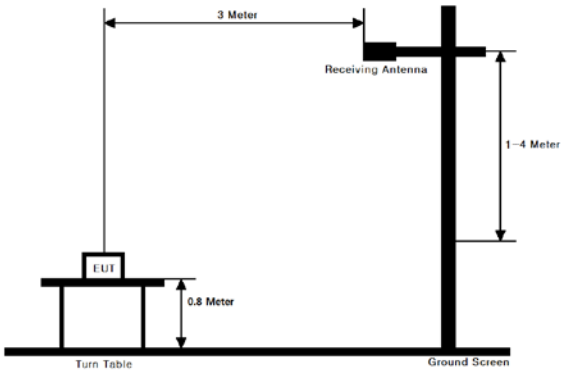
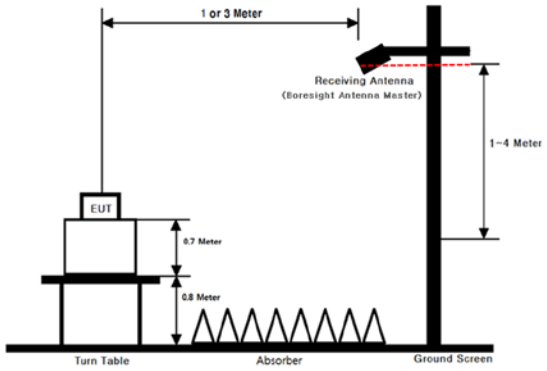
- Part 15.205(a): Restricted band of operation

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.414 25 ~ 8.414 75	108 ~ 121.94	1 300 ~ 1 427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1 435 ~ 1 626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.173 5 ~ 2.190 5	12.519 75 ~ 12.520 25	149.9 ~ 150.05	1 645.5 ~ 1 646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.576 75 ~ 12.577 25	156.524 75 ~ 156.525 25	1 660 ~ 1 710	8.025 ~ 8.5	22.01 ~ 23.12
4.177 25 ~ 4.177 75	13.36 ~ 13.41	156.7 ~ 156.9	1 718.8 ~ 1 722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.207 25 ~ 4.207 75	16.42 ~ 16.423	162.012 5 ~ 167.17	2 200 ~ 2 300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.694 75 ~ 16.695 25	167.72 ~ 173.2	2 310 ~ 2 390	10.6 ~ 12.7	36.43 ~ 36.5
6.267 75 ~ 6.268 25	16.804 25 ~ 16.804 75	240 ~ 285	2 483.5 ~ 2 500	13.25 ~ 13.4	Above 38.6
6.311 75 ~ 6.312 25	25.5 ~ 25.67	322 ~ 335.4	2 655 ~ 2 900		
8.291 ~ 8.294	37.5 ~ 38.25	399.90 ~ 410	3 260 ~ 3 267		
8.362 ~ 8.366	73 ~ 74.6	608 ~ 614	3 332 ~ 3 339		
8.376 25 ~ 8.386 75	74.8 ~ 75.2	960 ~ 1 240	3 345.8 ~ 3 358		
			3 600 ~ 4 400		

- RSS-Gen[8.10]: Restricted frequency bands

MHz	MHz	MHz	MHz	MHz	GHz
0.090 ~ 0.110	8.362 ~ 8.366	73 ~ 74.6	608 ~ 614	3 345.8 ~ 3 358	9.0 ~ 9.2
0.495 ~ 0.505	8.376 25 ~ 8.386 75	74.8 ~ 75.2	960 ~ 1 427	3 500 ~ 4 400	9.3 ~ 9.5
2.173 5 ~ 2.190 5	8.414 25 ~ 8.414 75	108 ~ 138	1 435 ~ 1 626.5	4 500 ~ 5 150	10.6 ~ 12.7
3.020 ~ 3.026	12.29 ~ 12.293	149.9 ~ 150.05	1 645.5 ~ 1 646.5	5 350 ~ 5 460	13.25 ~ 13.4
4.125 ~ 4.128	12.519 75 ~ 12.520 25	156.524 75 ~	1 660 ~ 1 710	7 250 ~ 7 750	14.47 ~ 14.5
4.177 25 ~ 4.177 75	12.576 75 ~ 12.577 25	156.525 25	1 718.8 ~ 1 722.2	8 025 ~ 8 500	15.35 ~ 16.2
4.207 25 ~ 4.207 75	13.36 ~ 13.41	156.7 ~ 156.9	2 200 ~ 2 300		17.7 ~ 21.4
5.677 ~ 5.683	16.42 ~ 16.423	162.01 25 ~ 167.17	2 310 ~ 2 390		22.01 ~ 23.12
6.215 ~ 6.218	16.694 75 ~ 16.695 25	167.72 ~ 173.2	2 483.5 ~ 2 500		23.6 ~ 24.0
6.267 75 ~ 6.268 25	16.804 25 ~ 16.804 75	240 ~ 285	2 655 ~ 2 900		31.2 ~ 31.8
6.311 75 ~ 6.312 25	25.5 ~ 25.67	322 ~ 335.4	3 260 ~ 3 267		36.43 ~ 36.5
8.291 ~ 8.294	37.5 ~ 38.25	399.90 ~ 410	3 332 ~ 3 339		Above 38.6

▣ Test Configuration

Below 1 GHz	Above 1 GHz
	

▣ Test Procedure

1. The EUT is placed on a non-conductive table. For emission measurements at or below 1 GHz, the table height is 80 cm. For emission measurements above 1 GHz, the table height is 1.5 m.
2. The turn table shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 1 m or 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.

Radiated spurious emission measured using following Measurement Procedure **of KDB789033 D02v02r01**

► General Requirements for Unwanted Emissions Measurements

The following requirements apply to all unwanted emissions measurements, both in and outside of the restricted bands:

- EUT Duty Cycle

(1) The EUT shall be configured or modified to **transmit continuously** except as stated in (ii), below. The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (**to no lower than 98 percent**) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.

(2) If **continuous transmission (or at least 98 percent duty cycle) cannot be achieved** due to hardware limitations of the EUT (e.g., overheating), the following additions to the measurement and reporting procedures are required:

- The EUT shall be configured to operate at the maximum achievable duty cycle.
- Measure the duty cycle, x, of the transmitter output signal.
- Adjustments to measurement procedures (e.g., increasing test time and number of traces averaged) shall be performed as described in the procedures below.
- The test report shall include the following additional information:
  - The reason for the duty cycle limitation.
  - The duty cycle achieved for testing and the associated transmit duration and interval between transmissions.
  - The sweep time and the amount of time used for trace stabilization during max-hold measurements for peak emission measurements.

(3) Reduction of the measured emission amplitude levels to account for operational duty factor is not permitted. Compliance is based on emission levels occurring during transmission - not on an average across on and off times of the transmitter.

► **Measurements below 1 000 MHz**

a) Follow the requirements in section II.G.3, “General Requirements for Unwanted Emissions Measurements”.

b) Compliance shall be demonstrated using **CISPR quasi-peak detection**; however, **peak detection** is permitted as an alternative to quasi-peak detection.

► **Measurements Above 1 000 MHz (Peak)**

a) Follow the requirements in section II.G.3, “General Requirements for Unwanted Emissions Measurements”.
b) Peak emission levels are measured by setting the analyzer as follows:
(i) **RBW = 1 MHz.**
(ii) **VBW ≥ 3 MHz.**
(iii) **Detector = Peak.**
(iv) Sweep time = Auto.
(v) Trace mode = Max hold.
(vi) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50 percent duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

► **Measurements Above 1000 MHz (Method AD)**

(i) **RBW = 1 MHz.**
(ii) **VBW ≥ 3 MHz.**
(iii) **Detector = RMS**, if span / (# of points in sweep) ≤ RBW / 2. Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, the detector mode shall be set to peak.
(iv) Averaging type = power (i.e., RMS)
• As an alternative, the detector and averaging type may be set for linear voltage averaging. Some analyzers require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.
(v) Sweep time = Auto.
(vi) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, the number of traces shall be increased by a factor of 1/x, where x is the duty cycle. For example, with 50 percent duty cycle, at least 200 traces shall be averaged.
(vii) If tests are performed with the EUT transmitting at a duty cycle less than 98 percent, a correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
• **If power averaging (RMS) mode was used in step (iv) above, the correction factor is 10 log(1/x), where x is the duty cycle.** For example, if the transmit duty cycle was 50 percent, then 3 dB must be added to the measured emission levels.
• If linear voltage averaging mode was used in step (iv) above, the correction factor is 20 log (1/x), where x is the duty cycle. For example, if the transmit duty cycle was 50 percent, then 6 dB must be added to the measured emission levels.
• If a specific emission is demonstrated to be continuous (100 percent duty cycle) rather than turning on and off with the transmit cycle, no duty cycle correction is required for that emission.

Duty Cycle Correction factor

Test Mode	Date rate	T_{on}(ms)	T_{on+off} (ms)	x = T_{on} / (T_{on+off})	DCCF = 10 log(1/x) (dB)
TM 1	6 Mbps	2.064	2.162	0.954 7	0.20
TM 2	MCS 0	1.920	2.018	0.951 4	0.22
TM 3	MCS 0	0.944	1.043	0.905 5	0.43
TM 4	MCS 0	0.332	0.431	0.769 8	1.14

Note1: Where, T = Transmission duration / x = Duty cycle
Note2: Please refer to the appendix II for duty cycle plots.

▣ Test Results

Test Notes

1. The radiated emissions were investigated 9 kHz to 40 GHz. And no other spurious and harmonic emissions were found below listed frequencies.
2. Information of Distance Correction Factor
   For finding emissions, measurements may be performed at a distance closer than that specified in the regulations.
   In this case, the distance factor is applied to the result.
   - Calculation of distance correction factor
   At frequencies below 30 MHz = 40 log(tested distance / specified distance)
   At frequencies at or above 30 MHz = 20 log(tested distance / specified distance)
   When distance factor is “N/A”, the measurements were performed at the specified distance and distance factor is not applied.
3. Sample Calculation.
   Margin = Limit – Result / Result = Reading + TF+ DCCF + DCF / TF = AF + CL + HL + AL – AG
   Where, TF = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, HL = High pass filter Loss, AL = Attenuator Loss, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor
4. The limit is converted to field strength.
   E(dBuV/m) = EIRP(dBm) + 95.2 dB = -27 dBm + 95.2 = 68.2 dBuV/m

Unwanted Emissions data(9 kHz ~ 40 GHz) : *TM1*

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	5 180	5 149.08	V	Y	PK	52.24	3.39	N/A	N/A	55.63	74.00	18.37
		5 149.90	V	Y	AV	42.96	3.39	0.20	N/A	46.55	54.00	7.45
		10 357.76	V	Z	PK	43.35	10.11	N/A	N/A	53.46	68.20	14.74
	5 200	10 399.14	V	Z	PK	43.80	10.47	N/A	N/A	54.27	68.20	13.93
	5 240	10 481.14	V	Z	PK	43.99	11.27	N/A	N/A	55.26	68.20	12.94
U-NII 2A	5 260	10 520.26	V	Z	PK	44.68	11.42	N/A	N/A	56.10	68.20	12.10
	5 300	10 599.06	V	Z	PK	44.66	11.37	N/A	N/A	56.03	68.20	12.17
		10 601.27	V	Z	PK	44.27	11.37	N/A	N/A	55.64	74.00	18.36
		10 599.80	V	Z	AV	33.83	11.37	0.20	N/A	45.40	54.00	8.60
	5 320	5 351.65	V	Y	PK	53.16	3.82	N/A	N/A	56.98	74.00	17.02
		5 351.33	V	Y	AV	43.00	3.82	0.20	N/A	47.02	54.00	6.98
		10 641.59	V	Z	PK	44.44	11.43	N/A	N/A	55.87	74.00	18.13
		10 641.62	V	Z	AV	34.30	11.43	0.20	N/A	45.93	54.00	8.07
U-NII 2C	5 500	5 458.40	V	Y	PK	52.65	3.76	N/A	N/A	56.41	74.00	17.59
		5 469.52	V	Y	PK	53.68	3.73	N/A	N/A	57.41	68.20	10.79
		5 458.53	V	Y	AV	42.63	3.76	0.20	N/A	46.59	54.00	7.41
		10 998.03	V	Z	PK	45.49	11.44	N/A	N/A	56.93	74.00	17.07
		10 998.95	V	Z	AV	34.82	11.44	0.20	N/A	46.46	54.00	7.54
	5 580	11 160.12	V	Z	PK	45.46	10.84	N/A	N/A	56.30	74.00	17.70
		11 160.31	V	Z	AV	35.14	10.83	0.20	N/A	46.17	54.00	7.83
	5 720	11 441.64	V	Z	PK	45.64	9.70	N/A	N/A	55.34	74.00	18.66
		11 441.60	V	Z	AV	34.93	9.70	0.20	N/A	44.83	54.00	9.17
U-NII 3	5 745	5 646.13	V	Y	PK	52.29	4.10	N/A	N/A	56.39	68.20	11.81
		5 696.43	V	Y	PK	54.16	4.17	N/A	N/A	58.33	102.55	44.22
		11 488.89	V	Z	PK	45.58	9.57	N/A	N/A	55.15	74.00	18.85
		11 489.24	V	Z	AV	35.06	9.57	0.20	N/A	44.83	54.00	9.17
	5 785	11 568.66	V	Z	PK	44.41	9.48	N/A	N/A	53.89	74.00	20.11
		11 568.69	V	Z	AV	33.97	9.48	0.20	N/A	43.65	54.00	10.35
	5 825	5 880.26	V	Y	PK	51.60	4.25	N/A	N/A	55.85	101.30	45.45
		5 928.32	V	Y	PK	51.52	4.67	N/A	N/A	56.19	68.20	12.01
		11 651.51	V	Z	PK	45.95	9.53	N/A	N/A	55.48	74.00	18.52
		11 650.90	V	Z	AV	34.91	9.53	0.20	N/A	44.64	54.00	9.36

Unwanted Emissions data(9 kHz ~ 40 GHz) : *TM2*

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	5 180	5 149.58	V	Y	PK	52.39	3.39	N/A	N/A	55.78	74.00	18.22
		5 149.10	V	Y	AV	42.59	3.39	0.22	N/A	46.20	54.00	7.80
		10 359.78	V	Z	PK	43.23	10.13	N/A	N/A	53.36	68.20	14.84
	5 200	10 398.66	V	Z	PK	43.50	10.46	N/A	N/A	53.96	68.20	14.24
	5 240	10 480.73	V	Z	PK	44.07	11.27	N/A	N/A	55.34	68.20	12.86
U-NII 2A	5 260	10 521.48	V	Z	PK	44.06	11.42	N/A	N/A	55.48	68.20	12.72
	5 300	10 599.67	V	Z	PK	43.53	11.37	N/A	N/A	54.90	68.20	13.30
		10 600.55	V	Z	PK	44.08	11.37	N/A	N/A	55.45	74.00	18.55
		10 600.70	V	Z	AV	33.91	11.37	0.22	N/A	45.50	54.00	8.50
	5 320	5 350.71	V	Y	PK	52.72	3.82	N/A	N/A	56.54	74.00	17.46
		5 350.88	V	Y	AV	42.85	3.82	0.22	N/A	46.89	54.00	7.11
		10 639.67	V	Z	PK	45.44	11.43	N/A	N/A	56.87	74.00	17.13
		10 639.09	V	Z	AV	34.16	11.43	0.22	N/A	45.81	54.00	8.19
U-NII 2C	5 500	5 459.34	V	Y	PK	52.45	3.76	N/A	N/A	56.21	74.00	17.79
		5 469.19	V	Y	PK	53.50	3.73	N/A	N/A	57.23	68.20	10.97
		5 459.92	V	Y	AV	42.66	3.75	0.22	N/A	46.63	54.00	7.37
		10 998.31	V	Z	PK	45.15	11.44	N/A	N/A	56.59	74.00	17.41
		10 998.83	V	Z	AV	34.87	11.44	0.22	N/A	46.53	54.00	7.47
	5 580	11 158.27	V	Z	PK	46.16	10.84	N/A	N/A	57.00	74.00	17.00
		11 158.24	V	Z	AV	35.21	10.84	0.22	N/A	46.27	54.00	7.73
	5 720	11 438.75	V	Z	PK	46.02	9.71	N/A	N/A	55.73	74.00	18.27
		11 438.53	V	Z	AV	35.06	9.71	0.22	N/A	44.99	54.00	9.01
U-NII 3	5 745	5 643.45	V	Y	PK	52.04	4.09	N/A	N/A	56.13	68.20	12.07
		5 685.03	V	Y	PK	52.76	4.15	N/A	N/A	56.91	94.12	37.21
		11 491.76	V	Z	PK	45.17	9.56	N/A	N/A	54.73	74.00	19.27
		11 491.34	V	Z	AV	34.99	9.56	0.22	N/A	44.77	54.00	9.23
	5 785	11 568.16	V	Z	PK	44.91	9.48	N/A	N/A	54.39	74.00	19.61
		11 568.55	V	Z	AV	33.98	9.48	0.22	N/A	43.68	54.00	10.32
	5 825	5 883.68	V	Y	PK	51.30	4.29	N/A	N/A	55.59	98.77	43.18
		5 930.84	V	Y	PK	51.47	4.69	N/A	N/A	56.16	68.20	12.04
		11 650.64	V	Z	PK	45.21	9.53	N/A	N/A	54.74	74.00	19.26
		11 651.03	V	Z	AV	34.92	9.53	0.22	N/A	44.67	54.00	9.33

