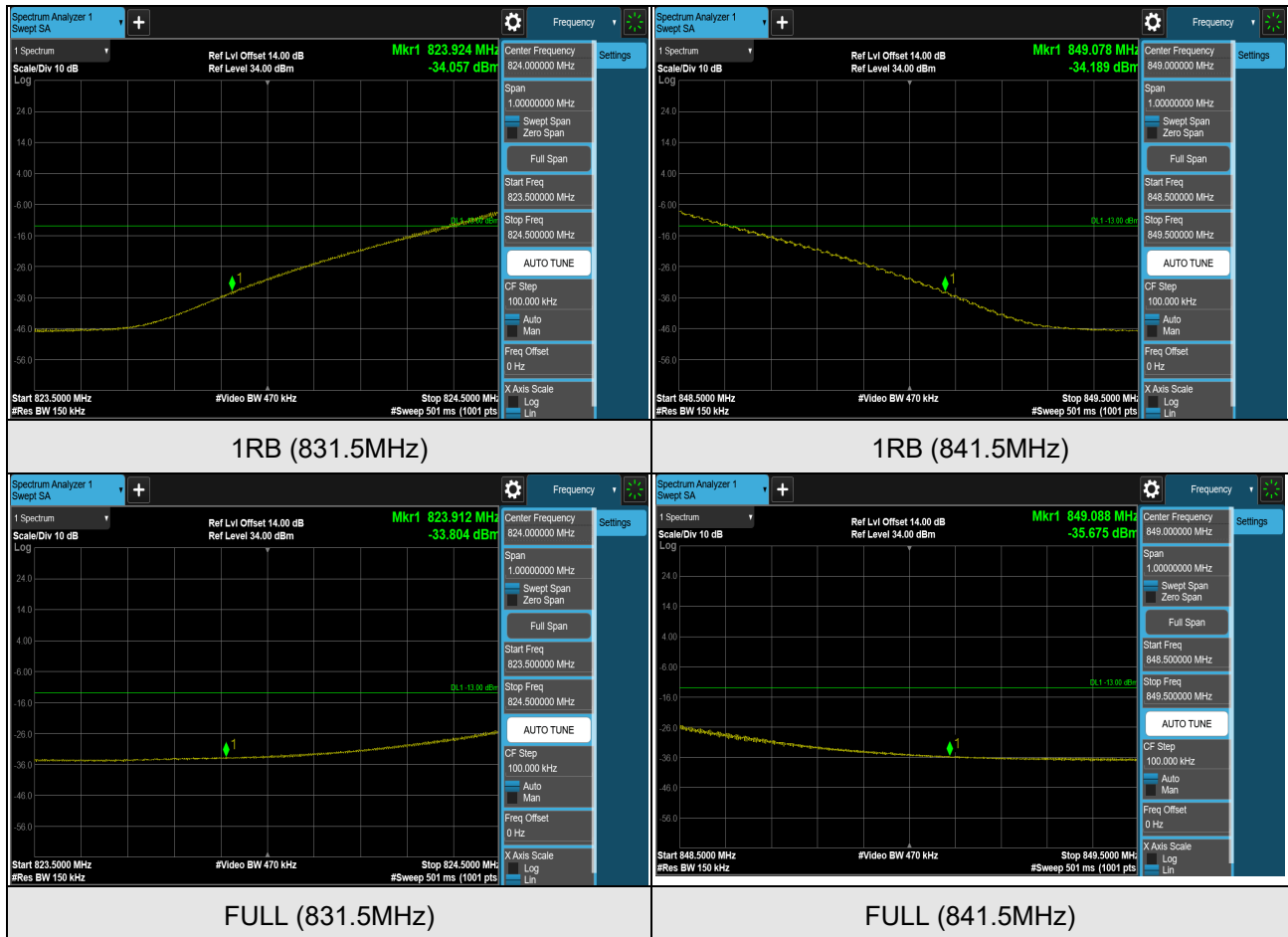


LTE Band 26 (Channel Bandwidth 15MHz)

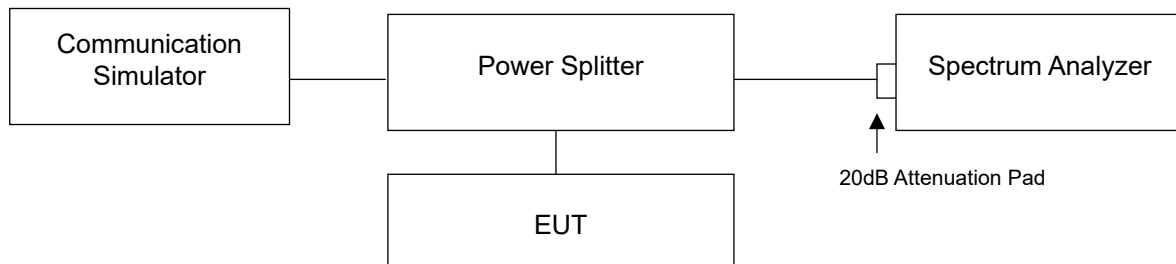


4.6 Peak to Average Ratio

4.6.1 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

4.6.2 Test Setup



4.6.3 Test Procedures

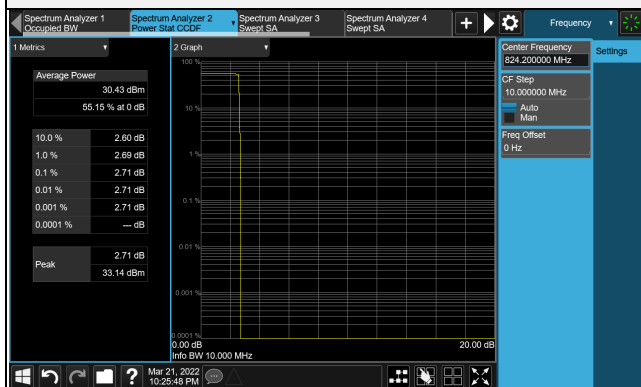
- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

4.6.4 Test Results

GPRS, EDGE

Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
GPRS	128	824.2	2.70	13	Pass
GPRS	189	836.4	2.70	13	Pass
GPRS	251	848.8	2.69	13	Pass
EDGE	128	824.2	2.71	13	Pass
EDGE	189	836.4	2.70	13	Pass
EDGE	251	848.8	2.70	13	Pass

Spectrum Plot of Worst Value

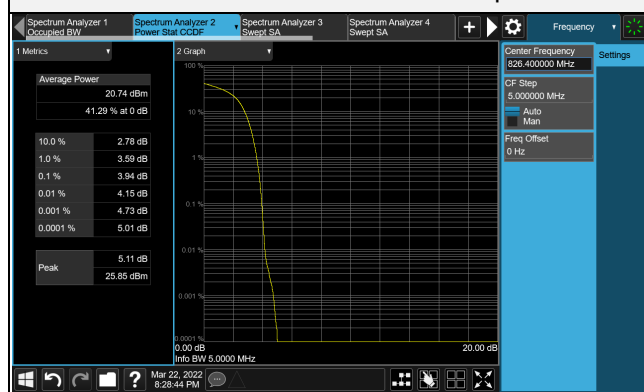


EDGE CH 128 (824.2MHz)

WCDMA Band 5

Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
WCDMA	4132	826.4	3.24	13	Pass
WCDMA	4182	836.4	3.15	13	Pass
WCDMA	4233	846.6	3.05	13	Pass
HSDPA	4132	826.4	3.92	13	Pass
HSDPA	4182	836.4	3.84	13	Pass
HSDPA	4233	846.6	3.82	13	Pass
HSUPA	4132	826.4	3.94	13	Pass
HSUPA	4182	836.4	3.83	13	Pass
HSUPA	4233	846.6	3.83	13	Pass

Spectrum Plot of Worst Value

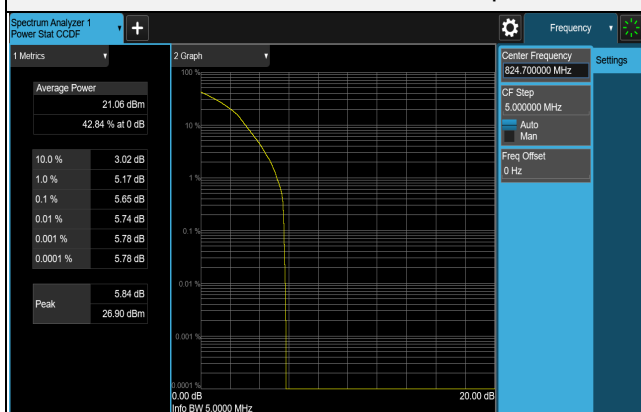


HSUPA CH 4132 (826.4MHz)

LTE Band 5 (Channel Bandwidth 1.4MHz)

Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	20407	824.7	4.58	13	Pass
QPSK	20525	836.5	4.60	13	Pass
QPSK	20643	848.3	4.03	13	Pass
16QAM	20407	824.7	5.65	13	Pass
16QAM	20525	836.5	5.63	13	Pass
16QAM	20643	848.3	5.16	13	Pass

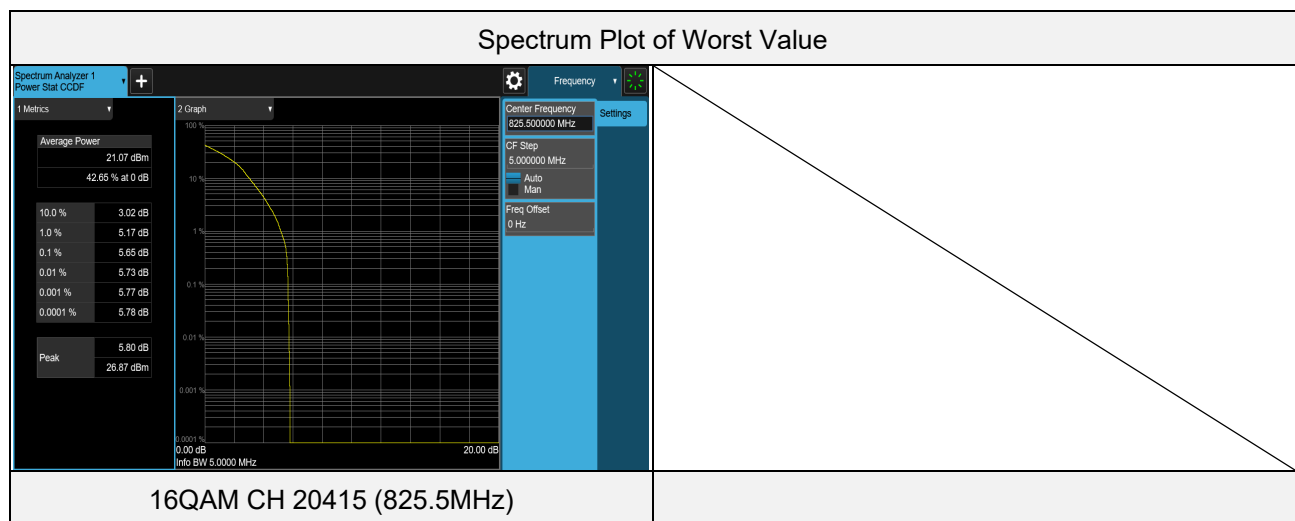
Spectrum Plot of Worst Value



16QAM CH 20407 (824.7MHz)

