5.6 AC Power-Line Conducted Emissions

▣ Test Requirements, §15.207

An intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 uH/50 ohm line impedance stabilization network (LISN).

Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5.0	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

▣ Test Configuration

NA

▣ Test Procedure

Conducted emissions from the EUT were measured according to the ANSI C63.10-2013.

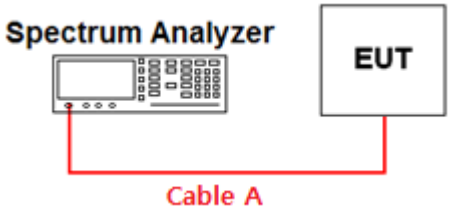
1. The test procedure is performed in a 6.5 m × 3.5 m × 3.5 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.
4. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

▣ Test Results: NA

APPENDIX I

Conducted Test set up Diagram

▪ Conducted Measurement



APPENDIX II

Duty Cycle Information

▣ Test Procedure

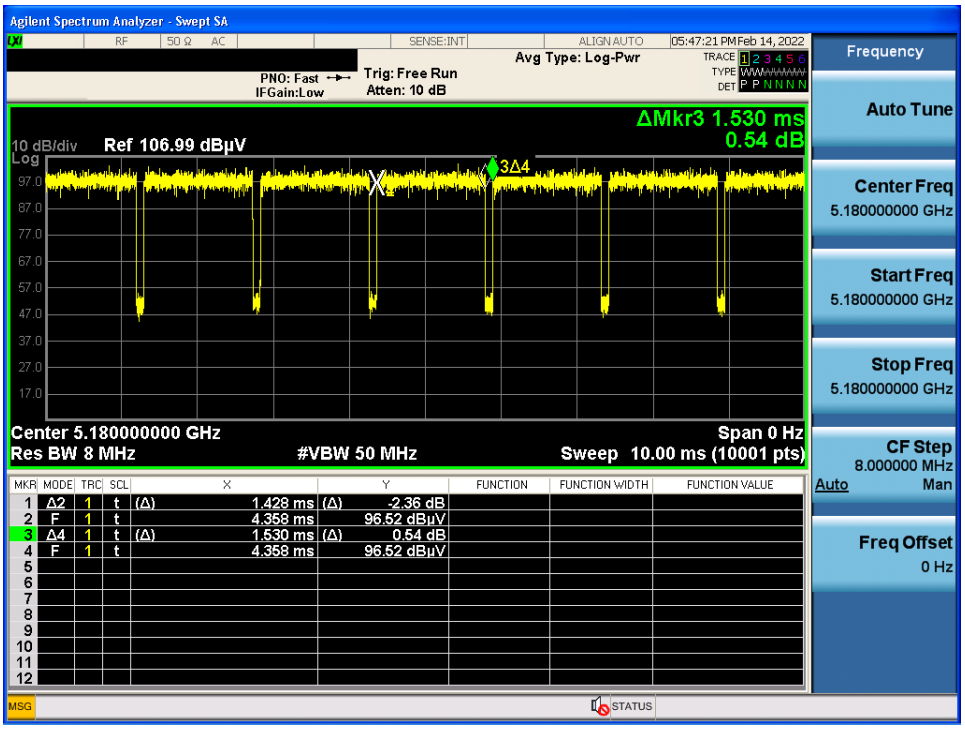
Duty Cycle [X = On Time / (On + Off time)] is measured using Measurement Procedure **of KDB789033 D02v02r01**

1. Set the center frequency of the spectrum analyzer to the center frequency of the transmission.
2. Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value.
3. Set VBW ≥ RBW. Set detector = peak.
4. Note : The zero-span measurement method shall not be used unless both **RBW and VBW are > 50 / *T***, where *T* is defined in section II.B.1.a), and **the number of sweep points across duration *T* exceeds 100**. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if *T* ≤ 16.7 microseconds.)

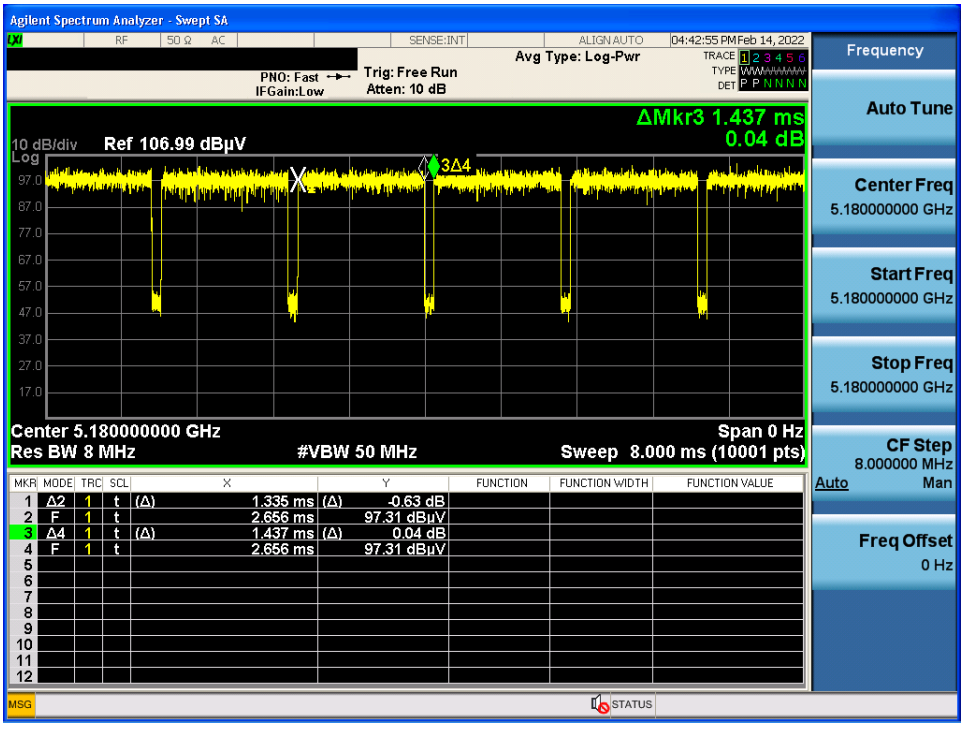
   T : The minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
   (***T* = On time** of the above table since the EUT operates with above fixed Duty Cycle and it is the minimum On time)

▣ Test Plot:

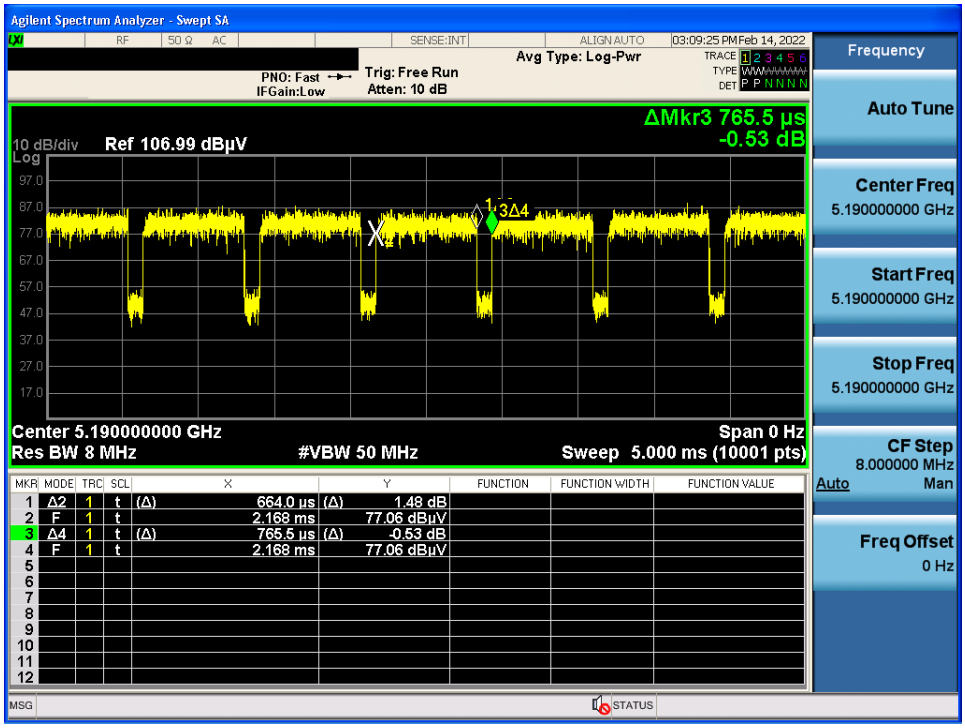
Duty Cycle Test Mode: TM1 & Ch.36



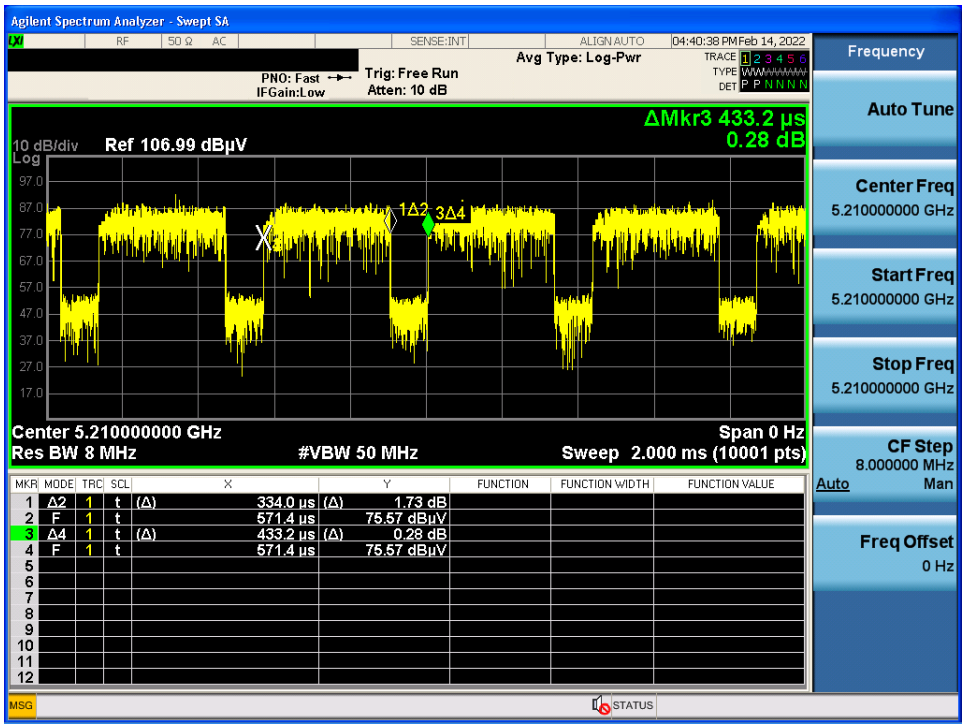
Duty Cycle Test Mode: TM 2 & Ch.36



Duty Cycle Test Mode: TM 3 & Ch.38



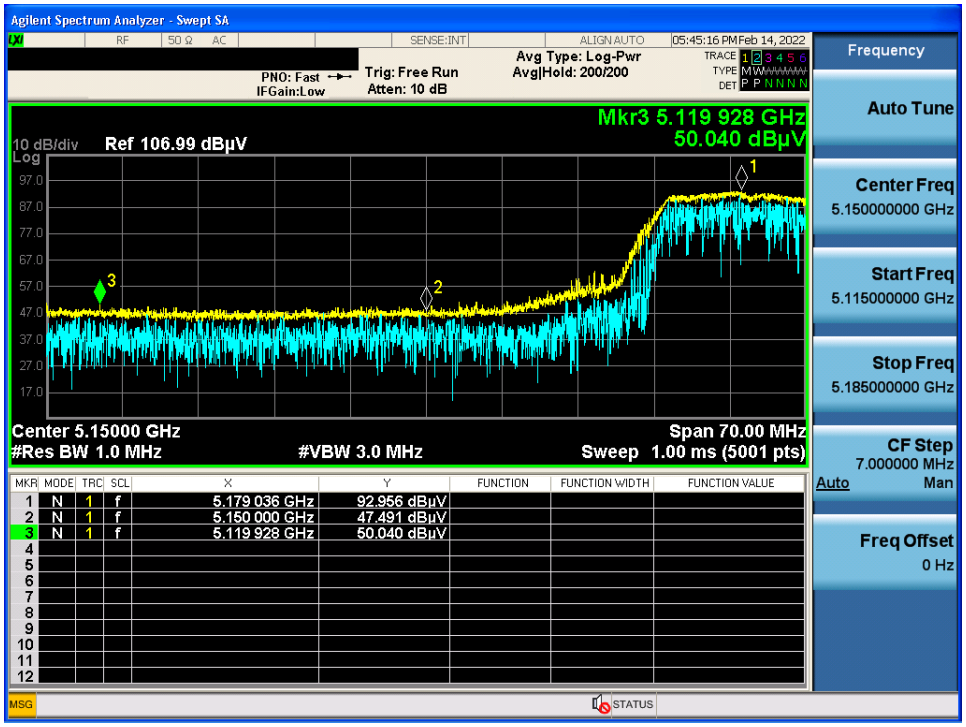
Duty Cycle Test Mode: TM 4 & Ch.42



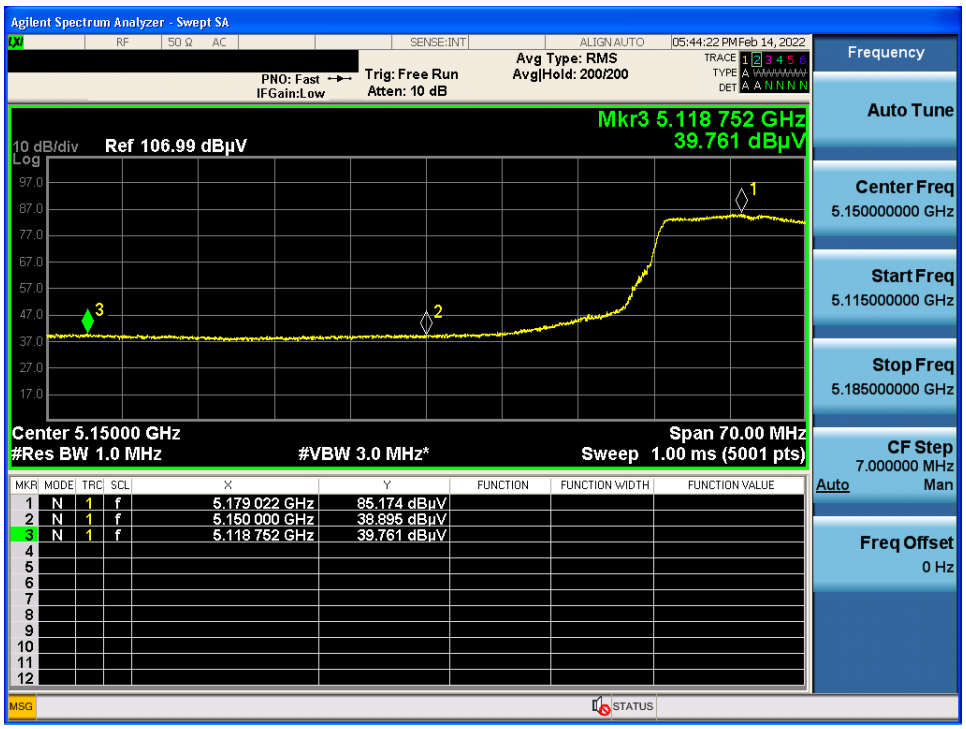
APPENDIX III

Unwanted Emissions (Radiated) Test Plot:

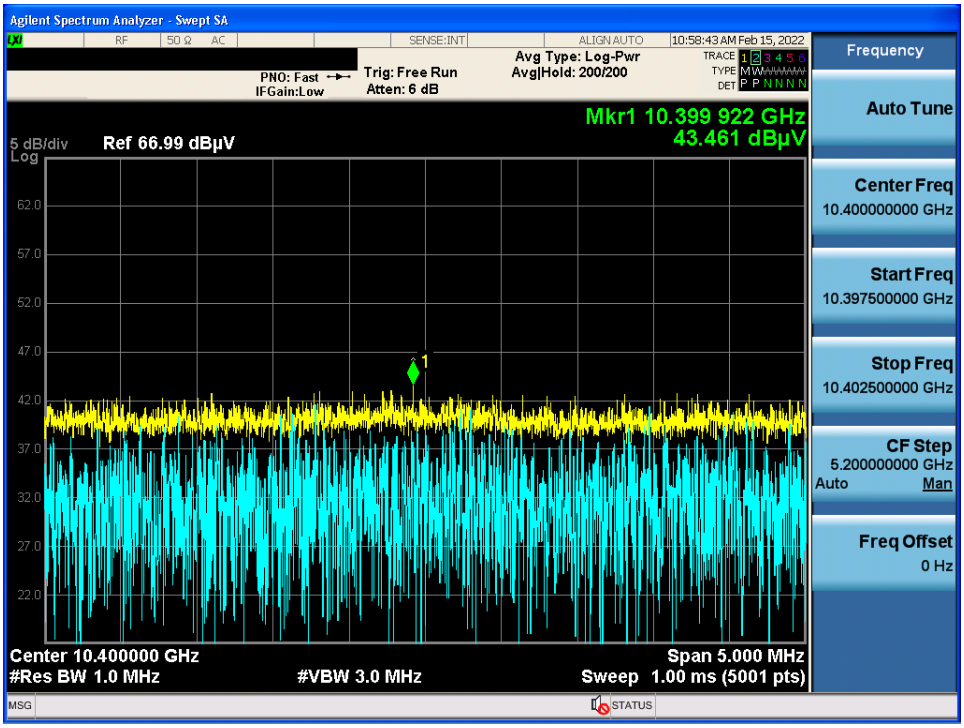
TM 1 & U-NII 1 & 5 180 & X axis & Ver **Detector Mode : PK**



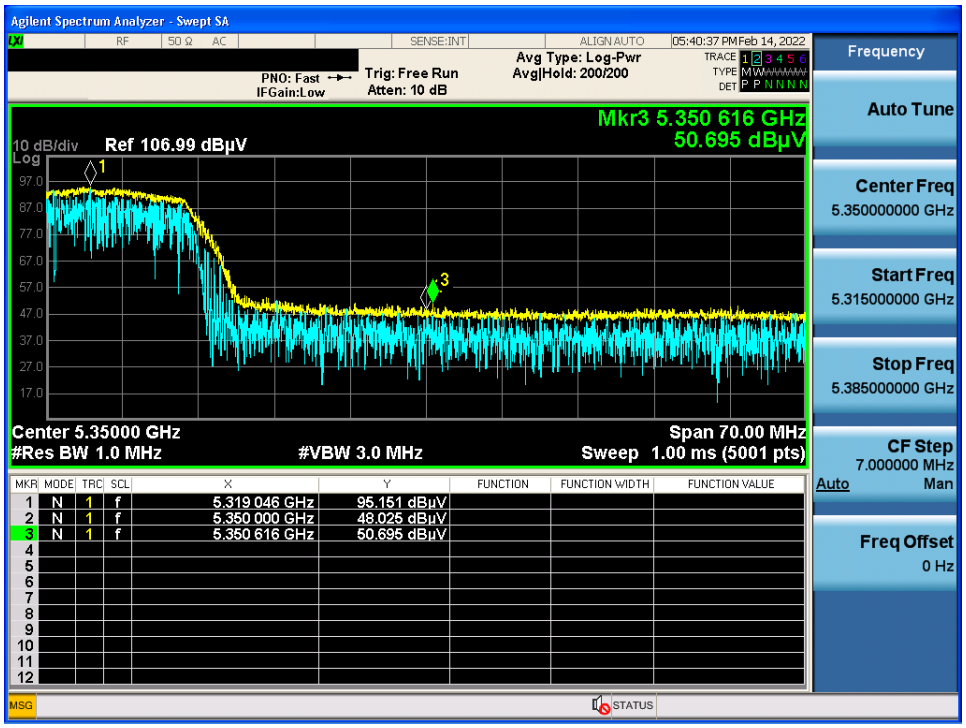
TM 1 & U-NII 1 & 5 180 & X axis & Ver **Detector Mode : AV**



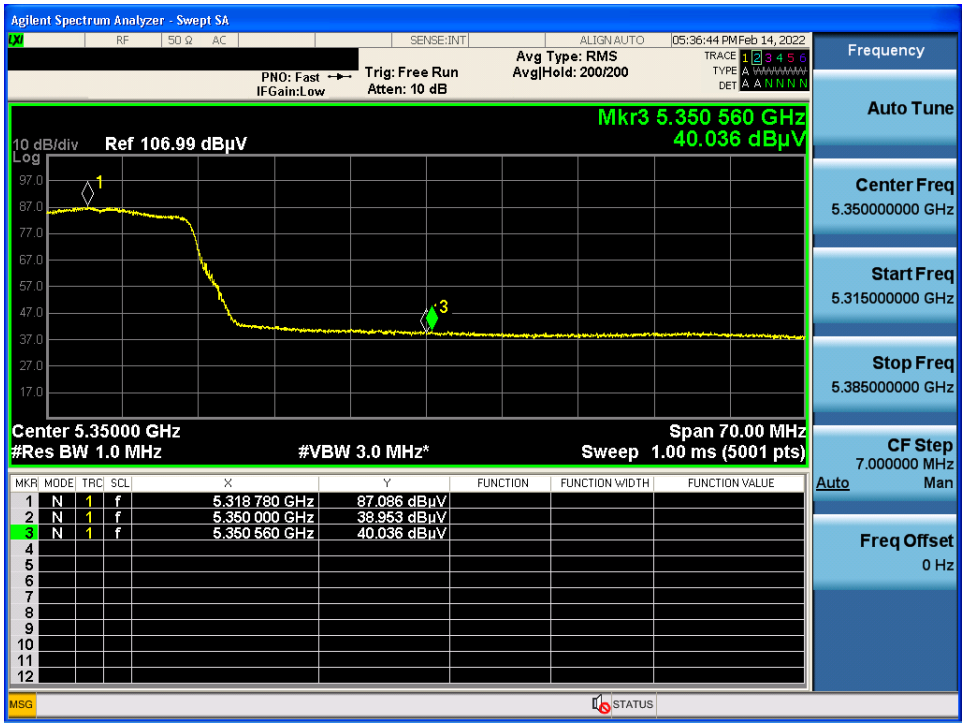
TM 1 & U-NII 1 & 5 200 & X axis & Ver **Detector Mode : PK**



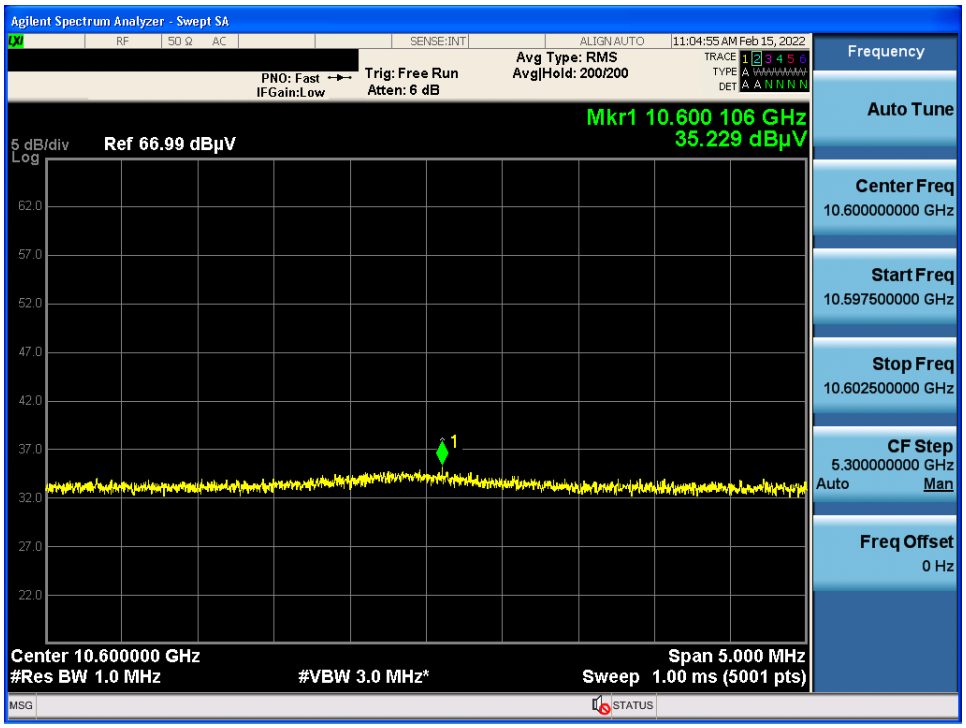
TM 1 & U-NII 2A & 5 320 & X axis & Ver **Detector Mode : PK**



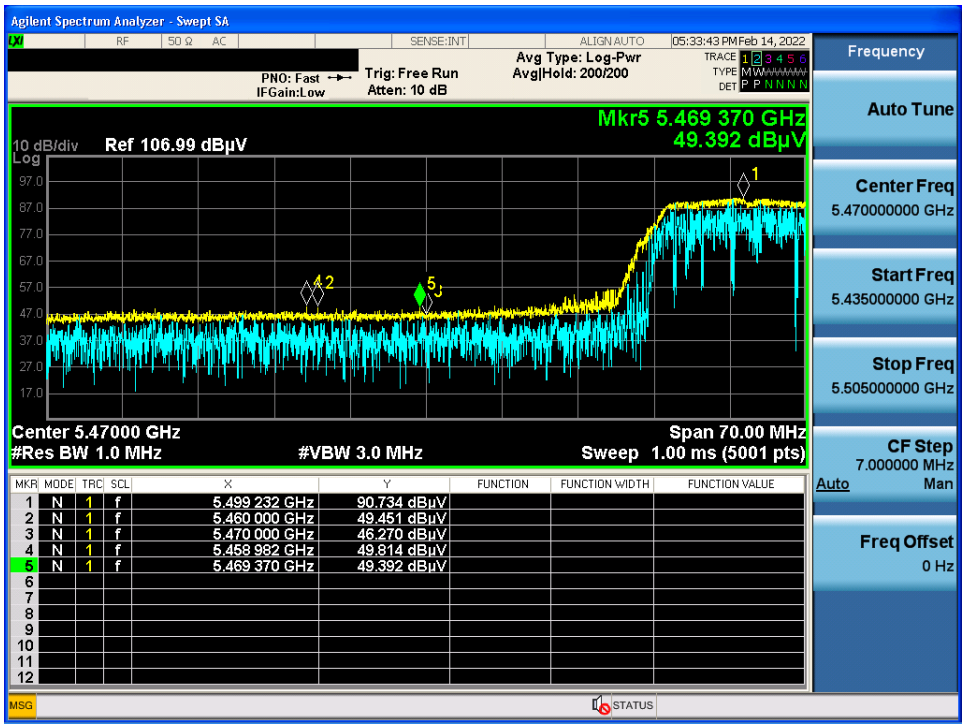
TM 1 & U-NII 2A & 5 320 & X axis & Ver **Detector Mode : AV**



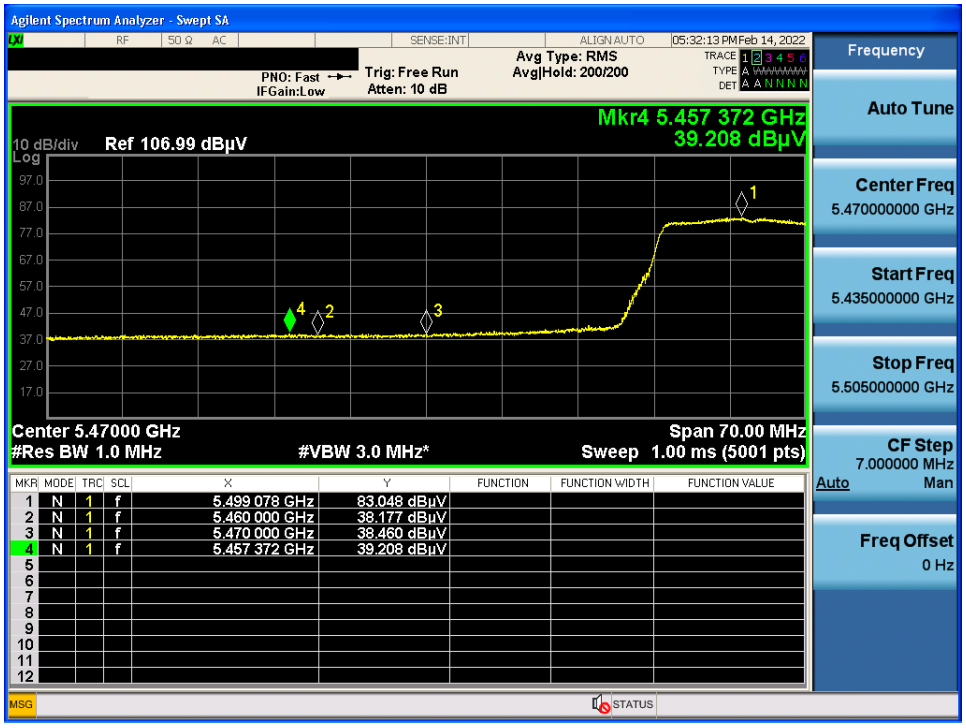
TM 1 & U-NII 2A & 5 300 & X axis & Ver **Detector Mode : AV**



