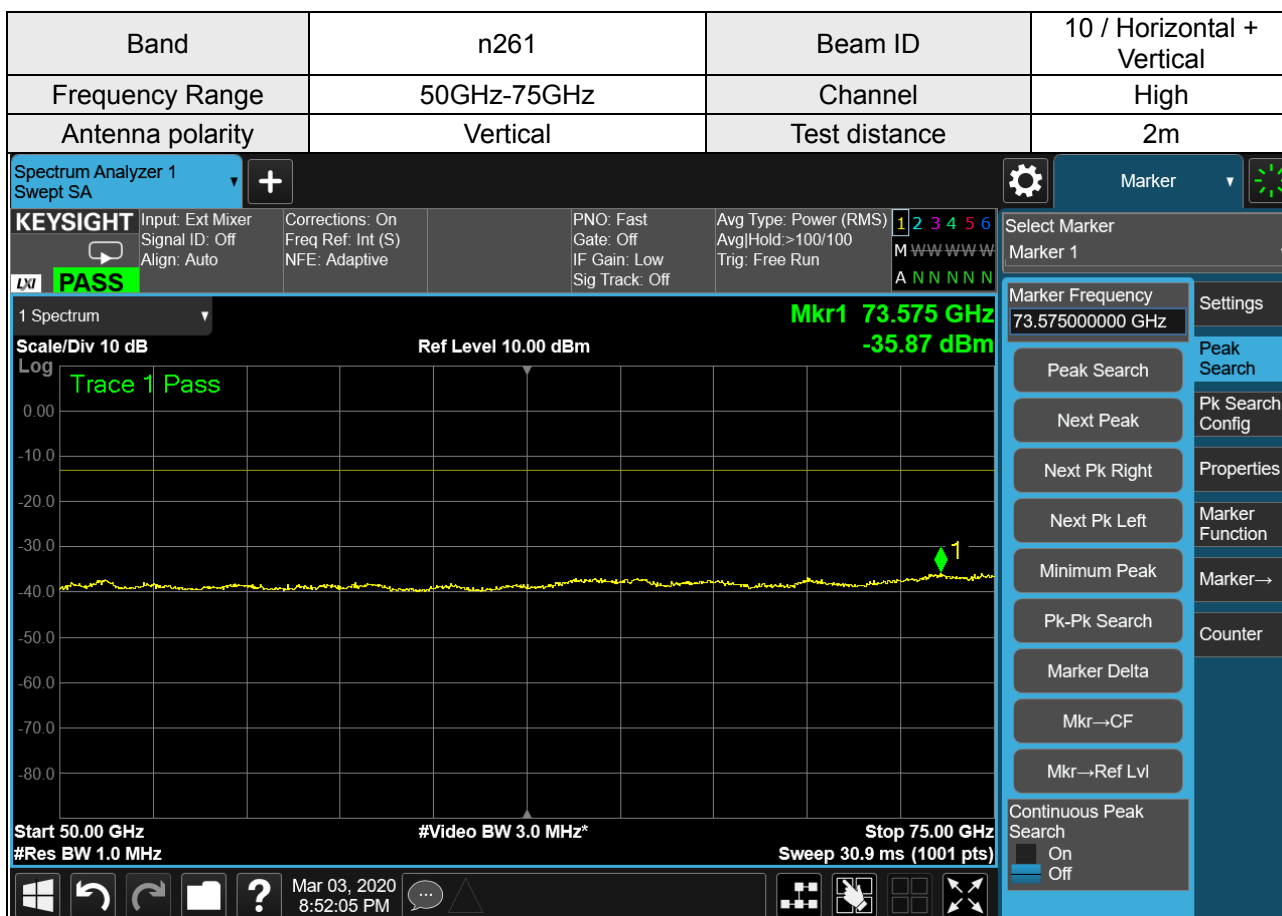
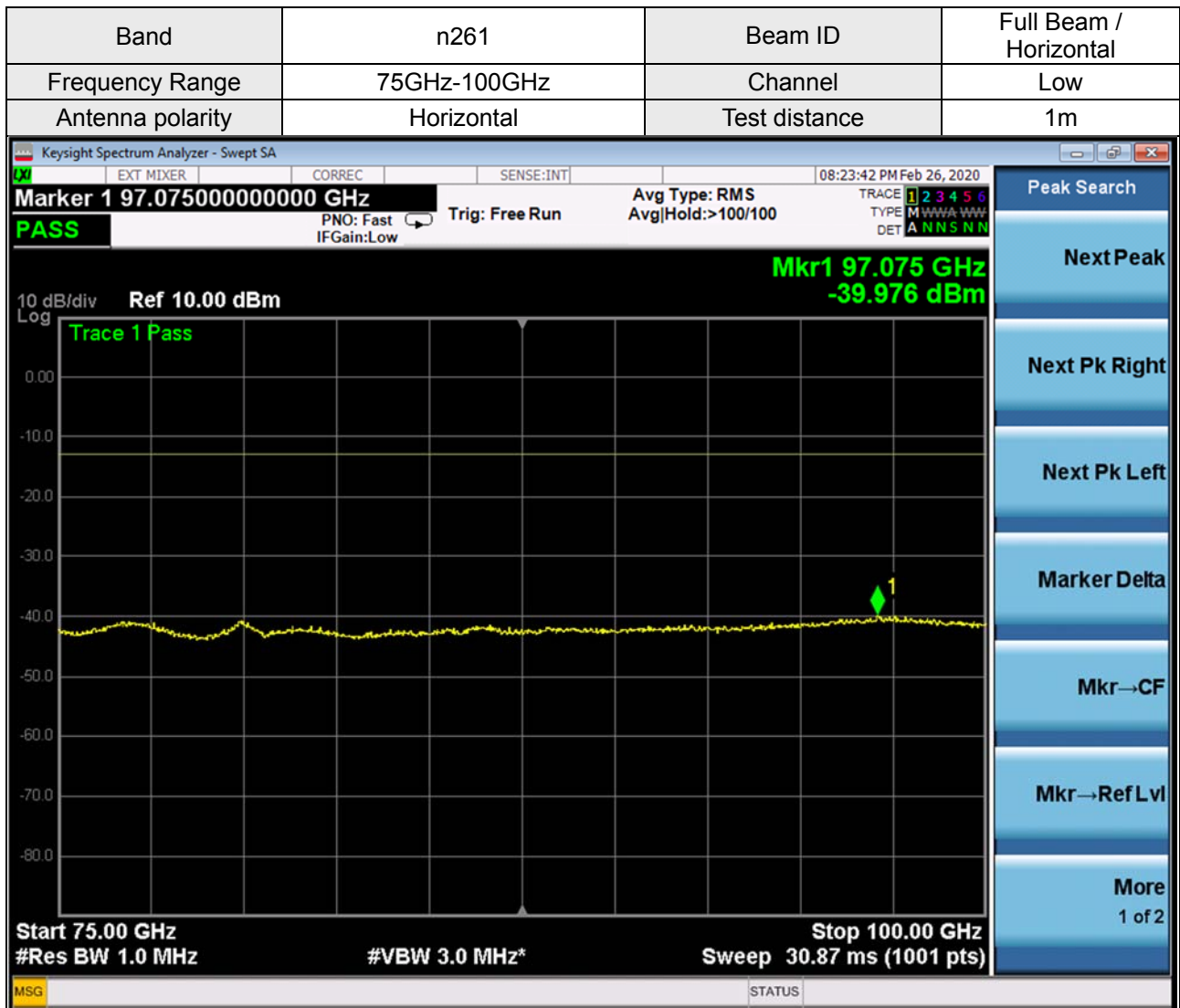




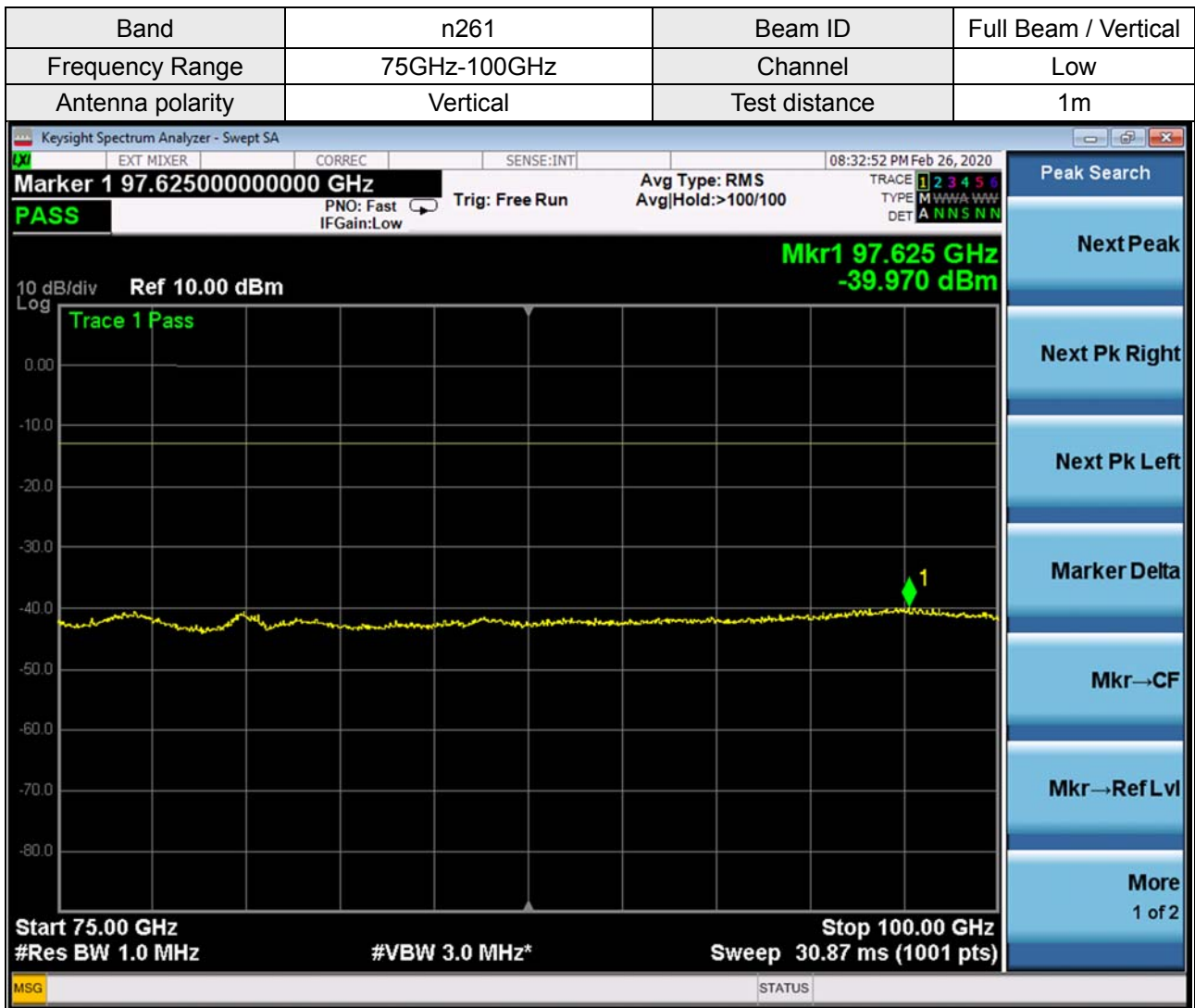
Note: The test results already include the correction factor (corrections: On).

75GHz-100GHz (n261):

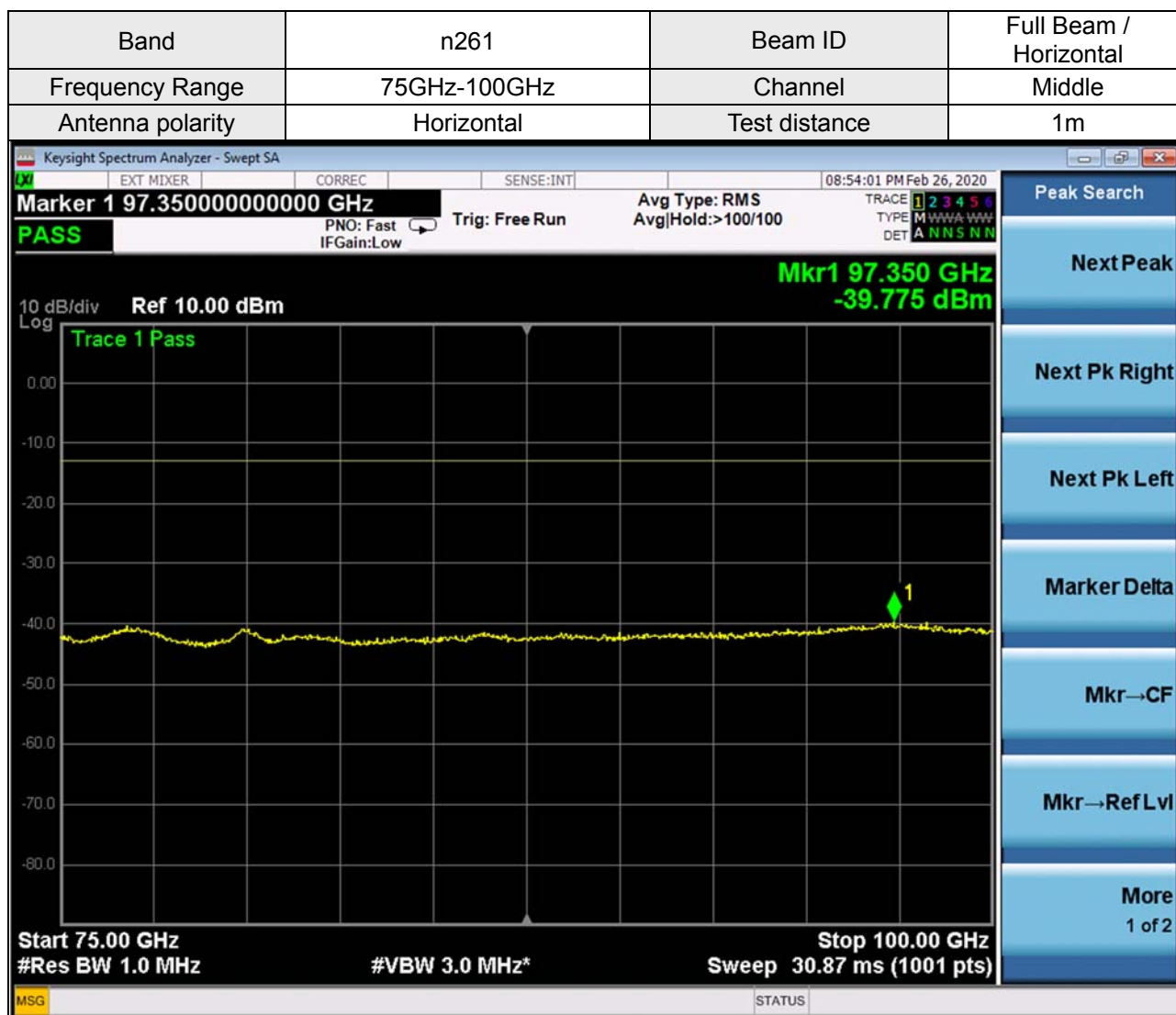
Mode A



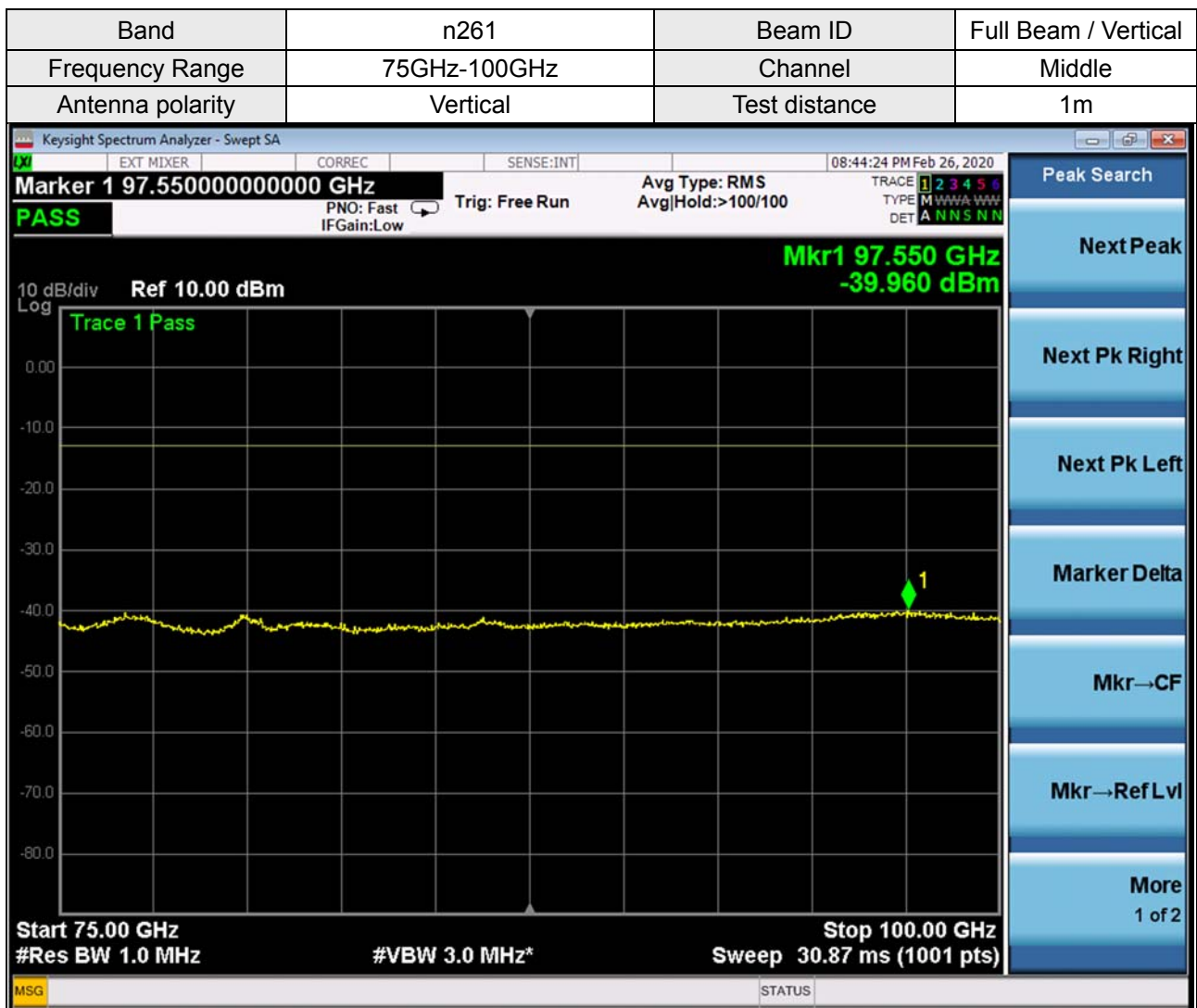
Note: The test results already include the correction factor (corrections: On).



Note: The test results already include the correction factor (corrections: On).

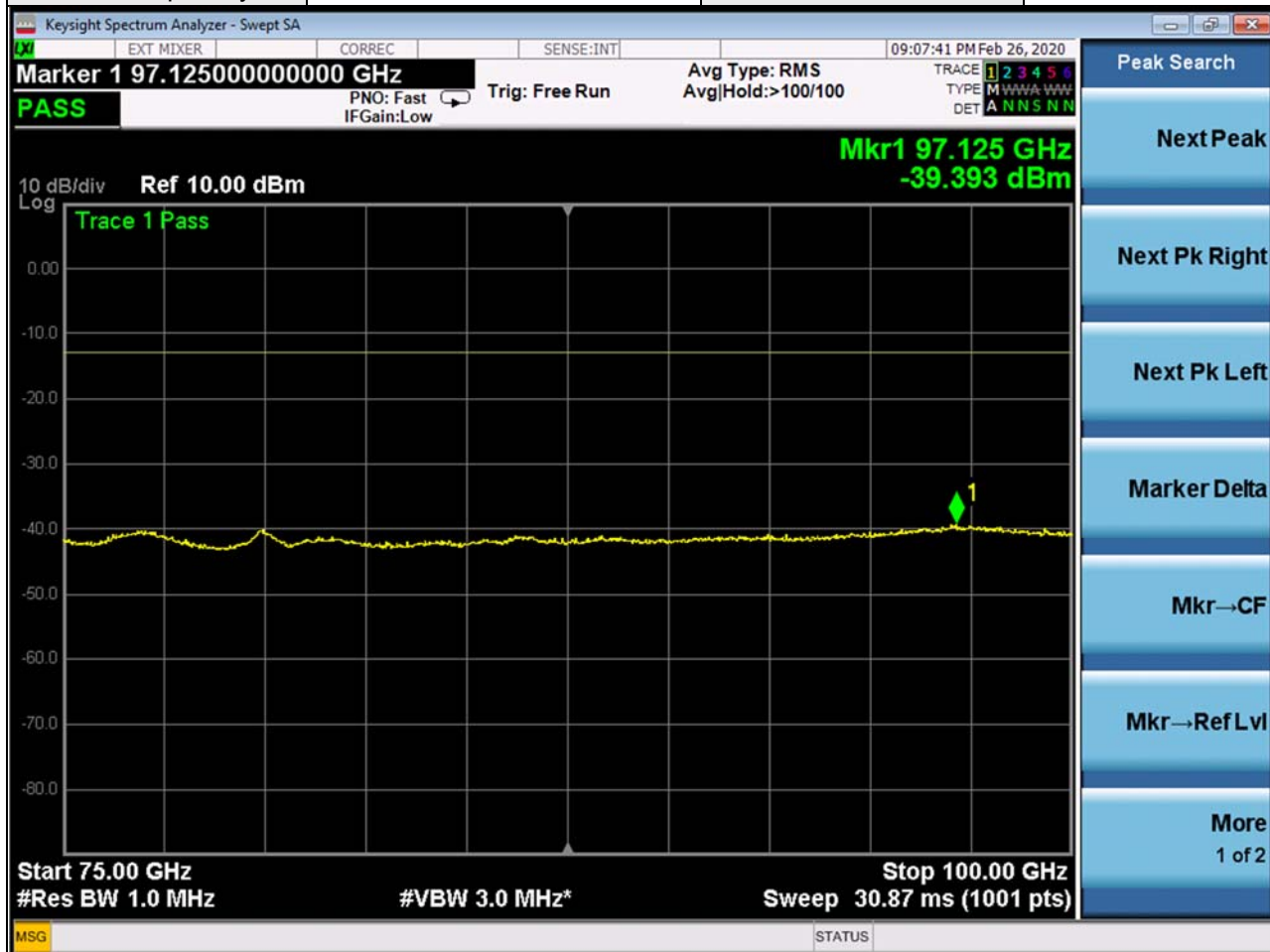


Note: The test results already include the correction factor (corrections: On).

