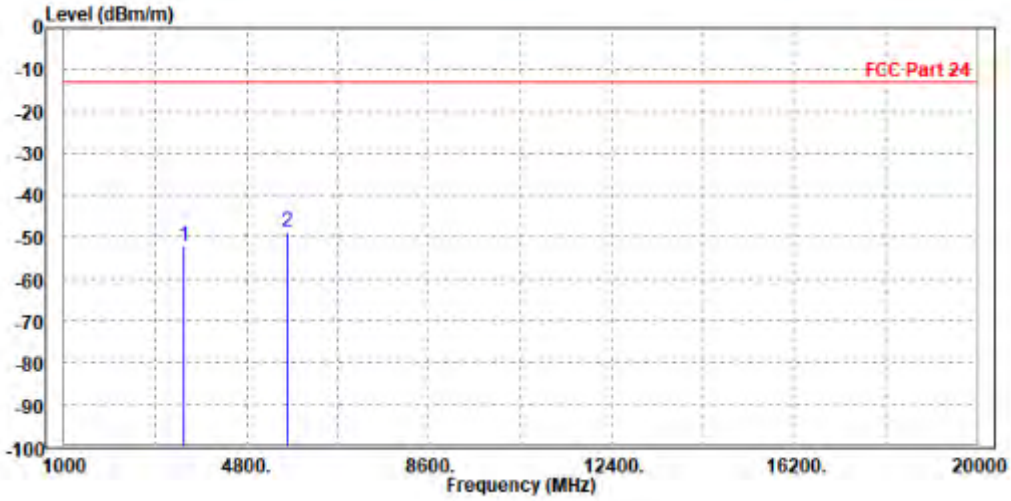
MODE	TX channel 18900	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.30	-60.28	-13.00	-39.30	7.98	Peak	Horizontal
2 PP	5640.000	-49.85	-60.59	-13.00	-36.85	10.74	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

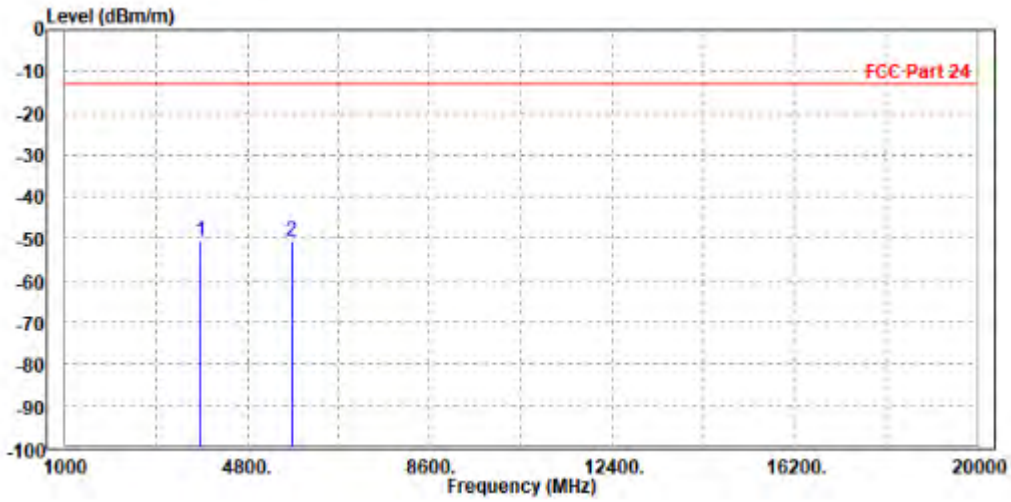
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3490.000	-52.18	-59.48	-13.00	-39.18	7.30	Peak	Vertical
2 PP	5636.000	-48.79	-59.91	-13.00	-35.79	11.12	Peak	Vertical



CH19185

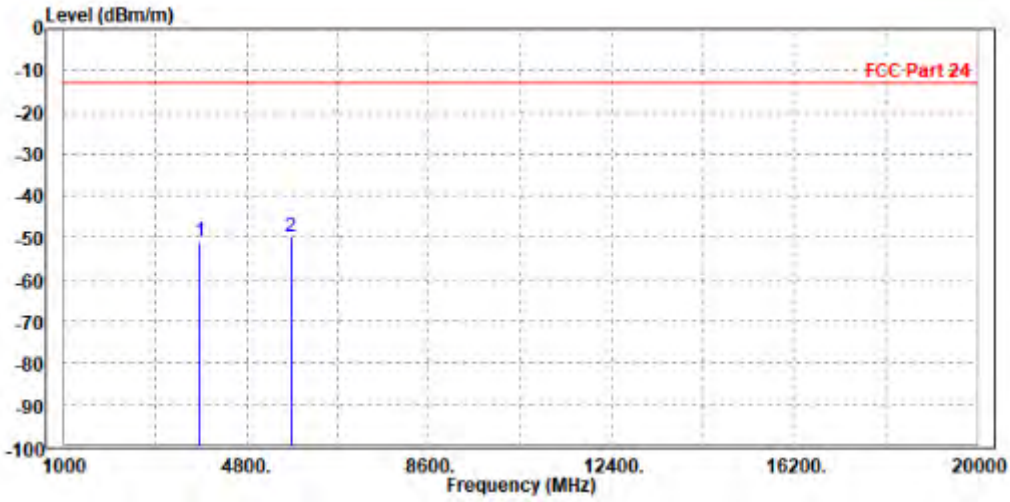
MODE	TX channel 19185	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3817.000	-50.46	-58.59	-13.00	-37.46	8.13	Peak	Horizontal
2	5725.500	-50.66	-61.56	-13.00	-37.66	10.90	Peak	Horizontal



MODE	TX channel 19185	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

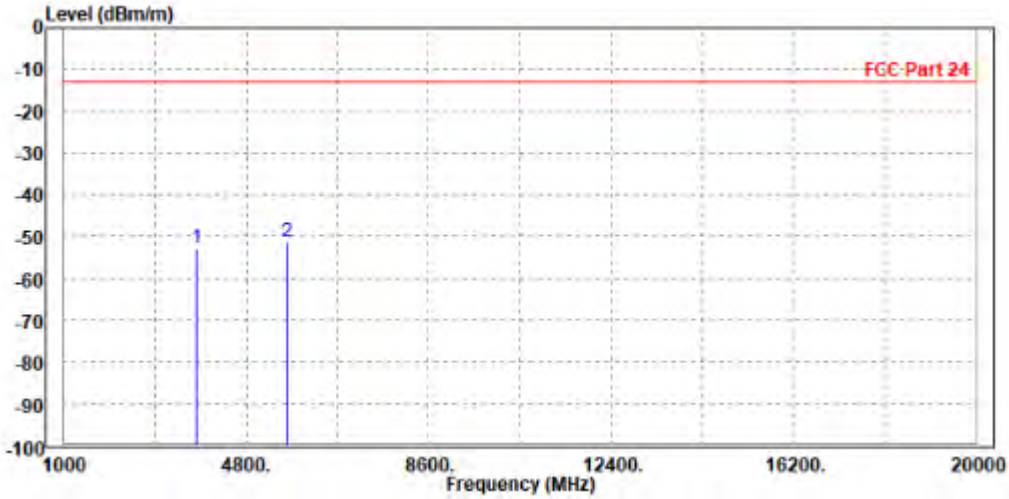
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		3812.000	-51.08	-58.85	-13.00	-38.08	7.77	Peak	Vertical
2	PP	5725.500	-49.91	-61.28	-13.00	-36.91	11.37	Peak	Vertical



CHANNEL BANDWIDTH: 5MHz / QPSK

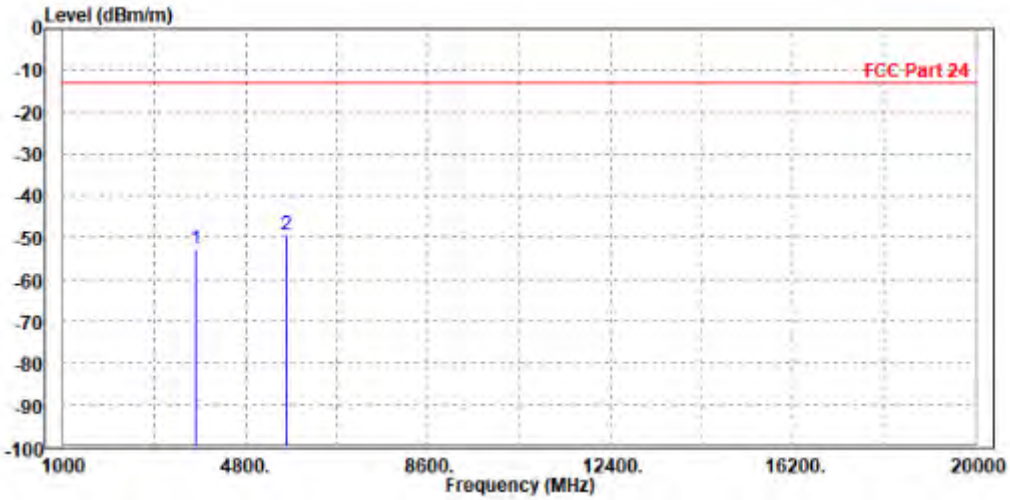
MODE	TX channel 18900	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.76	-60.74	-13.00	-39.76	7.98	Peak	Horizontal
2 PP	5636.000	-51.26	-61.99	-13.00	-38.26	10.73	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

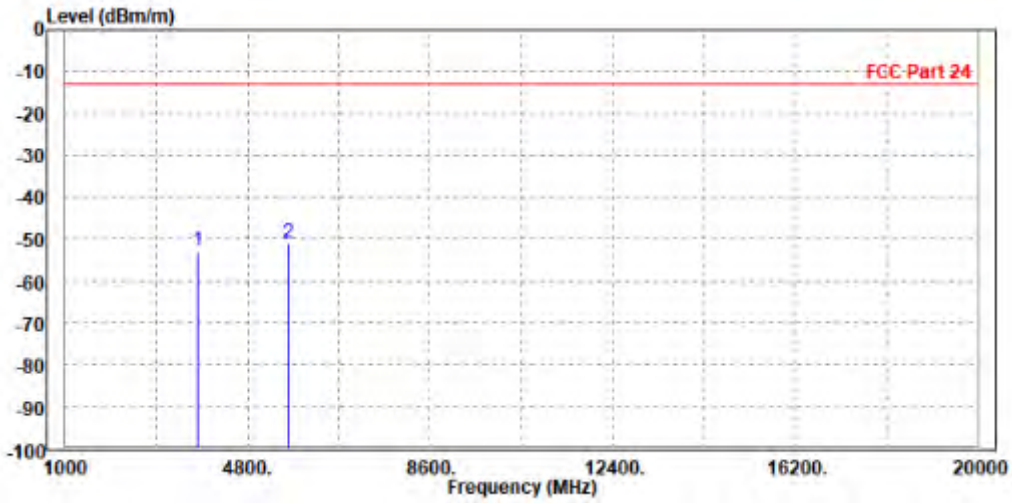
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		3755.000	-52.91	-60.60	-13.00	-39.91	7.69	Peak	Vertical
2	PP	5640.000	-49.51	-60.64	-13.00	-36.51	11.13	Peak	Vertical



CHANNEL BANDWIDTH: 10MHz / QPSK

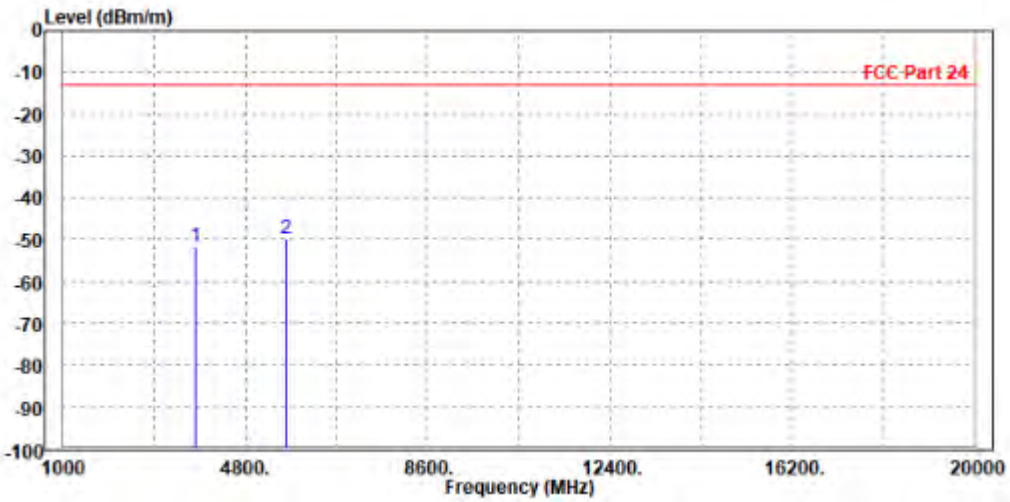
MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.71	-60.69	-13.00	-39.71	7.98	Peak	Horizontal
2 PP	5640.000	-50.85	-61.59	-13.00	-37.85	10.74	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

