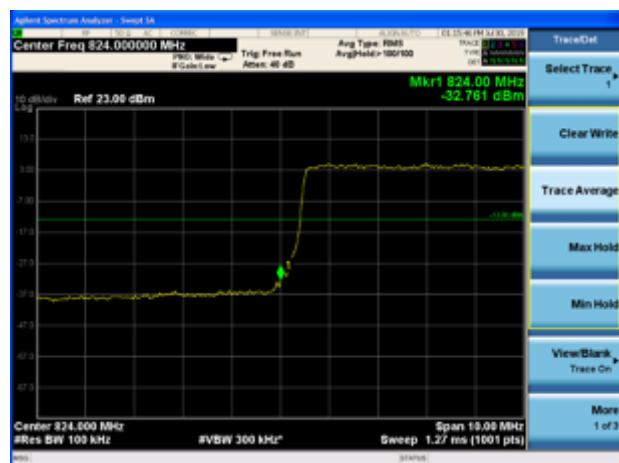
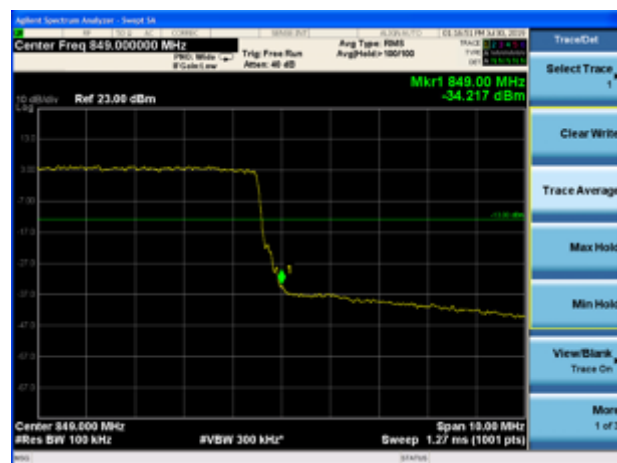


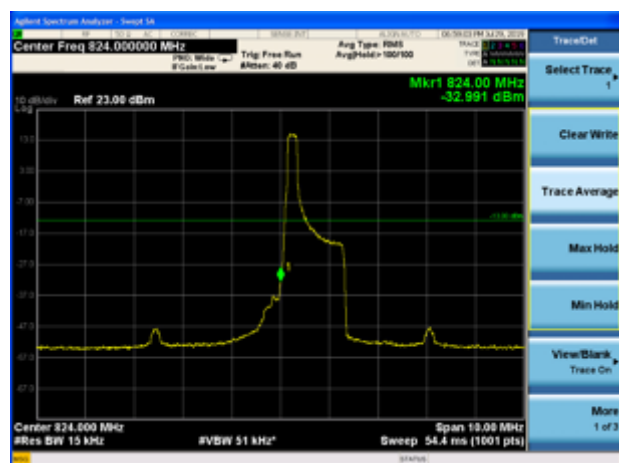
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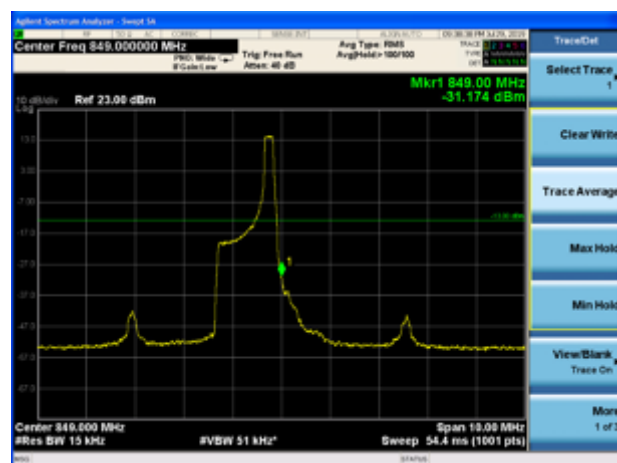
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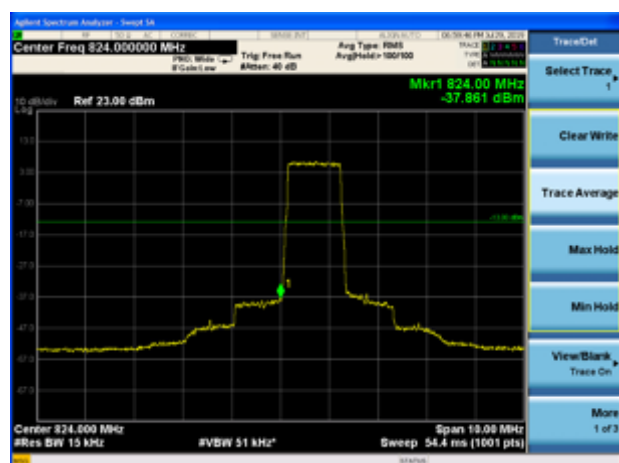
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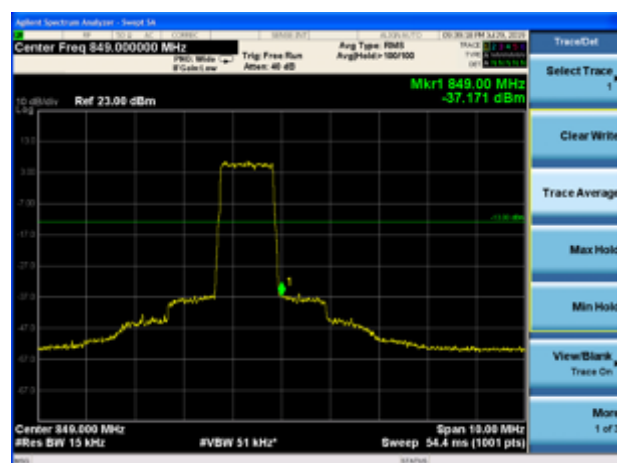
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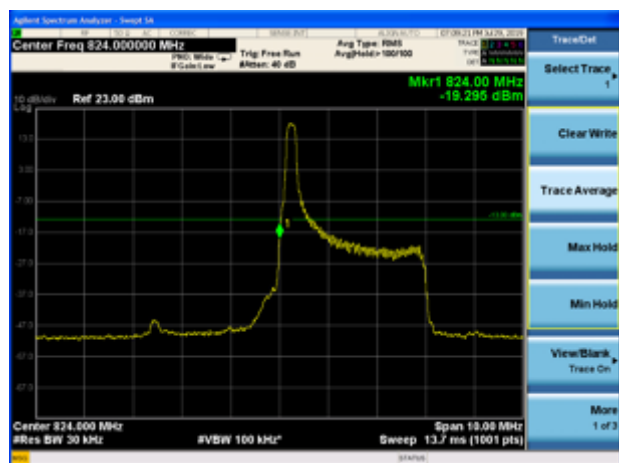
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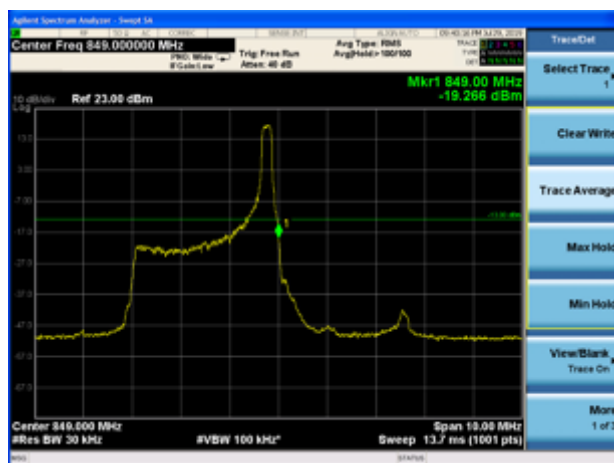
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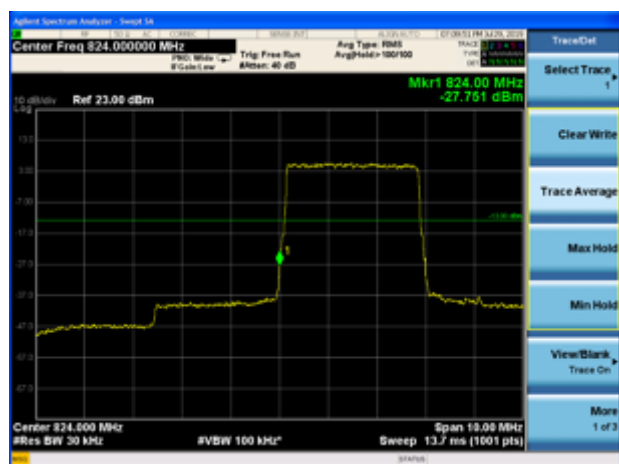
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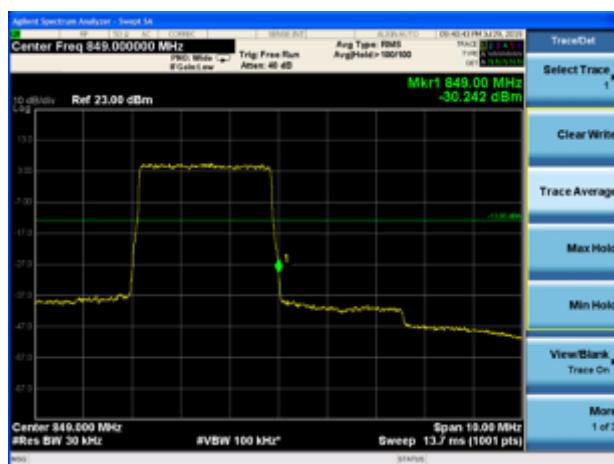
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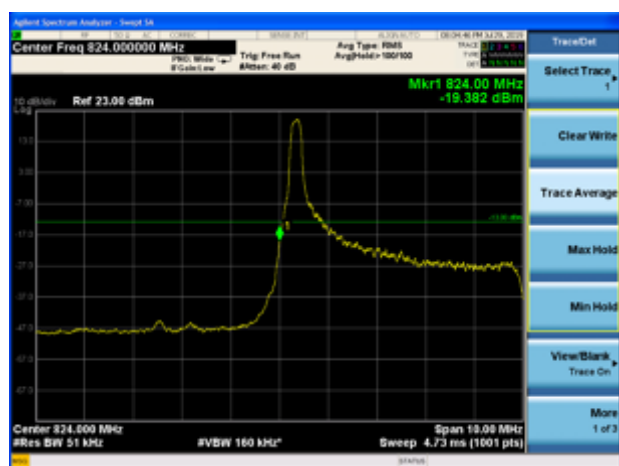
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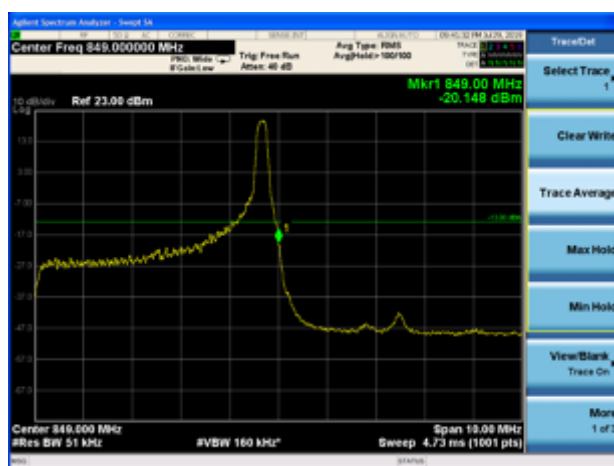
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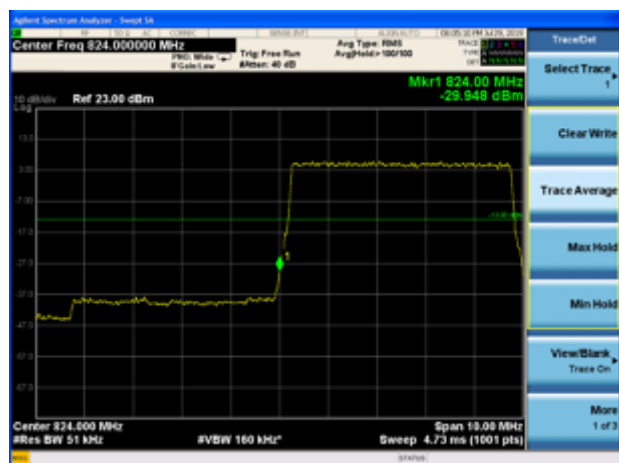
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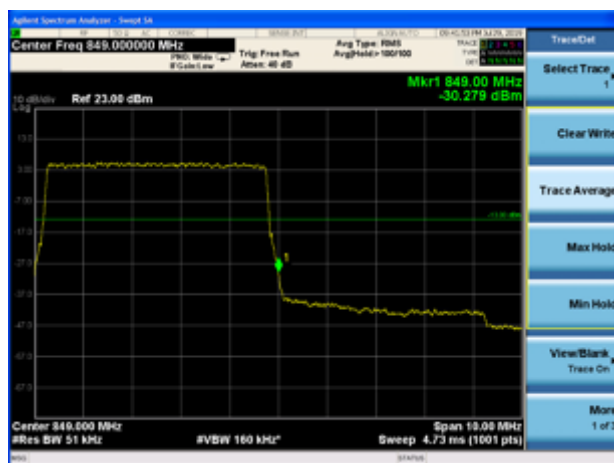
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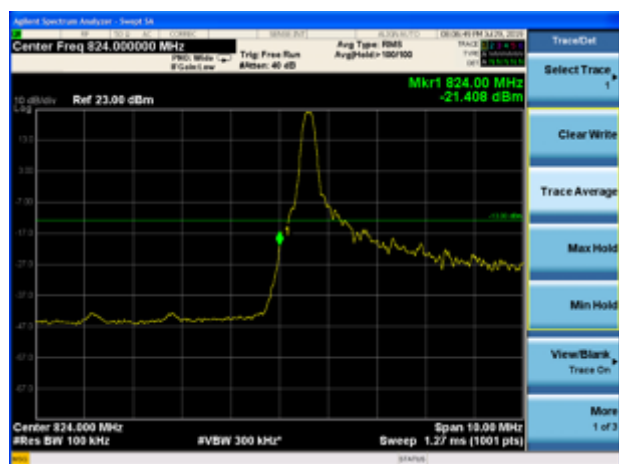
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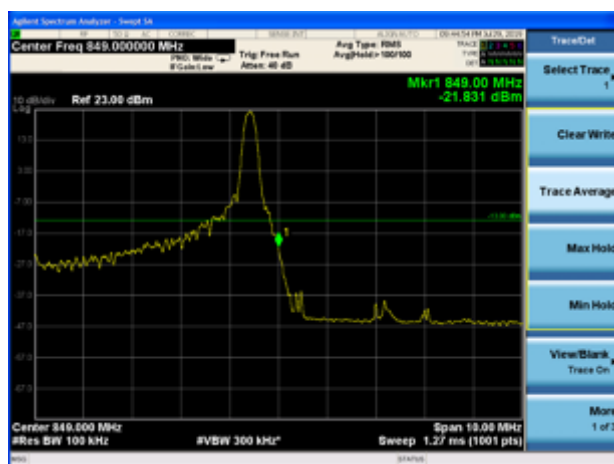
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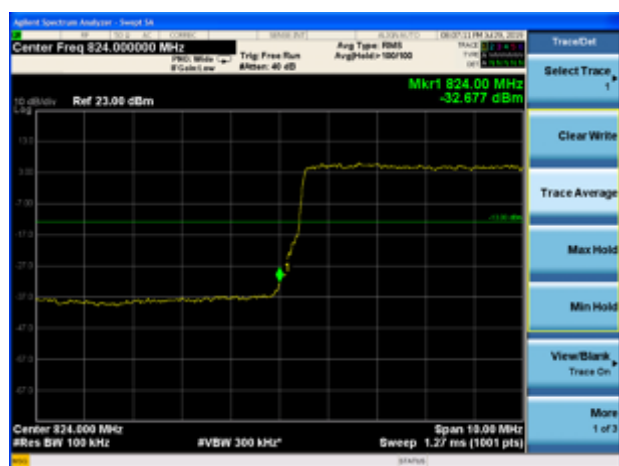
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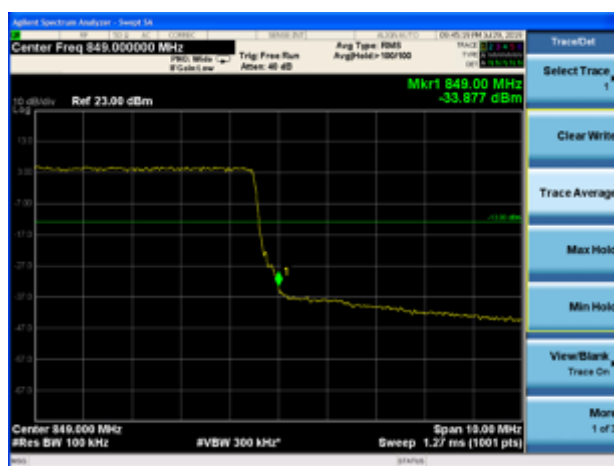
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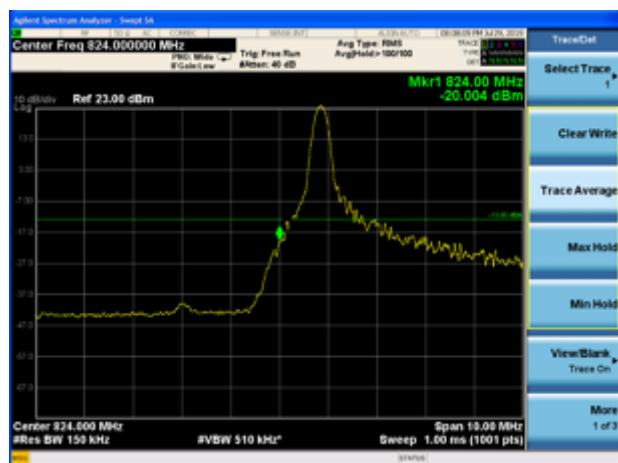
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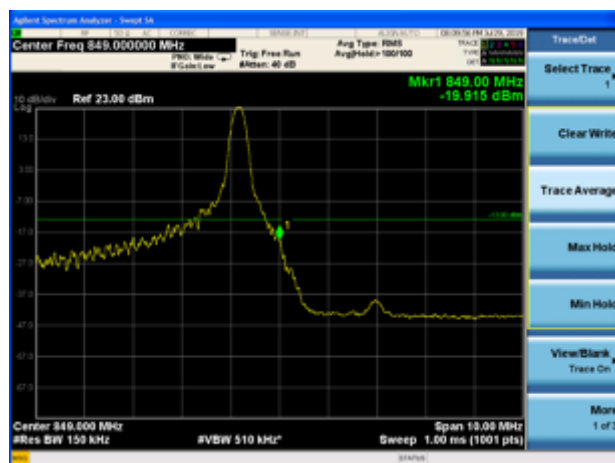
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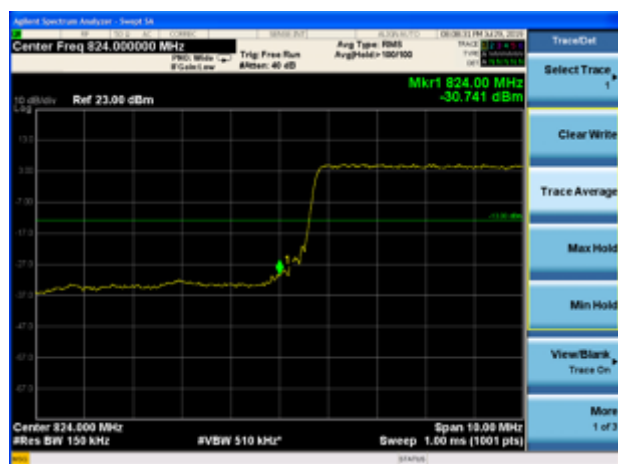
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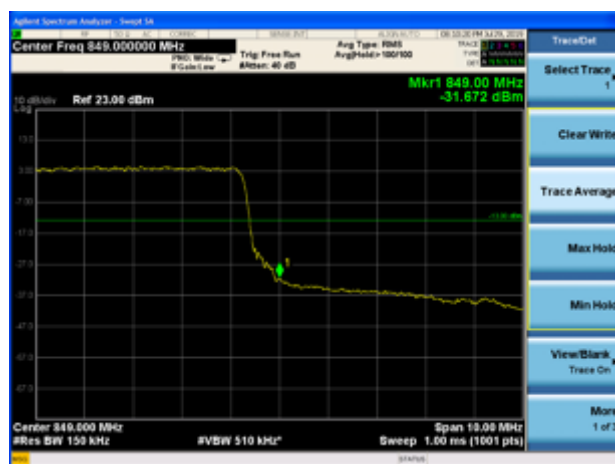
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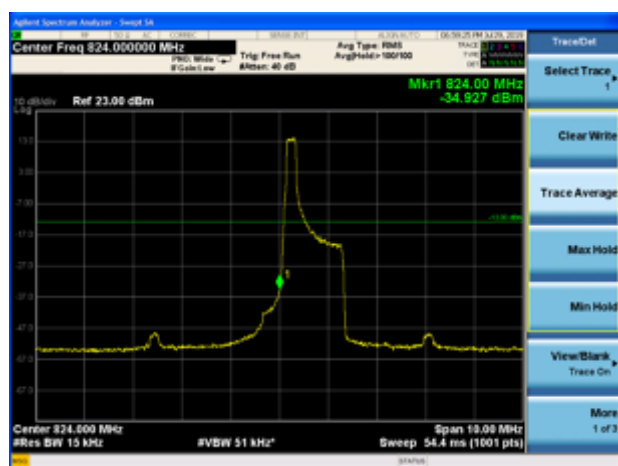
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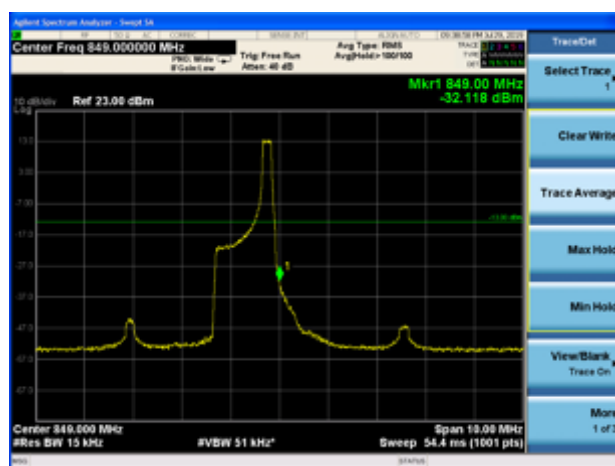
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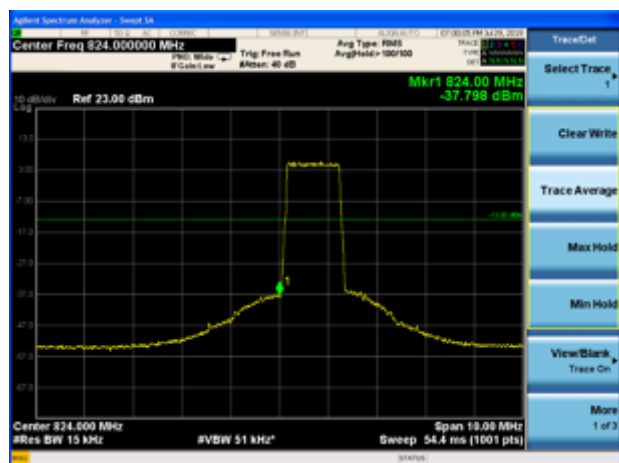
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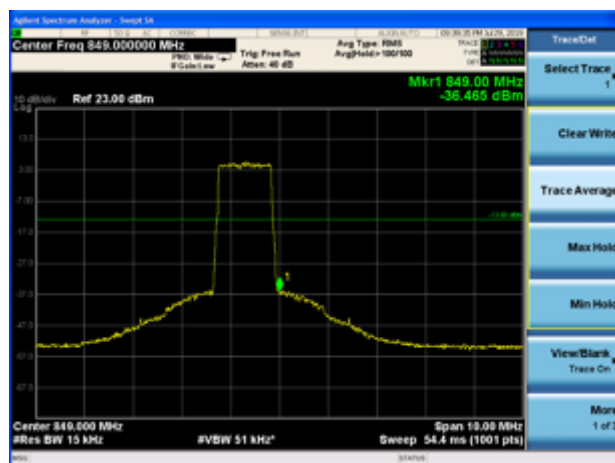
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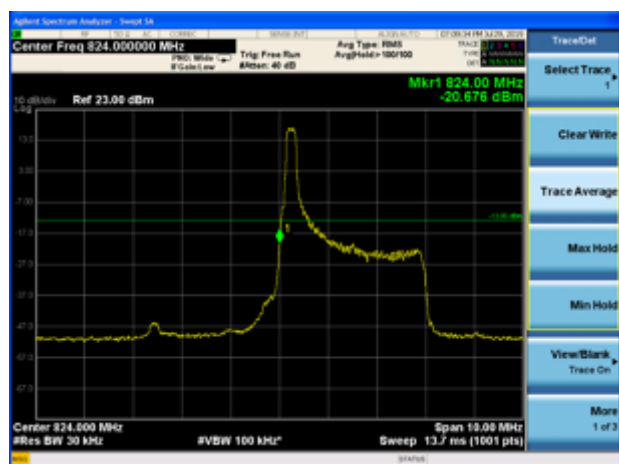
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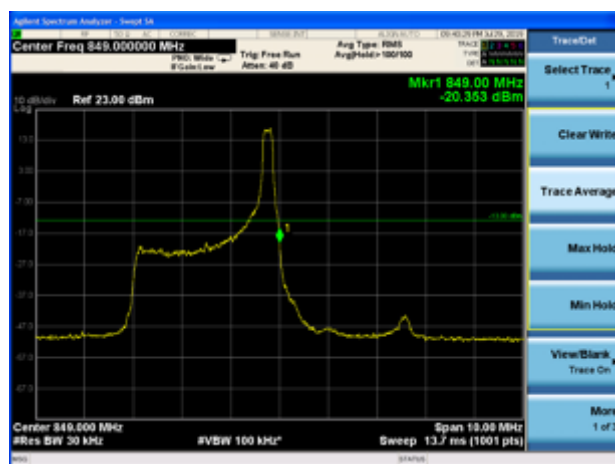
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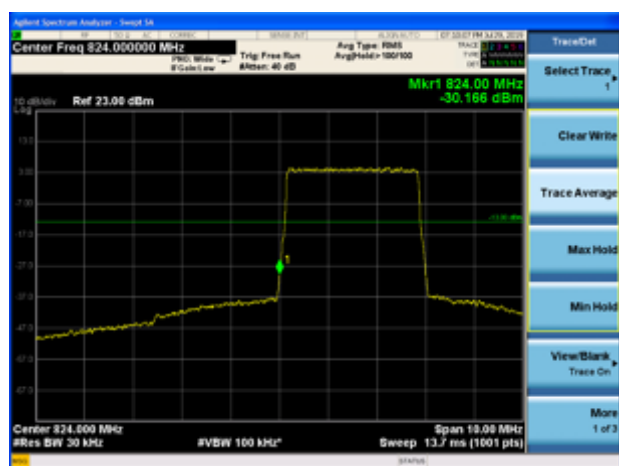
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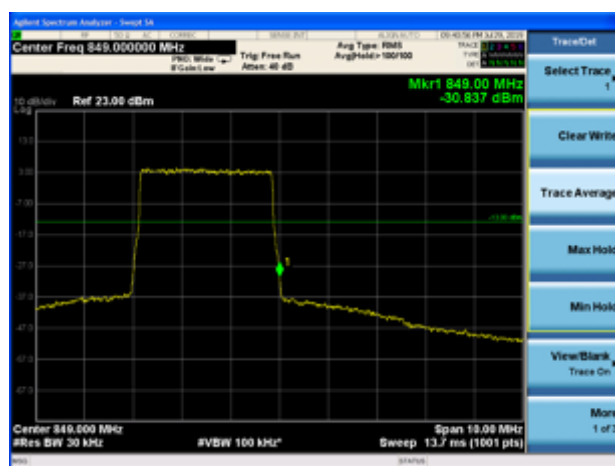
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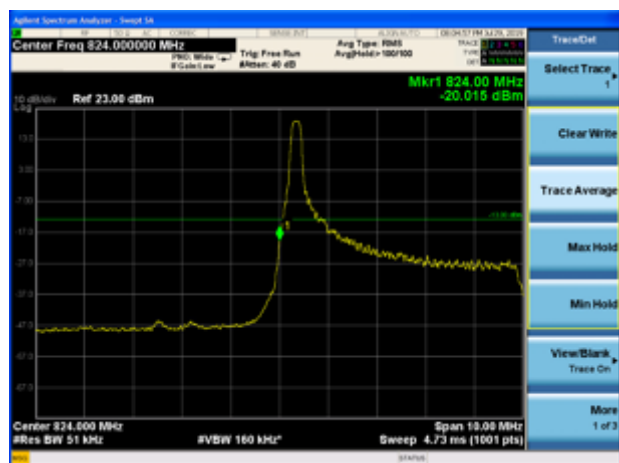


