

9.5. SPURIOUS EMISSIONS IN-BAND – EMISSION MASK (LP)

LIMITS

FCC §15.407

(b)(7) For transmitters operating within the 5.925-7.125 GHz bands: power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

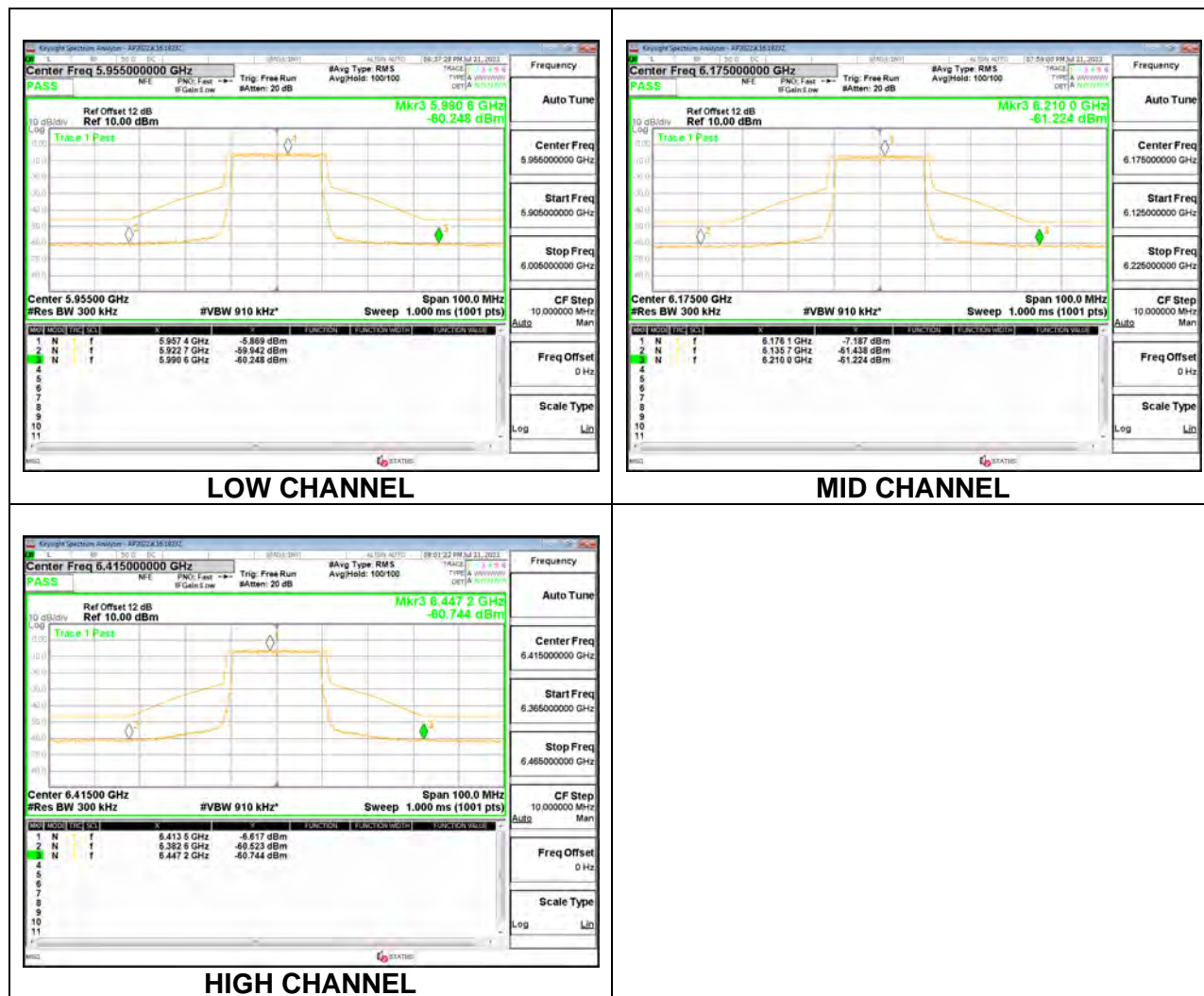
TEST PROCEDURE

Follow KCB 987594 D02 v01r01, Section II-J, RBW & VBW settings were based on 26dB bandwidth test settings. For RU26 tone for all bandwidths, the RBW & VBW settings were used equal or greater than 26dB bandwidth test settings.

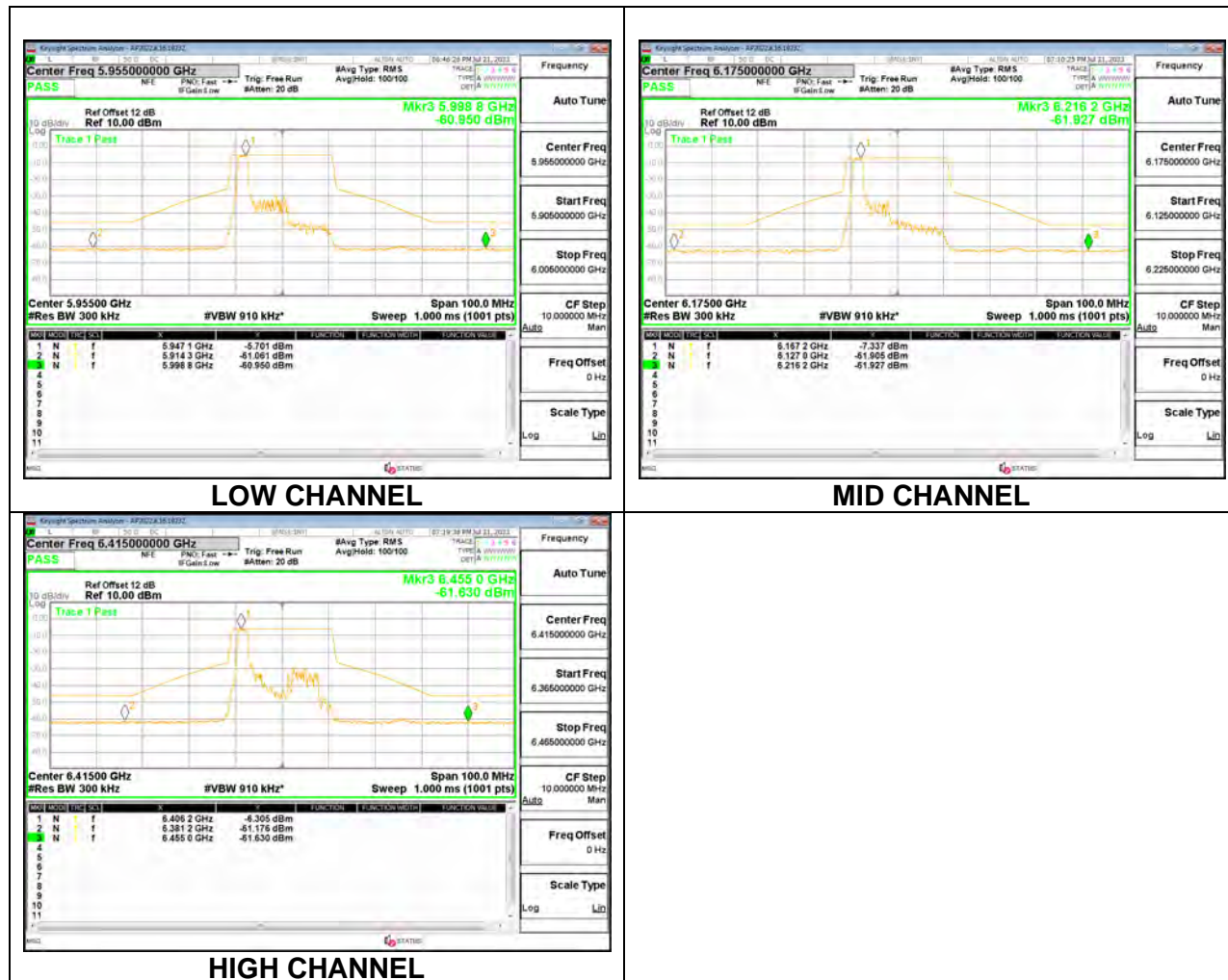
RESULTS

9.5.1. 802.11ax HE20 MODE IN THE UNII-5 BAND

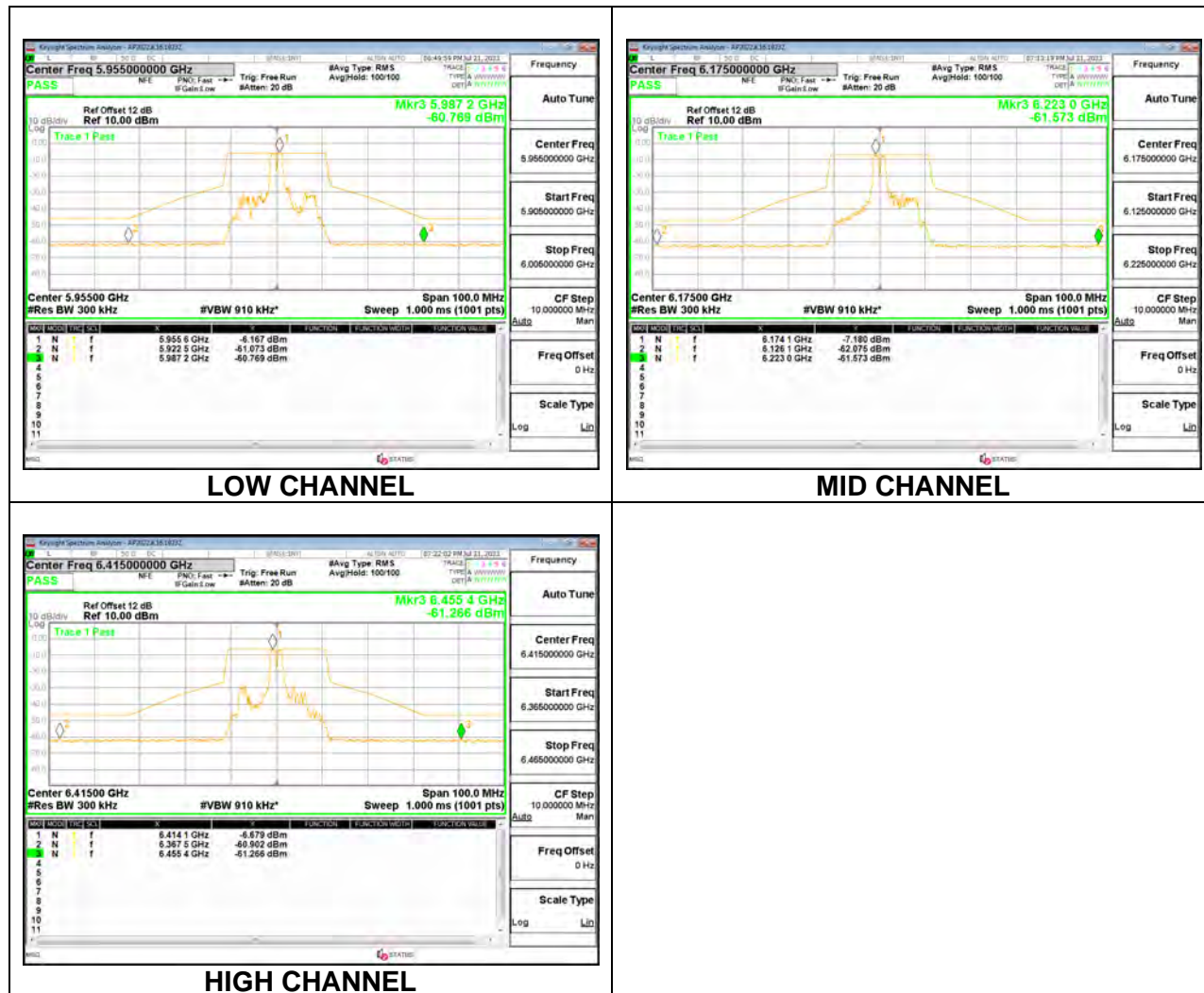
1TX Antenna 6 MODE: SU, Single User



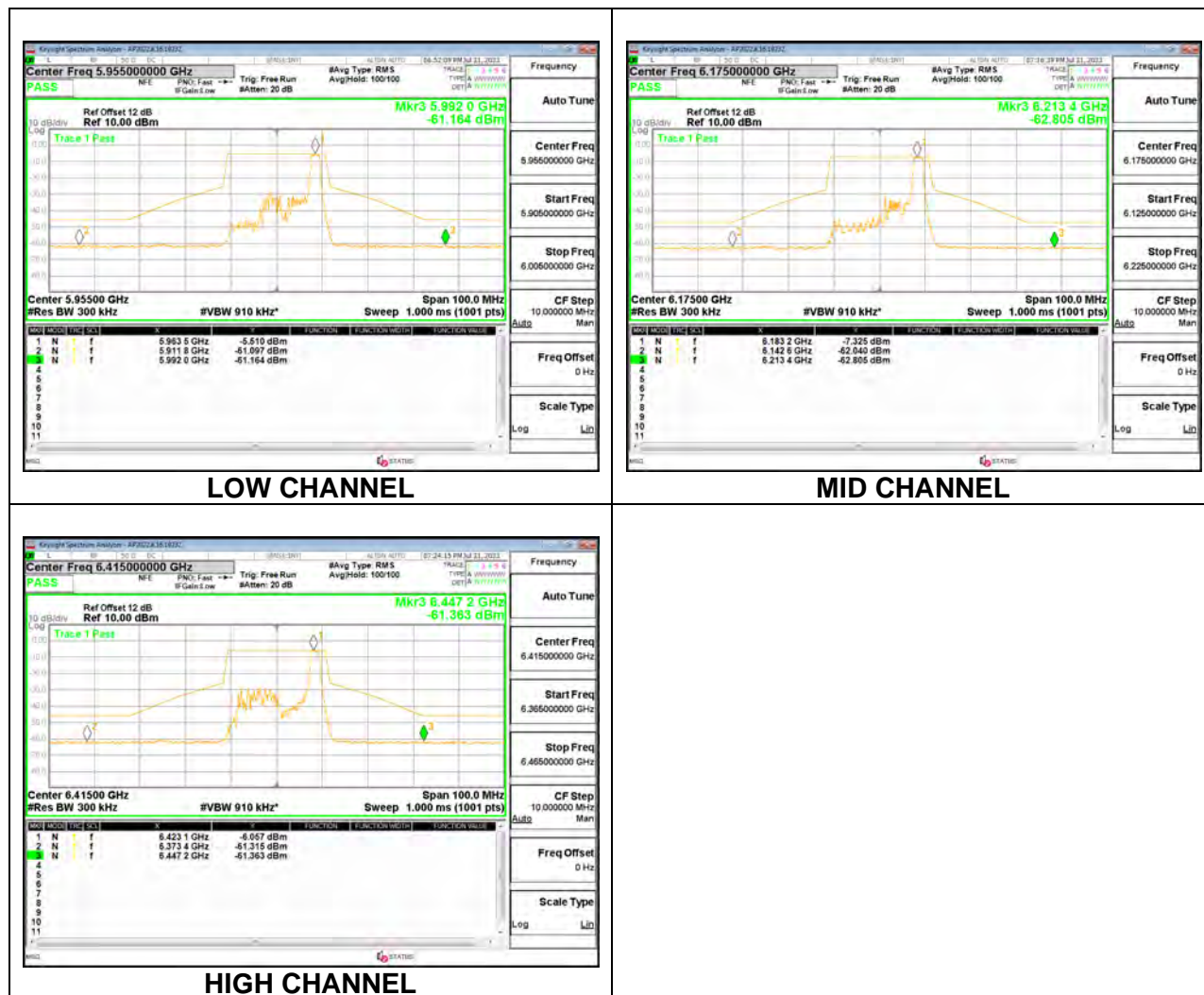
1TX Antenna 6 MODE: 26-Tone, RU Index 0



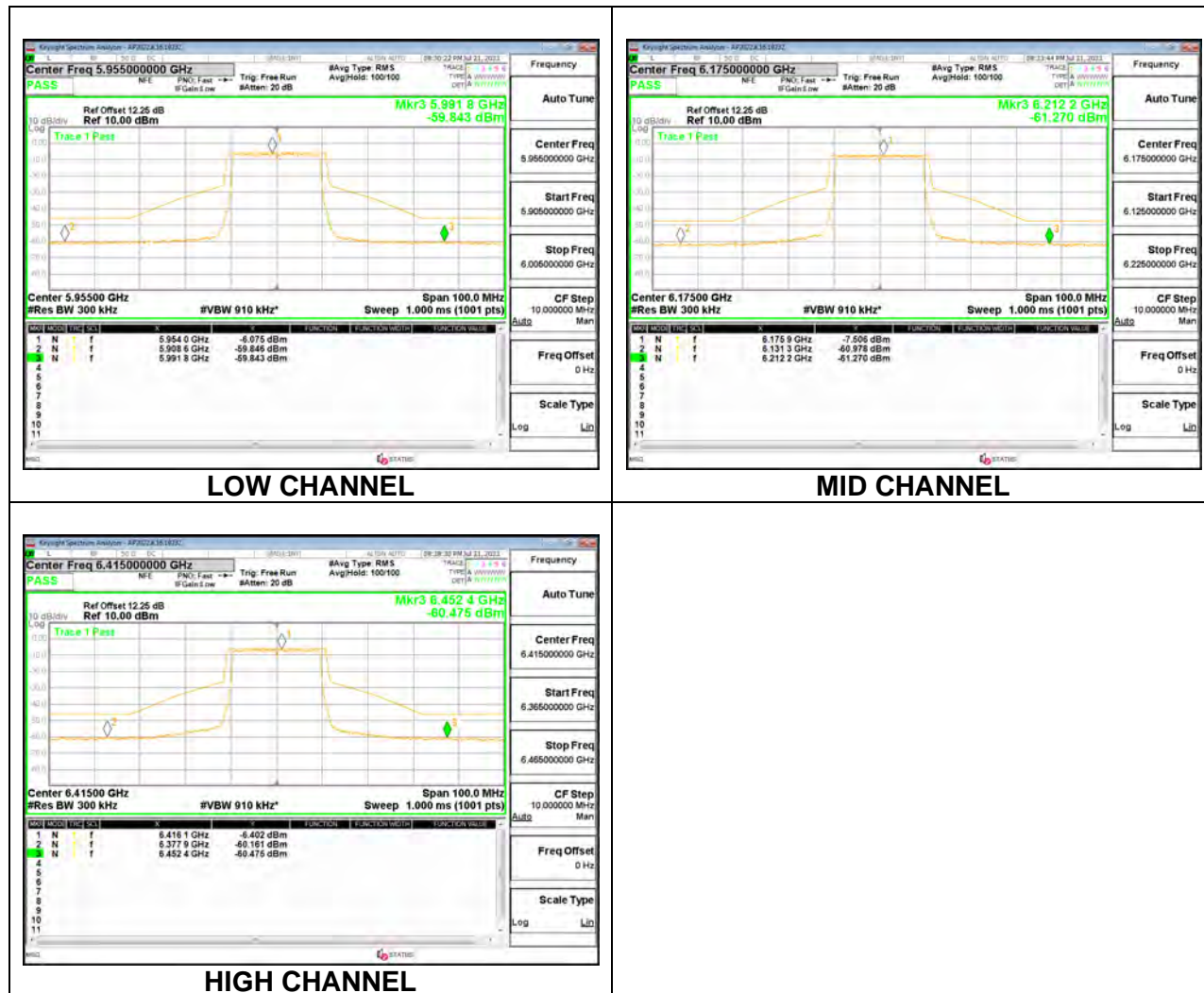
1TX Antenna 6 MODE: 26-Tone, RU Index 4



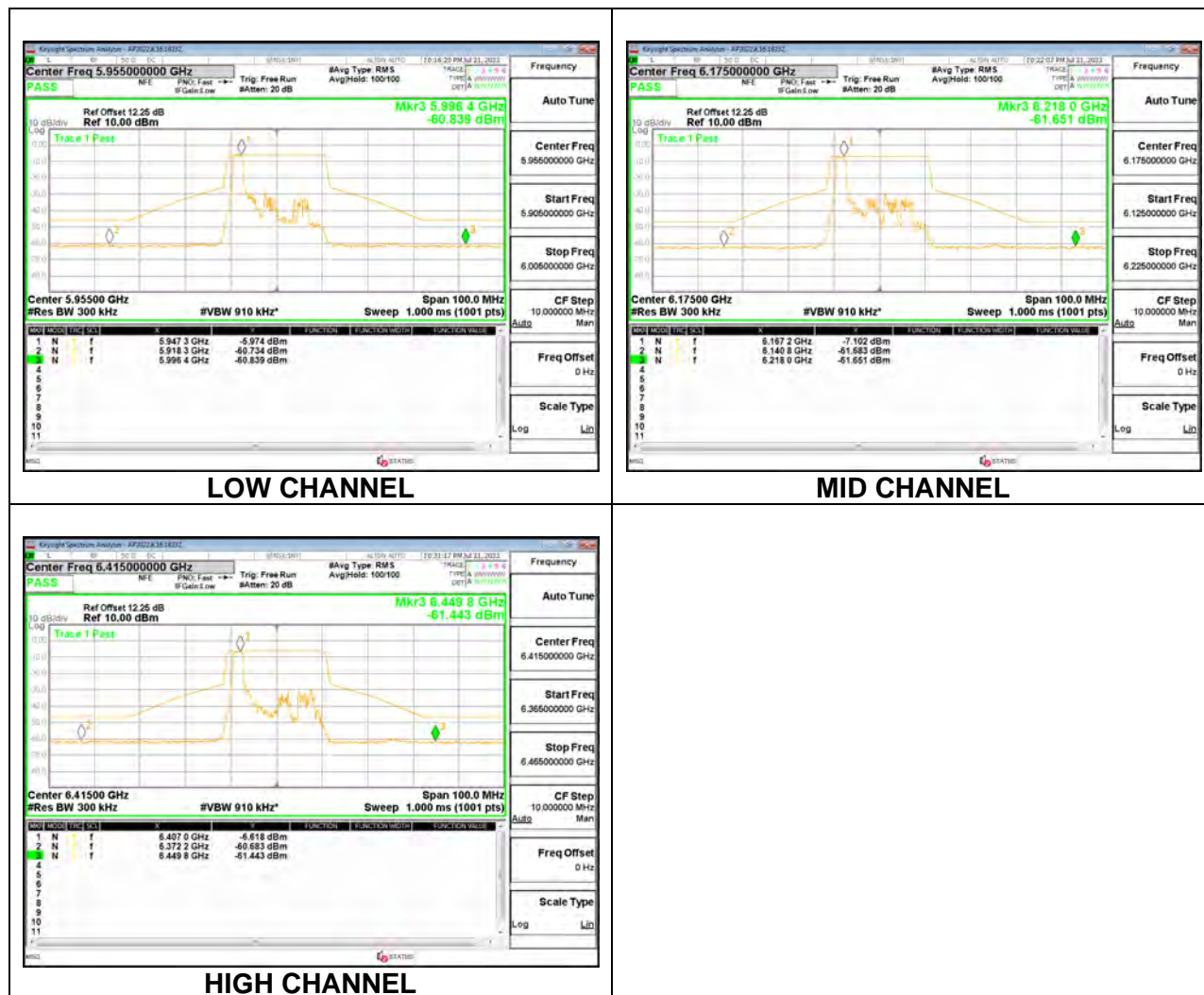
1TX Antenna 6 MODE: 26-Tone, RU Index 8



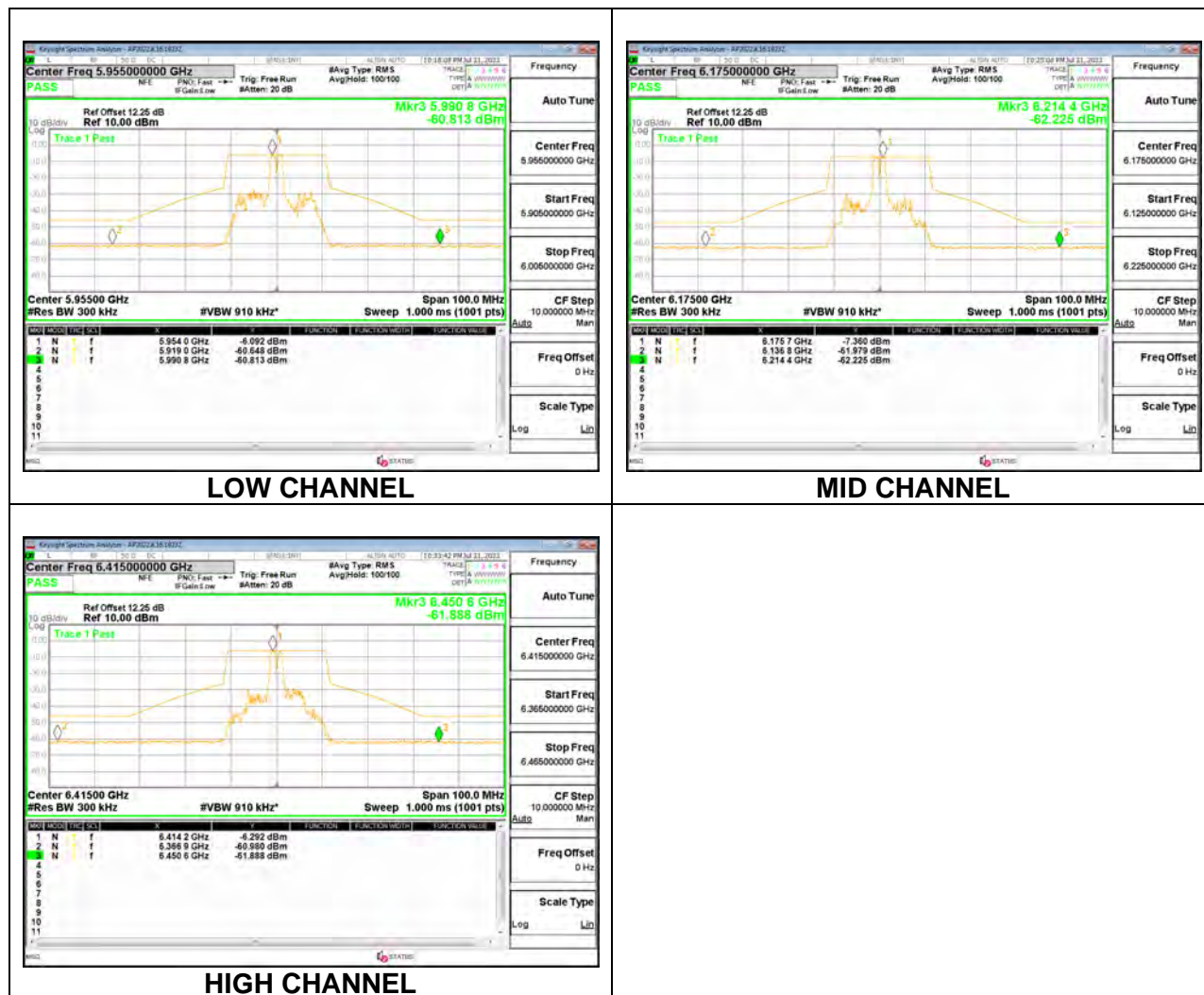
1TX Antenna 5 MODE: SU, Single User



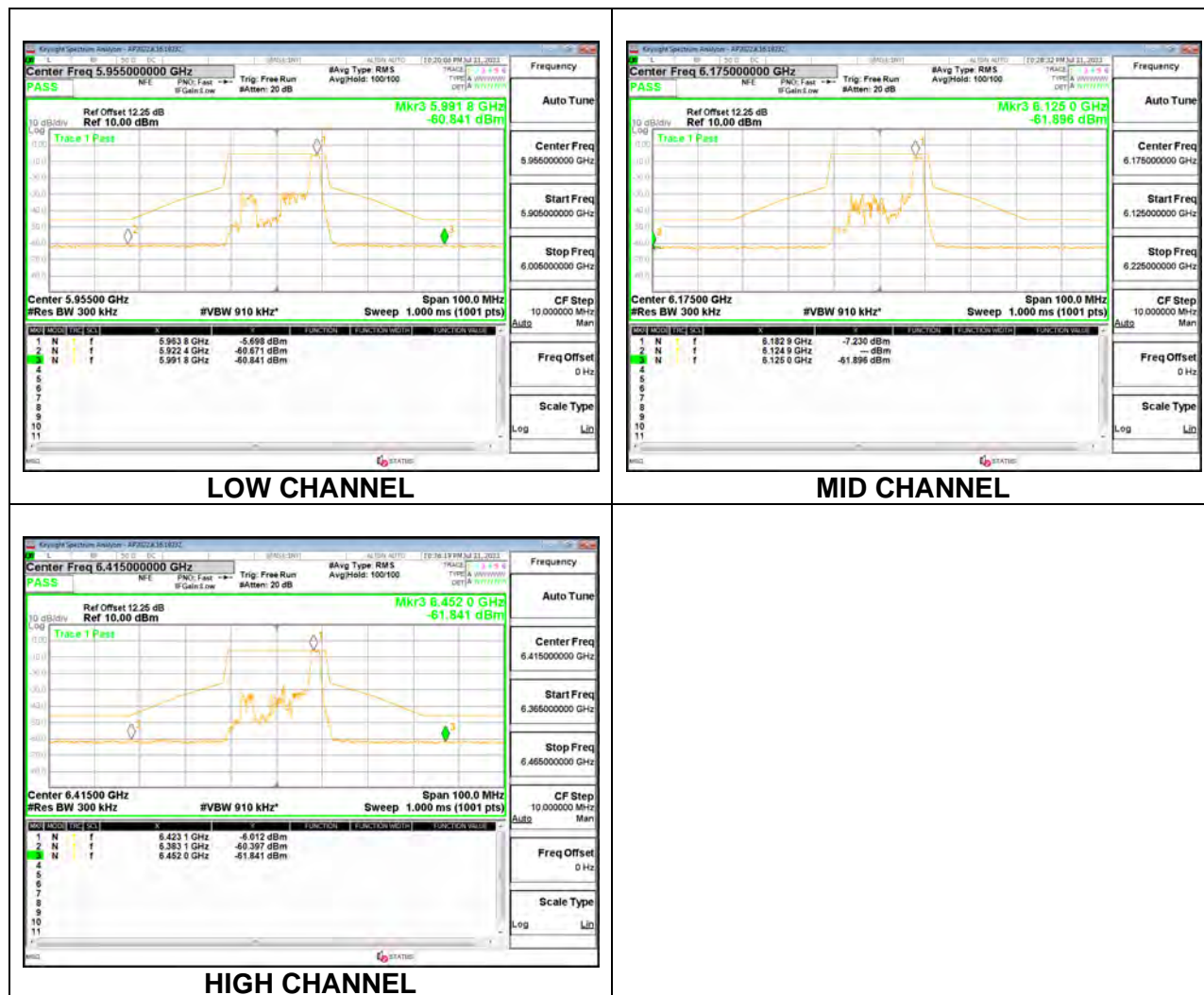
1TX Antenna 5 MODE: 26-Tone, RU Index 0



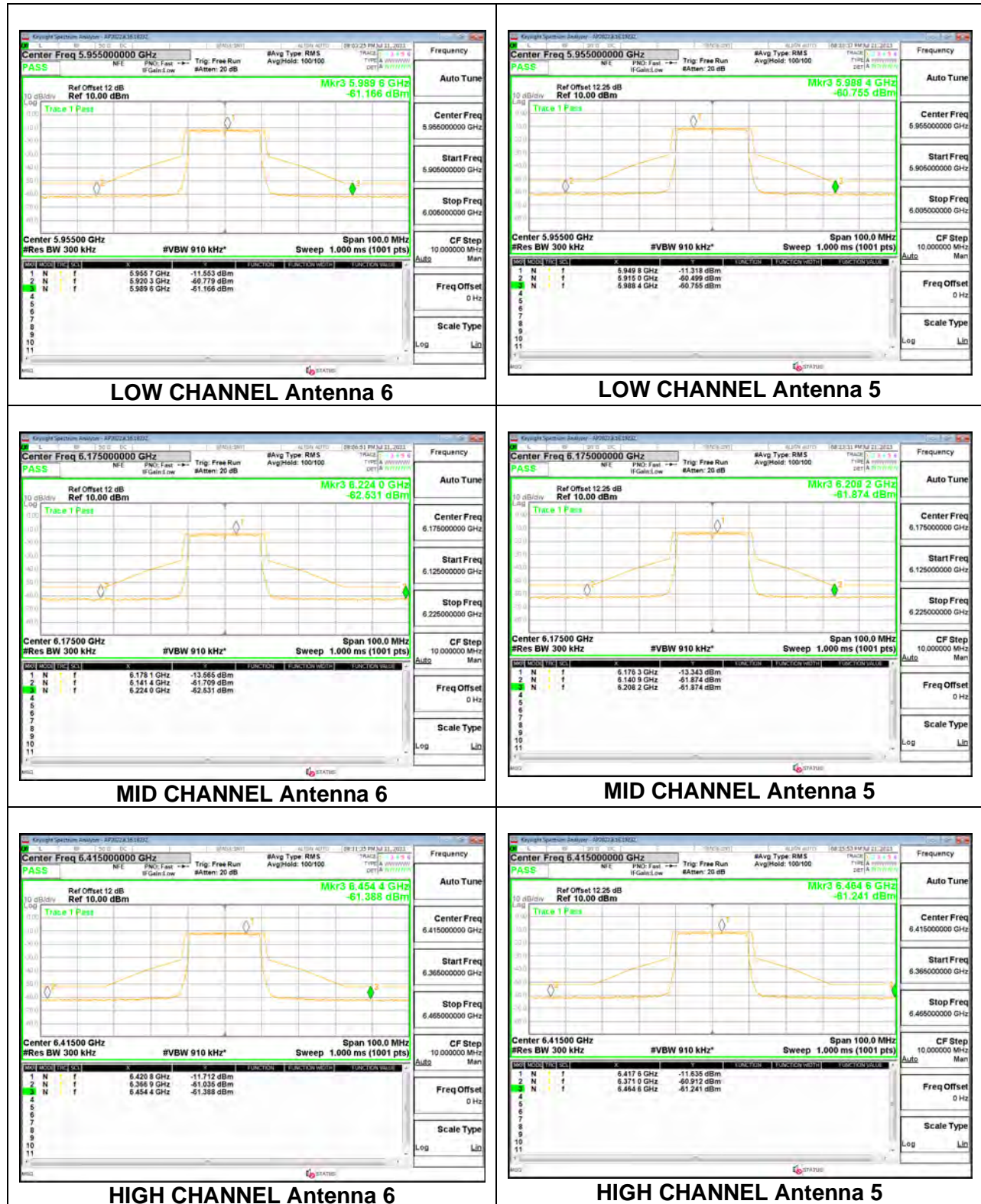
1TX Antenna 5 MODE: 26-Tone, RU Index 4



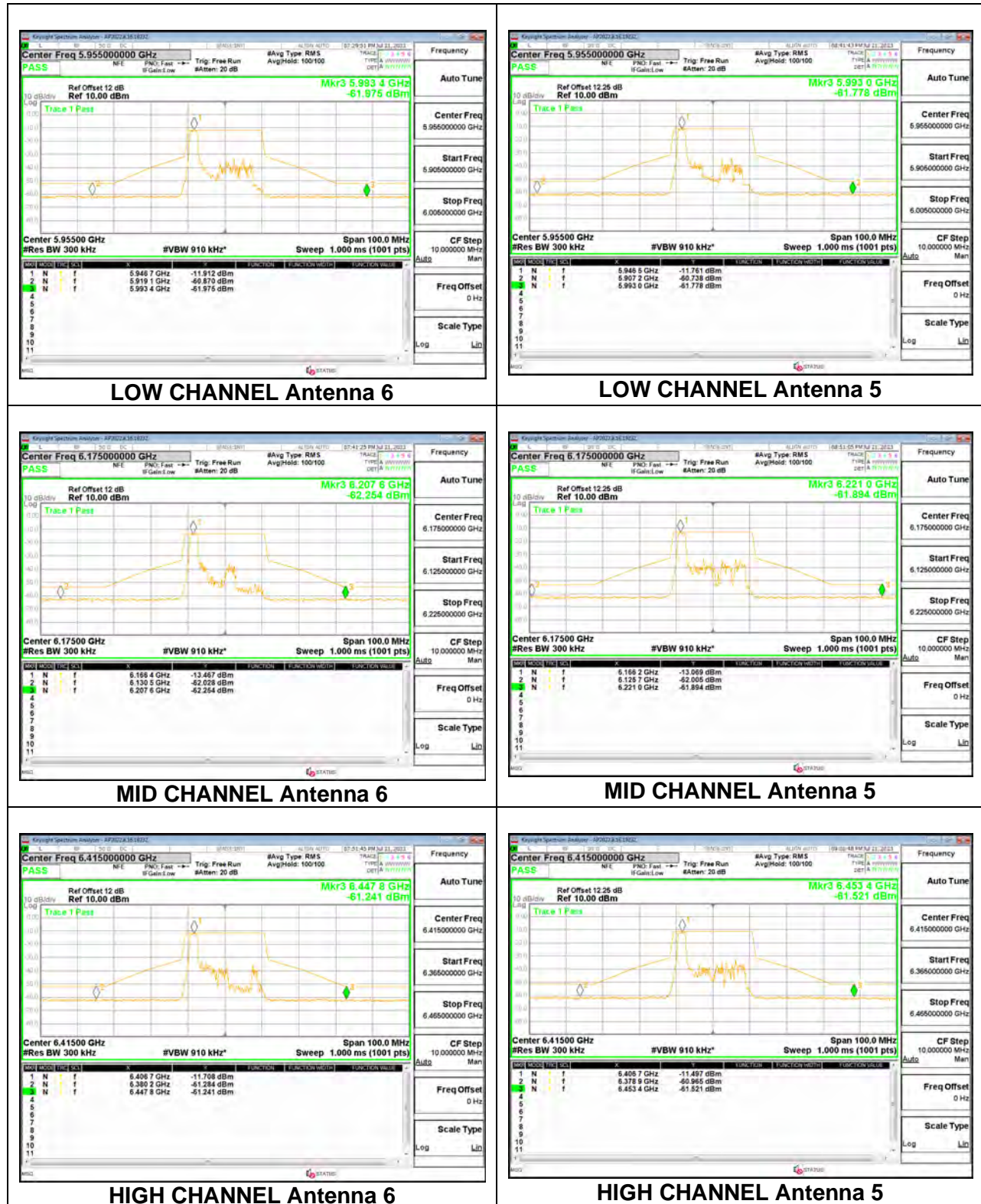
1TX Antenna 5 MODE: 26-Tone, RU Index 8



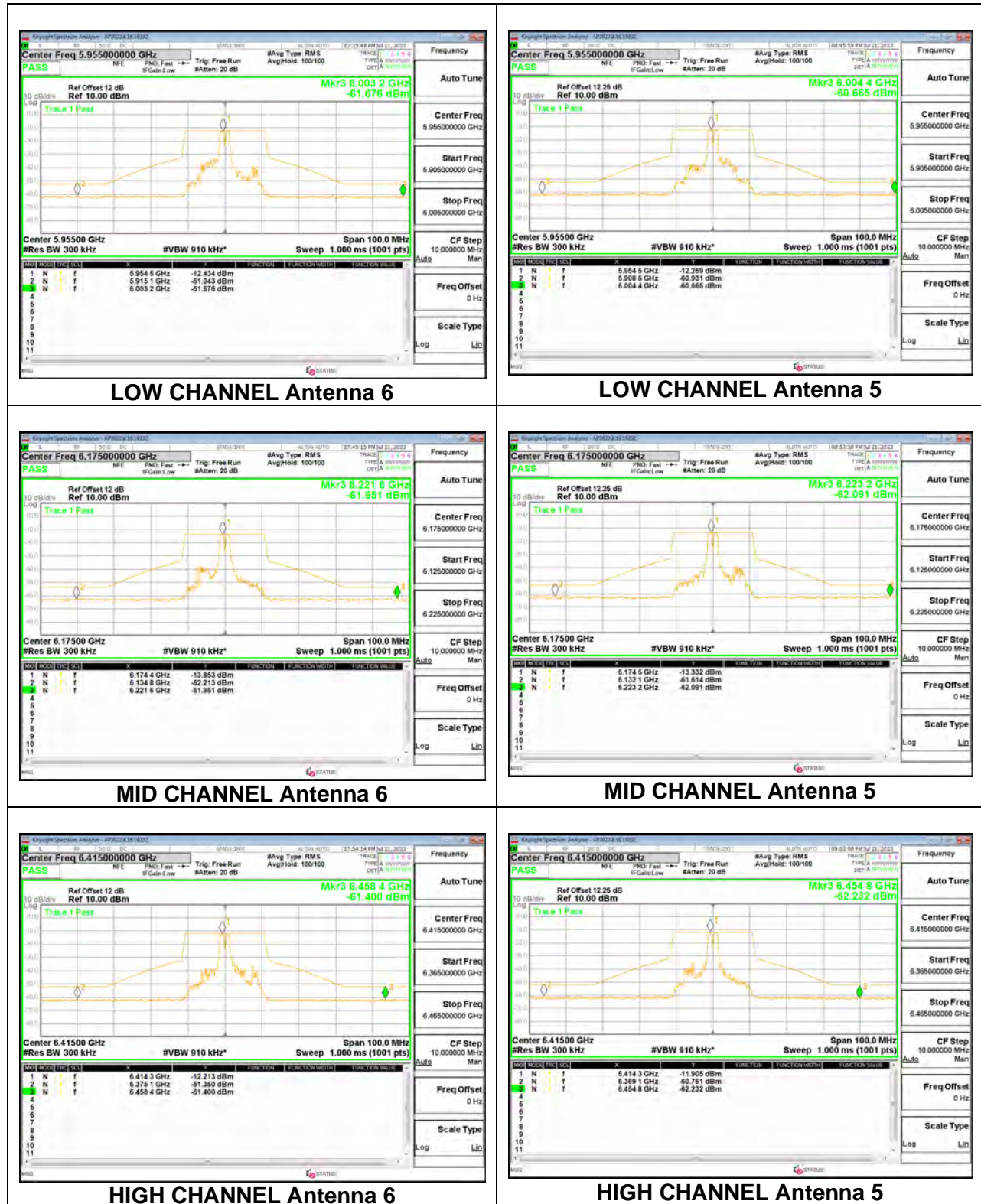
2TX Antenna 6 + Antenna 5 CDD MODE: SU, Single User



