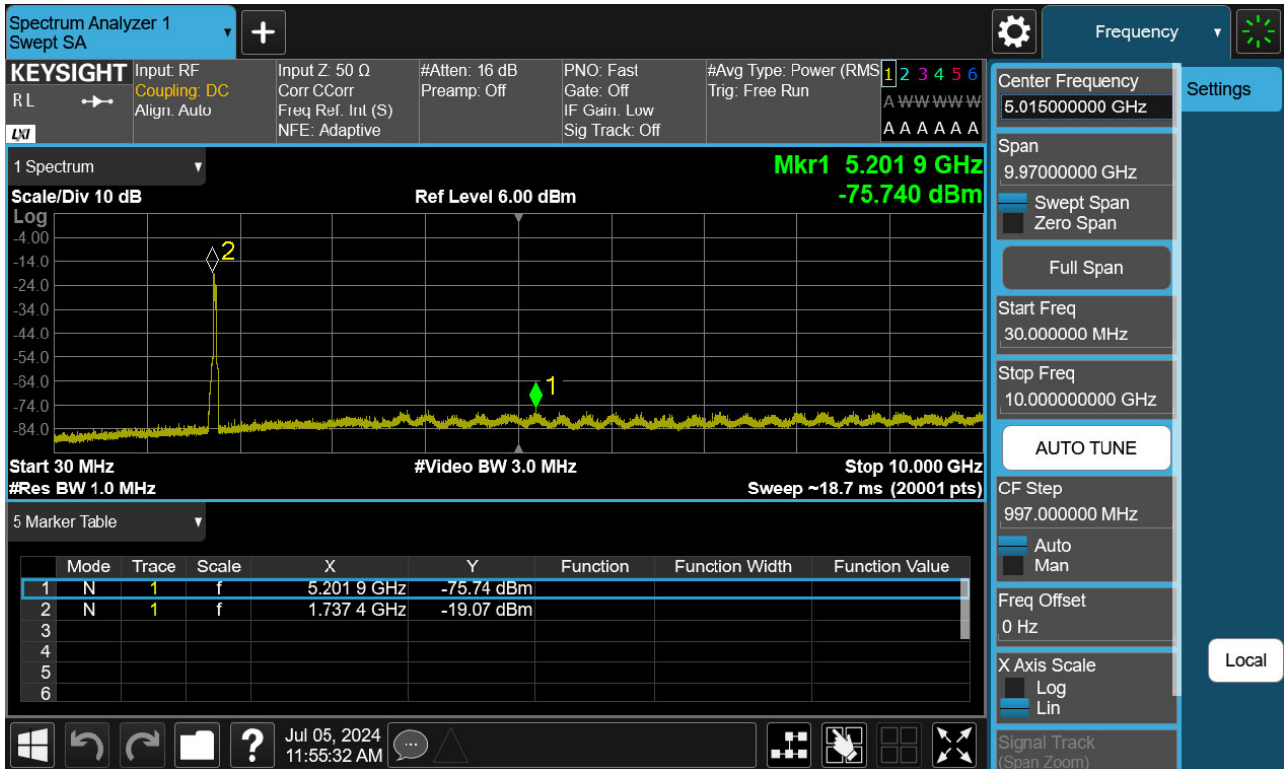


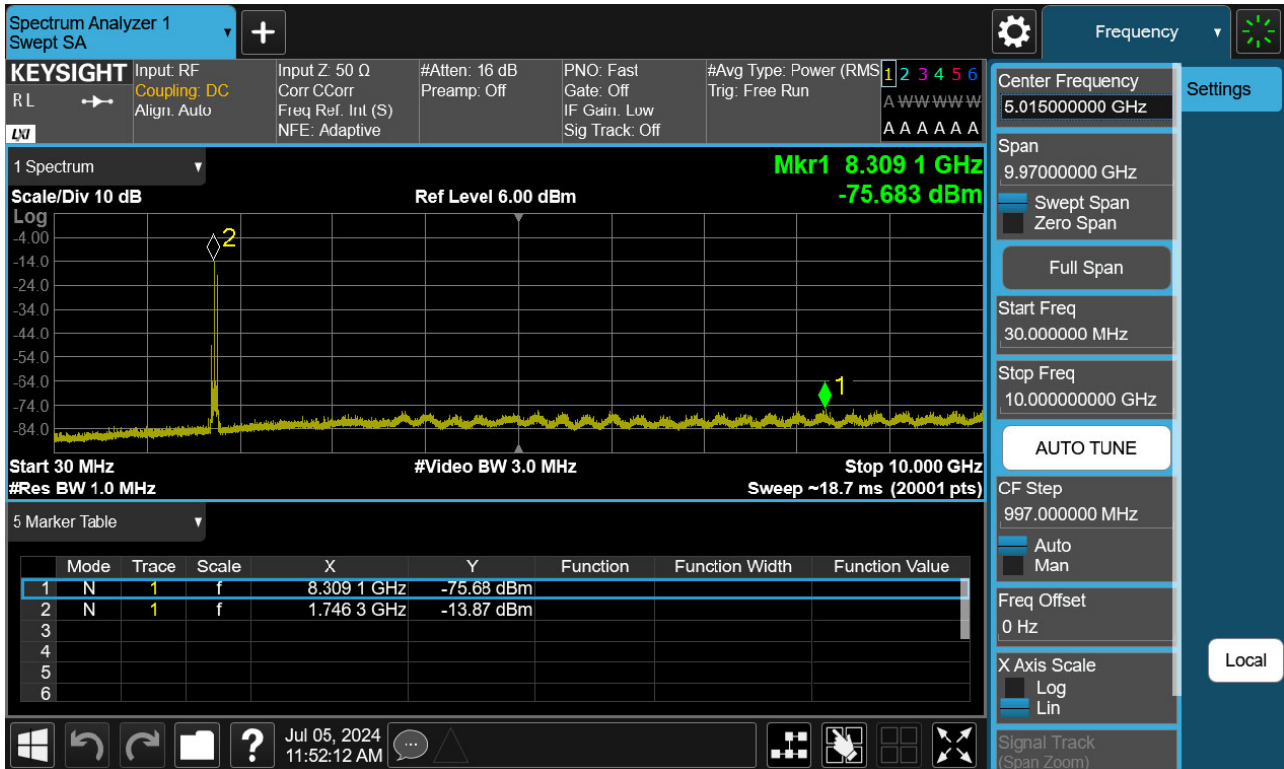
PCC 10 MHz Ch132477 RB1 Offset0 SCC 15 MHz Ch132597 RB1 Offset74



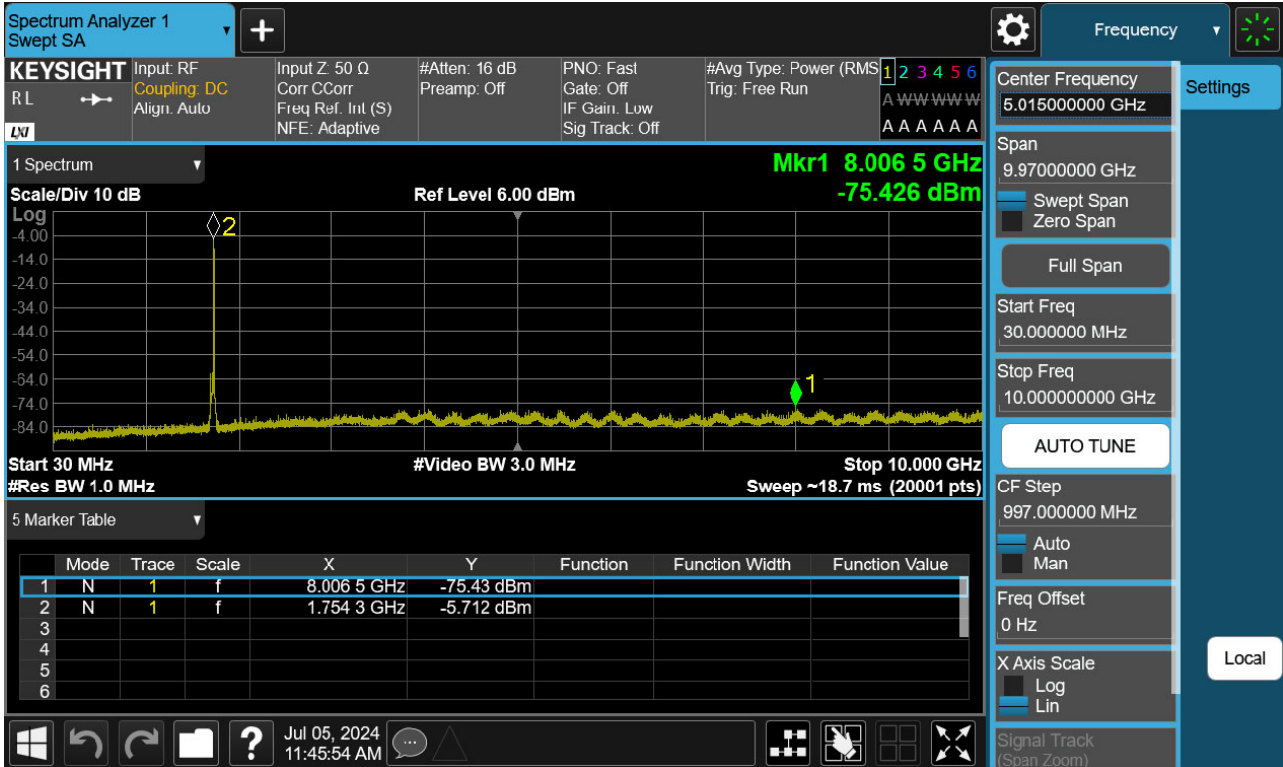
PCC 10 MHz Ch132027 RB50 Offset0 SCC 20 MHz Ch132171 RB100 Offset0



