

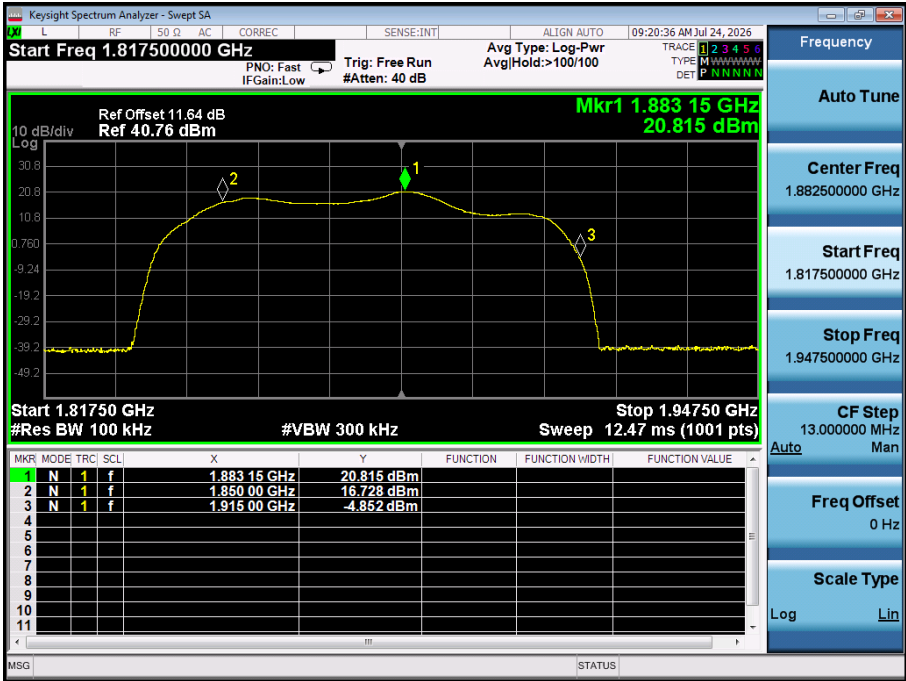
Authorized frequency band verification test