Unwanted Emissions data(9 kHz ~ 40 GHz) : *TM3*

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	5 190	5 149.80	V	Y	PK	56.00	3.39	N/A	N/A	59.39	74.00	14.61
		5 149.64	V	Y	AV	46.04	3.39	0.43	N/A	49.86	54.00	4.14
		10 380.79	V	Z	PK	43.01	10.31	N/A	N/A	53.32	68.20	14.88
	5 230	10 460.43	V	Z	PK	44.10	11.09	N/A	N/A	55.19	68.20	13.01
U-NII 2A	5 270	10 541.28	V	Z	PK	44.80	11.41	N/A	N/A	56.21	68.20	11.99
	5 310	5 350.71	V	Y	PK	55.02	3.82	N/A	N/A	58.84	74.00	15.16
		5 350.07	V	Y	AV	44.70	3.82	0.43	N/A	48.95	54.00	5.05
		10 618.89	V	Z	PK	44.20	11.40	N/A	N/A	55.60	74.00	18.40
		10 618.46	V	Z	AV	34.17	11.40	0.43	N/A	46.00	54.00	8.00
U-NII 2C	5 510	5 458.46	V	Y	PK	53.15	3.76	N/A	N/A	56.91	74.00	17.09
		5 469.50	V	Y	PK	55.93	3.73	N/A	N/A	59.66	68.20	8.54
		5 459.20	V	Y	AV	42.98	3.76	0.43	N/A	47.17	54.00	6.83
		11 018.12	V	Z	PK	45.02	11.36	N/A	N/A	56.38	74.00	17.62
		11 018.39	V	Z	AV	34.82	11.36	0.43	N/A	46.61	54.00	7.39
	5 550	11 101.95	V	Z	PK	44.62	11.09	N/A	N/A	55.71	74.00	18.29
		11 101.51	V	Z	AV	33.84	11.09	0.43	N/A	45.36	54.00	8.64
	5 710	11 421.15	V	Z	PK	44.87	9.79	N/A	N/A	54.66	74.00	19.34
		11 420.55	V	Z	AV	34.24	9.79	0.43	N/A	44.46	54.00	9.54
U-NII 3	5 755	5 647.50	V	Y	PK	52.53	4.10	N/A	N/A	56.63	68.20	11.57
		5 693.33	V	Y	PK	55.07	4.17	N/A	N/A	59.24	100.26	41.02
		11 509.49	V	Z	PK	45.13	9.53	N/A	N/A	54.66	74.00	19.34
		11 509.75	V	Z	AV	35.00	9.53	0.43	N/A	44.96	54.00	9.04
	5 795	5 886.16	V	Y	PK	52.27	4.32	N/A	N/A	56.59	96.94	40.35
		5 932.08	V	Y	PK	50.65	4.69	N/A	N/A	55.34	68.20	12.86
		11 591.42	V	Z	PK	44.21	9.50	N/A	N/A	53.71	74.00	20.29
		11 591.21	V	Z	AV	34.02	9.50	0.43	N/A	43.95	54.00	10.05

Unwanted Emissions data(9 kHz ~ 40 GHz) : *TM4*

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	5 210	5 147.66	V	Y	PK	55.59	3.38	N/A	N/A	58.97	74.00	15.03
		5 147.93	V	Y	AV	43.84	3.38	1.14	N/A	48.36	54.00	5.64
		10 419.68	V	Z	PK	43.74	10.68	N/A	N/A	54.42	68.20	13.78
U-NII 2A	5 290	5 350.71	V	Y	PK	53.16	3.82	N/A	N/A	56.98	74.00	17.02
		5 351.13	V	Y	AV	42.46	3.82	1.14	N/A	47.42	54.00	6.58
		10 580.36	V	Z	PK	44.58	11.38	N/A	N/A	55.96	68.20	12.24
U-NII 2C	5 530	5 456.77	V	Y	PK	51.91	3.76	N/A	N/A	55.67	74.00	18.33
		5 462.75	V	Y	PK	53.27	3.75	N/A	N/A	57.02	68.20	11.18
		5 457.41	V	Y	AV	42.16	3.76	1.14	N/A	47.06	54.00	6.94
		11 058.85	V	Z	PK	44.28	11.20	N/A	N/A	55.48	74.00	18.52
		11 058.47	V	Z	AV	33.54	11.20	1.14	N/A	45.88	54.00	8.12
	5 690	11 379.67	V	Z	PK	43.81	9.93	N/A	N/A	53.74	74.00	20.26
		11 379.70	V	Z	AV	34.07	9.93	1.14	N/A	45.14	54.00	8.86
U-NII 3	5 775	5 648.75	V	Y	PK	51.44	4.10	N/A	N/A	55.54	68.20	12.66
		5 686.73	V	Y	PK	53.48	4.16	N/A	N/A	57.64	95.38	37.74
		5 877.04	V	Y	PK	51.03	4.22	N/A	N/A	55.25	103.69	48.44
		5 934.80	V	Y	PK	49.94	4.71	N/A	N/A	54.65	68.20	13.55
		11 549.00	V	Z	PK	44.45	9.47	N/A	N/A	53.92	74.00	20.08
		11 548.87	V	Z	AV	33.89	9.47	1.14	N/A	44.50	54.00	9.50

5.6 AC Power-Line Conducted Emissions

▣ Test Requirements, §15.207 & RSS-Gen[8.8]

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

See test photographs for the actual connections between EUT and support equipment.

▣ 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: Comply

Refer to the next page. The worst case data was reported.

AC Power-Line Conducted Emissions (Graph)

Test Mode: U-NII 1 & TM 1 & 5 180 MHz

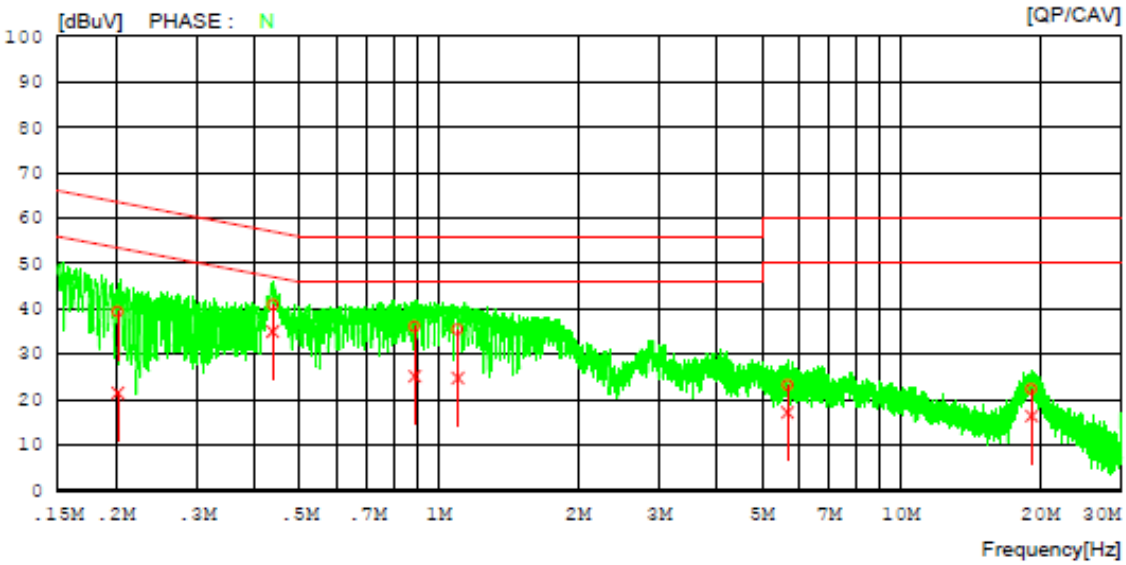
Results of Conducted Emission

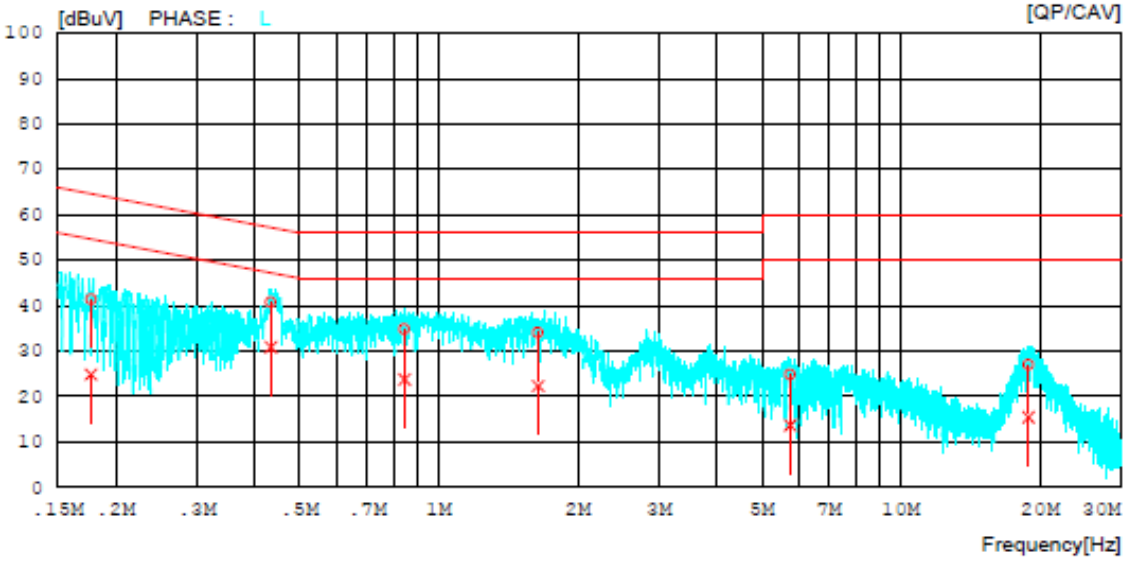
DTNC

Date 2023-05-12

Order No.		Referrence No.	
Model No.	PM86	Power Supply	
Serial No.		Temp/Humi.	21 'C / 41 %
Test Condition	WLAN 5.1G	Operator	S.M.Gil
Memo	a_5180		

LIMIT : FCC P15.207 AV
FCC P15.207 QP





AC Power-Line Conducted Emissions (Data List)

Test Mode: U-NII 1 & TM 1 & 5 180 MHz

Results of Conducted Emission

DTNC

Date 2023-05-12

Order No.		Referrence No.	
Model No.	PM86	Power Supply	
Serial No.		Temp/Humi.	21 'C / 41 %
Test Condition	WLAN 5.1G	Operator	S.M.Gil
Memo	a_5180		

LIMIT : FCC P15.207 AV
FCC P15.207 QP

NO	FREQ	READING QP	READING CAV	C.FACTOR	RESULT QP	RESULT CAV	LIMIT QP	LIMIT CAV	MARGIN QP	MARGIN CAV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.20214	29.44	11.59	9.98	39.42	21.57	63.52	53.52	24.10	31.95	N
2	0.43758	30.91	25.04	10.00	40.91	35.04	57.11	47.11	16.20	12.07	N
3	0.88701	26.11	15.18	10.00	36.11	25.18	56.00	46.00	19.89	20.82	N
4	1.09840	25.52	14.84	10.01	35.53	24.85	56.00	46.00	20.47	21.15	N
5	5.68780	13.06	7.04	10.21	23.27	17.25	60.00	50.00	36.73	32.75	N
6	19.18120	11.75	5.85	10.56	22.31	16.41	60.00	50.00	37.69	33.59	N
7	0.17679	31.44	14.92	9.89	41.33	24.81	64.64	54.64	23.31	29.83	L
8	0.43310	30.88	20.94	9.90	40.78	30.84	57.19	47.19	16.41	16.35	L
9	0.84258	24.90	13.87	9.90	34.80	23.77	56.00	46.00	21.20	22.23	L
10	1.63940	24.04	12.26	10.03	34.07	22.29	56.00	46.00	21.93	23.71	L
11	5.75760	14.68	3.57	10.11	24.79	13.68	60.00	50.00	35.21	36.32	L
12	18.88400	16.62	5.03	10.36	26.98	15.39	60.00	50.00	33.02	34.61	L

AC Power-Line Conducted Emissions (Graph)

Test Mode: U-NII 2A & TM 1 & 5 260 MHz

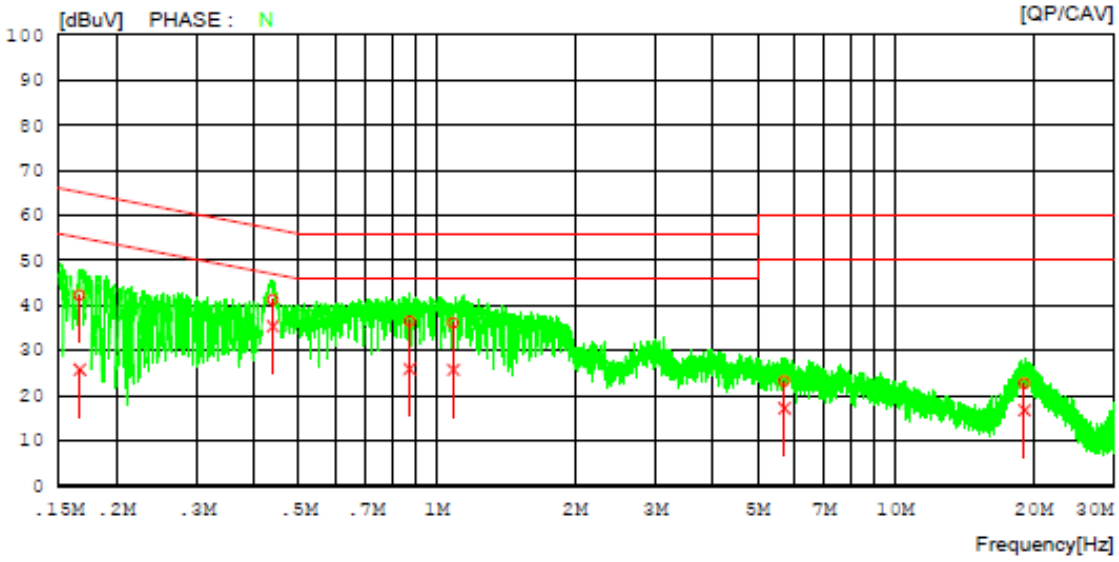
Results of Conducted Emission

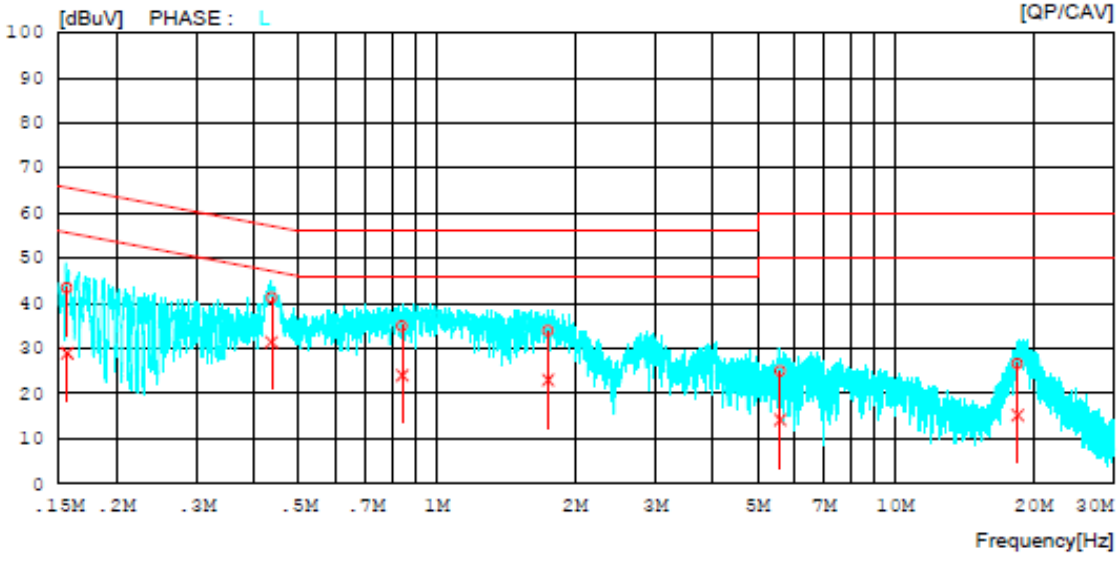
DTNC

Date 2023-05-12

Order No.		Referrence No.	
Model No.	PM86	Power Supply	
Serial No.		Temp/Humi.	21 'C / 41 %
Test Condition	WLAN 5.3G	Operator	S.M.Gil
Memo	a_5260		

LIMIT : FCC P15.207 AV
FCC P15.207 QP





AC Power-Line Conducted Emissions (Data List)

Test Mode: U-NII 2A & TM 1 & 5 260 MHz

Results of Conducted Emission

DTNC

Date 2023-05-12

Order No.		Referrence No.	
Model No.	PM86	Power Supply	
Serial No.		Temp/Humi.	21 'C / 41 %
Test Condition	WLAN 5.3G	Operator	S.M.Gil
Memo	a_5260		

LIMIT : FCC P15.207 AV
FCC P15.207 QP

NO	FREQ	READING QP	READING CAV	C.FACTOR	RESULT QP	RESULT CAV	LIMIT QP	LIMIT CAV	MARGIN QP	MARGIN CAV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.16632	32.33	15.88	10.00	42.33	25.88	65.14	55.14	22.81	29.26	N
2	0.43904	31.29	25.45	10.00	41.29	35.45	57.08	47.08	15.79	11.63	N
3	0.87352	26.49	16.01	10.00	36.49	26.01	56.00	46.00	19.51	19.99	N
4	1.08680	26.15	15.76	10.01	36.16	25.77	56.00	46.00	19.84	20.23	N
5	5.72900	13.00	7.00	10.21	23.21	17.21	60.00	50.00	36.79	32.79	N
6	19.11560	12.22	6.22	10.56	22.78	16.78	60.00	50.00	37.22	33.22	N
7	0.15622	33.51	19.00	9.91	43.42	28.91	65.66	55.66	22.24	26.75	L
8	0.43628	31.30	21.48	9.90	41.20	31.38	57.13	47.13	15.93	15.75	L
9	0.84012	25.08	14.11	9.90	34.98	24.01	56.00	46.00	21.02	21.99	L
10	1.74980	23.89	12.93	10.03	33.92	22.96	56.00	46.00	22.08	23.04	L
11	5.60900	14.88	3.99	10.11	24.99	14.10	60.00	50.00	35.01	35.90	L
12	18.47520	16.26	4.81	10.35	26.61	15.16	60.00	50.00	33.39	34.84	L

AC Power-Line Conducted Emissions (Graph)