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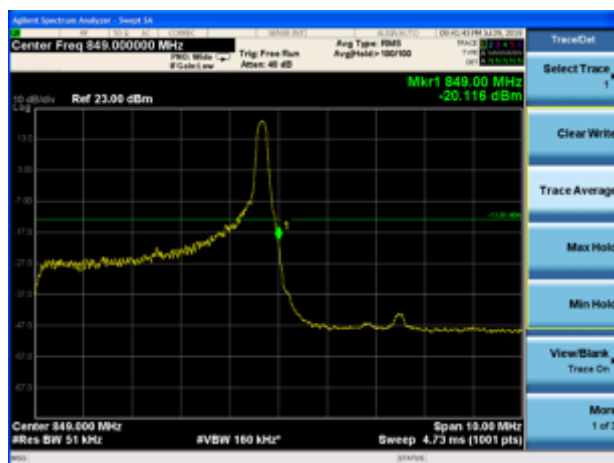




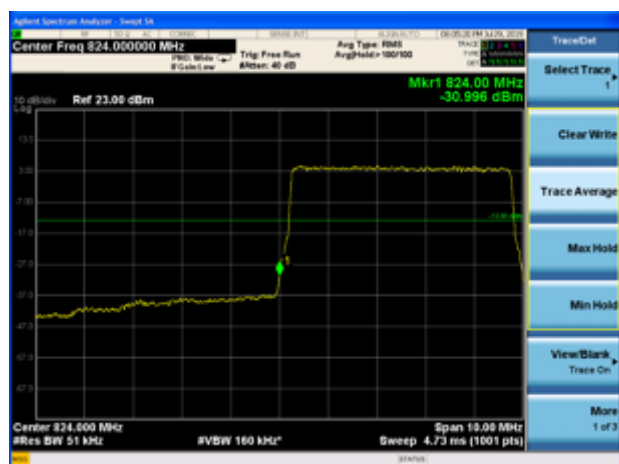
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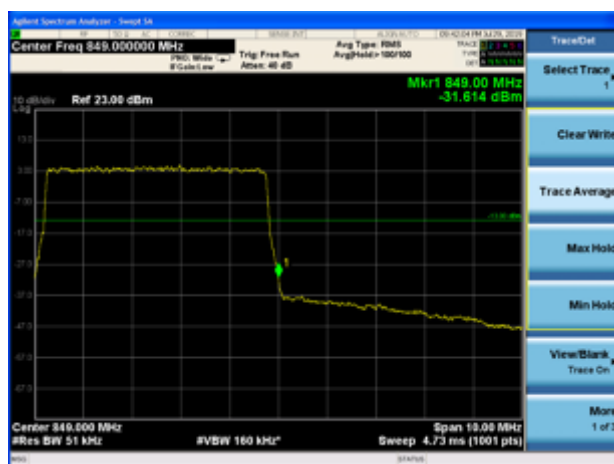
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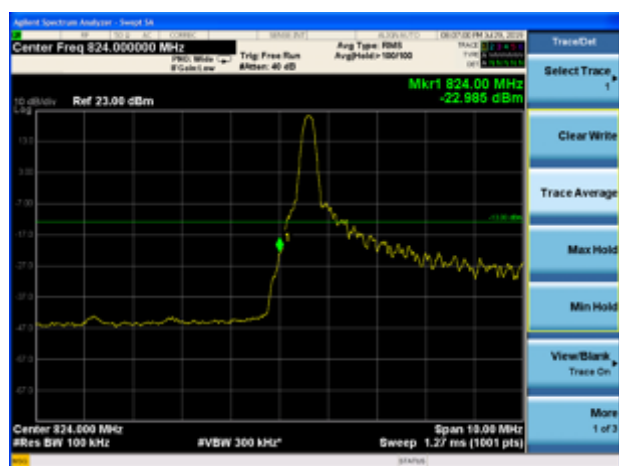
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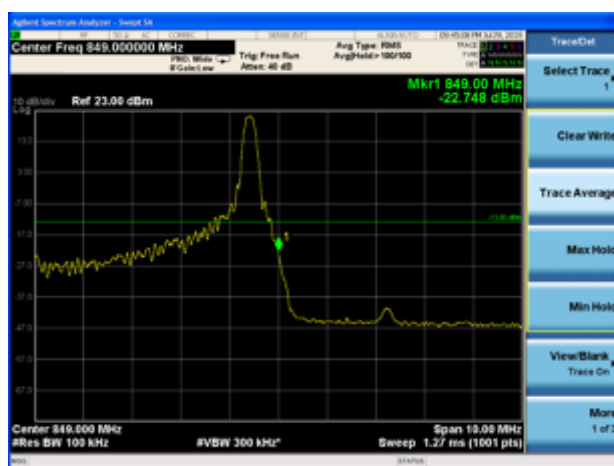
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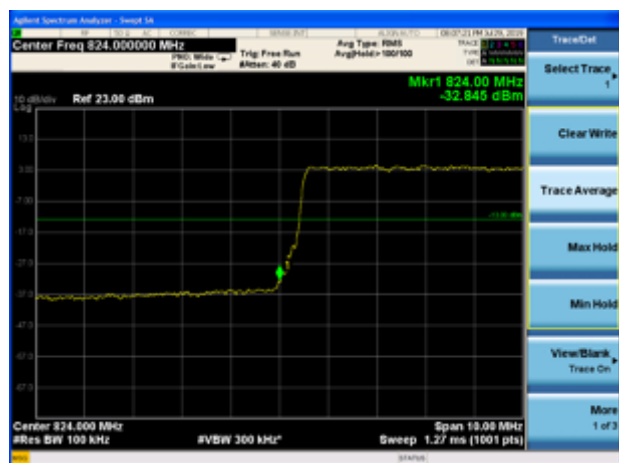


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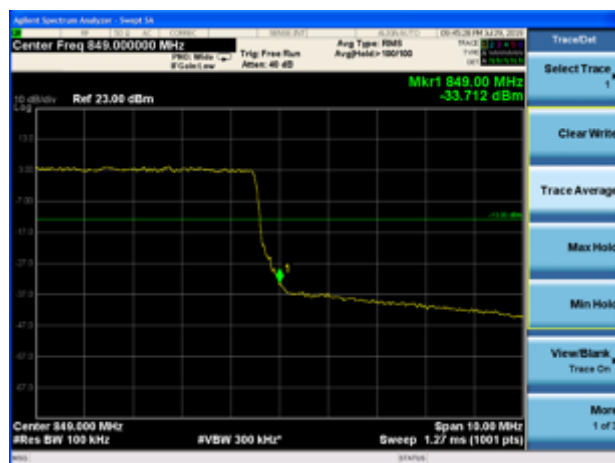




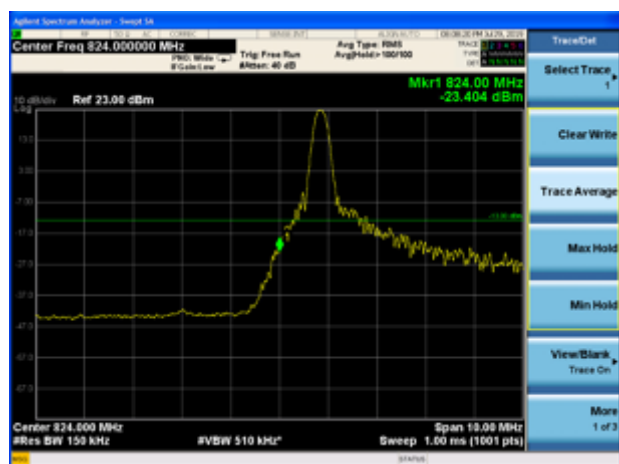
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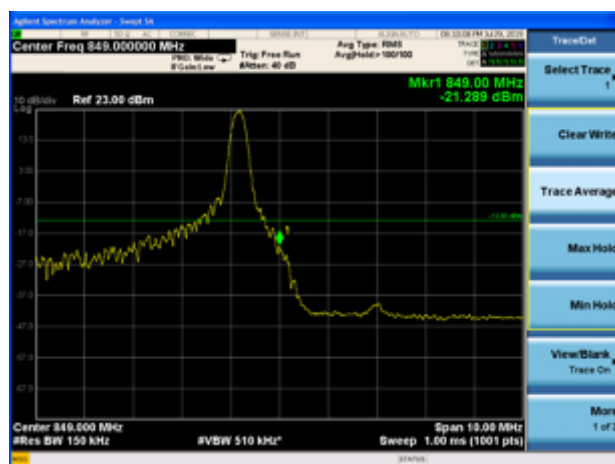
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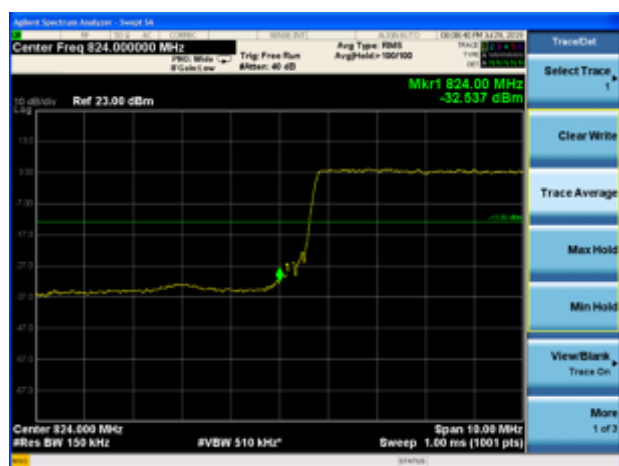
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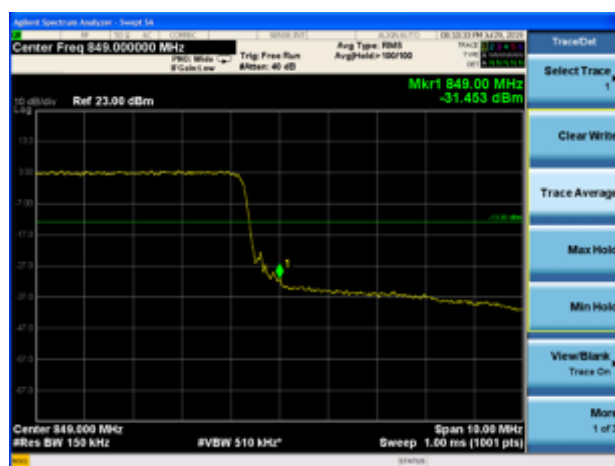
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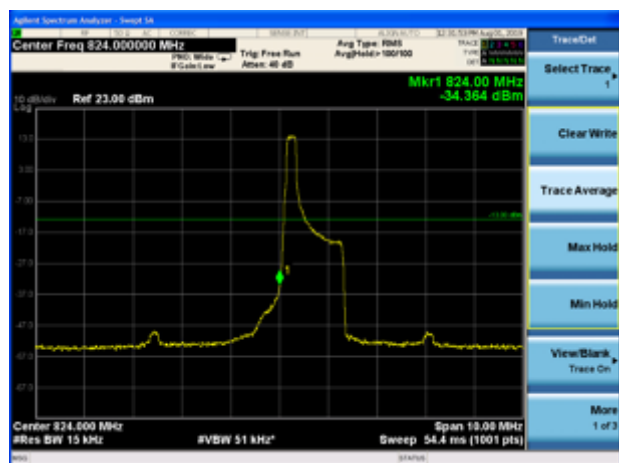


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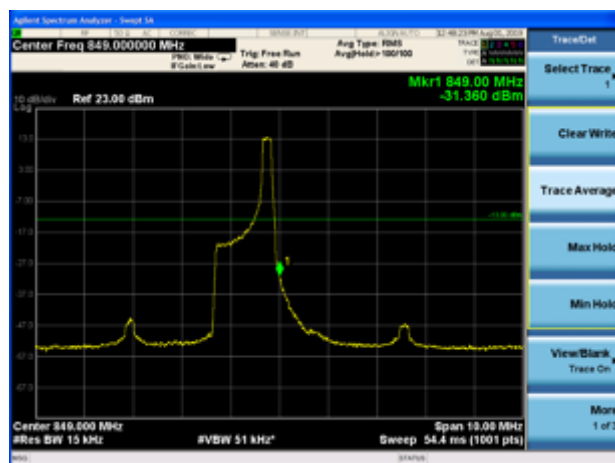




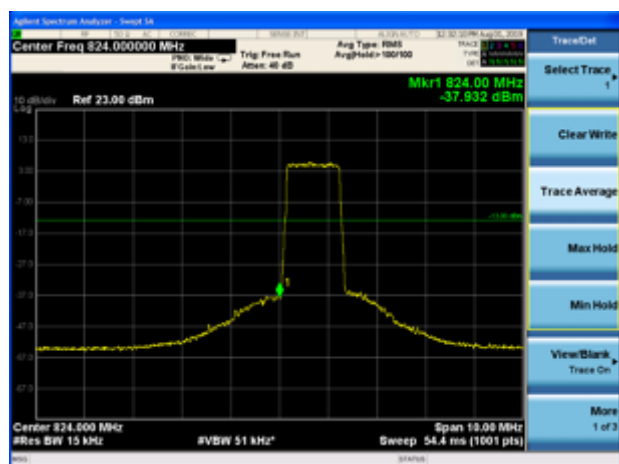
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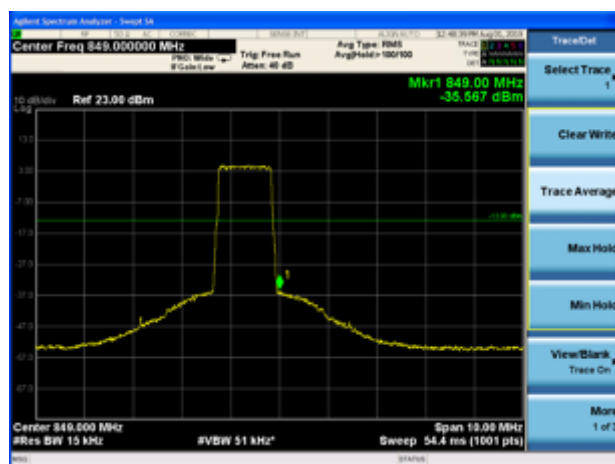
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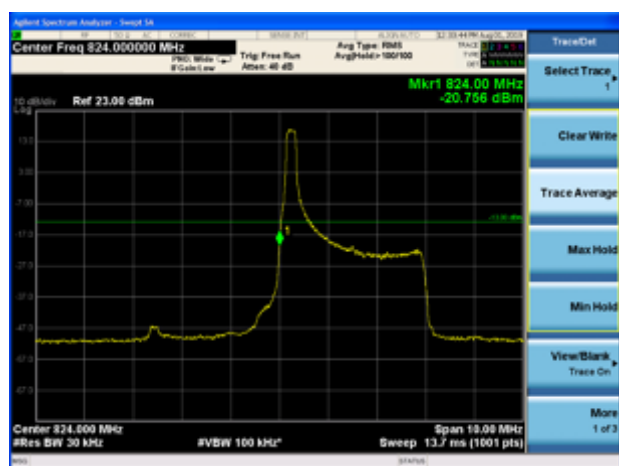
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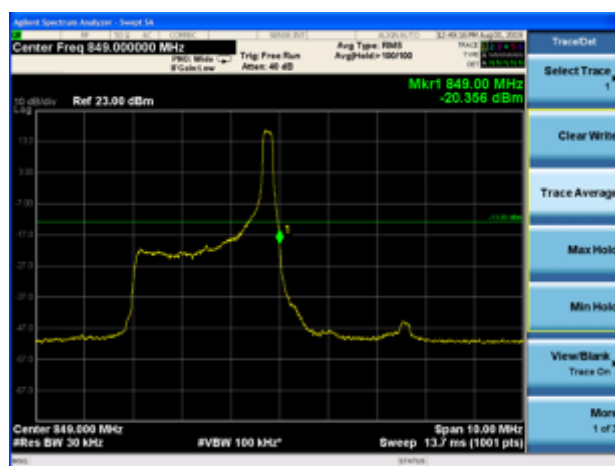
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LTE Band 26 64QAM 3MHz CH-Low 1RB

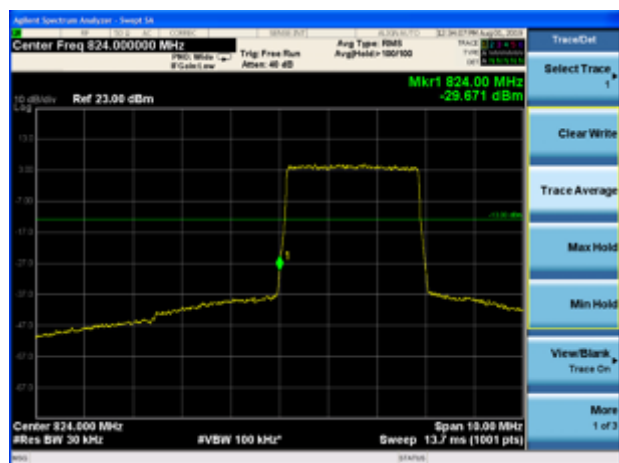


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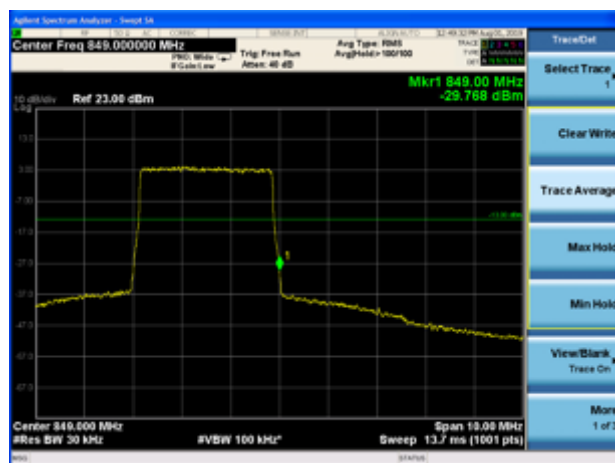




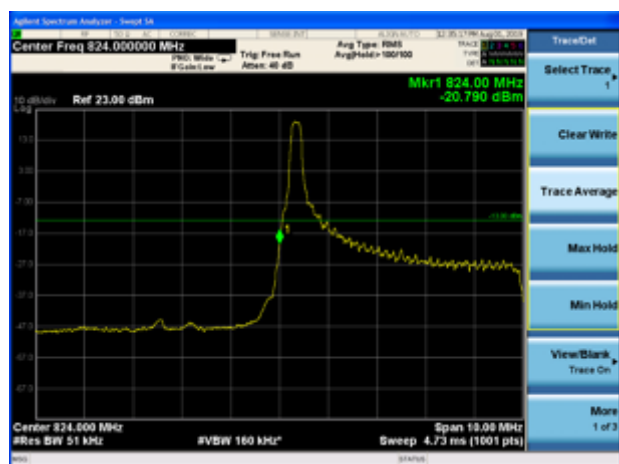
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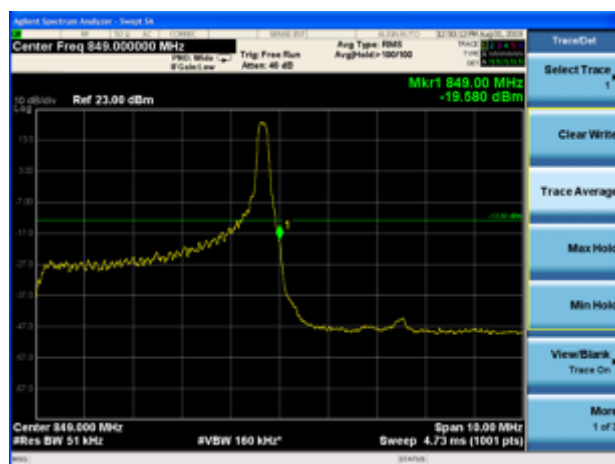
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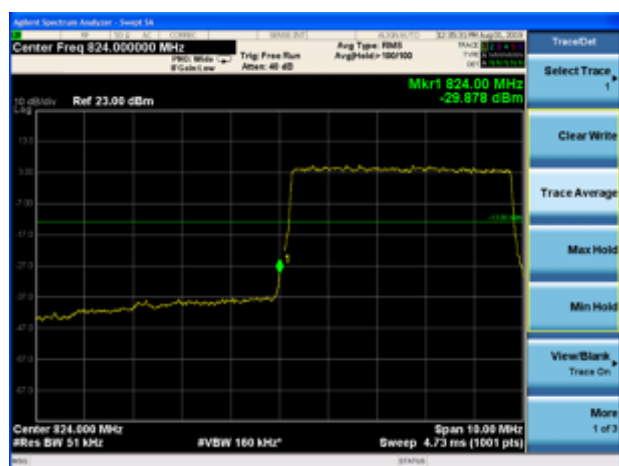
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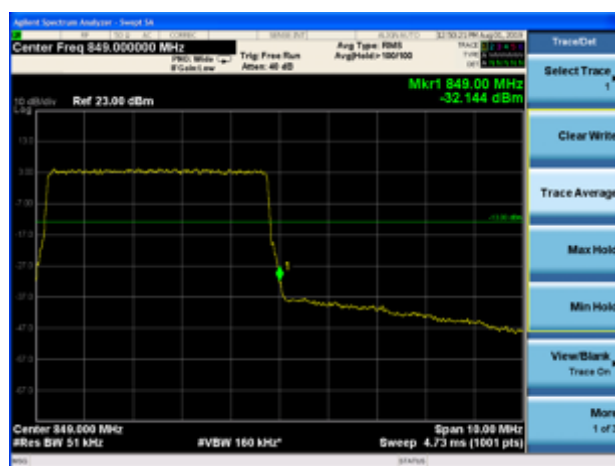
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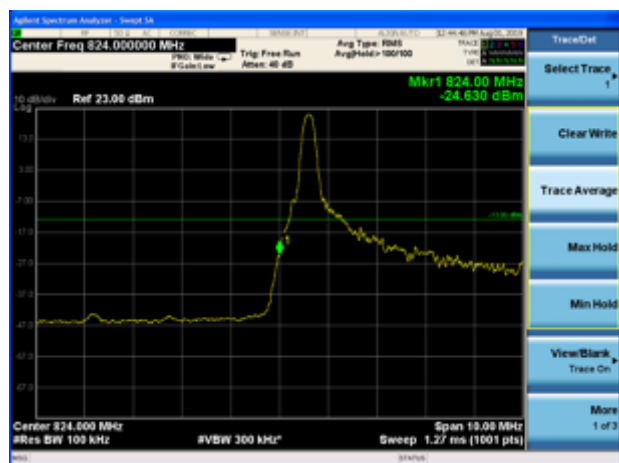


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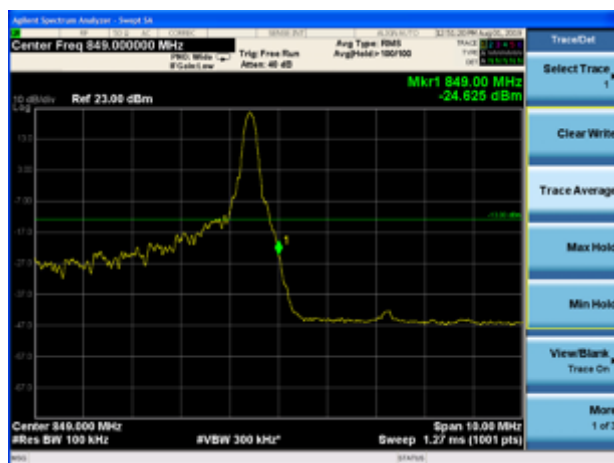




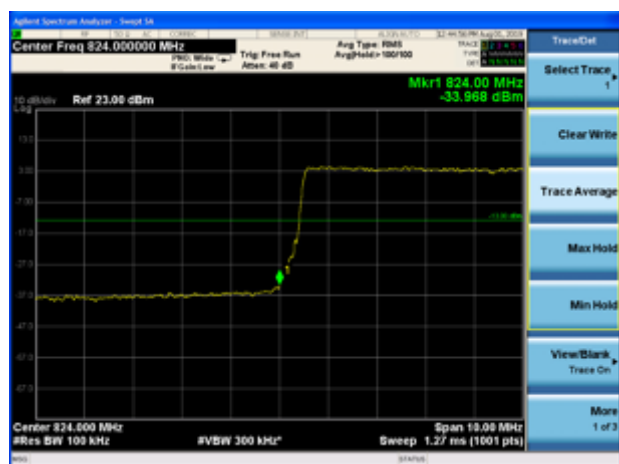
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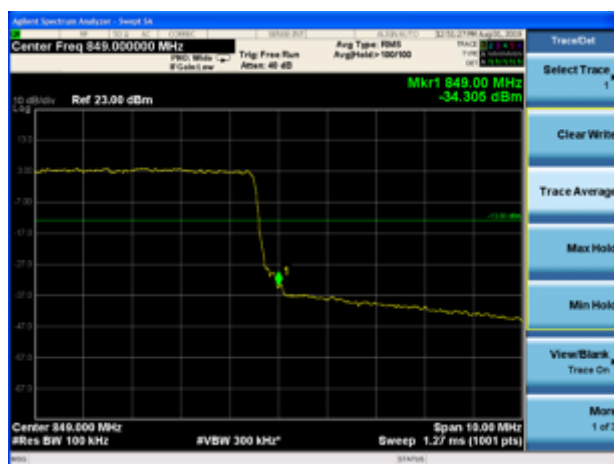
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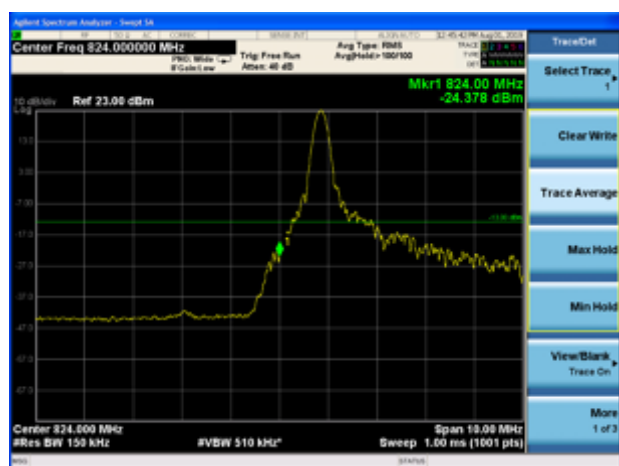
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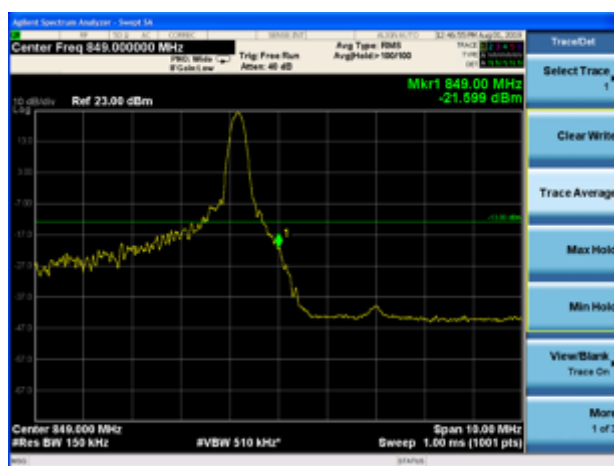
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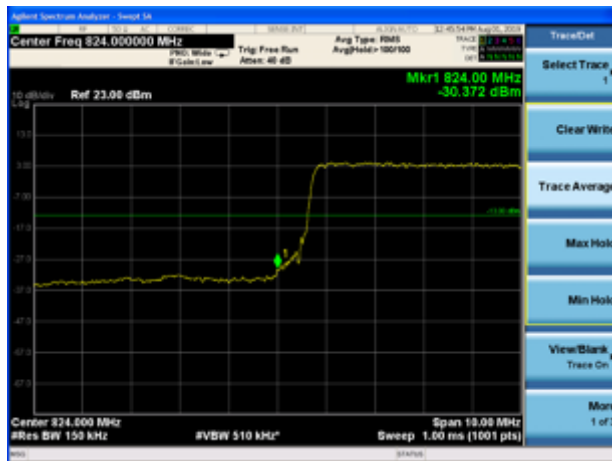