Test Plots

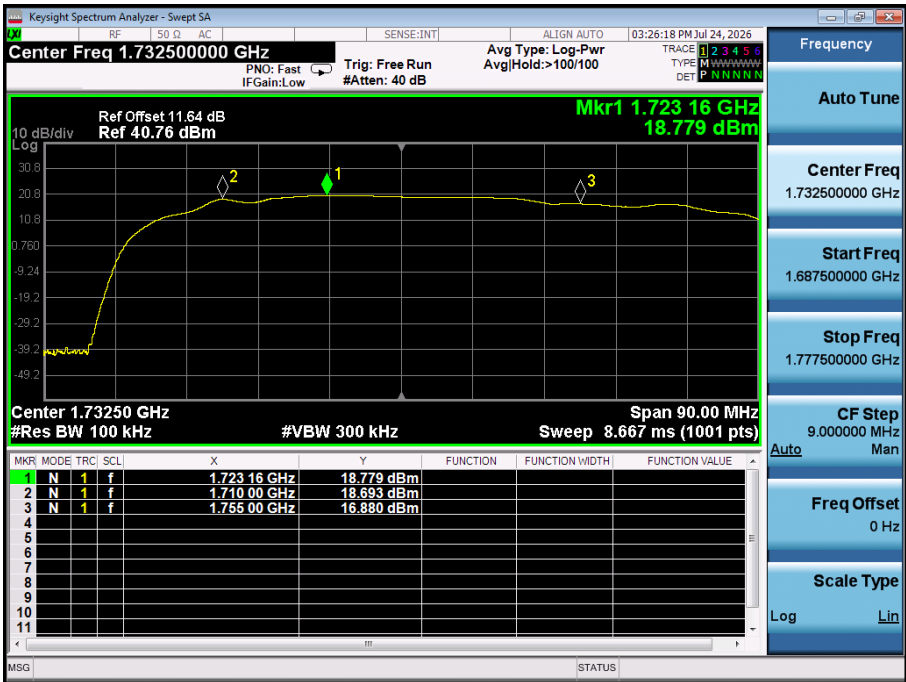
Uplink

Outdoor + Indoor 1

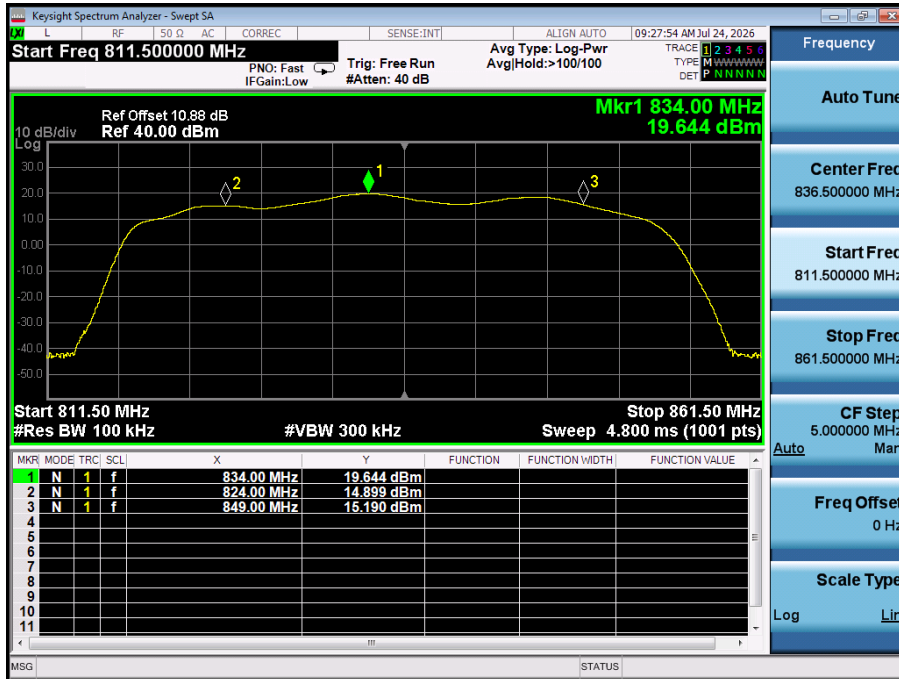
PCS



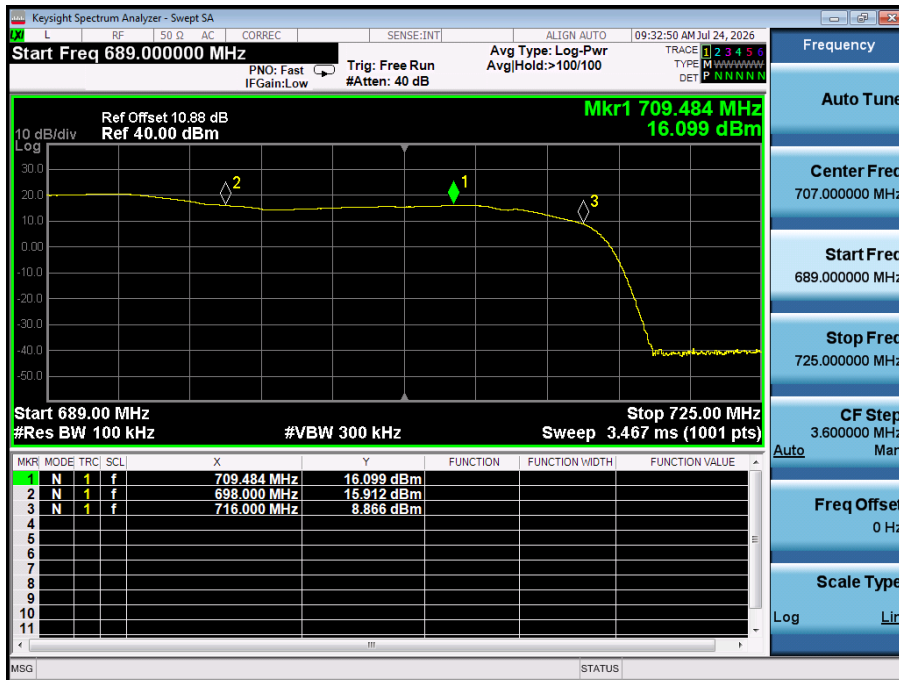
AWS



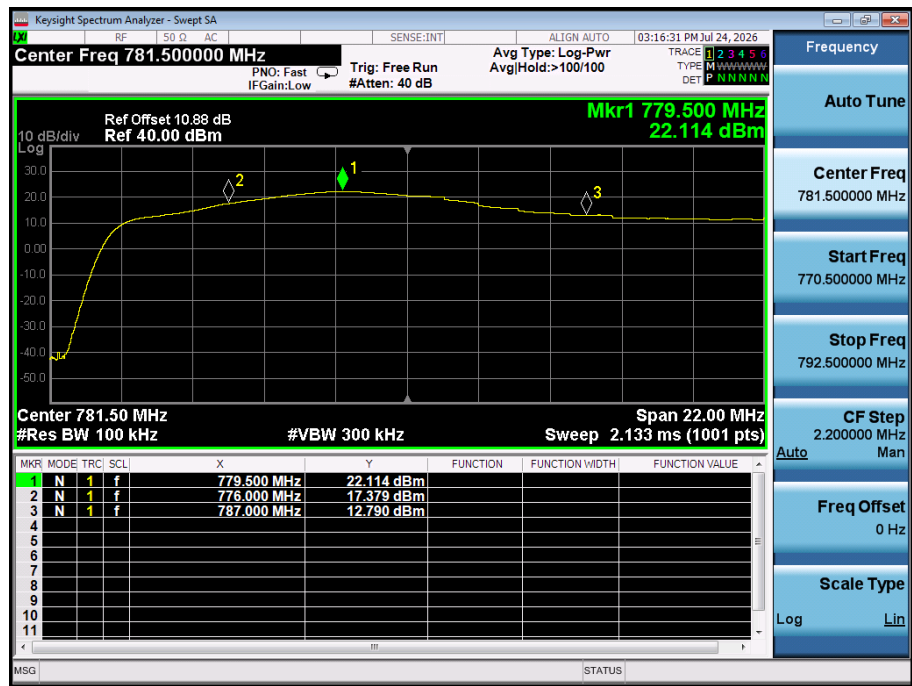
Cellular



Lower700MHz



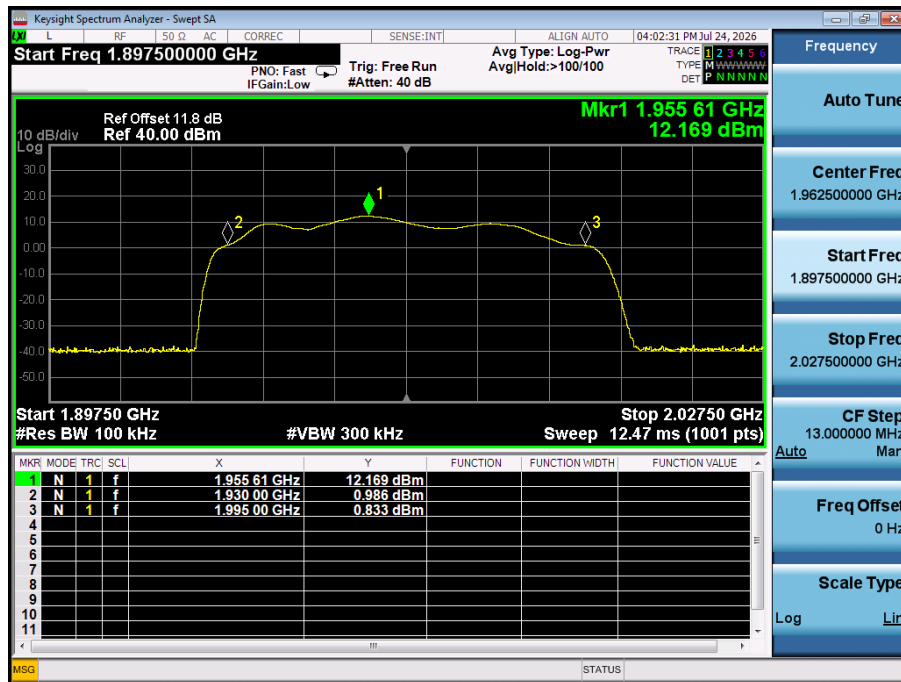
Upper700MHz



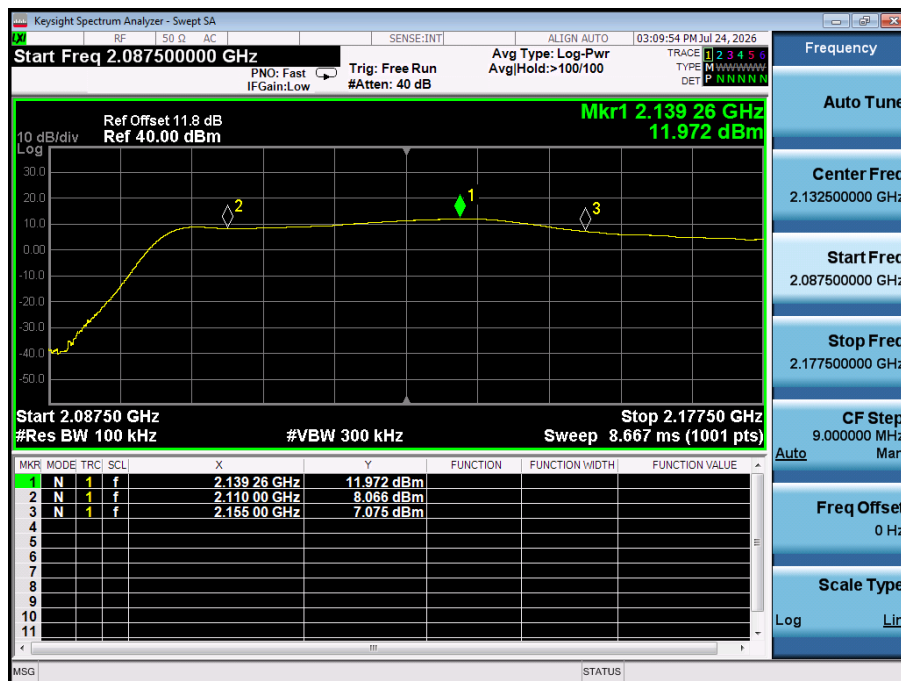
Downlink

Outdoor + Indoor 1

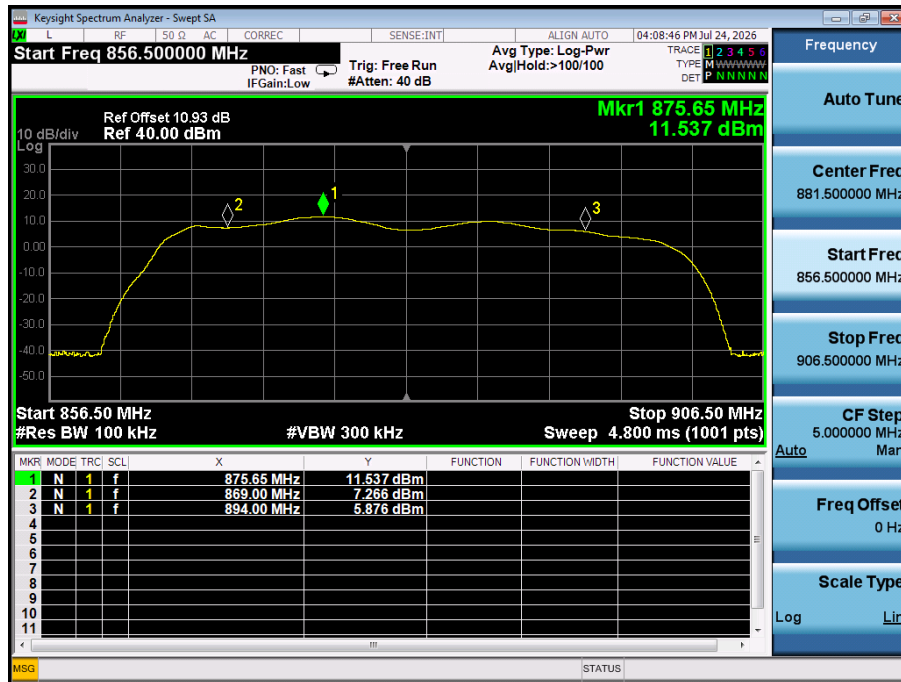
PCS



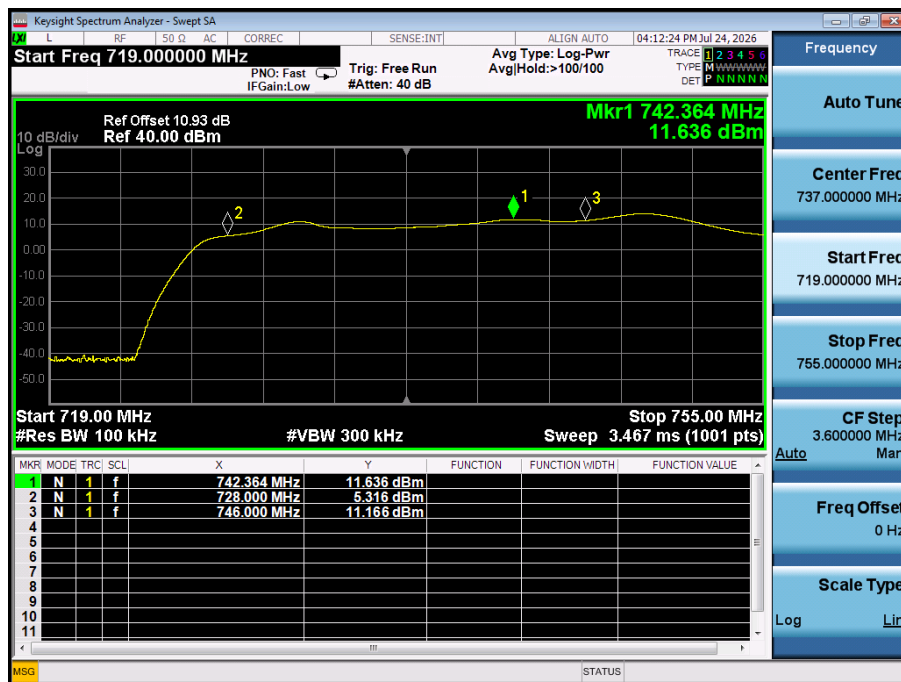
AWS



Cellular



Lower700MHz



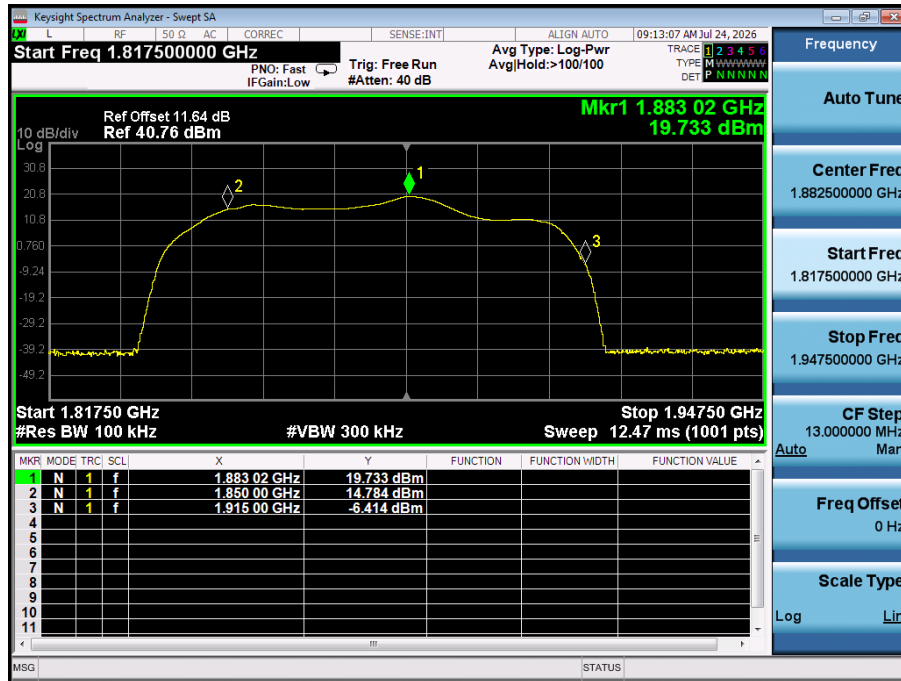
Upper700MHz



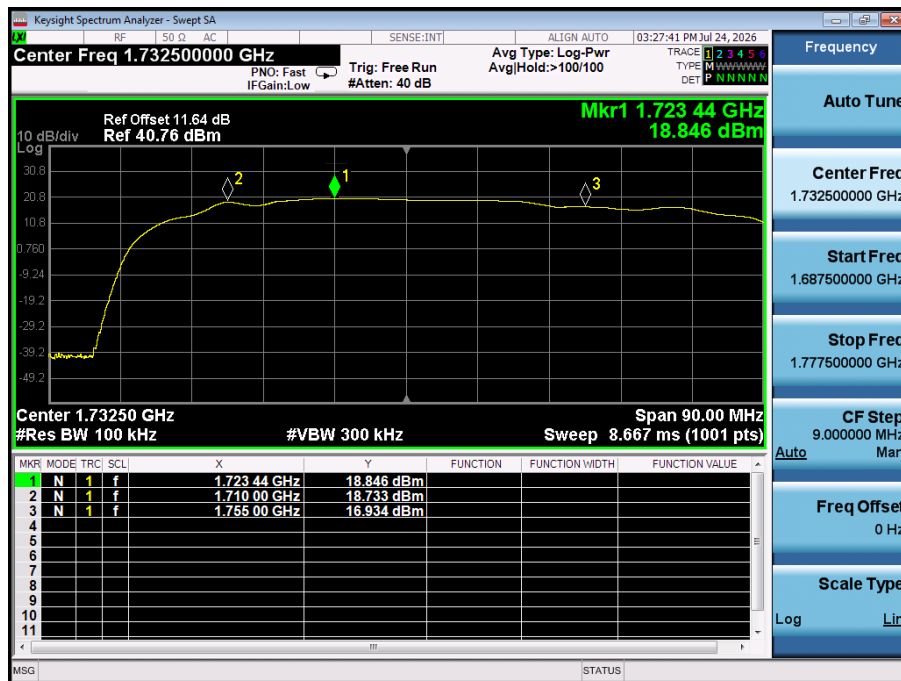
Uplink

Outdoor + Indoor 2

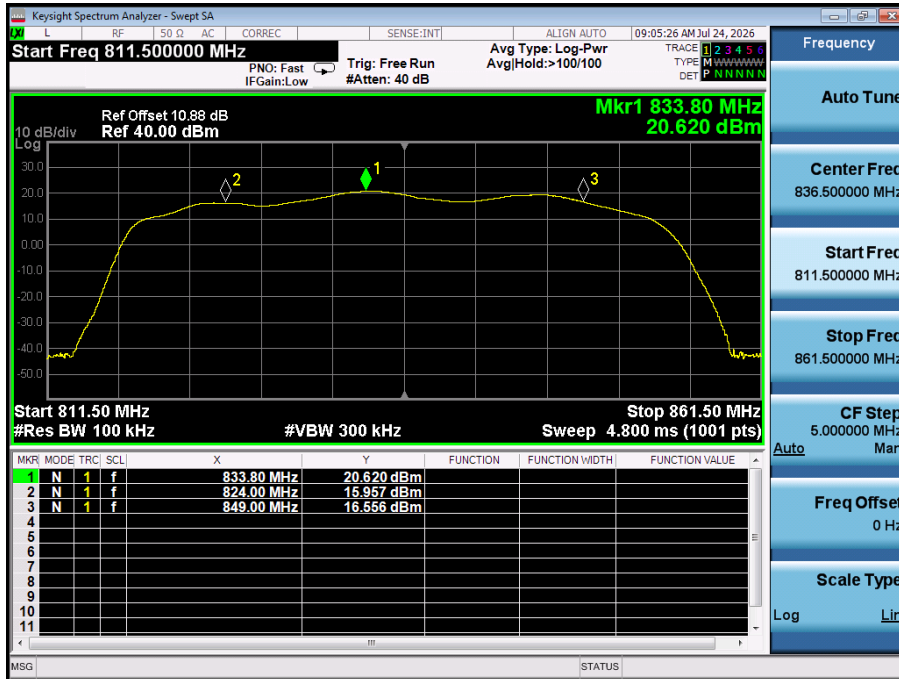
PCS



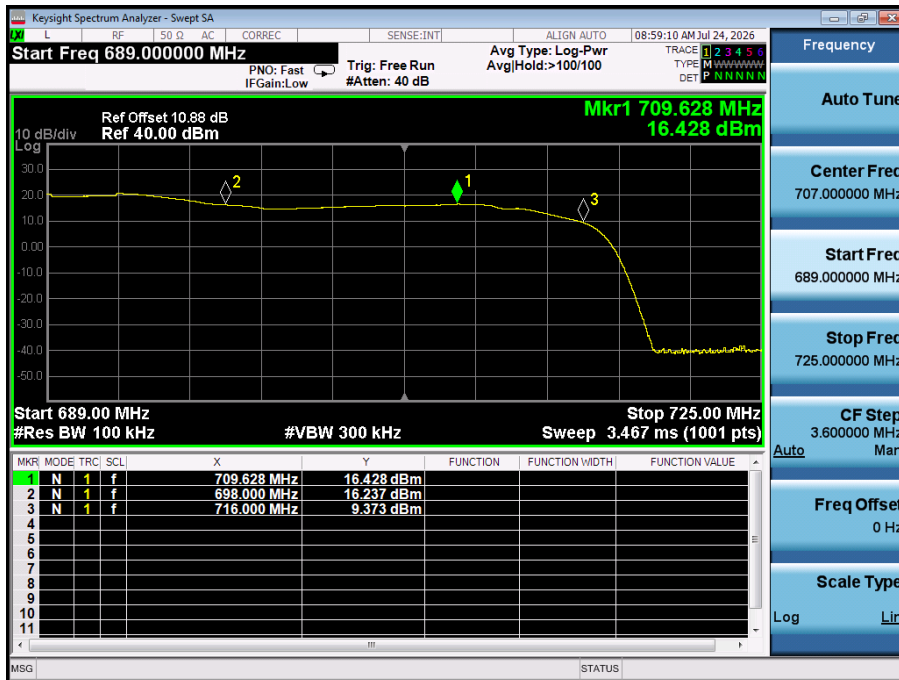
AWS



Cellular



Lower700MHz



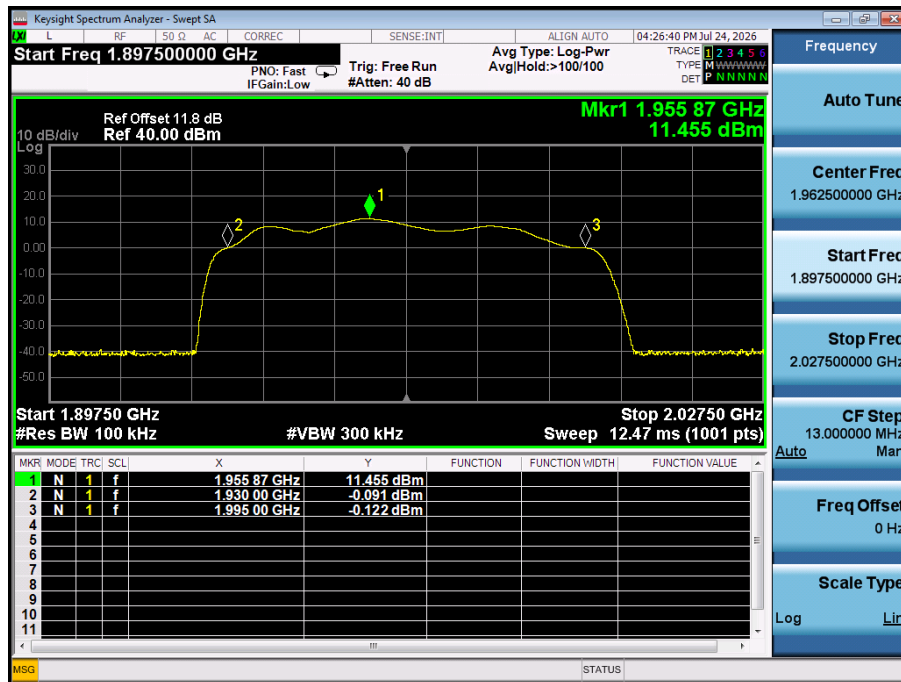
Upper700MHz



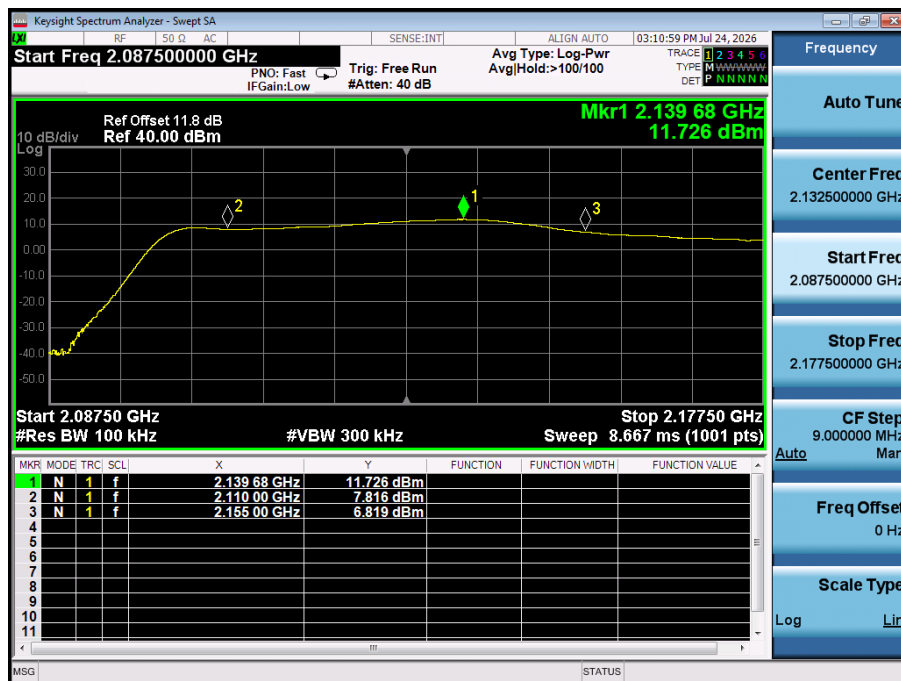
Downlink

Outdoor + Indoor 2

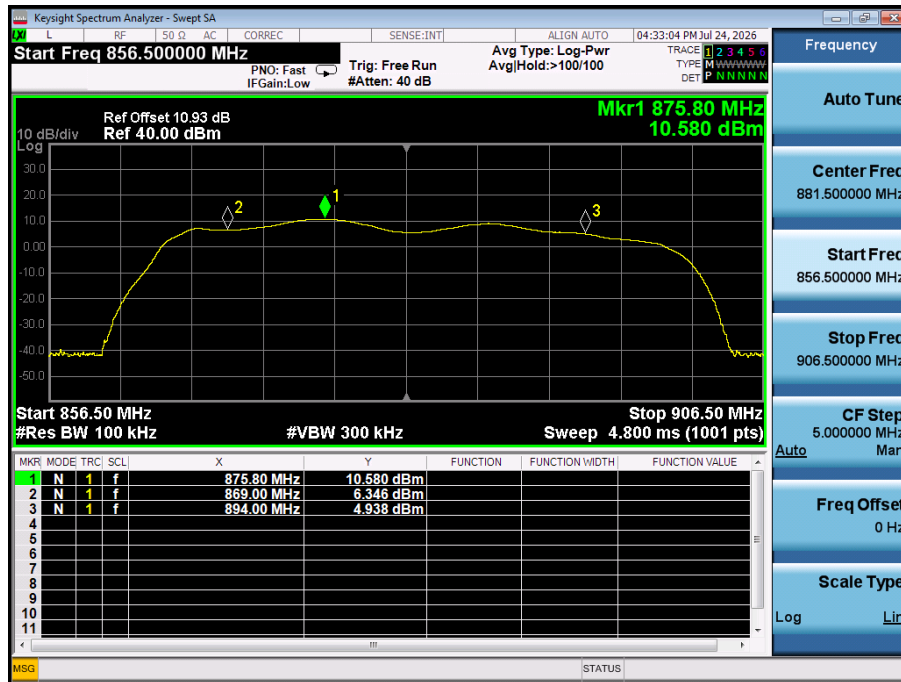
PCS



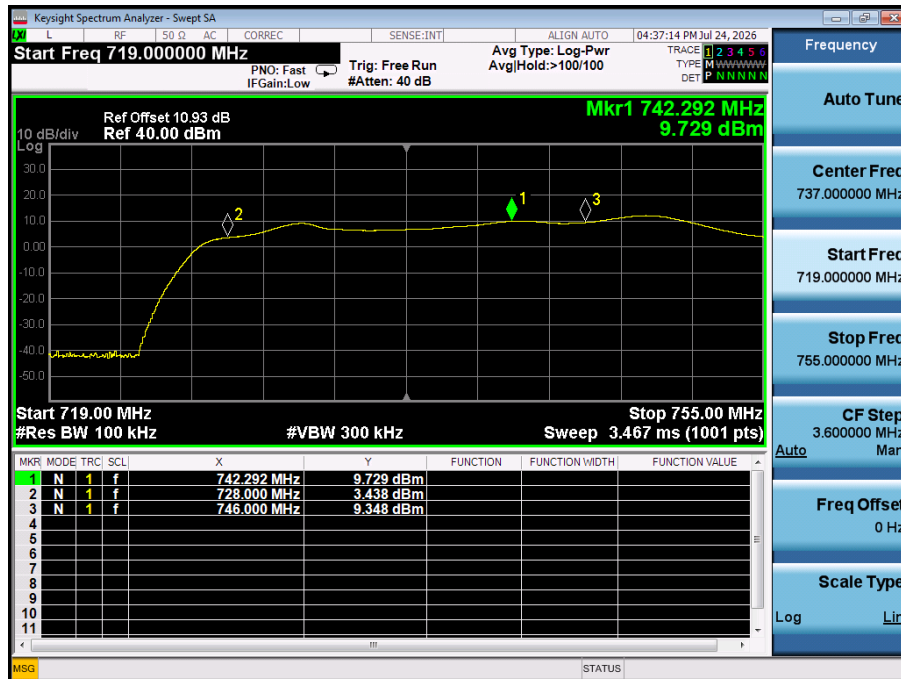
AWS



Cellular



Lower700MHz



Upper700MHz



Maximum power and Gain

Max. Gain

Frequency Band	Signal Type	Pre AGC Input Level (dBm)	Conducted Output Level (dBm)	Gain (dB)	Gain Limit (dB)
PCS Uplink	CW	-49.41	22.35	71.76	71.99
	AWGN	-48.27	22.93	71.20	
AWS Uplink	CW	-48.43	22.61	71.04	71.27
	AWGN	-48.27	22.43	70.70	
Cellular Uplink	CW	-37.52	25.81	63.33	64.95
	AWGN	-36.98	25.45	62.43	
Lower700MHz Uplink	CW	-38.94	23.19	62.13	63.49
	AWGN	-38.44	22.62	61.06	
Upper700MHz Uplink	CW	-37.31	24.89	62.20	64.36
	AWGN	-37.27	23.33	60.60	
PCS Downlink	CW	-56.02	15.52	71.54	71.99
	AWGN	-55.11	15.88	70.99	
AWS Downlink	CW	-55.26	15.61	70.87	71.27
	AWGN	-53.63	16.51	70.14	
Cellular Downlink	CW	-46.37	15.17	61.54	64.95
	AWGN	-45.77	15.11	60.88	
Lower700MHz Downlink	CW	-43.84	15.87	59.71	63.49
	AWGN	-43.10	15.85	58.95	
Upper700MHz Downlink	CW	-45.36	16.11	61.47	64.36
	AWGN	-45.05	15.86	60.91	

Note: Fixed Booster maximum gain shall not exceed $6.5 \text{ dB} + 20 \text{ Log}_{10} (\text{Frequency})$, where Frequency is the uplink mid-band frequency of the supported spectrum bands in MHz.

Conducted output power at max. Input test level

Frequency Band	Signal Type	Input Level (dBm)	Conducted Output Level (dBm)	Lower Limit(dBm)	Upper Limit(dBm)
PCS Uplink	CW	-29.41	22.37	17	30
	AWGN	-28.27	19.67		
AWS Uplink	CW	-28.43	22.78		
	AWGN	-28.27	18.22		
Cellular Uplink	CW	-17.52	25.80		
	AWGN	-16.98	22.32		
Lower700MHz Uplink	CW	-18.94	20.51		
	AWGN	-18.44	22.34		
Upper700MHz Uplink	CW	-17.31	24.88		
	AWGN	-17.27	19.93		
PCS Downlink	CW	-36.02	15.90	N/A	17
	AWGN	-35.11	15.98		
AWS Downlink	CW	-35.26	15.23		
	AWGN	-33.63	16.29		
Cellular Downlink	CW	-26.37	14.97		
	AWGN	-25.77	14.95		
Lower700MHz Downlink	CW	-23.84	15.75		
	AWGN	-23.10	15.55		
Upper700MHz Downlink	CW	-25.36	16.07		
	AWGN	-25.05	15.74		

Max. EIRP

Frequency Band	Signal Type	Max Conducted Output Level (dBm)	Max. Antenna Gain (dBi)	Min. Cable Loss (dB)	EIRP (dBm)	EIRP Limit (dBm)
PCS Uplink	CW	22.37	14.5	7.62	29.25	<30
	AWGN	22.93	14.5	7.62	29.81	
AWS Uplink	CW	22.78	14	7.25	29.53	
	AWGN	22.43	14	7.25	29.18	
Cellular Uplink	CW	25.81	7	5.62	27.19	
	AWGN	25.45	7	5.62	26.83	
Lower700MHz Uplink	CW	23.19	7	5.42	24.77	
	AWGN	22.62	7	5.42	24.20	
Upper700MHz Uplink	CW	24.89	7	5.42	26.47	<17
	AWGN	23.33	7	5.42	24.91	
PCS Downlink	CW	15.90	7	6.17	16.73	
	AWGN	15.98	7	6.17	16.81	
AWS Downlink	CW	15.61	7	6.54	16.07	
	AWGN	16.51	7	6.54	16.97	
Cellular Downlink	CW	15.17	6	4.41	16.76	
	AWGN	15.11	6	4.41	16.70	
Lower700MHz Downlink	CW	15.87	5	4.22	16.65	
	AWGN	15.85	5	4.22	16.63	
Upper700MHz Downlink	CW	16.11	5	4.22	16.89	
	AWGN	15.86	5	4.22	16.64	

Note1: Path1 and Path2 have been tested, only the worst case (Path1) is calculated and reported.

Note2: Path1 is Outdoor + Indoor 1

Note3: Path2 is Outdoor + Indoor 2

According to the Antenna kitting provided, for uplink PCS, AWS, the outdoor antenna SC558W is used to calculate, and for uplink Cellular, Lower700MHz, Upper700MHz the outdoor antenna SC530W is used. For downlink, the indoor antenna SC548W is used, which have a higher gain.

Uplink Gain VS Downlink Gain

Band	Signal Type	Uplink Gain (dB)	Downlink Gain (dB)	D-value	Limit (dB)
PCS	CW	71.76	71.54	0.22	<9
	AWGN	71.20	70.99	0.21	
AWS	CW	71.04	70.87	0.17	
	AWGN	70.70	70.14	0.56	
Cellular	CW	63.33	61.54	1.79	
	AWGN	62.43	60.88	1.55	
Lower700MHz	CW	62.13	59.71	2.42	
	AWGN	61.06	58.95	2.11	
Upper700MHz	CW	62.20	61.47	0.73	
	AWGN	60.60	60.91	0.31	

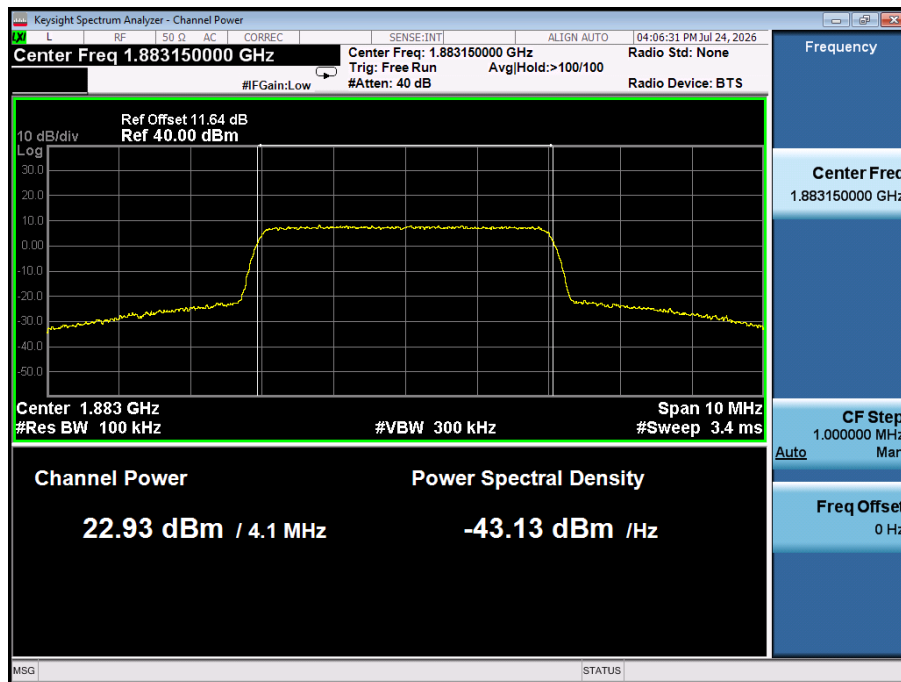
Note1: Path1 and Path2 have been tested, only the worst case (Path1) is calculated and reported.