LTE Band 5 (Channel Bandwidth 3MHz)

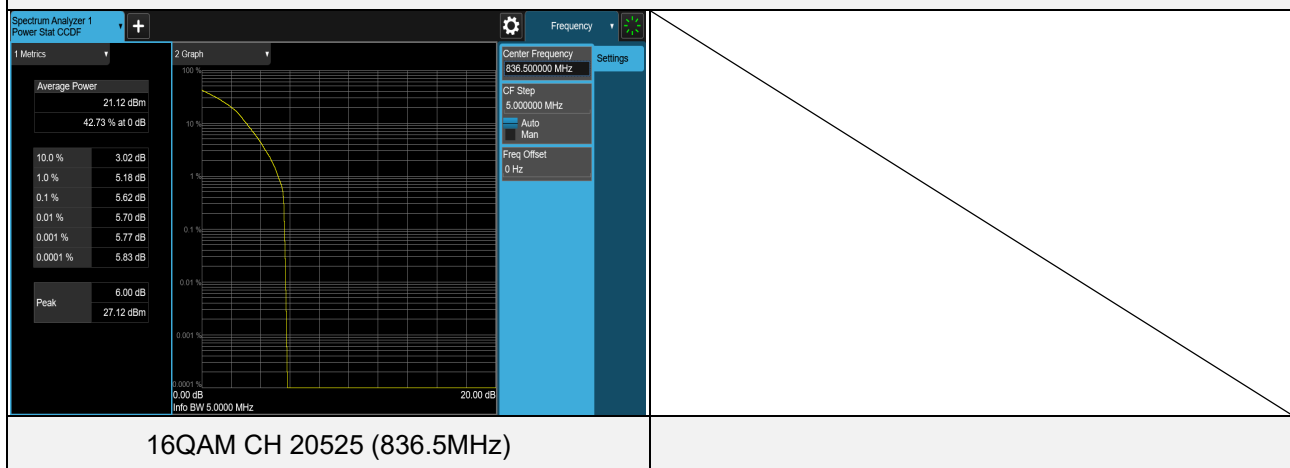
Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	20415	825.5	4.60	13	Pass
QPSK	20525	836.5	4.67	13	Pass
QPSK	20635	847.5	4.17	13	Pass
16QAM	20415	825.5	5.65	13	Pass
16QAM	20525	836.5	5.59	13	Pass
16QAM	20635	847.5	5.27	13	Pass



LTE Band 5 (Channel Bandwidth 5MHz)

Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	20425	826.5	4.49	13	Pass
QPSK	20525	836.5	4.60	13	Pass
QPSK	20625	846.5	4.20	13	Pass
16QAM	20425	826.5	5.59	13	Pass
16QAM	20525	836.5	5.62	13	Pass
16QAM	20625	846.5	5.27	13	Pass

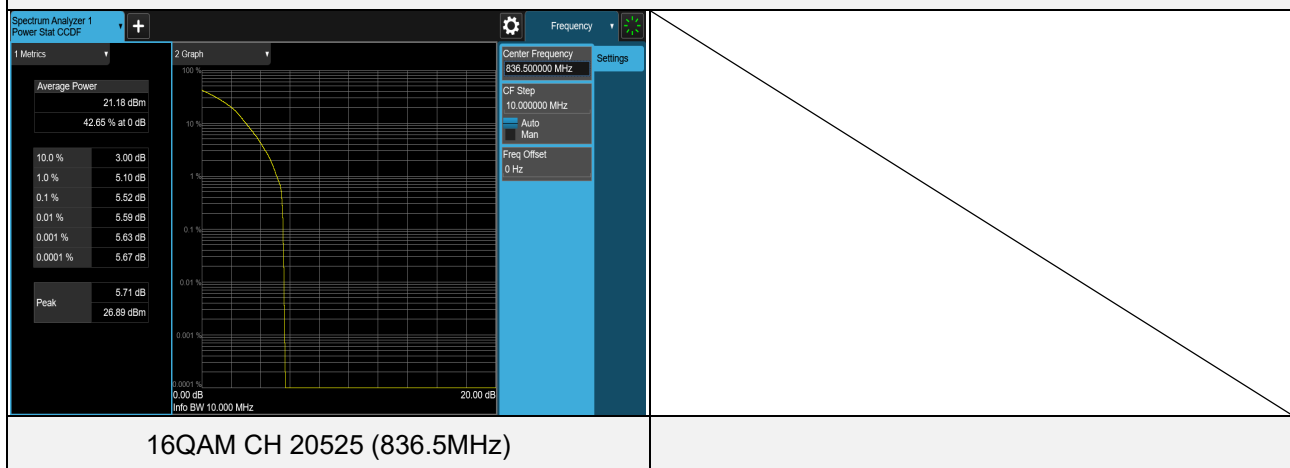
Spectrum Plot of Worst Value



LTE Band 5 (Channel Bandwidth 10MHz)

Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	20450	829	4.47	13	Pass
QPSK	20525	836.5	4.59	13	Pass
QPSK	20600	844	4.34	13	Pass
16QAM	20450	829	5.46	13	Pass
16QAM	20525	836.5	5.52	13	Pass
16QAM	20600	844	5.29	13	Pass

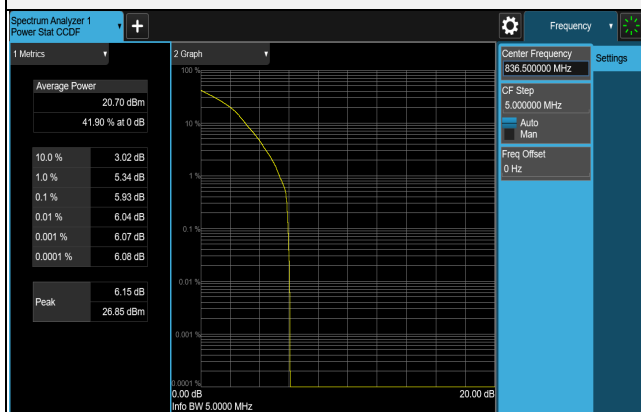
Spectrum Plot of Worst Value



LTE Band 26 (Channel Bandwidth 1.4MHz)

Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	26797	824.7	4.86	13	Pass
QPSK	26915	836.5	4.91	13	Pass
QPSK	27033	848.3	4.55	13	Pass
16QAM	26797	824.7	5.83	13	Pass
16QAM	26915	836.5	5.93	13	Pass
16QAM	27033	848.3	5.63	13	Pass

Spectrum Plot of Worst Value

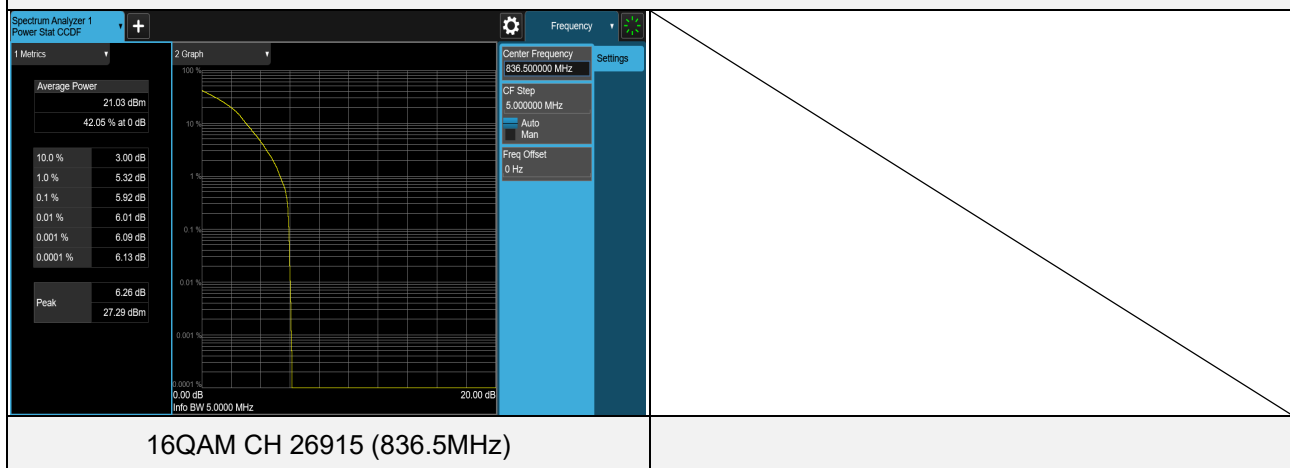


16QAM CH 26915 (836.5MHz)

LTE Band 26 (Channel Bandwidth 3MHz)

Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	26805	825.5	4.82	13	Pass
QPSK	26915	836.5	4.90	13	Pass
QPSK	27025	847.5	4.65	13	Pass
16QAM	26805	825.5	5.79	13	Pass
16QAM	26915	836.5	5.92	13	Pass
16QAM	27025	847.5	5.71	13	Pass

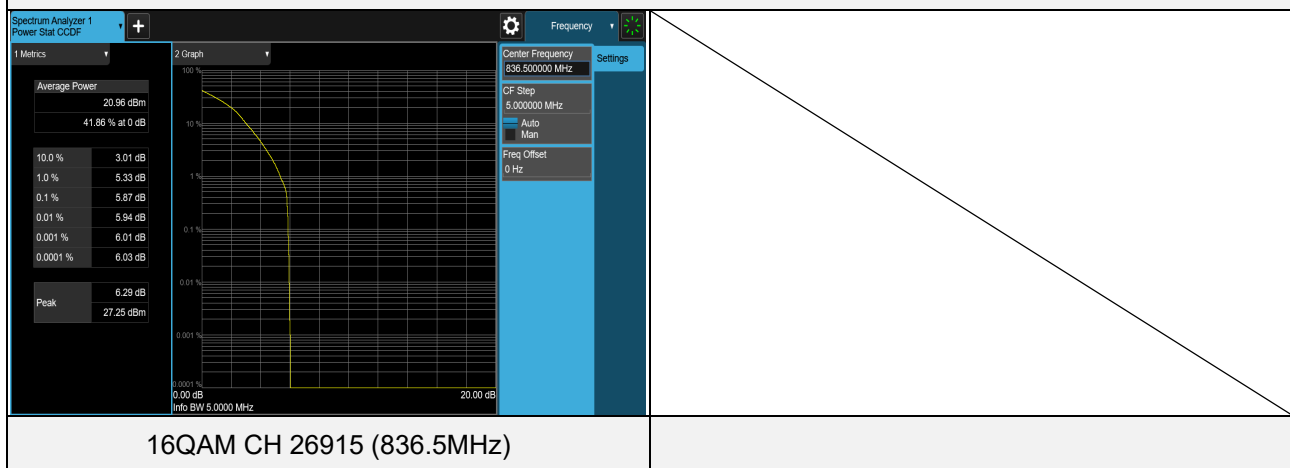
Spectrum Plot of Worst Value



LTE Band 26 (Channel Bandwidth 5MHz)