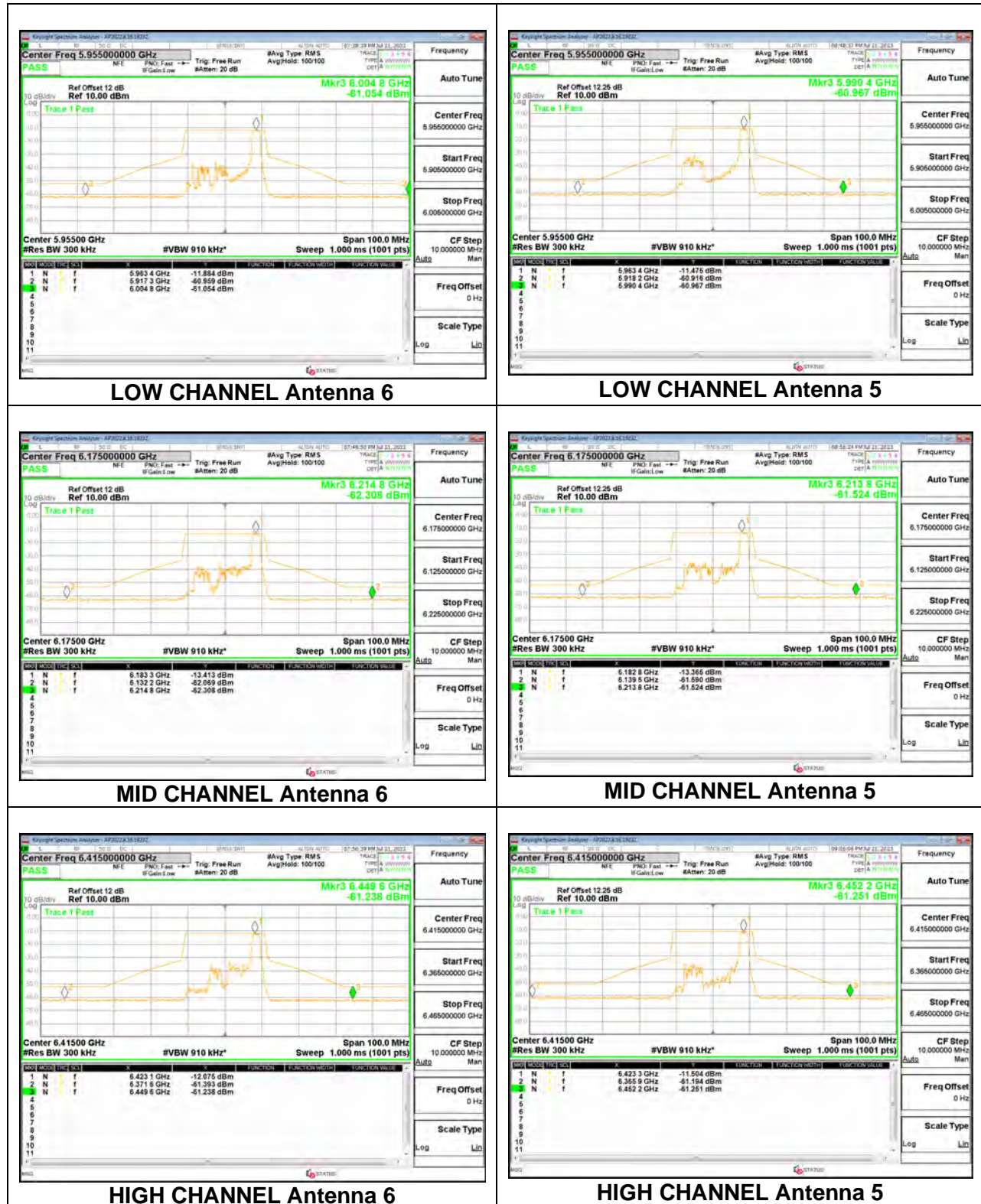
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 0



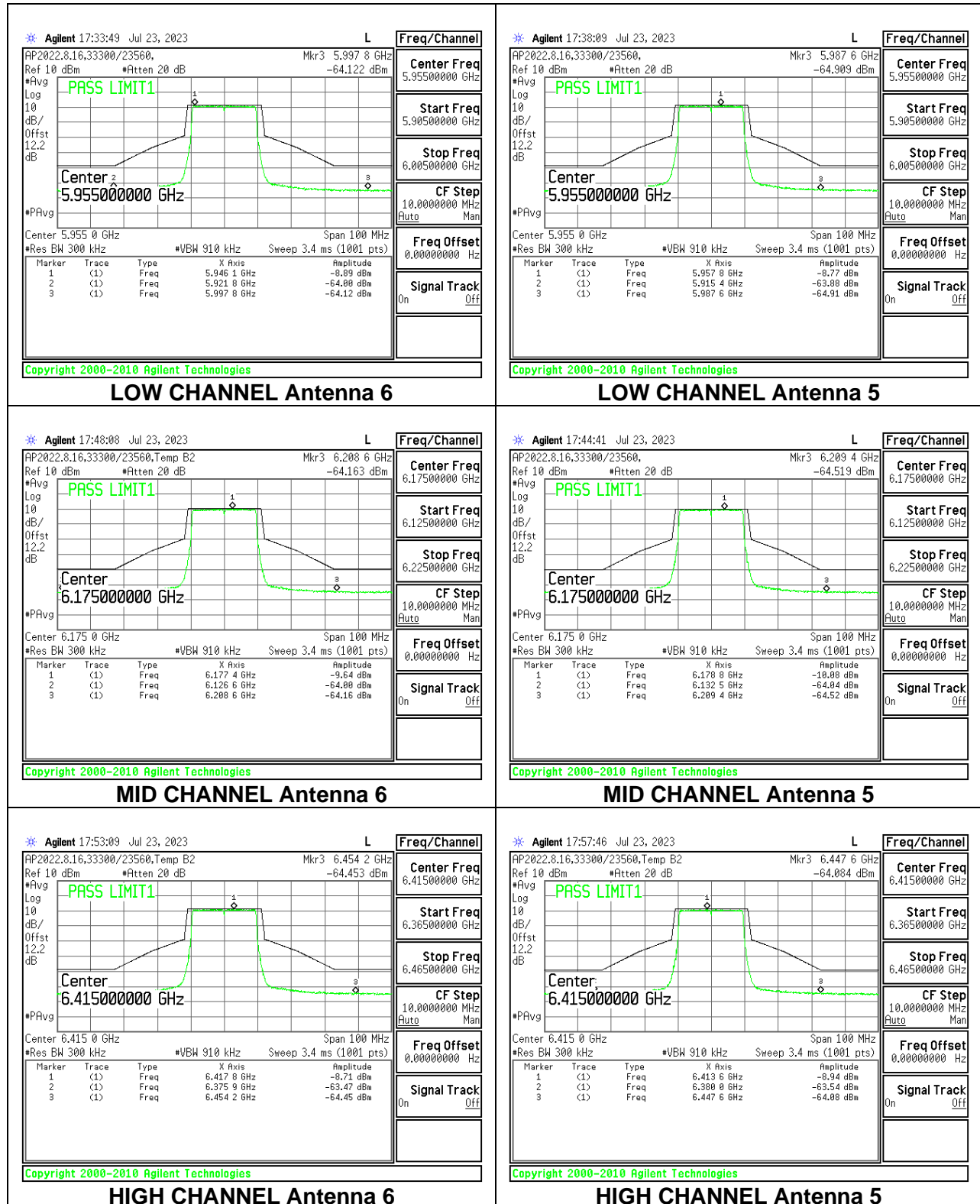
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 4



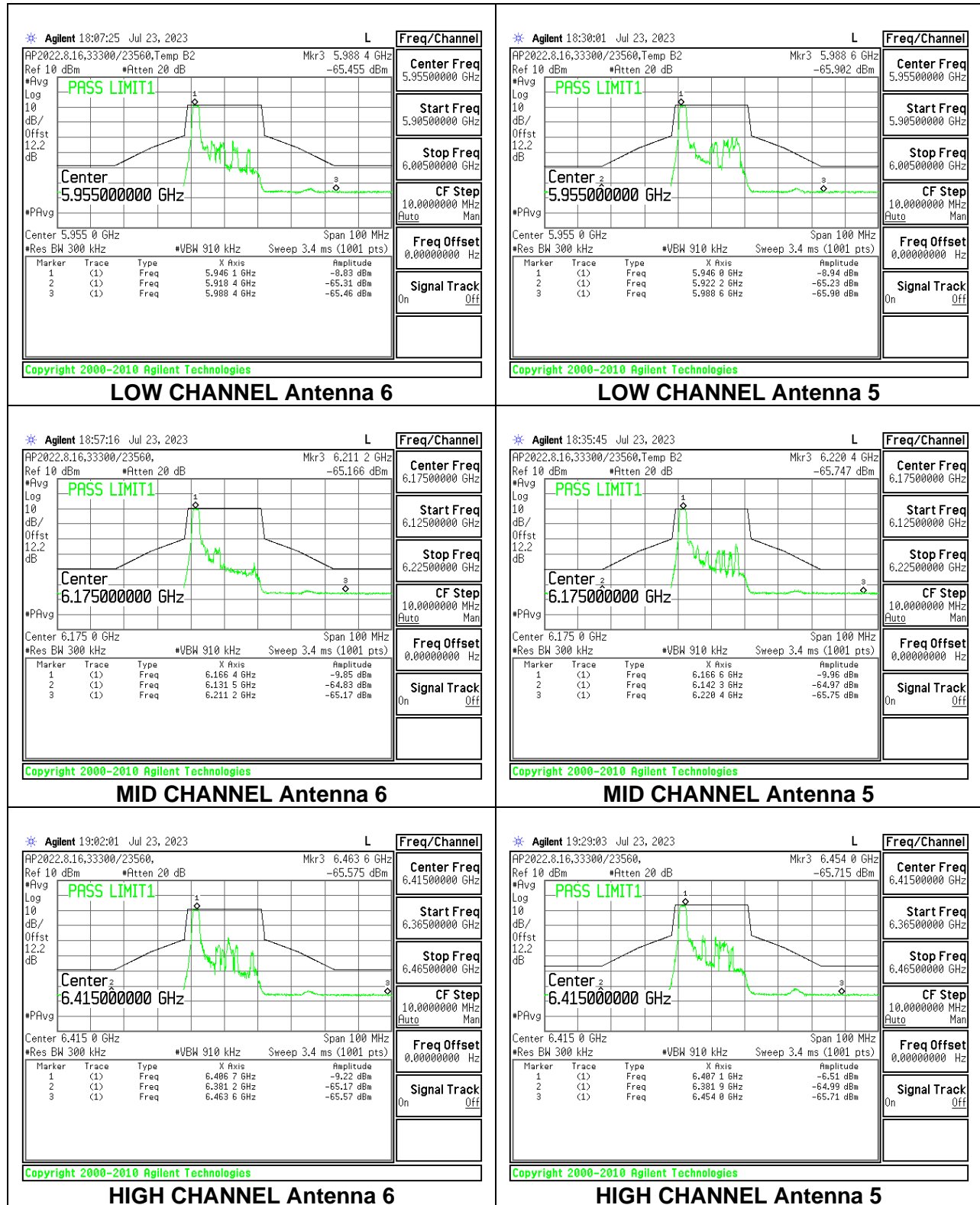
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 8



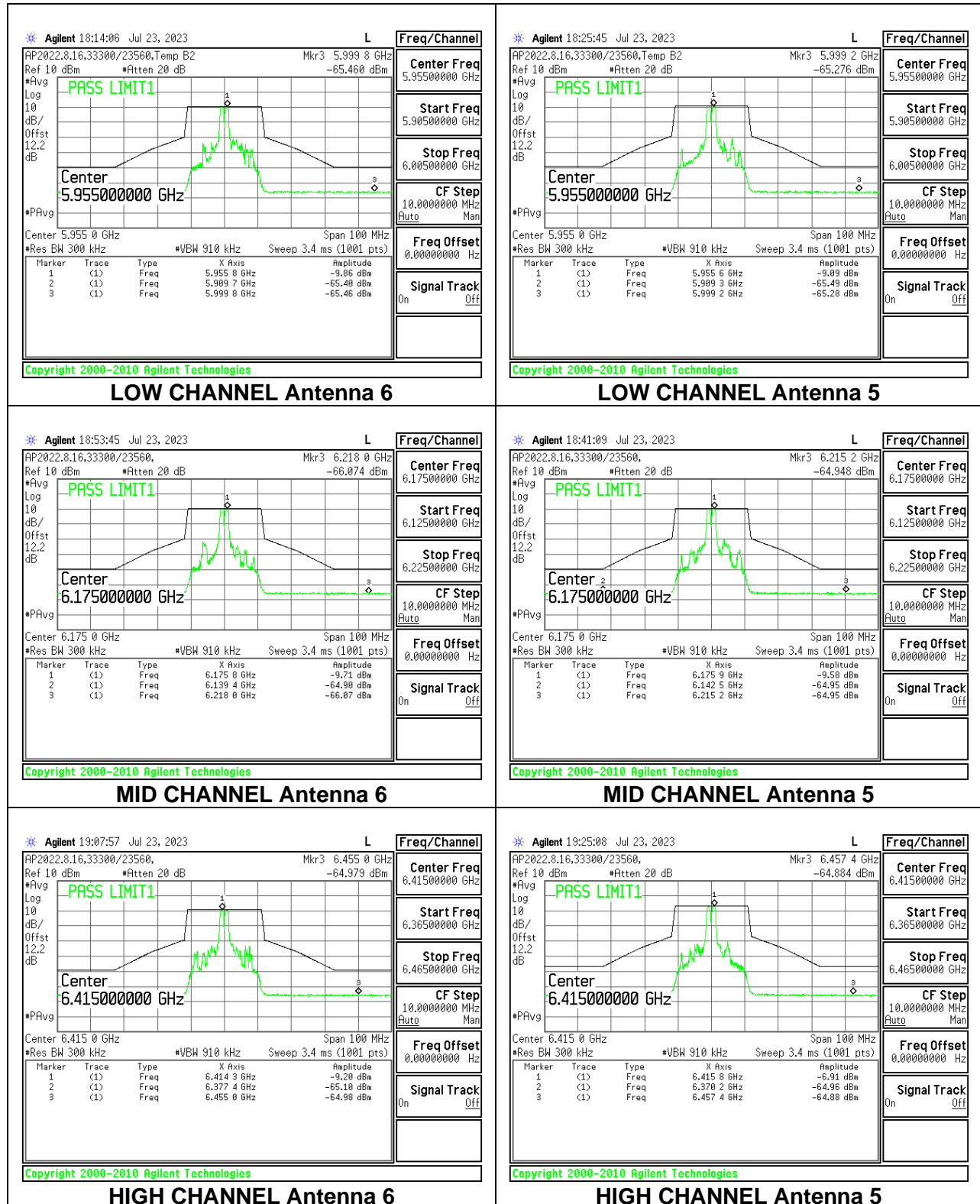
2TX Antenna 6 + Antenna 5 SDM MODE: SU, Single User



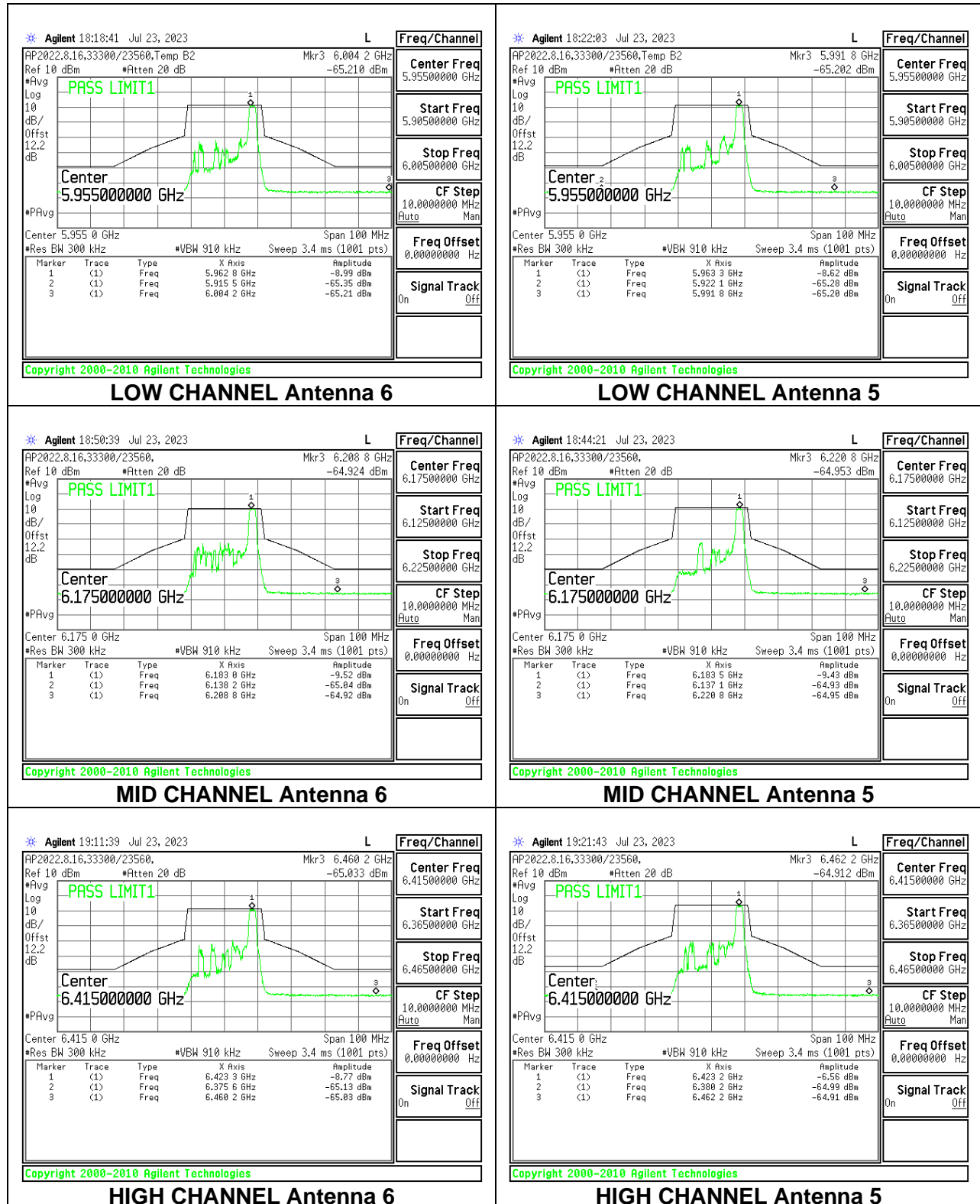
2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 0