PCC 20 MHz Ch132373 RB100 Offset0 SCC 10 MHz Ch132517 RB50 Offset0

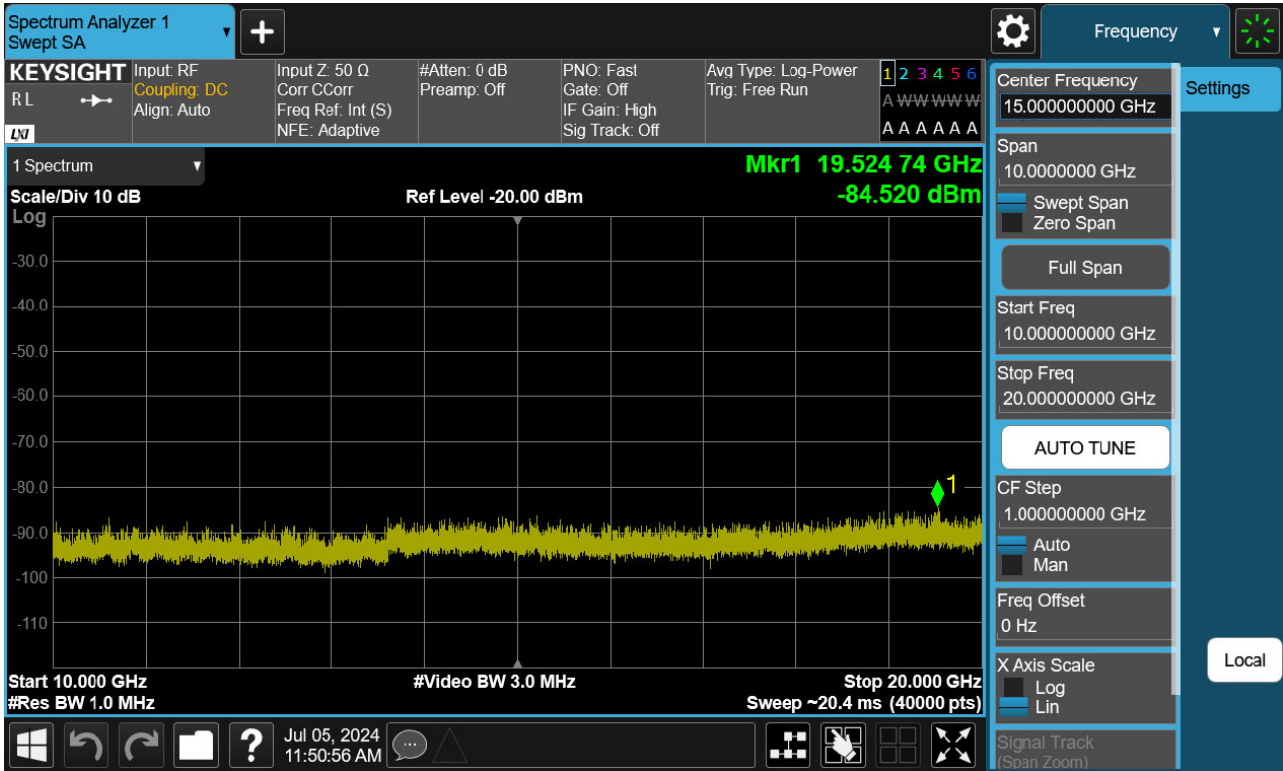


PCC 15 MHz Ch132401 RB75 Offset0 SCC 20 MHz Ch132572 RB100 Offset0

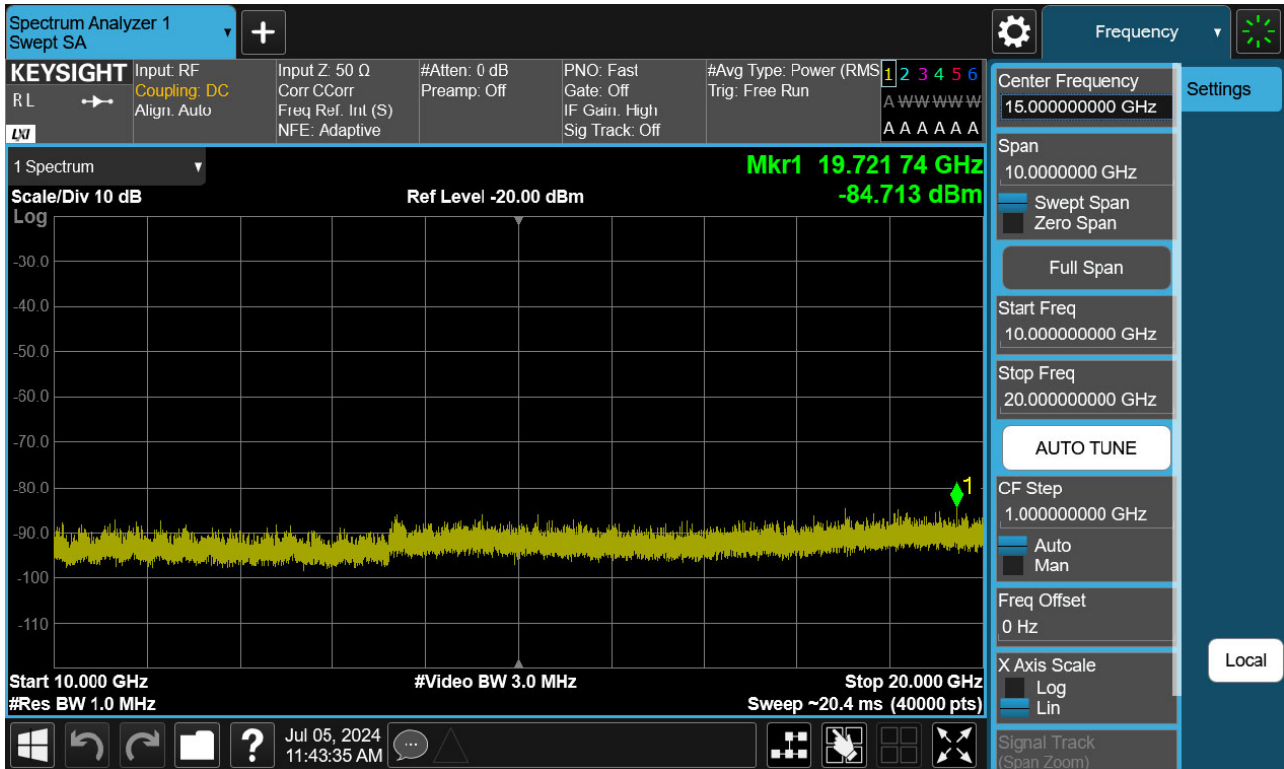


Frequency Range : 10 GHz ~ 20 GHz

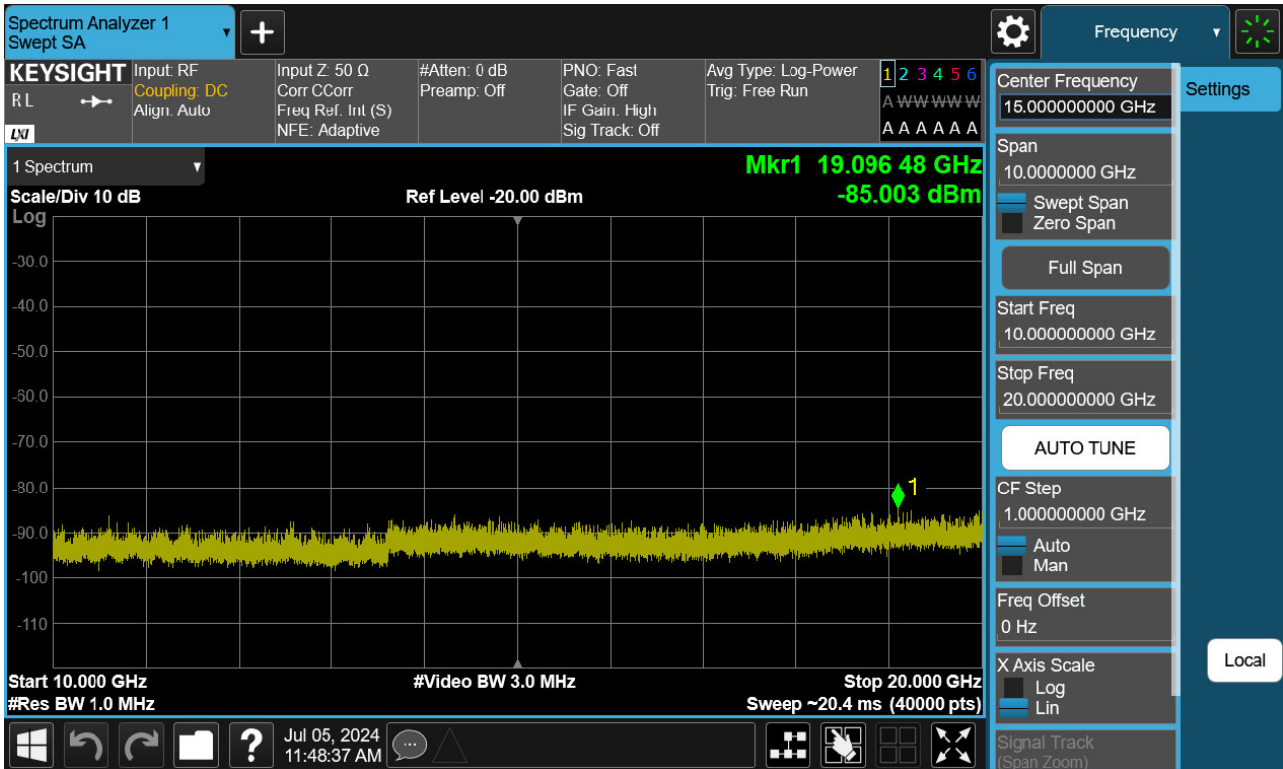
PCC 15 MHz Ch132050 RB1 Offset74, SCC 20 MHz Ch132221 RB1 Offset0



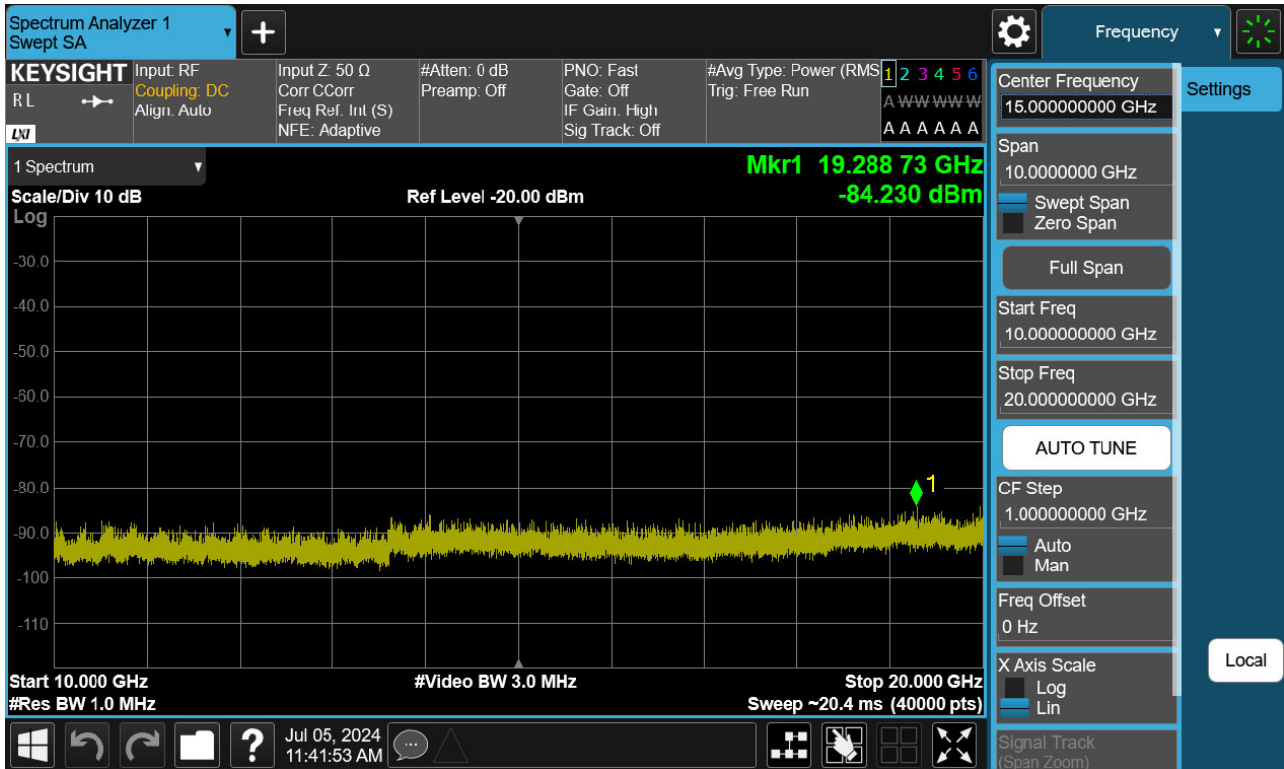
PCC 20 MHz Ch132348 RB1 Offset99, SCC 15 MHz Ch132519 RB1 Offset0