Note2: Path1 is Outdoor + Indoor 1

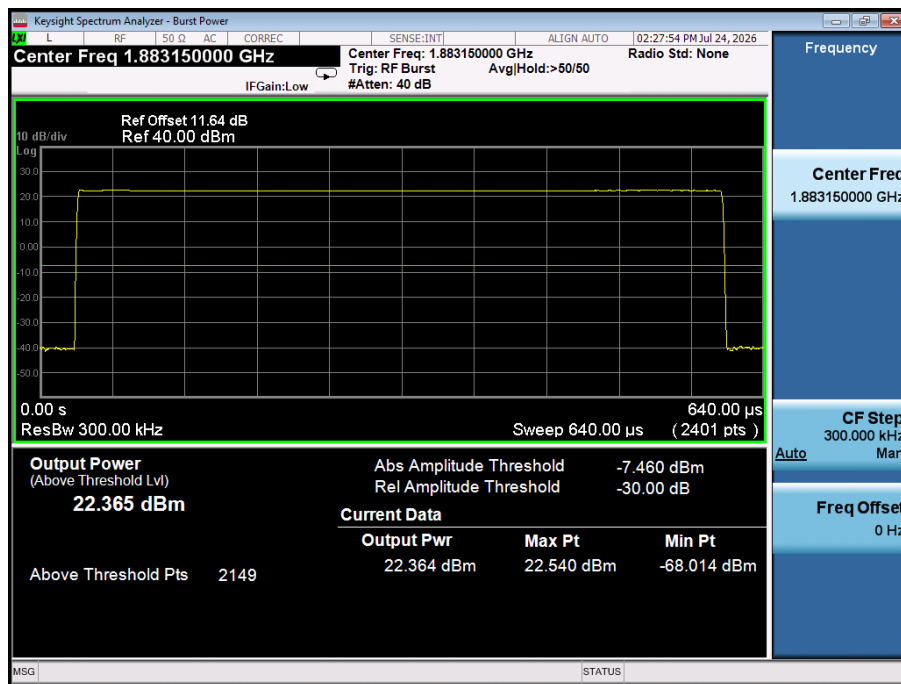
Note3: Path2 is Outdoor + Indoor 2

Test Plots

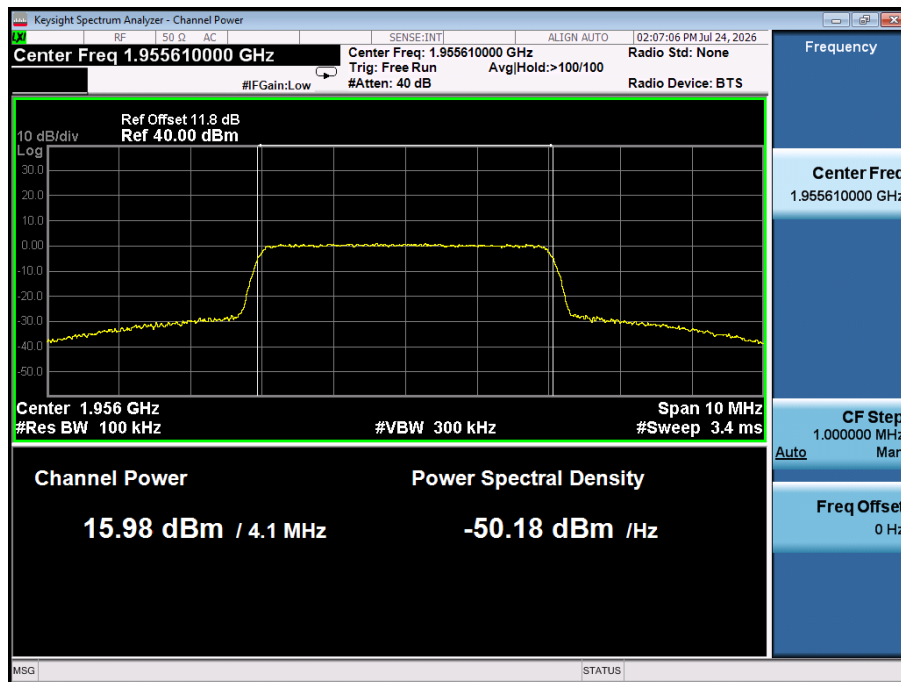
PCS AWGN, UL



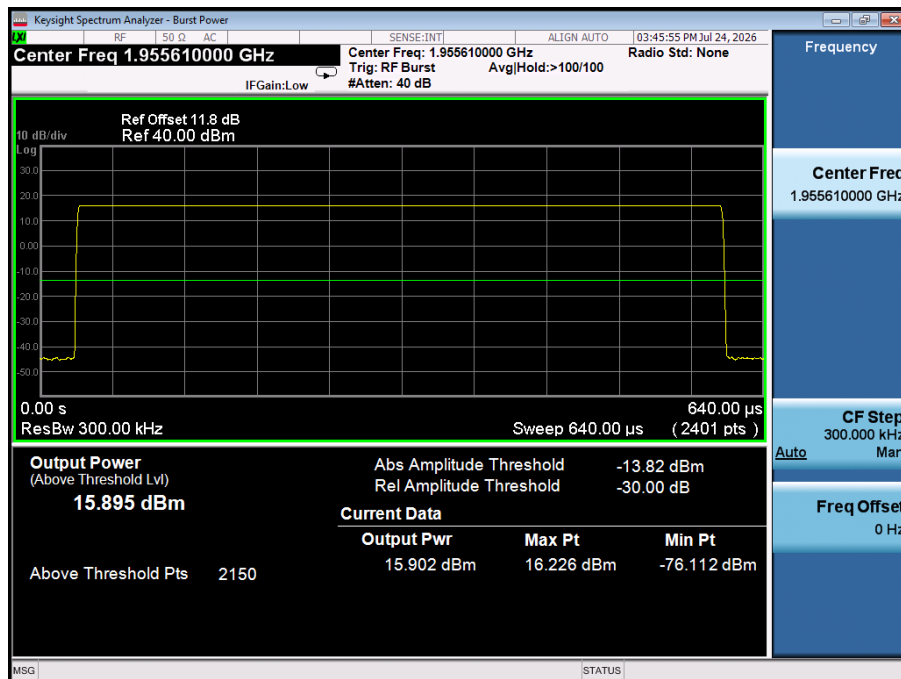
PCS CW, UL



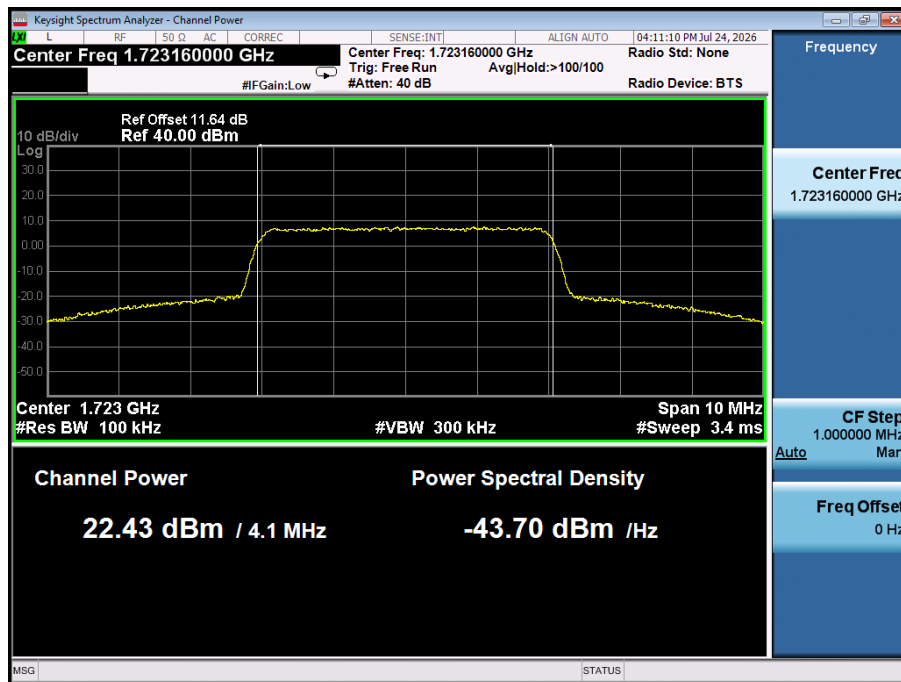
PCS AWGN, DL



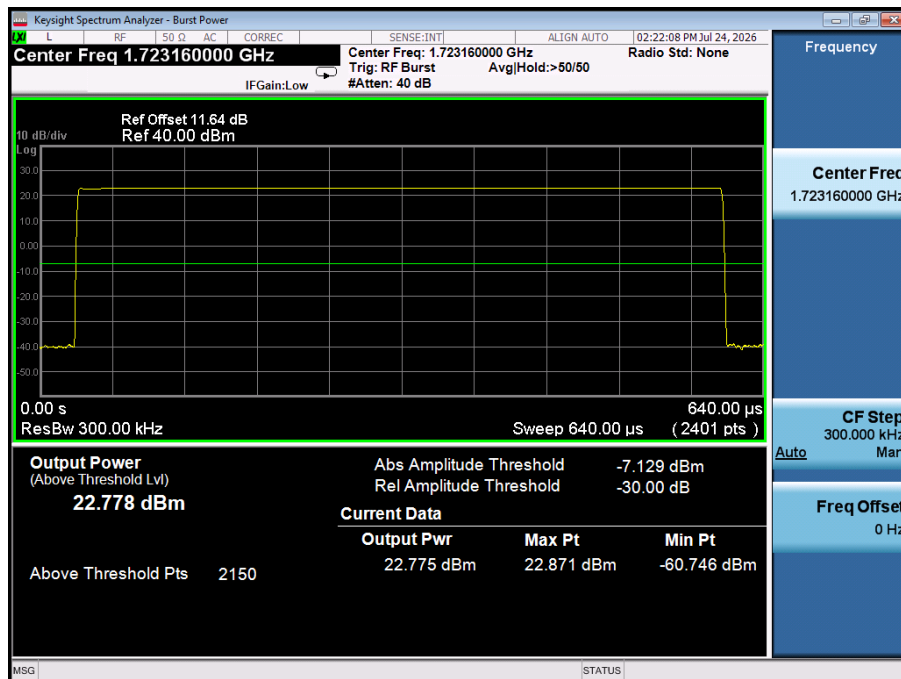
PCS CW, DL



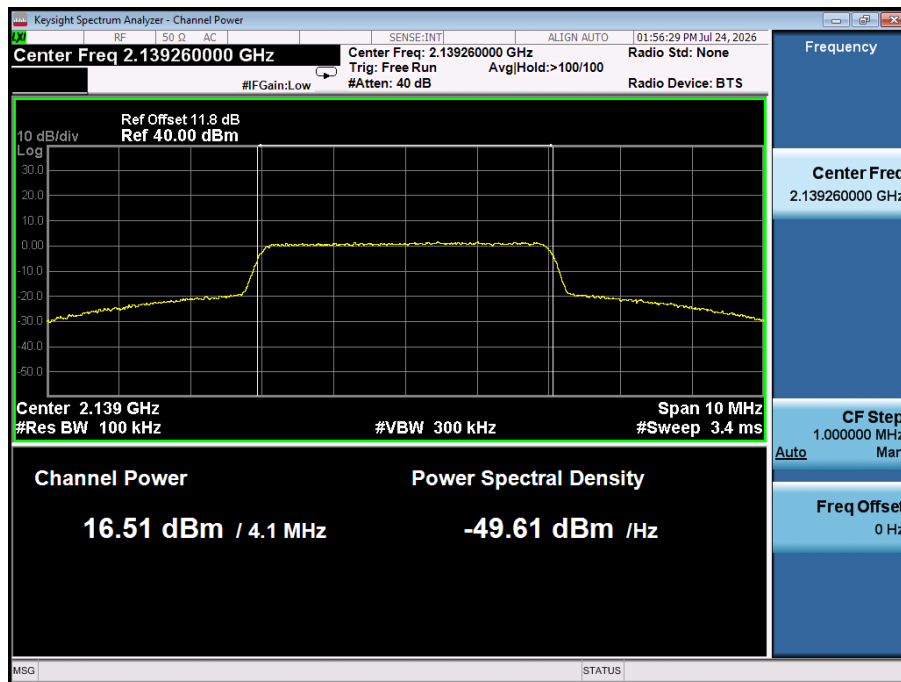
AWS AWGN, UL



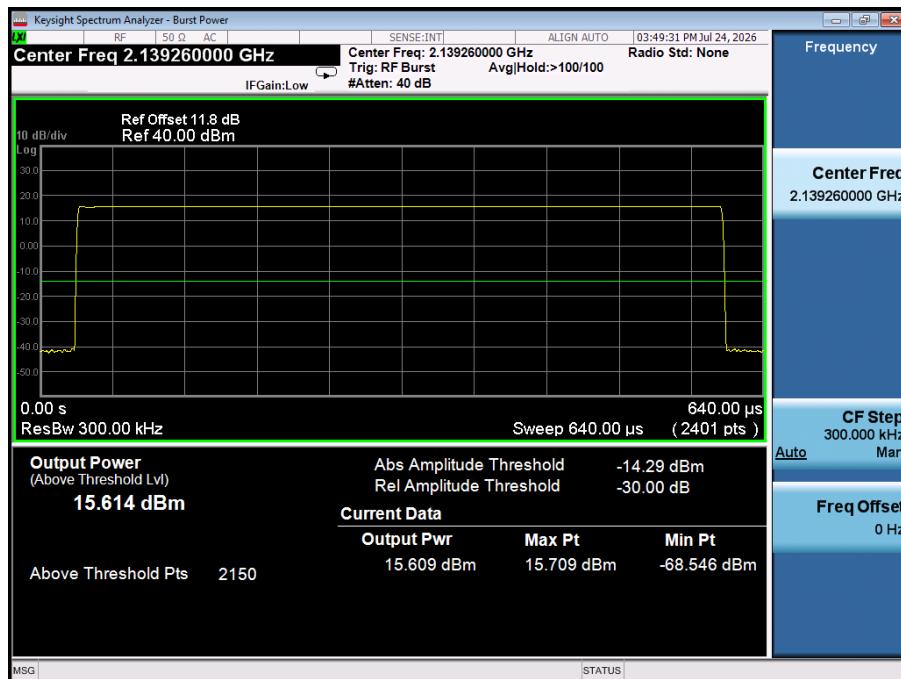
AWS CW, UL



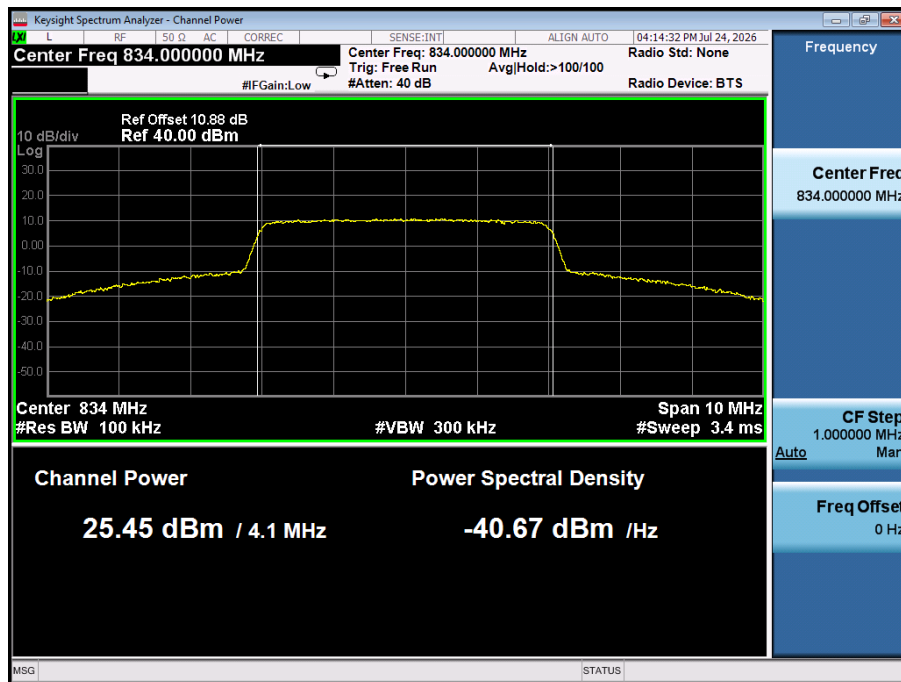
AWS AWGN, DL



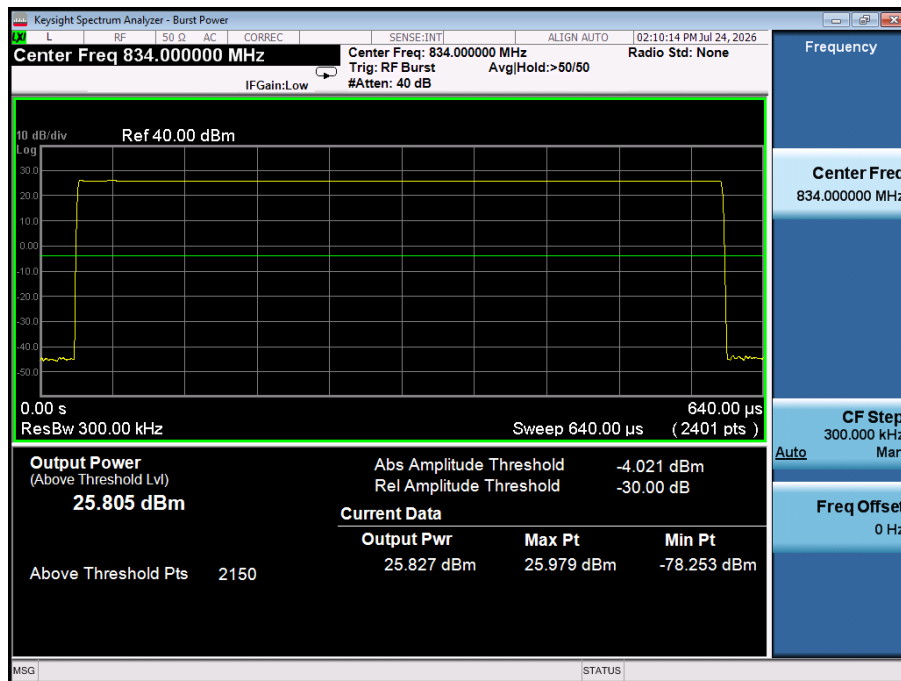
AWS CW, DL



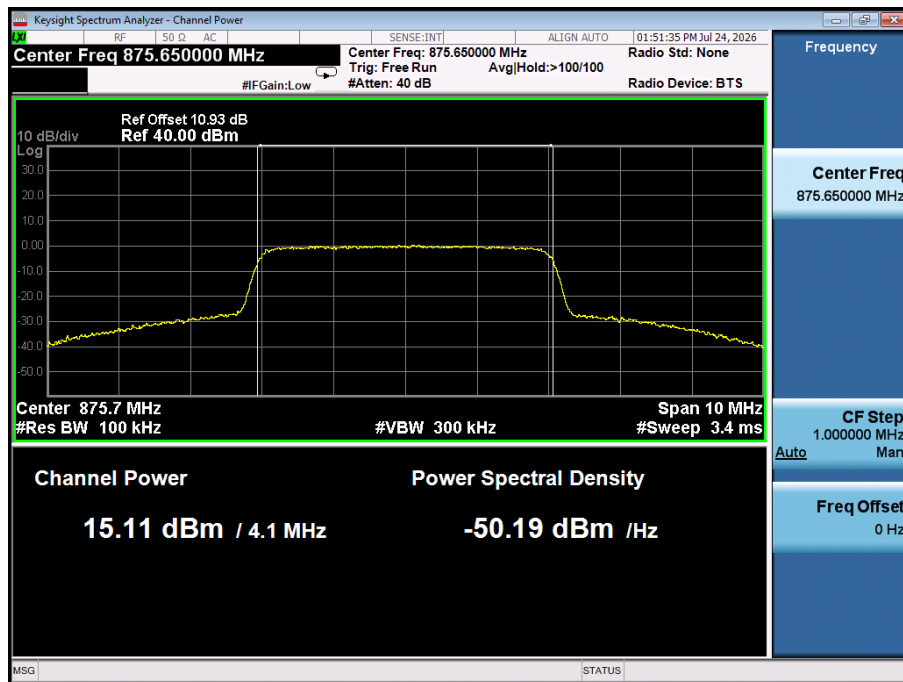
Cellular AWGN, UL



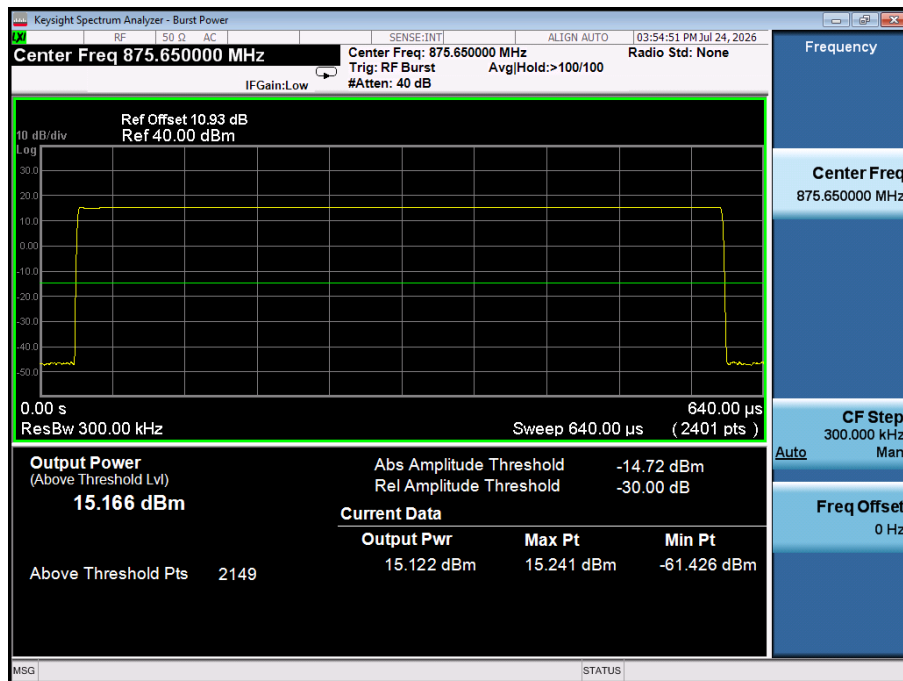
Cellular CW, UL



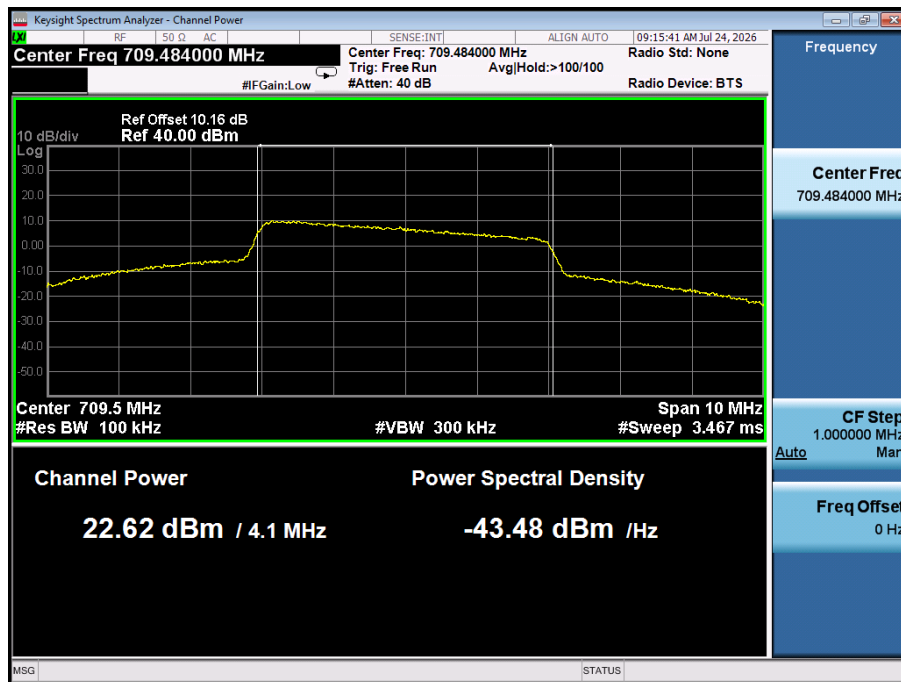
Cellular AWGN, DL



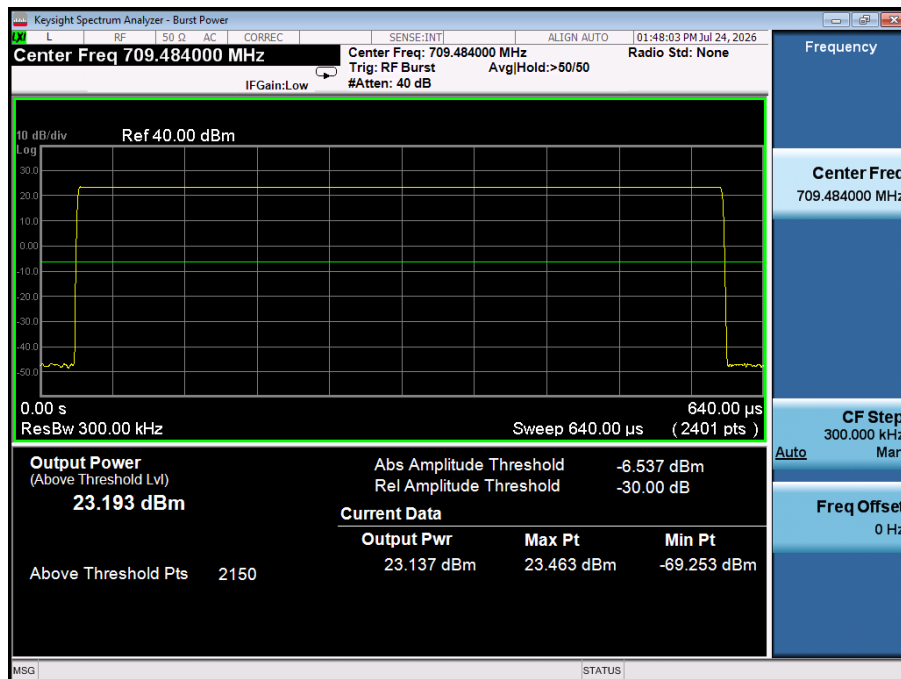
Cellular CW, DL



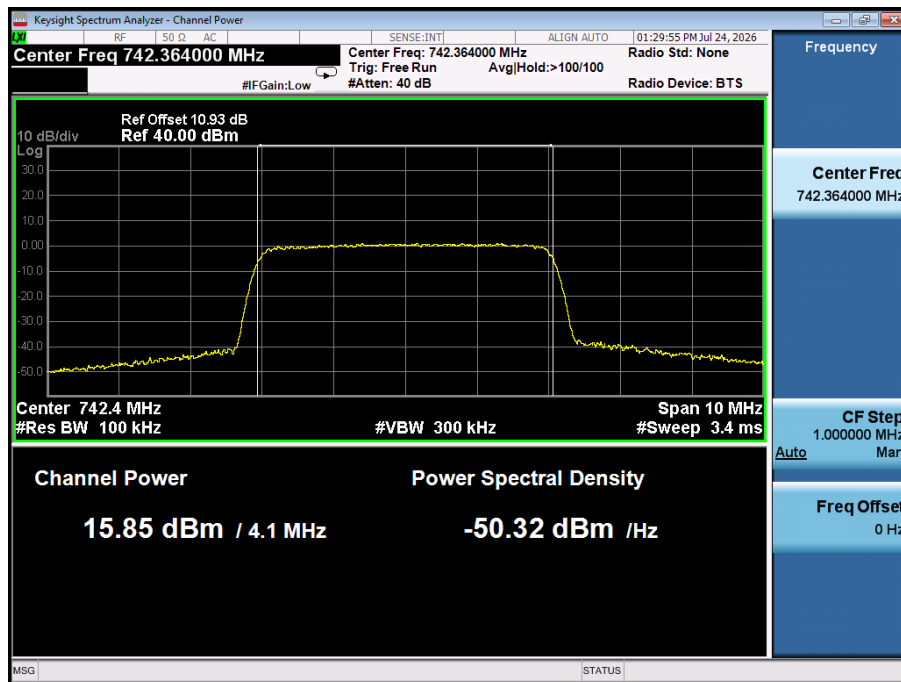
Lower700MHz AWGN, UL



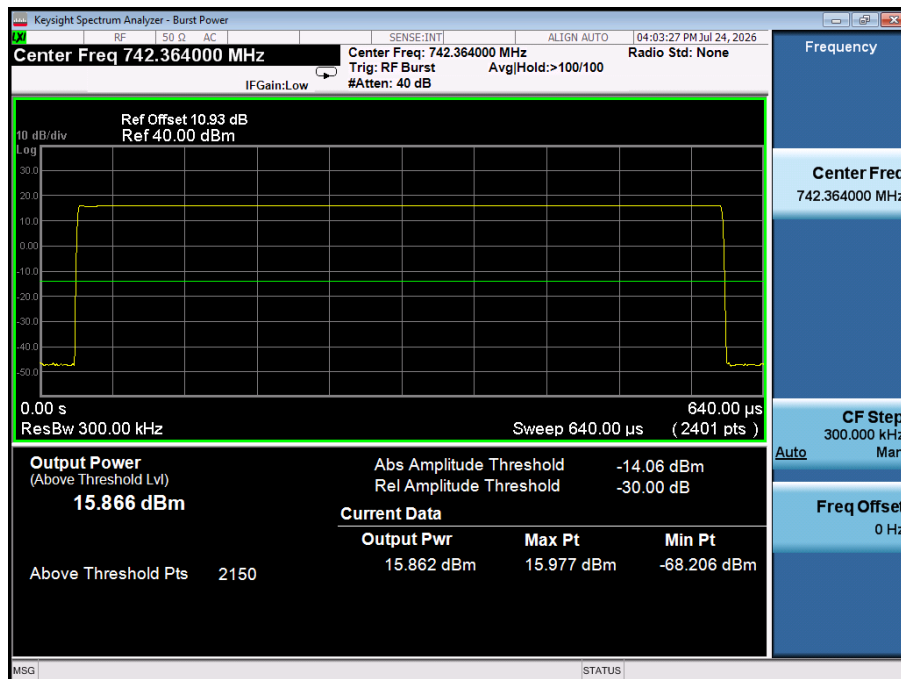