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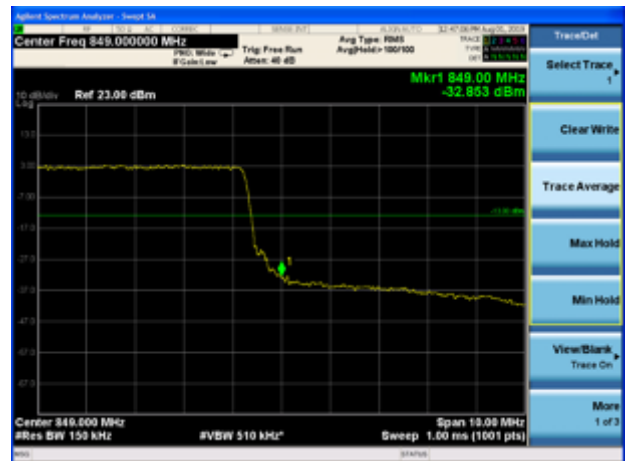




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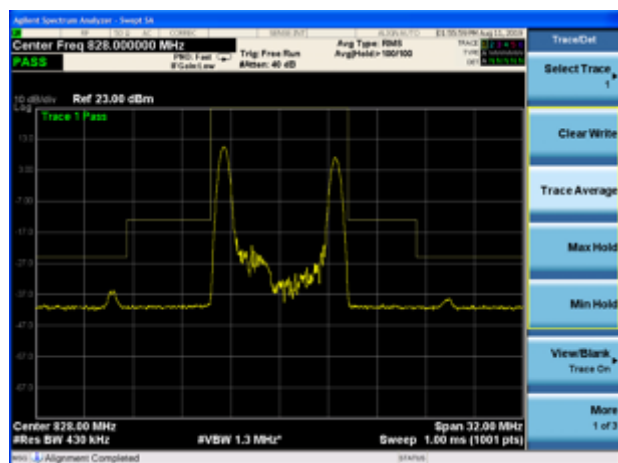


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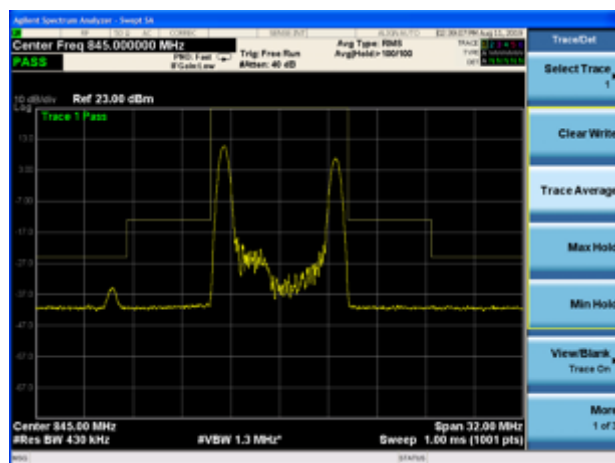




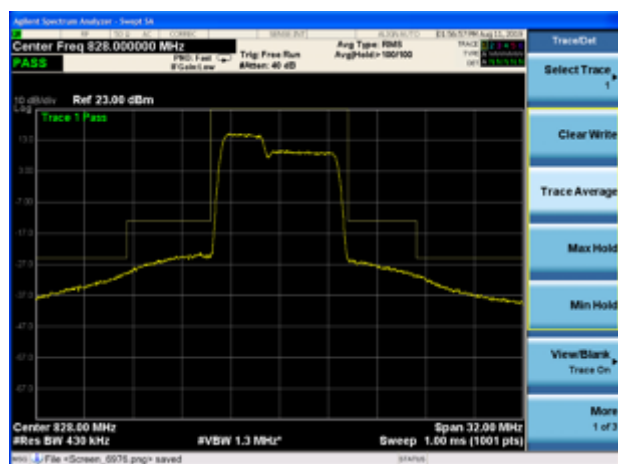
CA-5B QPSK 3MHz+5MHz CH-Low 1RB



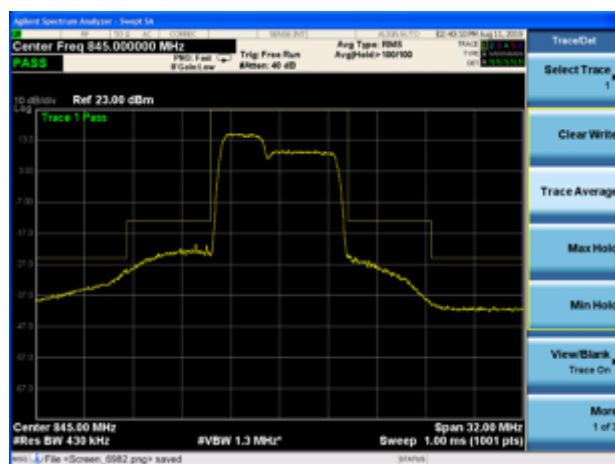
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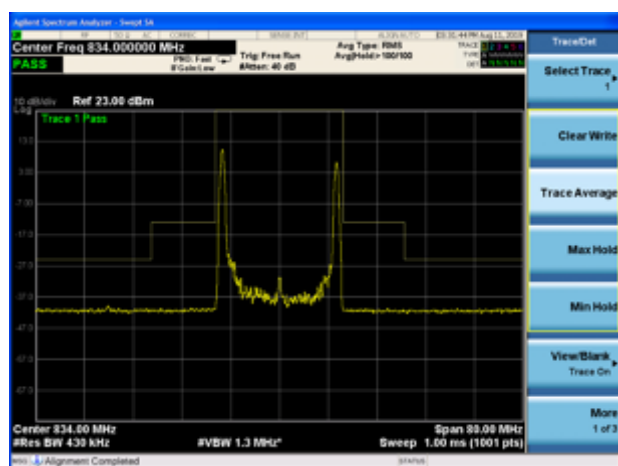
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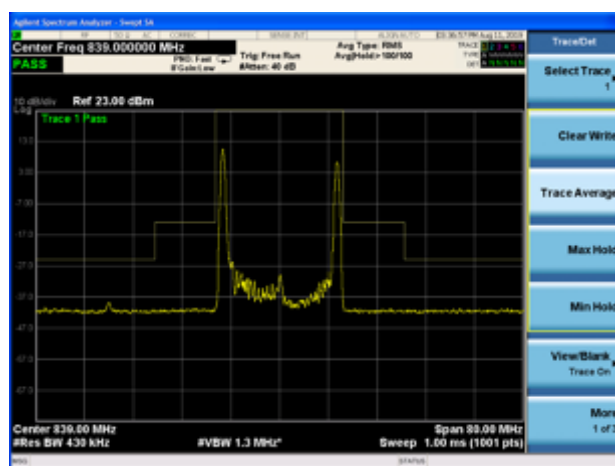
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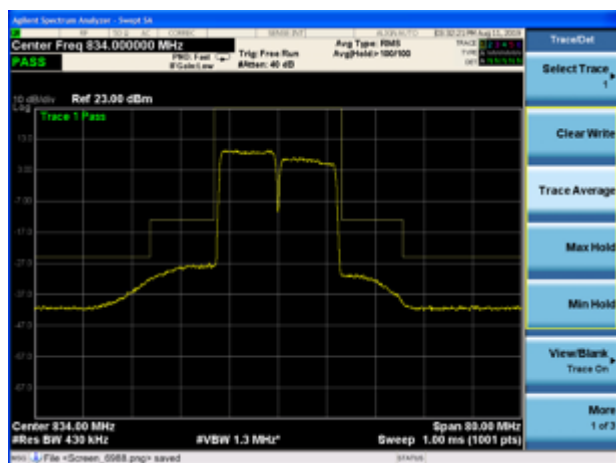
CA-5B QPSK 10MHz+10MHz CH-Low 1RB



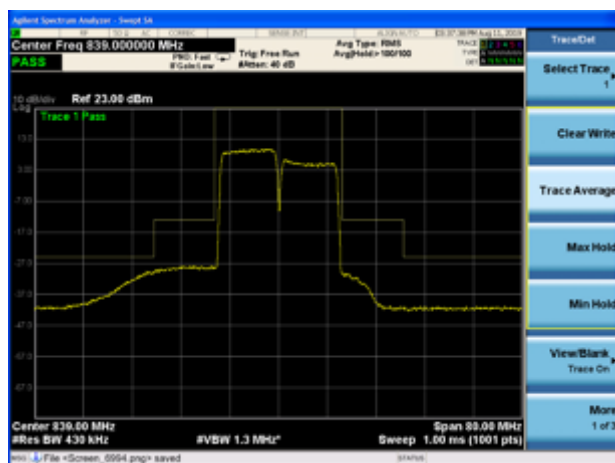
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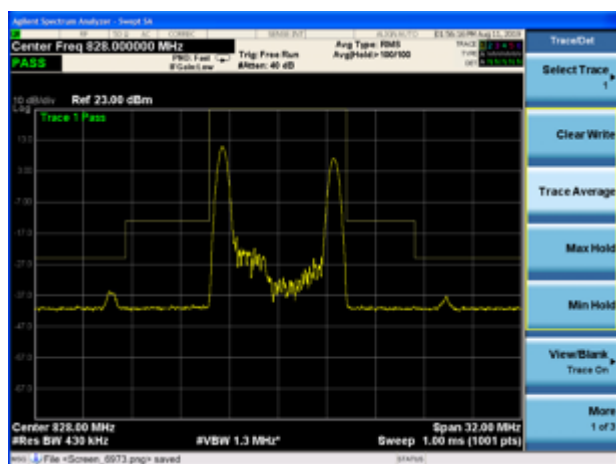
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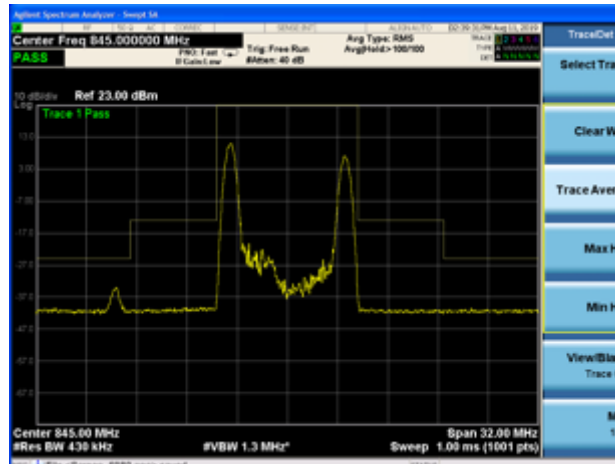
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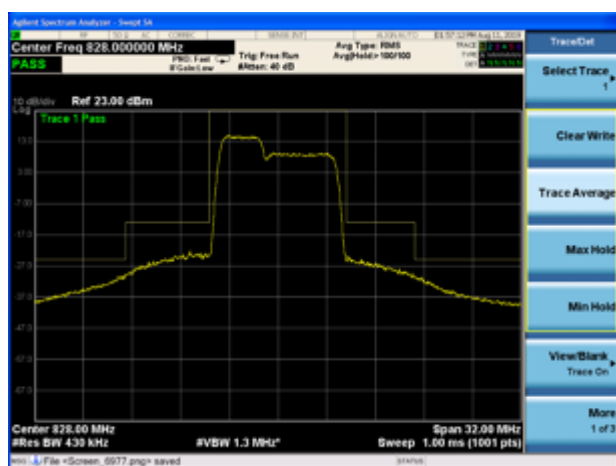
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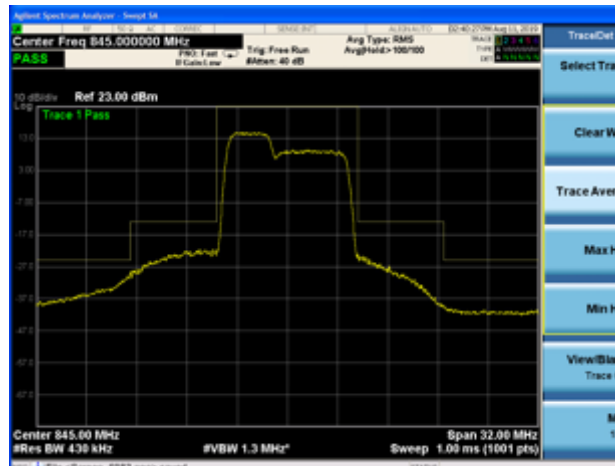
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CA-5B 16QAM 3MHz+5MHz CH-Low 100%RB

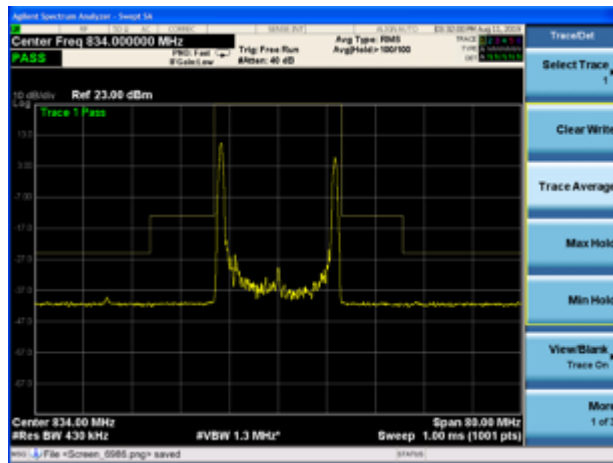


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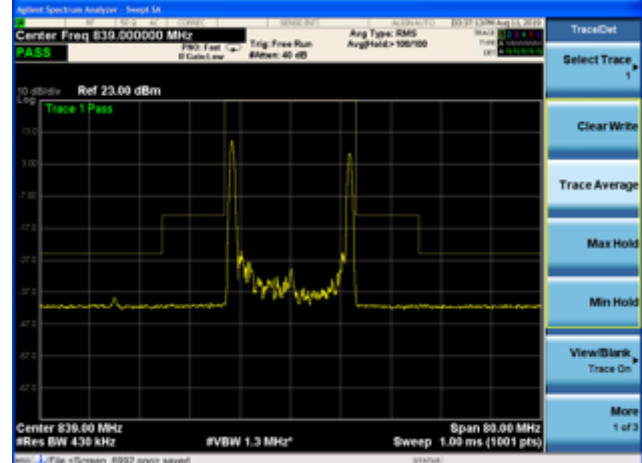




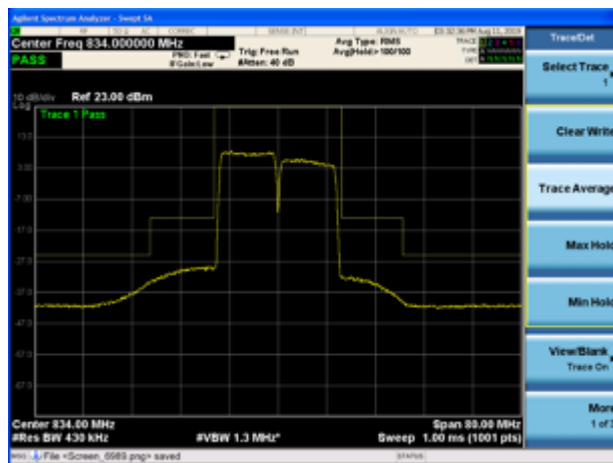
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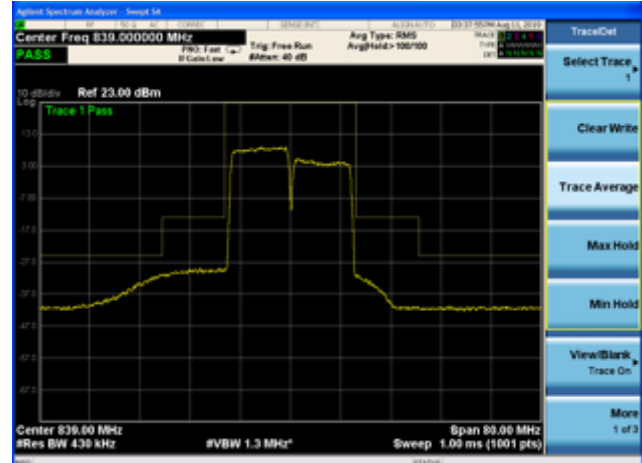
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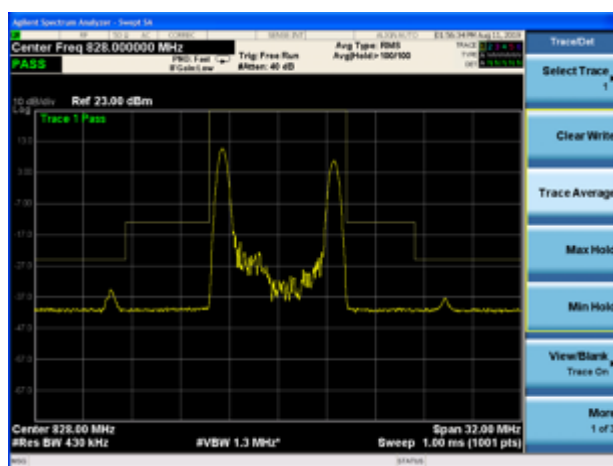
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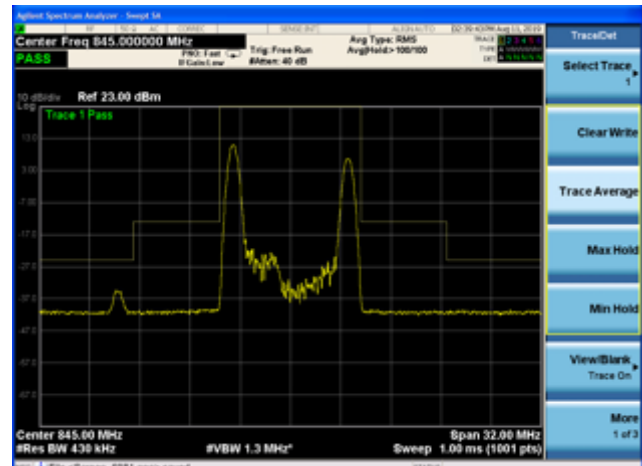
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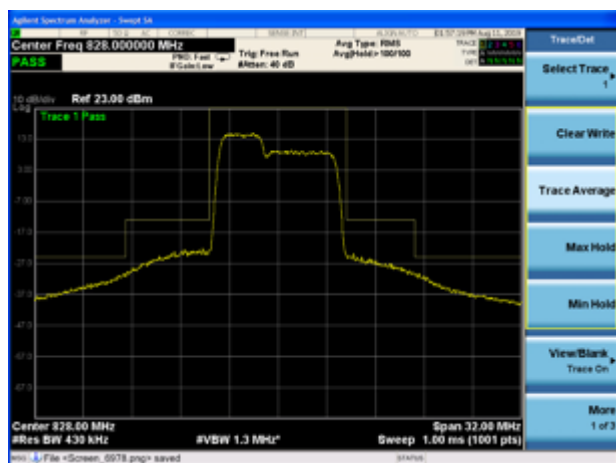
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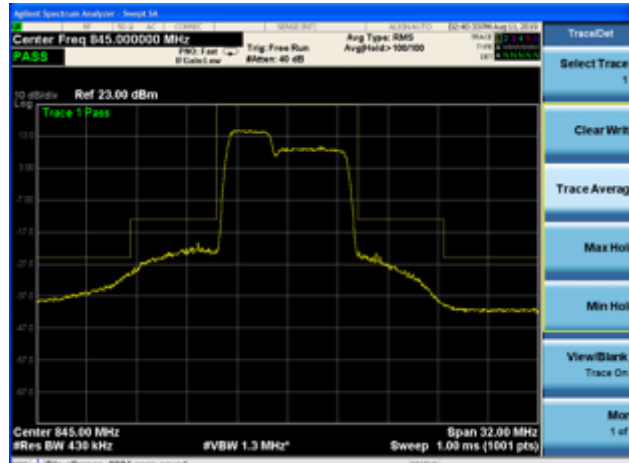
CA-5B 64QAM 3MHz+5MHz CH-High 1RB



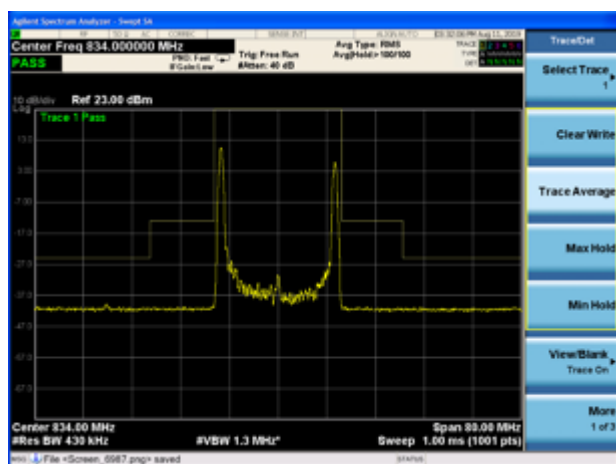
CA-5B 64QAM 3MHz+5MHz CH-Low 100%RB



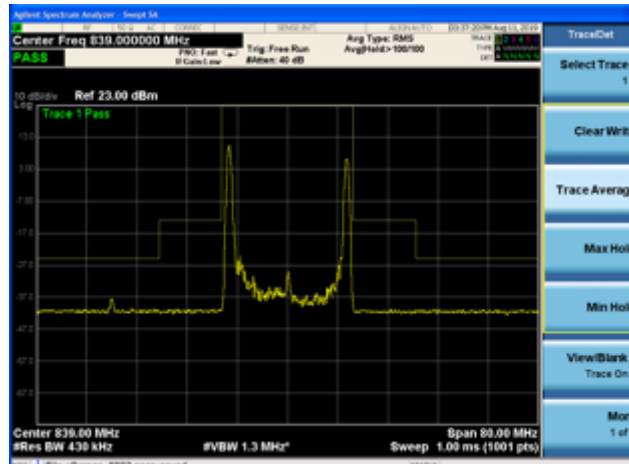
CA-5B 64QAM 3MHz+5MHz CH-High 100%RB



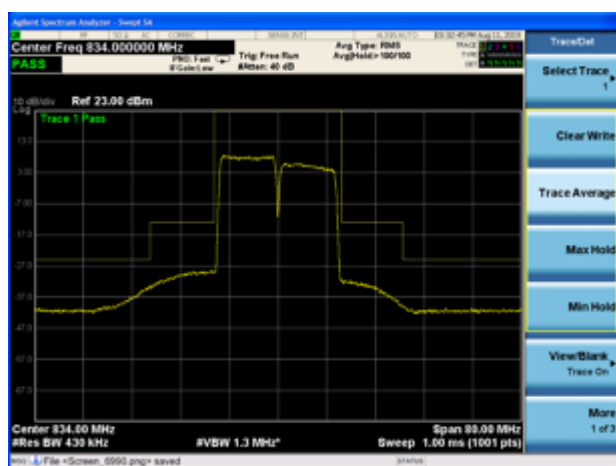
CA-5B 64QAM 10MHz+10MHz CH-Low 1RB



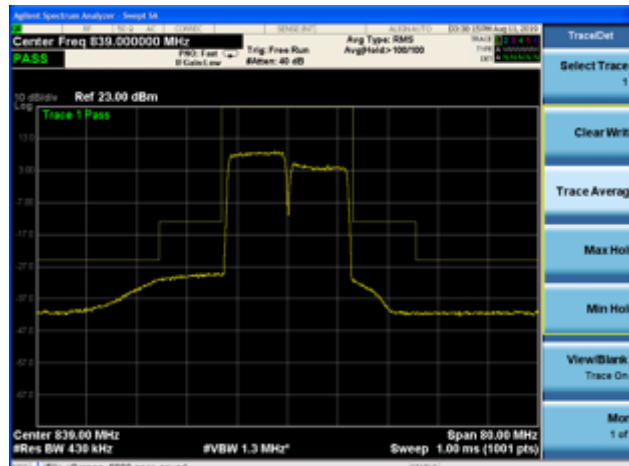
CA-5B 64QAM 10MHz+10MHz CH-High 1RB



CA-5B 64QAM 10MHz+10MHz CH-Low 100%RB



CA-5B 64QAM 10MHz+10MHz CH-High 100%RB



5.5. Peak-to-Average Power Ratio (PAPR)

Ambient condition

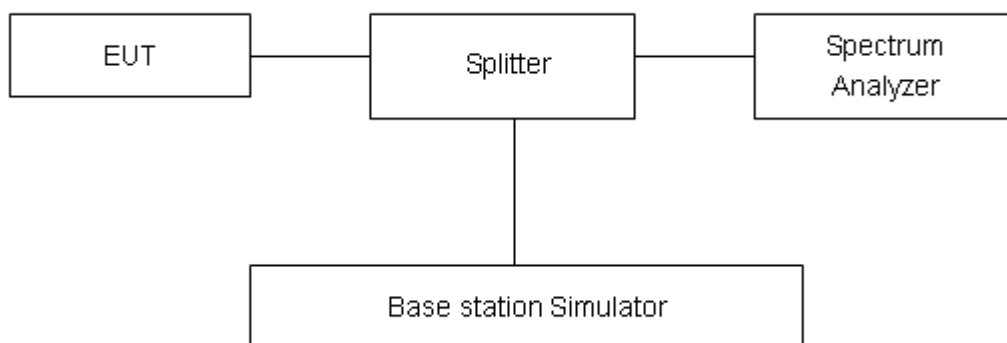
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as P_{Pk} . And measure the total average power and record as P_{Avg} . Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$PAPR (dB) = P_{Pk} (dBm) - P_{Avg} (dBm).$$

Test Setup



Limits

According to the Sec. 22.913(d), The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB.