Test Mode: U-NII 2C & TM 1 & 5 500 MHz

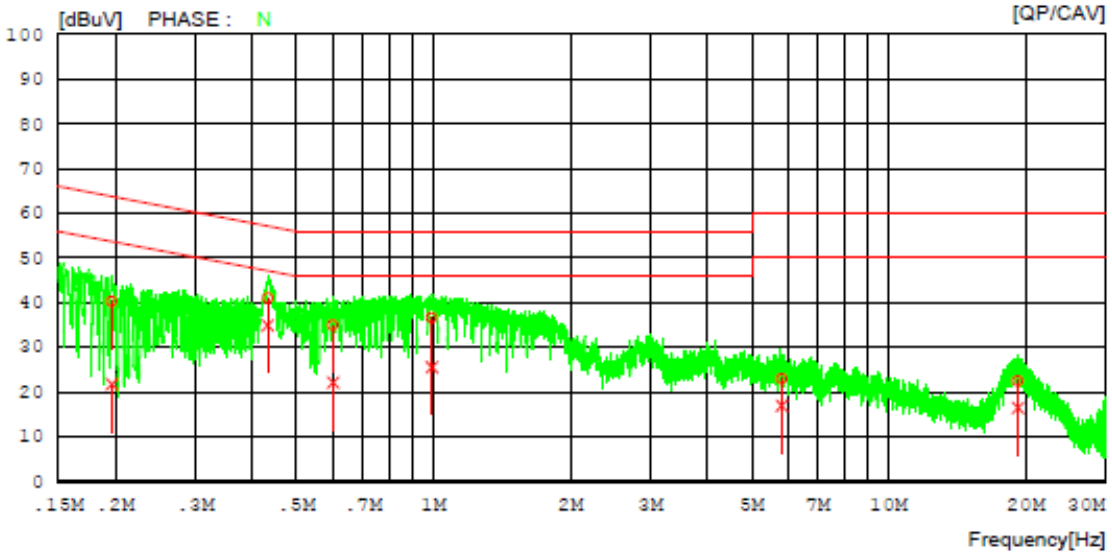
Results of Conducted Emission

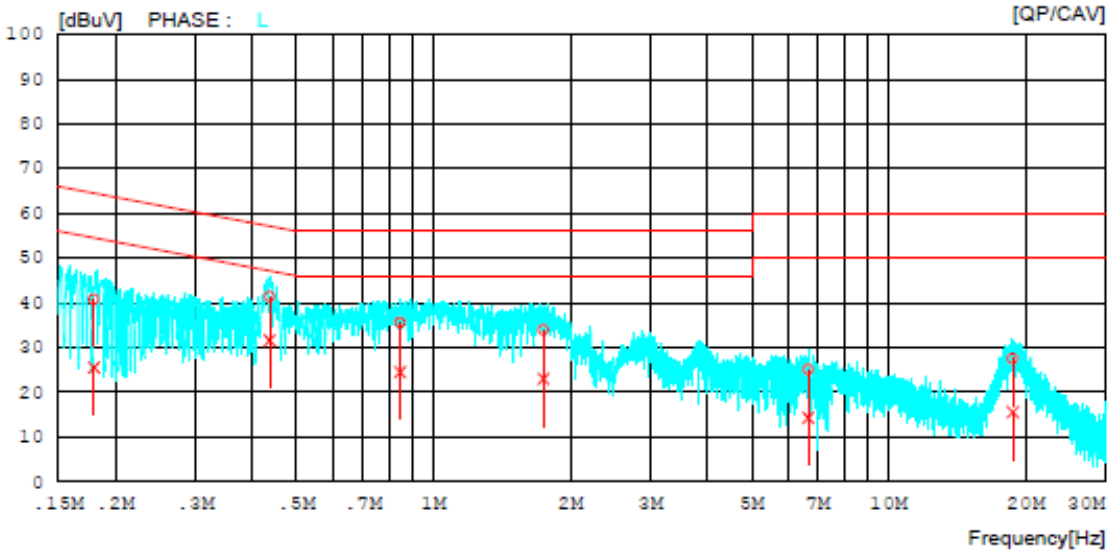
DTNC

Date 2023-05-12

Order No.		Referrence No.	
Model No.	PM86	Power Supply	
Serial No.		Temp/Humi.	21 'C / 41 %
Test Condition	WLAN 5.5G	Operator	S.M.Gil
Memo	a_5500		

LIMIT : FCC P15.207 AV
FCC P15.207 QP





AC Power-Line Conducted Emissions (Data List)

Test Mode: U-NII 2C & TM 1 & 5 500 MHz

Results of Conducted Emission

DTNC

Date 2023-05-12

Order No.		Reference No.	
Model No.	PM86	Power Supply	
Serial No.		Temp/Humi.	21 'C / 41 %
Test Condition	WLAN 5.5G	Operator	S.M.Gil
Memo	a_5500		

LIMIT : FCC P15.207 AV
FCC P15.207 QP

NO	FREQ	READING QP	READING CAV	C.FACTOR	RESULT QP	RESULT CAV	LIMIT QP	LIMIT CAV	MARGIN QP	MARGIN CAV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.19629	30.29	11.82	9.98	40.27	21.80	63.77	53.77	23.50	31.97	N
2	0.43266	31.05	24.91	10.00	41.05	34.91	57.20	47.20	16.15	12.29	N
3	0.60153	24.99	12.17	9.99	34.98	22.16	56.00	46.00	21.02	23.84	N
4	0.99196	26.68	15.51	10.01	36.69	25.52	56.00	46.00	19.31	20.48	N
5	5.82220	12.83	6.79	10.21	23.04	17.00	60.00	50.00	36.96	33.00	N
6	19.24000	11.86	5.96	10.56	22.42	16.52	60.00	50.00	37.58	33.48	N
7	0.17949	30.88	15.63	9.89	40.77	25.52	64.51	54.51	23.74	28.99	L
8	0.43649	31.42	21.66	9.90	41.32	31.56	57.13	47.13	15.81	15.57	L
9	0.84454	25.61	14.56	9.90	35.51	24.46	56.00	46.00	20.49	21.54	L
10	1.74460	23.85	12.93	10.03	33.88	22.96	56.00	46.00	22.12	23.04	L
11	6.65840	14.92	4.19	10.13	25.05	14.32	60.00	50.00	34.95	35.68	L
12	18.73760	17.07	5.22	10.36	27.43	15.58	60.00	50.00	32.57	34.42	L

AC Power-Line Conducted Emissions (Graph)

Test Mode: U-NII 3 & TM 1 & 5 745 MHz

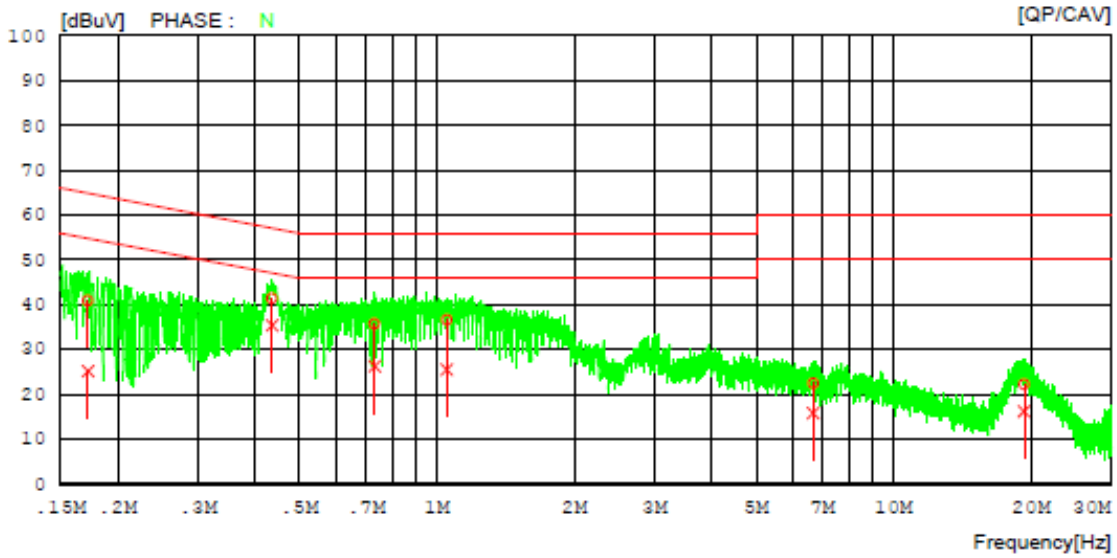
Results of Conducted Emission

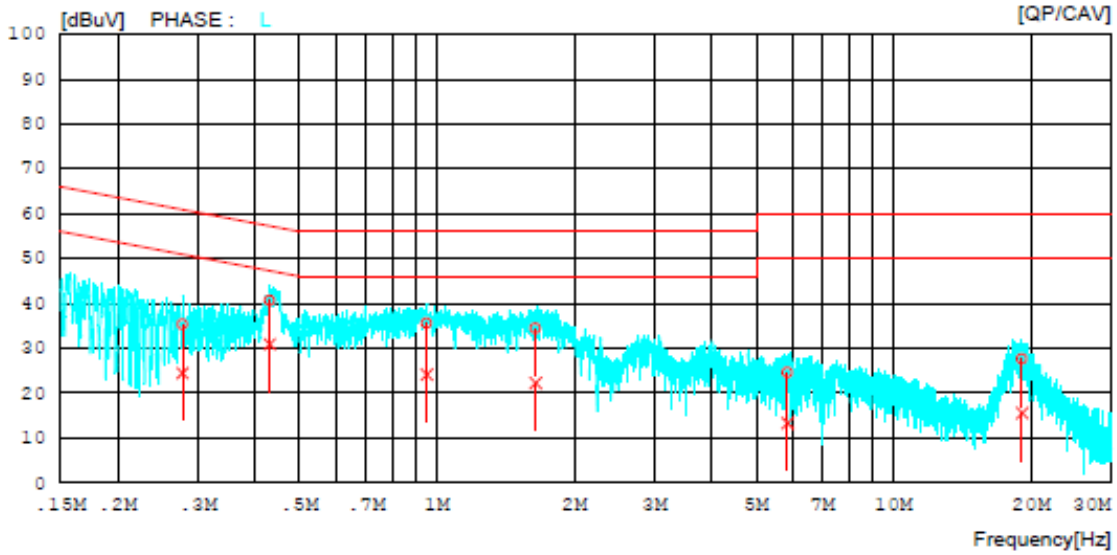
DTNC

Date 2023-05-12

Order No.		Referrence No.	
Model No.	PM86	Power Supply	
Serial No.		Temp/Humi.	21 'C / 41 %
Test Condition	WLAN 5.7G	Operator	S.M.Gil
Memo	a_5745		

LIMIT : FCC P15.207 AV
FCC P15.207 QP





AC Power-Line Conducted Emissions (Data List)

Test Mode: U-NII 3 & TM 1 & 5 745 MHz

Results of Conducted Emission

DTNC

Date 2023-05-12

Order No.		Referrence No.	
Model No.	PM86	Power Supply	
Serial No.		Temp/Humi.	21 'C / 41 %
Test Condition	WLAN 5.7G	Operator	S.M.Gil
Memo	a_5745		

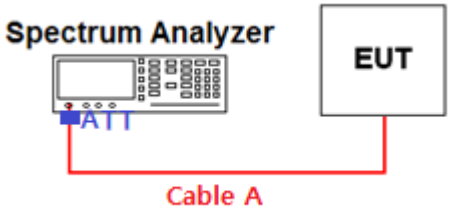
LIMIT : FCC P15.207 AV
FCC P15.207 QP

NO	FREQ	READING QP	READING CAV	C.FACTOR	RESULT QP	RESULT CAV	LIMIT QP	LIMIT CAV	MARGIN QP	MARGIN CAV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.17220	30.95	15.22	10.00	40.95	25.22	64.85	54.85	23.90	29.63	N
2	0.43553	31.43	25.43	10.00	41.43	35.43	57.15	47.15	15.72	11.72	N
3	0.73094	25.79	16.38	9.99	35.78	26.37	56.00	46.00	20.22	19.63	N
4	1.05140	26.61	15.52	10.01	36.62	25.53	56.00	46.00	19.38	20.47	N
5	6.67340	12.18	5.62	10.24	22.42	15.86	60.00	50.00	37.58	34.14	N
6	19.31560	11.65	5.72	10.55	22.20	16.27	60.00	50.00	37.80	33.73	N
7	0.27724	25.40	14.57	9.89	35.29	24.46	60.90	50.90	25.61	26.44	L
8	0.43041	30.68	20.98	9.90	40.58	30.88	57.24	47.24	16.66	16.36	L
9	0.95020	25.59	14.20	9.96	35.55	24.16	56.00	46.00	20.45	21.84	L
10	1.64440	24.34	12.18	10.03	34.37	22.21	56.00	46.00	21.63	23.79	L
11	5.85980	14.49	3.21	10.11	24.60	13.32	60.00	50.00	35.40	36.68	L
12	19.10840	17.21	5.14	10.36	27.57	15.50	60.00	50.00	32.43	34.50	L

APPENDIX I

Conducted Test set up Diagram

▪ Conducted Measurement



APPENDIX II

Duty Cycle Information

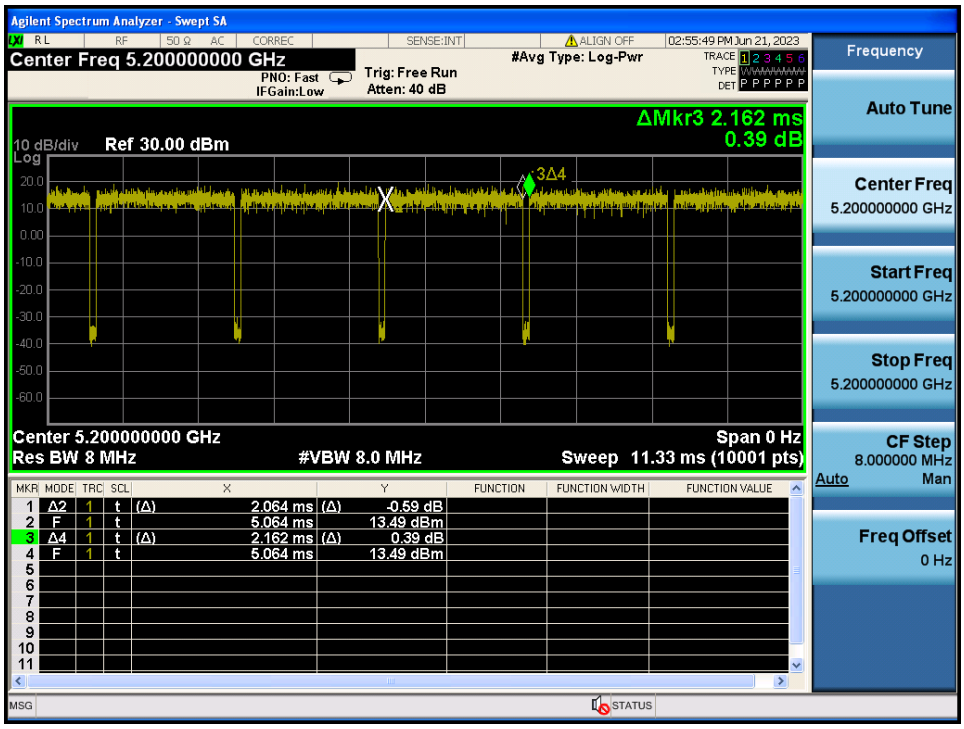
▣ Test Procedure

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

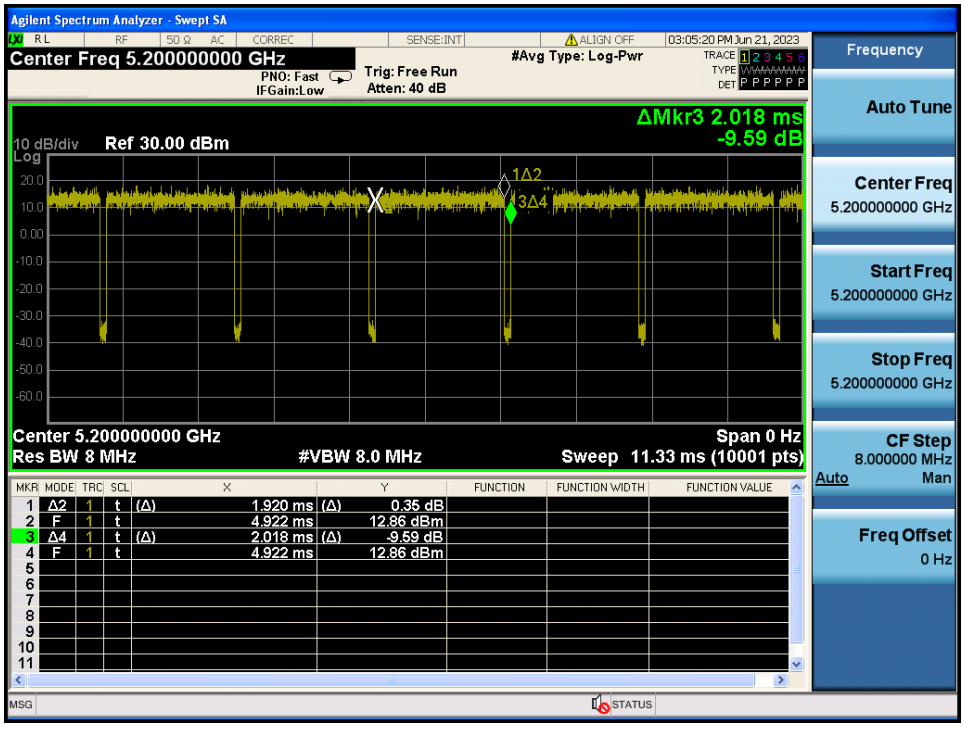
1. Set the center frequency of the spectrum analyzer to the center frequency of the transmission.
2. Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value.
3. Set VBW ≥ RBW. Set detector = peak.
4. Note : The zero-span measurement method shall not be used unless both **RBW and 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)