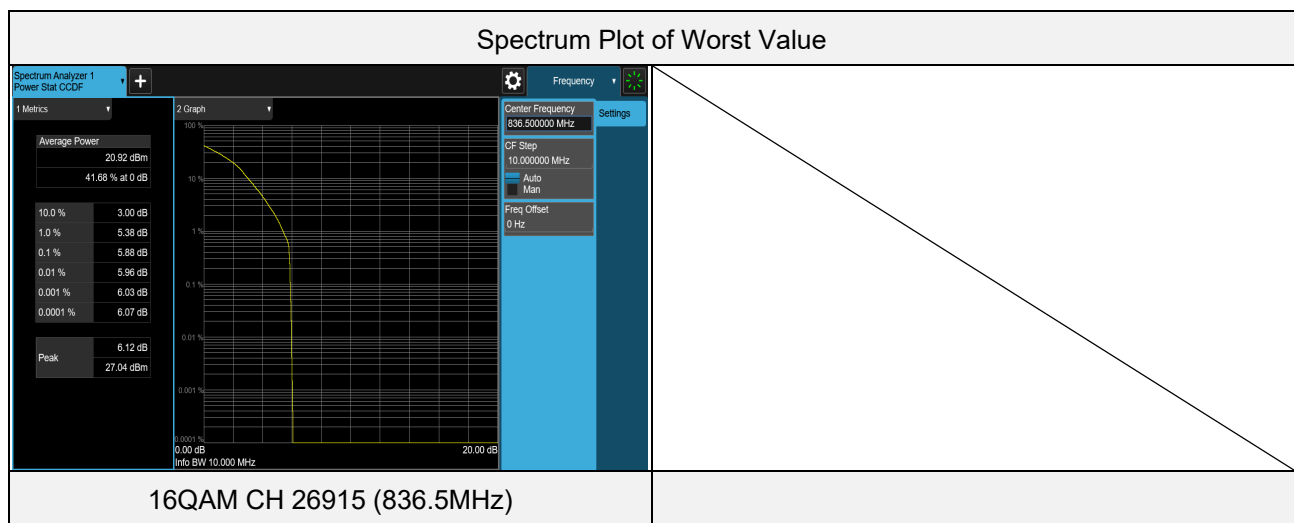
Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	26815	826.5	4.78	13	Pass
QPSK	26915	836.5	4.87	13	Pass
QPSK	27015	846.5	4.62	13	Pass
16QAM	26815	826.5	5.80	13	Pass
16QAM	26915	836.5	5.87	13	Pass
16QAM	27015	846.5	5.67	13	Pass

Spectrum Plot of Worst Value



LTE Band 26 (Channel Bandwidth 10MHz)

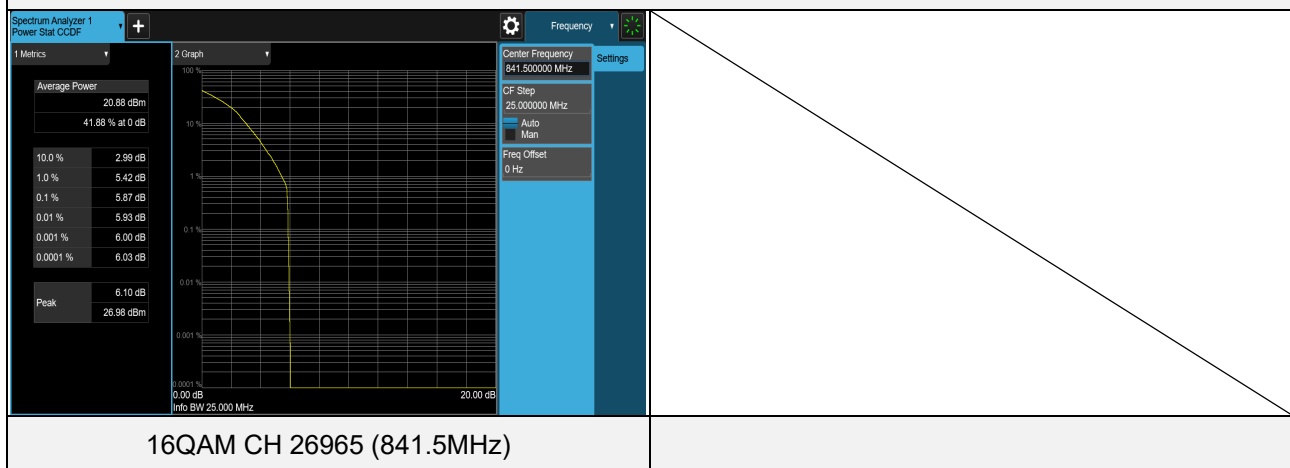
Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	26840	829	4.77	13	Pass
QPSK	26915	836.5	4.79	13	Pass
QPSK	26990	844	4.74	13	Pass
16QAM	26840	829	5.80	13	Pass
16QAM	26915	836.5	5.88	13	Pass
16QAM	26990	844	5.76	13	Pass



LTE Band 26 (Channel Bandwidth 15MHz)

Test Condition	Channel	Frequency (MHz)	Measure. Value (dB)	Limit (dB)	Result
QPSK	26865	831.5	4.73	13	Pass
QPSK	26915	836.5	4.71	13	Pass
QPSK	26965	841.5	4.79	13	Pass
16QAM	26865	831.5	5.65	13	Pass
16QAM	26915	836.5	5.82	13	Pass
16QAM	26965	841.5	5.87	13	Pass

Spectrum Plot of Worst Value

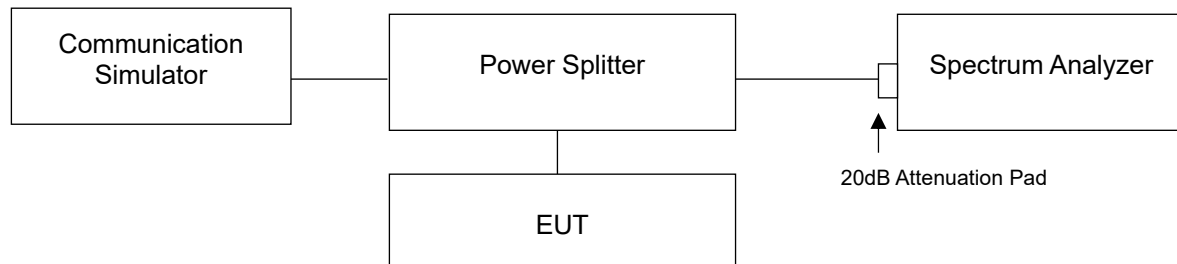


4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

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. The emission limit equal to -13dBm .

4.7.2 Test Setup

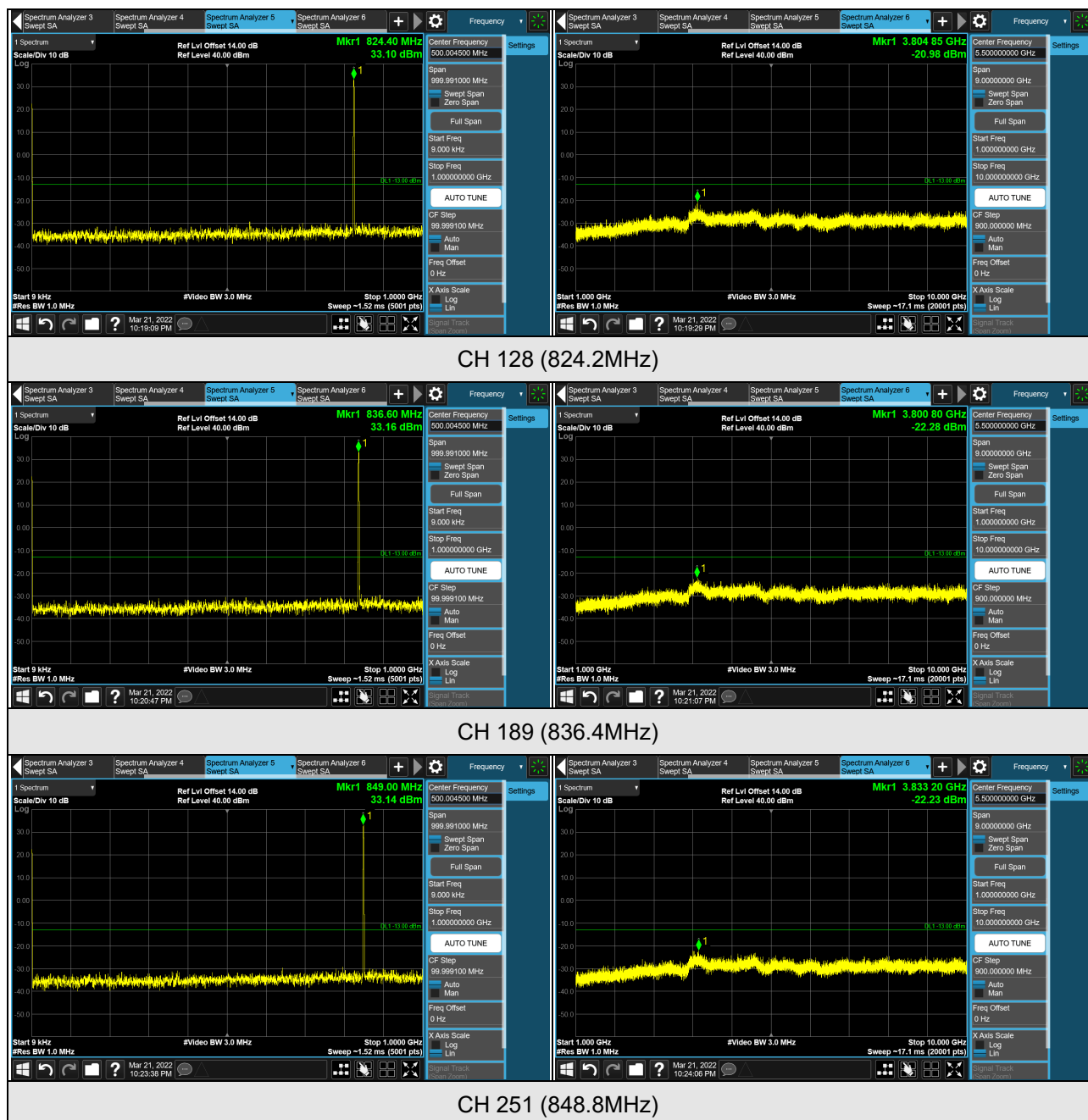


4.7.3 Test Procedure

- All measurements were done at low, middle and high channels operational frequency range.
- Measuring frequency range is from 9kHz to 9GHz / 10GHz. 20dB attenuation pad is connected with spectrum. RBW = 1MHz and VBW = 3MHz are used for conducted emission measurement.

