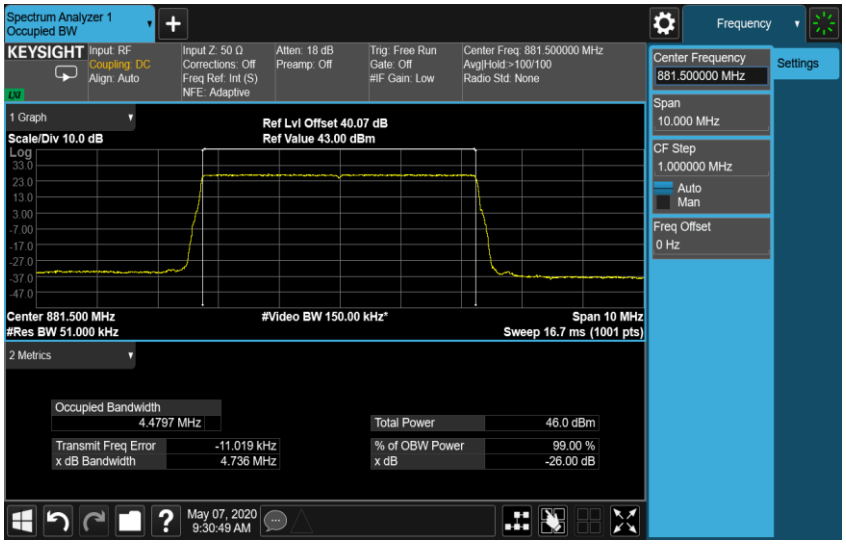
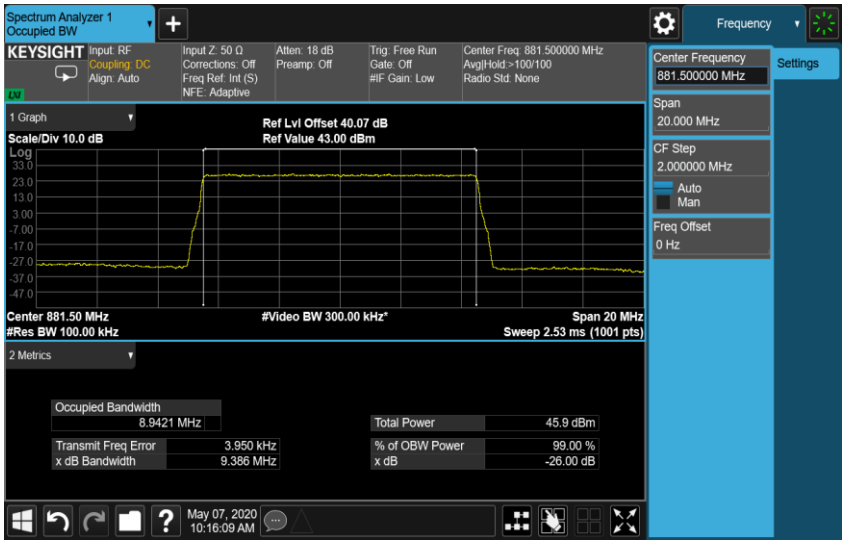
Port A, 64QAM/3.0MHz Channel Position M