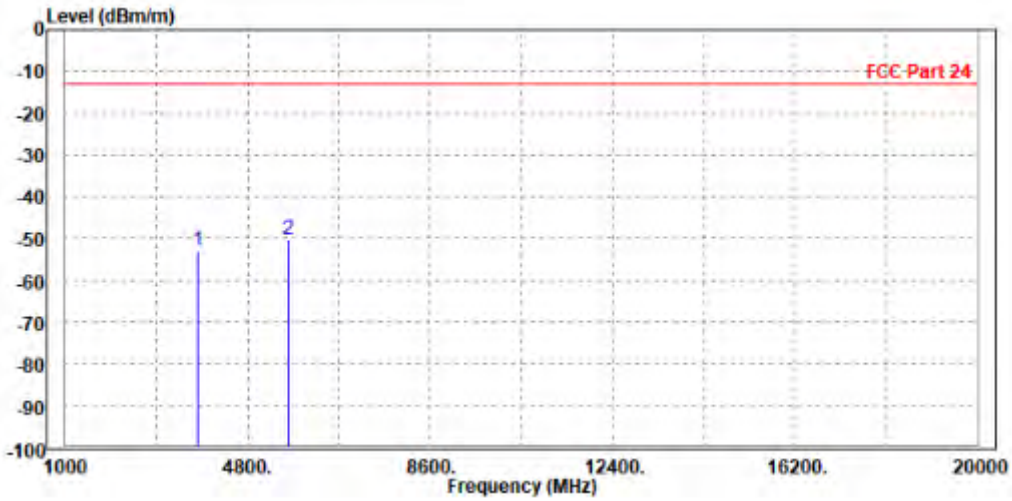
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-51.73	-59.43	-13.00	-38.73	7.70	Peak	Vertical
2 PP	5636.000	-49.99	-61.11	-13.00	-36.99	11.12	Peak	Vertical



CHANNEL BANDWIDTH: 15MHz / QPSK

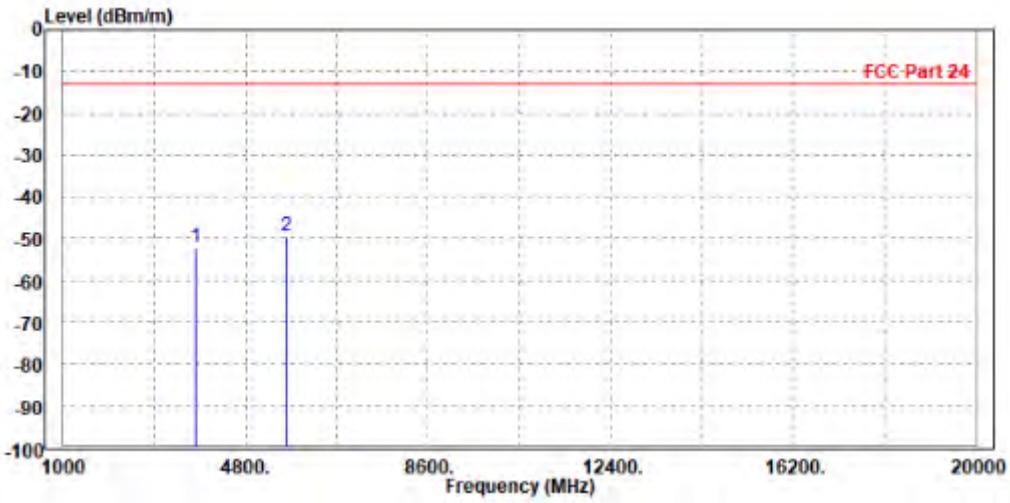
MODE	TX channel 18900	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.92	-60.90	-13.00	-39.92	7.98	Peak	Horizontal
2 PP	5640.000	-50.38	-61.12	-13.00	-37.38	10.74	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

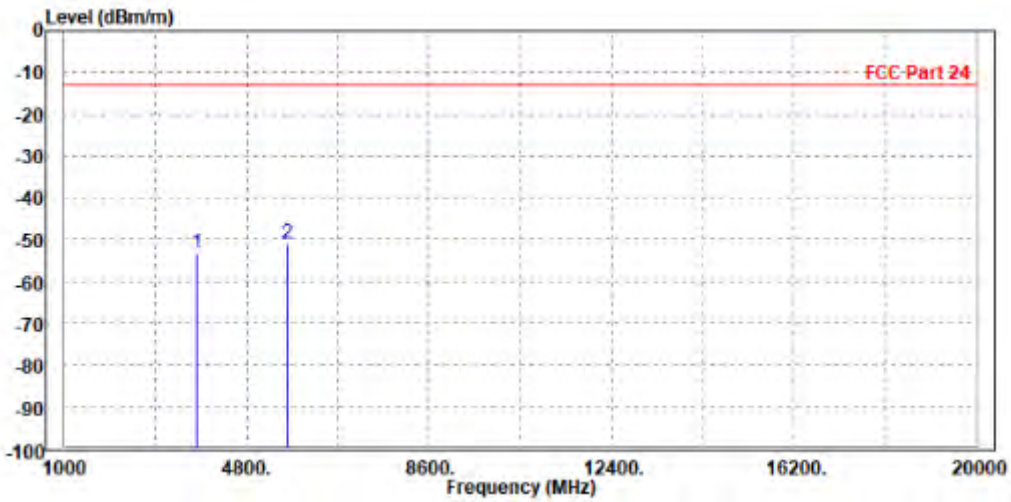
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		3760.000	-52.06	-59.76	-13.00	-39.06	7.70	Peak	Vertical
2	PP	5636.000	-49.60	-60.72	-13.00	-36.60	11.12	Peak	Vertical



CHANNEL BANDWIDTH: 20MHz / QPSK

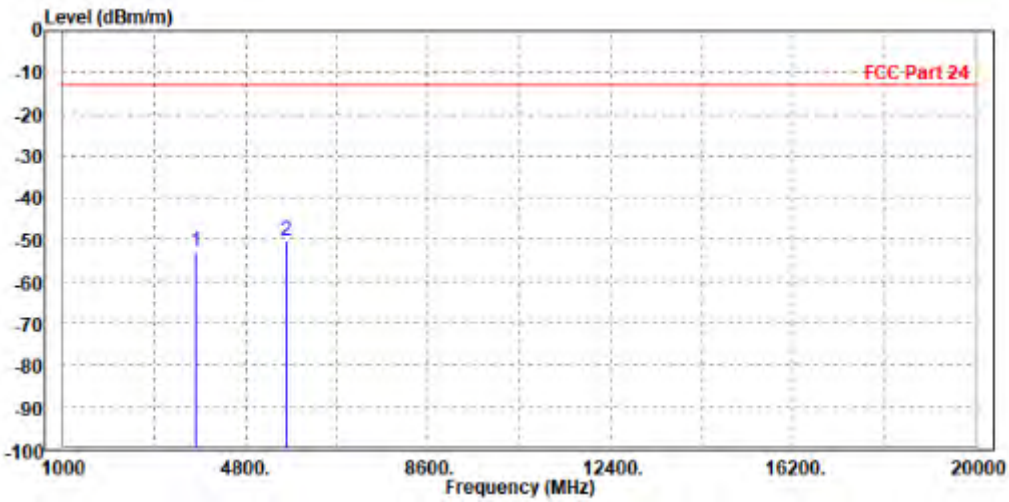
MODE	TX channel 18900	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-53.30	-61.29	-13.00	-40.30	7.99	Peak	Horizontal
2 PP	5636.000	-51.14	-61.87	-13.00	-38.14	10.73	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-53.01	-60.70	-13.00	-40.01	7.69	Peak	Vertical
2 PP	5640.000	-50.29	-61.42	-13.00	-37.29	11.13	Peak	Vertical

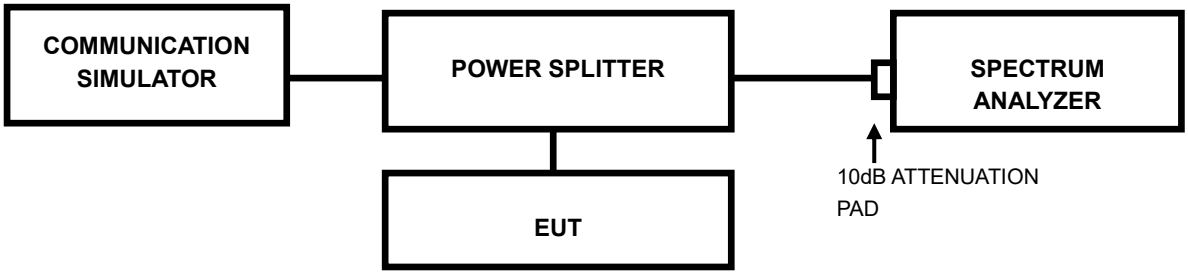


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.

4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Shenzhen EMC/RF Lab:
Tel: +86-755-88696566
Fax: +86-755-88696577

Email: customerservice.sw@bureauveritas.com
Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

6 Appendix

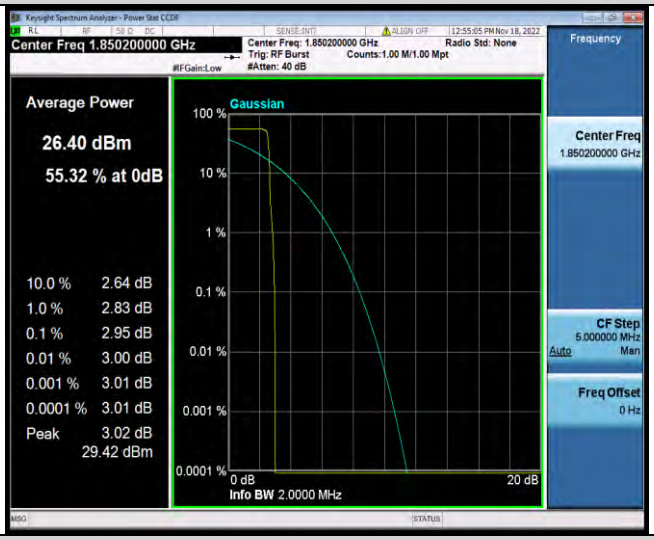
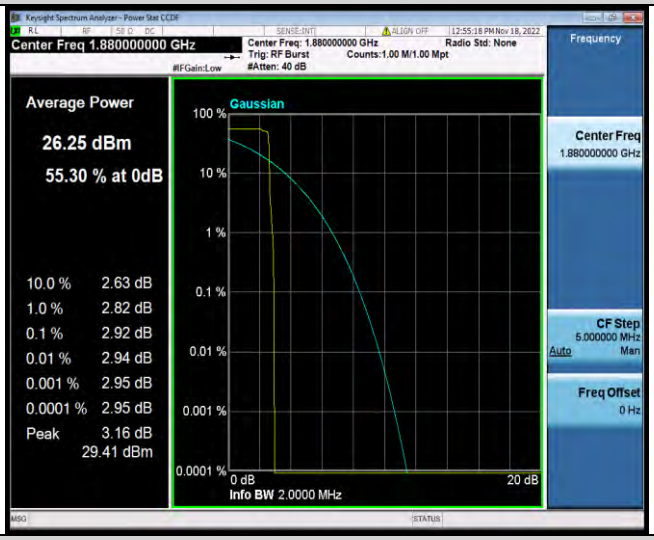
GSM1900