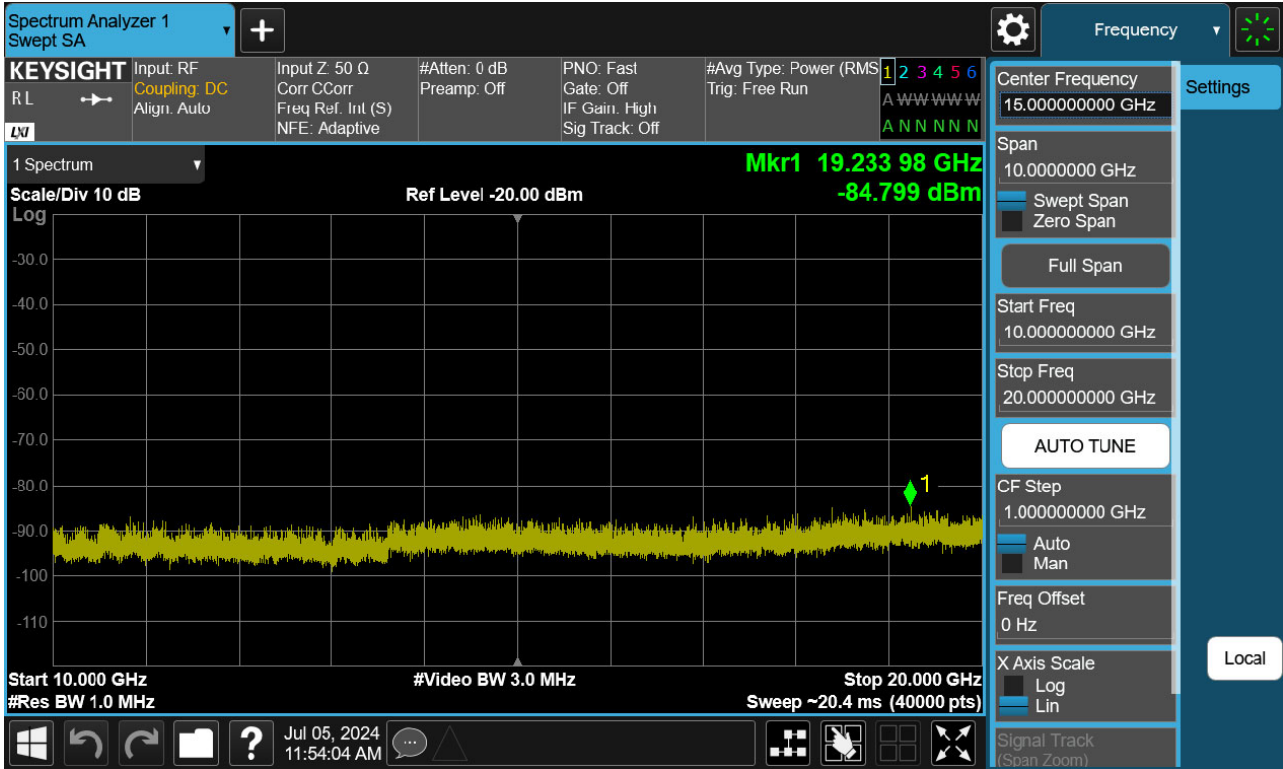
PCC 10 MHz Ch132477 RB1 Offset49, SCC 15 MHz Ch132597 RB1 Offset0



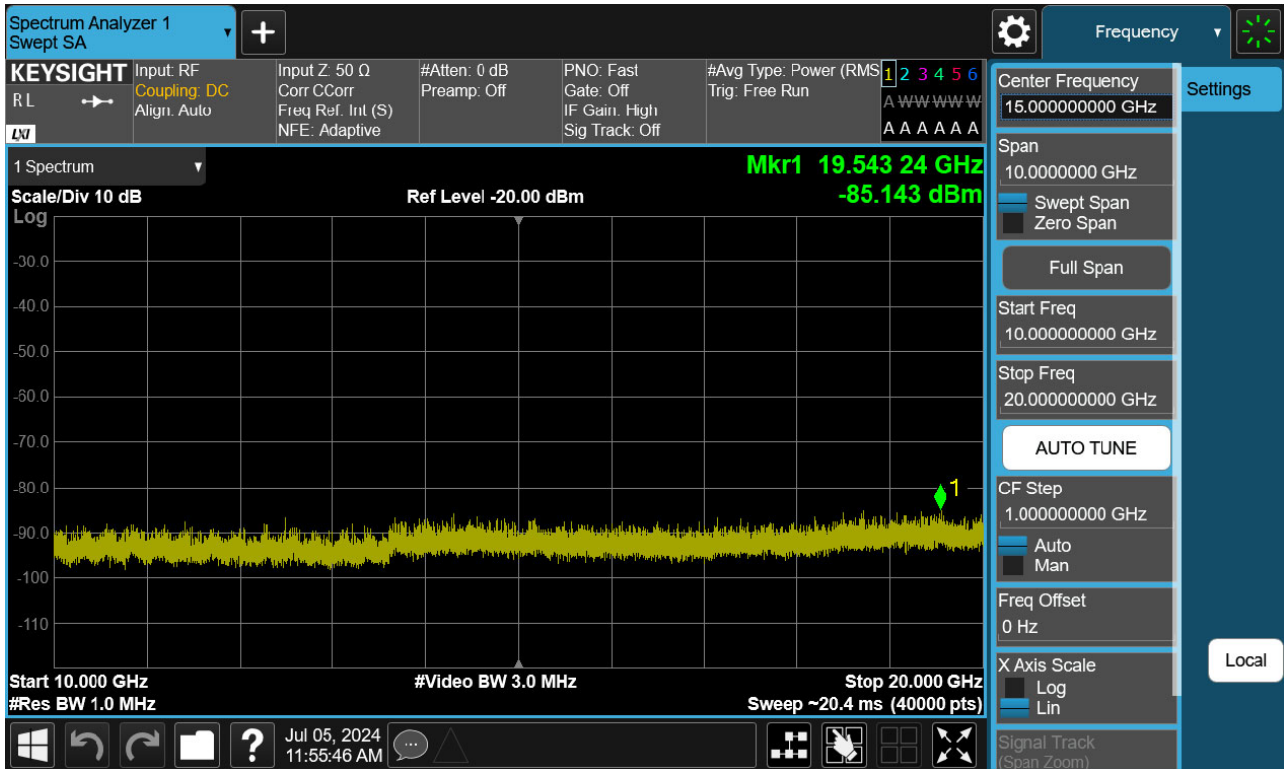
PCC 15 MHz Ch132050 RB1 Offset0, SCC 20 MHz Ch132221 RB1 Offset99



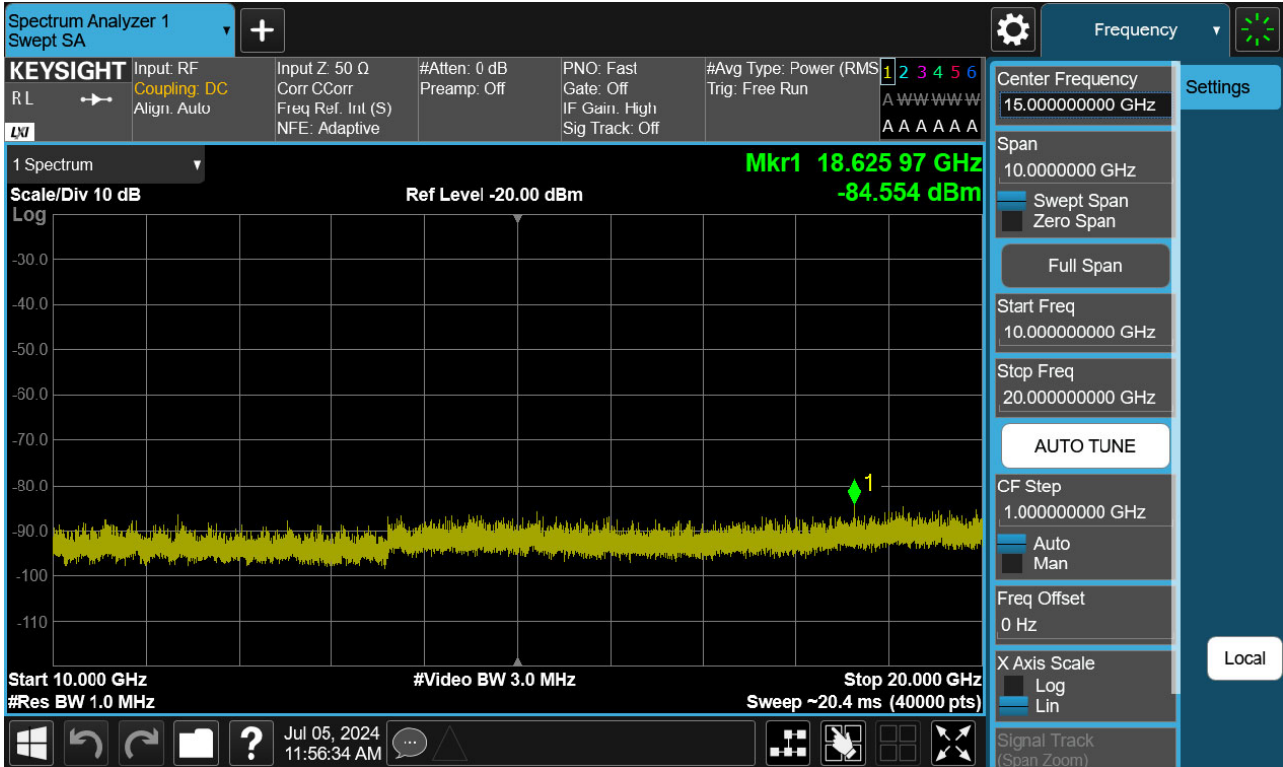
PCC 20 MHz Ch132348 RB1 Offset0, SCC 15 MHz Ch132519 RB1 Offset74