Port A, 64QAM/5.0MHz Channel Position M

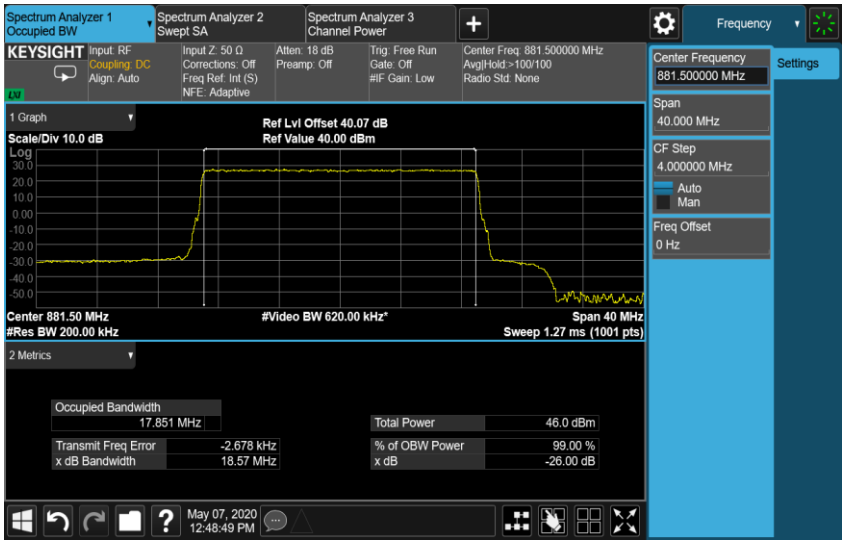


Port A, 64QAM/10.0MHz Channel Position M

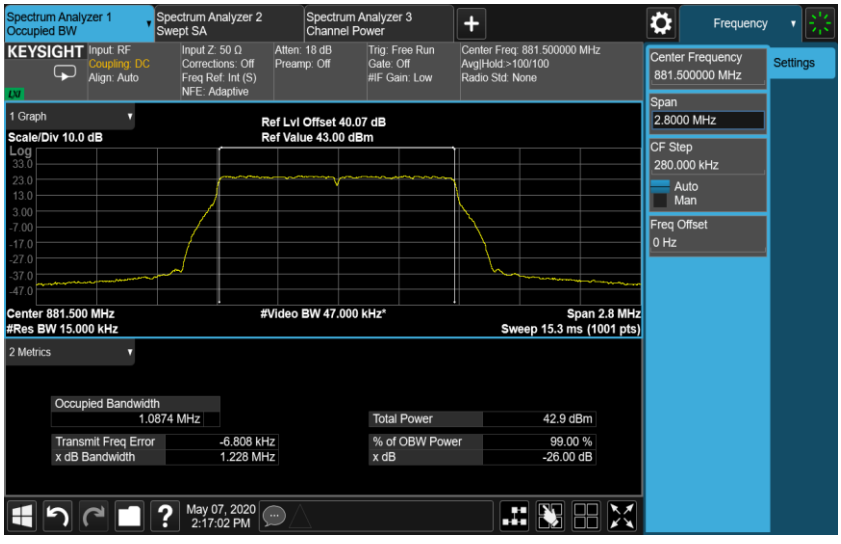


Port A, 64QAM/15.0MHz Channel Position M

Port A, 64QAM/20.0MHz Channel Position M

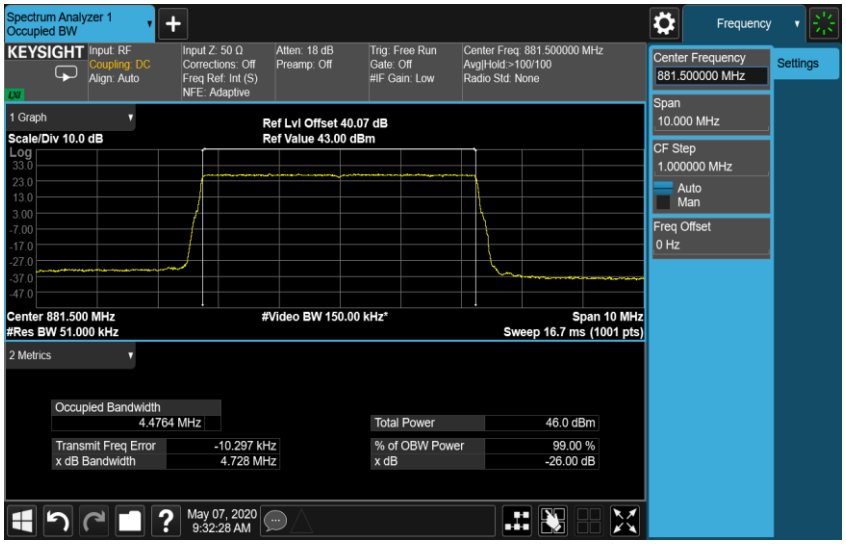


Port A, 256QAM/1.4MHz Channel Position M

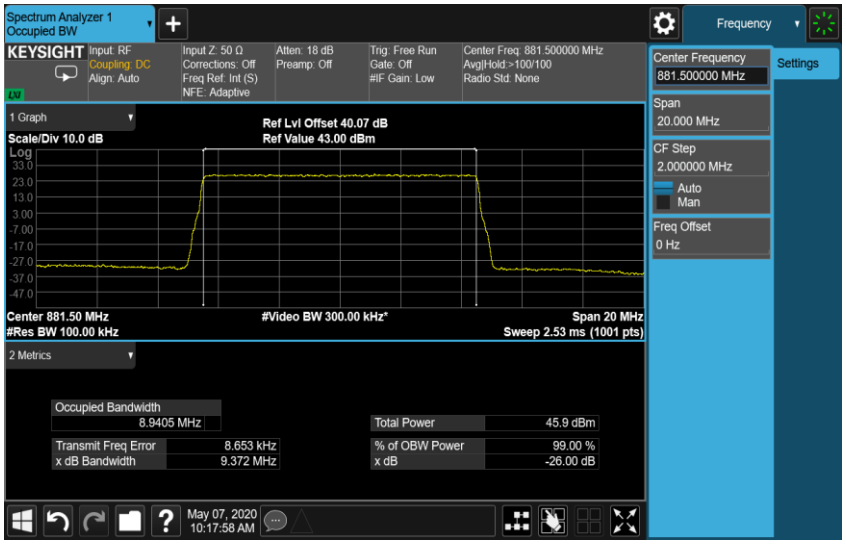


Port A, 256QAM/3.0MHz Channel Position M

Port A, 256QAM/5.0MHz Channel Position M

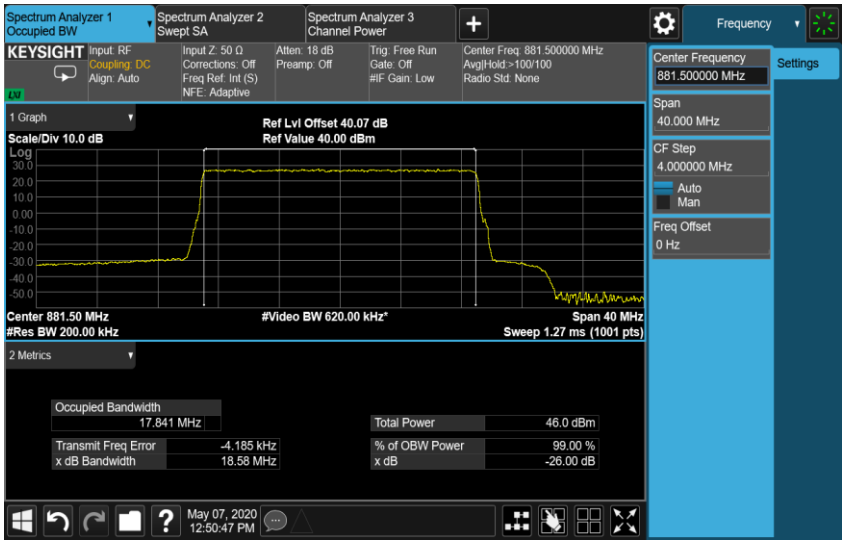


Port A, 256QAM/10.0MHz Channel Position M



Port A, 256QAM/15.0MHz Channel Position M

Port A, 256QAM/20.0MHz Channel Position M



Configuration NB-IoT-Standalone-1C

-26dBc Occupied Bandwidth

	Occupied Bandwidth (KHz)		
Modulation	Channel position B	Channel position M	Channel position T
QPSK	268.0	267.8	269.1

99% Occupied Bandwidth

	Occupied Bandwidth (KHz)		
Modulation	Channel position B	Channel position M	Channel position B
QPSK	193.15	193.38	193.49

Port A, QPSK Channel Position B

Port A, QPSK Channel Position M

Port A, QPSK Channel Position T

Configuration NB-IoT-InBand-1C

-26dBc Occupied Bandwidth

Modulation	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position T
QPSK	4.643	4.641	4.635

99% Occupied Bandwidth

Modulation	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position T
QPSK	4.4688	4.4669	4.4668

Port A, QPSK/5.0MHz Channel Position B

Port A, QPSK/5.0MHz Channel Position M

Port A, QPSK/5.0MHz Channel Position T

Configuration NB-IoT-GuardBand-1C

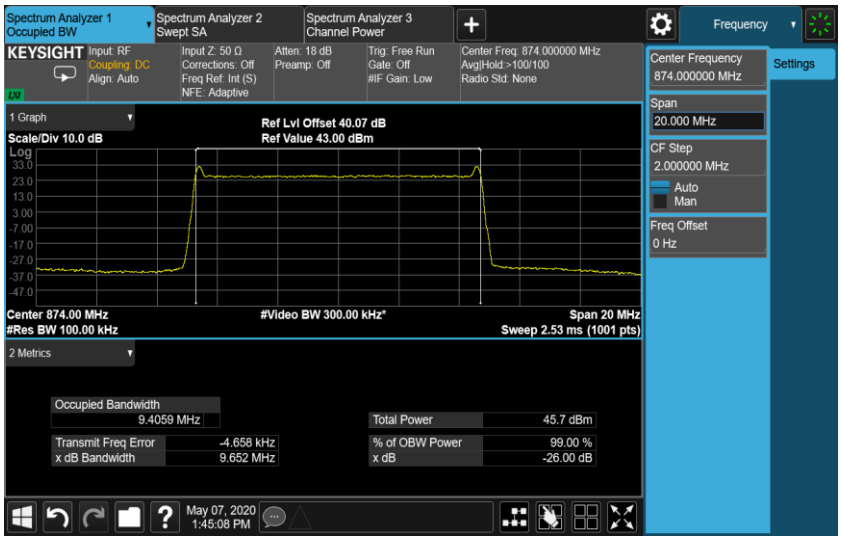
-26dBc Occupied Bandwidth

	Occupied Bandwidth (MHz)		
Modulation	Channel position B	Channel position M	Channel position T
QPSK	9.652	9.652	9.648