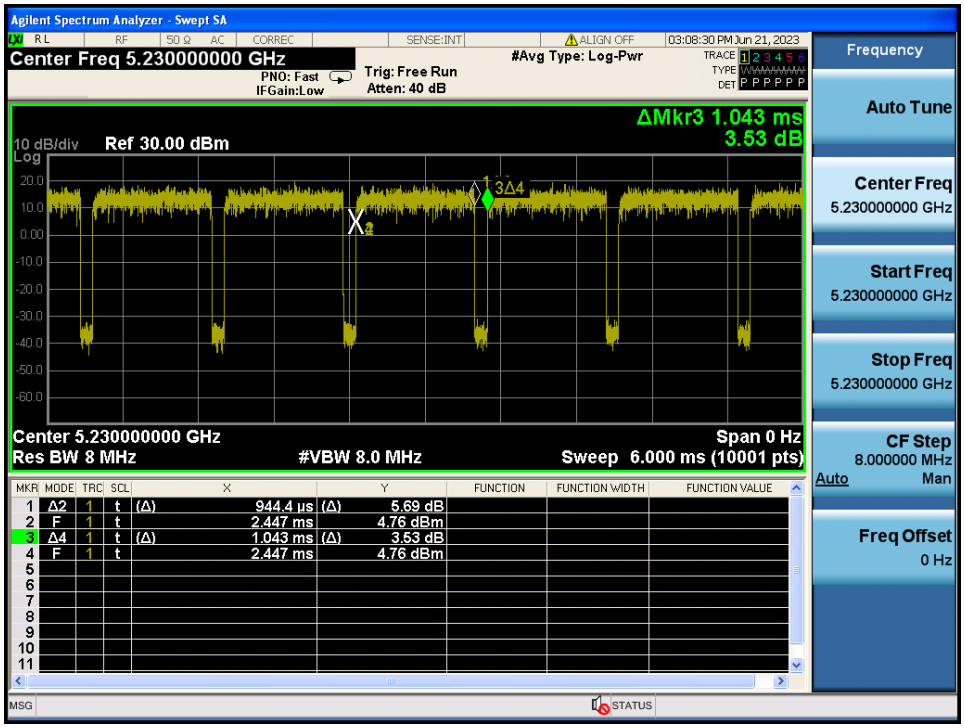
Duty Cycle Test Mode: TM1 & Ch.40



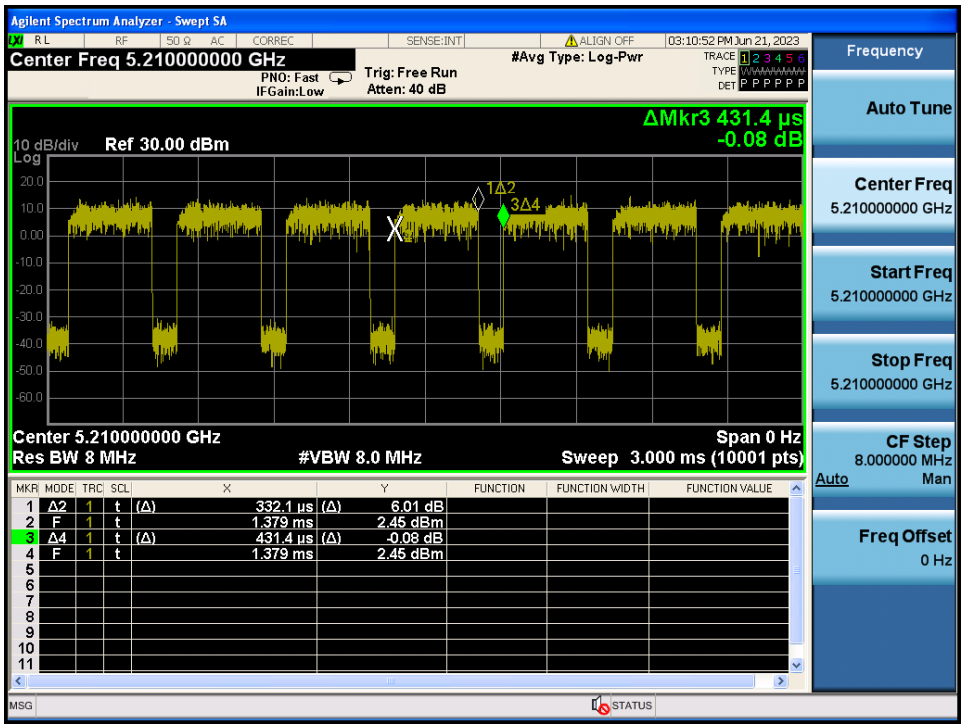
Duty Cycle Test Mode: TM 2 & Ch.40



Duty Cycle Test Mode: TM 3 & Ch.46



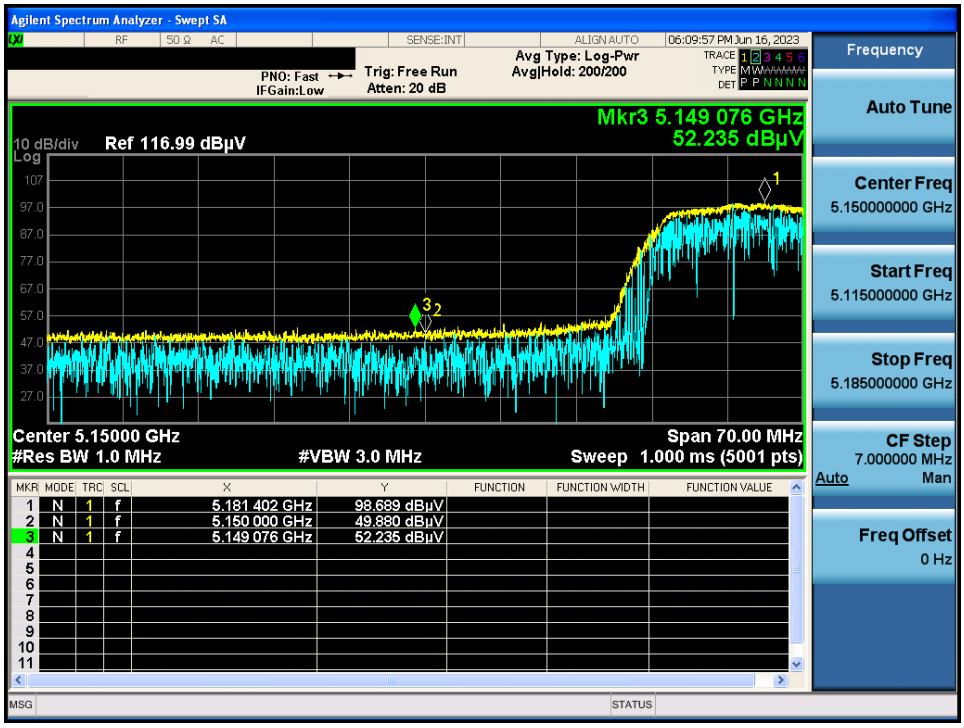
Duty Cycle Test Mode: TM 4 & Ch.42



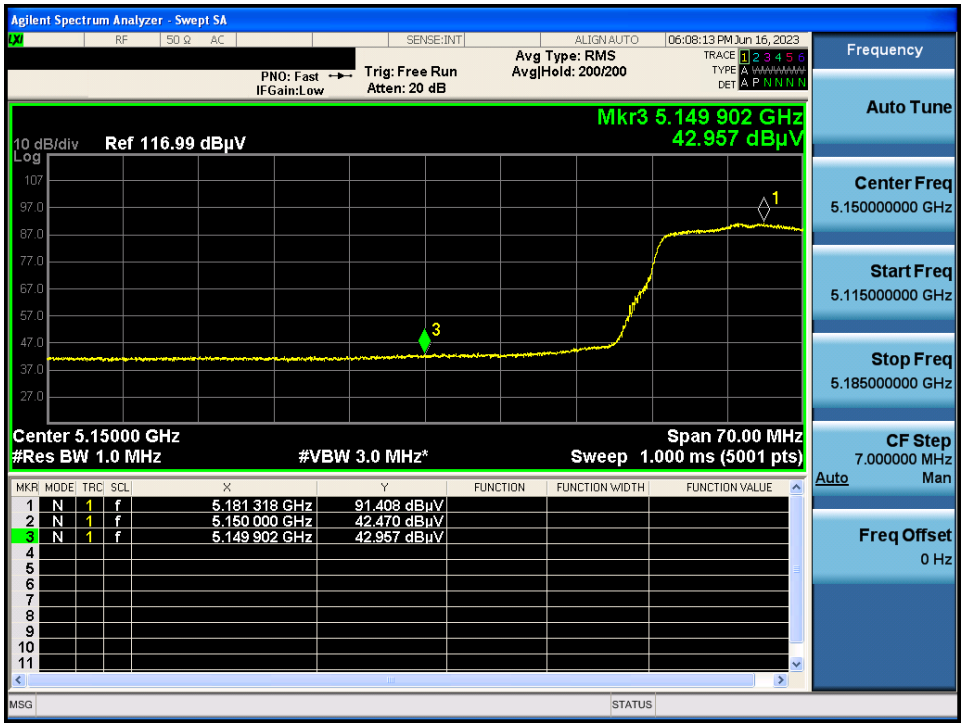
APPENDIX III

Unwanted Emissions (Radiated) Test Plot:

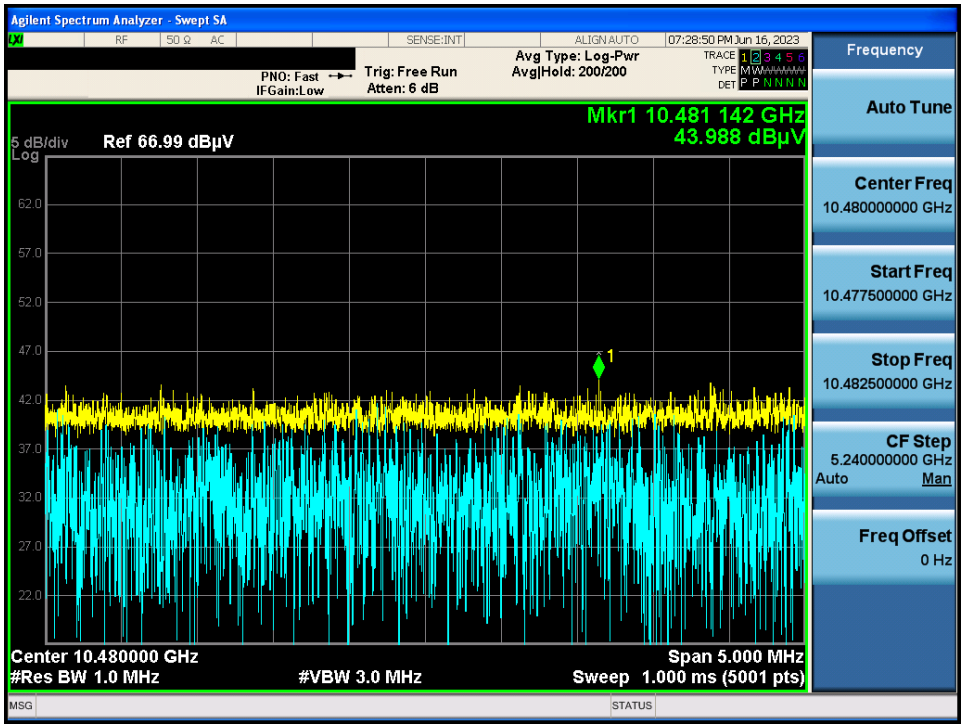
TM 1 & U-NII 1 & 5 180 & Y axis & Ver **Detector Mode : PK**



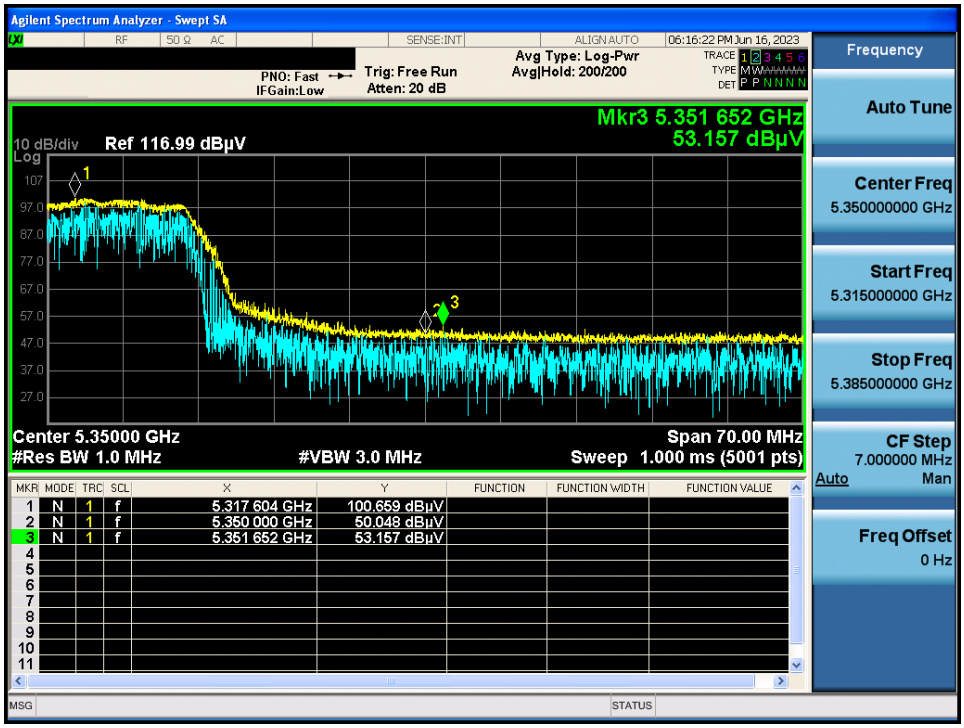
TM 1 & U-NII 1 & 5 180 & Y axis & Ver **Detector Mode : AV**



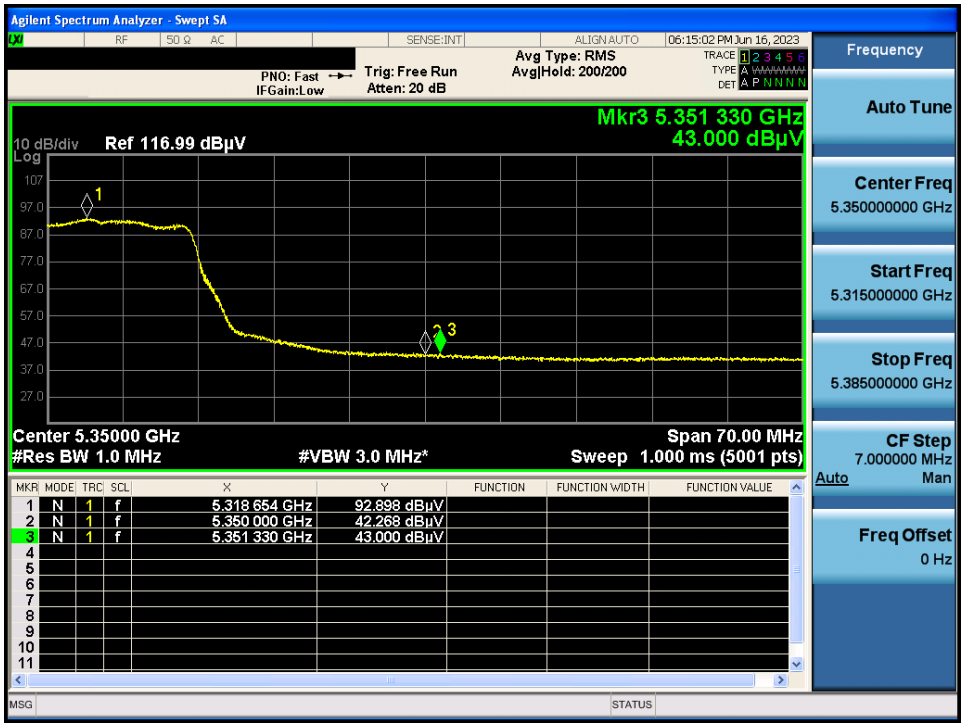
TM 1 & U-NII 1 & 5 240 & Z axis & Ver **Detector Mode : PK**



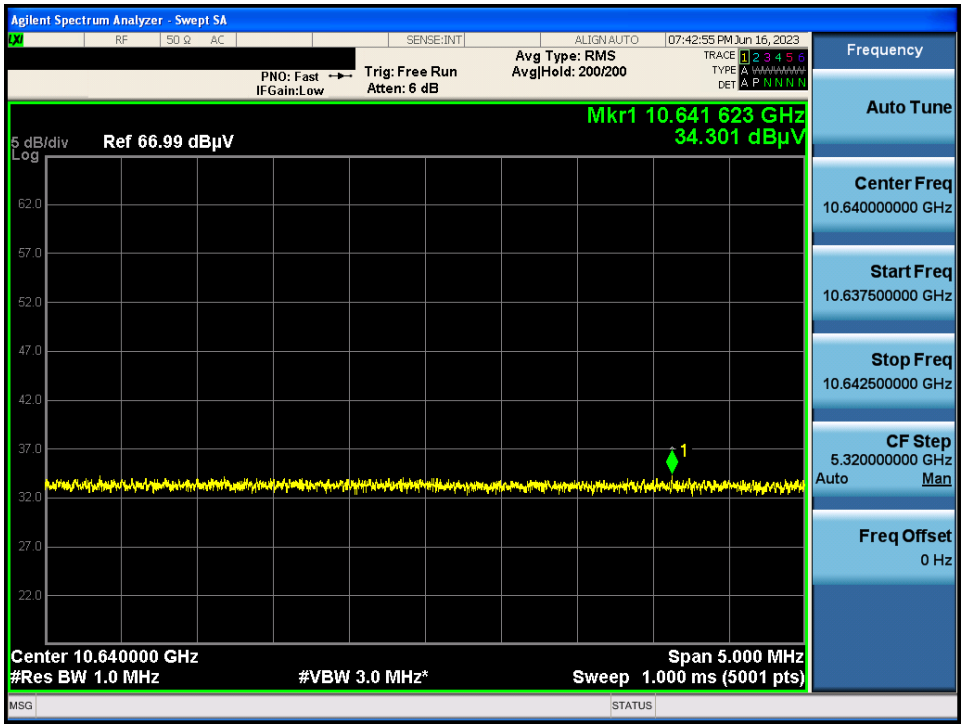
TM 1 & U-NII 2A & 5 320 & Y axis & Ver **Detector Mode : PK**