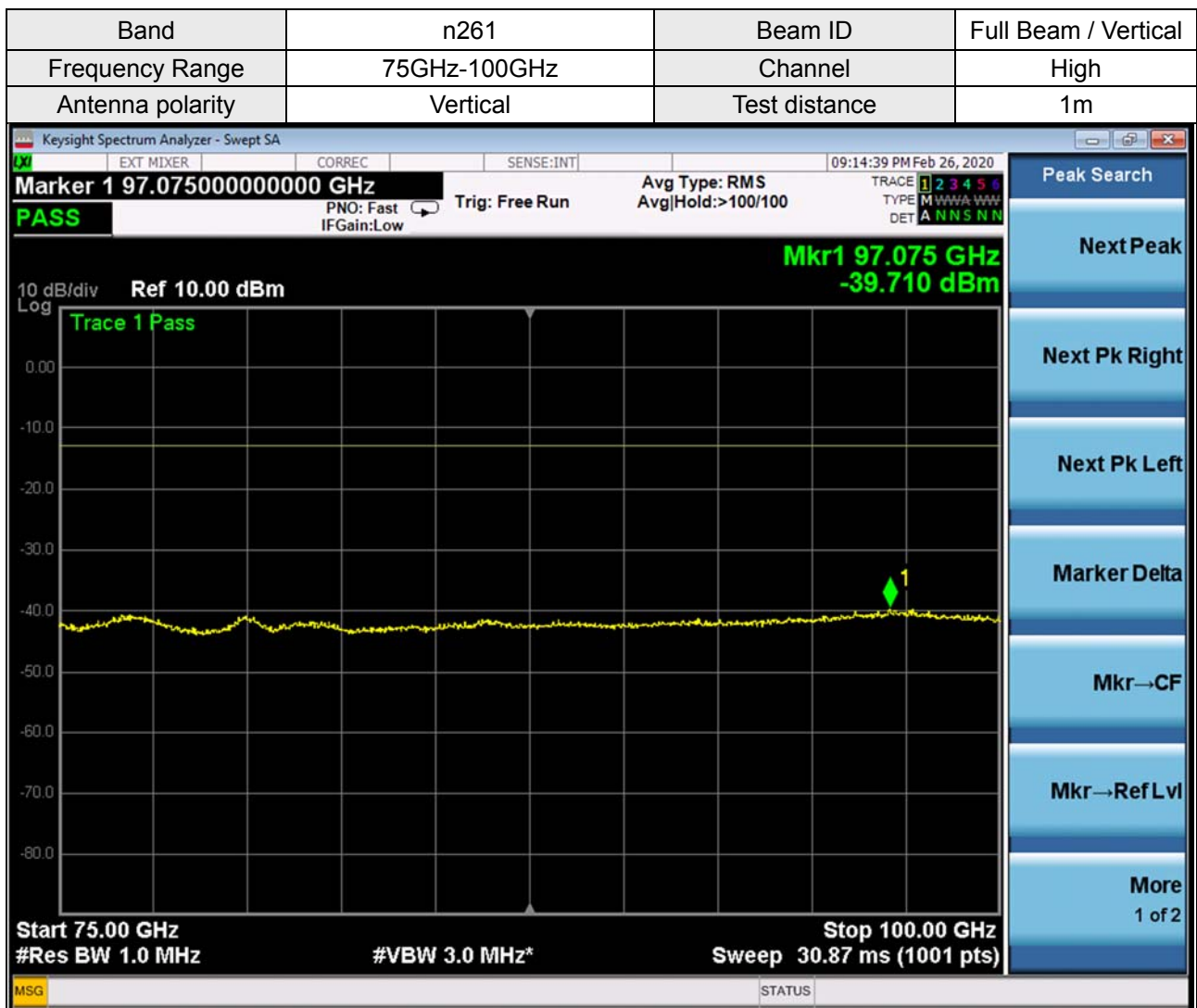


Note: The test results already include the correction factor (corrections: On).

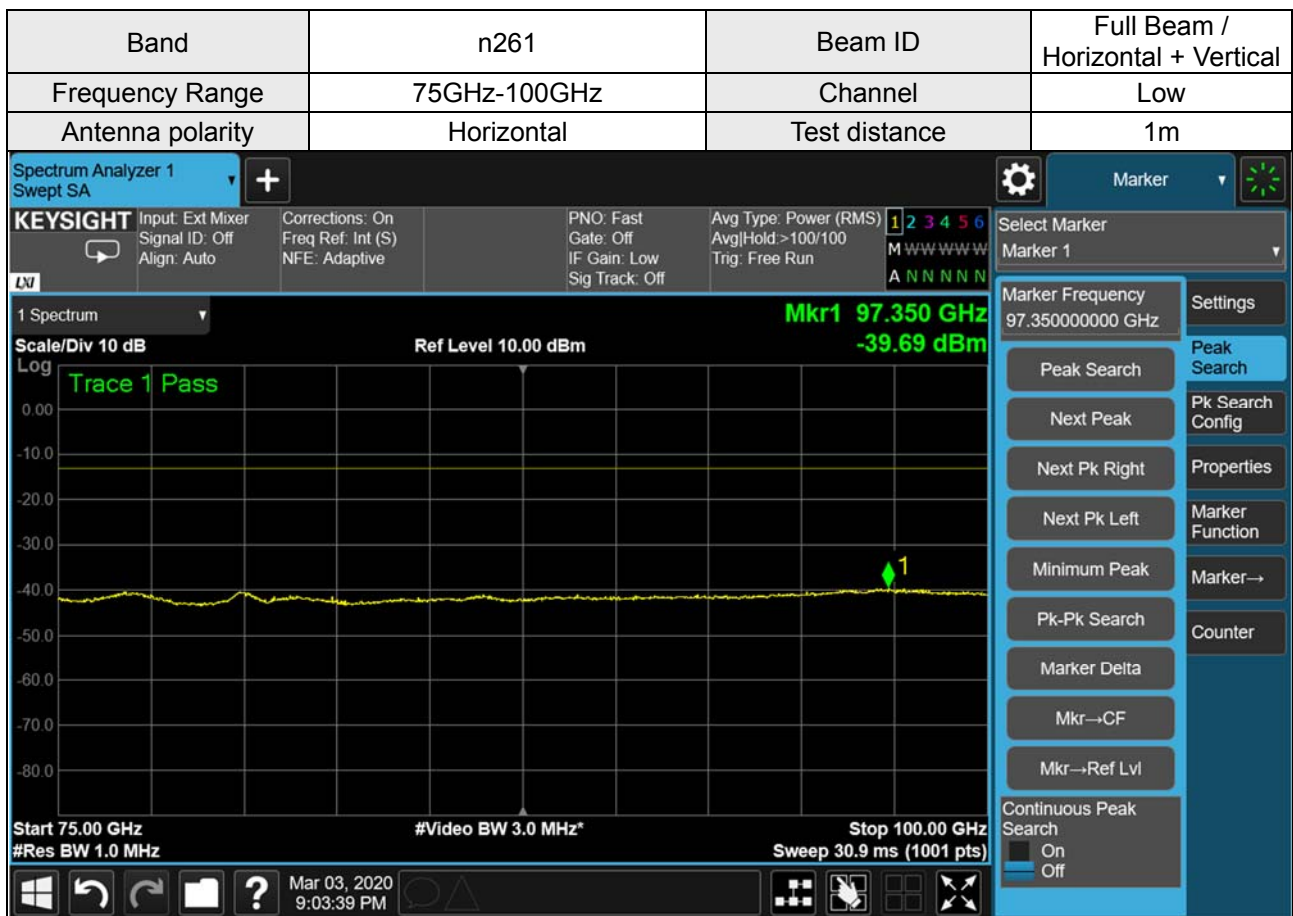
Band	n261	Beam ID	Full Beam / Horizontal
Frequency Range	75GHz-100GHz	Channel	High
Antenna polarity	Horizontal	Test distance	1m



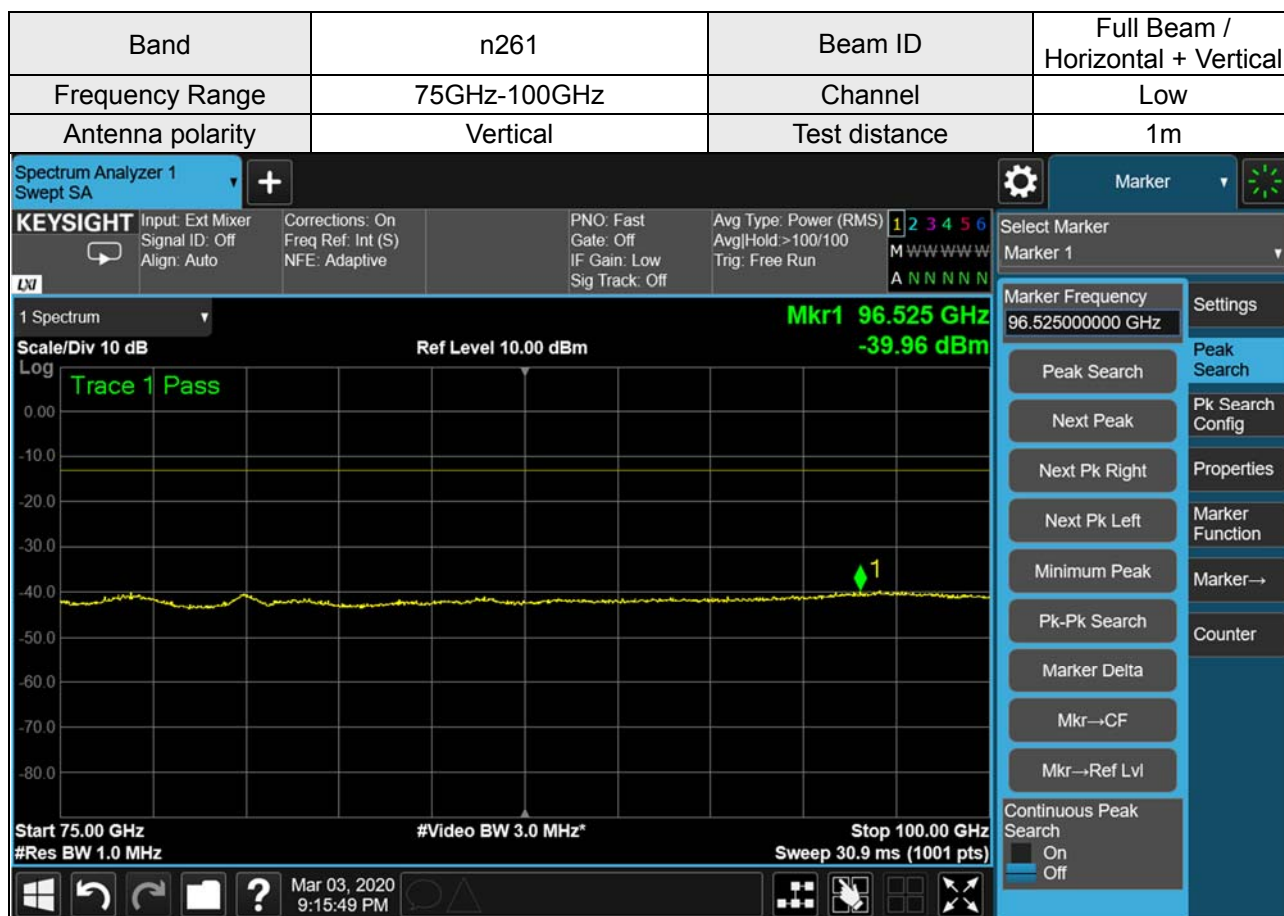
Note: The test results already include the correction factor (corrections: On).



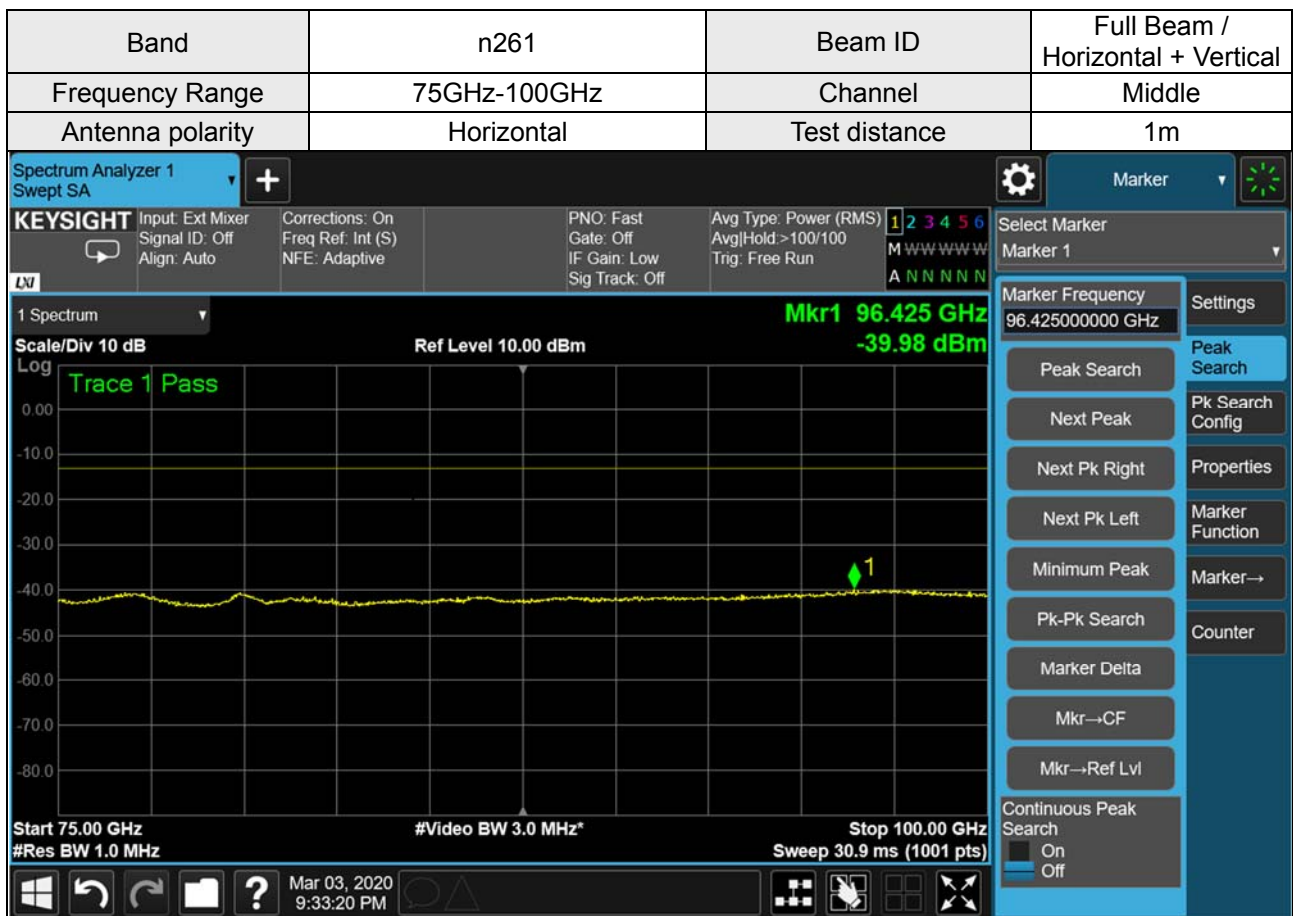
Note: The test results already include the correction factor (corrections: On).



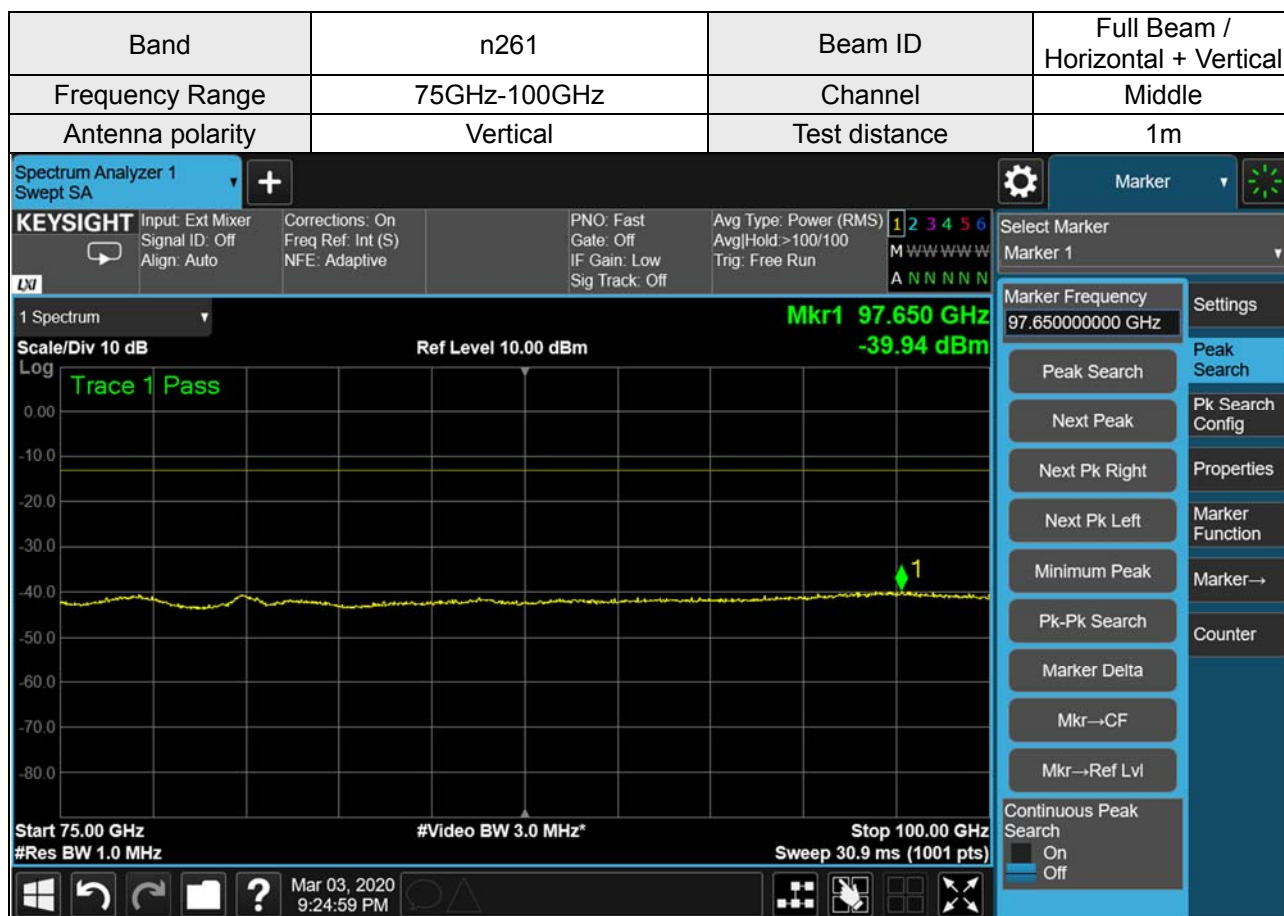
Note: The test results already include the correction factor (corrections: On).



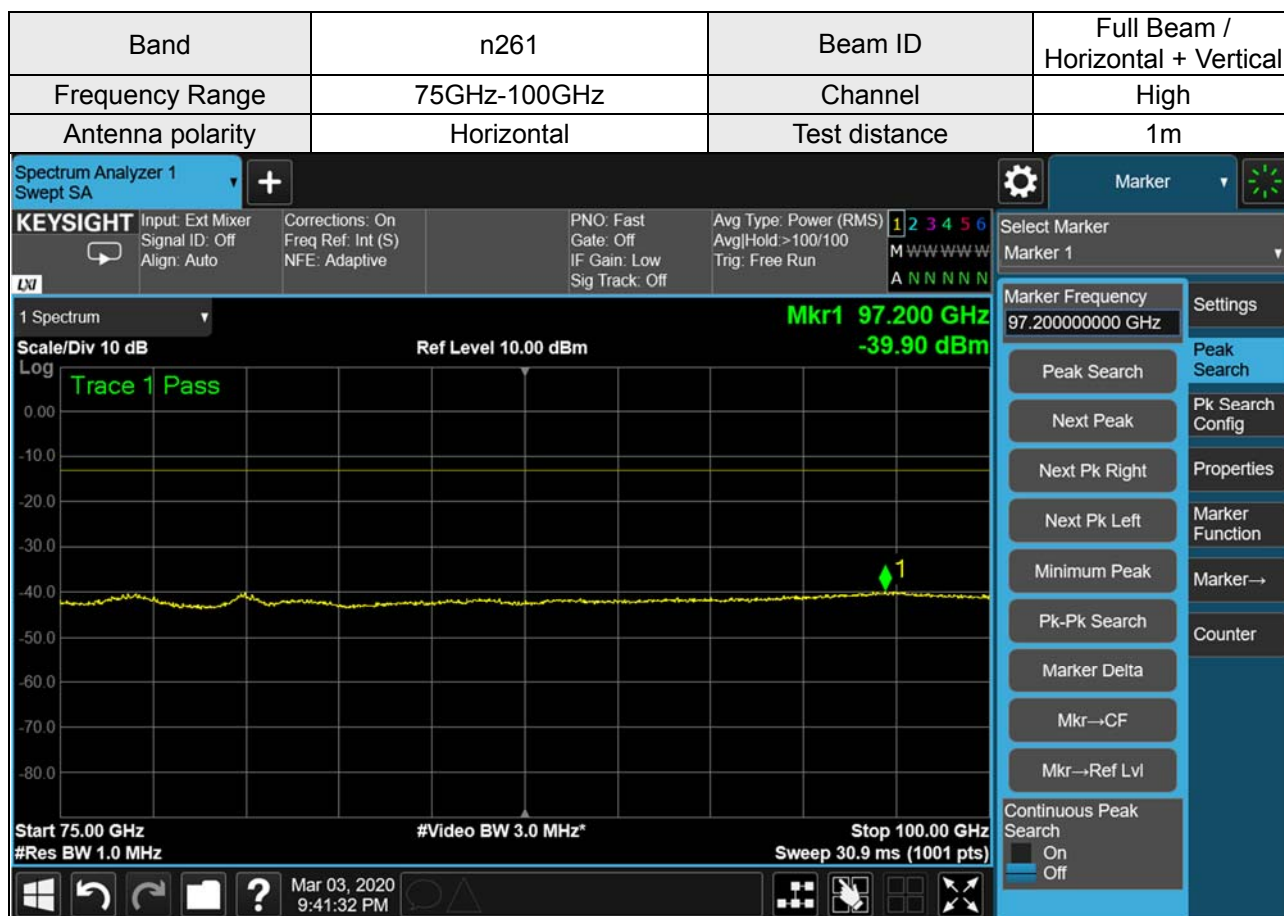
Note: The test results already include the correction factor (corrections: On).



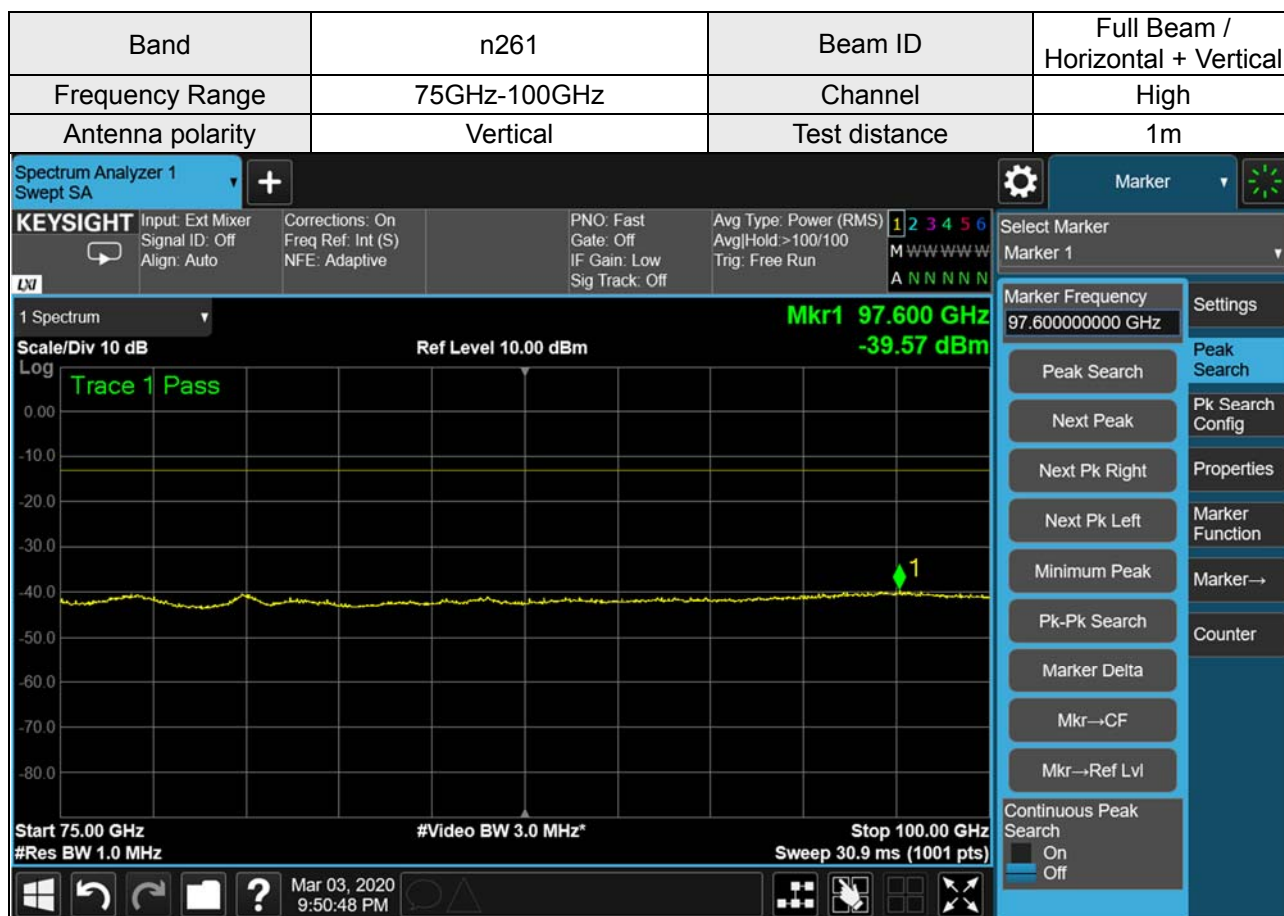
Note: The test results already include the correction factor (corrections: On).