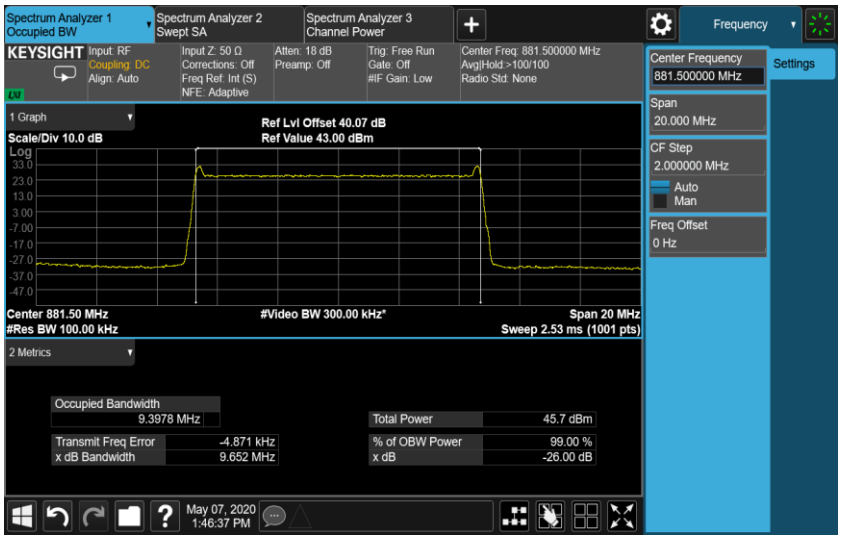
99% Occupied Bandwidth

	Occupied Bandwidth (MHz)		
Modulation	Channel position B	Channel position M	Channel position T
QPSK	9.4059	9.3978	9.3994

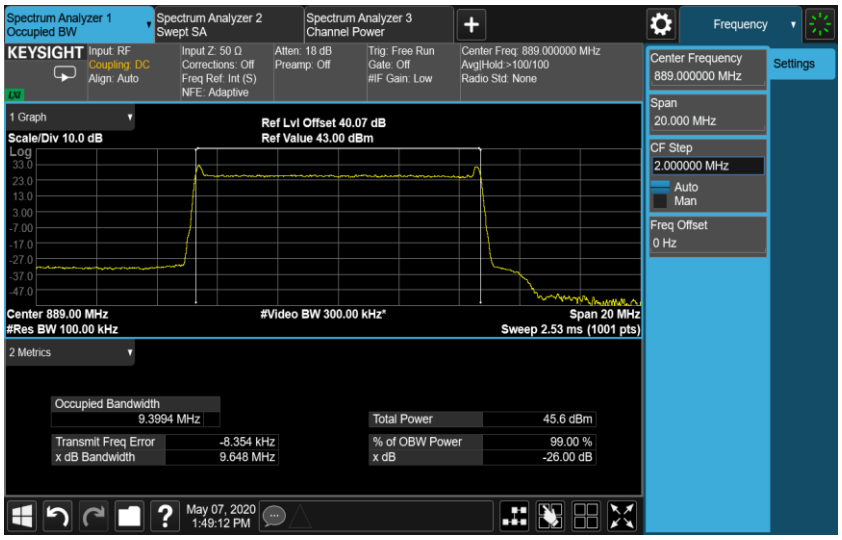
Port A, QPSK/10.0MHz Channel Position B



Port A, QPSK/10.0MHz Channel Position M



Port A, QPSK/10.0MHz Channel Position T



A.3 Spurious Emissions at Band Edge

A.3.1 Reference

FCC CFR 47 Part 2, Clause 2.1051
FCC CFR 47 Part 22, Clause 22.917
RSS-132, Clause 5.5

A.3.2 Method of 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 + 10log(P) dB.

For MIMO mode configurations, the limit was adjusted with a correction of -6.02dB [10Log(1/4)] by using the Measure and Add 10Log(N) dB technique according to KDB 662911 D01 Multiple Transmitter Output accounting for simultaneous transmission from antenna ports . Then the limit was adjusted to -19.02dBm.

In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed and a RBW of 1MHz for measurements of emissions > 1MHz away from the band edges.
The limit was adjusted with -13.01dB [10Log(50/1000)] to compensate for the reduced measurement bandwidth 50KHz for emission more than 1MHz away from the band edges. For MIMO mode, the limit of -32.03dBm was used.
Spectrum analyzer detector was set as RMS.

A.3.3 Measurement limit

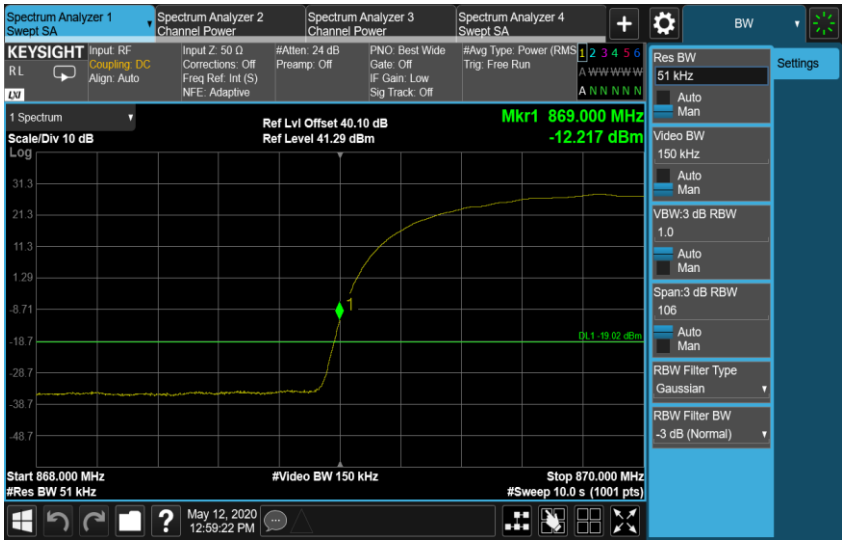
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