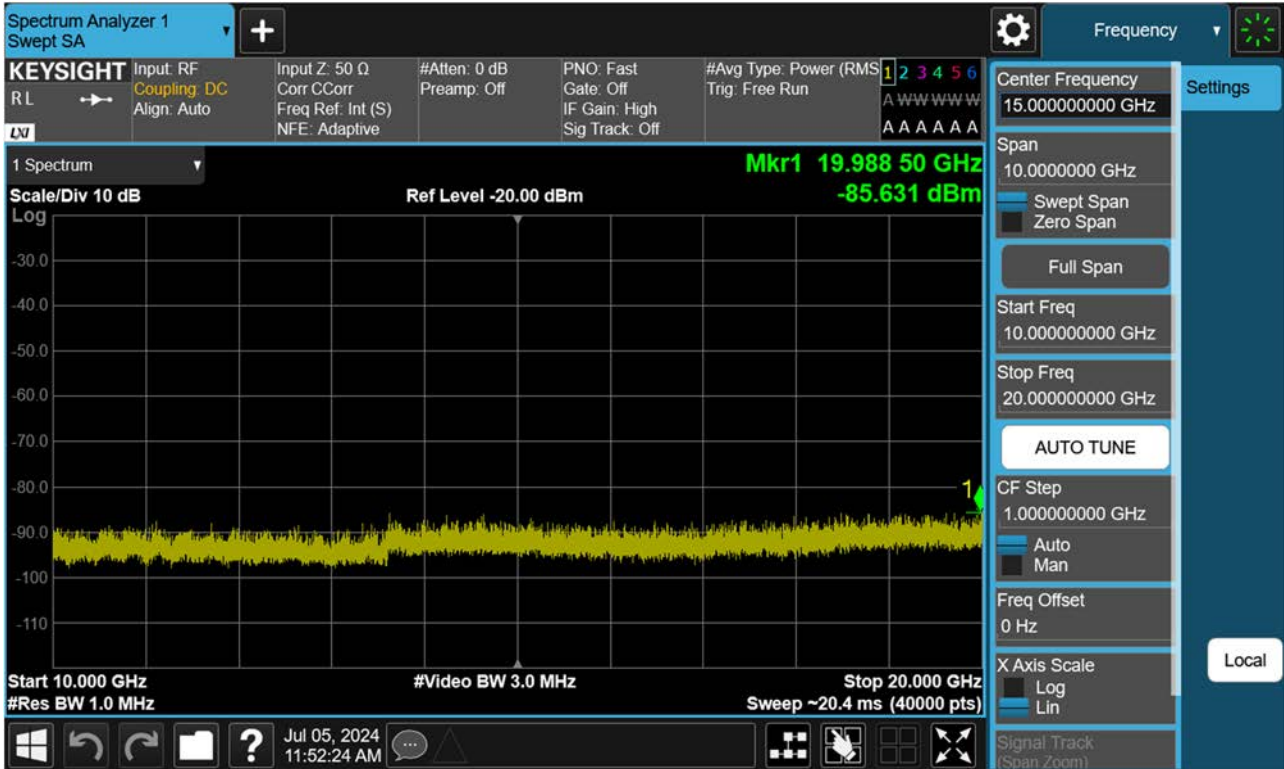
PCC 10 MHz Ch132477 RB1 Offset0, SCC 15 MHz Ch132597 RB1 Offset74



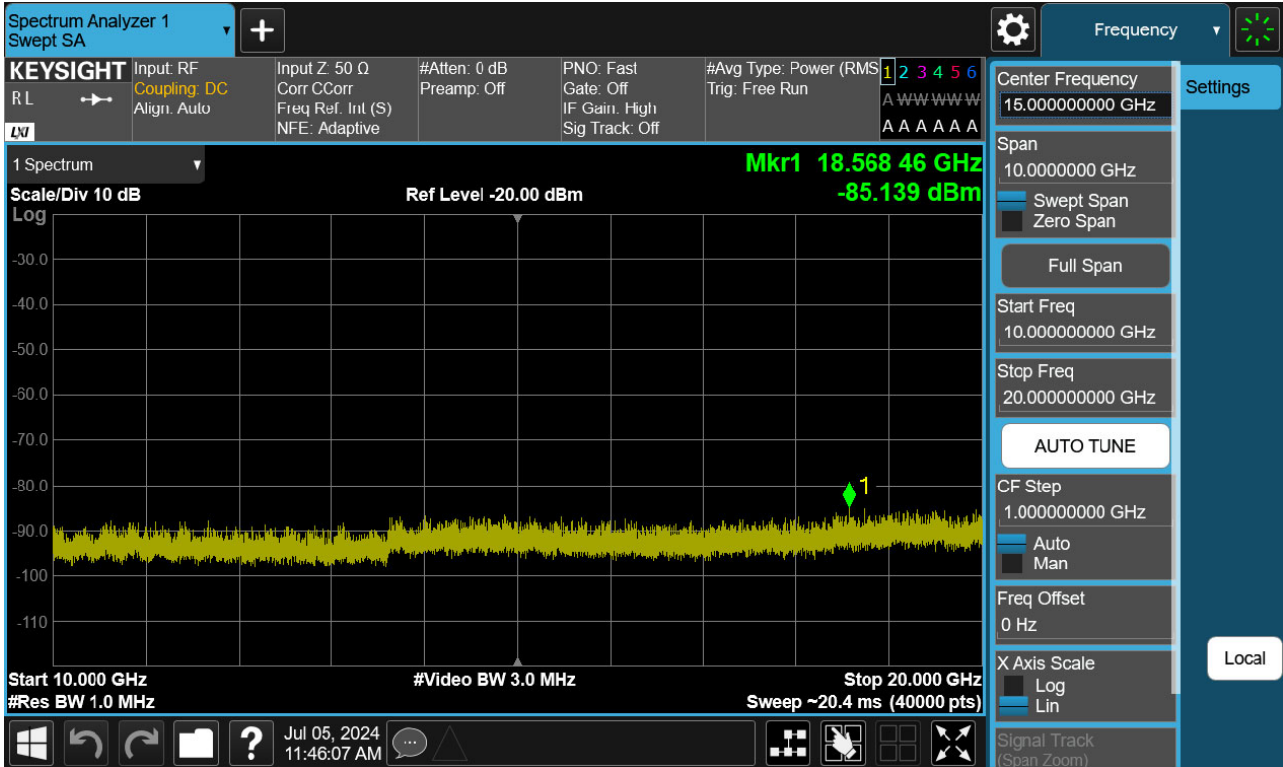
PCC 10 MHz Ch132027 RB50 Offset0, SCC 20 MHz Ch132171 RB100 Offset0



PCC 20 MHz Ch132373 RB100 Offset0, SCC 10 MHz Ch132517 RB50 Offset0

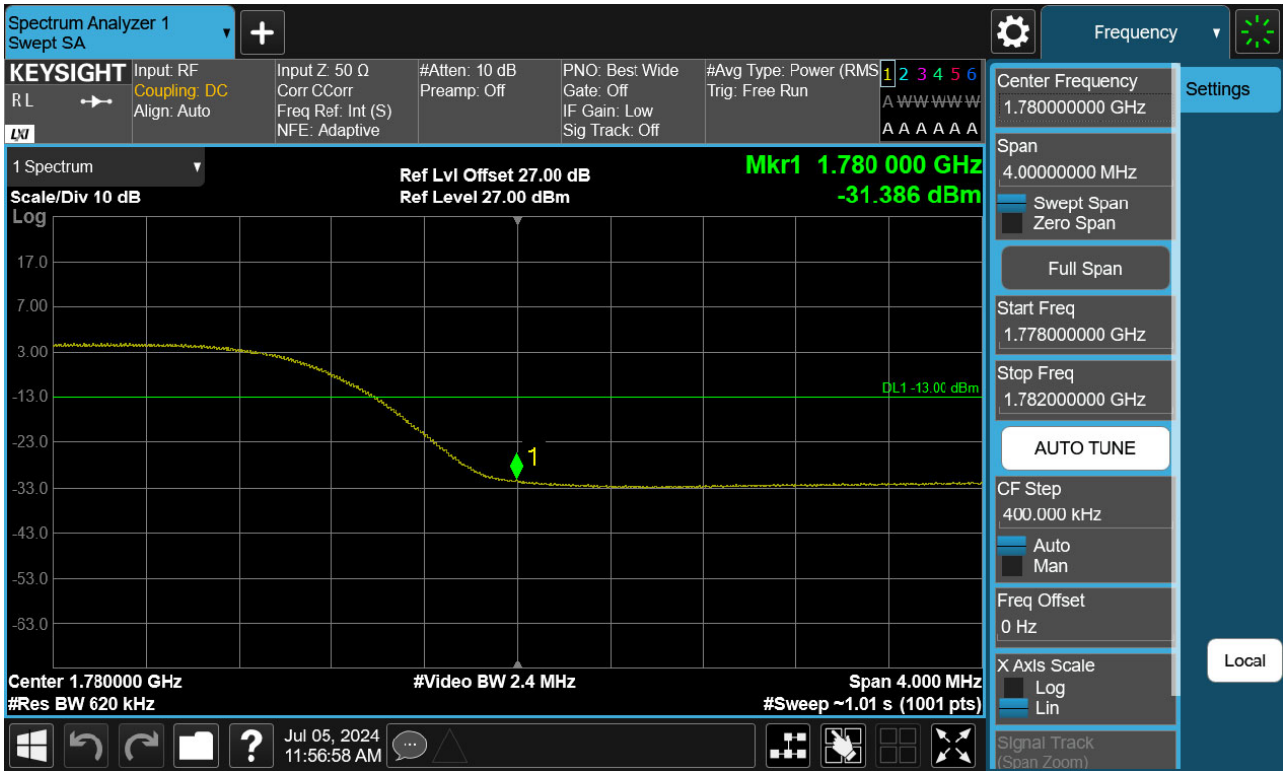


PCC 15 MHz Ch132401 RB75 Offset0, SCC 20 MHz Ch132572 RB100 Offset0



9.4 Channel Edge

Highest Channel_PCC 10 MHz Ch132477 RB1 Offset0 SCC 15 MHz Ch132597 RB1 Offset74(1)