4.7.4 Test Results

GPRS

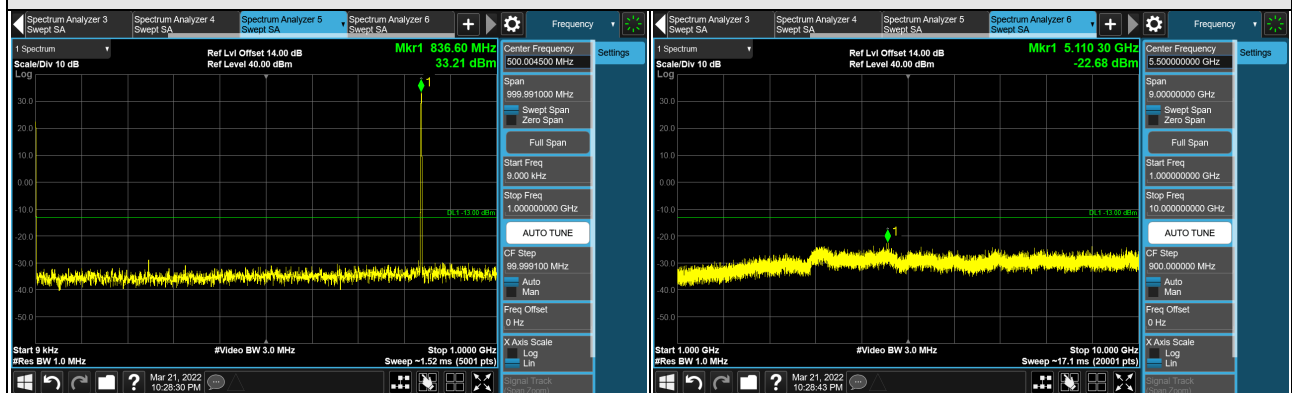


*The 9kHz signal over the limit is from Spectrum.

EDGE



CH 128 (824.2MHz)



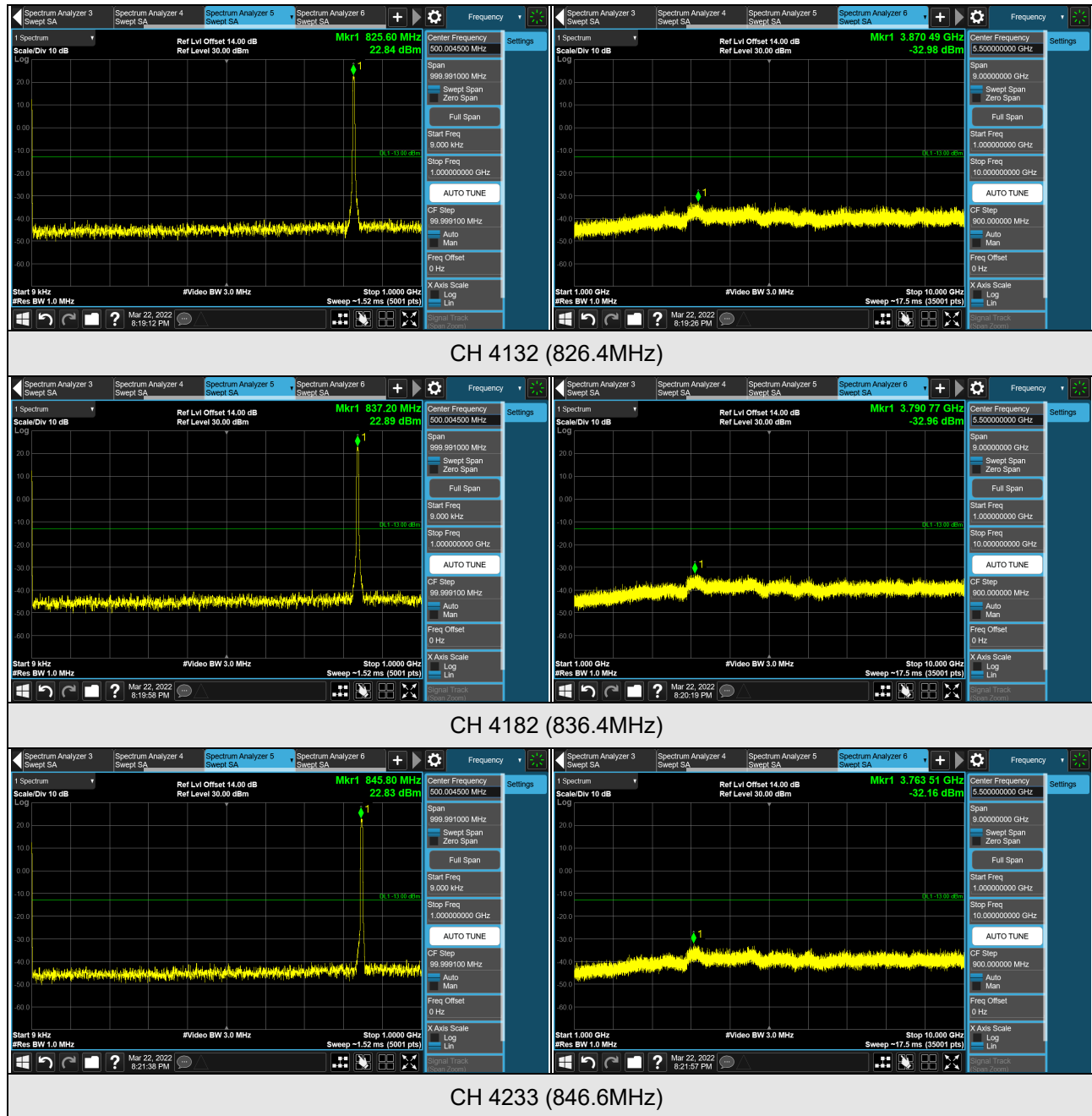
CH 189 (836.4MHz)



CH 251 (848.8MHz)

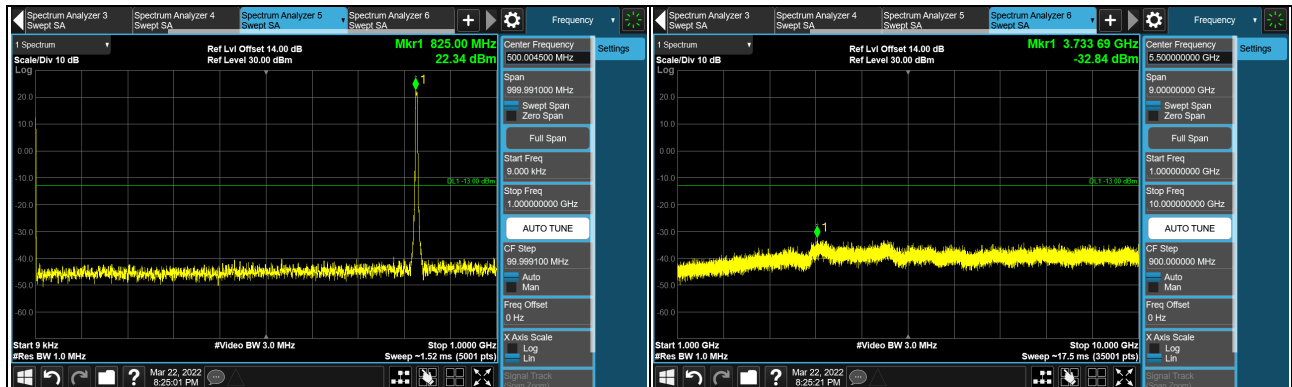
*The 9kHz signal over the limit is from Spectrum.

WCDMA Band 5

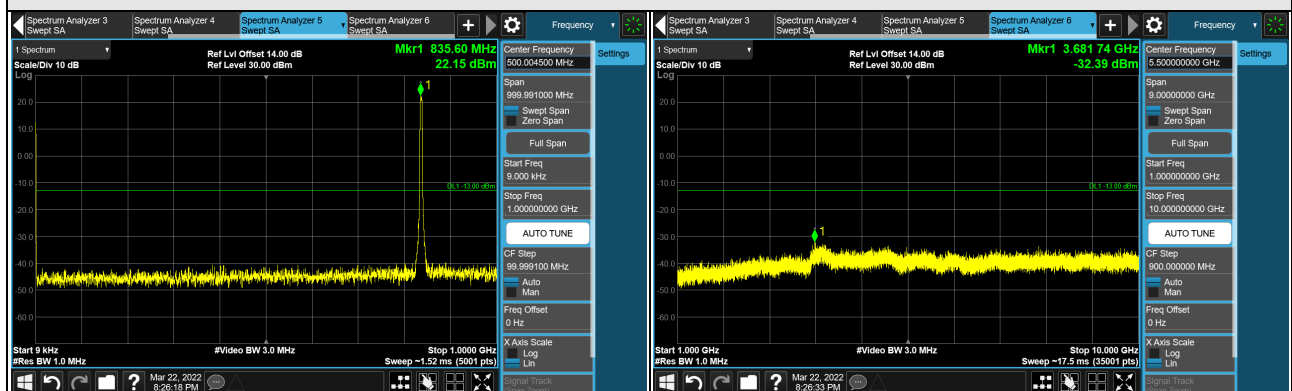


*The 9kHz signal over the limit is from Spectrum.