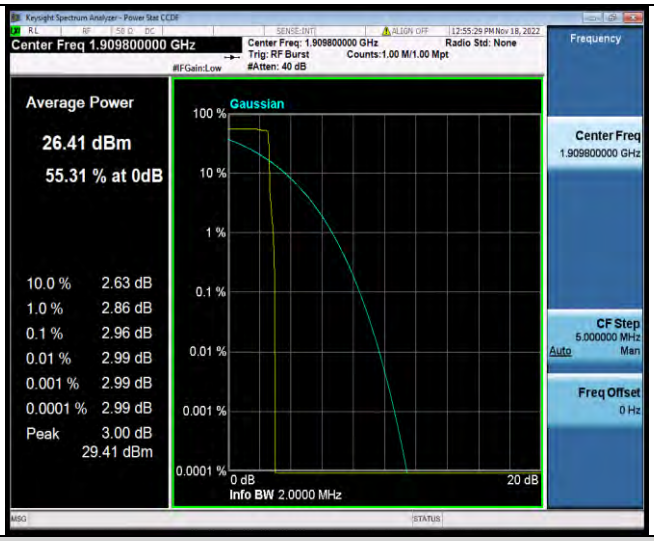
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

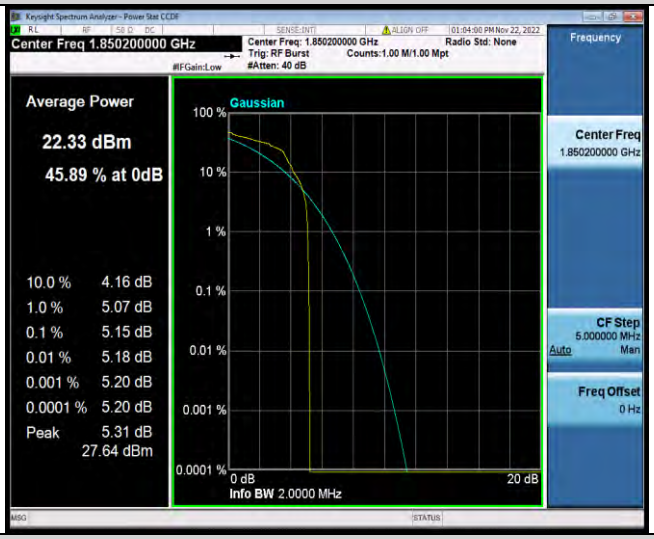
Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM1900	512	2.95	13	PASS
GSM1900	661	2.92	13	PASS
GSM1900	810	2.96	13	PASS
EGPRS1900	512	5.15	13	PASS
EGPRS1900	661	5.19	13	PASS
EGPRS1900	810	5.16	13	PASS

Test Graphs

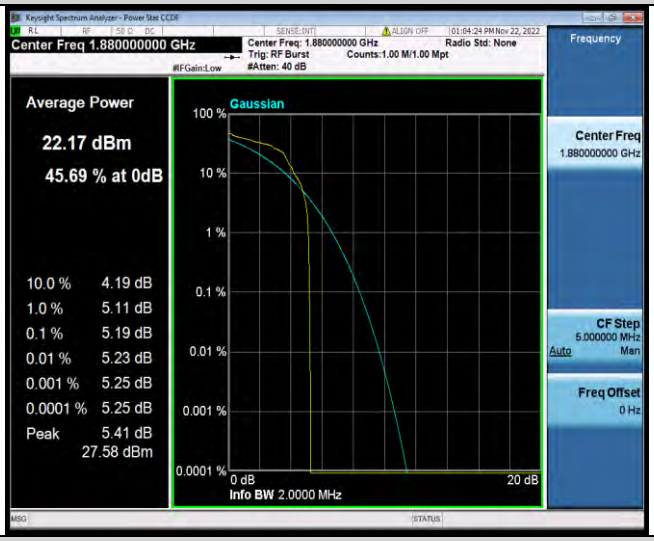
GSM1900-512

GSM1900-661

GSM1900-810



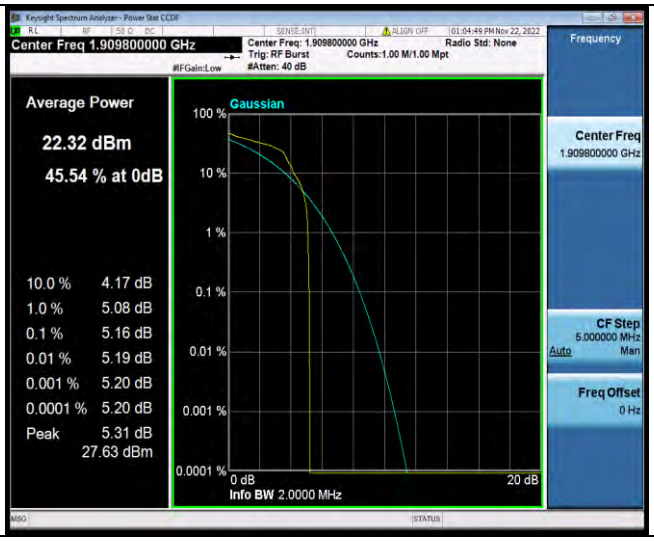
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810


Keysight Spectrum Analyzer - Power Stat CCDF
Center Freq 1.909800000 GHz
Center Freq: 1.909800000 GHz
Trig: RF Burst
#Atten: 40 dB
Counts:1.00 M/1.00 Mpt
Radio Std: None
Frequency
Average Power
22.32 dBm
45.54 % at 0dB
10.0 % 4.17 dB
1.0 % 5.08 dB
0.1 % 5.16 dB
0.01 % 5.19 dB
0.001 % 5.20 dB
0.0001 % 5.20 dB
Peak 5.31 dB
27.63 dBm
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
0 dB
20 dB
Info BW 2.0000 MHz
Center Freq
1.909800000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

26DB BANDWIDTH AND OCCUPIED BANDWIDTH

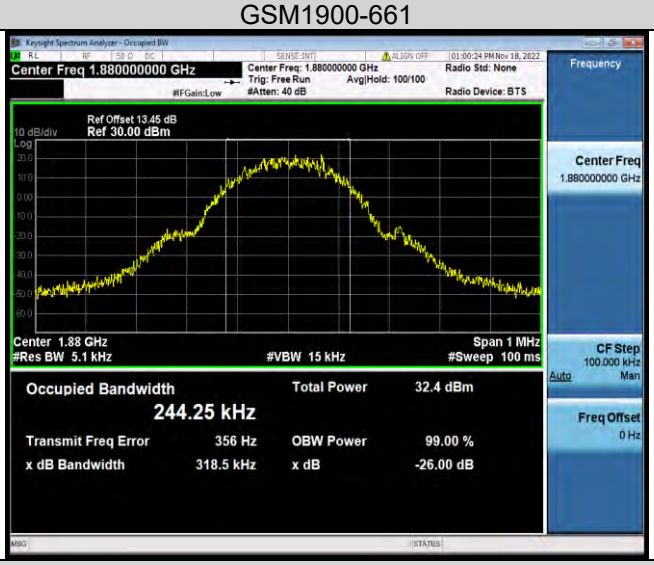
Test Result

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM1900	512	0.24349	0.3146	---	PASS
GSM1900	661	0.24425	0.3185	---	PASS
GSM1900	810	0.24610	0.3195	---	PASS
EGPRS1900	512	0.24946	0.3131	---	PASS
EGPRS1900	661	0.25378	0.3096	---	PASS
EGPRS1900	810	0.25120	0.3164	---	PASS

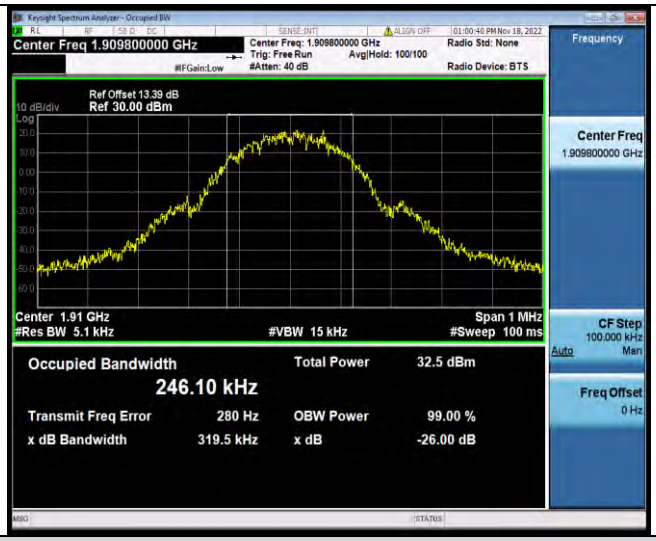
Test Graphs

GSM1900-512

GSM1900-661

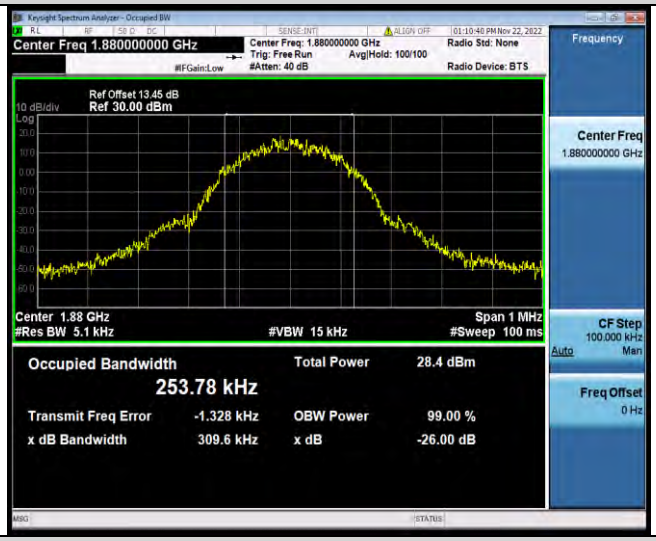


GSM1900-810

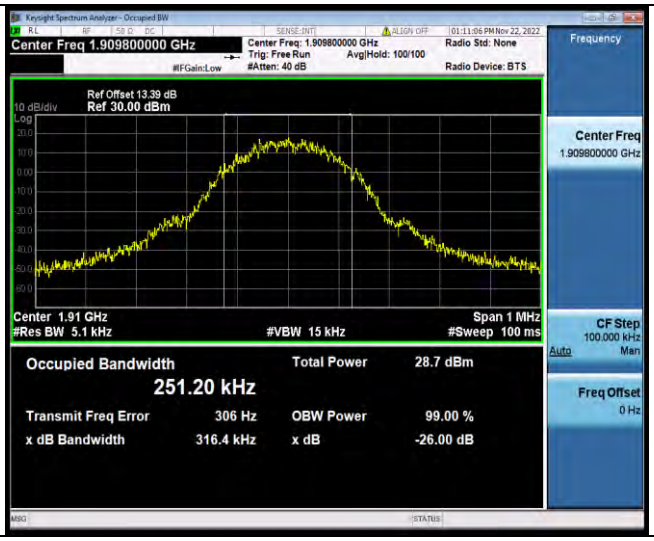


EGPRS1900-512

EGPRS1900-661



EGPRS1900-810


Keysight Spectrum Analyzer - Occupied BW
Center Freq 1.909800000 GHz
Center Freq: 1.909800000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 13.39 dB
10 dB/div
Ref 30.00 dBm
Center Freq
1.909800000 GHz
Center 1.91 GHz
#Res BW 5.1 kHz
#VBW 15 kHz
Span 1 MHz
#Sweep 100 ms
CF Step
100.000 kHz
Auto
Occupied Bandwidth
251.20 kHz
Total Power
28.7 dBm
Transmit Freq Error
306 Hz
OBW Power
99.00 %
x dB Bandwidth
316.4 kHz
x dB
-26.00 dB
Freq Offset
0 Hz