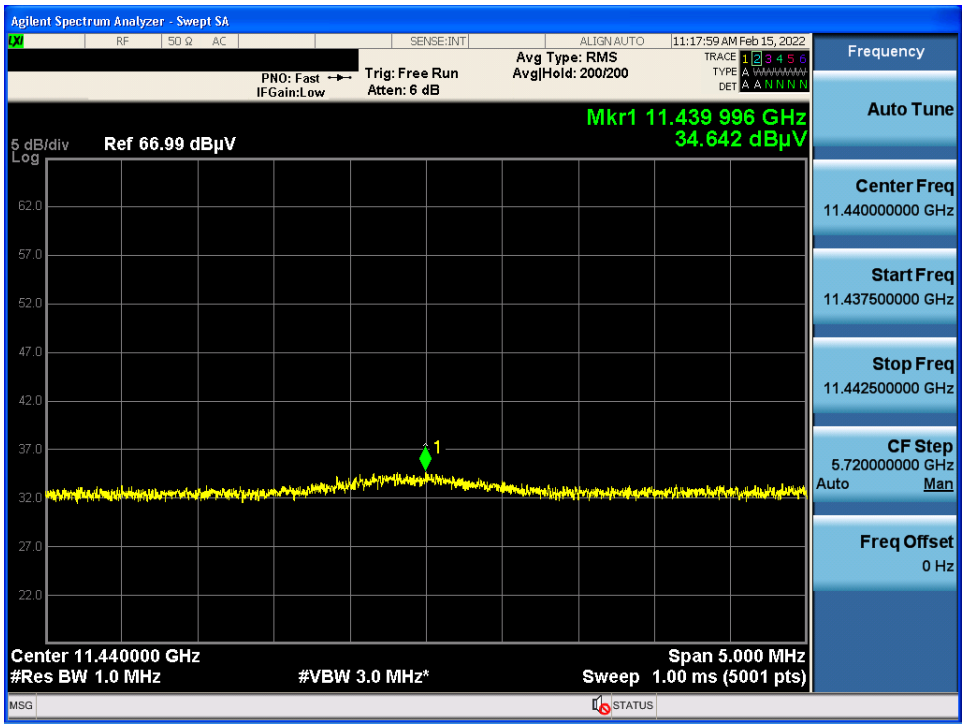
TM 1 & U-NII 2C & 5 500 & X axis & Ver **Detector Mode : PK**



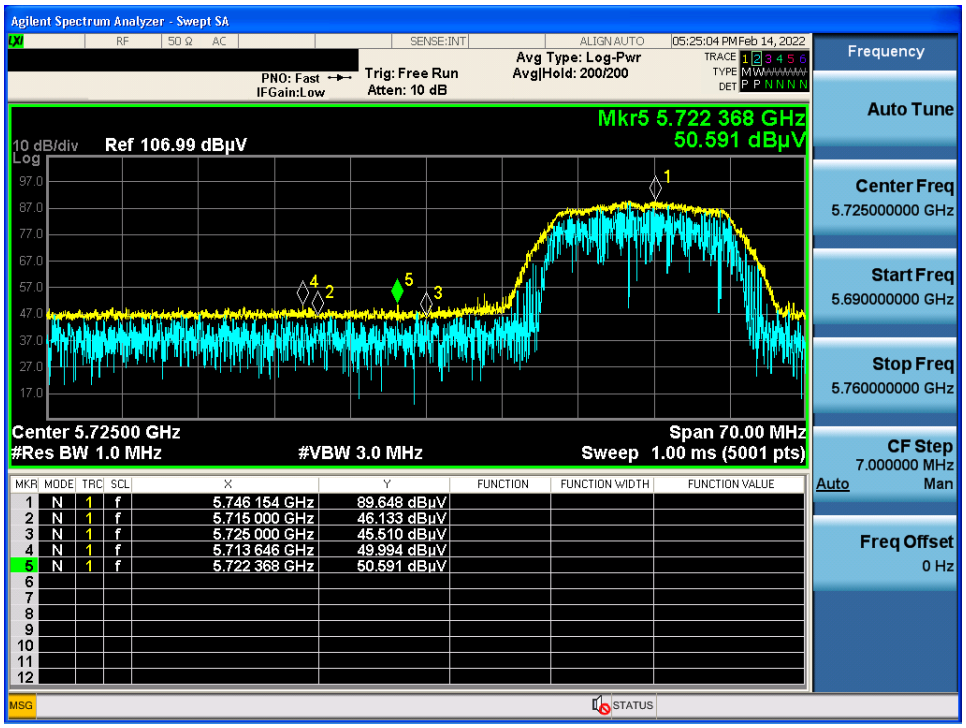
TM 1 & U-NII 2C & 5 500 & X axis & Ver **Detector Mode : AV**



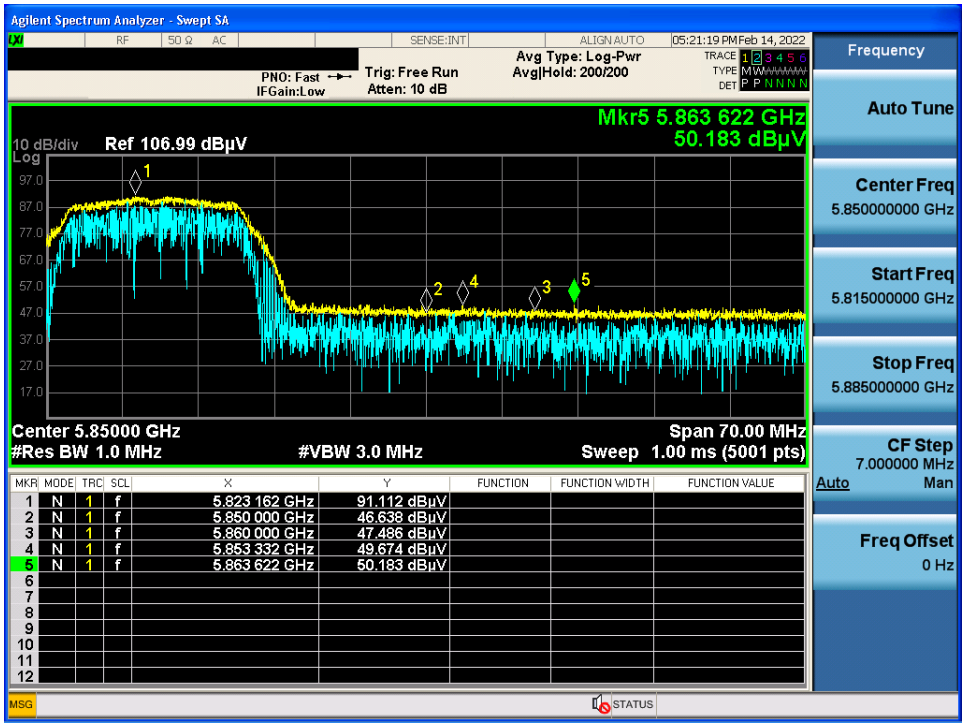
TM 1 & U-NII 2C & 5 720 & X axis & Ver **Detector Mode : AV**



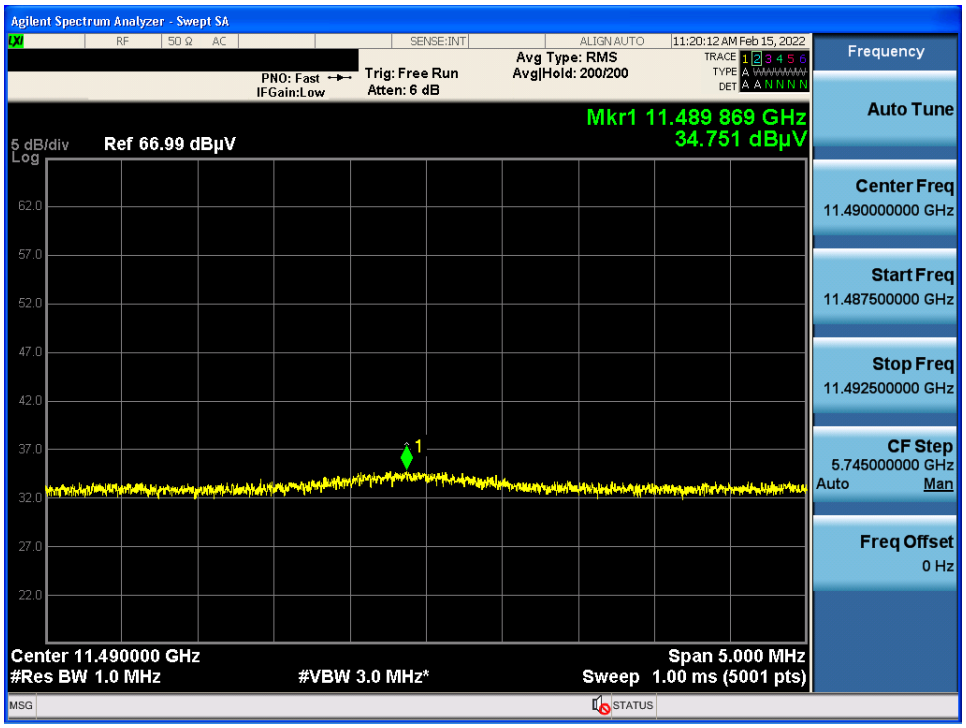
TM 1 & U-NII 3 & 5 745 & X axis & Ver **Detector Mode : PK**



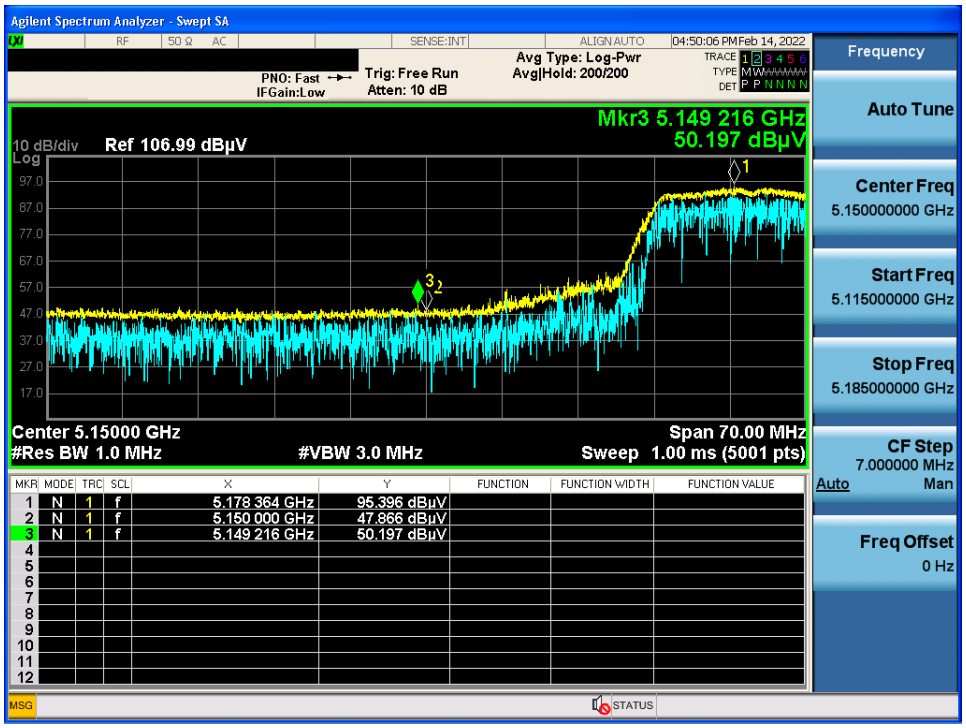
TM 1 & U-NII 3 & 5 825 & X axis & Ver **Detector Mode : PK**



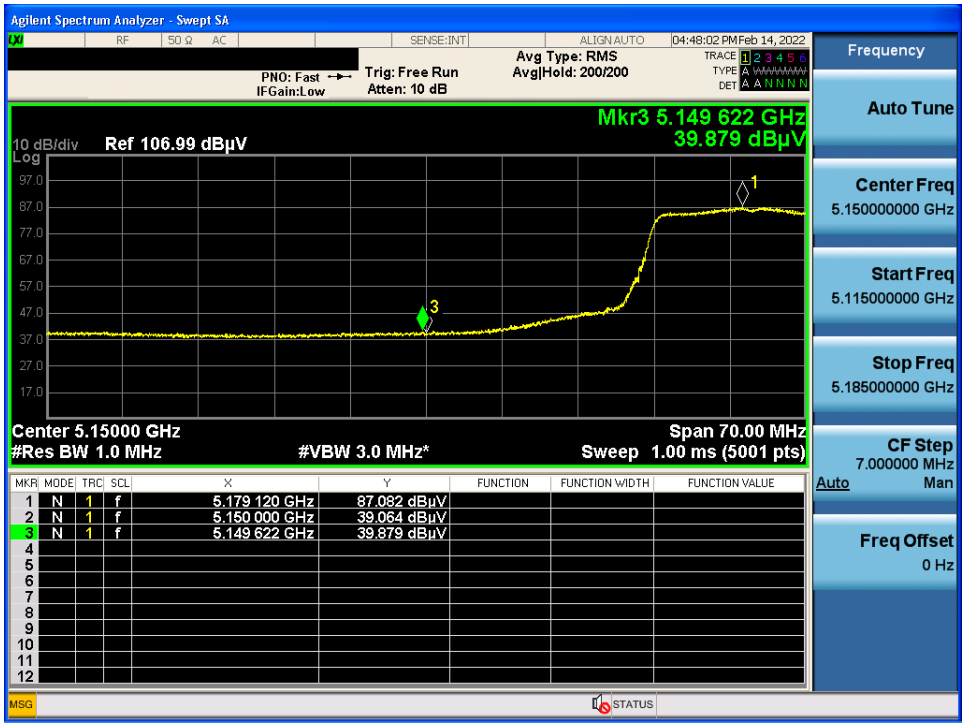
TM 1 & U-NII 3 & 5 745 & X axis & Ver **Detector Mode : AV**



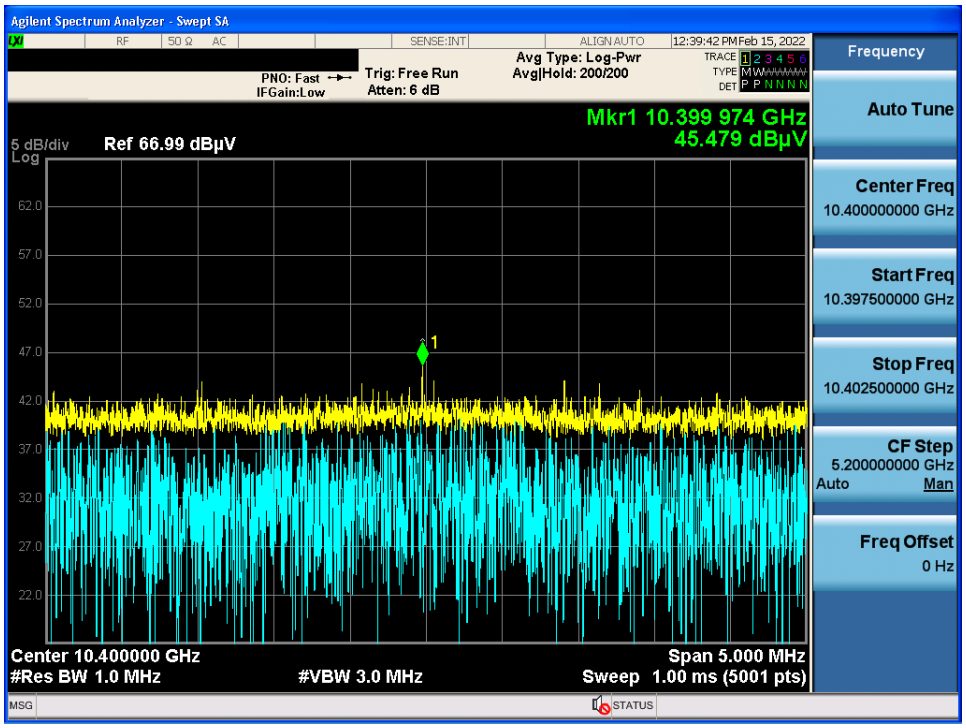
TM 2 & U-NII 1 & 5 180 & X axis & Ver **Detector Mode : PK**



