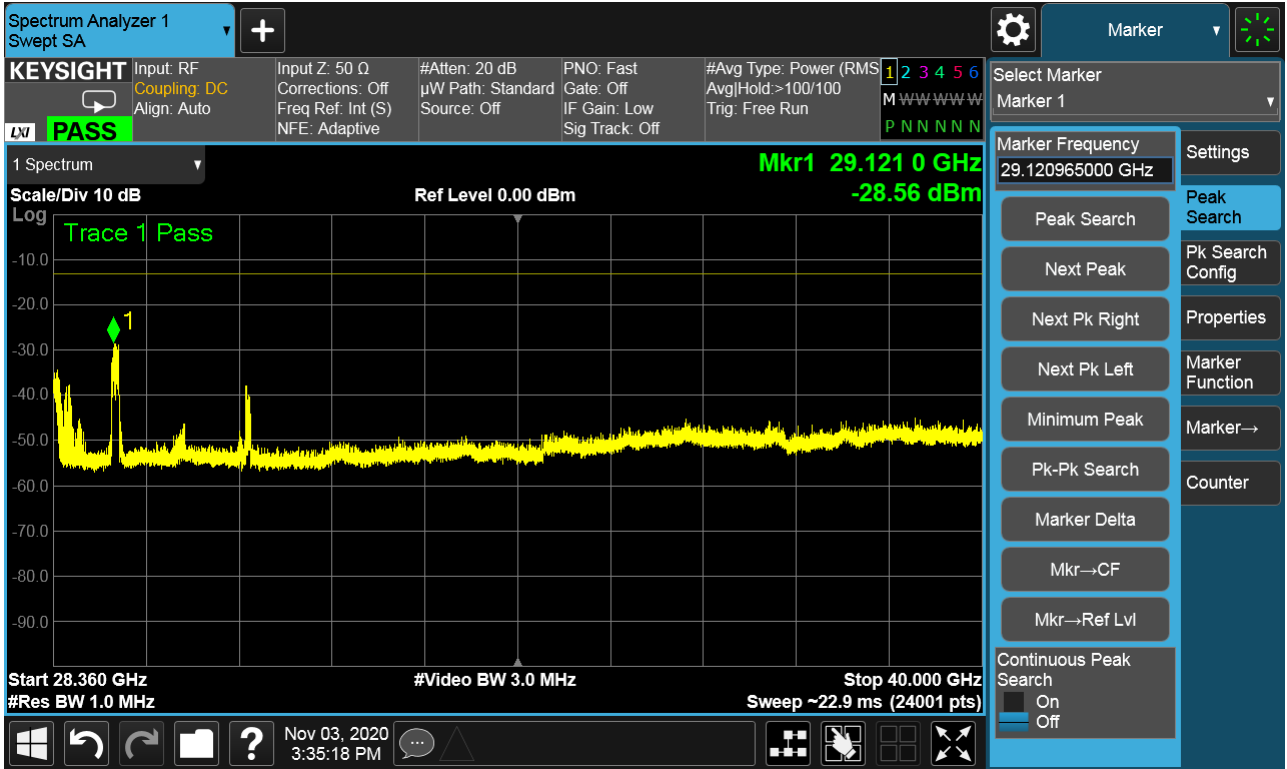
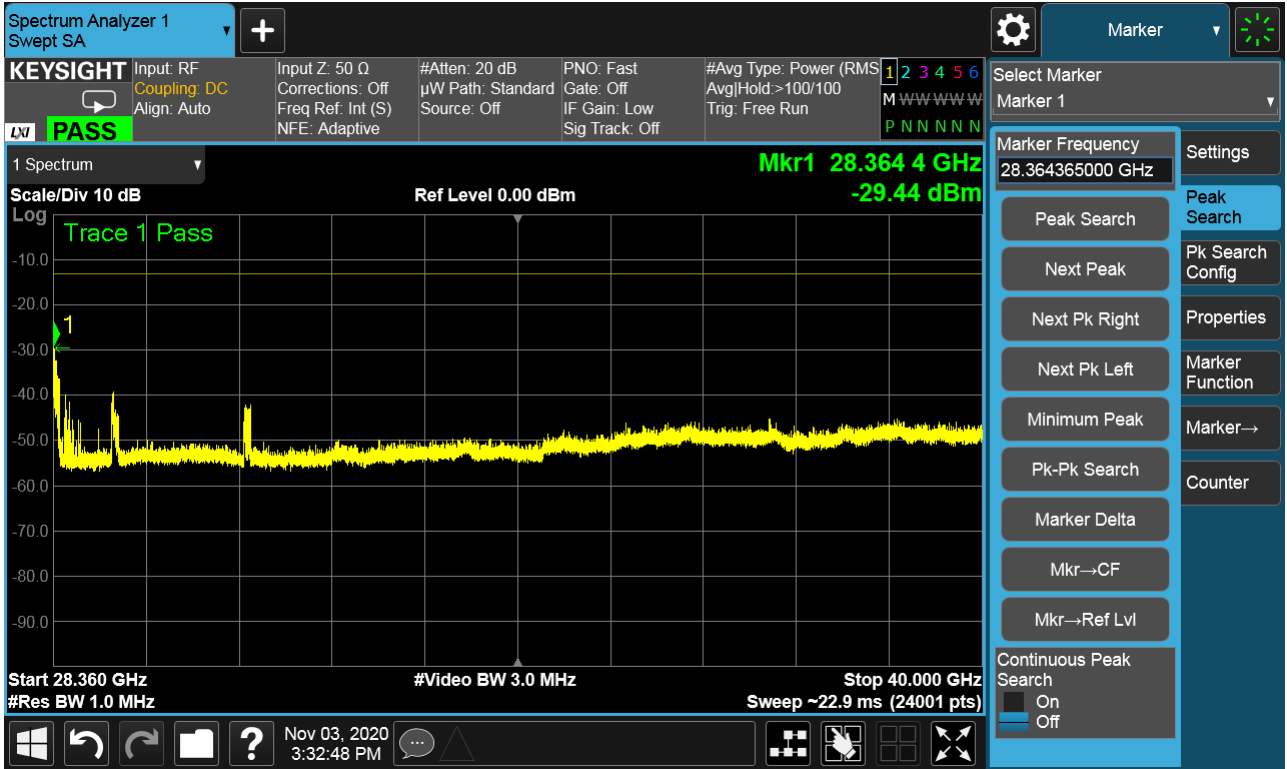


Band	n261	Beam ID	11 + 139
Frequency Range	28.360GHz-40GHz	Channel	High
Polarity	Horizontal	Test distance	2m



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

Band	n261	Beam ID	11 + 139
Frequency Range	28.360GHz-40GHz	Channel	High
Polarity	Vertical	Test distance	2m



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

Summary of MIMO Beam Out-of Band Emission:

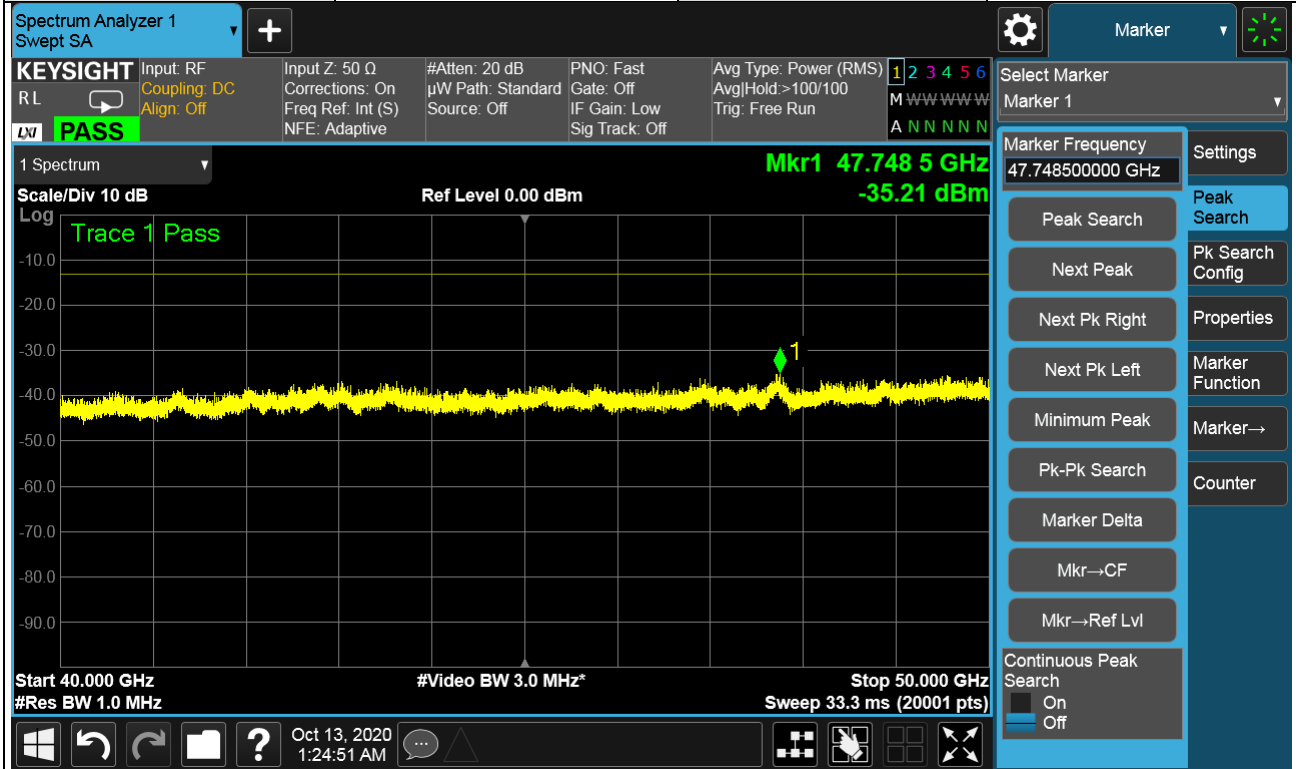
To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-29.44	-28.56	-25.97	-13	-12.97	Pass

Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

40GHz-50GHz (n261):

Band	n261	Beam ID	11
Frequency Range	40GHz-50GHz	Channel	Low
Polarity	Horizontal	Test distance	2m



KEYSIGHT Spectrum Analyzer 1 Swept SA

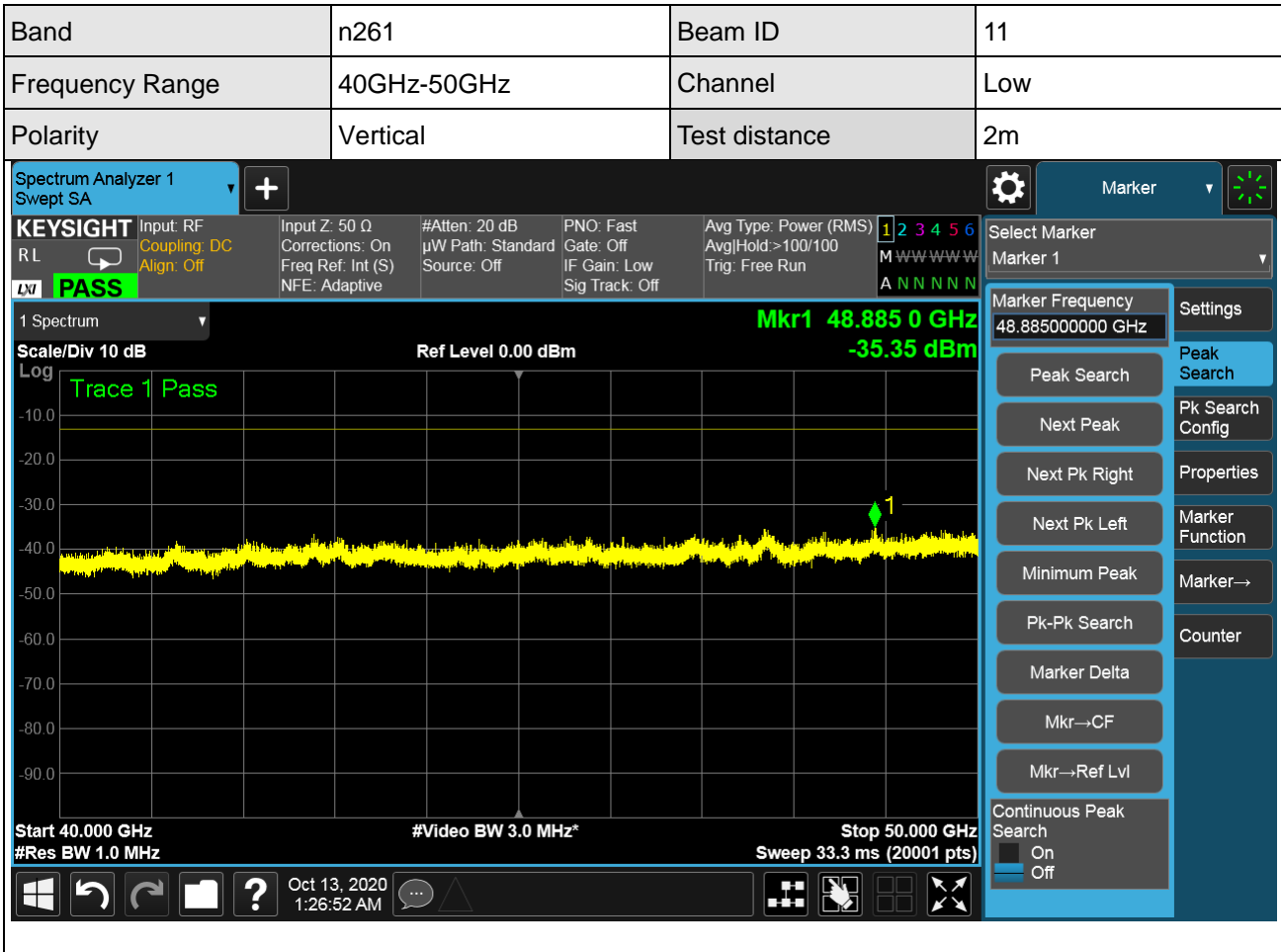
Input: RF, Coupling: DC, Align: Off, Input Z: 50 Ω, Corrections: On, Freq Ref: Int (S), NFE: Adaptive, #Atten: 20 dB, μW Path: Standard, Source: Off, PNO: Fast, Gate: Off, IF Gain: Low, Sig Track: Off, Avg Type: Power (RMS), Avg/Hold: >100/100, Trig: Free Run

Scale/Div 10 dB, Ref Level 0.00 dBm, Mkr1 47.748 5 GHz, -35.21 dBm

Start 40.000 GHz, #Res BW 1.0 MHz, #Video BW 3.0 MHz*, Stop 50.000 GHz, Sweep 33.3 ms (20001 pts)

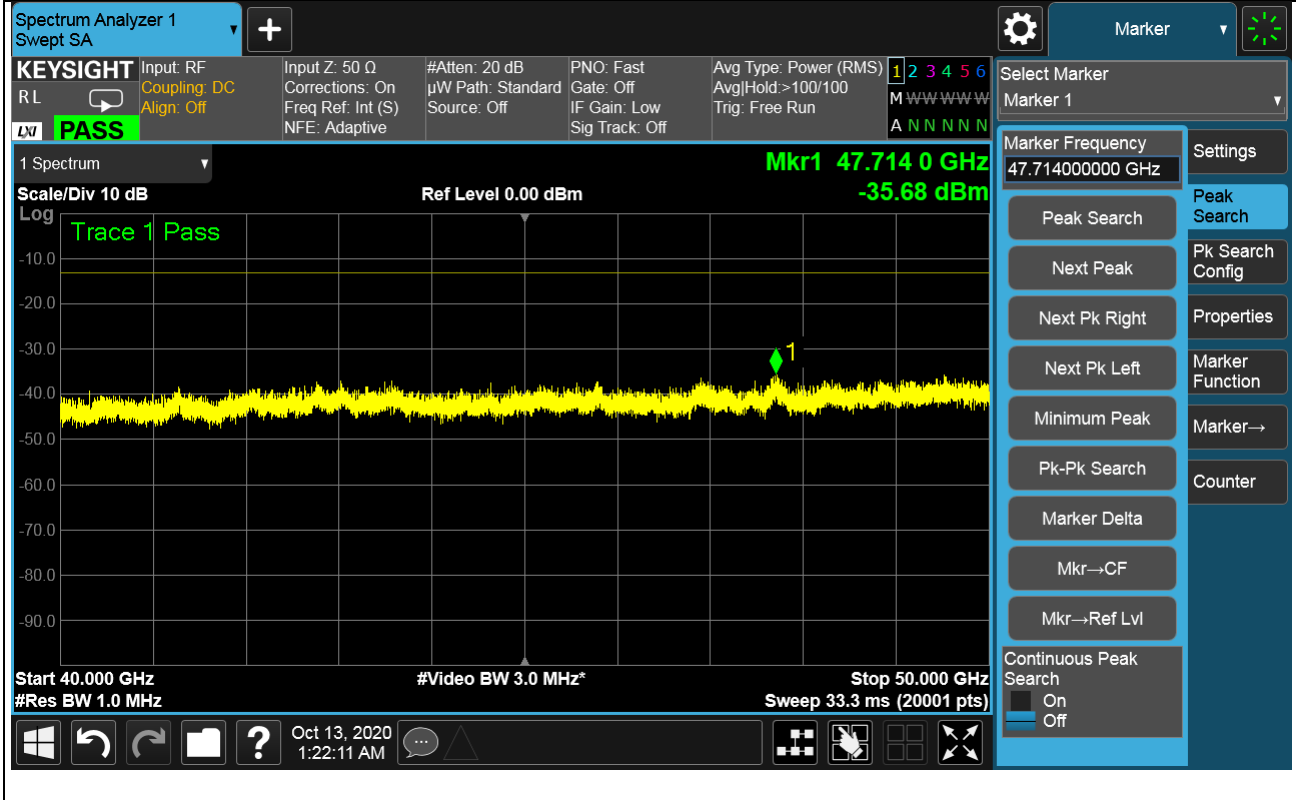
Oct 13, 2020 1:24:51 AM

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

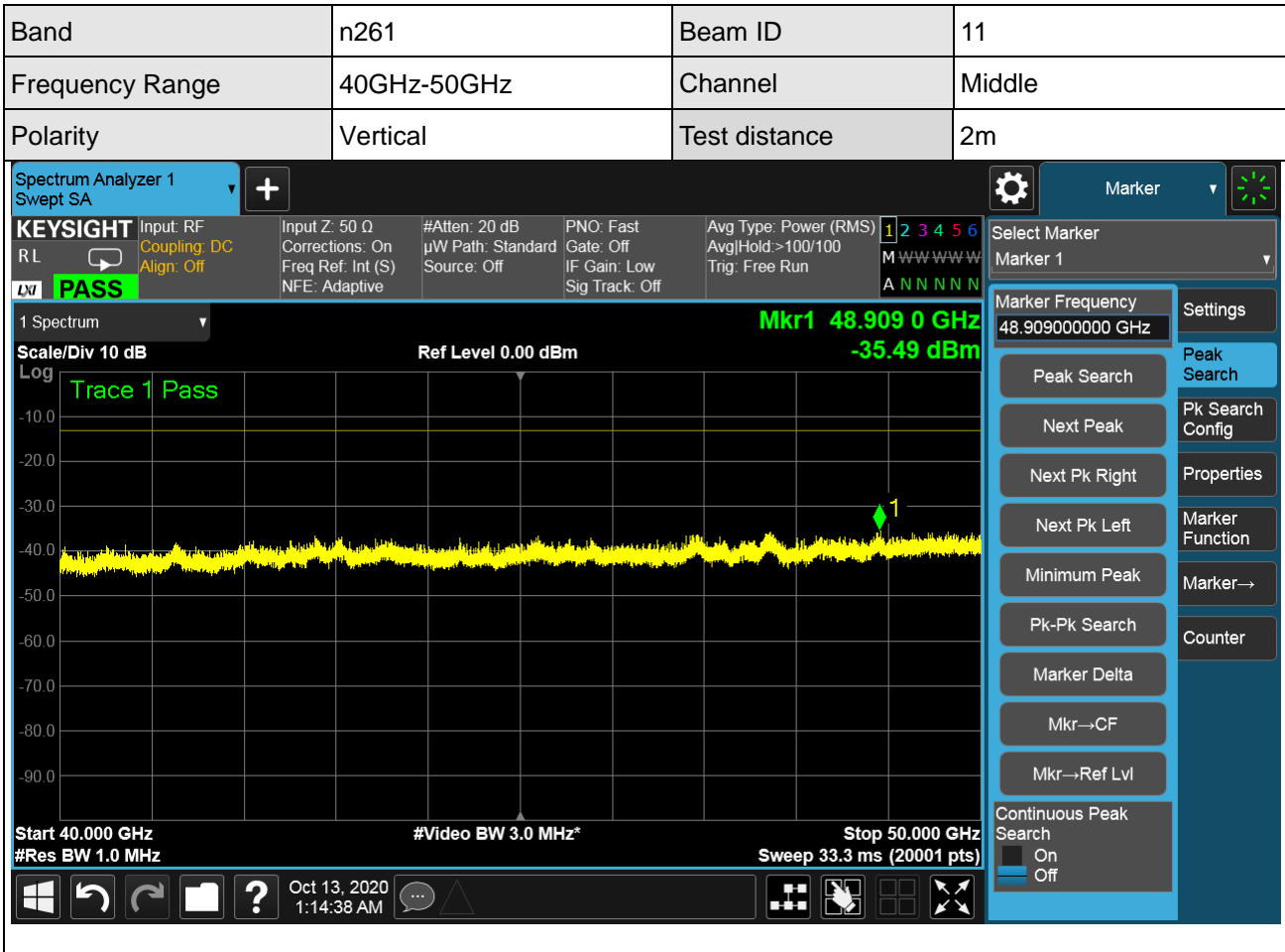


Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	40GHz-50GHz	Channel	Middle
Polarity	Horizontal	Test distance	2m

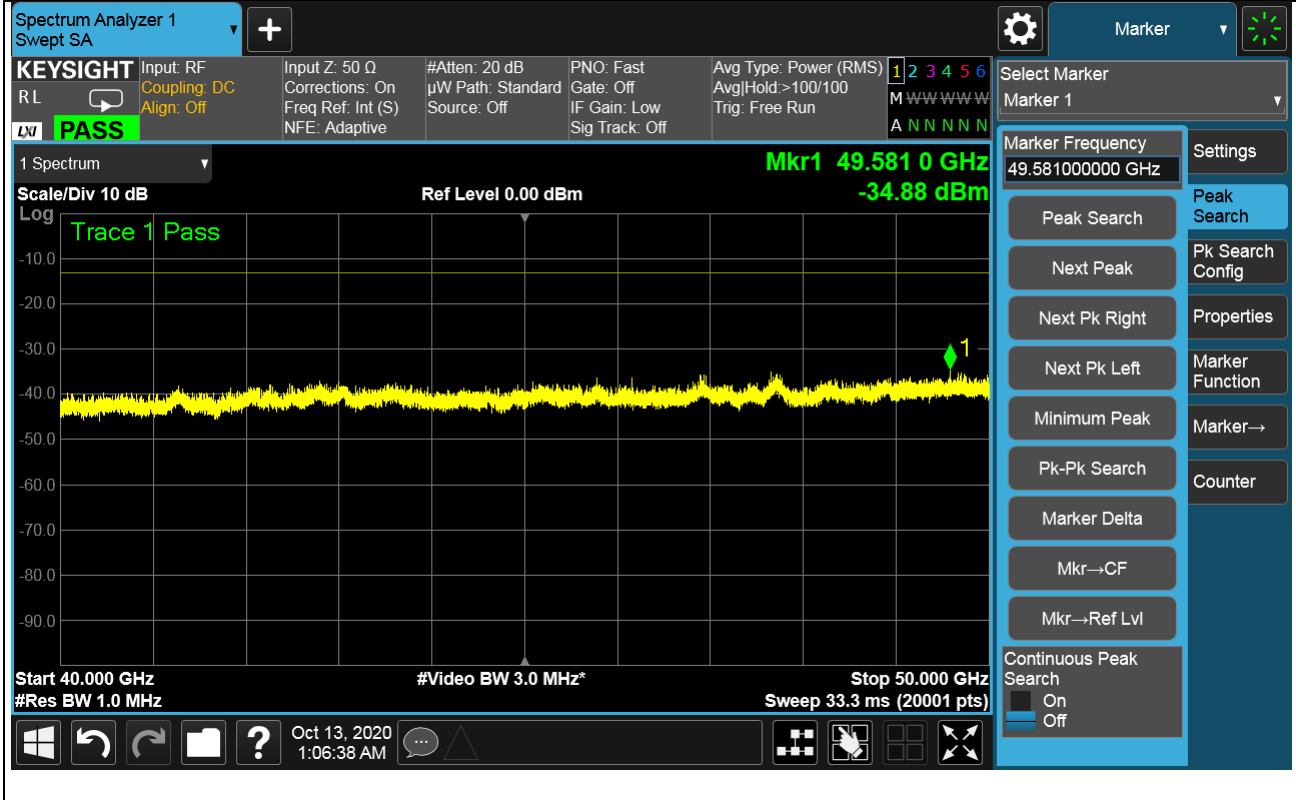


Note: The test results already include the correction factor (corrections: On).



