9.3 Unwanted Emissions at Band Edge

Specification:	FCC Part 27.53 (l)(n)
Test Results:	Pass

9.3.1 Definitions and Limit

According to Part 27.53 (n):

The following emission limits apply to stations transmitting in the 3450-3550 MHz band:

(1) For base station operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. the conducted power of any emission below 3440 MHz or above 3560 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3430 MHz or above 3570 MHz shall not exceed −40 dBm/MHz.

According to Part 27.53 (l):

The following emission limits apply to stations transmitting in the 3700-3980 MHz band:

(1) For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

9.3.2 Method of Measurements:

For 3450-3550 MHz band:

The conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. In the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. Notwithstanding the channel edge requirement of −13 dBm per megahertz, for base station operations in the 3450-3550 MHz band, the conducted power of any emission below 3440 MHz or above 3560 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3430 MHz or above 3570 MHz shall not exceed −40 dBm/MHz.

For 3700-3980 MHz band:

the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

For MIMO mode configurations , the limit was adjusted with a correction of -6.02dB [10log1 /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.

Spectrum analyzer detector was set as RMS.

Note: If necessary,The limit was adjusted with -2.92dB [10Log(510/1000)] to compensate for the reduce measurement bandwidth 510kHz for emission more than 1MHz away from the band edges. For MIMO mode, the limit of -21.94dBm was used for emission more than 1MHz away from the band edges.

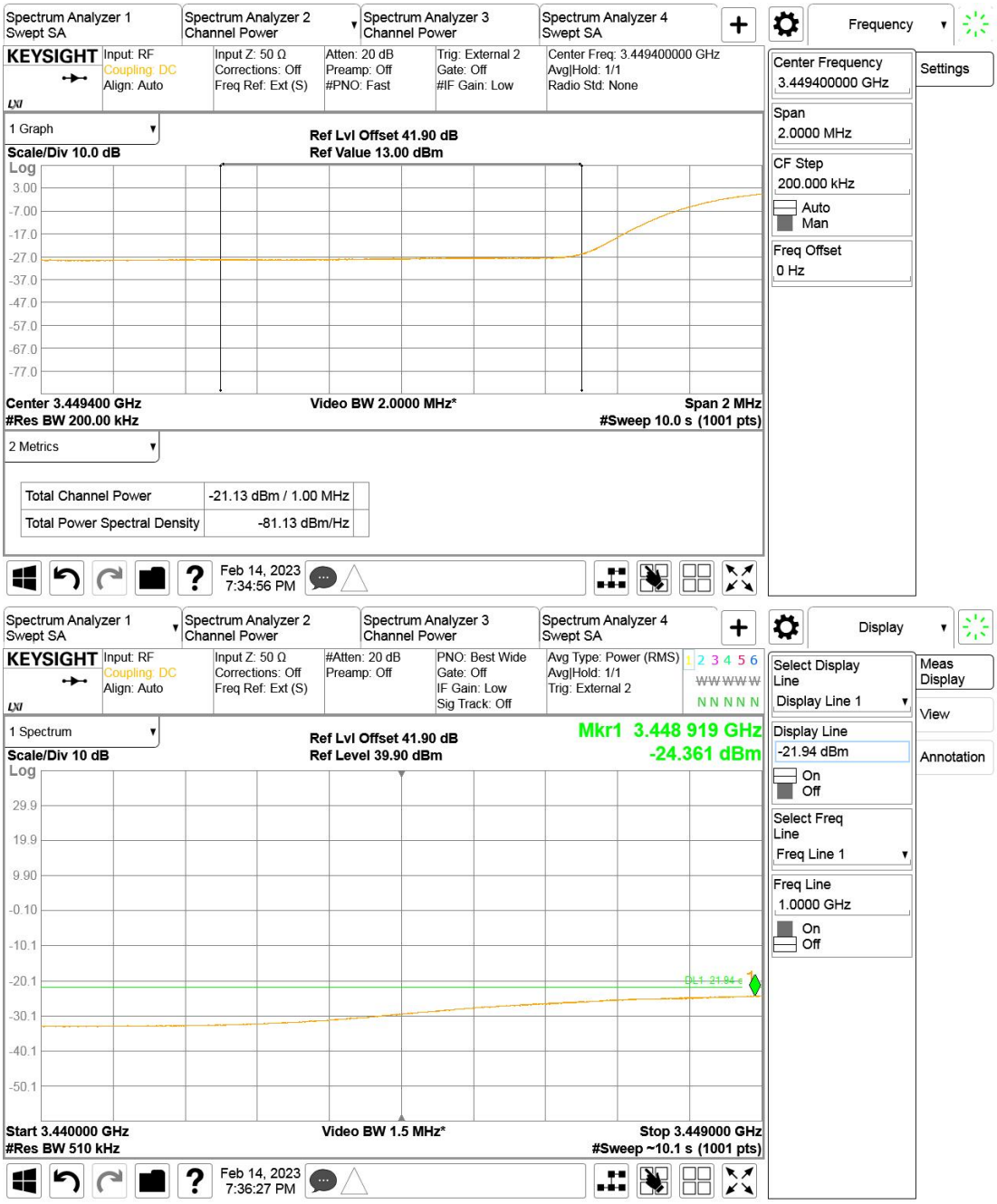
9.3.3 Measurement result

B77G NR mode:

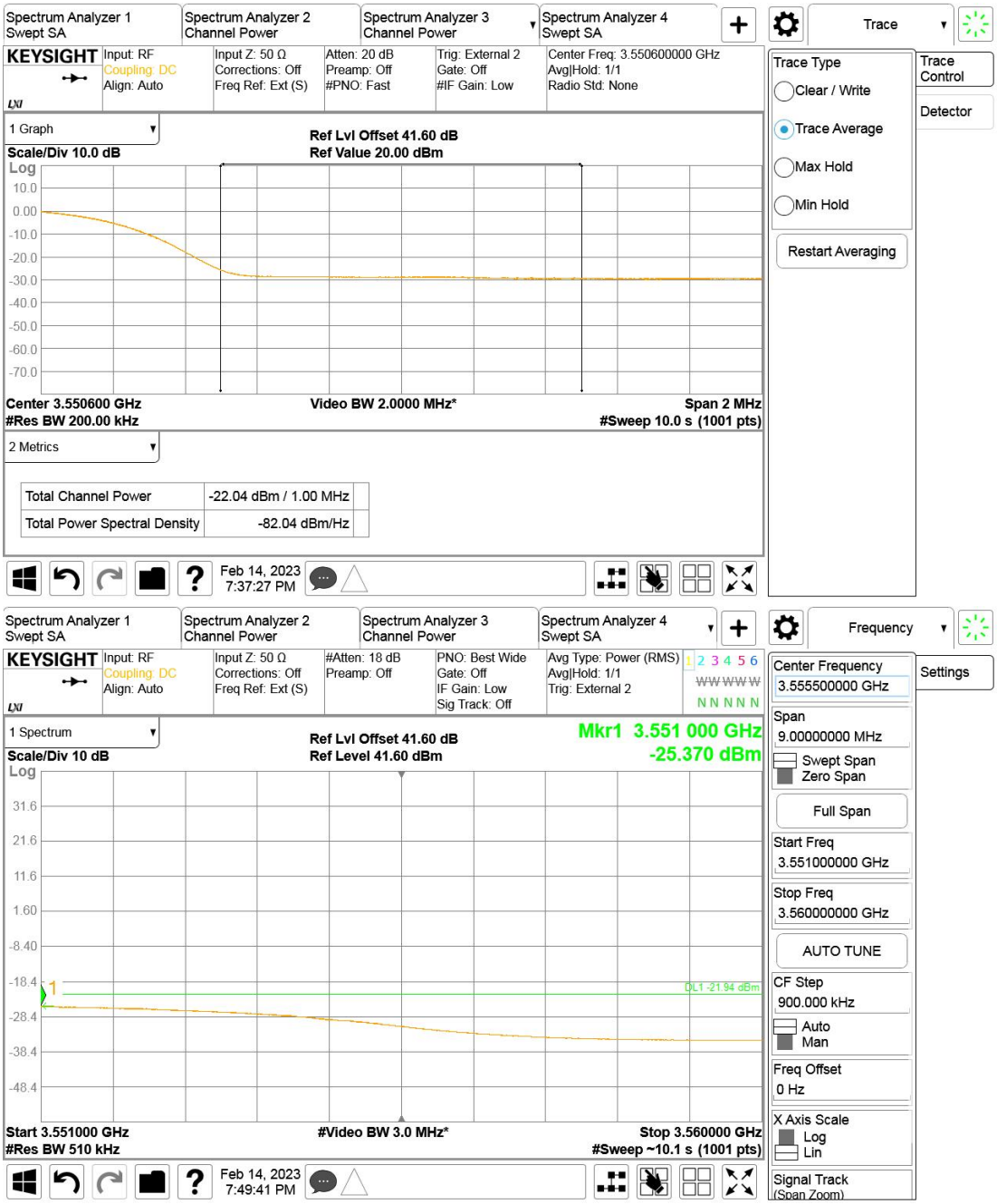
Configuration NR-MIMO-1C-UE

Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	20	3449-3450	200	-19.02
				3440-3449	510	-21.94
	T	64QAM	20	3550-3551	200	-19.02
				3551-3560	510	-21.94