HSDPA



CH 4132 (826.4MHz)



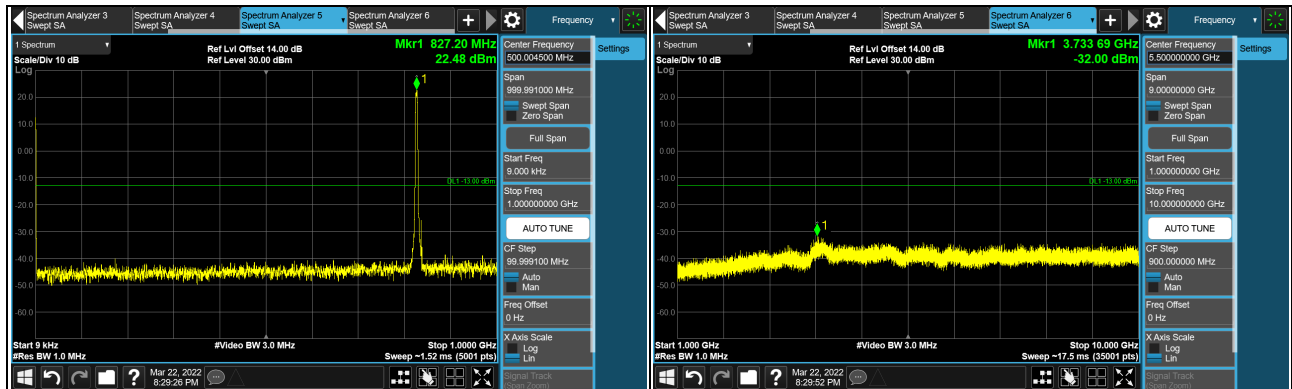
CH 4182 (836.4MHz)



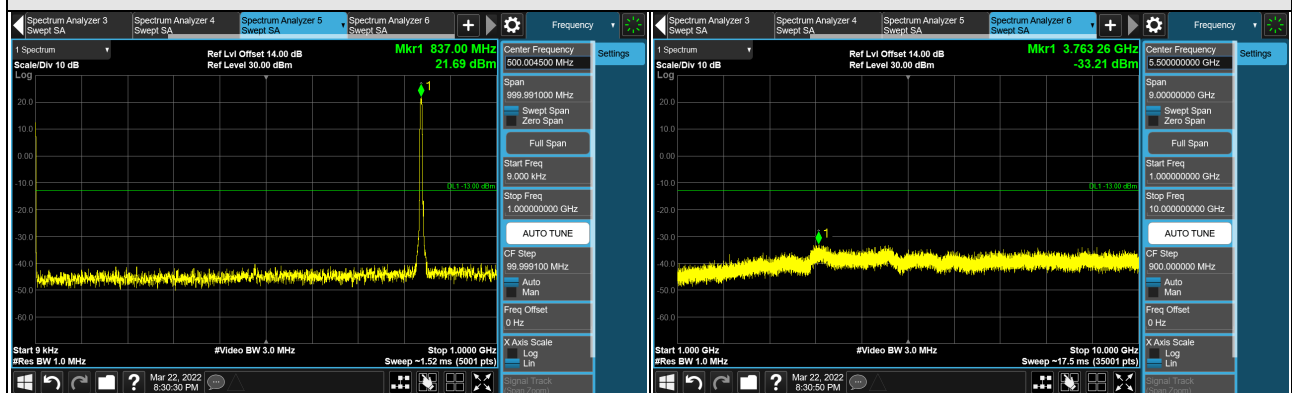
CH 4233 (846.6MHz)

*The 9kHz signal over the limit is from Spectrum.

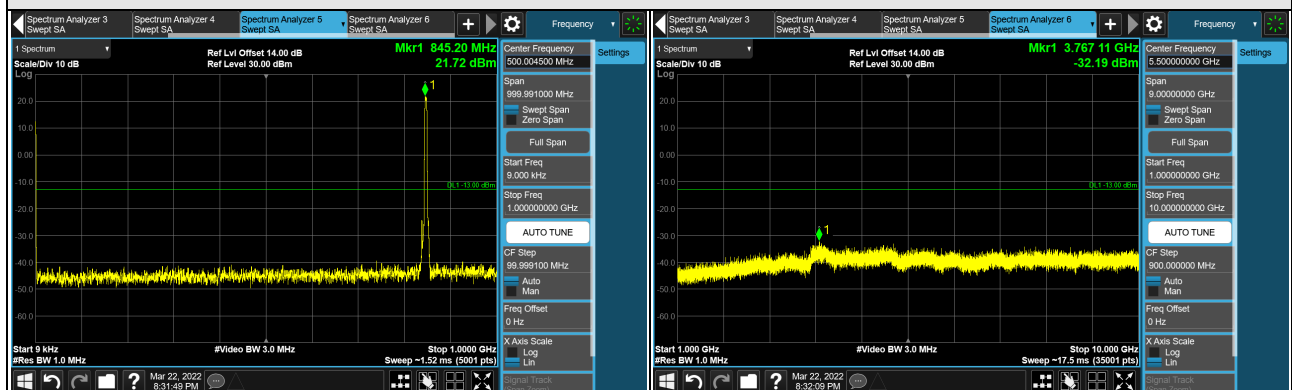
HSUPA



CH 4132 (826.4MHz)



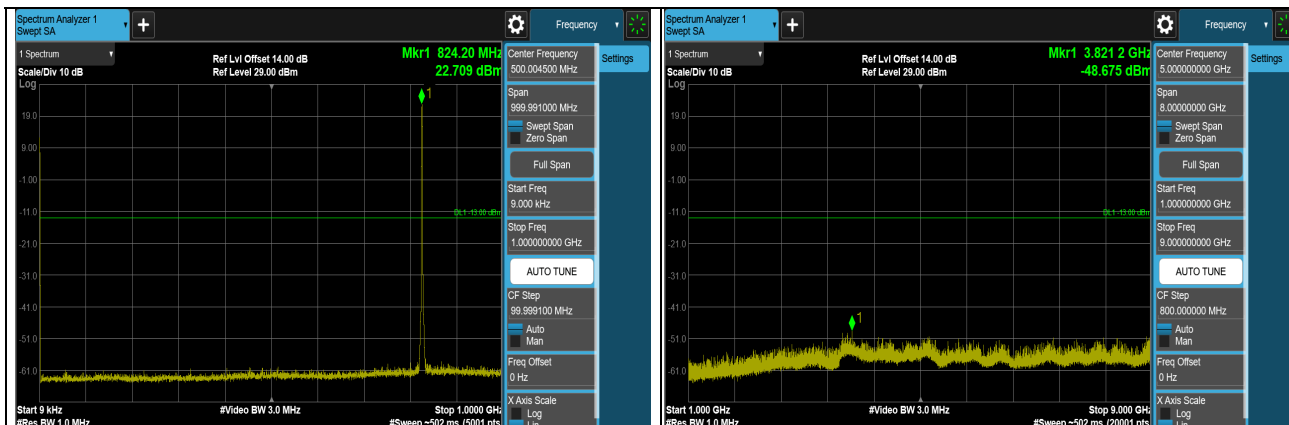
CH 4182 (836.4MHz)



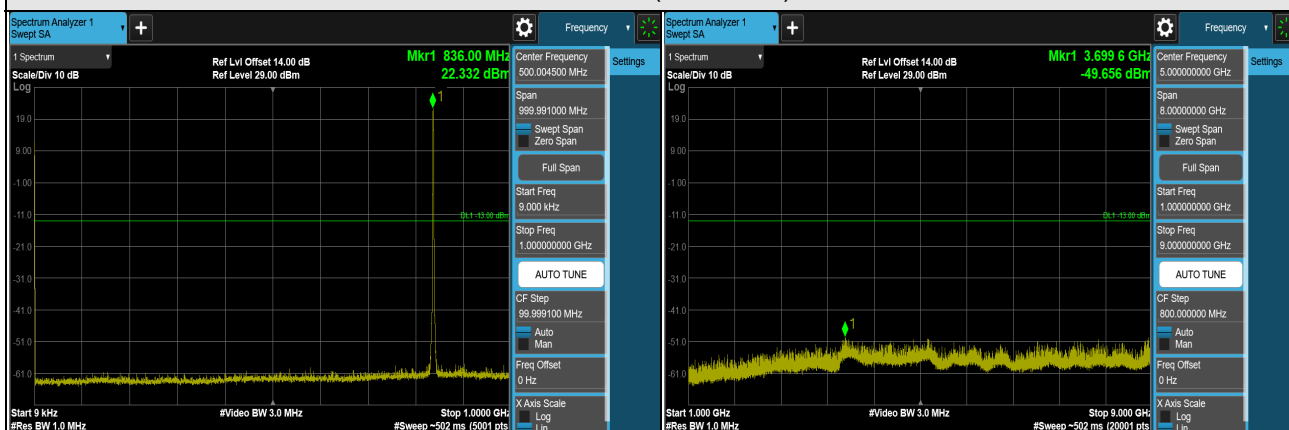
CH 4233 (846.6MHz)

*The 9kHz signal over the limit is from Spectrum.

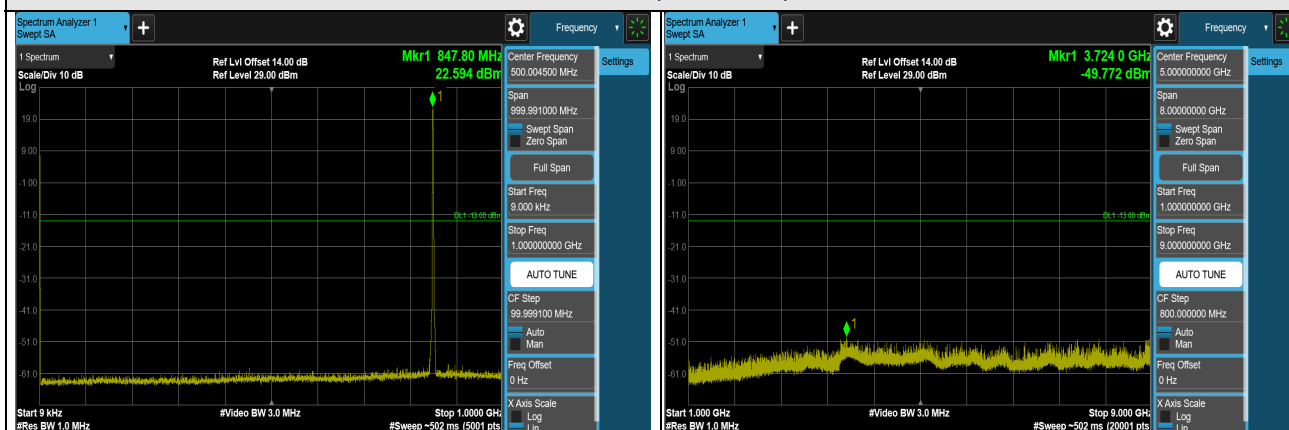
LTE Band 5 (Channel Bandwidth 1.4MHz)



CH 20407 (824.7MHz)