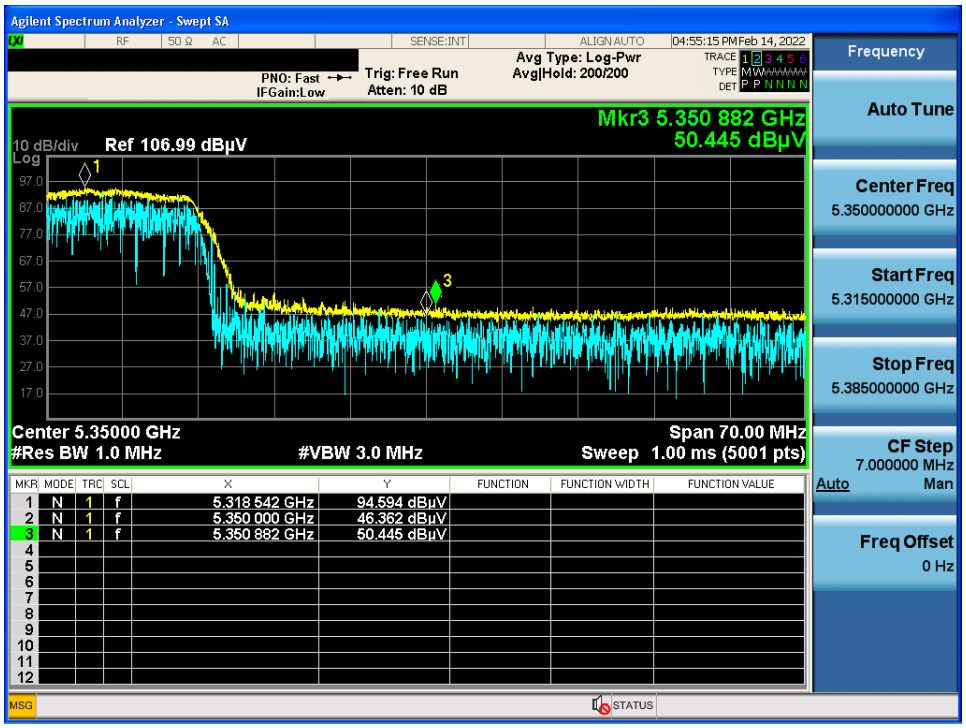
TM 2 & U-NII 1 & 5 180 & X axis & Ver **Detector Mode : AV**



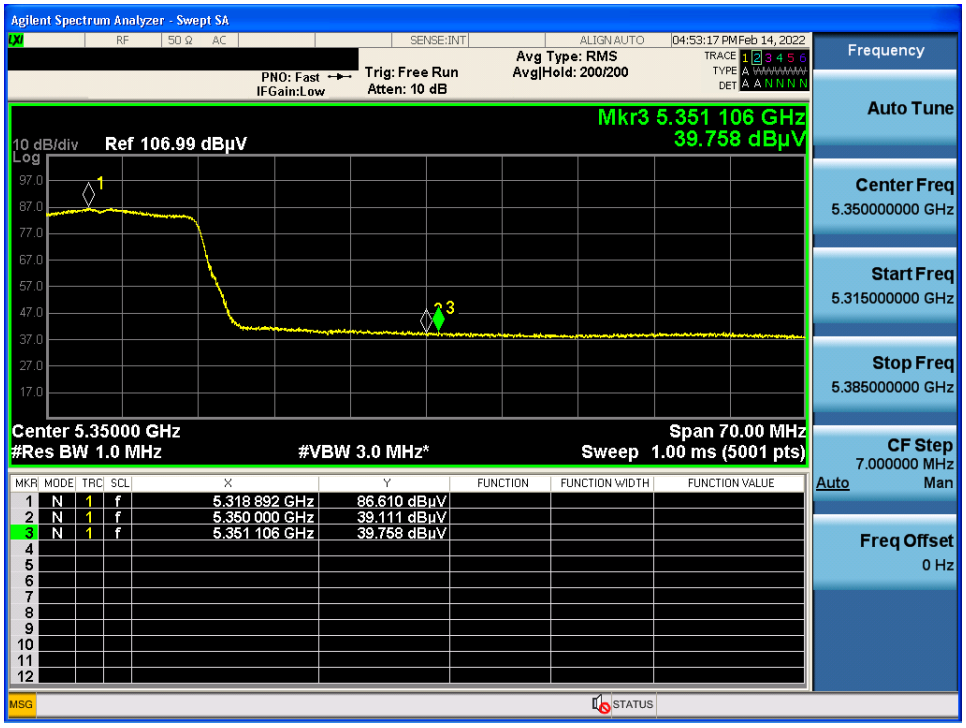
TM 2 & U-NII 1 & 5 200 & X axis & Ver **Detector Mode : PK**



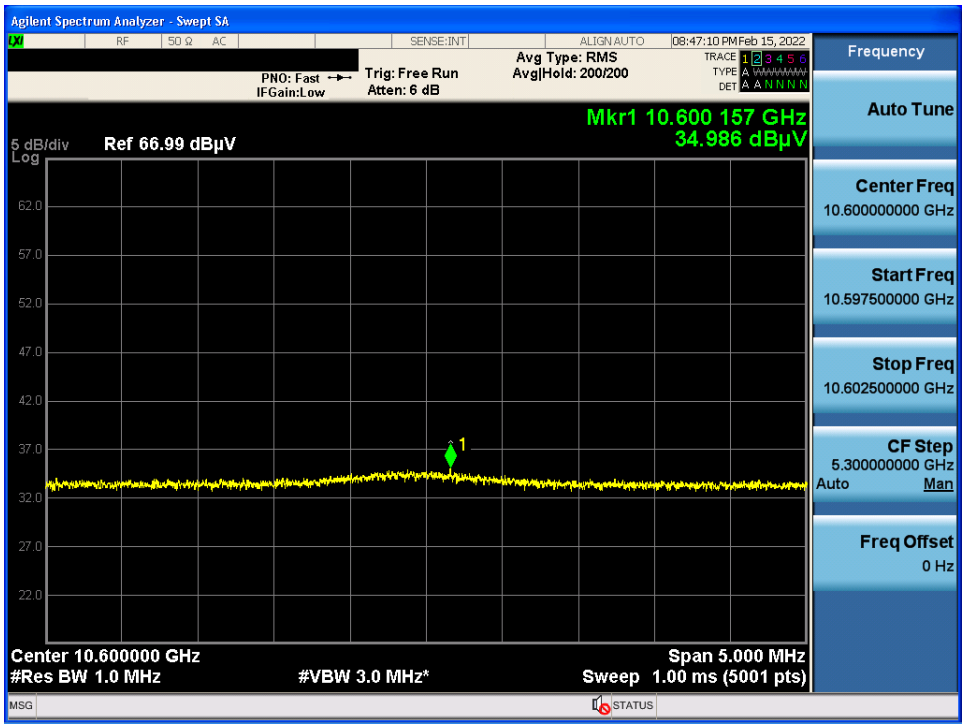
TM 2 & U-NII 2A & 5 320 & X axis & Ver **Detector Mode : PK**



TM 2 & U-NII 2A & 5 320 & X axis & Ver **Detector Mode : AV**



TM 2 & U-NII 2A & 5 300 & X axis & Ver **Detector Mode : AV**



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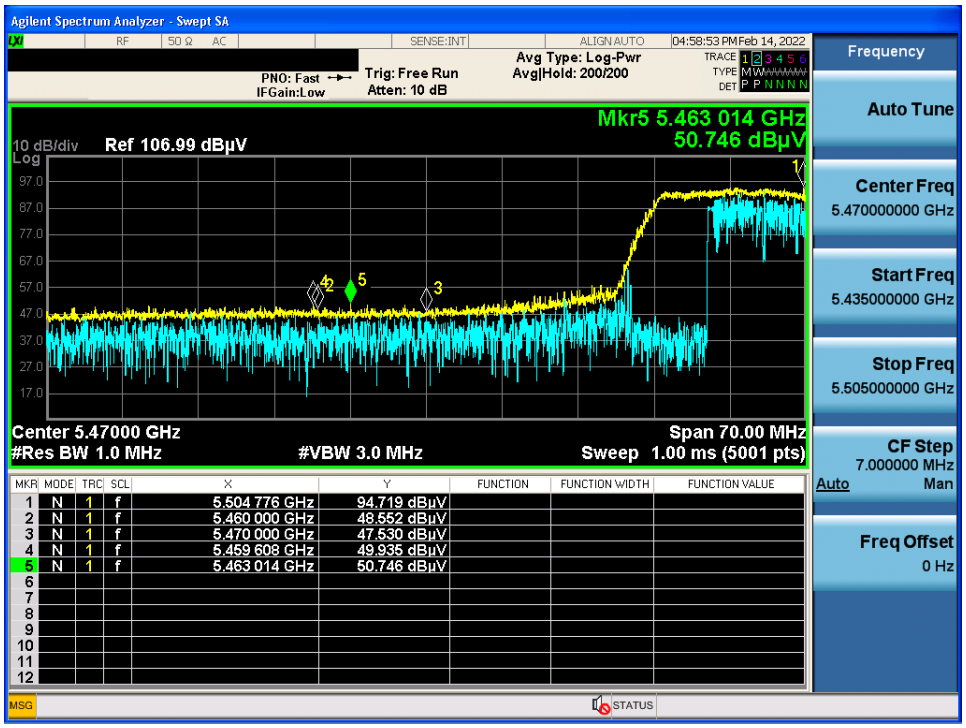

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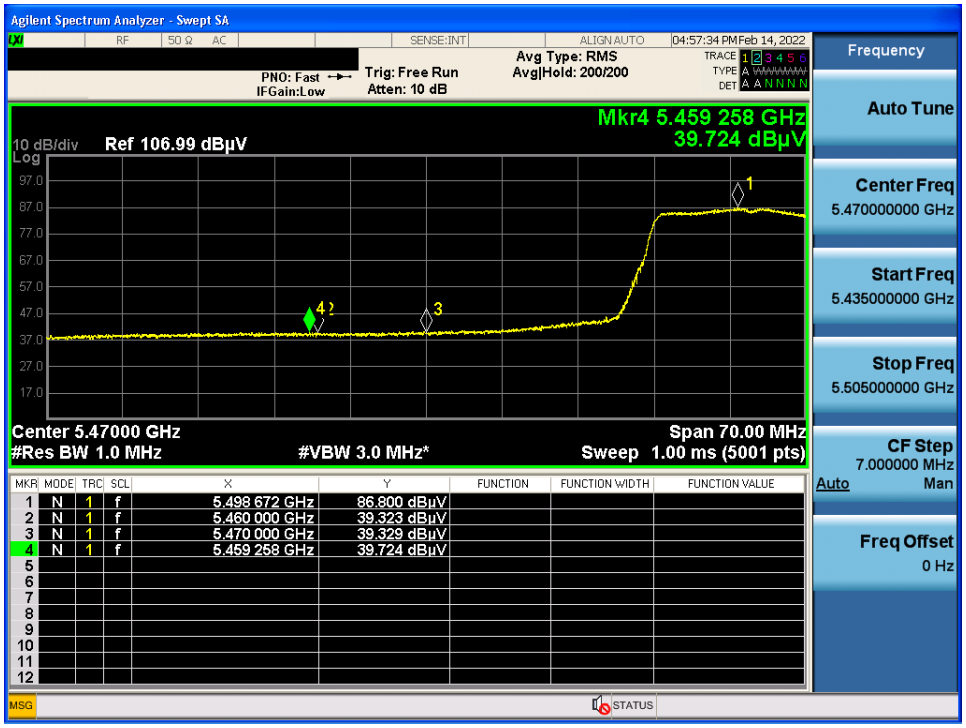