Note: The test results already include the correction factor (corrections: On).

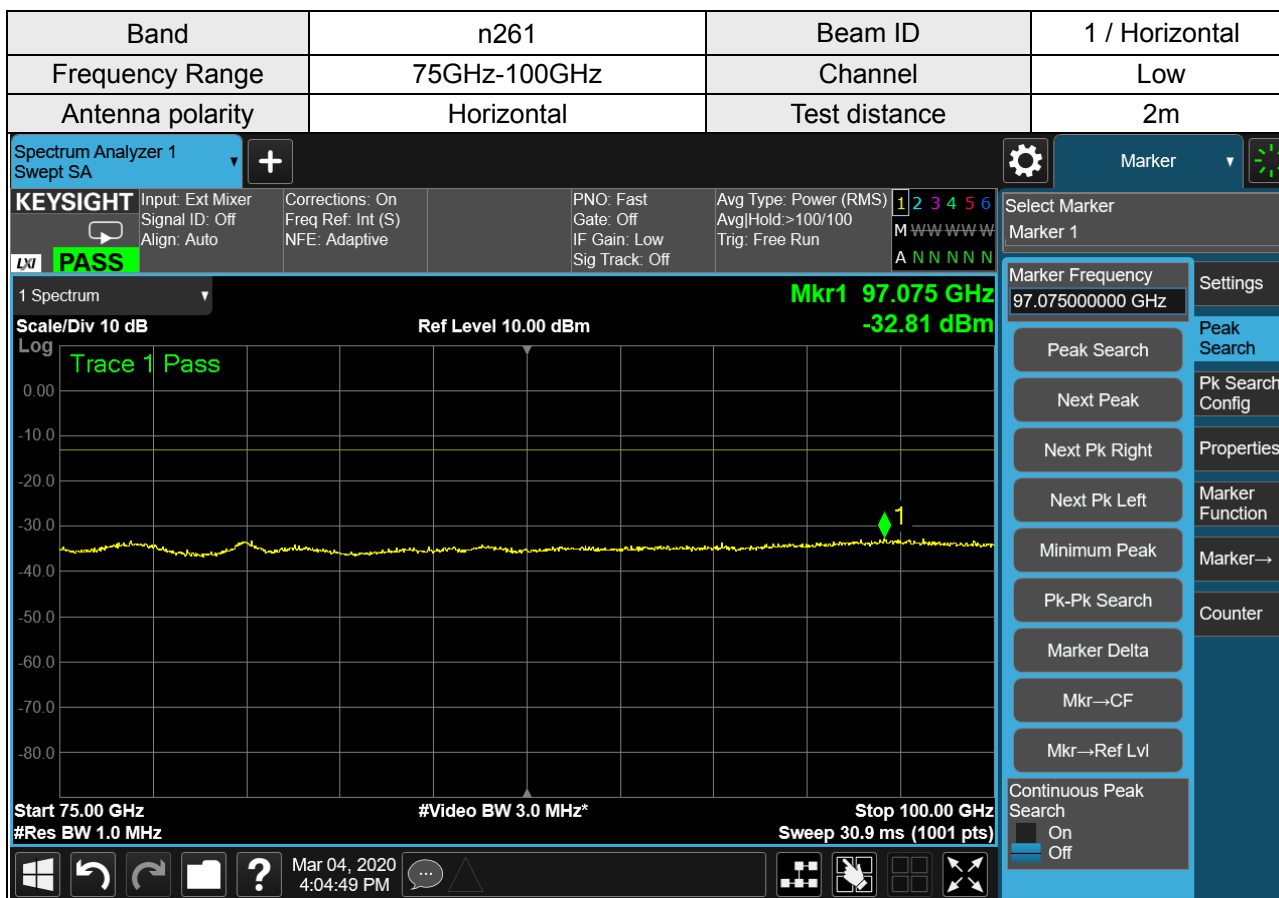


Note: The test results already include the correction factor (corrections: On).

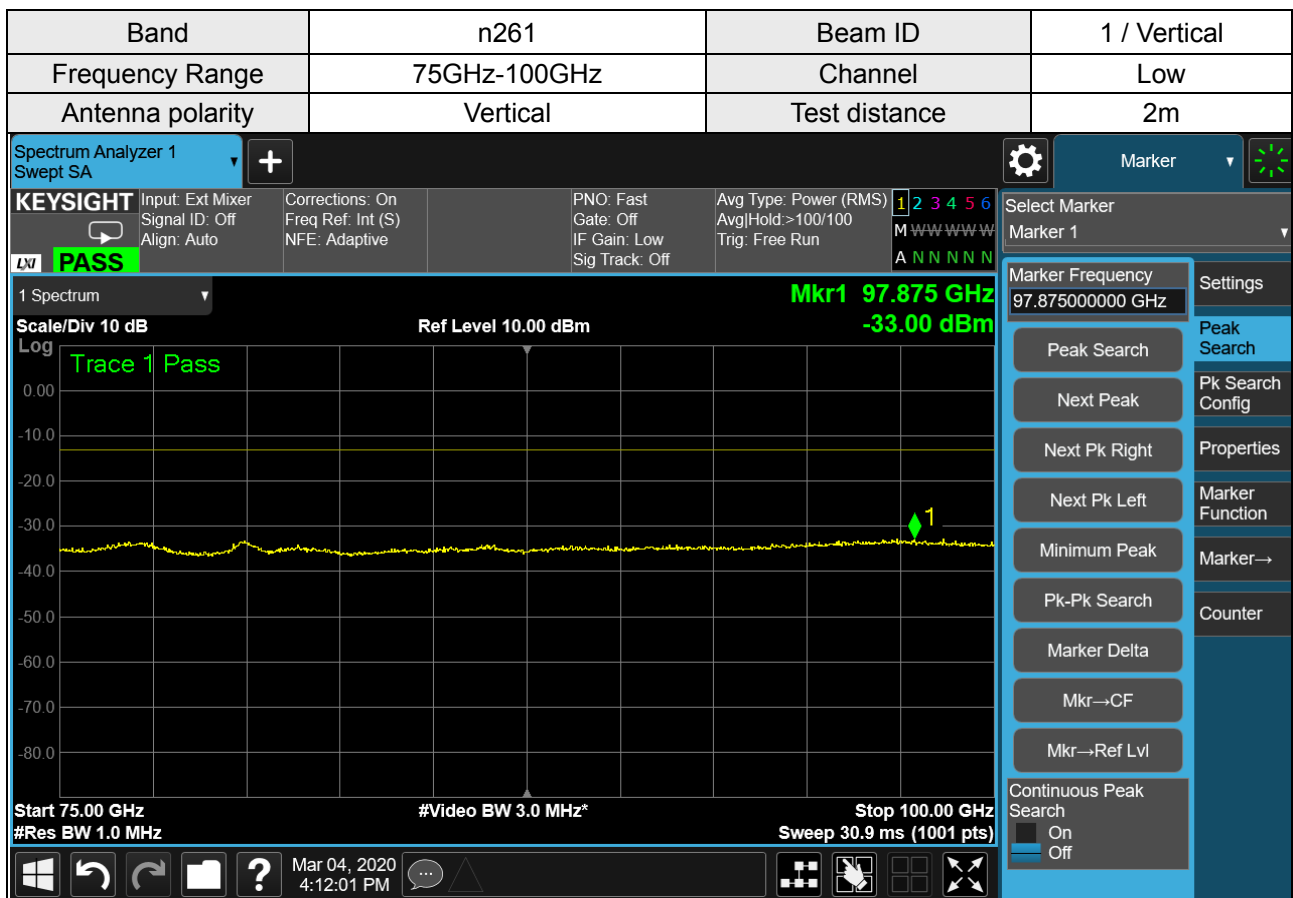


Note: The test results already include the correction factor (corrections: On).

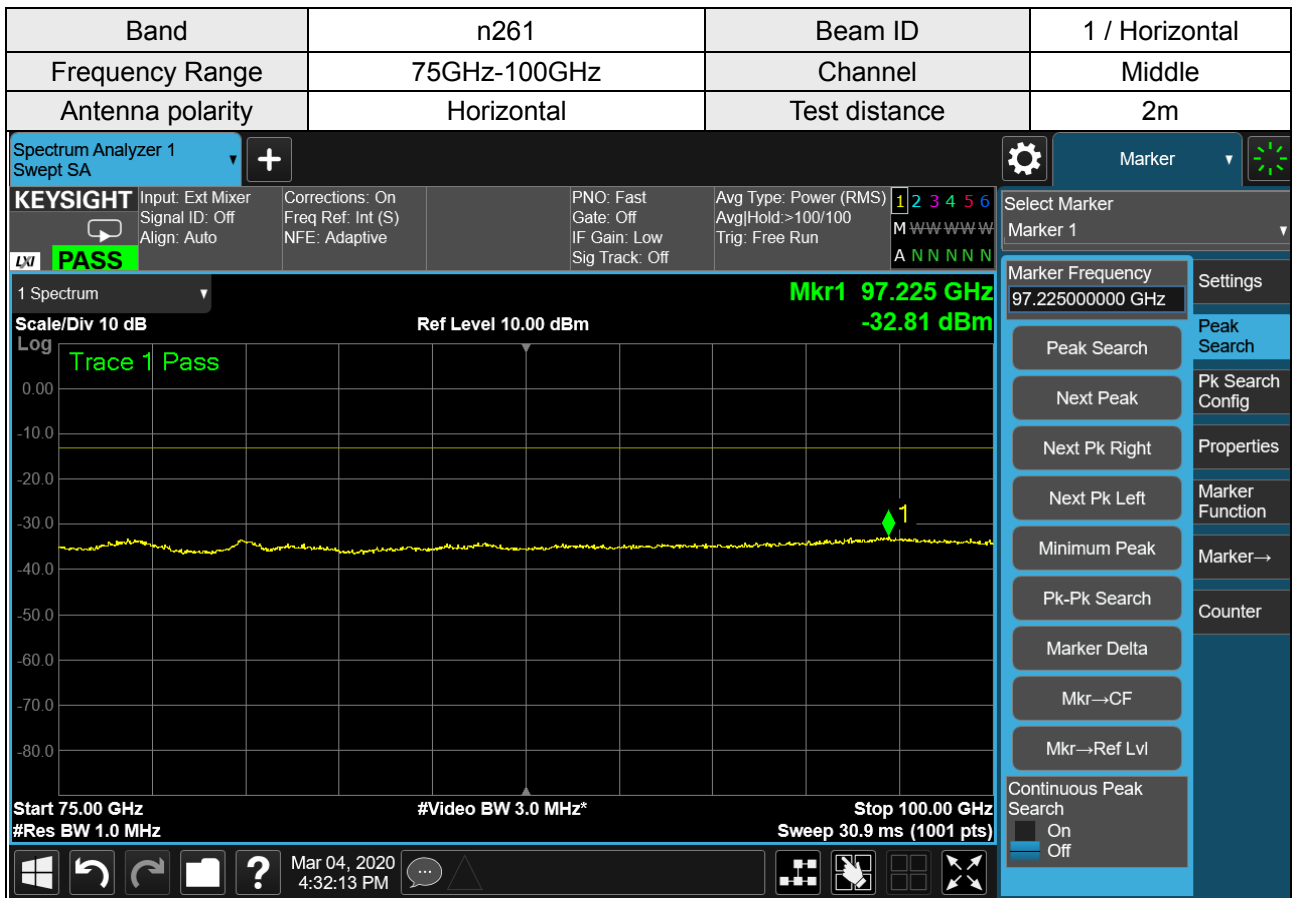
Mode B



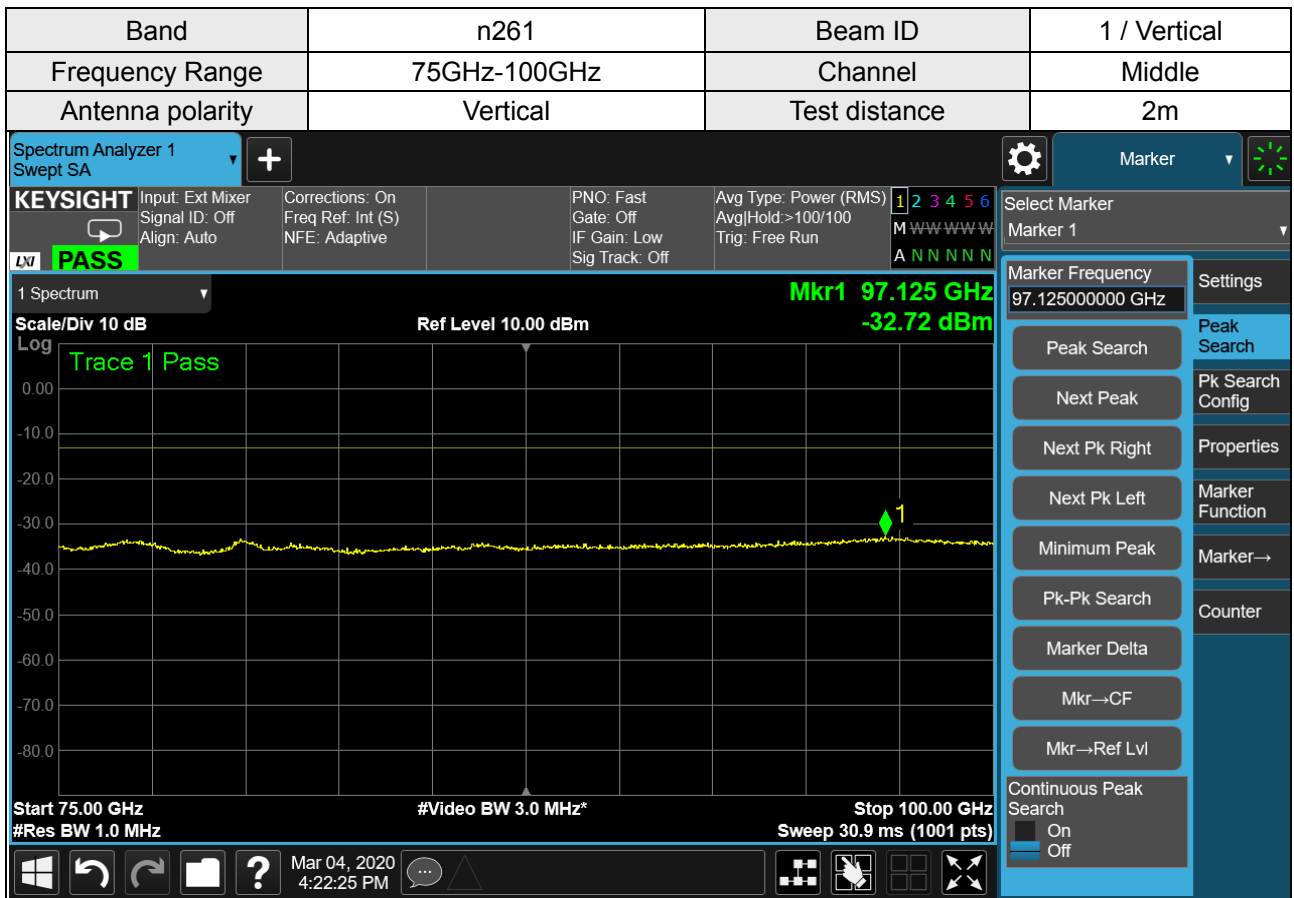
Note: The test results already include the correction factor (corrections: On).



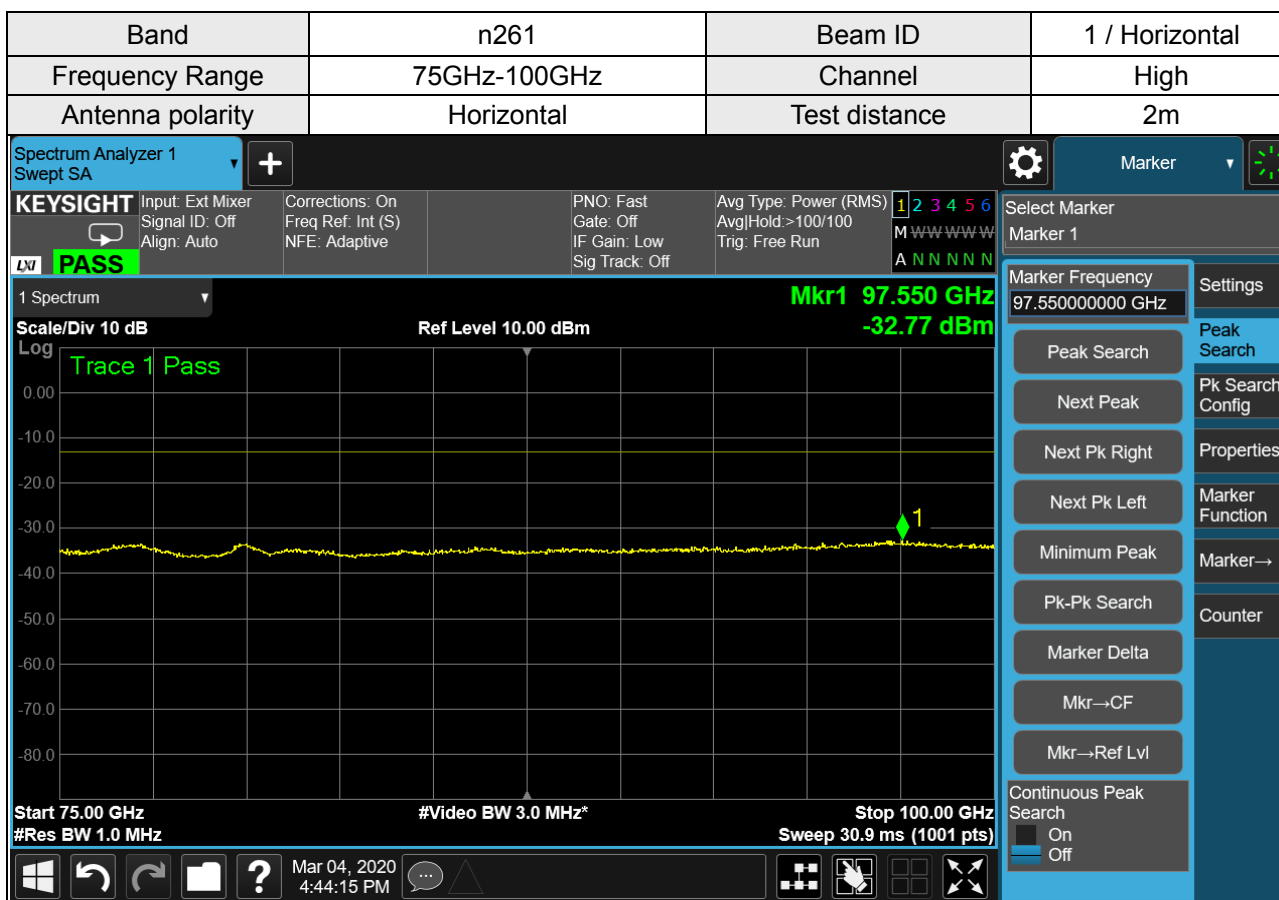
Note: The test results already include the correction factor (corrections: On).



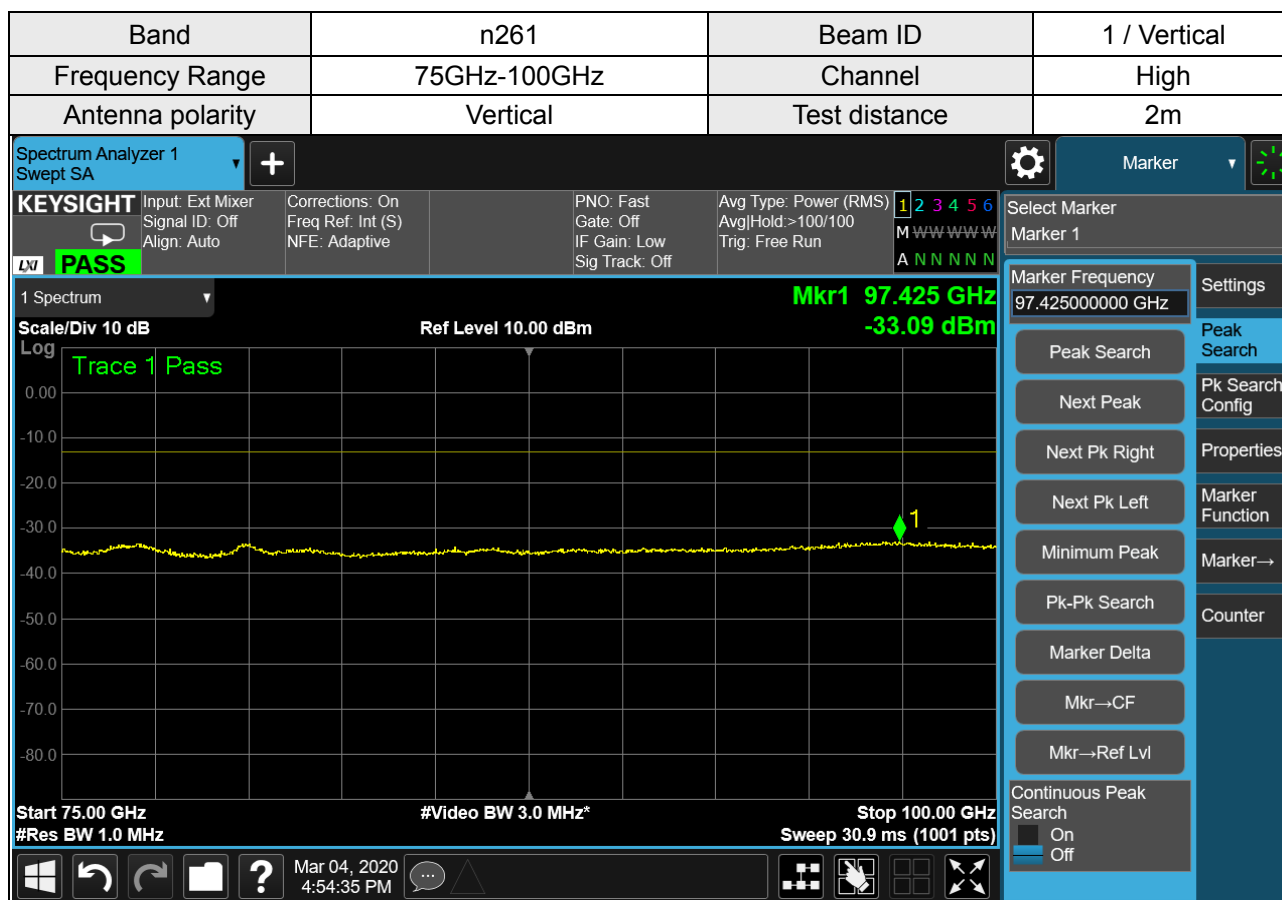
Note: The test results already include the correction factor (corrections: On).