Test Results

Mode	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
GSM 850 (GSM)	128	824.2	34.87	33.61	1.26	≤13	PASS
	190	836.6	35.03	33.72	1.31	≤13	PASS
	251	848.8	34.98	33.70	1.28	≤13	PASS
GPRS 850 (GMSK)	128	824.2	34.88	33.64	1.24	≤13	PASS
	190	836.6	34.87	33.64	1.23	≤13	PASS
	251	848.8	35.01	33.73	1.28	≤13	PASS
EGPRS 850 (8-PSK)	128	824.2	29.75	26.54	3.21	≤13	PASS
	190	836.6	29.81	26.65	3.16	≤13	PASS
	251	848.8	29.82	26.69	3.13	≤13	PASS
WCDMA Band V (RMC)	4132	826.4	27.45	24.26	3.19	≤13	PASS
	4183	836.6	27.44	24.24	3.20	≤13	PASS
	4233	846.6	27.45	24.25	3.20	≤13	PASS

LTE Band 5								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	20407	824.7	33.62	27.81	5.81	≤13	PASS
		20525	836.5	33.46	27.69	5.77	≤13	PASS
		20643	848.3	32.96	27.52	5.44	≤13	PASS
	3	20415	825.5	33.55	27.83	5.72	≤13	PASS
		20525	836.5	33.39	27.68	5.71	≤13	PASS
		20635	847.5	33.07	27.51	5.56	≤13	PASS
	5	20425	826.5	33.55	27.81	5.74	≤13	PASS
		20525	836.5	33.35	27.69	5.66	≤13	PASS
		20625	846.5	33.12	27.49	5.63	≤13	PASS
	10	20450	829	33.54	27.80	5.74	≤13	PASS
		20525	836.5	33.32	27.72	5.60	≤13	PASS
		20600	844	33.27	27.58	5.69	≤13	PASS
16QAM	1.4	20407	824.7	33.27	26.80	6.47	≤13	PASS
		20525	836.5	33.08	26.69	6.39	≤13	PASS
		20643	848.3	32.61	26.41	6.20	≤13	PASS
	3	20415	825.5	33.18	26.74	6.44	≤13	PASS
		20525	836.5	33.03	26.62	6.41	≤13	PASS
		20635	847.5	32.72	26.42	6.30	≤13	PASS
	5	20425	826.5	33.23	26.80	6.43	≤13	PASS
		20525	836.5	33.10	26.67	6.43	≤13	PASS
		20625	846.5	32.80	26.44	6.36	≤13	PASS
	10	20450	829	33.08	26.67	6.41	≤13	PASS
		20525	836.5	32.99	26.63	6.36	≤13	PASS
		20600	844	32.90	26.50	6.40	≤13	PASS
64QAM	1.4	20407	824.7	32.42	25.98	6.44	≤13	PASS
		20525	836.5	32.32	25.90	6.42	≤13	PASS
		20643	848.3	31.80	25.65	6.15	≤13	PASS
	3	20415	825.5	32.38	25.96	6.42	≤13	PASS
		20525	836.5	32.26	25.84	6.42	≤13	PASS
		20635	847.5	31.92	25.68	6.24	≤13	PASS
	5	20425	826.5	32.40	26.00	6.40	≤13	PASS
		20525	836.5	32.28	25.86	6.42	≤13	PASS
		20625	846.5	32.03	25.70	6.33	≤13	PASS
	10	20450	829	32.27	25.87	6.40	≤13	PASS
		20525	836.5	32.17	25.82	6.35	≤13	PASS



		20600	844	32.21	25.79	6.42	≤13	PASS
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LTE Band 26								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	26797	824.7	29.90	24.20	5.70	≤13	PASS
		26915	836.5	29.80	24.07	5.73	≤13	PASS
		27033	848.3	29.48	23.98	5.50	≤13	PASS
	3	26805	825.5	29.95	24.23	5.72	≤13	PASS
		26915	836.5	29.69	24.01	5.68	≤13	PASS
		27025	847.5	29.56	23.95	5.61	≤13	PASS
	5	26815	826.5	29.93	24.22	5.71	≤13	PASS
		26915	836.5	29.69	24.02	5.67	≤13	PASS
		27015	846.5	29.58	23.93	5.65	≤13	PASS
	10	26840	829	29.87	24.14	5.73	≤13	PASS
		26915	836.5	29.66	24.08	5.58	≤13	PASS
		26990	844	29.65	23.93	5.72	≤13	PASS
	15	26865	831.5	29.97	24.05	5.92	≤13	PASS
		26915	836.5	29.75	24.01	5.74	≤13	PASS
		26965	841.5	29.83	23.98	5.85	≤13	PASS
16QAM	1.4	26797	824.7	29.61	23.24	6.37	≤13	PASS
		26915	836.5	29.34	22.97	6.37	≤13	PASS
		27033	848.3	29.19	22.90	6.29	≤13	PASS
	3	26805	825.5	29.45	23.11	6.34	≤13	PASS
		26915	836.5	29.37	23.01	6.36	≤13	PASS
		27025	847.5	29.21	22.91	6.30	≤13	PASS
	5	26815	826.5	29.52	23.10	6.42	≤13	PASS
		26915	836.5	29.38	23.01	6.37	≤13	PASS
		27015	846.5	29.27	22.93	6.34	≤13	PASS
	10	26840	829	29.49	23.08	6.41	≤13	PASS
		26915	836.5	29.22	22.93	6.29	≤13	PASS
		26990	844	29.30	22.89	6.41	≤13	PASS
	15	26865	831.5	29.41	22.99	6.42	≤13	PASS
		26915	836.5	29.27	22.97	6.30	≤13	PASS
		26965	841.5	29.17	22.87	6.30	≤13	PASS
64QAM	1.4	26797	824.7	29.29	22.86	6.43	≤13	PASS
		26915	836.5	29.05	22.62	6.43	≤13	PASS
		27033	848.3	28.83	22.57	6.26	≤13	PASS



	3	26805	825.5	29.12	22.80	6.32	≤13	PASS
		26915	836.5	29.00	22.67	6.33	≤13	PASS
		27025	847.5	28.95	22.61	6.34	≤13	PASS
	5	26815	826.5	29.19	22.77	6.42	≤13	PASS
		26915	836.5	29.07	22.69	6.38	≤13	PASS
		27015	846.5	28.93	22.55	6.38	≤13	PASS
	10	26840	829	29.11	22.70	6.41	≤13	PASS
		26915	836.5	28.98	22.64	6.34	≤13	PASS
		26990	844	29.00	22.59	6.41	≤13	PASS
	15	26865	831.5	29.11	22.70	6.41	≤13	PASS
		26915	836.5	28.95	22.66	6.29	≤13	PASS
		26965	841.5	28.88	22.58	6.30	≤13	PASS

CA_5B	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency (MHz)	Channel	Frequency (MHz)		Peak(dBm)	Avg(dBm)	PAPR(dB)
CA_5B_3MHz+5MHz_QPSK	20501	834.1	20540	838	QPSK	30.34	24.17	6.17
CA_5B_3MHz+5MHz_16QAM	20501	834.1	20540	838	16QAM	30.35	23.89	6.46
CA_5B_3MHz+5MHz_64QAM	20501	834.1	20540	838	64QAM	30.15	23.70	6.45
CA_5B_5MHz+3MHz_QPSK	20510	835	20549	838.9	QPSK	29.95	23.93	6.02
CA_5B_5MHz+3MHz_16QAM	20510	835	20549	838.9	16QAM	30.31	23.87	6.44
CA_5B_5MHz+3MHz_64QAM	20510	835	20549	838.9	64QAM	29.98	23.55	6.43
CA_5B_5MHz+10MHz_QPSK	20478	831.8	20550	839	QPSK	29.65	23.67	5.98
CA_5B_5MHz+10MHz_16QAM	20478	831.8	20550	839	16QAM	29.02	22.41	6.61
CA_5B_5MHz+10MHz_64QAM	20478	831.8	20550	839	64QAM	29.20	22.51	6.69
CA_5B_10MHz+5MHz_QPSK	20500	834	20572	841.2	QPSK	29.66	23.69	5.97
CA_5B_10MHz+5MHz_16QAM	20500	834	20572	841.2	16QAM	29.02	22.41	6.61
CA_5B_10MHz+5MHz_64QAM	20500	834	20572	841.2	64QAM	28.93	22.33	6.60
CA_5B_10MHz+10MHz_QPSK	20476	831.6	20575	841.5	QPSK	29.91	23.69	6.22
CA_5B_10MHz+10MHz_16QAM	20476	831.6	20575	841.5	16QAM	29.19	22.45	6.74
CA_5B_10MHz+10MHz_64QAM	20476	831.6	20575	841.5	64QAM	28.76	22.02	6.74

5.6. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +55°C in 10°C step size,

(1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -30°C to +55°. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

Frequency Stability (Voltage Variation)

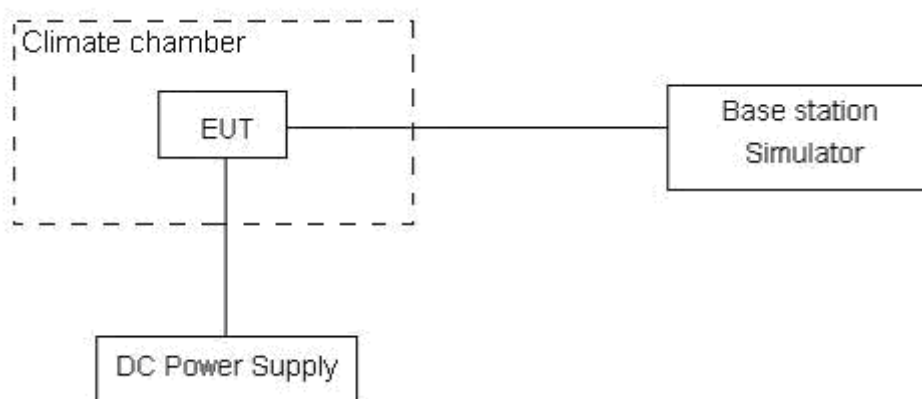
The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery-operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.6 V and 4.35 V, with a nominal voltage of 3.8V.

Test setup





Limits

According to the Sec. 22.355, the frequency stability of the carrier shall be accurate to within 2.5 ppm of the received frequency for mobile stations.

Limits	≤ 2.5 ppm
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 3$, $U = 0.01$ ppm.

Test Result

GSM850						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	GMSK	8PSK	GMSK	8PSK	
Normal (25℃)	Normal	3.33	5.55	0.00177	0.00295	PASS
Extreme (55℃)		9.54	9.30	0.00508	0.00495	PASS
Extreme (50℃)		5.24	8.26	0.00279	0.00440	PASS
Extreme (40℃)		16.34	14.30	0.00869	0.00761	PASS
Extreme (30℃)		10.35	17.82	0.00550	0.00948	PASS
Extreme (20℃)		13.74	17.02	0.00731	0.00905	PASS
Extreme (10℃)		2.70	15.21	0.00143	0.00809	PASS
Extreme (0℃)		7.58	2.00	0.00403	0.00106	PASS
Extreme (-10℃)		14.41	3.67	0.00767	0.00195	PASS
Extreme (-20℃)		15.32	16.69	0.00815	0.00888	PASS
Extreme (-30℃)		3.55	13.86	0.00189	0.00737	PASS
25℃	LV	3.98	15.43	0.00212	0.00821	PASS
	HV	14.39	9.73	0.00765	0.00517	PASS

WCDMA Band 5						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	QPSK	BPSK	QPSK	BPSK	
Normal (25℃)	Normal	9.54	17.63	0.00507	0.00938	PASS
Extreme (55℃)		7.47	13.66	0.00397	0.00726	PASS
Extreme (50℃)		8.52	13.91	0.00453	0.00740	PASS
Extreme (40℃)		13.52	2.13	0.00719	0.00113	PASS
Extreme (30℃)		5.10	14.78	0.00271	0.00786	PASS
Extreme (20℃)		8.84	8.41	0.00470	0.00448	PASS
Extreme (10℃)		2.88	16.93	0.00153	0.00901	PASS
Extreme (0℃)		15.35	3.80	0.00817	0.00202	PASS
Extreme (-10℃)		2.63	9.33	0.00140	0.00496	PASS
Extreme (-20℃)		16.29	15.50	0.00867	0.00825	PASS
Extreme (-30℃)		15.53	13.47	0.00826	0.00716	PASS
25℃	LV	9.19	8.54	0.00489	0.00455	PASS
	HV	9.38	17.68	0.00499	0.00940	PASS



LTE Band 5(BANDWIDTH, 1.4MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	6.28	10.01	14.24	0.00334	0.00532	0.00758	PASS
Extreme (55℃)		4.50	14.71	15.06	0.00239	0.00783	0.00801	PASS
Extreme (50℃)		11.31	4.48	8.89	0.00601	0.00238	0.00473	PASS
Extreme (40℃)		10.30	2.52	9.33	0.00548	0.00134	0.00496	PASS
Extreme (30℃)		9.94	5.01	5.70	0.00529	0.00267	0.00303	PASS
Extreme (20℃)		10.56	17.51	17.03	0.00562	0.00932	0.00906	PASS
Extreme (10℃)		10.44	13.45	13.77	0.00555	0.00716	0.00732	PASS
Extreme (0℃)		17.18	17.60	13.36	0.00914	0.00936	0.00711	PASS
Extreme (-10℃)		1.21	14.96	15.92	0.00065	0.00796	0.00847	PASS
Extreme (-20℃)		3.11	17.22	4.28	0.00166	0.00916	0.00228	PASS
Extreme (-30℃)		15.51	12.09	2.69	0.00825	0.00643	0.00143	PASS
25℃	LV	12.00	7.14	7.06	0.00638	0.00380	0.00375	PASS
	HV	2.03	10.71	6.20	0.00108	0.00570	0.00330	PASS

LTE Band 5(BANDWIDTH, 3MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	17.11	2.14	15.16	0.00910	0.00114	0.00806	PASS
Extreme (55℃)		13.53	15.15	11.07	0.00720	0.00806	0.00589	PASS
Extreme (50℃)		5.19	13.45	13.48	0.00276	0.00716	0.00717	PASS
Extreme (40℃)		2.28	2.52	8.49	0.00121	0.00134	0.00452	PASS
Extreme (30℃)		14.31	2.87	16.75	0.00761	0.00152	0.00891	PASS
Extreme (20℃)		6.84	7.61	7.17	0.00364	0.00405	0.00381	PASS
Extreme (10℃)		8.50	10.40	6.50	0.00452	0.00553	0.00346	PASS
Extreme (0℃)		14.90	14.59	6.78	0.00792	0.00776	0.00361	PASS
Extreme (-10℃)		3.73	9.55	16.89	0.00198	0.00508	0.00899	PASS
Extreme (-20℃)		15.59	3.50	12.92	0.00829	0.00186	0.00687	PASS
Extreme (-30℃)		14.07	16.22	7.49	0.00748	0.00863	0.00398	PASS
25℃	LV	7.70	7.59	9.68	0.00410	0.00404	0.00515	PASS
	HV	16.68	10.76	11.83	0.00887	0.00572	0.00630	PASS

LTE Band 5(BANDWIDTH, 5MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	14.38	6.88	5.30	0.00765	0.00366	0.00282	PASS
Extreme (55℃)		9.67	14.58	4.81	0.00514	0.00776	0.00256	PASS
Extreme (50℃)		9.83	12.27	13.30	0.00523	0.00653	0.00707	PASS
Extreme (40℃)		9.12	16.17	10.86	0.00485	0.00860	0.00578	PASS
Extreme (30℃)		13.55	7.81	2.72	0.00720	0.00415	0.00145	PASS
Extreme (20℃)		8.82	6.32	16.80	0.00469	0.00336	0.00894	PASS
Extreme (10℃)		16.80	11.97	6.43	0.00894	0.00637	0.00342	PASS
Extreme (0℃)		1.04	5.83	8.61	0.00055	0.00310	0.00458	PASS
Extreme (-10℃)		1.77	9.13	8.33	0.00094	0.00486	0.00443	PASS
Extreme (-20℃)		16.62	11.65	6.10	0.00884	0.00620	0.00324	PASS
Extreme (-30℃)		1.27	10.62	10.96	0.00068	0.00565	0.00583	PASS
25℃	LV	7.19	15.85	11.44	0.00382	0.00843	0.00608	PASS
	HV	13.53	3.21	13.26	0.00719	0.00171	0.00705	PASS

LTE Band 5(BANDWIDTH, 10MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	15.55	3.49	1.59	0.00827	0.00185	0.00085	PASS
Extreme (55℃)		16.37	13.51	5.15	0.00871	0.00719	0.00274	PASS
Extreme (50℃)		13.93	16.64	5.37	0.00741	0.00885	0.00285	PASS
Extreme (40℃)		14.27	7.58	12.07	0.00759	0.00403	0.00642	PASS
Extreme (30℃)		11.72	11.08	8.98	0.00624	0.00589	0.00478	PASS
Extreme (20℃)		11.99	7.39	8.66	0.00638	0.00393	0.00461	PASS
Extreme (10℃)		4.95	3.70	16.47	0.00263	0.00197	0.00876	PASS
Extreme (0℃)		2.77	3.34	7.13	0.00147	0.00178	0.00379	PASS
Extreme (-10℃)		8.97	2.98	13.82	0.00477	0.00159	0.00735	PASS
Extreme (-20℃)		15.98	9.17	2.99	0.00850	0.00488	0.00159	PASS
Extreme (-30℃)		3.74	16.23	4.29	0.00199	0.00863	0.00228	PASS
25℃	LV	7.64	14.96	17.79	0.00406	0.00796	0.00946	PASS
	HV	9.19	16.71	17.00	0.00489	0.00889	0.00904	PASS

LTE Band 26(BANDWIDTH, 1.4MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	17.93	15.37	5.45	0.00954	0.00818	0.00290	PASS
Extreme (55℃)		11.63	12.00	7.19	0.00619	0.00638	0.00382	PASS
Extreme (50℃)		2.86	17.53	2.63	0.00152	0.00933	0.00140	PASS
Extreme (40℃)		9.56	3.79	14.08	0.00509	0.00202	0.00749	PASS
Extreme (30℃)		16.70	11.82	10.59	0.00888	0.00629	0.00563	PASS
Extreme (20℃)		5.92	14.12	2.75	0.00315	0.00751	0.00146	PASS
Extreme (10℃)		14.47	4.50	10.94	0.00770	0.00239	0.00582	PASS
Extreme (0℃)		5.18	16.20	12.45	0.00275	0.00862	0.00662	PASS
Extreme (-10℃)		16.34	17.48	6.30	0.00869	0.00930	0.00335	PASS
Extreme (-20℃)		13.96	9.83	6.45	0.00742	0.00523	0.00343	PASS
Extreme (-30℃)		15.82	5.21	13.95	0.00841	0.00277	0.00742	PASS
25℃	LV	13.84	9.21	7.47	0.00736	0.00490	0.00397	PASS
	HV	4.55	17.59	5.32	0.00242	0.00935	0.00283	PASS

LTE Band 26(BANDWIDTH, 3MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	17.52	11.24	7.34	0.00932	0.00598	0.00391	PASS
Extreme (55℃)		4.80	1.49	4.73	0.00256	0.00079	0.00252	PASS
Extreme (50℃)		2.72	16.37	14.62	0.00144	0.00871	0.00778	PASS
Extreme (40℃)		7.73	16.75	17.73	0.00411	0.00891	0.00943	PASS
Extreme (30℃)		17.17	12.14	16.20	0.00913	0.00646	0.00862	PASS
Extreme (20℃)		17.06	7.99	6.41	0.00907	0.00425	0.00341	PASS
Extreme (10℃)		11.18	11.46	16.15	0.00594	0.00610	0.00859	PASS
Extreme (0℃)		1.48	15.79	2.16	0.00079	0.00840	0.00115	PASS
Extreme (-10℃)		2.46	11.76	1.24	0.00131	0.00625	0.00066	PASS
Extreme (-20℃)		17.00	14.42	7.48	0.00904	0.00767	0.00398	PASS
Extreme (-30℃)		5.46	13.75	11.20	0.00291	0.00732	0.00596	PASS
25℃	LV	11.62	9.80	9.78	0.00618	0.00521	0.00520	PASS
	HV	16.03	13.54	15.77	0.00853	0.00720	0.00839	PASS



LTE Band 26(BANDWIDTH, 5MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	11.07	15.08	1.86	0.00589	0.00802	0.00099	PASS
Extreme (55℃)		2.46	16.17	9.55	0.00131	0.00860	0.00508	PASS
Extreme (50℃)		17.95	1.18	12.38	0.00955	0.00063	0.00659	PASS
Extreme (40℃)		10.05	1.54	13.14	0.00535	0.00082	0.00699	PASS
Extreme (30℃)		16.46	14.85	6.57	0.00876	0.00790	0.00350	PASS
Extreme (20℃)		1.74	15.97	13.47	0.00092	0.00849	0.00716	PASS
Extreme (10℃)		14.31	11.63	1.22	0.00761	0.00619	0.00065	PASS
Extreme (0℃)		9.30	14.11	4.33	0.00495	0.00751	0.00231	PASS
Extreme (-10℃)		6.96	6.86	7.64	0.00370	0.00365	0.00406	PASS
Extreme (-20℃)		10.99	16.07	5.54	0.00585	0.00855	0.00295	PASS
Extreme (-30℃)		8.52	11.81	2.80	0.00453	0.00628	0.00149	PASS
25℃	LV	11.42	3.23	6.52	0.00607	0.00172	0.00347	PASS
	HV	7.72	12.59	2.91	0.00410	0.00670	0.00155	PASS

LTE Band 26(BANDWIDTH, 10MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	13.69	12.29	12.72	0.00728	0.00654	0.00676	PASS
Extreme (55℃)		10.97	12.00	1.60	0.00584	0.00638	0.00085	PASS
Extreme (50℃)		15.47	11.61	8.65	0.00823	0.00617	0.00460	PASS
Extreme (40℃)		6.25	8.99	1.67	0.00333	0.00478	0.00089	PASS
Extreme (30℃)		16.53	12.10	15.19	0.00879	0.00644	0.00808	PASS
Extreme (20℃)		9.58	7.91	6.47	0.00510	0.00421	0.00344	PASS
Extreme (10℃)		13.67	18.00	3.46	0.00727	0.00957	0.00184	PASS
Extreme (0℃)		15.73	3.13	2.31	0.00837	0.00167	0.00123	PASS
Extreme (-10℃)		11.37	2.19	8.65	0.00605	0.00116	0.00460	PASS
Extreme (-20℃)		6.55	4.48	1.33	0.00348	0.00238	0.00071	PASS
Extreme (-30℃)		1.81	2.87	6.33	0.00096	0.00153	0.00337	PASS
25℃	LV	12.12	4.60	5.50	0.00645	0.00245	0.00293	PASS
	HV	6.20	6.34	9.27	0.00330	0.00337	0.00493	PASS



LTE Band 26(BANDWIDTH, 15MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	15.93	8.29	5.95	0.00847	0.00441	0.00317	PASS
Extreme (55℃)		2.63	11.66	6.34	0.00140	0.00620	0.00337	PASS
Extreme (50℃)		1.23	11.89	7.32	0.00066	0.00632	0.00389	PASS
Extreme (40℃)		8.45	5.00	7.13	0.00449	0.00266	0.00379	PASS
Extreme (30℃)		11.66	4.04	12.05	0.00620	0.00215	0.00641	PASS
Extreme (20℃)		4.15	5.01	11.35	0.00221	0.00266	0.00604	PASS
Extreme (10℃)		10.73	15.63	10.02	0.00571	0.00831	0.00533	PASS
Extreme (0℃)		3.46	14.95	6.98	0.00184	0.00795	0.00371	PASS
Extreme (-10℃)		4.75	17.81	7.32	0.00253	0.00948	0.00389	PASS
Extreme (-20℃)		3.68	8.04	17.77	0.00196	0.00427	0.00945	PASS
Extreme (-30℃)		2.93	1.71	10.91	0.00156	0.00091	0.00580	PASS
25℃	LV	9.78	15.07	14.75	0.00520	0.00801	0.00784	PASS
	HV	5.28	10.21	6.29	0.00281	0.00543	0.00335	PASS

CA_5B_QPSK		3MHz+5MHz (Bandwidth)		10MHz+10MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	12.84	0.00683	6.93	0.00368	PASS
Extreme (55℃)		10.00	0.00532	8.06	0.00429	PASS
Extreme (50℃)		2.46	0.00131	16.15	0.00859	PASS
Extreme (40℃)		11.19	0.00595	8.00	0.00426	PASS
Extreme (30℃)		8.93	0.00475	17.21	0.00916	PASS
Extreme (20℃)		11.07	0.00589	14.93	0.00794	PASS
Extreme (10℃)		10.49	0.00558	15.67	0.00833	PASS
Extreme (0℃)		13.87	0.00738	4.62	0.00246	PASS
Extreme (-10℃)		4.56	0.00243	13.41	0.00713	PASS
Extreme (-20℃)		11.27	0.00599	13.98	0.00744	PASS
Extreme (-30℃)		6.65	0.00354	4.75	0.00253	PASS
25℃	LV	8.23	0.00438	15.77	0.00839	PASS
	HV	17.87	0.00951	15.94	0.00848	PASS

CA_5B_16QAM		3MHz+5MHz (Bandwidth)		10MHz+10MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	1.22	0.00065	6.37	0.00339	PASS
Extreme (55℃)		13.97	0.00743	14.24	0.00757	PASS
Extreme (50℃)		16.94	0.00901	14.08	0.00749	PASS
Extreme (40℃)		17.53	0.00932	14.32	0.00762	PASS
Extreme (30℃)		6.49	0.00345	11.01	0.00586	PASS
Extreme (20℃)		16.47	0.00876	2.60	0.00138	PASS
Extreme (10℃)		14.54	0.00774	8.81	0.00469	PASS
Extreme (0℃)		7.17	0.00381	8.98	0.00477	PASS
Extreme (-10℃)		1.78	0.00095	2.48	0.00132	PASS
Extreme (-20℃)		4.20	0.00223	15.96	0.00849	PASS
Extreme (-30℃)		14.62	0.00778	11.00	0.00585	PASS
25℃	LV	12.36	0.00658	8.75	0.00465	PASS
	HV	2.36	0.00126	7.78	0.00414	PASS

CA_5B_64QAM		3MHz+5MHz (Bandwidth)		10MHz+10MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	14.01	0.00745	16.43	0.00874	PASS
Extreme (55℃)		11.31	0.00601	1.16	0.00062	PASS
Extreme (50℃)		10.29	0.00547	9.27	0.00493	PASS
Extreme (40℃)		13.52	0.00719	5.71	0.00304	PASS
Extreme (30℃)		12.37	0.00658	13.18	0.00701	PASS
Extreme (20℃)		13.74	0.00731	6.13	0.00326	PASS
Extreme (10℃)		6.25	0.00332	7.71	0.00410	PASS
Extreme (0℃)		6.46	0.00344	2.36	0.00126	PASS
Extreme (-10℃)		12.51	0.00666	3.15	0.00168	PASS
Extreme (-20℃)		7.84	0.00417	16.99	0.00904	PASS
Extreme (-30℃)		8.88	0.00472	9.90	0.00527	PASS
25℃	LV	14.49	0.00771	10.00	0.00532	PASS
	HV	4.66	0.00248	7.66	0.00407	PASS

5.7. Spurious Emissions at Antenna Terminals

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

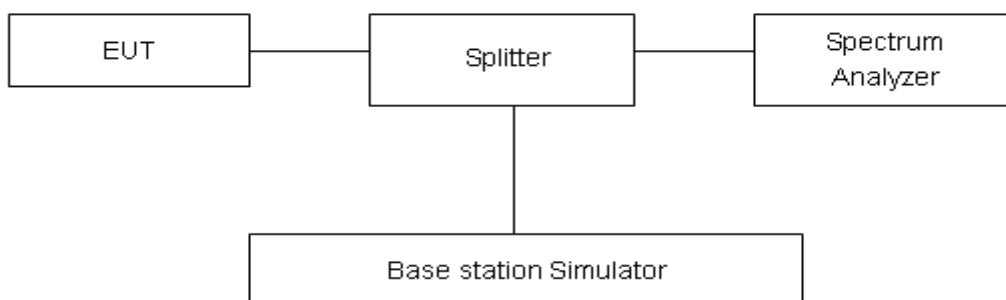
Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier.

The peak detector is used. RBW are set to 100 kHz and VBW are set to 300 kHz for below 1G, RBW are set to 1MHz and VBW are set to 3MHz for above 1G, Sweep is set to ATUO.

The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

Rule Part 22.917(a) specifies that “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 $43 + 10 \log (P)$ dB.”