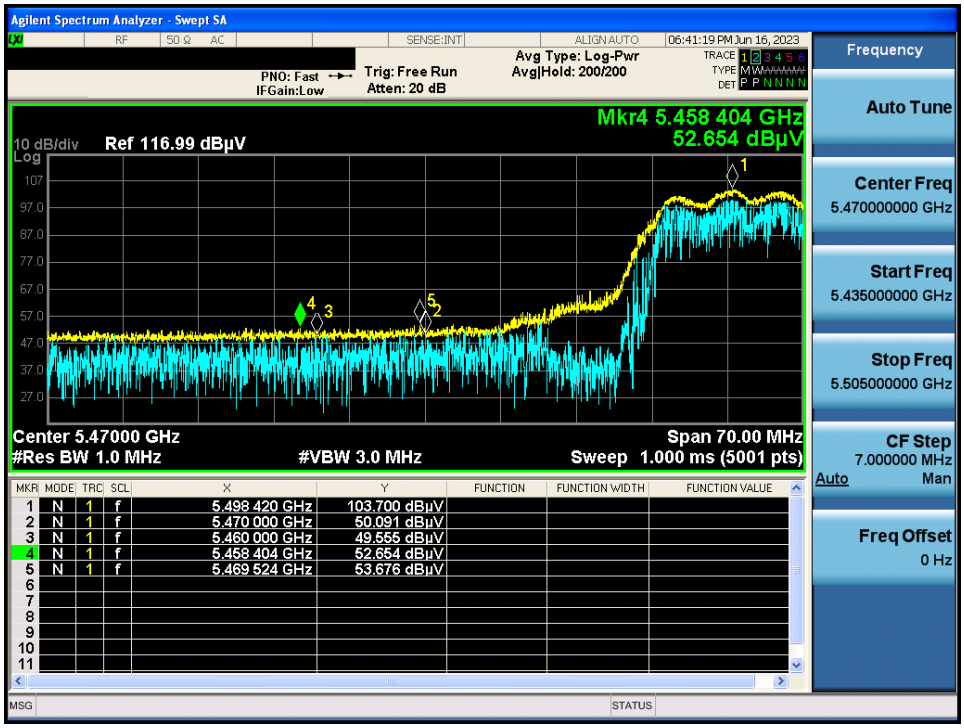
TM 1 & U-NII 2A & 5 320 & Y axis & Ver **Detector Mode : AV**



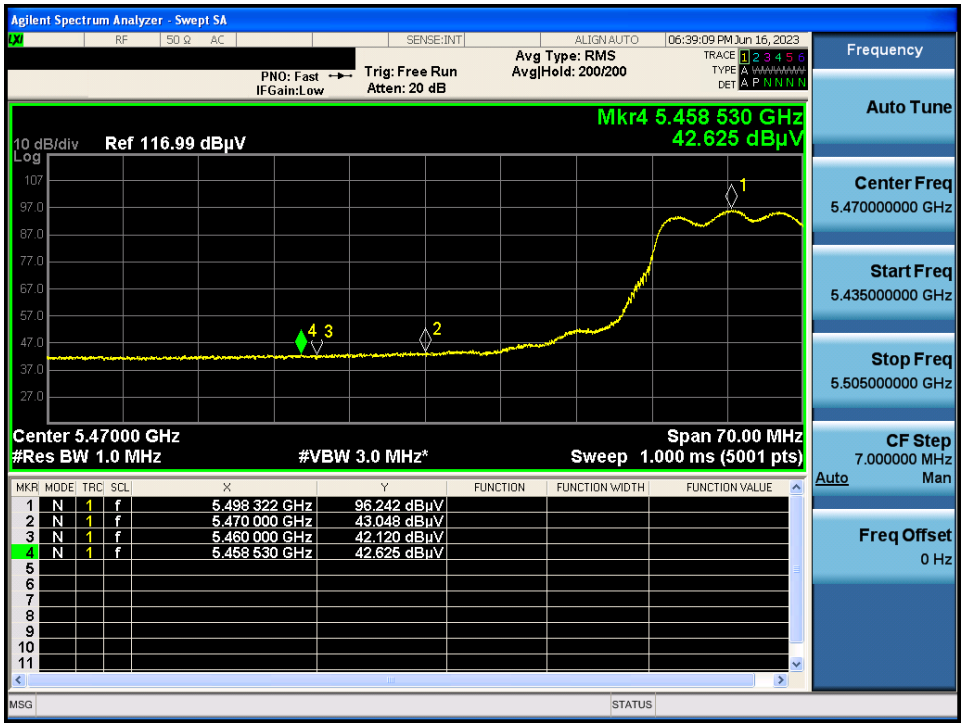
TM 1 & U-NII 2A & 5 320 & Z axis & Ver **Detector Mode : AV**



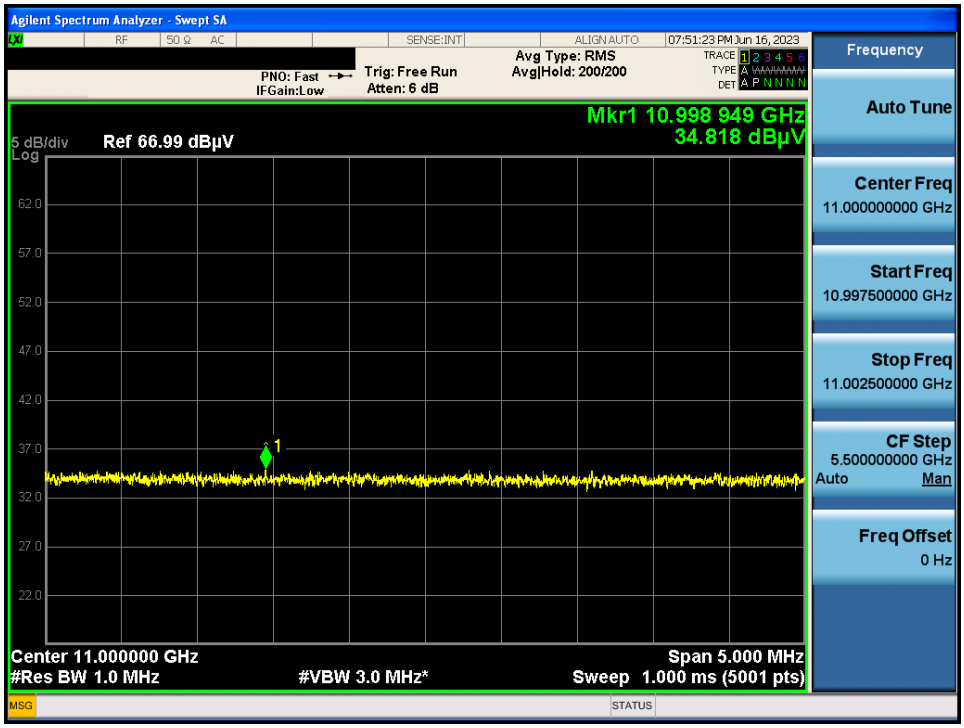
TM 1 & U-NII 2C & 5 500 & Y axis & Ver **Detector Mode : PK**



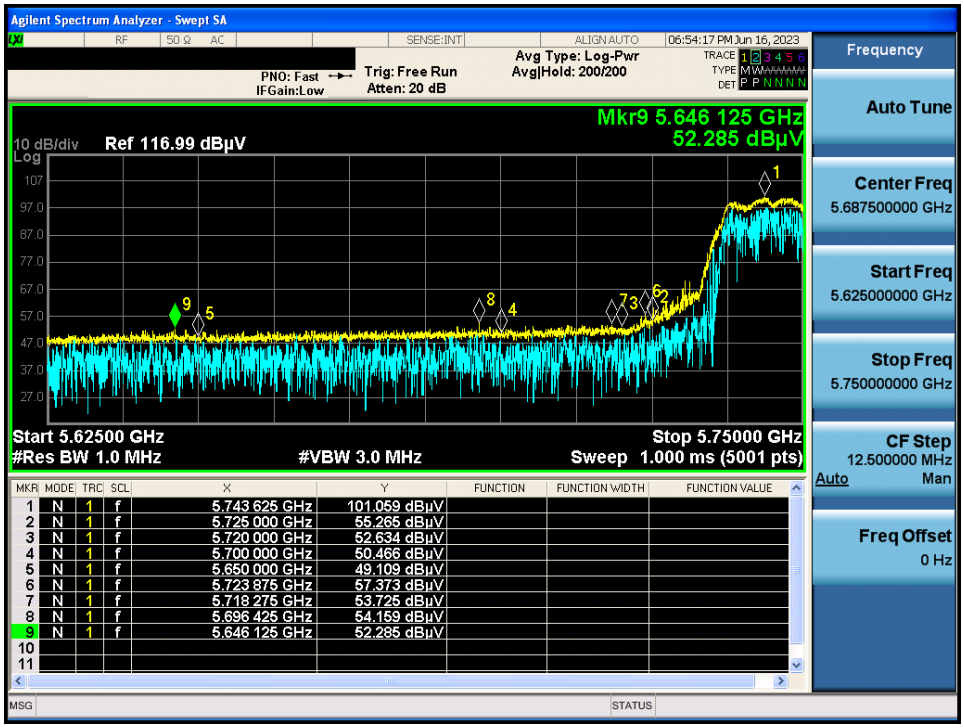
TM 1 & U-NII 2C & 5 500 & Y axis & Ver **Detector Mode : AV**



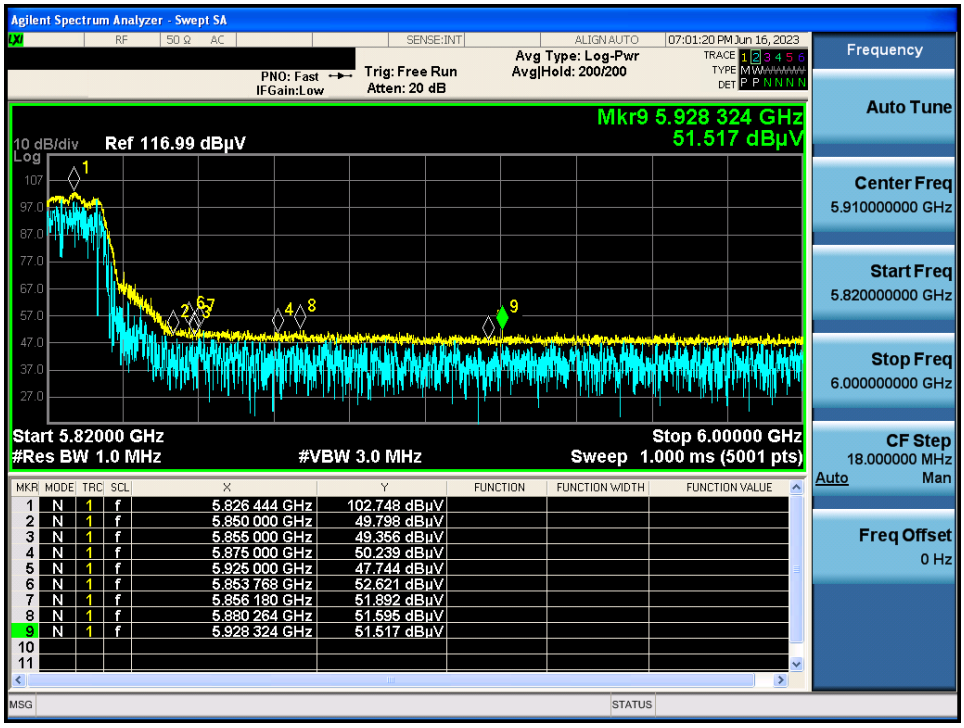
TM 1 & U-NII 2C & 5 550 & Z axis & Ver **Detector Mode : AV**



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



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



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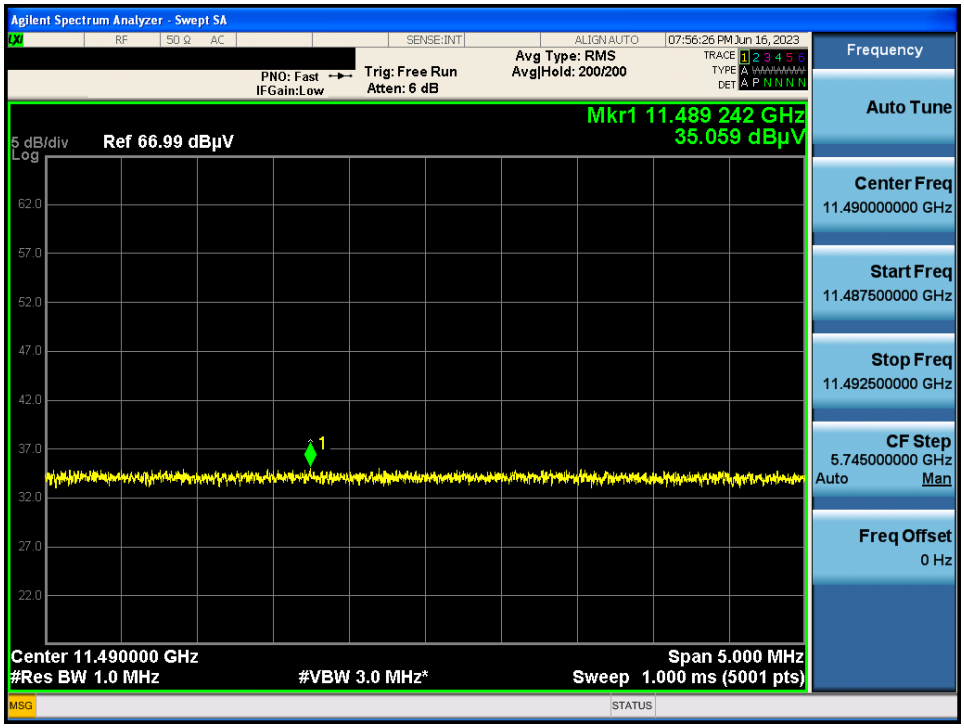

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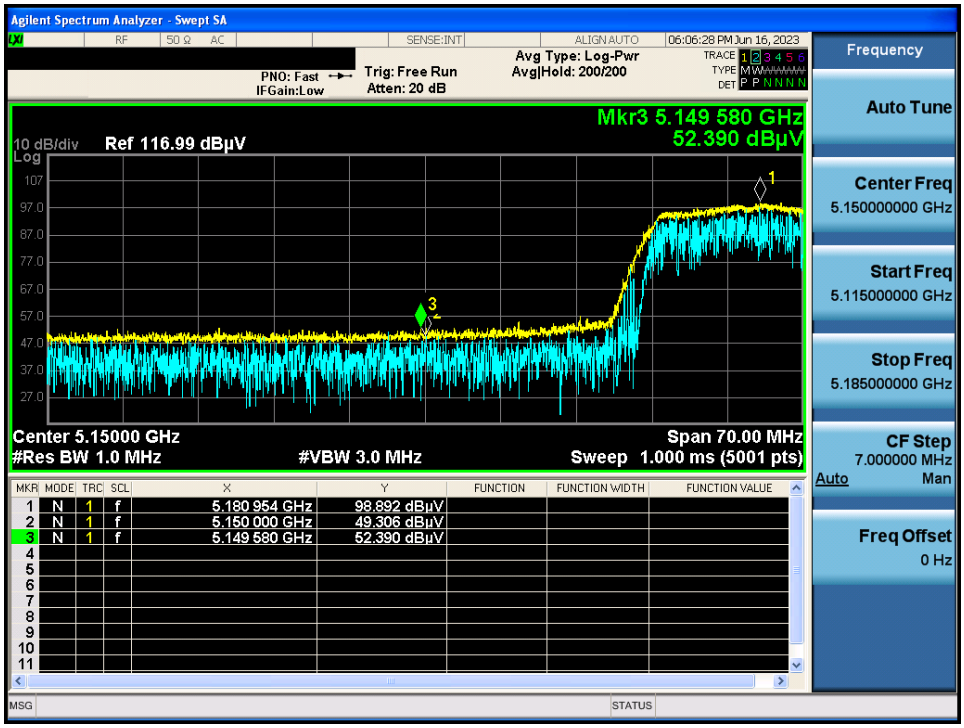

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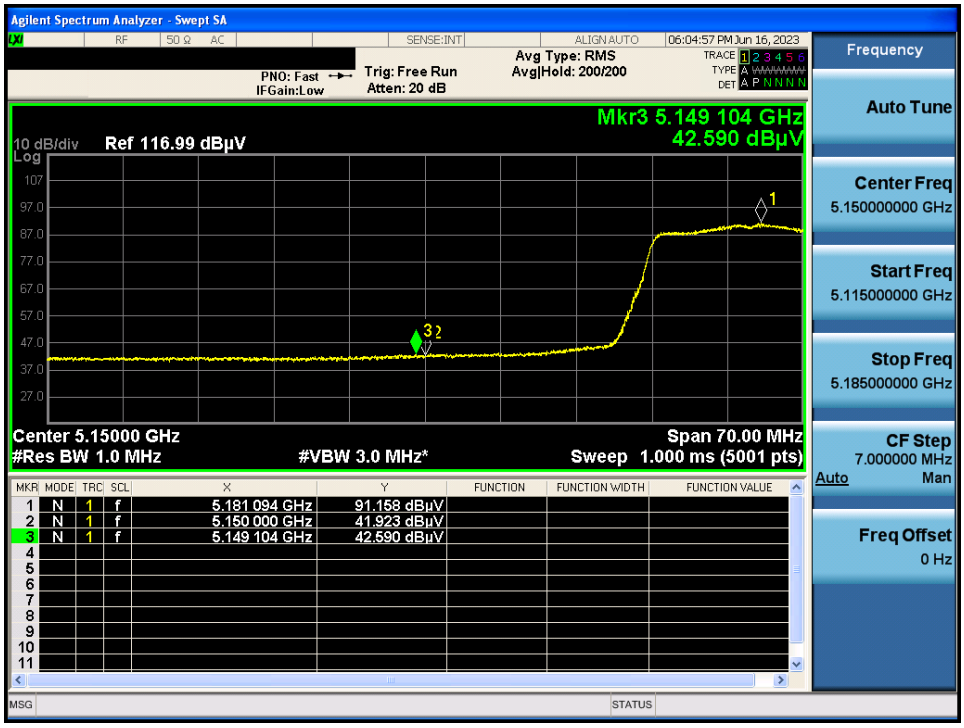

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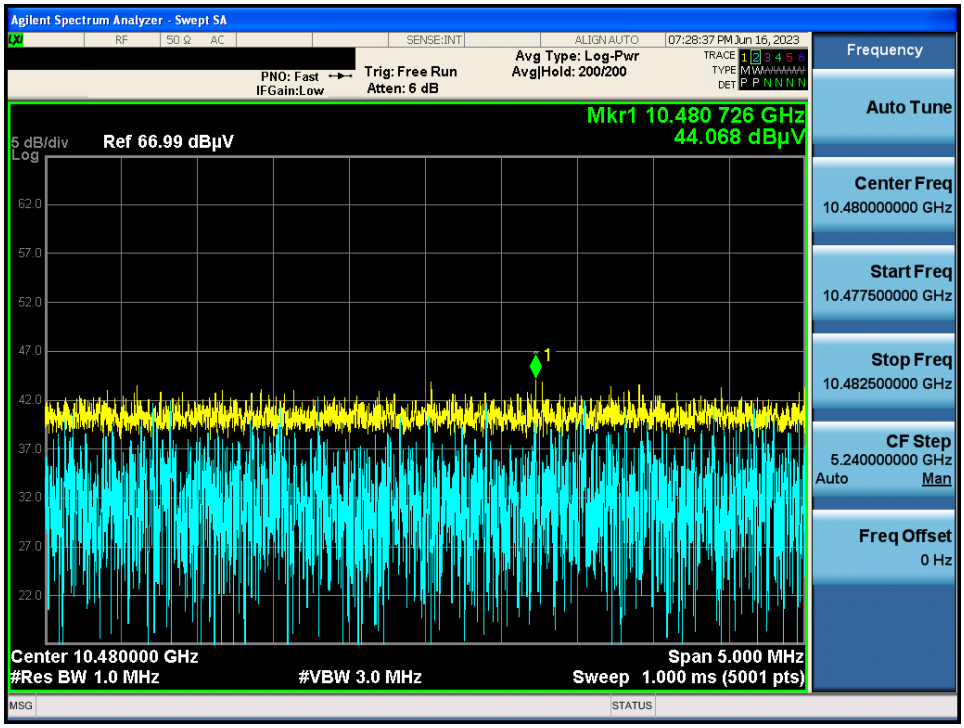