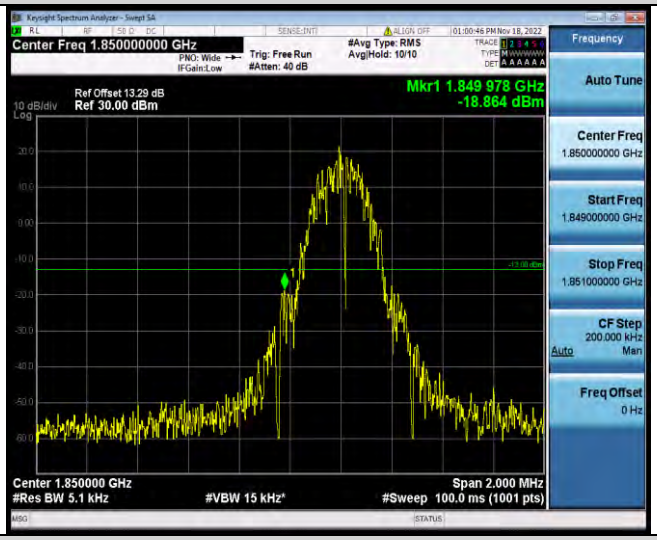
BAND EDGE

Test Result

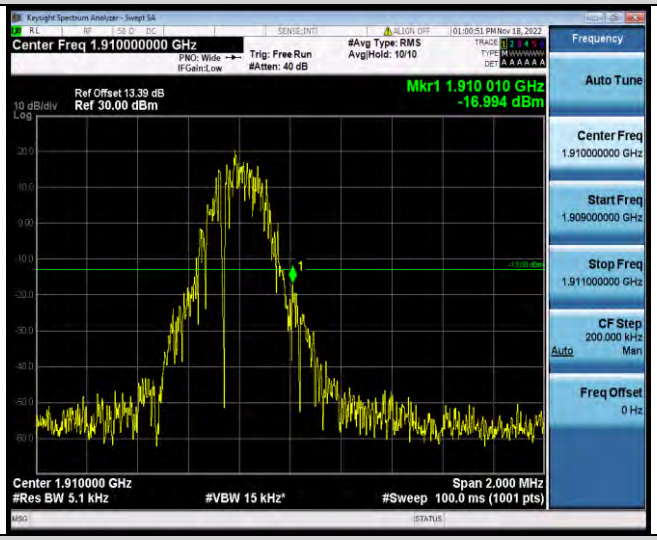
Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM1900	512	1849.98	-18.86	-13	PASS
GSM1900	810	1910.01	-16.99	-13	PASS
EGPRS1900	512	1849.98	-27.29	-13	PASS
EGPRS1900	810	1910.00	-26.64	-13	PASS

Test Graphs

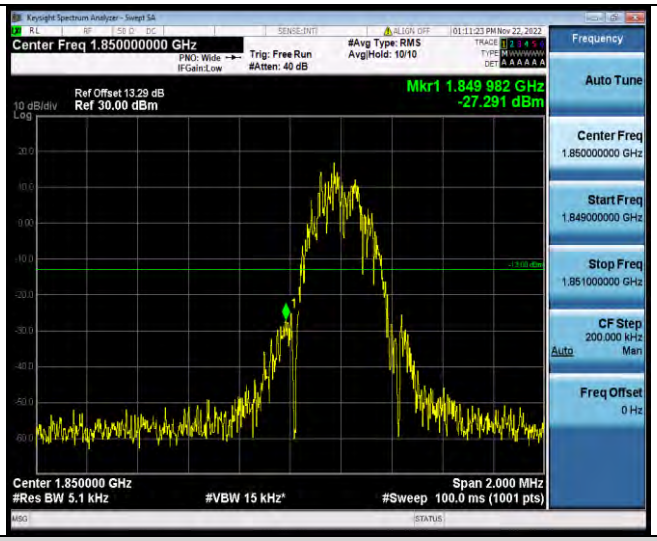
GSM1900-512



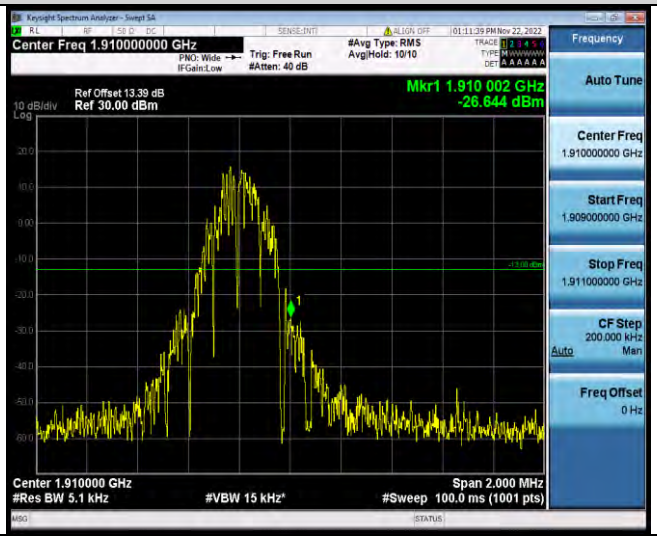
GSM1900-810



EGPRS1900-512



EGPRS1900-810



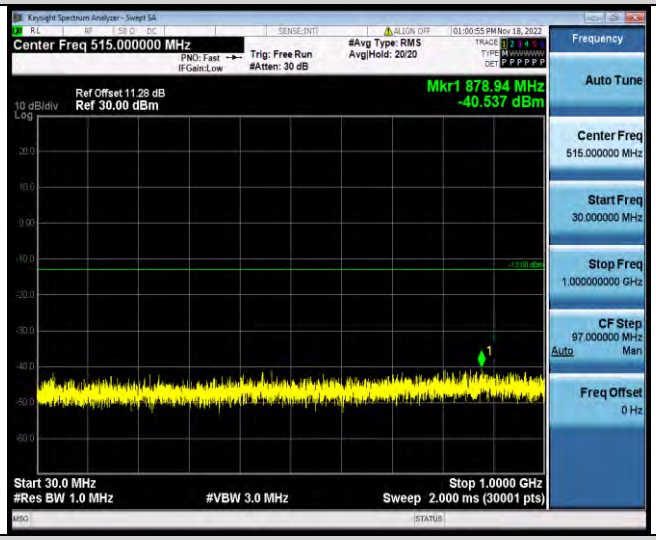
CONDUCTED SPURIOUS EMISSION

Test Result

Band	Channel	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM1900	512	30~1000MHz	878.94	-40.54	-13	PASS
GSM1900	512	1000~20000MHz	19305.87	-31.81	-13	PASS
GSM1900	661	30~1000MHz	843.05	-40.3	-13	PASS
GSM1900	661	1000~20000MHz	18949.93	-32.15	-13	PASS
GSM1900	810	30~1000MHz	899.35	-40.17	-13	PASS
GSM1900	810	1000~20000MHz	19778.97	-32.22	-13	PASS
EGPRS1900	512	30~1000MHz	876.39	-40.67	-13	PASS
EGPRS1900	512	1000~20000MHz	19378.7	-32.19	-13	PASS
EGPRS1900	661	30~1000MHz	755.66	-40.79	-13	PASS
EGPRS1900	661	1000~20000MHz	19321.7	-32.01	-13	PASS
EGPRS1900	810	30~1000MHz	858.06	-40.64	-13	PASS
EGPRS1900	810	1000~20000MHz	19151.33	-32.19	-13	PASS

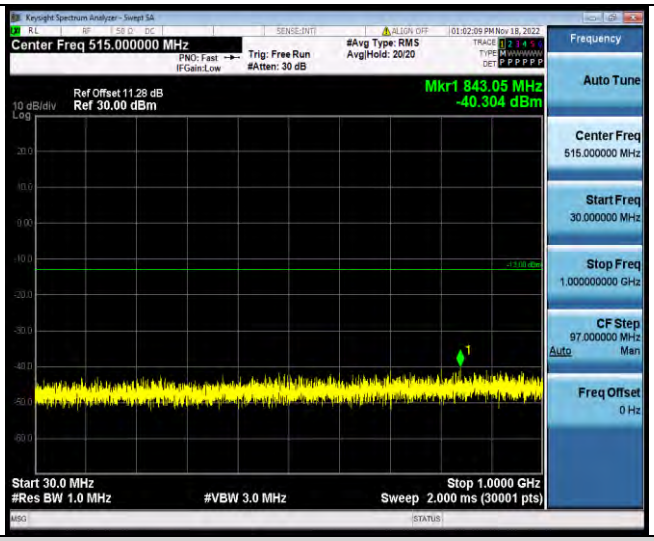
Test Graphs

GSM1900-512-30~1000MHz



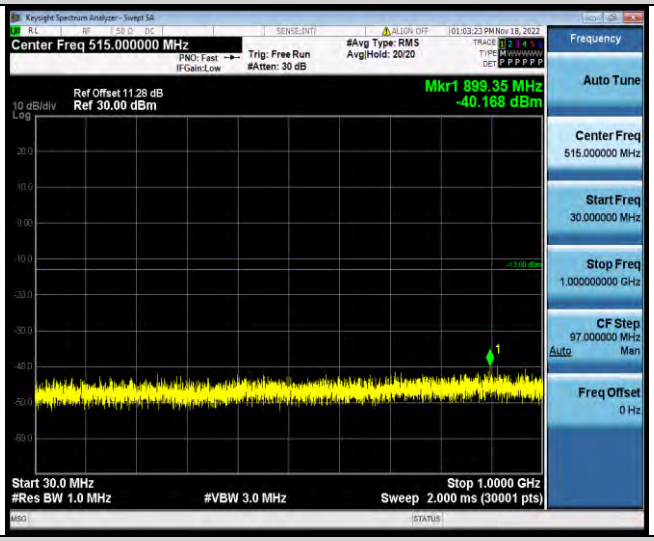
GSM1900-512-1000~20000MHz

GSM1900-661-30~1000MHz



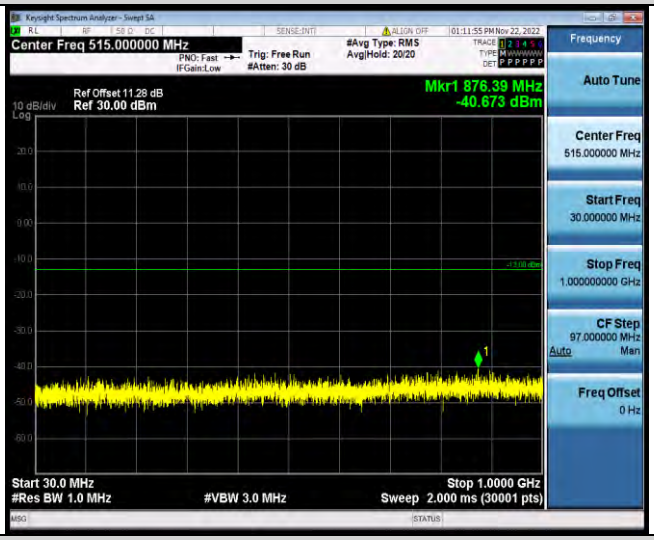
GSM1900-661-1000~20000MHz

GSM1900-810-30~1000MHz



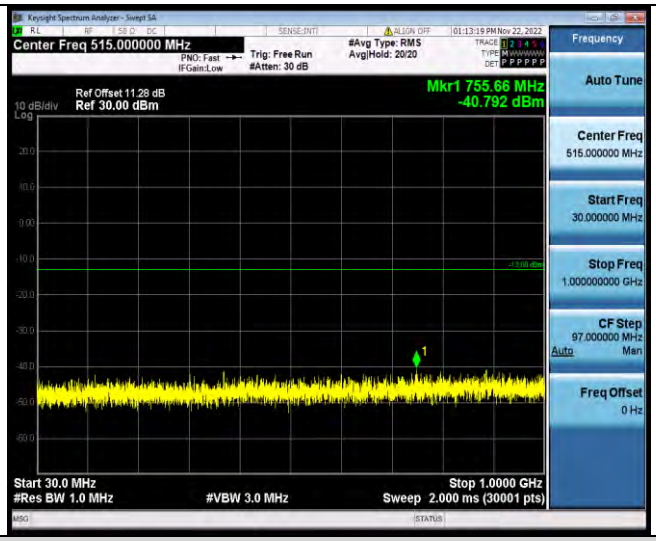
GSM1900-810-1000~20000MHz

EGPRS1900-512-30~1000MHz



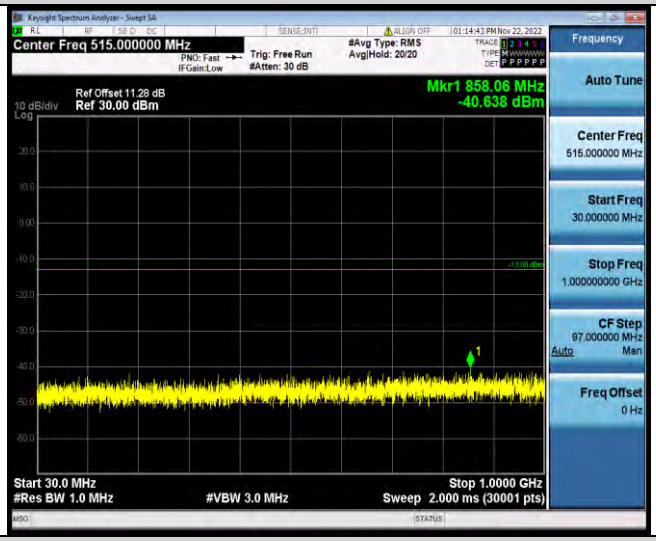
EGPRS1900-512-1000~20000MHz

EGPRS1900-661-30~1000MHz



EGPRS1900-661-1000~20000MHz

EGPRS1900-810-30~1000MHz



EGPRS1900-810-1000~20000MHz

Keysight Spectrum Analyzer - Swept SA
Center Freq 10.500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 20/20
01:15:53 PM Nov 22, 2022
Ref Offset 12.72 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr2 19.151 3 GHz
-32.191 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
#Sweep 3.000 s (30001 pts)
Frequency
Auto Tune
Center Freq
10.500000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
20.000000000 GHz
CF Step
1.900000000 GHz
Auto
Man
Freq Offset
0 Hz