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

Band	n261	Beam ID	11
Frequency Range	40GHz-50GHz	Channel	High
Polarity	Horizontal	Test distance	2m

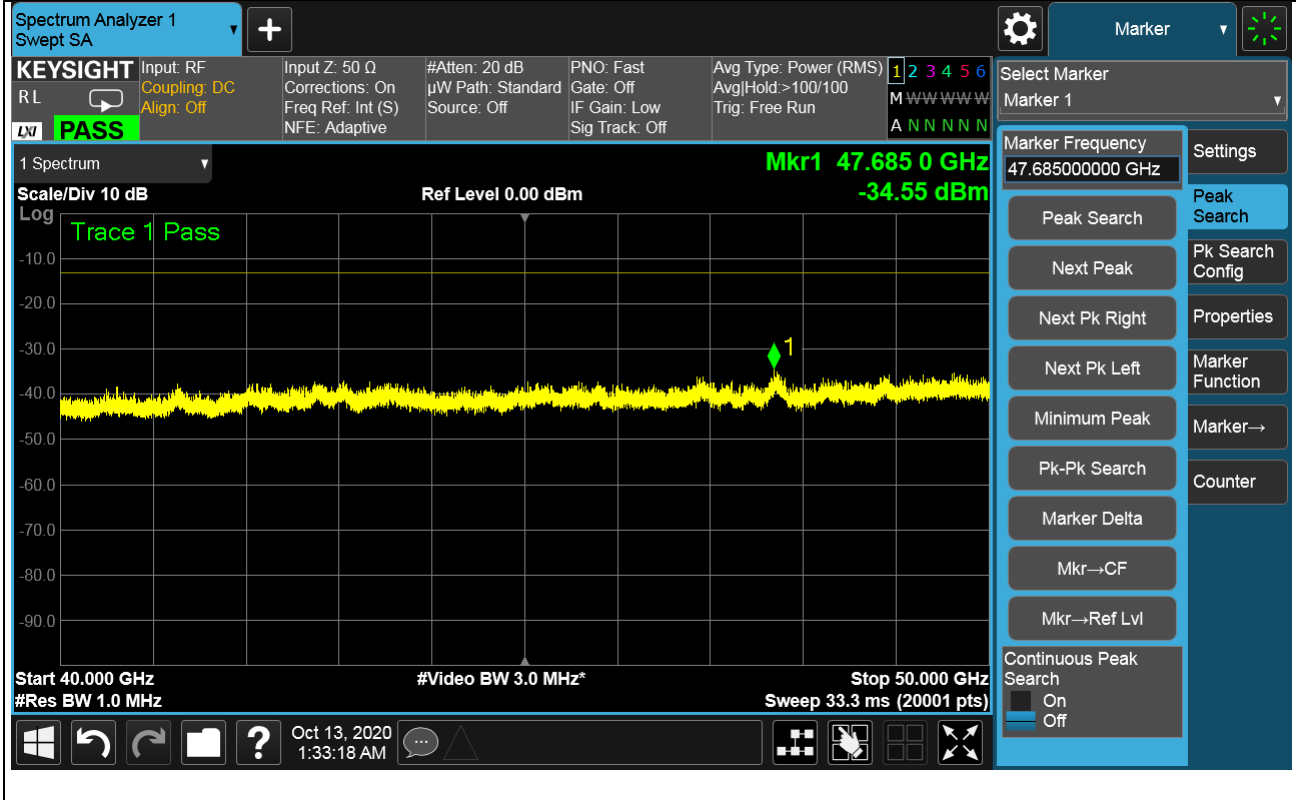


Note: The test results already include the correction factor (corrections: On).



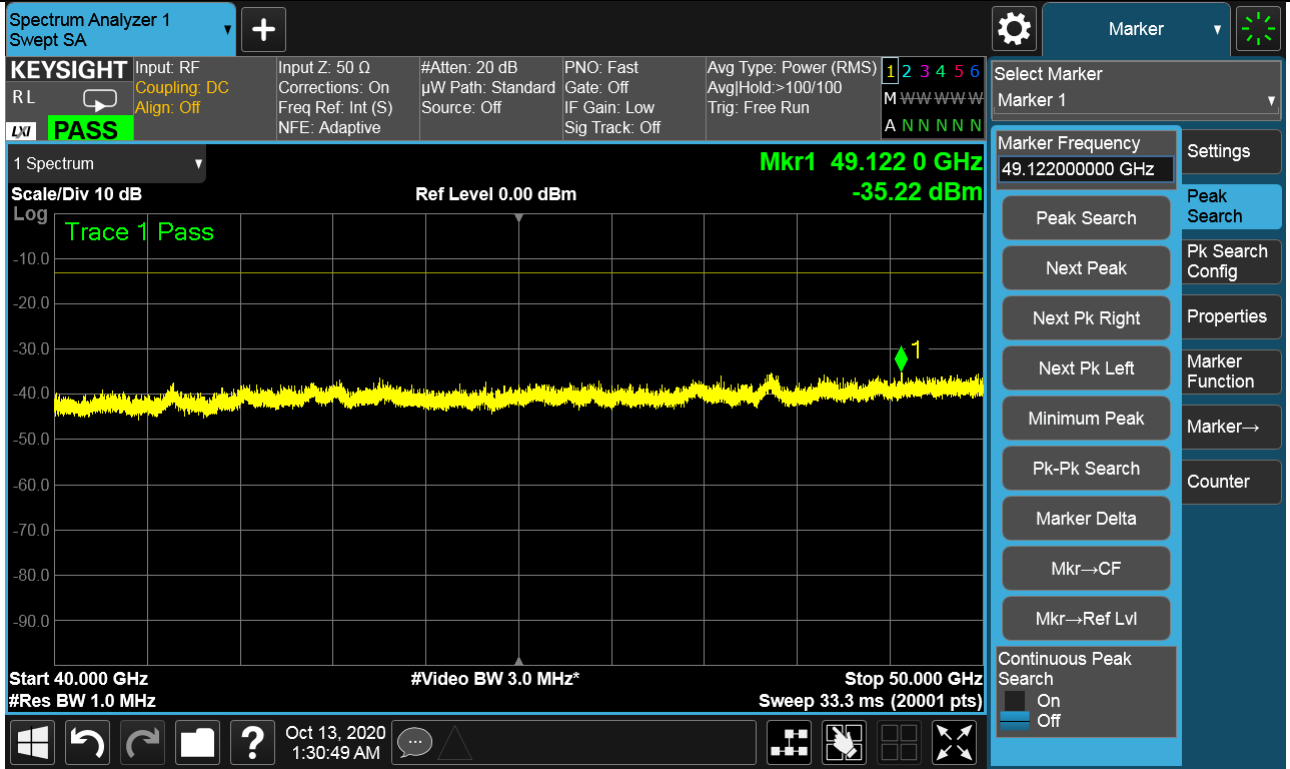
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	40GHz-50GHz	Channel	Low
Polarity	Horizontal	Test distance	2m



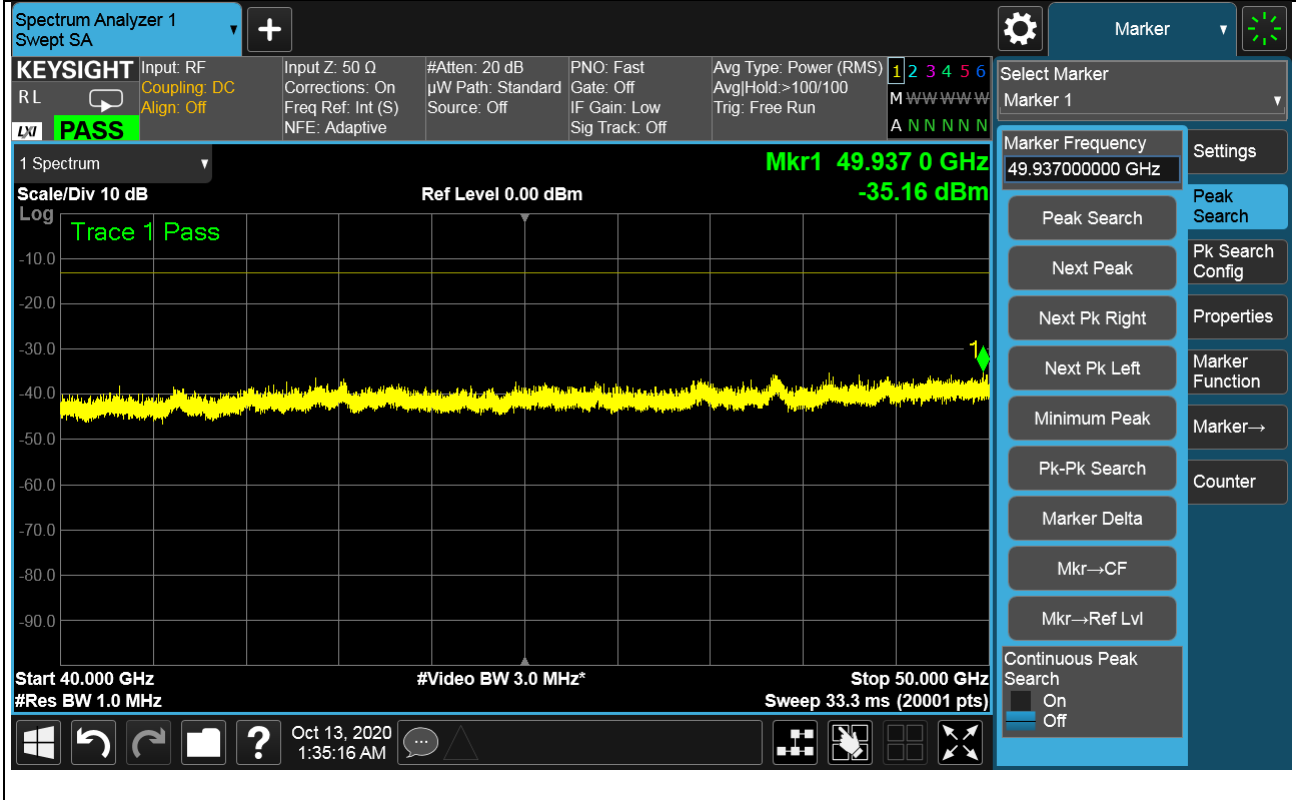
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	40GHz-50GHz	Channel	Low
Polarity	Vertical	Test distance	2m



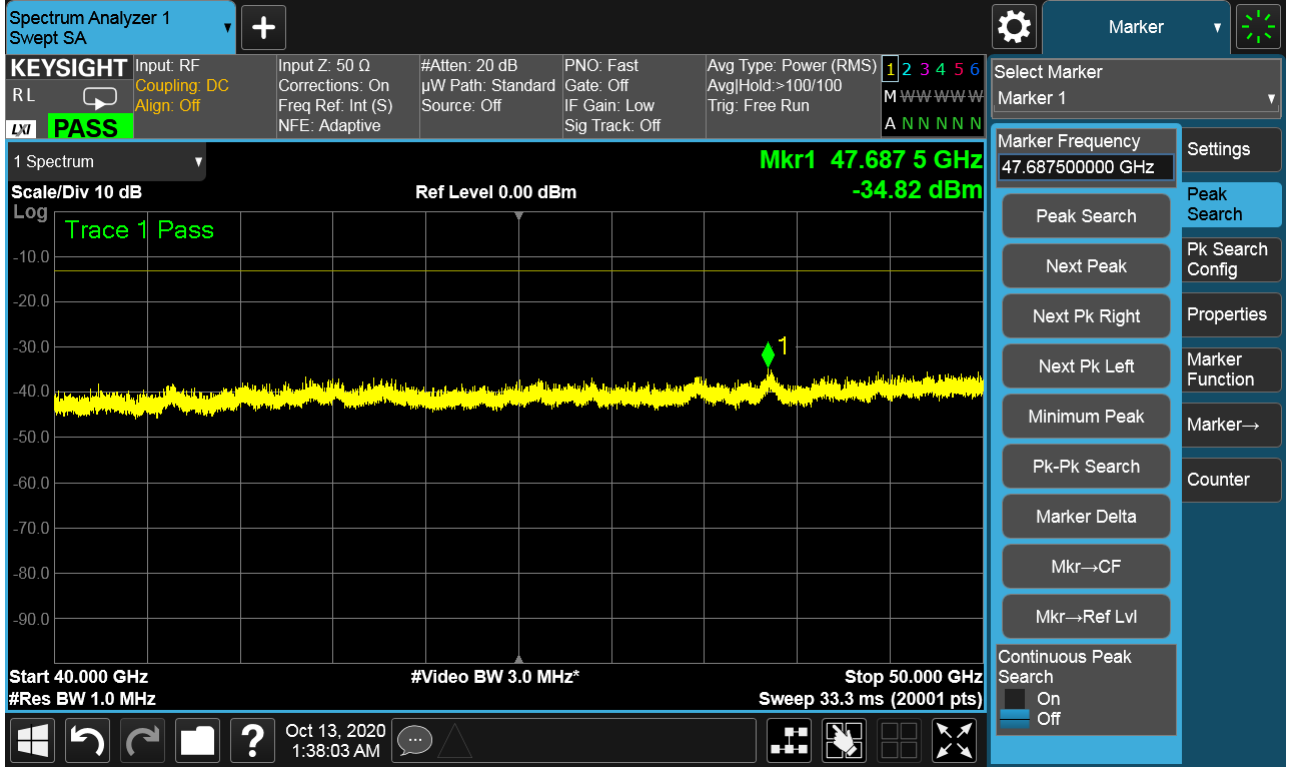
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	40GHz-50GHz	Channel	Middle
Polarity	Horizontal	Test distance	2m



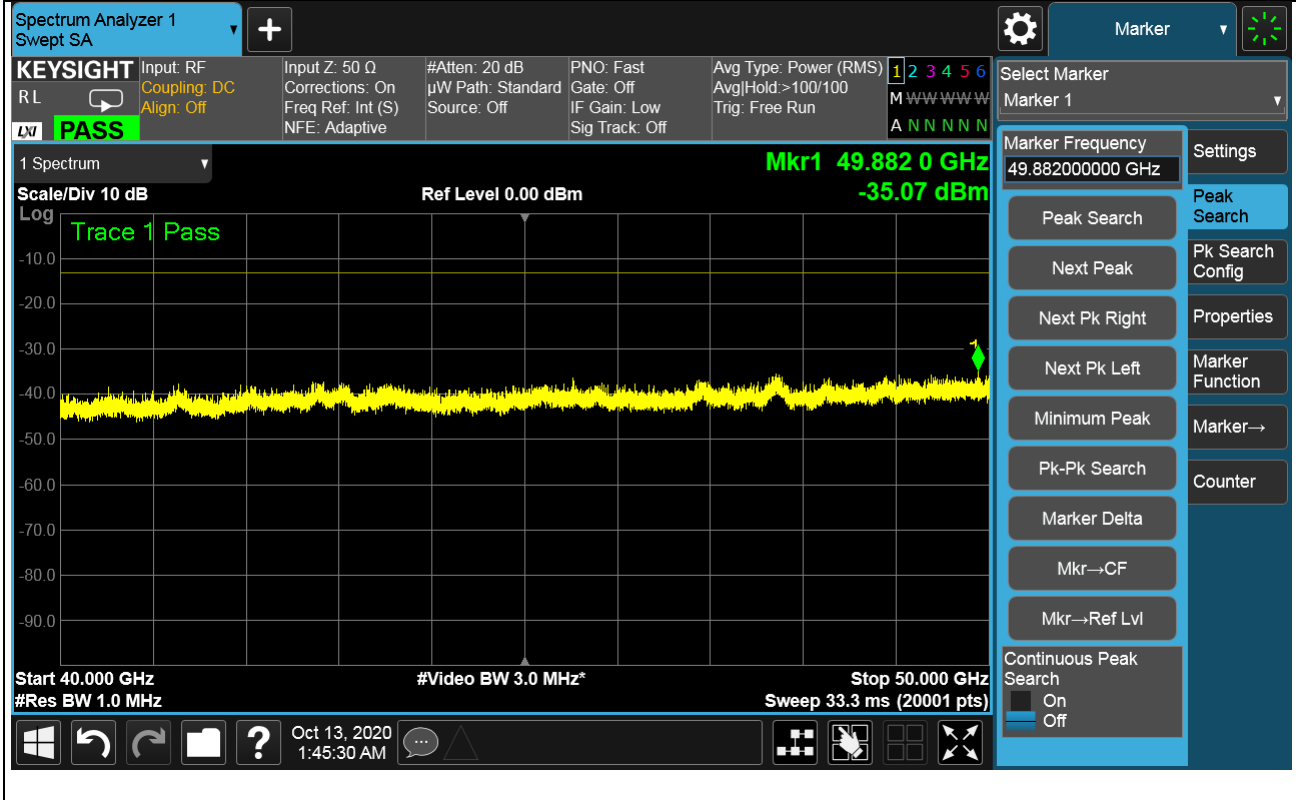
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	40GHz-50GHz	Channel	Middle
Polarity	Vertical	Test distance	2m



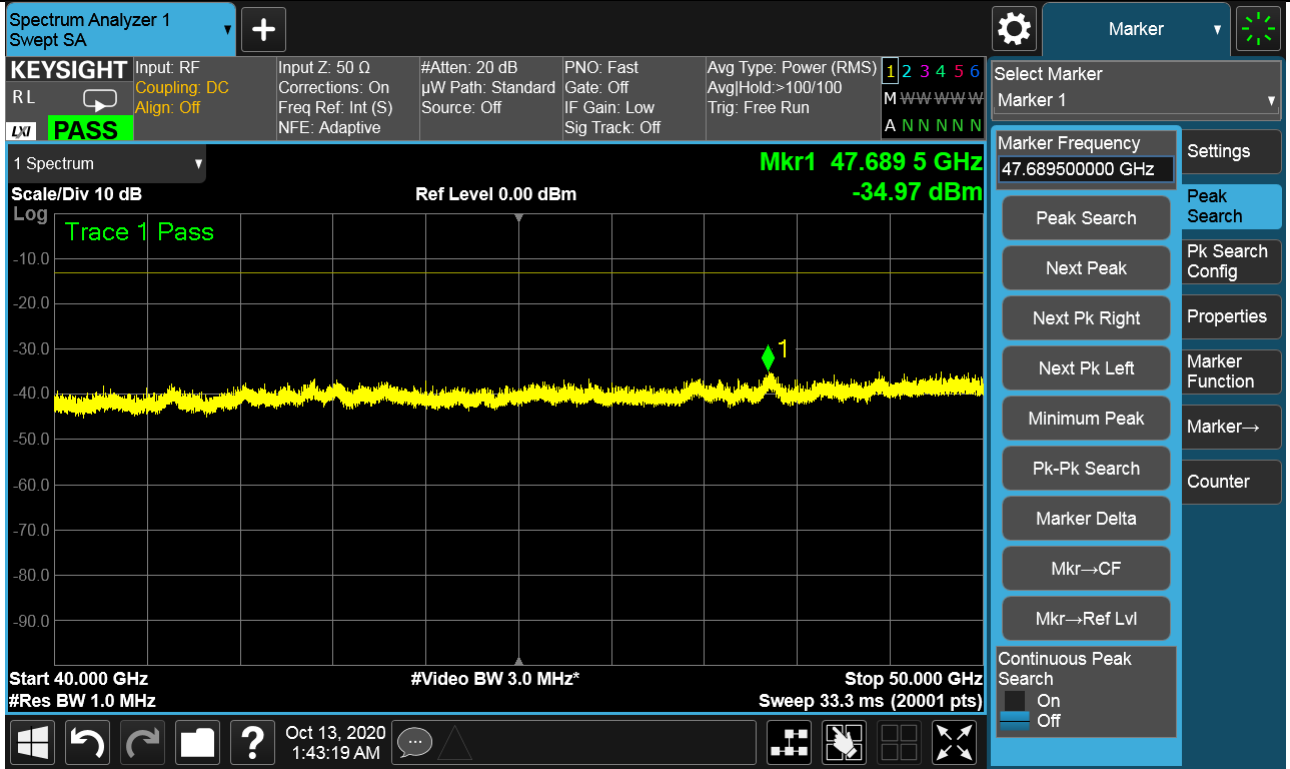
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	40GHz-50GHz	Channel	High
Polarity	Horizontal	Test distance	2m