2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 4

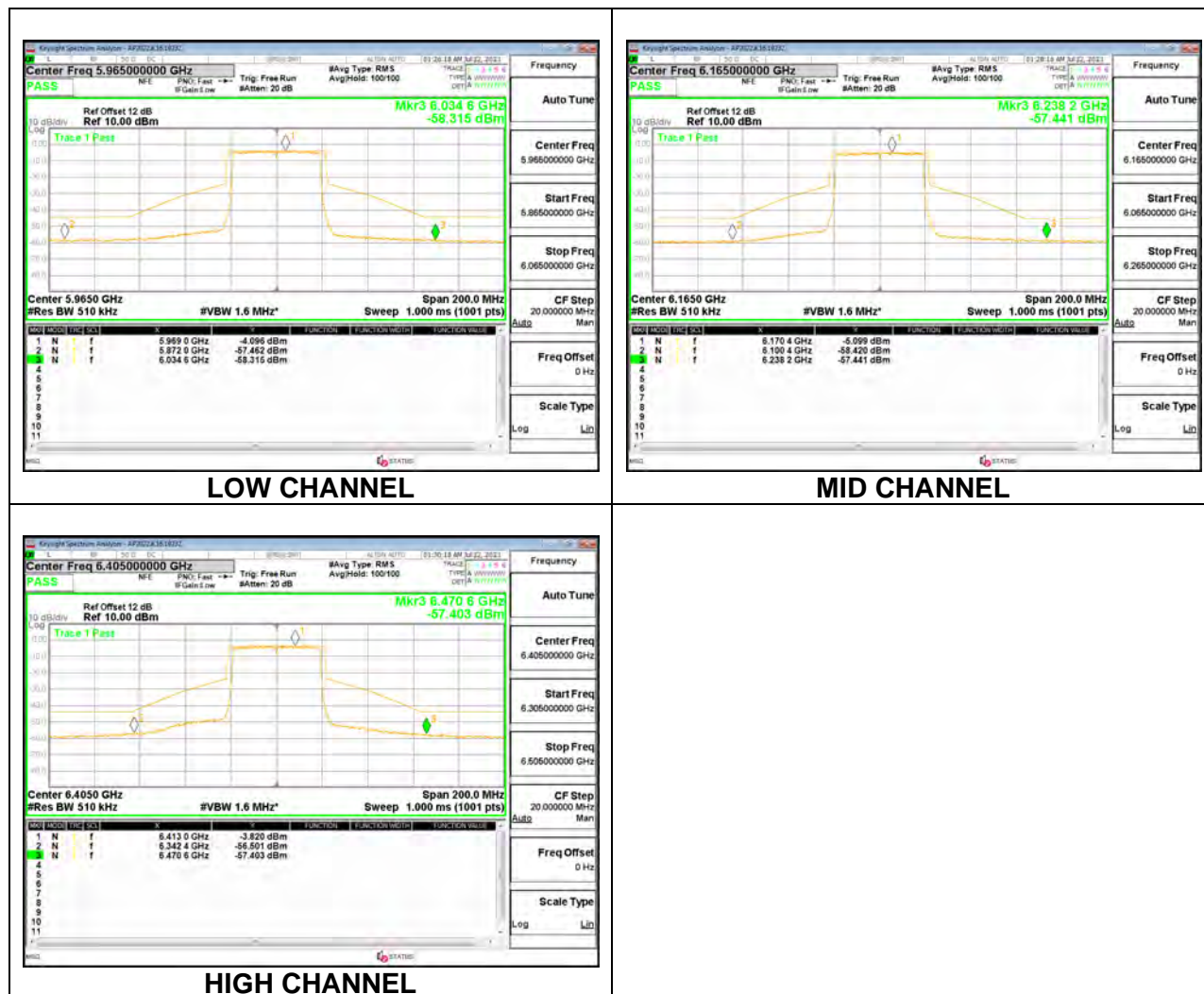


2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 8

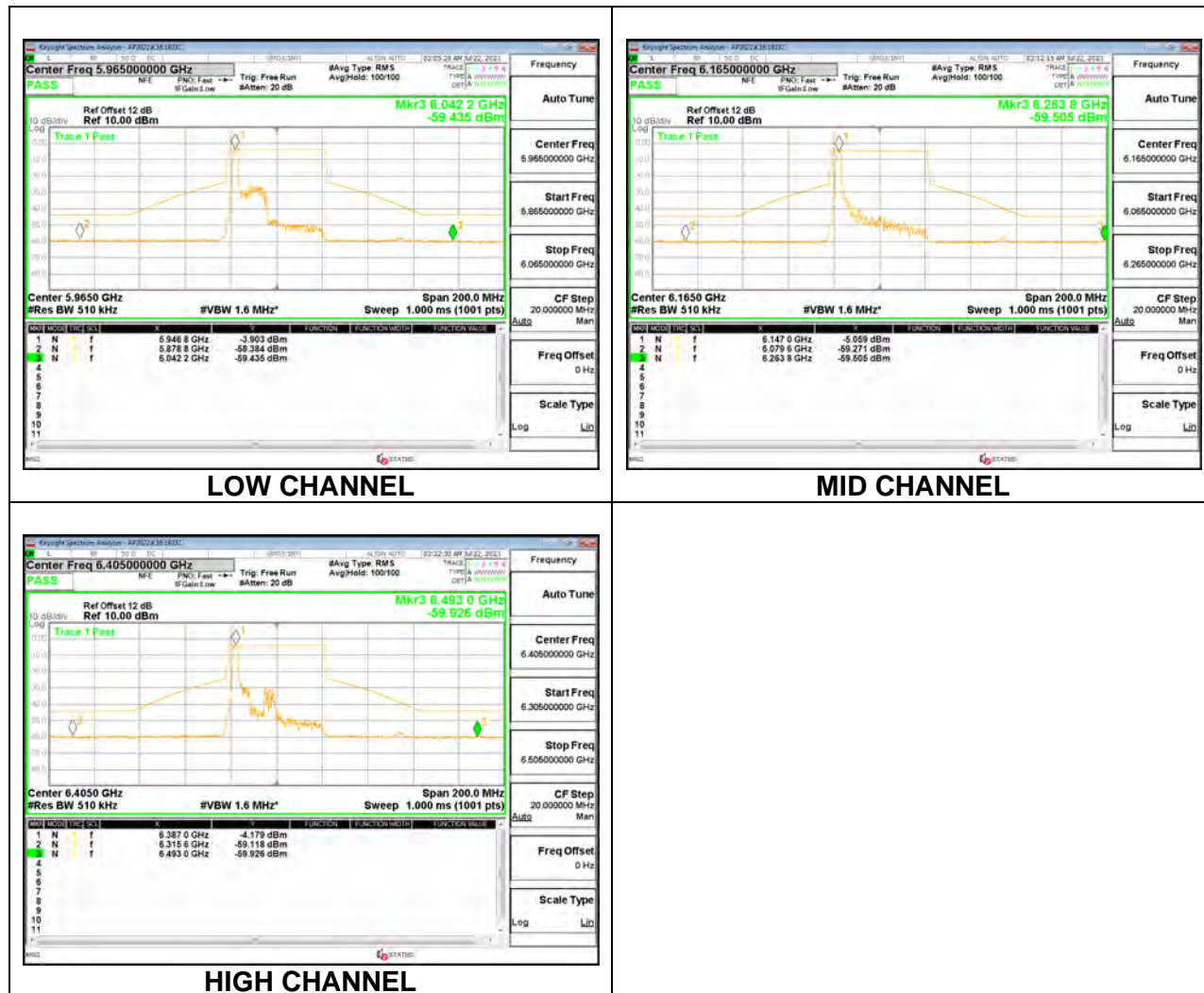


9.5.2. 802.11ax HE40 MODE IN THE UNII-5 BAND

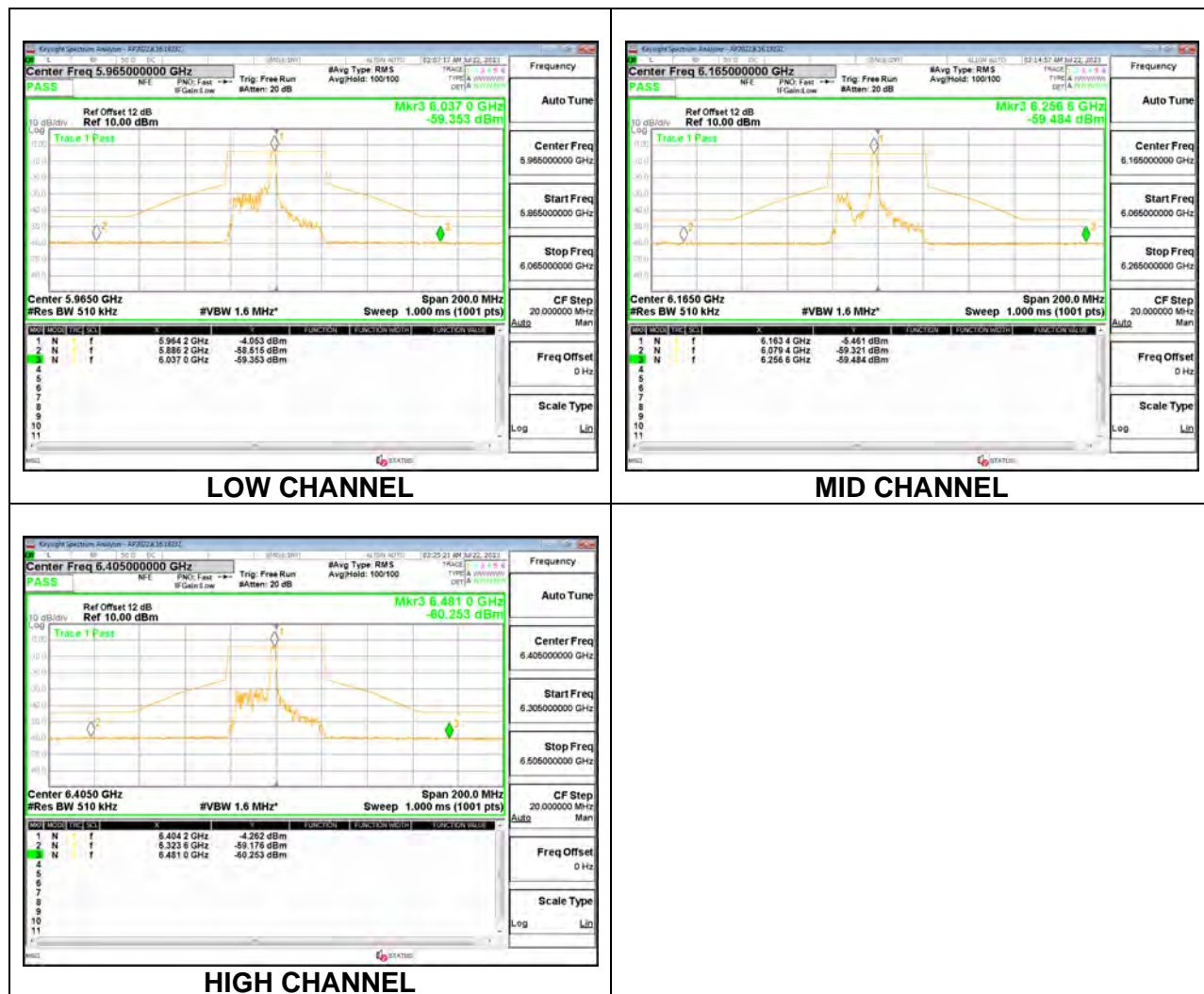
1TX Antenna 6 MODE: SU, Single User



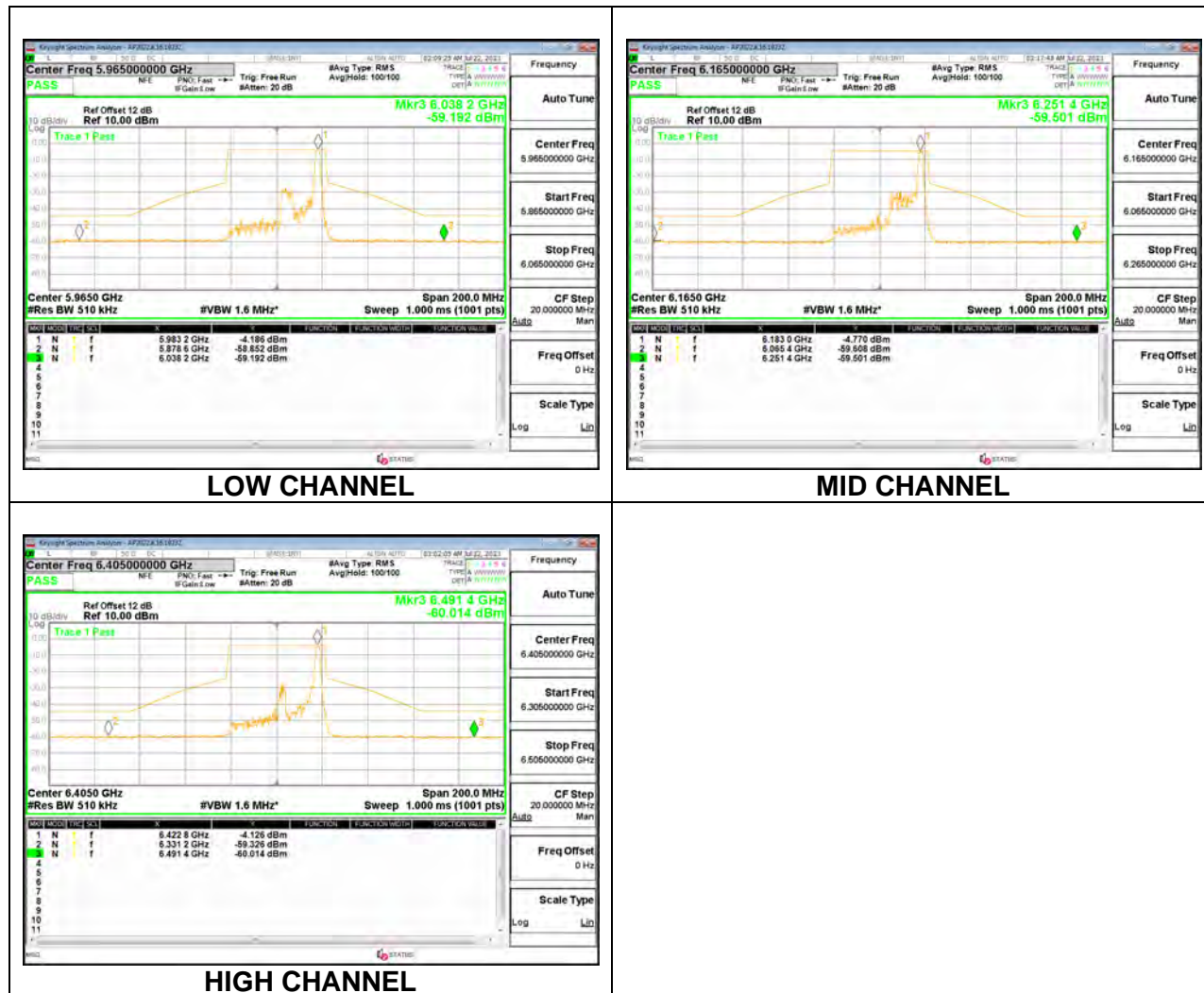
1TX Antenna 6 MODE: 26-Tone, RU Index 0



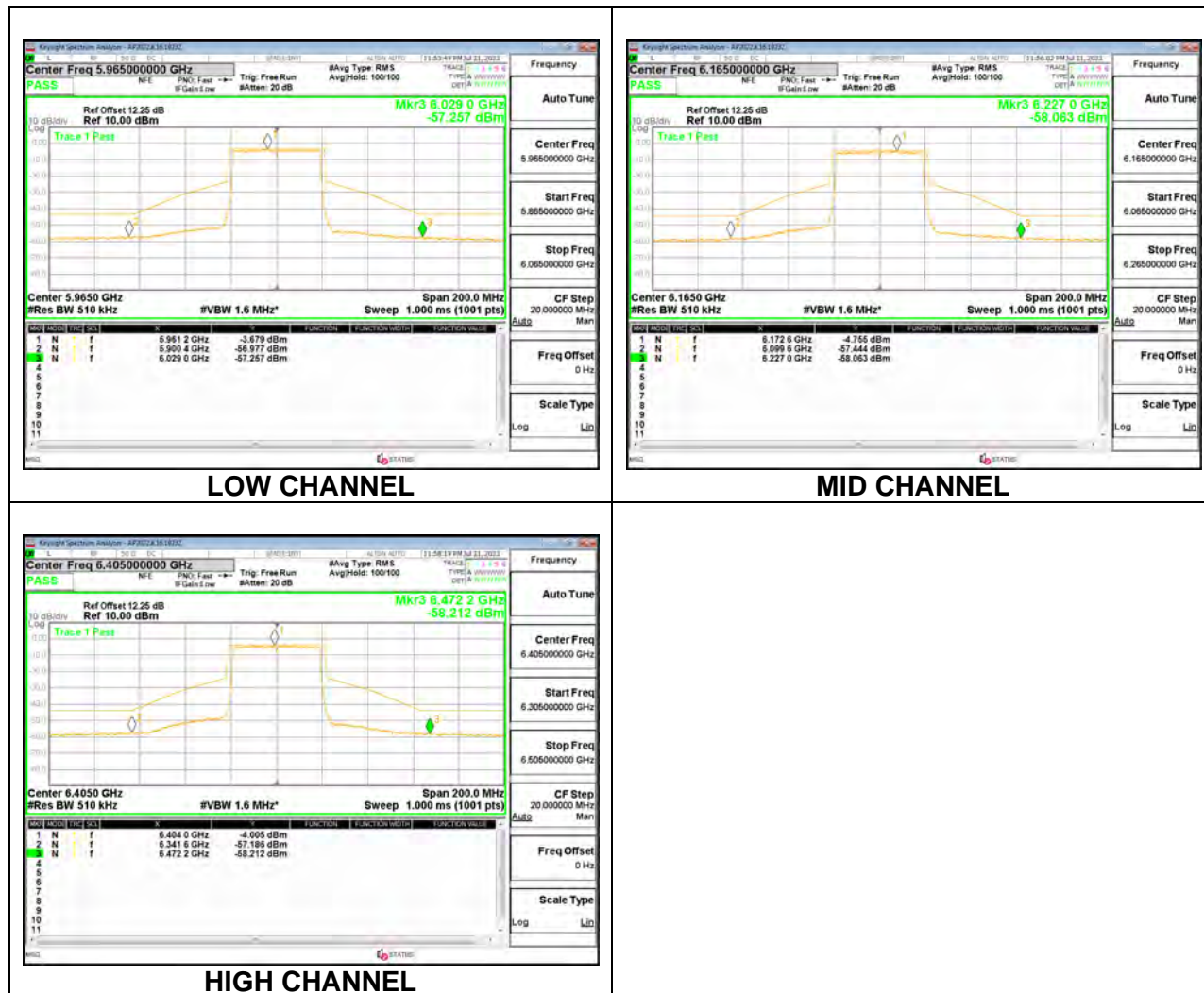
1TX Antenna 6 MODE: 26-Tone, RU Index 8



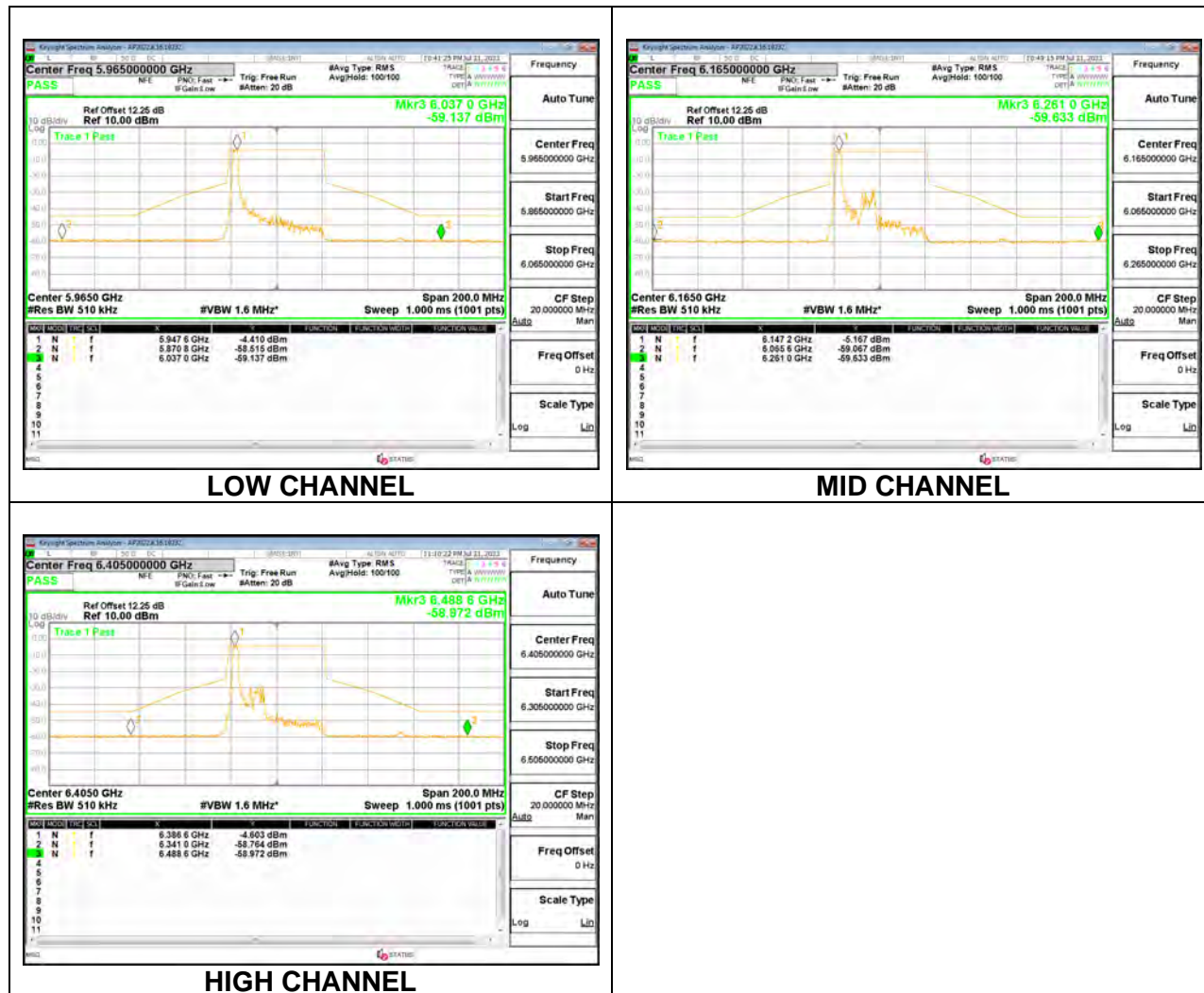
1TX Antenna 6 MODE: 26-Tone, RU Index 17



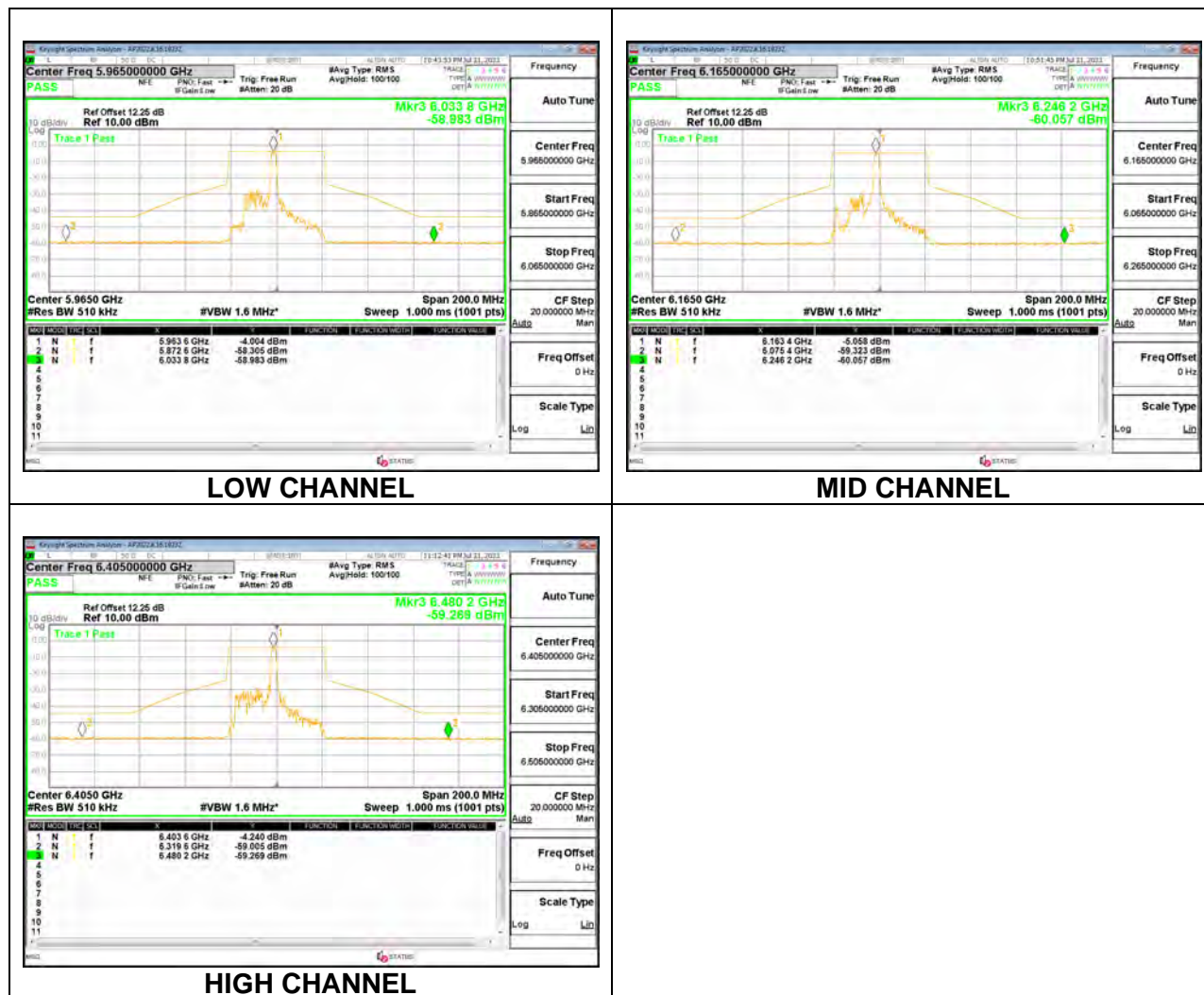
1TX Antenna 5 MODE: SU, Single User



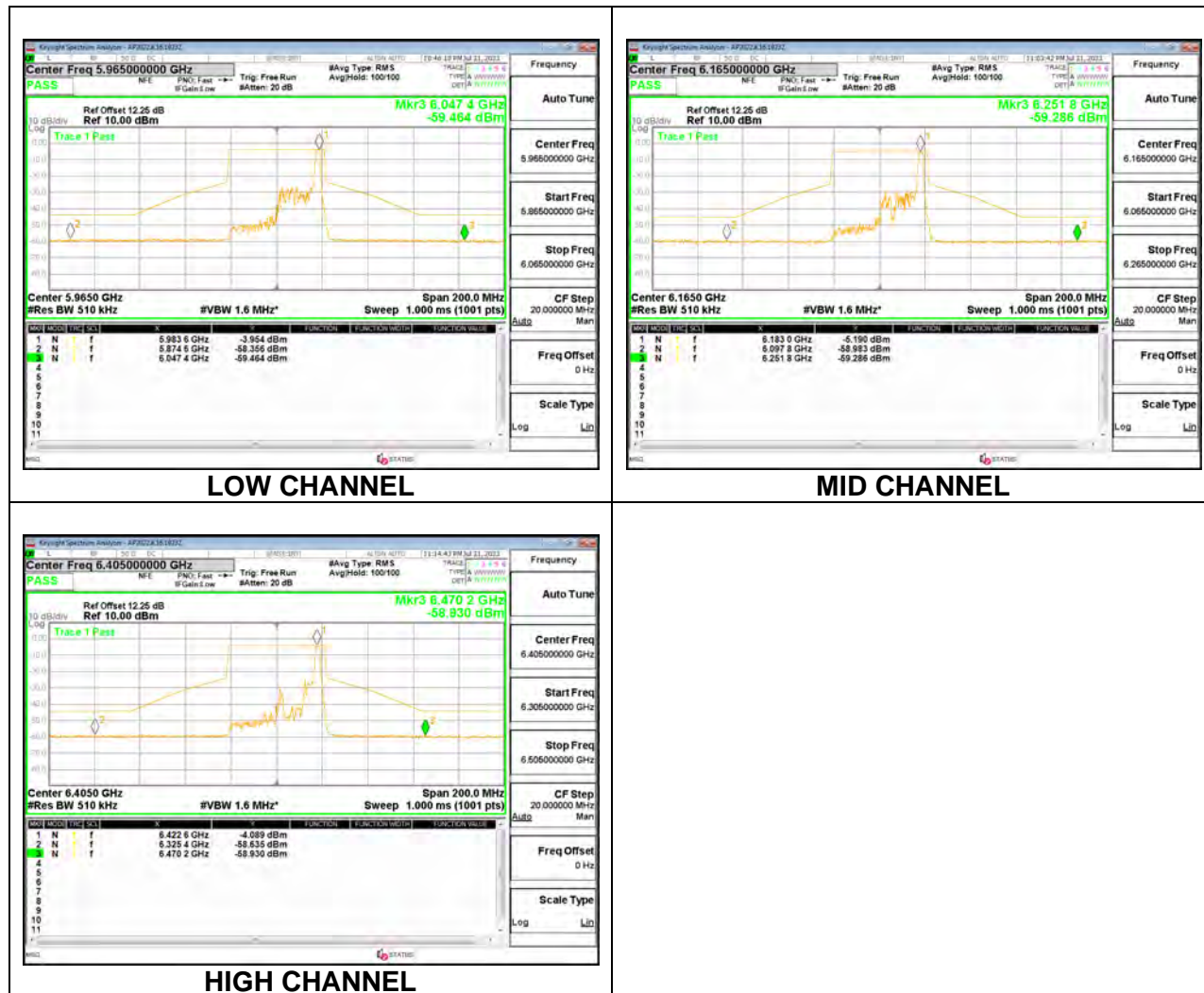
1TX Antenna 5 MODE: 26-Tone, RU Index 0



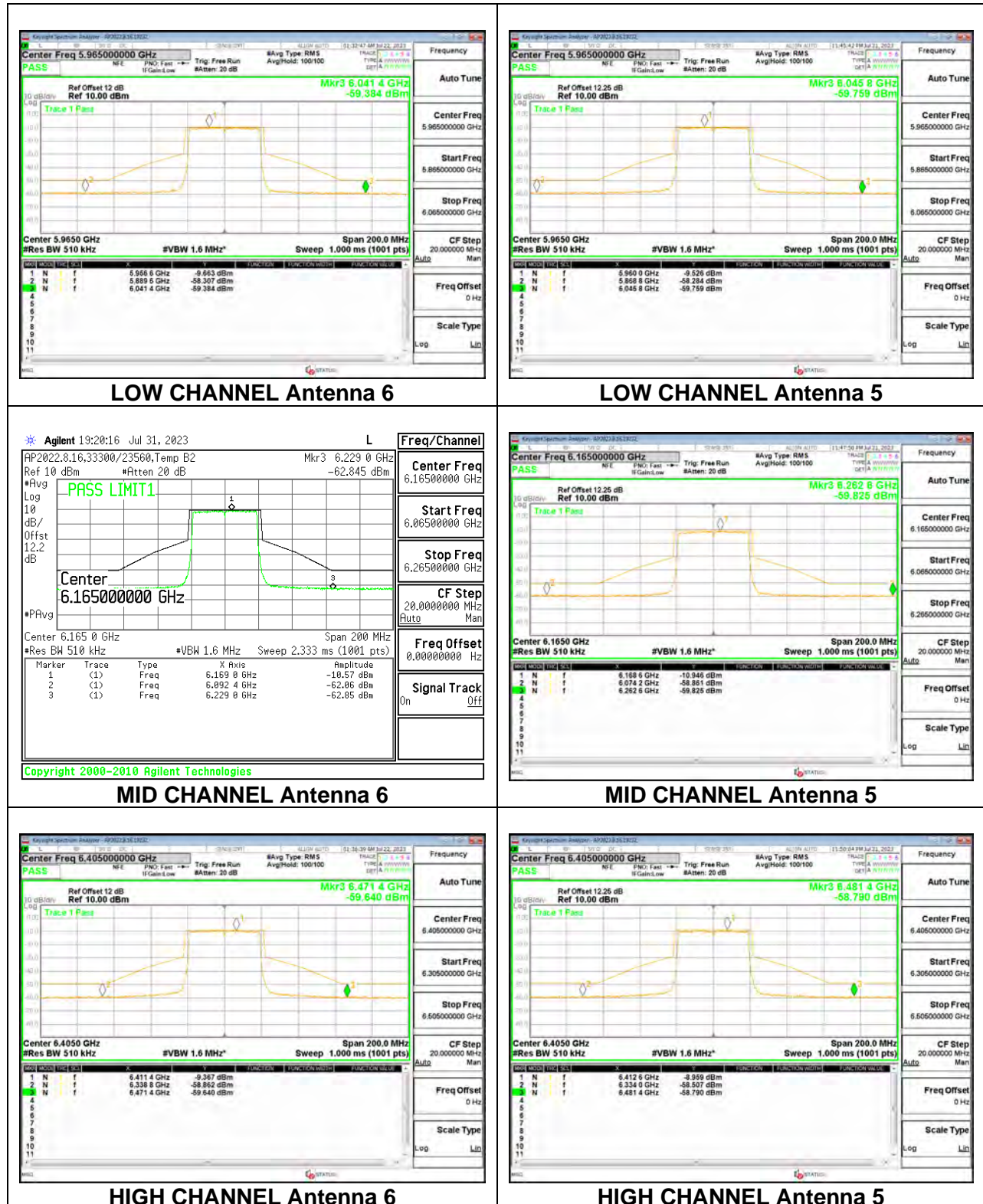
1TX Antenna 5 MODE: 26-Tone, RU Index 8



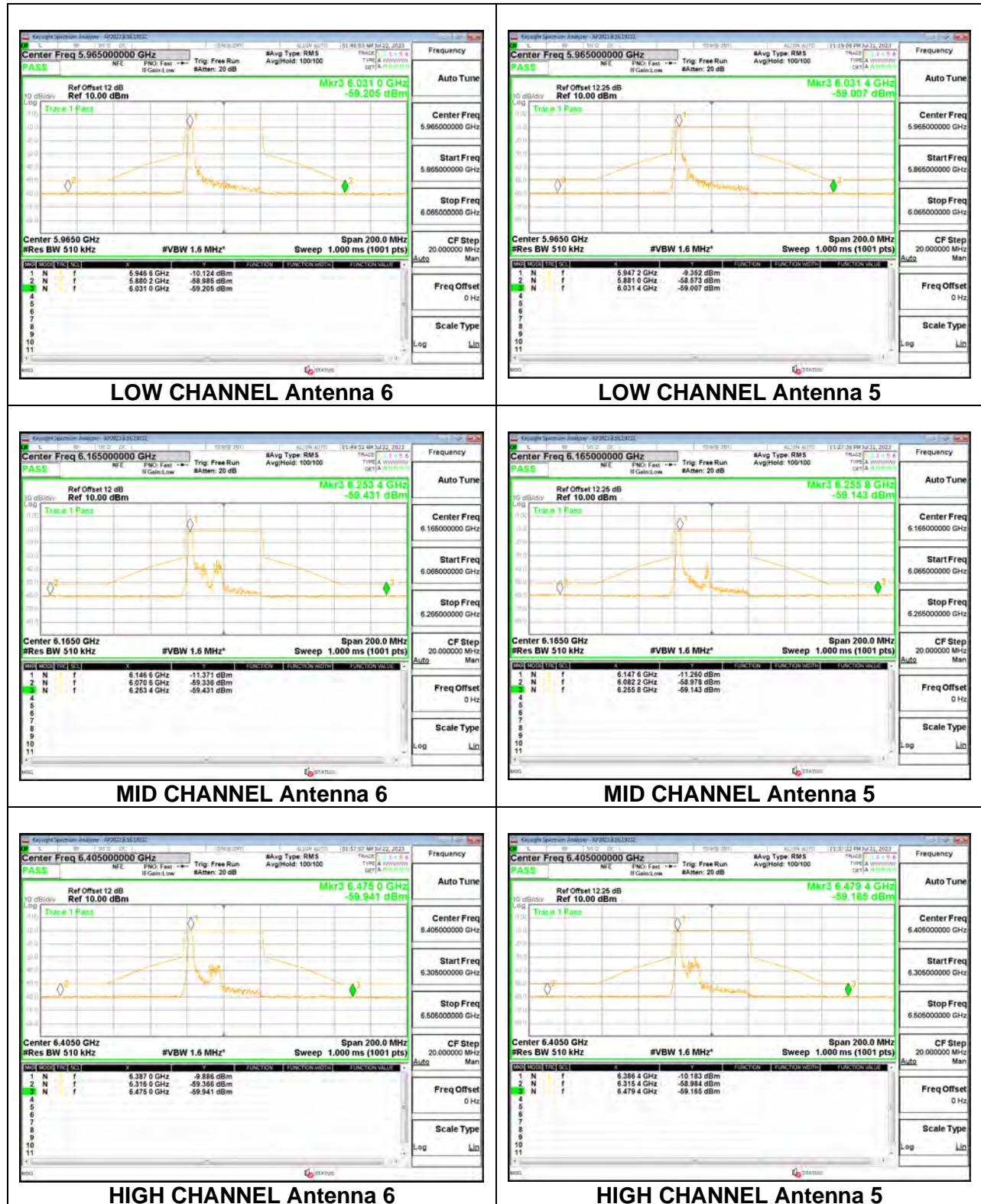
1TX Antenna 5 MODE: 26-Tone, RU Index 17



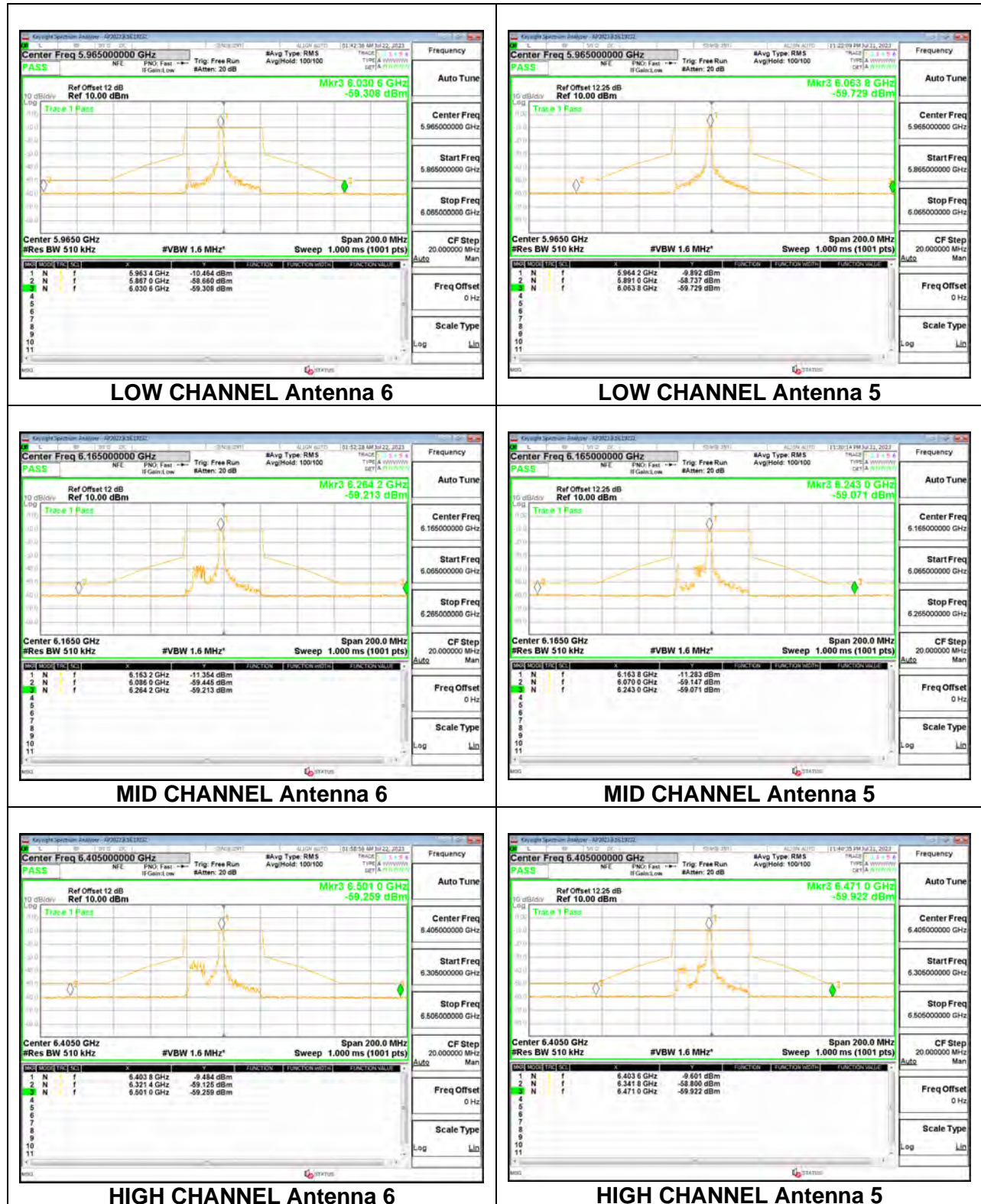
2TX Antenna 6 + Antenna 5 CDD MODE: SU, Single User



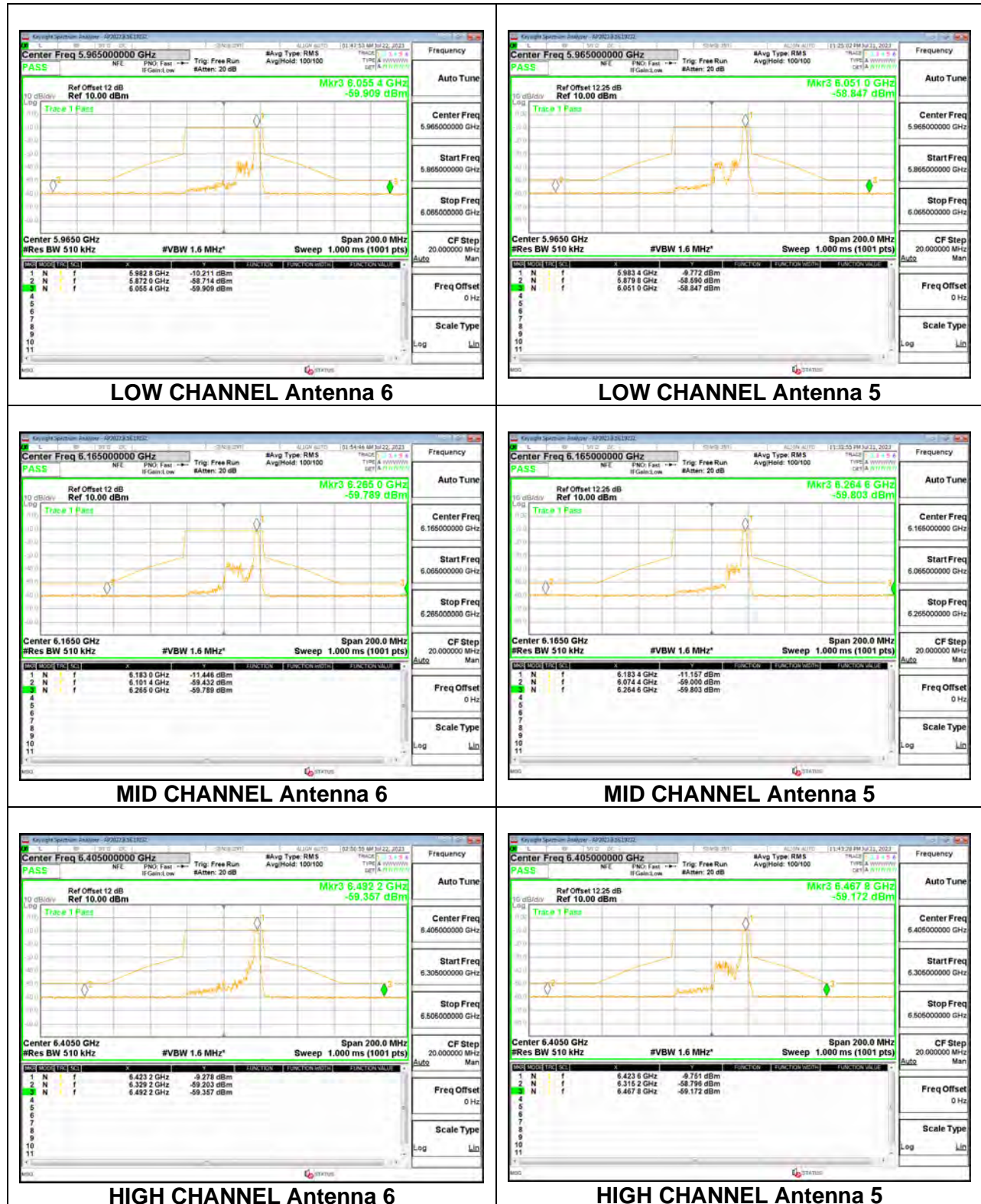
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 0



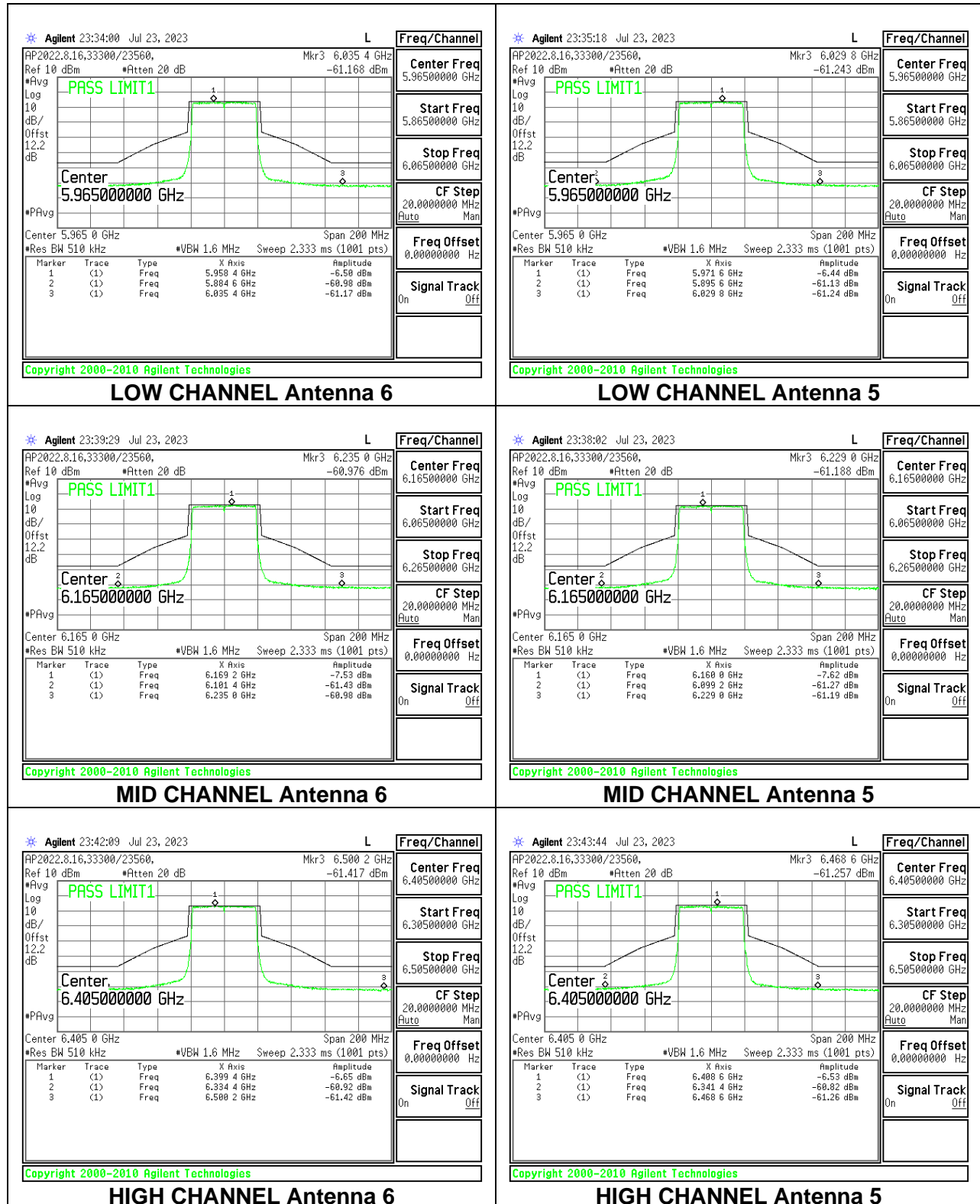
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 8