Highest Channel_PCC 10 MHz Ch132477 RB1 Offset0 SCC 15 MHz Ch132597 RB1 Offset74(2)



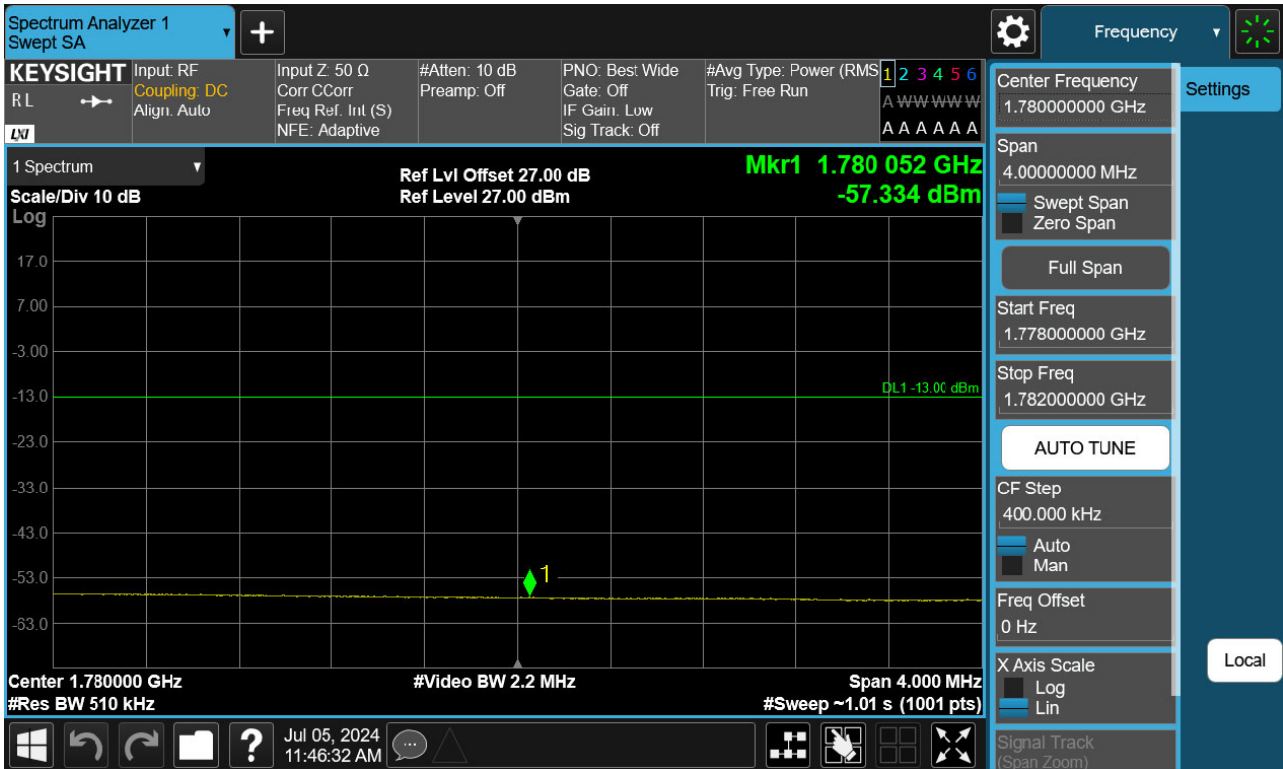
Highest Channel_PCC 10 MHz Ch132477 RB1 Offset49 SCC 15 MHz Ch132597 RB1 Offset0(1)



Highest Channel_PCC 10 MHz Ch132477 RB1 Offset49 SCC 15 MHz Ch132597 RB1 Offset0(2)



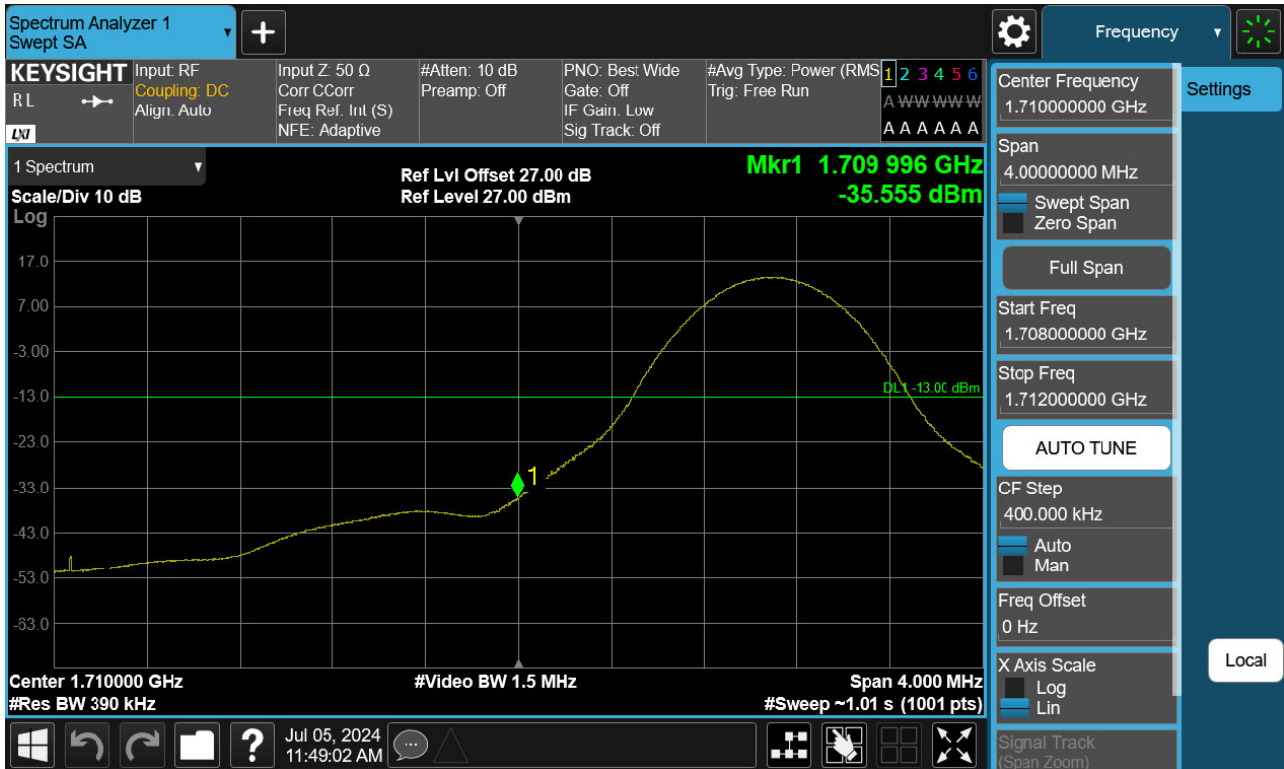
Highest Channel_PCC 15 MHz Ch132401 RB75 Offset0 SCC 20 MHz Ch132572 RB100 Offset0(1)



Highest Channel_PCC 15 MHz Ch132401 RB75 Offset0 SCC 20 MHz Ch132572 RB100 Offset0(2)



Highest Channel_PCC 20 MHz Ch132374 RB100 Offset0 SCC 20 MHz Ch132572 RB100 Offset0(1)



Highest Channel_PCC 20 MHz Ch132374 RB100 Offset0 SCC 20 MHz Ch132572 RB100 Offset0(2)



Lowest Channel_PCC 10 MHz Ch132027 RB50 Offset0 SCC 20 MHz Ch132171 RB100 Offset0(1)



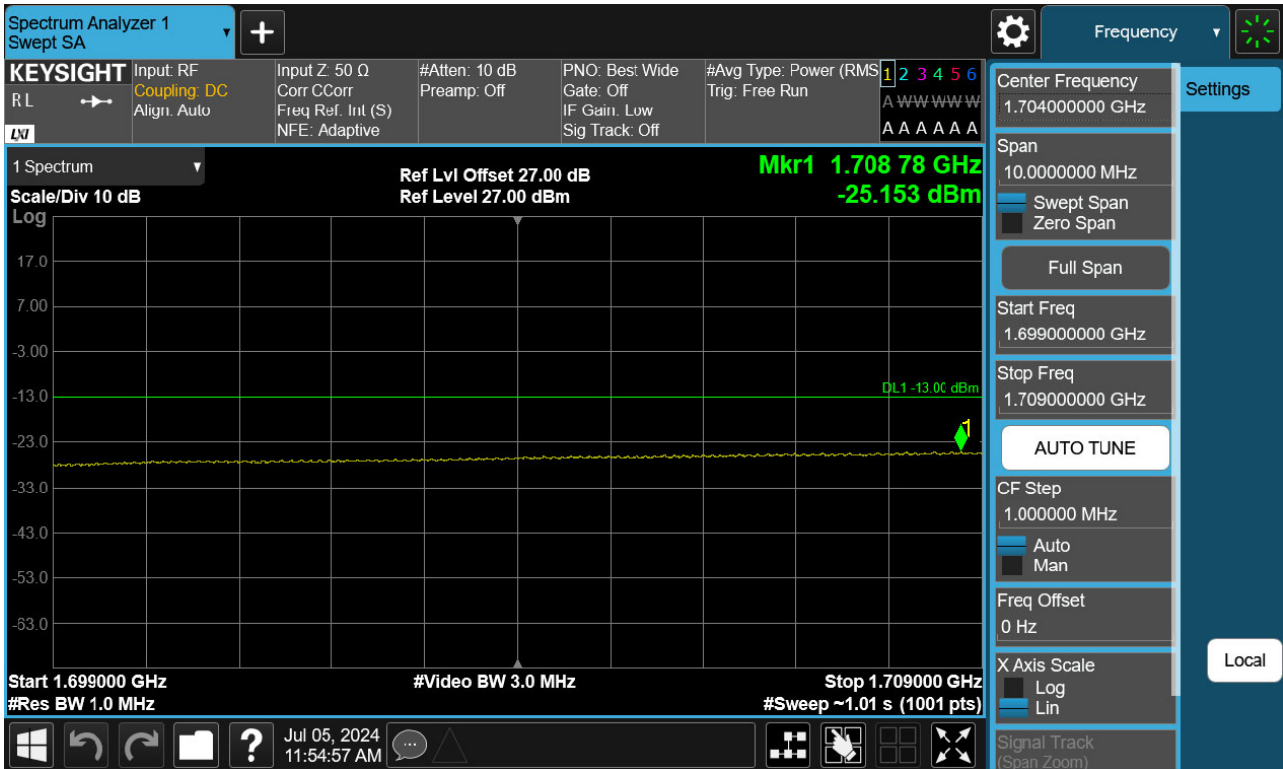
Lowest Channel_PCC 10 MHz Ch132027 RB50 Offset0 SCC 20 MHz Ch132171 RB100 Offset0(2)