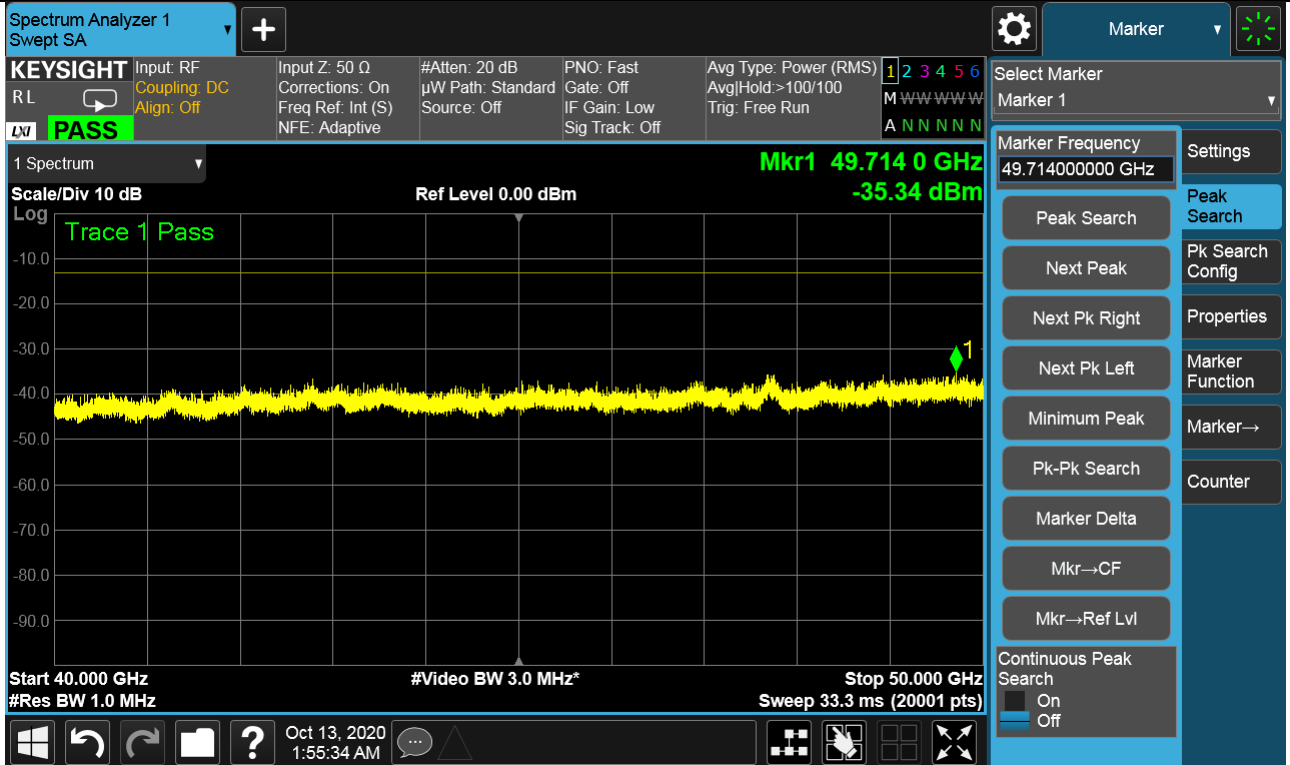
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	40GHz-50GHz	Channel	High
Polarity	Vertical	Test distance	2m



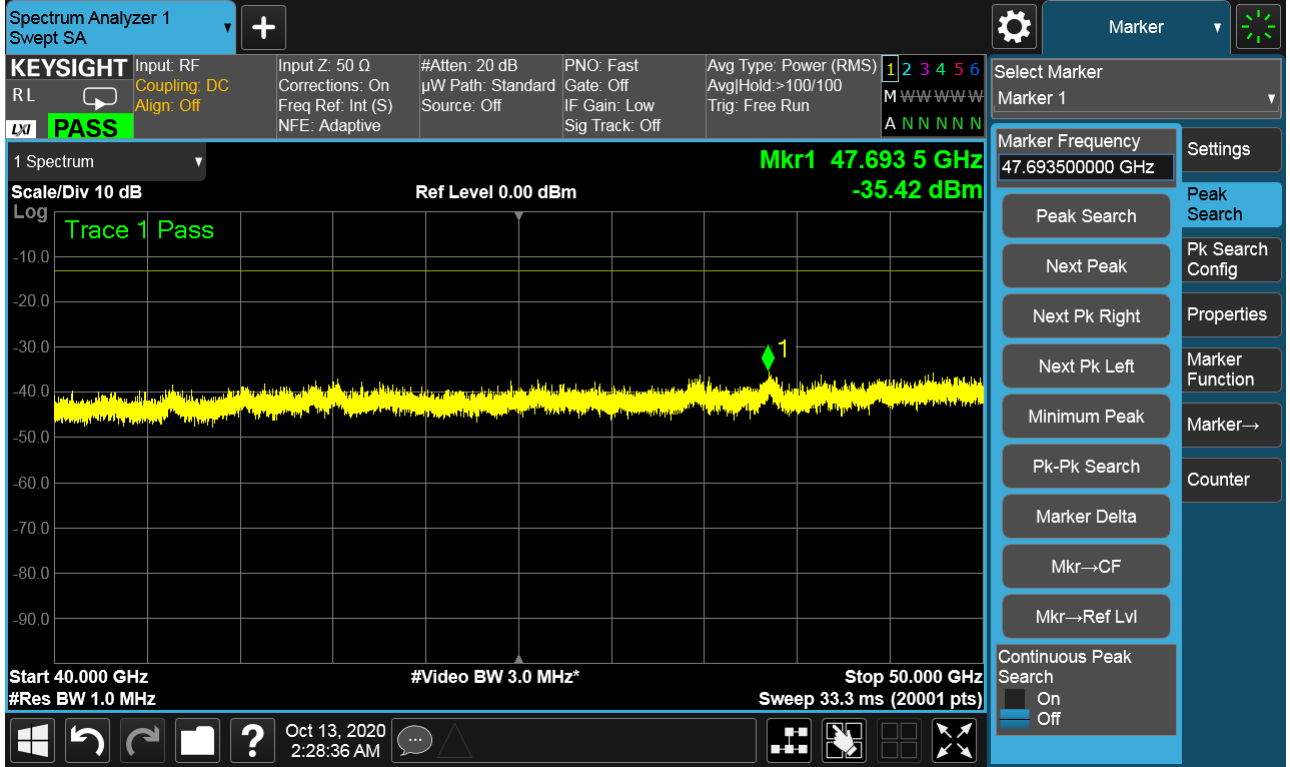
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11 + 139
Frequency Range	40GHz-50GHz	Channel	Low
Polarity	Horizontal	Test distance	2m



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

Band	n261	Beam ID	11 + 139
Frequency Range	40GHz-50GHz	Channel	Low
Polarity	Vertical	Test distance	2m



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

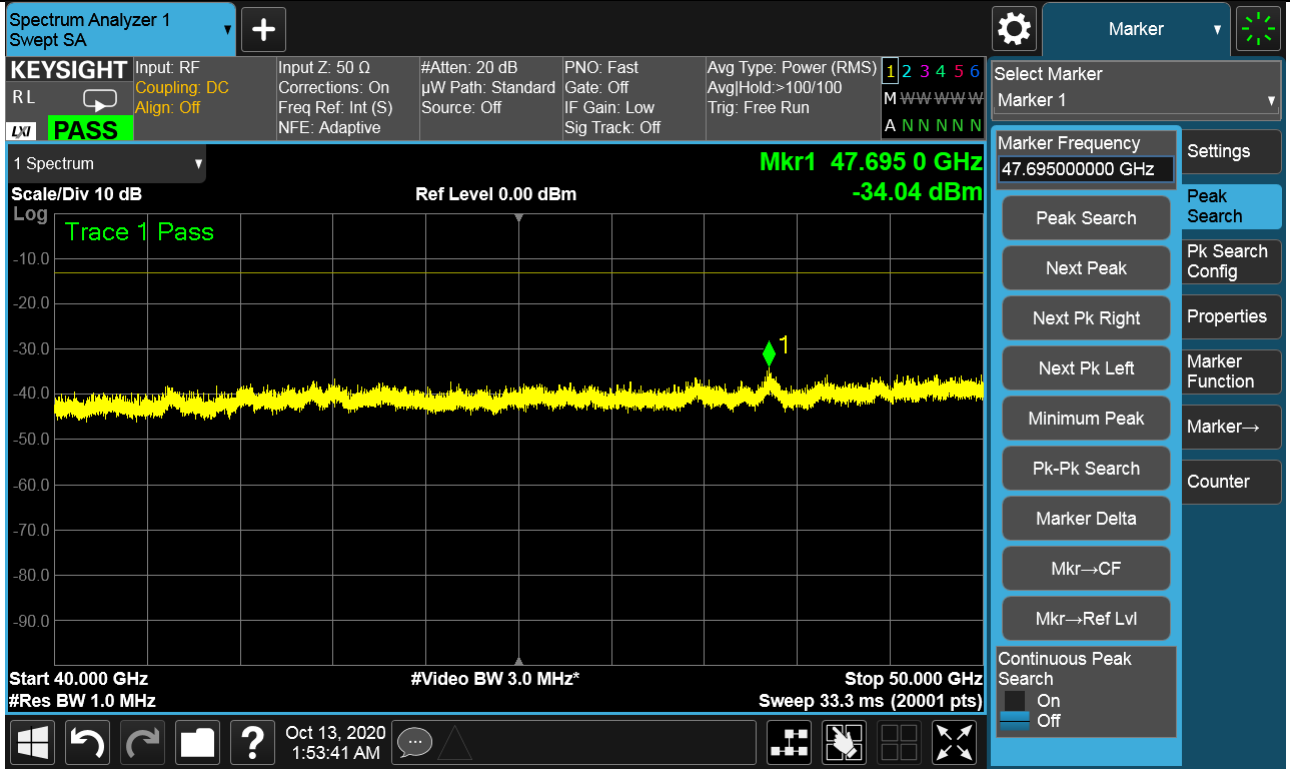
Summary of MIMO Beam Out-of Band Emission:

To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

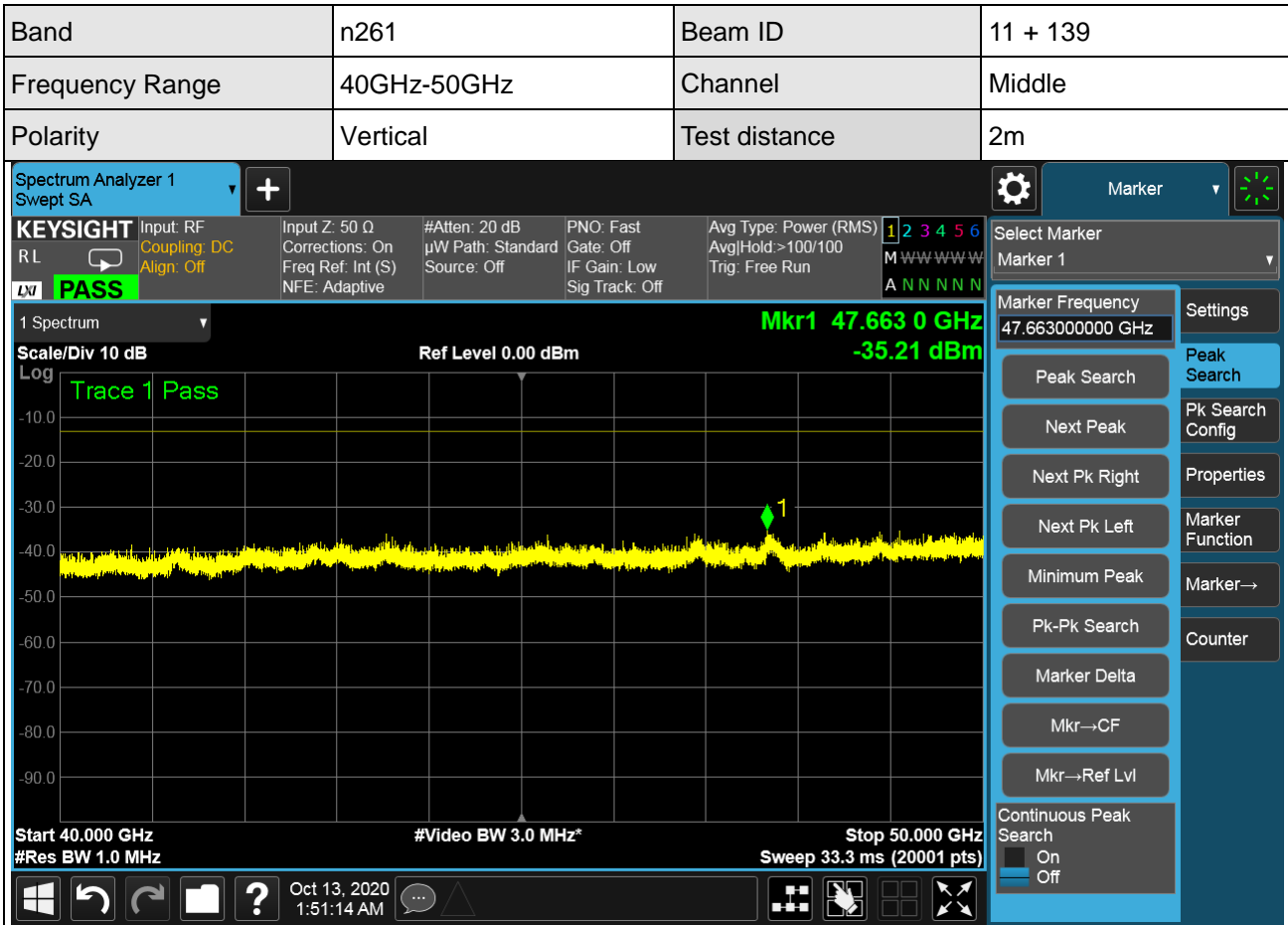
Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-35.42	-35.34	-32.37	-13	-19.37	Pass

Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

Band	n261	Beam ID	11 + 139
Frequency Range	40GHz-50GHz	Channel	Middle
Polarity	Horizontal	Test distance	2m



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



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

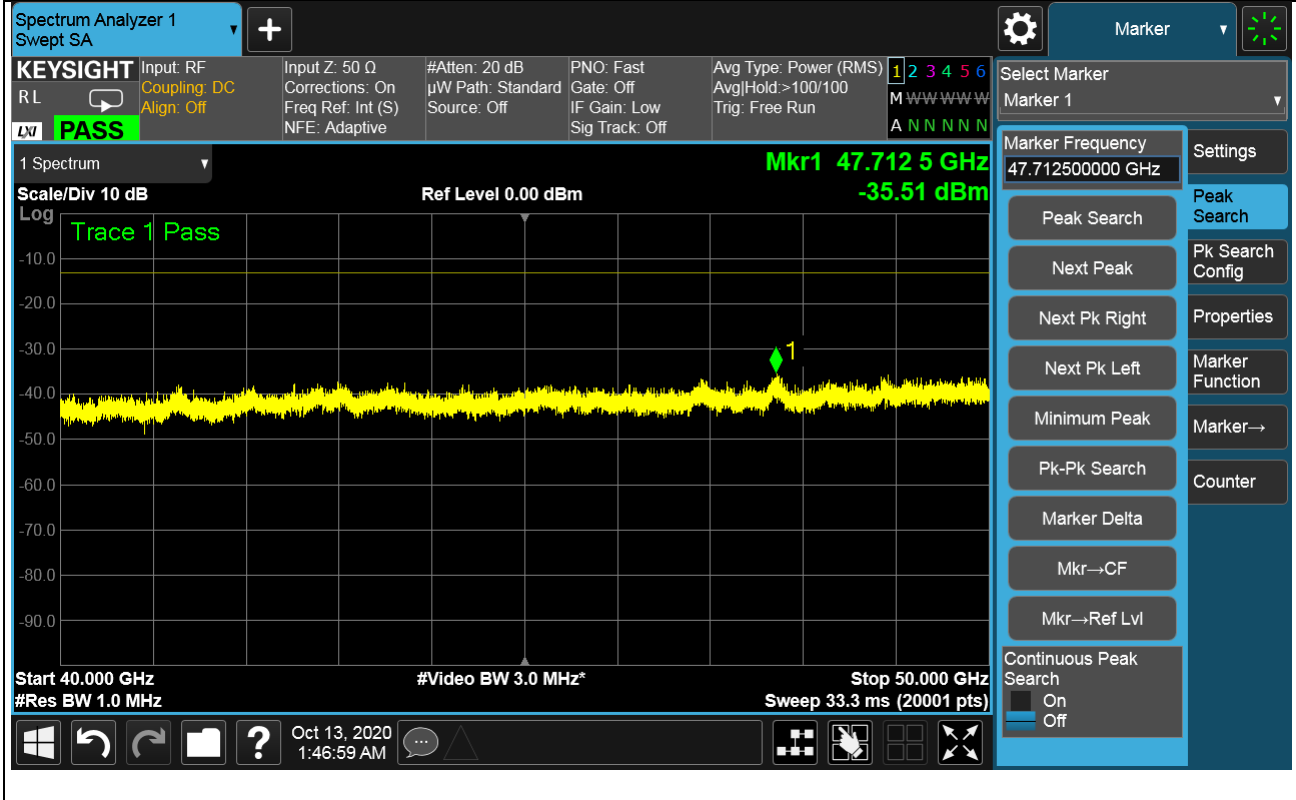
Summary of MIMO Beam Out-of Band Emission:

To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-35.21	-34.04	-31.58	-13	-18.56	Pass

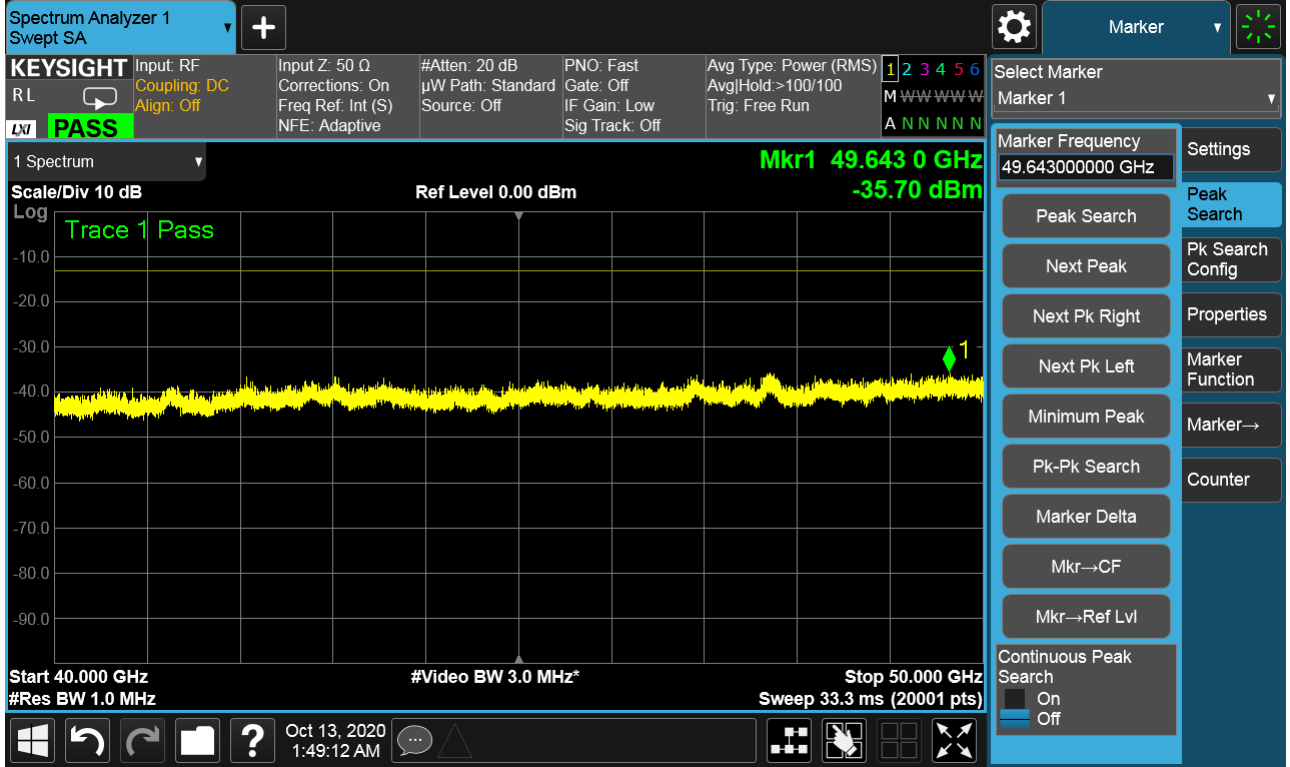
Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

Band	n261	Beam ID	11 + 139
Frequency Range	40GHz-50GHz	Channel	High
Polarity	Horizontal	Test distance	2m



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

Band	n261	Beam ID	11 + 139
Frequency Range	40GHz-50GHz	Channel	High
Polarity	Vertical	Test distance	2m



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

Summary of MIMO Beam Out-of Band Emission:

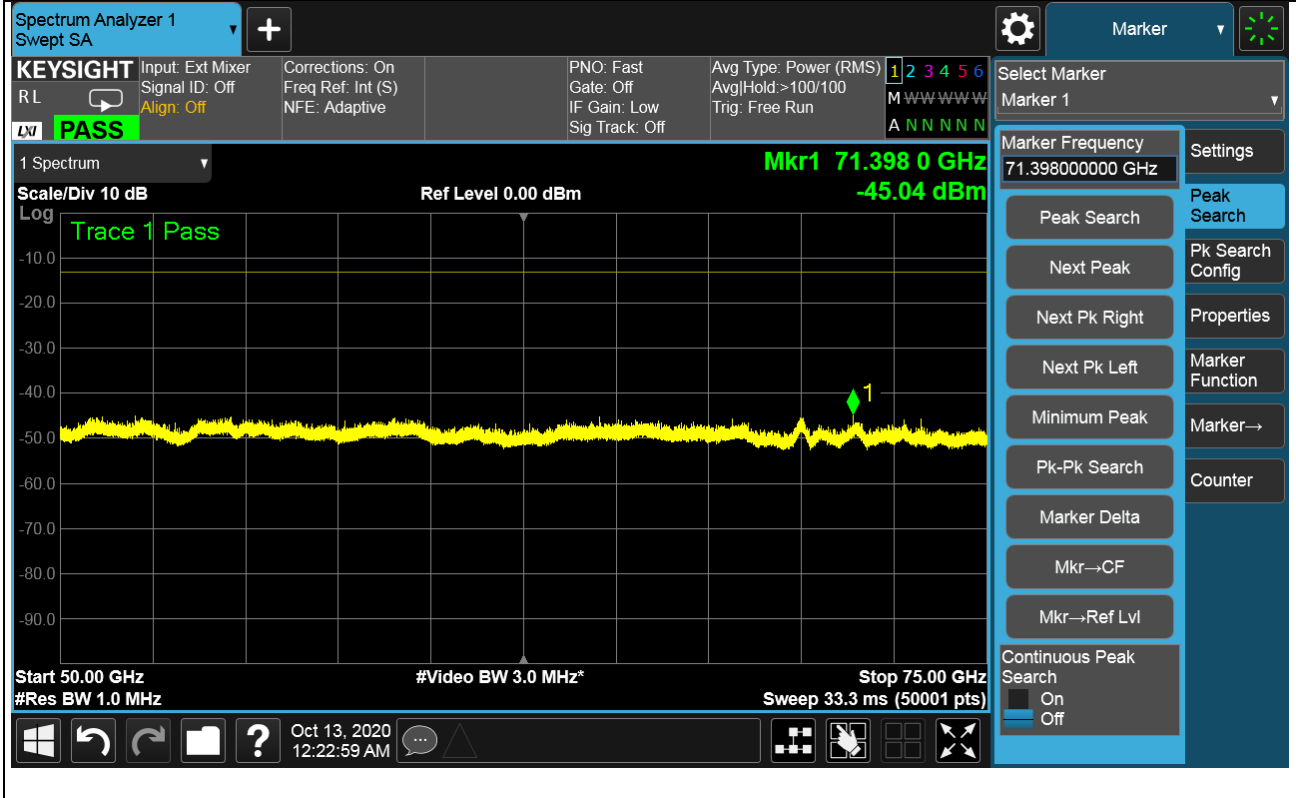
To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-35.70	-35.51	-32.59	-13	-19.59	Pass

Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

50GHz-75GHz (n261):

Band	n261	Beam ID	11
Frequency Range	50GHz-75GHz	Channel	Low
Polarity	Horizontal	Test distance	3m

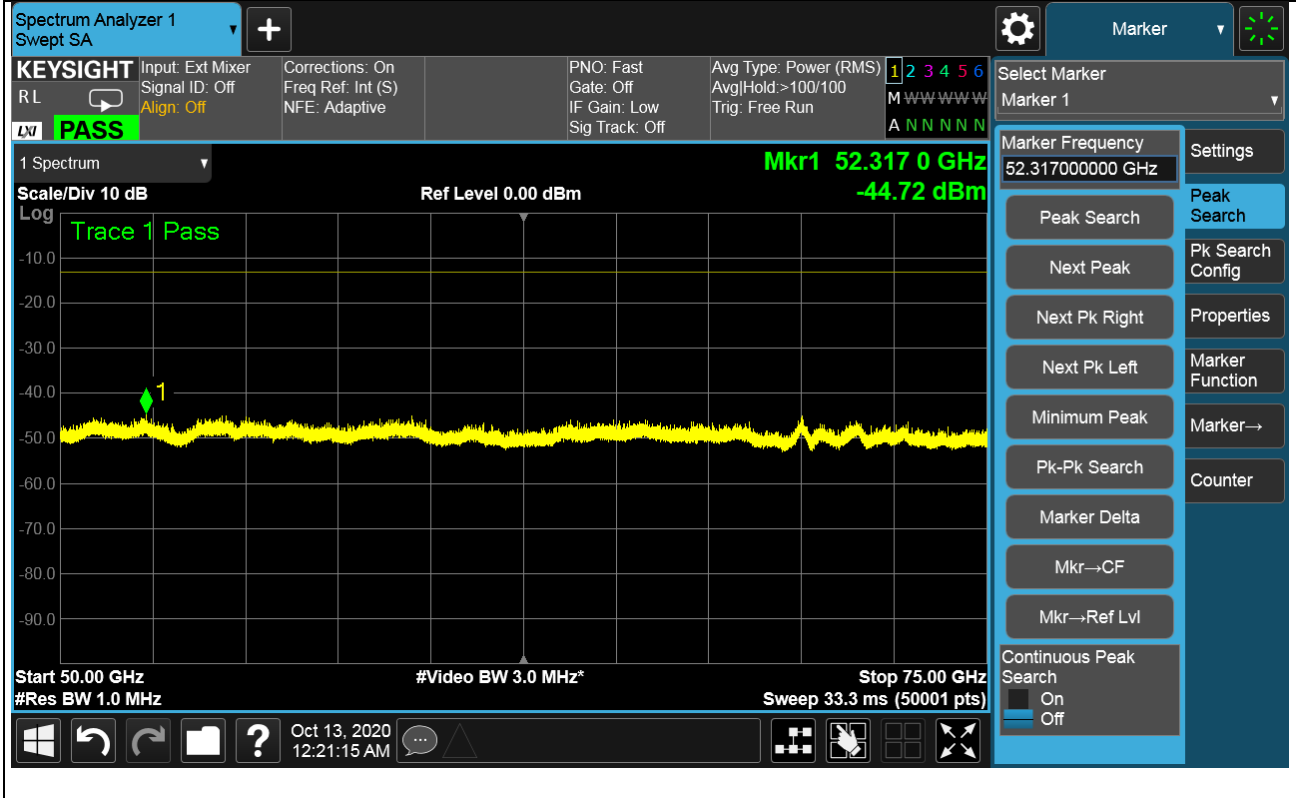


Note: The test results already include the correction factor (corrections: On).

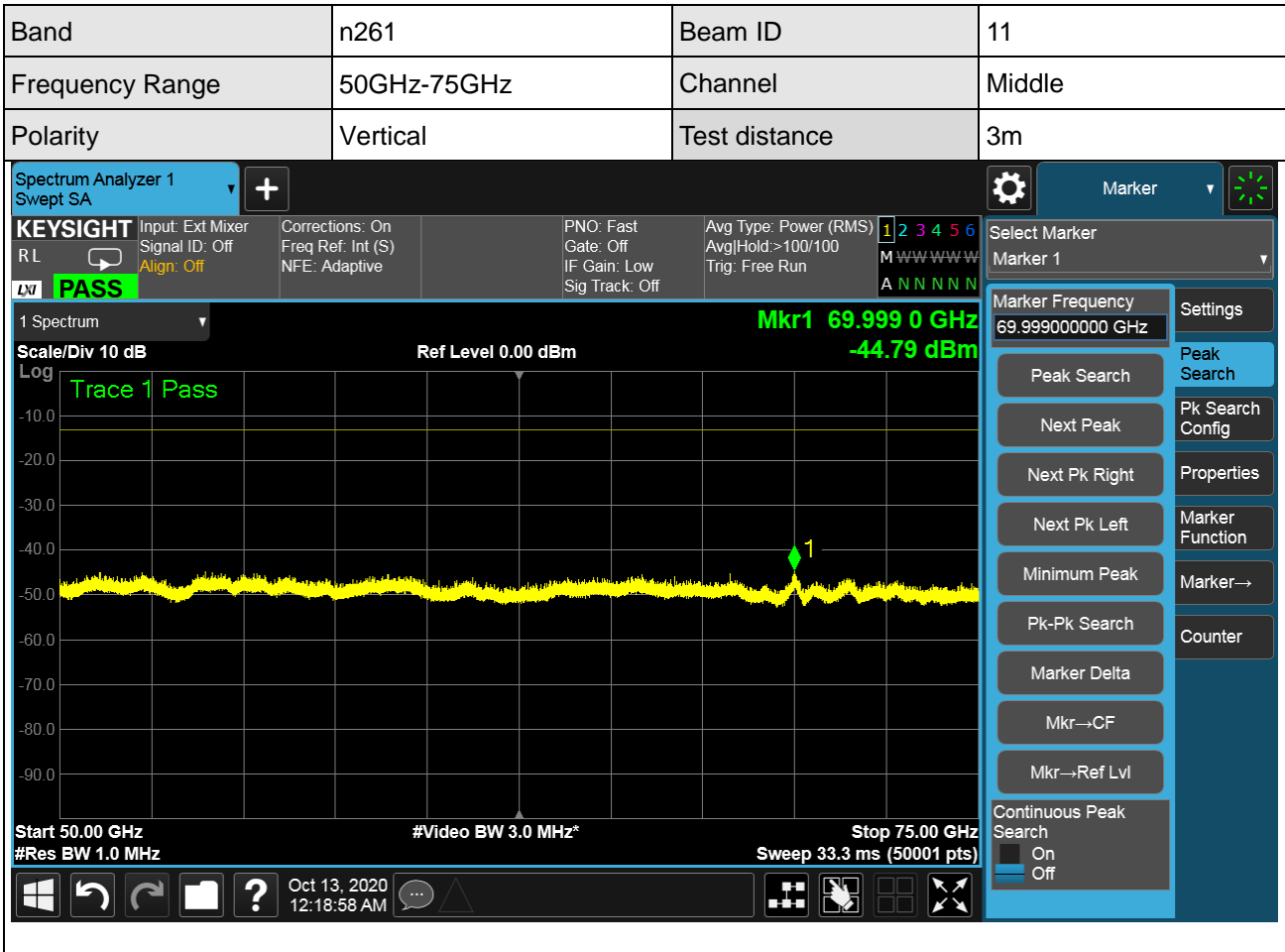


Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	50GHz-75GHz	Channel	Middle
Polarity	Horizontal	Test distance	3m

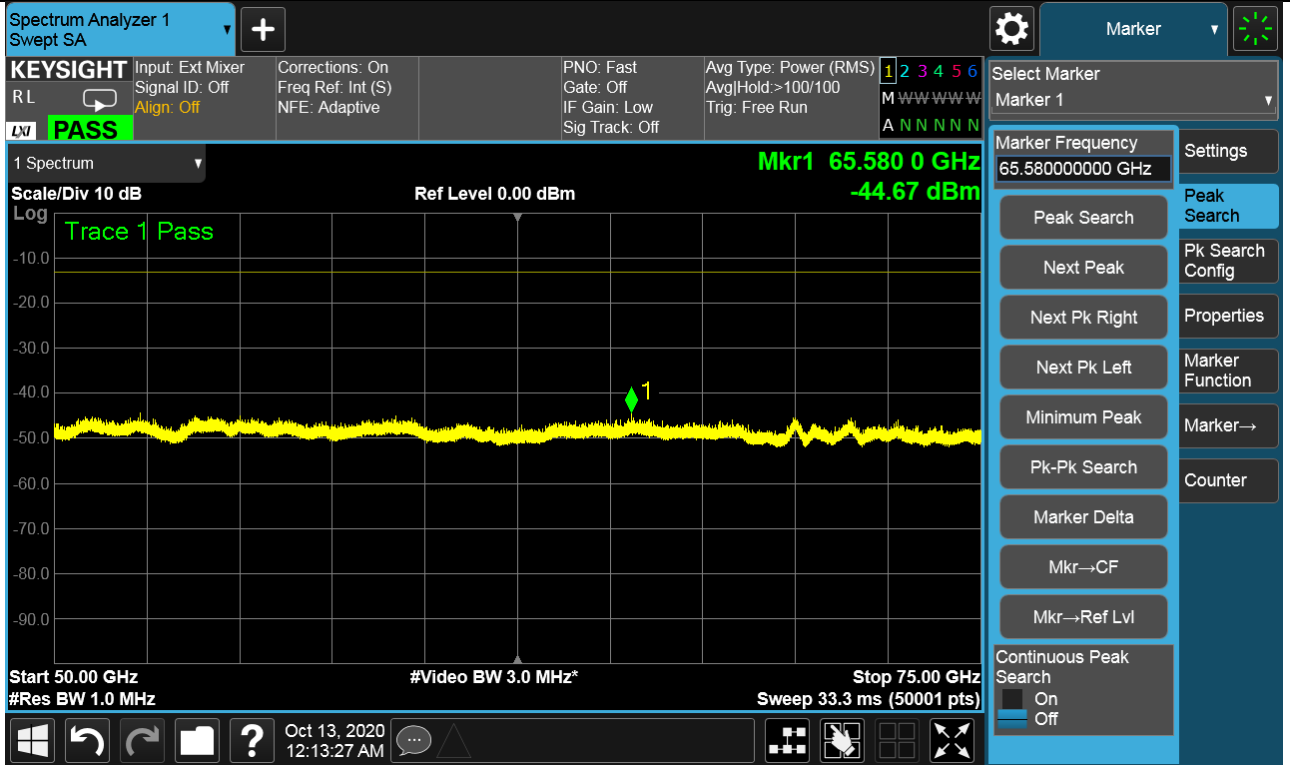


Note: The test results already include the correction factor (corrections: On).



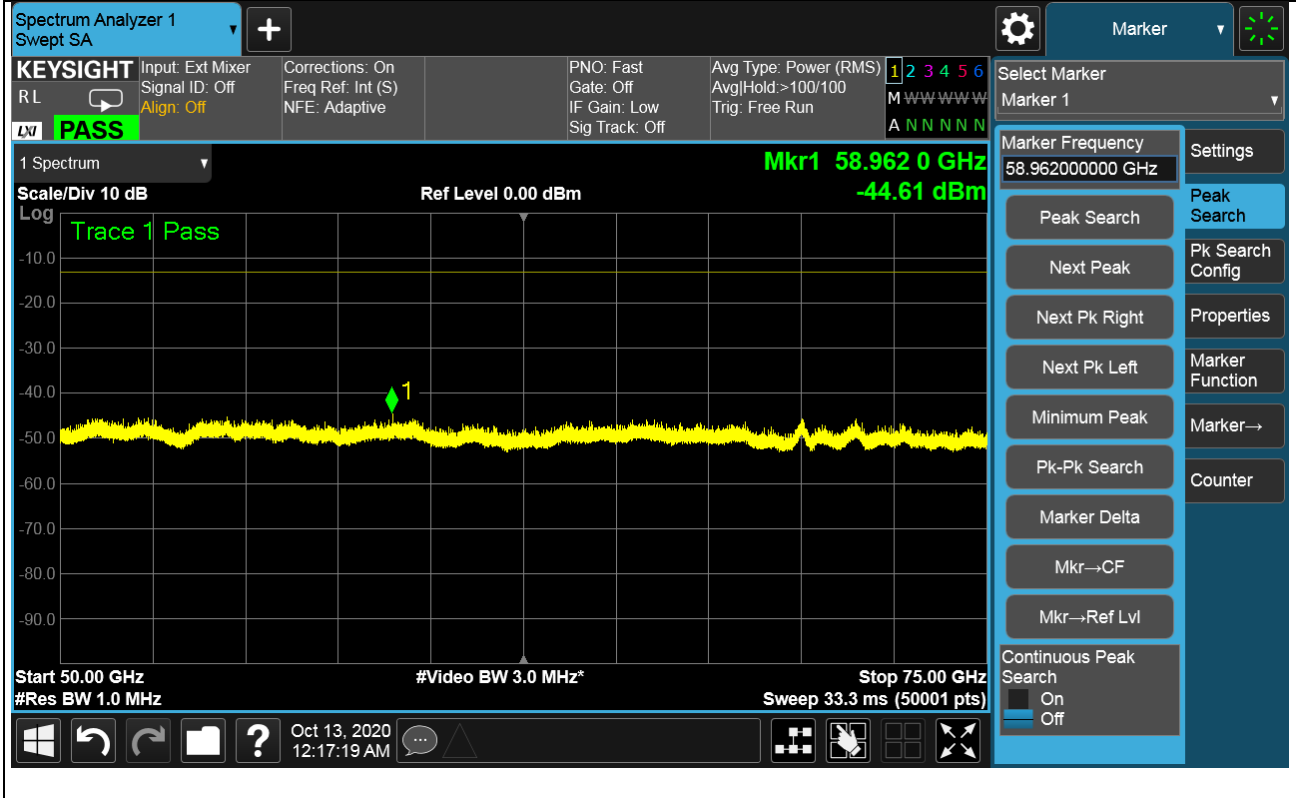
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	50GHz-75GHz	Channel	High
Polarity	Horizontal	Test distance	3m



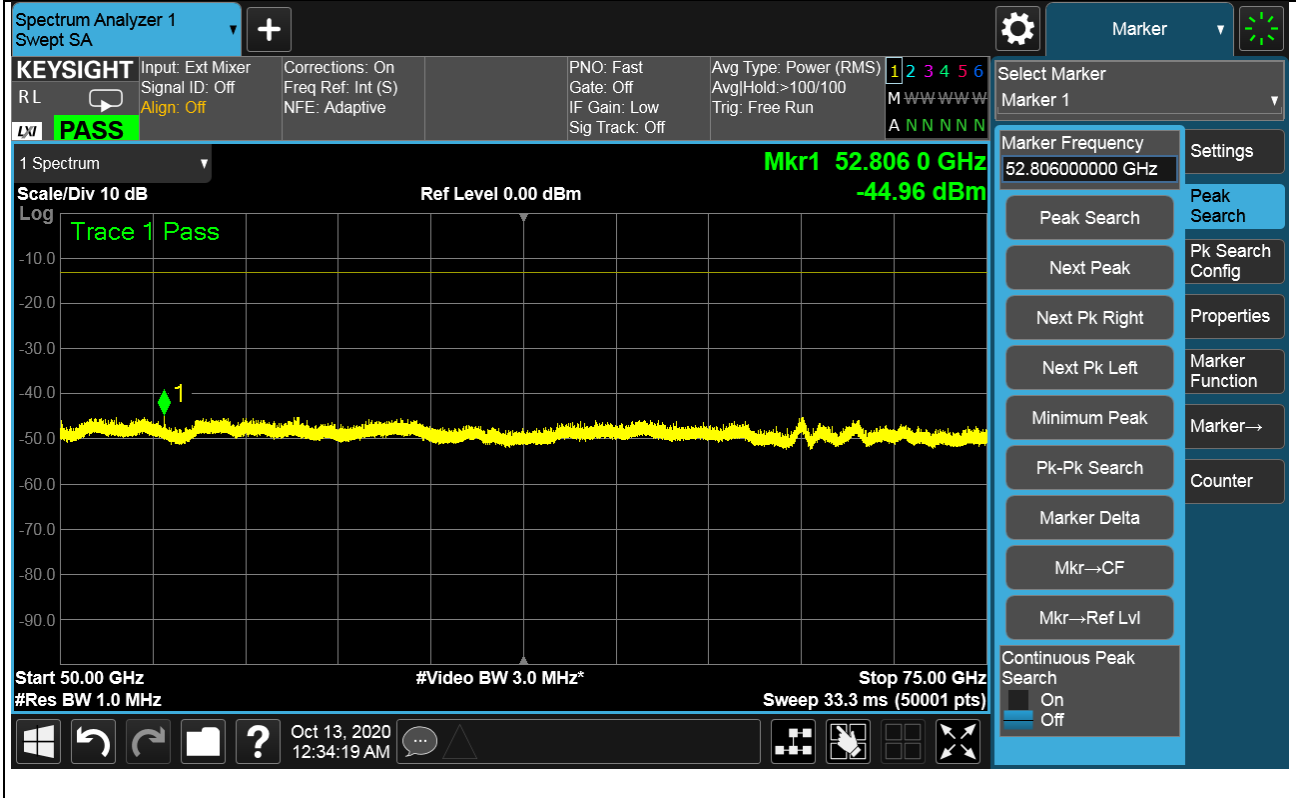
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	50GHz-75GHz	Channel	High
Polarity	Vertical	Test distance	3m



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

Band	n261	Beam ID	139
Frequency Range	50GHz-75GHz	Channel	Low
Polarity	Horizontal	Test distance	3m

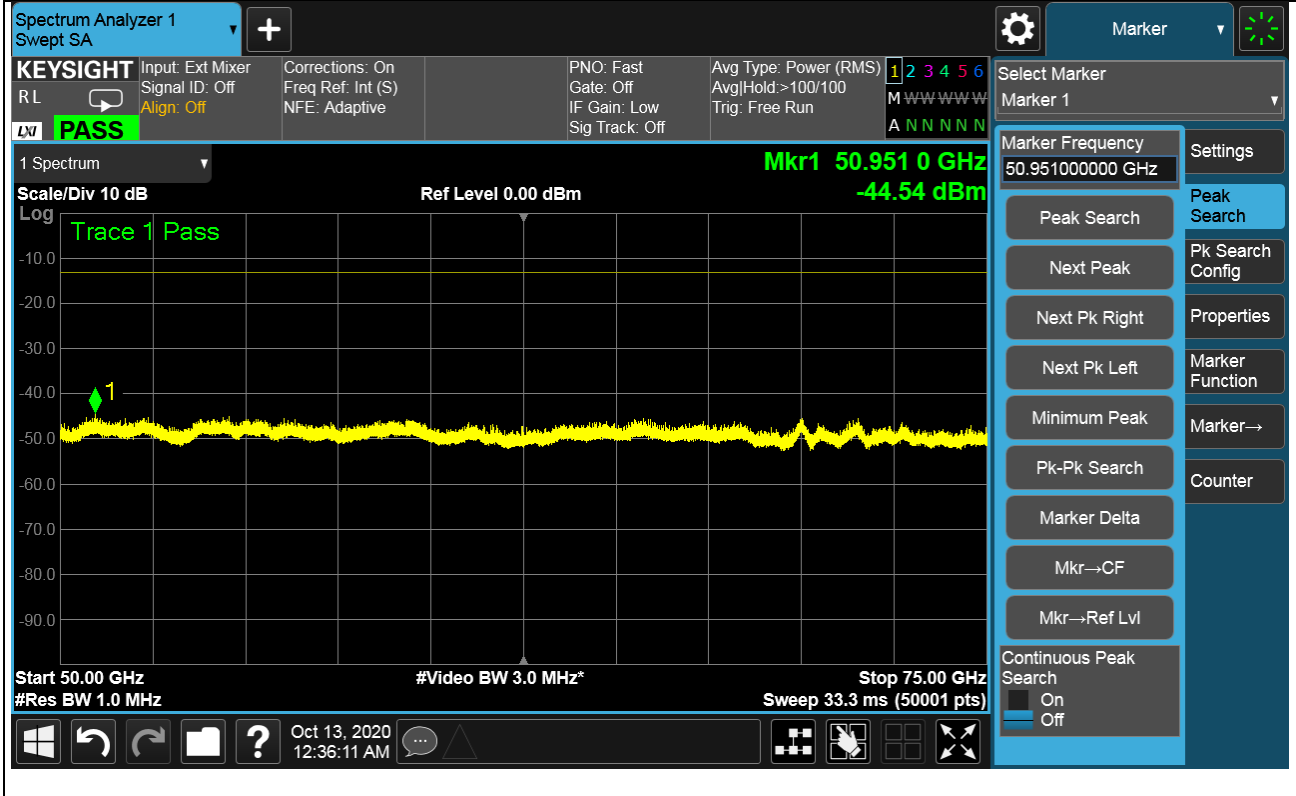


Note: The test results already include the correction factor (corrections: On).