Test figure as below:



Channel Position B

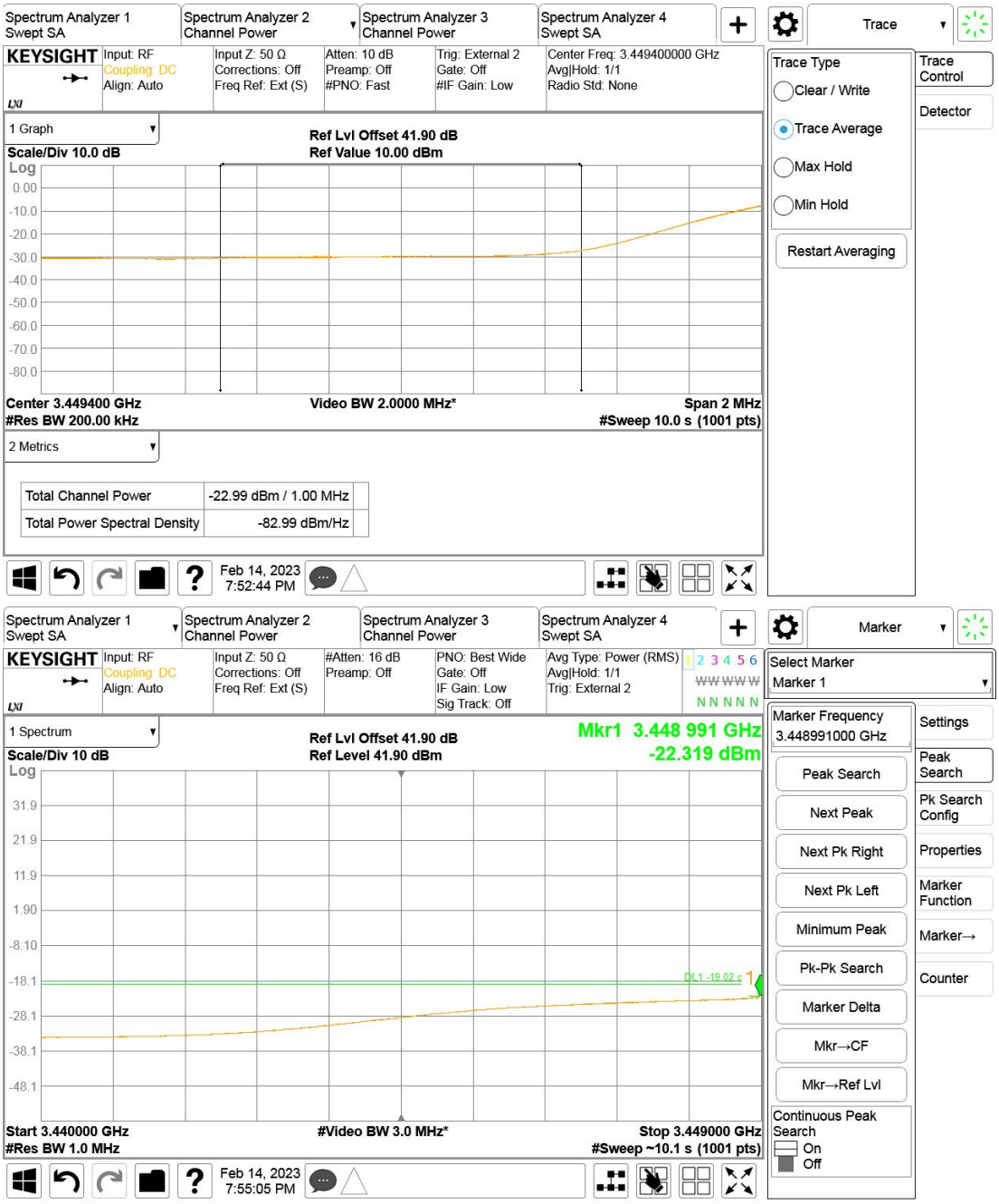


Channel Position T

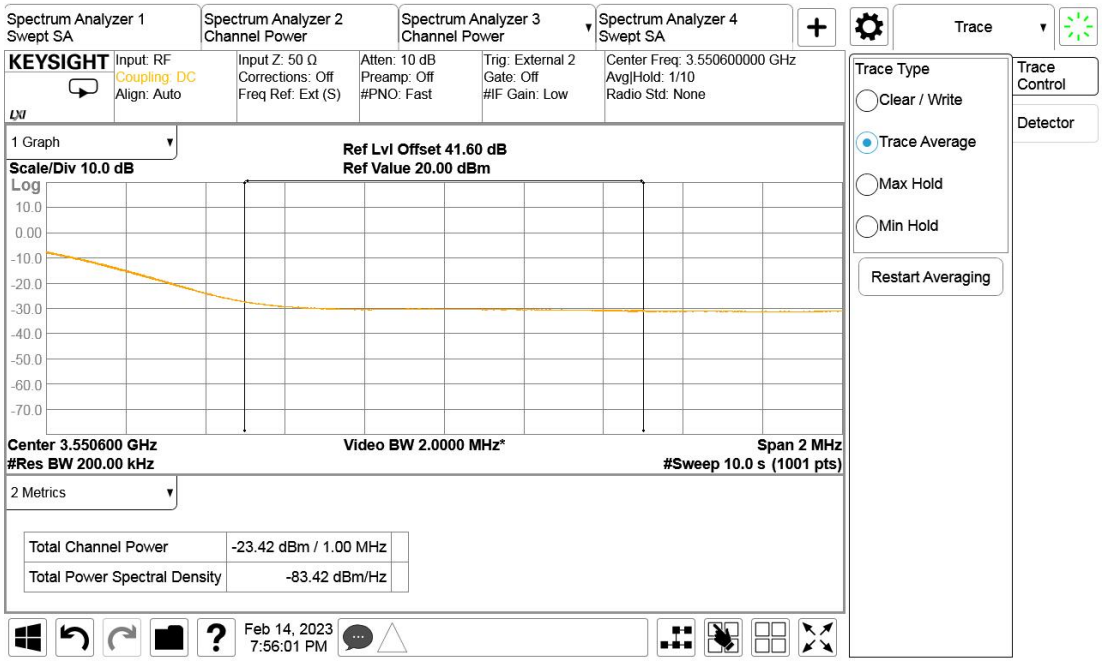
Configuration NR-MIMO-1C-UE

Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	30	3449-3450	200	-19.02
				3440-3449	1000	-19.02
	T	64QAM	30	3550-3551	200	-19.02
				3551-3560	1000	-19.02

Test figure as below:



Channel Position B

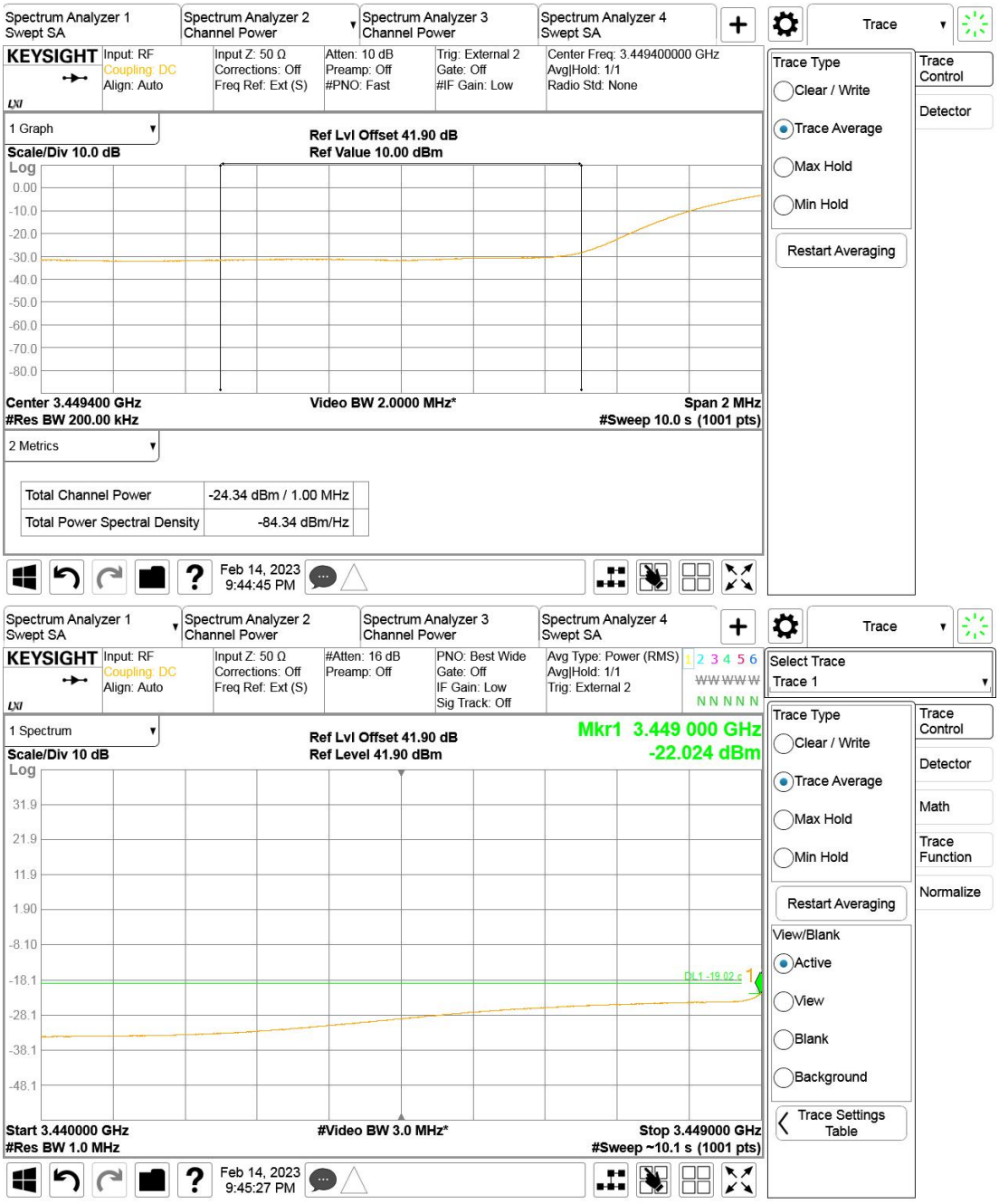


Channel Position T

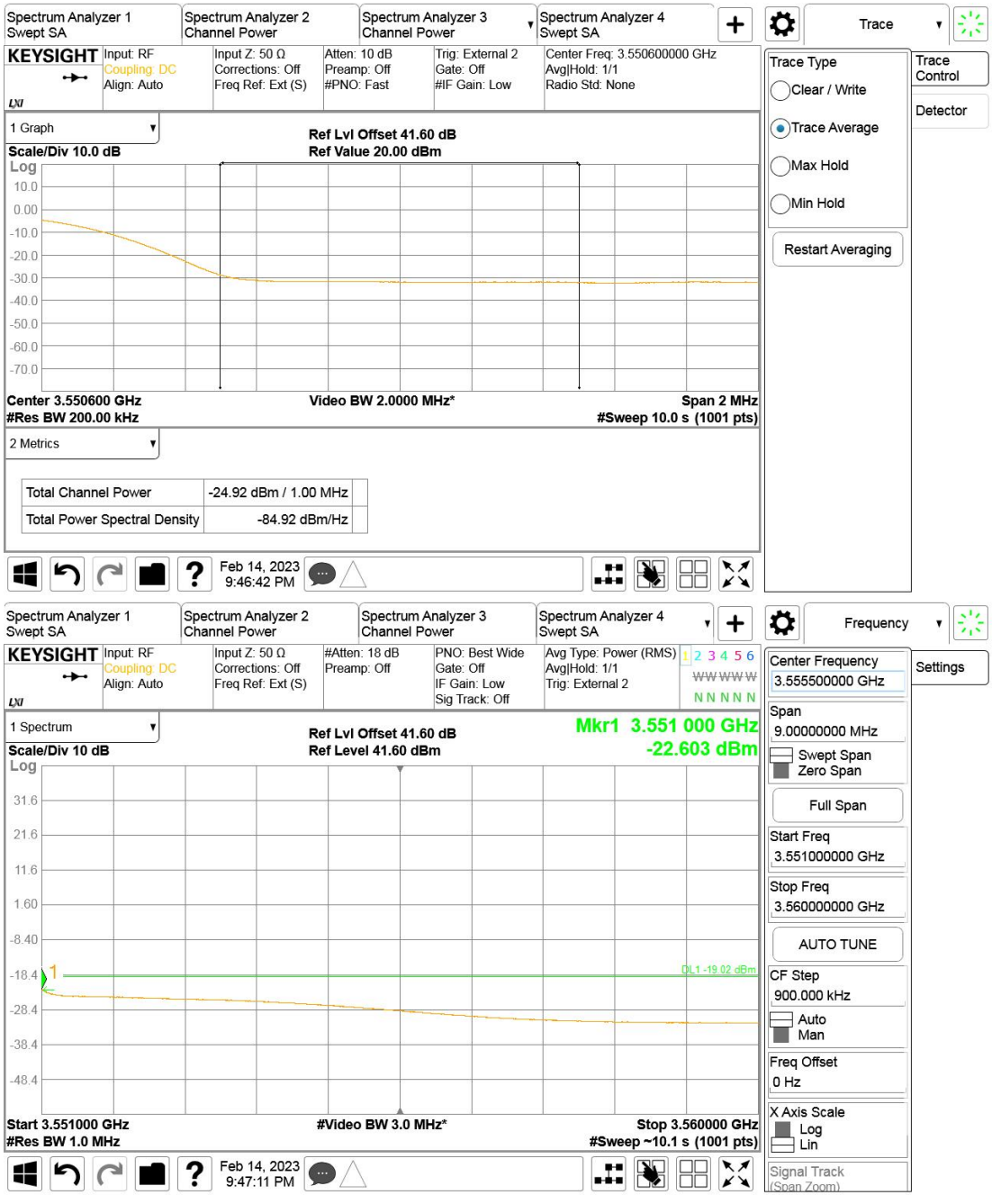
Configuration NR-MIMO-1C-UE

Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	40	3449-3450	200	-19.02
				3440-3449	1000	-19.02
	T	64QAM	40	3550-3551	200	-19.02
				3551-3560	1000	-19.02

Test figure as below:



Channel Position B

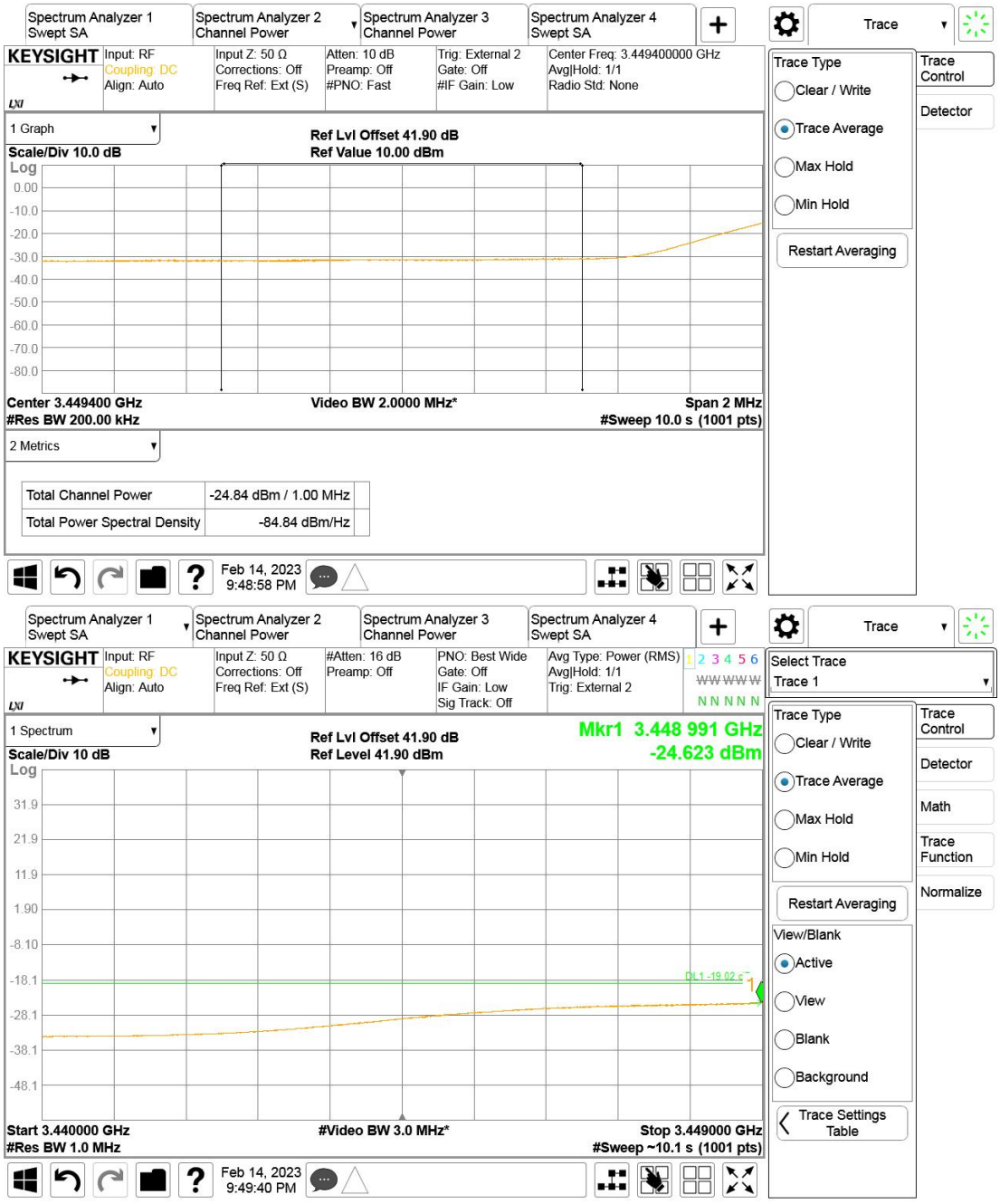


Channel Position T

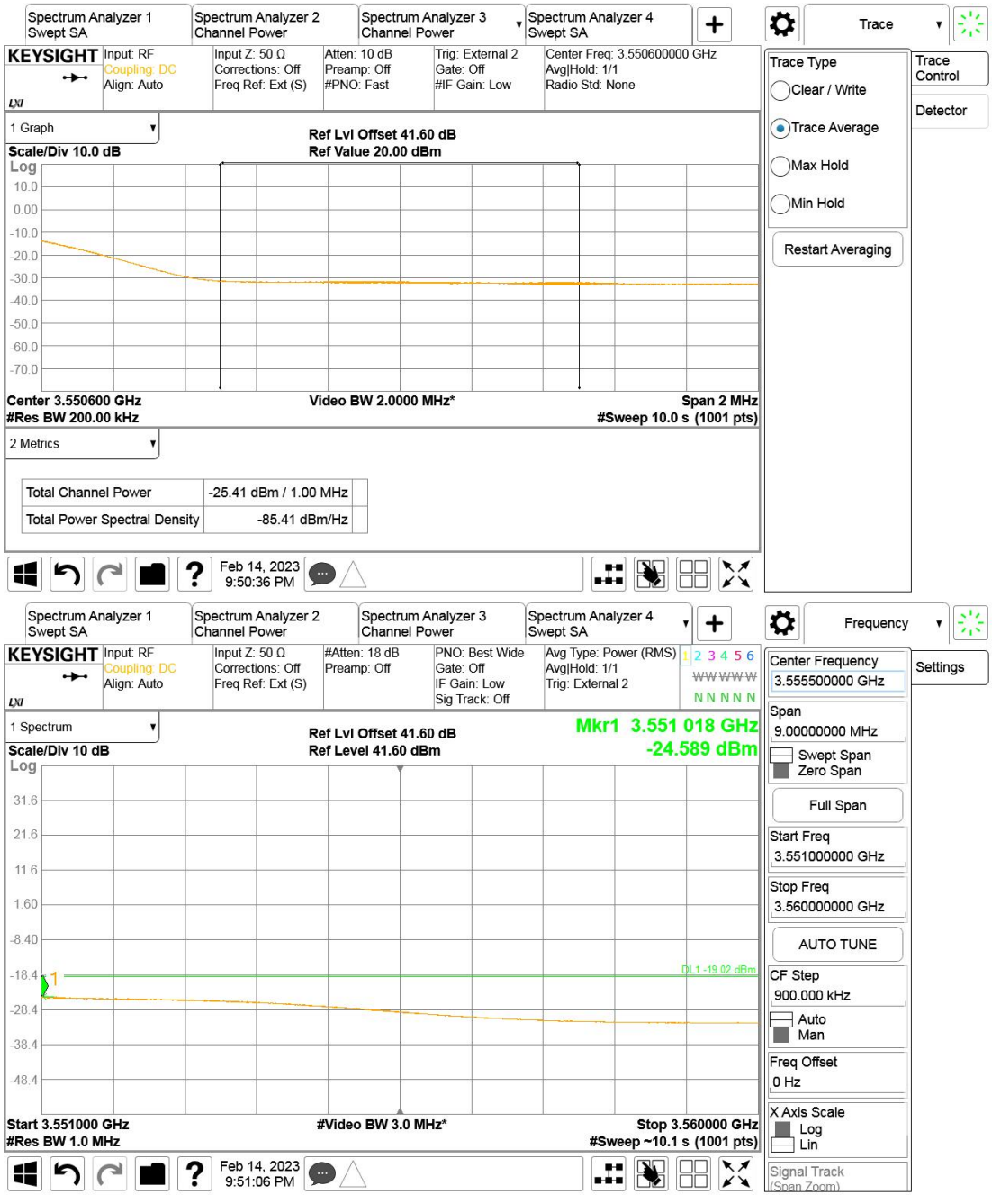
Configuration NR-MIMO-1C-UE

Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	50	3449-3450	200	-19.02
				3440-3449	1000	-19.02
	T	64QAM	50	3550-3551	200	-19.02
				3551-3560	1000	-19.02

Test figure as below:



Channel Position B

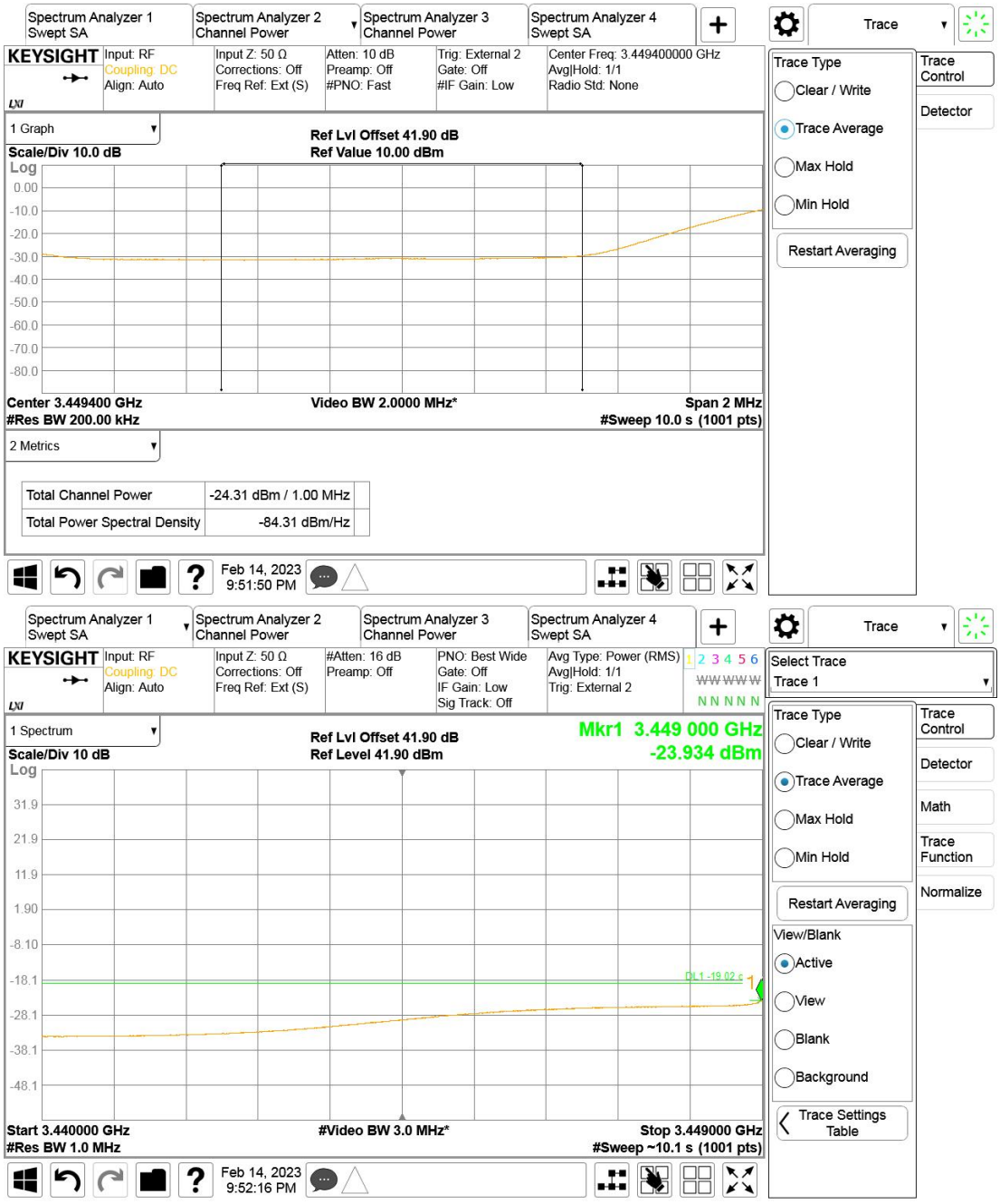


Channel Position T

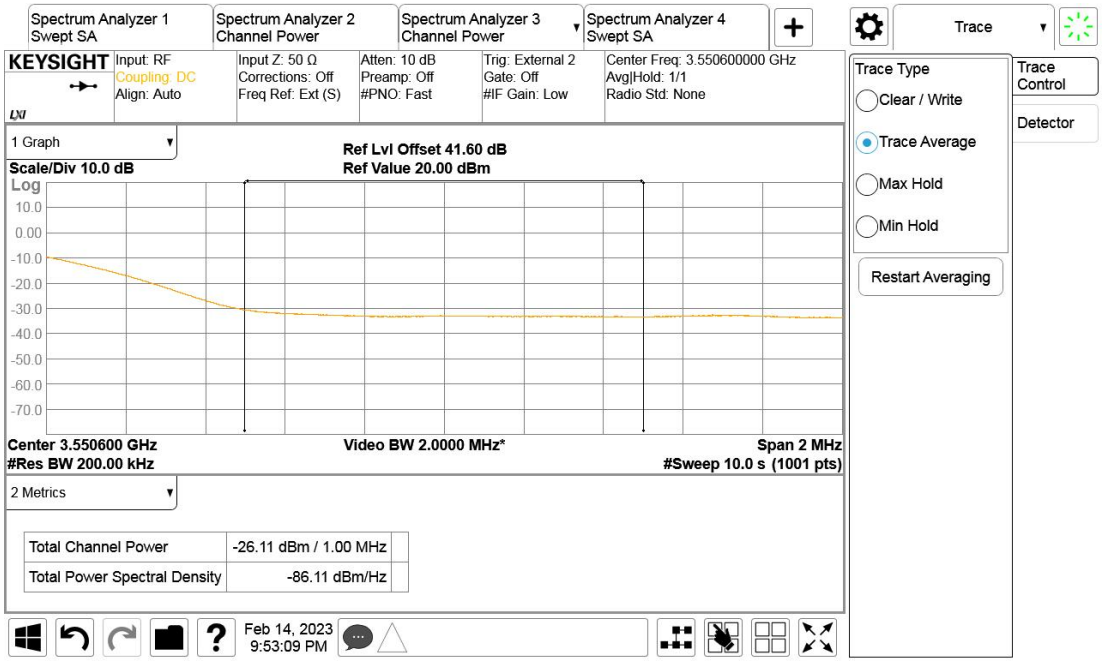
Configuration NR-MIMO-1C-UE

Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	60	3449-3450	200	-19.02
				3440-3449	1000	-19.02
	T	64QAM	60	3550-3551	200	-19.02
				3551-3560	1000	-19.02

Test figure as below:



Channel Position B

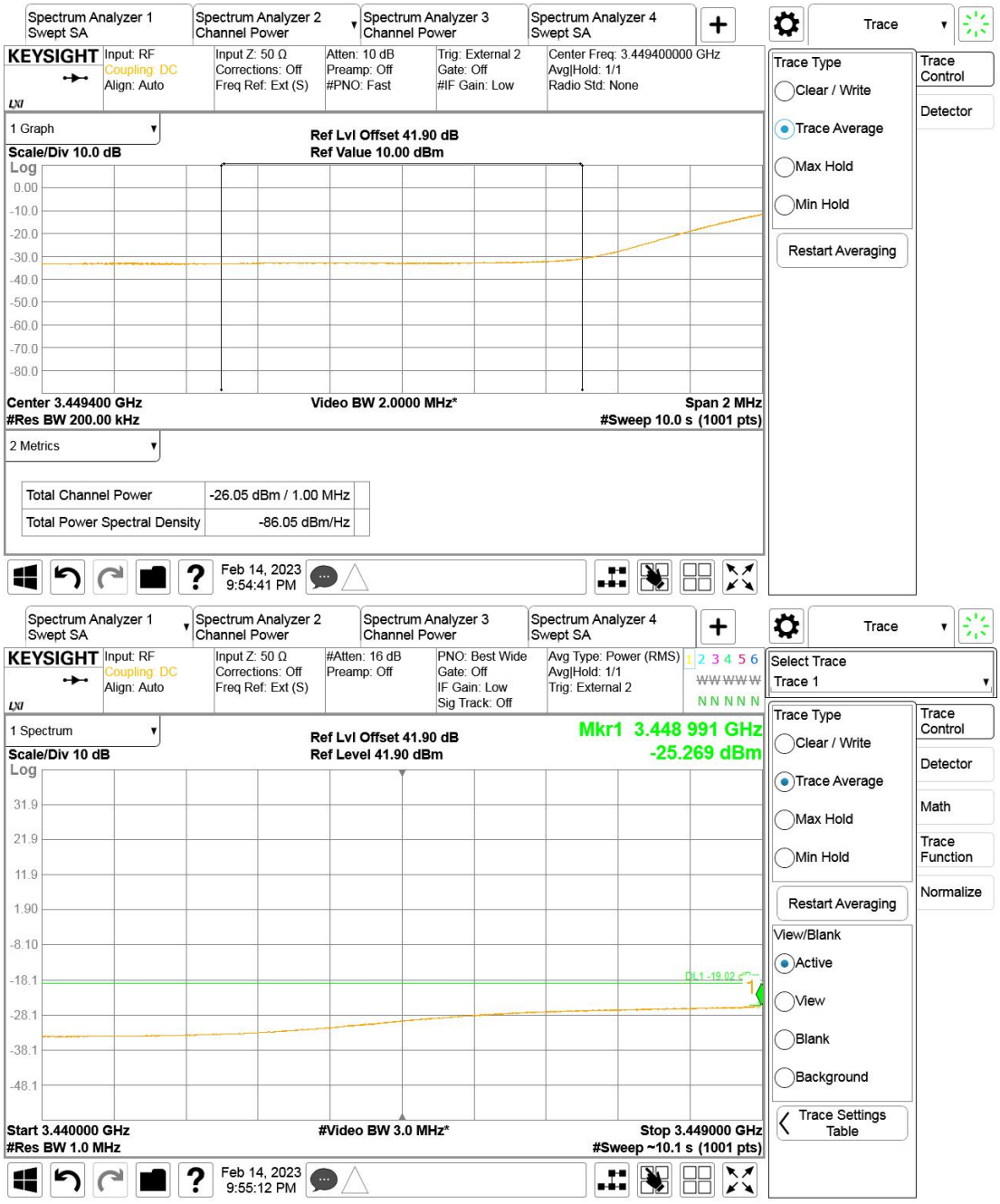


Channel Position T

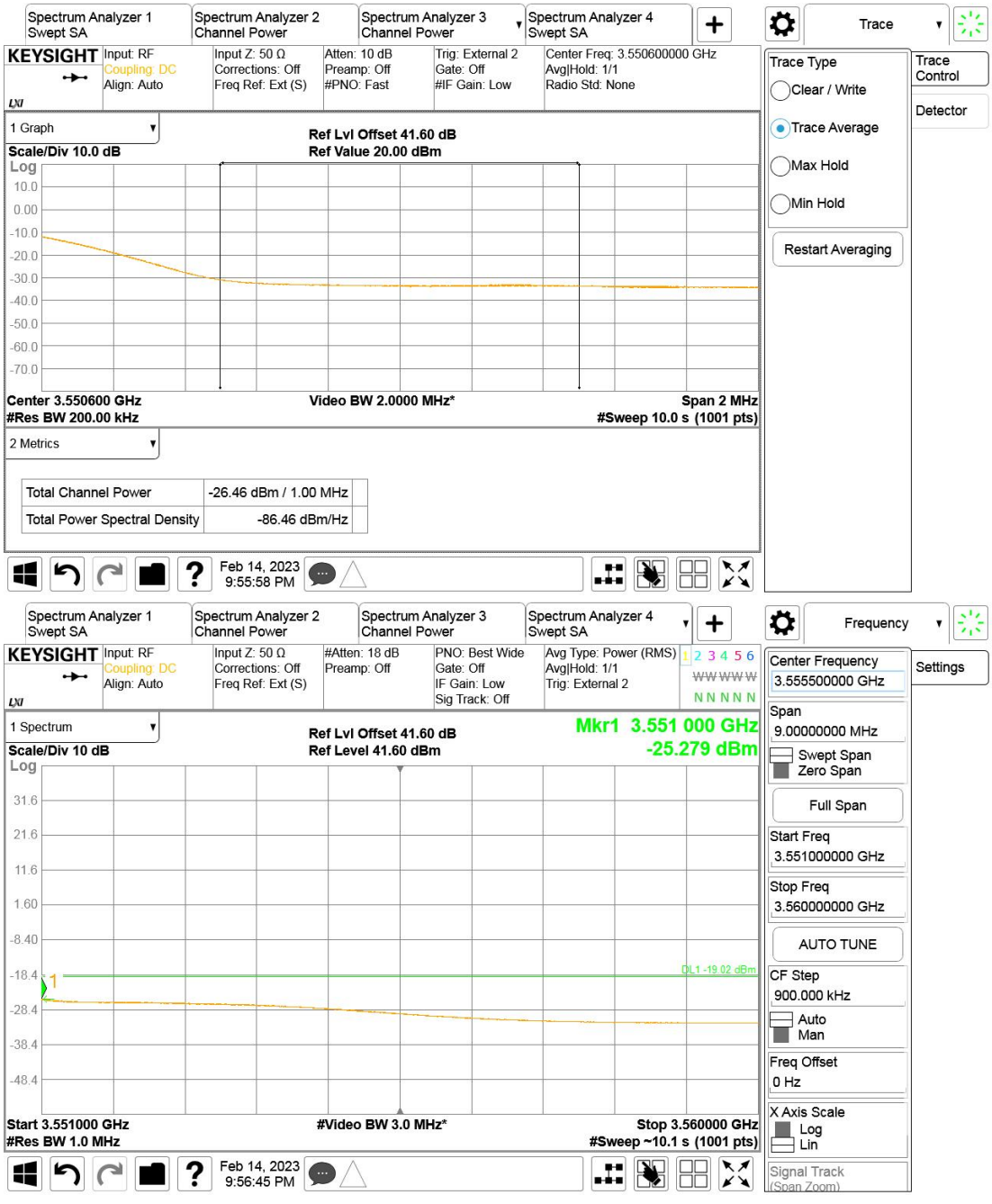
Configuration NR-MIMO-1C-UE

Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	70	3449-3450	200	-19.02
				3440-3449	1000	-19.02
	T	64QAM	70	3550-3551	200	-19.02
				3551-3560	1000	-19.02

Test figure as below:



Channel Position B

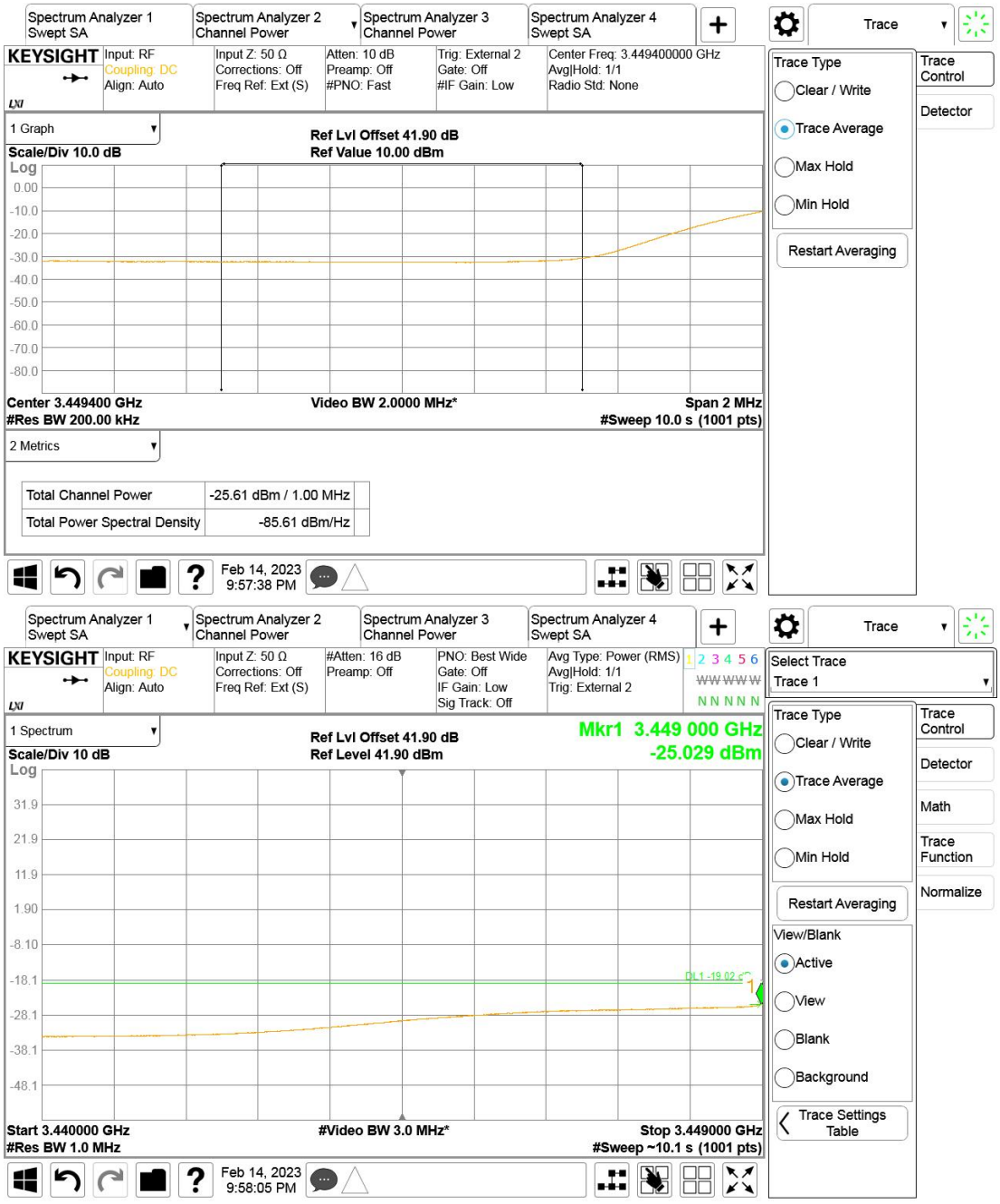


Channel Position T

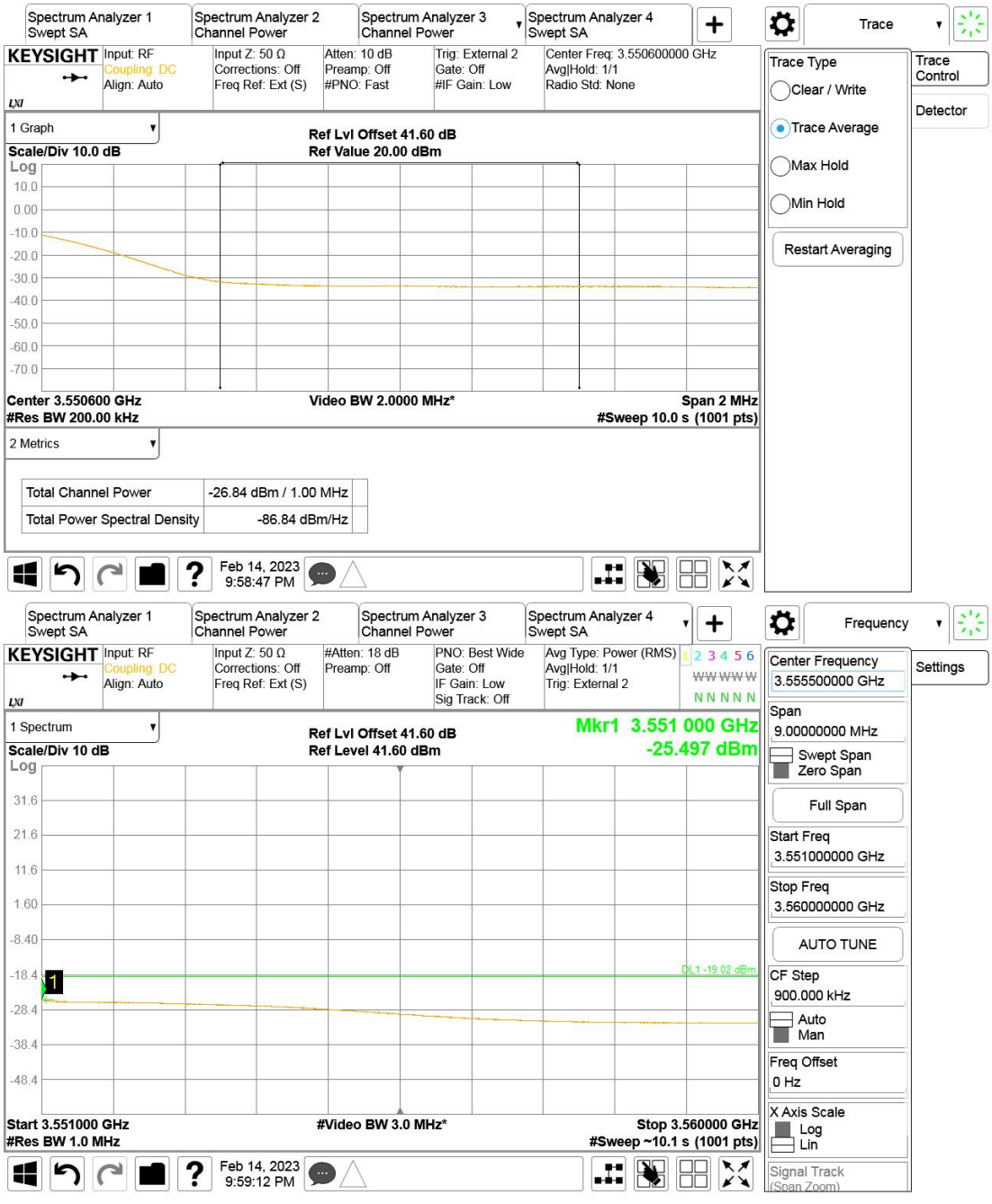
Configuration NR-MIMO-1C-UE

Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	80	3449-3450	200	-19.02
				3440-3449	1000	-19.02
	T	64QAM	80	3550-3551	200	-19.02
				3551-3560	1000	-19.02