Lower700MHz CW, UL



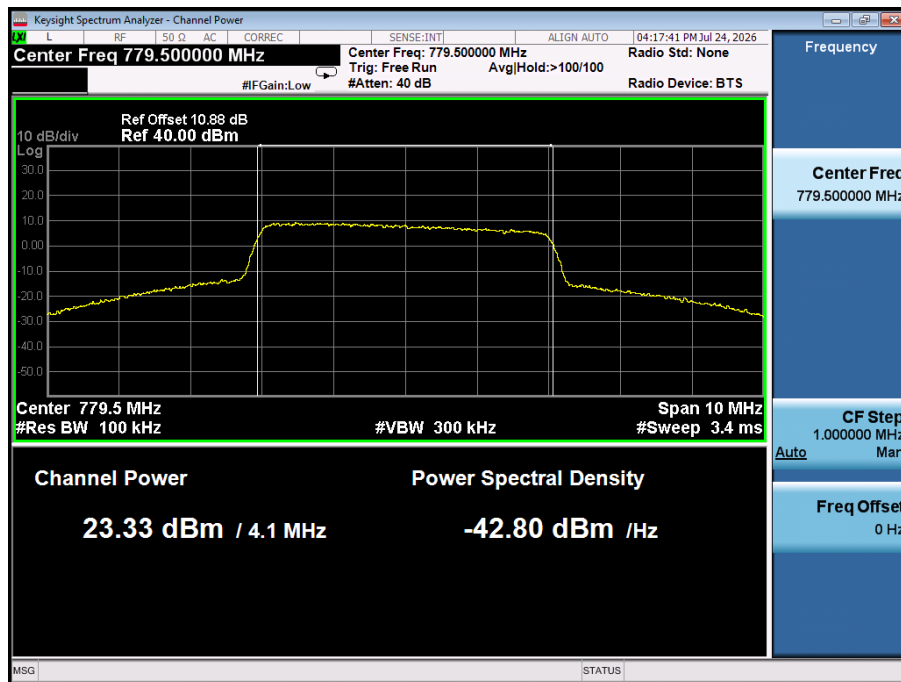
Lower700MHz AWGN, DL



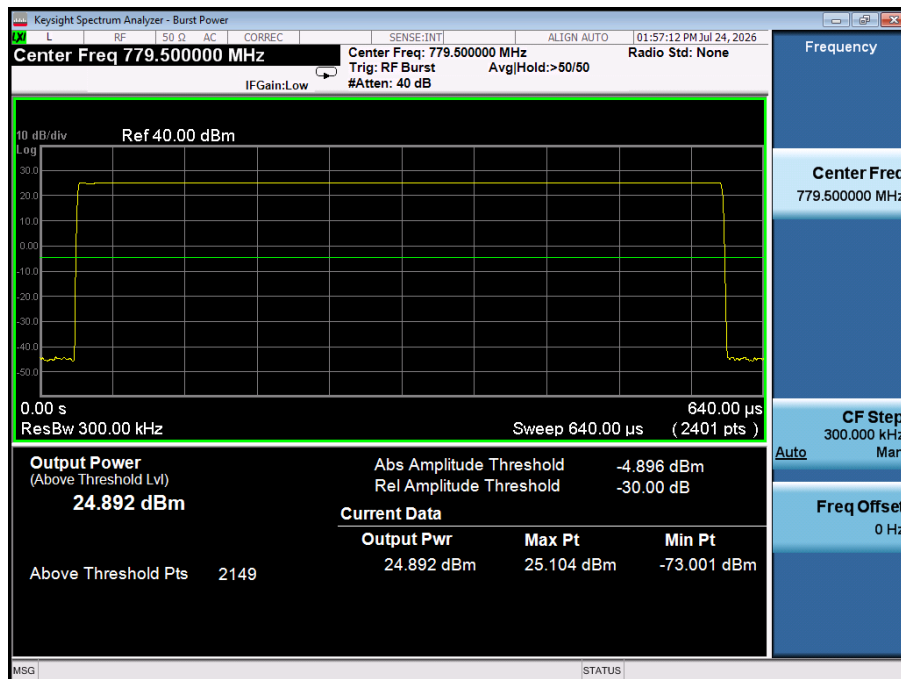
Lower700MHz CW, DL



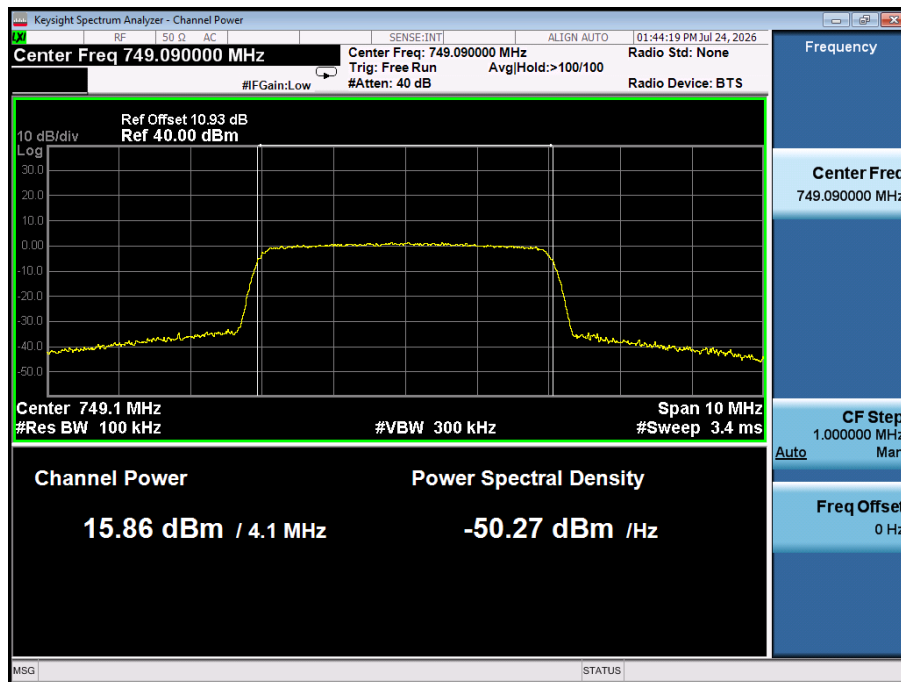
Upper700MHz AWGN, UL



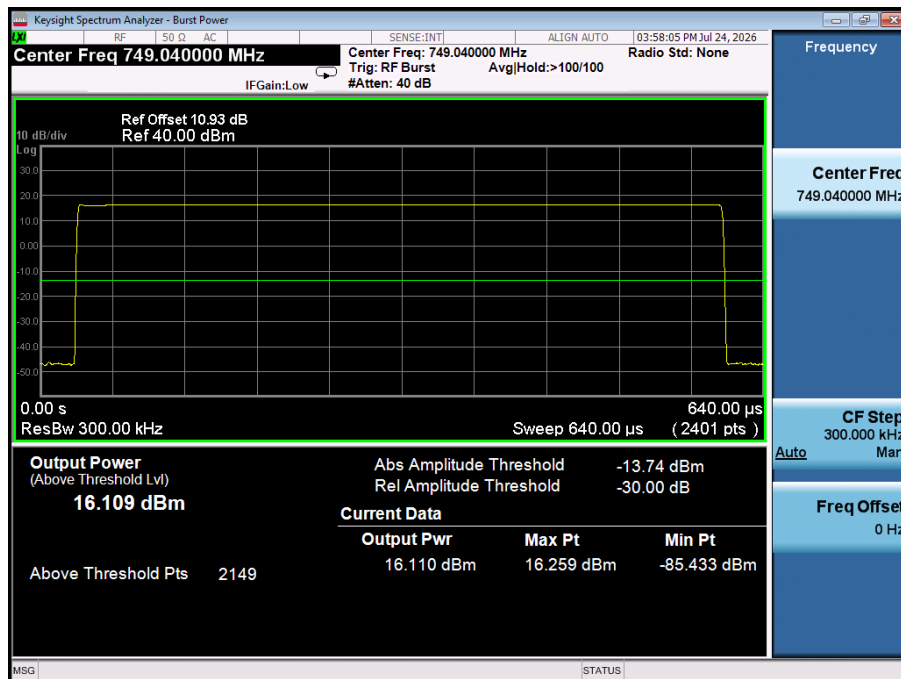
Upper700MHz CW, UL



Upper700MHz AWGN, DL

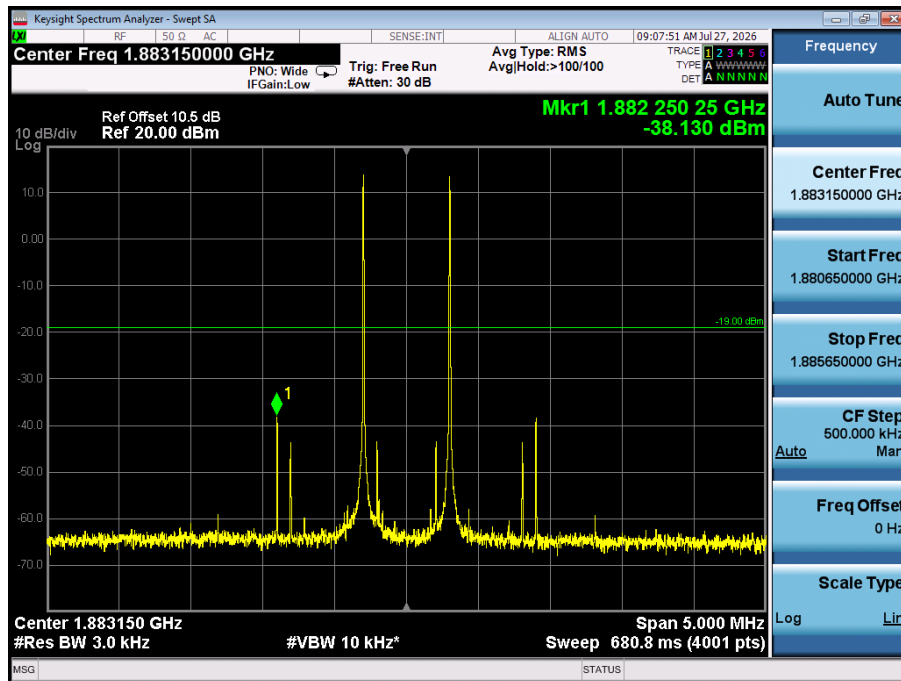


Upper700MHz CW, DL

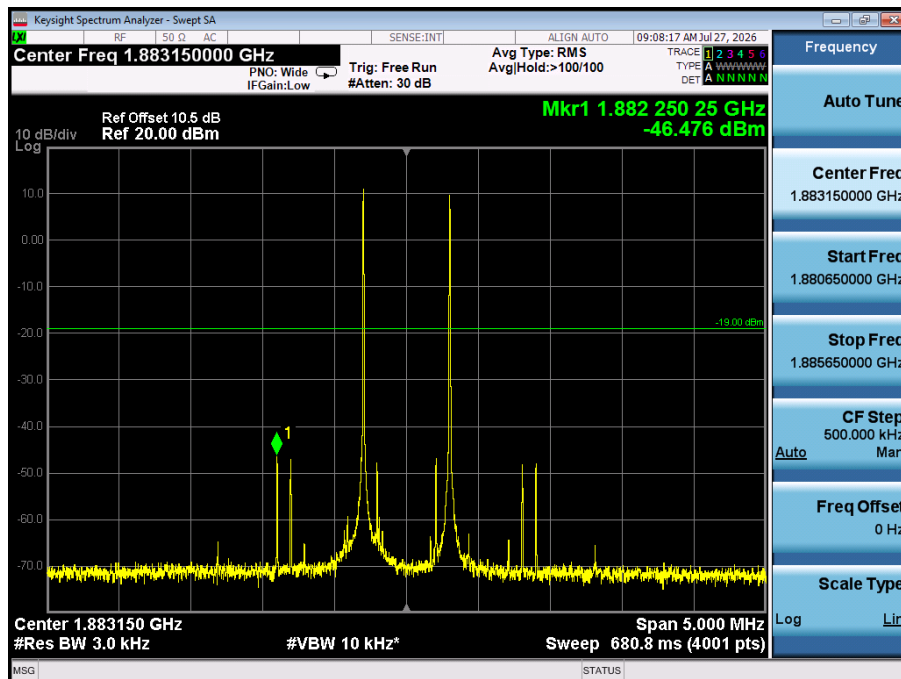


Intermodulation Product Test Plots

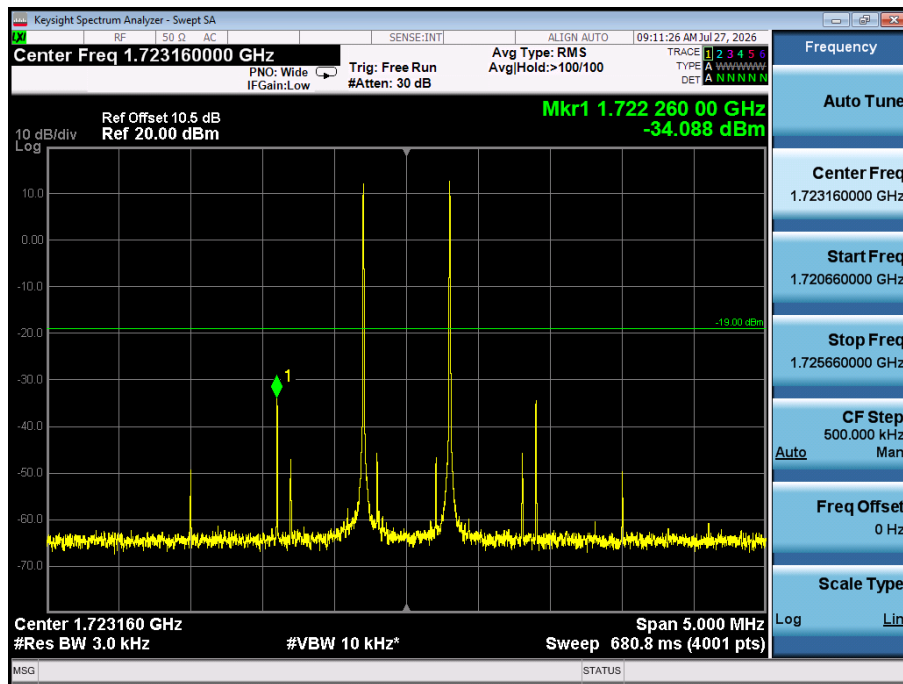
PCS Pre AGC, UL



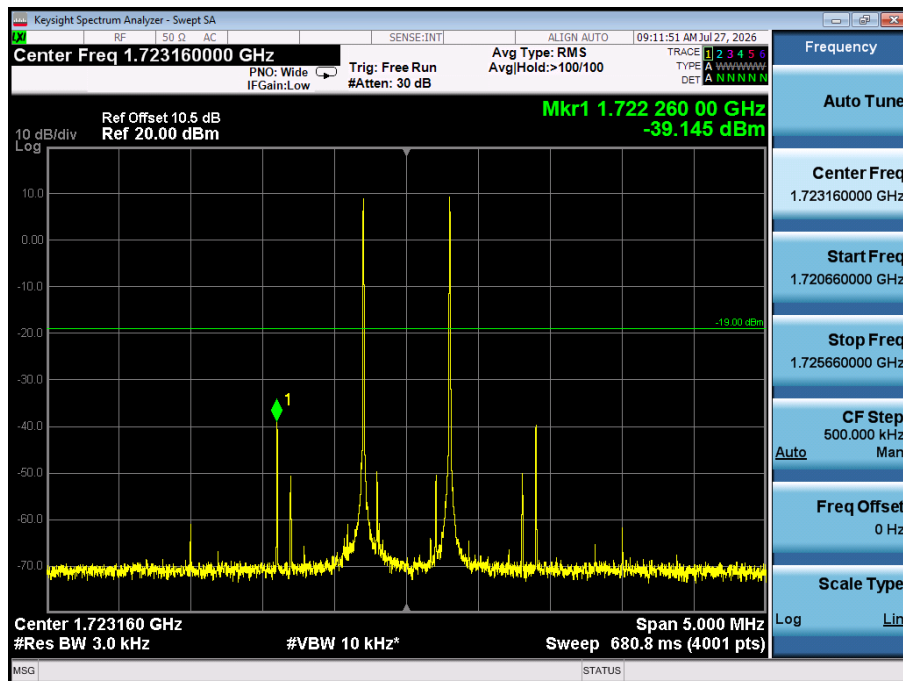
PCS Pre AGC + 10 dB, UL



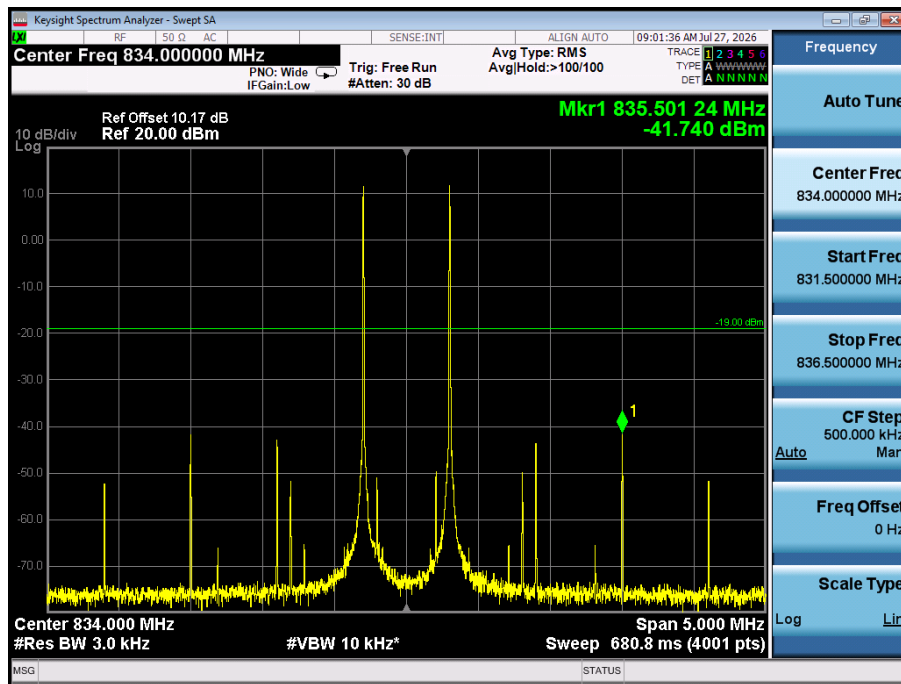
AWS Pre AGC, UL



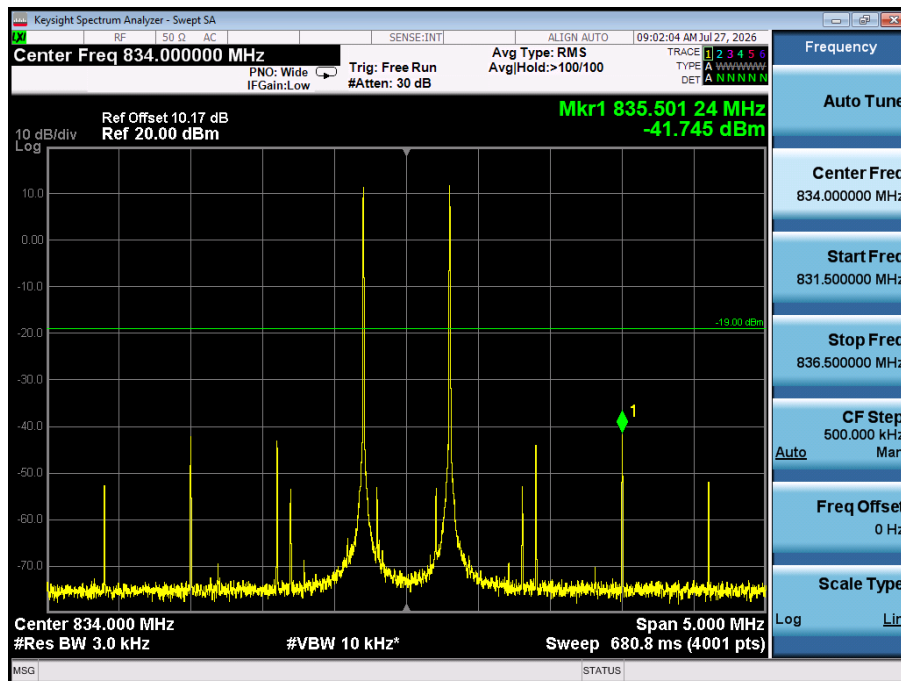
AWS Pre AGC + 10 dB, UL



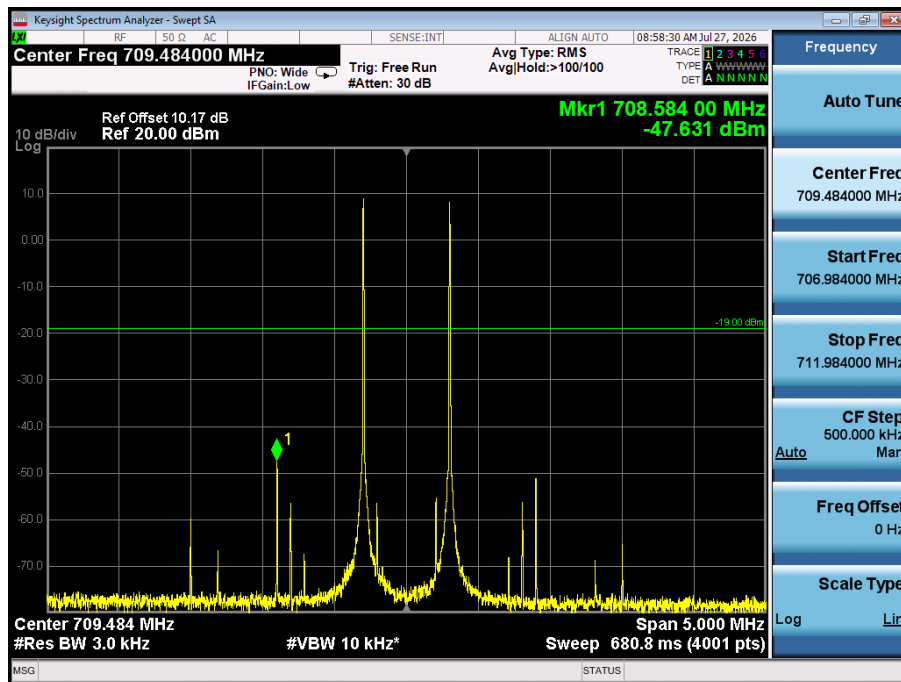
Cellular Pre AGC, UL



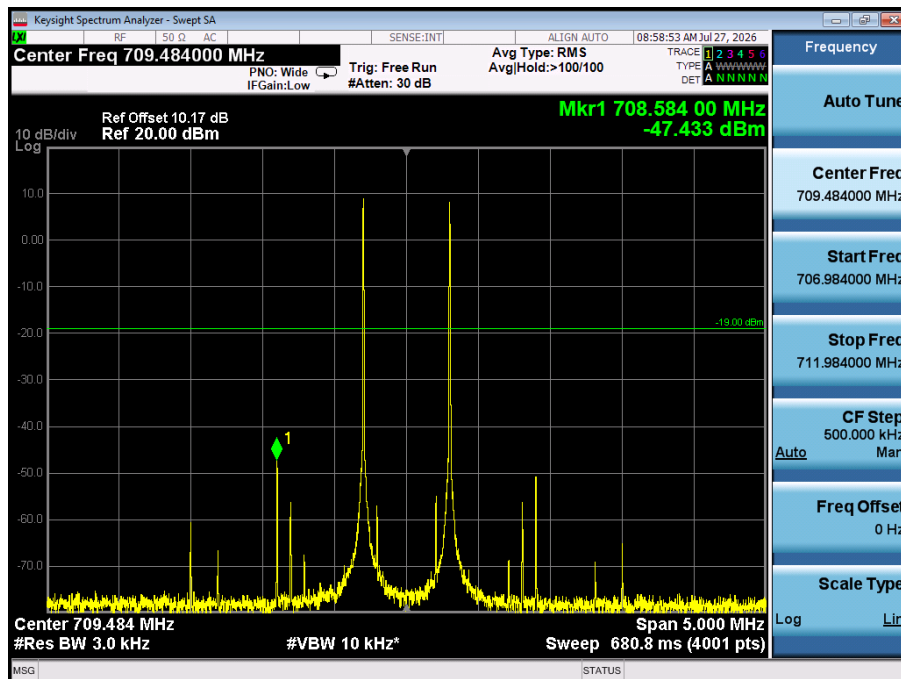
Cellular Pre AGC + 10 dB, UL



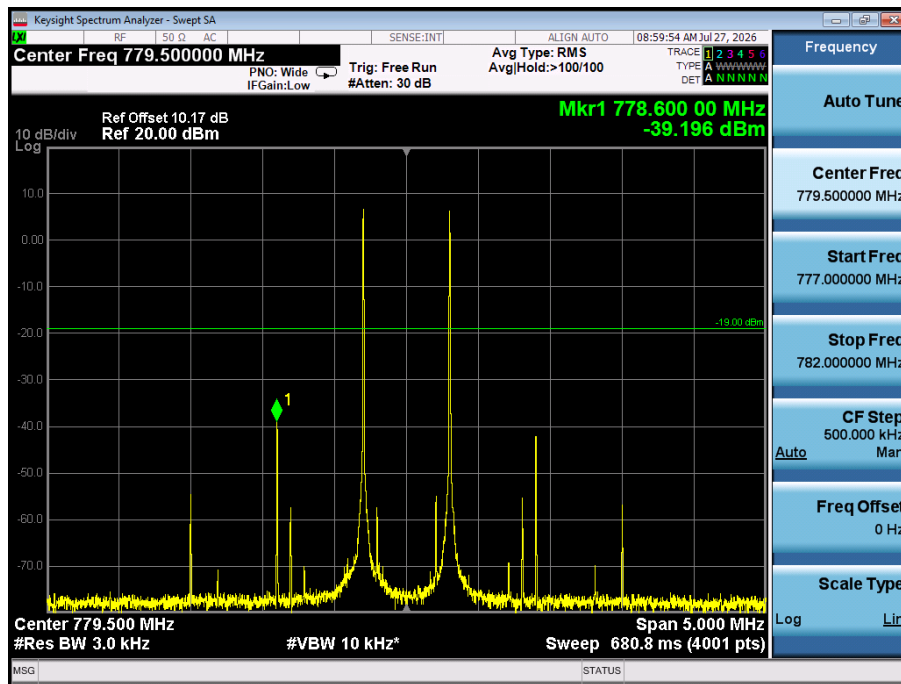
Lower700MHz Pre AGC, UL