FREQUENCY STABILITY

Test Result

Voltage							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM1900	512	VL	NT	53.92	0.029143	±2.5	PASS
GSM1900	512	VN	NT	47.07	0.025440	±2.5	PASS
GSM1900	512	VH	NT	48.07	0.025981	±2.5	PASS
GSM1900	661	VL	NT	58.11	0.030910	±2.5	PASS
GSM1900	661	VN	NT	57.34	0.030500	±2.5	PASS
GSM1900	661	VH	NT	50.20	0.026702	±2.5	PASS
GSM1900	810	VL	NT	46.98	0.024599	±2.5	PASS
GSM1900	810	VN	NT	51.21	0.026814	±2.5	PASS
GSM1900	810	VH	NT	44.78	0.023447	±2.5	PASS
EGPRS1900	512	VL	NT	75.19	0.040639	±2.5	PASS
EGPRS1900	512	VN	NT	75.87	0.041006	±2.5	PASS
EGPRS1900	512	VH	NT	77.45	0.041860	±2.5	PASS
EGPRS1900	661	VL	NT	56.44	0.030021	±2.5	PASS
EGPRS1900	661	VN	NT	59.99	0.031910	±2.5	PASS
EGPRS1900	661	VH	NT	60.08	0.031957	±2.5	PASS
EGPRS1900	810	VL	NT	60.92	0.031899	±2.5	PASS
EGPRS1900	810	VN	NT	57.21	0.029956	±2.5	PASS
EGPRS1900	810	VH	NT	65.64	0.034370	±2.5	PASS

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM1900	512	NV	-30	51.79	0.027992	±2.5	PASS
GSM1900	512	NV	-20	56.02	0.030278	±2.5	PASS
GSM1900	512	NV	-10	59.28	0.032040	±2.5	PASS
GSM1900	512	NV	0	58.05	0.031375	±2.5	PASS
GSM1900	512	NV	10	59.37	0.032088	±2.5	PASS
GSM1900	512	NV	20	55.85	0.030186	±2.5	PASS
GSM1900	512	NV	30	53.47	0.028900	±2.5	PASS
GSM1900	512	NV	40	53.24	0.028775	±2.5	PASS
GSM1900	512	NV	50	57.11	0.030867	±2.5	PASS

GSM1900	661	NV	-30	49.14	0.026138	±2.5	PASS
GSM1900	661	NV	-20	50.08	0.026638	±2.5	PASS
GSM1900	661	NV	-10	51.40	0.027340	±2.5	PASS
GSM1900	661	NV	0	52.17	0.027750	±2.5	PASS
GSM1900	661	NV	10	54.08	0.028766	±2.5	PASS
GSM1900	661	NV	20	48.49	0.025793	±2.5	PASS
GSM1900	661	NV	30	55.98	0.029777	±2.5	PASS
GSM1900	661	NV	40	56.44	0.030021	±2.5	PASS
GSM1900	661	NV	50	55.27	0.029399	±2.5	PASS
GSM1900	810	NV	-30	46.65	0.024427	±2.5	PASS
GSM1900	810	NV	-20	47.07	0.024647	±2.5	PASS
GSM1900	810	NV	-10	46.75	0.024479	±2.5	PASS
GSM1900	810	NV	0	44.52	0.023311	±2.5	PASS
GSM1900	810	NV	10	49.40	0.025867	±2.5	PASS
GSM1900	810	NV	20	55.08	0.028841	±2.5	PASS
GSM1900	810	NV	30	48.14	0.025207	±2.5	PASS
GSM1900	810	NV	40	47.17	0.024699	±2.5	PASS
GSM1900	810	NV	50	42.17	0.022081	±2.5	PASS
EGPRS1900	512	NV	-30	78.16	0.042244	±2.5	PASS
EGPRS1900	512	NV	-20	78.39	0.042368	±2.5	PASS
EGPRS1900	512	NV	-10	71.67	0.038736	±2.5	PASS
EGPRS1900	512	NV	0	74.90	0.040482	±2.5	PASS
EGPRS1900	512	NV	10	58.41	0.031570	±2.5	PASS
EGPRS1900	512	NV	20	64.47	0.034845	±2.5	PASS
EGPRS1900	512	NV	30	59.15	0.031970	±2.5	PASS
EGPRS1900	512	NV	40	61.05	0.032996	±2.5	PASS
EGPRS1900	512	NV	50	72.90	0.039401	±2.5	PASS
EGPRS1900	661	NV	-30	57.82	0.030755	±2.5	PASS
EGPRS1900	661	NV	-20	52.46	0.027904	±2.5	PASS
EGPRS1900	661	NV	-10	61.54	0.032734	±2.5	PASS
EGPRS1900	661	NV	0	60.21	0.032027	±2.5	PASS
EGPRS1900	661	NV	10	56.05	0.029814	±2.5	PASS
EGPRS1900	661	NV	20	55.79	0.029676	±2.5	PASS
EGPRS1900	661	NV	30	60.73	0.032303	±2.5	PASS
EGPRS19	661	NV	40	65.93	0.035069	±2.5	PASS

00							
EGPRS1900	661	NV	50	60.67	0.032271	±2.5	PASS
EGPRS1900	810	NV	-30	63.93	0.033475	±2.5	PASS
EGPRS1900	810	NV	-20	64.73	0.033894	±2.5	PASS
EGPRS1900	810	NV	-10	64.70	0.033878	±2.5	PASS
EGPRS1900	810	NV	0	65.80	0.034454	±2.5	PASS
EGPRS1900	810	NV	10	60.50	0.031679	±2.5	PASS
EGPRS1900	810	NV	20	67.32	0.035250	±2.5	PASS
EGPRS1900	810	NV	30	60.83	0.031852	±2.5	PASS
EGPRS1900	810	NV	40	60.70	0.031783	±2.5	PASS
EGPRS1900	810	NV	50	64.02	0.033522	±2.5	PASS

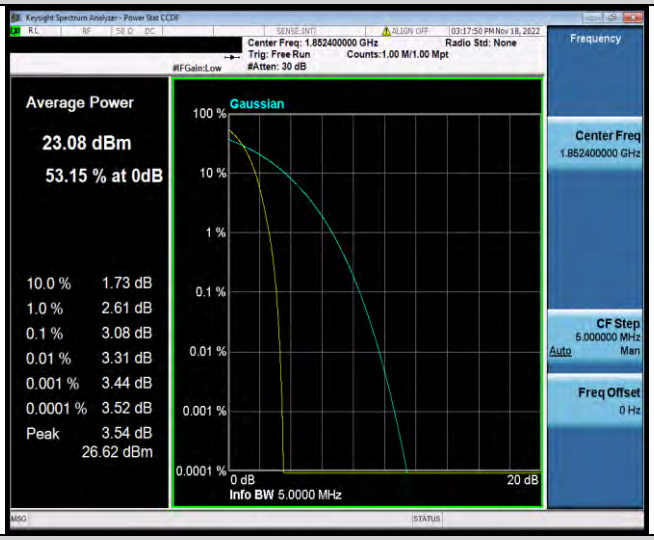
WDCMA BAND2

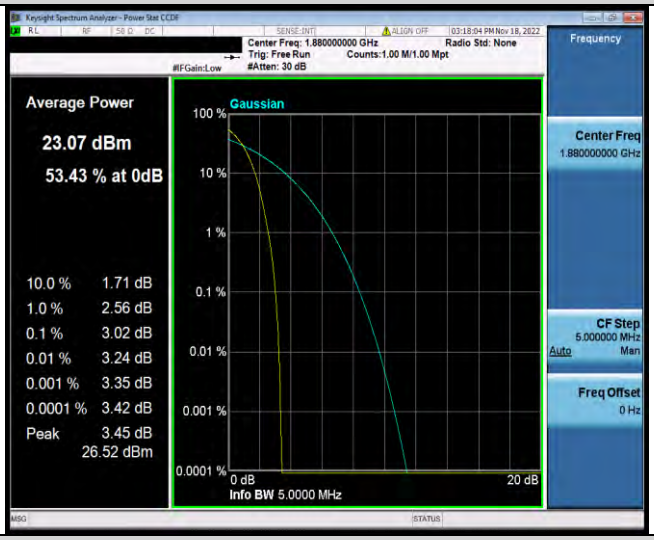
PEAK-TO-AVERAGE RATIO

Test Result

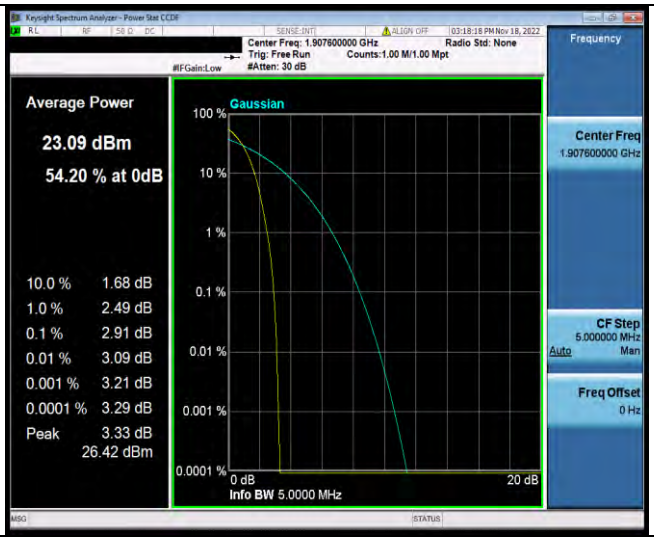
Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
Band2	9262	3.08	13	PASS
Band2	9400	3.02	13	PASS
Band2	9538	2.91	13	PASS

Test Graphs

Band2-9262


Band2-9400


Band2-9538


Keysight Spectrum Analyzer - Power Stat CCDF
Center Freq: 1.907600000 GHz
Trig: Free Run
#Atten: 30 dB
Counts:1.00 M/1.00 Mpt
Radio Std: None
Frequency
Average Power
23.09 dBm
54.20 % at 0dB
10.0 % 1.68 dB
1.0 % 2.49 dB
0.1 % 2.91 dB
0.01 % 3.09 dB
0.001 % 3.21 dB
0.0001 % 3.29 dB
Peak 3.33 dB
26.42 dBm
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
0 dB
20 dB
Info BW 5.0000 MHz
Center Freq
1.907600000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit(MHz)	Verdict
Band2	9262	4.1581	4.722	---	PASS
Band2	9400	4.1603	4.730	---	PASS
Band2	9538	4.1505	4.724	---	PASS

Test Graphs

Band2-9262
Band2-9400
Band2-9538

Keysight Spectrum Analyzer - Occupied BW
Center Freq 1.907600000 GHz
Center Freq: 1.907600000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 13.39 dB
10 dB/div
Ref 40.00 dBm
Center Freq
1.907600000 GHz
Center 1.908 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 10 MHz
#Sweep 100 ms
CF Step
1.000000 MHz
Auto
Man
Occupied Bandwidth
4.1505 MHz
Total Power
25.6 dBm
Transmit Freq Error
-3.611 kHz
OBW Power
99.00 %
x dB Bandwidth
4.724 MHz
x dB
-26.00 dB
Freq Offset
0 Hz