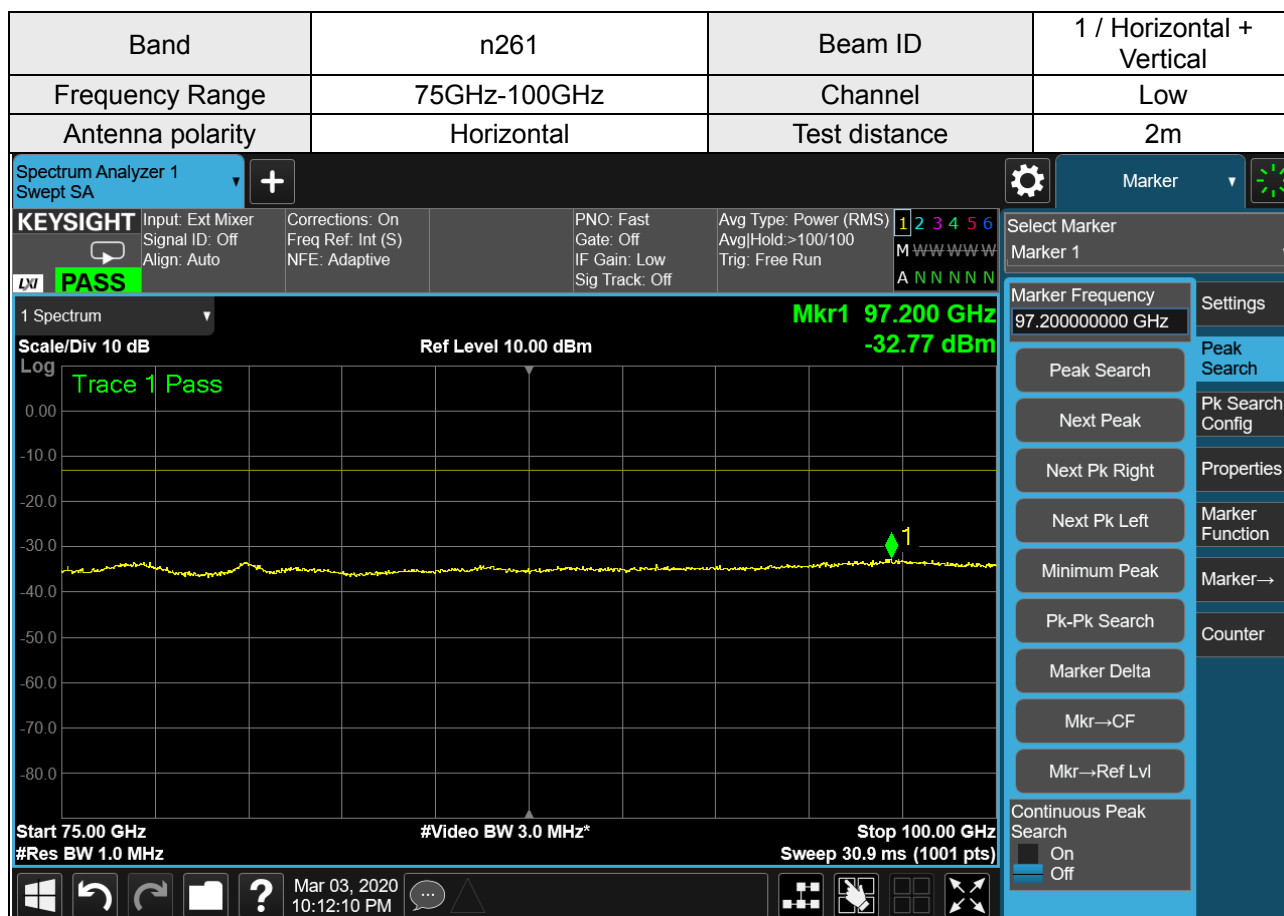
Note: The test results already include the correction factor (corrections: On).



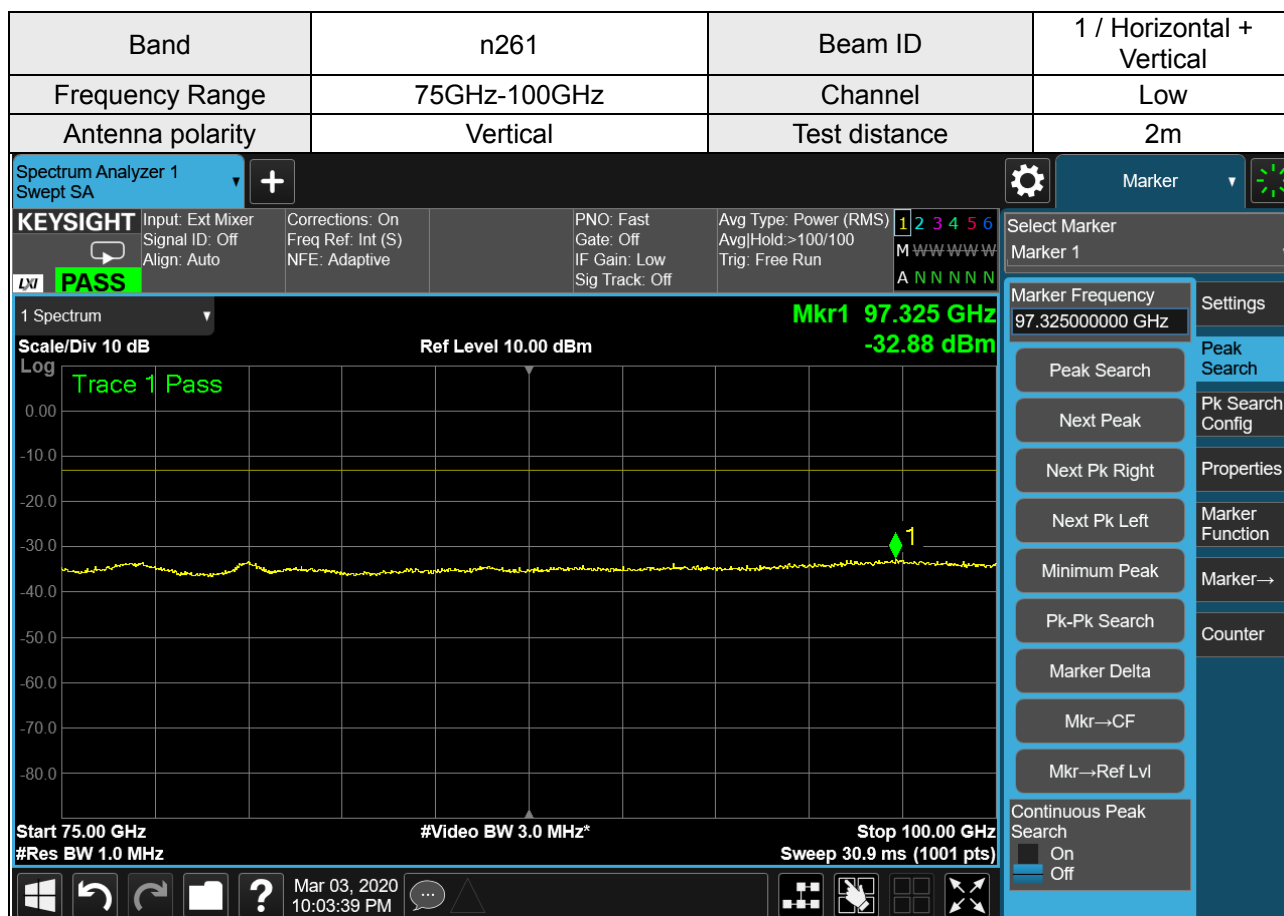
Note: The test results already include the correction factor (corrections: On).



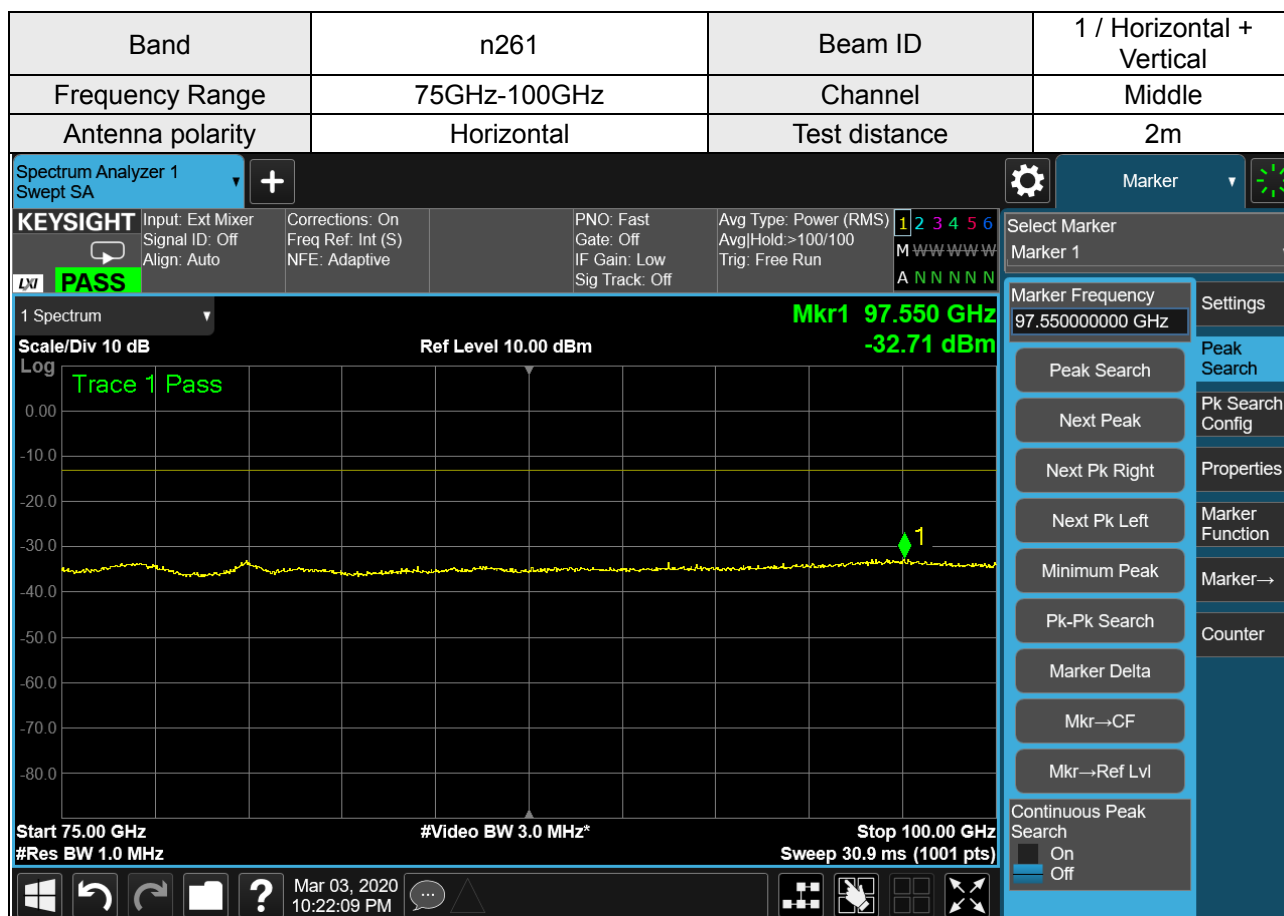
Note: The test results already include the correction factor (corrections: On).



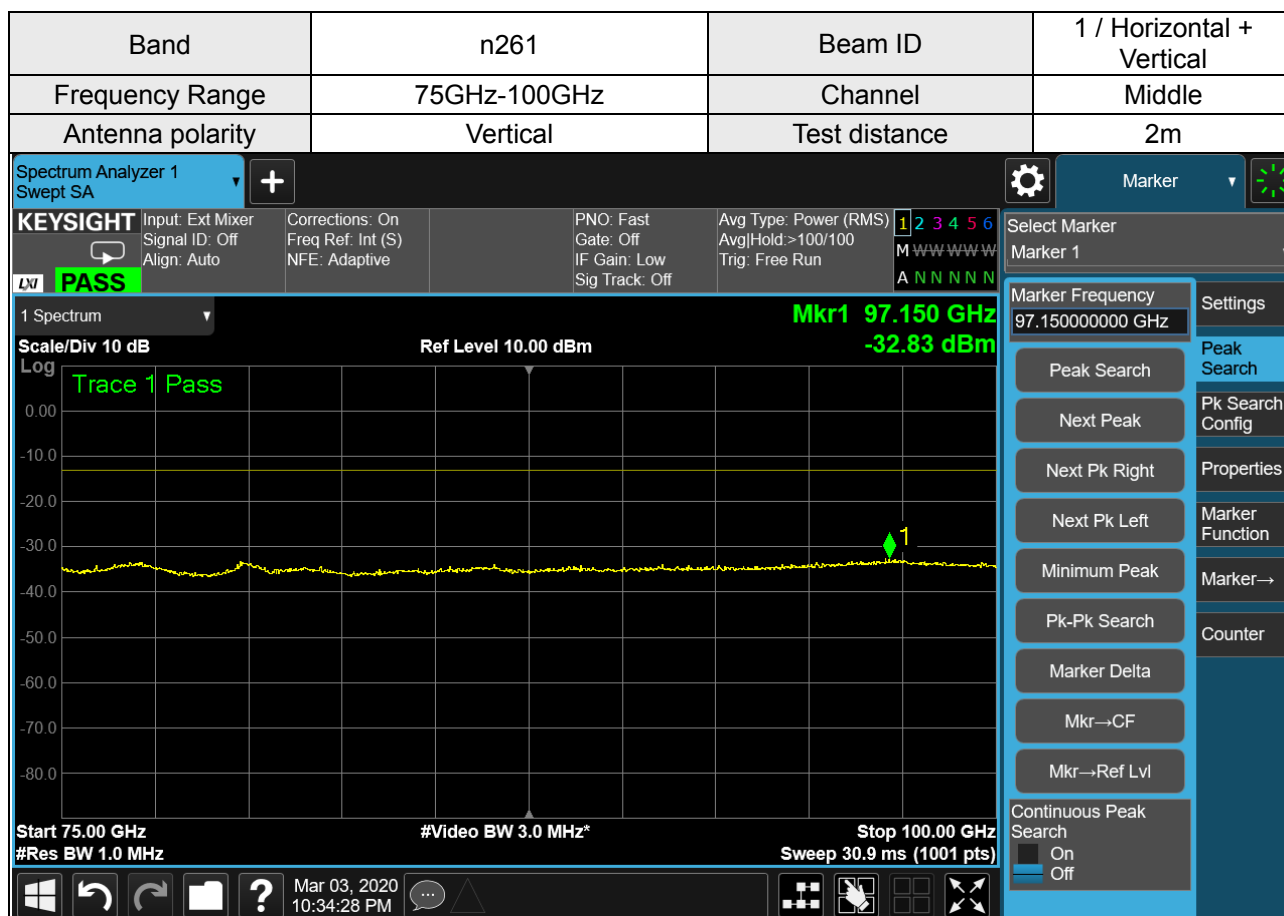
Note: The test results already include the correction factor (corrections: On).



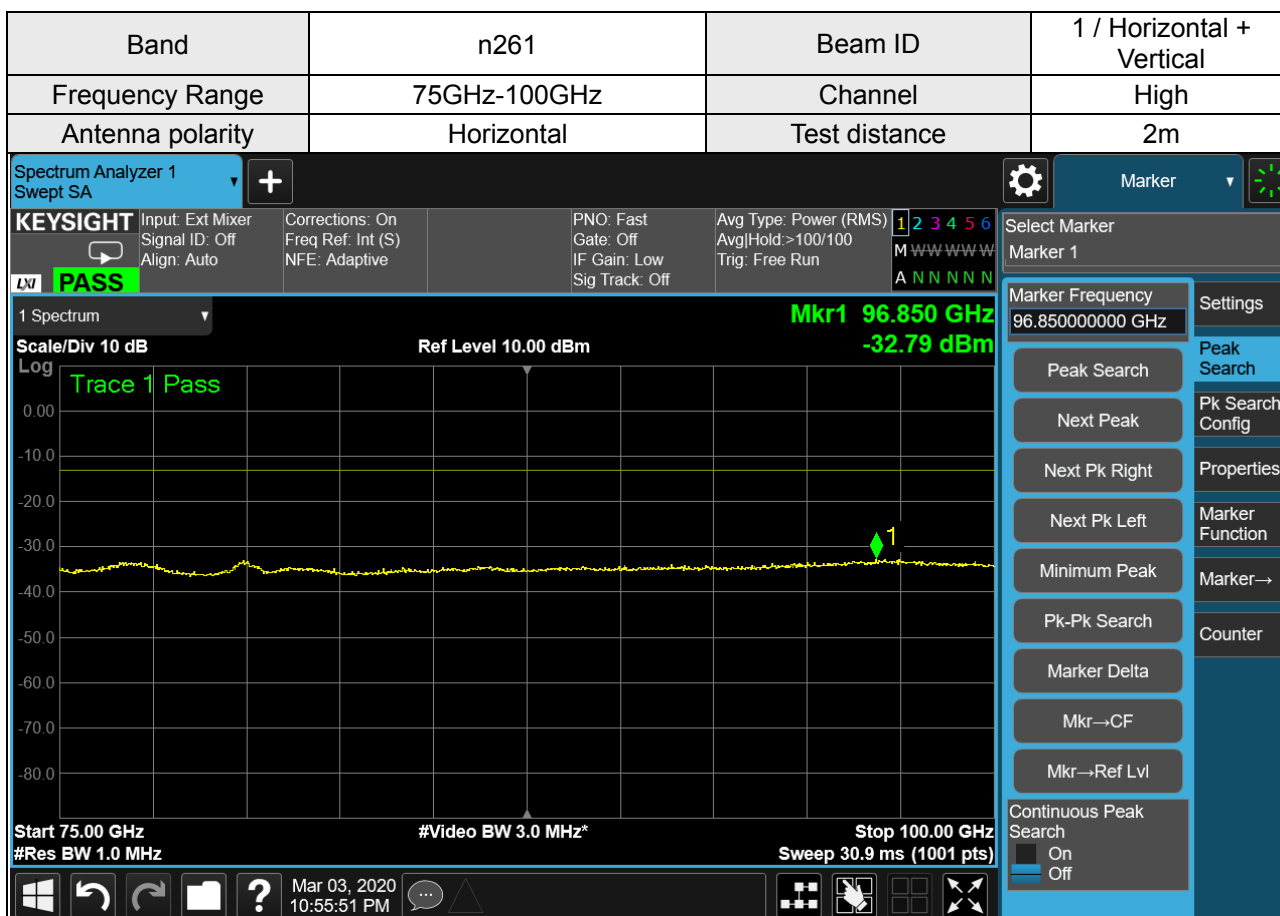
Note: The test results already include the correction factor (corrections: On).



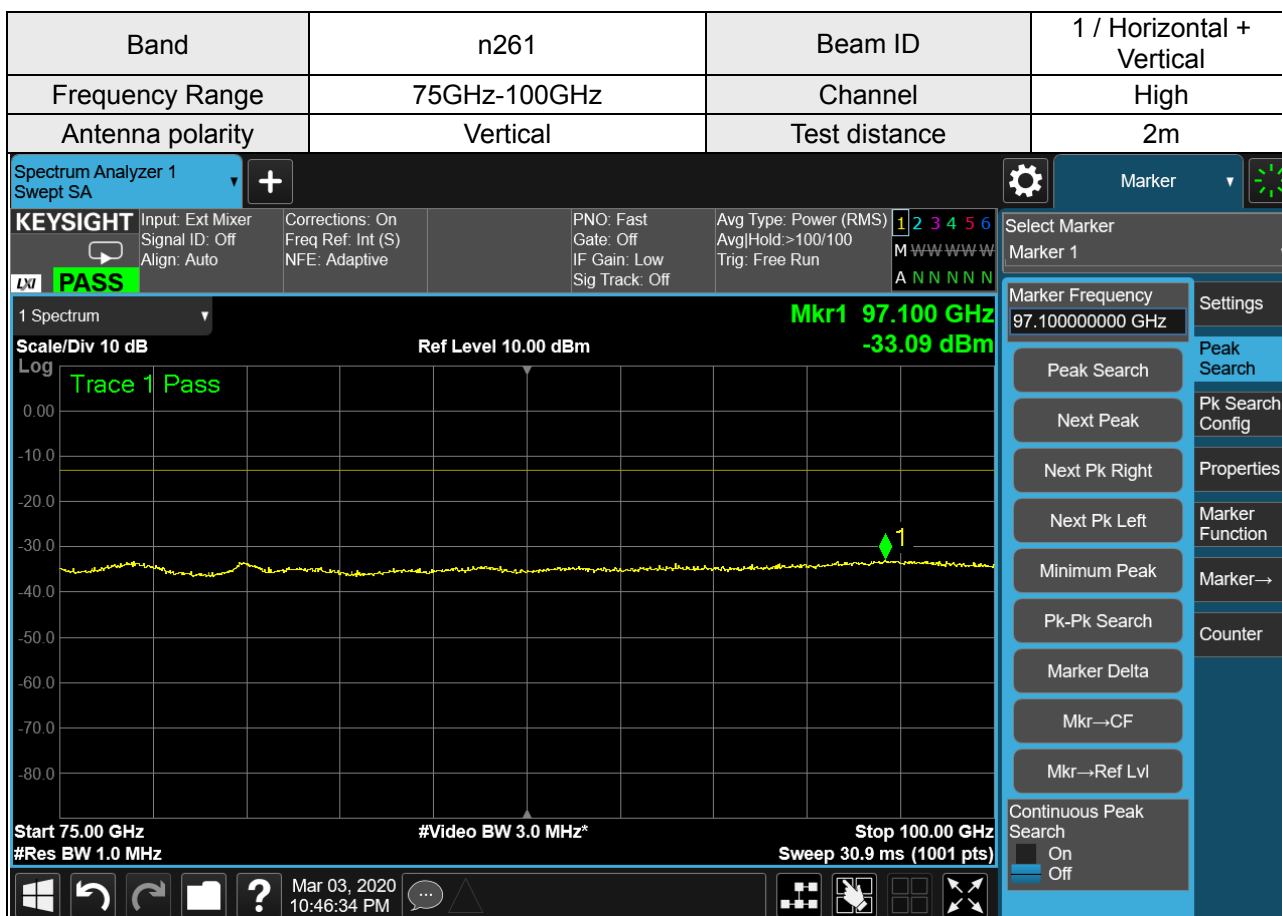
Note: The test results already include the correction factor (corrections: On).



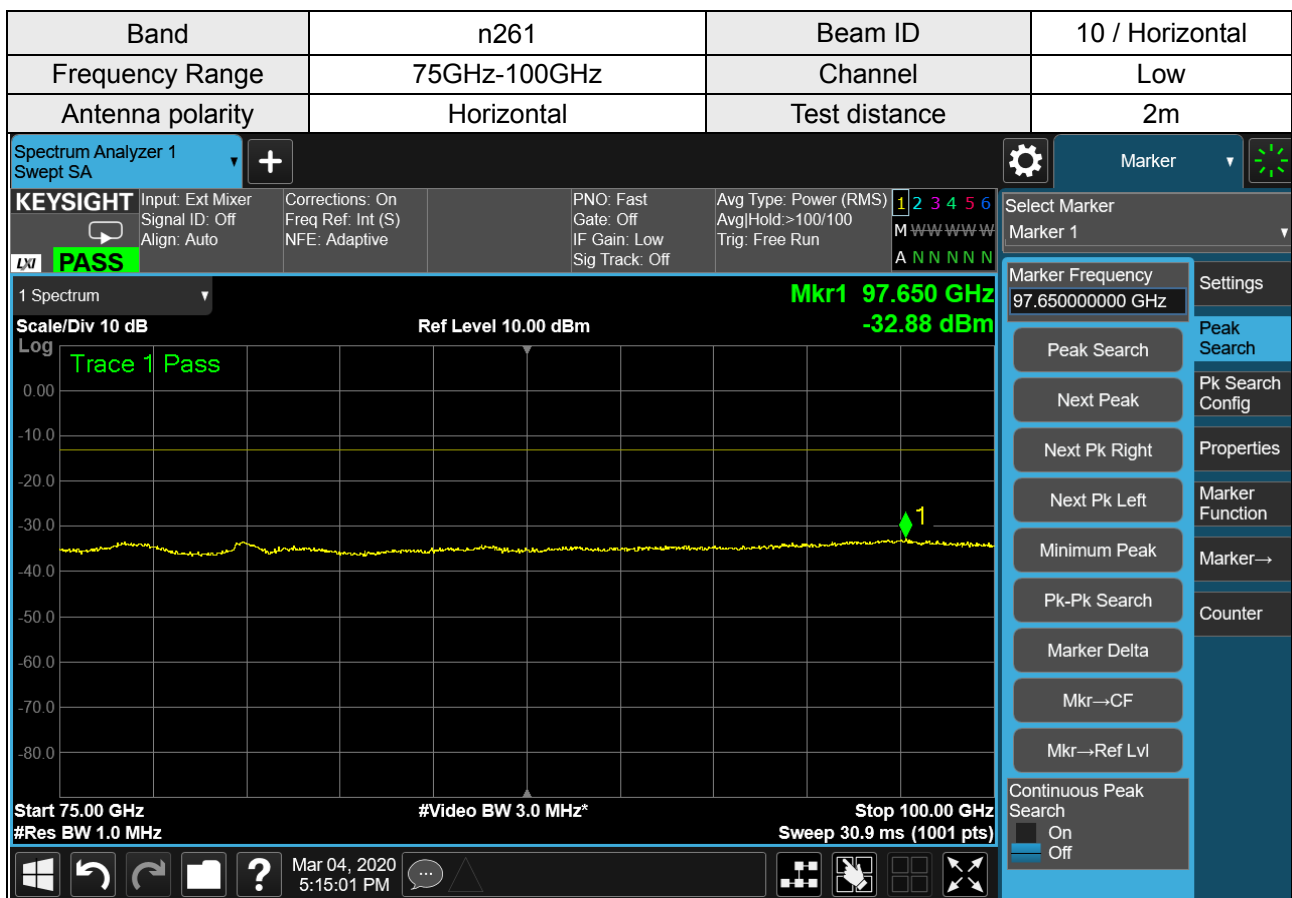
Note: The test results already include the correction factor (corrections: On).