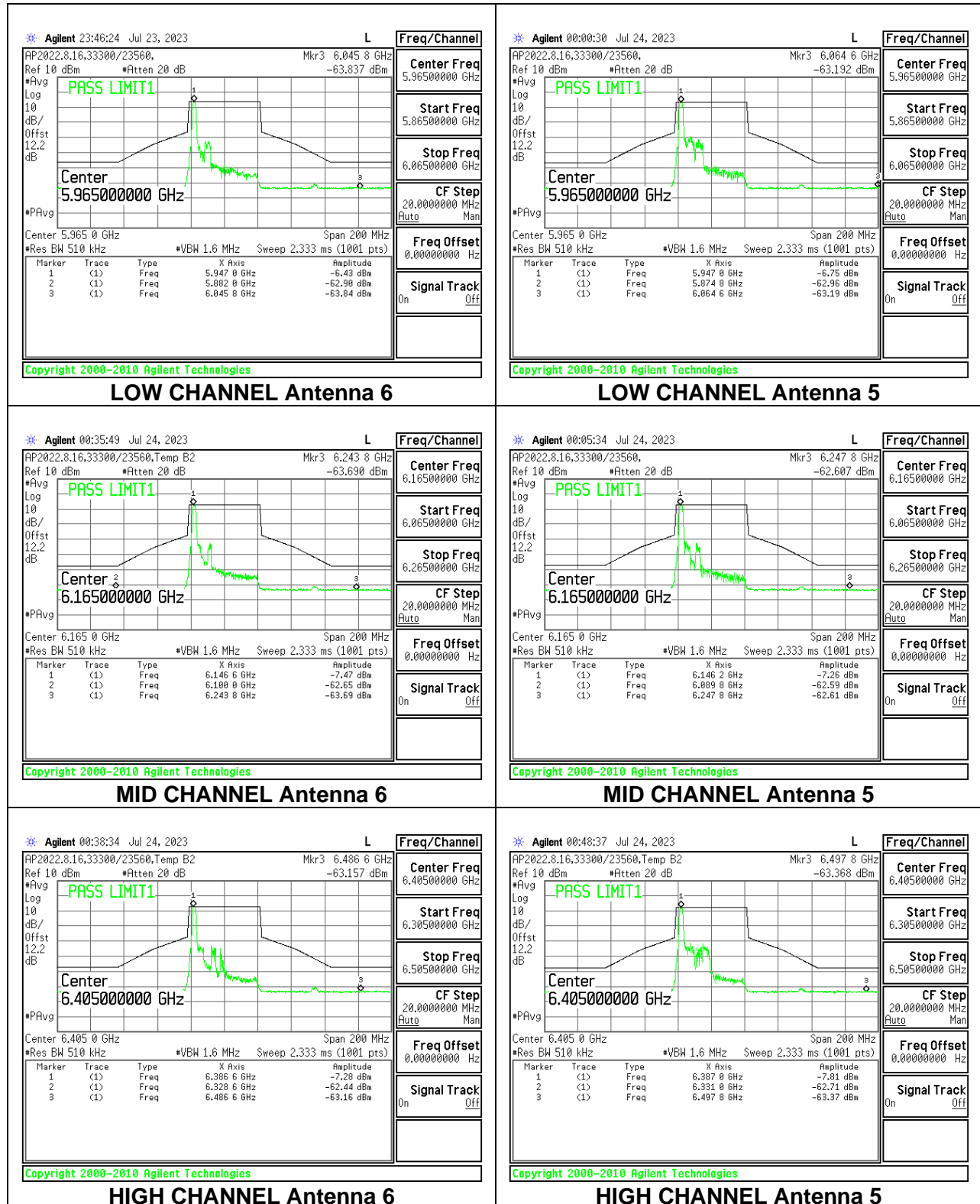
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 17



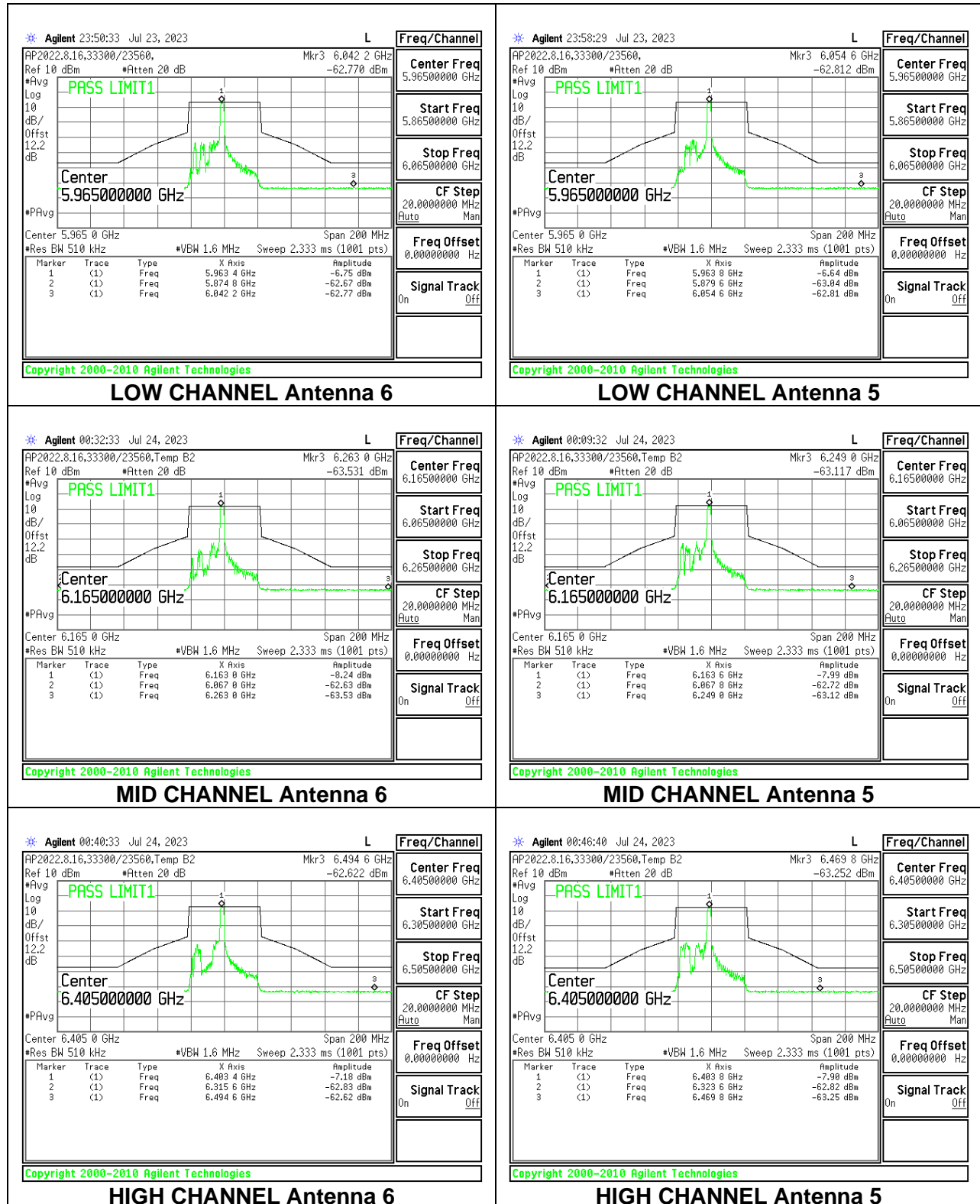
2TX Antenna 6 + Antenna 5 SDM MODE: SU, Single User



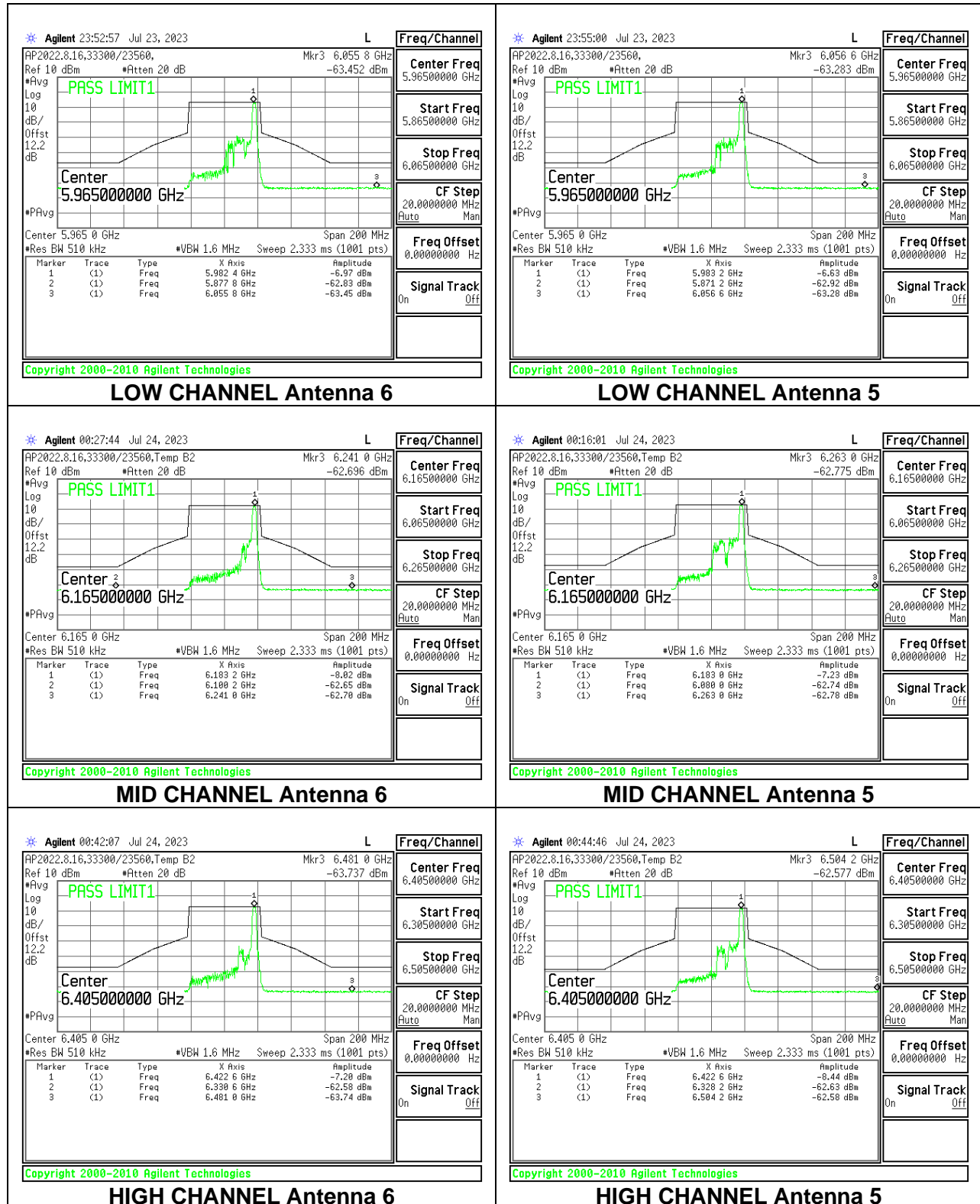
2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 0



2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 8

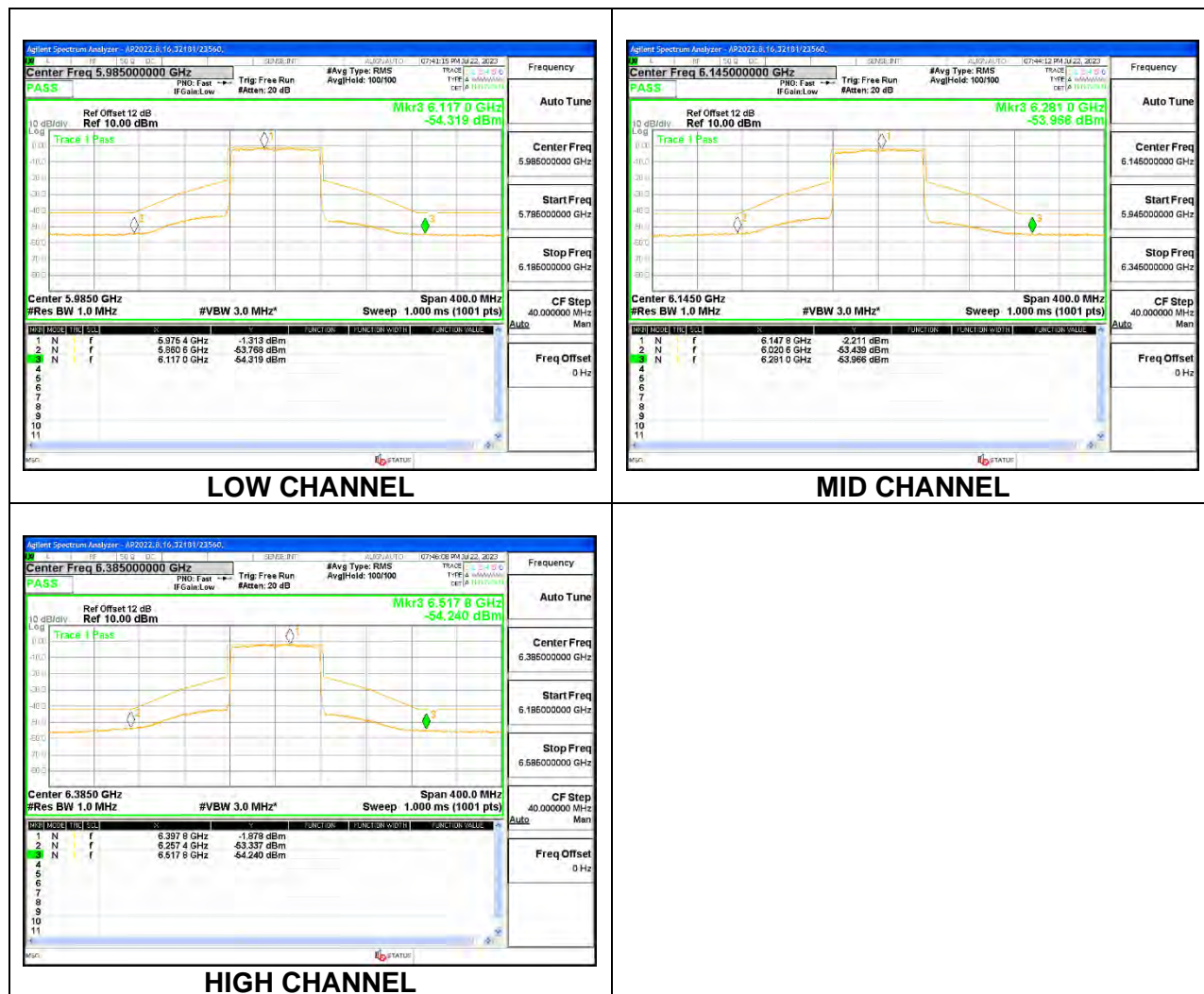


2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 17

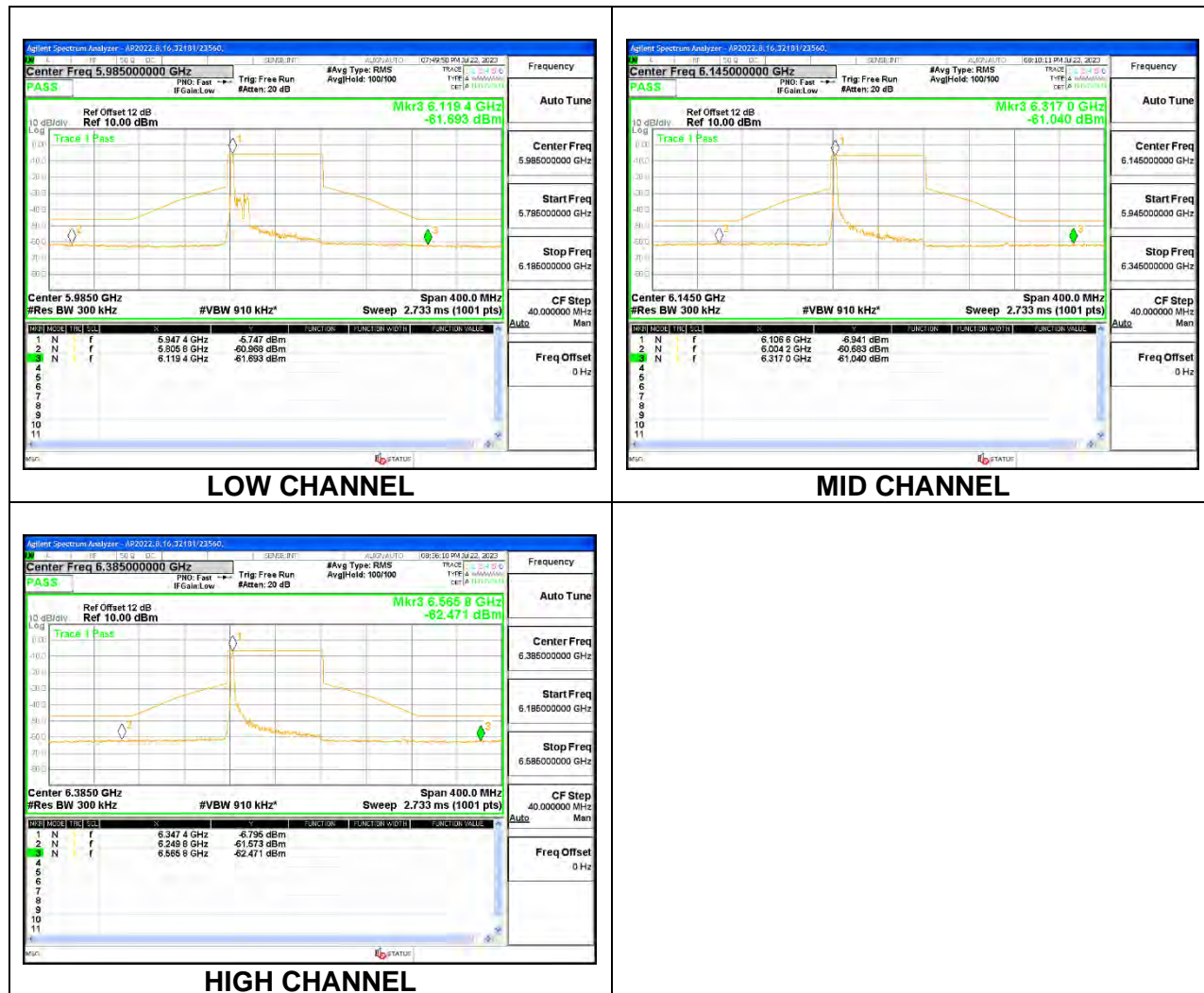


9.5.3. 802.11ax HE80 MODE IN THE UNII-5 BAND

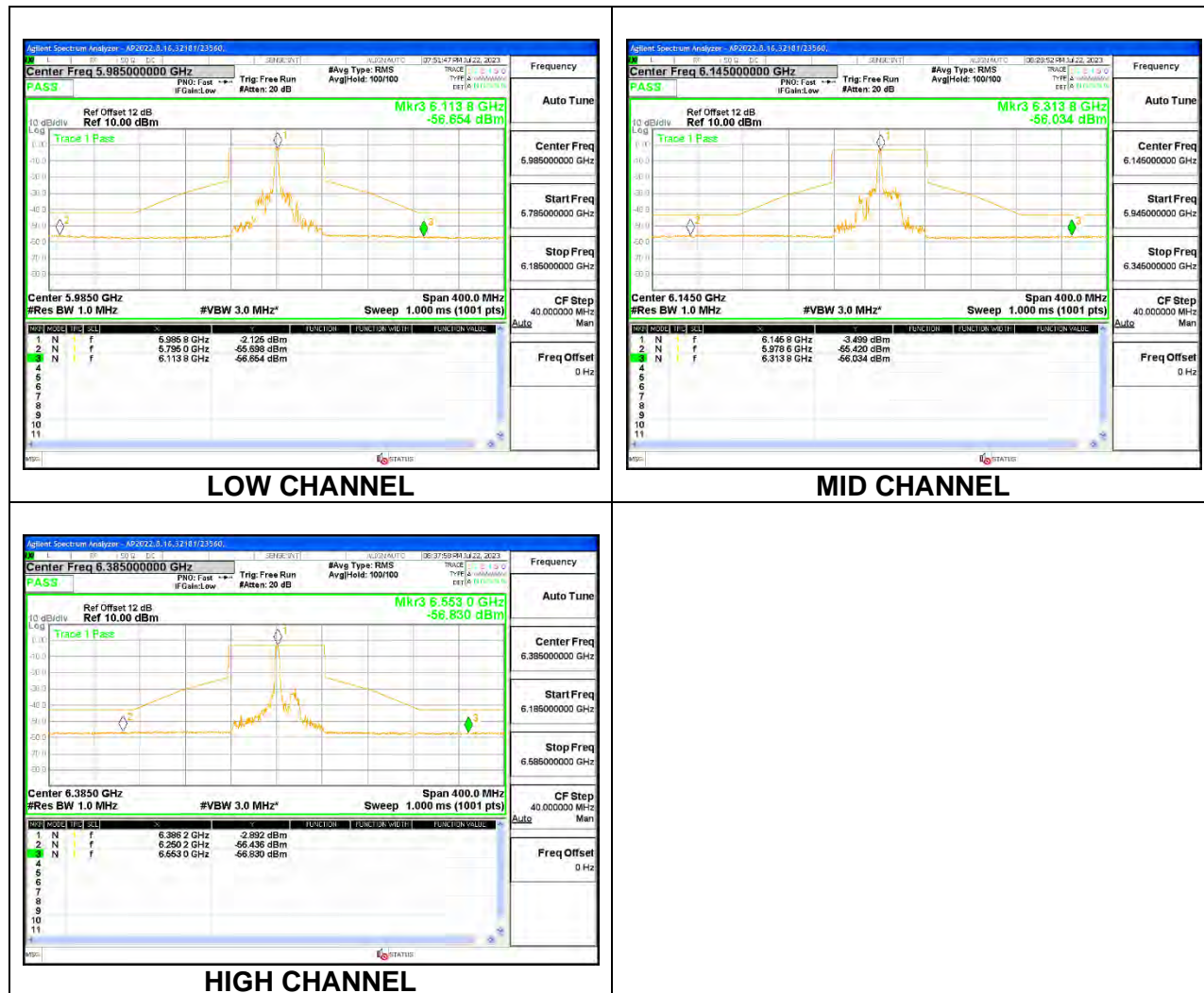
1TX Antenna 6 MODE: SU, Single User



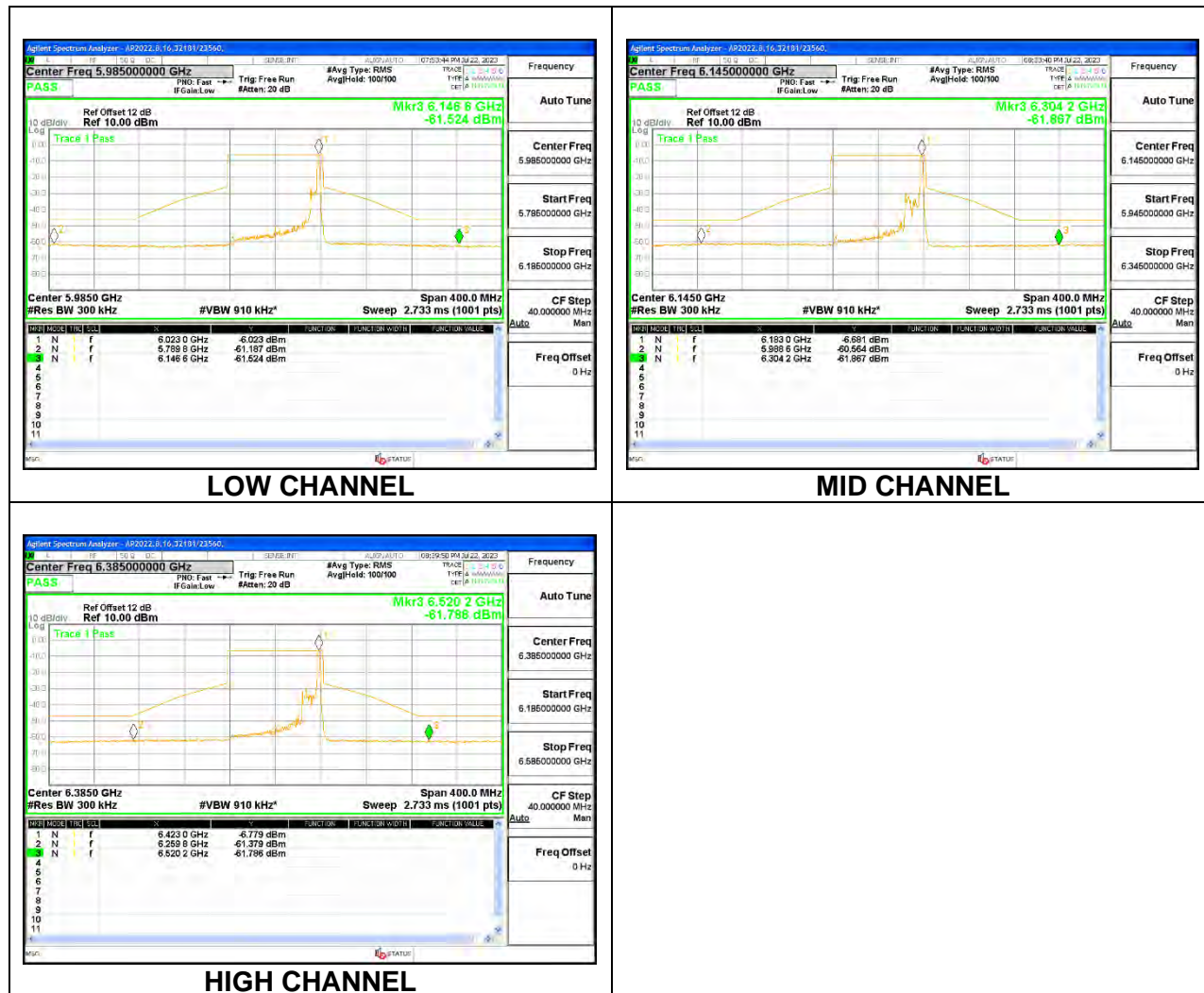
1TX Antenna 6 MODE: 26-Tone, RU Index 0



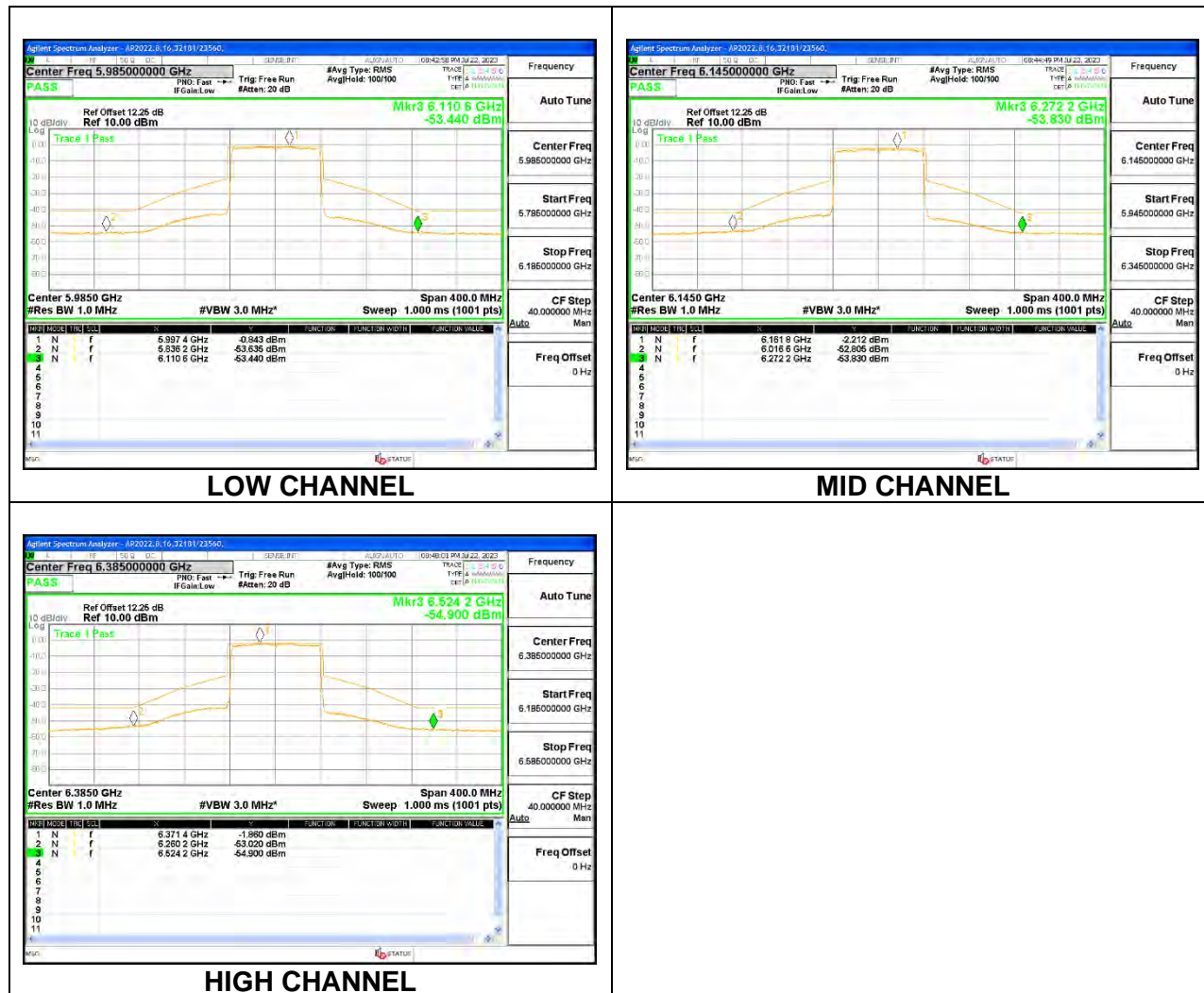
1TX Antenna 6 MODE: 26-Tone, RU Index 18



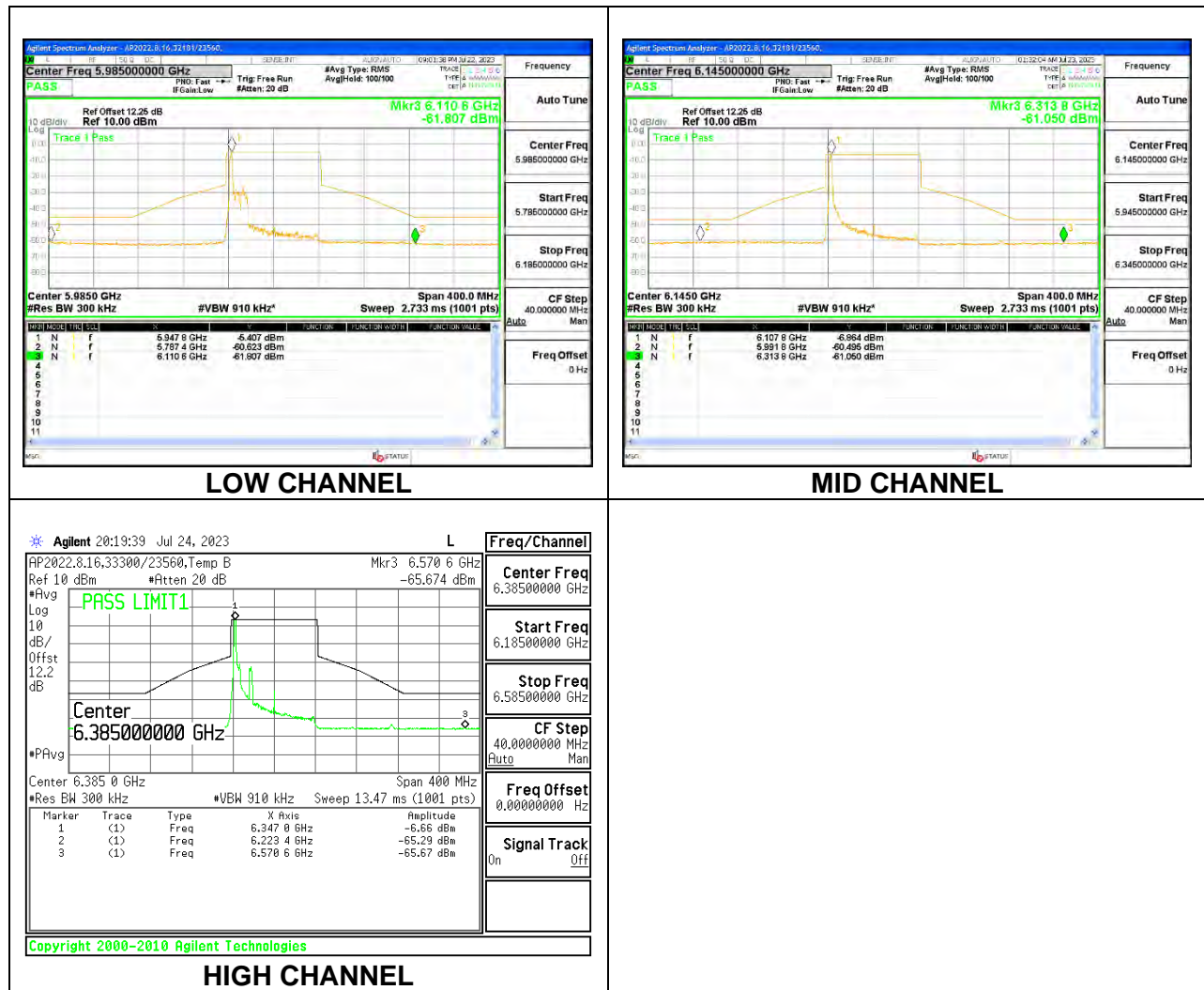
1TX Antenna 6 MODE: 26-Tone, RU Index 36



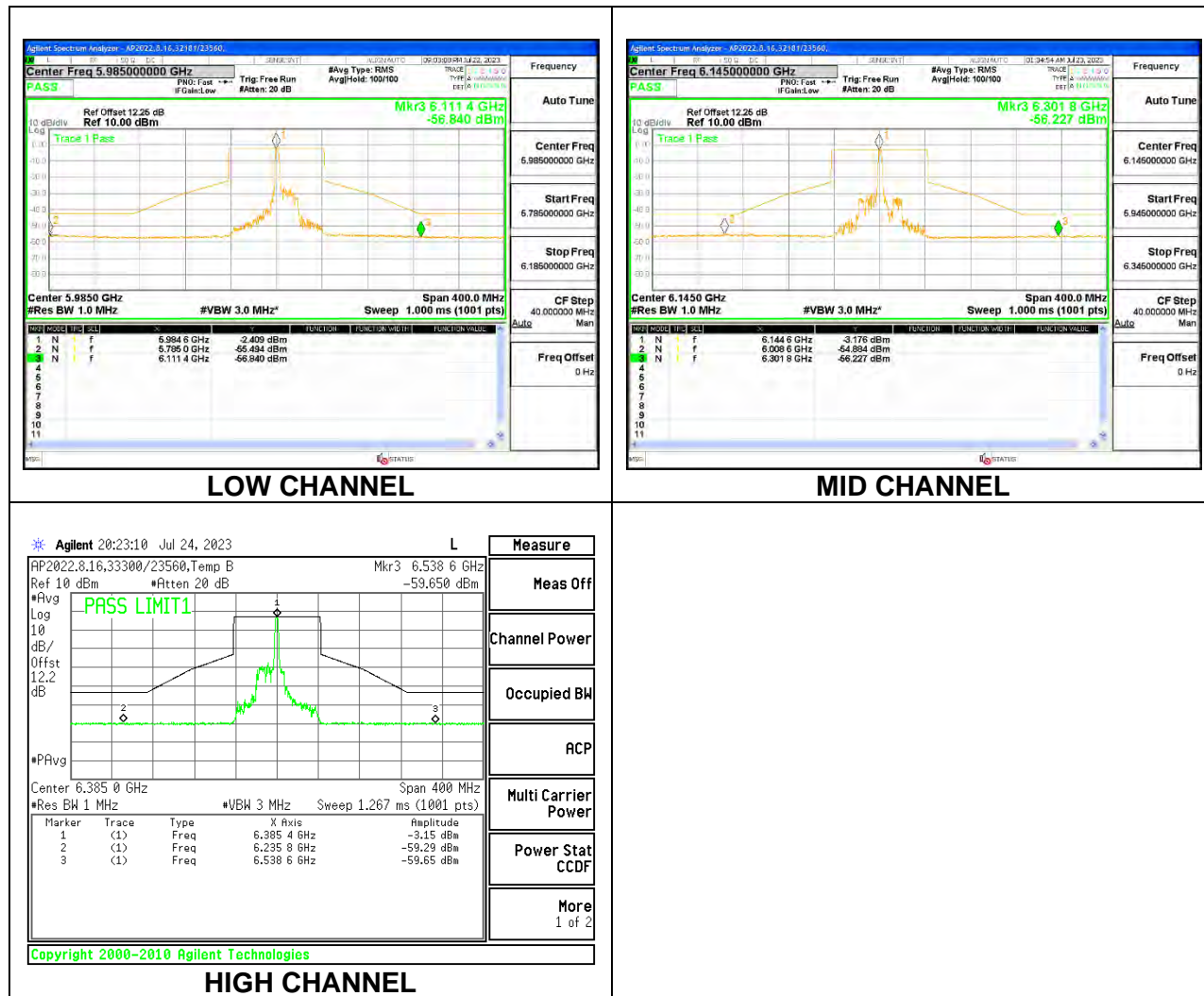
1TX Antenna 5 MODE: SU, Single User



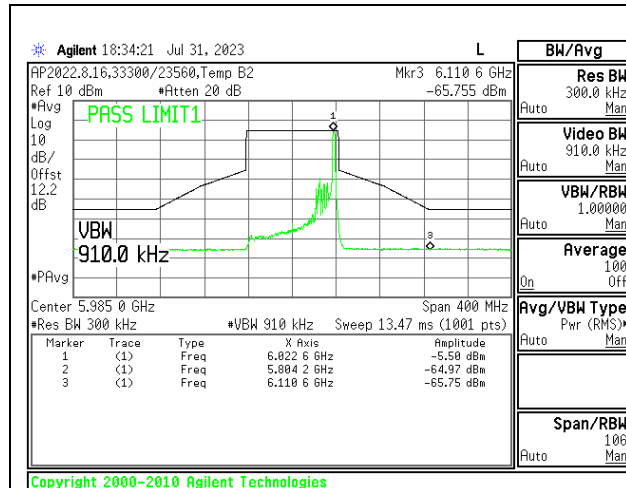
1TX Antenna 5 MODE: 26-Tone, RU Index 0



1TX Antenna 5 MODE: 26-Tone, RU Index 18



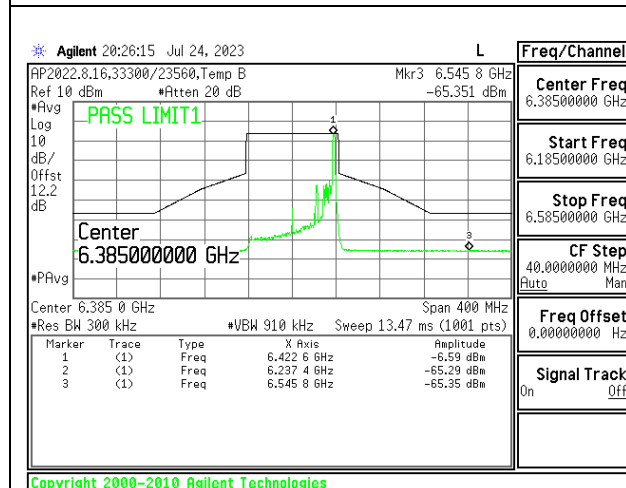
1TX Antenna 5 MODE: 26-Tone, RU Index 36