BAND EDGE

Test Result

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1849.86	-25.79	-13	PASS
Band2	9538	1910.00	-25.90	-13	PASS

Test Graphs

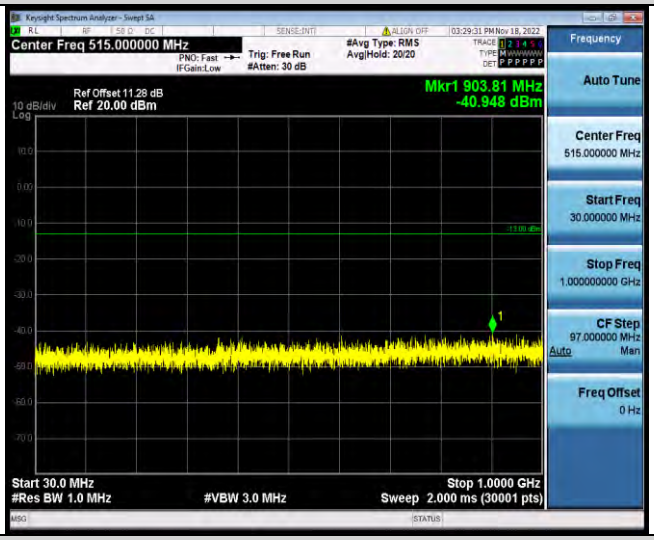
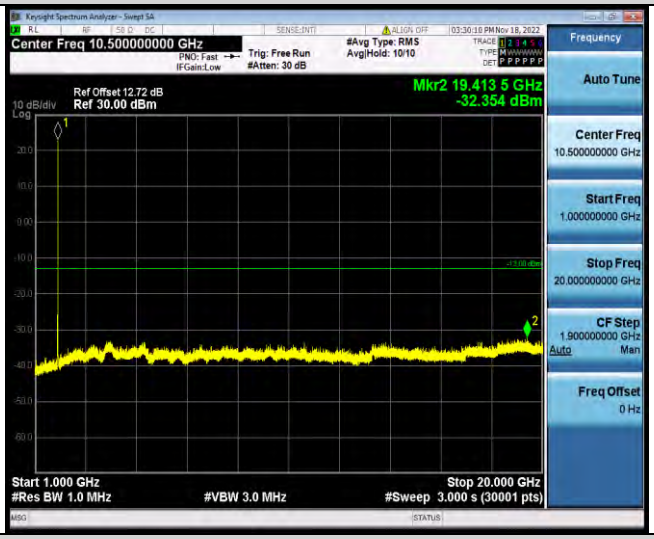
Band2-9262
Band2-9538

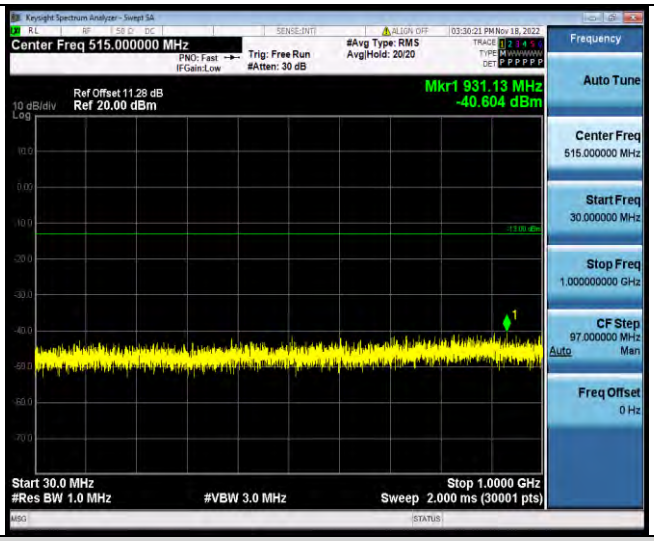
CONDUCTED SPURIOUS EMISSION

Test Result

Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	30~1000MHz	903.81	-40.95	-13	PASS
Band2	9262	1000~20000MHz	19413.53	-32.35	-13	PASS
Band2	9400	30~1000MHz	931.13	-40.6	-13	PASS
Band2	9400	1000~20000MHz	19181.73	-32.64	-13	PASS
Band2	9538	30~1000MHz	907.4	-40.11	-13	PASS
Band2	9538	1000~20000MHz	19117.13	-31.89	-13	PASS

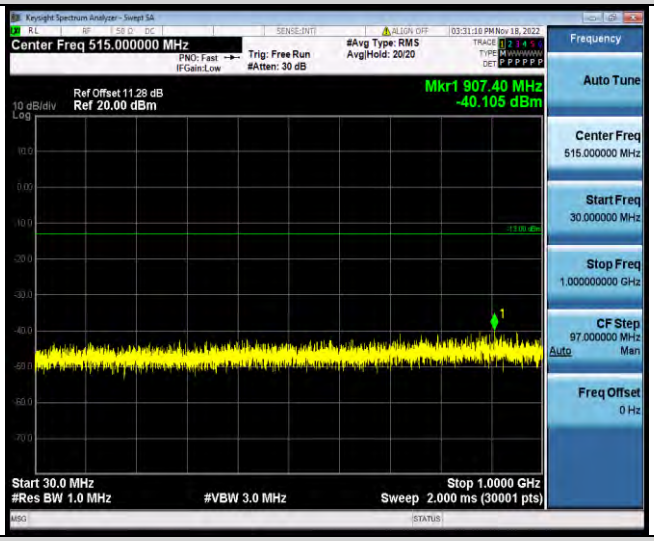
Test Graphs

Band2-9262-30~1000MHz

Band2-9262-1000~20000MHz

Band2-9400-30~1000MHz



Band2-9400-1000~20000MHz

Band2-9538-30~1000MHz



Band2-9538-1000~20000MHz

FREQUENCY STABILITY

Test Result

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9262	VL	NT	-0.29	-0.000157	±2.5	PASS
Band2	9262	VN	NT	-0.34	-0.000184	±2.5	PASS
Band2	9262	VH	NT	1.09	0.000588	±2.5	PASS
Band2	9400	VL	NT	-2.30	-0.001223	±2.5	PASS
Band2	9400	VN	NT	-3.08	-0.001638	±2.5	PASS
Band2	9400	VH	NT	-2.14	-0.001138	±2.5	PASS
Band2	9538	VL	NT	-5.34	-0.002799	±2.5	PASS
Band2	9538	VN	NT	-6.54	-0.003428	±2.5	PASS
Band2	9538	VH	NT	-3.31	-0.001735	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9262	NV	-30	0.42	0.000227	±2.5	PASS
Band2	9262	NV	-20	0.18	0.000097	±2.5	PASS
Band2	9262	NV	0	0.40	0.000216	±2.5	PASS
Band2	9262	NV	10	0.04	0.000022	±2.5	PASS
Band2	9262	NV	20	0.39	0.000211	±2.5	PASS
Band2	9262	NV	30	0.49	0.000265	±2.5	PASS
Band2	9262	NV	40	0.24	0.000130	±2.5	PASS
Band2	9262	NV	50	0.49	0.000265	±2.5	PASS
Band2	9400	NV	-30	-3.43	-0.001824	±2.5	PASS

Band2	9400	NV	-20	-2.07	-0.001101	±2.5	PASS
Band2	9400	NV	0	-2.33	-0.001239	±2.5	PASS
Band2	9400	NV	10	-2.79	-0.001484	±2.5	PASS
Band2	9400	NV	20	-0.84	-0.000447	±2.5	PASS
Band2	9400	NV	30	-2.24	-0.001191	±2.5	PASS
Band2	9400	NV	40	-2.35	-0.001250	±2.5	PASS
Band2	9400	NV	50	-3.02	-0.001606	±2.5	PASS
Band2	9538	NV	-30	-6.48	-0.003397	±2.5	PASS
Band2	9538	NV	-20	-5.76	-0.003020	±2.5	PASS
Band2	9538	NV	0	-5.62	-0.002946	±2.5	PASS
Band2	9538	NV	10	-5.36	-0.002810	±2.5	PASS
Band2	9538	NV	20	-5.78	-0.003030	±2.5	PASS
Band2	9538	NV	30	-5.59	-0.002930	±2.5	PASS
Band2	9538	NV	40	-5.69	-0.002983	±2.5	PASS
Band2	9538	NV	50	-4.34	-0.002275	±2.5	PASS

LTE BAND2

PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band2	1.4MHz	QPSK	18607	1RB#0	3.83	13	PASS
Band2	1.4MHz	QPSK	18607	6RB#0	5.05	13	PASS
Band2	1.4MHz	QPSK	18900	1RB#0	3.73	13	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	5.19	13	PASS
Band2	1.4MHz	QPSK	19193	1RB#0	3.55	13	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	4.77	13	PASS
Band2	1.4MHz	16QAM	18607	1RB#0	4.80	13	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	5.90	13	PASS
Band2	1.4MHz	16QAM	18900	1RB#0	4.64	13	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	6.06	13	PASS
Band2	1.4MHz	16QAM	19193	1RB#0	4.47	13	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	5.63	13	PASS
Band2	1.4MHz	64QAM	18607	1RB#0	5.50	13	PASS
Band2	1.4MHz	64QAM	18607	6RB#0	6.54	13	PASS
Band2	1.4MHz	64QAM	18900	1RB#0	5.65	13	PASS
Band2	1.4MHz	64QAM	18900	6RB#0	6.84	13	PASS
Band2	1.4MHz	64QAM	19193	1RB#0	5.34	13	PASS
Band2	1.4MHz	64QAM	19193	6RB#0	6.38	13	PASS
Band2	3MHz	QPSK	18615	1RB#0	3.79	13	PASS
Band2	3MHz	QPSK	18615	15RB#0	5.12	13	PASS
Band2	3MHz	QPSK	18900	1RB#0	3.83	13	PASS
Band2	3MHz	QPSK	18900	15RB#0	5.22	13	PASS
Band2	3MHz	QPSK	19185	1RB#0	3.62	13	PASS
Band2	3MHz	QPSK	19185	15RB#0	4.87	13	PASS
Band2	3MHz	16QAM	18615	1RB#0	4.71	13	PASS
Band2	3MHz	16QAM	18615	15RB#0	5.92	13	PASS
Band2	3MHz	16QAM	18900	1RB#0	4.73	13	PASS
Band2	3MHz	16QAM	18900	15RB#0	6.12	13	PASS
Band2	3MHz	16QAM	19185	1RB#0	4.55	13	PASS
Band2	3MHz	16QAM	19185	15RB#0	5.81	13	PASS
Band2	3MHz	64QAM	18615	1RB#0	5.71	13	PASS
Band2	3MHz	64QAM	18615	15RB#0	6.60	13	PASS
Band2	3MHz	64QAM	18900	1RB#0	5.78	13	PASS
Band2	3MHz	64QAM	18900	15RB#0	6.73	13	PASS
Band2	3MHz	64QAM	19185	1RB#0	5.65	13	PASS
Band2	3MHz	64QAM	19185	15RB#0	6.58	13	PASS
Band2	5MHz	QPSK	18625	1RB#0	3.75	13	PASS
Band2	5MHz	QPSK	18625	25RB#0	5.08	13	PASS
Band2	5MHz	QPSK	18900	1RB#0	3.79	13	PASS
Band2	5MHz	QPSK	18900	25RB#0	5.08	13	PASS
Band2	5MHz	QPSK	19175	1RB#0	3.80	13	PASS