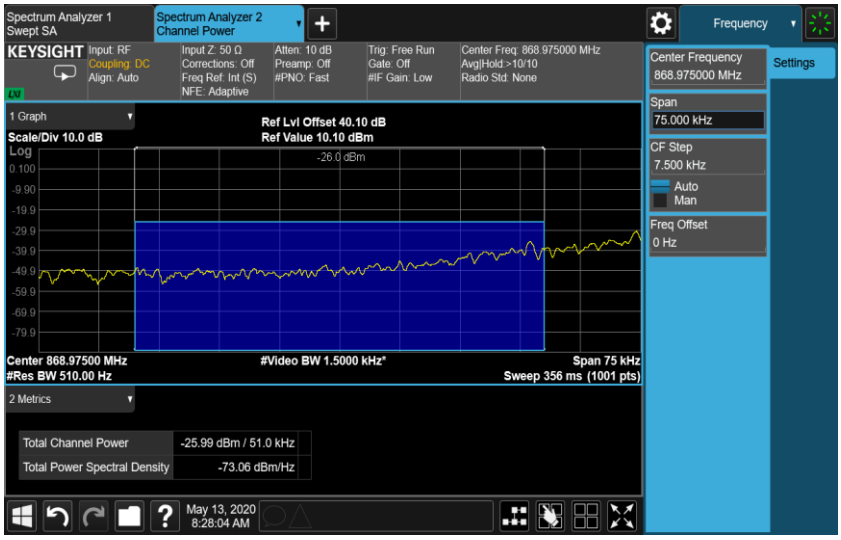
A.3.4 Measurement result

Configuration WCDMA-1C-BE, QPSK

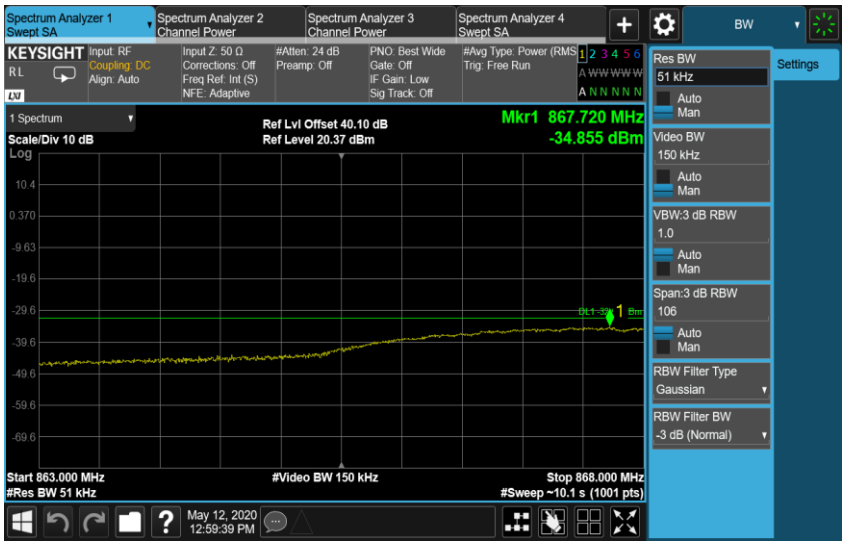
Modulation	Band Edge Frequency	Channel Bandwidth	RBW (KHz)	Limit (dBm)
QPSK	Channel Position B	5.0MHz	51	-19.02
	Channel Position T	5.0MHz	51	-19.02

Port A , Channel Position B, QPSK

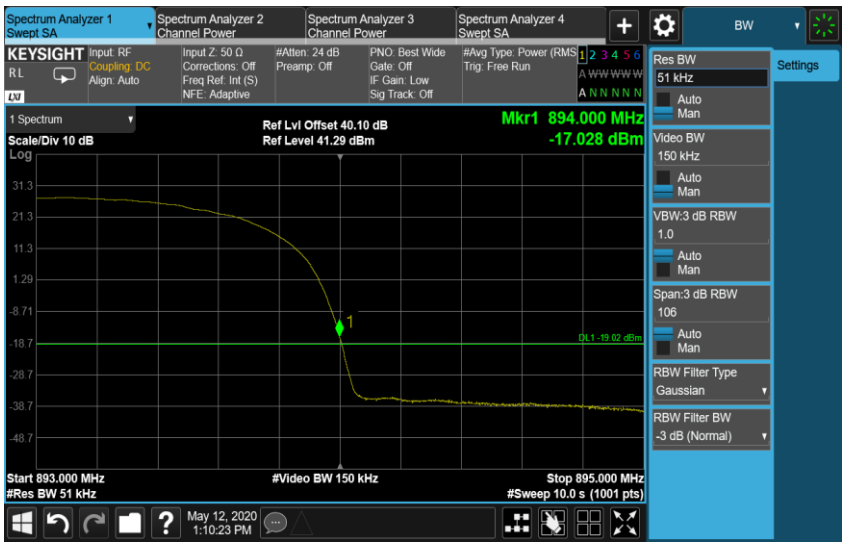


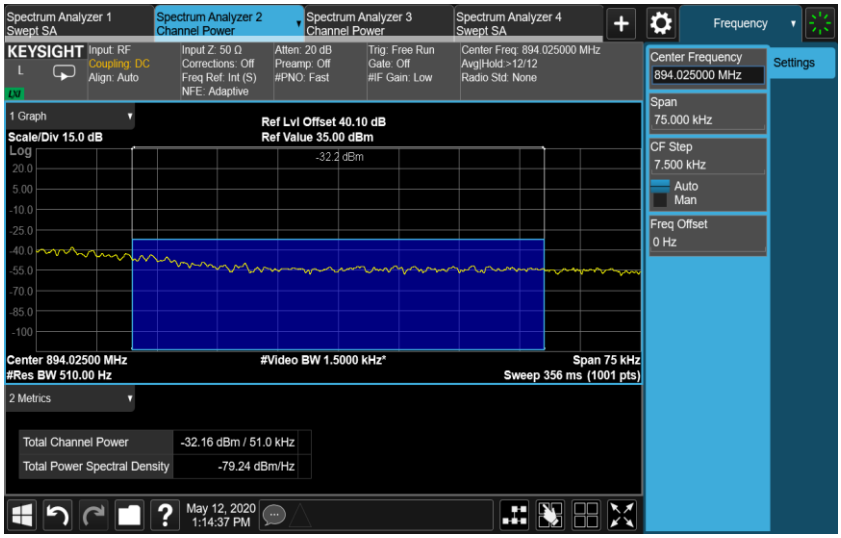


The channel power of 50KHz for 868.975MHz is -25.99dBm, which is within the limit of -19.02dBm.

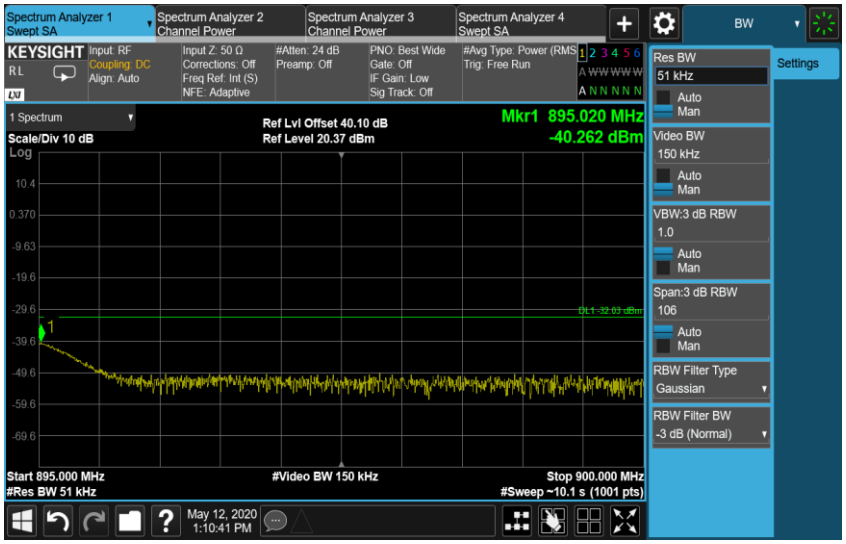


Port A , Channel Position T, QPSK





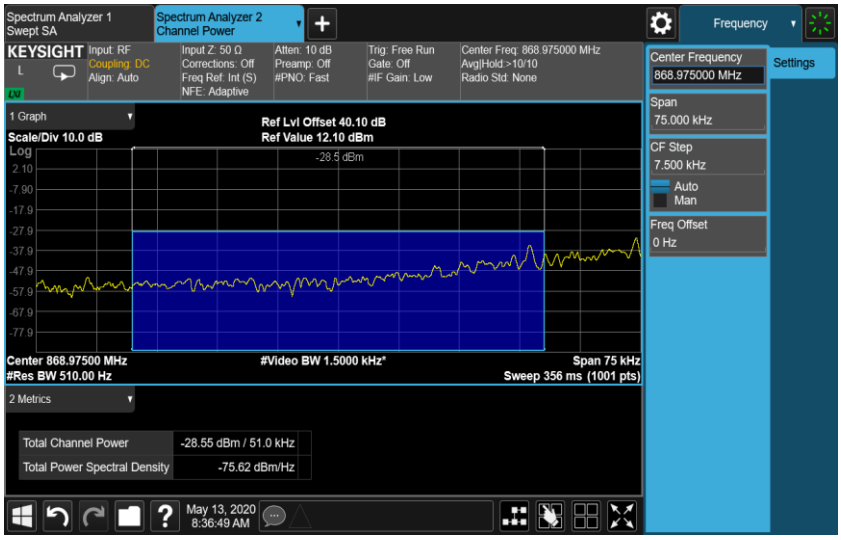
The channel power of 50KHz for 894.025MHz is -32.16dBm, which is within the limit of -19.02dBm.