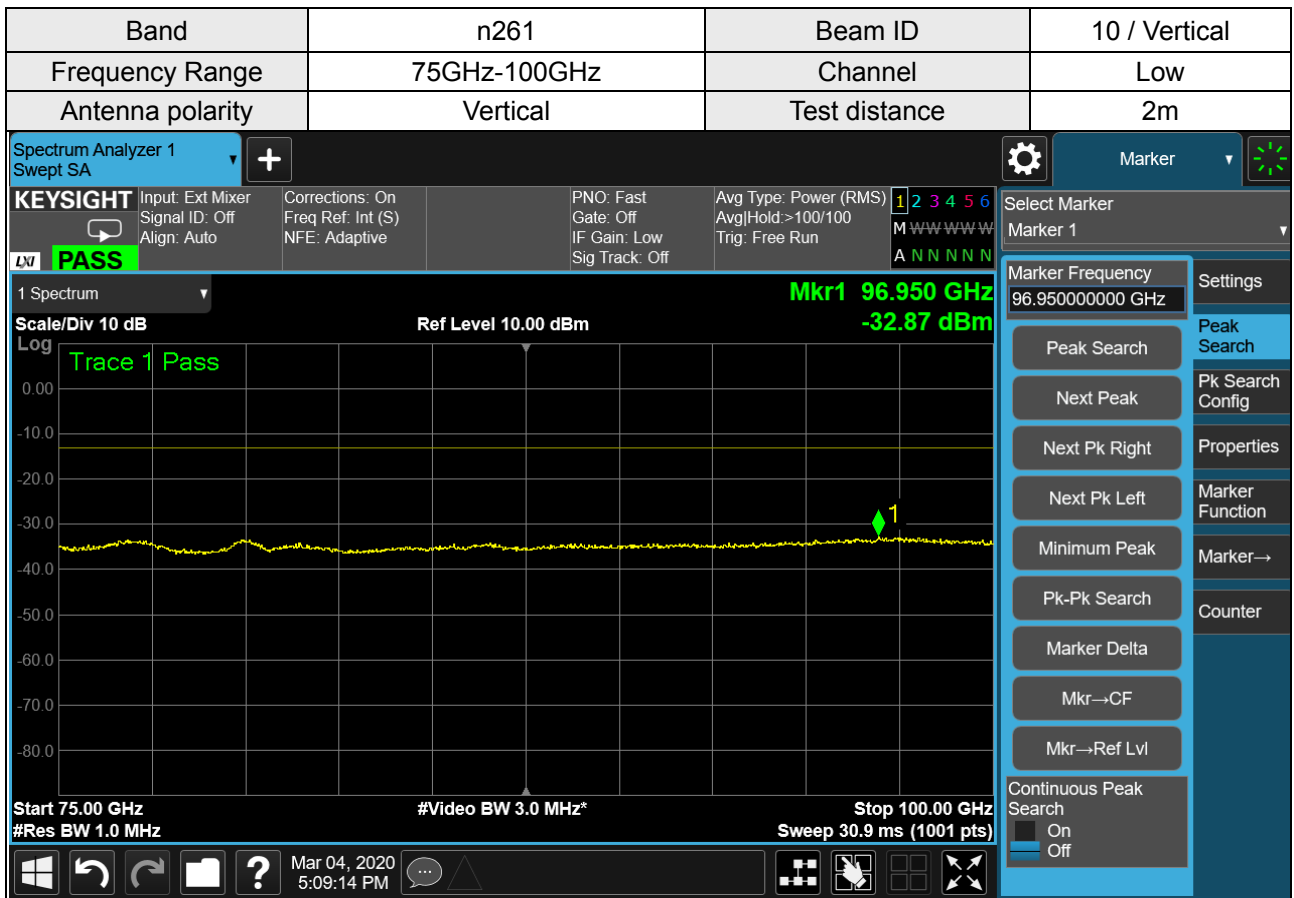
Note: The test results already include the correction factor (corrections: On).



Note: The test results already include the correction factor (corrections: On).

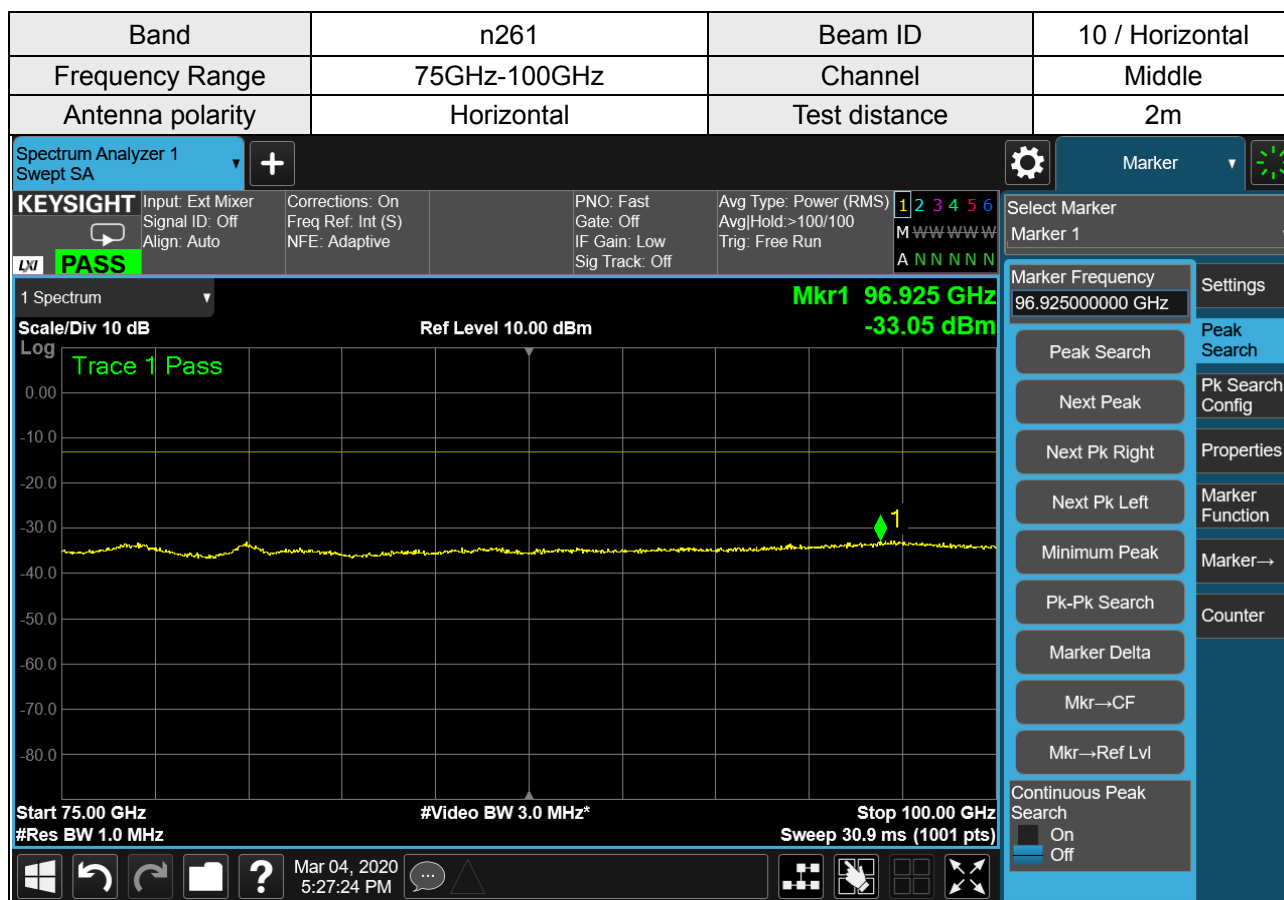


Note: The test results already include the correction factor (corrections: On).

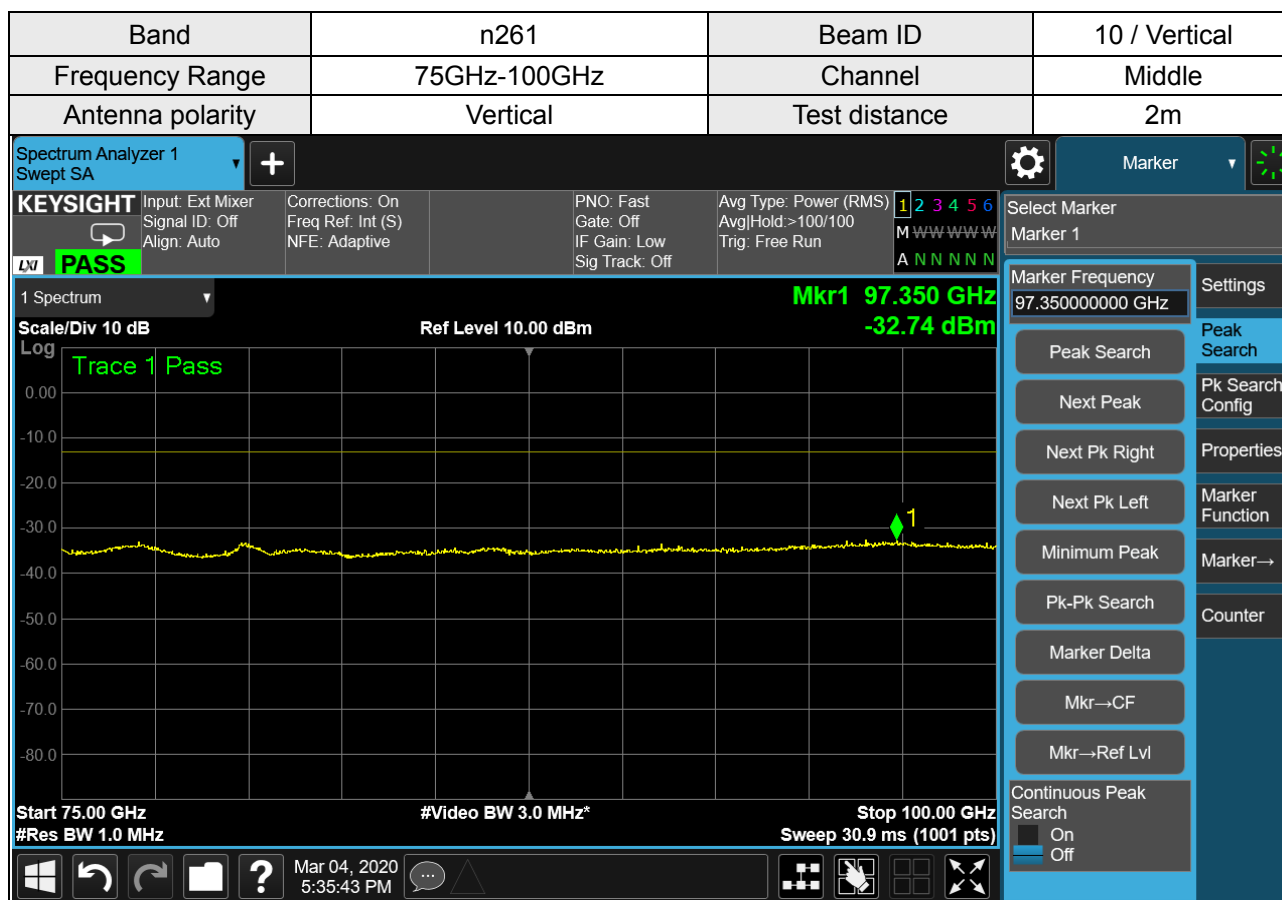

 1 Spectrum
 Scale/Div 10 dB
 Log
 Trace 1 Pass
 Ref Level 10.00 dBm
 Mkr1 96.950 GHz
 -32.87 dBm
 Start 75.00 GHz
 #Res BW 1.0 MHz
 #Video BW 3.0 MHz*
 Stop 100.00 GHz
 Sweep 30.9 ms (1001 pts)

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 5:09:14 PM

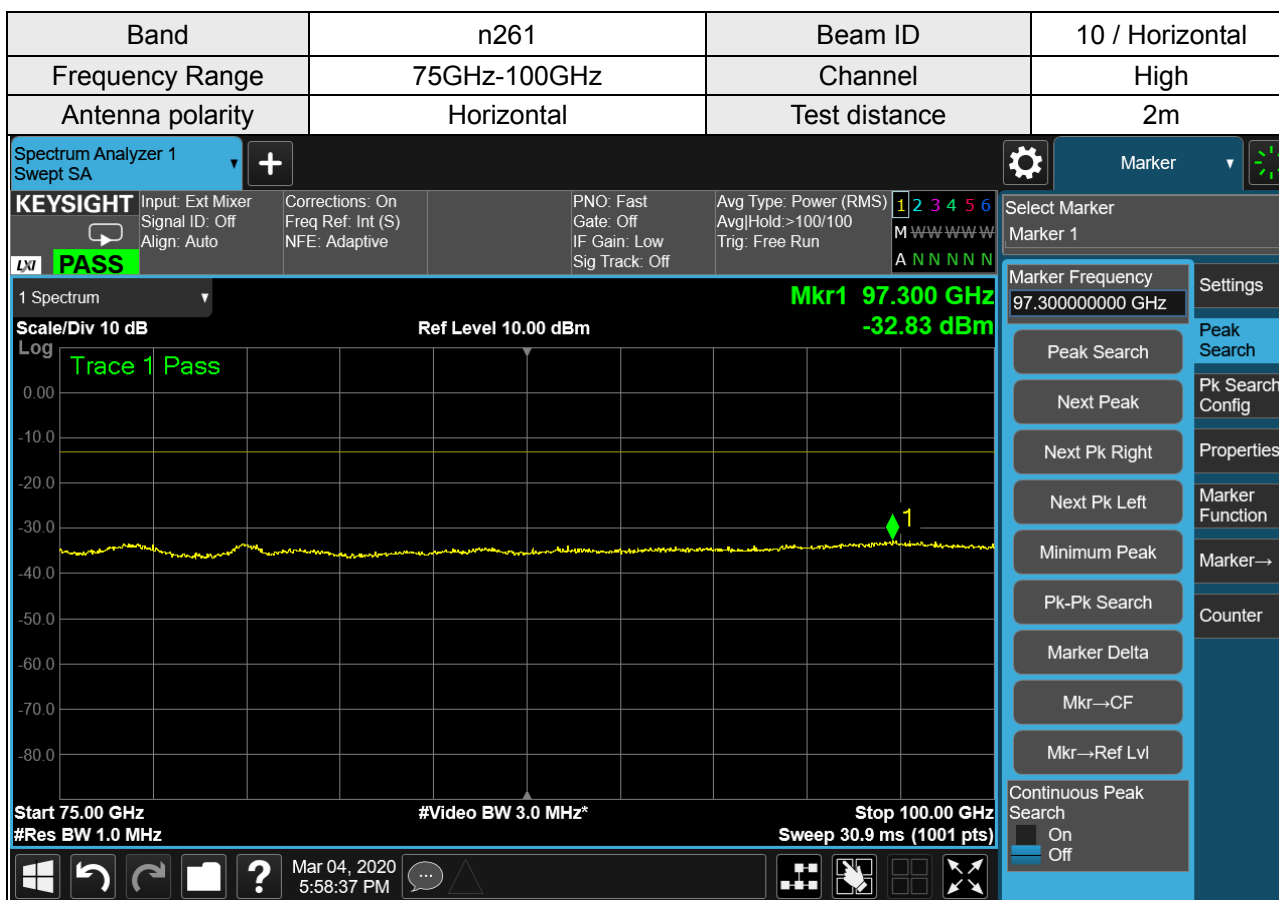
Note: The test results already include the correction factor (corrections: On).



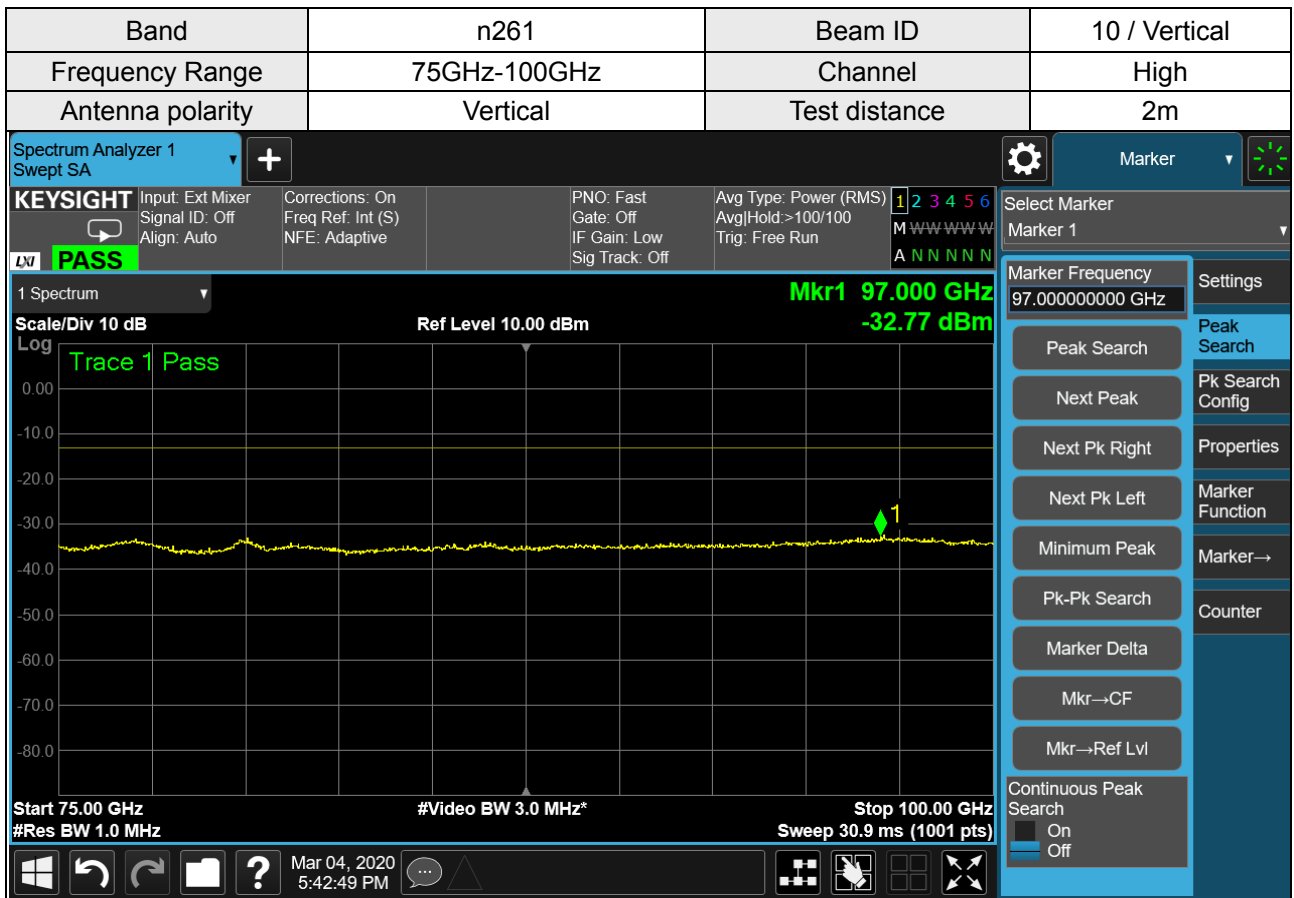
Note: The test results already include the correction factor (corrections: On).



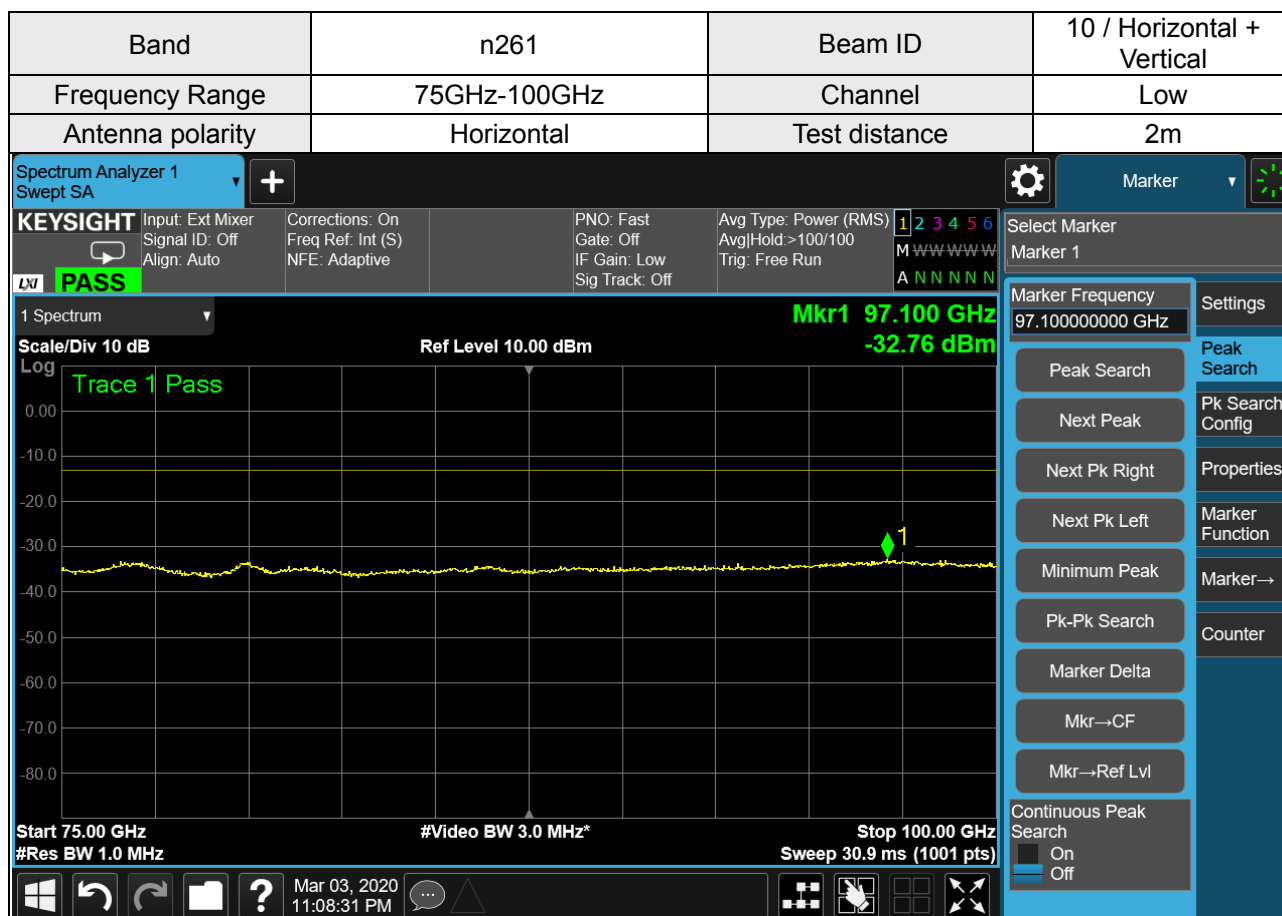
Note: The test results already include the correction factor (corrections: On).