Band2	5MHz	QPSK	19175	25RB#0	4.91	13	PASS
Band2	5MHz	16QAM	18625	1RB#0	4.63	13	PASS
Band2	5MHz	16QAM	18625	25RB#0	5.95	13	PASS
Band2	5MHz	16QAM	18900	1RB#0	4.64	13	PASS
Band2	5MHz	16QAM	18900	25RB#0	5.92	13	PASS
Band2	5MHz	16QAM	19175	1RB#0	4.44	13	PASS
Band2	5MHz	16QAM	19175	25RB#0	5.83	13	PASS
Band2	5MHz	64QAM	18625	1RB#0	5.50	13	PASS
Band2	5MHz	64QAM	18625	25RB#0	6.58	13	PASS
Band2	5MHz	64QAM	18900	1RB#0	5.62	13	PASS
Band2	5MHz	64QAM	18900	25RB#0	6.62	13	PASS
Band2	5MHz	64QAM	19175	1RB#0	5.71	13	PASS
Band2	5MHz	64QAM	19175	25RB#0	6.58	13	PASS
Band2	10MHz	QPSK	18650	1RB#0	3.70	13	PASS
Band2	10MHz	QPSK	18650	50RB#0	5.18	13	PASS
Band2	10MHz	QPSK	18900	1RB#0	3.76	13	PASS
Band2	10MHz	QPSK	18900	50RB#0	5.00	13	PASS
Band2	10MHz	QPSK	19150	1RB#0	3.95	13	PASS
Band2	10MHz	QPSK	19150	50RB#0	5.11	13	PASS
Band2	10MHz	16QAM	18650	1RB#0	4.43	13	PASS
Band2	10MHz	16QAM	18650	50RB#0	6.09	13	PASS
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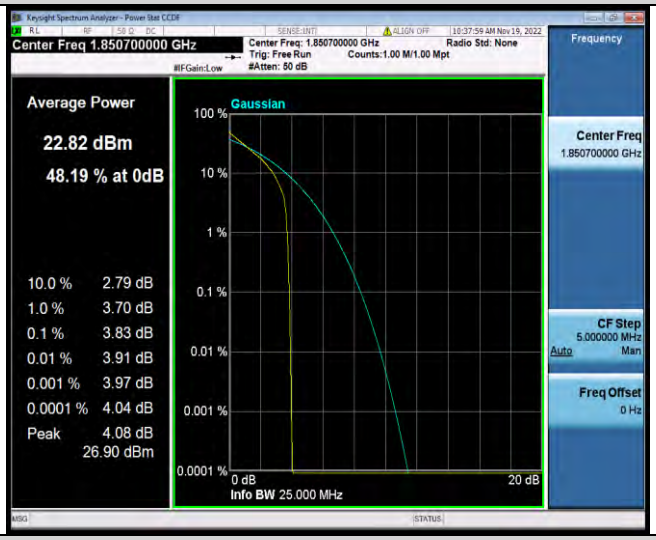
Band2	10MHz	16QAM	18900	50RB#0	5.89	13	PASS
Band2	10MHz	16QAM	19150	1RB#0	4.85	13	PASS
Band2	10MHz	16QAM	19150	50RB#0	5.97	13	PASS
Band2	10MHz	64QAM	18650	1RB#0	5.58	13	PASS
Band2	10MHz	64QAM	18650	50RB#0	6.61	13	PASS
Band2	10MHz	64QAM	18900	1RB#0	5.73	13	PASS
Band2	10MHz	64QAM	18900	50RB#0	6.51	13	PASS
Band2	10MHz	64QAM	19150	1RB#0	5.88	13	PASS
Band2	10MHz	64QAM	19150	50RB#0	6.67	13	PASS
Band2	15MHz	QPSK	18675	1RB#0	3.64	13	PASS
Band2	15MHz	QPSK	18675	75RB#0	5.43	13	PASS
Band2	15MHz	QPSK	18900	1RB#0	3.79	13	PASS
Band2	15MHz	QPSK	18900	75RB#0	5.21	13	PASS
Band2	15MHz	QPSK	19125	1RB#0	3.80	13	PASS
Band2	15MHz	QPSK	19125	75RB#0	5.47	13	PASS
Band2	15MHz	16QAM	18675	1RB#0	4.48	13	PASS
Band2	15MHz	16QAM	18675	75RB#0	6.19	13	PASS
Band2	15MHz	16QAM	18900	1RB#0	4.68	13	PASS
Band2	15MHz	16QAM	18900	75RB#0	5.99	13	PASS
Band2	15MHz	16QAM	19125	1RB#0	4.66	13	PASS
Band2	15MHz	16QAM	19125	75RB#0	6.21	13	PASS
Band2	15MHz	64QAM	18675	1RB#0	5.60	13	PASS
Band2	15MHz	64QAM	18675	75RB#0	6.69	13	PASS
Band2	15MHz	64QAM	18900	1RB#0	5.79	13	PASS
Band2	15MHz	64QAM	18900	75RB#0	6.52	13	PASS
Band2	15MHz	64QAM	19125	1RB#0	5.56	13	PASS
Band2	15MHz	64QAM	19125	75RB#0	6.80	13	PASS
Band2	20MHz	QPSK	18700	1RB#0	3.70	13	PASS
Band2	20MHz	QPSK	18700	100RB#0	5.30	13	PASS
Band2	20MHz	QPSK	18900	1RB#0	3.84	13	PASS
Band2	20MHz	QPSK	18900	100RB#0	5.03	13	PASS

Band2	20MHz	QPSK	19100	1RB#0	3.78	13	PASS
Band2	20MHz	QPSK	19100	100RB#0	5.39	13	PASS
Band2	20MHz	16QAM	18700	1RB#0	4.70	13	PASS
Band2	20MHz	16QAM	18700	100RB#0	6.14	13	PASS
Band2	20MHz	16QAM	18900	1RB#0	4.70	13	PASS
Band2	20MHz	16QAM	18900	100RB#0	5.88	13	PASS
Band2	20MHz	16QAM	19100	1RB#0	4.57	13	PASS
Band2	20MHz	16QAM	19100	100RB#0	6.23	13	PASS
Band2	20MHz	64QAM	18700	1RB#0	5.51	13	PASS
Band2	20MHz	64QAM	18700	100RB#0	6.71	13	PASS
Band2	20MHz	64QAM	18900	1RB#0	5.87	13	PASS
Band2	20MHz	64QAM	18900	100RB#0	6.52	13	PASS
Band2	20MHz	64QAM	19100	1RB#0	5.71	13	PASS
Band2	20MHz	64QAM	19100	100RB#0	6.74	13	PASS

Test Graphs

Band2-1.4MHz-QPSK-18607-1RB#0



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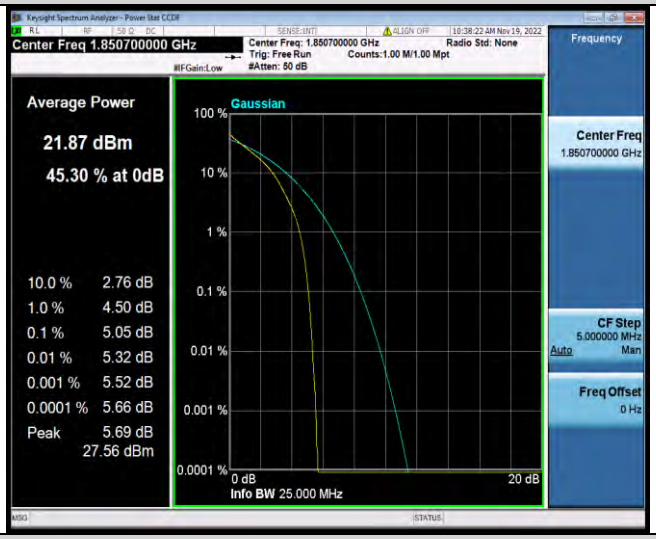

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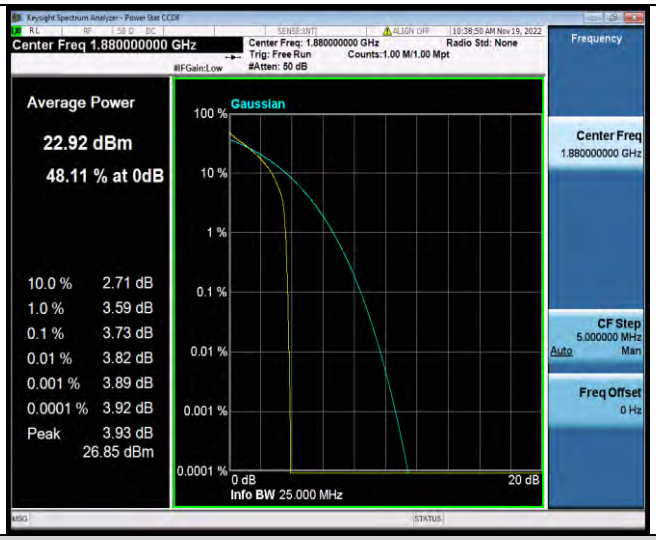

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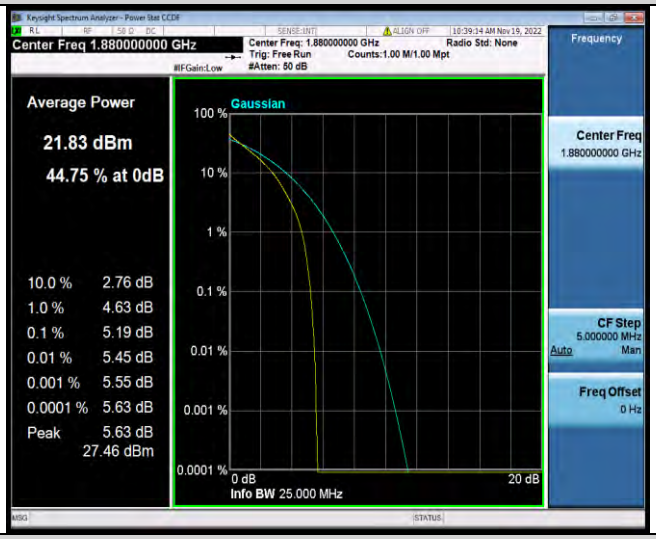

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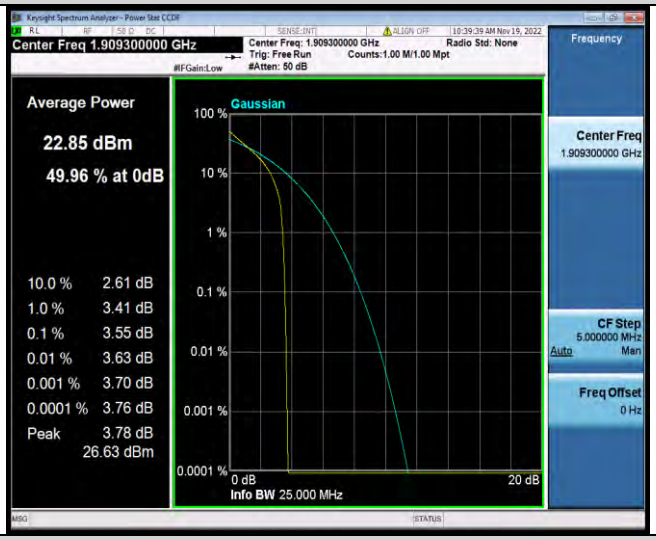

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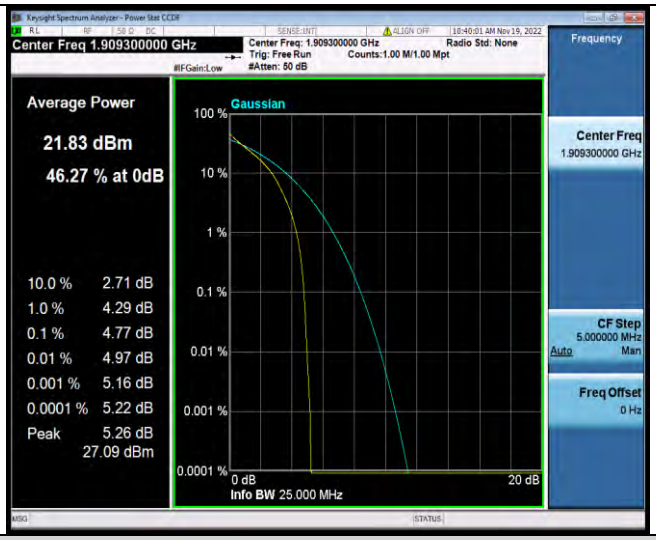

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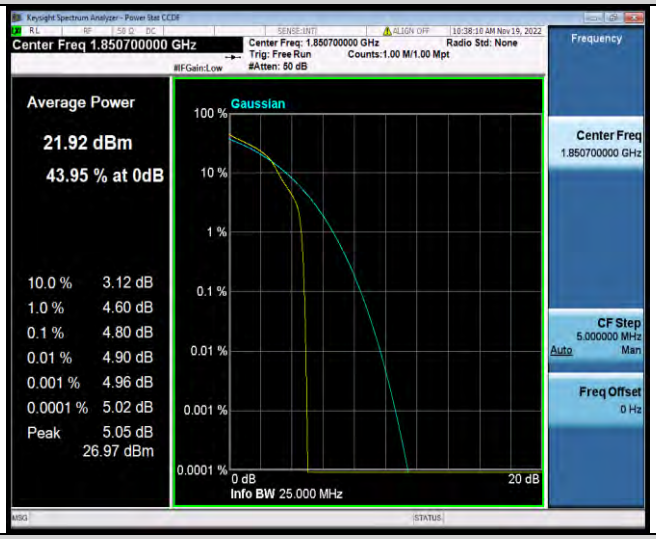