Test figure as below:



Channel Position B

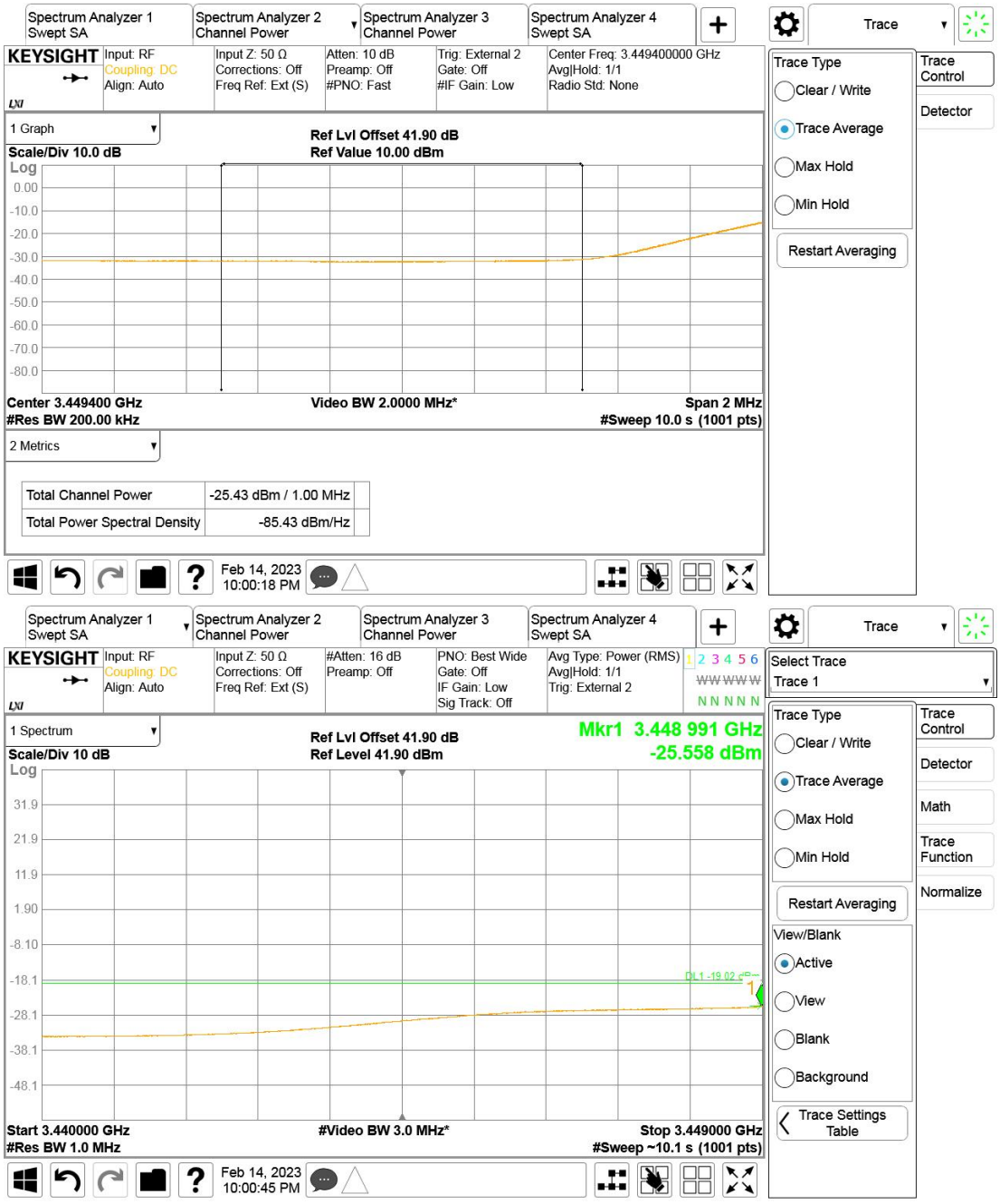


Channel Position T

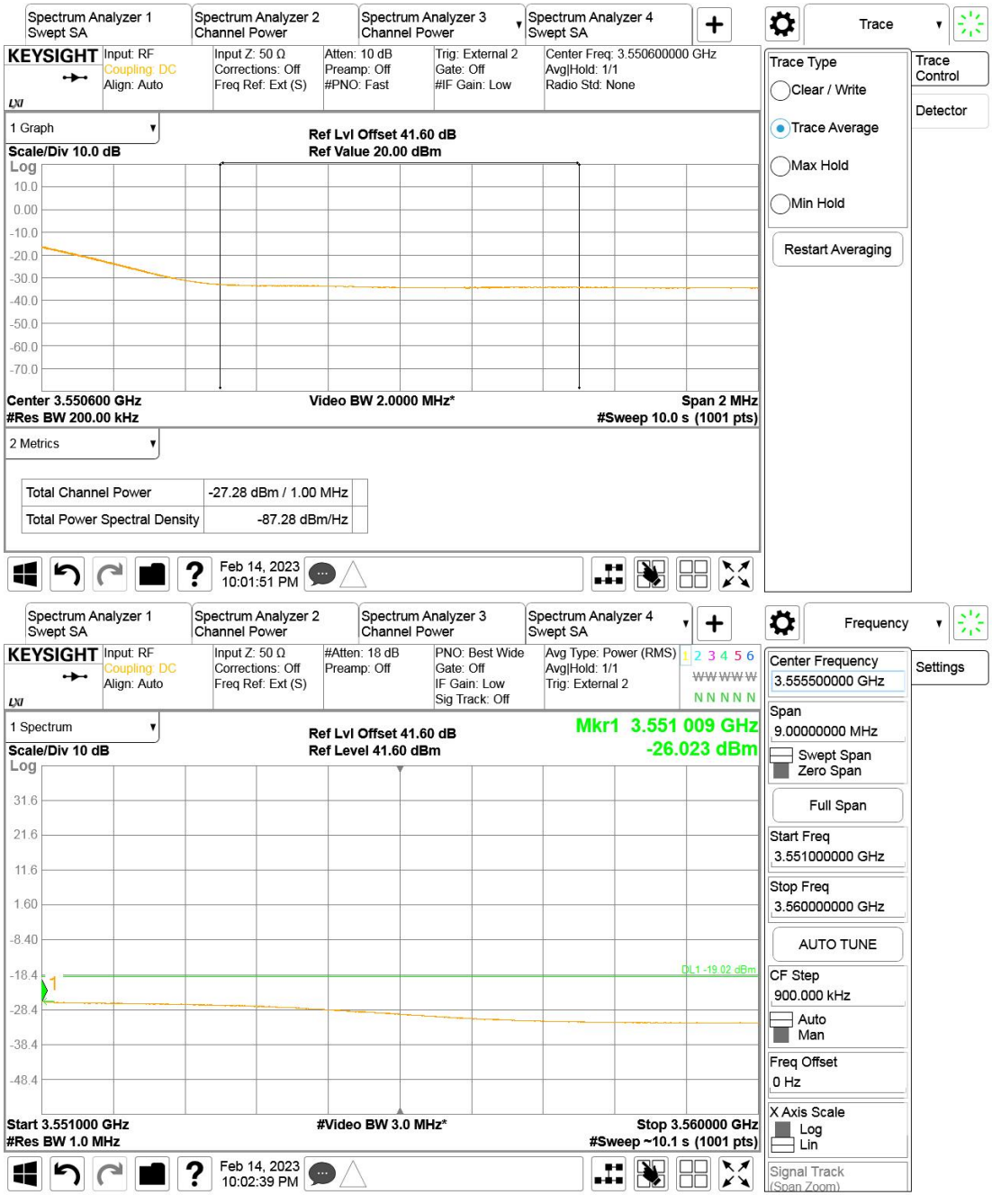
Configuration NR-MIMO-1C-UE

Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	90	3449-3450	200	-19.02
				3440-3449	1000	-19.02
	T	64QAM	90	3550-3551	200	-19.02
				3551-3560	1000	-19.02

Test figure as below:



Channel Position B

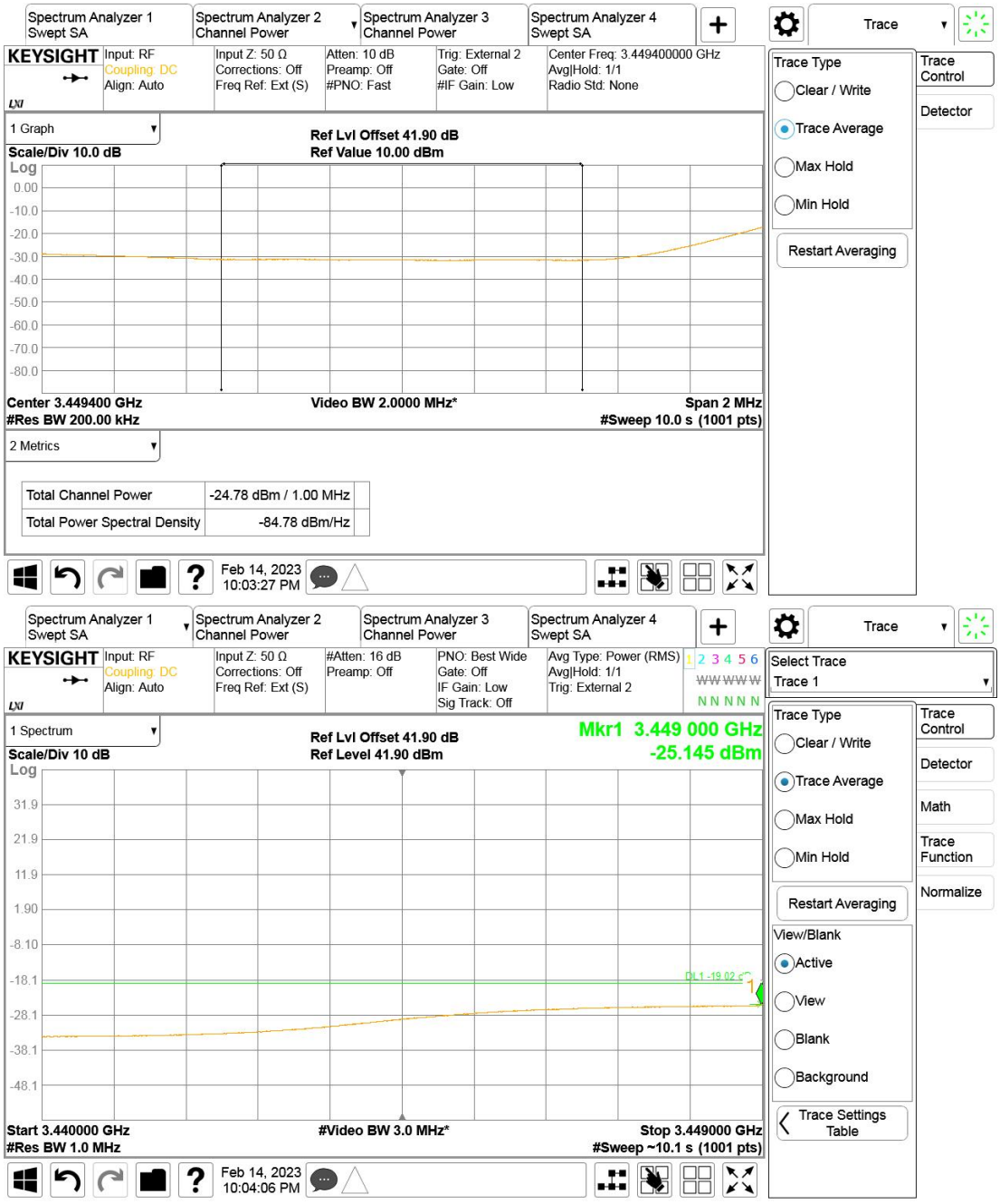


Channel Position T

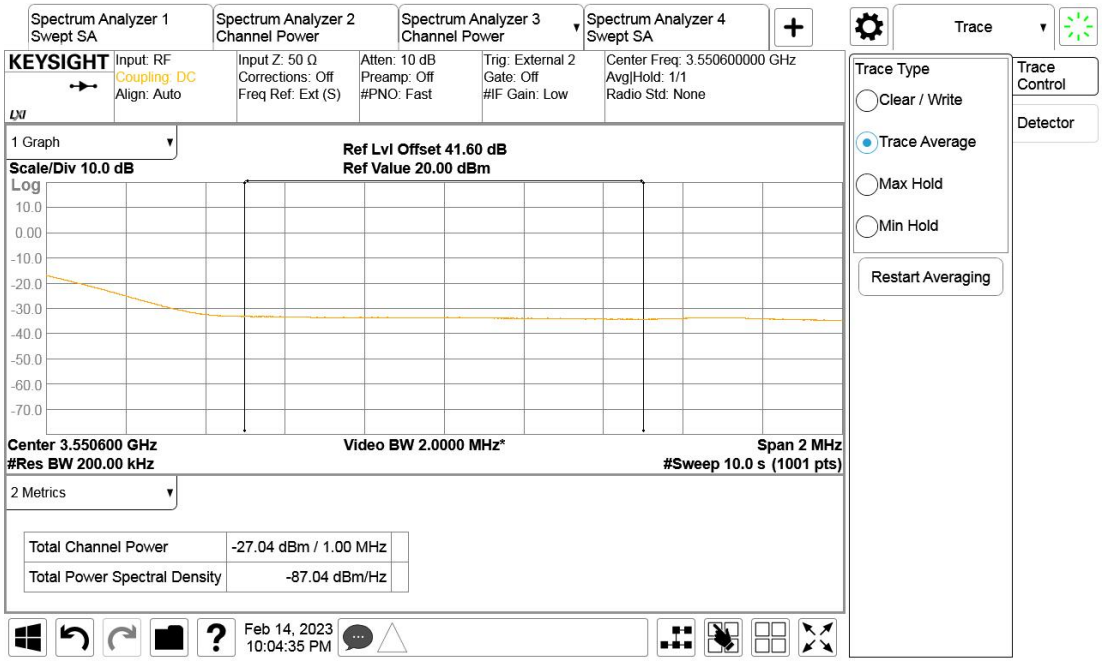
Configuration NR-MIMO-1C-UE

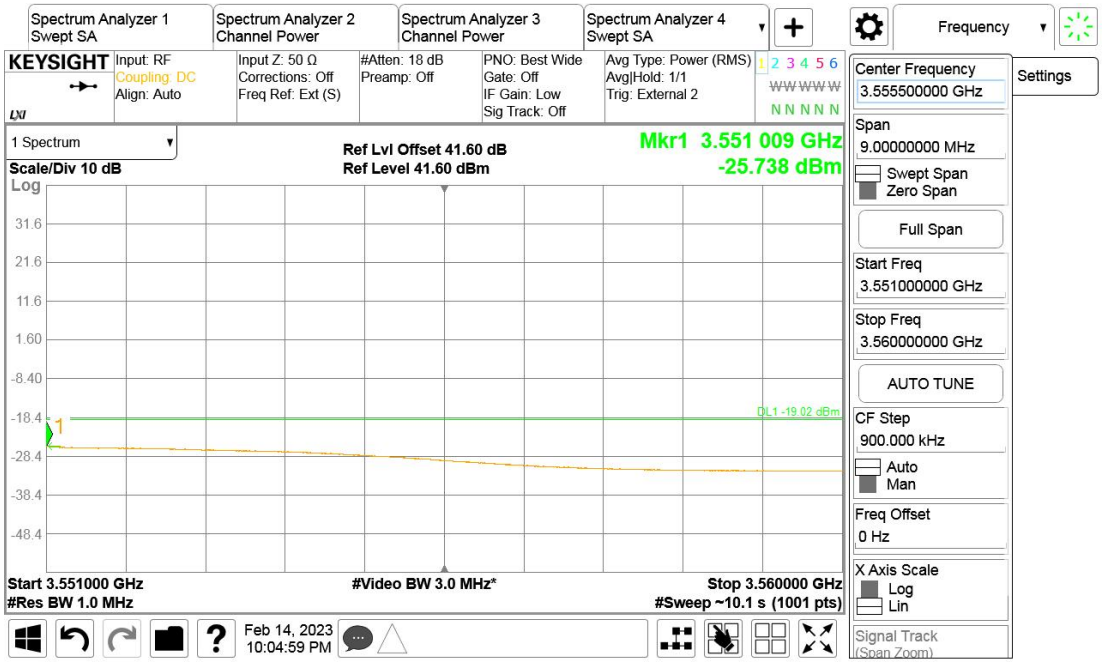
Antenna Port	Channel Position	Modulation	Carrier Bandwidth (MHz)	Frequency range (MHz)	RBW (kHz)	Limit (dBm)
A	B	64QAM	100	3449-3450	200	-19.02
				3440-3449	1000	-19.02
	T	64QAM	100	3550-3551	200	-19.02
				3551-3560	1000	-19.02

Test figure as below:



Channel Position B





Channel Position T