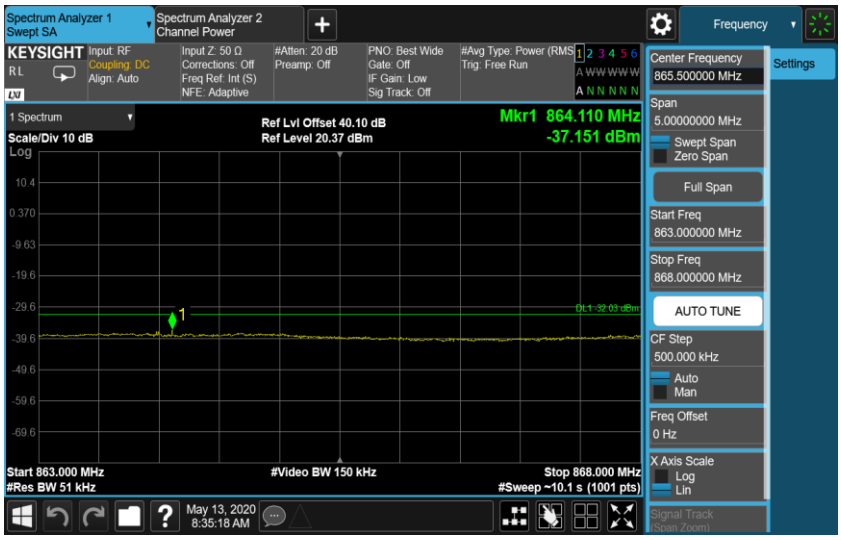
Configuration WCDMA-2C-BE, QPSK

Modulation	Band Edge Frequency	Channel Bandwidth	RBW (KHz)	Limit (dBm)
QPSK	Channel Position B	5.0MHz	51	-19.02
	Channel Position T	5.0MHz	51	-19.02

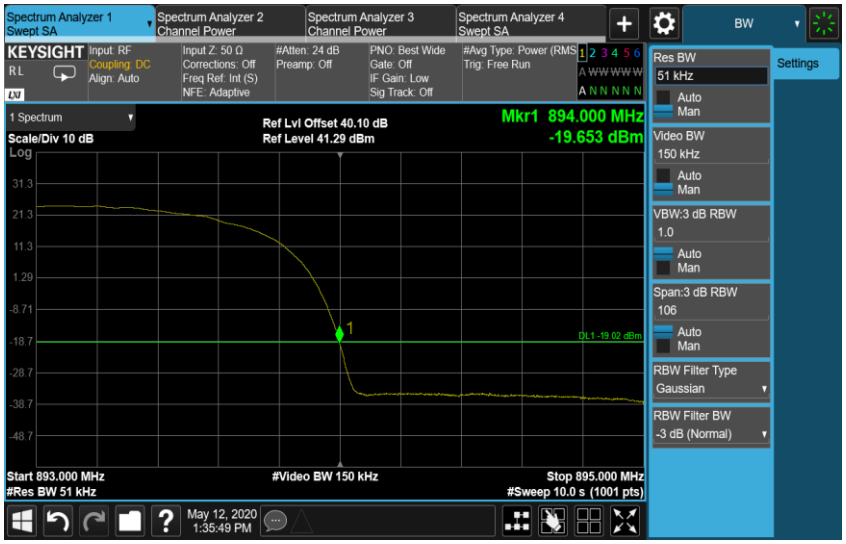
Port A , Channel Position B, QPSK

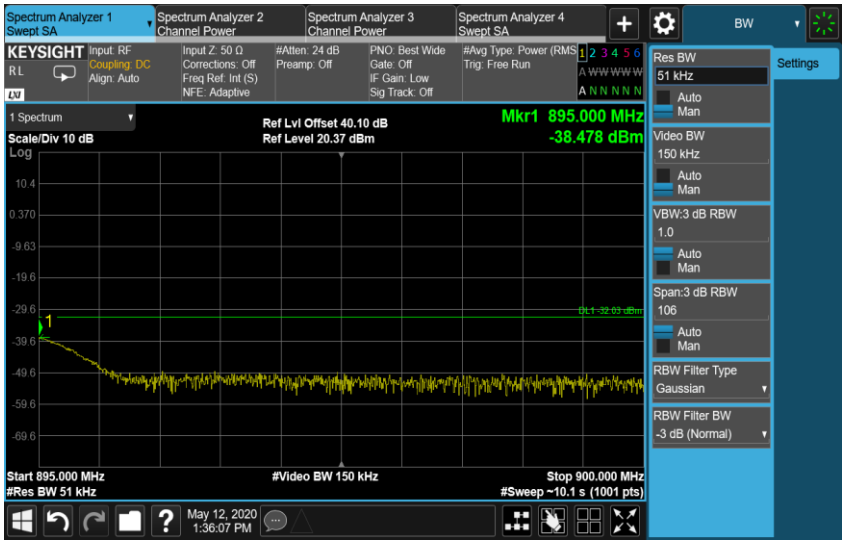


The channel power of 50KHz for 868.975MHz is -28.55dBm, which is within the limit of -19.02dBm.