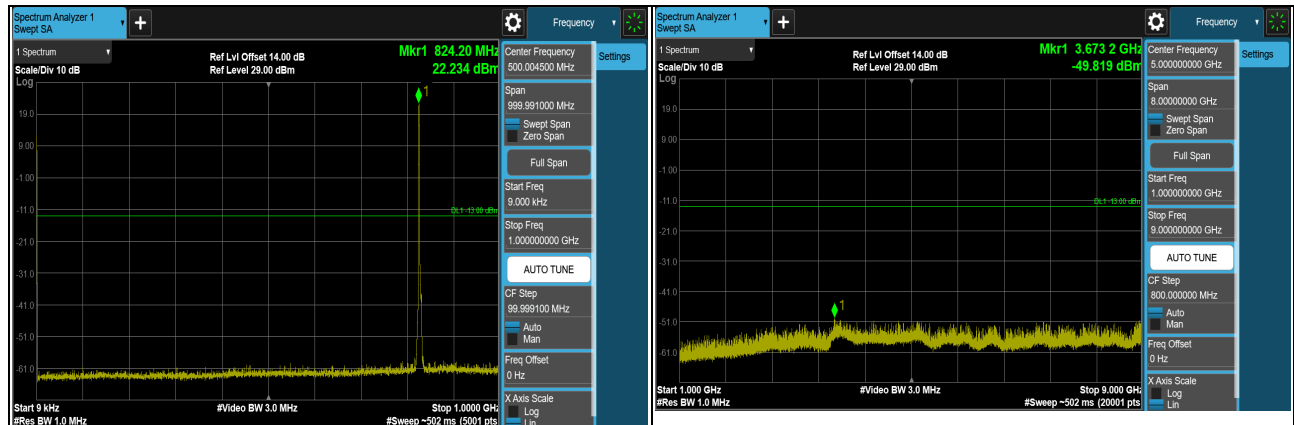
CH 20525 (836.5MHz)



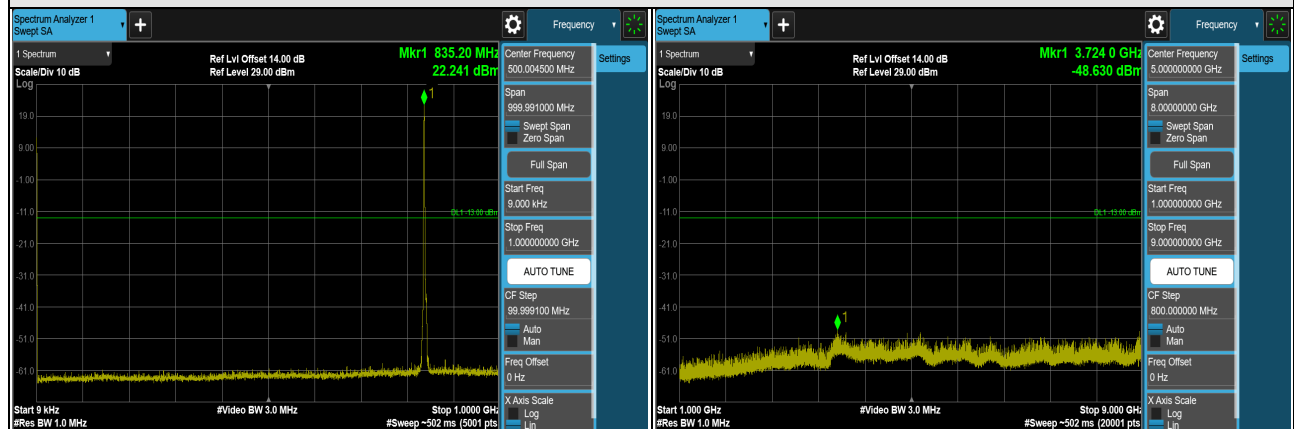
CH 20643 (848.3MHz)

*The 9kHz signal over the limit is from Spectrum.

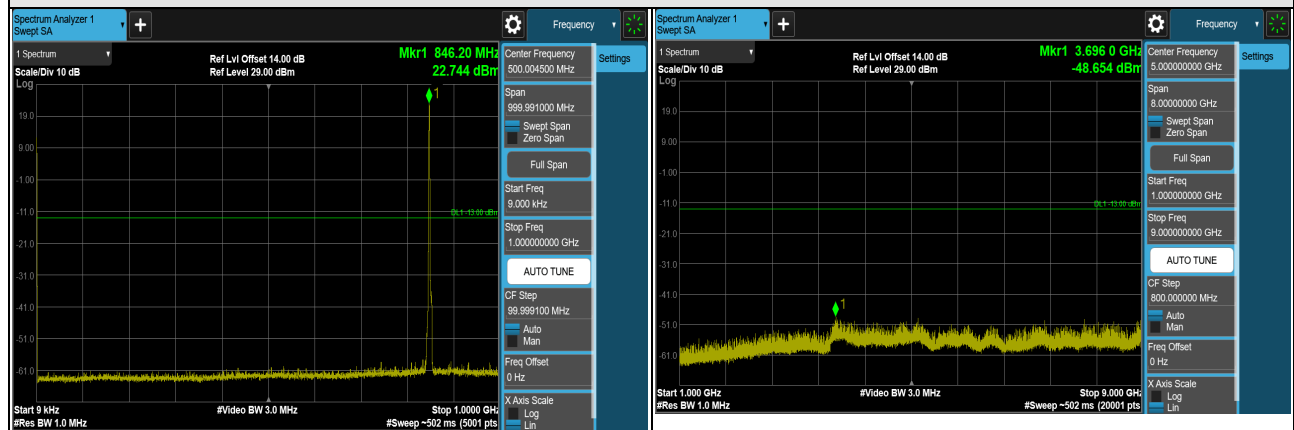
LTE Band 5 (Channel Bandwidth 3MHz)



CH 20415 (825.5MHz)



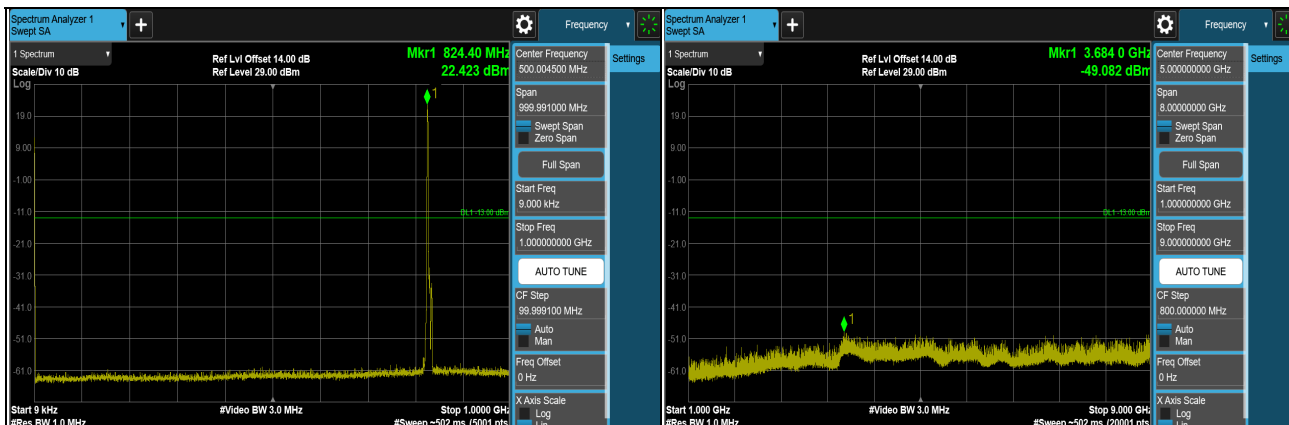
CH 20525 (836.5MHz)



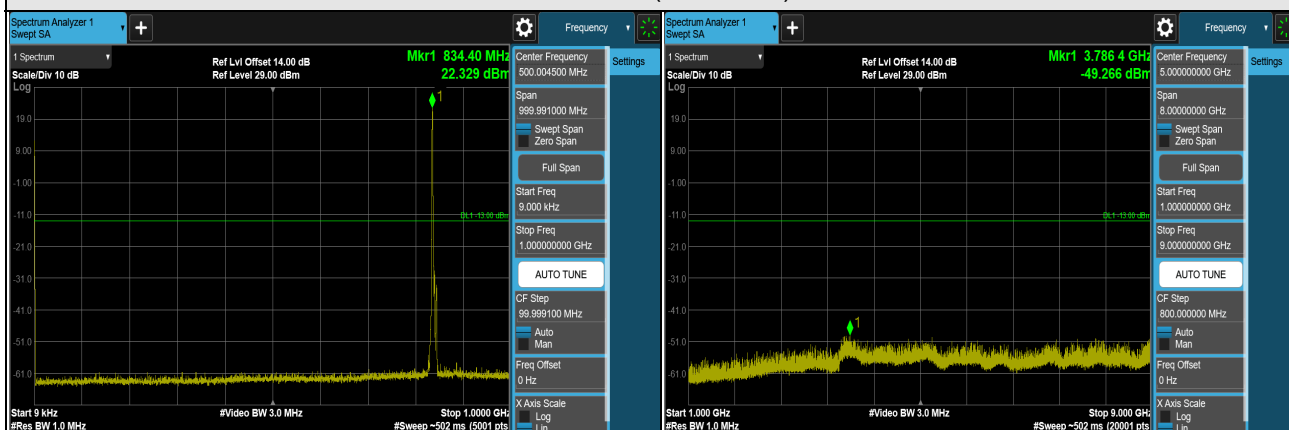
CH 20635 (847.5MHz)

*The 9kHz signal over the limit is from Spectrum.

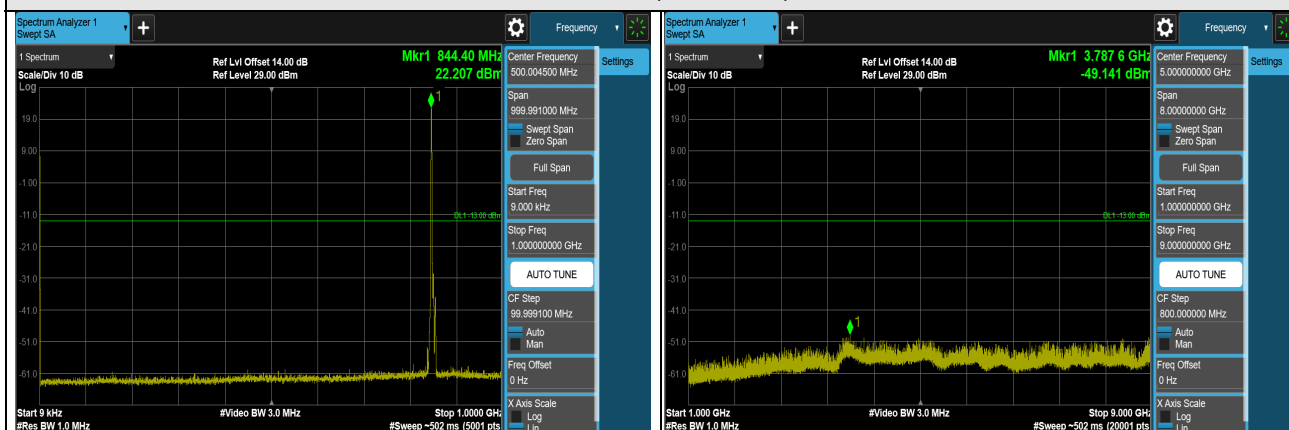
LTE Band 5 (Channel Bandwidth 5MHz)