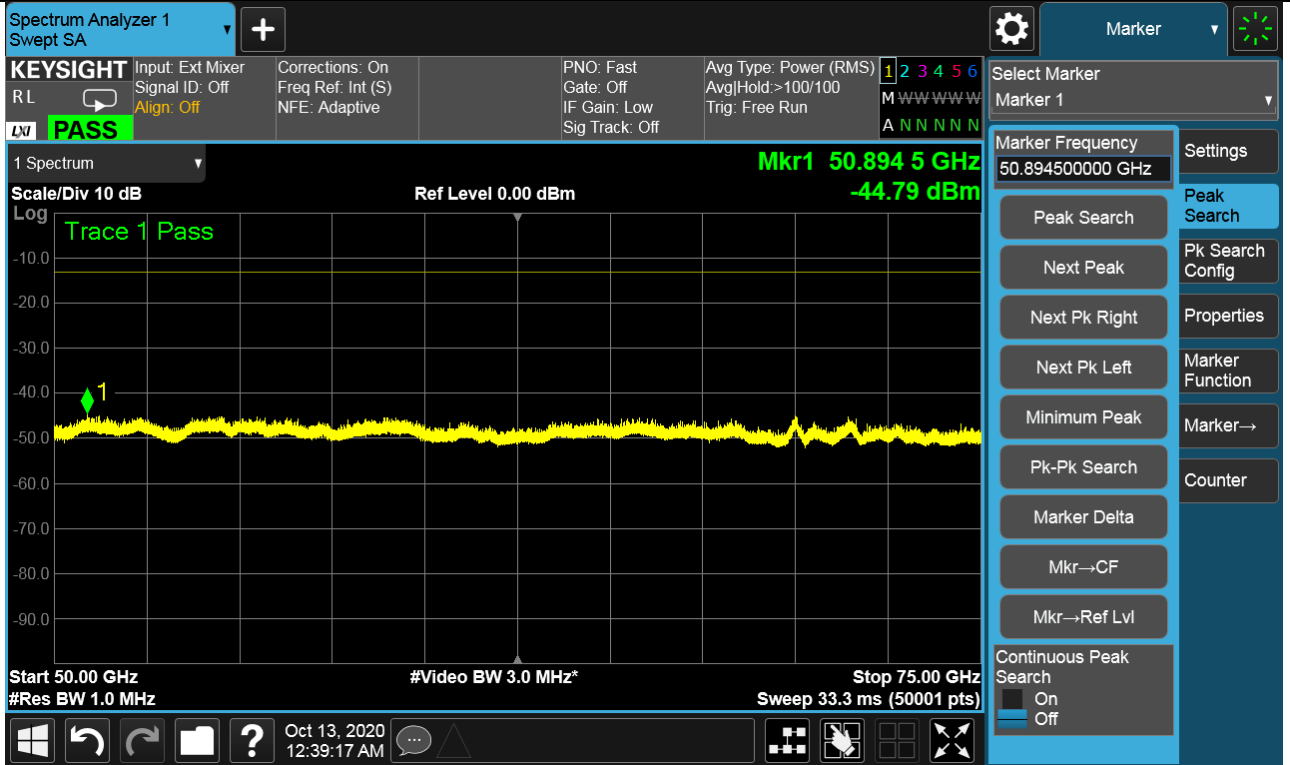
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	50GHz-75GHz	Channel	Middle
Polarity	Horizontal	Test distance	3m



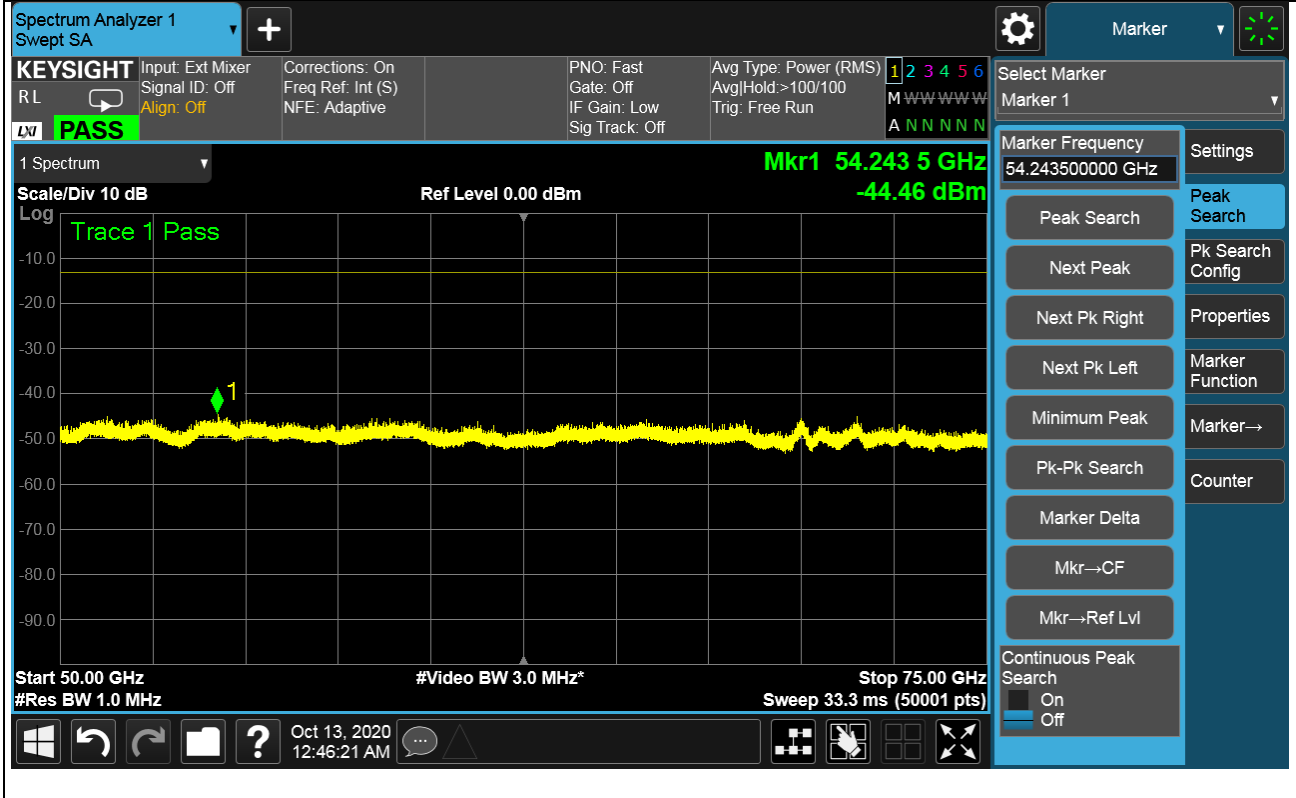
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	50GHz-75GHz	Channel	Middle
Polarity	Vertical	Test distance	3m



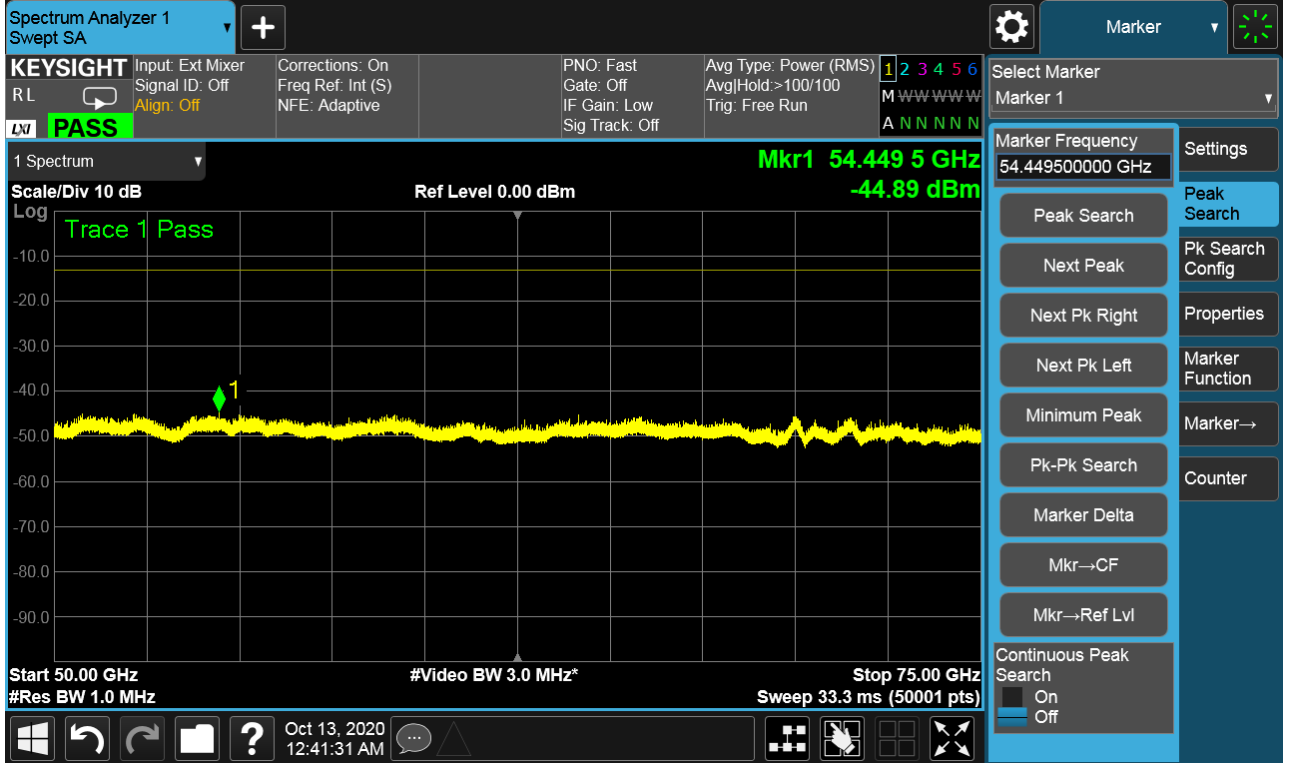
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	50GHz-75GHz	Channel	High
Polarity	Horizontal	Test distance	3m



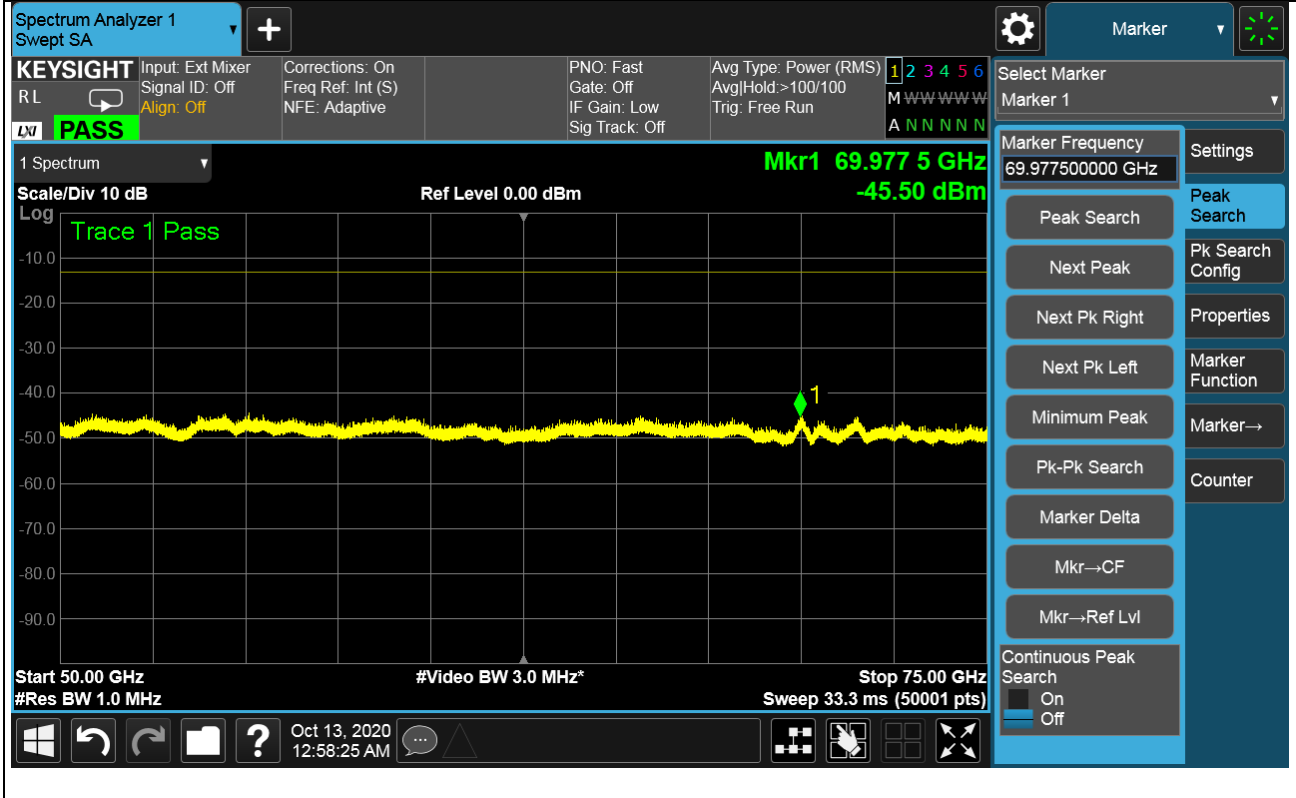
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	50GHz-75GHz	Channel	High
Polarity	Vertical	Test distance	3m



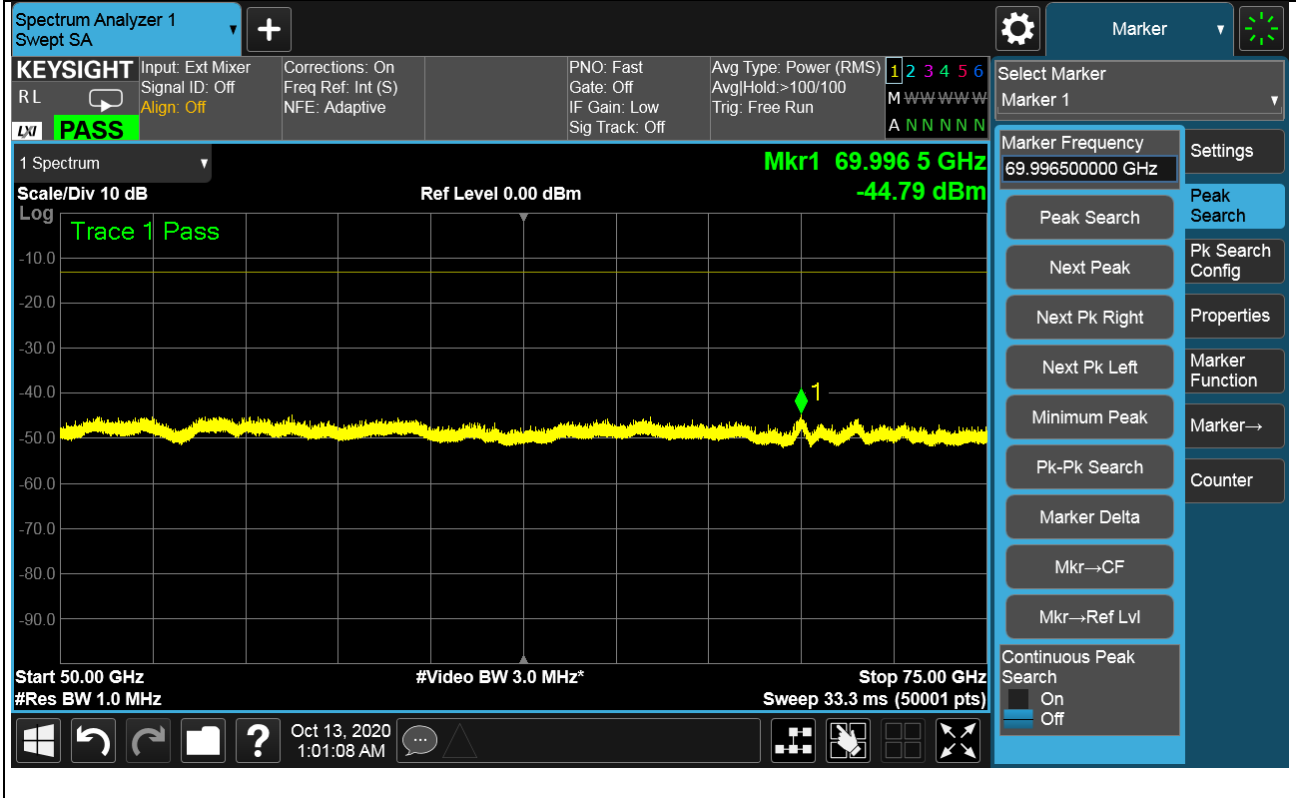
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11 + 139
Frequency Range	50GHz-75GHz	Channel	Low
Polarity	Horizontal	Test distance	3m



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

Band	n261	Beam ID	11 + 139
Frequency Range	50GHz-75GHz	Channel	Low
Polarity	Vertical	Test distance	3m



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

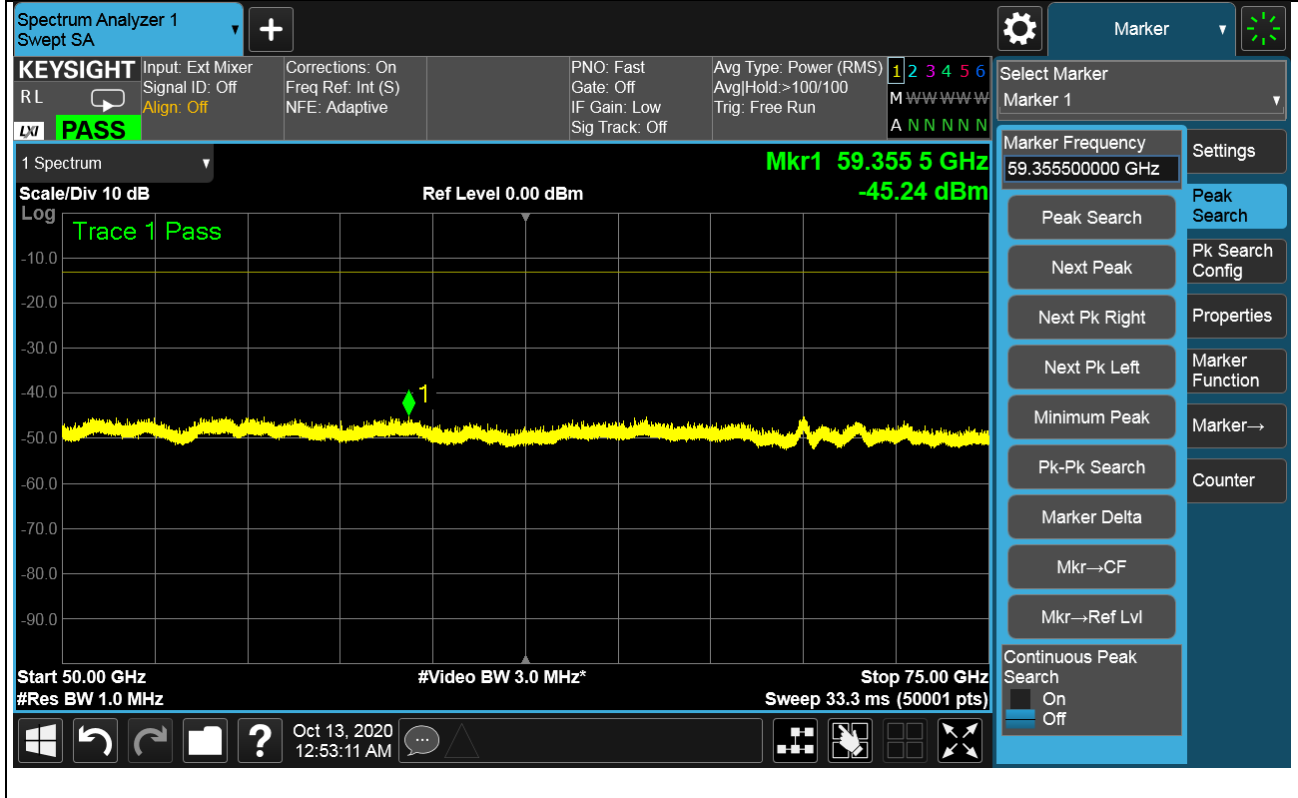
Summary of MIMO Beam Out-of Band Emission:

To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-44.79	-45.50	-42.12	-13	-29.12	Pass

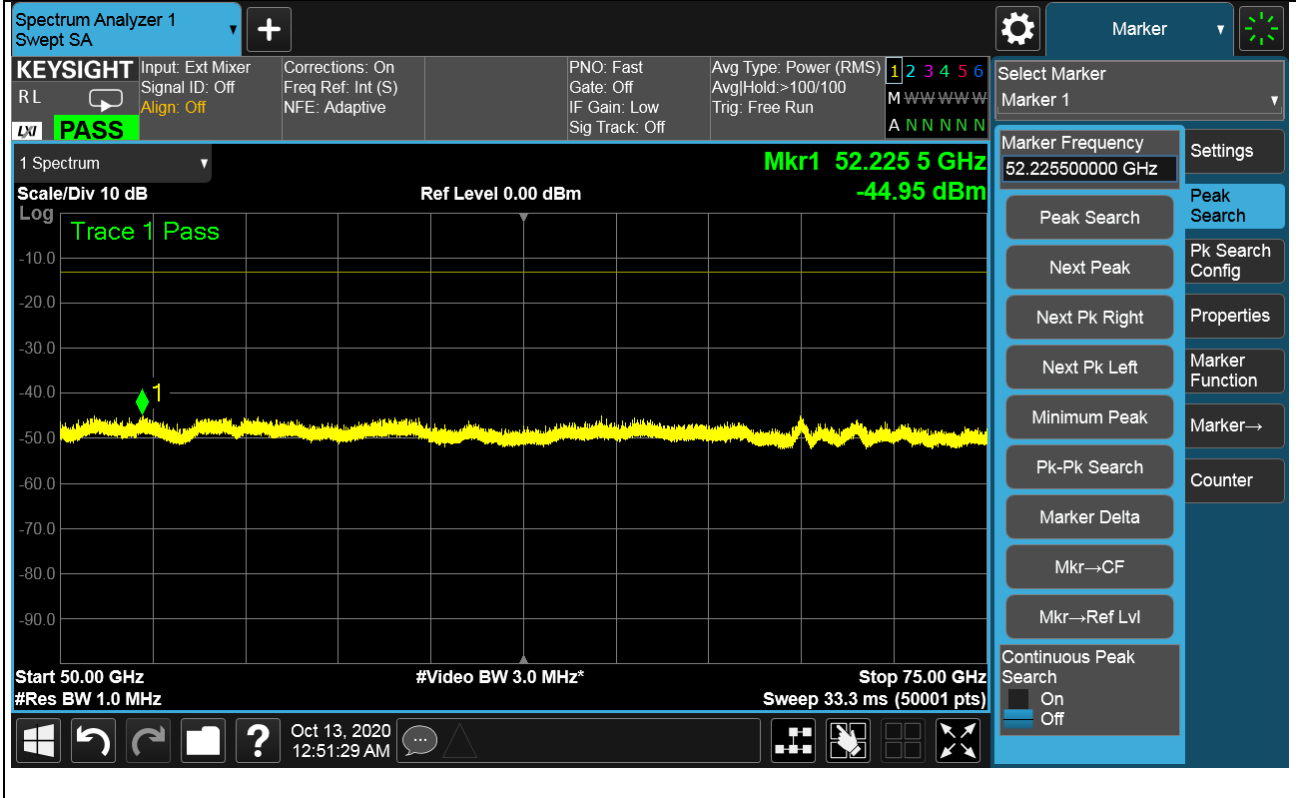
Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

Band	n261	Beam ID	11 + 139
Frequency Range	50GHz-75GHz	Channel	Middle
Polarity	Horizontal	Test distance	3m



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

Band	n261	Beam ID	11 + 139
Frequency Range	50GHz-75GHz	Channel	Middle
Polarity	Vertical	Test distance	3m