Port A , Channel Position T, QPSK

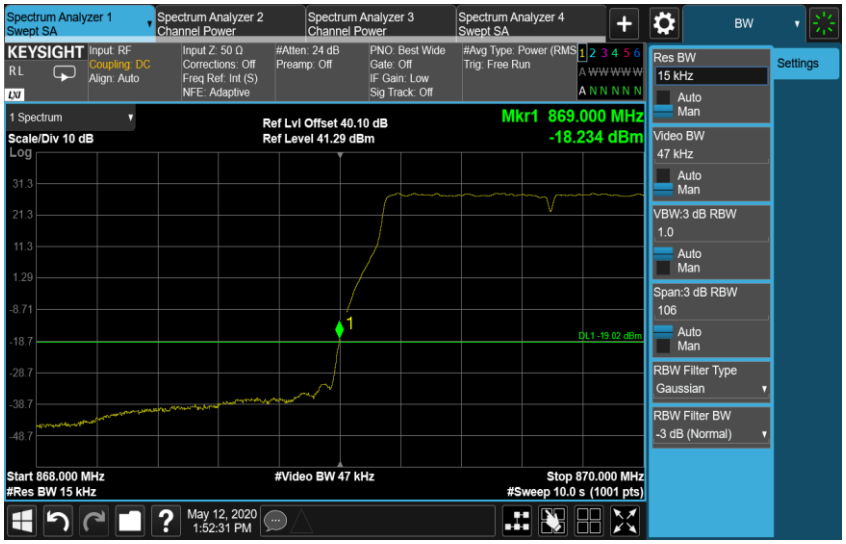


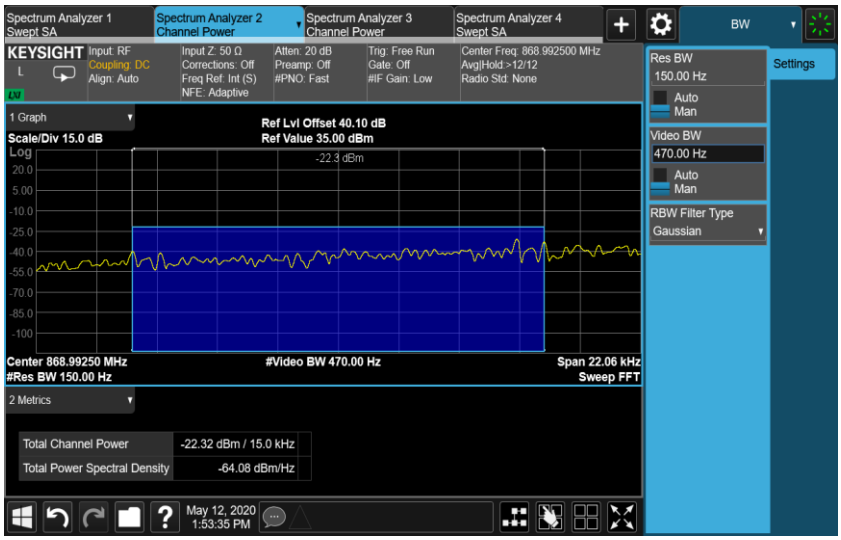


Configuration LTE-MIMO-1C, QPSK

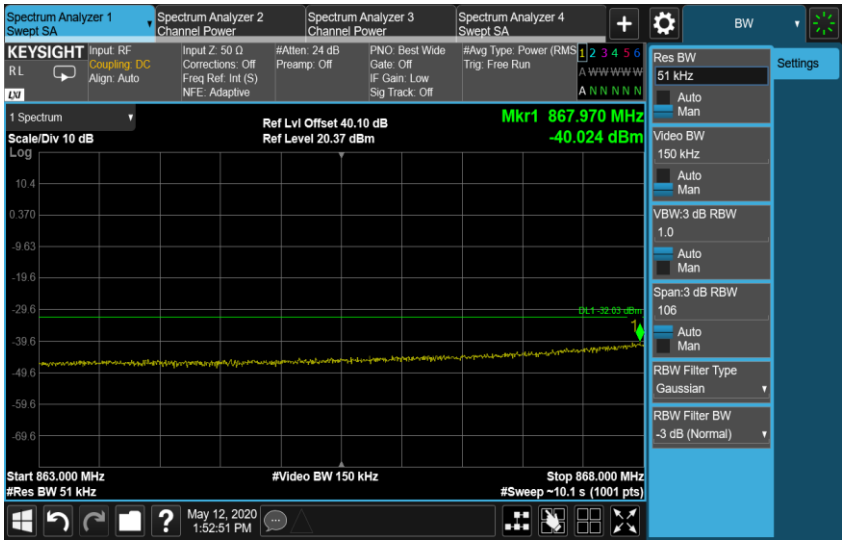
Band Edge Frequency	Channel Bandwidth	RBW(KHz)	Limit(dBm)
Channel Position B	1.4 MHz	15	-19.02
	3.0MHz	30	-19.02
	5.0 MHz	51	-19.02
	10.0 MHz	100	-19.02
	15.0 MHz	150	-19.02
	20.0 MHz	200	-19.02
Channel Position T	1.4 MHz	15	-19.02
	3.0MHz	30	-19.02
	5.0 MHz	51	-19.02
	10.0 MHz	100	-19.02
	15.0 MHz	150	-19.02
	20.0 MHz	200	-19.02

Port A , Channel Position B, 1.4MHz

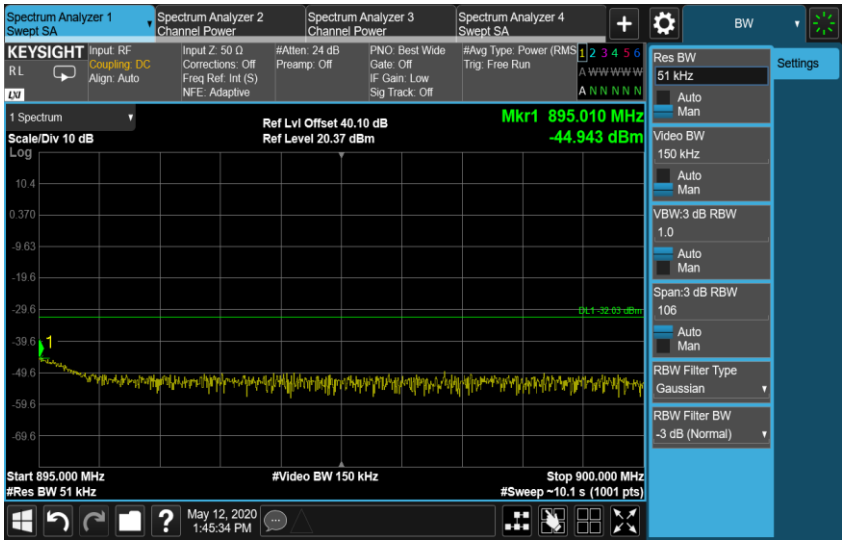




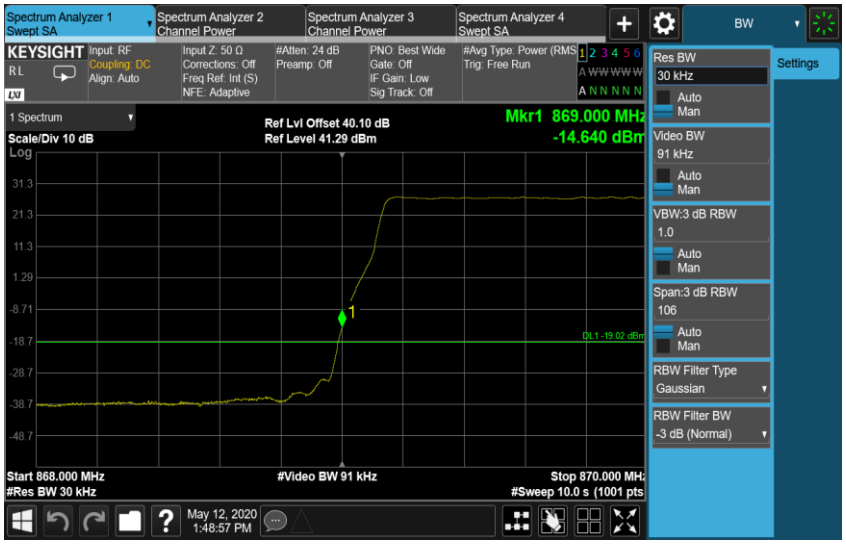
The channel power of 50KHz for 868.9925MHz is -22.32dBm, which is within the limit of -19.02dBm.