Lowest Channel_PCC 15 MHz Ch132050 RB1 Offset0 SCC 20 MHz Ch132221 RB1 Offset99(1)



Lowest Channel_PCC 15 MHz Ch132050 RB1 Offset0 SCC 20 MHz Ch132221 RB1 Offset99(2)



9.5 Frequency Stability / Variation of Ambient Temperature

- ▣ PCC Channel: 132005
- ▣ PCC Frequency: 1713.3 MHz
- ▣ PCC BandWidth: 5 MHz
- ▣ SCC Channel: 132122
- ▣ SCC Frequency: 1725.0 MHz
- ▣ SCC BandWidth: 20 MHz
- ▣ Voltage : 3.800 VDC
- ▣ LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	PPM		Frequency Error (MHz)	
			PCC	SCC	PCC	SCC
100 %	3.880	+20(Ref)	0.001	-0.009	1713.29914	1725.00876
100 %		-30	0.002	-0.002	1713.29755	1725.00229
100 %		-20	-0.017	-0.006	1713.31691	1725.00615
100 %		-10	0.002	-0.008	1713.29786	1725.00795
100 %		0	-0.020	-0.002	1713.31982	1725.00180
100 %		10	-0.009	0.004	1713.30914	1724.99607
100 %		30	-0.003	-0.021	1713.30257	1725.02122
100 %		40	0.004	-0.003	1713.29606	1725.00318
100 %		50	0.000	-0.003	1713.30014	1725.00319
Batt. Endpoint	3.300	20	-0.006	-0.003	1713.30588	1725.00333

- ▣ PCC Channel: 132025
- ▣ PCC Frequency: 1715.3 MHz
- ▣ PCC BandWidth: 10 MHz
- ▣ SCC Channel: 132145
- ▣ SCC Frequency: 1727.3 MHz
- ▣ SCC BandWidth: 15 MHz
- ▣ Voltage : 3.800 VDC
- ▣ LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	PPM		Frequency Error (MHz)	
			PCC	SCC	PCC	SCC
100 %	3.880	+20(Ref)	0.002	-0.011	1715.29774	1727.31076
100 %		-30	-0.003	-0.011	1715.30255	1727.31089
100 %		-20	-0.015	-0.008	1715.31481	1727.30795
100 %		-10	0.004	-0.005	1715.29626	1727.30455
100 %		0	-0.017	-0.004	1715.31722	1727.30370
100 %		10	-0.003	0.000	1715.30294	1727.30007
100 %		30	-0.006	-0.016	1715.30617	1727.31602
100 %		40	-0.001	-0.005	1715.30136	1727.30488
100 %		50	-0.004	0.004	1715.30394	1727.29599
Batt. Endpoint		3.300	20	-0.006	-0.002	1715.30628

- ▣ PCC Channel: 132047
- ▣ PCC Frequency: 1717.5 MHz
- ▣ PCC BandWidth: 15 MHz
- ▣ SCC Channel: 132167
- ▣ SCC Frequency: 1729.5 MHz
- ▣ SCC BandWidth: 10 MHz
- ▣ Voltage : 3.800 VDC
- ▣ LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	PPM		Frequency Error (MHz)	
			PCC	SCC	PCC	SCC
100 %	3.880	+20(Ref)	0.001	-0.008	1717.49884	1729.50756
100 %		-30	-0.001	-0.007	1717.50055	1729.50699
100 %		-20	-0.011	-0.006	1717.51071	1729.50585
100 %		-10	-0.002	-0.005	1717.50216	1729.50545
100 %		0	-0.016	-0.003	1717.51582	1729.50330
100 %		10	-0.003	-0.004	1717.50254	1729.50367
100 %		30	-0.008	-0.015	1717.50837	1729.51512
100 %		40	0.005	-0.002	1717.49516	1729.50248
100 %		50	0.002	0.001	1717.49774	1729.49889
Batt. Endpoint		3.300	20	-0.003	-0.003	1717.50338

- ▣ PCC Channel: 132072
- ▣ PCC Frequency: 1720.0 MHz
- ▣ PCC BandWidth: 20 MHz
- ▣ SCC Channel: 132270
- ▣ SCC Frequency: 1739.8 MHz
- ▣ SCC BandWidth: 20 MHz
- ▣ Voltage : 3.800 VDC
- ▣ LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	PPM		Frequency Error (MHz)	
			PCC	SCC	PCC	SCC
100 %	3.880	+20(Ref)	0.000	-0.009	1719.99974	1739.80936
100 %		-30	-0.004	-0.002	1720.00445	1739.80239
100 %		-20	-0.013	-0.014	1720.01281	1739.81375
100 %		-10	0.006	-0.009	1719.99386	1739.80915
100 %		0	-0.021	-0.002	1720.02072	1739.80180
100 %		10	-0.001	0.001	1720.00134	1739.79907
100 %		30	-0.008	-0.015	1720.00847	1739.81502
100 %		40	0.008	-0.001	1719.99196	1739.80088
100 %		50	0.001	0.005	1719.99854	1739.79549
Batt. Endpoint		3.300	20	-0.002	-0.007	1720.00158

- ▣ PCC Channel: 132455
- ▣ PCC Frequency: 1758.3 MHz
- ▣ PCC BandWidth: 5 MHz
- ▣ SCC Channel: 132572
- ▣ SCC Frequency: 1770.0 MHz
- ▣ SCC BandWidth: 20 MHz
- ▣ Voltage : 3.800 VDC
- ▣ LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	PPM		Frequency Error (MHz)	
			PCC	SCC	PCC	SCC
100 %	3.880	+20(Ref)	0.003	-0.009	1758.29704	1770.00946
100 %		-30	-0.003	-0.006	1758.30285	1770.00629
100 %		-20	-0.016	-0.009	1758.31611	1770.00925
100 %		-10	0.000	-0.010	1758.30036	1770.00955
100 %		0	-0.012	0.003	1758.31172	1769.99680
100 %		10	-0.005	-0.005	1758.30544	1770.00537
100 %		30	-0.009	-0.015	1758.30937	1770.01472
100 %		40	-0.001	-0.006	1758.30136	1770.00588
100 %		50	0.002	0.001	1758.29844	1769.99899
Batt. Endpoint		3.300	20	-0.006	-0.007	1758.30568

- ▣ PCC Channel: 132597
- ▣ PCC Frequency: 1772.5 MHz
- ▣ PCC BandWidth: 10 MHz
- ▣ SCC Channel: 132717
- ▣ SCC Frequency: 1784.5 MHz
- ▣ SCC BandWidth: 15 MHz
- ▣ Voltage : 3.800 VDC
- ▣ LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	PPM		Frequency Error (MHz)	
			PCC	SCC	PCC	SCC
100 %	3.880	+20(Ref)	0.001	-0.007	1772.49854	1784.50686
100 %		-30	-0.003	-0.005	1772.50335	1784.50519
100 %		-20	-0.008	-0.008	1772.50831	1784.50805
100 %		-10	0.003	-0.008	1772.49716	1784.50805
100 %		0	-0.017	0.000	1772.51652	1784.49950
100 %		10	-0.007	-0.002	1772.50714	1784.50247
100 %		30	-0.007	-0.017	1772.50707	1784.51682
100 %		40	0.008	-0.008	1772.49186	1784.50768
100 %		50	0.002	0.000	1772.49844	1784.50049
Batt. Endpoint		3.300	20	-0.010	-0.008	1772.50978

- ▣ PCC Channel: 132499
- ▣ PCC Frequency: 1762.7 MHz
- ▣ PCC BandWidth: 15 MHz
- ▣ SCC Channel: 132619
- ▣ SCC Frequency: 1774.7 MHz
- ▣ SCC BandWidth: 10 MHz
- ▣ Voltage : 3.800 VDC
- ▣ LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	PPM		Frequency Error (MHz)	
			PCC	SCC	PCC	SCC
100 %	3.880	+20(Ref)	0.003	-0.014	1762.69744	1774.71366
100 %		-30	-0.003	-0.007	1762.70295	1774.70659
100 %		-20	-0.012	-0.012	1762.71231	1774.71165
100 %		-10	0.004	-0.006	1762.69556	1774.70585
100 %		0	-0.013	-0.001	1762.71302	1774.70110
100 %		10	-0.008	0.004	1762.70764	1774.69557
100 %		30	-0.008	-0.020	1762.70807	1774.72032
100 %		40	0.003	-0.002	1762.69726	1774.70218
100 %		50	0.003	-0.004	1762.69674	1774.70449
Batt. Endpoint		3.300	20	-0.006	-0.001	1762.70618

- ▣ PCC Channel: 132374
- ▣ PCC Frequency: 1750.2 MHz
- ▣ PCC BandWidth: 20 MHz
- ▣ SCC Channel: 132572
- ▣ SCC Frequency: 1770.0 MHz
- ▣ SCC BandWidth: 20 MHz
- ▣ Voltage : 3.800 MHz
- ▣ LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	PPM		Frequency Error (MHz)	
			PCC	SCC	PCC	SCC
100 %	3.880	+20(Ref)	0.007	-0.010	1750.19254	1770.01006
100 %		-30	-0.006	-0.009	1750.20595	1770.00859
100 %		-20	-0.014	-0.010	1750.21351	1770.00965
100 %		-10	-0.002	-0.003	1750.20176	1770.00255
100 %		0	-0.016	0.004	1750.21552	1769.99630
100 %		10	-0.002	0.002	1750.20234	1769.99757
100 %		30	-0.007	-0.023	1750.20667	1770.02342
100 %		40	0.003	-0.005	1750.19716	1770.00458
100 %		50	-0.004	0.003	1750.20374	1769.99749
Batt. Endpoint		3.300	20	-0.011	-0.007	1750.21138

9.6 Radiated Spurious Emissions

▣ PCC Channel :	<u>132072 (1720.0 MHz)</u>
▣ PCC BW(MHz) :	20
▣ PCC RB/ RB Offset :	<u>1/ 99</u>
▣ SCC Channel :	<u>132270 (1737.1 MHz)</u>
▣ SCC BW(MHz) :	20
▣ SCC RB/ RB Offset :	<u>1/ 0</u>
▣ DISTANCE:	<u>3 meters</u>
▣ LIMIT:	<u>-13.0 dBm</u>