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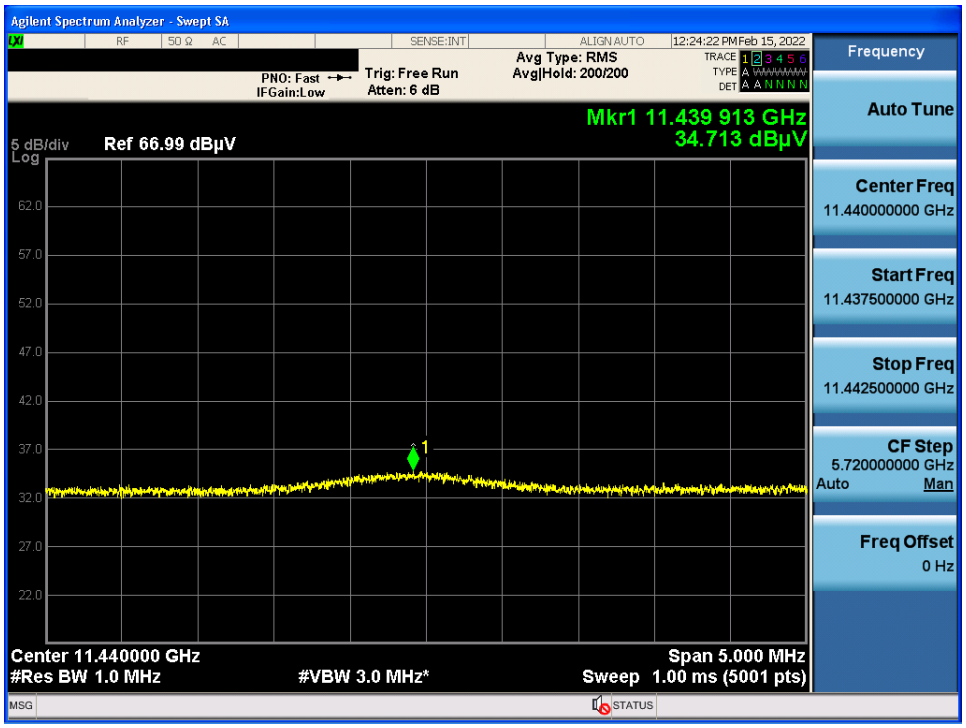
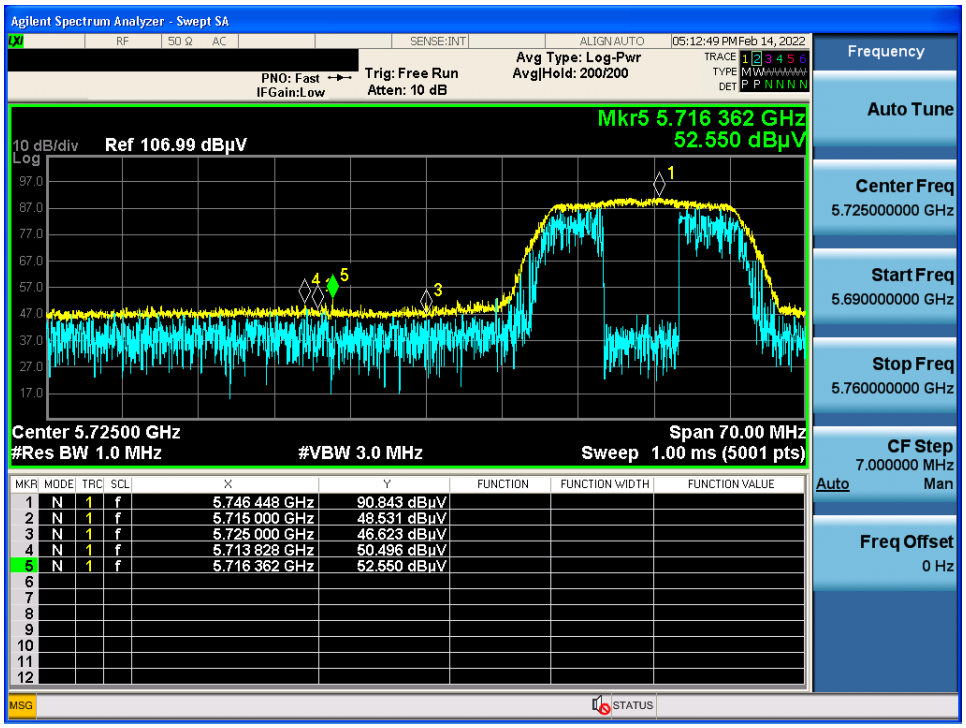
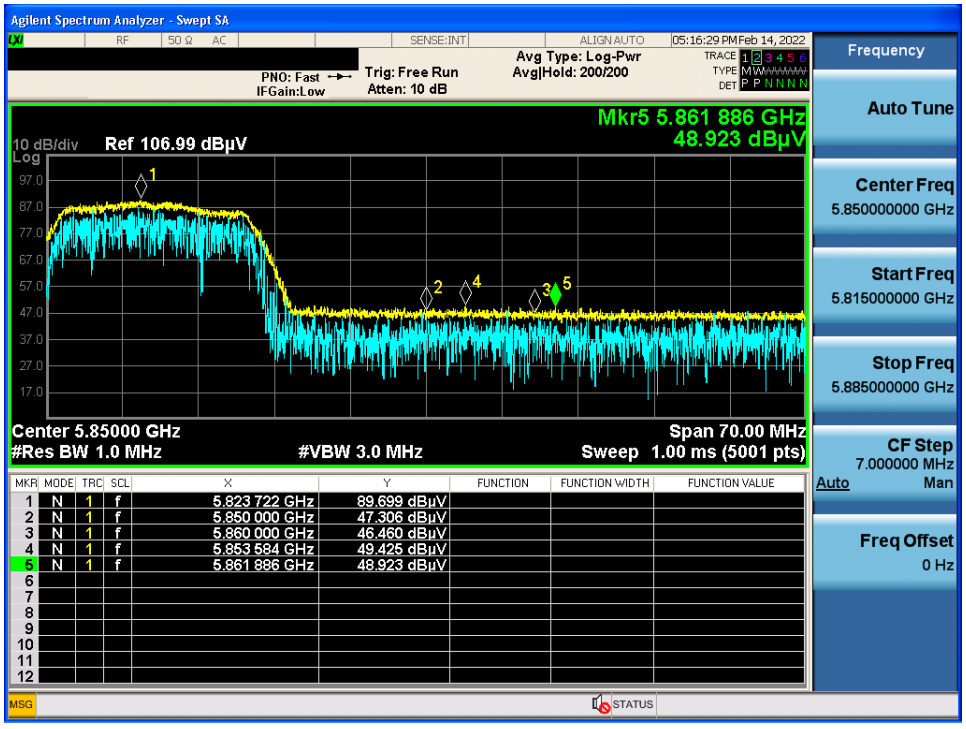


TM 2 & U-NII 3 & 5 745 & X axis & Ver **Detector Mode : PK**



TM 2 & U-NII 3 & 5 825 & X axis & Ver **Detector Mode : PK**



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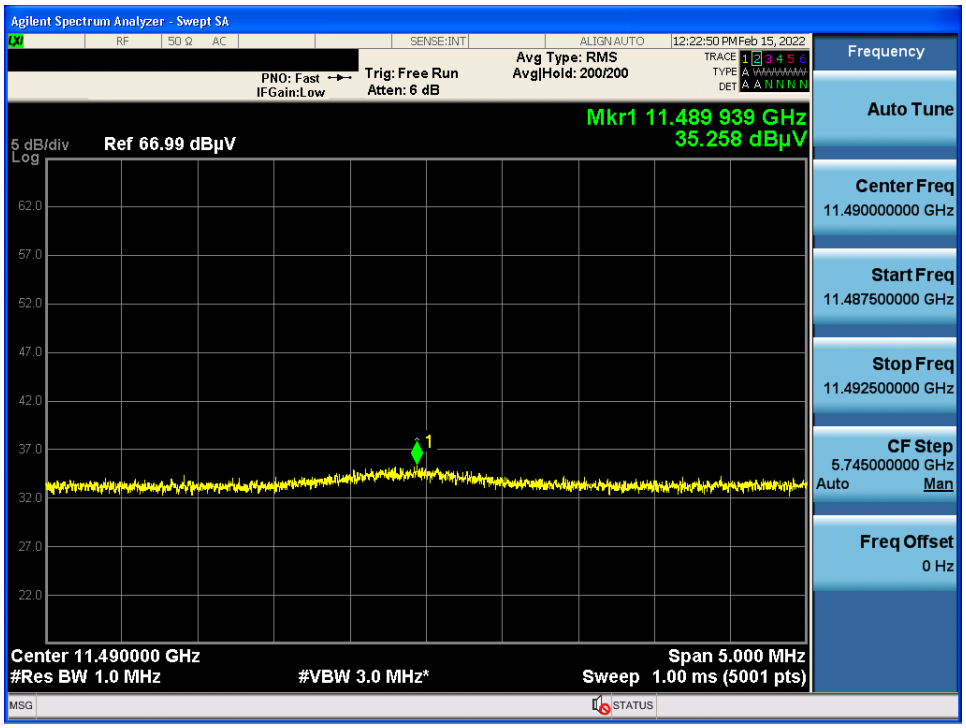
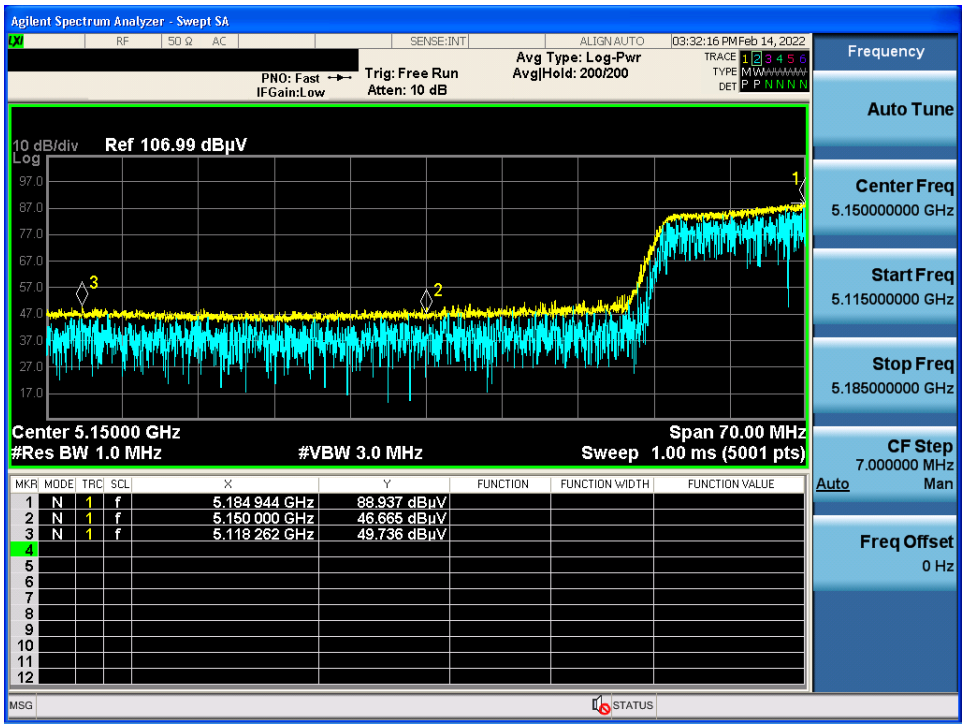


TM 3 & U-NII 1 & 5 190 & X axis & Ver **Detector Mode : PK**



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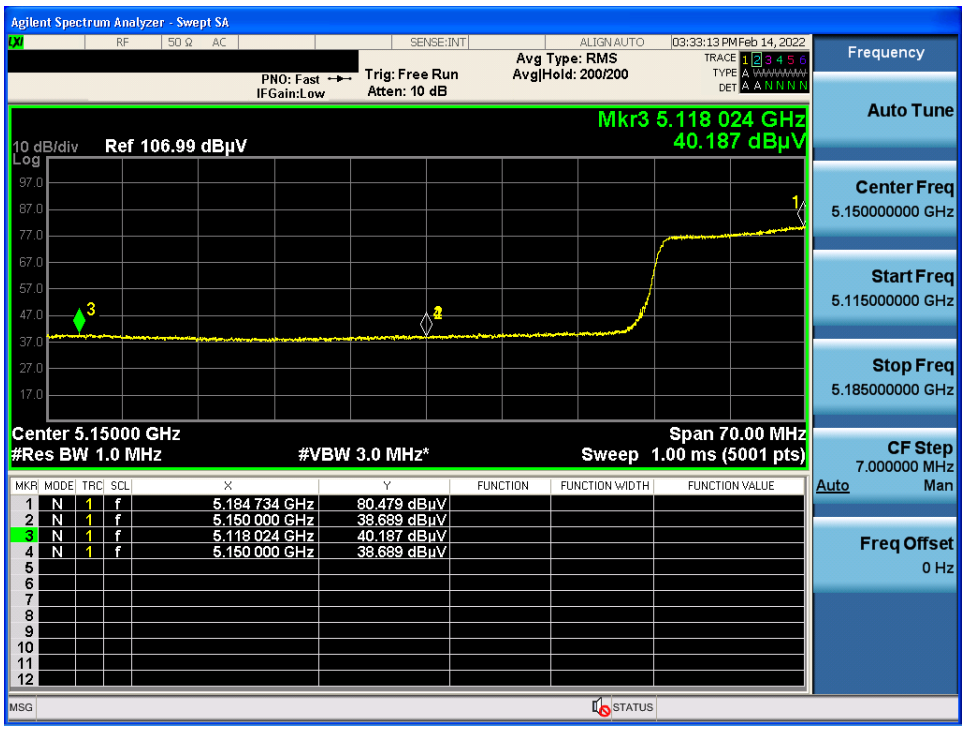

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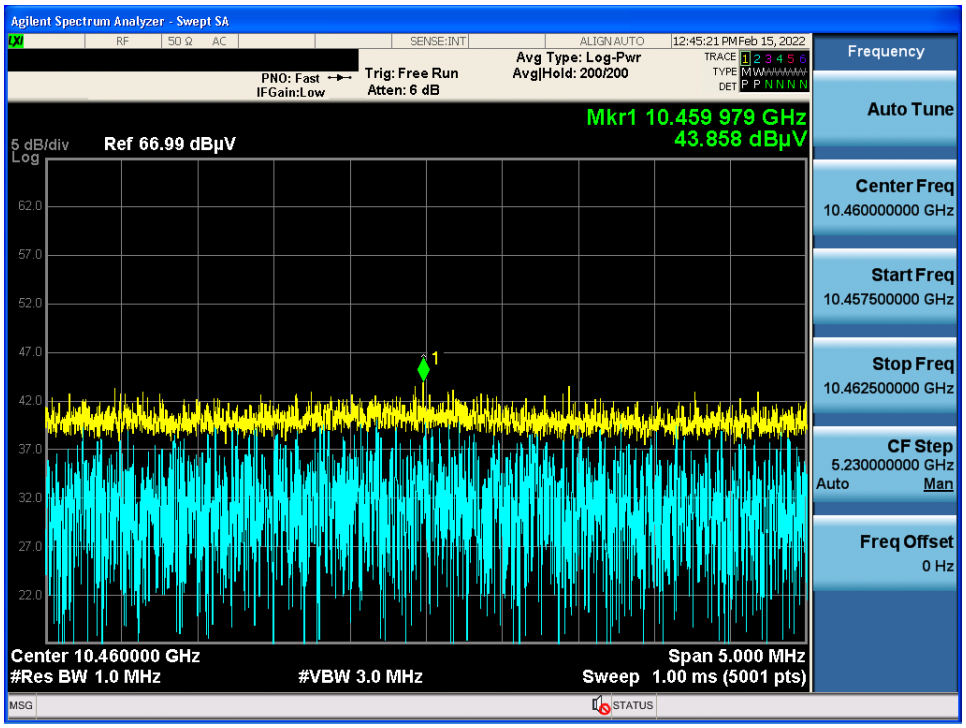
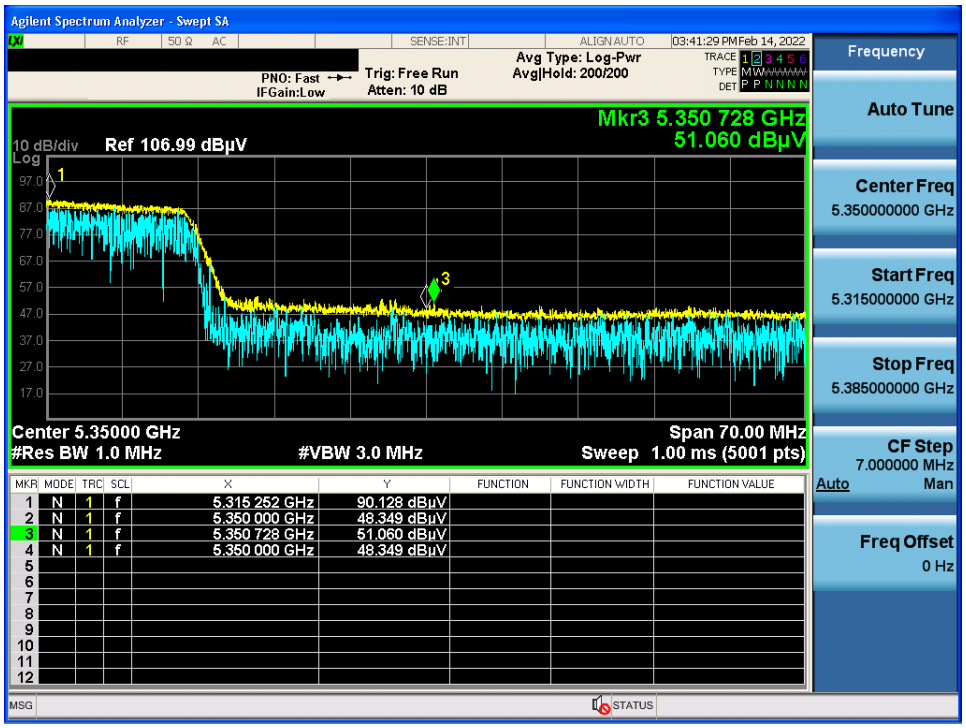
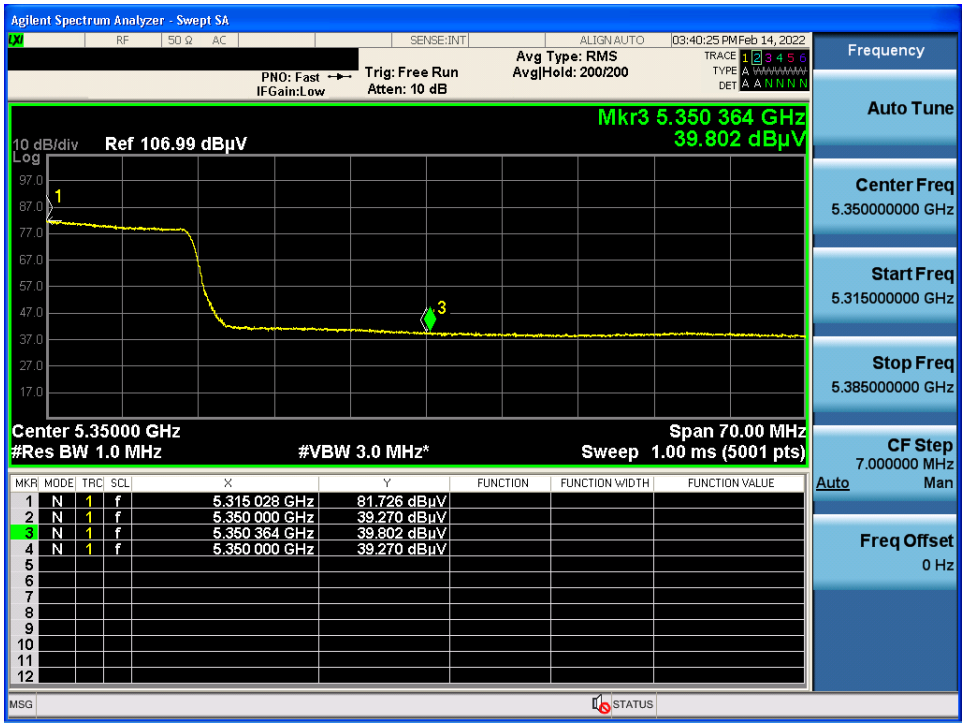