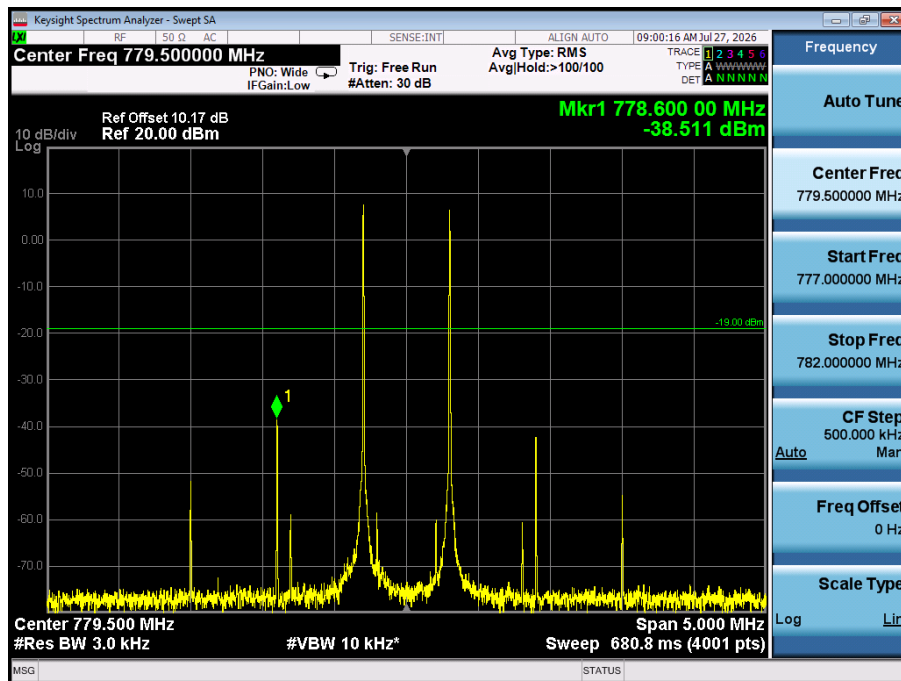
Lower700MHz Pre AGC + 10 dB, UL



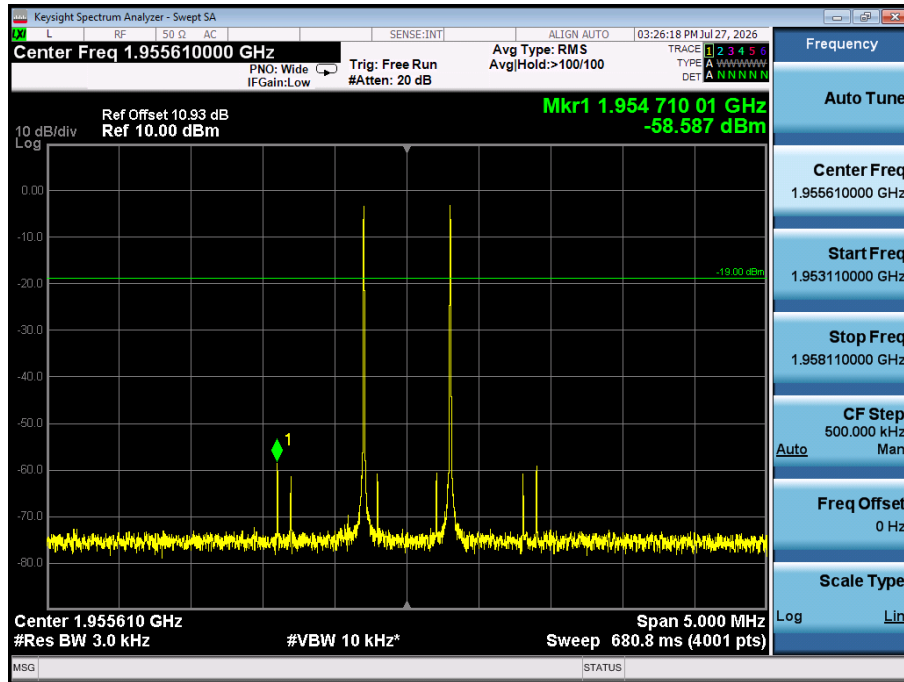
Upper700MHz Pre AGC, UL



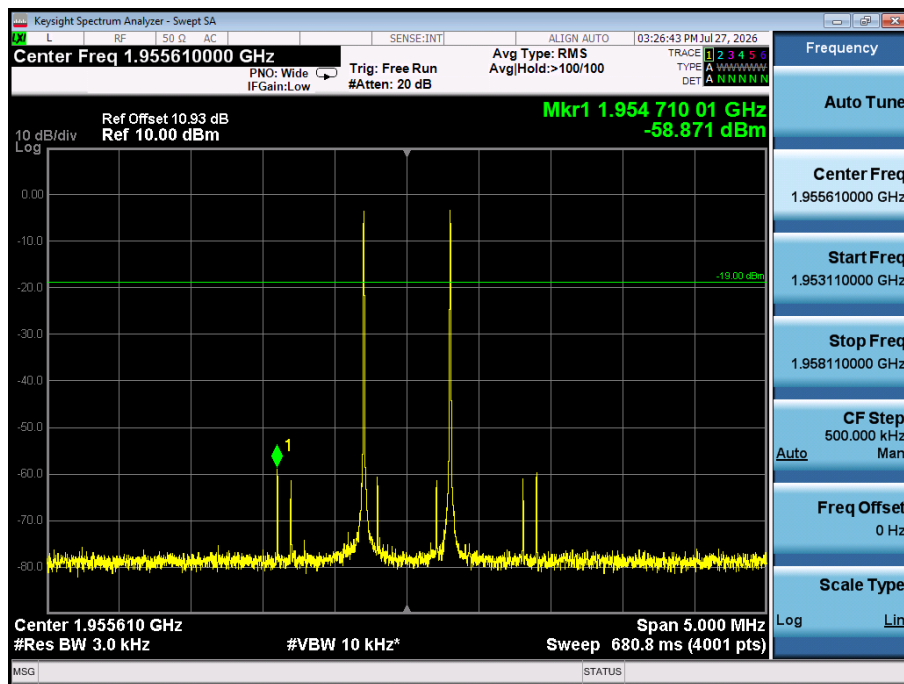
Upper700MHz Pre AGC + 10 dB, UL



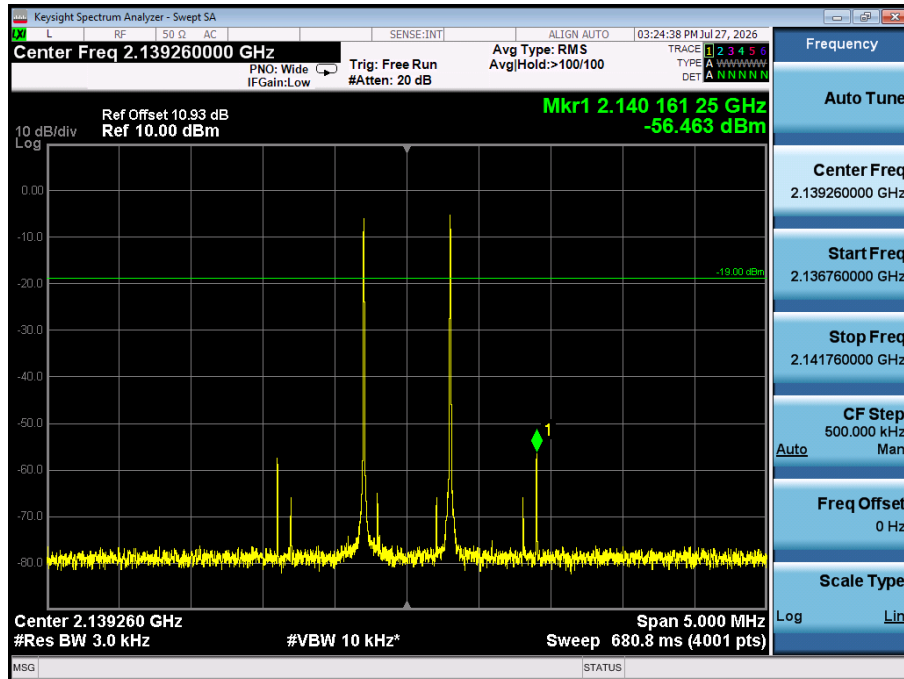
PCS Pre AGC, DL



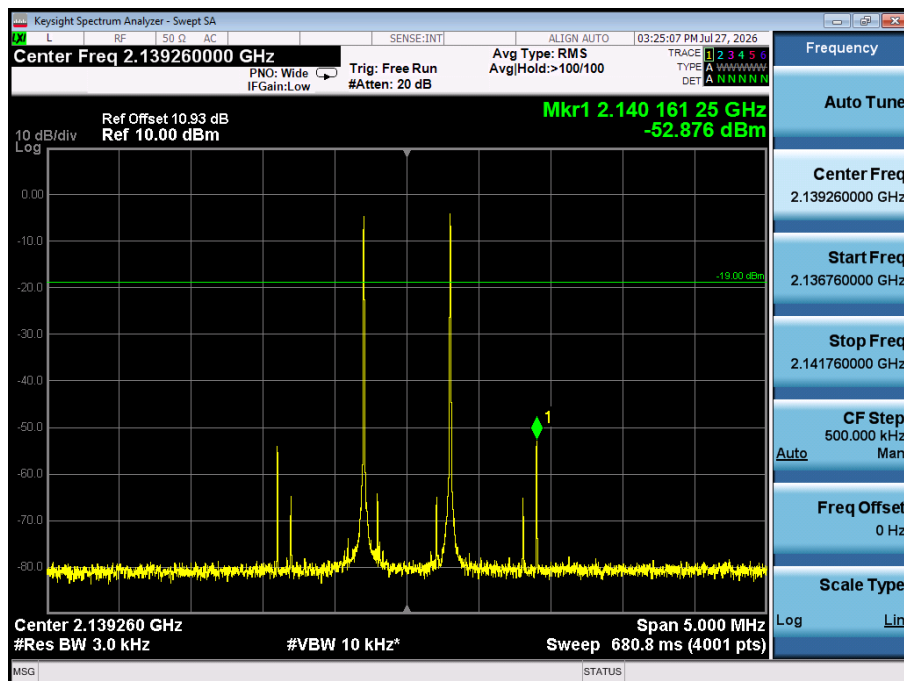
PCS Pre AGC + 10 dB, DL



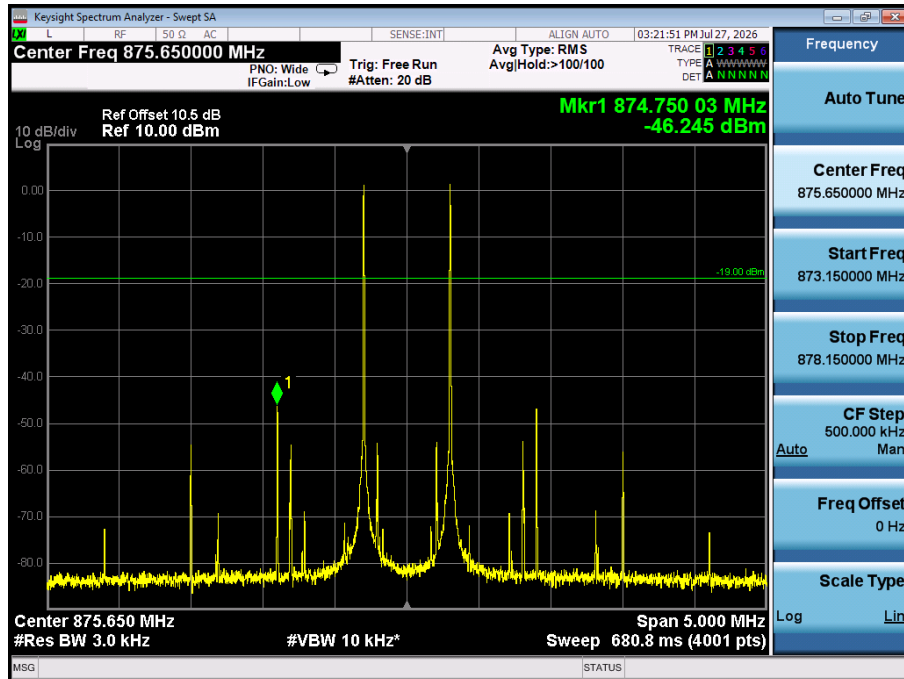
AWS Pre AGC, DL



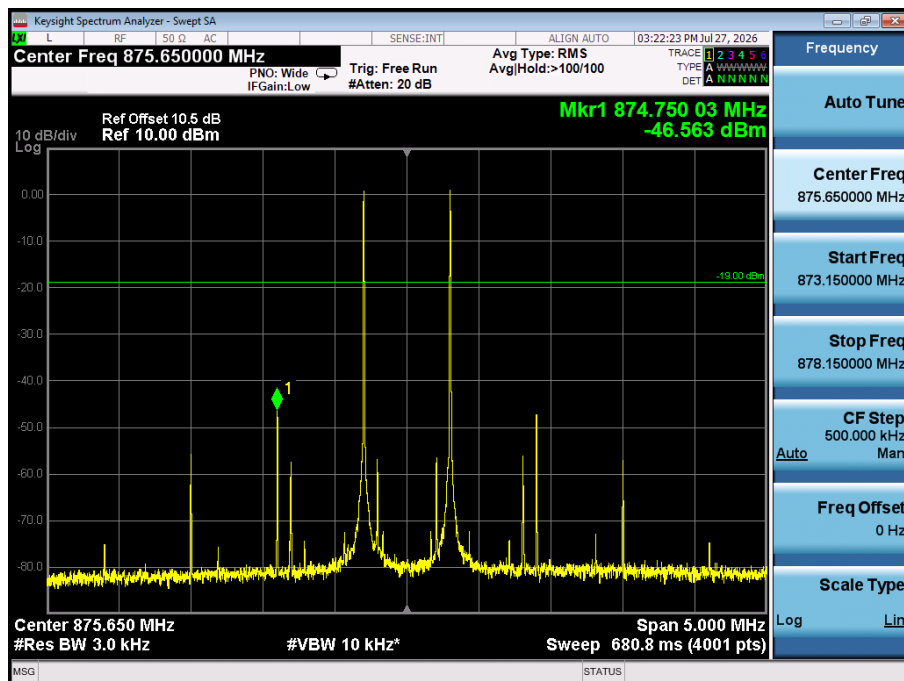
AWS Pre AGC + 10 dB, DL



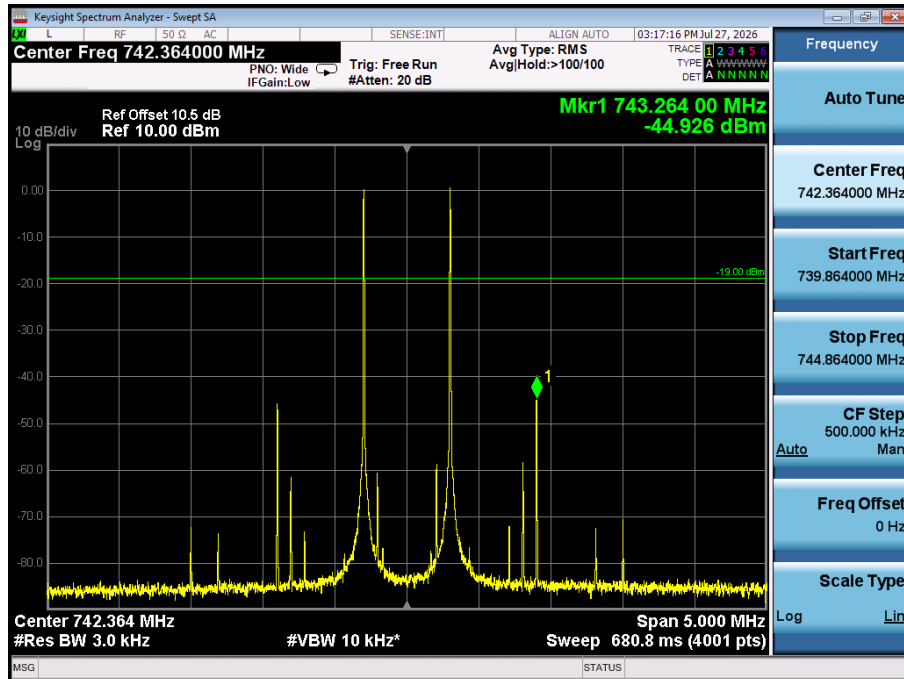
Cellular Pre AGC, DL



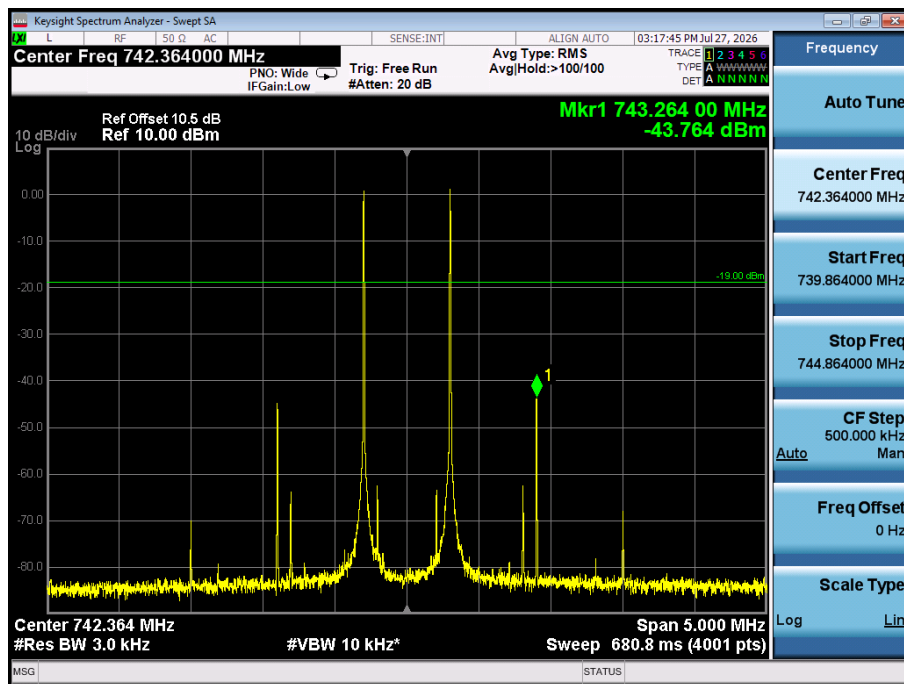
Cellular Pre AGC + 10 dB, DL



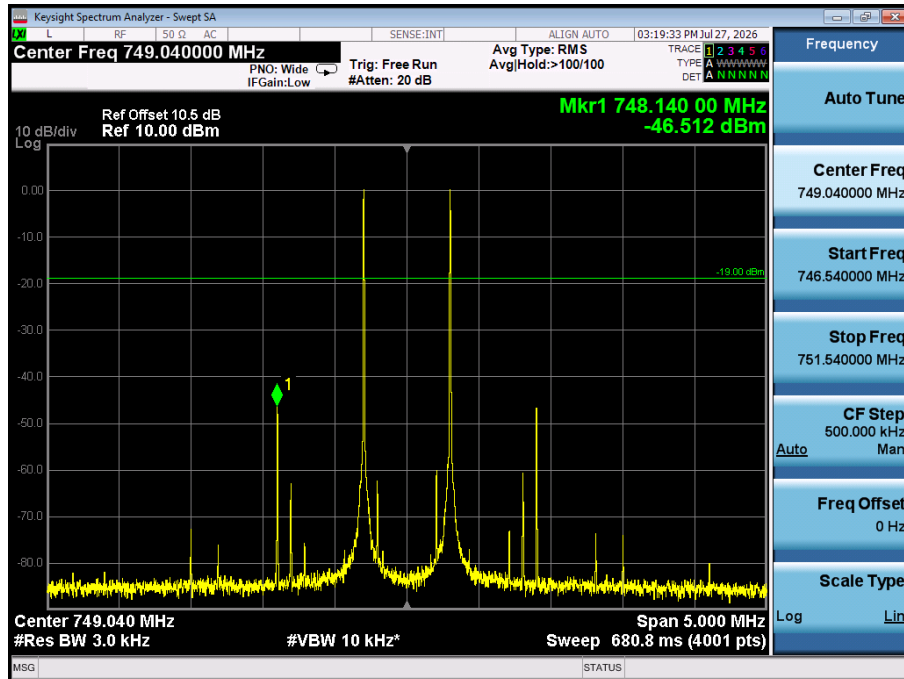
Lower700MHz Pre AGC, DL



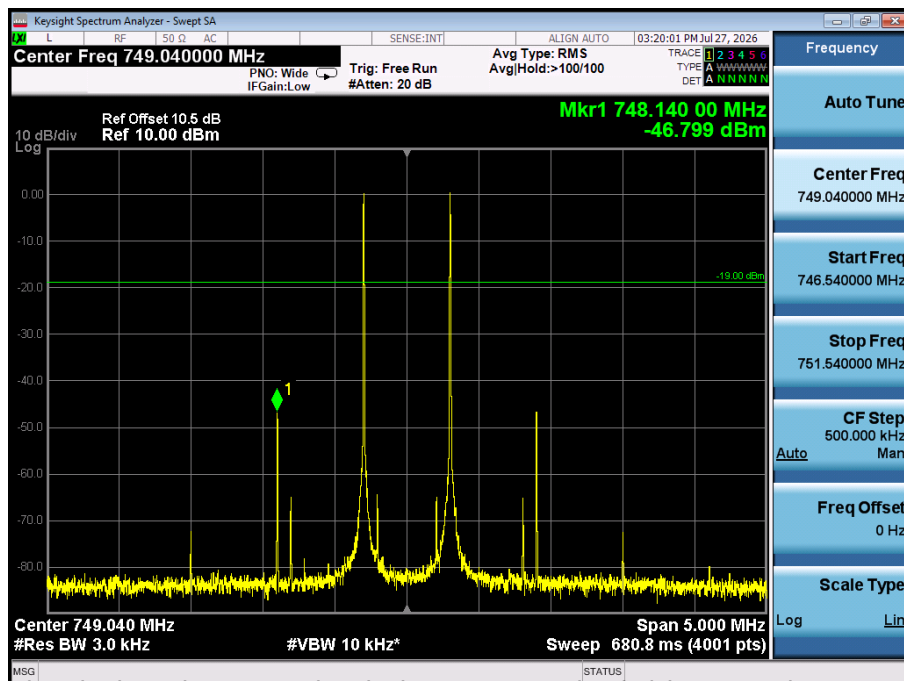
Lower700MHz Pre AGC + 10 dB, DL



Upper700MHz Pre AGC, DL



Upper700MHz Pre AGC + 10 dB, DL



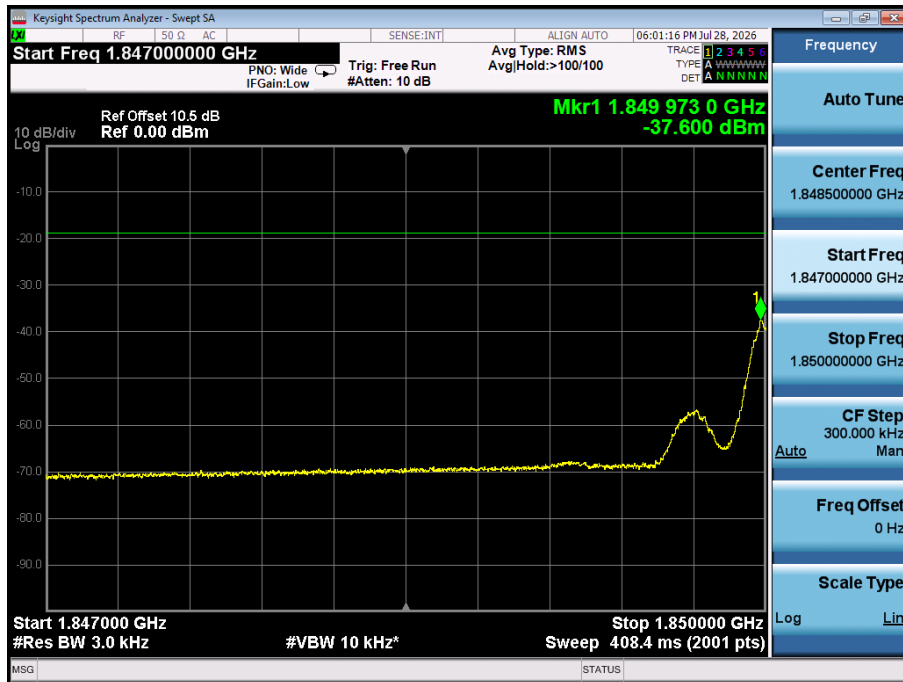
Note1: Path1 and Path2 have been tested, only the worst case (Path1) is reported.