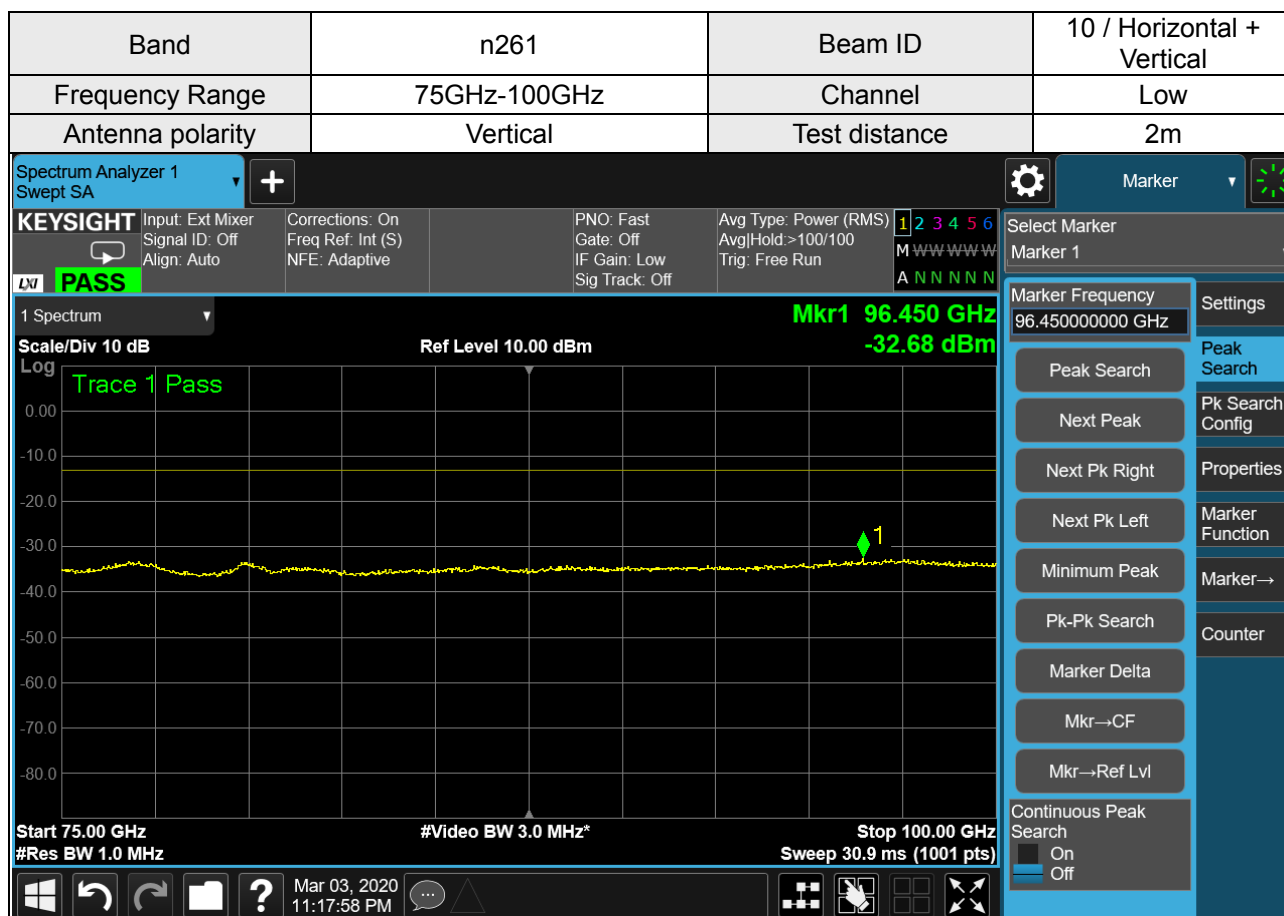
Note: The test results already include the correction factor (corrections: On).



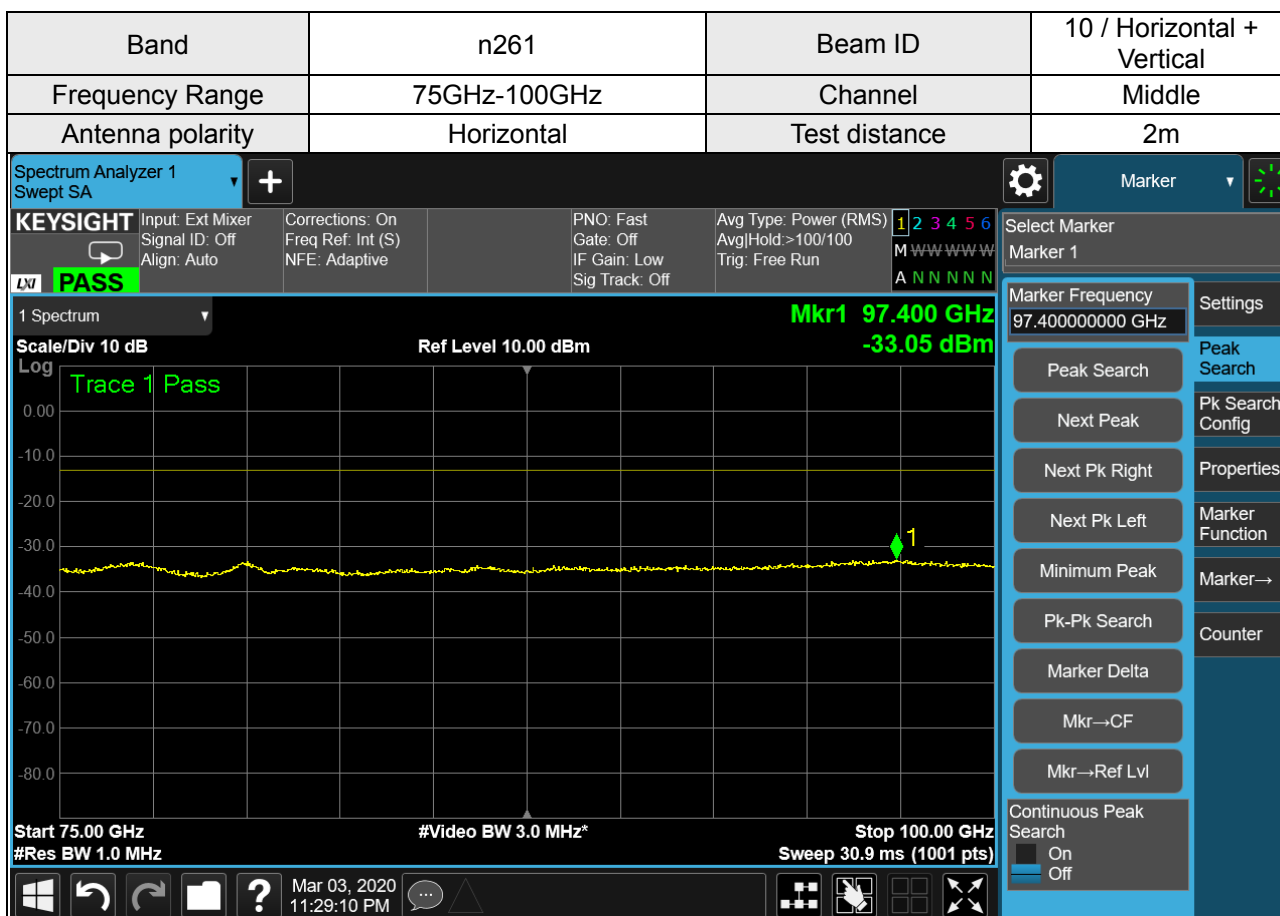
Note: The test results already include the correction factor (corrections: On).



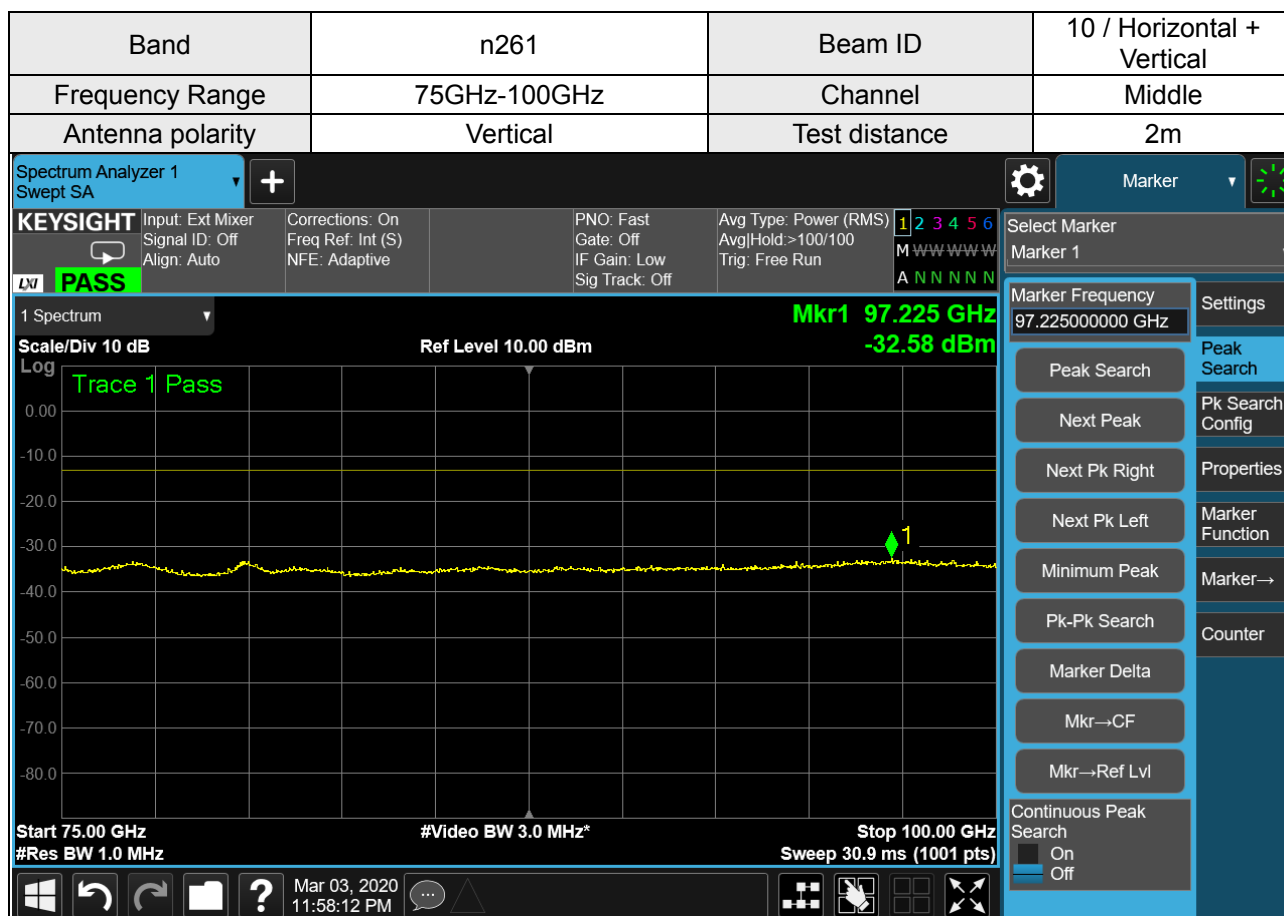
Note: The test results already include the correction factor (corrections: On).



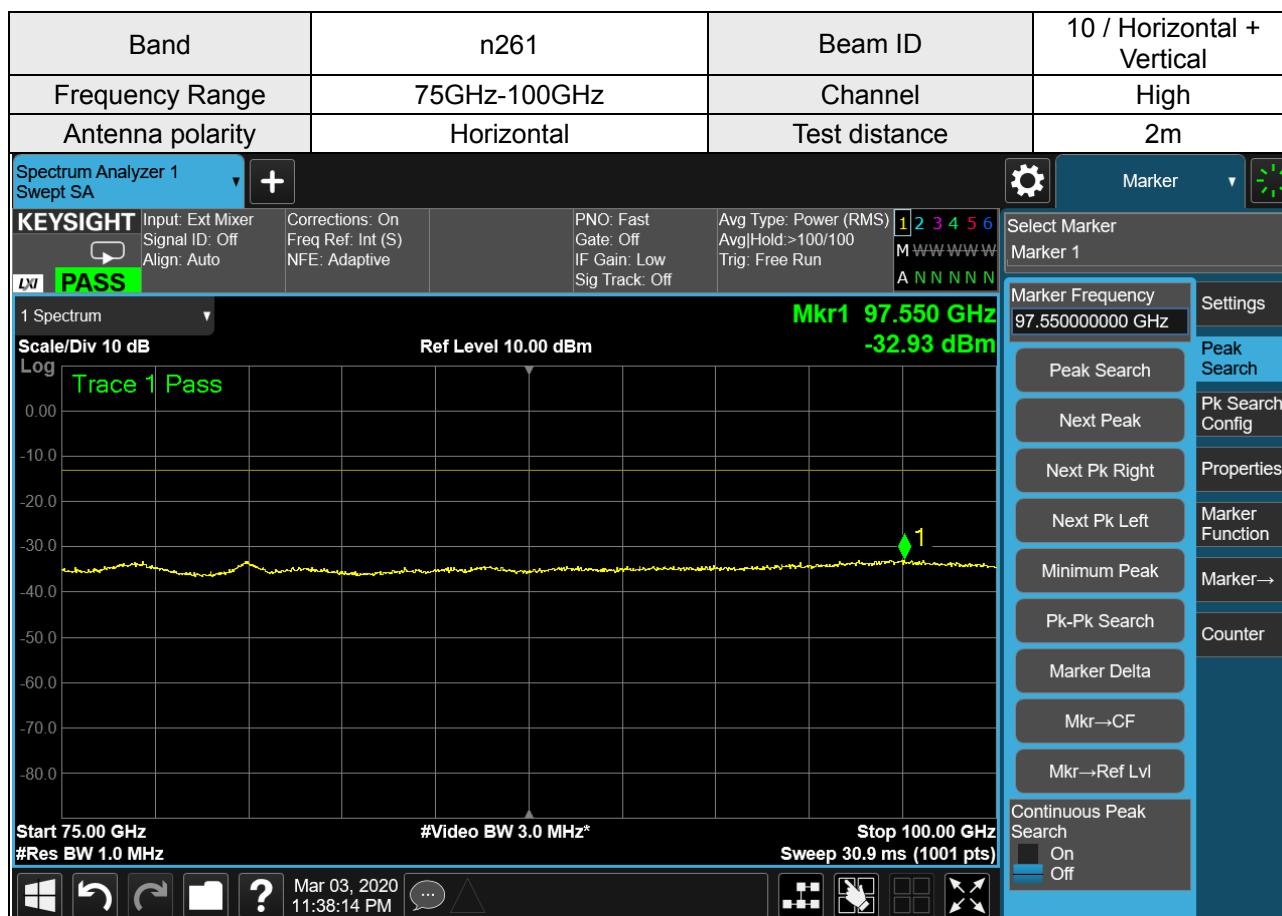
Note: The test results already include the correction factor (corrections: On).



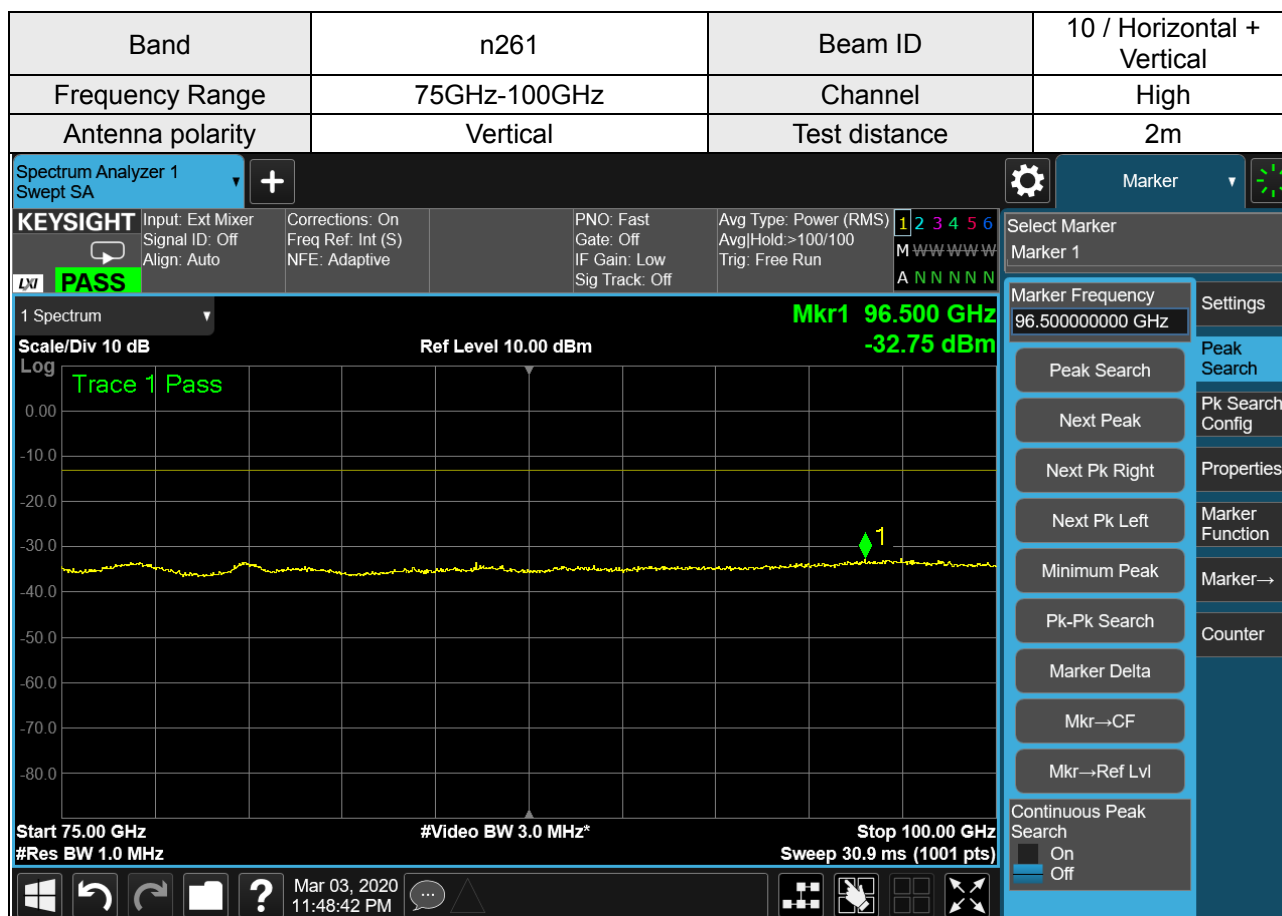
Note: The test results already include the correction factor (corrections: On).



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4.7 Out-of-Band/Out of Block/ Band Edge Emissions Measurement

4.7.1 Limits of Out-of-Band/Out of Block/ Band Edge Emissions

The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be -13 dBm/MHz or lower. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be -5 dBm/MHz or lower.

4.7.2 Test Instruments

Refer to section 4.5.2.

4.7.3 Test Procedures

- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.
- The requirements in 30.203 are expressed in terms of conductive power, and then conducted power will be calculated by EIRP-Array Gain.
- Antenna Gain Information at the Band Edge :

The following antenna gain information is provided to demonstrate the antenna performance of the 37~40 GHz band. These antenna gains were subtracted from the measured E.I.R.P levels at lower and upper band edge frequencies to determine an equivalent conductive power that was compared directly with the part 30.203 limits.

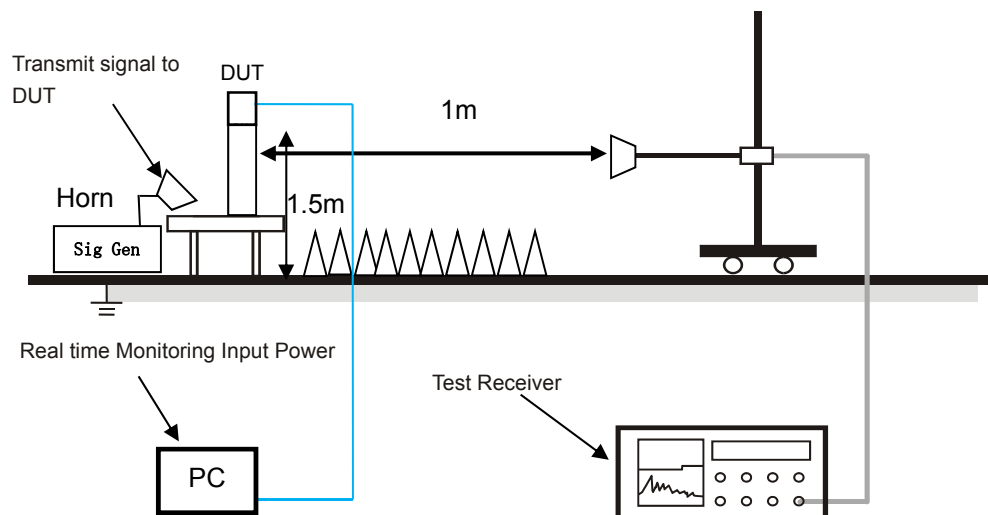
Band Frequency (GHz)	261	
	Donor	Relay
	Gain (dBi)	
27.5	19.40	8.64
28.35	19.84	8.36

Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.7.4 Deviation from Test Standard

No deviation.

4.7.5 Test Set Up



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.7.6 EUT Operating Conditions

Refer to section 3.3 to get information of EUT operating conditions.

4.7.7 Test Results

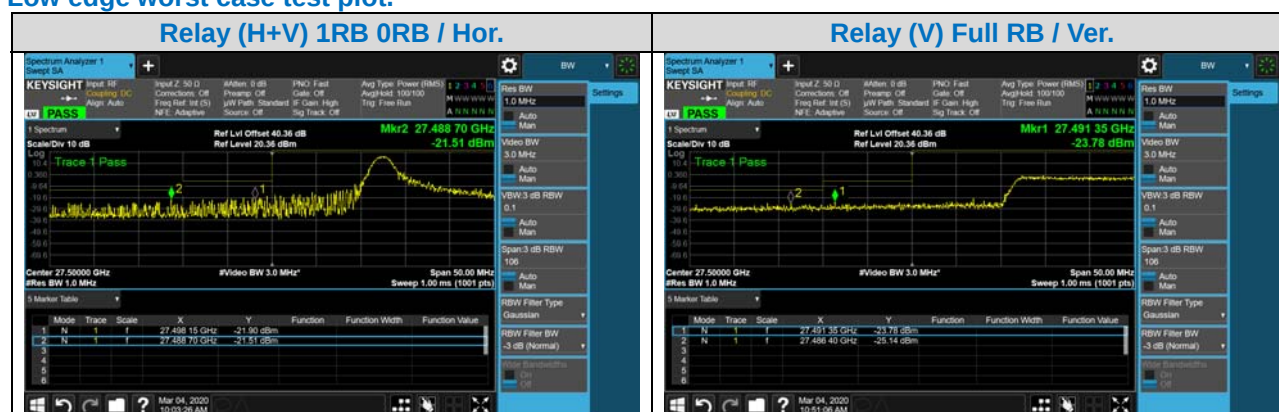
Low Channel	2071821							
QPSK-1CC	1RB 0RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	27.49945	-19.79	8.64	-28.43	-5	-23.43	Pass	Hor.
	27.48885	-25.08	8.64	-33.72	-13	-20.72	Pass	
Relay	27.49525	-21.37	8.64	-30.01	-5	-25.01	Pass	Ver.
	27.48795	-24.88	8.64	-33.52	-13	-20.52	Pass	
Relay(H+V)	27.49815	-21.9	8.64	-30.54	-5	-25.54	Pass	Hor.
	27.4887	-21.51	8.64	-30.15	-13	-17.15	Pass	
Relay(H+V)	27.49825	-20.61	8.64	-29.25	-5	-24.25	Pass	Ver.
	27.4865	-23.47	8.64	-32.11	-13	-19.11	Pass	
Mode B								
Donor (1-H)	27.49835	-25.36	19.4	-44.76	-5	-39.76	Pass	Hor.
	27.4821	-28.77	19.4	-48.17	-13	-35.17	Pass	
Donor (1-V)	27.4987	-27.71	19.4	-47.11	-5	-42.11	Pass	Ver.
	27.4781	-27.53	19.4	-46.93	-13	-33.93	Pass	
Donor (10-H)	27.49985	-25.98	19.4	-45.38	-5	-40.38	Pass	Hor.
	27.48945	-27.79	19.4	-47.19	-13	-34.19	Pass	
Donor (10-V)	27.49635	-26.66	19.4	-46.06	-5	-41.06	Pass	Ver.
	27.4835	-28.06	19.4	-47.46	-13	-34.46	Pass	
Donor (1-(H+V))	27.4877	-29.46	19.4	-48.86	-5	-43.86	Pass	Hor.
	27.4992	-25.63	19.4	-45.03	-13	-32.03	Pass	
Donor (1-(H+V))	27.48555	-28.79	19.4	-48.19	-5	-43.19	Pass	Ver.
	27.492	-25.57	19.4	-44.97	-13	-31.97	Pass	
Donor (10-(H+V))	27.4817	-28.71	19.4	-48.11	-5	-43.11	Pass	Hor.
	27.49665	-27.05	19.4	-46.45	-13	-33.45	Pass	
Donor (10-(H+V))	27.47895	-28.36	19.4	-47.76	-5	-42.76	Pass	Ver.
	27.4988	-26.11	19.4	-45.51	-13	-32.51	Pass	

Note: The Conducted Power = EIRP-Array Gain

Low Channel	2071821							
QPSK-1CC	Full RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	27.9469	-24.94	8.64	-33.58	-5	-28.58	Pass	Hor.
	27.48825	-26.66	8.64	-35.3	-13	-22.3	Pass	
Relay	27.49135	-23.78	8.64	-32.42	-5	-27.42	Pass	Ver.
	27.4864	-25.14	8.64	-33.78	-13	-20.78	Pass	
Relay(H+V)	27.4976	-25.06	8.64	-33.7	-5	-28.7	Pass	Hor.
	27.4851	-25.19	8.64	-33.83	-13	-20.83	Pass	
Relay(H+V)	27.49675	-24.57	8.64	-33.21	-5	-28.21	Pass	Ver.
	27.4889	-26.21	8.64	-34.85	-13	-21.85	Pass	
Mode B								
Donor (1-H)	27.4963	-21.57	19.4	-40.97	-5	-35.97	Pass	Hor.
	27.48815	-21.27	19.4	-40.67	-13	-27.67	Pass	
Donor (1-V)	27.4992	-20.59	19.4	-39.99	-5	-34.99	Pass	Ver.
	27.48735	-22.01	19.4	-41.41	-13	-28.41	Pass	
Donor (10-H)	27.4991	-20.77	19.4	-40.17	-5	-35.17	Pass	Hor.
	27.4833	-21.86	19.4	-41.26	-13	-28.26	Pass	
Donor (10-V)	27.49205	-21.6	19.4	-41	-5	-36	Pass	Ver.
	27.48635	-21.87	19.4	-41.27	-13	-28.27	Pass	
Donor (1-(H+V))	27.49435	-21.56	19.4	-40.96	-5	-35.96	Pass	Hor.
	27.4896	-20.73	19.4	-40.13	-13	-27.13	Pass	
Donor (1-(H+V))	27.4986	-19.96	19.4	-39.36	-5	-34.36	Pass	Ver.
	27.48905	-20.53	19.4	-39.93	-13	-26.93	Pass	
Donor (10-(H+V))	27.49165	-20.87	19.4	-40.27	-5	-35.27	Pass	Hor.
	27.4844	-21.01	19.4	-40.41	-13	-27.41	Pass	
Donor (10-(H+V))	27.4979	-20.63	19.4	-40.03	-5	-35.03	Pass	Ver.
	27.48765	-21.53	19.4	-40.93	-13	-27.93	Pass	

Note: The Conducted Power = EIRP-Array Gain

Low edge worst case test plot.