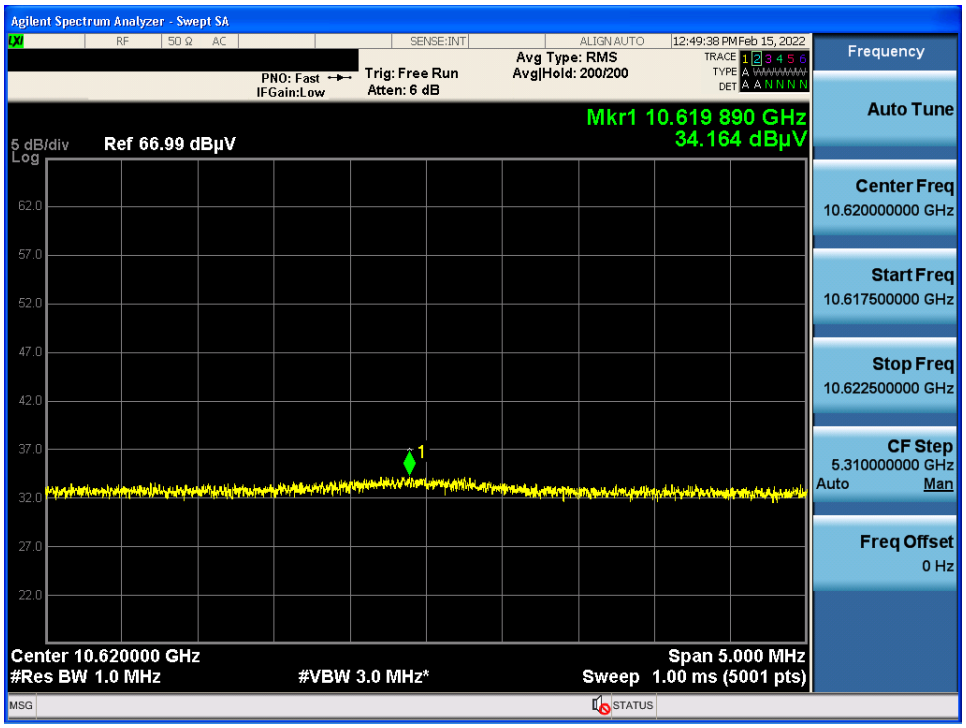
TM 3 & U-NII 2A & 5 310 & X axis & Ver **Detector Mode : PK**



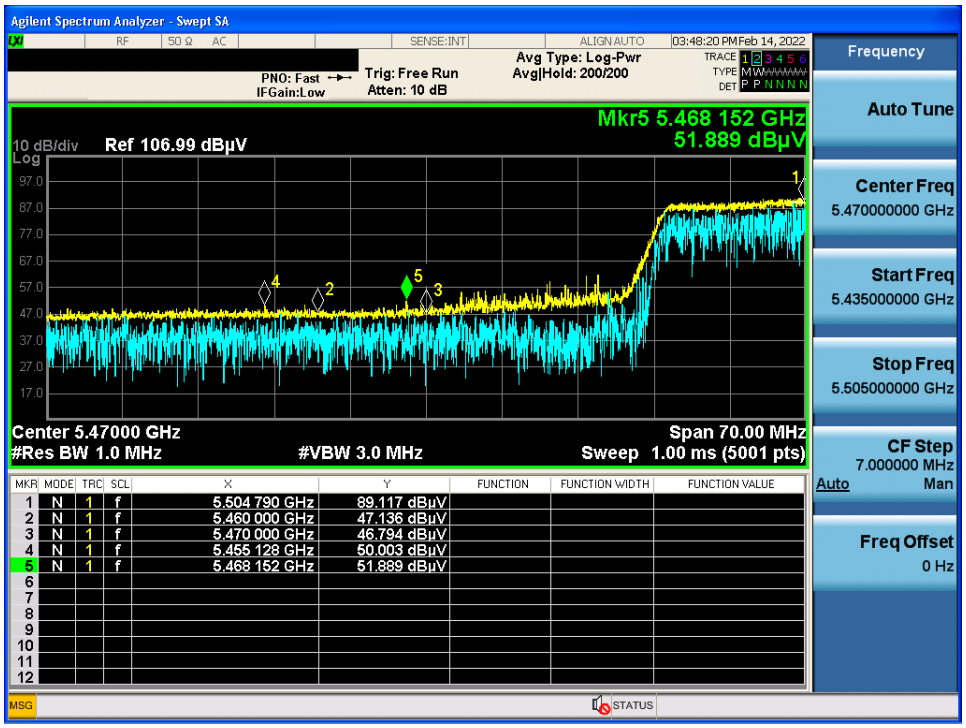
TM 3 & U-NII 2A & 5 310 & X axis & Ver **Detector Mode : AV**



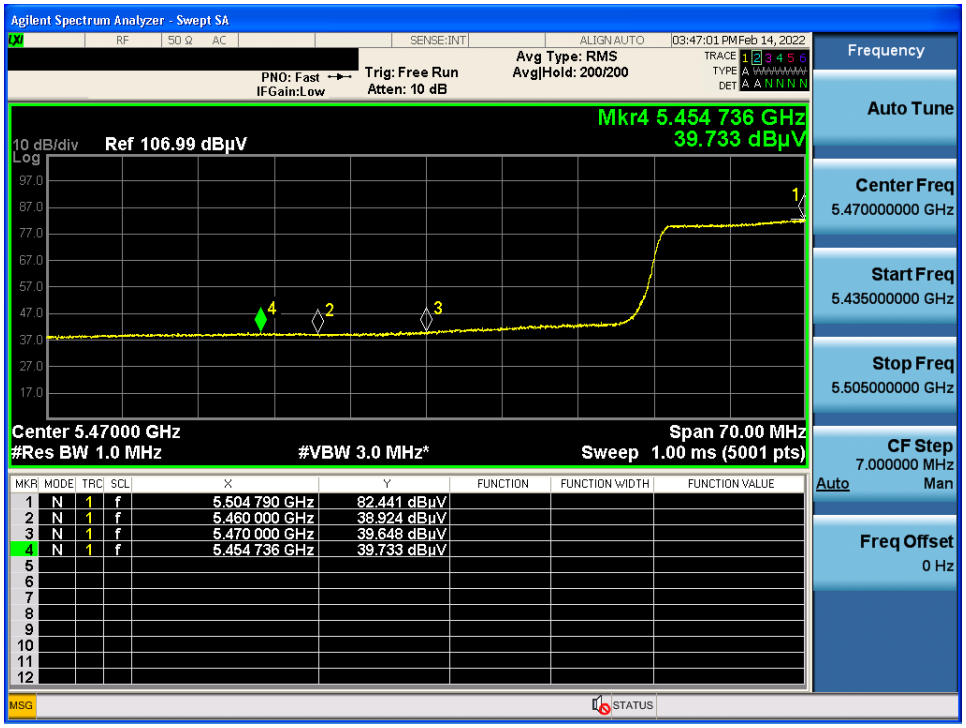
TM 3 & U-NII 2A & 5 310 & X axis & Ver **Detector Mode : AV**



TM 3 & U-NII 2C & 5 510 & X axis & Ver **Detector Mode : PK**



TM 3 & U-NII 2C & 5 510 & X axis & Ver **Detector Mode : AV**



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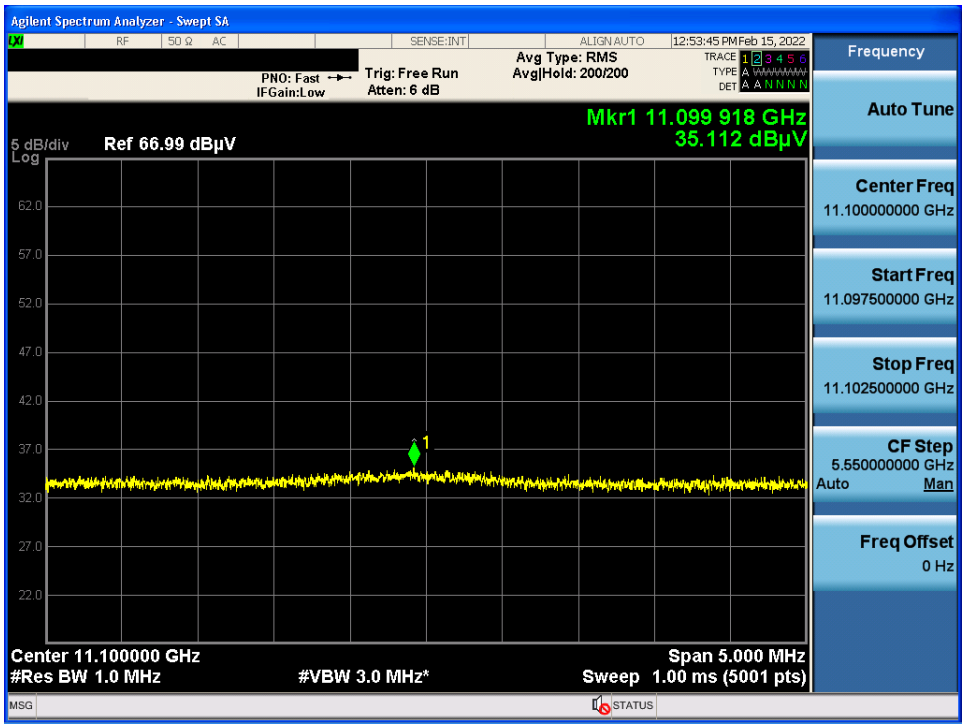
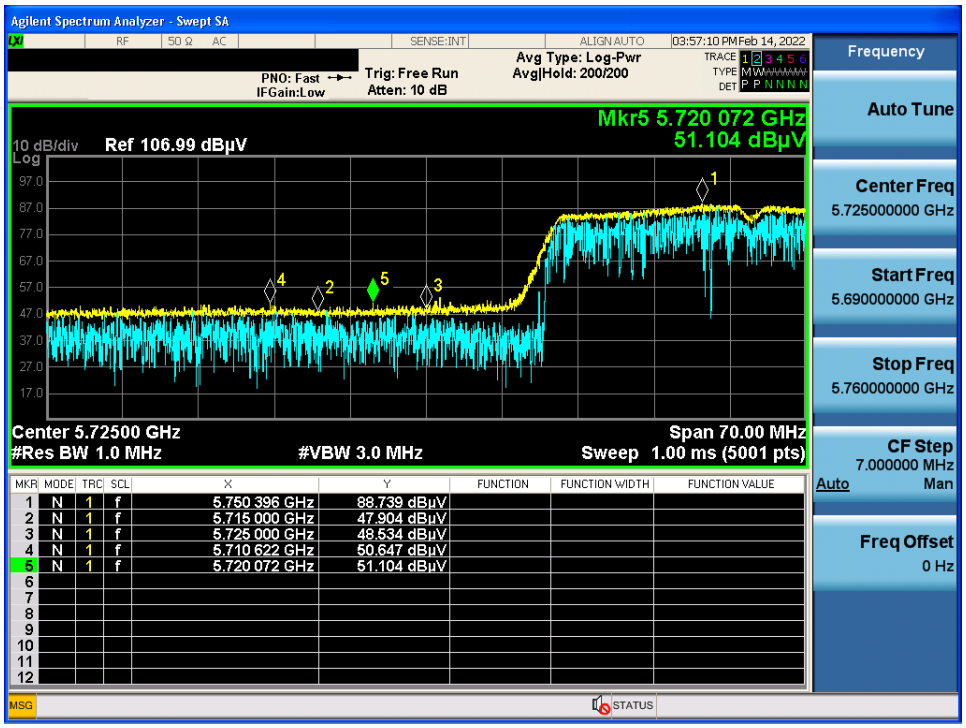
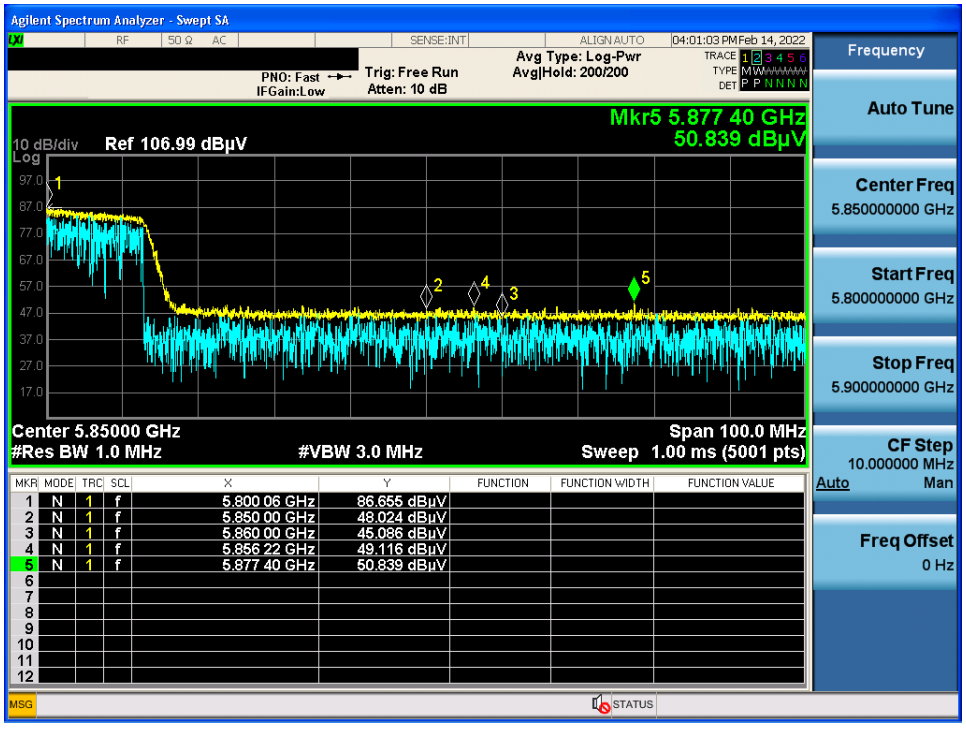