LOW CHANNEL

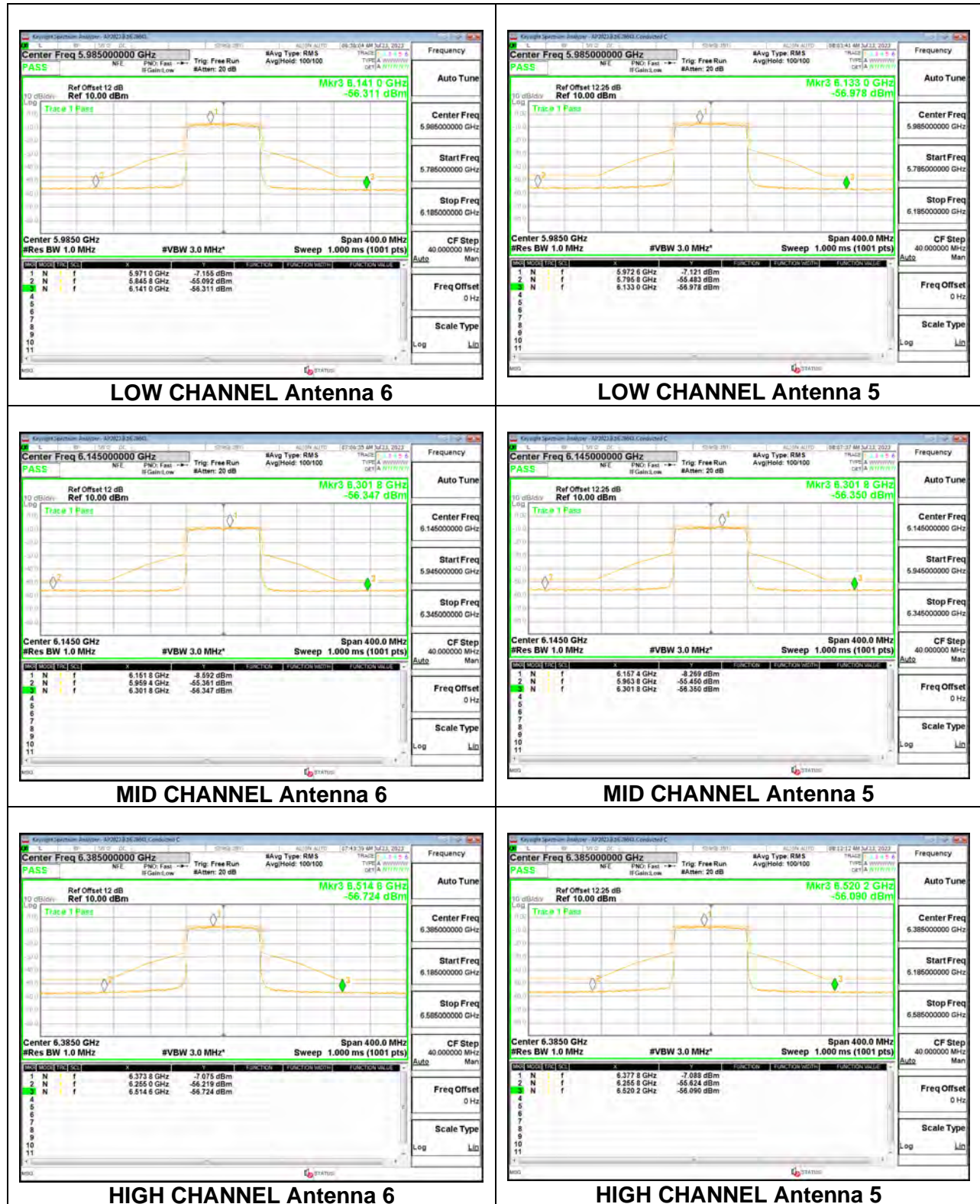


MID CHANNEL

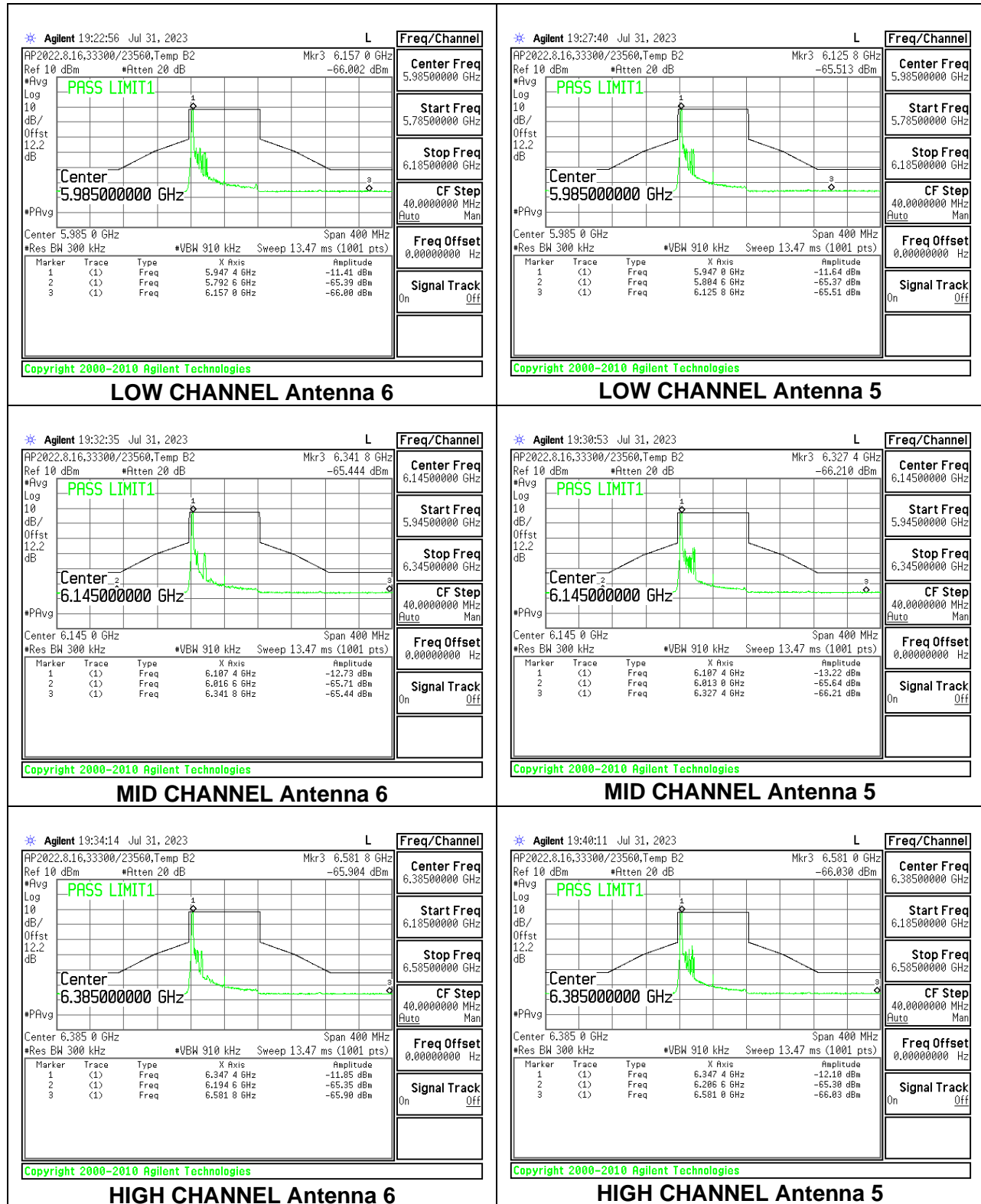


HIGH CHANNEL

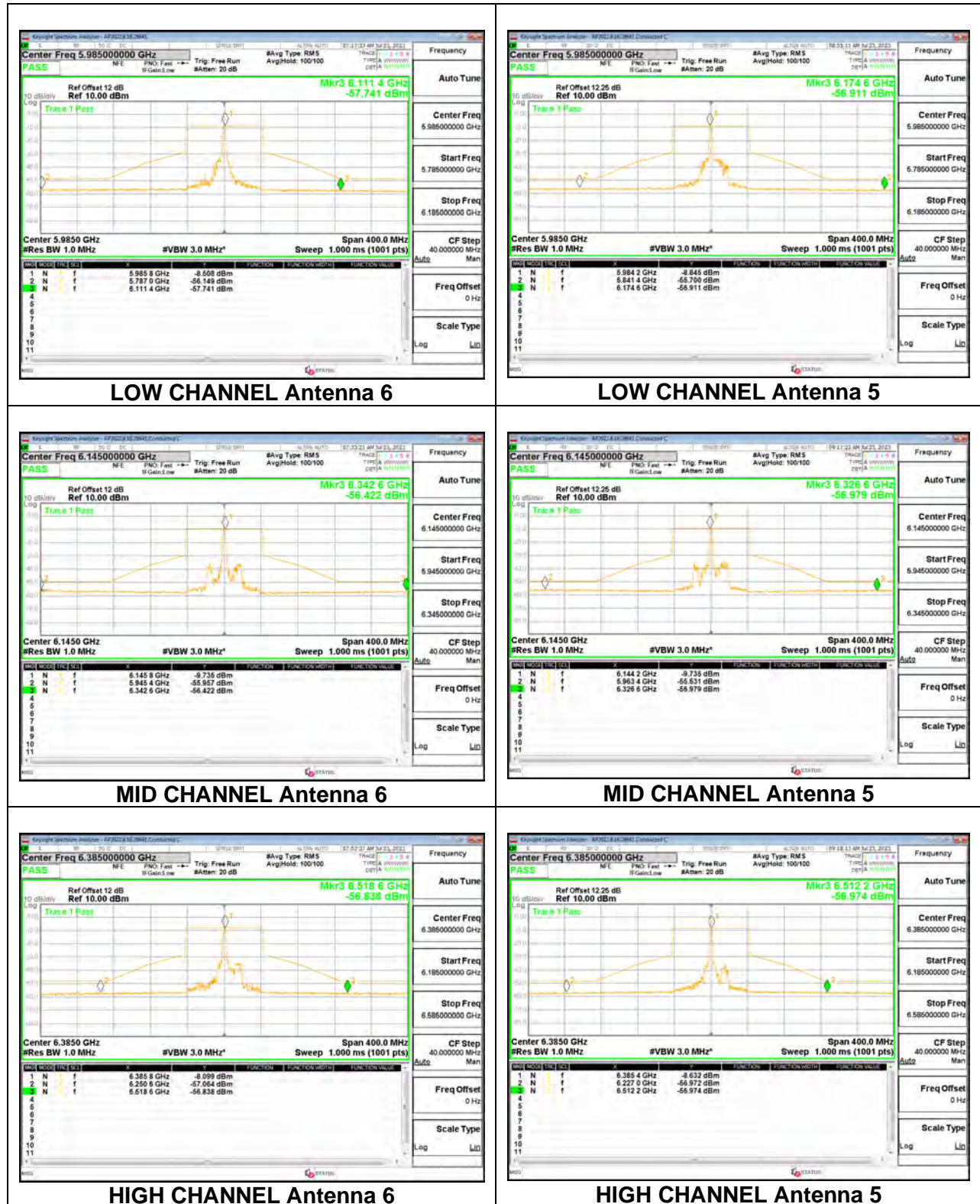
2TX Antenna 6 + Antenna 5 CDD MODE: SU, Single User



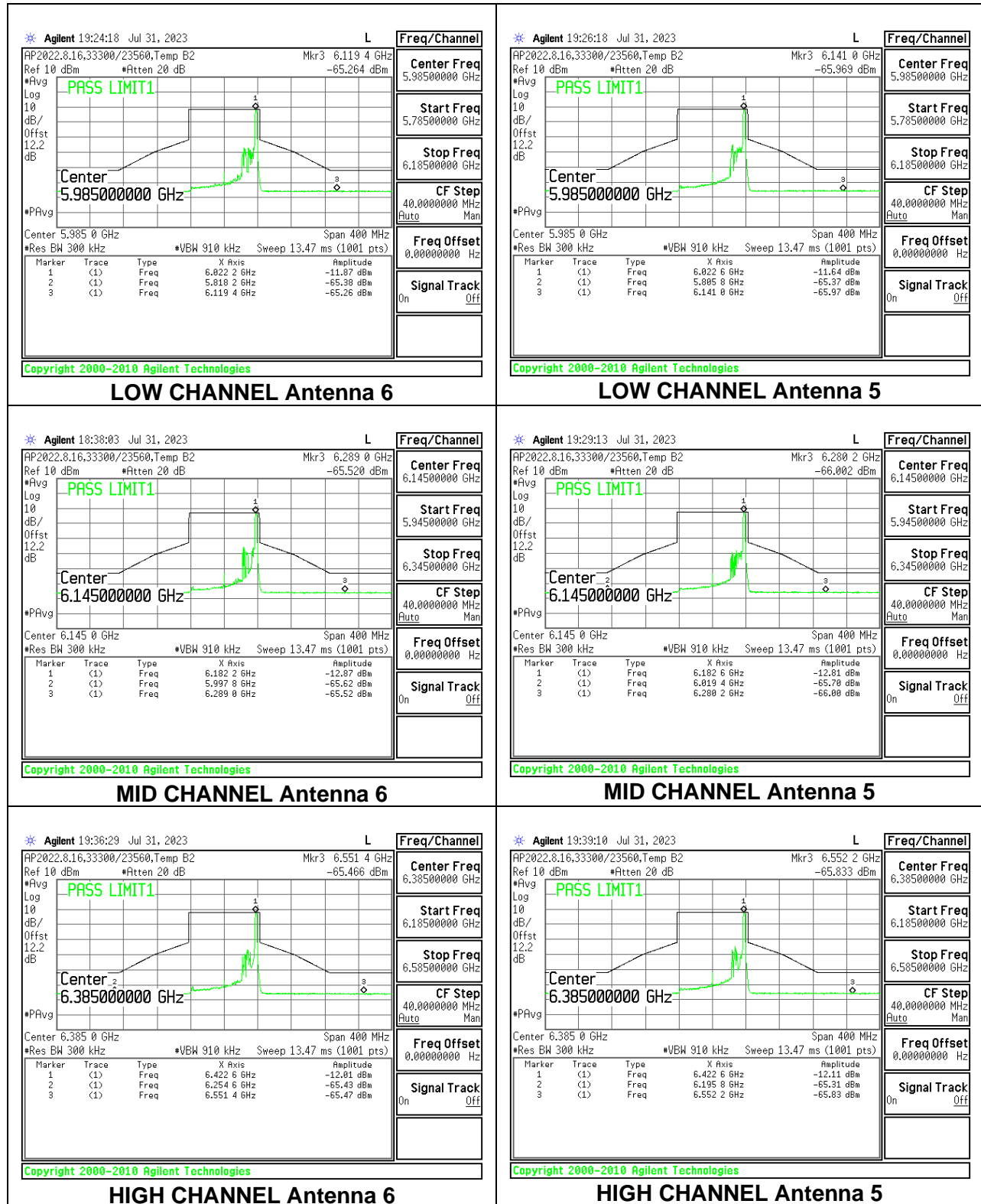
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 0



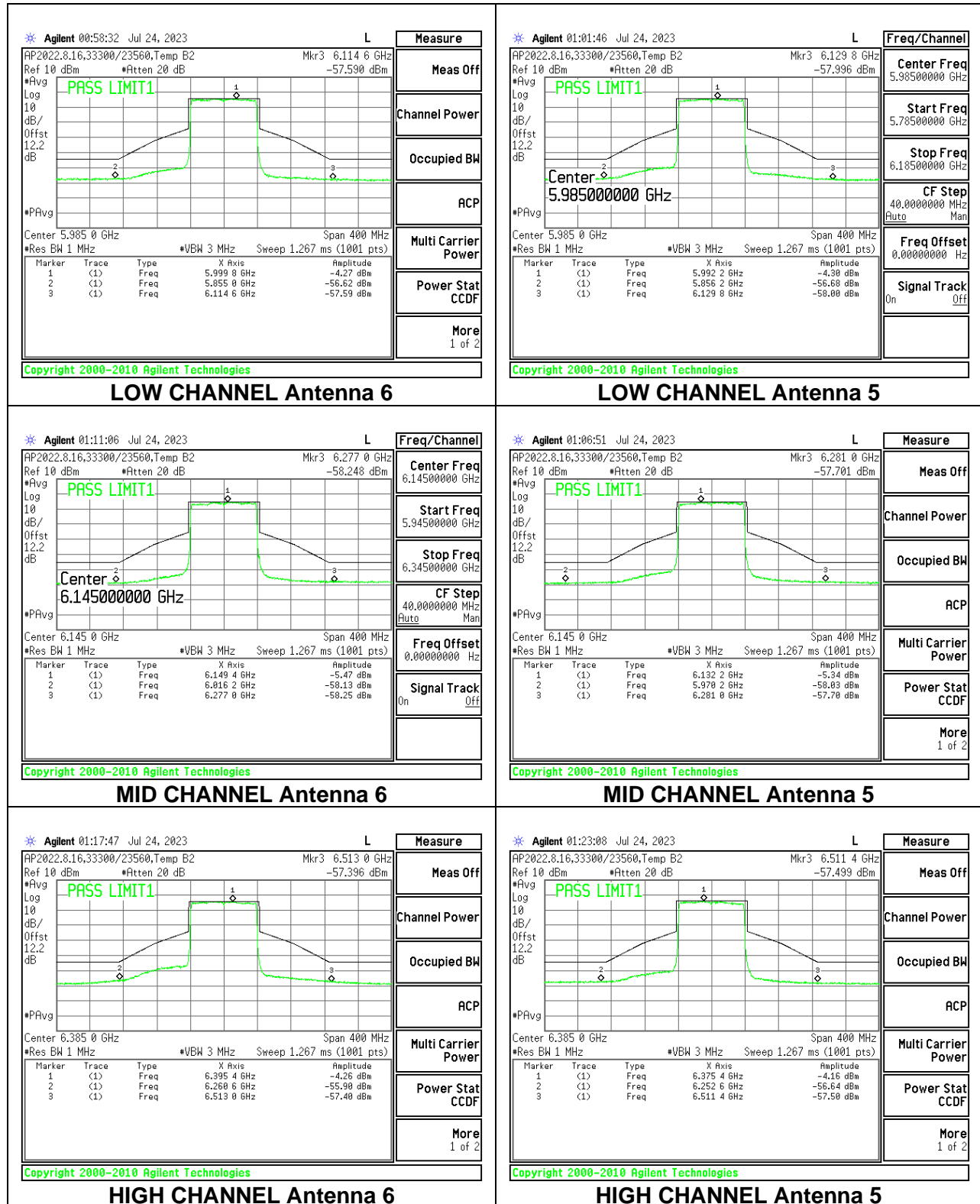
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 18



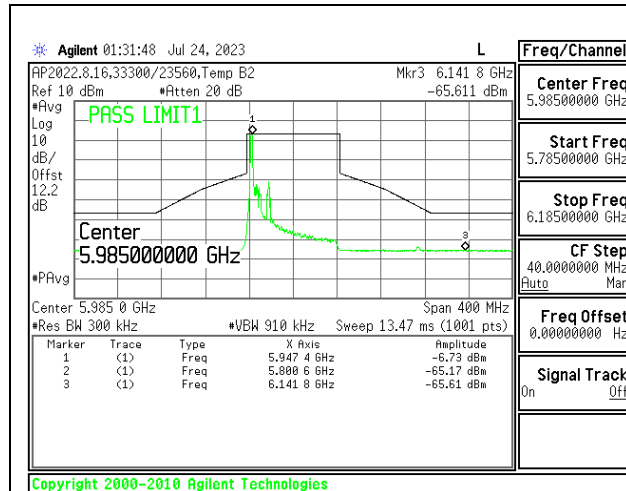
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 36



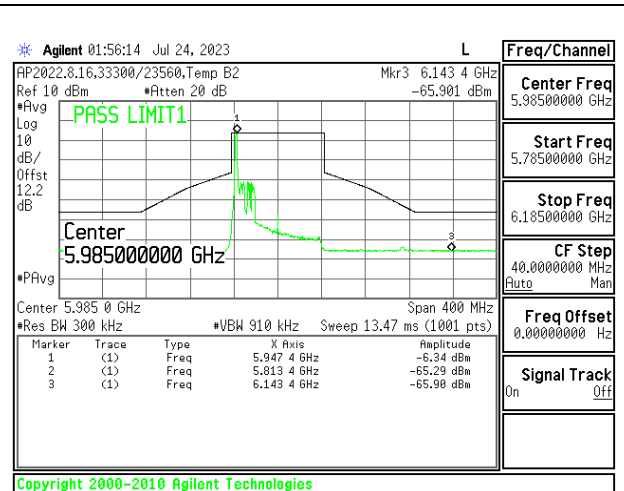
2TX Antenna 6 + Antenna 5 SDM MODE: SU, Single User



2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 0



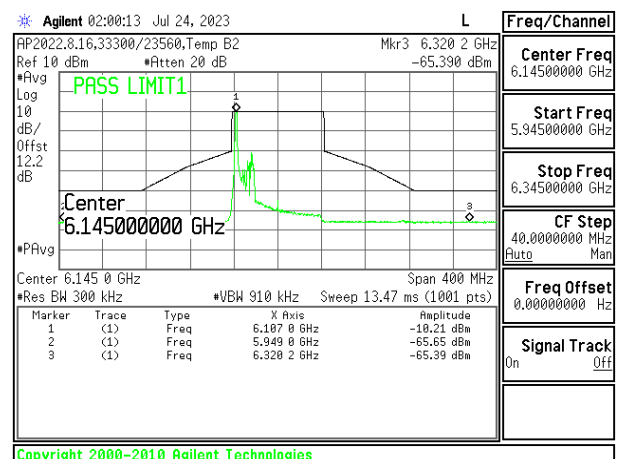
LOW CHANNEL Antenna 6



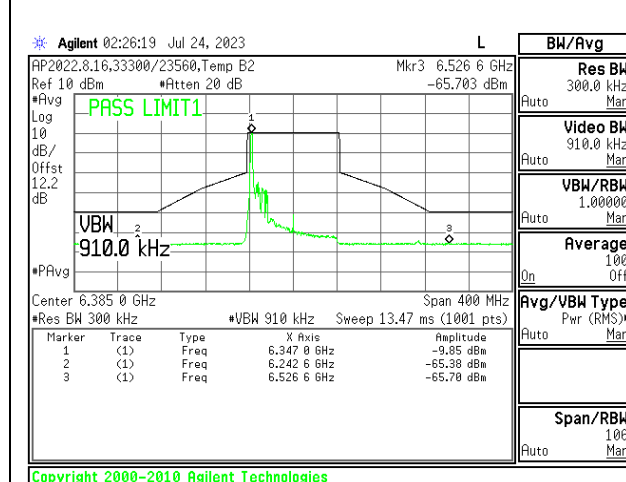
LOW CHANNEL Antenna 5



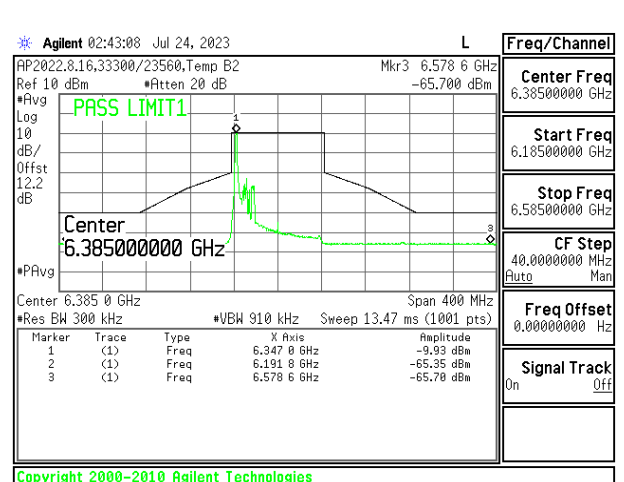
MID CHANNEL Antenna 6



MID CHANNEL Antenna 5

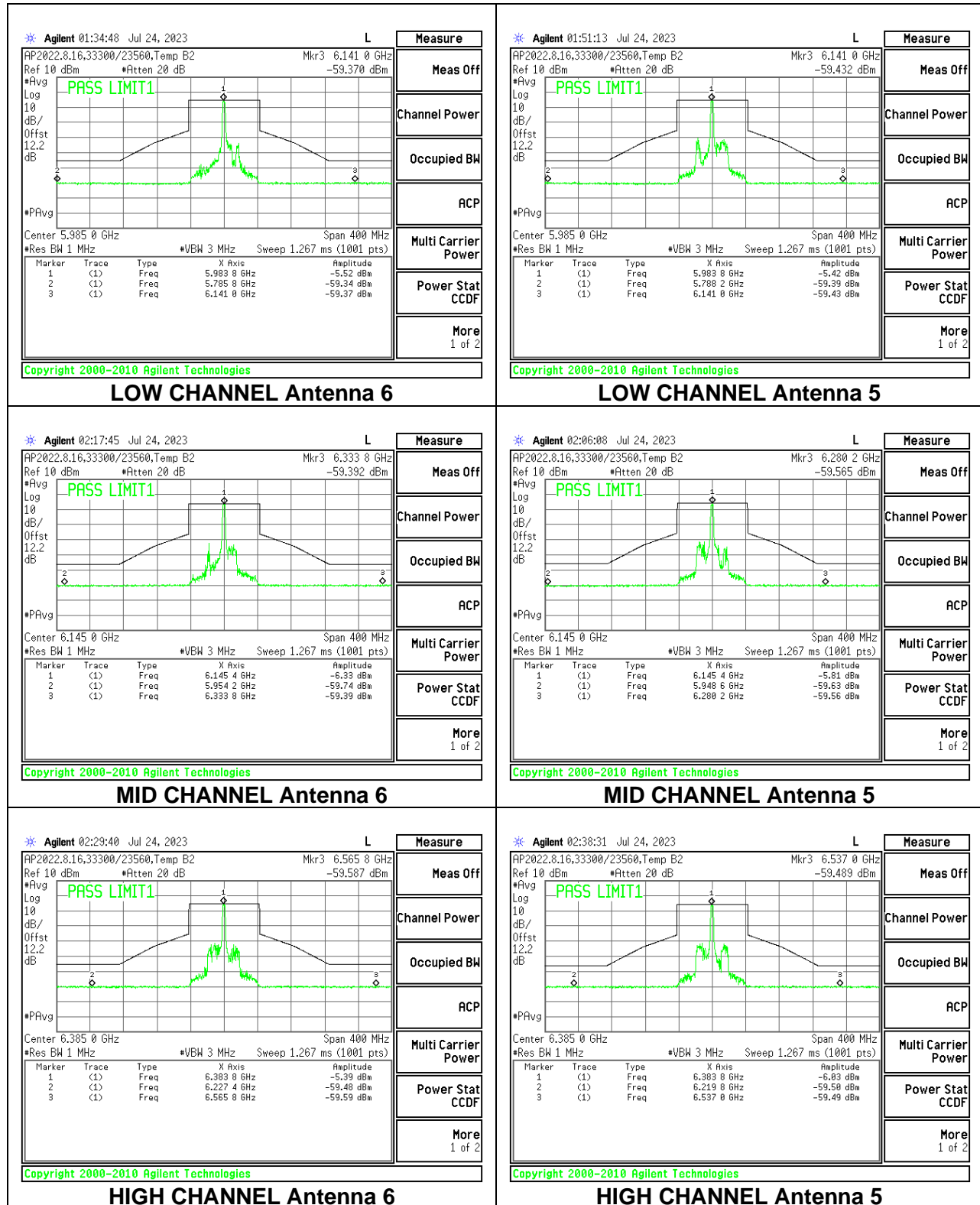


HIGH CHANNEL Antenna 6

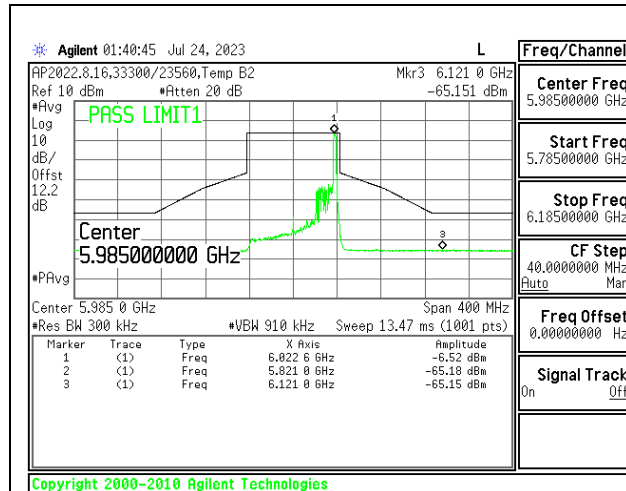


HIGH CHANNEL Antenna 5

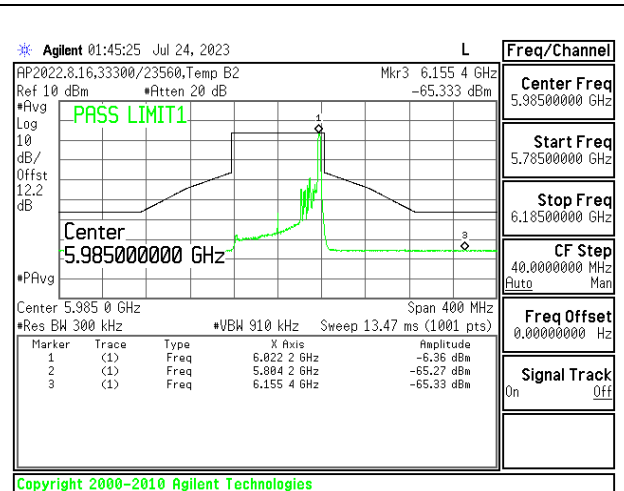
2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 18