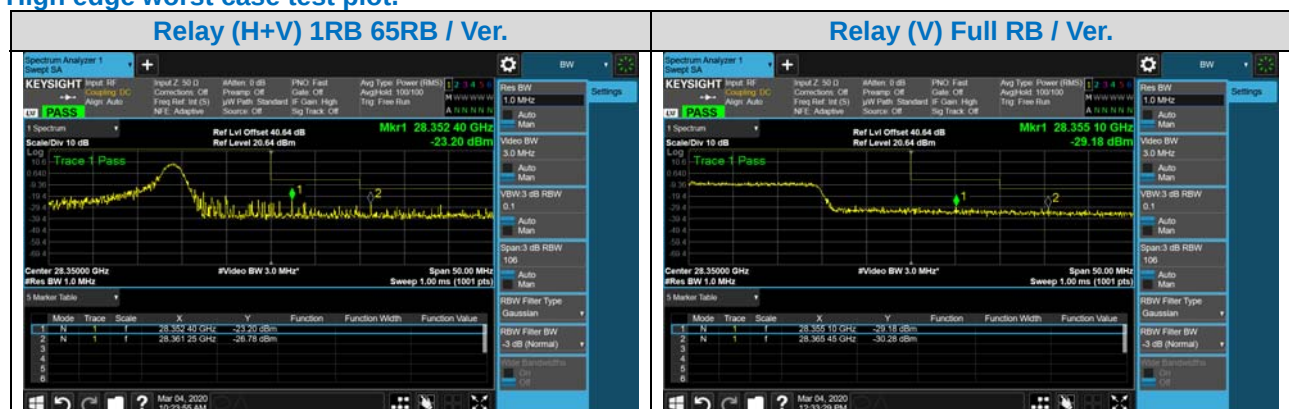
High Channel	2084035							
QPSK-1CC	1RB 65RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	28.35045	-20.93	8.36	-29.29	-5	-24.29	Pass	Hor.
	28.365	-27.15	8.36	-35.51	-13	-22.51	Pass	
Relay	28.3541	-22.08	8.36	-30.44	-5	-25.44	Pass	Ver.
	28.36225	-27.73	8.36	-36.09	-13	-23.09	Pass	
Relay(H+V)	28.35155	-23.44	8.36	-31.8	-5	-26.8	Pass	Hor.
	28.3658	-27.66	8.36	-36.02	-13	-23.02	Pass	
Relay(H+V)	28.3524	-23.2	8.36	-31.56	-5	-26.56	Pass	Ver.
	28.36125	-26.78	8.36	-35.14	-13	-22.14	Pass	
Mode B								
Donor (1-H)	28.35225	-23.7	19.84	-43.54	-5	-38.54	Pass	Hor.
	28.36215	-26.17	19.84	-46.01	-13	-33.01	Pass	
Donor (1-V)	28.3506	-24.24	19.84	-44.08	-5	-39.08	Pass	Ver.
	28.3733	-27.61	19.84	-47.45	-13	-34.45	Pass	
Donor (10-H)	28.3523	-25.34	19.84	-45.18	-5	-40.18	Pass	Hor.
	28.3604	-26.73	19.84	-46.57	-13	-33.57	Pass	
Donor (10-V)	28.3548	-26.06	19.84	-45.9	-5	-40.9	Pass	Ver.
	28.3665	-26.84	19.84	-46.68	-13	-33.68	Pass	
Donor (1-(H+V))	28.3535	-27.92	19.84	-47.76	-5	-42.76	Pass	Hor.
	28.3629	-30.49	19.84	-50.33	-13	-37.33	Pass	
Donor (1-(H+V))	28.3743	-28.61	19.84	-48.45	-5	-43.45	Pass	Ver.
	28.35675	-26.6	19.84	-46.44	-13	-33.44	Pass	
Donor (10-(H+V))	28.36625	-31.15	19.84	-50.99	-5	-45.99	Pass	Hor.
	28.35905	-27.91	19.84	-47.75	-13	-34.75	Pass	
Donor (10-(H+V))	28.36415	-31.4	19.84	-51.24	-5	-46.24	Pass	Ver.
	28.3581	-28	19.84	-47.84	-13	-34.84	Pass	

Note: The Conducted Power = EIRP-Array Gain

High Channel	2084035							
QPSK-1CC	Full RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	28.35425	-29.24	8.36	-37.6	-5	-32.6	Pass	Hor.
	28.36315	-30.64	8.36	-39	-13	-26	Pass	
Relay	28.3551	-29.18	8.36	-37.54	-5	-32.54	Pass	Ver.
	28.36545	-30.28	8.36	-38.64	-13	-25.64	Pass	
Relay(H+V)	28.3651	-29.99	8.36	-38.35	-5	-33.35	Pass	Hor.
	28.37435	-31.29	8.36	-39.65	-13	-26.65	Pass	
Relay(H+V)	28.3521	-30.1	8.36	-38.46	-5	-33.46	Pass	Ver.
	28.3632	-30.37	8.36	-38.73	-13	-25.73	Pass	
Mode B								
Donor (1-H)	28.35325	-26.62	19.84	-46.46	-5	-41.46	Pass	Hor.
	28.3628	-27.72	19.84	-47.56	-13	-34.56	Pass	
Donor (1-V)	28.3546	-27.54	19.84	-47.38	-5	-42.38	Pass	Ver.
	28.3639	-26.69	19.84	-46.53	-13	-33.53	Pass	
Donor (10-H)	28.35495	-26.18	19.84	-46.02	-5	-41.02	Pass	Hor.
	28.36625	-27.43	19.84	-47.27	-13	-34.27	Pass	
Donor (10-V)	28.3537	-26.54	19.84	-46.38	-5	-41.38	Pass	Ver.
	28.36875	-27.82	19.84	-47.66	-13	-34.66	Pass	
Donor (1-(H+V))	28.35815	-25.82	19.84	-45.66	-5	-40.66	Pass	Hor.
	28.36695	-28.29	19.84	-48.13	-13	-35.13	Pass	
Donor (1-(H+V))	28.353	-26.74	19.84	-46.58	-5	-41.58	Pass	Ver.
	28.36215	-28.1	19.84	-47.94	-13	-34.94	Pass	
Donor (10-(H+V))	28.35685	-26.65	19.84	-46.49	-5	-41.49	Pass	Hor.
	28.37295	-28.2	19.84	-48.04	-13	-35.04	Pass	
Donor (10-(H+V))	28.3584	-26.57	19.84	-46.41	-5	-41.41	Pass	Ver.
	28.3745	-27.49	19.84	-47.33	-13	-34.33	Pass	

Note: The Conducted Power = EIRP-Array Gain

High edge worst case test plot.



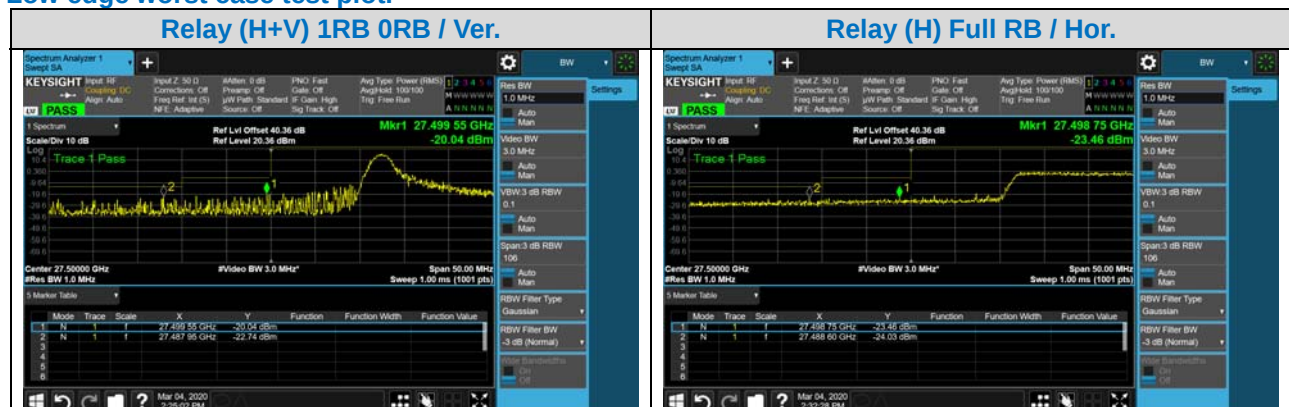
Low Channel	2072613							
QPSK-2CC	1RB 0RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	27.49855	-21.19	8.64	-29.83	-5	-24.83	Pass	Hor.
	27.48805	-23.31	8.64	-31.95	-13	-18.95	Pass	
Relay	27.49835	-20.21	8.64	-28.85	-5	-23.85	Pass	Ver.
	27.483	-23.91	8.64	-32.55	-13	-19.55	Pass	
Relay(H+V)	27.4972	-21.64	8.64	-30.28	-5	-25.28	Pass	Hor.
	27.48895	-23.34	8.64	-31.98	-13	-18.98	Pass	
Relay(H+V)	27.49955	-20.04	8.64	-28.68	-5	-23.68	Pass	Ver.
	27.48795	-22.74	8.64	-31.38	-13	-18.38	Pass	
Mode B								
Donor (1-H)	27.4965	-27.21	19.4	-46.61	-5	-41.61	Pass	Hor.
	27.48475	-28.53	19.4	-47.93	-13	-34.93	Pass	
Donor (1-V)	27.4997	-26.69	19.4	-46.09	-5	-41.09	Pass	Ver.
	27.488	-25.14	19.4	-44.54	-13	-31.54	Pass	
Donor (10-H)	27.4971	-28.1	19.4	-47.5	-5	-42.5	Pass	Hor.
	27.4872	-26.21	19.4	-45.61	-13	-32.61	Pass	
Donor (10-V)	27.49165	-27.57	19.4	-46.97	-5	-41.97	Pass	Ver.
	27.48925	-26.87	19.4	-46.27	-13	-33.27	Pass	
Donor (1-(H+V))	27.485	-26.47	19.4	-45.87	-5	-40.87	Pass	Hor.
	27.4994	-27.89	19.4	-47.29	-13	-34.29	Pass	
Donor (1-(H+V))	27.4825	-28.54	19.4	-47.94	-5	-42.94	Pass	Ver.
	27.4992	-24.29	19.4	-43.69	-13	-30.69	Pass	
Donor (10-(H+V))	27.48575	-28.96	19.4	-48.36	-5	-43.36	Pass	Hor.
	27.49875	-26.22	19.4	-45.62	-13	-32.62	Pass	
Donor (10-(H+V))	27.4877	-27.98	19.4	-47.38	-5	-42.38	Pass	Ver.
	27.4938	-27.01	19.4	-46.41	-13	-33.41	Pass	

Note: The Conducted Power = EIRP-Array Gain

Low Channel	2072613							
QPSK-2CC	Full RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	27.49875	-23.46	8.64	-32.1	-5	-27.1	Pass	Hor.
	27.4886	-24.03	8.64	-32.67	-13	-19.67	Pass	
Relay	27.49835	-23.85	8.64	-32.49	-5	-27.49	Pass	Ver.
	27.4893	-24.29	8.64	-32.93	-13	-19.93	Pass	
Relay(H+V)	27.4992	-22.62	8.64	-31.26	-5	-26.26	Pass	Hor.
	27.48885	-24.23	8.64	-32.87	-13	-19.87	Pass	
Relay(H+V)	27.45959	-23.05	8.64	-31.69	-5	-26.69	Pass	Ver.
	27.48985	-24.36	8.64	-33	-13	-20	Pass	
Mode B								
Donor (1-H)	27.4998	-20.56	19.4	-39.96	-5	-34.96	Pass	Hor.
	27.48765	-21.7	19.4	-41.1	-13	-28.1	Pass	
Donor (1-V)	27.49755	-20.37	19.4	-39.77	-5	-34.77	Pass	Ver.
	27.48885	-20.93	19.4	-40.33	-13	-27.33	Pass	
Donor (10-H)	27.4984	-20.51	19.4	-39.91	-5	-34.91	Pass	Hor.
	27.48475	-21	19.4	-40.4	-13	-27.4	Pass	
Donor (10-V)	27.49315	-21.5	19.4	-40.9	-5	-35.9	Pass	Ver.
	27.47985	-21.09	19.4	-40.49	-13	-27.49	Pass	
Donor (1-(H+V))	27.49405	-21.39	19.4	-40.79	-5	-35.79	Pass	Hor.
	27.48805	-20.41	19.4	-39.81	-13	-26.81	Pass	
Donor (1-(H+V))	27.49945	-20.3	19.4	-39.7	-5	-34.7	Pass	Ver.
	27.4818	-21.65	19.4	-41.05	-13	-28.05	Pass	
Donor (10-(H+V))	27.4935	-21.46	19.4	-40.86	-5	-35.86	Pass	Hor.
	27.4806	-21.43	19.4	-40.83	-13	-27.83	Pass	
Donor (10-(H+V))	27.4908	-19.62	19.4	-39.02	-5	-34.02	Pass	Ver.
	27.4828	-20.89	19.4	-40.29	-13	-27.29	Pass	

Note: The Conducted Power = EIRP-Array Gain

Low edge worst case test plot.



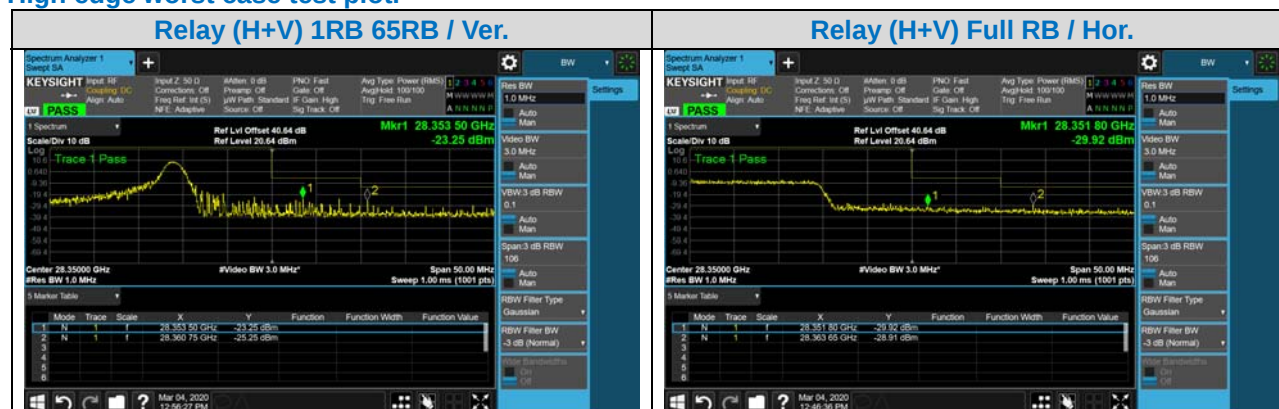
High Channel	2083291							
QPSK-2CC	1RB 65RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	28.35045	-20.12	8.36	-28.48	-5	-23.48	Pass	Hor.
	28.3642	-28.03	8.36	-36.39	-13	-23.39	Pass	
Relay	28.35475	-24.41	8.36	-32.77	-5	-27.77	Pass	Ver.
	28.3642	-25.56	8.36	-33.92	-13	-20.92	Pass	
Relay(H+V)	28.3562	-22.64	8.36	-31	-5	-26	Pass	Hor.
	28.3634	-28.33	8.36	-36.69	-13	-23.69	Pass	
Relay(H+V)	28.3535	-23.25	8.36	-31.61	-5	-26.61	Pass	Ver.
	28.36075	-25.25	8.36	-33.61	-13	-20.61	Pass	
Mode B								
Donor (1-H)	28.3559	-23.57	19.84	-43.41	-5	-38.41	Pass	Hor.
	28.36695	-26.32	19.84	-46.16	-13	-33.16	Pass	
Donor (1-V)	28.3553	-24.36	19.84	-44.2	-5	-39.2	Pass	Ver.
	28.36195	-26.11	19.84	-45.95	-13	-32.95	Pass	
Donor (10-H)	28.3576	-26.49	19.84	-46.33	-5	-41.33	Pass	Hor.
	28.3612	-26.77	19.84	-46.61	-13	-33.61	Pass	
Donor (10-V)	28.35755	-25.85	19.84	-45.69	-5	-40.69	Pass	Ver.
	28.3652	-26.25	19.84	-46.09	-13	-33.09	Pass	
Donor (1-(H+V))	28.3555	-27.15	19.84	-46.99	-5	-41.99	Pass	Hor.
	28.3613	-27.57	19.84	-47.41	-13	-34.41	Pass	
Donor (1-(H+V))	28.36555	-28.55	19.84	-48.39	-5	-43.39	Pass	Ver.
	28.3585	-28	19.84	-47.84	-13	-34.84	Pass	
Donor (10-(H+V))	28.36675	-29.72	19.84	-49.56	-5	-44.56	Pass	Hor.
	28.35425	-28.05	19.84	-47.89	-13	-34.89	Pass	
Donor (10-(H+V))	28.3643	-30.19	19.84	-50.03	-5	-45.03	Pass	Ver.
	28.35095	-27.01	19.84	-46.85	-13	-33.85	Pass	

Note: The Conducted Power = EIRP-Array Gain

High Channel	2083291							
QPSK-2CC	Full RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	28.35425	-29.08	8.36	-37.44	-5	-32.44	Pass	Hor.
	28.3676	-30.41	8.36	-38.77	-13	-25.77	Pass	
Relay	28.35285	-29.09	8.36	-37.45	-5	-32.45	Pass	Ver.
	28.3619	-31.8	8.36	-40.16	-13	-27.16	Pass	
Relay(H+V)	28.3518	-29.92	8.36	-38.28	-5	-33.28	Pass	Hor.
	28.36365	-28.91	8.36	-37.27	-13	-24.27	Pass	
Relay(H+V)	28.35615	-30.6	8.36	-38.96	-5	-33.96	Pass	Ver.
	28.36245	-30.5	8.36	-38.86	-13	-25.86	Pass	
Mode B								
Donor (1-H)	28.3548	-27.7	19.84	-47.54	-5	-42.54	Pass	Hor.
	28.36145	-27.57	19.84	-47.41	-13	-34.41	Pass	
Donor (1-V)	28.35425	-26.89	19.84	-46.73	-5	-41.73	Pass	Ver.
	28.36255	-27.39	19.84	-47.23	-13	-34.23	Pass	
Donor (10-H)	28.3563	-26.13	19.84	-45.97	-5	-40.97	Pass	Hor.
	28.3661	-27.61	19.84	-47.45	-13	-34.45	Pass	
Donor (10-V)	28.359	-26.11	19.84	-45.95	-5	-40.95	Pass	Ver.
	28.37065	-27.12	19.84	-46.96	-13	-33.96	Pass	
Donor (1-(H+V))	28.3524	-24.39	19.84	-44.23	-5	-39.23	Pass	Hor.
	28.36755	-27.79	19.84	-47.63	-13	-34.63	Pass	
Donor (1-(H+V))	28.35275	-26.17	19.84	-46.01	-5	-41.01	Pass	Ver.
	28.36645	-27.53	19.84	-47.37	-13	-34.37	Pass	
Donor (10-(H+V))	28.3537	-25.25	19.84	-45.09	-5	-40.09	Pass	Hor.
	28.37105	-26.02	19.84	-45.86	-13	-32.86	Pass	
Donor (10-(H+V))	28.35165	-25.98	19.84	-45.82	-5	-40.82	Pass	Ver.
	28.36345	-28.29	19.84	-48.13	-13	-35.13	Pass	

Note: The Conducted Power = EIRP-Array Gain

High edge worst case test plot.