Limit	-13 dBm
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-18GHz	1.407 dB

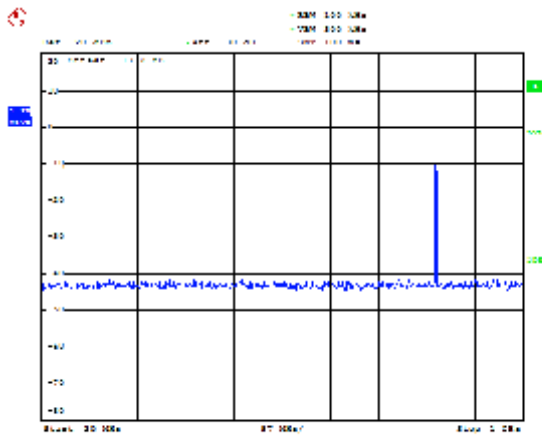


Test Result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

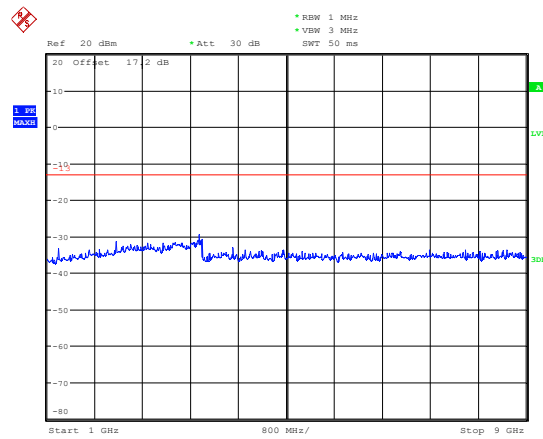
The signal beyond the limit is carrier.

GSM 850 CH-Low 30MHz ~ 1GHz



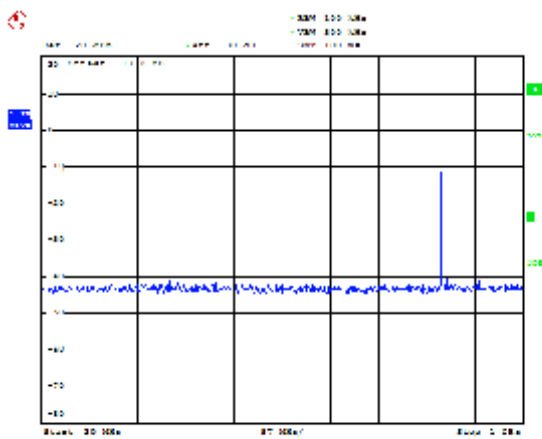
Date: 28.JUL.2019 15:19:29

GSM 850 CH-Low 1GHz ~ 9GHz



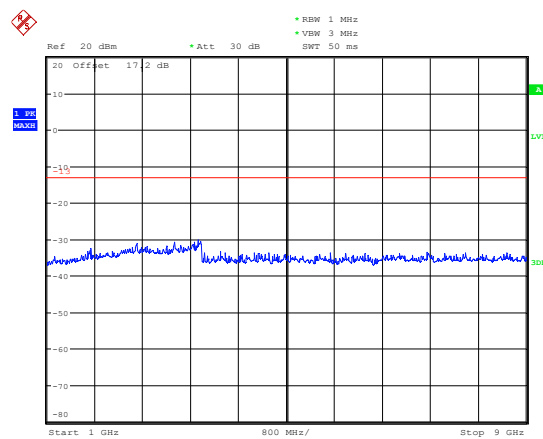
Date: 28.JUL.2019 15:19:46

GSM 850 CH-Middle 30MHz ~ 1GHz



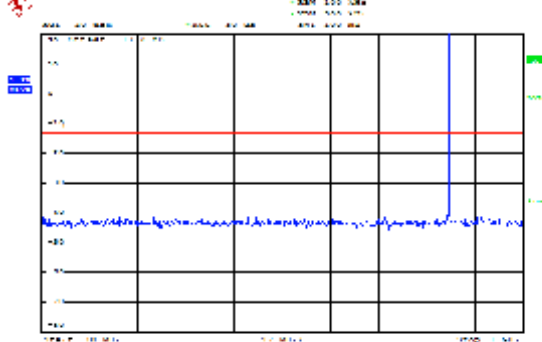
Date: 28.JUL.2019 15:19:29

GSM 850 CH-Middle 1GHz ~ 9GHz



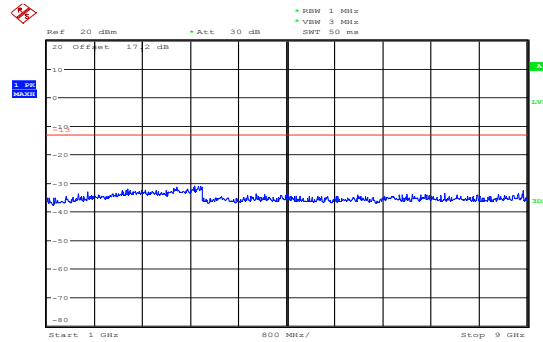
Date: 28.JUL.2019 15:19:31

GSM 850 CH-High 30MHz ~ 1GHz



Date: 28.JUL.2019 15:19:16

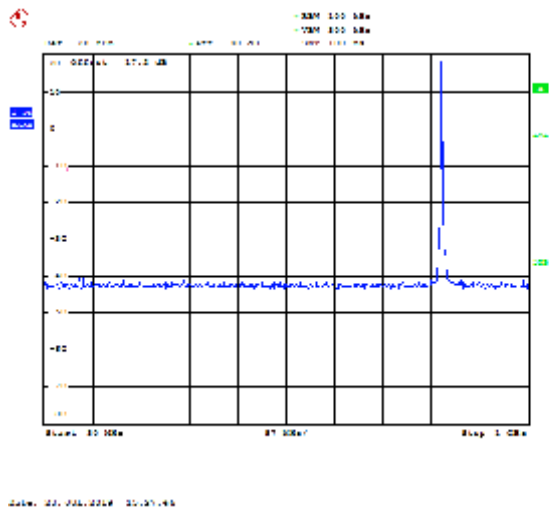
GSM 850 CH-High 1GHz ~ 9GHz



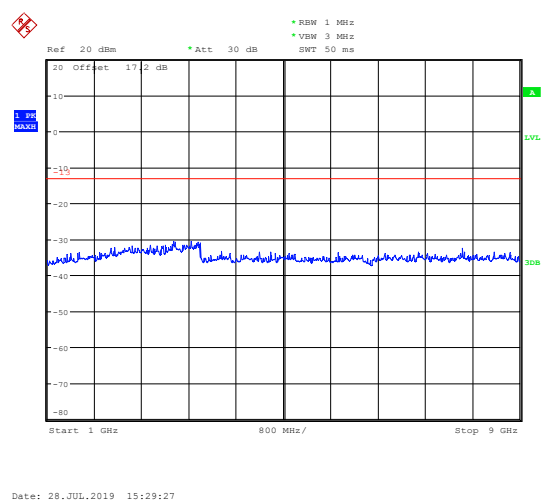
Date: 28.JUL.2019 15:19:16



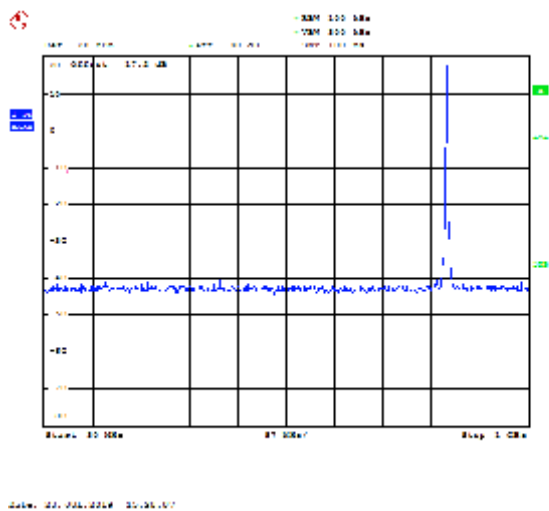
WCDMA Band V CH-Low 30MHz ~ 1GHz



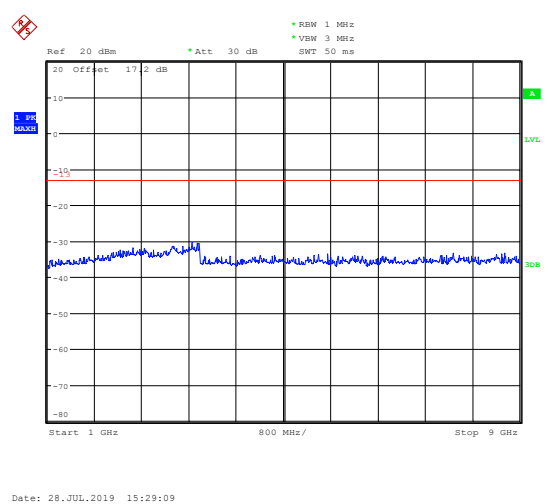
WCDMA Band V CH-Low 1GHz ~ 9GHz



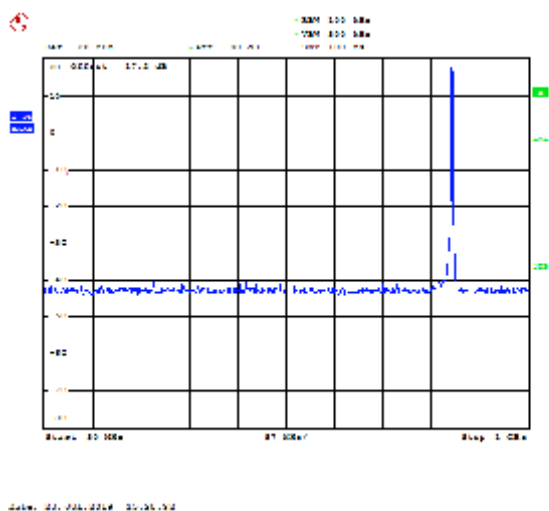
WCDMA Band V CH-Middle 30MHz ~ 1GHz



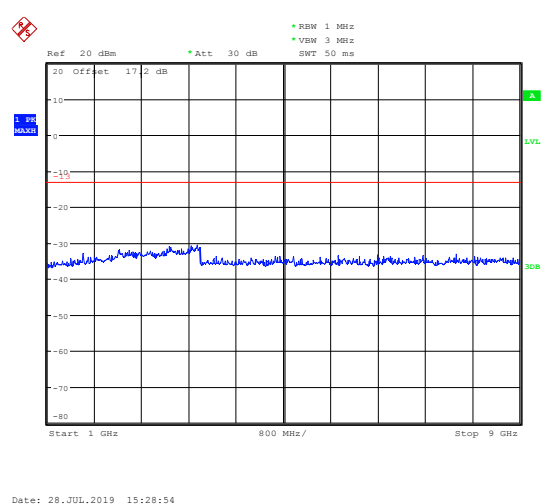
WCDMA Band V CH-Middle 1GHz ~ 9GHz



WCDMA Band V CH-High 30MHz ~ 1GHz

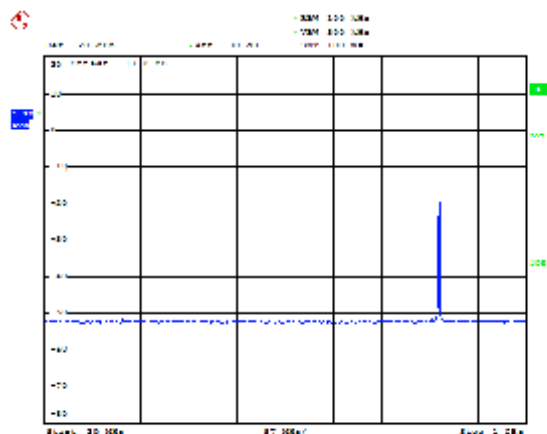


WCDMA Band V CH-High 1GHz ~ 9GHz



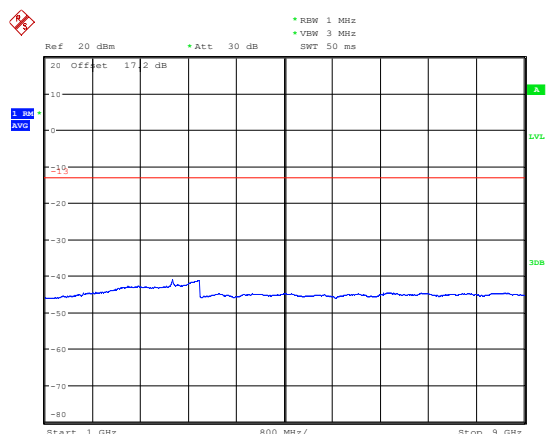


LTE Band 5 1.4MHz CH-Low 30MHz~1GHz



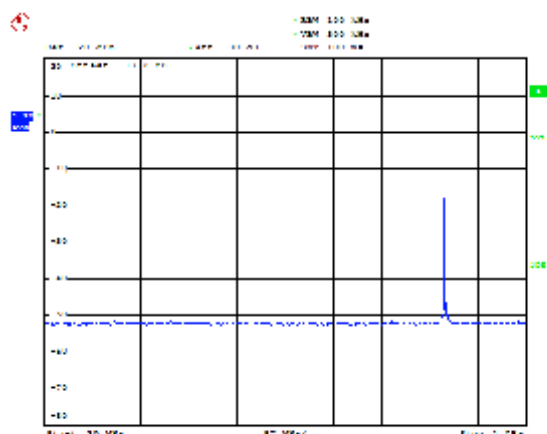
Date: 2.AUG.2019 21:40:52

LTE Band 5 1.4MHz CH-Low 1GHz~9GHz



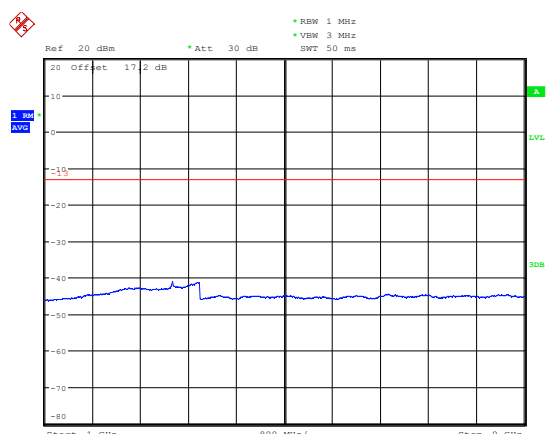
Date: 2.AUG.2019 21:40:52

LTE Band 5 1.4MHz CH-Middle 30MHz~1GHz



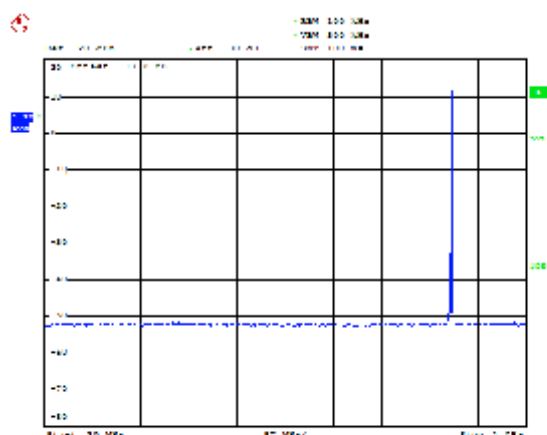
Date: 2.AUG.2019 21:41:10

LTE Band 5 1.4MHz CH-Middle 1GHz~9GHz



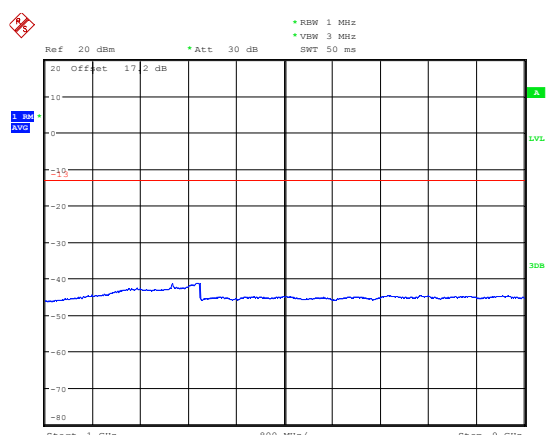
Date: 2.AUG.2019 21:41:10

LTE Band 5 1.4MHz CH-High 30MHz~1GHz



Date: 2.AUG.2019 21:41:23

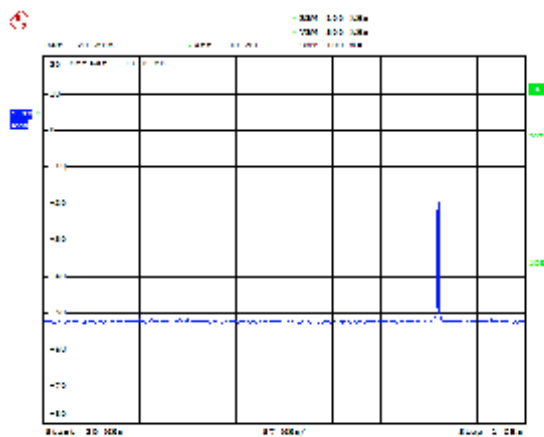
LTE Band 5 1.4MHz CH-High 1GHz~9GHz



Date: 2.AUG.2019 21:41:23

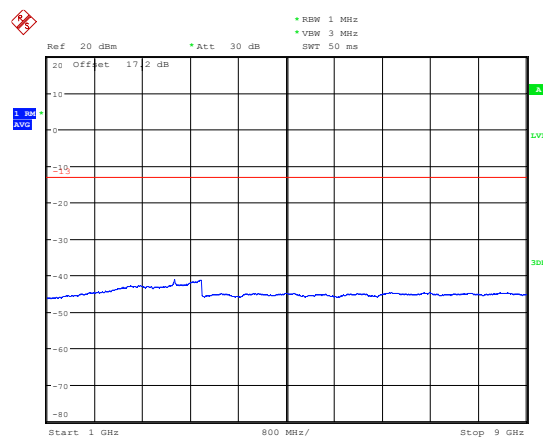


LTE Band 5 3MHz CH-Low 30MHz~1GHz



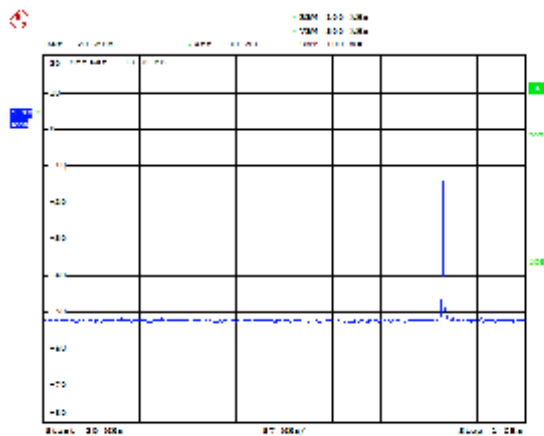
Date: 2.AUG.2019 21:41:44

LTE Band 5 3MHz CH-Low 1GHz~9GHz



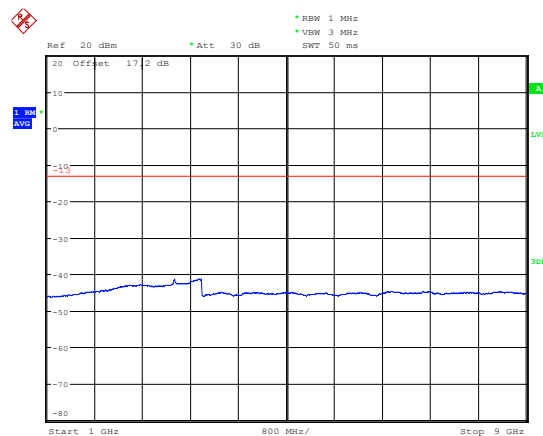
Date: 2.AUG.2019 21:41:45

LTE Band 5 3MHz CH-Middle 30MHz~1GHz



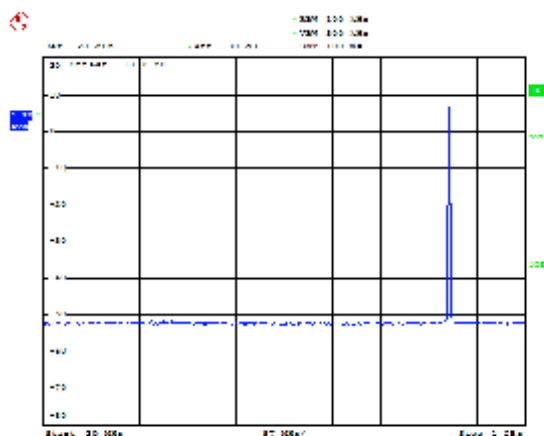
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LTE Band 5 3MHz CH-Middle 1GHz~9GHz



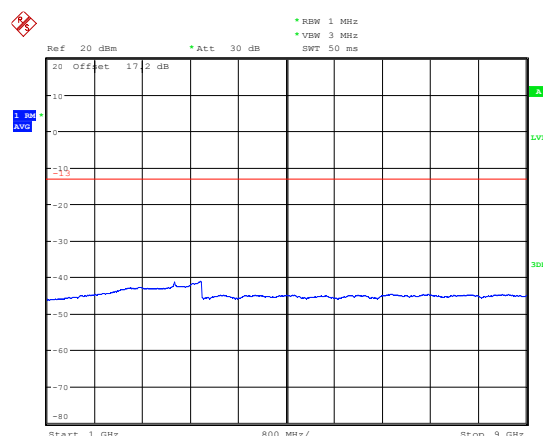
Date: 2.AUG.2019 21:41:55

LTE Band 5 3MHz CH-High 30MHz~1GHz



Date: 2.AUG.2019 21:42:07

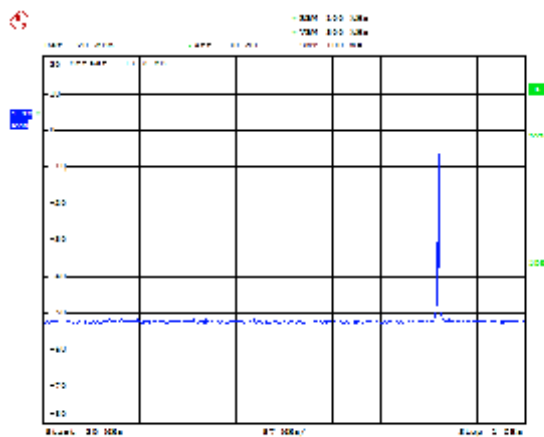
LTE Band 5 3MHz CH-High 1GHz~9GHz



Date: 2.AUG.2019 21:42:07

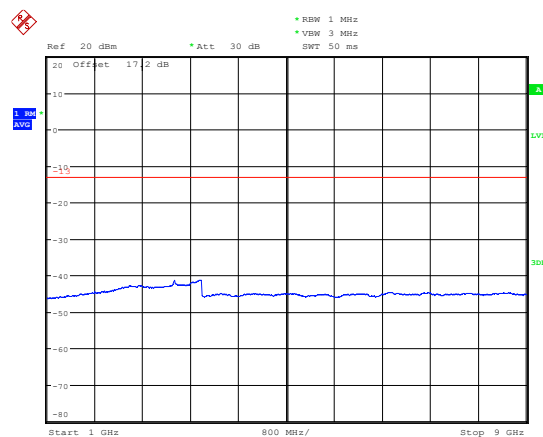


LTE Band 5 5MHz CH-Low 30MHz~1GHz



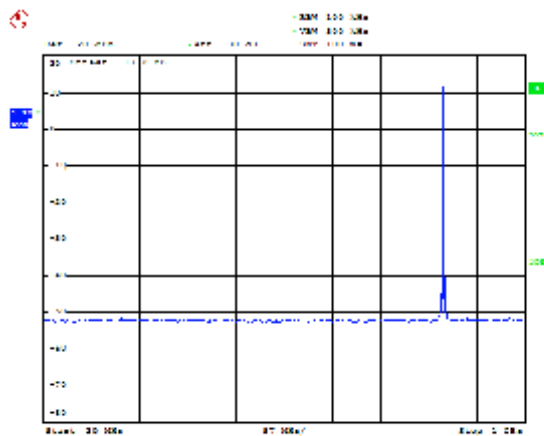
Date: 2.AUG.2019 21:42:28

LTE Band 5 5MHz CH-Low 1GHz~9GHz



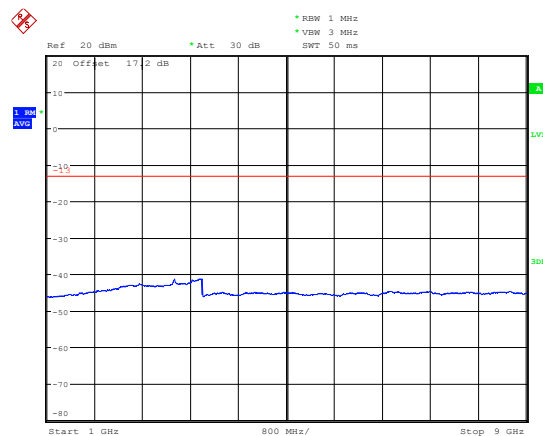
Date: 2.AUG.2019 21:42:28

LTE Band 5 5MHz CH-Middle 30MHz~1GHz



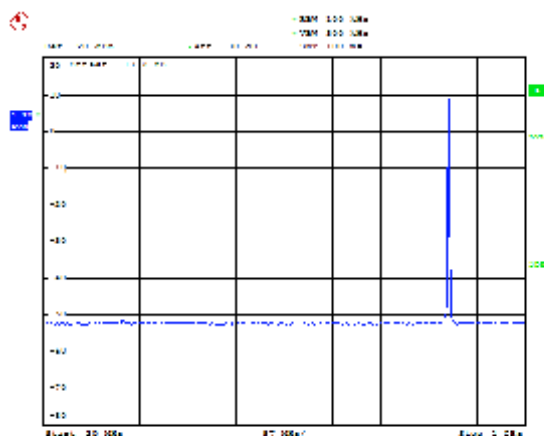
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LTE Band 5 5MHz CH-Middle 1GHz~9GHz