2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 36



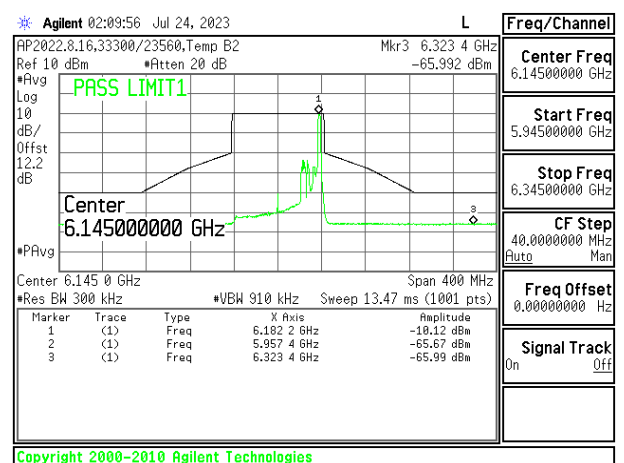
LOW CHANNEL Antenna 6



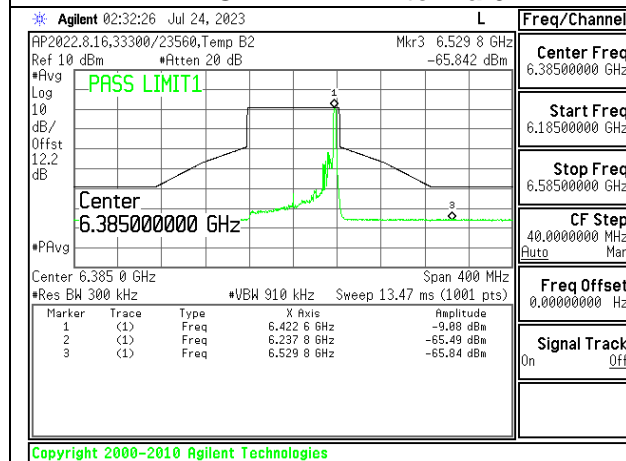
LOW CHANNEL Antenna 5



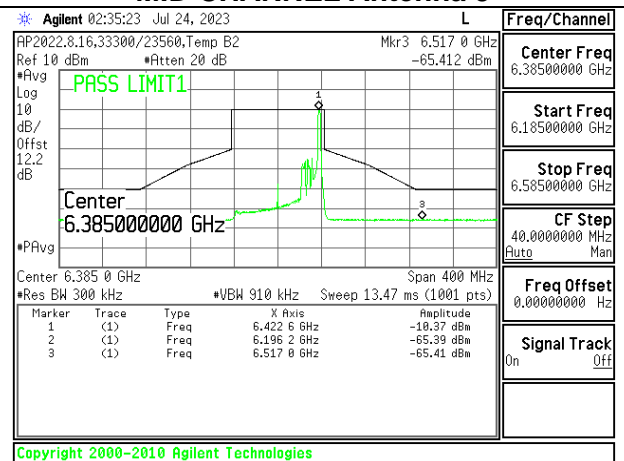
MID CHANNEL Antenna 6



MID CHANNEL Antenna 5



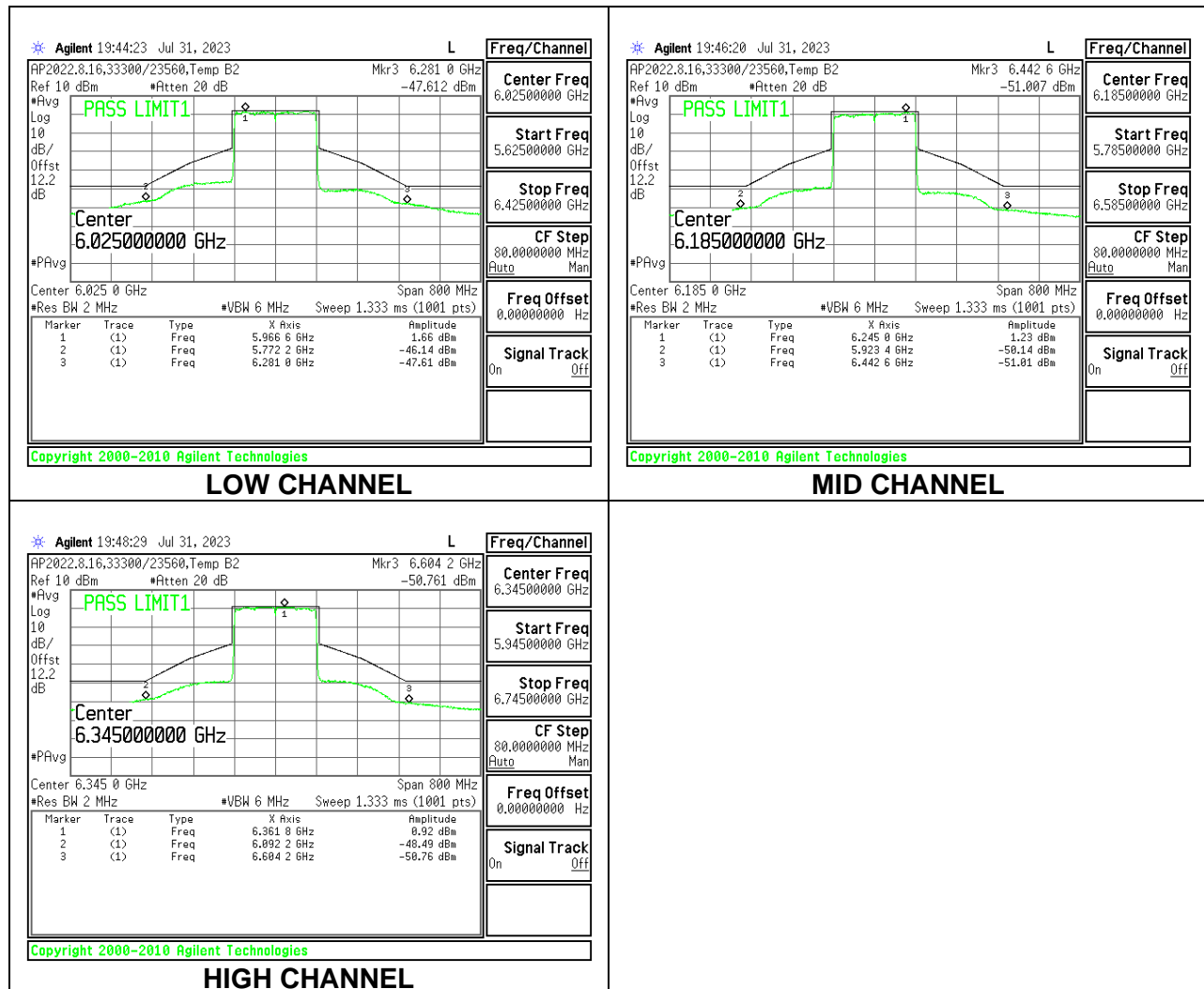
HIGH CHANNEL Antenna 6



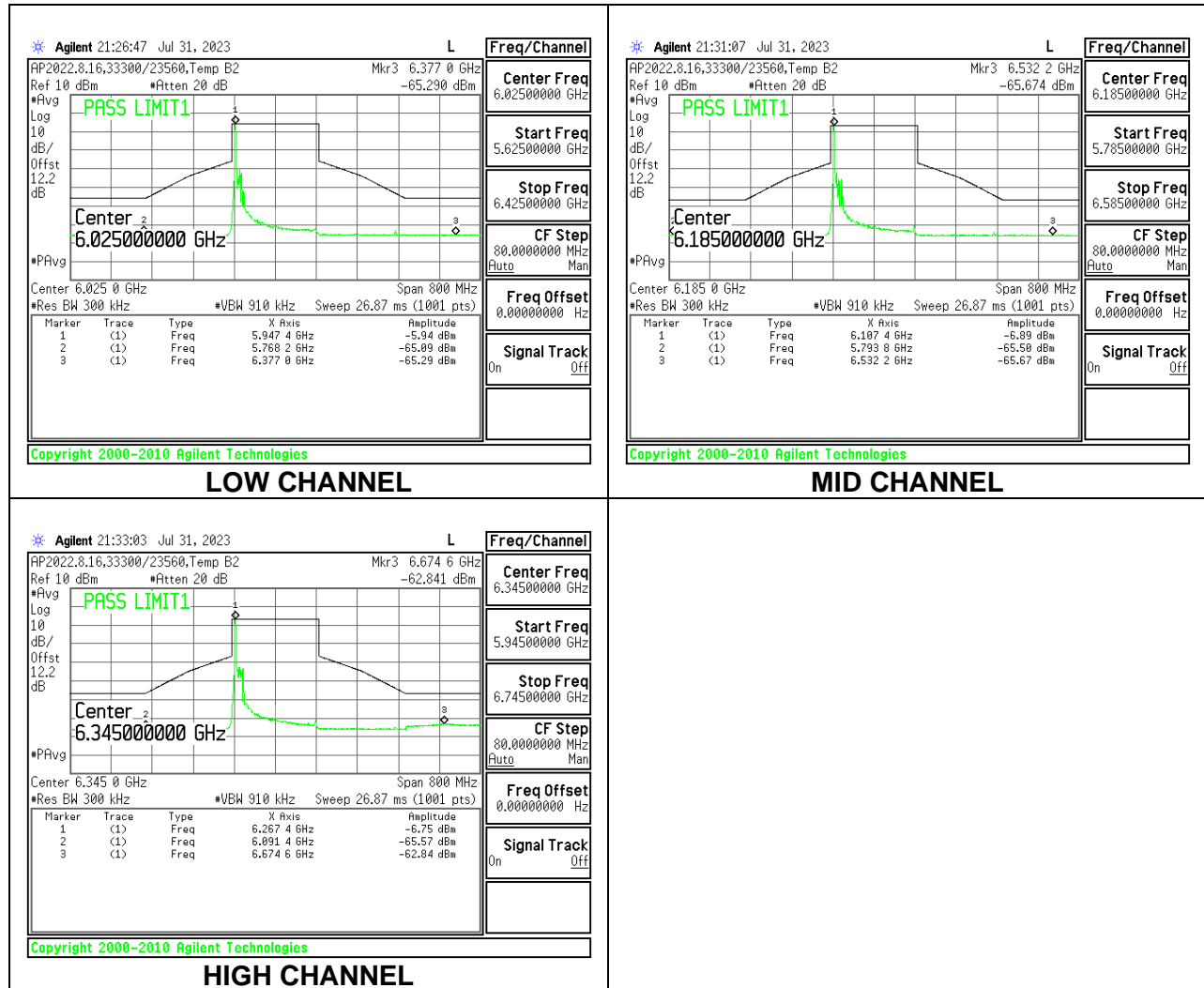
HIGH CHANNEL Antenna 5

9.5.4. 802.11ax HE160 MODE IN THE UNII-5 BAND

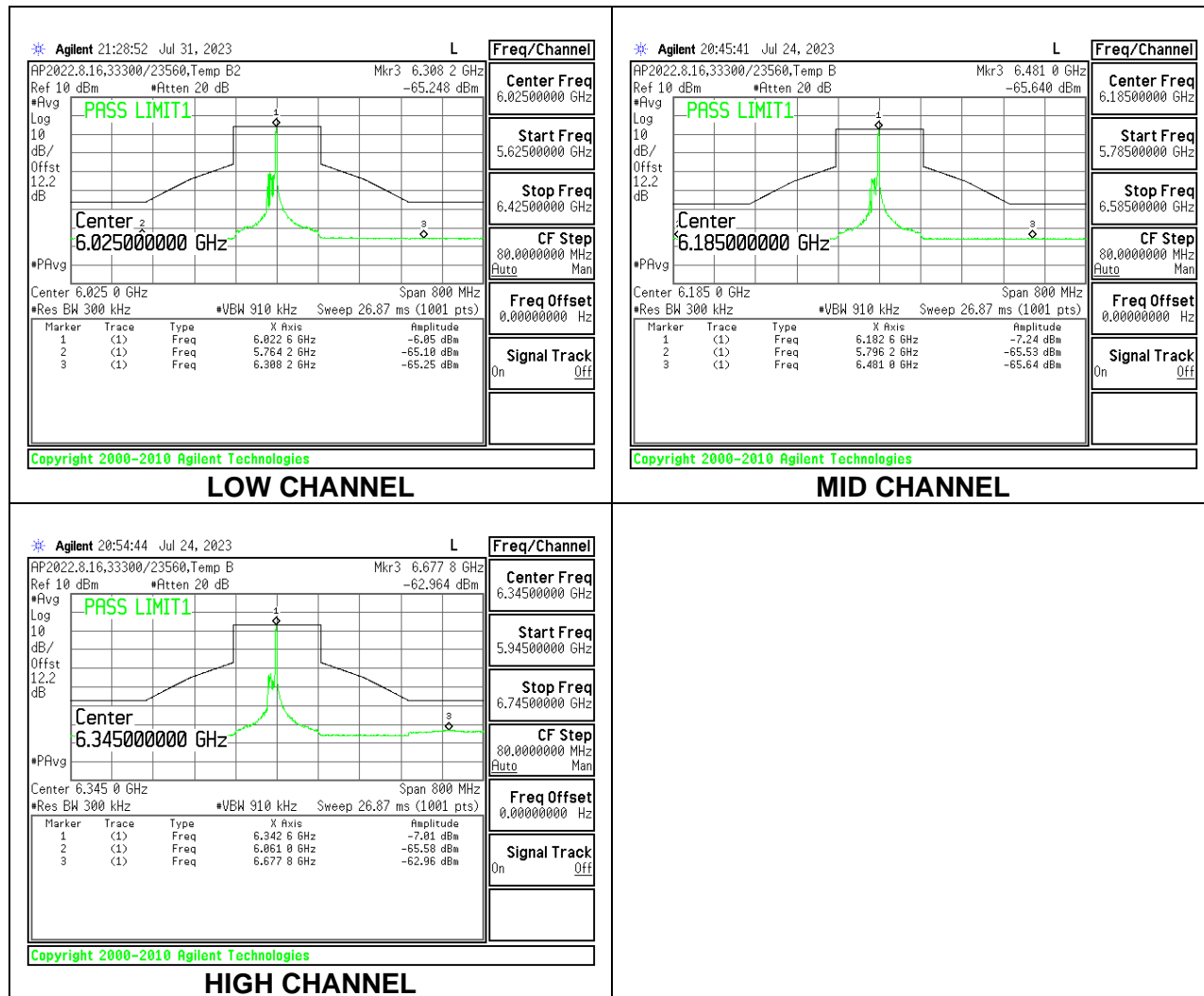
1TX Antenna 6 MODE: SU, Single User



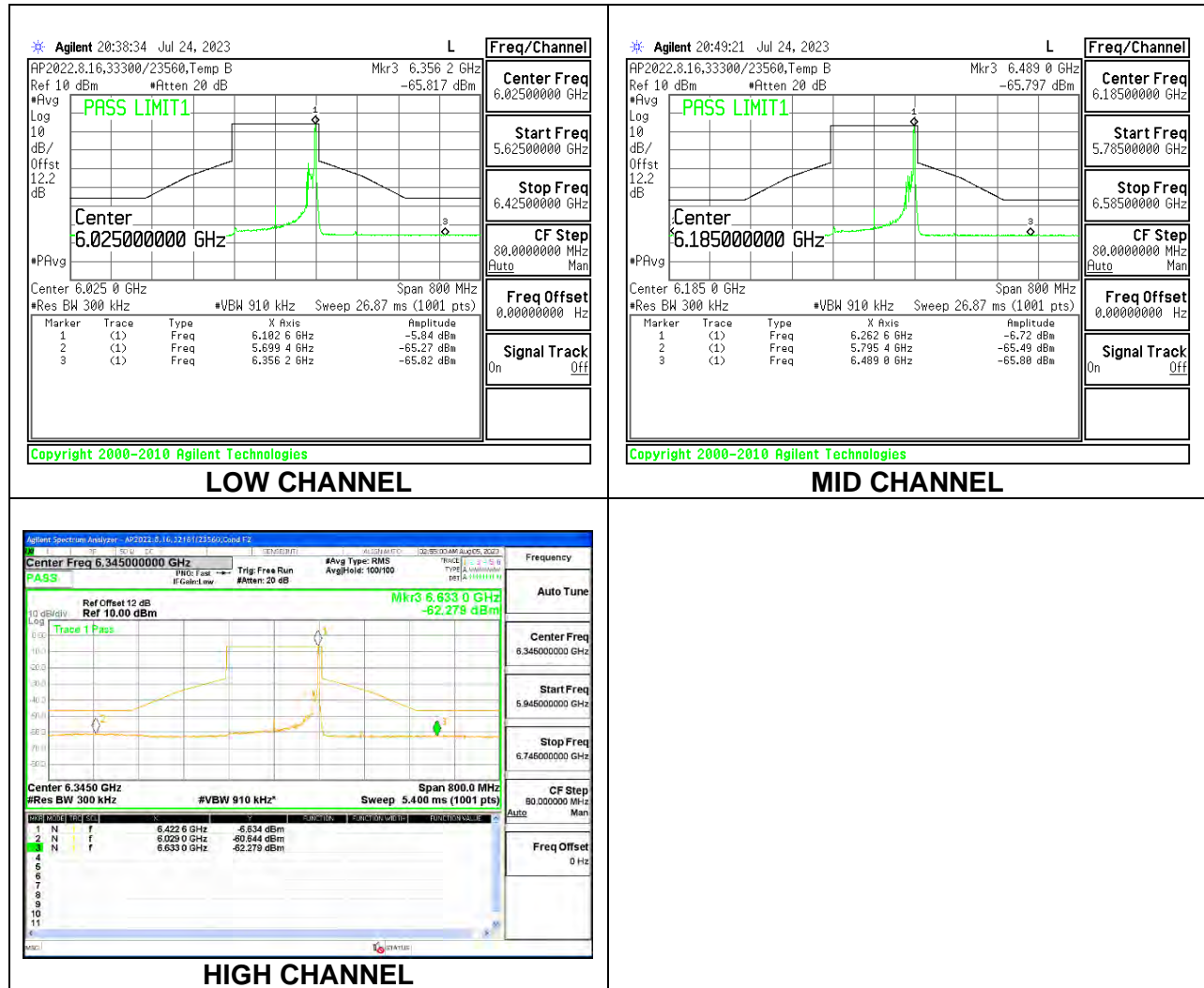
1TX Antenna 6 MODE: 26-Tone, RU Index 0



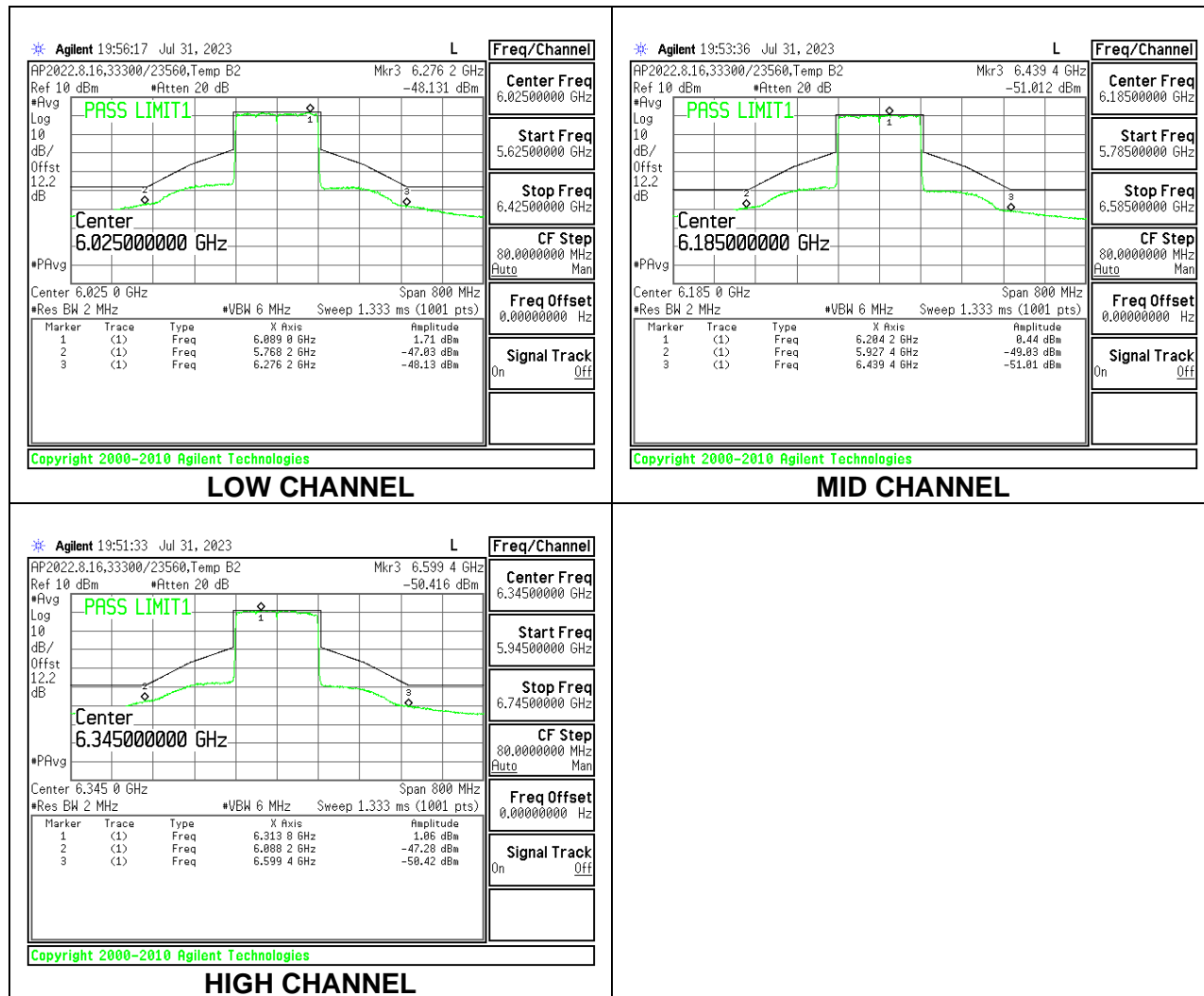
1TX Antenna 6 MODE: 26-Tone, RU Index 36



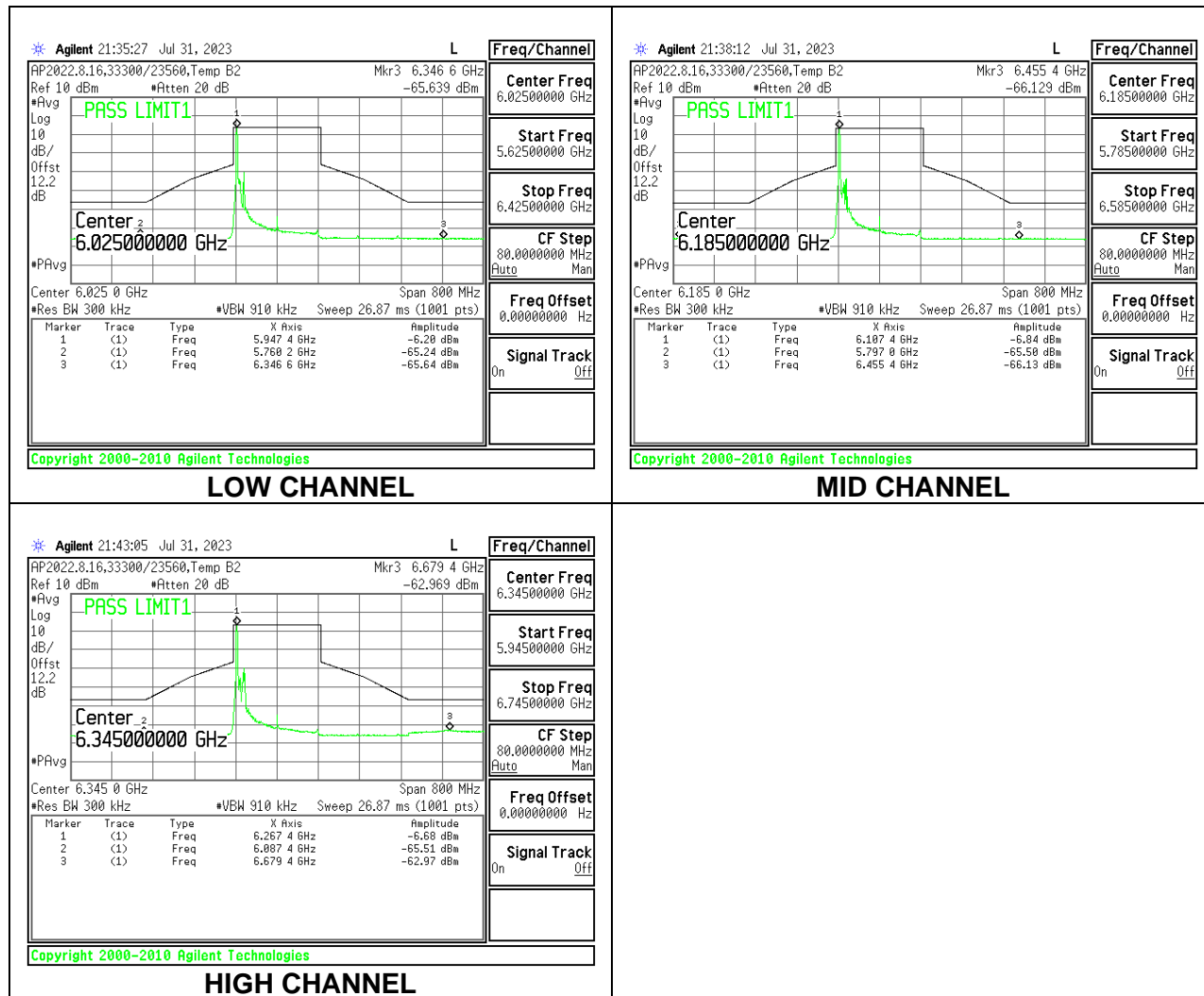
1TX Antenna 6 MODE: 26-Tone, RU Index S36



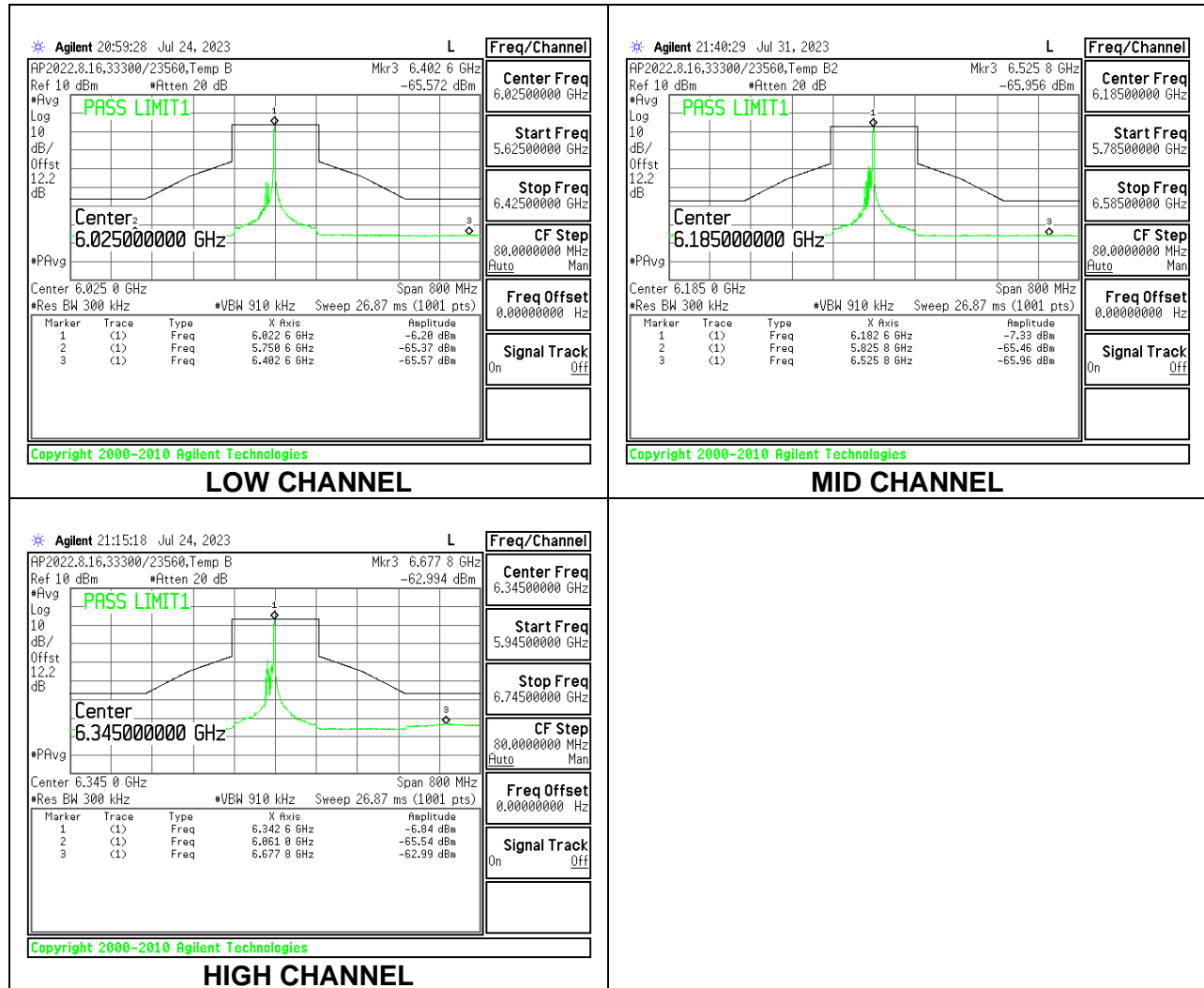
1TX Antenna 5 MODE: SU, Single User



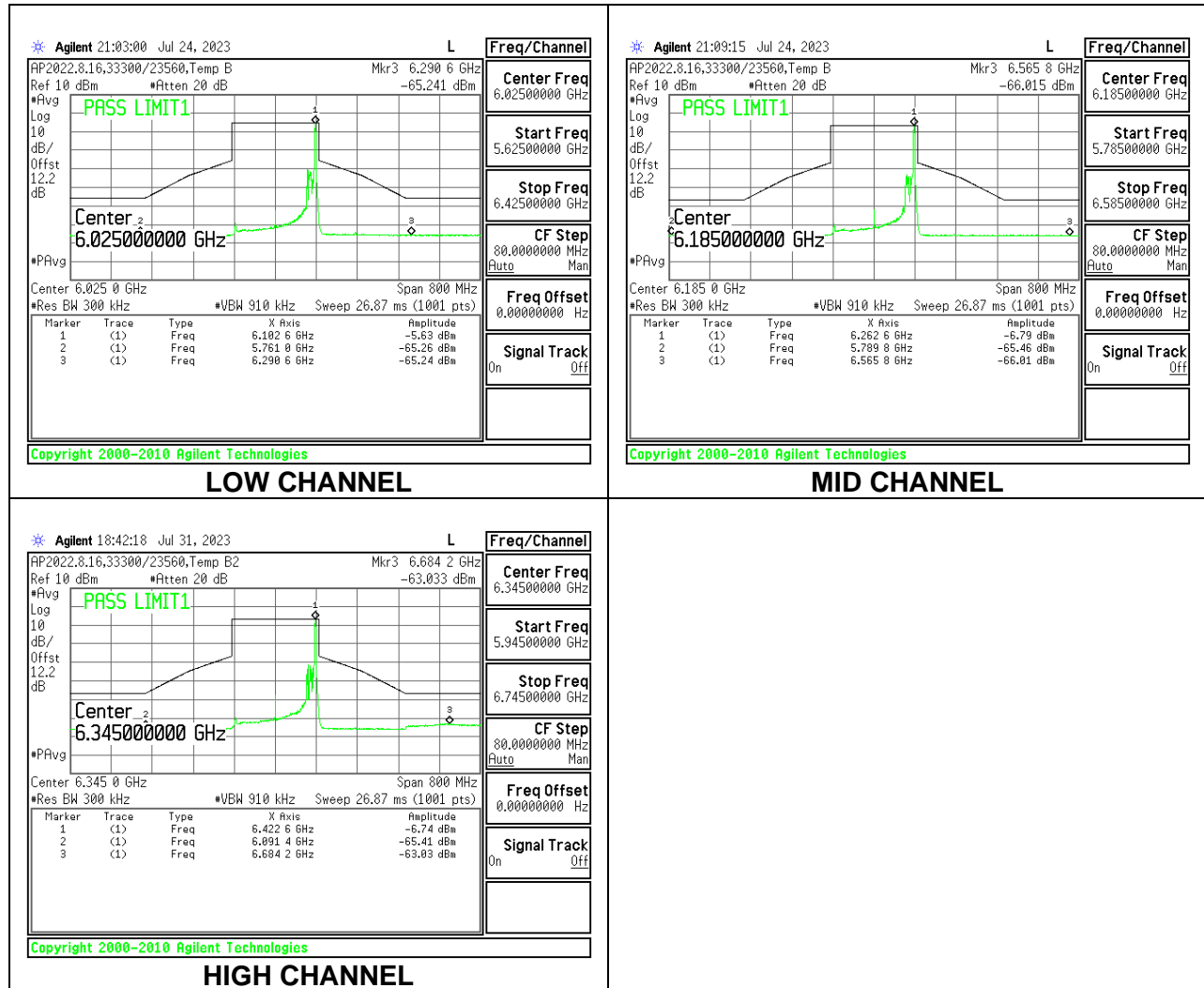
1TX Antenna 5 MODE: 26-Tone, RU Index 0



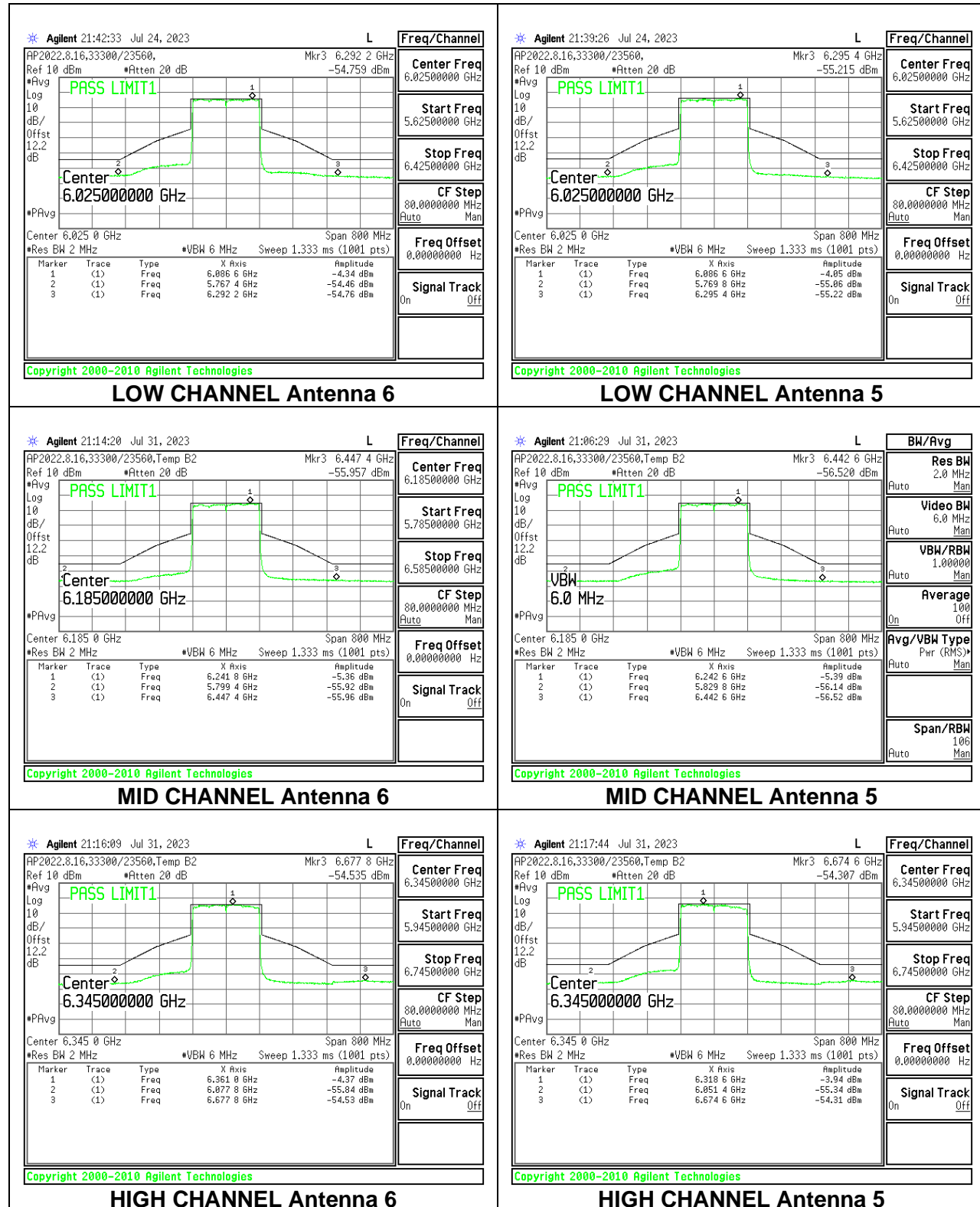
1TX Antenna 5 MODE: 26-Tone, RU Index 36



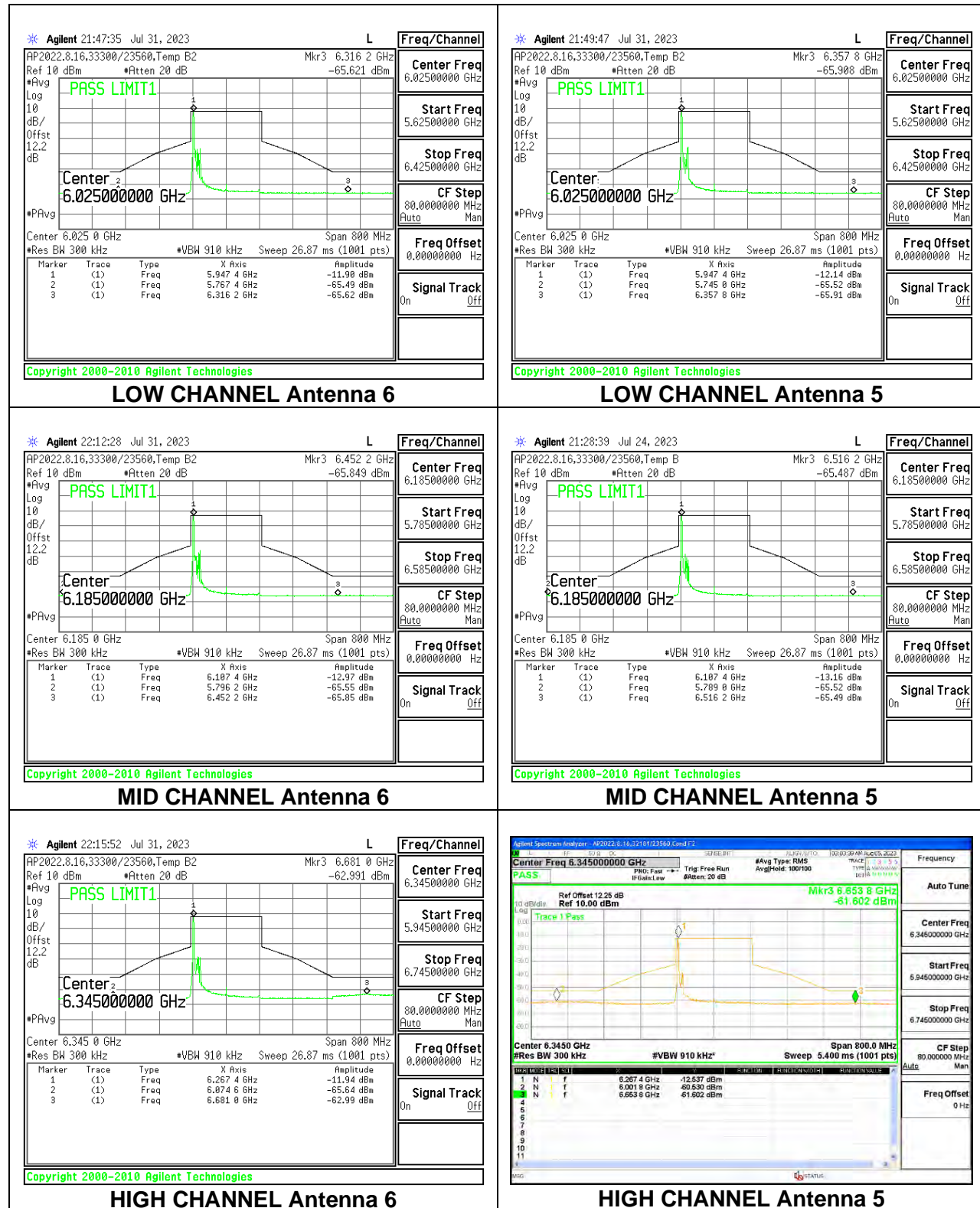
1TX Antenna 5 MODE: 26-Tone, RU Index S36