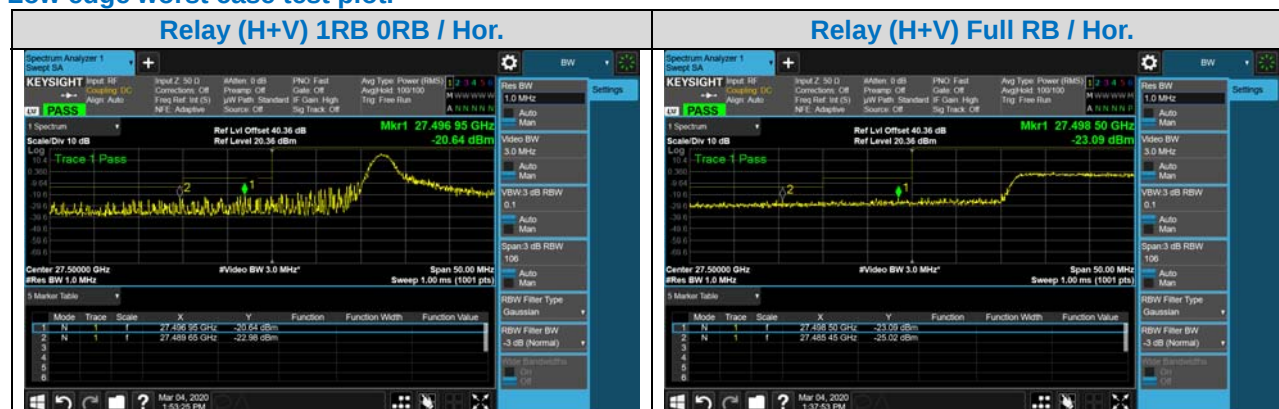
Low Channel	2074197							
QPSK-4CC	1RB 0RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	27.49545	-22.09	8.64	-30.73	-5	-25.73	Pass	Hor.
	27.4832	-24.15	8.64	-32.79	-13	-19.79	Pass	
Relay	27.49895	-20.66	8.64	-29.3	-5	-24.3	Pass	Ver.
	27.48365	-24.33	8.64	-32.97	-13	-19.97	Pass	
Relay(H+V)	27.49695	-20.64	8.64	-29.28	-5	-24.28	Pass	Hor.
	27.48965	-22.98	8.64	-31.62	-13	-18.62	Pass	
Relay(H+V)	27.4985	-20.82	8.64	-29.46	-5	-24.46	Pass	Ver.
	27.48575	-23.01	8.64	-31.65	-13	-18.65	Pass	
Mode B								
Donor (1-H)	27.4968	-25.37	19.4	-44.77	-5	-39.77	Pass	Hor.
	27.485	-28.19	19.4	-47.59	-13	-34.59	Pass	
Donor (1-V)	27.49845	-27.16	19.4	-46.56	-5	-41.56	Pass	Ver.
	27.4837	-28.68	19.4	-48.08	-13	-35.08	Pass	
Donor (10-H)	27.49395	-25.75	19.4	-45.15	-5	-40.15	Pass	Hor.
	27.4818	-28.8	19.4	-48.2	-13	-35.2	Pass	
Donor (10-V)	27.49225	-26.63	19.4	-46.03	-5	-41.03	Pass	Ver.
	27.48215	-27.87	19.4	-47.27	-13	-34.27	Pass	
Donor (1-(H+V))	27.48705	-28.69	19.4	-48.09	-5	-43.09	Pass	Hor.
	27.49475	-28.6	19.4	-48	-13	-35	Pass	
Donor (1-(H+V))	27.47935	-27.56	19.4	-46.96	-5	-41.96	Pass	Ver.
	27.49695	-26.89	19.4	-46.29	-13	-33.29	Pass	
Donor (10-(H+V))	27.48275	-28.75	19.4	-48.15	-5	-43.15	Pass	Hor.
	27.49925	-26.89	19.4	-46.29	-13	-33.29	Pass	
Donor (10-(H+V))	27.48545	-26.98	19.4	-46.38	-5	-41.38	Pass	Ver.
	27.49305	-28.68	19.4	-48.08	-13	-35.08	Pass	

Note: The Conducted Power = EIRP-Array Gain

Low Channel	2074197							
QPSK-4CC	Full RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	27.4974	-24.02	8.64	-32.66	-5	-27.66	Pass	Hor.
	27.47645	-25.58	8.64	-34.22	-13	-21.22	Pass	
Relay	27.4966	-23.45	8.64	-32.09	-5	-27.09	Pass	Ver.
	27.48325	-25.1	8.64	-33.74	-13	-20.74	Pass	
Relay(H+V)	27.4985	-23.09	8.64	-31.73	-5	-26.73	Pass	Hor.
	27.48545	-25.02	8.64	-33.66	-13	-20.66	Pass	
Relay(H+V)	27.4958	-24.86	8.64	-33.5	-5	-28.5	Pass	Ver.
	27.4875	-25.99	8.64	-34.63	-13	-21.63	Pass	
Mode B								
Donor (1-H)	27.4983	-20.22	19.4	-39.62	-5	-34.62	Pass	Hor.
	27.48705	-21.53	19.4	-40.93	-13	-27.93	Pass	
Donor (1-V)	24.498	-19.97	19.4	-39.37	-5	-34.37	Pass	Ver.
	27.4805	-21.97	19.4	-41.37	-13	-28.37	Pass	
Donor (10-H)	27.49855	-21.23	19.4	-40.63	-5	-35.63	Pass	Hor.
	27.4792	-20.69	19.4	-40.09	-13	-27.09	Pass	
Donor (10-V)	27.4994	-20.95	19.4	-40.35	-5	-35.35	Pass	Ver.
	27.4852	-19.91	19.4	-39.31	-13	-26.31	Pass	
Donor (1-(H+V))	27.4973	-21.79	19.4	-41.19	-5	-36.19	Pass	Hor.
	27.4895	-20.68	19.4	-40.08	-13	-27.08	Pass	
Donor (1-(H+V))	27.49795	-21.52	19.4	-40.92	-5	-35.92	Pass	Ver.
	27.4885	-20.95	19.4	-40.35	-13	-27.35	Pass	
Donor (10-(H+V))	27.49755	-21.77	19.4	-41.17	-5	-36.17	Pass	Hor.
	27.4798	-21.84	19.4	-41.24	-13	-28.24	Pass	
Donor (10-(H+V))	27.49145	-21.57	19.4	-40.97	-5	-35.97	Pass	Ver.
	27.4852	-20.89	19.4	-40.29	-13	-27.29	Pass	

Note: The Conducted Power = EIRP-Array Gain

Low edge worst case test plot.



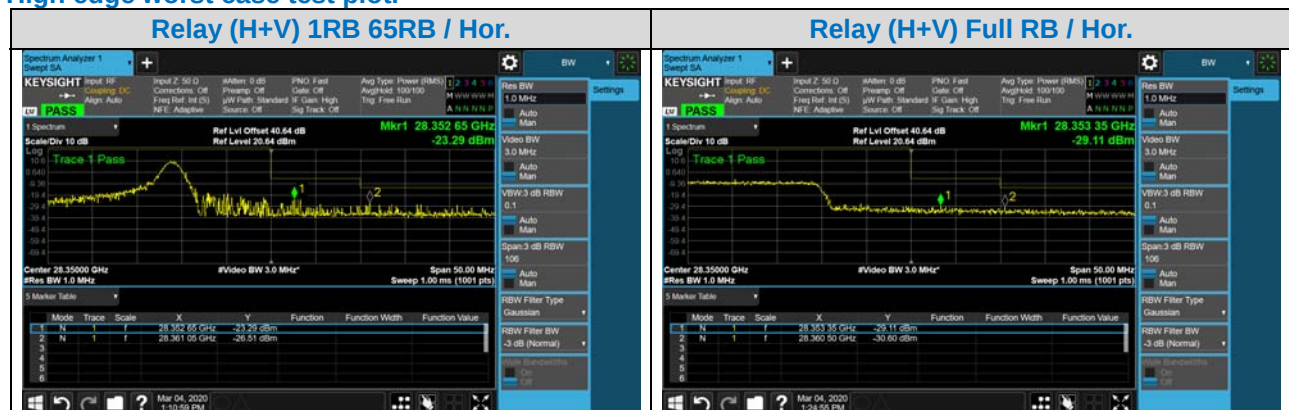
High Channel	2081515							
QPSK-4CC	1RB 65RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	28.3507	-24.01	8.36	-32.37	-5	-27.37	Pass	Hor.
	28.3608	-26.88	8.36	-35.24	-13	-22.24	Pass	
Relay	28.3526	-23.91	8.36	-32.27	-5	-27.27	Pass	Ver.
	28.3627	-28.22	8.36	-36.58	-13	-23.58	Pass	
Relay(H+V)	28.35265	-23.29	8.36	-31.65	-5	-26.65	Pass	Hor.
	28.36105	-26.51	8.36	-34.87	-13	-21.87	Pass	
Relay(H+V)	28.3529	-23.87	8.36	-32.23	-5	-27.23	Pass	Ver.
	28.36195	-26.62	8.36	-34.98	-13	-21.98	Pass	
Mode B								
Donor (1-H)	28.35545	-24.98	19.84	-44.82	-5	-39.82	Pass	Hor.
	28.3728	-28.5	19.84	-48.34	-13	-35.34	Pass	
Donor (1-V)	28.35385	-24.27	19.84	-44.11	-5	-39.11	Pass	Ver.
	28.36795	-26.82	19.84	-46.66	-13	-33.66	Pass	
Donor (10-H)	28.3533	-25.39	19.84	-45.23	-5	-40.23	Pass	Hor.
	28.3622	-25.45	19.84	-45.29	-13	-32.29	Pass	
Donor (10-V)	28.35325	-24.65	19.84	-44.49	-5	-39.49	Pass	Ver.
	28.36365	-26.86	19.84	-46.7	-13	-33.7	Pass	
Donor (1-(H+V))	28.35525	-29.46	19.84	-49.3	-5	-44.3	Pass	Hor.
	28.3616	-28.23	19.84	-48.07	-13	-35.07	Pass	
Donor (1-(H+V))	28.36325	-30.18	19.84	-50.02	-5	-45.02	Pass	Ver.
	28.3541	-27.78	19.84	-47.62	-13	-34.62	Pass	
Donor (10-(H+V))	28.36465	-29.33	19.84	-49.17	-5	-44.17	Pass	Hor.
	28.3517	-28.76	19.84	-48.6	-13	-35.6	Pass	
Donor (10-(H+V))	28.3617	-29.54	19.84	-49.38	-5	-44.38	Pass	Ver.
	28.3534	-27.87	19.84	-47.71	-13	-34.71	Pass	

Note: The Conducted Power = EIRP-Array Gain

High Channel	2081515							
QPSK-4CC	Full RB							
Beam ID	Frequency (GHz)	EIRP Value (dBm)	Array Gain (dBi)	Conducted Power (dBm)	Limit(dBm)	Margin(dB)	Result	Antenna polarity
Mode A								
Relay	28.35425	-28.39	8.36	-36.75	-5	-31.75	Pass	Hor.
	28.36275	-31.54	8.36	-39.9	-13	-26.9	Pass	
Relay	28.35465	-29.74	8.36	-38.1	-5	-33.1	Pass	Ver.
	28.3713	-31.74	8.36	-40.1	-13	-27.1	Pass	
Relay(H+V)	28.35335	-29.11	8.36	-37.47	-5	-32.47	Pass	Hor.
	28.3605	-30.6	8.36	-38.96	-13	-25.96	Pass	
Relay(H+V)	28.35565	-30.18	8.36	-38.54	-5	-33.54	Pass	Ver.
	28.36375	-31.23	8.36	-39.59	-13	-26.59	Pass	
Mode B								
Donor (1-H)	28.3542	-27.78	19.84	-47.62	-5	-42.62	Pass	Hor.
	28.36565	-27.7	19.84	-47.54	-13	-34.54	Pass	
Donor (1-V)	28.35525	-26.77	19.84	-46.61	-5	-41.61	Pass	Ver.
	28.3639	-28.47	19.84	-48.31	-13	-35.31	Pass	
Donor (10-H)	28.35785	-26.69	19.84	-46.53	-5	-41.53	Pass	Hor.
	28.36735	-25.9	19.84	-45.74	-13	-32.74	Pass	
Donor (10-V)	28.3517	-26.21	19.84	-46.05	-5	-41.05	Pass	Ver.
	28.3672	-27.5	19.84	-47.34	-13	-34.34	Pass	
Donor (1-(H+V))	28.35415	-26.28	19.84	-46.12	-5	-41.12	Pass	Hor.
	28.3618	-27.5	19.84	-47.34	-13	-34.34	Pass	
Donor (1-(H+V))	28.3571	-26.75	19.84	-46.59	-5	-41.59	Pass	Ver.
	28.3657	-27.59	19.84	-47.43	-13	-34.43	Pass	
Donor (10-(H+V))	28.3531	-26.23	19.84	-46.07	-5	-41.07	Pass	Hor.
	28.3661	-27.72	19.84	-47.56	-13	-34.56	Pass	
Donor (10-(H+V))	28.35415	-27.1	19.84	-46.94	-5	-41.94	Pass	Ver.
	28.37285	-27.66	19.84	-47.5	-13	-34.5	Pass	

Note: The Conducted Power = EIRP-Array Gain

High edge worst case test plot.



4.8 Out-of-Band Rejection Measurement

4.8.1 Limits of Out-of-Band Rejection Measurement

Per KDB 935210 D05 Section 3.3, the signal generator will sweep a CW signal to $\pm 250\%$ of the passband. Per FCC Part 20, an industrial booster shall have its 20dB bandwidth analyzed in order to assess the pass band of the booster.

4.8.2 Test Instruments

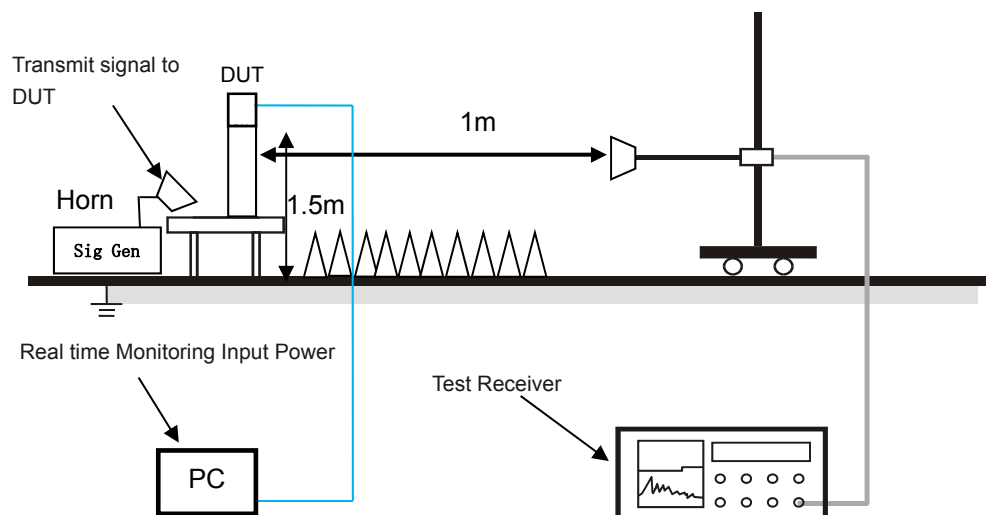
Refer to section 3.6.2 to get information of above instrument.

4.8.3 Test Procedure

KDB 935210 D05 v01r03 – Section 3.3

1. Start and stop frequency of the signal generator shall be $\pm 250\%$ of the passband, for each applicable CMRS band
2. Span same as the frequency range of the signal generator
3. RBW $> 1\%$ to 5% of the EUT passband
4. VBW $> 3 \times$ RBW
5. Detector = Peak/Max Hold
6. Number of sweep points $\geq 2 \times$ Span/RBW
7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
8. Sweep time = auto couple
9. The trace was allowed to stabilize

4.8.4 Test Setup

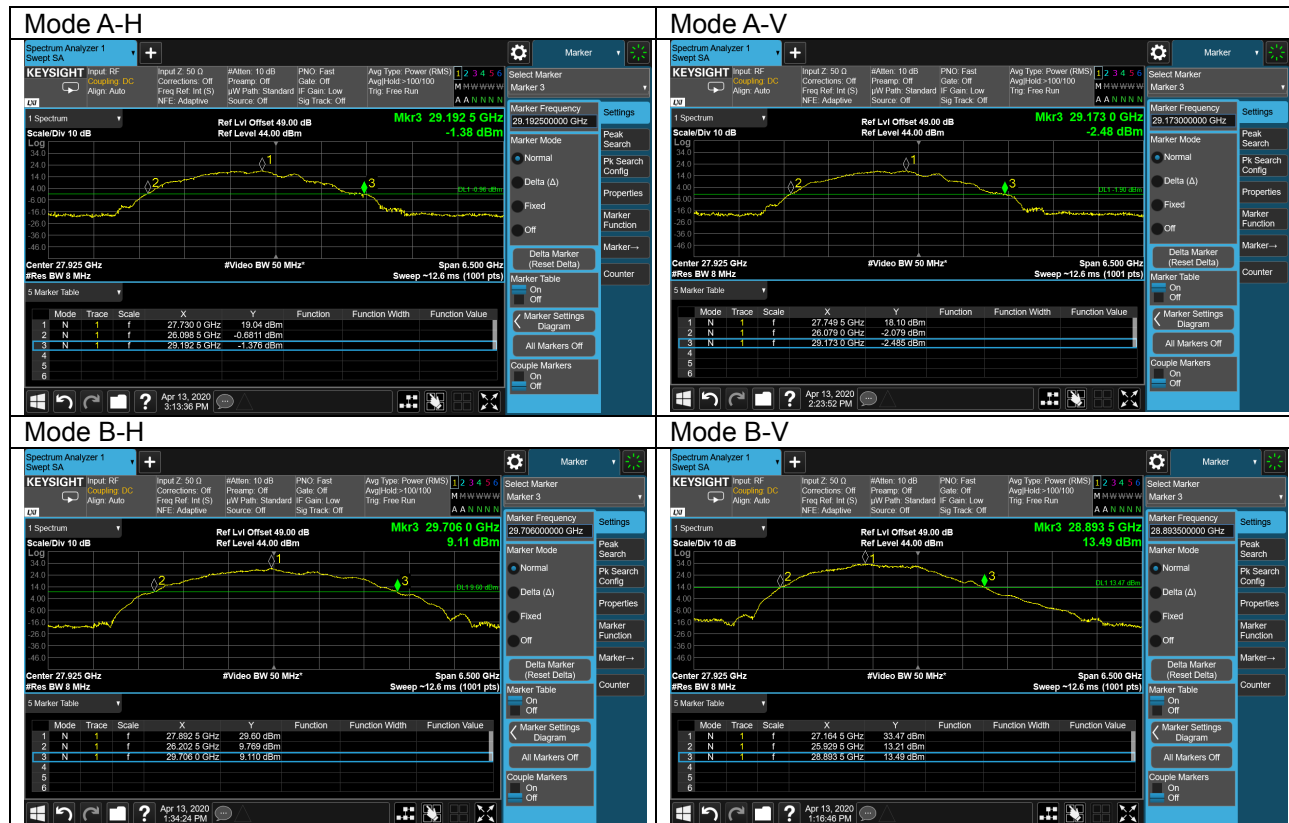


4.8.5 EUT Operating Conditions

Refer to section 3.3 to get information of EUT operating conditions.

4.8.6 Test Results

In the plots on the following page, a spectrum plot is shown with a CW signal sweeping across the input of the EUT for both antennas. The sweep is set based on +250% of the passband which is equal to $+2.5 \times (28.35\text{GHz} - 27.5\text{GHz}) = +2.125\text{GHz}$. Therefore, the following plots demonstrate the frequency response of the EUT when a CW signal is sweeping from 25.375GHz to 30.475GHz



4.9 Frequency Stability Measurement

4.9.1 Limits of Frequency Stability Measurement

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency band.

4.9.2 Test Instruments

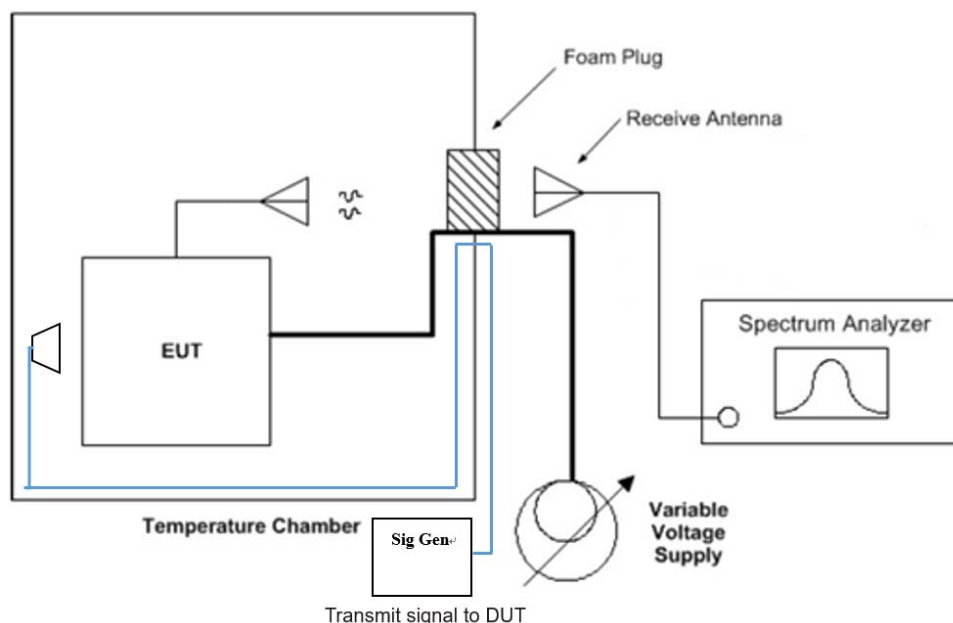
Refer to section 3.6.2 to get information of above instrument.

4.9.3 Test Procedure

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ± 0.5 °C during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

Note: The frequency error was recorded from the communication simulator.

4.9.4 Test Setup



4.9.5 EUT Operating Conditions

Refer to section 3.3 to get information of EUT operating conditions.

4.9.6 Test Results

Mode A

Frequency Error vs. Voltage

Voltage (Volts)	Band: n261		
	Modulation: CW / Frequency : 27923.52MHz		
	Frequency (MHz)	Frequency Error (ppm)	Pass/Fail
13.2	27923.530000	0.3581	Pass
12.0	27923.520000	0.0000	Pass
10.80	27923.540000	0.7162	Pass

Frequency Error vs. Temperature

Temp. (°C)	Band: n261		
	Modulation: CW / Frequency : 27923.52MHz		
	Frequency (MHz)	Frequency Error (ppm)	Pass/Fail
5	27923.670000	5.3718	Pass
10	27923.650000	4.6556	Pass
20	27923.660000	5.0137	Pass
30	27923.670000	5.3718	Pass
40	27923.610000	3.2231	Pass

Mode B

Frequency Error vs. Voltage

Voltage (Volts)	Band: n261		
	Modulation: CW / Frequency : 27923.52MHz		
	Frequency (MHz)	Frequency Error (ppm)	Pass/Fail
13.2	27923.670000	5.3718	Pass
12.0	27923.640000	4.2975	Pass
10.80	27923.620000	3.5812	Pass

Frequency Error vs. Temperature

Temp. (°C)	Band: n261		
	Modulation: CW / Frequency : 27923.52MHz		
	Frequency (MHz)	Frequency Error (ppm)	Pass/Fail
5	27923.660000	5.0137	Pass
10	27923.660000	5.0137	Pass
20	27923.640000	4.2975	Pass
30	27923.630000	3.9393	Pass
40	27923.630000	3.9393	Pass

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

FCC accreditation scope:

Web Site:

https://apps.fcc.gov/oetcf/eas/reports/ViewTestFirmAccredScopes.cfm?calledFromFrame=N&RequestTimeOut=500®num_specified=N&test_firm_id=7635

OET Accredited Test firm scope List
Test Firm: Bureau Veritas CPS(H.K.) Ltd., Taoyuan Branch

Scope	FCC Rule Parts	Maximum Assessed Frequency in Mhz	Status	Expiration Date	Recognition Date
Intentional Radiators	FCC Part 15 Subpart C	300000.00	Approved	08-06-2020	07-06-2017
U-NII without DFS Intentional Radiators	FCC Part 15, Subpart E	300000.00	Approved	08-06-2020	07-06-2017
U-NII with DFS Intentional Radiators	FCC Part 15, Subpart E	300000.00	Approved	08-06-2020	07-06-2017
UWB Intentional Radiators	FCC Part 15, Subpart F	300000.00	Approved	08-06-2020	07-06-2017
BPL Intentional Radiators	FCC Part 15, Subpart G	300000.00	Approved	08-06-2020	07-06-2017
White Space Device Intentional Radiators	FCC Part 15, Subpart H	300000.00	Approved	08-06-2020	07-06-2017
Commercial Mobile Services	Part 22 (cellular), Part 24, Part 25 (below 3 GHz), Part 27	300000.00	Approved	08-06-2020	07-06-2017
General Mobile Radio Services	Part 22 (non-cellular), Part 90 (below 3 GHz), Part 95 (below 3 GHz), Part 97 (below 3 GHz), Part 101 (below 3 GHz)	300000.00	Approved	08-06-2020	07-06-2017
Citizens Broadband Radio Services	Part 96	300000.00	Approved	08-06-2020	07-06-2017
Maritime and Aviation Radio Services	Part 80, Part 87	300000.00	Approved	08-06-2020	07-06-2017
Microwave and Millimeter Bands Radio Services	Part 25 (above 3 GHz), <u>Part 30</u> , Part 74, Part 90 (above 3 GHz), Part 95 (above 3 GHz), Part 97 (above 3 GHz) Part 101	300000.00	Approved	08-06-2020	07-06-2017
RF Exposure		6000.00	Approved	08-06-2020	07-06-2017
Hearing Aid Compatibility	Part 20	6000.00	Approved	08-06-2020	07-06-2017
Signal Boosters	<u>Part 20</u> , Part 90.219	300000.00	Approved	08-06-2020	07-06-2017

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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