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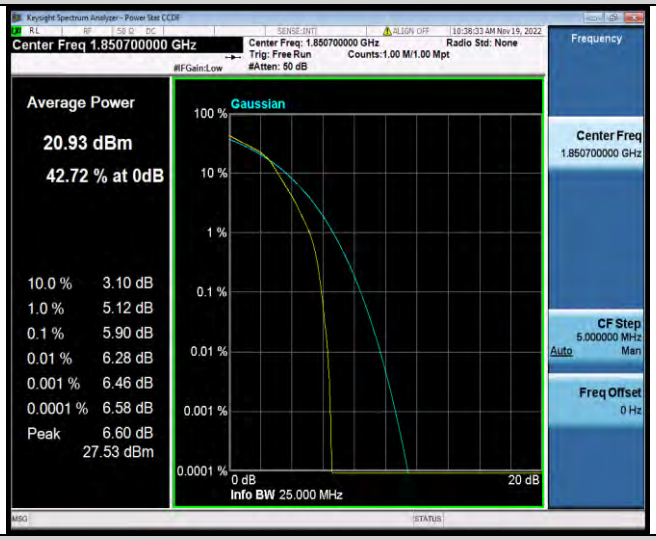

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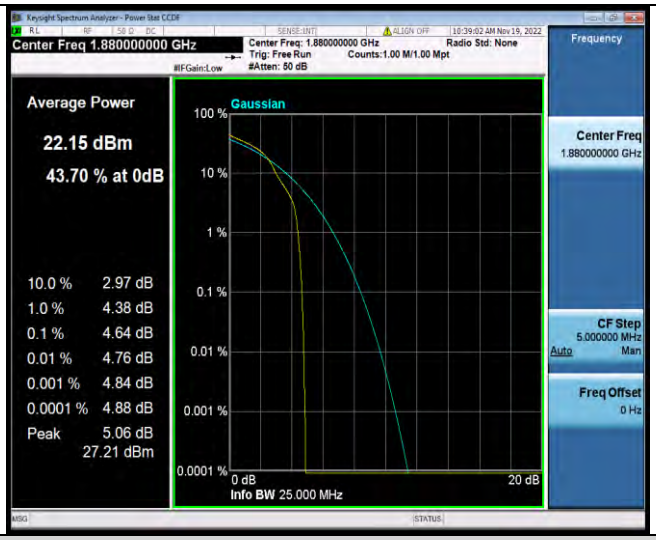

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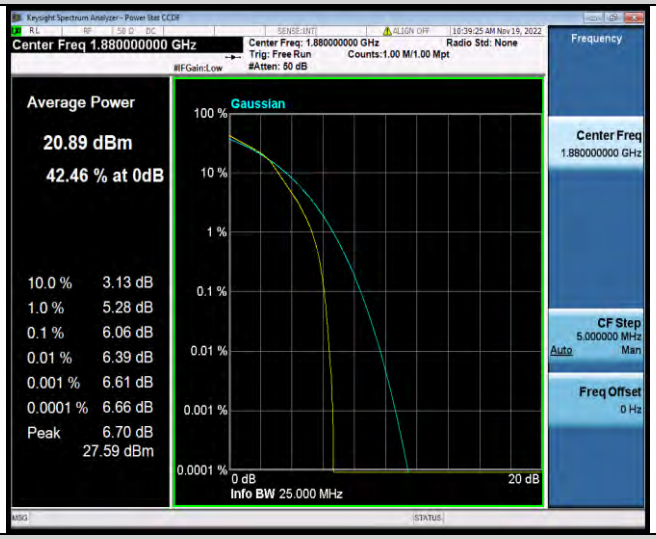

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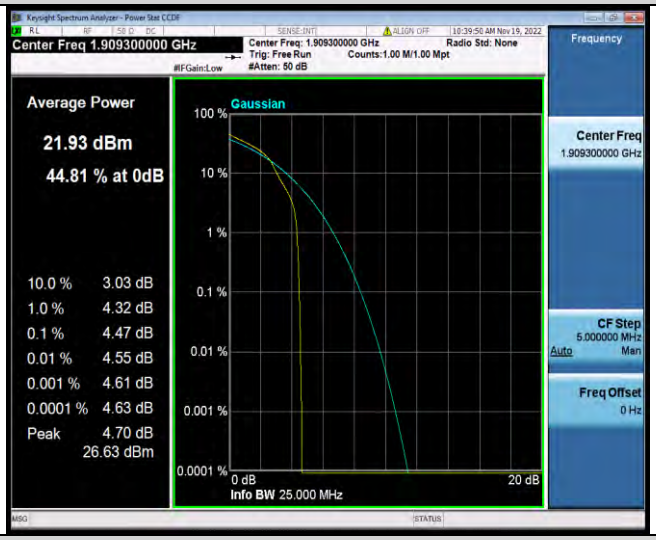

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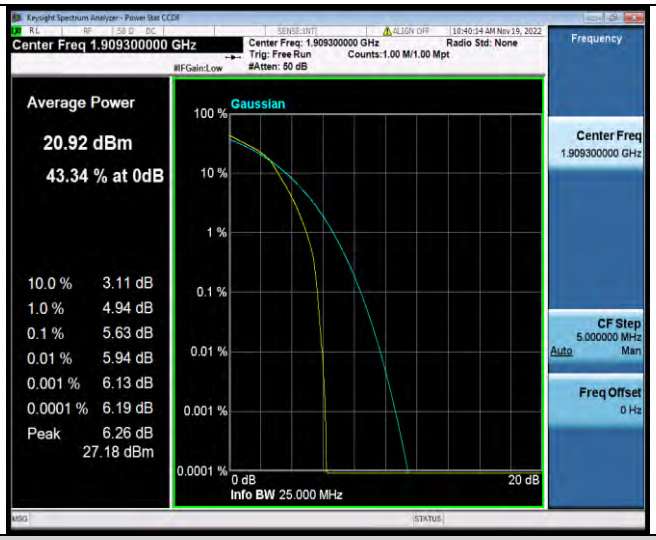

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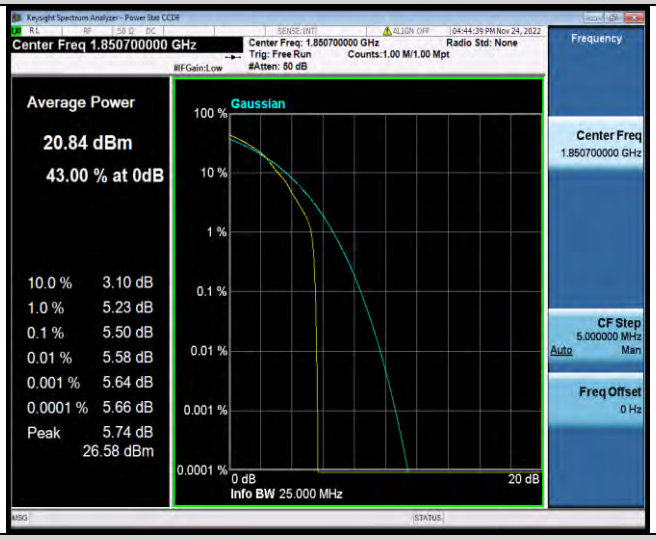

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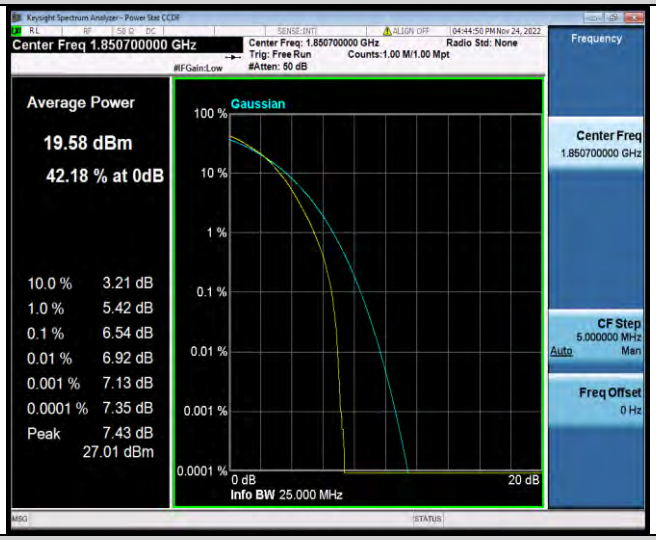

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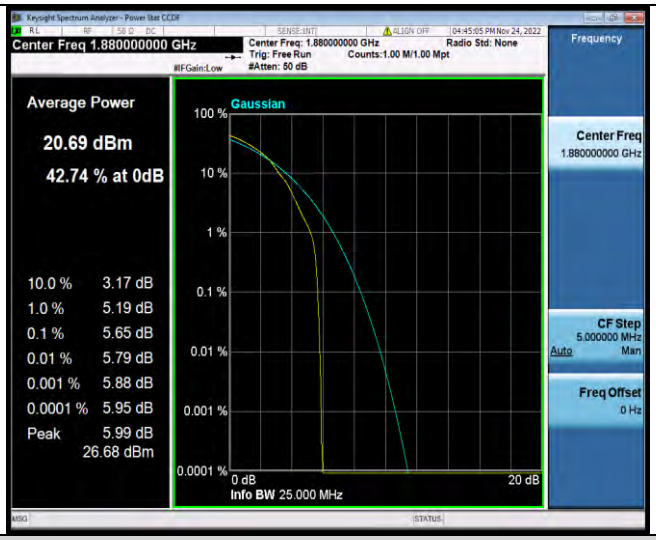

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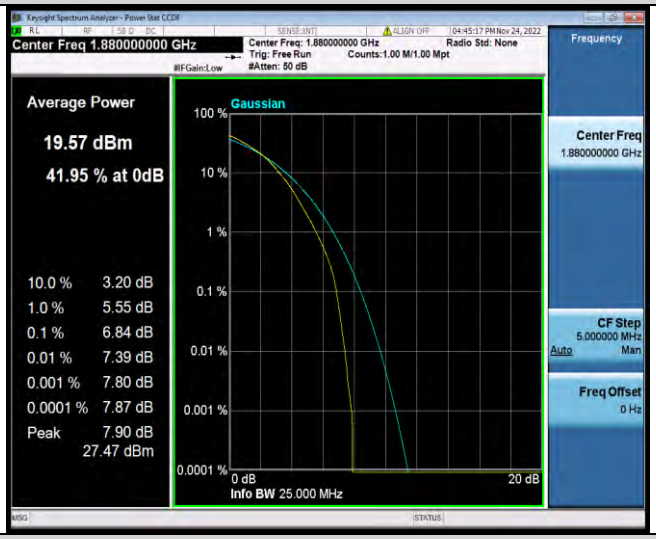

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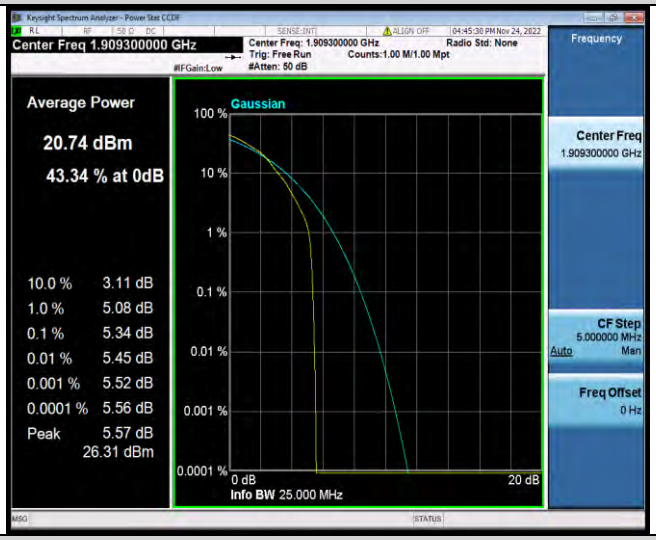

Band2-1.4MHz-64QAM-19193-6RB#0