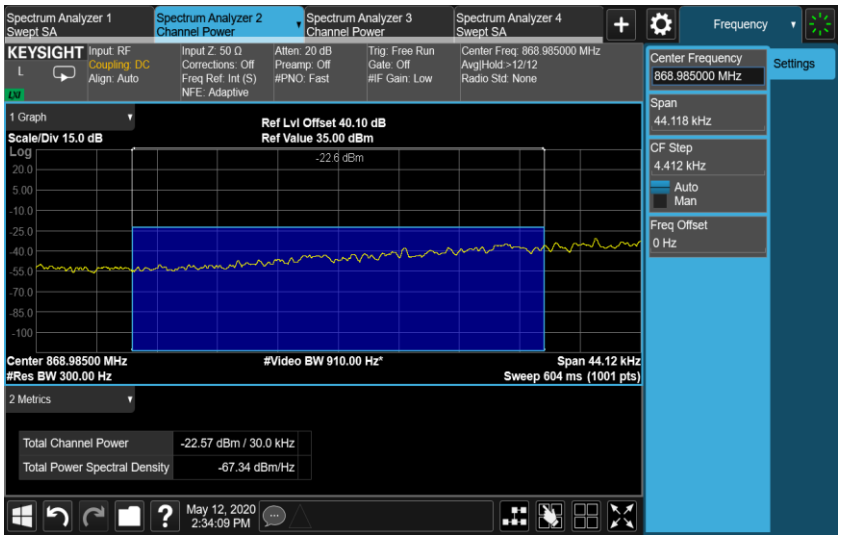


Port A , Channel Position T, 1.4MHz

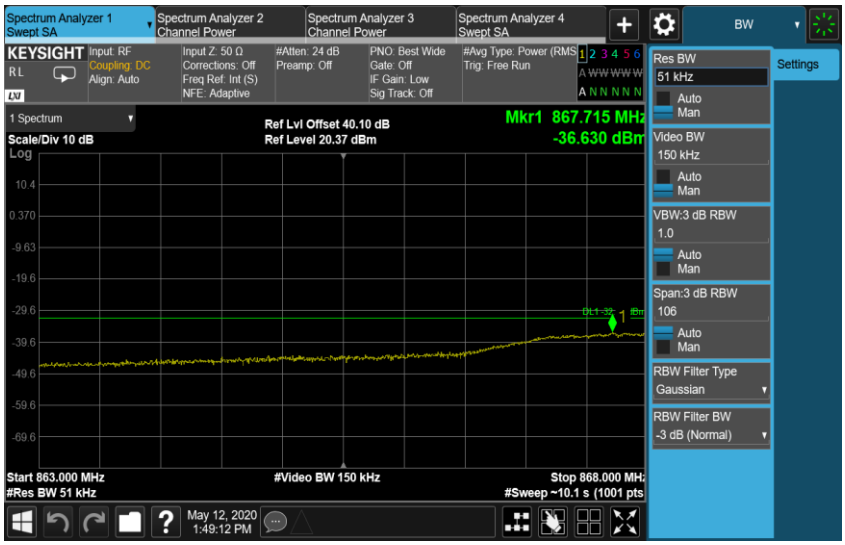


Port A , Channel Position B, 3.0MHz

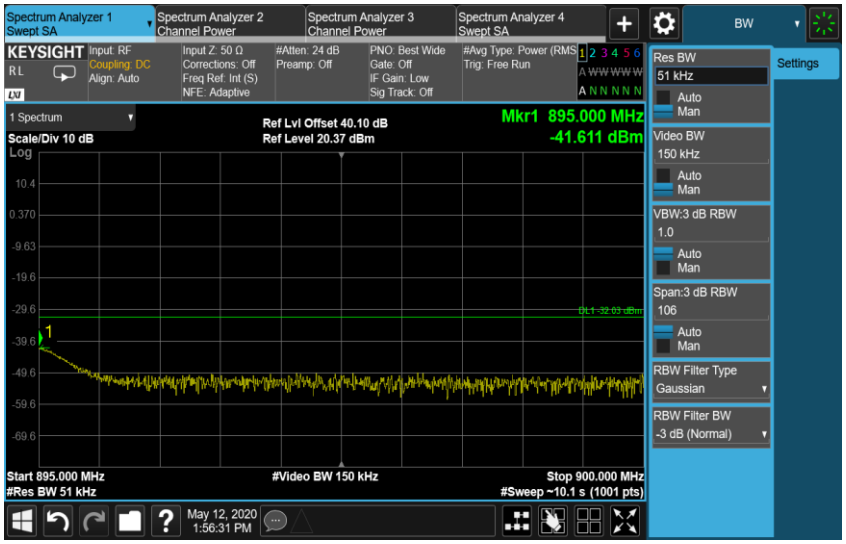




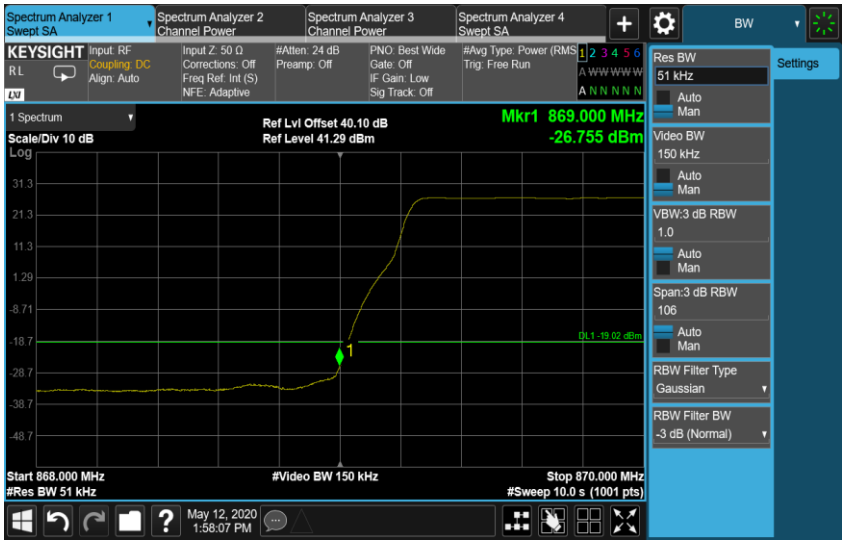
The channel power of 50KHz for 868.985MHz is -22.57dBm, which is within the limit of -19.02dBm.