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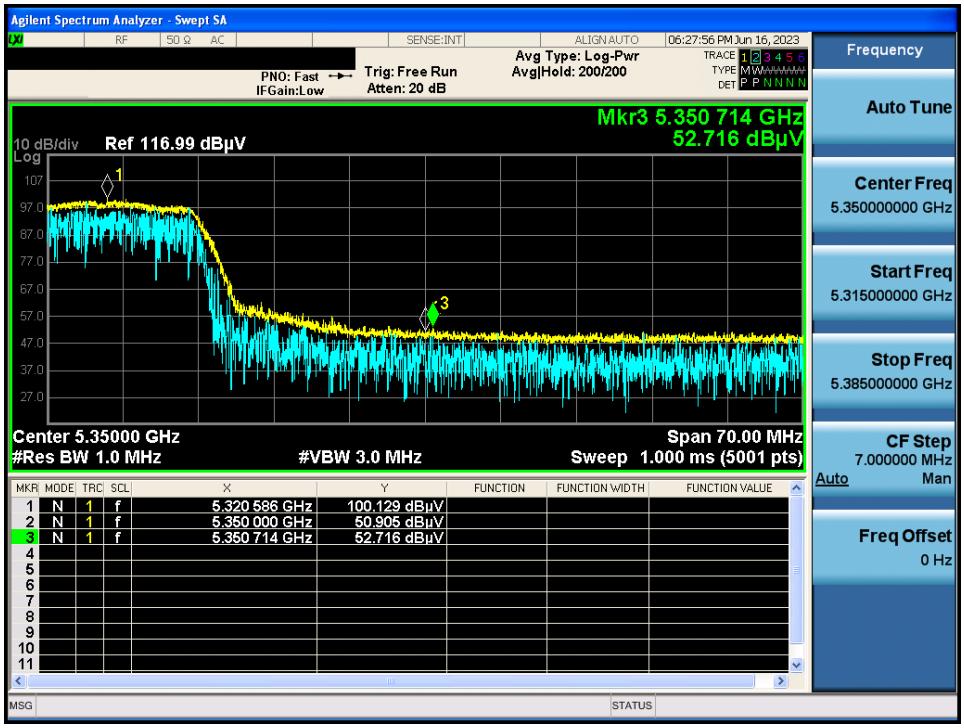

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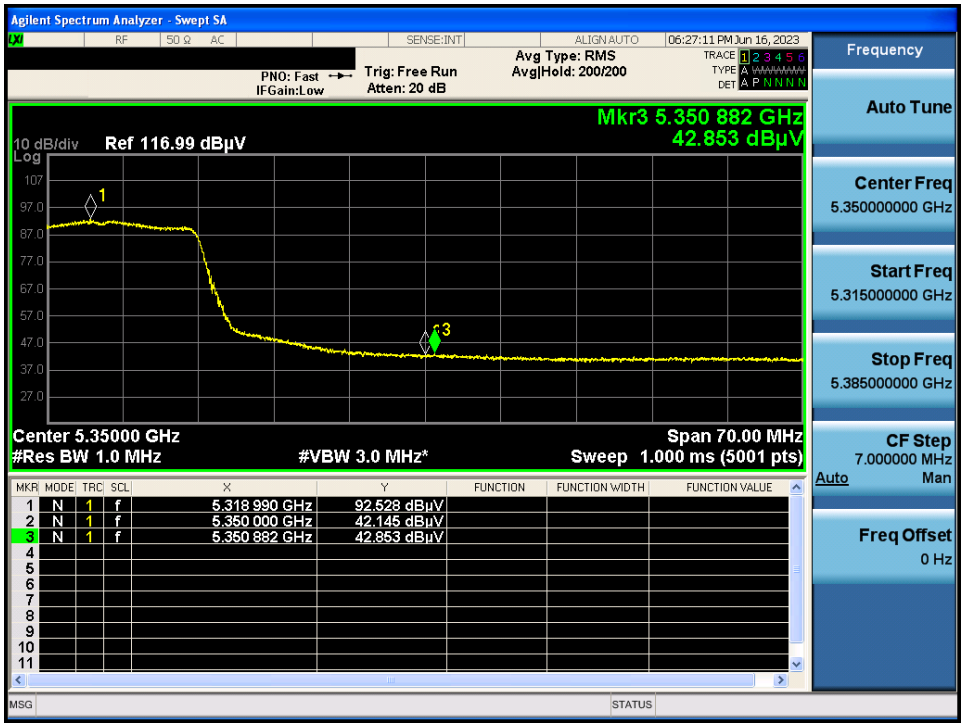

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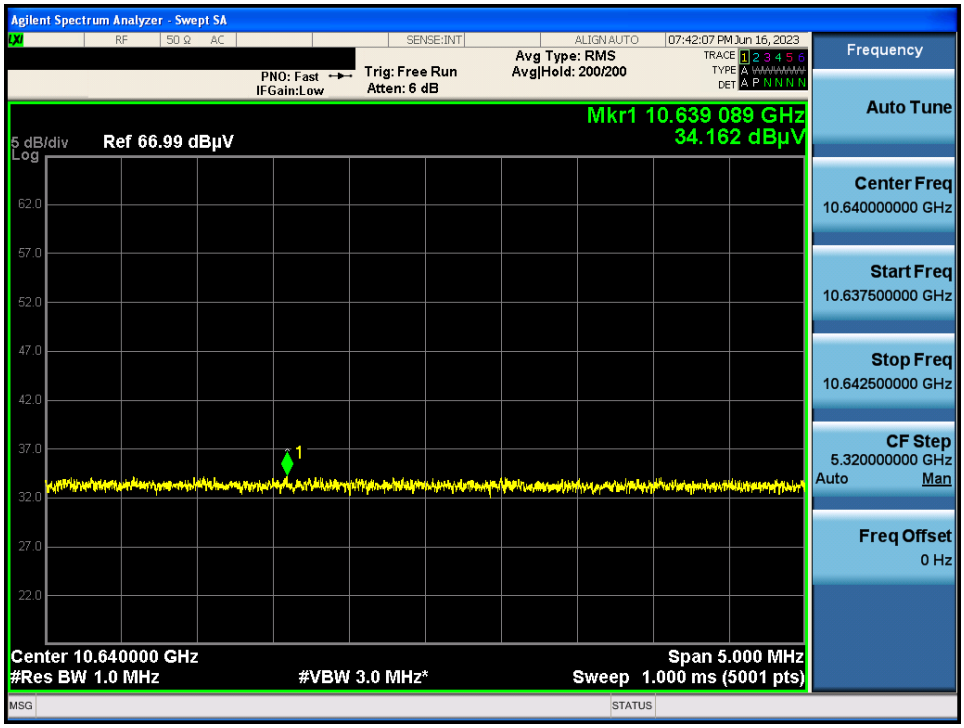

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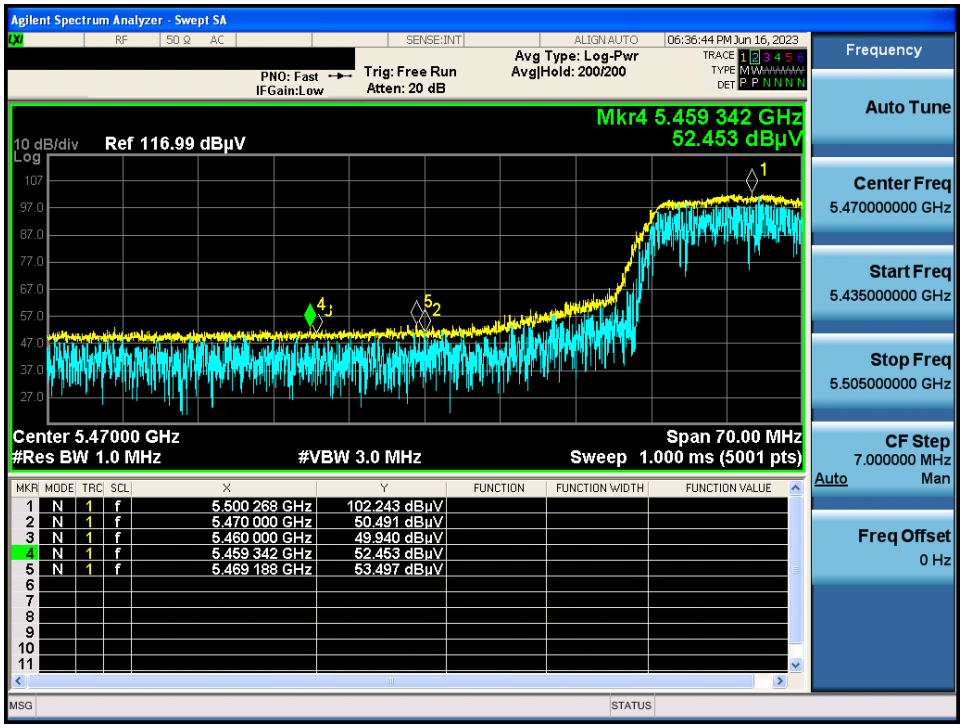

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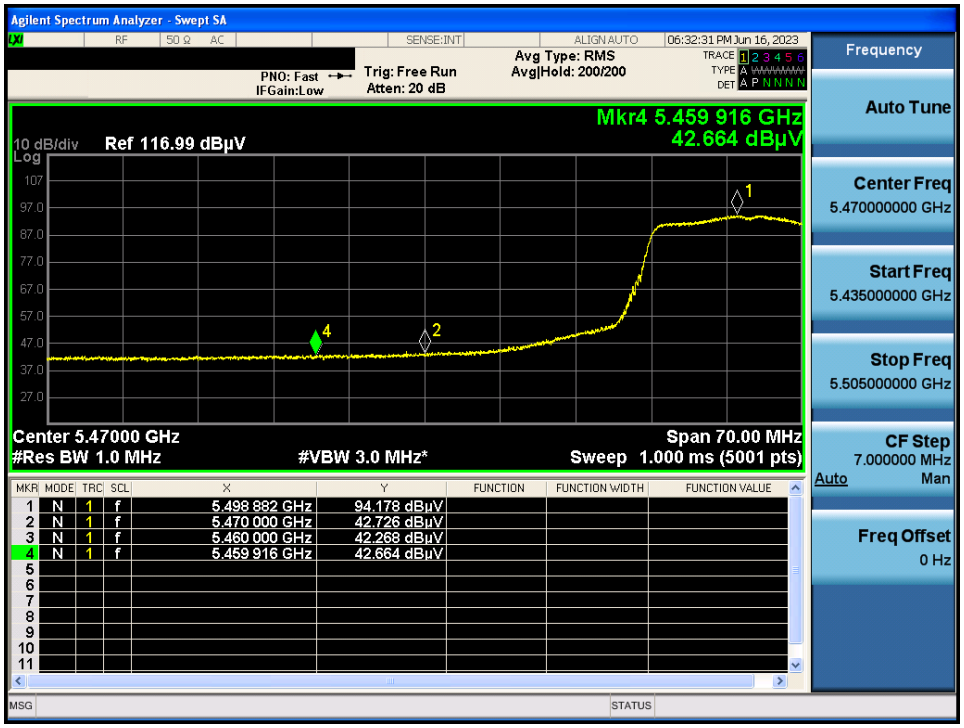
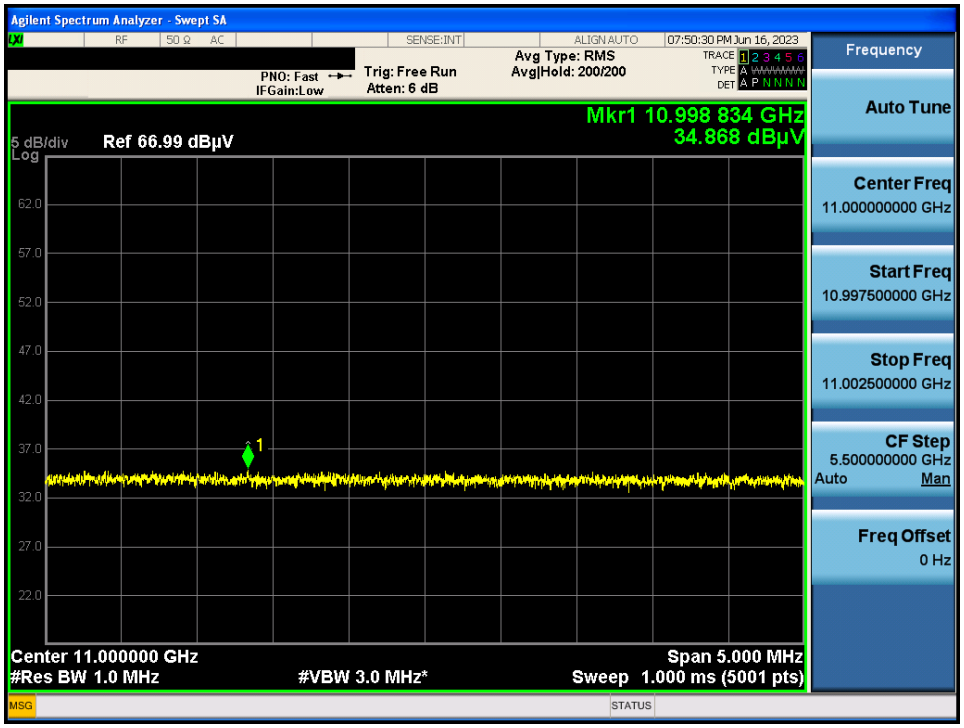
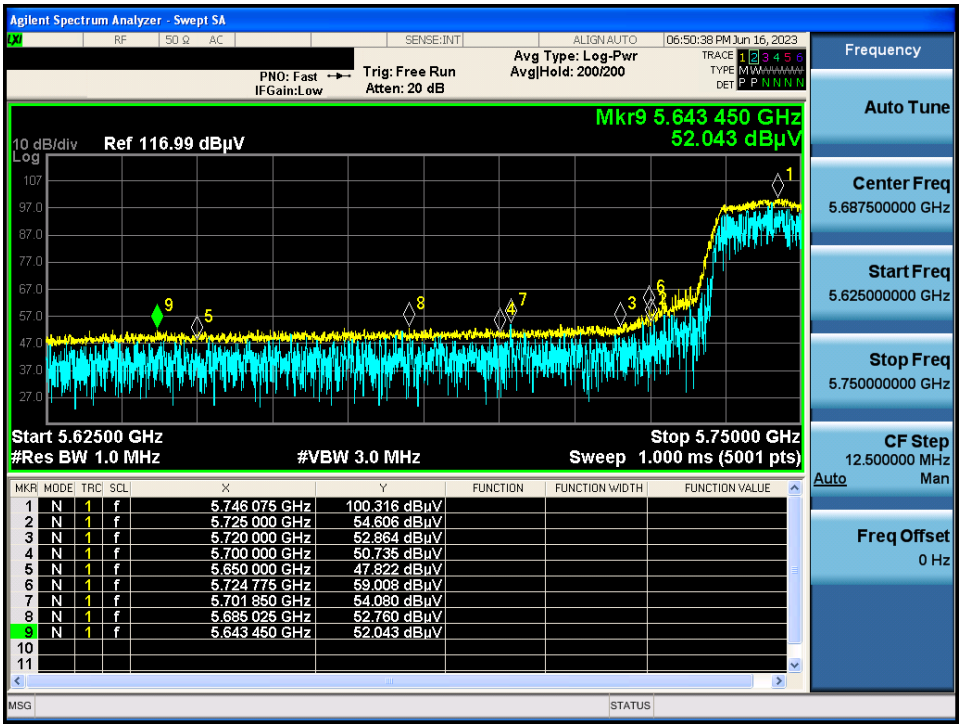


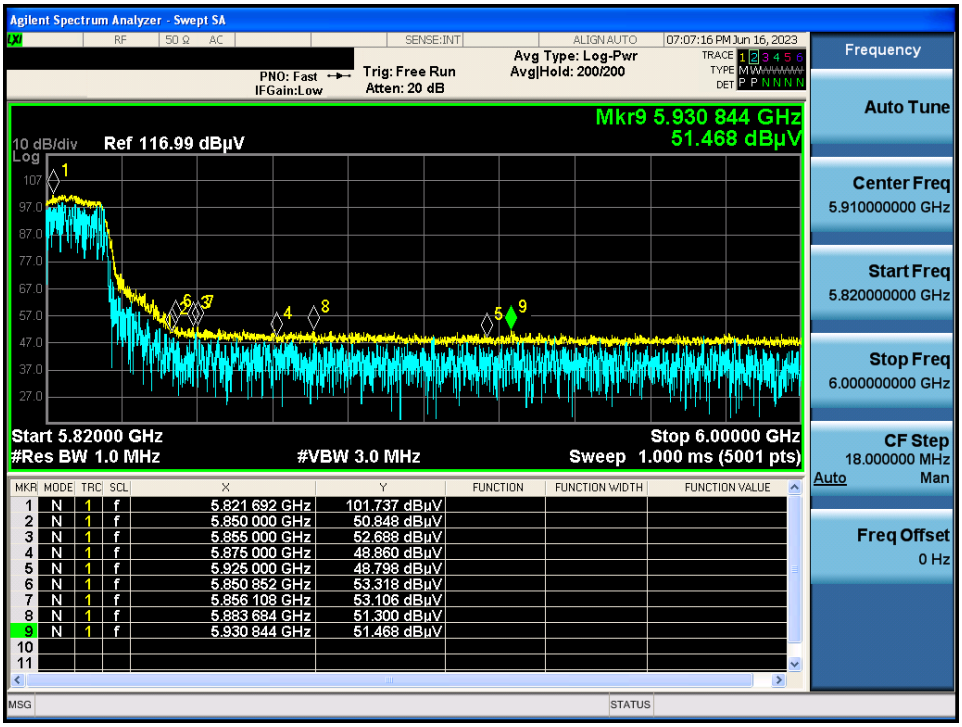
TM 2 & U-NII 2C & 5 500 & Z axis & Ver **Detector Mode : AV**