CH 20425 (826.5MHz)



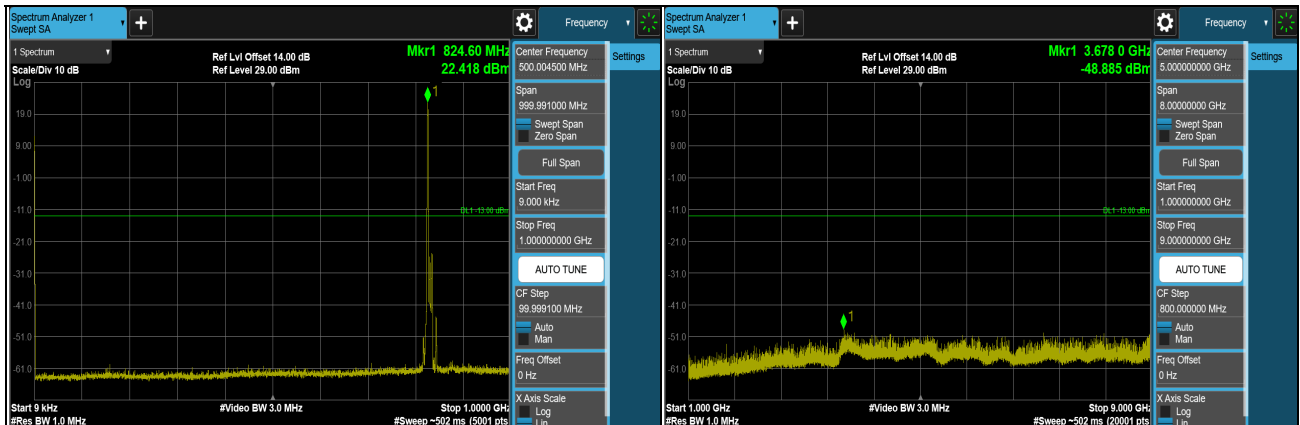
CH 20525 (836.5MHz)



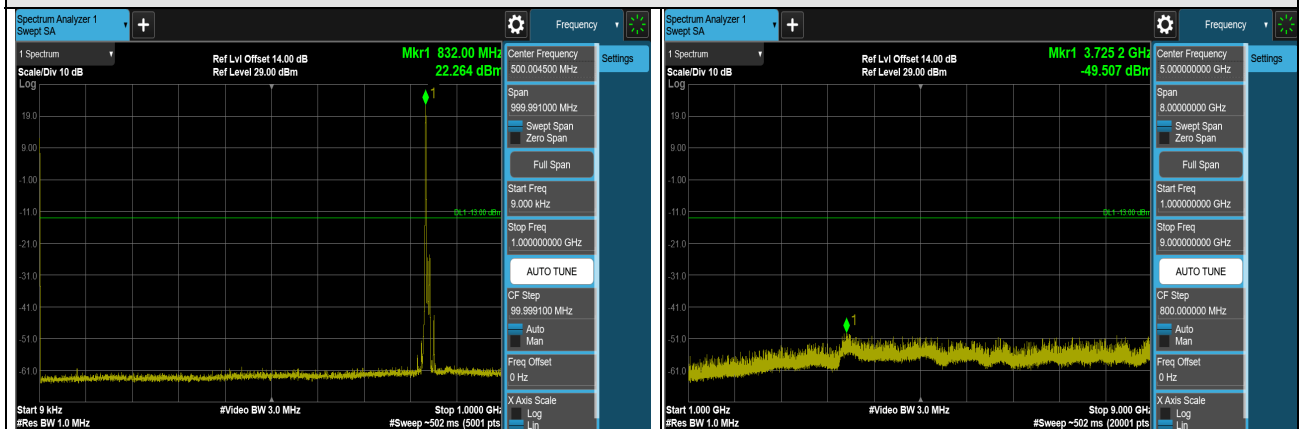
CH 20625 (846.5MHz)

*The 9kHz signal over the limit is from Spectrum.

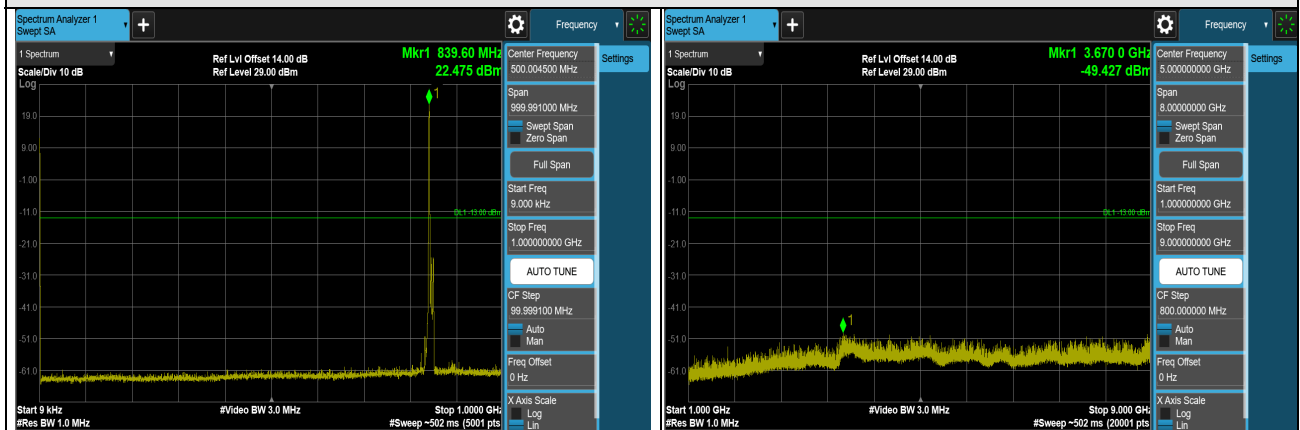
LTE Band 5 (Channel Bandwidth 10MHz)



CH 20450 (829MHz)



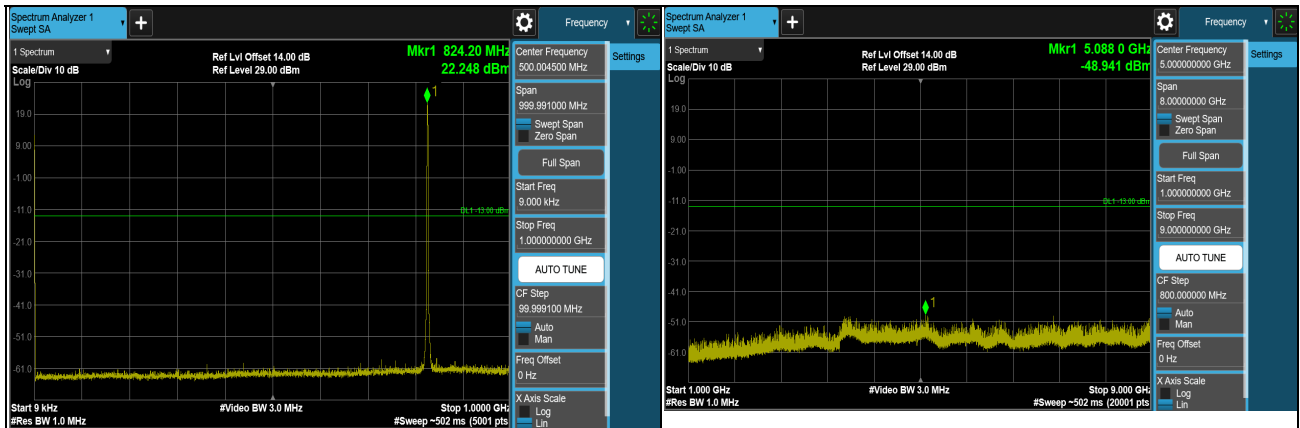
CH 20525 (836.5MHz)



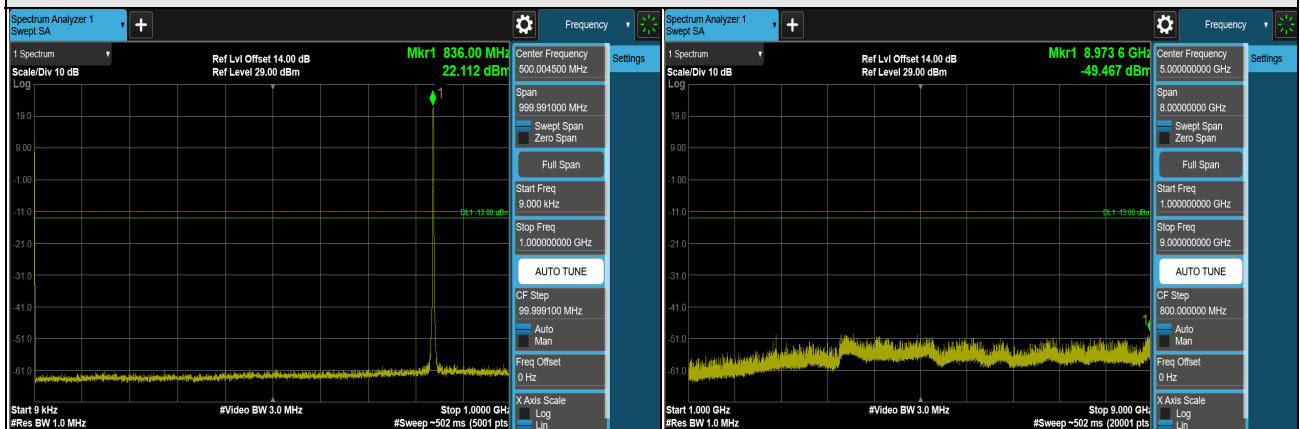
CH 20600 (844MHz)

*The 9kHz signal over the limit is from Spectrum.