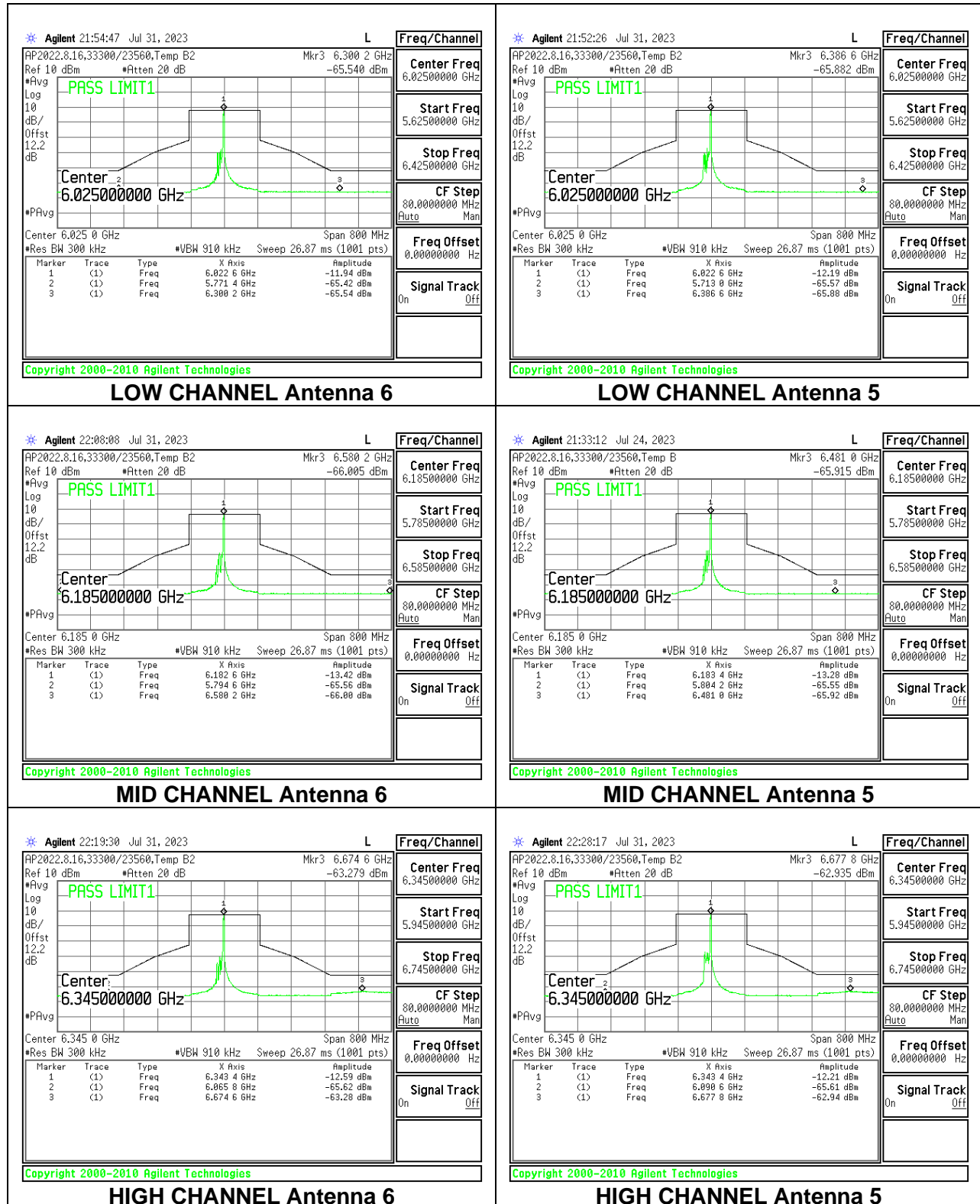
2TX Antenna 6 + Antenna 5 CDD MODE: SU, Single User



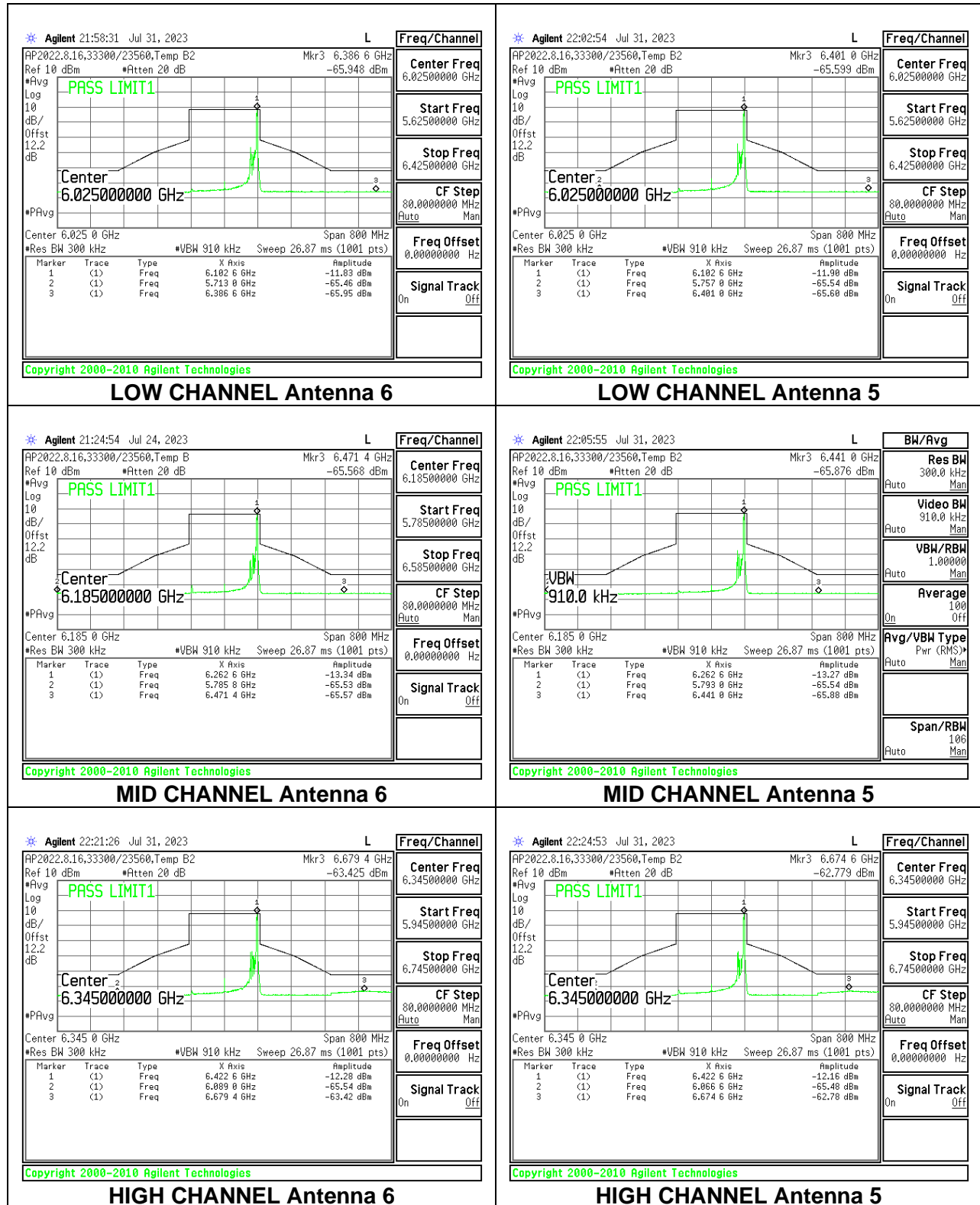
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 0



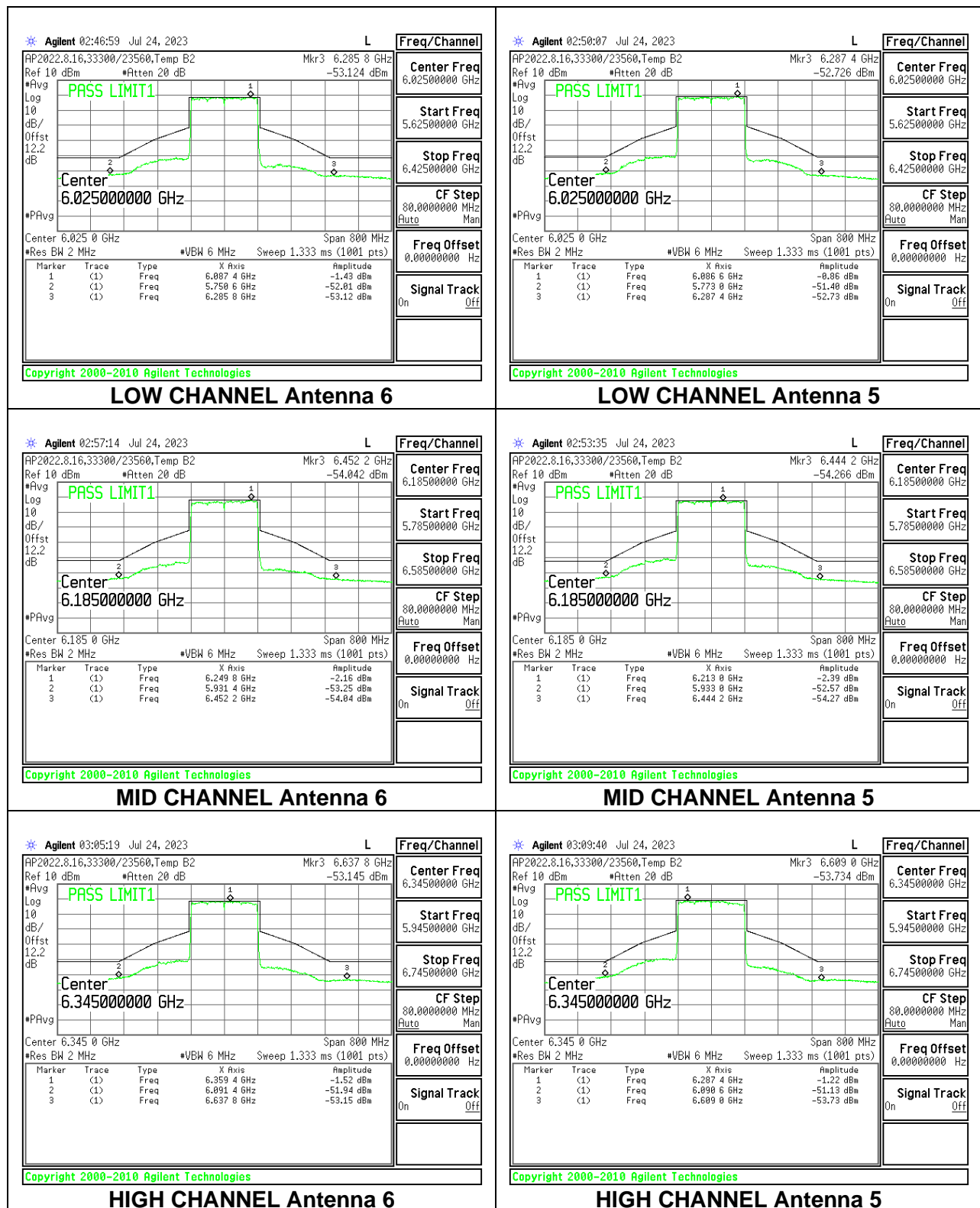
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 36



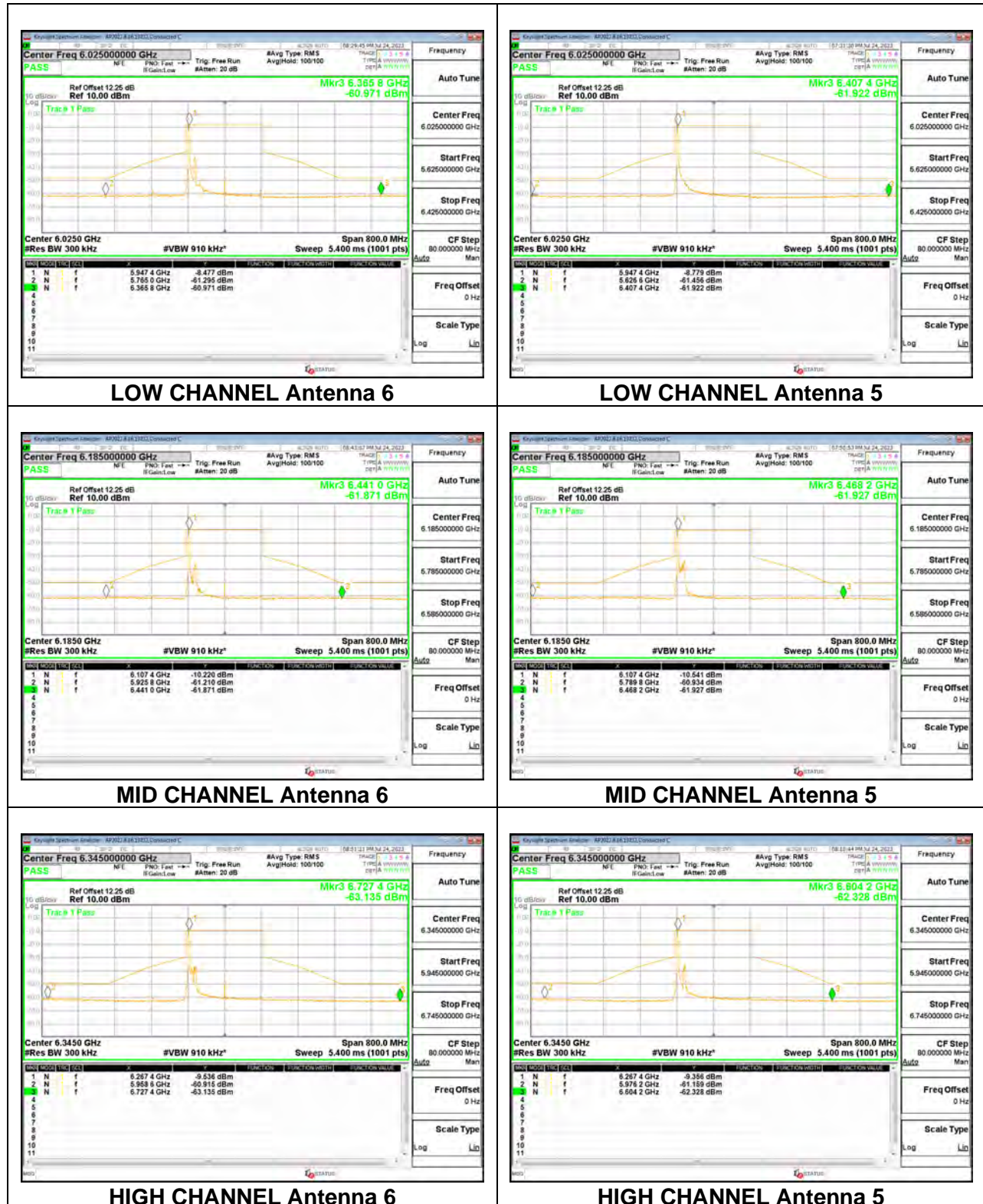
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index S36



2TX Antenna 6 + Antenna 5 SDM MODE: SU, Single User



2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 0



[illegible][illegible]

Keysight Spectrum Analyzer

Center Freq 6.18500000 GHz

PASS

Ref Offset 12.25 dB

Ref 10.00 dBm

Trig: Free Run

Attain: 20 dB

AVG Type: RMS

AvgHold: 100/100

19-09-18 PM 24, 2023

Frequency

Auto Tune

Center Freq 6.18500000 GHz

Start Freq 6.18500000 GHz

Stop Freq 6.18500000 GHz

CF Step 80.000000 MHz

Auto

Freq Offset 0 Hz

Scale Type Lin

Log

Span 800.0 MHz

Sweep 5.400 ms (1001 pts)

#VBW 910 kHz

Table

Line	Marker	Freq (GHz)	Amplitude (dBm)
1	N	6.182	-10.458
2	N	6.185	-61.114
3	N	6.411	-62.059

Center Freq 6.185000000 GHz
 PASS N/E Pk: Fast Trig: Free Run Avg Type: RMS
 F Gain: Low Attain: 20 dB Amplitude: 100/100

Ref Offset 12.25 dB
 Ref 10.00 dBm

Mkr3 6.242 6 GHz
 -62.114 dBm

Trace 1 Pass

Center 6.1850 GHz
 #VBW 910 kHz Span 800.0 MHz
 #Res BW 300 kHz Sweep 5.400 ms (1001 pts)

Chan	Freq	Power	Marker
1	6.1834 GHz	-10.851 dBm	
2	6.1897 GHz	-61.072 dBm	
3	6.442 GHz	-62.114 dBm	

Auto Tune

Center Freq 6.18500000 GHz

Start Freq 6.78500000 GHz

Stop Freq 6.98500000 GHz

CF Step 80.000000 MHz

Auto Man

Freq Offset 0 Hz

Scale Type Log Lin

Keysight Spectrum Analyzer HP202.1.0.12352 Connected C

Center Freq 6.345000000 GHz

PASS

Ref Offset 12.25 dB
Ref 10.00 dBm

Mkr3 6.745 0 GHz
-62.271 dBm

Center 6.3450 GHz
Res BW 300 kHz
Span 900.0 MHz
Sweep 5.400 ms (1001 pts)

Line	Marker	Freq (GHz)	Power (dBm)
1	N	6.343 4 GHz	-2.209 dBm
2	N	6.997 8 GHz	-61.074 dBm
3	N	6.745 0 GHz	-62.271 dBm

Keysight Spectrum Analyzer AP2021-01A-11023 Connected L

Center Freq 6.345000000 GHz

PASS

Ref Offset 12.25 dB
Ref 10.00 dBm

Mkr3 6.509 0 GHz
-62.274 dBm

Center 6.3450 GHz
Res BW 300 kHz

#VBW 910 kHz

Span 800.0 MHz
Sweep 5.400 ms (1001 pts)

Chan	Marker	Label	Freq	Power	Power/Hz	Power/Freq Width
1	N	f	6.343 4 GHz	-9.238 dBm		
2	N	f	6.950 8 GHz	-61.237 dBm		
3	N	f	6.509 0 GHz	-62.274 dBm		

Frequency

Auto Tune

Center Freq
6.345000000 GHz

Start Freq
5.945000000 GHz

Stop Freq
6.745000000 GHz

CF Step
80.000000 MHz

Auto

Freq Offset
0 Hz

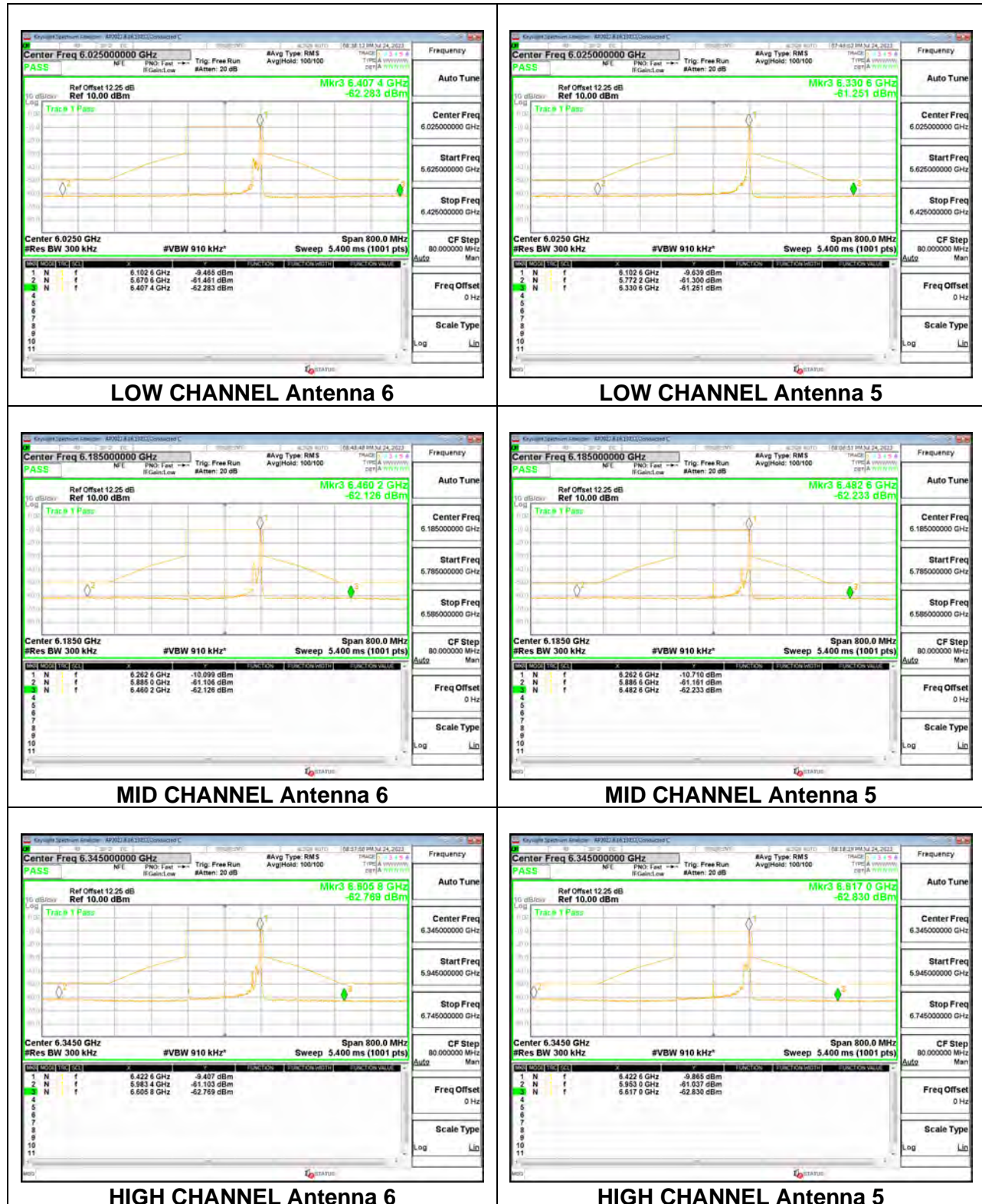
Scale Type
Lin

Log

STATUS

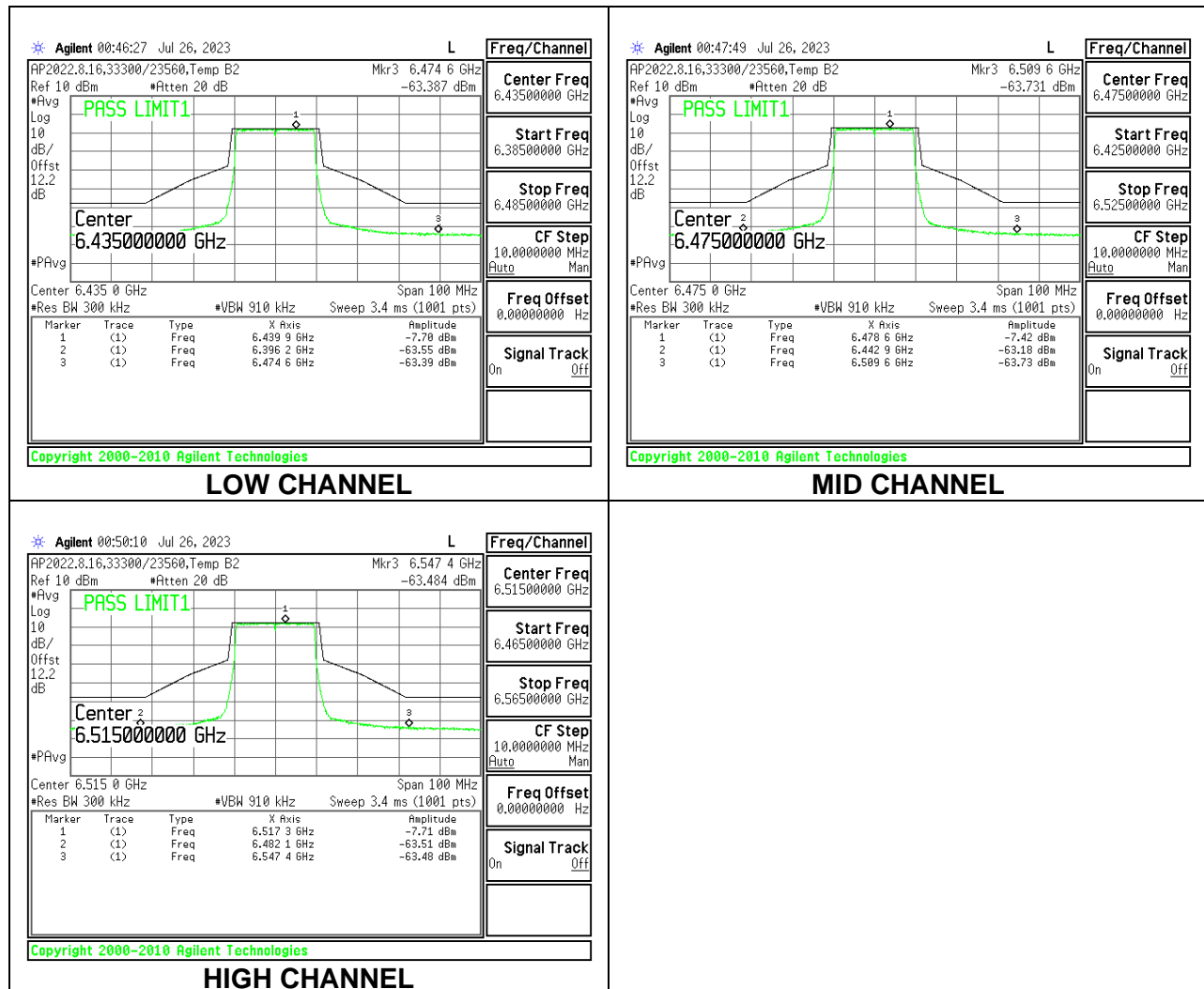
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2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index S36