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

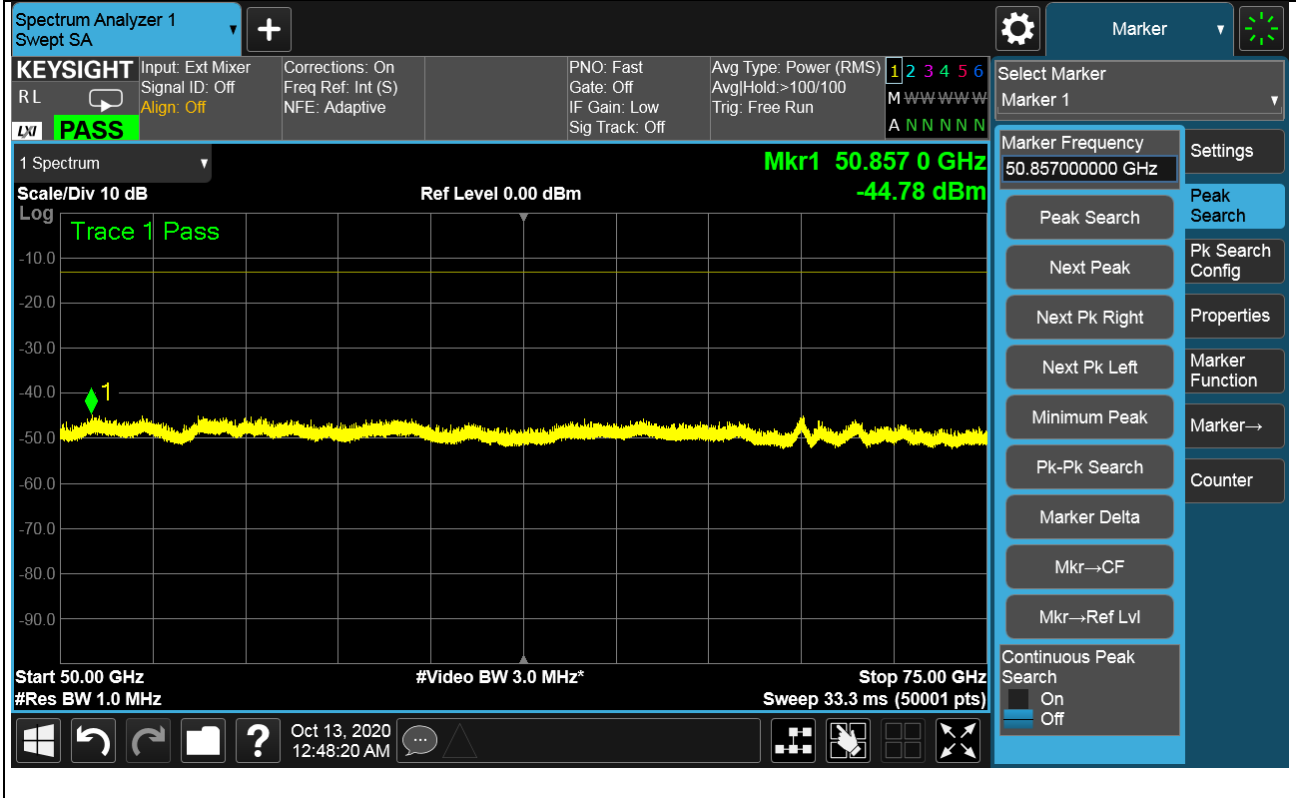
Summary of MIMO Beam Out-of Band Emission:

To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-44.95	-45.24	-42.08	-13	-29.08	Pass

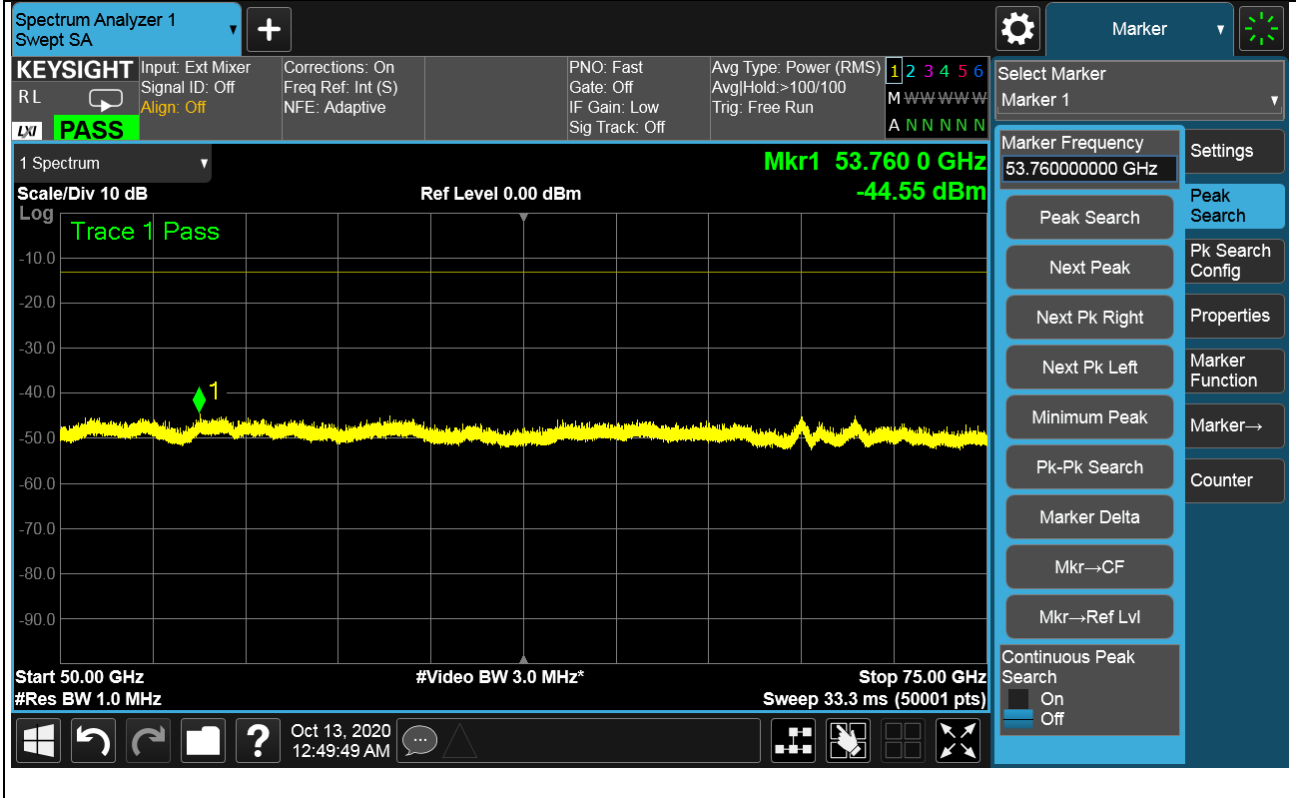
Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

Band	n261	Beam ID	11 + 139
Frequency Range	50GHz-75GHz	Channel	High
Polarity	Horizontal	Test distance	3m



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

Band	n261	Beam ID	11 + 139
Frequency Range	50GHz-75GHz	Channel	High
Polarity	Vertical	Test distance	3m



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

Summary of MIMO Beam Out-of Band Emission:

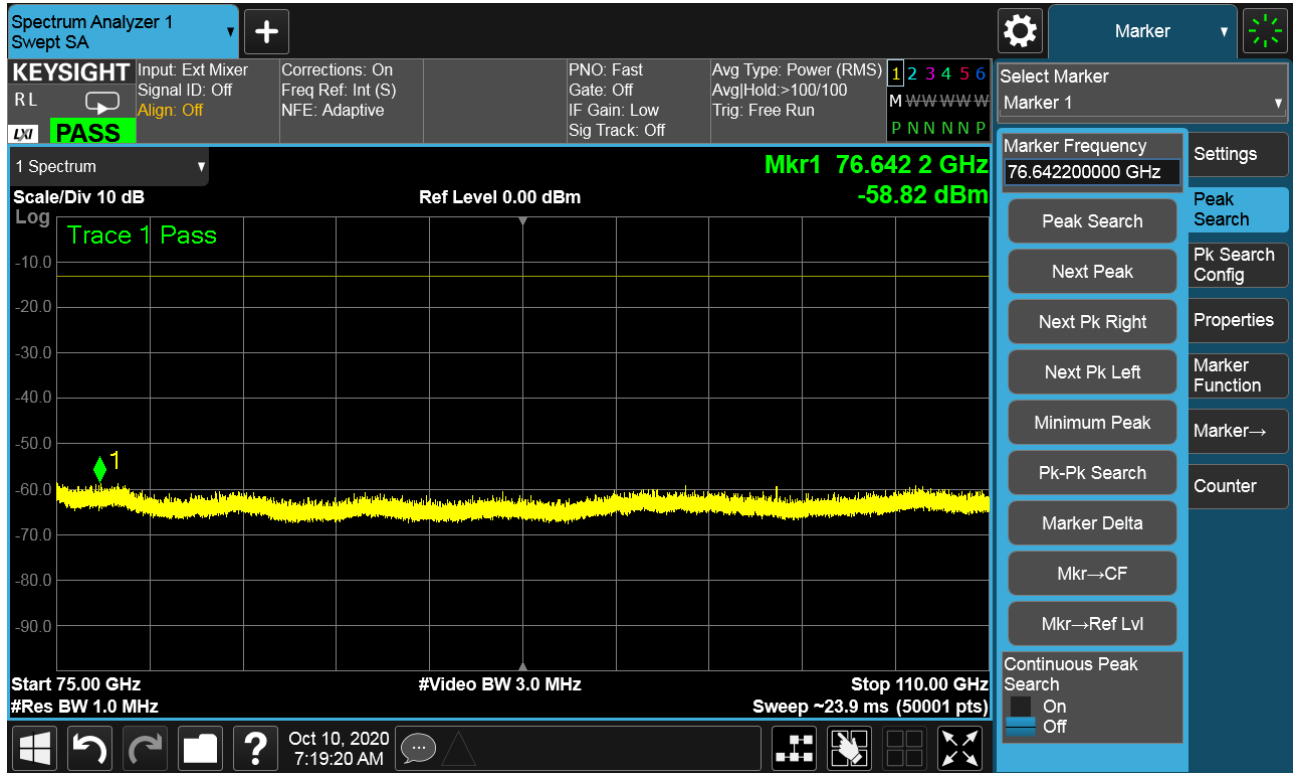
To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-44.55	-44.78	-41.65	-13	-28.65	Pass

Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

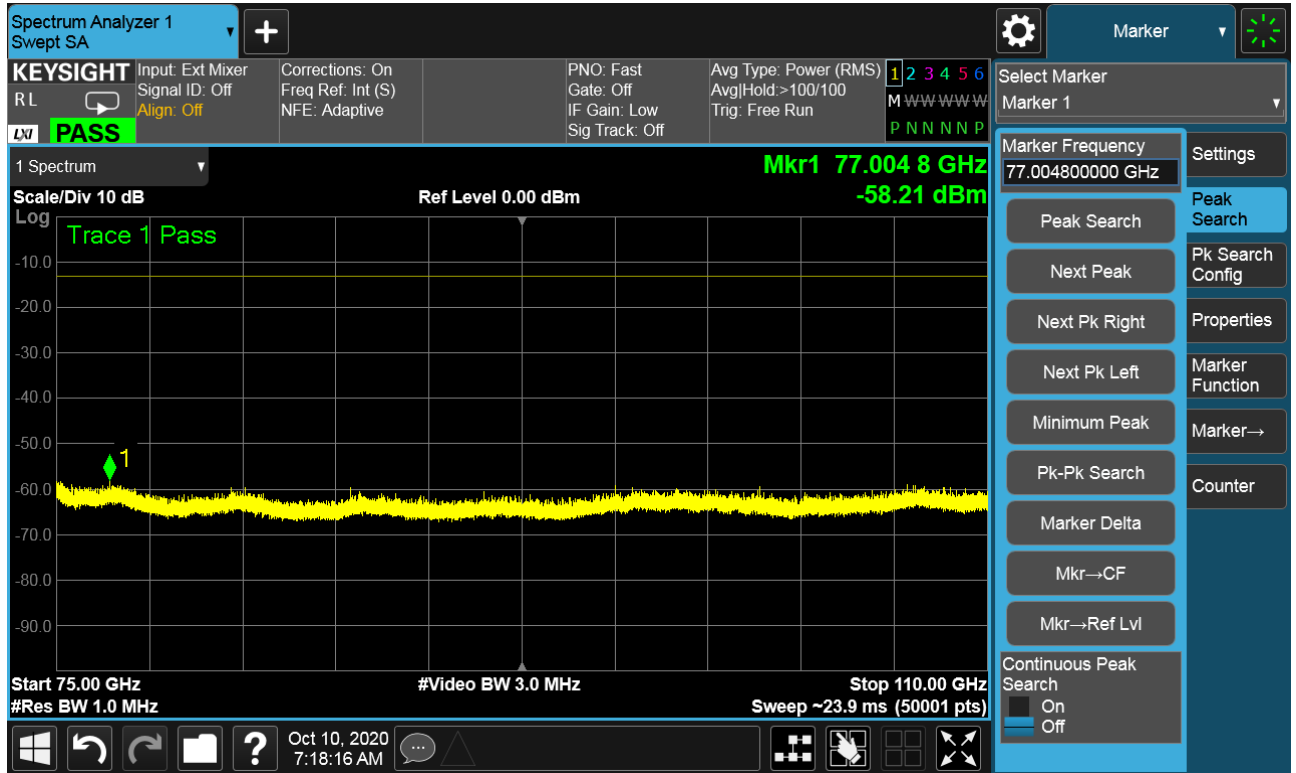
75GHz-100GHz (n261):

Band	n261	Beam ID	11
Frequency Range	75GHz-100GHz	Channel	Low
Polarity	Horizontal	Test distance	3m



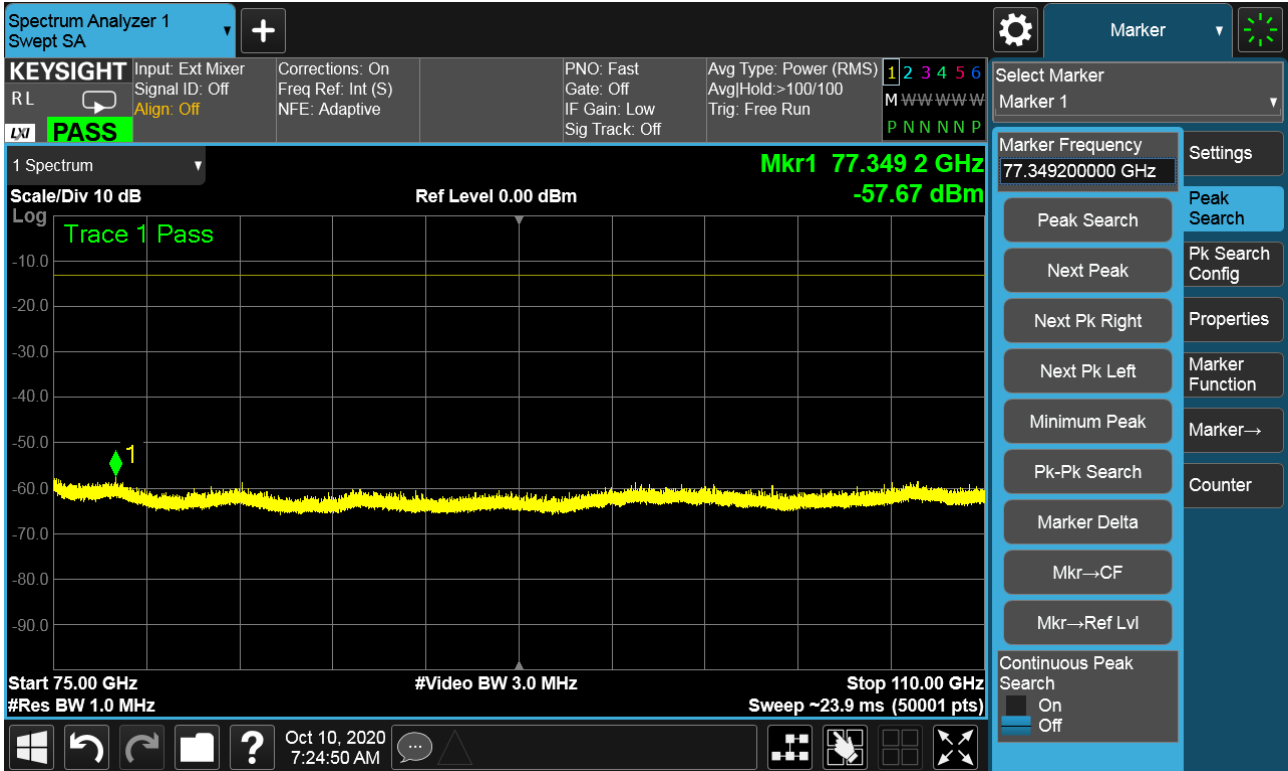
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	75GHz-100GHz	Channel	Low
Polarity	Vertical	Test distance	3m



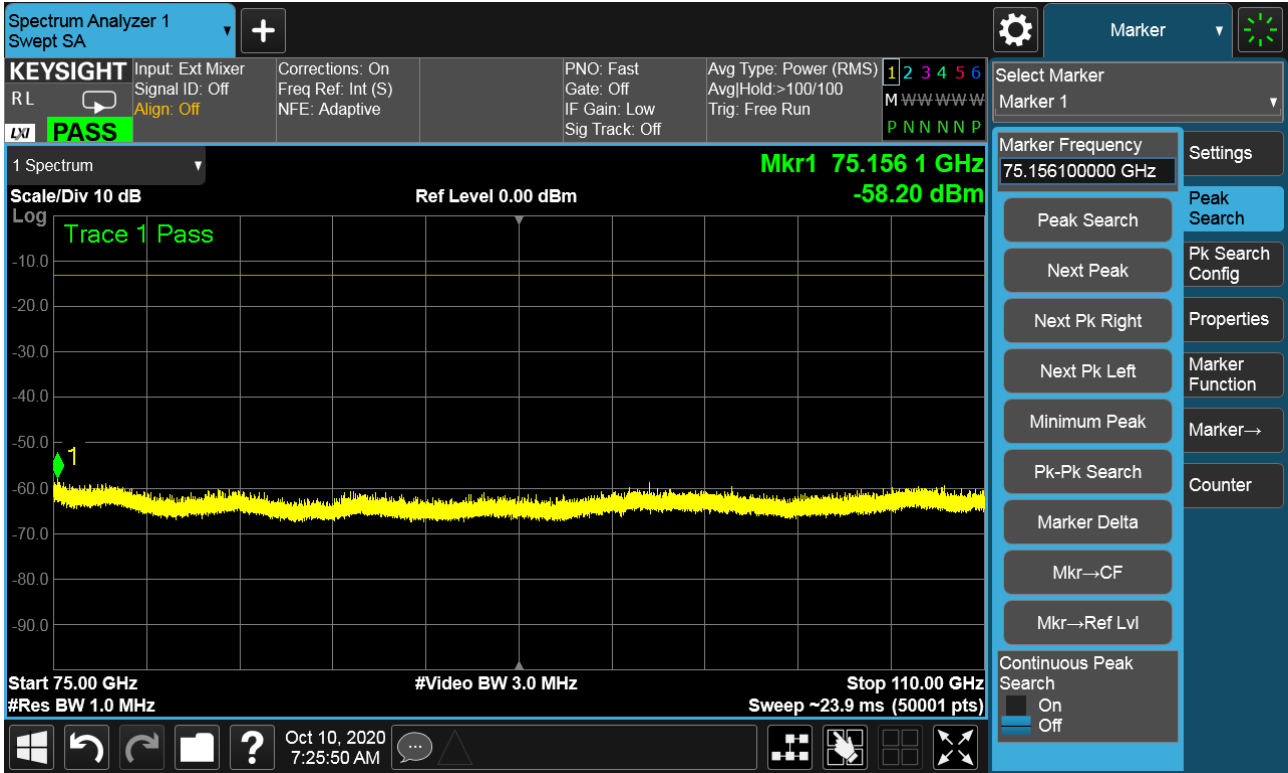
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	75GHz-100GHz	Channel	Middle
Polarity	Horizontal	Test distance	3m



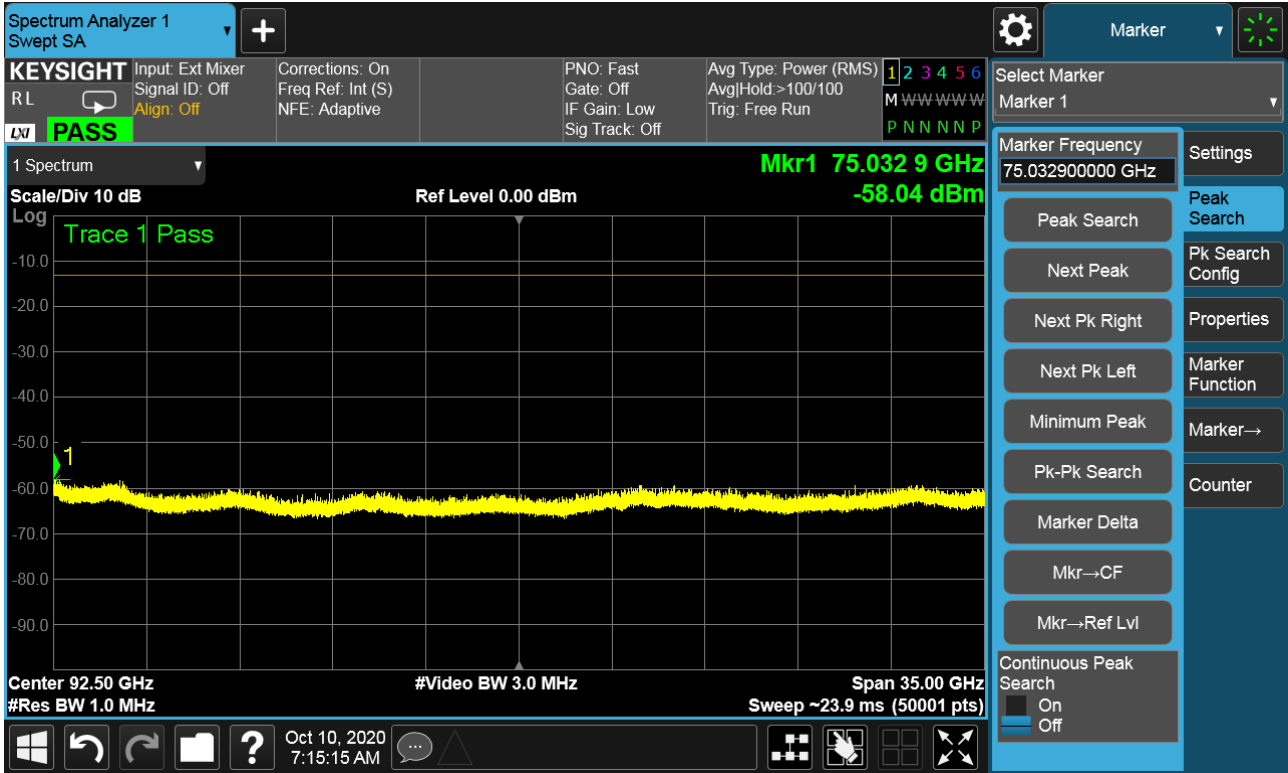
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	75GHz-100GHz	Channel	Middle
Polarity	Vertical	Test distance	3m