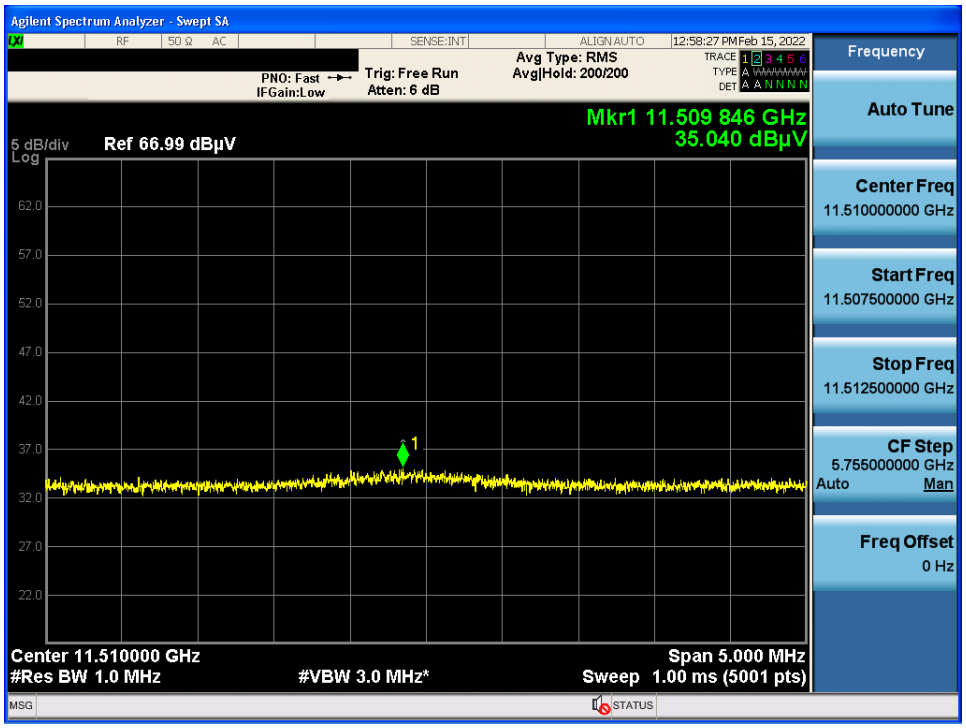
TM 3 & U-NII 3 & 5 755 & X axis & Ver **Detector Mode : PK**



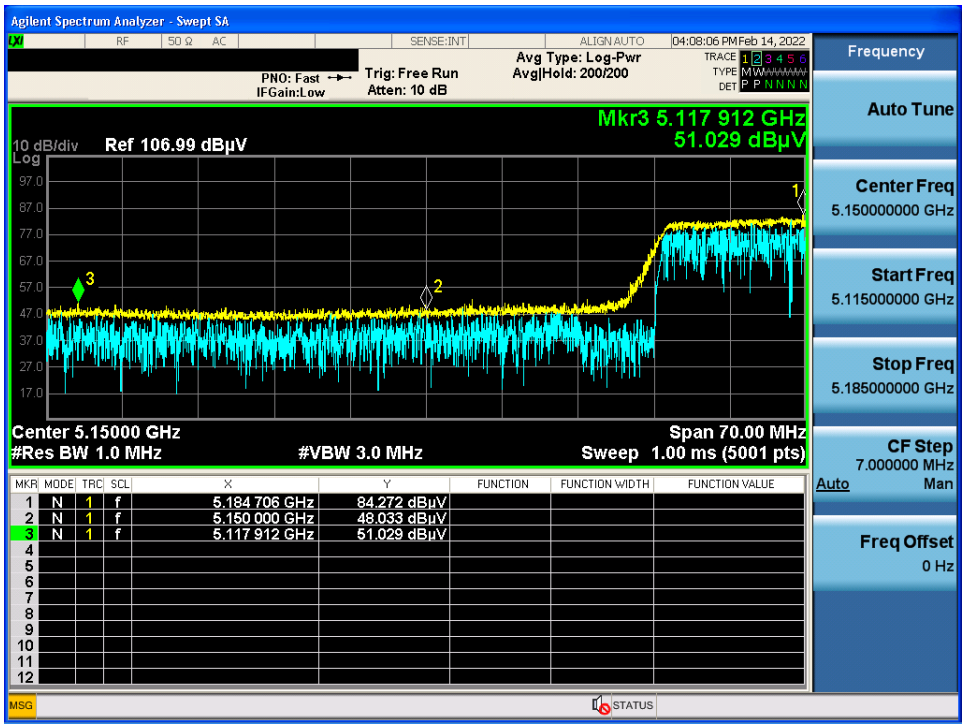
TM 3 & U-NII 3 & 5 795 & X axis & Ver **Detector Mode : PK**



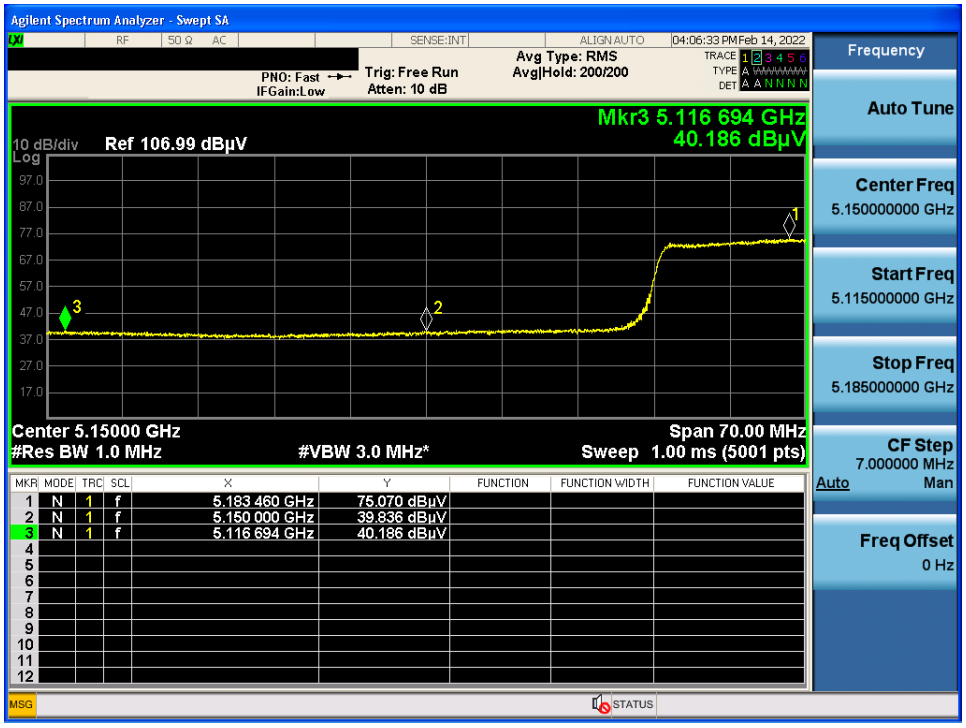
TM 3 & U-NII 3 & 5 755 & X axis & Ver **Detector Mode : AV**



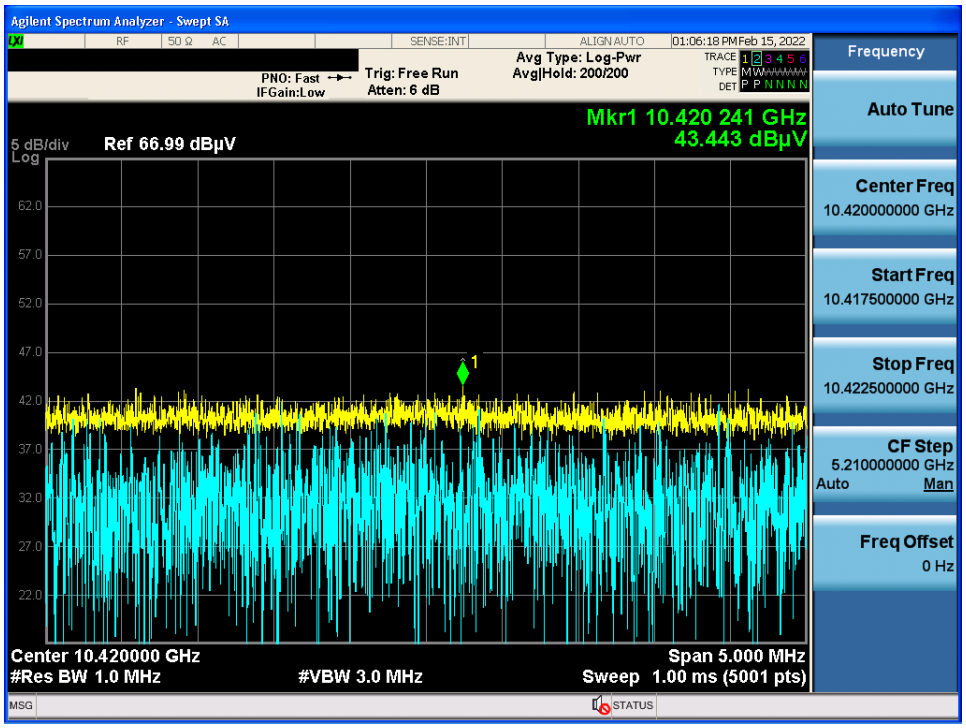
TM 4 & U-NII 1 & 5 210 & X axis & Ver **Detector Mode : PK**



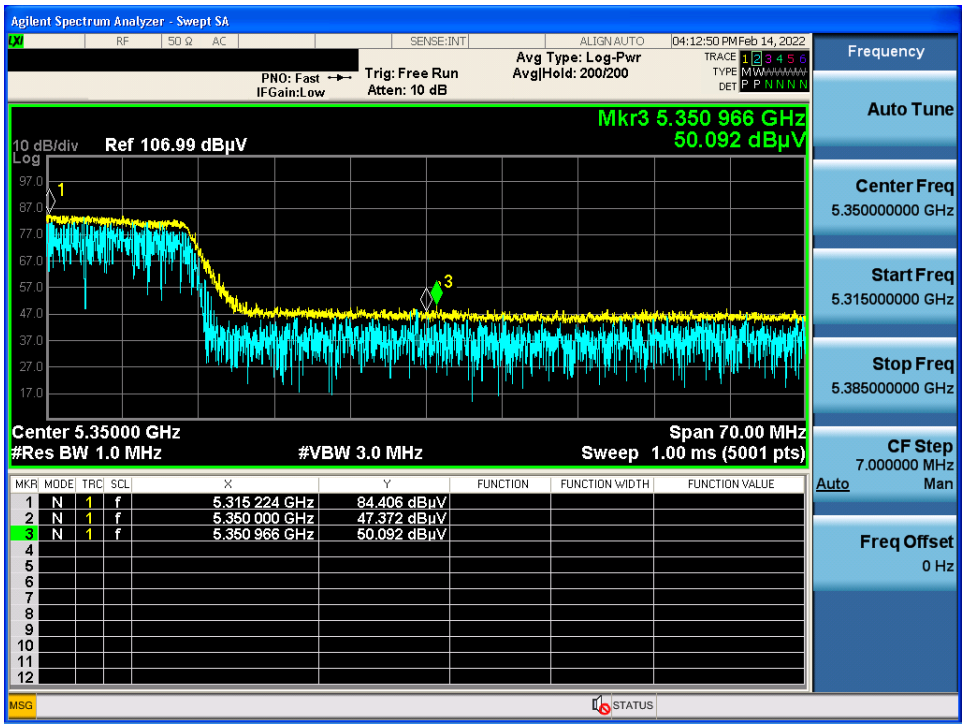
TM 4 & U-NII 1 & 5 210 & X axis & Ver **Detector Mode : AV**



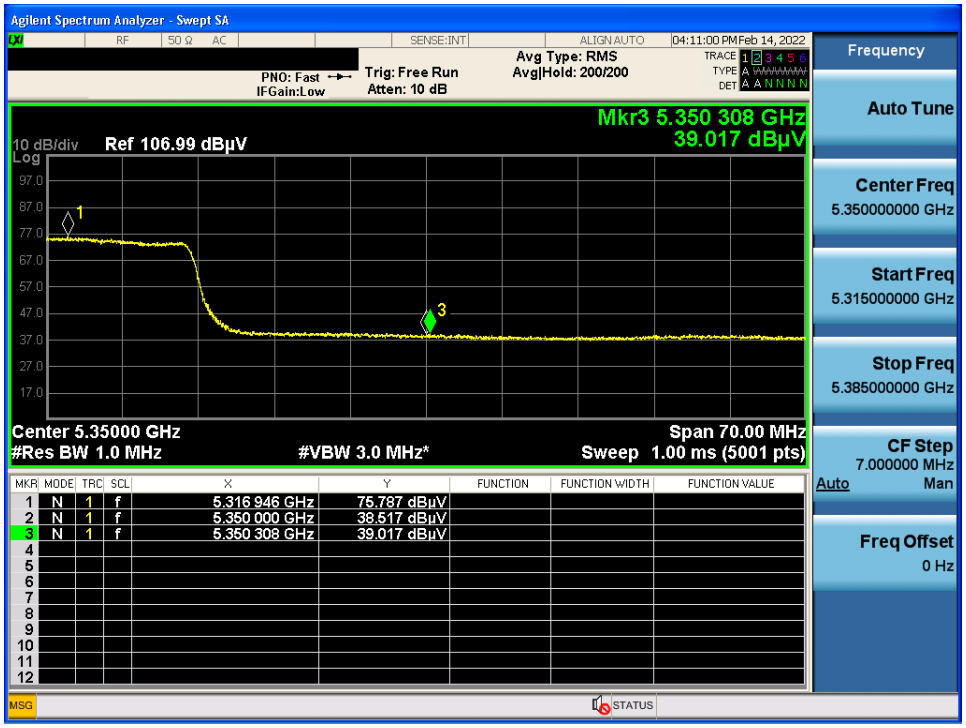
TM 4 & U-NII 1 & 5 210 & X axis & Ver **Detector Mode : PK**