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)
3 459.80	-43.97	12.35	-50.51	3.12	H	-41.28
5 189.70	-57.06	12.57	-55.33	3.83	V	-46.59
6 919.60	-57.71	11.69	-50.34	4.53	H	-43.18

- ▣ PCC Channel : 132328 (1745.6 MHz)
- ▣ PCC BW(MHz) : 10
- ▣ PCC RB/ RB Offset : 1/ 49
- ▣ SCC Channel : 132472 (1760.0 MHz)
- ▣ SCC BW(MHz) : 20
- ▣ SCC RB/ RB Offset : 1/ 0
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: -13.0 dBm

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)
3 505.60	-53.75	12.34	-59.97	3.11	H	-50.74
5 258.40	-56.08	12.99	-55.76	3.83	H	-46.60
7 011.20	-56.18	11.26	-48.20	4.56	H	-41.50

- ▣ PCC Channel : 132374 (1750.2 MHz)
- ▣ PCC BW(MHz) : 20
- ▣ PCC RB/ RB Offset : 1/ 99
- ▣ SCC Channel : 132572 (1770.0 MHz)
- ▣ SCC BW(MHz) : 20
- ▣ SCC RB/ RB Offset : 1/ 0
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: -13.0 dBm

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)
3 520.20	-52.56	12.34	-58.92	3.13	V	-49.71
5 280.30	-56.71	13.06	-56.22	3.84	V	-47.00
7 040.40	-56.42	11.12	-47.34	4.54	H	-40.76

9.7 Occupied Bandwidth

PCC					SCC					Data (MHz)
BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	
10	132351	1747.9	QPSK	50/0	15	132471	1759.9	QPSK	75/0	23.205
15	132373	1750.1	QPSK	75/0	10	132493	1762.1	QPSK	50/0	23.179
10	132328	1745.6	QPSK	50/0	20	132472	1760.0	QPSK	100/0	27.805
20	132373	1750.1	QPSK	100/0	10	132517	1764.5	QPSK	50/0	27.773
15	132347	1747.5	QPSK	75/0	15	132497	1762.5	QPSK	75/0	28.407
15	132325	1745.3	QPSK	75/0	20	132496	1762.4	QPSK	100/0	32.592
20	132348	1747.6	QPSK	100/0	15	132519	1764.7	QPSK	75/0	32.630
20	132397	1752.5	QPSK	100/0	5	132514	1764.2	QPSK	25/0	22.892
5	132330	1745.8	QPSK	25/0	20	132447	1757.5	QPSK	100/0	22.906
20	132323	1745.1	QPSK	100/0	20	132521	1764.9	QPSK	100/0	37.580

PCC					SCC					Data (MHz)
BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	
10	132351	1747.9	16QAM	50/0	15	132471	1759.9	16QAM	75/0	23.253
15	132373	1750.1	16QAM	75/0	10	132493	1762.1	16QAM	50/0	23.129
10	132328	1745.6	16QAM	50/0	20	132472	1760.0	16QAM	100/0	27.812
20	132373	1750.1	16QAM	100/0	10	132517	1764.5	16QAM	50/0	27.842
15	132347	1747.5	16QAM	75/0	15	132497	1762.5	16QAM	75/0	28.372
15	132325	1745.3	16QAM	75/0	20	132496	1762.4	16QAM	100/0	32.639
20	132348	1747.6	16QAM	100/0	15	132519	1764.7	16QAM	75/0	32.769
20	132397	1752.5	16QAM	100/0	5	132514	1764.2	16QAM	25/0	22.923
5	132330	1745.8	16QAM	25/0	20	132447	1757.5	16QAM	100/0	22.958
20	132323	1745.1	16QAM	100/0	20	132521	1764.9	16QAM	100/0	37.556

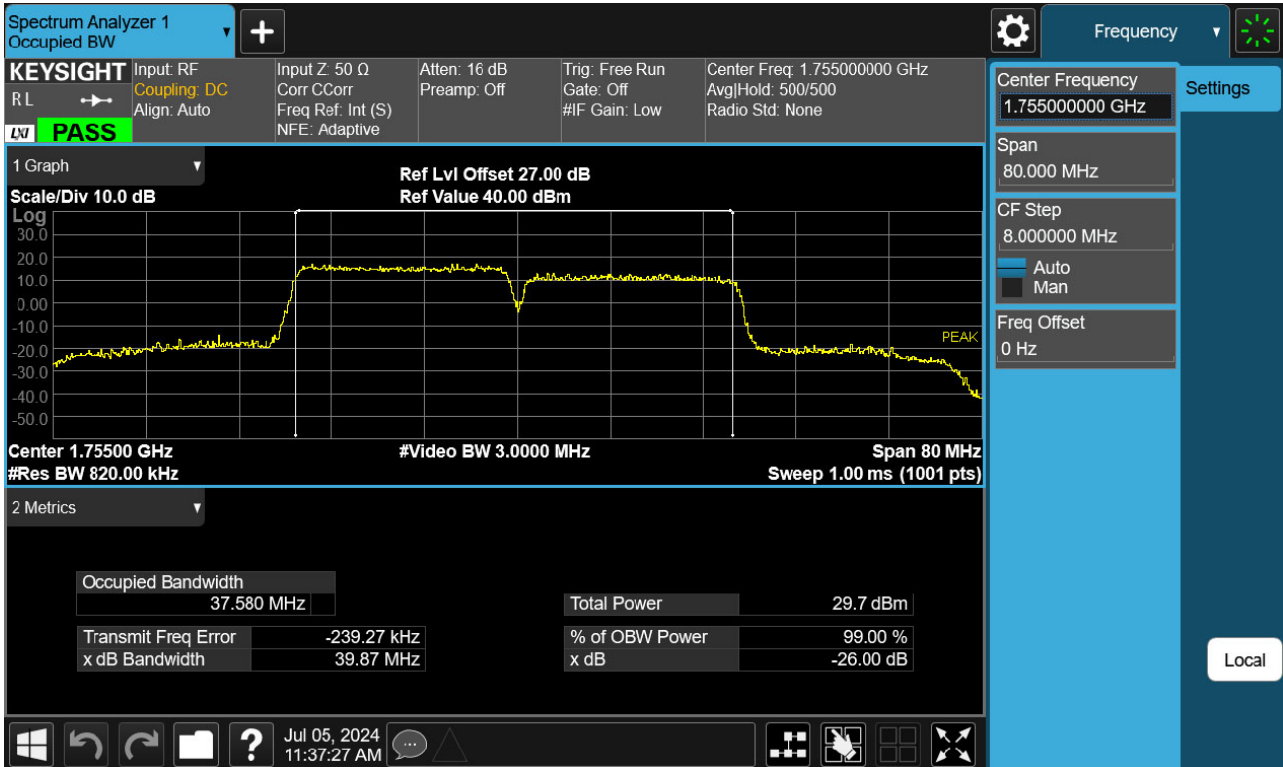
PCC					SCC					Data (MHz)
BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	
10	132351	1747.9	64QAM	50/0	15	132471	1759.9	64QAM	75/0	23.186
15	132373	1750.1	64QAM	75/0	10	132493	1762.1	64QAM	50/0	23.186
10	132328	1745.6	64QAM	50/0	20	132472	1760.0	64QAM	100/0	27.724
20	132373	1750.1	64QAM	100/0	10	132517	1764.5	64QAM	50/0	27.769
15	132347	1747.5	64QAM	75/0	15	132497	1762.5	64QAM	75/0	28.404
15	132325	1745.3	64QAM	75/0	20	132496	1762.4	64QAM	100/0	32.531
20	132348	1747.6	64QAM	100/0	15	132519	1764.7	64QAM	75/0	32.571
20	132397	1752.5	64QAM	100/0	5	132514	1764.2	64QAM	25/0	22.896
5	132330	1745.8	64QAM	25/0	20	132447	1757.5	64QAM	100/0	22.884
20	132323	1745.1	64QAM	100/0	20	132521	1764.9	64QAM	100/0	37.512

PCC					SCC					Data (MHz)
BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	
10	132351	1747.9	256QAM	50/0	15	132471	1759.9	256QAM	75/0	23.140
15	132373	1750.1	256QAM	75/0	10	132493	1762.1	256QAM	50/0	23.139
10	132328	1745.6	256QAM	50/0	20	132472	1760.0	256QAM	100/0	27.781
20	132373	1750.1	256QAM	100/0	10	132517	1764.5	256QAM	50/0	27.813
15	132347	1747.5	256QAM	75/0	15	132497	1762.5	256QAM	75/0	28.352
15	132325	1745.3	256QAM	75/0	20	132496	1762.4	256QAM	100/0	32.578
20	132348	1747.6	256QAM	100/0	15	132519	1764.7	256QAM	75/0	32.617
20	132397	1752.5	256QAM	100/0	5	132514	1764.2	256QAM	25/0	22.947
5	132330	1745.8	256QAM	25/0	20	132447	1757.5	256QAM	100/0	22.881
20	132323	1745.1	256QAM	100/0	20	132521	1764.9	256QAM	100/0	37.562

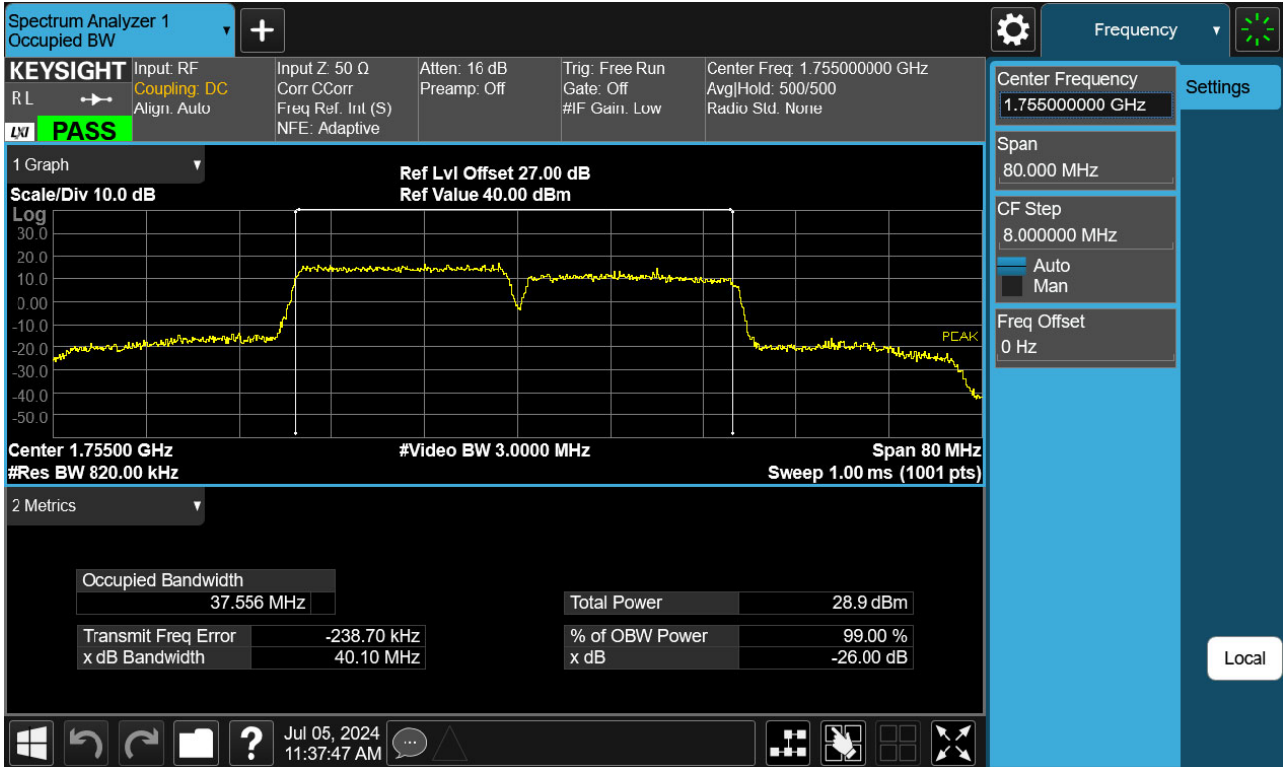
Note:

In order to simplify the report, attached plots were only widest bandwidth(20+20).