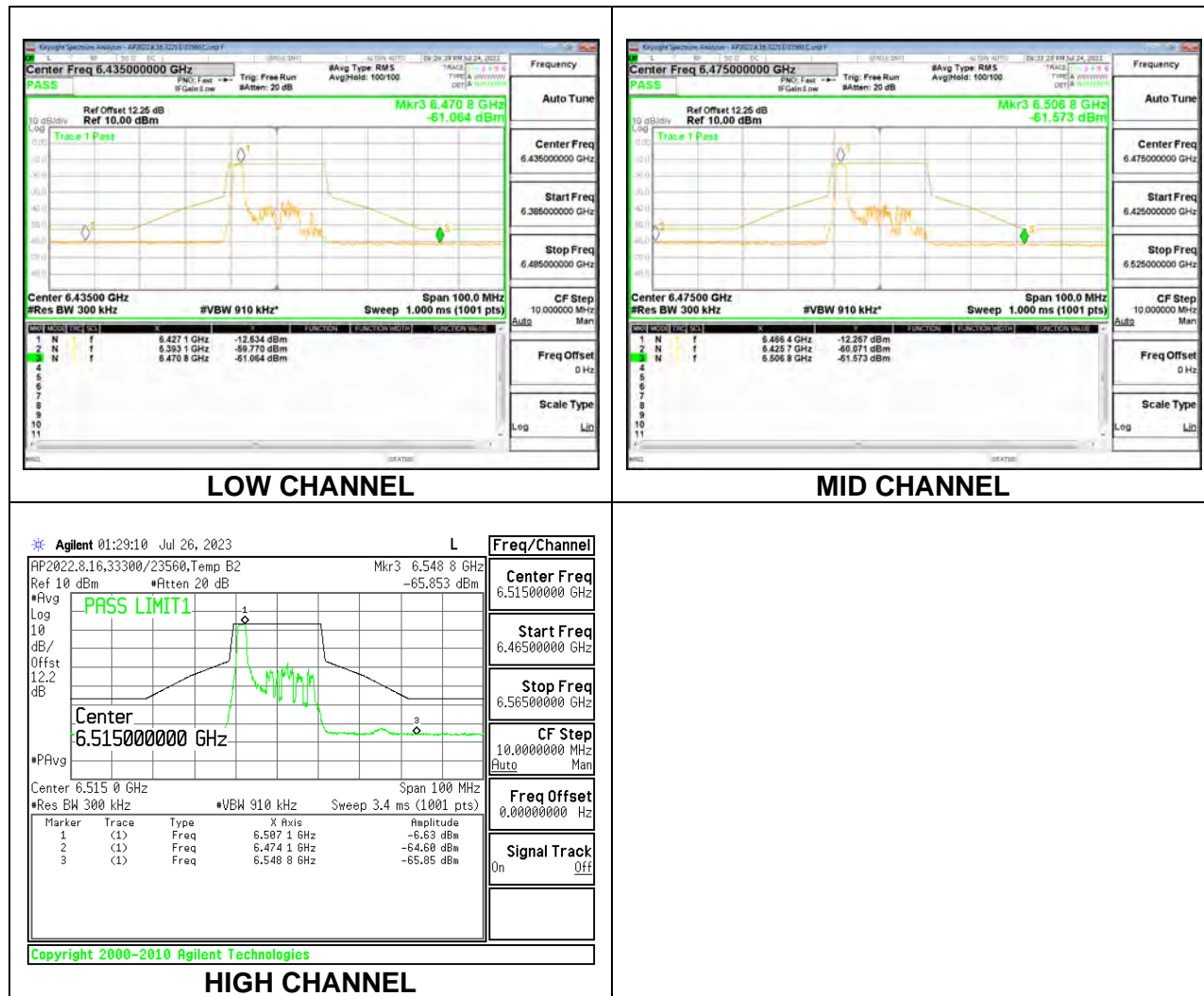


9.5.5. 802.11ax HE20 MODE IN THE UNII-6 BAND

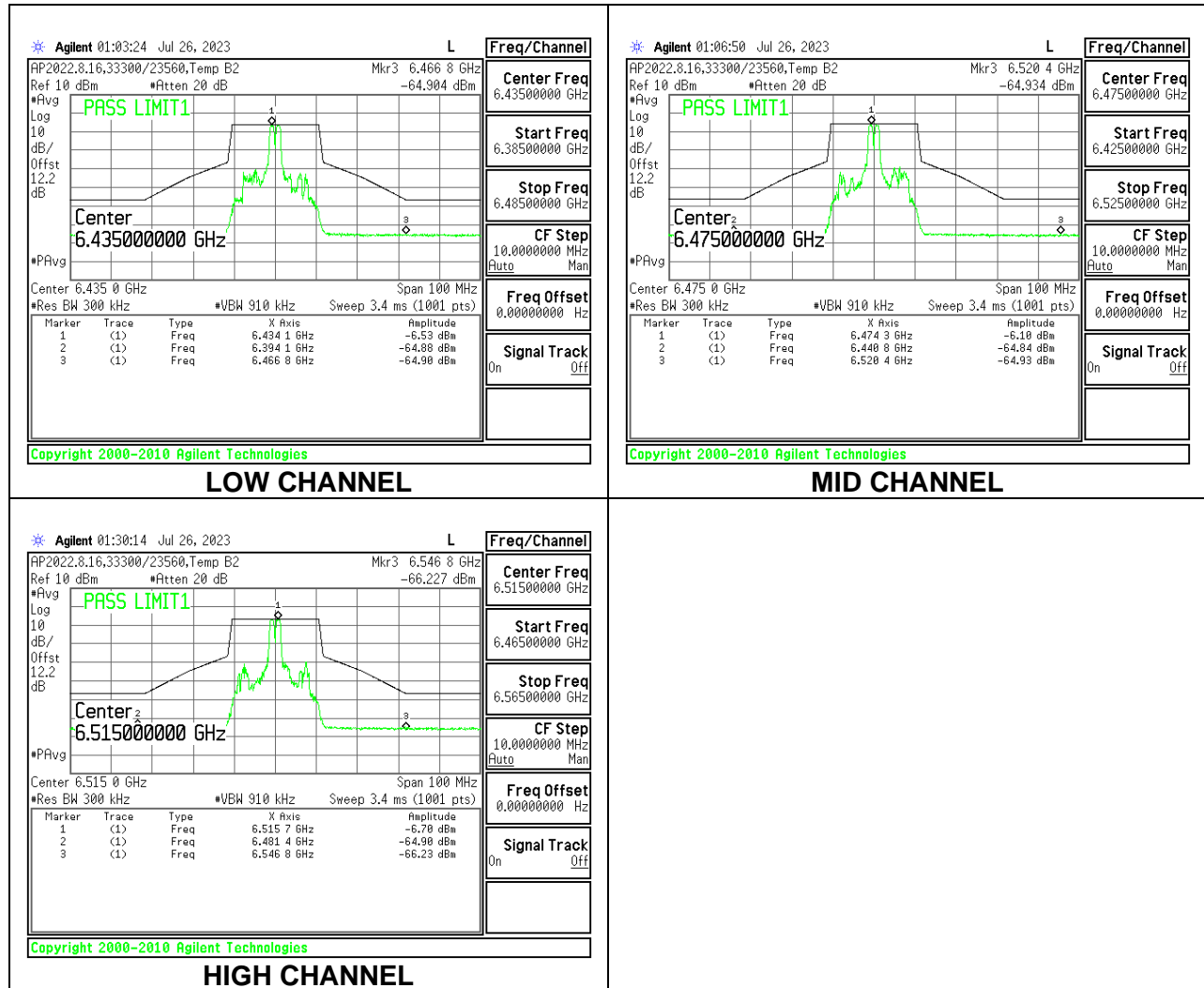
1TX Antenna 6 MODE: SU, Single User



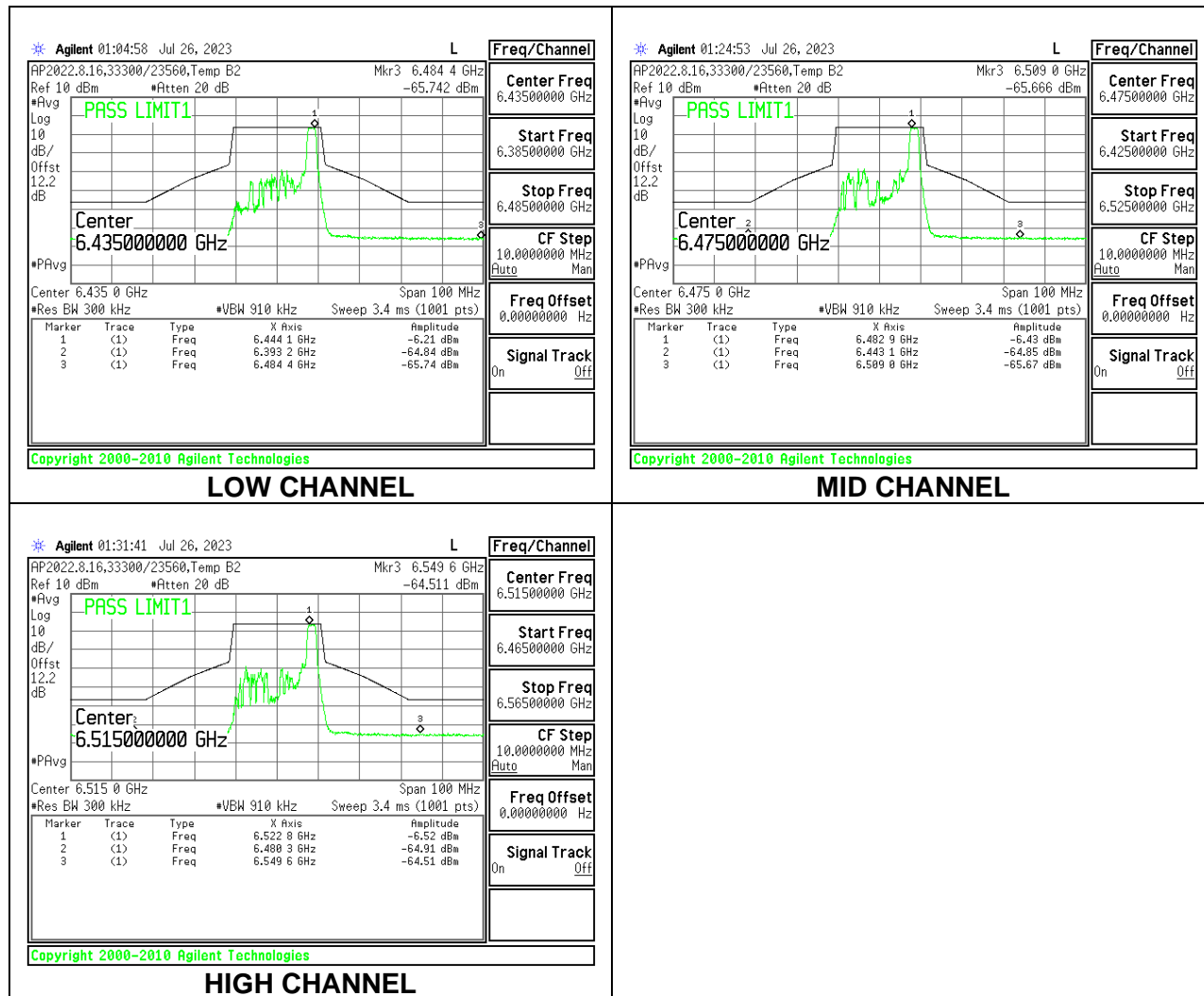
1TX Antenna 6 MODE: 26-Tone, RU Index 0



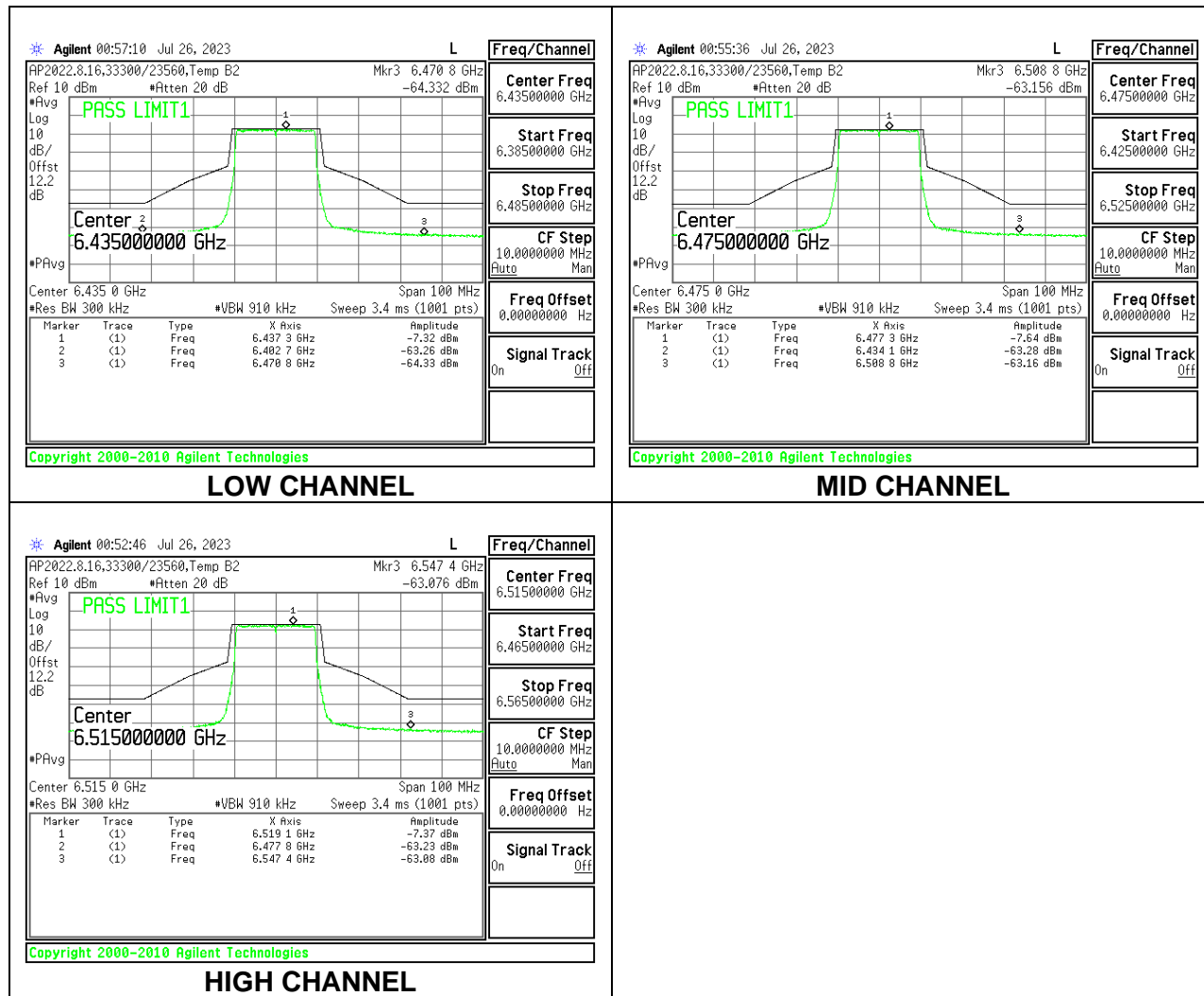
1TX Antenna 6 MODE: 26-Tone, RU Index 4



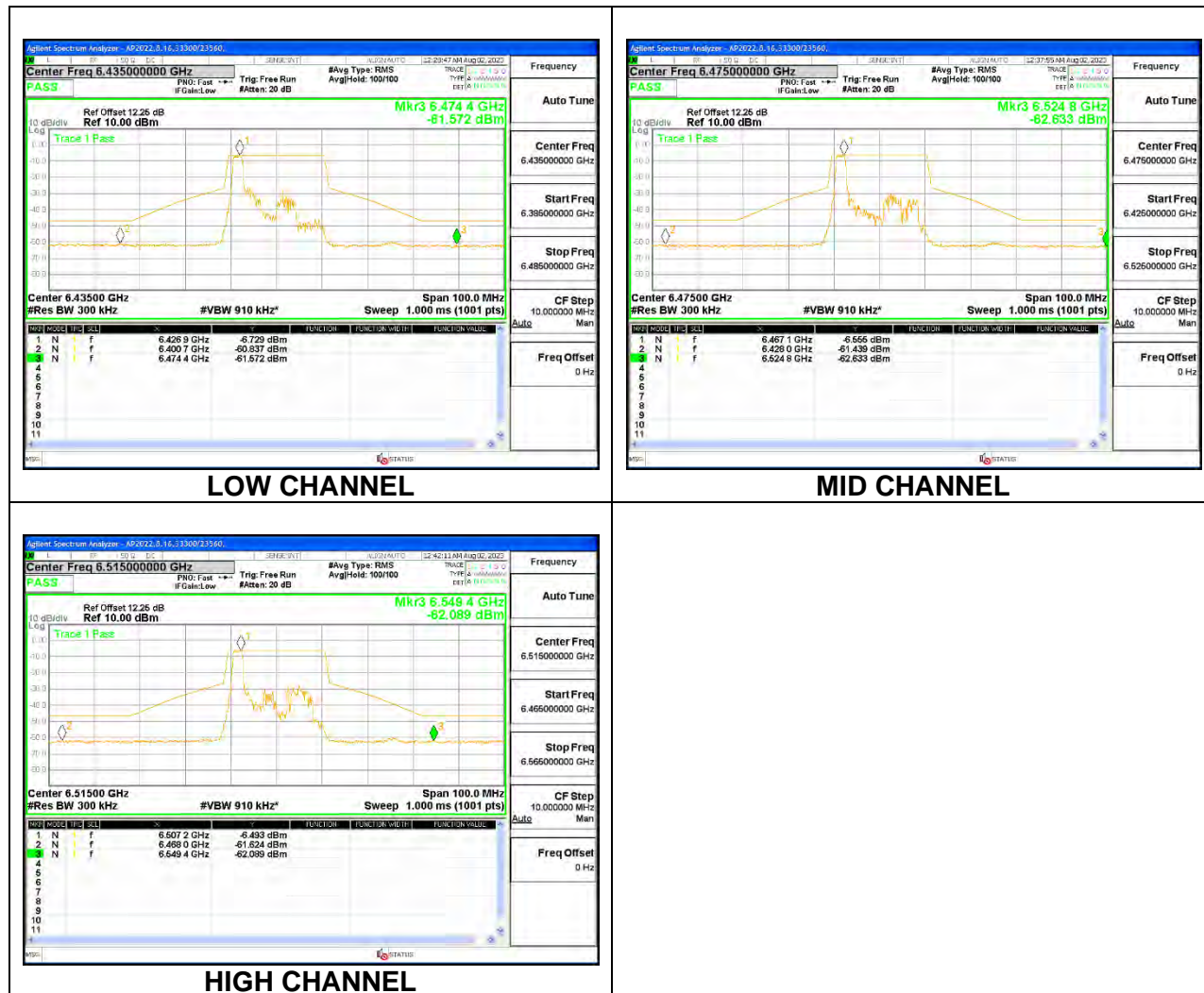
1TX Antenna 6 MODE: 26-Tone, RU Index 8



1TX Antenna 5 MODE: SU, Single User



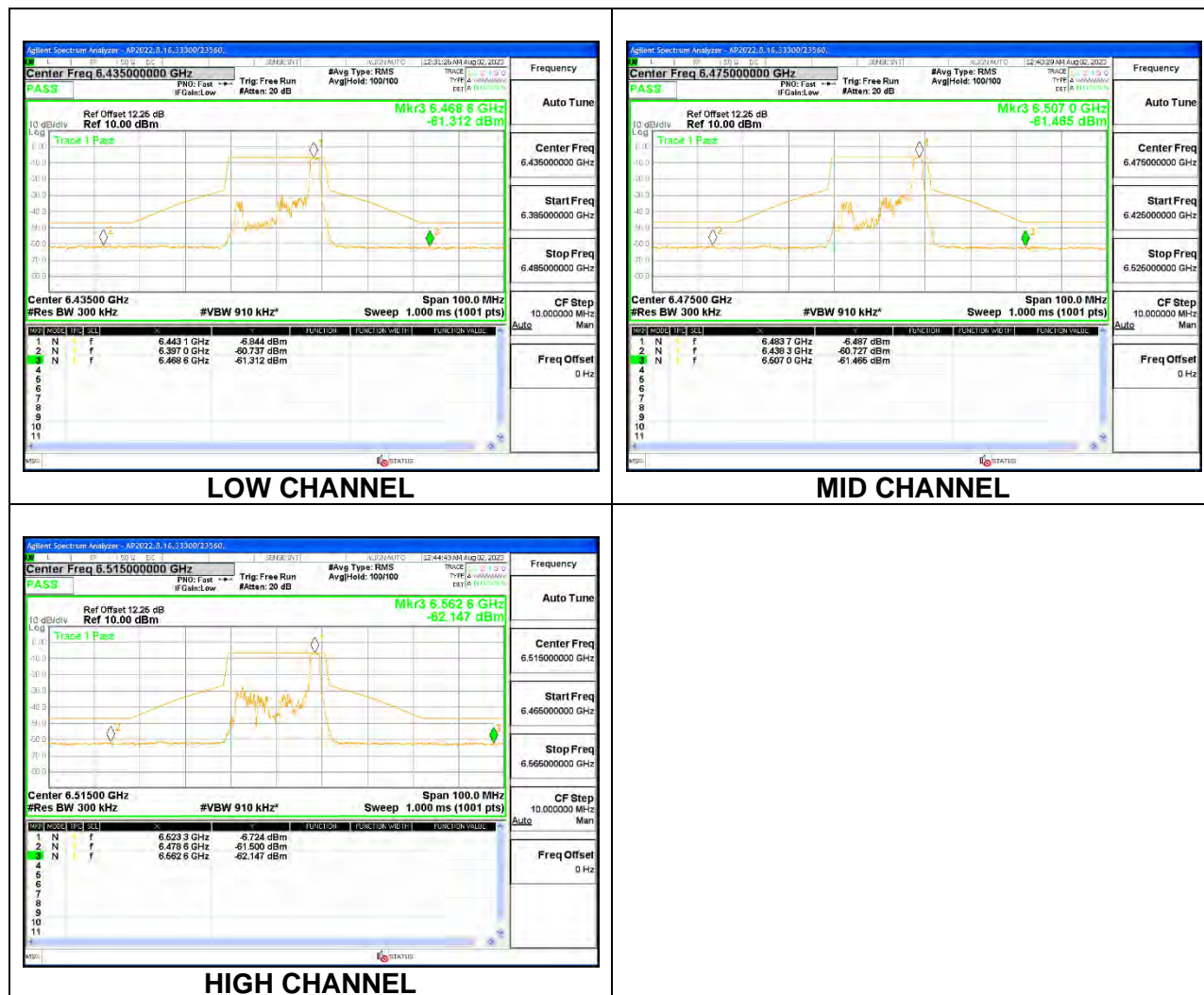
1TX Antenna 5 MODE: 26-Tone, RU Index 0



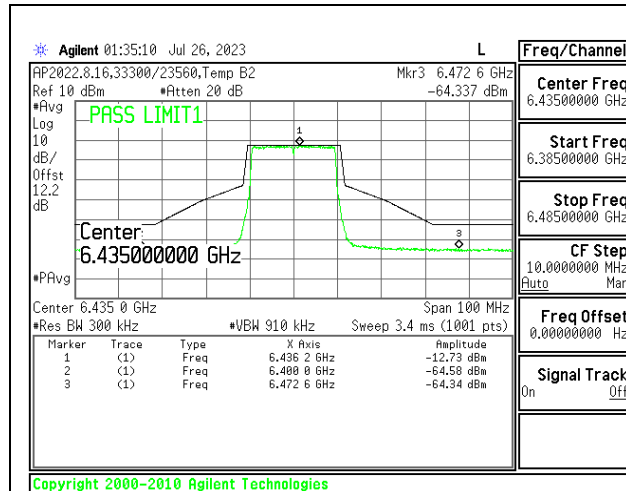
1TX Antenna 5 MODE: 26-Tone, RU Index 4



1TX Antenna 5 MODE: 26-Tone, RU Index 8



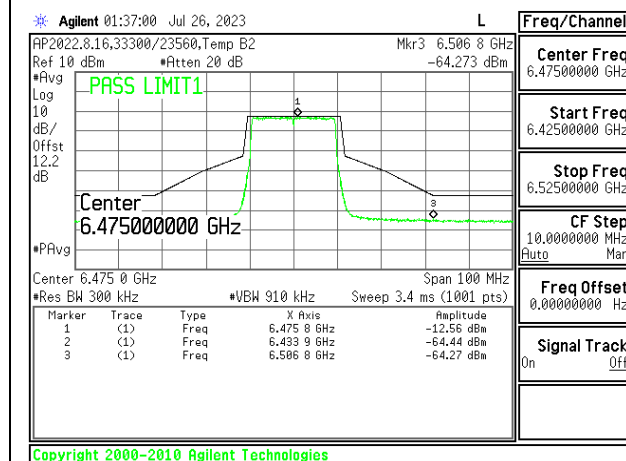
2TX Antenna 6 + Antenna 5 CDD MODE: SU, Single User



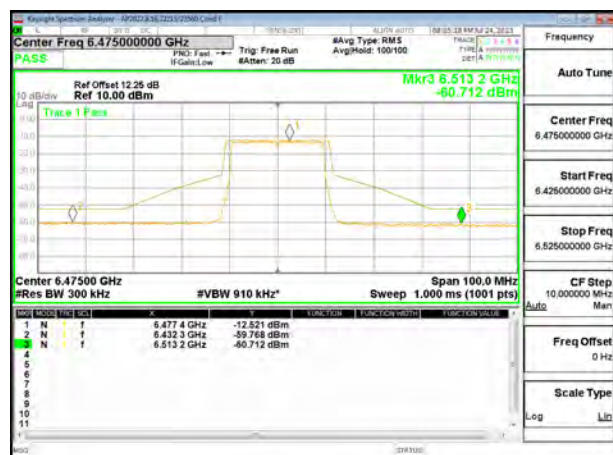
LOW CHANNEL Antenna 6



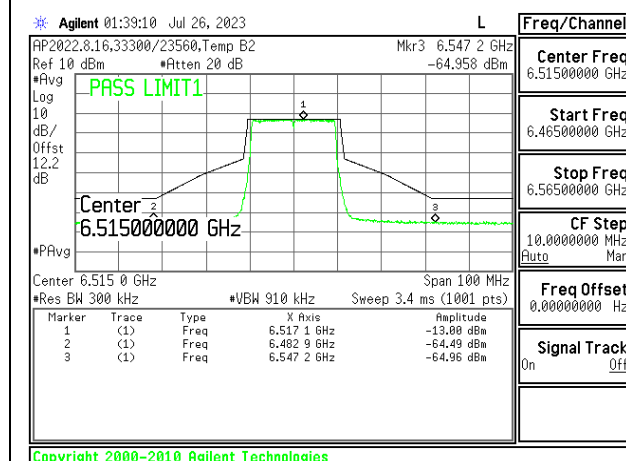
LOW CHANNEL Antenna 5



MID CHANNEL Antenna 6



MID CHANNEL Antenna 5

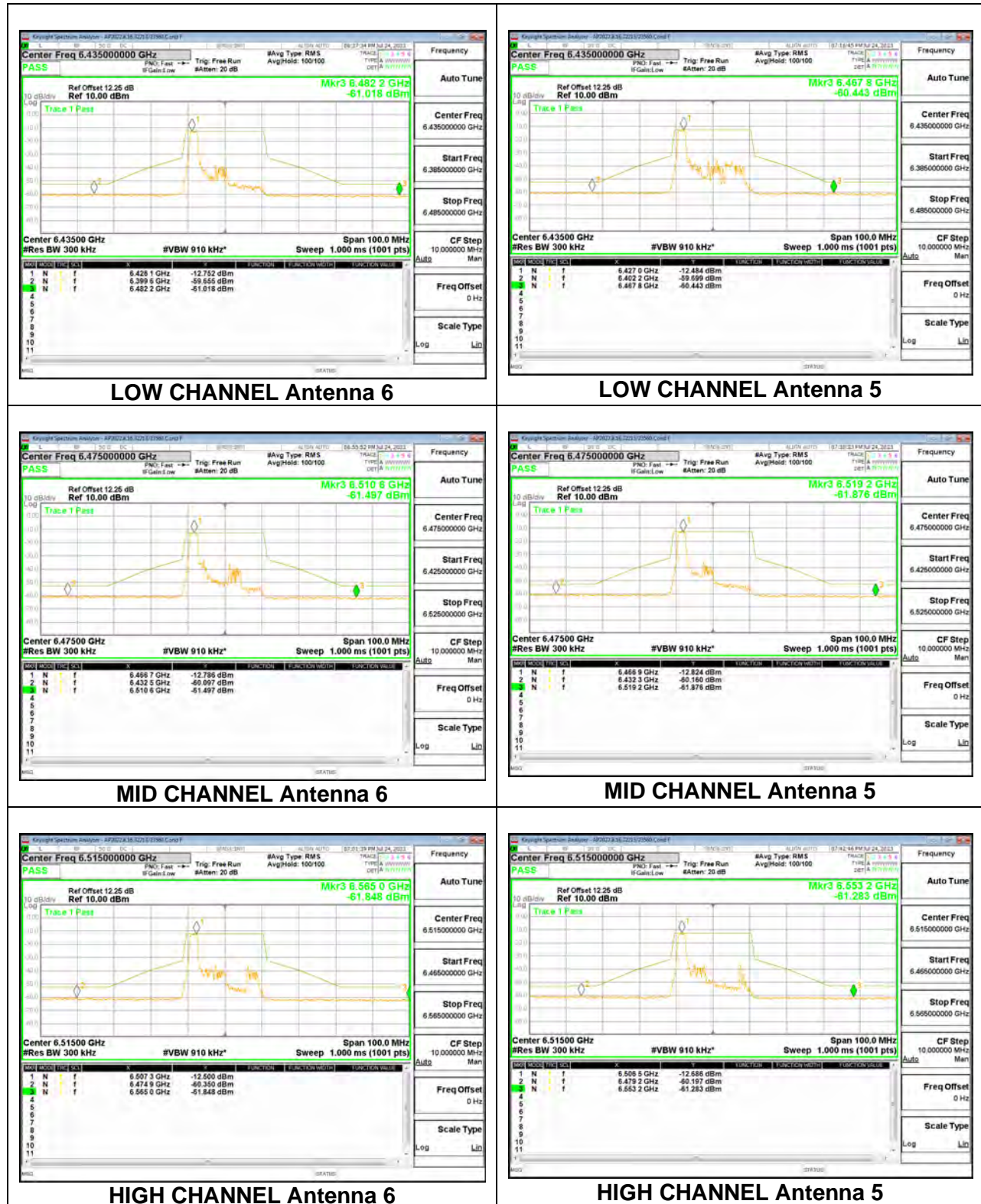


HIGH CHANNEL Antenna 6

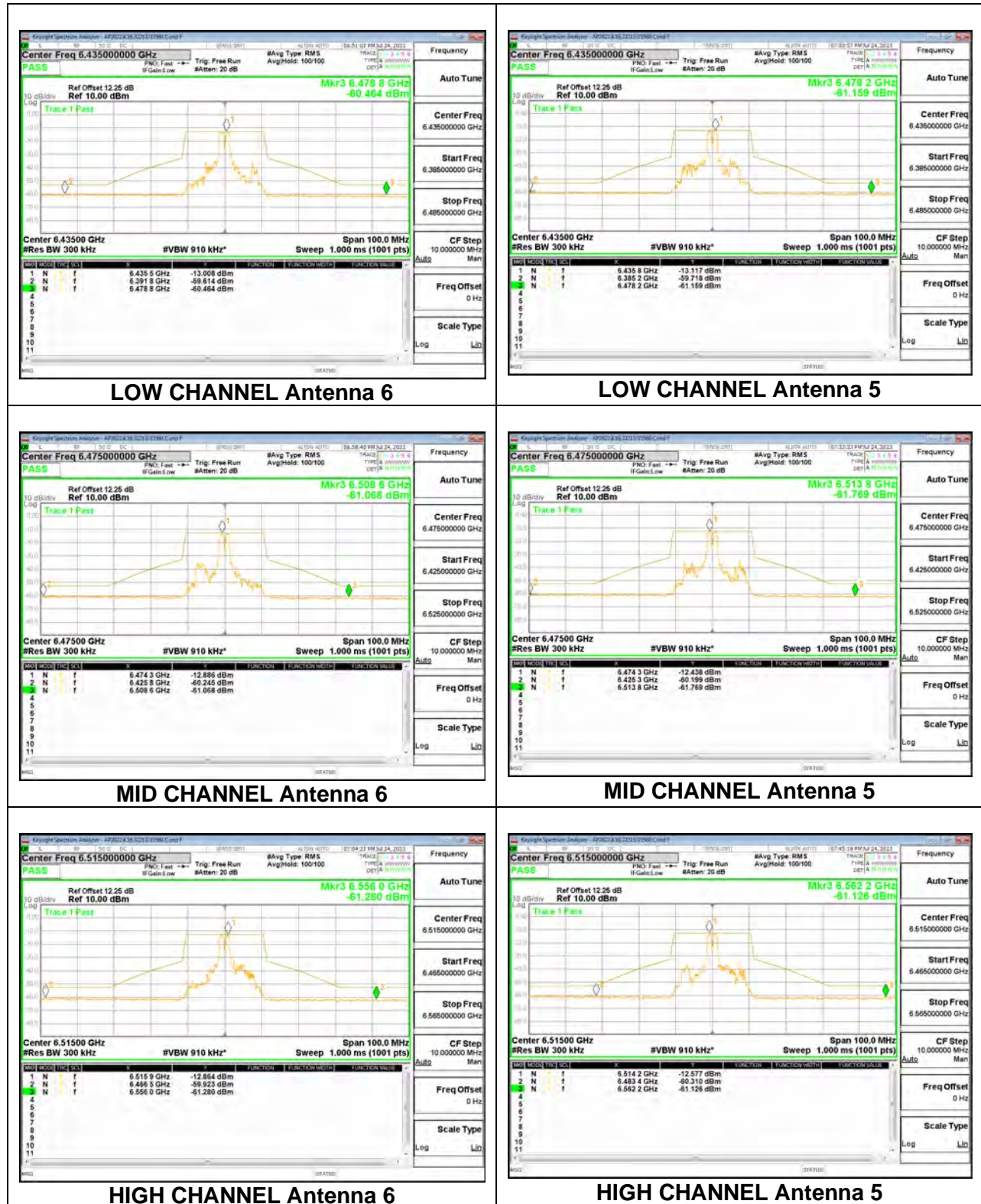


HIGH CHANNEL Antenna 5

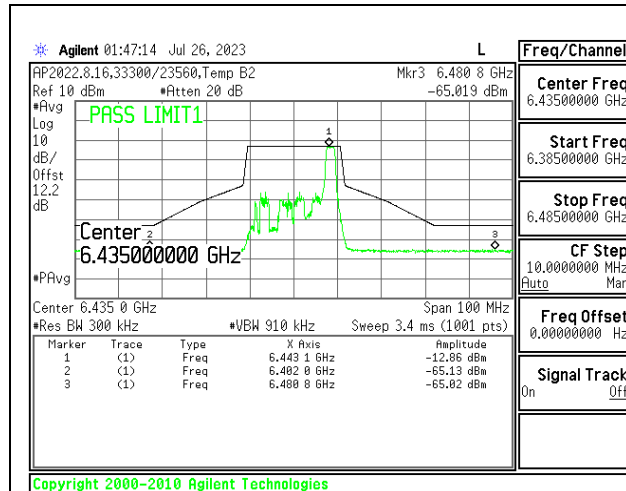
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 0



2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 4



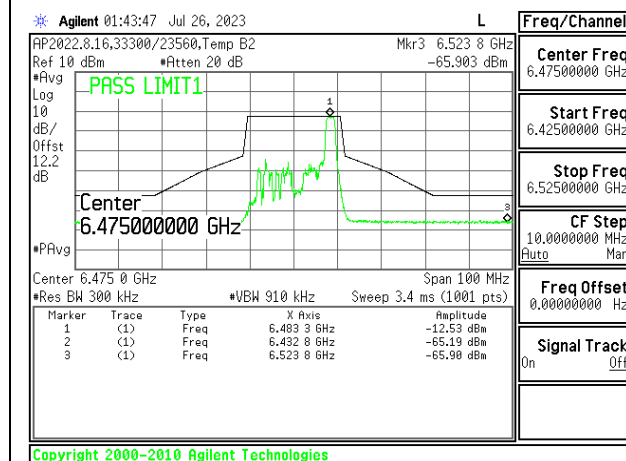
2TX Antenna 6 + Antenna 5 CDD MODE: 26-Tone, RU Index 8



LOW CHANNEL Antenna 6



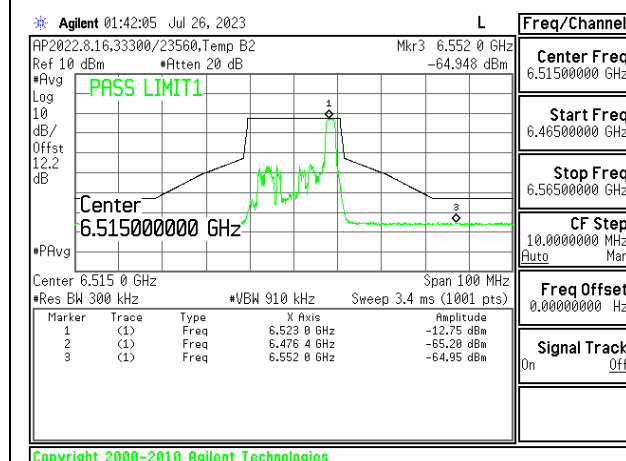
LOW CHANNEL Antenna 5



MID CHANNEL Antenna 6



MID CHANNEL Antenna 5

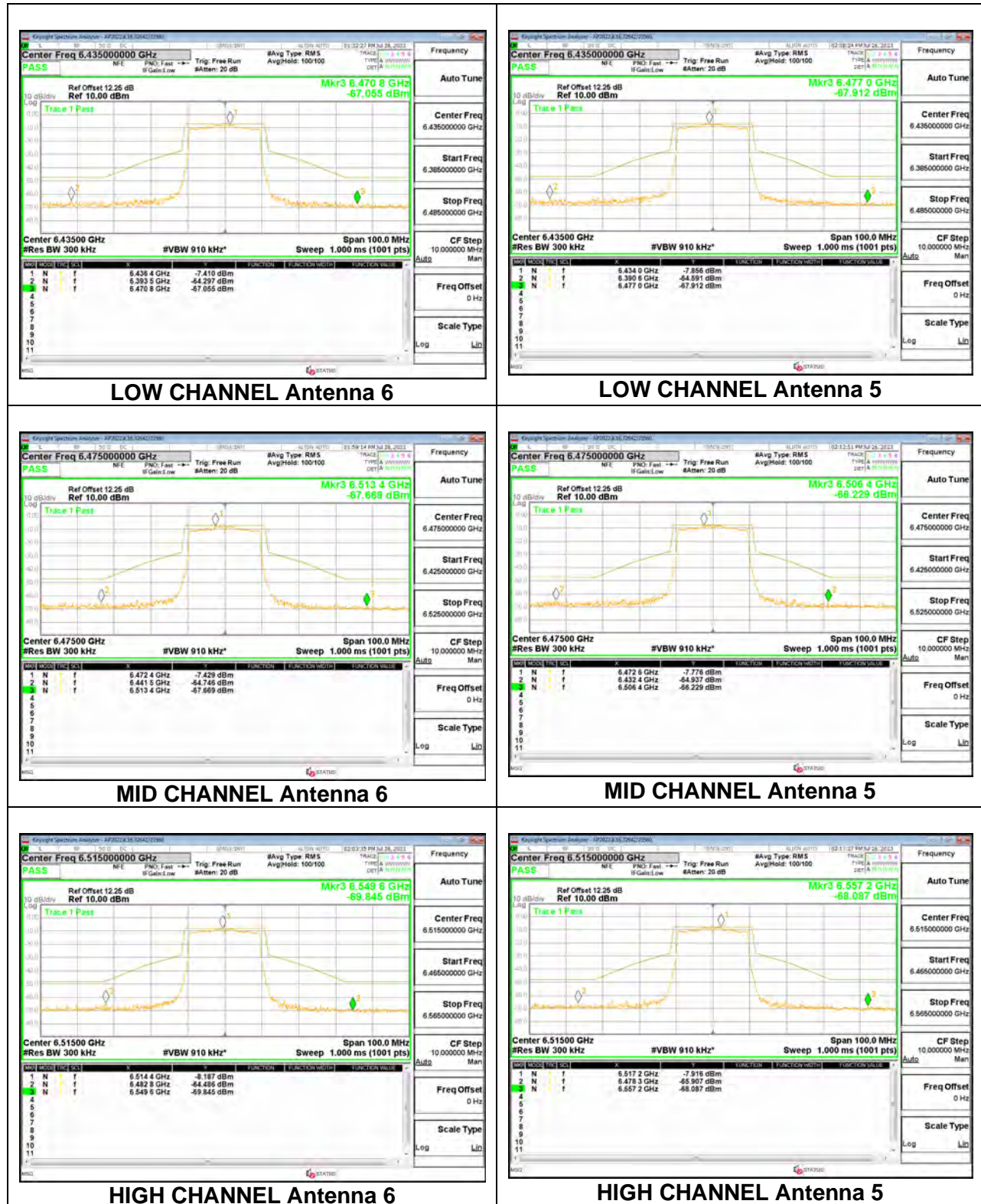


HIGH CHANNEL Antenna 6

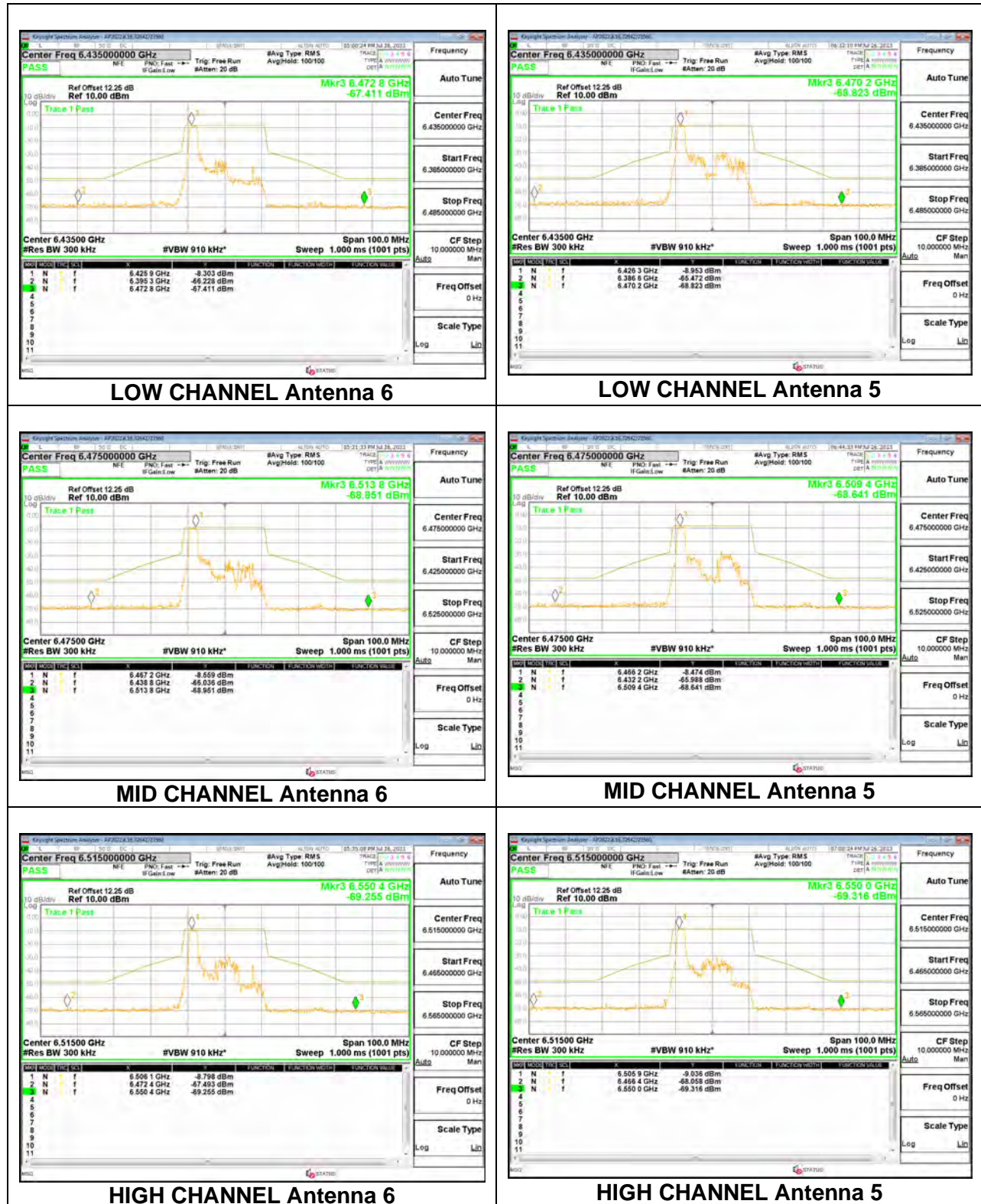


HIGH CHANNEL Antenna 5

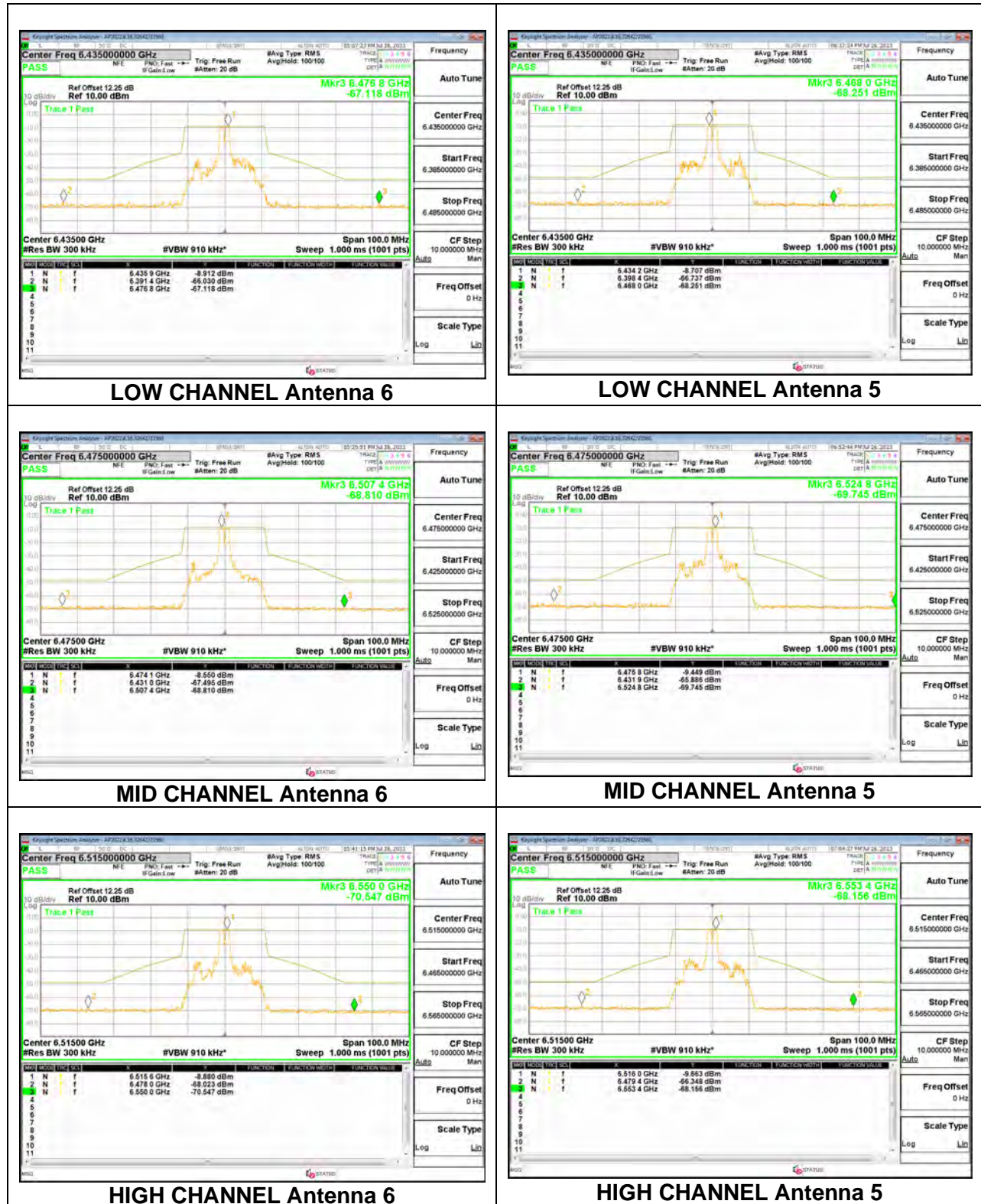
2TX Antenna 6 + Antenna 5 SDM MODE: SU, Single User



2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 0



2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 4



2TX Antenna 6 + Antenna 5 SDM MODE: 26-Tone, RU Index 8