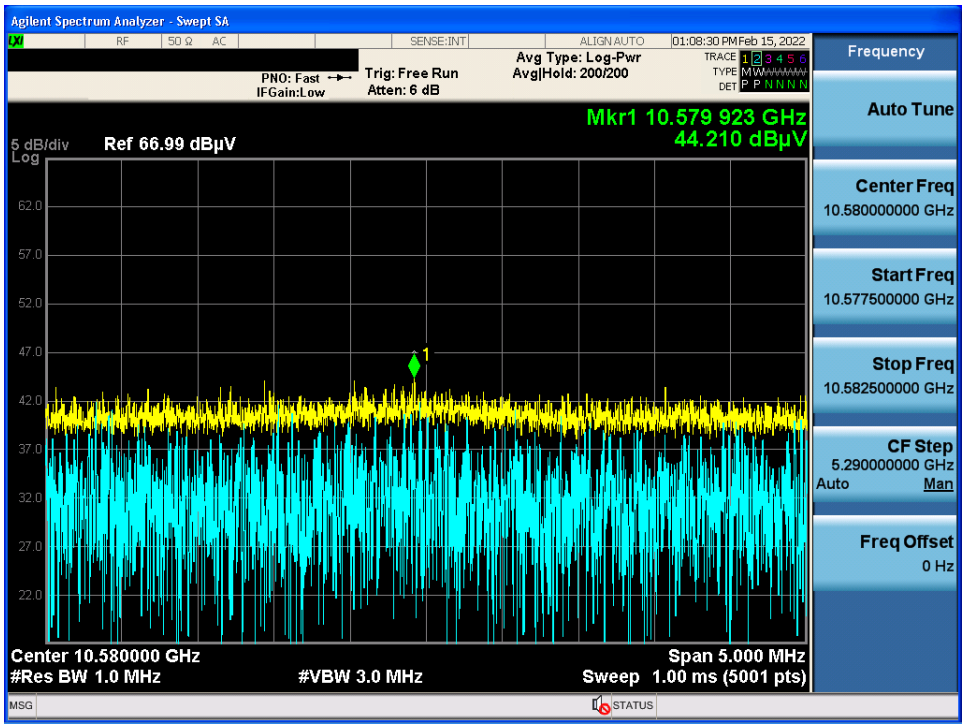
TM 4 & U-NII 2A & 5 290 & X axis & Ver **Detector Mode : PK**



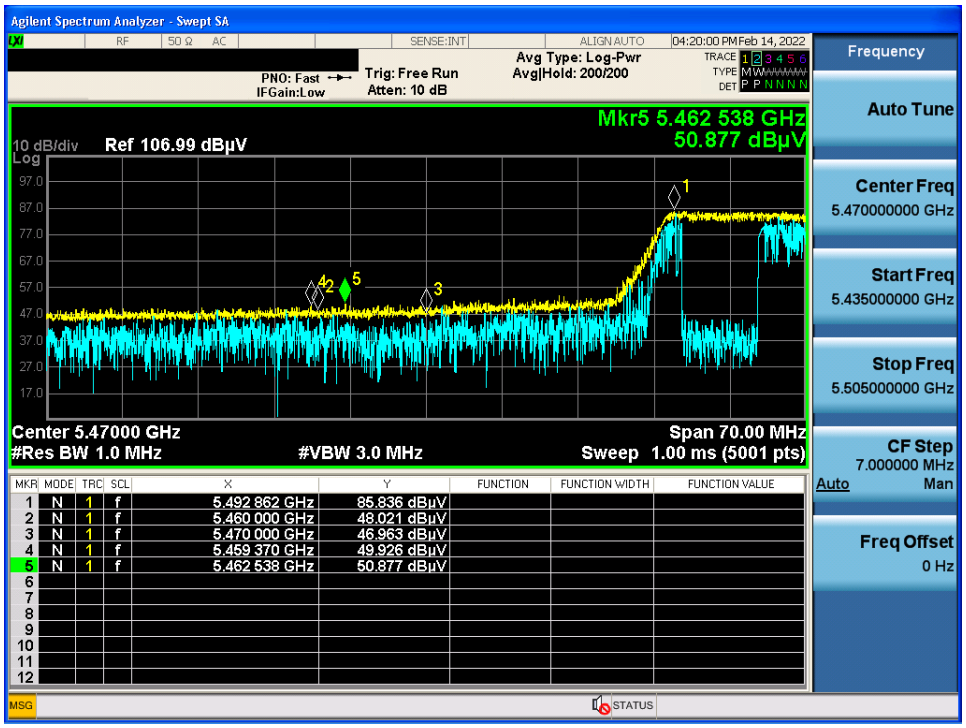
TM 4 & U-NII 2A & 5 290 & X axis & Ver **Detector Mode : AV**



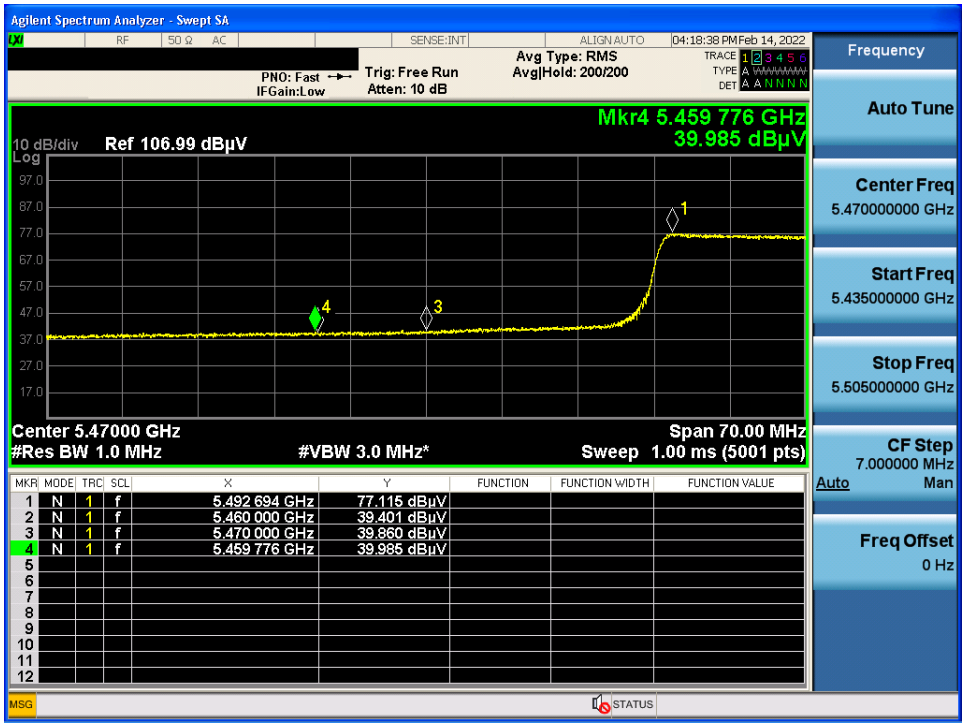
TM 4 & U-NII 2A & 5 290 & X axis & Ver **Detector Mode : PK**



TM 4 & U-NII 2C & 5 530 & X axis & Ver **Detector Mode : PK**



TM 4 & U-NII 2C & 5 530 & X axis & Ver **Detector Mode : AV**



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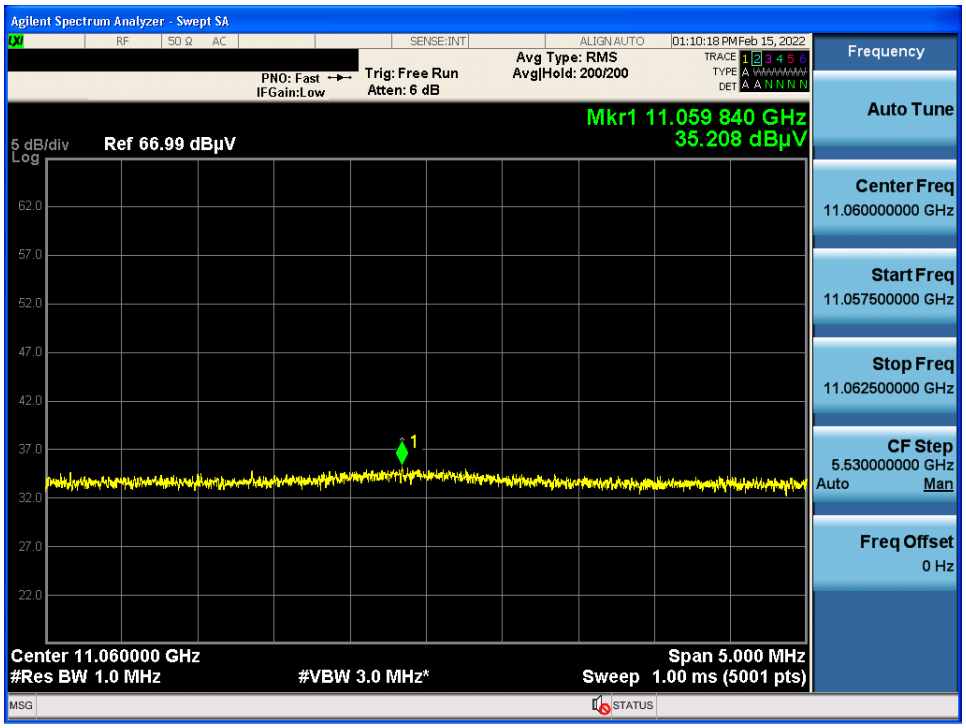
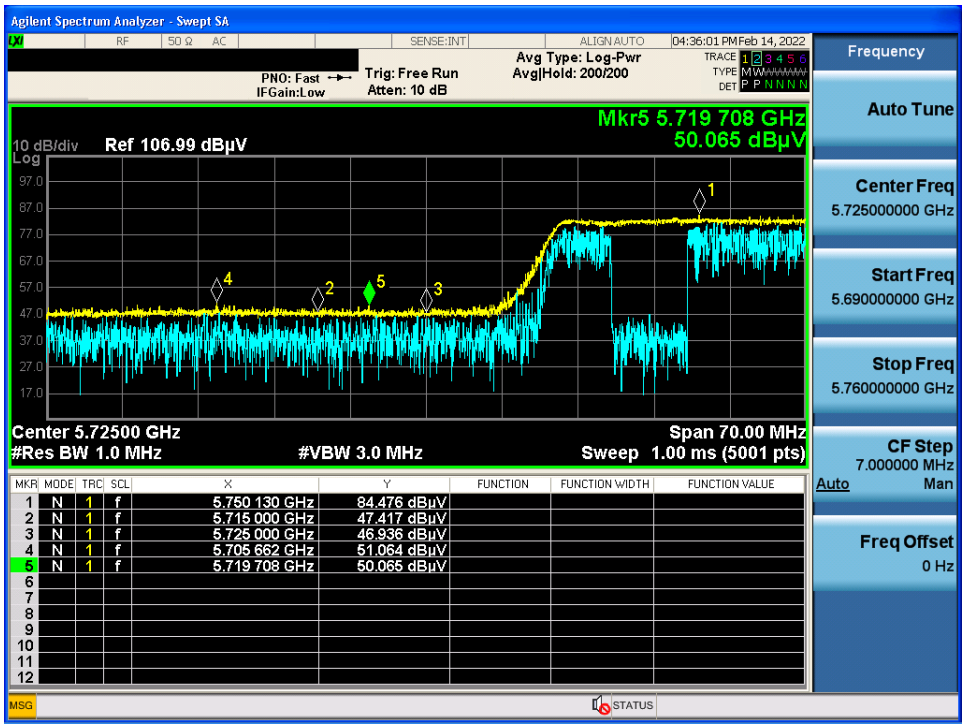
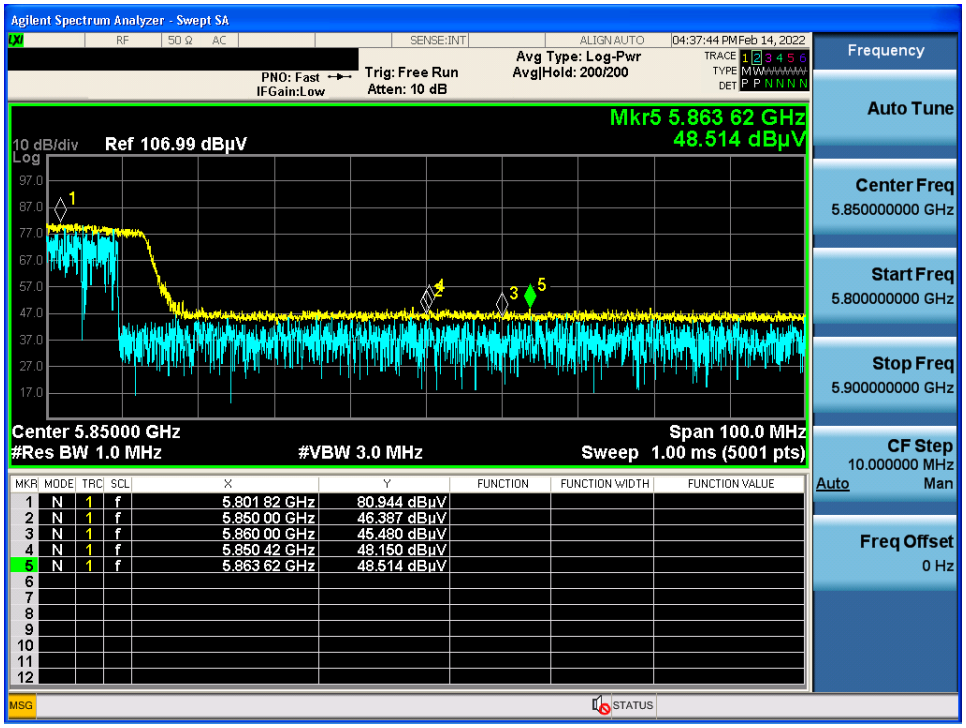


TM 4 & U-NII 3 & 5 775 & X axis & Ver **Detector Mode : PK**



TM 4 & U-NII 3 & 5 775 & X axis & Ver **Detector Mode : PK**



TM 4 & U-NII 3 & 5 775 & X axis & Ver **Detector Mode : AV**