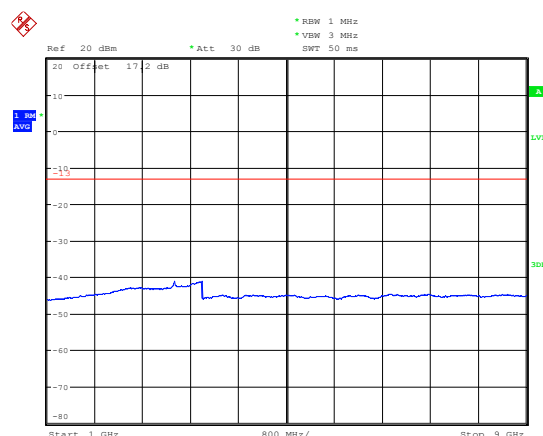
Date: 2.AUG.2019 21:42:29

LTE Band 5 5MHz CH-High 30MHz~1GHz



Date: 2.AUG.2019 21:42:28

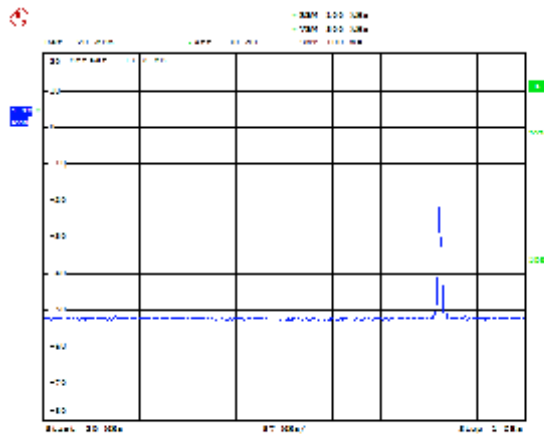
LTE Band 5 5MHz CH-High 1GHz~9GHz



Date: 2.AUG.2019 21:42:28

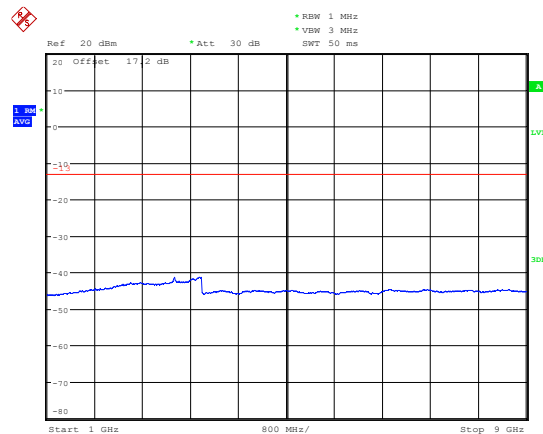


LTE Band 5 10MHz CH-Low 30MHz~1GHz



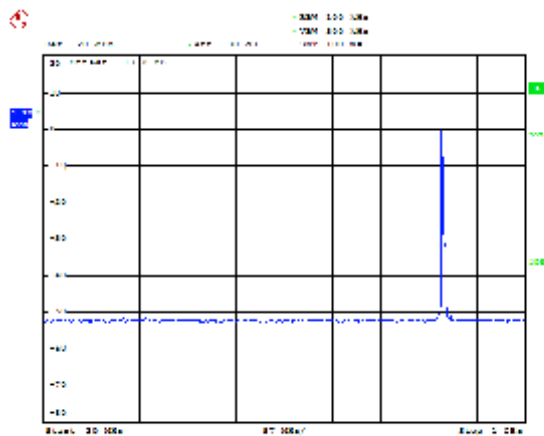
Date: 2.AUG.2019 21:43:07

LTE Band 5 10MHz CH-Low 1GHz~9GHz



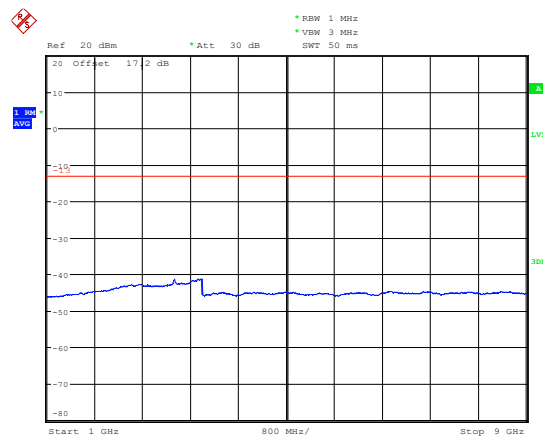
Date: 2.AUG.2019 21:43:07

LTE Band 5 10MHz CH-Middle 30MHz~1GHz



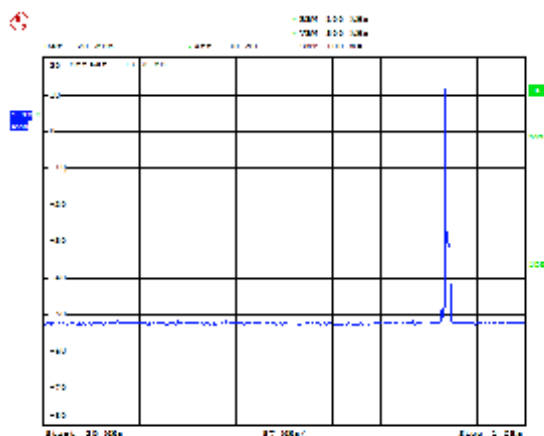
Date: 2.AUG.2019 21:43:16

LTE Band 5 10MHz CH-Middle 1GHz~9GHz



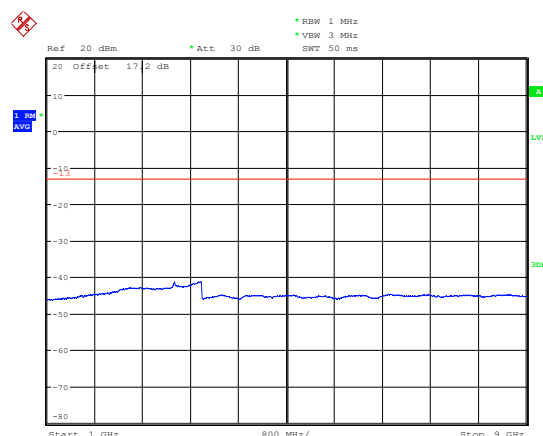
Date: 2.AUG.2019 21:43:16

LTE Band 5 10MHz CH-High 30MHz~1GHz



Date: 2.AUG.2019 21:43:27

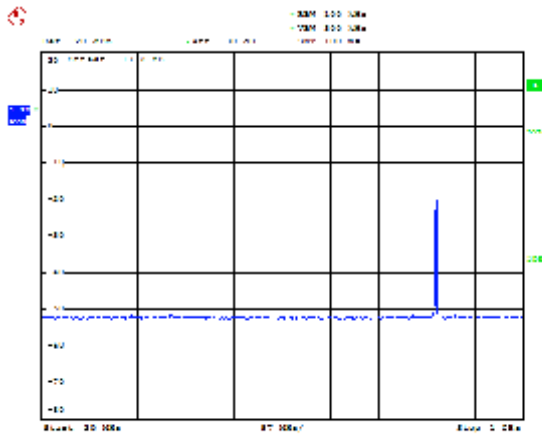
LTE Band 5 10MHz CH-High 1GHz~9GHz



Date: 2.AUG.2019 21:43:27

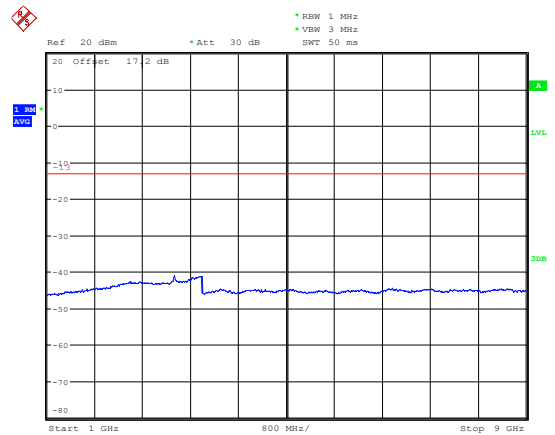


LTE Band 26 1.4MHz CH-Low 30MHz~1GHz



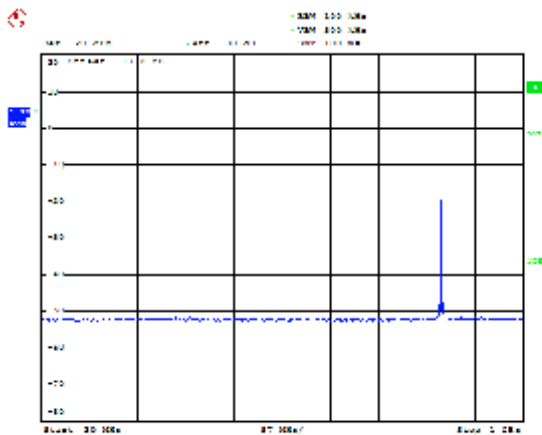
Date: 2.AUG.2019 21:49:20

LTE Band 26 1.4MHz CH-Low 1GHz~9GHz



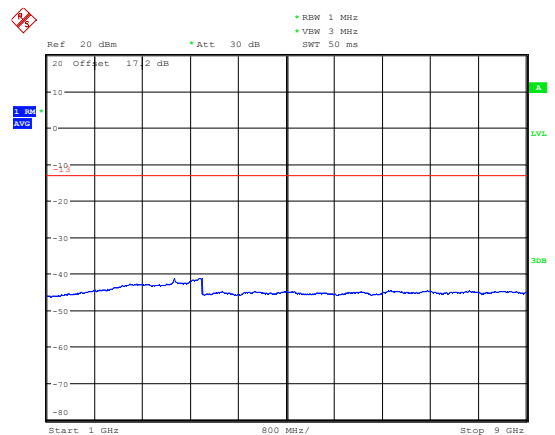
Date: 2.AUG.2019 21:49:20

LTE Band 26 1.4MHz CH-Middle 30MHz~1GHz



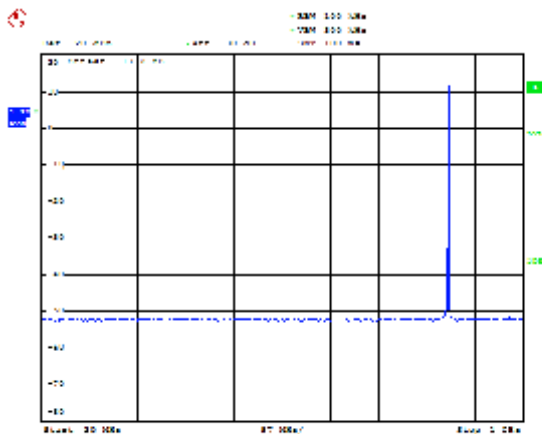
Date: 2.AUG.2019 21:49:28

LTE Band 26 1.4MHz CH-Middle 1GHz~9GHz



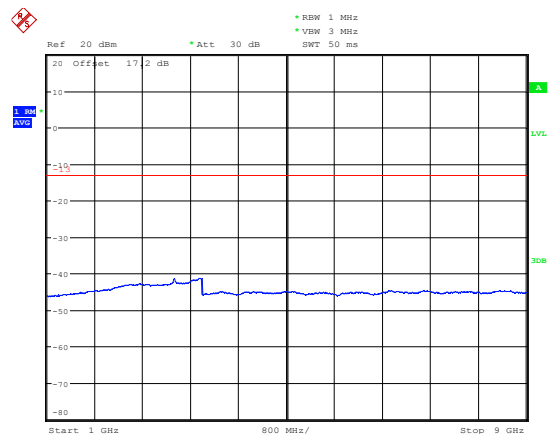
Date: 2.AUG.2019 21:49:35

LTE Band 26 1.4MHz CH-High 30MHz~1GHz



Date: 2.AUG.2019 21:49:45

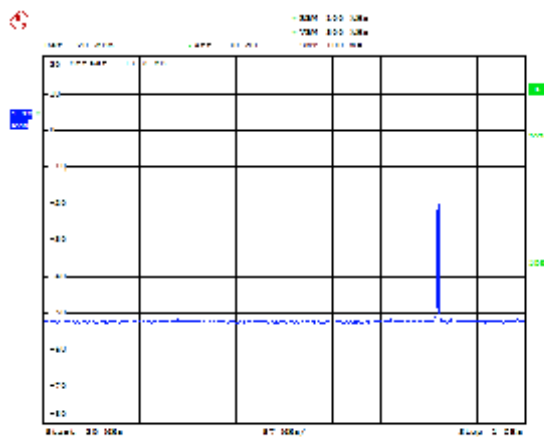
LTE Band 26 1.4MHz CH-High 1GHz~9GHz



Date: 2.AUG.2019 21:49:45

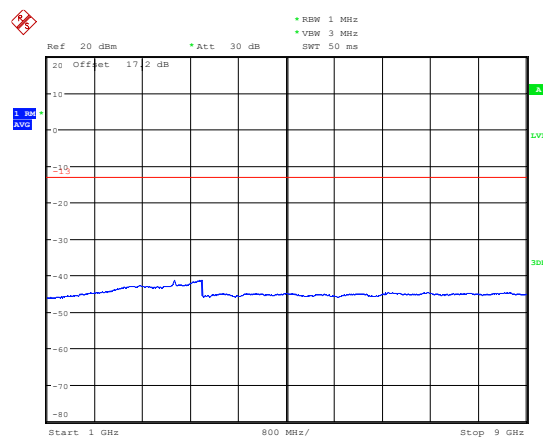


LTE Band 26 3MHz CH-Low 30MHz~1GHz



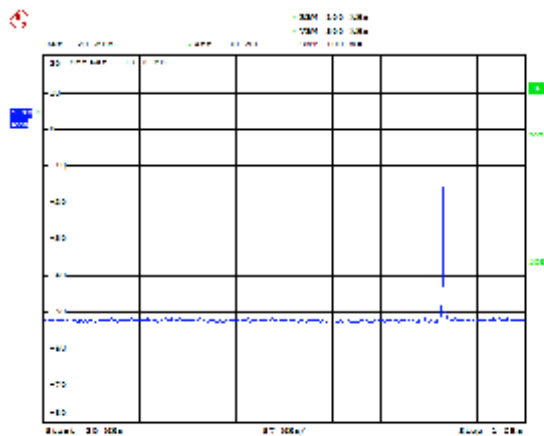
Date: 2.AUG.2019 19:22:52

LTE Band 26 3MHz CH-Low 1GHz~9GHz



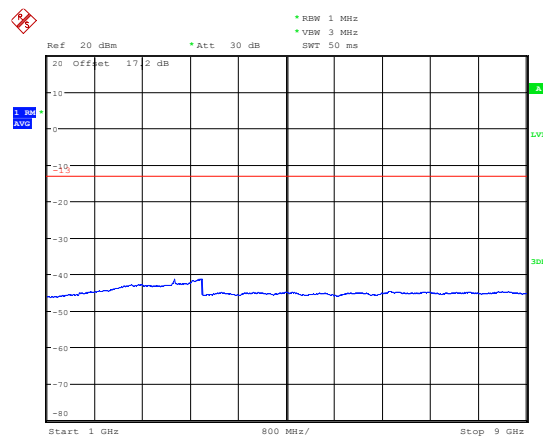
Date: 2.AUG.2019 21:50:07

LTE Band 26 3MHz CH-Middle 30MHz~1GHz



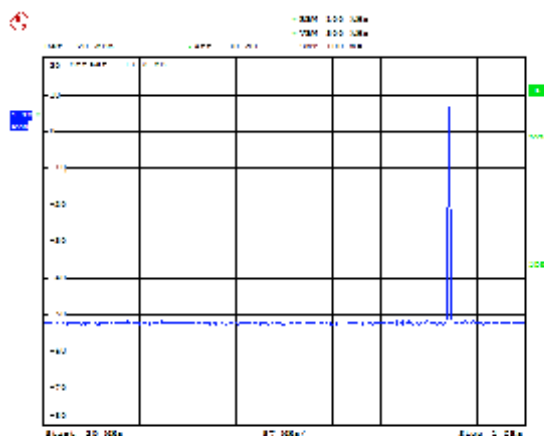
Date: 2.AUG.2019 19:22:26

LTE Band 26 3MHz CH-Middle 1GHz~9GHz



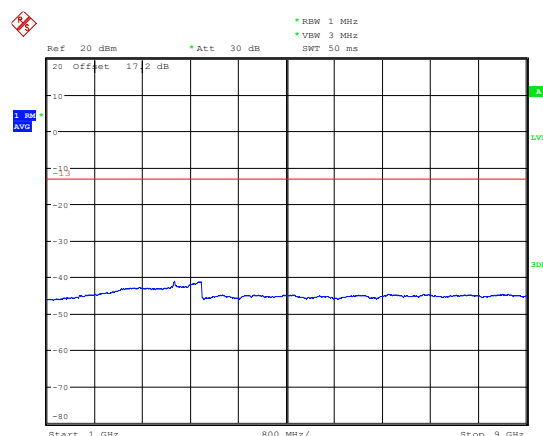
Date: 2.AUG.2019 21:50:23

LTE Band 26 3MHz CH-High 30MHz~1GHz



Date: 2.AUG.2019 19:22:55

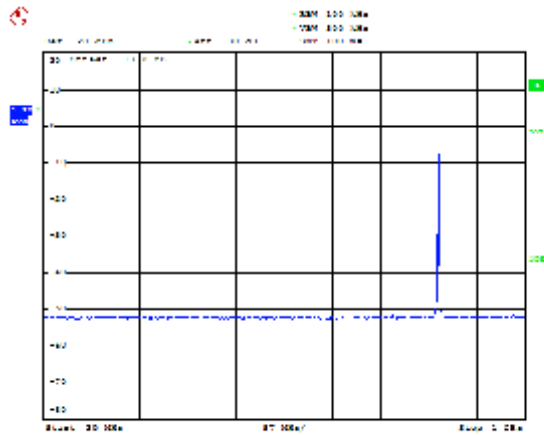
LTE Band 26 3MHz CH-High 1GHz~9GHz



Date: 2.AUG.2019 21:50:51

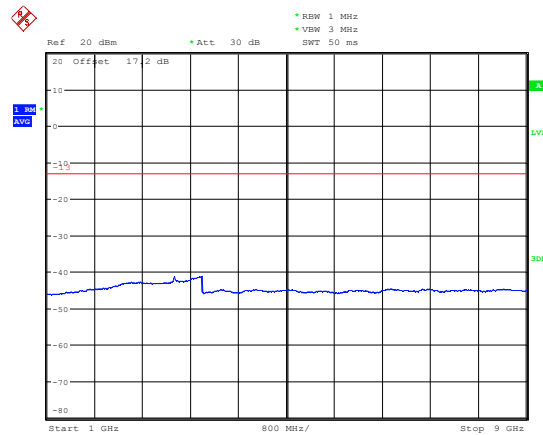


LTE Band 26 5MHz CH-Low 30MHz~1GHz



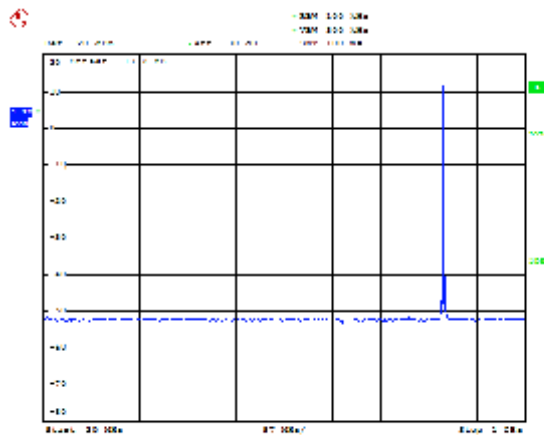
Date: 2.AUG.2019 21:51:20

LTE Band 26 5MHz CH-Low 1GHz~9GHz



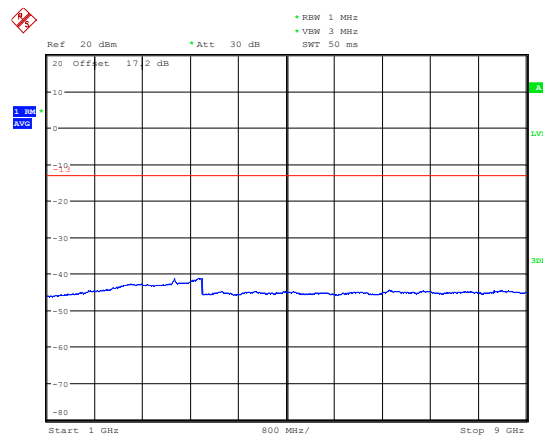
Date: 2.AUG.2019 21:51:12

LTE Band 26 5MHz CH-Middle 30MHz~1GHz



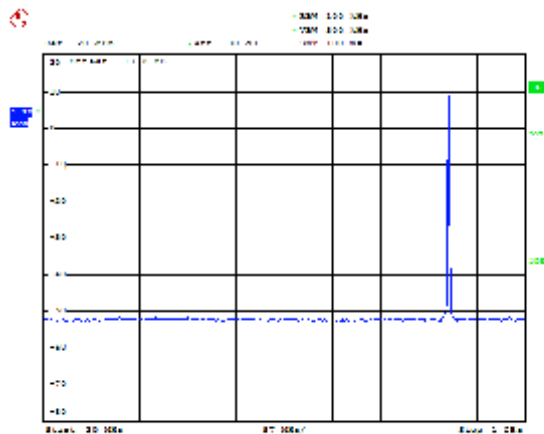
Date: 2.AUG.2019 21:51:22

LTE Band 26 5MHz CH-Middle 1GHz~9GHz



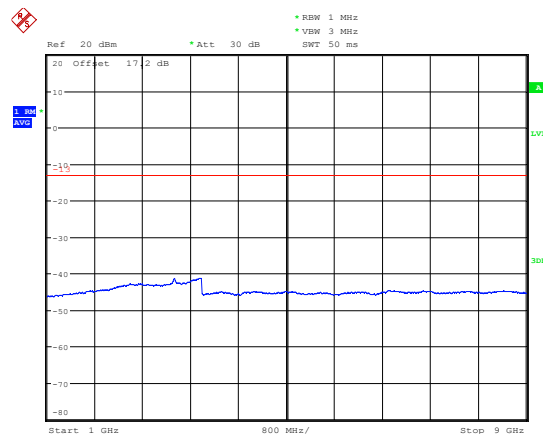
Date: 2.AUG.2019 21:51:22

LTE Band 26 5MHz CH-High 30MHz~1GHz



Date: 2.AUG.2019 21:51:25

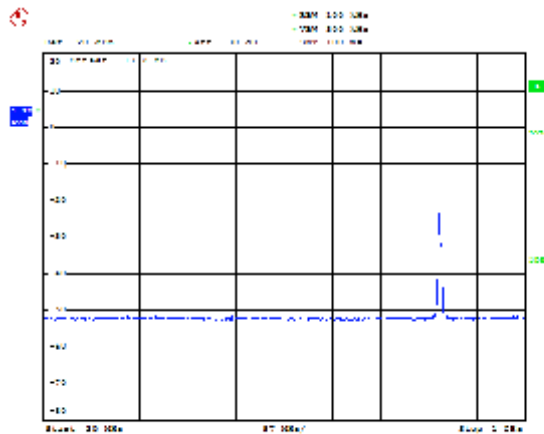
LTE Band 26 5MHz CH-High 1GHz~9GHz



Date: 2.AUG.2019 21:51:32

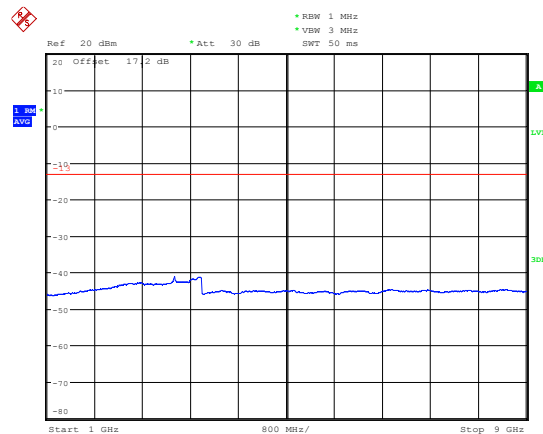


LTE Band 26 10MHz CH-Low 30MHz~1GHz



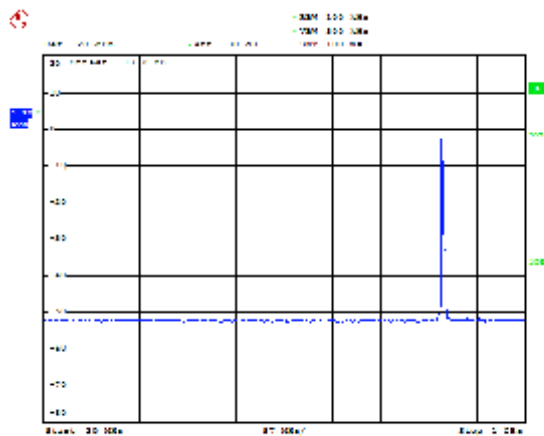
Date: 2.AUG.2019 19:20:31

LTE Band 26 10MHz CH-Low 1GHz~9GHz