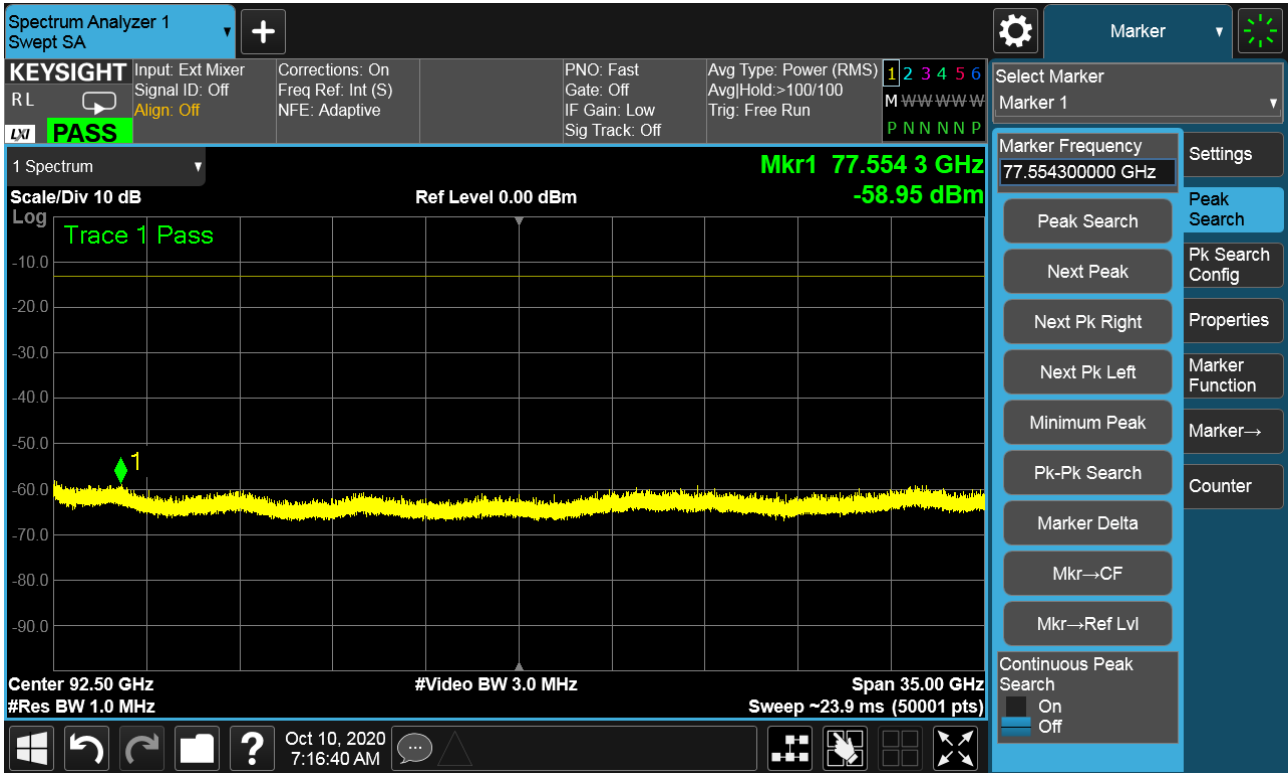
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	75GHz-100GHz	Channel	High
Polarity	Horizontal	Test distance	3m



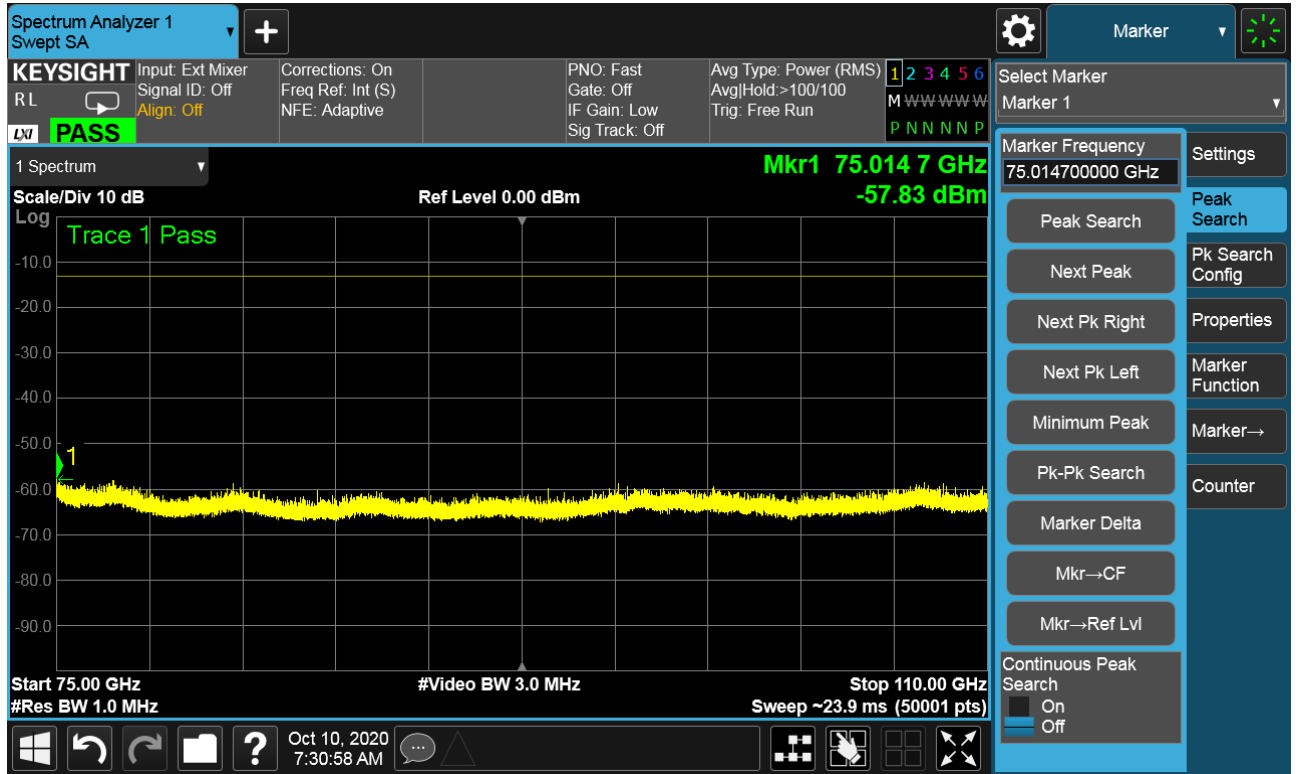
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11
Frequency Range	75GHz-100GHz	Channel	High
Polarity	Vertical	Test distance	3m



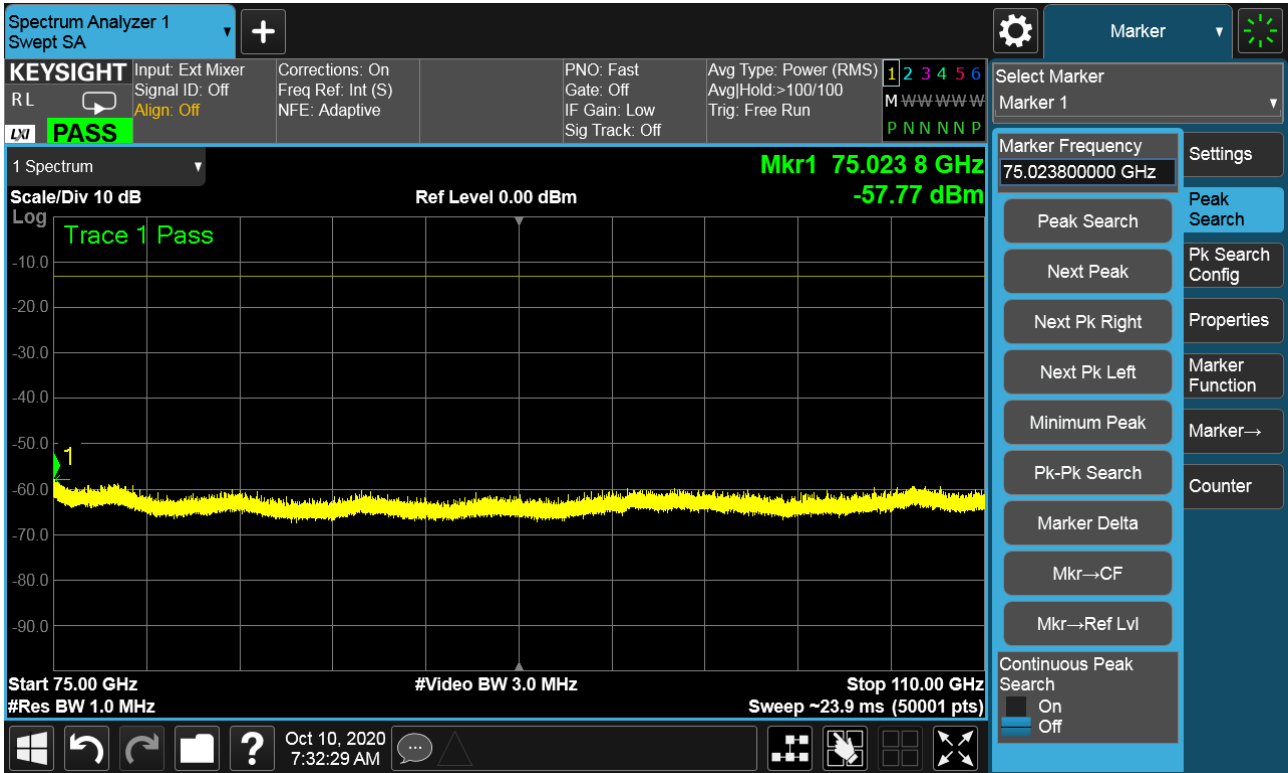
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	75GHz-100GHz	Channel	Low
Polarity	Horizontal	Test distance	3m



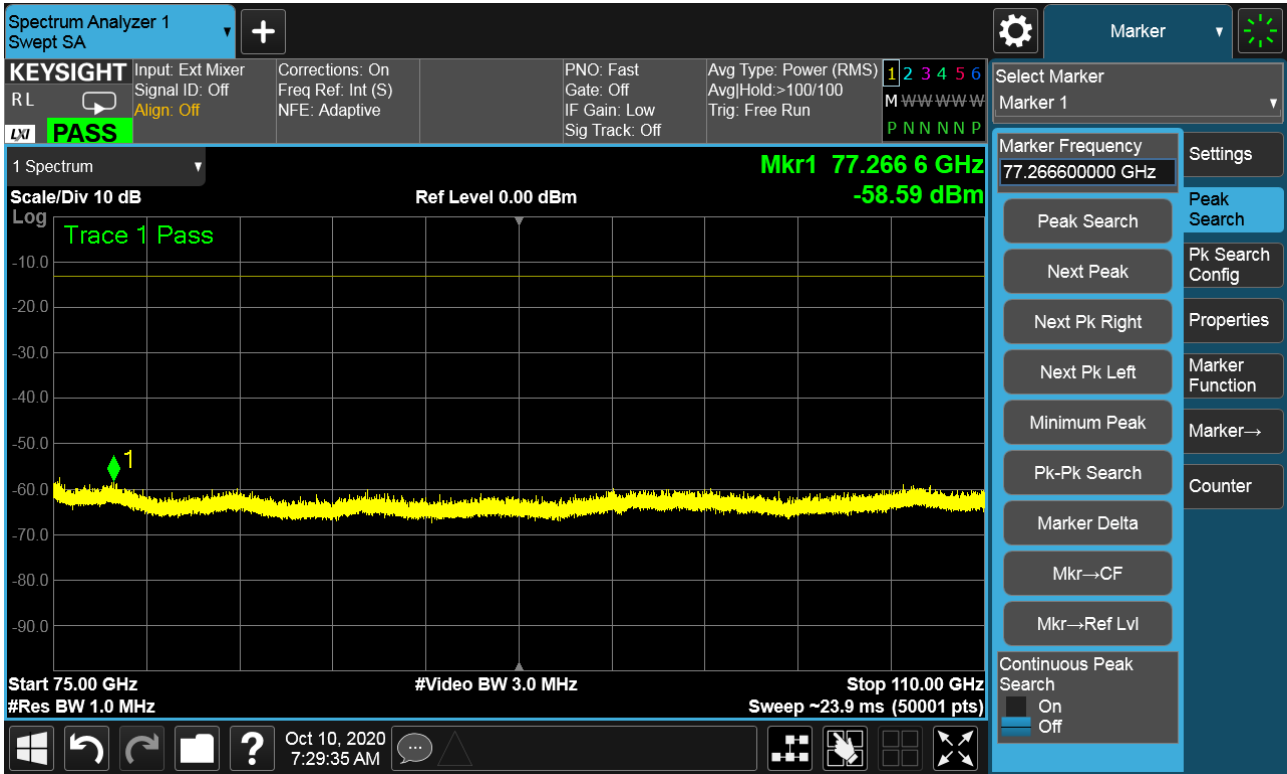
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	75GHz-100GHz	Channel	Low
Polarity	Vertical	Test distance	3m



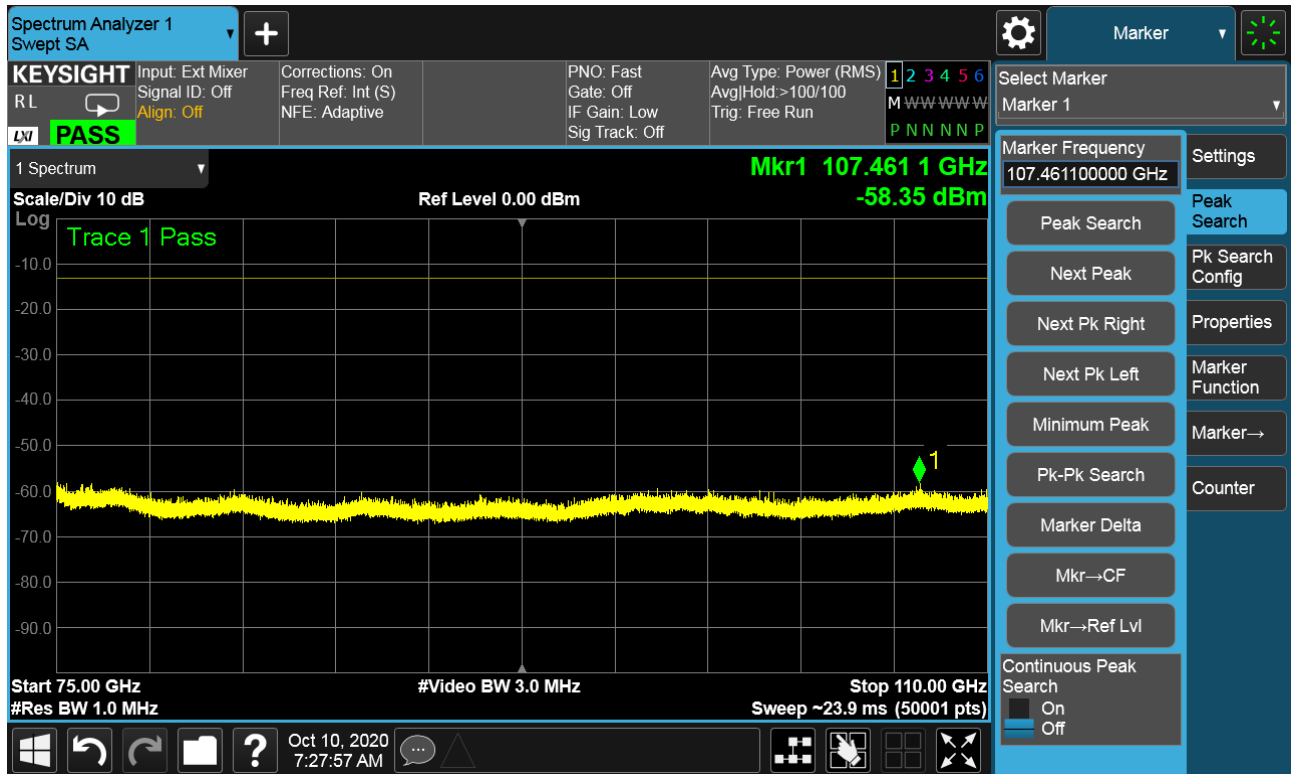
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	75GHz-100GHz	Channel	Middle
Polarity	Horizontal	Test distance	3m



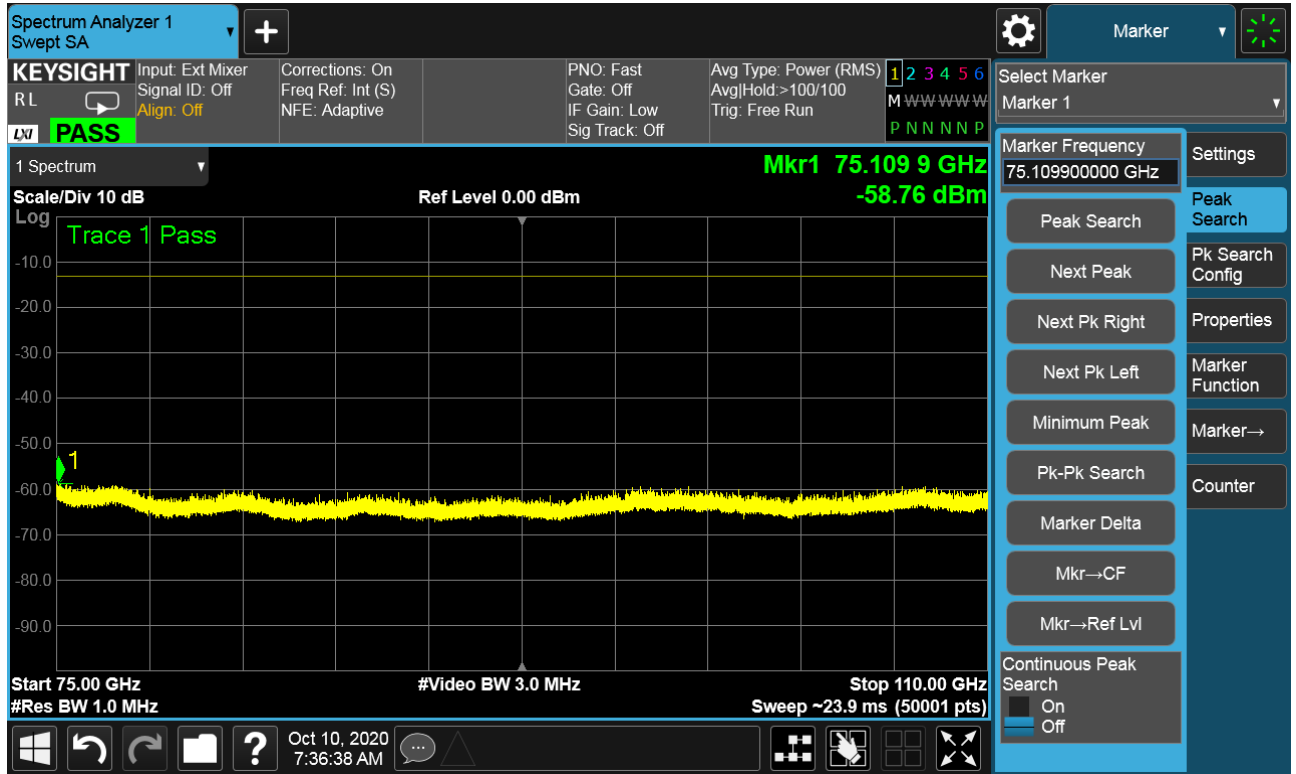
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	75GHz-100GHz	Channel	Middle
Polarity	Vertical	Test distance	3m



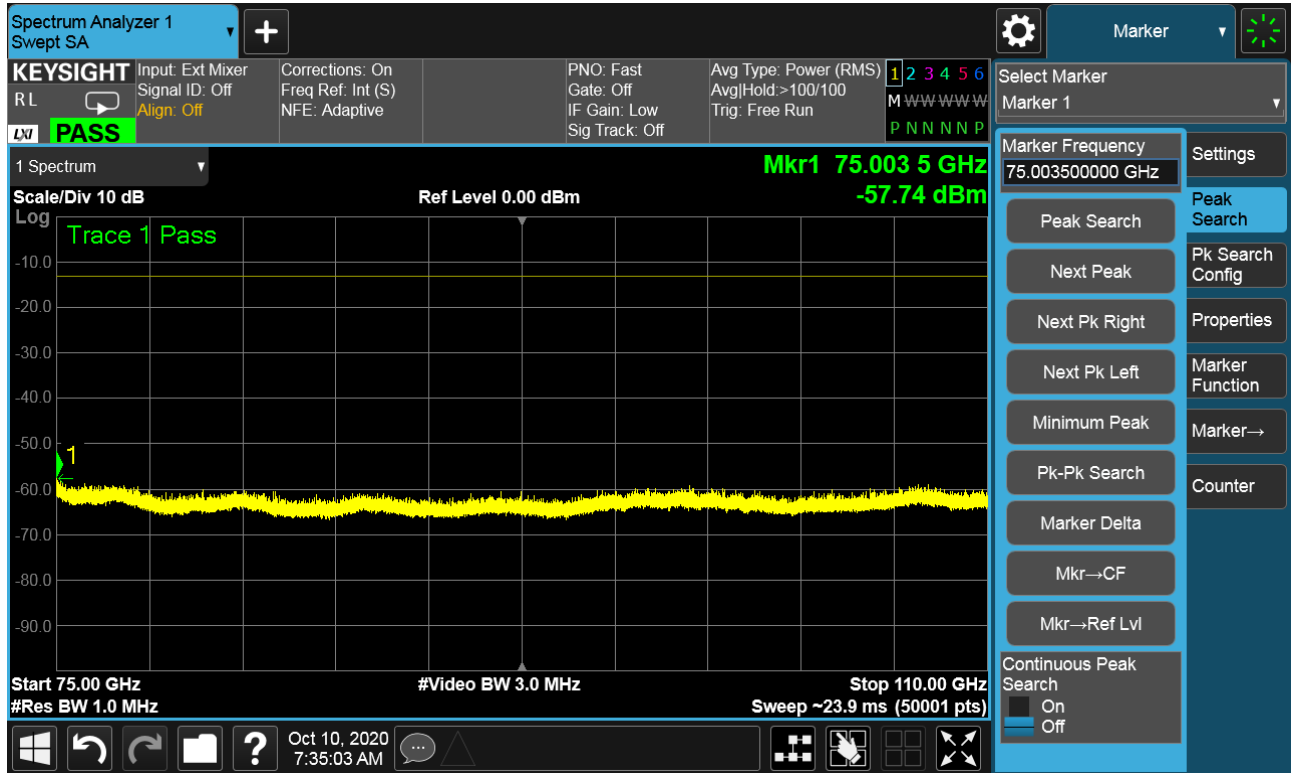
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	75GHz-100GHz	Channel	High
Polarity	Horizontal	Test distance	3m