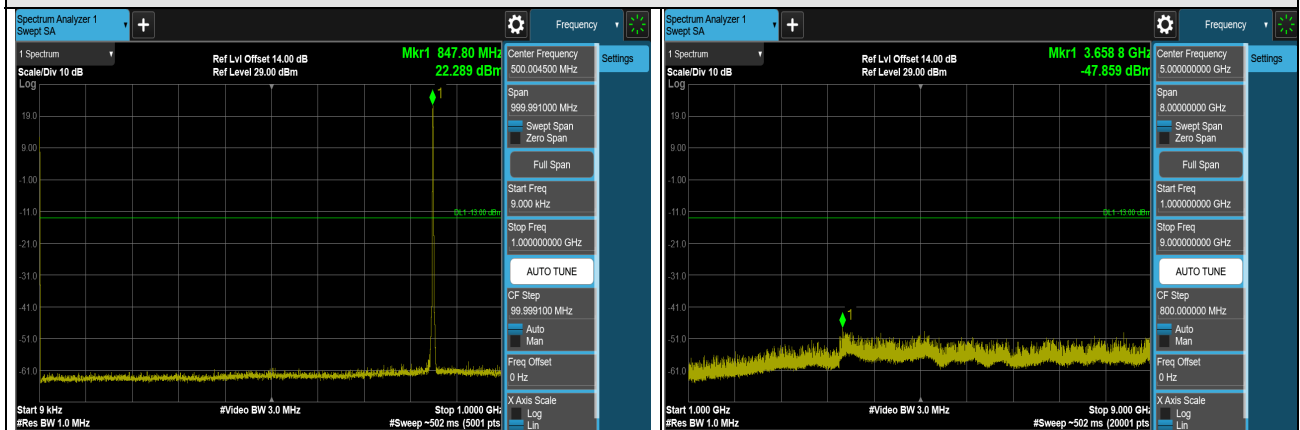
LTE Band 26 (Channel Bandwidth 1.4MHz)



CH 26797 (824.7MHz)



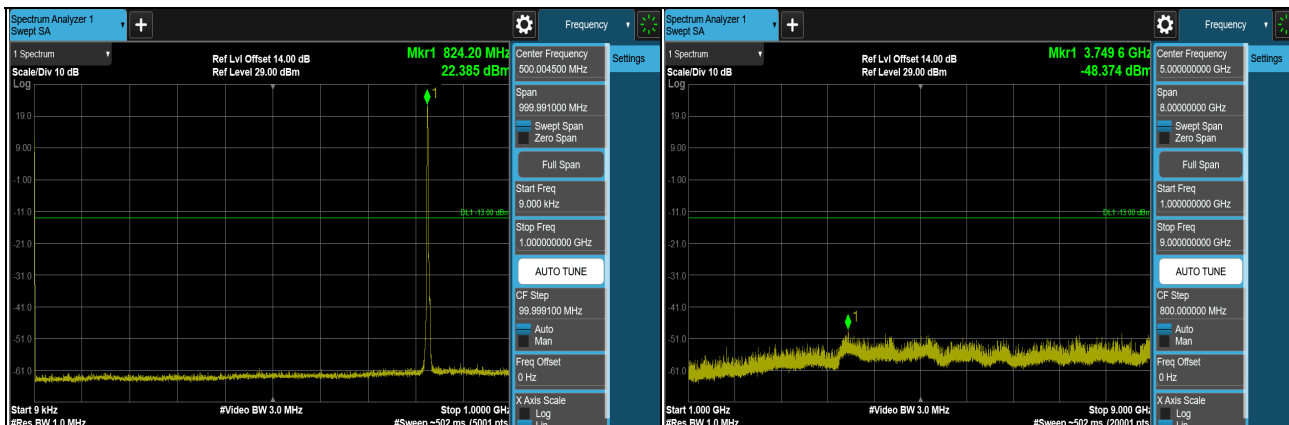
CH 26915 (836.5MHz)



CH 27033 (848.3MHz)

*The 9kHz signal over the limit is from Spectrum.

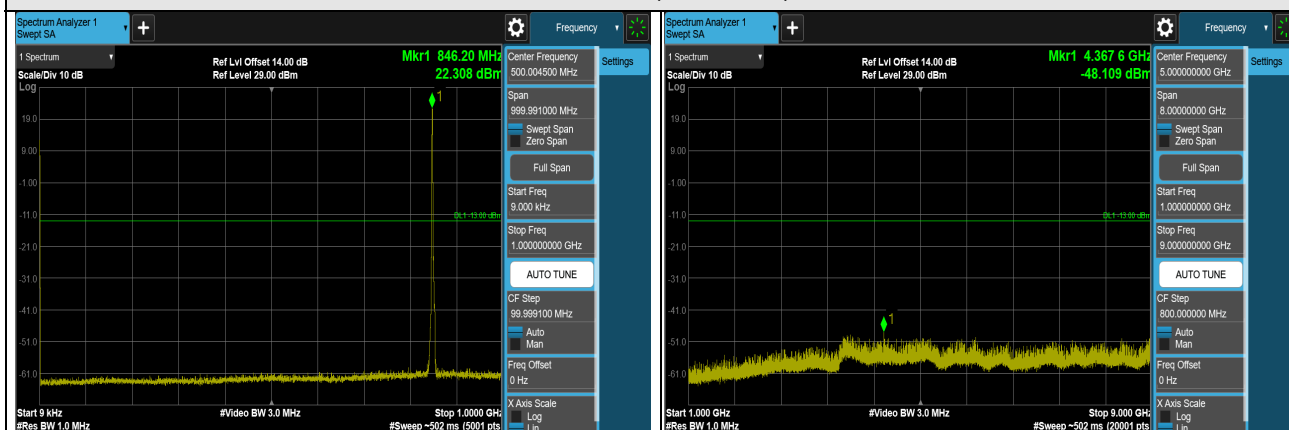
LTE Band 26 (Channel Bandwidth 3MHz)



CH 26805 (825.5MHz)



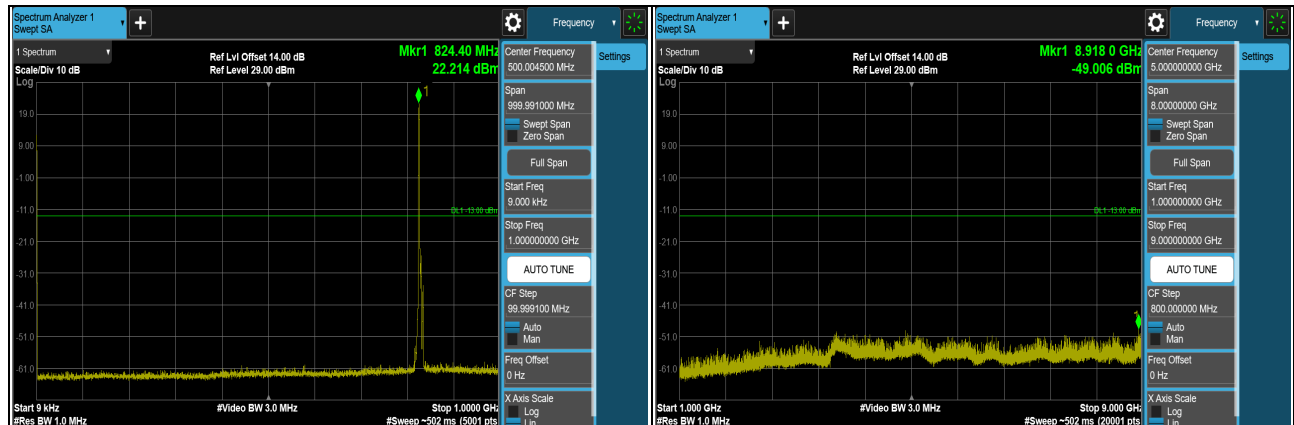
CH 26915 (836.5MHz)



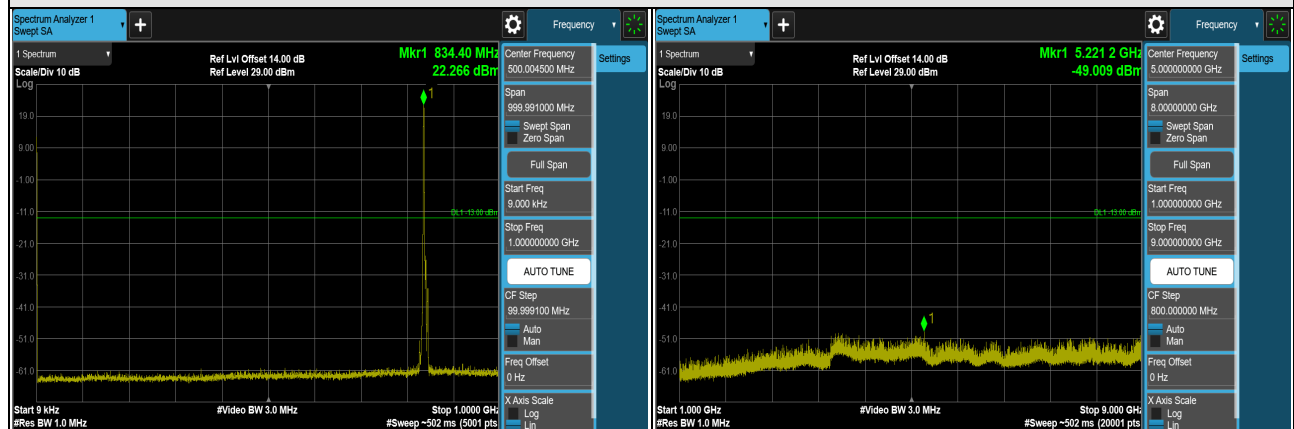
CH 27025 (847.5MHz)

*The 9kHz signal over the limit is from Spectrum.

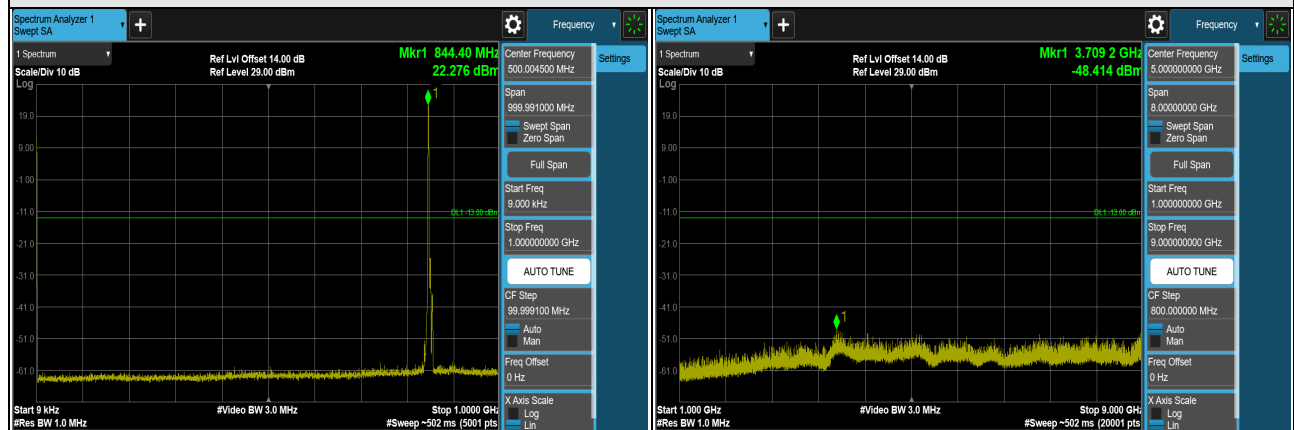
LTE Band 26 (Channel Bandwidth 5MHz)



CH 26815 (826.5MHz)



CH 26915 (836.5MHz)



CH 27015 (846.5MHz)

*The 9kHz signal over the limit is from Spectrum.