Note2: Path1 is Outdoor + Indoor 1

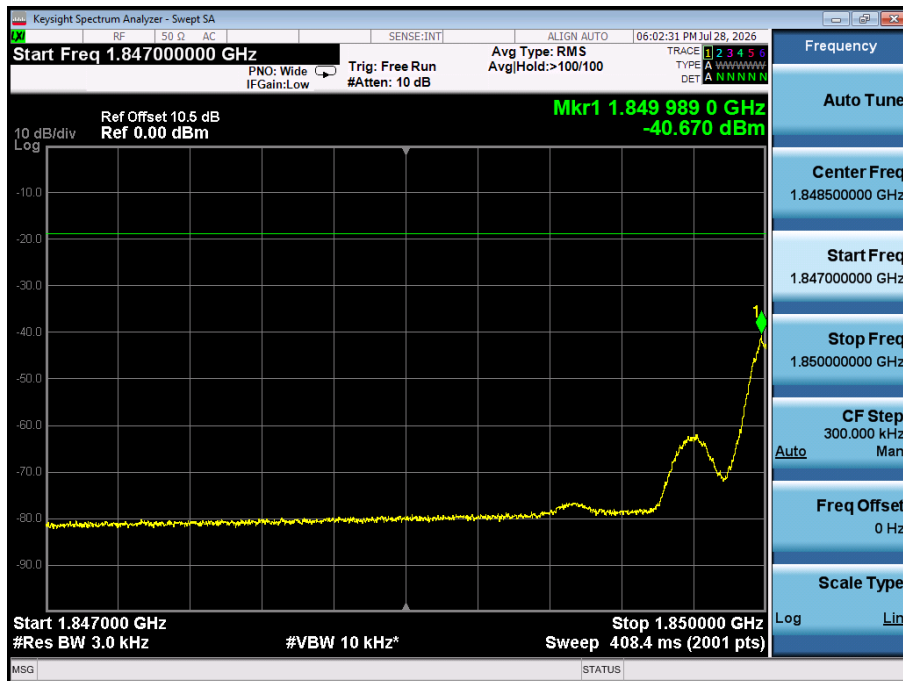
Note3: Path2 is Outdoor + Indoor 2

Out-of-band emission

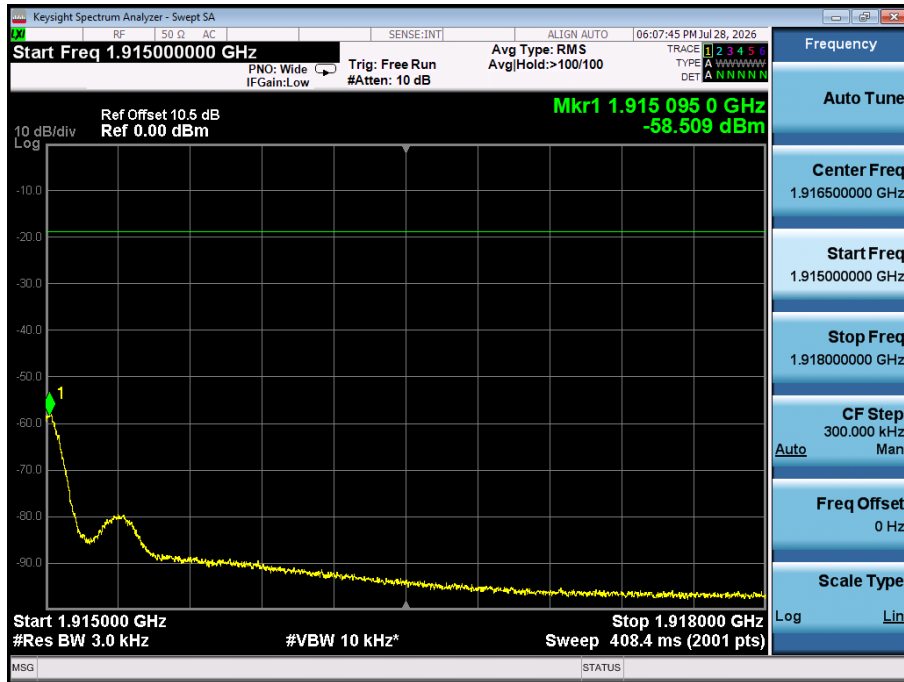
PCS GSM UL Left Side Pre AGC



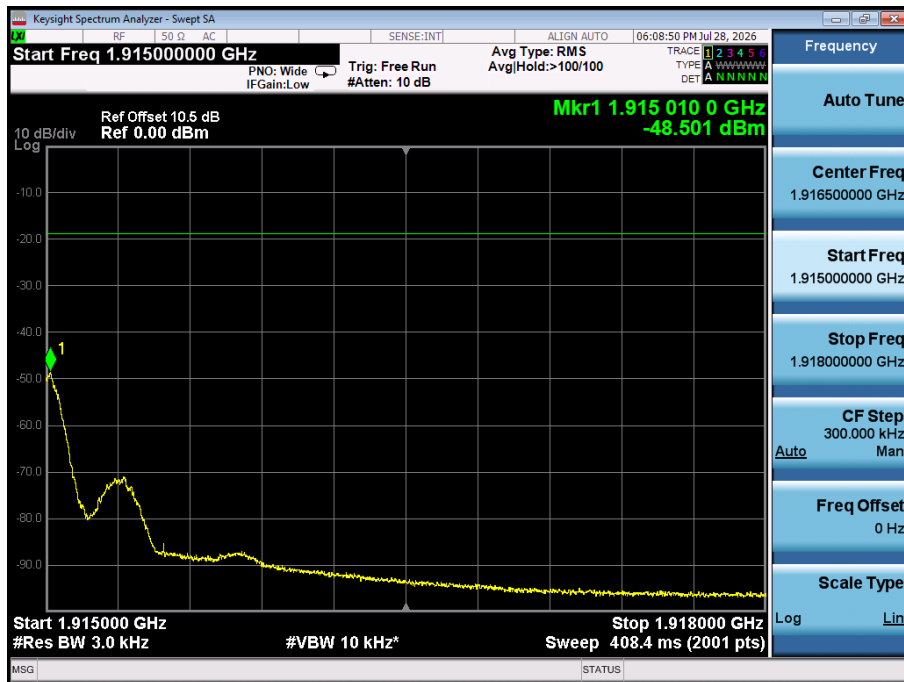
PCS GSM UL Left Side Pre AGC + 10 dB



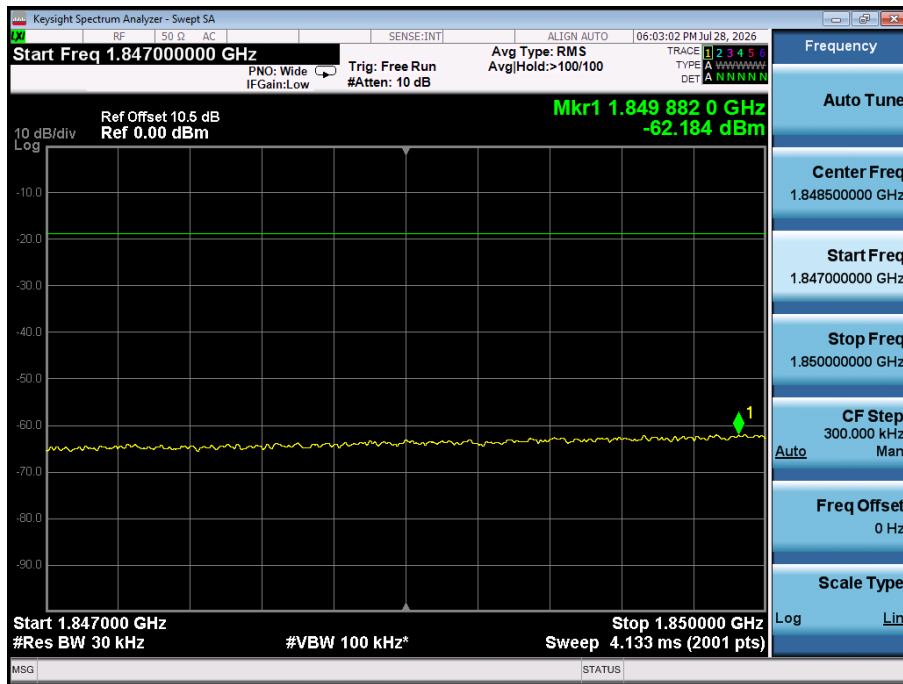
PCS GSM UL Right Side Pre AGC



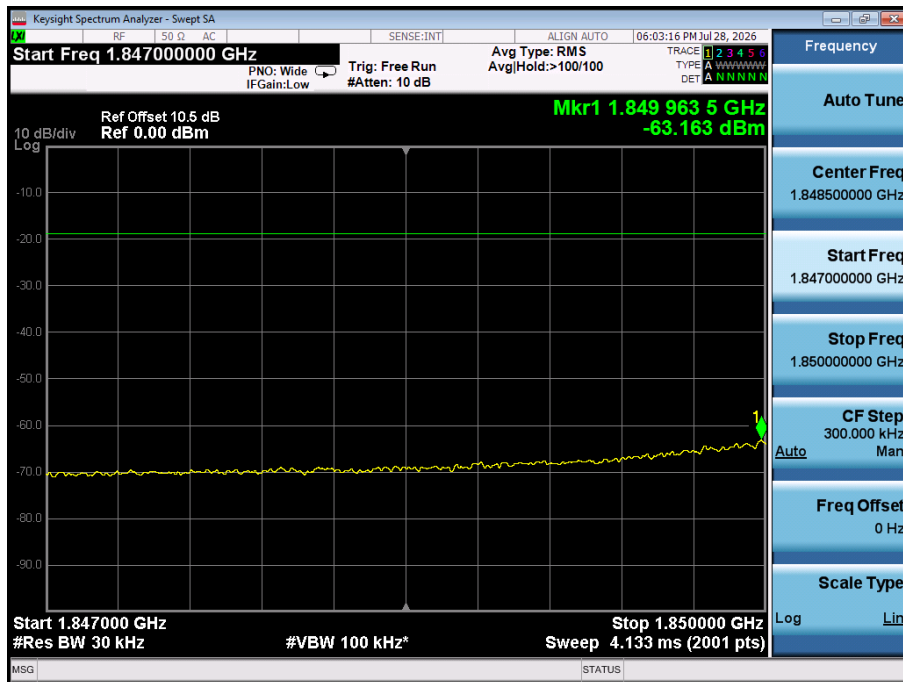
PCS GSM UL Right Side Pre AGC + 10 dB



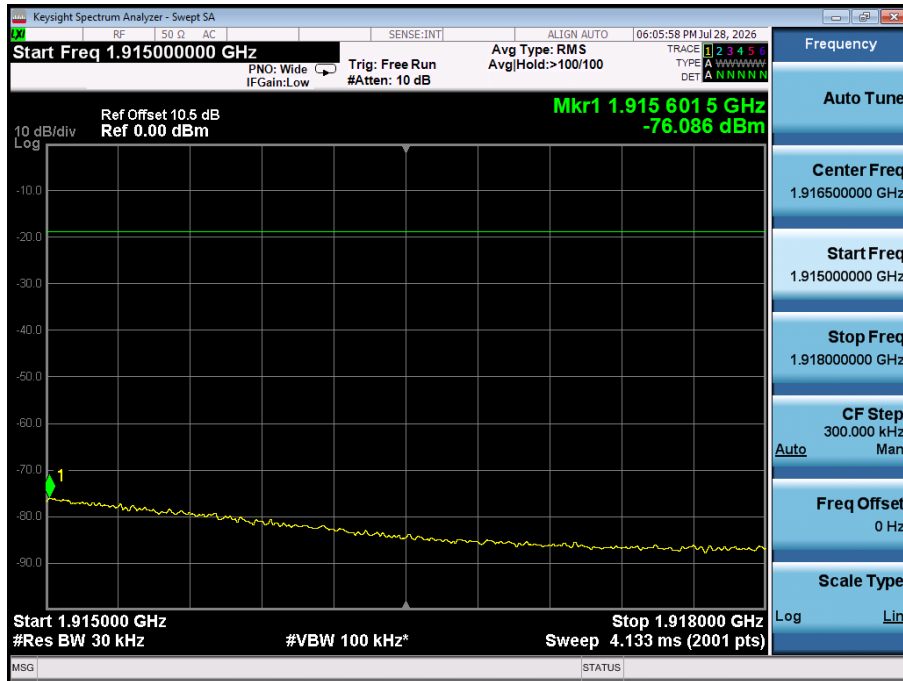
PCS CDMA UL Left Side Pre AGC



PCS CDMA UL Left Side Pre AGC + 10 dB



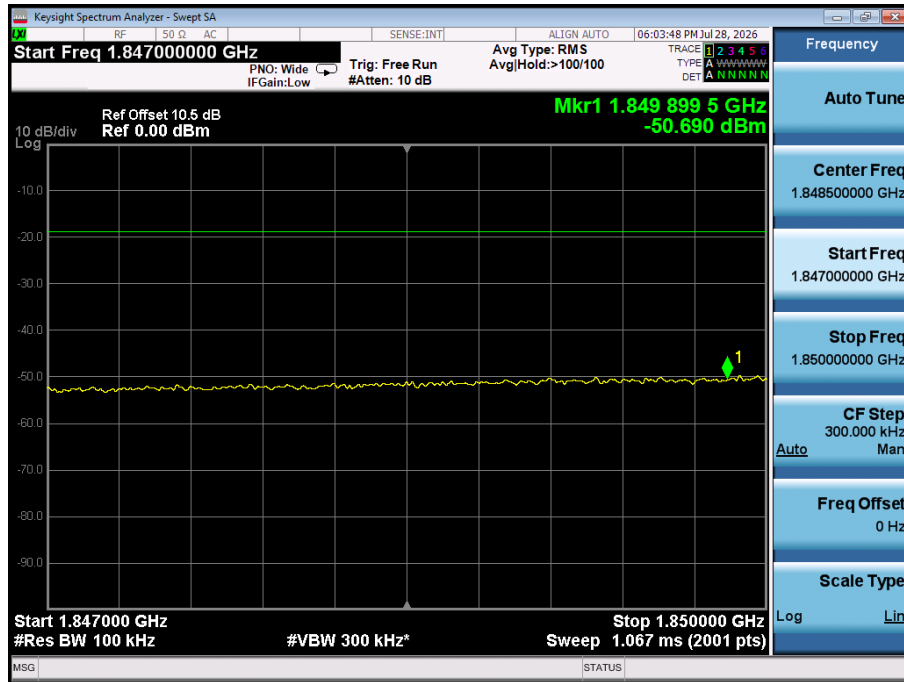
PCS CDMA UL Right Side Pre AGC



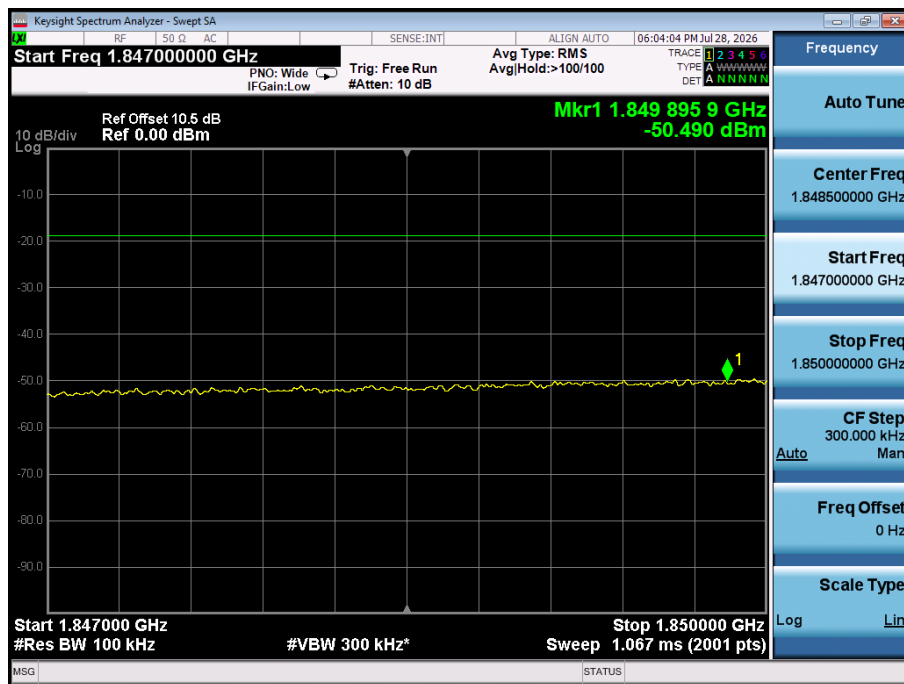
PCS CDMA UL Right Side Pre AGC + 10 dB



PCS LTE UL Left Side Pre AGC



PCS LTE UL Left Side Pre AGC + 10 dB



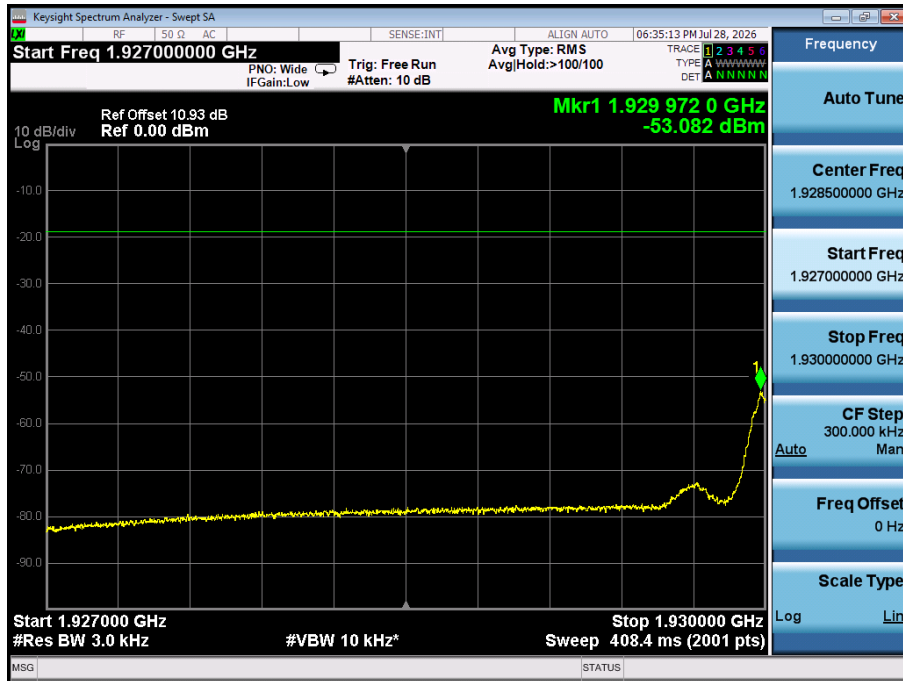
PCS LTE UL Right Side Pre AGC



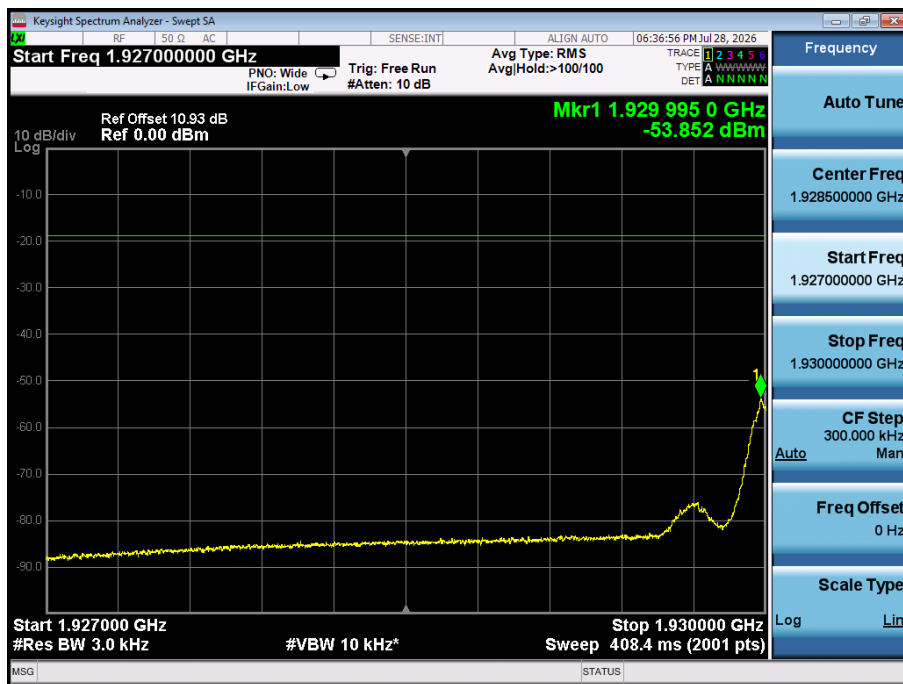
PCS LTE UL Right Side Pre AGC + 10 dB