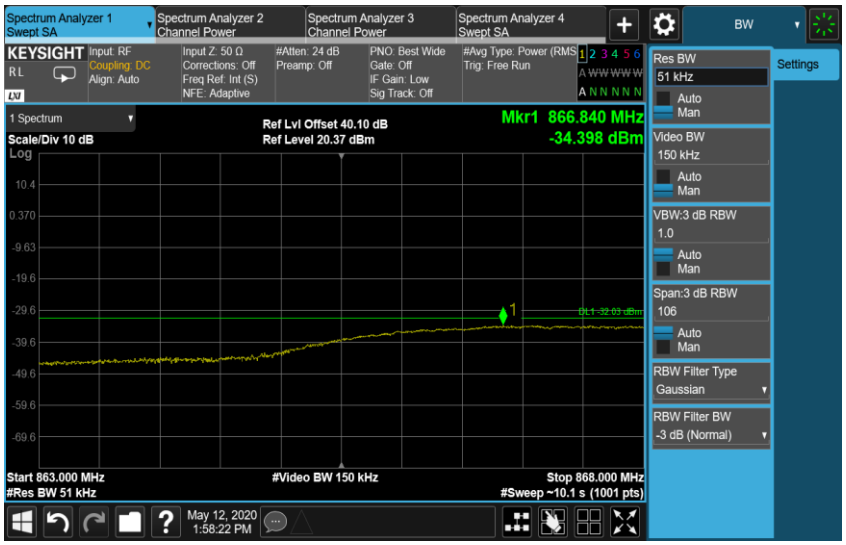


Port A , Channel Position T, 3.0MHz

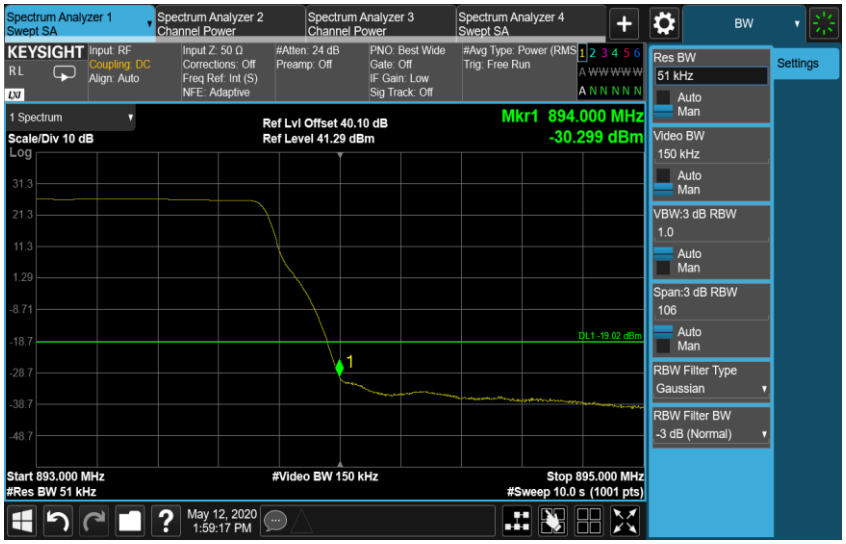


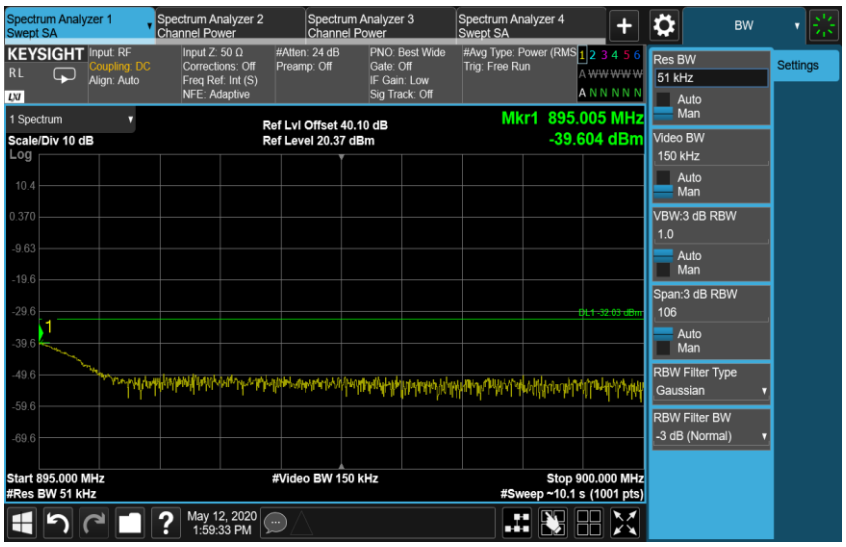
Port A , Channel Position B, 5.0MHz



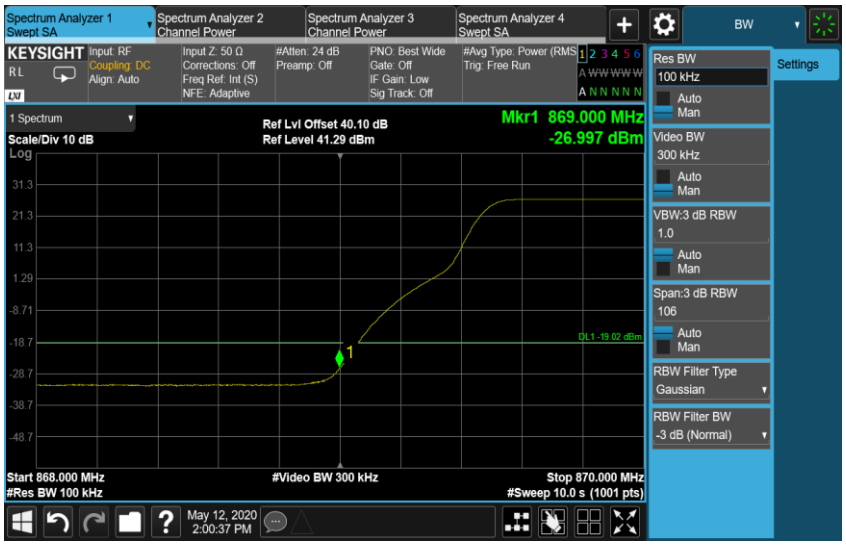


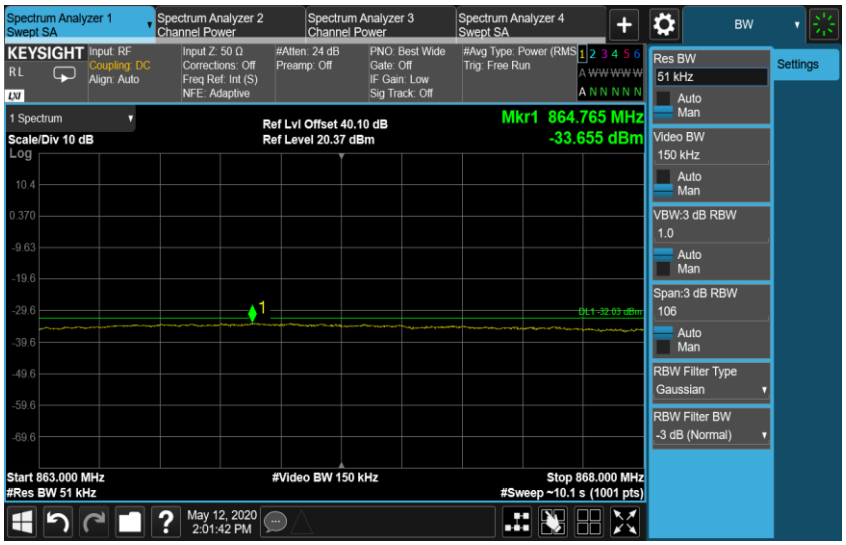
Port A , Channel Position T, 5.0MHz





Port A , Channel Position B, 10.0MHz





Port A , Channel Position T, 10.0MHz