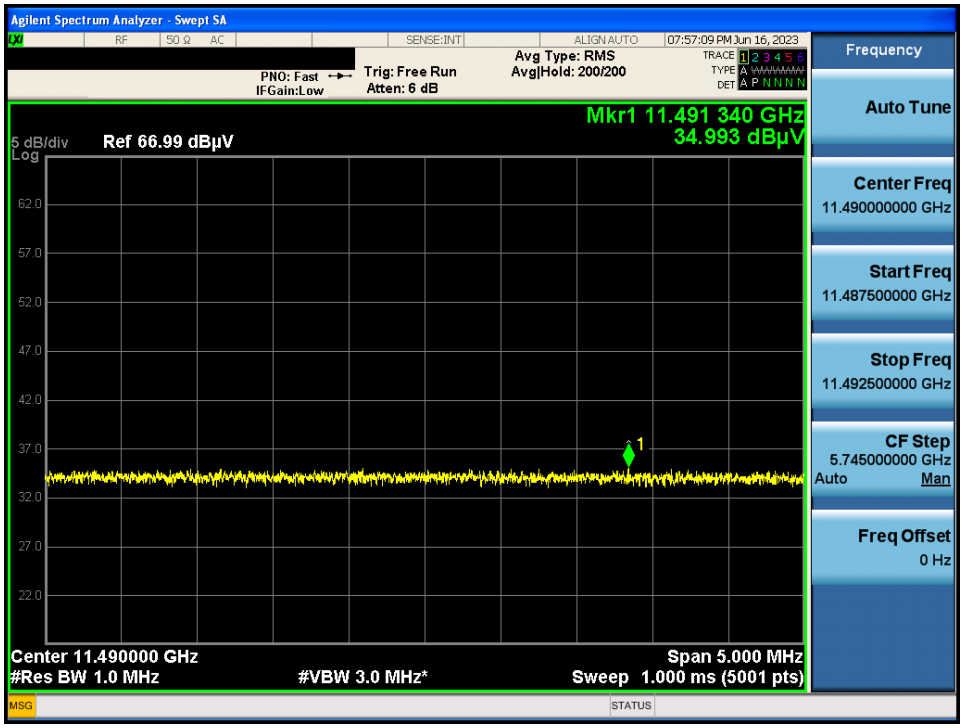
TM 2 & U-NII 3 & 5 745 & Y axis & Ver **Detector Mode : PK**



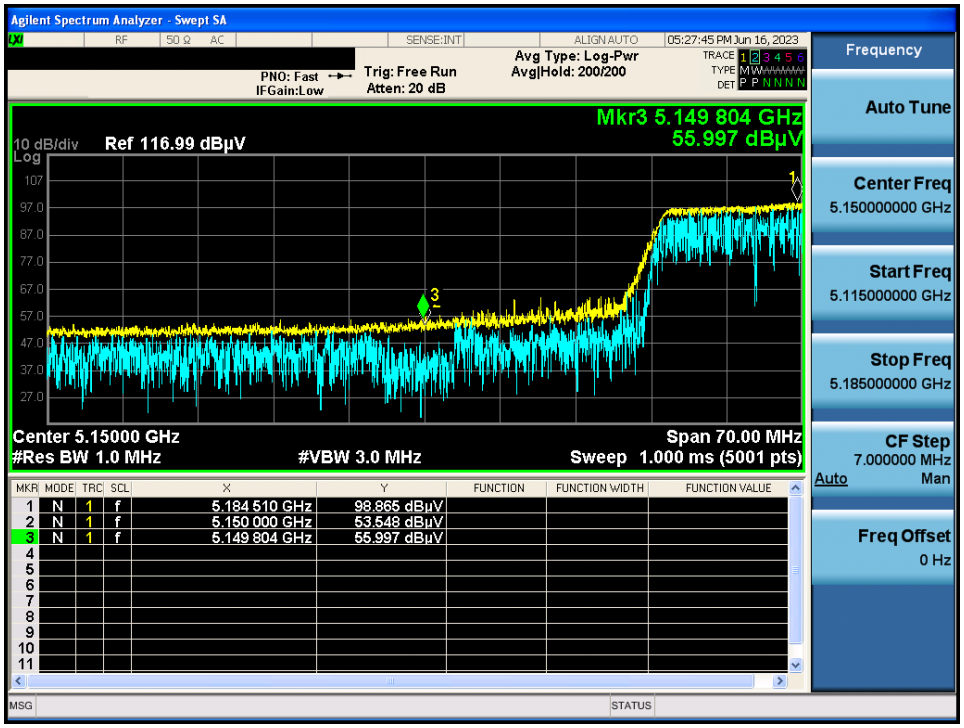
TM 2 & U-NII 3 & 5 825 & Y axis & Ver **Detector Mode : PK**



TM 2 & U-NII 3 & 5 745 & Z axis & Ver **Detector Mode : AV**



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



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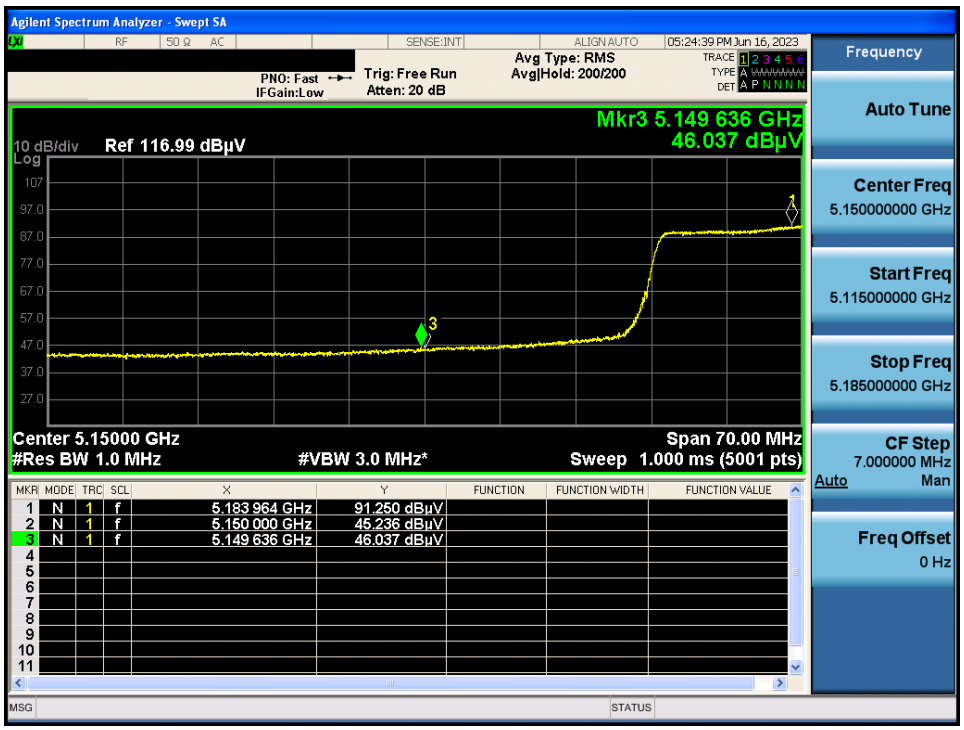

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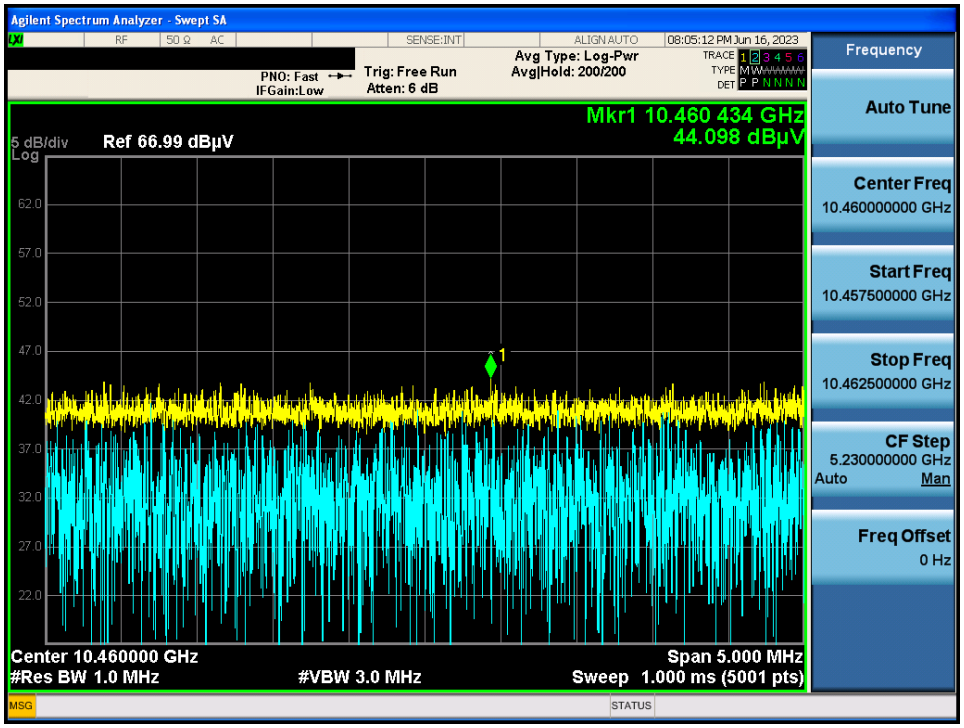
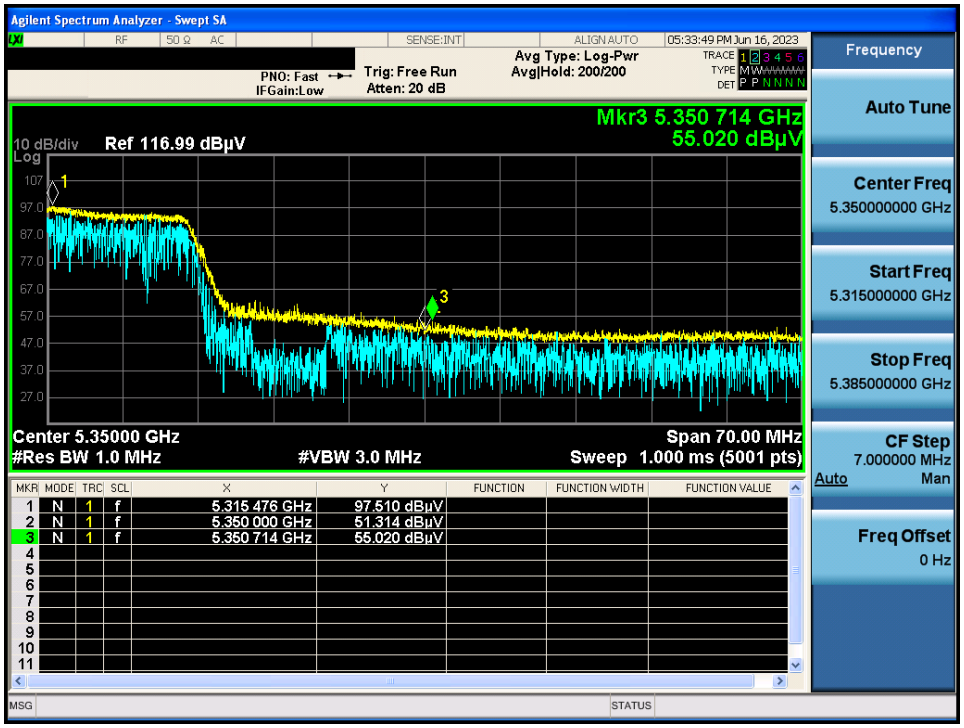
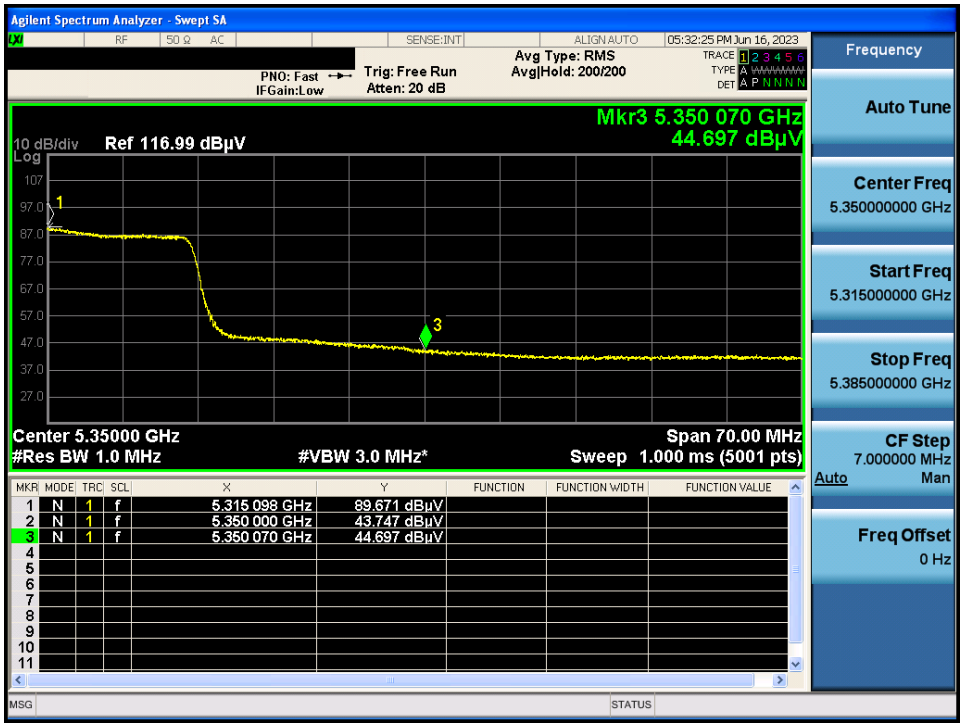


TM 3 & U-NII 2A & 5 310 & Y axis & Ver **Detector Mode : PK**



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



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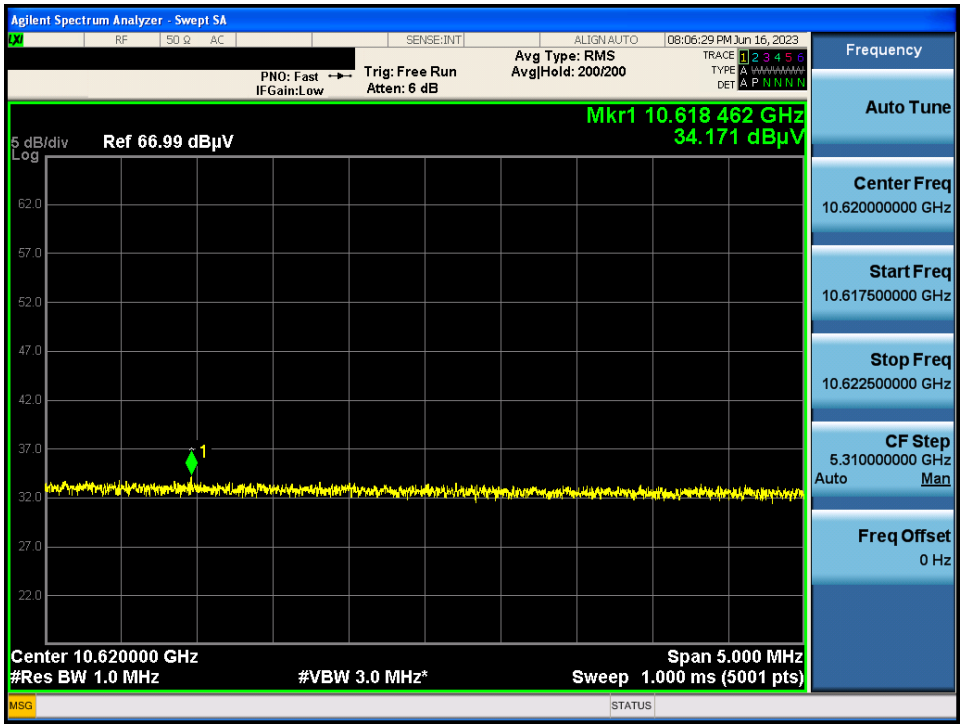

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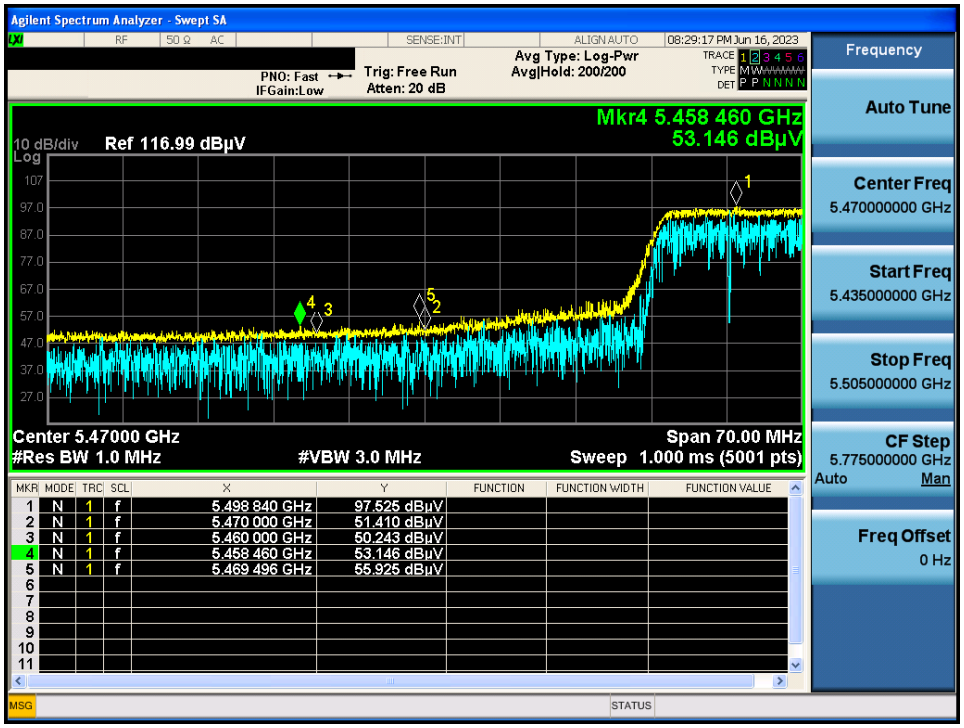