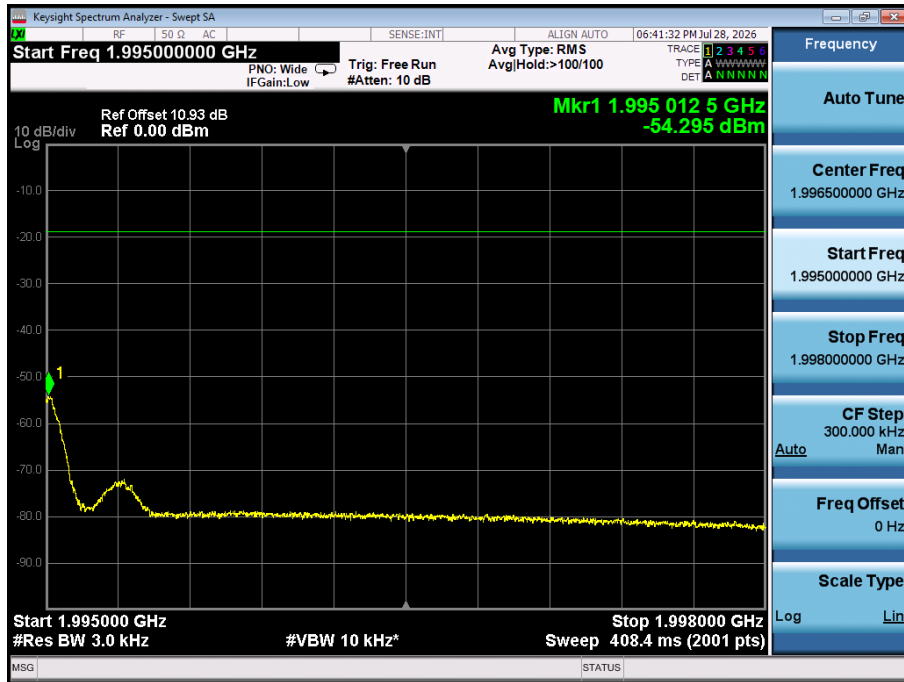
PCS GSM DL Left Side Pre AGC



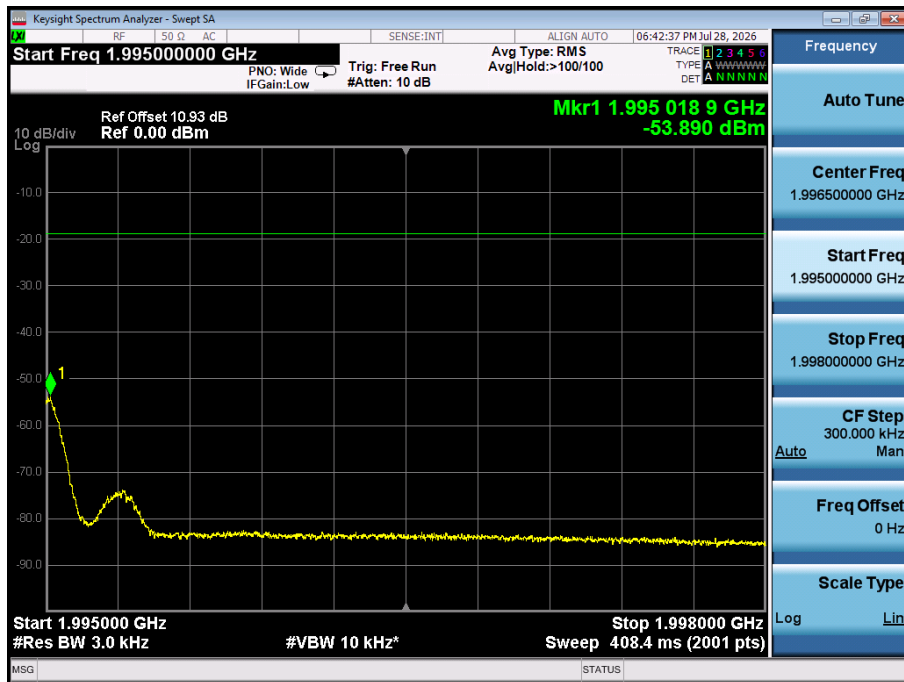
PCS GSM DL Left Side Pre AGC + 10 dB



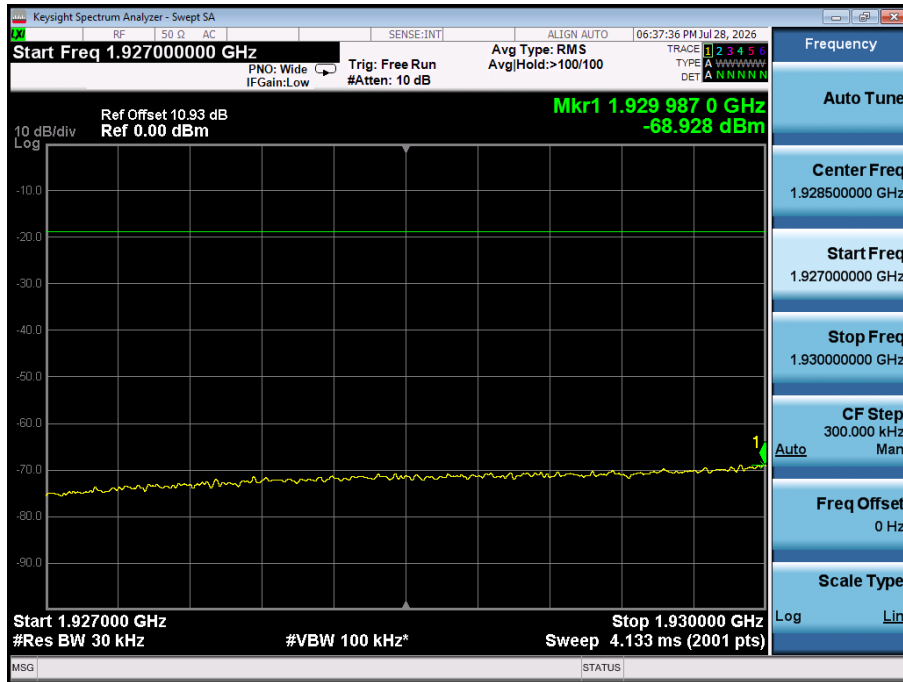
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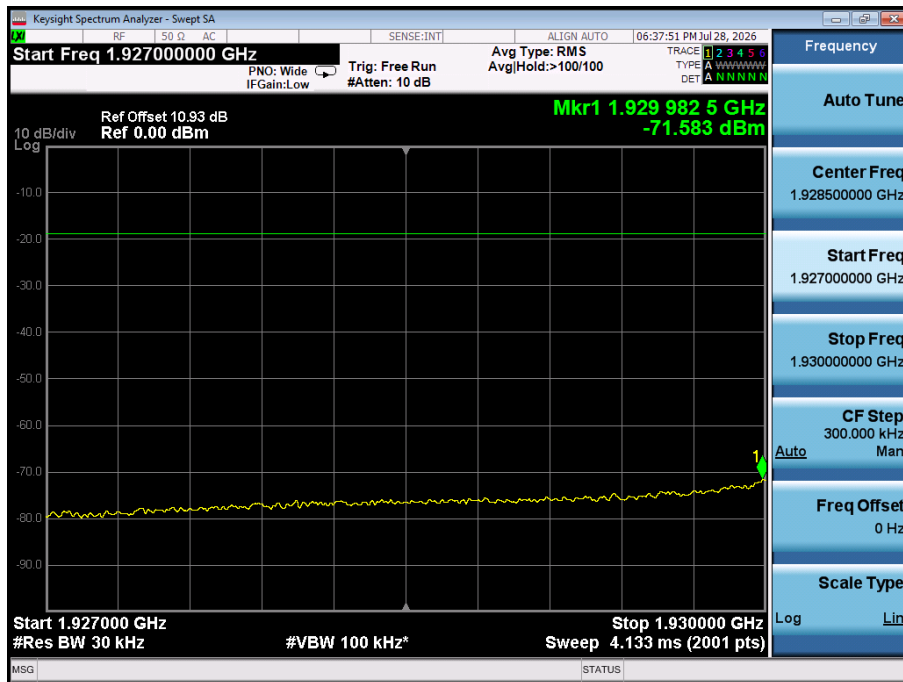
PCS GSM DL Right Side Pre AGC + 10 dB



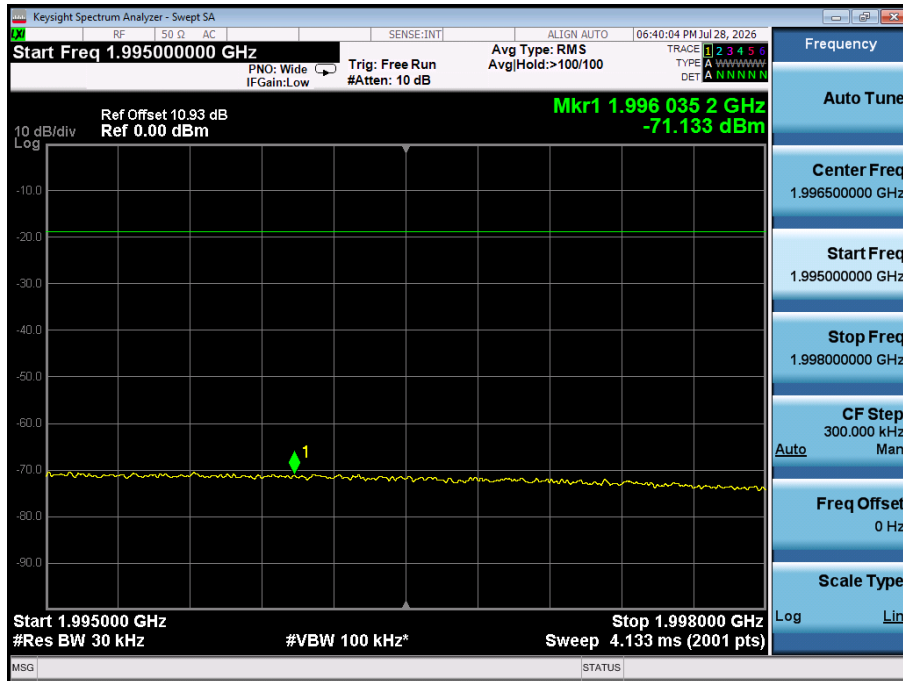
PCS CDMA DL Left Side Pre AGC



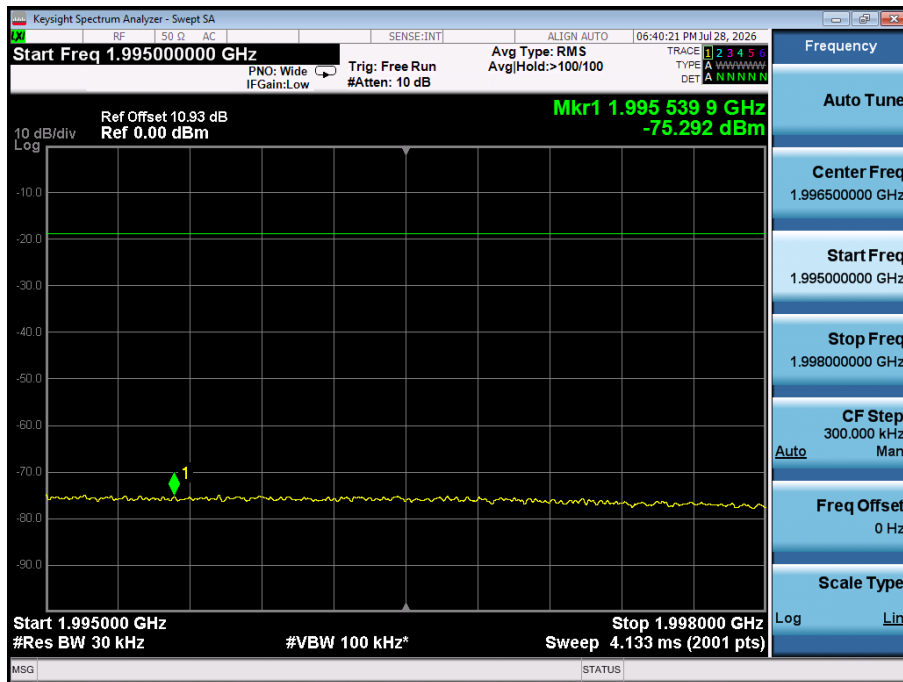
PCS CDMA DL Left Side Pre AGC + 10 dB



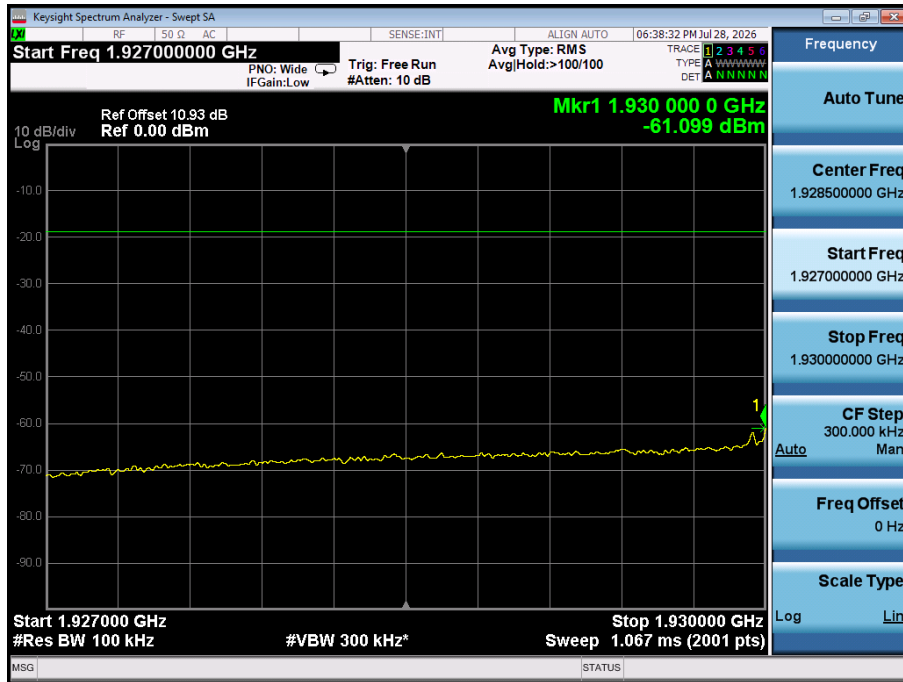
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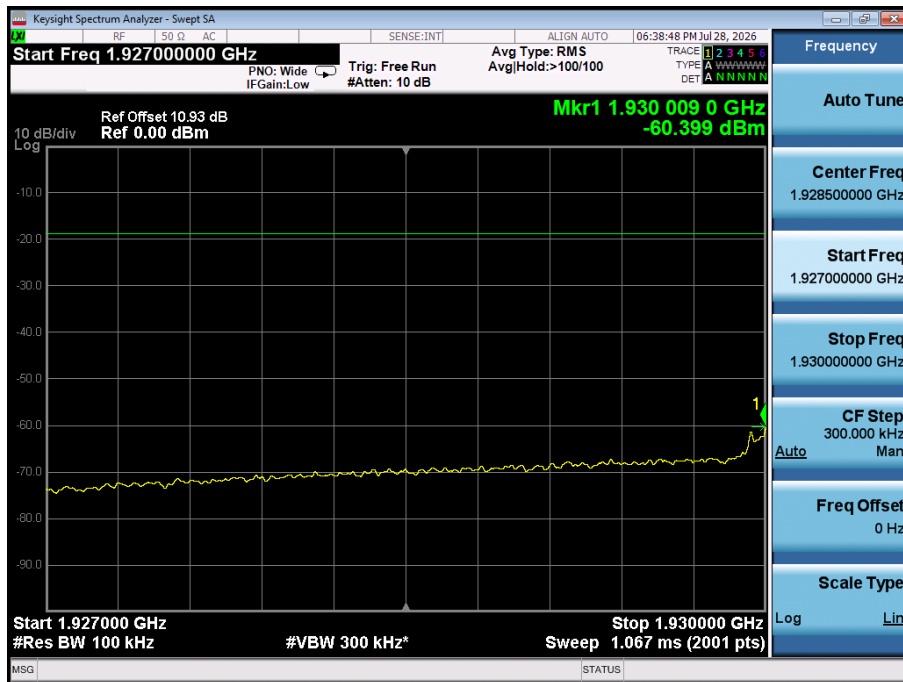
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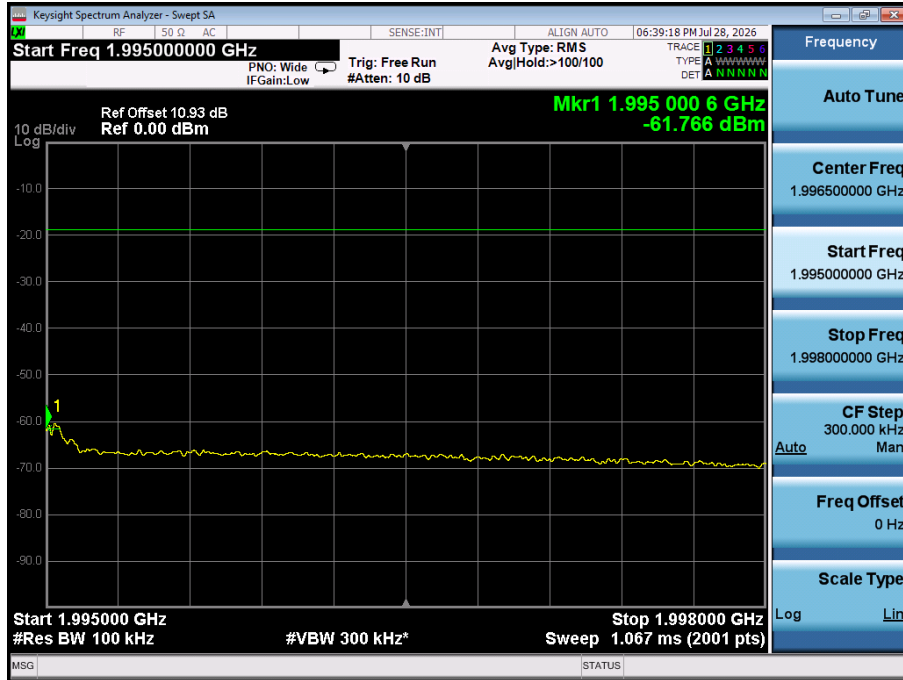
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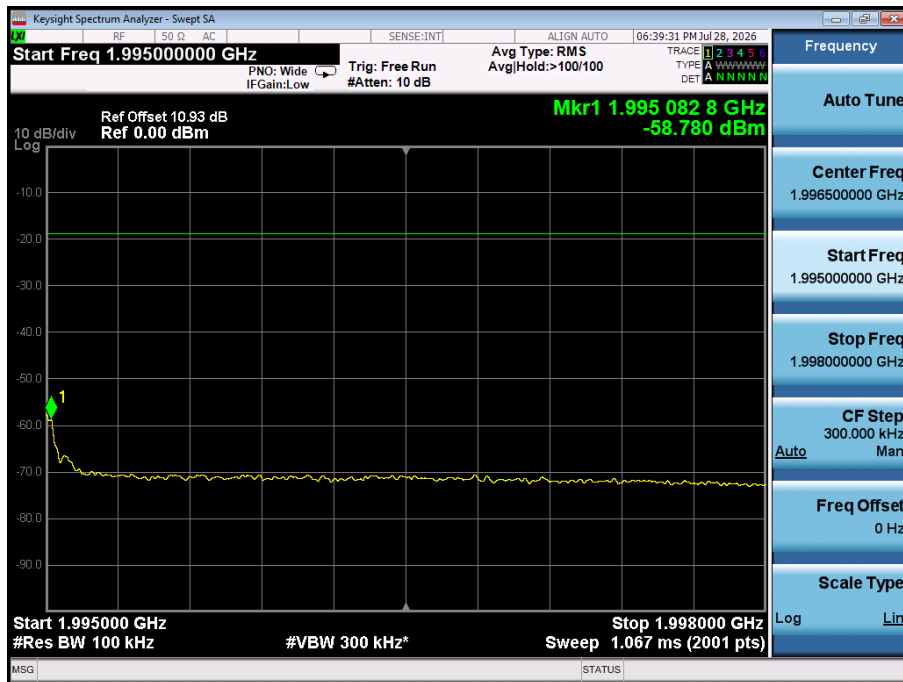
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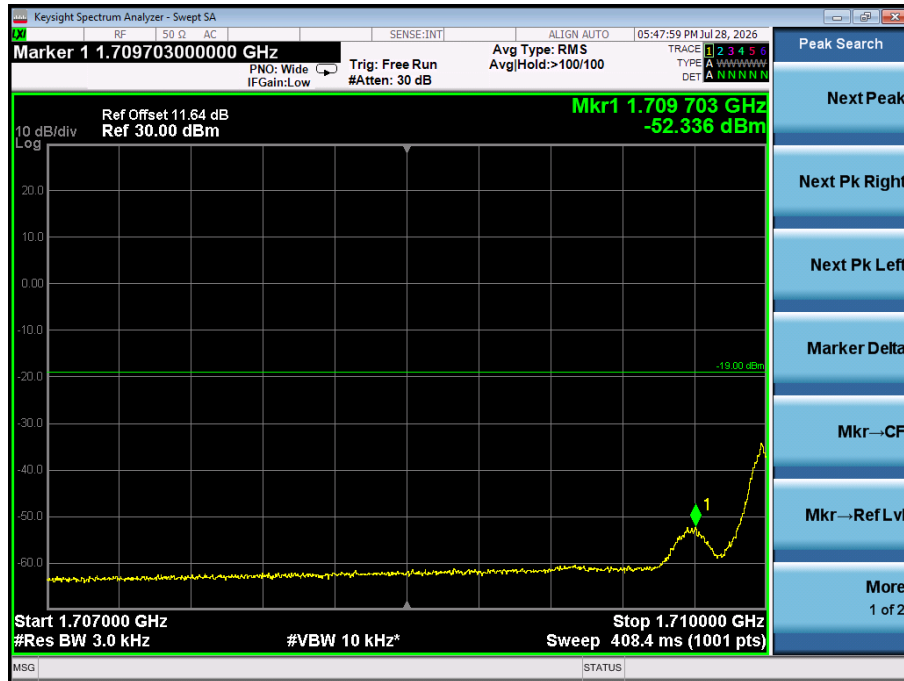
PCS LTE DL Right Side Pre AGC