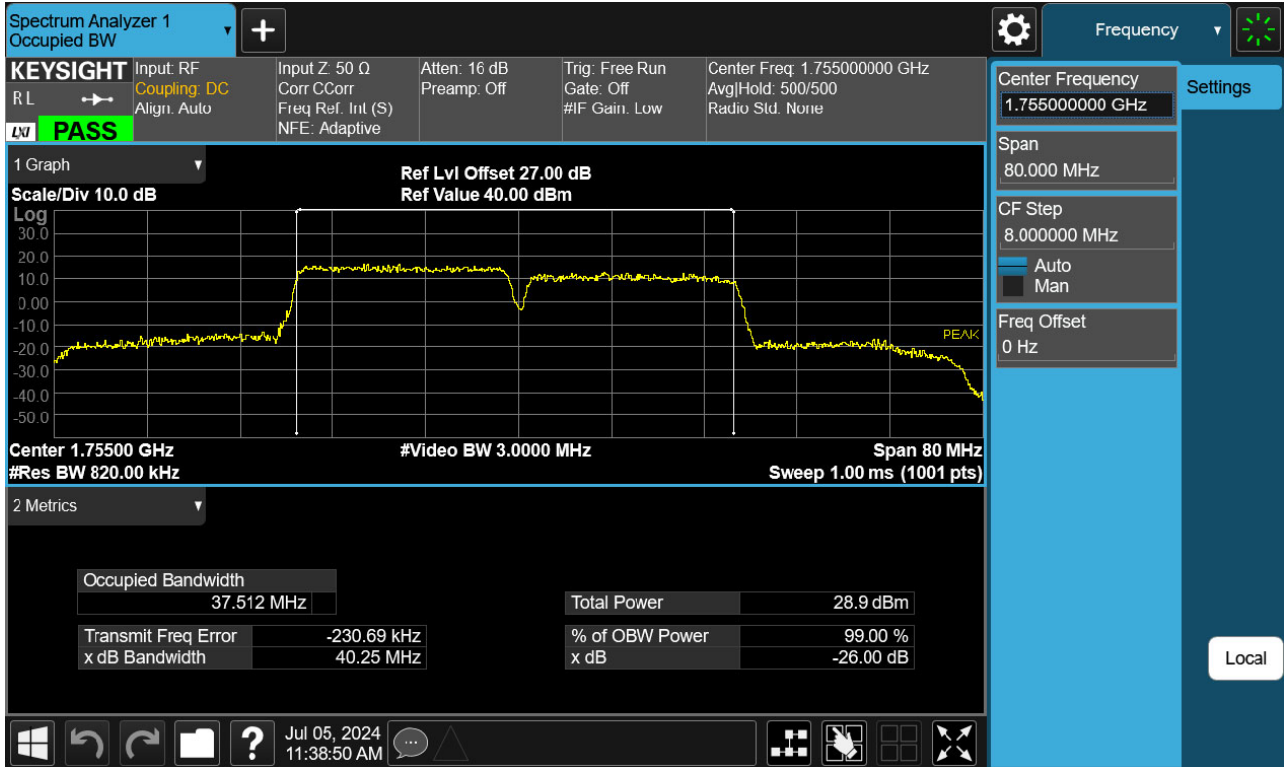
PCC 20 MHz Ch132323 RB100 Offset0, SCC 20 MHz Ch132521 RB100 Offset0_(QPSK)



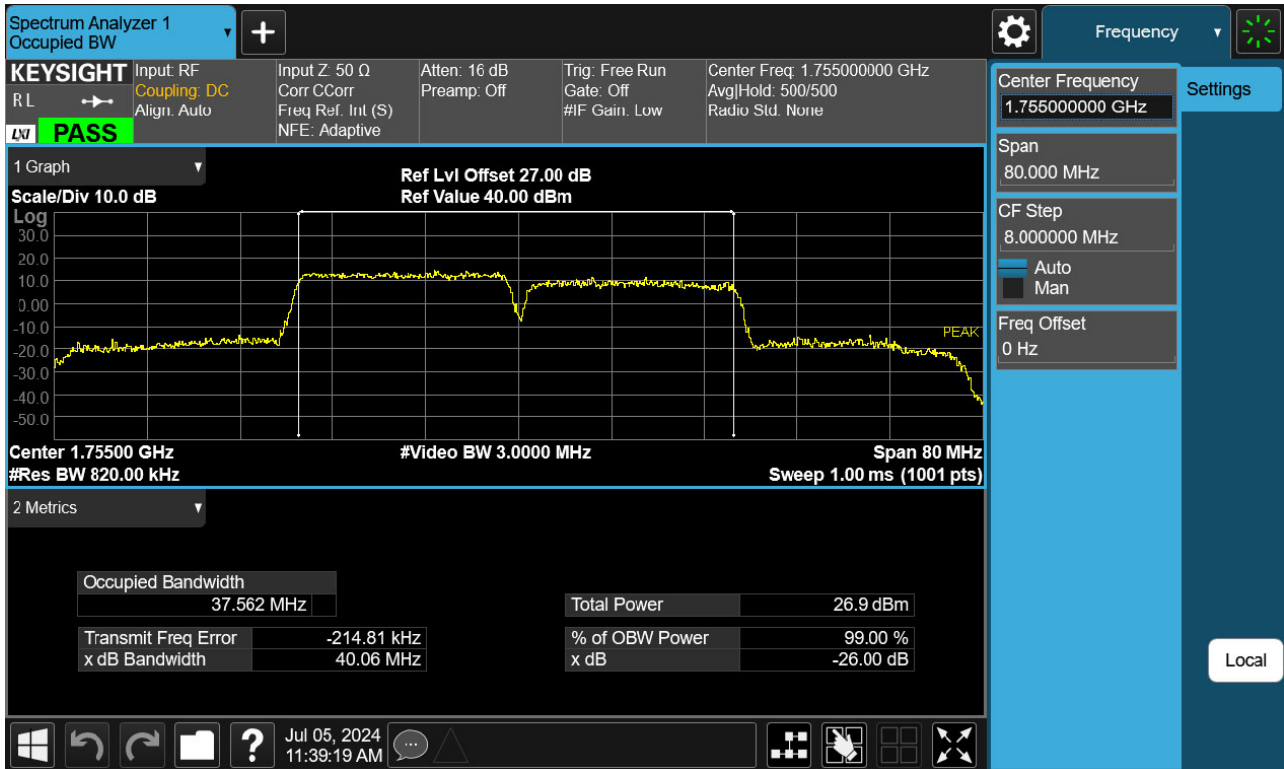
PCC 20 MHz Ch132323 RB100 Offset0, SCC 20 MHz Ch132521 RB100 Offset0_(16QAM)



PCC 20 MHz Ch132323 RB100 Offset0, SCC 20 MHz Ch132521 RB100 Offset0_(64QAM)



PCC 20 MHz Ch132323 RB100 Offset0, SCC 20 MHz Ch132521 RB100 Offset0_(256QAM)



9.8 Peak- to- Average Ratio

PCC					SCC					Data (dBm)
BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	
10	132351	1747.9	QPSK	50/0	15	132471	1759.9	QPSK	75/0	6.13
15	132373	1750.1	QPSK	75/0	10	132493	1762.1	QPSK	50/0	6.27
10	132328	1745.6	QPSK	50/0	20	132472	1760.0	QPSK	100/0	6.23
20	132373	1750.1	QPSK	100/0	10	132517	1764.5	QPSK	50/0	6.23
15	132347	1747.5	QPSK	75/0	15	132497	1762.5	QPSK	75/0	6.70
15	132325	1745.3	QPSK	75/0	20	132496	1762.4	QPSK	100/0	6.17
20	132348	1747.6	QPSK	100/0	15	132519	1764.7	QPSK	75/0	6.20
20	132397	1752.5	QPSK	100/0	5	132514	1764.2	QPSK	25/0	6.24
5	132330	1745.8	QPSK	25/0	20	132447	1757.5	QPSK	100/0	6.24
20	132323	1745.1	QPSK	100/0	20	132521	1764.9	QPSK	100/0	6.61

PCC					SCC					Data (dBm)
BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	BW [MHz]	Ch	Freq [MHz]	Mod	RB/Offset	
10	132351	1747.9	16QAM	50/0	15	132471	1759.9	16QAM	75/0	6.58
15	132373	1750.1	16QAM	75/0	10	132493	1762.1	16QAM	50/0	6.72
10	132328	1745.6	16QAM	50/0	20	132472	1760.0	16QAM	100/0	6.66
20	132373	1750.1	16QAM	100/0	10	132517	1764.5	16QAM	50/0	6.65
15	132347	1747.5	16QAM	75/0	15	132497	1762.5	16QAM	75/0	7.46
15	132325	1745.3	16QAM	75/0	20	132496	1762.4	16QAM	100/0	6.62
20	132348	1747.6	16QAM	100/0	15	132519	1764.7	16QAM	75/0	6.63
20	132397	1752.5	16QAM	100/0	5	132514	1764.2	16QAM	25/0	6.69
5	132330	1745.8	16QAM	25/0	20	132447	1757.5	16QAM	100/0	6.70
20	132323	1745.1	16QAM	100/0	20	132521	1764.9	16QAM	100/0	7.33