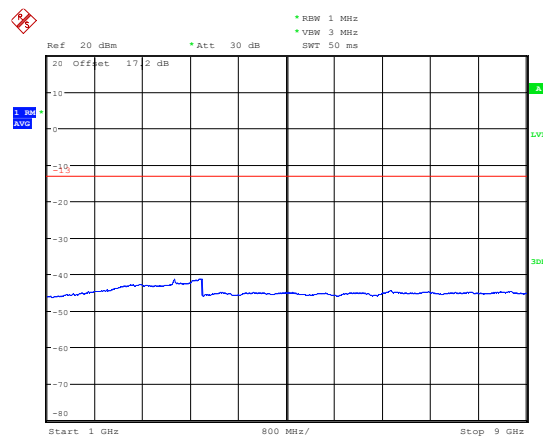
Date: 2.AUG.2019 21:51:48

LTE Band 26 10MHz CH-Middle 30MHz~1GHz



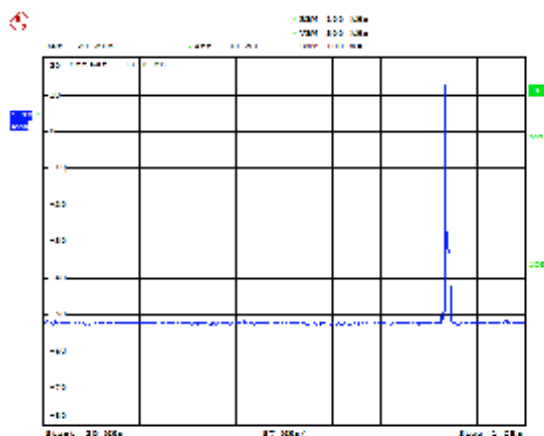
Date: 2.AUG.2019 19:20:31

LTE Band 26 10MHz CH-Middle 1GHz~9GHz



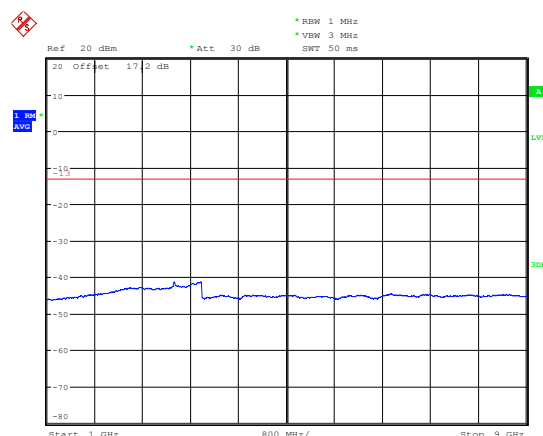
Date: 2.AUG.2019 21:51:59

LTE Band 26 10MHz CH-High 30MHz~1GHz



Date: 2.AUG.2019 19:20:31

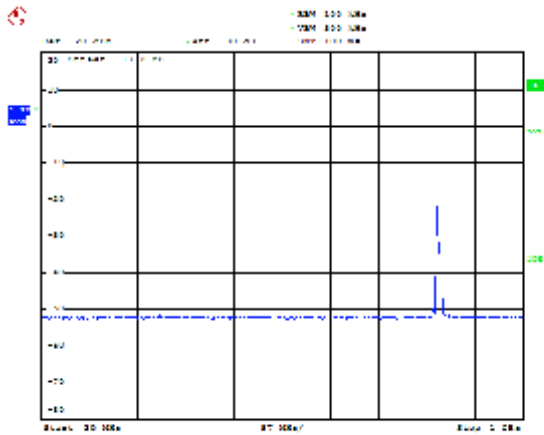
LTE Band 26 10MHz CH-High 1GHz~9GHz



Date: 2.AUG.2019 21:52:10

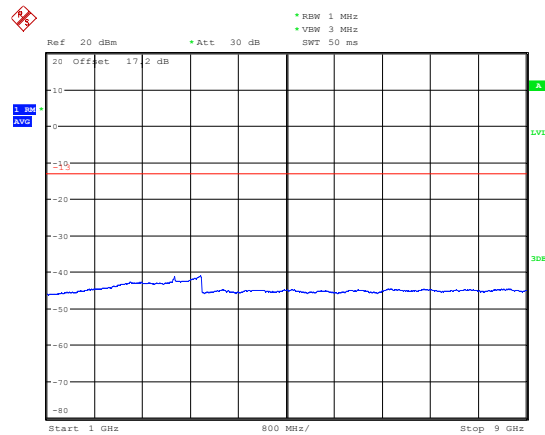


LTE Band 26 15MHz CH-Low 30MHz~1GHz



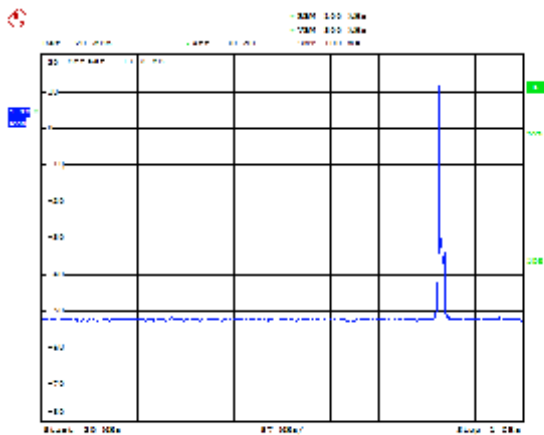
Date: 2.AUG.2019 21:52:27

LTE Band 26 15MHz CH-Low 1GHz~9GHz



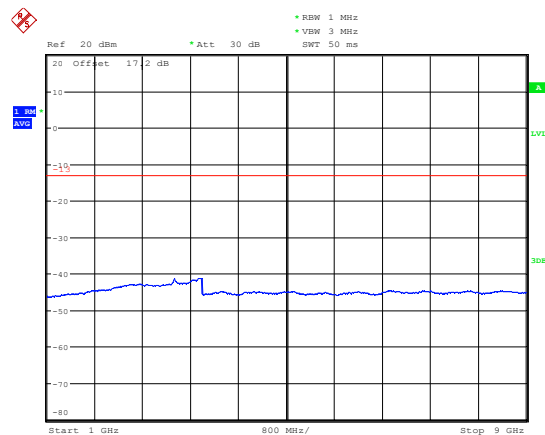
Date: 2.AUG.2019 21:52:27

LTE Band 26 15MHz CH-Middle 30MHz~1GHz



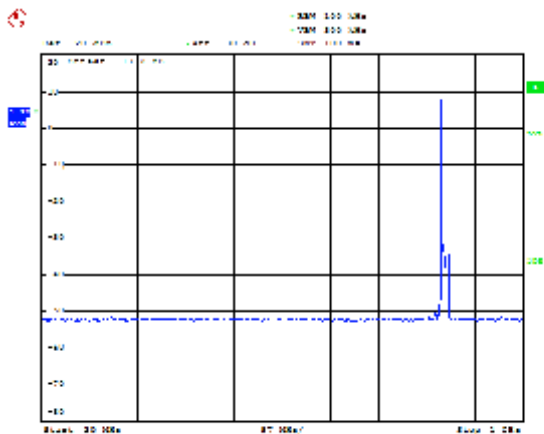
Date: 2.AUG.2019 21:52:36

LTE Band 26 15MHz CH-Middle 1GHz~9GHz



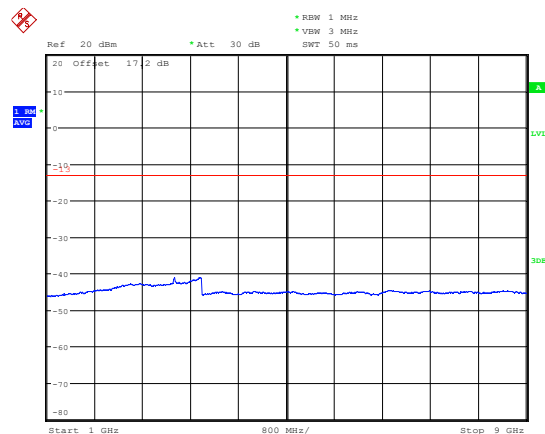
Date: 2.AUG.2019 21:52:36

LTE Band 26 15MHz CH-High 30MHz~1GHz

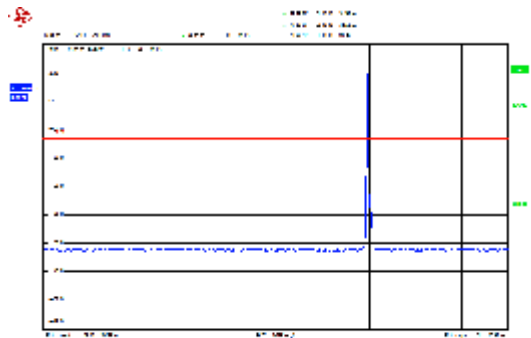


Date: 2.AUG.2019 21:52:46

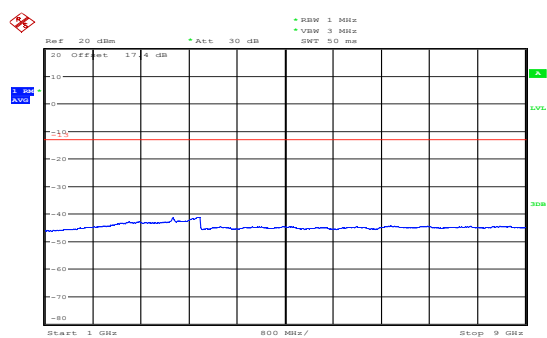
LTE Band 26 15MHz CH-High 1GHz~9GHz



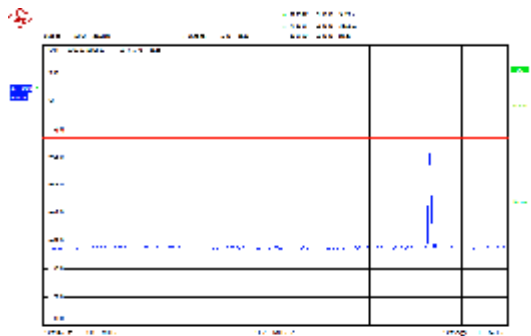
Date: 2.AUG.2019 21:52:46

CA-5B QPSK 3MHz+5MHz CH-Low
30MHz~1GHz

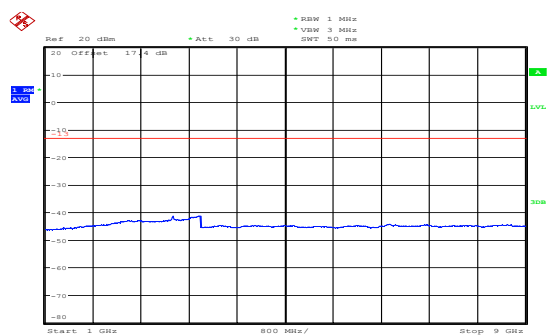
Date: 22.AUG.2019 10:39:12

CA-5B QPSK 3MHz+5MHz CH-Low
1GHz~9GHz

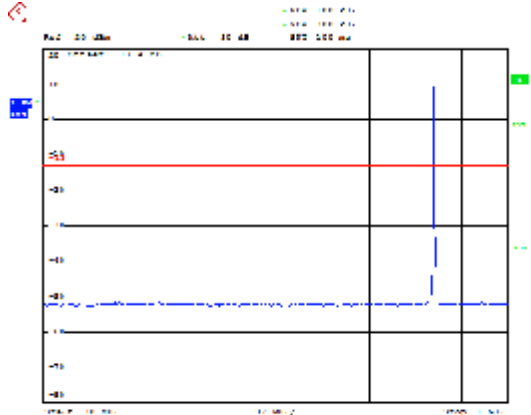
Date: 11.AUG.2019 17:33:46

CA-5B QPSK 3MHz+5MHz CH-Middle
30MHz~1GHz

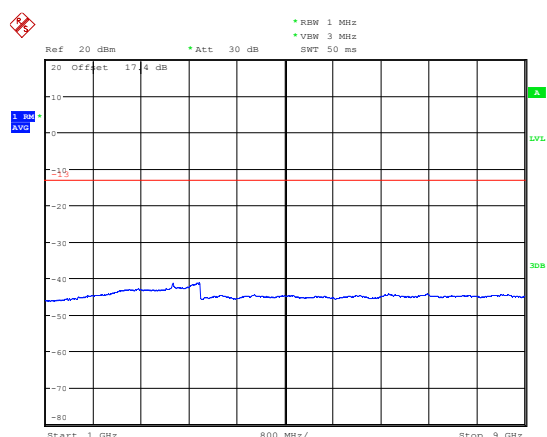
Date: 22.AUG.2019 17:35:12

CA-5B QPSK 3MHz+5MHz CH-Middle
1GHz~9GHz

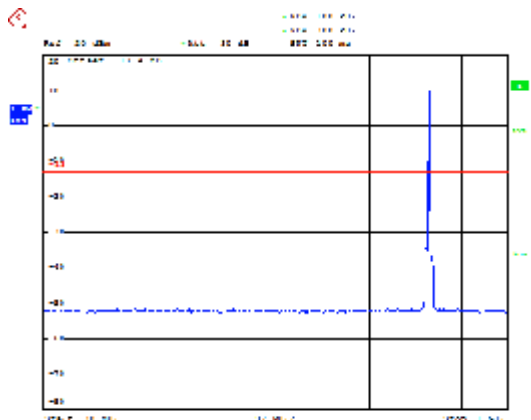
Date: 11.AUG.2019 17:35:33

CA-5B QPSK 3MHz+5MHz CH-High
30MHz~1GHz

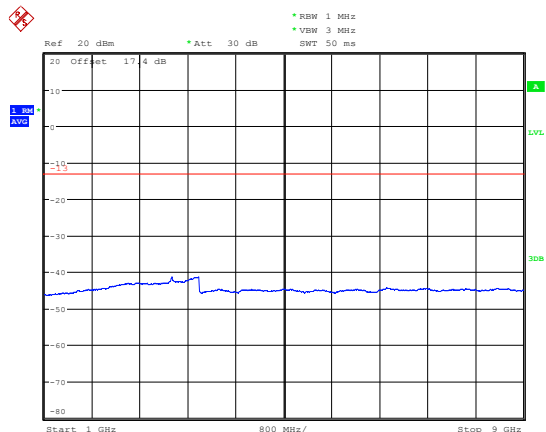
Date: 11.AUG.2019 17:36:48

CA-5B QPSK 3MHz+5MHz CH-High
1GHz~9GHz

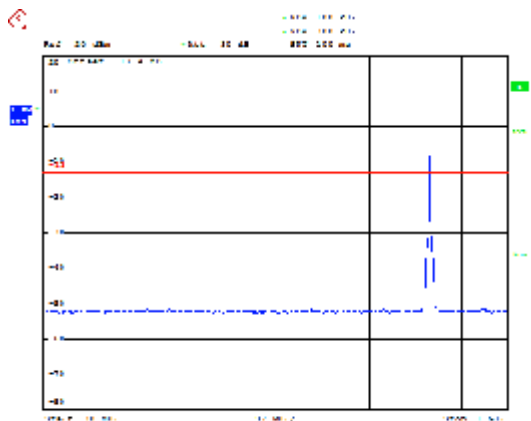
Date: 11.AUG.2019 17:36:59

CA-5B QPSK 10MHz+10MHz CH-Low
30MHz~1GHz

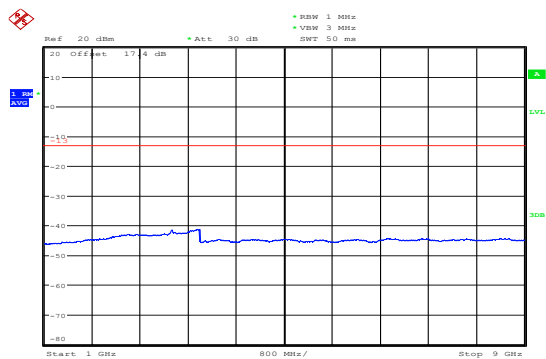
Date: 11.AUG.2019 17:29:50

CA-5B QPSK 10MHz+10MHz CH-Low
1GHz~9GHz

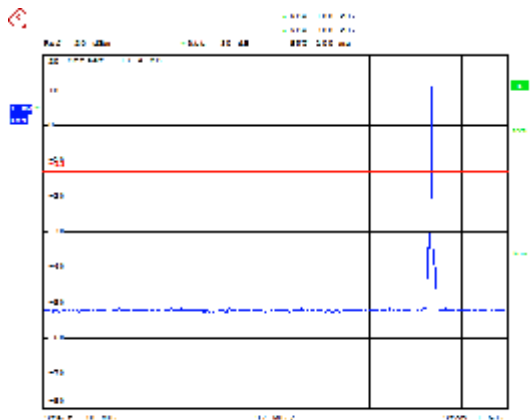
Date: 11.AUG.2019 17:38:03

CA-5B QPSK 10MHz+10MHz CH-Middle
30MHz~1GHz

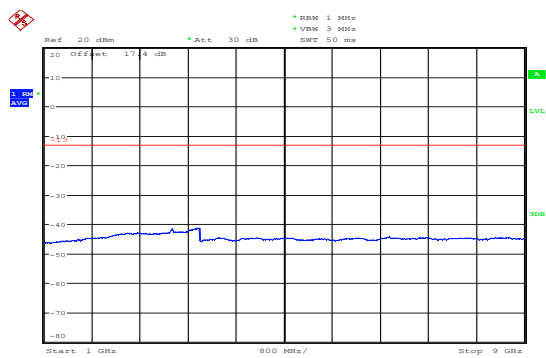
Date: 11.AUG.2019 17:33:56

CA-5B QPSK 10MHz+10MHz CH-Middle
1GHz~9GHz

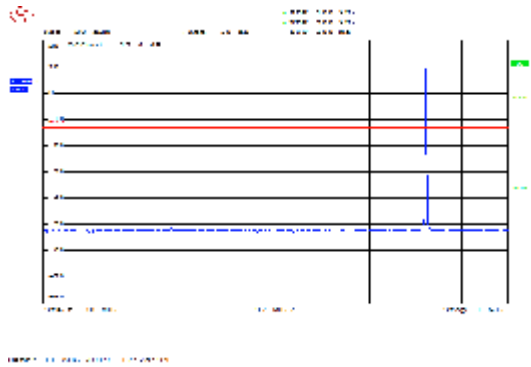
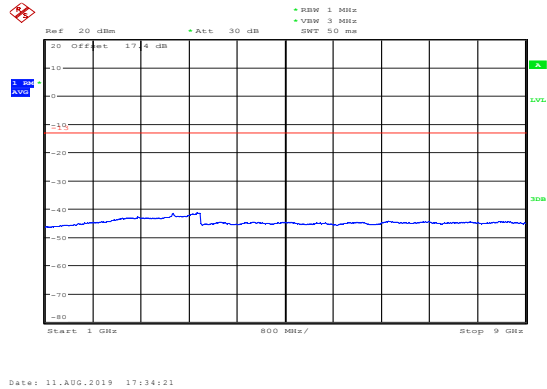
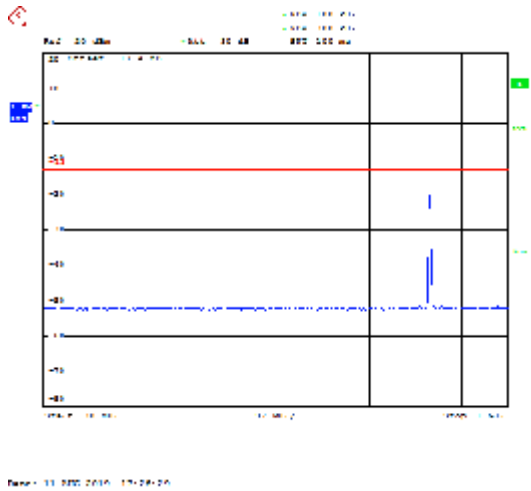
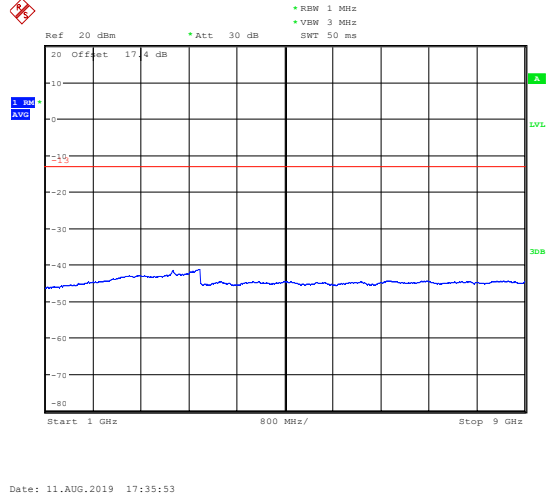
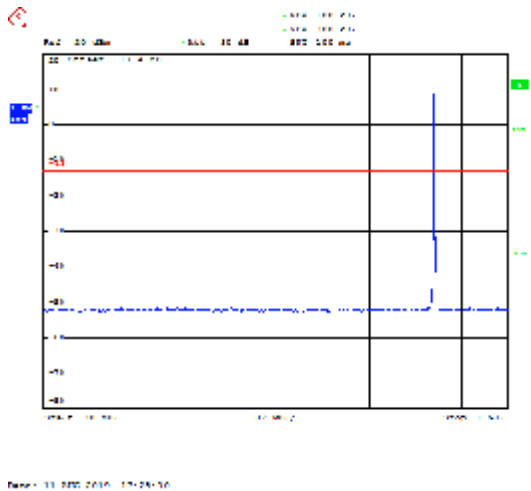
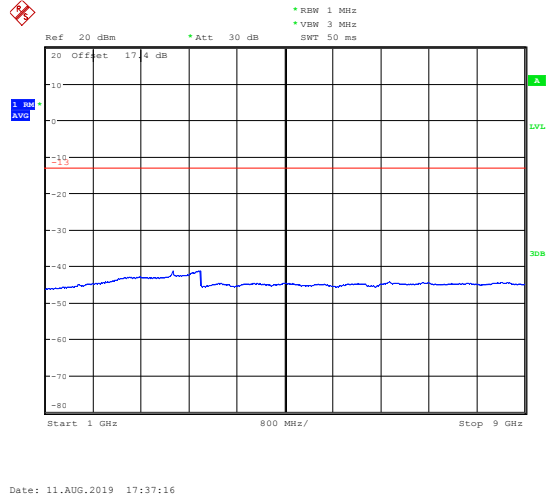
Date: 11.AUG.2019 17:39:33

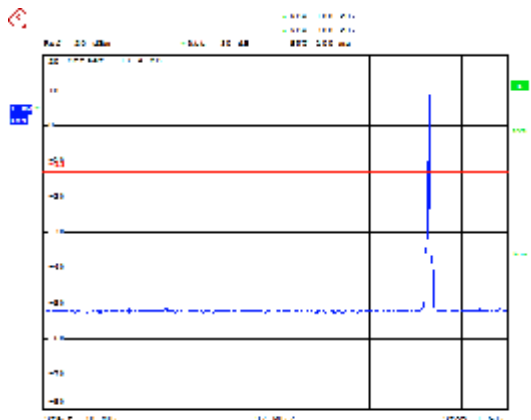
CA-5B QPSK 10MHz+10MHz CH-High
30MHz~1GHz

Date: 11.AUG.2019 17:52:02

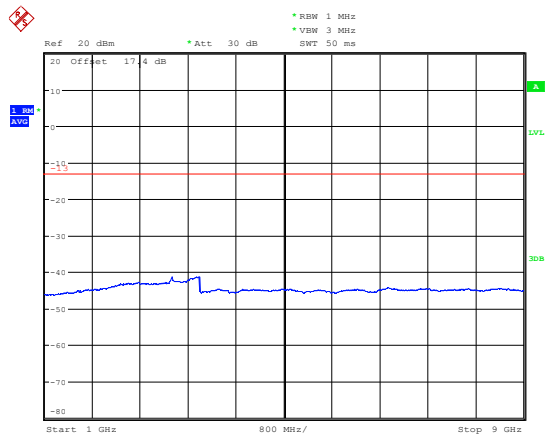
CA-5B QPSK 10MHz+10MHz CH-High
1GHz~9GHz

Date: 11.AUG.2019 17:46:26

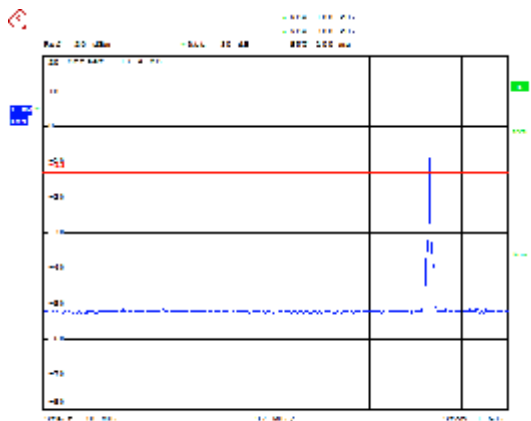
CA-5B 16QAM 3MHz+5MHz CH-Low
30MHz~1GHzCA-5B 16QAM 3MHz+5MHz CH-Low
1GHz~9GHzCA-5B 16QAM 3MHz+5MHz CH-Middle
30MHz~1GHzCA-5B 16QAM 3MHz+5MHz CH-Middle
1GHz~9GHzCA-5B 16QAM 3MHz+5MHz CH-High
30MHz~1GHzCA-5B 16QAM 3MHz+5MHz CH-High
1GHz~9GHz