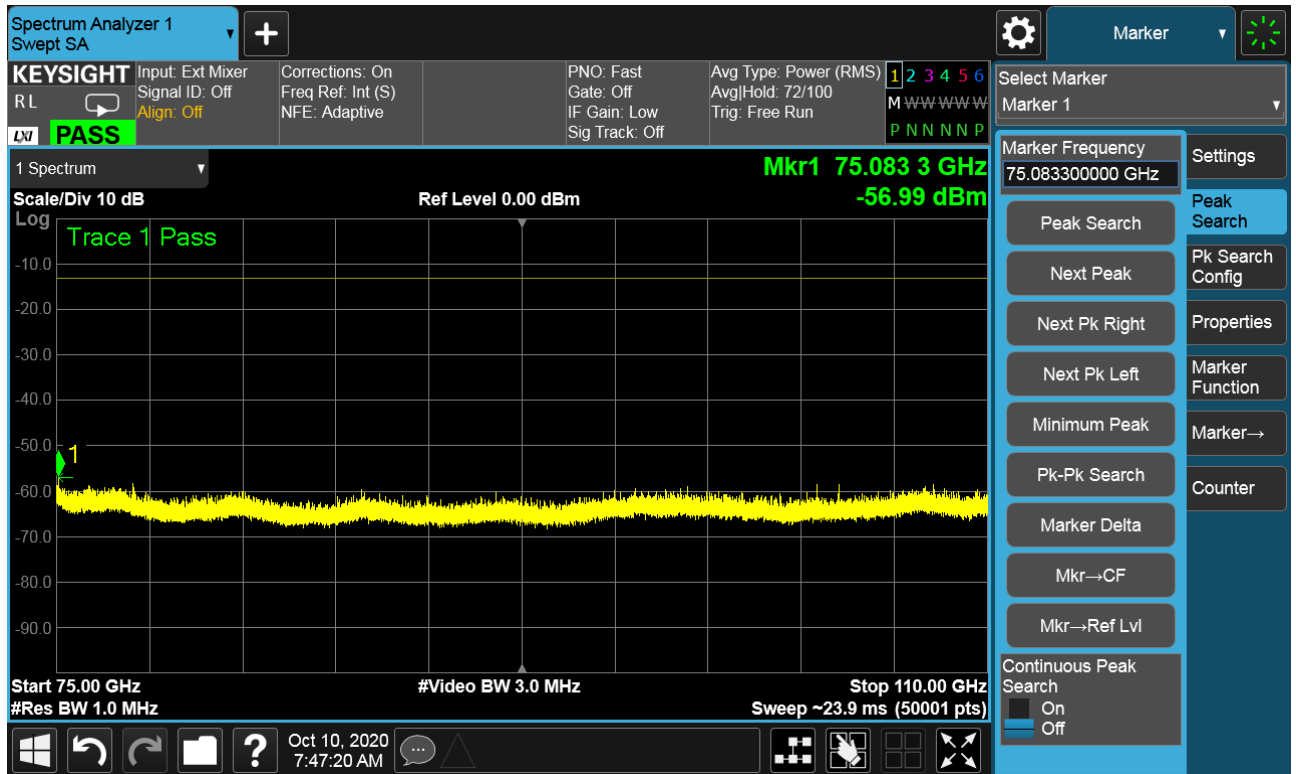
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	139
Frequency Range	75GHz-100GHz	Channel	High
Polarity	Vertical	Test distance	3m



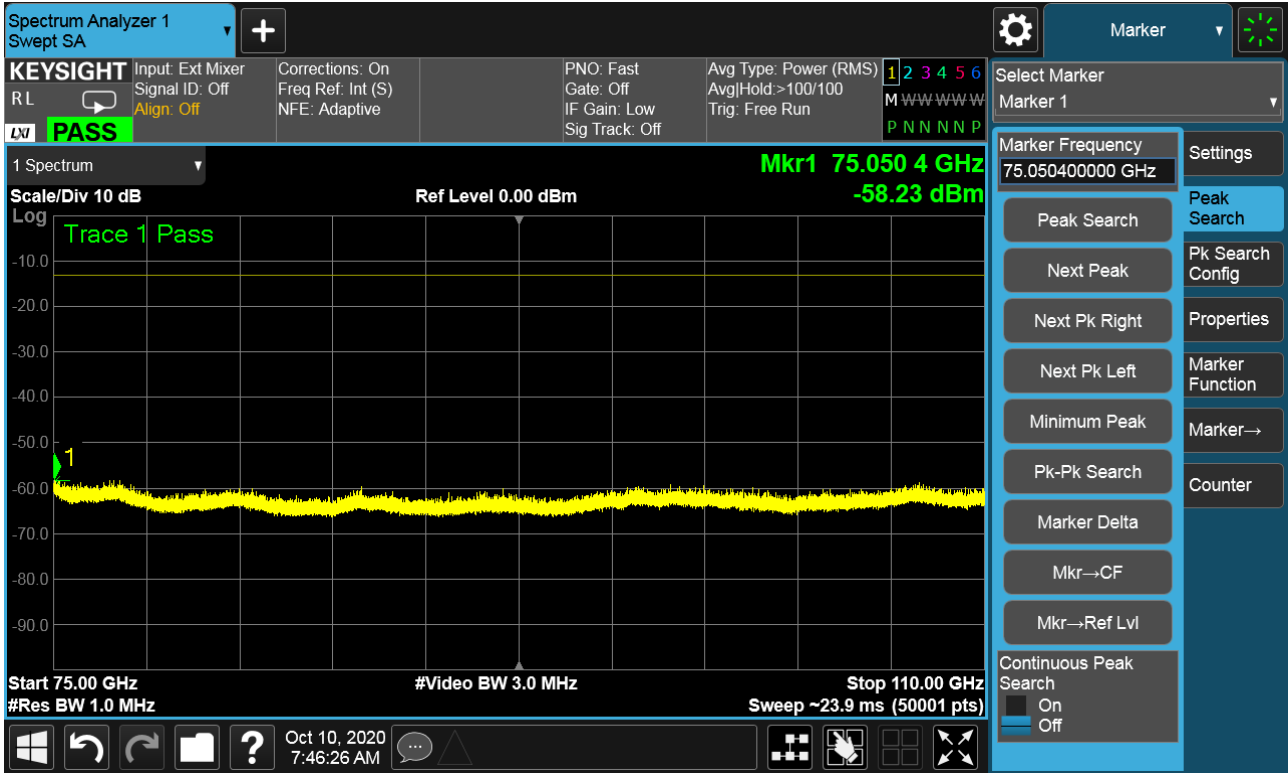
Note: The test results already include the correction factor (corrections: On).

Band	n261	Beam ID	11 + 139
Frequency Range	75GHz-100GHz	Channel	Low
Polarity	Horizontal	Test distance	3m



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

Band	n261	Beam ID	11 + 139
Frequency Range	75GHz-100GHz	Channel	Low
Polarity	Vertical	Test distance	3m



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

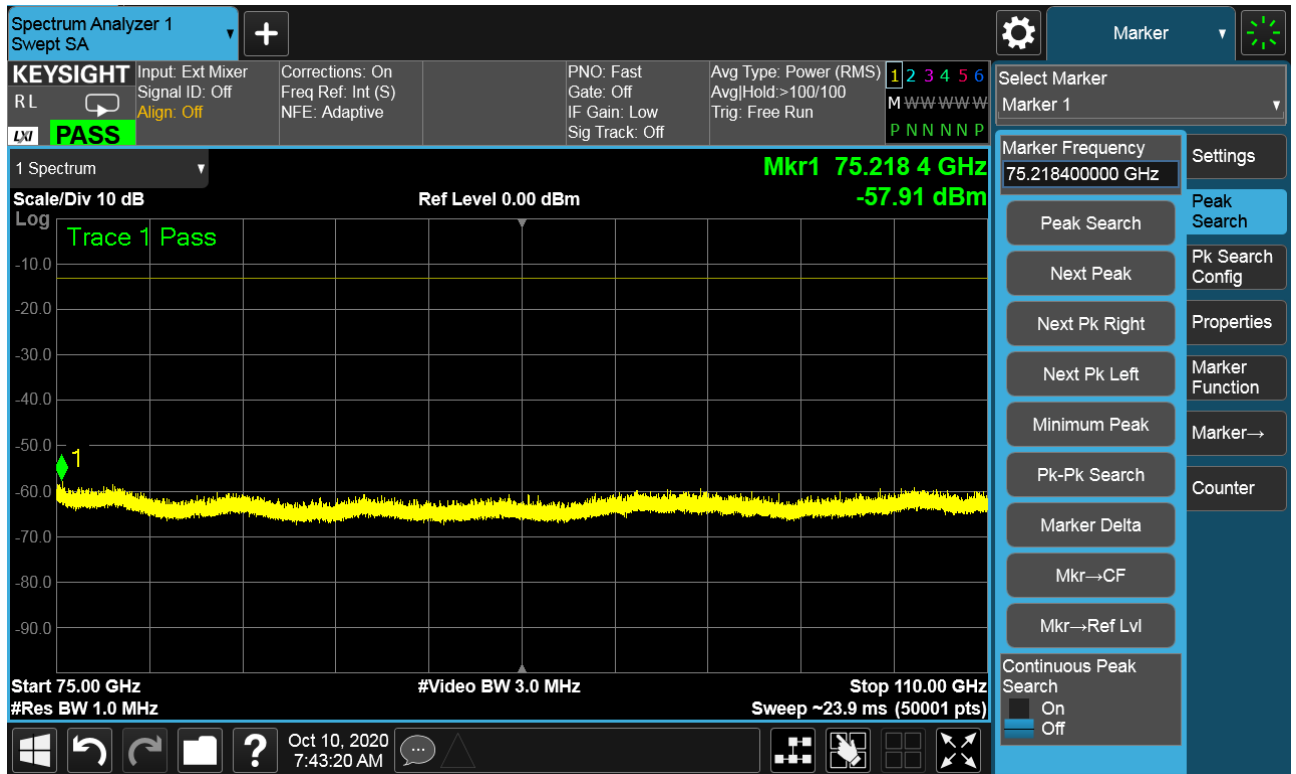
Summary of MIMO Beam Out-of Band Emission:

To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-58.23	-56.99	-54.56	-13	-41.56	Pass

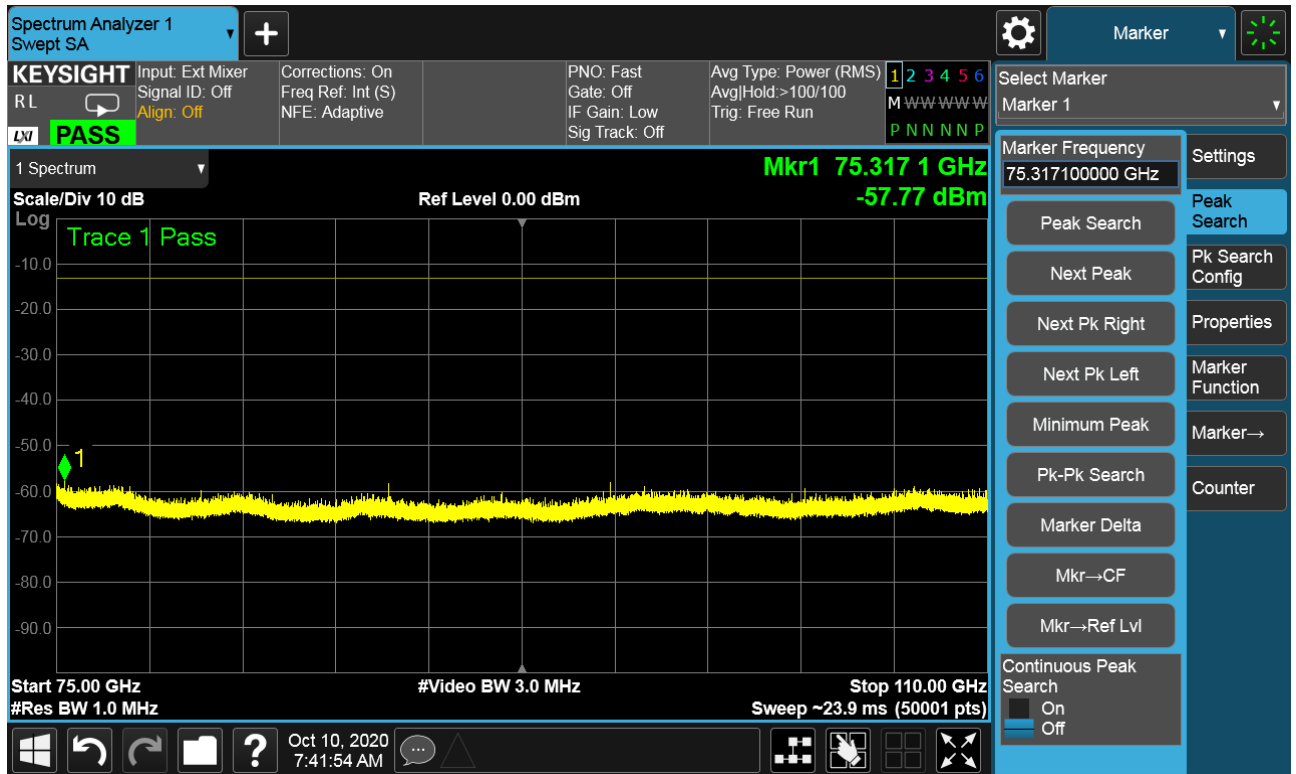
Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{(V_{dBm})} + 10^{(H_{dBm})})$
 Margin (dB) = EIRP (V+H) – Limit.

Band	n261	Beam ID	11 + 139
Frequency Range	75GHz-100GHz	Channel	Middle
Polarity	Horizontal	Test distance	3m



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

Band	n261	Beam ID	11 + 139
Frequency Range	75GHz-100GHz	Channel	Middle
Polarity	Vertical	Test distance	3m



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

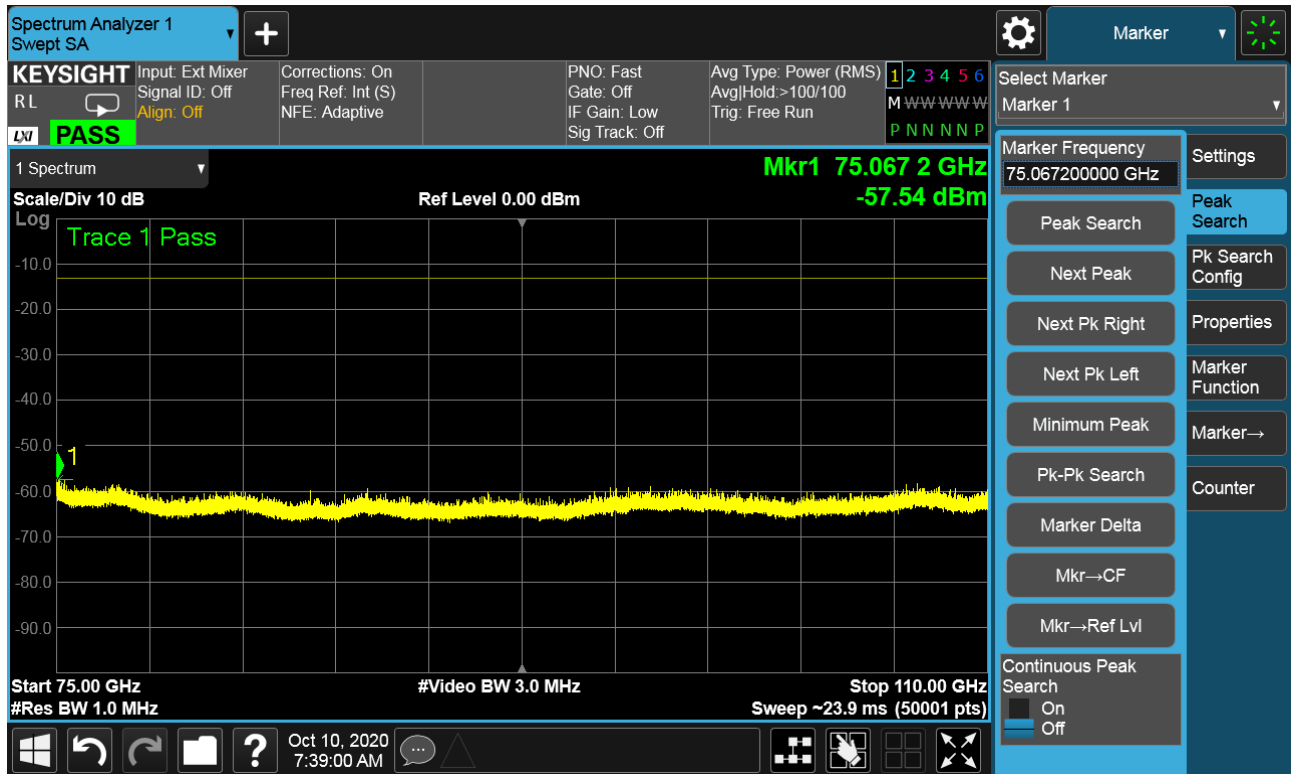
Summary of MIMO Beam Out-of Band Emission:

To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-57.77	-57.91	-54.83	-13	-41.83	Pass

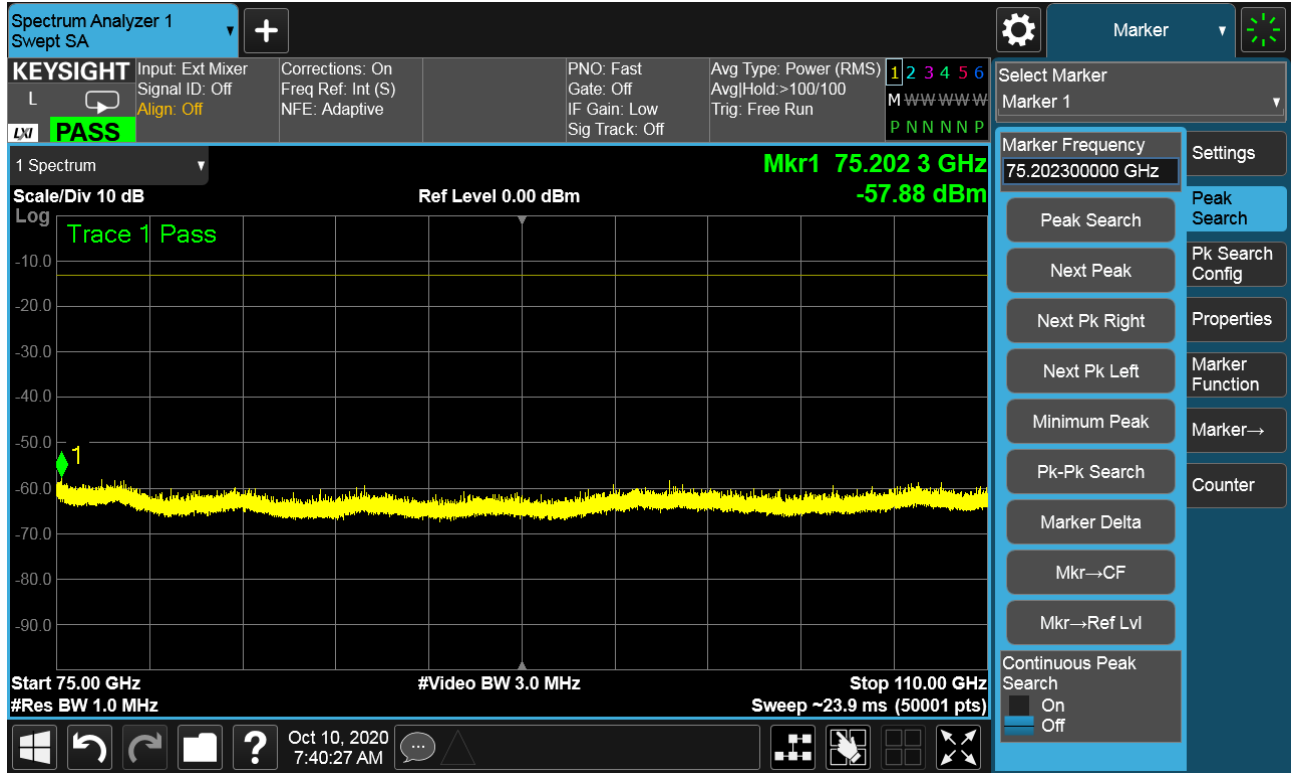
Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

Band	n261	Beam ID	11 + 139
Frequency Range	50GHz-75GHz	Channel	High
Polarity	Horizontal	Test distance	3m



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

Band	n261	Beam ID	11 + 139
Frequency Range	50GHz-75GHz	Channel	High
Polarity	Vertical	Test distance	3m



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

Summary of MIMO Beam Out-of Band Emission:

To address compliance of MIMO Out-of Band emission per KDB 662911 D01, the MIMO Out-of Band emission EIRP is calculated by summing the worst-case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm.

Beam ID	EIRP for V Beam (dBm)	EIRP for H Beam (dBm)	EIRP for V+H Beam (dBm)	Limit(dBm)	Margin(dB)	Result
11 + 139	-57.88	-57.54	-54.70	-13	-41.7	Pass

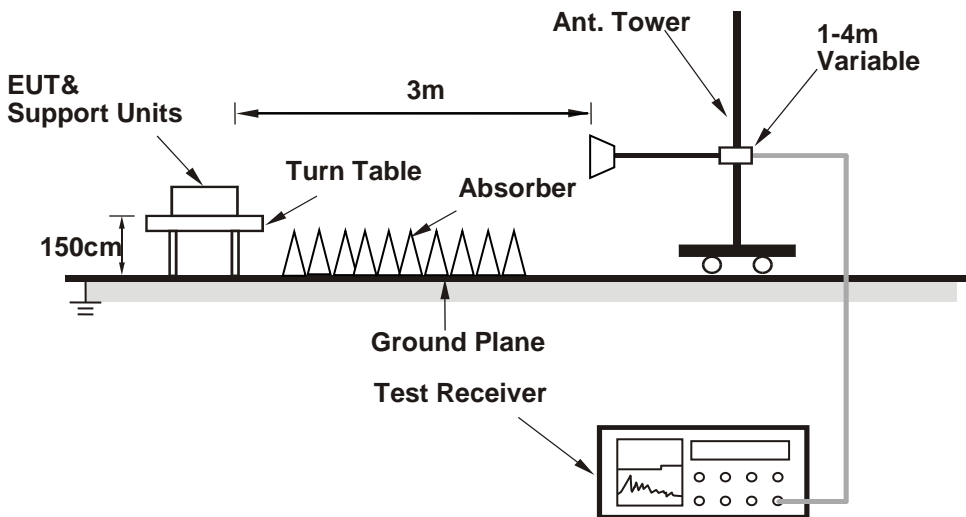
Note: $EIRP (V+H) = EIRP (V) + EIRP (H) = 10 \cdot \log_{10} (10^{V_{dBm}} + 10^{H_{dBm}})$
 Margin (dB) = EIRP (V+H) – Limit.

4.5 Out-of-Band Spurious Emission Measurement

4.5.1 Limits of Out-of-Band Spurious Emission Measurement

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.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.2.3 to get information of above instrument.

4.5.4 Test Procedure

- a. 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.
- b. 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.
- c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- d. 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.

Note:

1. The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth are 3 MHz.
2. When test frequency above 1GHz the detector function was use RMS (average) mode during the testing.
3. Measurements were taken in the far field of the mm-Wave test signal based on the formula:
 $R \geq (2D^2) / \text{wavelength}$.