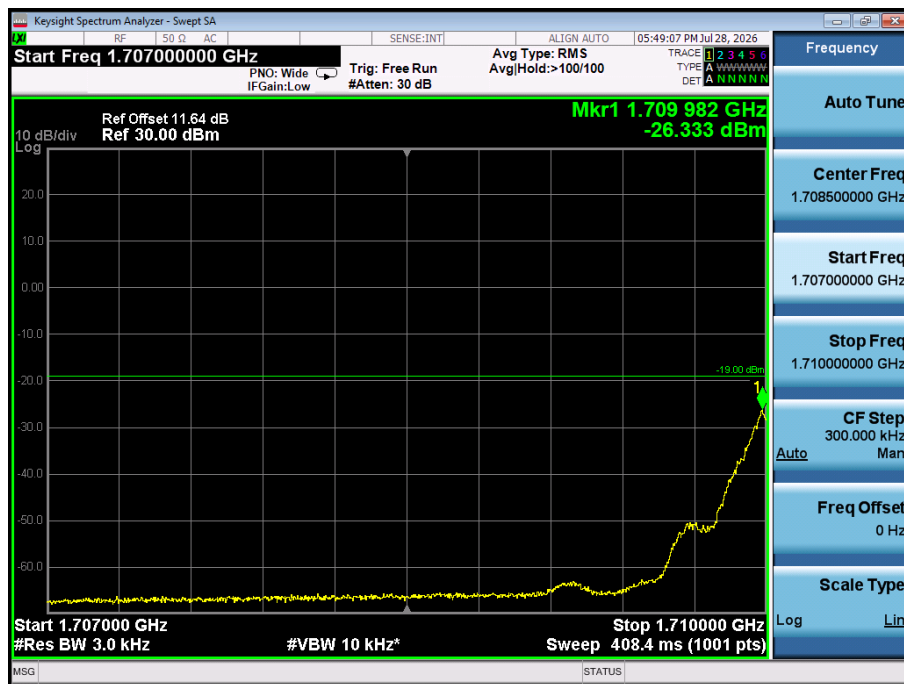
PCS LTE DL Right Side Pre AGC + 10 dB



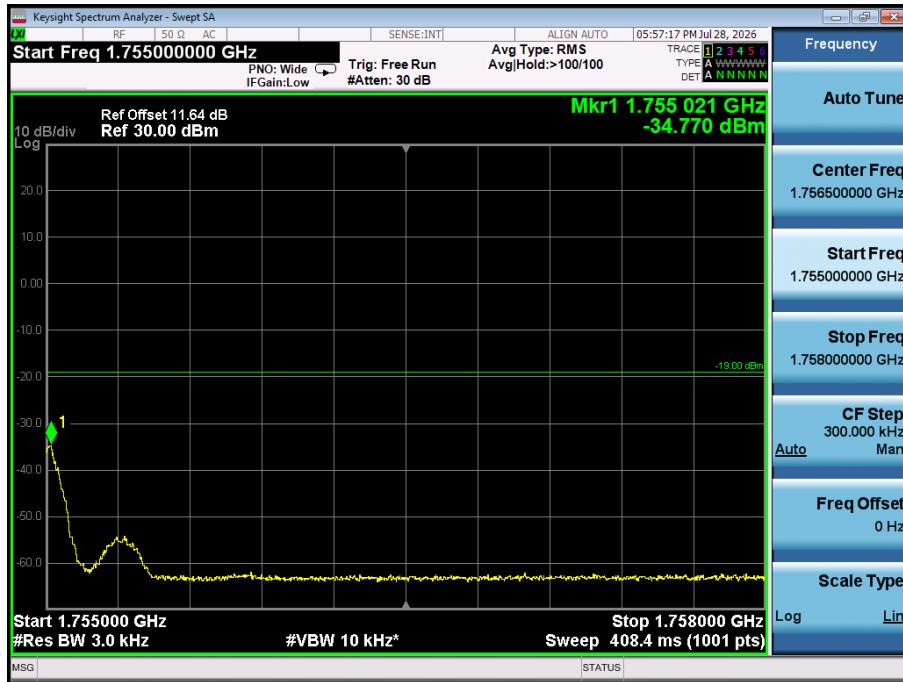
AWS GSM UL Left Side Pre AGC



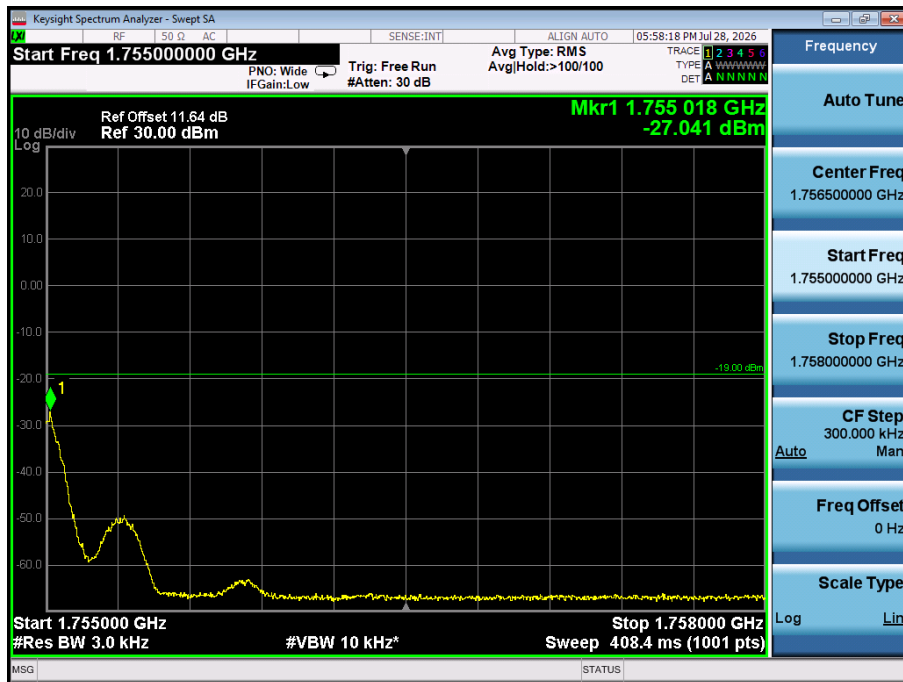
AWS GSM UL Left Side Pre AGC + 10 dB



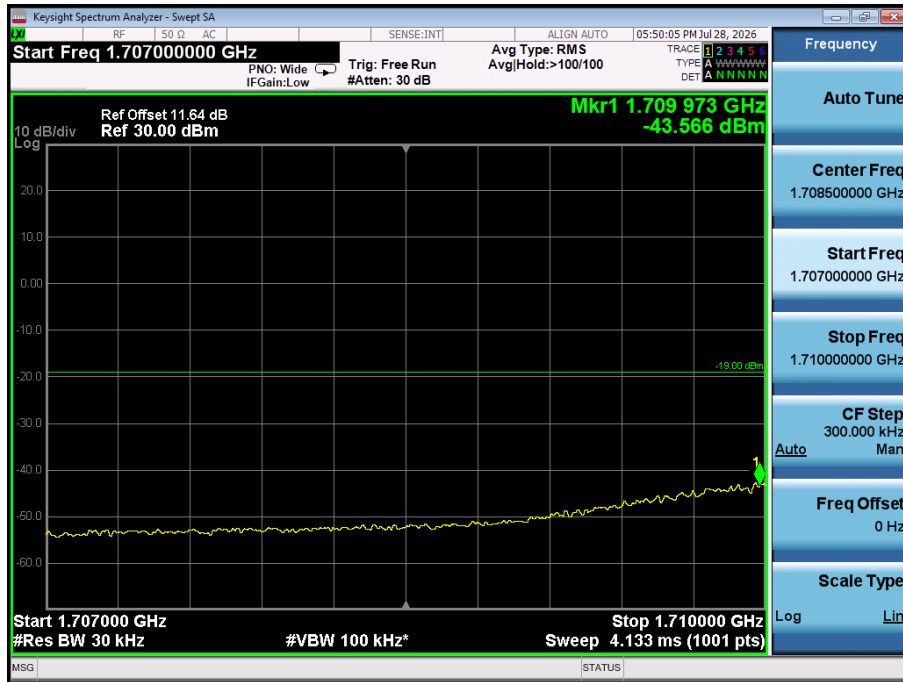
AWS GSM UL Right Side Pre AGC



AWS GSM UL Right Side Pre AGC + 10 dB



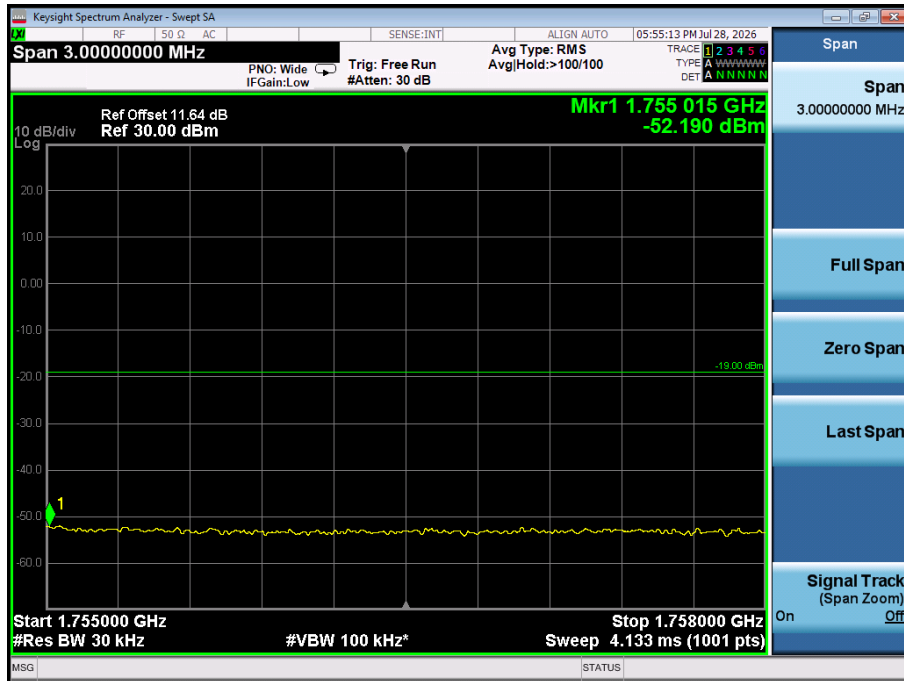
AWS CDMA UL Left Side Pre AGC



AWS CDMA UL Left Side Pre AGC + 10 dB



AWS CDMA UL Right Side Pre AGC



AWS CDMA UL Right Side Pre AGC + 10 dB



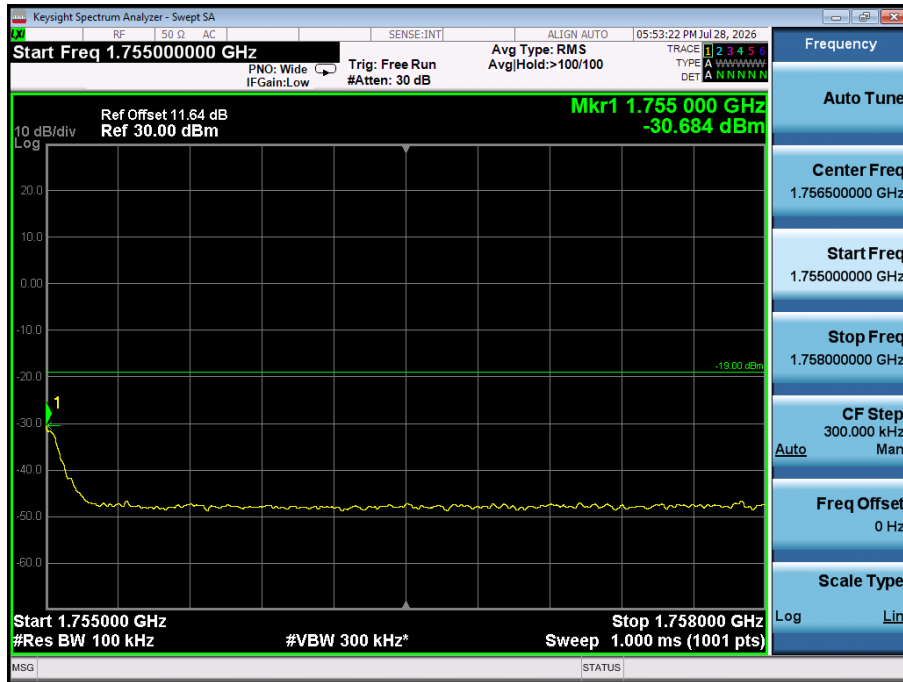
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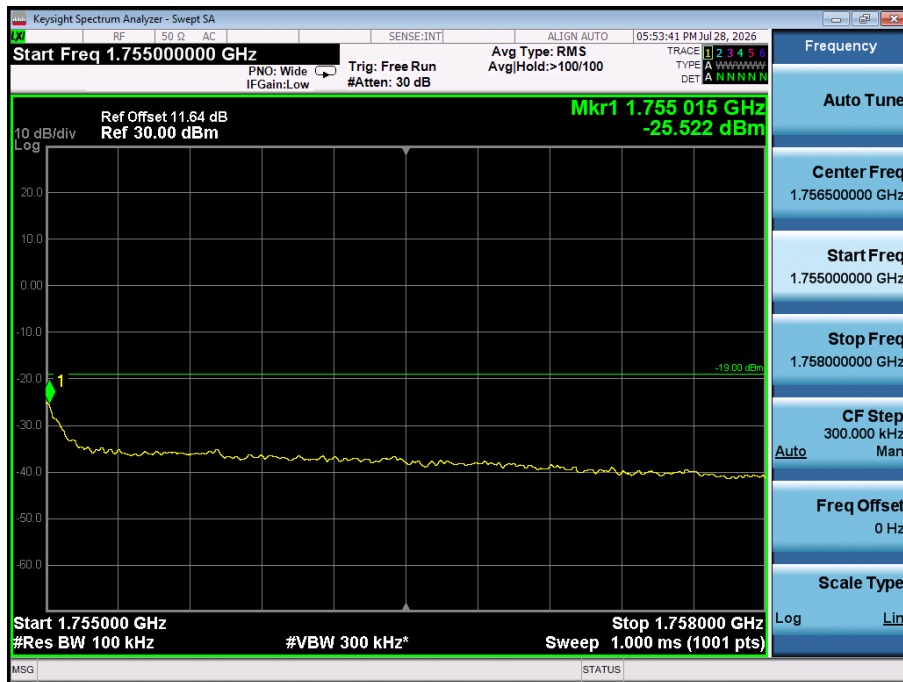
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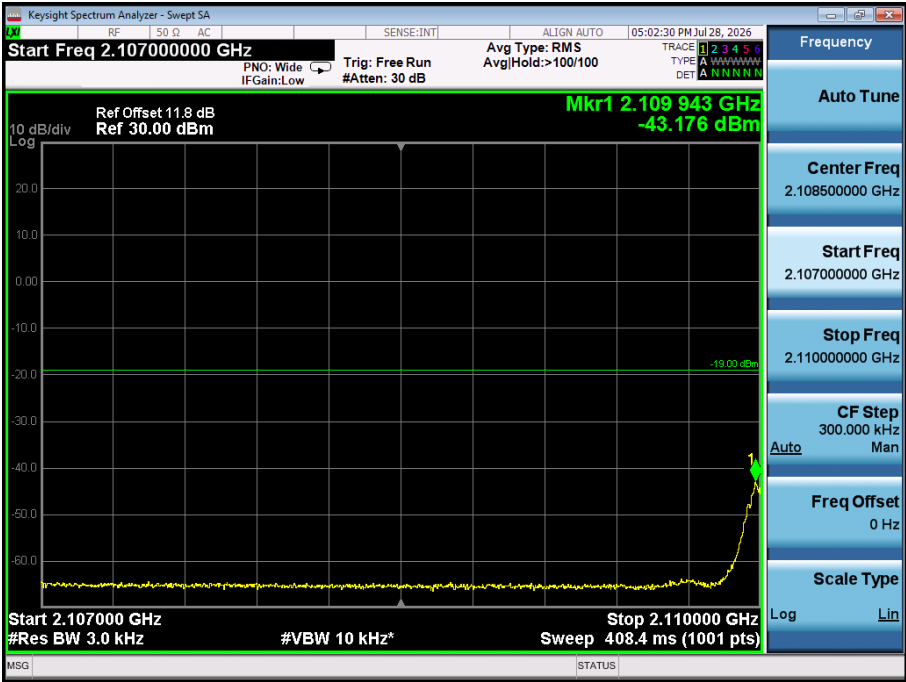
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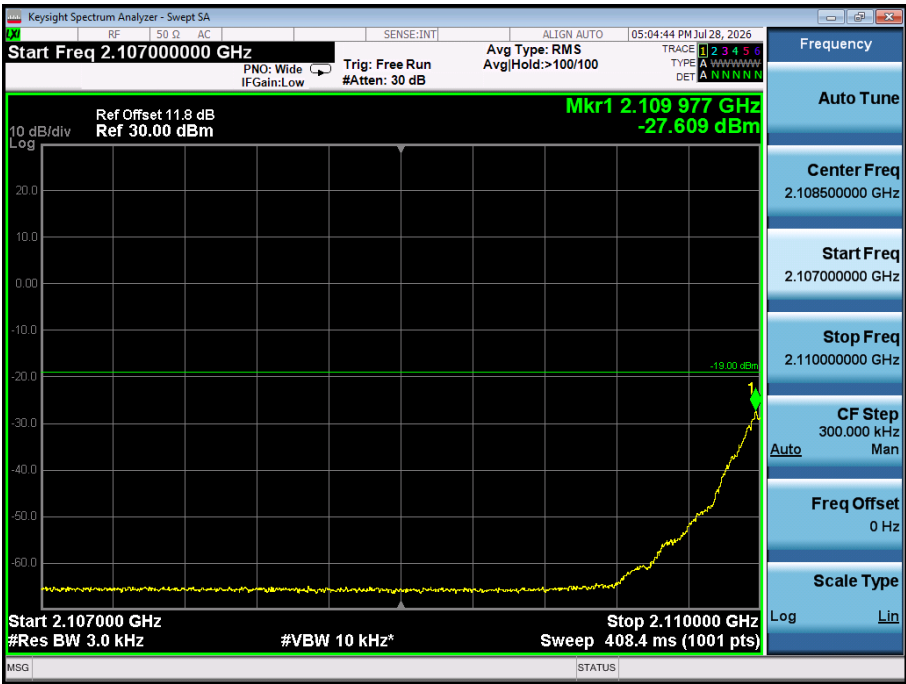
AWS LTE UL Right Side Pre AGC + 10 dB



AWS GSM DL Left Side Pre AGC



AWS GSM DL Left Side Pre AGC + 10 dB



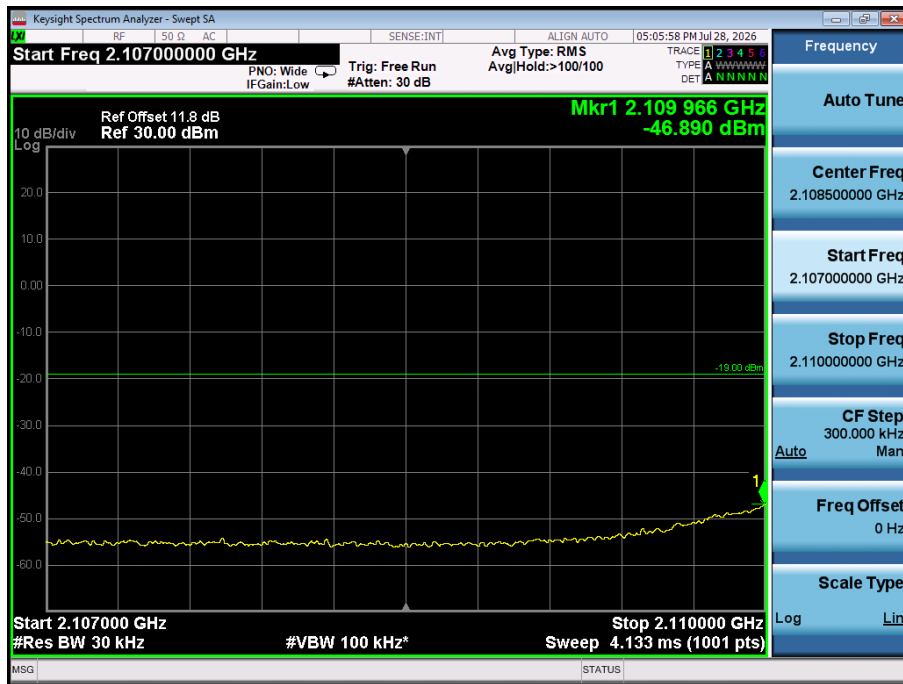
AWS GSM DL Right Side Pre AGC



AWS GSM DL Right Side Pre AGC + 10 dB



AWS CDMA DL Left Side Pre AGC



AWS CDMA DL Left Side Pre AGC + 10 dB



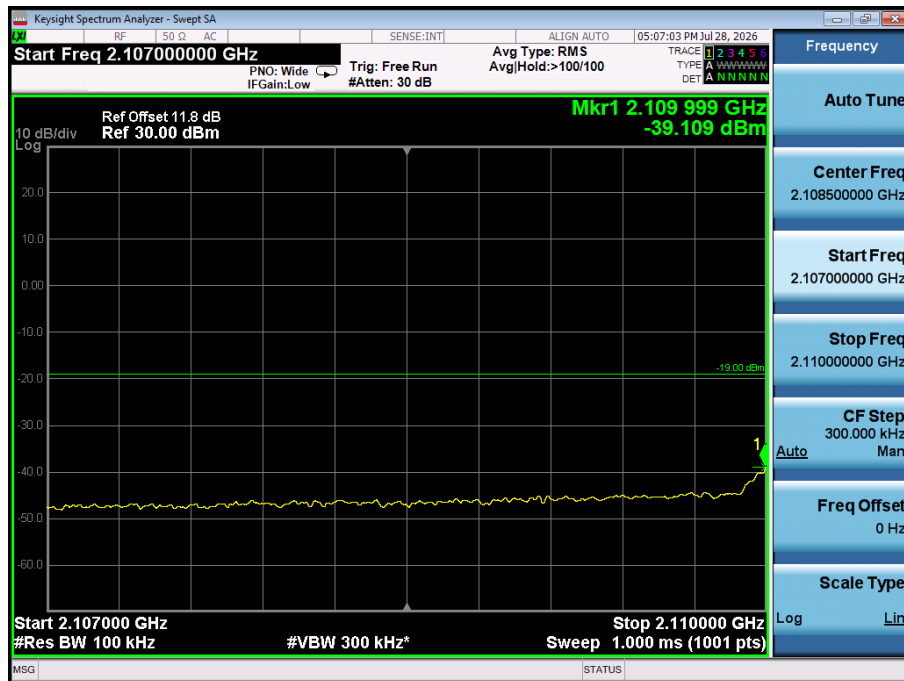
AWS CDMA DL Right Side Pre AGC



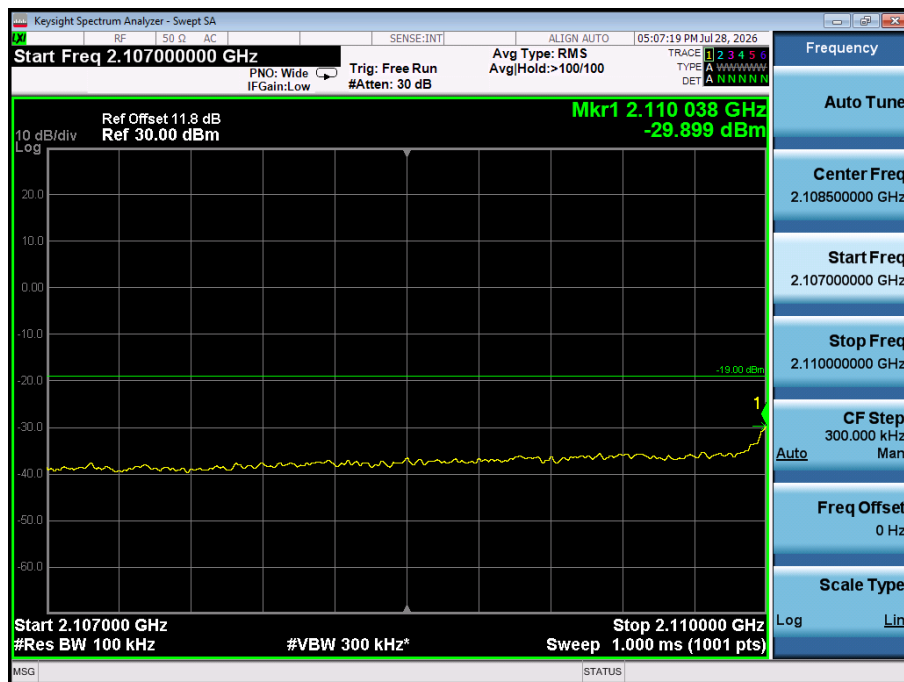
AWS CDMA DL Right Side Pre AGC + 10 dB



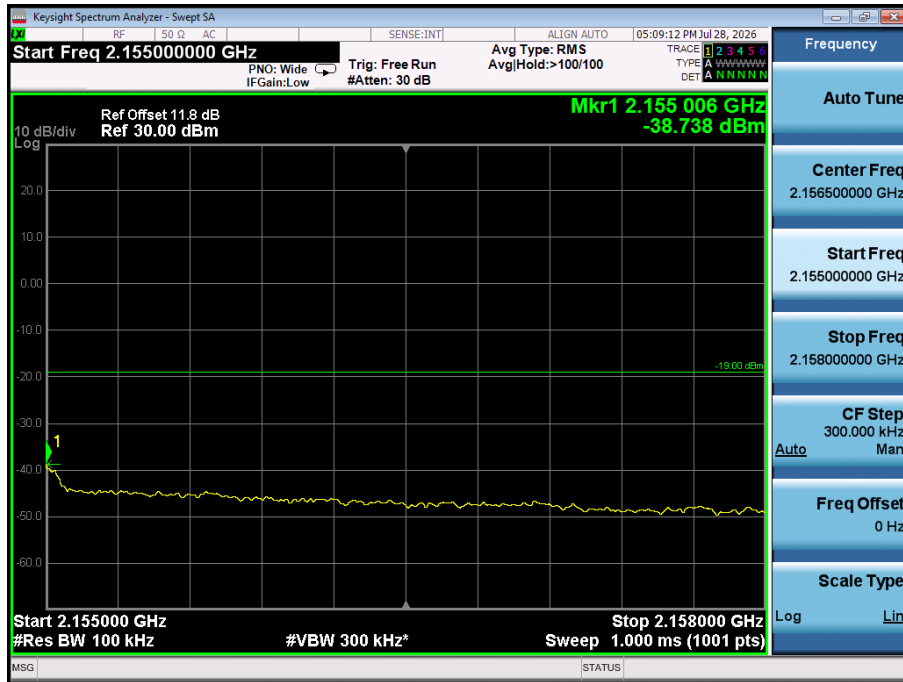
AWS LTE DL Left Side Pre AGC



AWS LTE DL Left Side Pre AGC + 10 dB



AWS LTE DL Right Side Pre AGC



AWS LTE DL Right Side Pre AGC + 10 dB



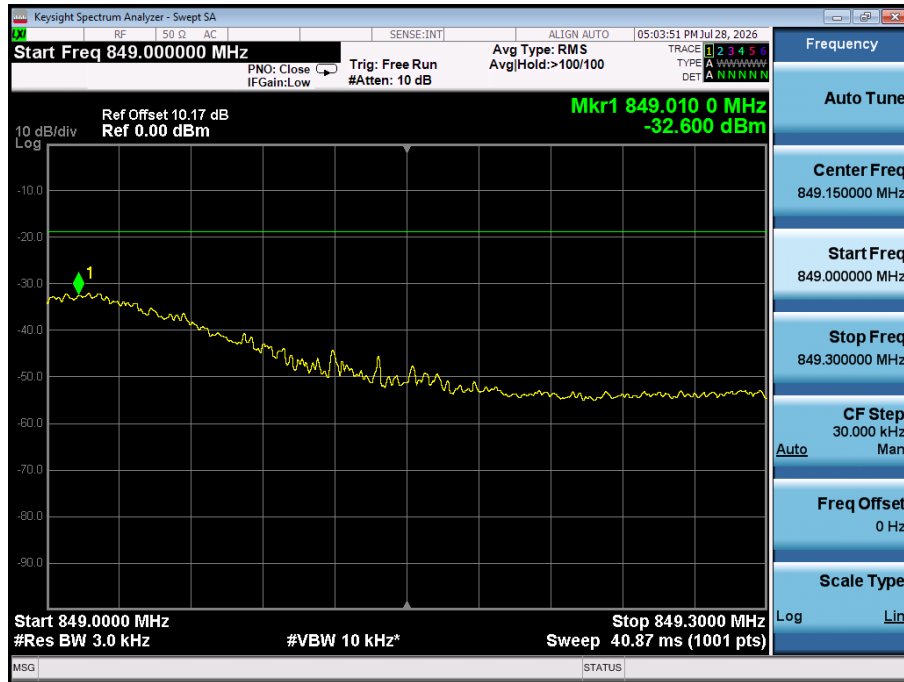
Cellular GSM UL Left Side Pre AGC



Cellular GSM UL Left Side Pre AGC + 10 dB



Cellular GSM UL Right Side Pre AGC



Cellular GSM UL Right Side Pre AGC + 10 dB