CA-5B 16QAM 10MHz+10MHz CH-Low
30MHz~1GHz

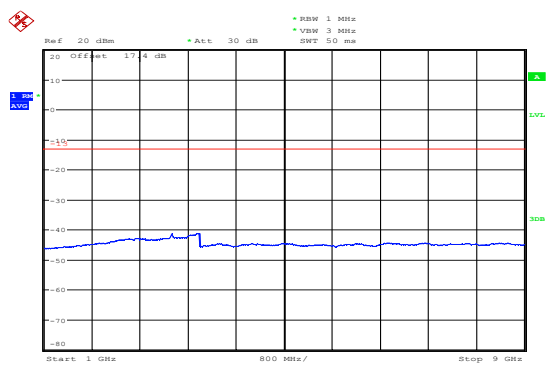
Date: 11.AUG.2019 17:38:19

CA-5B 16QAM 10MHz+10MHz CH-Low
1GHz~9GHz

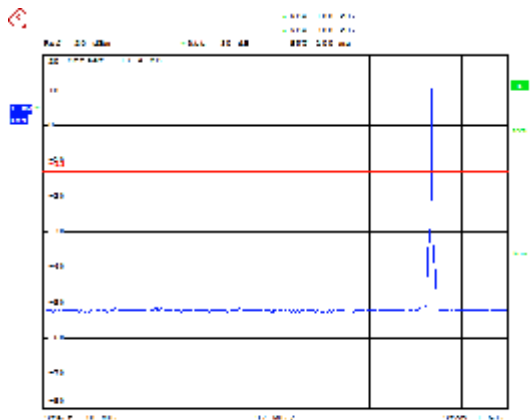
Date: 11.AUG.2019 17:38:25

CA-5B 16QAM 10MHz+10MHz CH-Middle
30MHz~1GHz

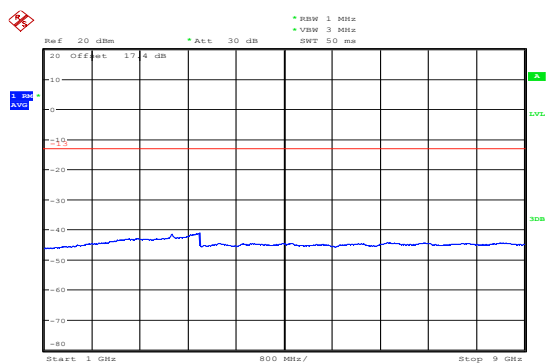
Date: 11.AUG.2019 17:40:19

CA-5B 16QAM 10MHz+10MHz CH-Middle
1GHz~9GHz

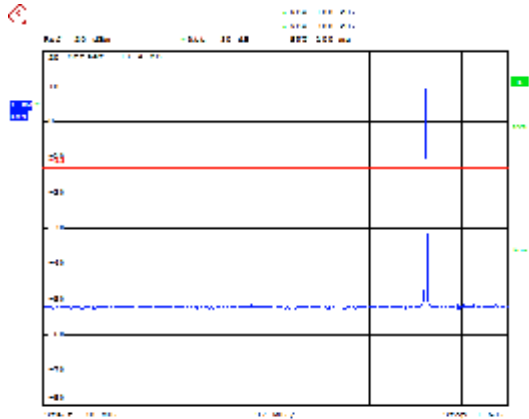
Date: 11.AUG.2019 17:40:25

CA-5B 16QAM 10MHz+10MHz CH-High
30MHz~1GHz

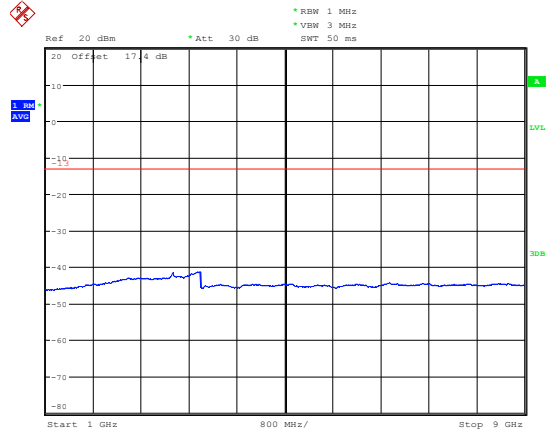
Date: 11.AUG.2019 17:46:50

CA-5B 16QAM 10MHz+10MHz CH-High
1GHz~9GHz

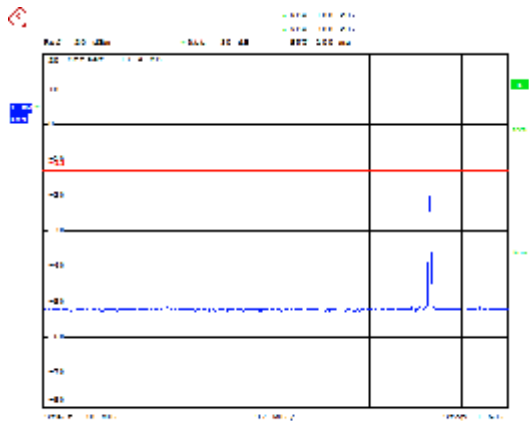
Date: 11.AUG.2019 17:46:51

CA-5B 64QAM 3MHz+5MHz CH-Low
30MHz~1GHz

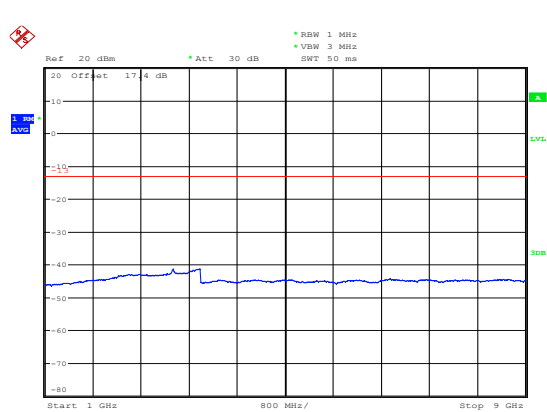
Date: 11.AUG.2019 17:28:28

CA-5B 64QAM 3MHz+5MHz CH-Low
1GHz~9GHz

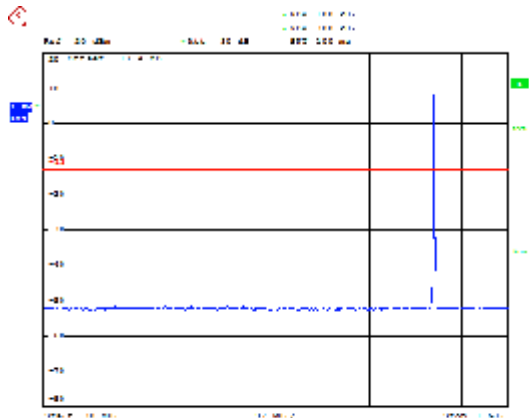
Date: 11.AUG.2019 17:34:50

CA-5B 64QAM 3MHz+5MHz CH-Middle
30MHz~1GHz

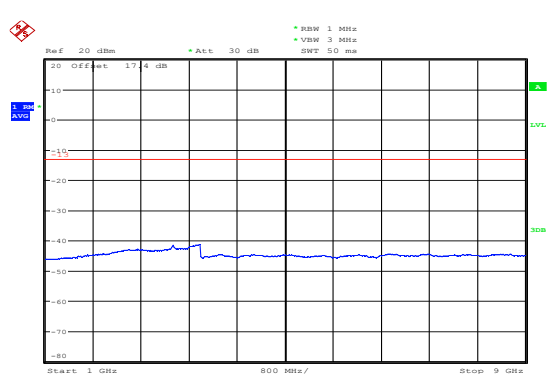
Date: 11.AUG.2019 17:36:50

CA-5B 64QAM 3MHz+5MHz CH-Middle
1GHz~9GHz

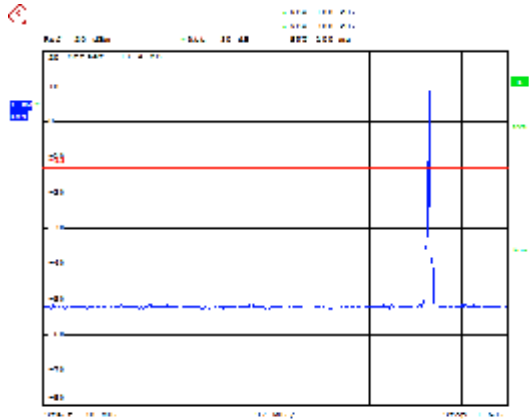
Date: 11.AUG.2019 17:36:34

CA-5B 64QAM 3MHz+5MHz CH-High
30MHz~1GHz

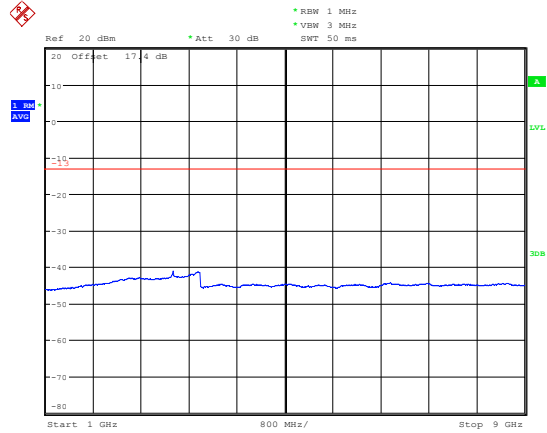
Date: 11.AUG.2019 17:38:18

CA-5B 64QAM 3MHz+5MHz CH-High
1GHz~9GHz

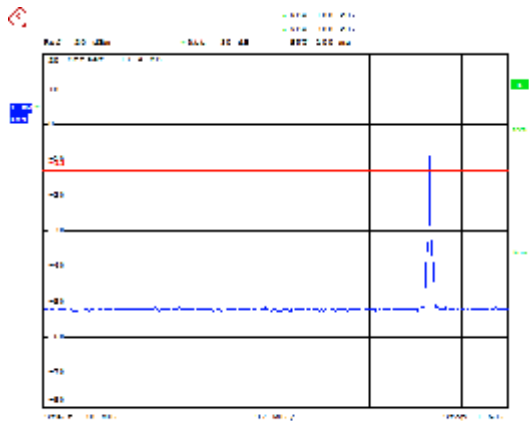
Date: 11.AUG.2019 17:37:47

CA-5B 64QAM 10MHz+10MHz CH-Low
30MHz~1GHz

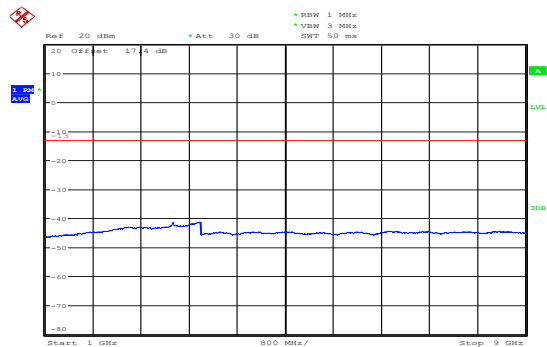
Date: 11.AUG.2019 17:38:55

CA-5B 64QAM 10MHz+10MHz CH-Low
1GHz~9GHz

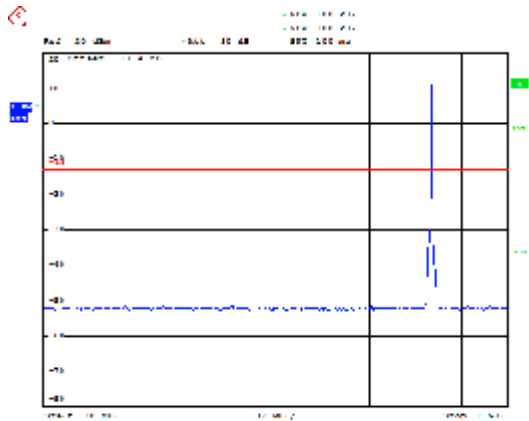
Date: 11.AUG.2019 17:38:55

CA-5B 64QAM 10MHz+10MHz CH-Middle
30MHz~1GHz

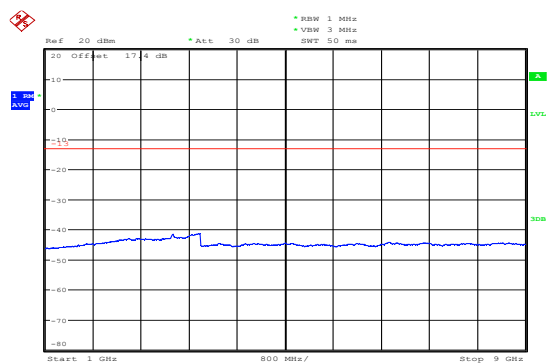
Date: 11.AUG.2019 17:40:58

CA-5B 64QAM 10MHz+10MHz CH-Middle
1GHz~9GHz

Date: 11.AUG.2019 17:40:58

CA-5B 64QAM 10MHz+10MHz CH-High
30MHz~1GHz

Date: 11.AUG.2019 17:47:30

CA-5B 64QAM 10MHz+10MHz CH-High
1GHz~9GHz

Date: 11.AUG.2019 17:47:30

5.8. Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26 (2015).
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=200Hz,VBW=600Hz for 9kHz150kHz , RBW=10kHz, VBW=30kHz 150kHz-30MHz , RBW=100kHz,VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz, And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$

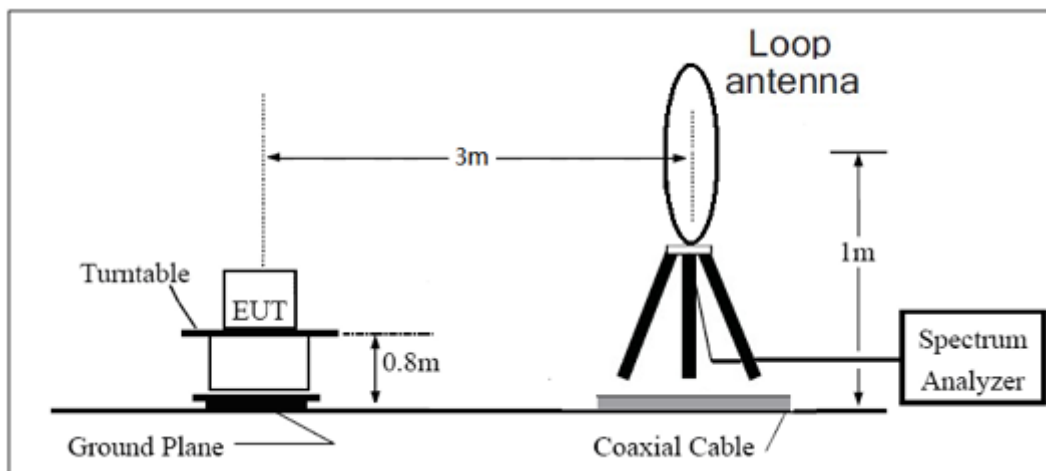
The measurement results are amend as described below:
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi)

and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.15\text{dBi}$.

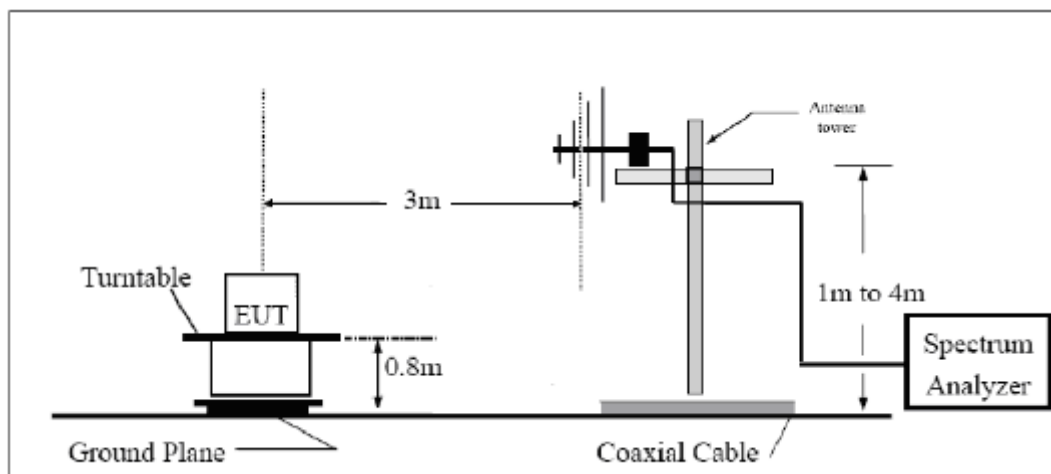
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

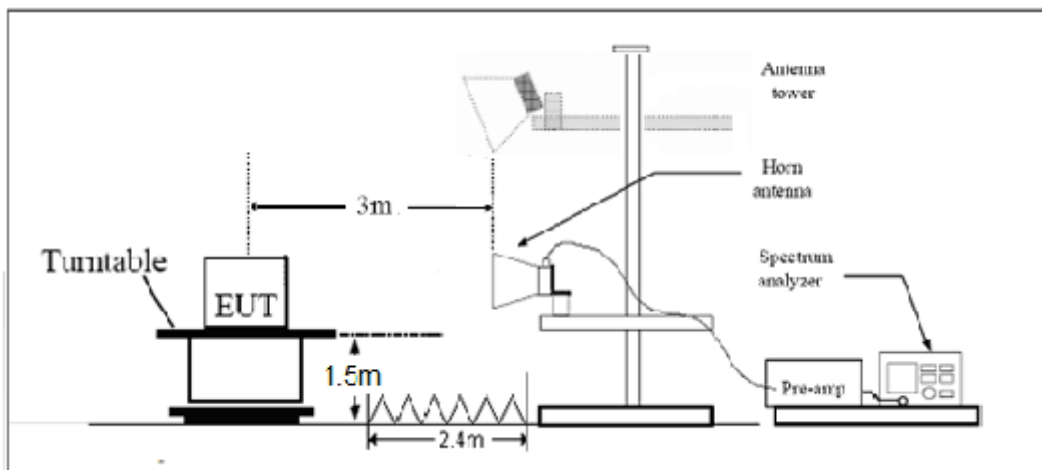
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz





Note: Area side:2.4mX3.6m

Limits

Rule Part 22.917(a) specifies that “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 $43 + 10 \log (P)$ dB.”

Limit	-13 dBm
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 3.55$ dB.

Test Result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

Main-antenna

GSM 850 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673	-60.54	2.00	10.75	Horizontal	-53.94	-13.00	40.94	225
3	2498	-62.60	2.51	11.05	Horizontal	-56.21	-13.00	43.21	225
4	3346	-64.02	4.20	11.15	Horizontal	-59.22	-13.00	46.22	45
5	4183	-61.60	5.20	11.15	Horizontal	-57.80	-13.00	44.80	225
6	5020	-59.13	5.50	11.95	Horizontal	-54.83	-13.00	41.83	225
7	5856	-60.97	5.70	13.55	Horizontal	-55.27	-13.00	42.27	315
8	6693	-58.21	6.30	13.75	Horizontal	-52.91	-13.00	39.91	45
9	7529	-56.70	6.80	13.85	Horizontal	-51.80	-13.00	38.80	225
10	8366	-55.01	6.90	14.25	Horizontal	-49.81	-13.00	36.81	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

WCDMA Band V CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673	-68.45	2.00	10.75	Horizontal	-61.85	-13.00	48.85	315
3	2510	-64.45	2.51	11.05	Horizontal	-58.06	-13.00	45.06	45
4	3346	-63.60	4.20	11.15	Horizontal	-58.80	-13.00	45.80	135
5	4183	-60.75	5.20	11.15	Horizontal	-56.95	-13.00	43.95	270
6	5020	-59.23	5.50	11.95	Horizontal	-54.93	-13.00	41.93	45
7	5856	-61.37	5.70	13.55	Horizontal	-55.67	-13.00	42.67	0
8	6693	-58.25	6.30	13.75	Horizontal	-52.95	-13.00	39.95	180
9	8366	-55.96	6.80	13.85	Horizontal	-51.06	-13.00	38.06	270
10	3346	-56.04	6.90	14.25	Horizontal	-50.84	-13.00	37.84	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.



LTE Band 5 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.0	-66.78	2.00	10.75	Horizontal	-60.18	-13.00	47.18	315
3	2509.5	-66.98	2.51	11.05	Horizontal	-60.59	-13.00	47.59	45
4	3346.0	-64.00	4.20	11.15	Horizontal	-59.20	-13.00	46.20	135
5	4182.5	-60.32	5.20	11.15	Horizontal	-56.52	-13.00	43.52	315
6	5019.0	-60.30	5.50	11.95	Horizontal	-56.00	-13.00	43.00	45
7	5855.5	-61.09	5.70	13.55	Horizontal	-55.39	-13.00	42.39	90
8	6692.0	-59.17	6.30	13.75	Horizontal	-53.87	-13.00	40.87	45
9	7528.5	-56.59	6.80	13.85	Horizontal	-51.69	-13.00	38.69	135
10	8365.0	-56.32	6.90	14.25	Horizontal	-51.12	-13.00	38.12	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

LTE Band 5 3MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1670.3	-69.19	2.00	10.75	Horizontal	-62.59	-13.00	49.59	90
3	2509.5	-66.63	2.51	11.05	Horizontal	-60.24	-13.00	47.24	225
4	3346.0	-63.77	4.20	11.15	Horizontal	-58.97	-13.00	45.97	0
5	4182.5	-60.84	5.20	11.15	Horizontal	-57.04	-13.00	44.04	315
6	5019.0	-58.90	5.50	11.95	Horizontal	-54.60	-13.00	41.60	45
7	5855.5	-62.18	5.70	13.55	Horizontal	-56.48	-13.00	43.48	90
8	6692.0	-58.98	6.30	13.75	Horizontal	-53.68	-13.00	40.68	270
9	7528.5	-56.84	6.80	13.85	Horizontal	-51.94	-13.00	38.94	180
10	8365.0	-55.93	6.90	14.25	Horizontal	-50.73	-13.00	37.73	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.



LTE Band 5 10MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.0	-70.02	2.00	10.75	Horizontal	-63.42	-13.00	50.42	270
3	2509.5	-54.05	2.51	11.05	Horizontal	-47.66	-13.00	34.66	0
4	3346.0	-63.97	4.20	11.15	Horizontal	-59.17	-13.00	46.17	90
5	4182.5	-61.55	5.20	11.15	Horizontal	-57.75	-13.00	44.75	135
6	5019.0	-59.67	5.50	11.95	Horizontal	-55.37	-13.00	42.37	45
7	5855.5	-60.91	5.70	13.55	Horizontal	-55.21	-13.00	42.21	315
8	6692.0	-58.60	6.30	13.75	Horizontal	-53.30	-13.00	40.30	45
9	7528.5	-55.72	6.80	13.85	Horizontal	-50.82	-13.00	37.82	90
10	8365.0	-55.95	6.90	14.25	Horizontal	-50.75	-13.00	37.75	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

LTE Band 26 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1663.00	-65.39	2.00	10.75	Horizontal	-58.79	-13.00	45.79	90
3	2494.50	-66.02	2.51	11.05	Horizontal	-59.63	-13.00	46.63	135
4	3326.00	-63.49	4.20	11.15	Horizontal	-58.69	-13.00	45.69	270
5	4157.50	-60.47	5.20	11.15	Horizontal	-56.67	-13.00	43.67	45
6	4989.00	-58.40	5.50	11.95	Horizontal	-54.10	-13.00	41.10	90
7	5820.50	-59.91	5.70	13.55	Horizontal	-54.21	-13.00	41.21	315
8	6652.00	-57.39	6.30	13.75	Horizontal	-52.09	-13.00	39.09	225
9	7483.50	-55.97	6.80	13.85	Horizontal	-51.07	-13.00	38.07	90
10	8315.00	-54.80	6.90	14.25	Horizontal	-49.60	-13.00	36.60	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.



LTE Band 26 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1663.00	-64.00	2.00	10.75	Horizontal	-57.40	-13.00	44.40	270
3	2494.50	-66.65	2.51	11.05	Horizontal	-60.26	-13.00	47.26	0
4	3326.00	-63.06	4.20	11.15	Horizontal	-58.26	-13.00	45.26	45
5	4157.50	-60.14	5.20	11.15	Horizontal	-56.34	-13.00	43.34	315
6	4989.00	-58.70	5.50	11.95	Horizontal	-54.40	-13.00	41.40	225
7	5820.50	-60.75	5.70	13.55	Horizontal	-55.05	-13.00	42.05	90
8	6652.00	-58.39	6.30	13.75	Horizontal	-53.09	-13.00	40.09	270
9	7483.50	-55.28	6.80	13.85	Horizontal	-50.38	-13.00	37.38	135
10	8315.00	-55.74	6.90	14.25	Horizontal	-50.54	-13.00	37.54	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

LTE Band 26 10MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1663.00	-63.71	2.00	10.75	Horizontal	-57.11	-13.00	44.11	45
3	2494.50	-66.89	2.51	11.05	Horizontal	-60.50	-13.00	47.50	315
4	3326.00	-63.26	4.20	11.15	Horizontal	-58.46	-13.00	45.46	90
5	4157.50	-60.19	5.20	11.15	Horizontal	-56.39	-13.00	43.39	0
6	4989.00	-58.07	5.50	11.95	Horizontal	-53.77	-13.00	40.77	180
7	5820.50	-60.66	5.70	13.55	Horizontal	-54.96	-13.00	41.96	135
8	6652.00	-56.87	6.30	13.75	Horizontal	-51.57	-13.00	38.57	45
9	7483.50	-55.19	6.80	13.85	Horizontal	-50.29	-13.00	37.29	90
10	8315.00	-55.06	6.90	14.25	Horizontal	-49.86	-13.00	36.86	315

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

**Second-Antenna**

GSM 850 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673	-60.82	2.00	10.75	Horizontal	-54.22	-13.00	41.22	225
3	2498	-65.56	2.51	11.05	Horizontal	-59.17	-13.00	46.17	45
4	3346	-65.01	4.20	11.15	Horizontal	-60.21	-13.00	47.21	135
5	4183	-61.04	5.20	11.15	Horizontal	-57.24	-13.00	44.24	45
6	5020	-59.95	5.50	11.95	Horizontal	-55.65	-13.00	42.65	225
7	5856	-61.49	5.70	13.55	Horizontal	-55.79	-13.00	42.79	315
8	6693	-58.80	6.30	13.75	Horizontal	-53.50	-13.00	40.50	45
9	7529	-56.77	6.80	13.85	Horizontal	-51.87	-13.00	38.87	135
10	8366	-55.58	6.90	14.25	Horizontal	-50.38	-13.00	37.38	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2.The worst emission was found in the antenna is Horizontal position.									

WCDMA Band V CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673	-64.34	2.00	10.75	Horizontal	-57.74	-13.00	44.74	45
3	2510	-60.13	2.51	11.05	Horizontal	-53.74	-13.00	40.74	270
4	3346	-56.46	4.20	11.15	Horizontal	-51.66	-13.00	38.66	315
5	4183	-53.91	5.20	11.15	Horizontal	-50.11	-13.00	37.11	225
6	5020	-52.19	5.50	11.95	Horizontal	-47.89	-13.00	34.89	90
7	5856	-52.43	5.70	13.55	Horizontal	-46.73	-13.00	33.73	135
8	6693	-52.59	6.30	13.75	Horizontal	-47.29	-13.00	34.29	45
9	8366	-49.86	6.80	13.85	Horizontal	-44.96	-13.00	31.96	315
10	3346	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2.The worst emission was found in the antenna is Horizontal position.									



LTE Band 5 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.0	-68.70	2.00	10.75	Horizontal	-62.10	-13.00	49.10	45
3	2509.5	-63.82	2.51	11.05	Horizontal	-57.43	-13.00	44.43	45
4	3346.0	-63.91	4.20	11.15	Horizontal	-59.11	-13.00	46.11	135
5	4182.5	-58.88	5.20	11.15	Horizontal	-55.08	-13.00	42.08	315
6	5019.0	-60.55	5.50	11.95	Horizontal	-56.25	-13.00	43.25	45
7	5855.5	-61.17	5.70	13.55	Horizontal	-55.47	-13.00	42.47	45
8	6692.0	-58.73	6.30	13.75	Horizontal	-53.43	-13.00	40.43	45
9	7528.5	-55.76	6.80	13.85	Horizontal	-50.86	-13.00	37.86	135
10	8365.0	-56.66	6.90	14.25	Horizontal	-51.46	-13.00	38.46	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

LTE Band 5 3MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1670.3	-68.26	2.00	10.75	Horizontal	-61.66	-13.00	48.66	90
3	2509.5	-65.69	2.51	11.05	Horizontal	-59.30	-13.00	46.30	135
4	3346.0	-64.37	4.20	11.15	Horizontal	-59.57	-13.00	46.57	0
5	4182.5	-60.19	5.20	11.15	Horizontal	-56.39	-13.00	43.39	315
6	5019.0	-59.49	5.50	11.95	Horizontal	-55.19	-13.00	42.19	180
7	5855.5	-60.23	5.70	13.55	Horizontal	-54.53	-13.00	41.53	90
8	6692.0	-59.62	6.30	13.75	Horizontal	-54.32	-13.00	41.32	270
9	7528.5	-57.07	6.80	13.85	Horizontal	-52.17	-13.00	39.17	90
10	8365.0	-57.82	6.90	14.25	Horizontal	-52.62	-13.00	39.62	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.



LTE Band 5 10MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.0	-68.87	2.00	10.75	Horizontal	-62.27	-13.00	49.27	270
3	2509.5	-65.54	2.51	11.05	Horizontal	-59.15	-13.00	46.15	0
4	3346.0	-64.25	4.20	11.15	Horizontal	-59.45	-13.00	46.45	0
5	4182.5	-57.79	5.20	11.15	Horizontal	-53.99	-13.00	40.99	135
6	5019.0	-57.03	5.50	11.95	Horizontal	-52.73	-13.00	39.73	45
7	5855.5	-61.49	5.70	13.55	Horizontal	-55.79	-13.00	42.79	315
8	6692.0	-59.79	6.30	13.75	Horizontal	-54.49	-13.00	41.49	135
9	7528.5	-56.41	6.80	13.85	Horizontal	-51.51	-13.00	38.51	90
10	8365.0	-56.35	6.90	14.25	Horizontal	-51.15	-13.00	38.15	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

LTE Band 26 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1663.00	-70.18	2.00	10.75	Horizontal	-63.58	-13.00	50.58	135
3	2494.50	-65.13	2.51	11.05	Horizontal	-58.74	-13.00	45.74	135
4	3326.00	-64.93	4.20	11.15	Horizontal	-60.13	-13.00	47.13	270
5	4157.50	-60.79	5.20	11.15	Horizontal	-56.99	-13.00	43.99	135
6	4989.00	-59.57	5.50	11.95	Horizontal	-55.27	-13.00	42.27	90
7	5820.50	-61.41	5.70	13.55	Horizontal	-55.71	-13.00	42.71	270
8	6652.00	-59.61	6.30	13.75	Horizontal	-54.31	-13.00	41.31	225
9	7483.50	-56.84	6.80	13.85	Horizontal	-51.94	-13.00	38.94	315
10	8315.00	-55.82	6.90	14.25	Horizontal	-50.62	-13.00	37.62	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.



LTE Band 26 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1663.00	-69.83	2.00	10.75	Horizontal	-63.23	-13.00	50.23	270
3	2494.50	-64.27	2.51	11.05	Horizontal	-57.88	-13.00	44.88	45
4	3326.00	-64.39	4.20	11.15	Horizontal	-59.59	-13.00	46.59	45
5	4157.50	-61.31	5.20	11.15	Horizontal	-57.51	-13.00	44.51	45
6	4989.00	-59.66	5.50	11.95	Horizontal	-55.36	-13.00	42.36	225
7	5820.50	-62.08	5.70	13.55	Horizontal	-56.38	-13.00	43.38	90
8	6652.00	-59.15	6.30	13.75	Horizontal	-53.85	-13.00	40.85	135
9	7483.50	-55.19	6.80	13.85	Horizontal	-50.29	-13.00	37.29	135
10	8315.00	-56.86	6.90	14.25	Horizontal	-51.66	-13.00	38.66	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

LTE Band 26 10MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1663.00	-68.92	2.00	10.75	Horizontal	-62.32	-13.00	49.32	45
3	2494.50	-65.51	2.51	11.05	Horizontal	-59.12	-13.00	46.12	315
4	3326.00	-64.22	4.20	11.15	Horizontal	-59.42	-13.00	46.42	45
5	4157.50	-61.31	5.20	11.15	Horizontal	-57.51	-13.00	44.51	90
6	4989.00	-59.75	5.50	11.95	Horizontal	-55.45	-13.00	42.45	0
7	5820.50	-61.72	5.70	13.55	Horizontal	-56.02	-13.00	43.02	135
8	6652.00	-58.26	6.30	13.75	Horizontal	-52.96	-13.00	39.96	45
9	7483.50	-56.66	6.80	13.85	Horizontal	-51.76	-13.00	38.76	90
10	8315.00	-56.58	6.90	14.25	Horizontal	-51.38	-13.00	38.38	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.



CA-5B 3MHz+5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.0	-67.88	2.00	10.75	Horizontal	-61.28	-13.00	48.28	315
3	2509.5	-65.25	2.51	11.05	Horizontal	-58.86	-13.00	45.86	135
4	3346.0	-61.64	4.20	11.15	Horizontal	-56.84	-13.00	43.84	45
5	4182.5	-58.20	5.20	11.15	Horizontal	-54.40	-13.00	41.40	315
6	5019.0	-56.14	5.50	11.95	Horizontal	-51.84	-13.00	38.84	45
7	5855.5	-58.73	5.70	13.55	Horizontal	-53.03	-13.00	40.03	135
8	6692.0	-56.43	6.30	13.75	Horizontal	-51.13	-13.00	38.13	315
9	7528.5	-55.14	6.80	13.85	Horizontal	-50.24	-13.00	37.24	135
10	8365.0	-55.56	6.90	14.25	Horizontal	-50.36	-13.00	37.36	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.

CA-5B 5MHz+3MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1670.3	-67.43	2.00	10.75	Horizontal	-60.83	-13.00	47.83	0
3	2509.5	-65.62	2.51	11.05	Horizontal	-59.23	-13.00	46.23	225
4	3346.0	-61.12	4.20	11.15	Horizontal	-56.32	-13.00	43.32	315
5	4182.5	-58.46	5.20	11.15	Horizontal	-54.66	-13.00	41.66	315
6	5019.0	-56.14	5.50	11.95	Horizontal	-51.84	-13.00	38.84	45
7	5855.5	-59.32	5.70	13.55	Horizontal	-53.62	-13.00	40.62	90
8	6692.0	-56.78	6.30	13.75	Horizontal	-51.48	-13.00	38.48	45
9	7528.5	-55.36	6.80	13.85	Horizontal	-50.46	-13.00	37.46	135
10	8365.0	-56.16	6.90	14.25	Horizontal	-50.96	-13.00	37.96	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2.The worst emission was found in the antenna is Horizontal position.



6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113824	2019-05-19	2020-05-18
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2019-05-19	2020-05-18
Universal Radio Communication Tester	Key sight	E5515C	MY48367192	2019-05-19	2020-05-18
Signal Analyzer	R&S	FSV30	100815	2018-12-16	2019-12-15
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-09-26	2019-09-25
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2017-11-18	2019-11-17
Horn Antenna	R&S	HF907	100126	2018-07-07	2020-07-06
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2020-06-19
Signal generator	R&S	SMB 100A	102594	2019-05-19	2020-05-18
Climatic Chamber	ESPEC	SU-242	93000506	2017-12-17	2020-12-16
Preamplifier	R&S	SCU18	102327	2019-05-19	2020-05-18
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2019-05-20	2020-05-21
RF Cable	Agilent	SMA 15cm	0001	2019-06-14	2019-09-13
Software	R&S	EMC32	9.26.0	/	/

*****END OF REPORT *****