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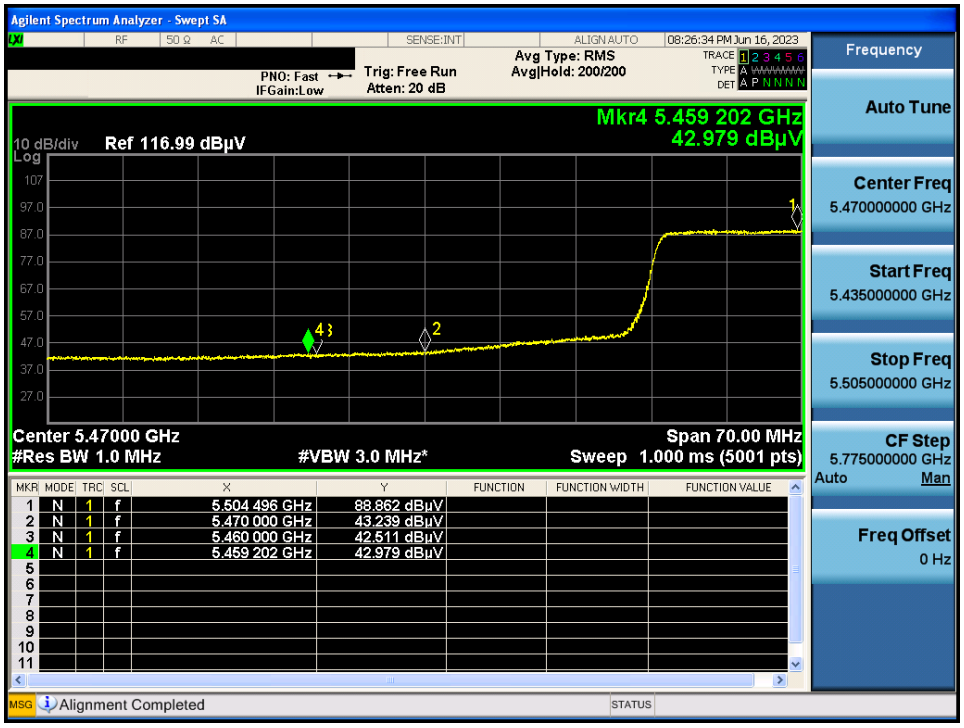

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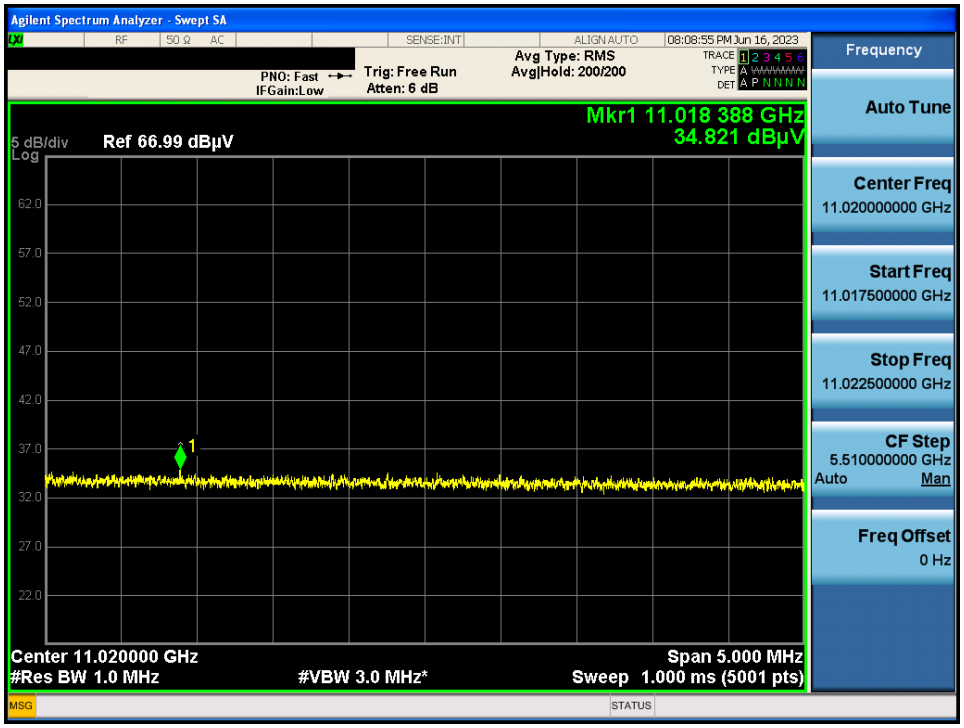

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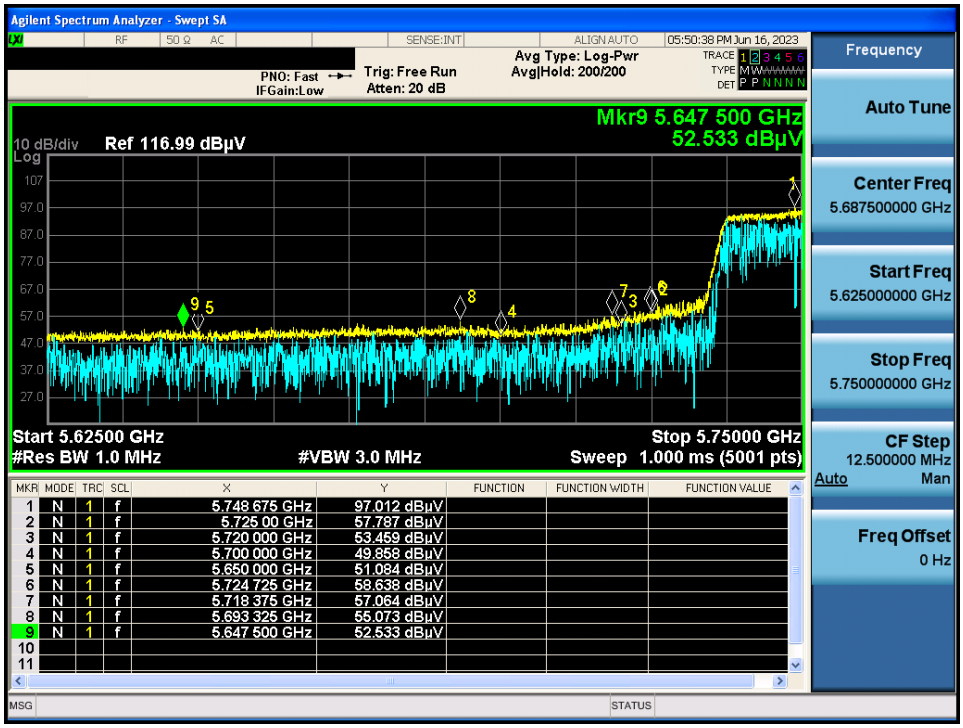

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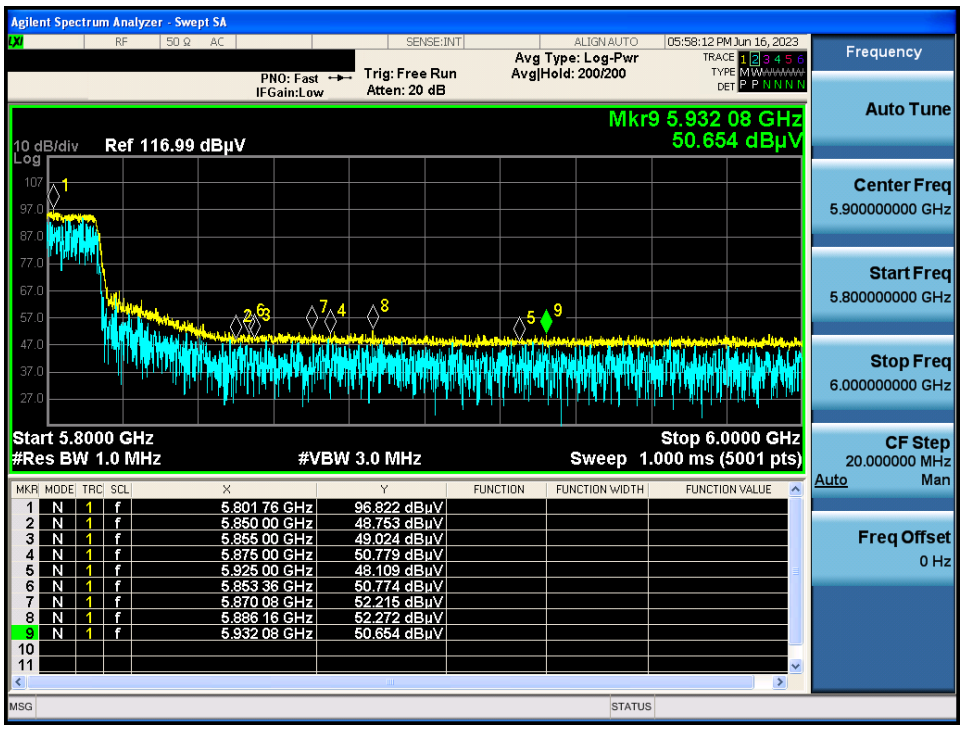
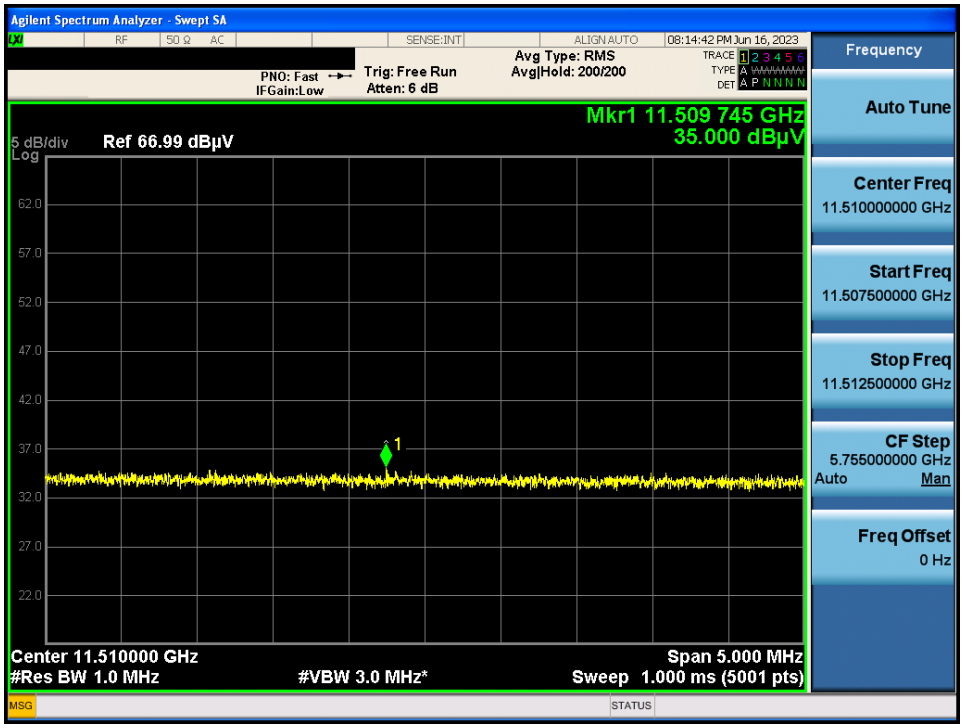
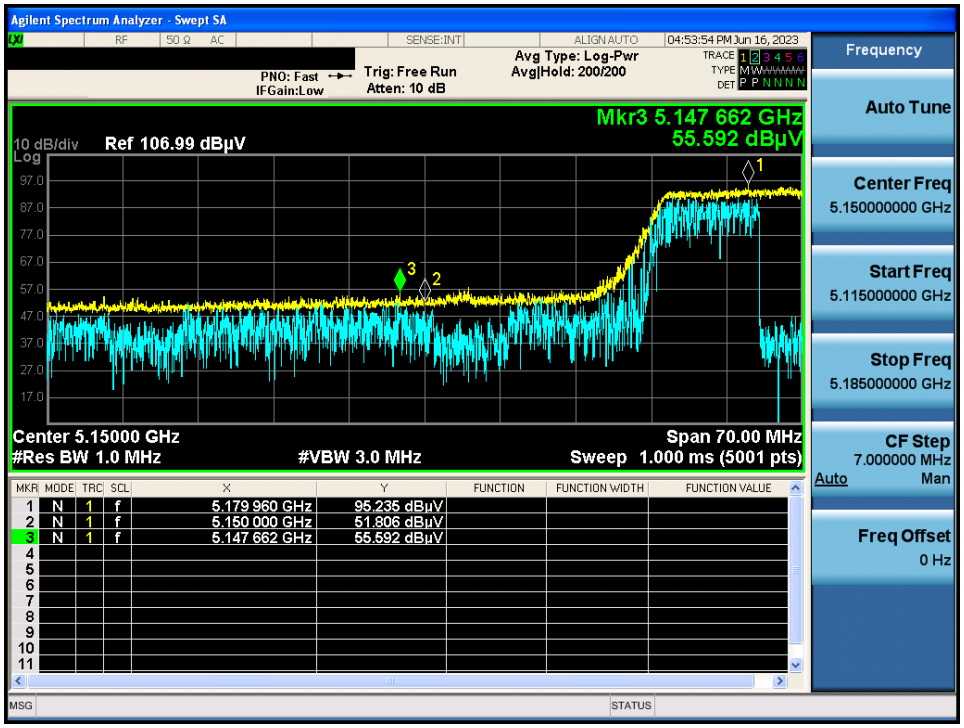


TM 3 & U-NII 3 & 5 755 & Z axis & Ver **Detector Mode : AV**



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



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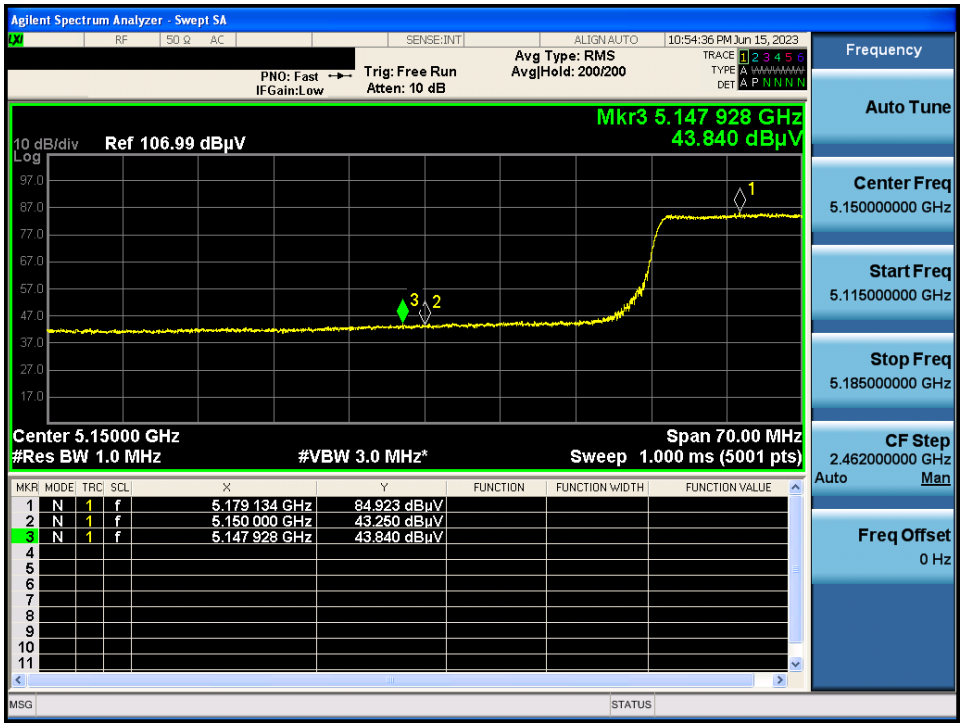

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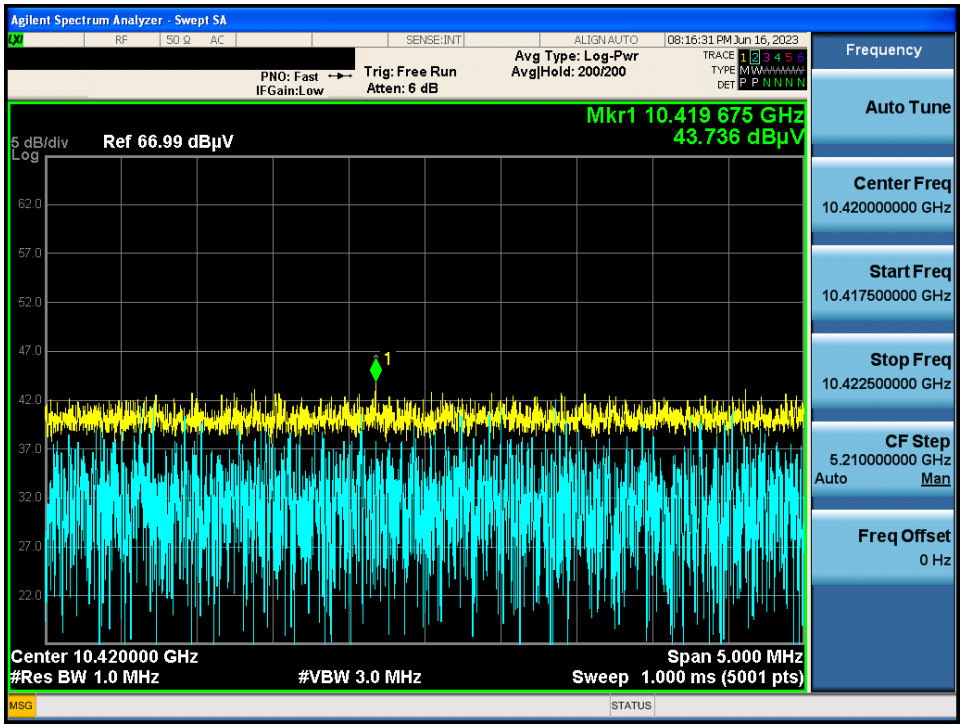
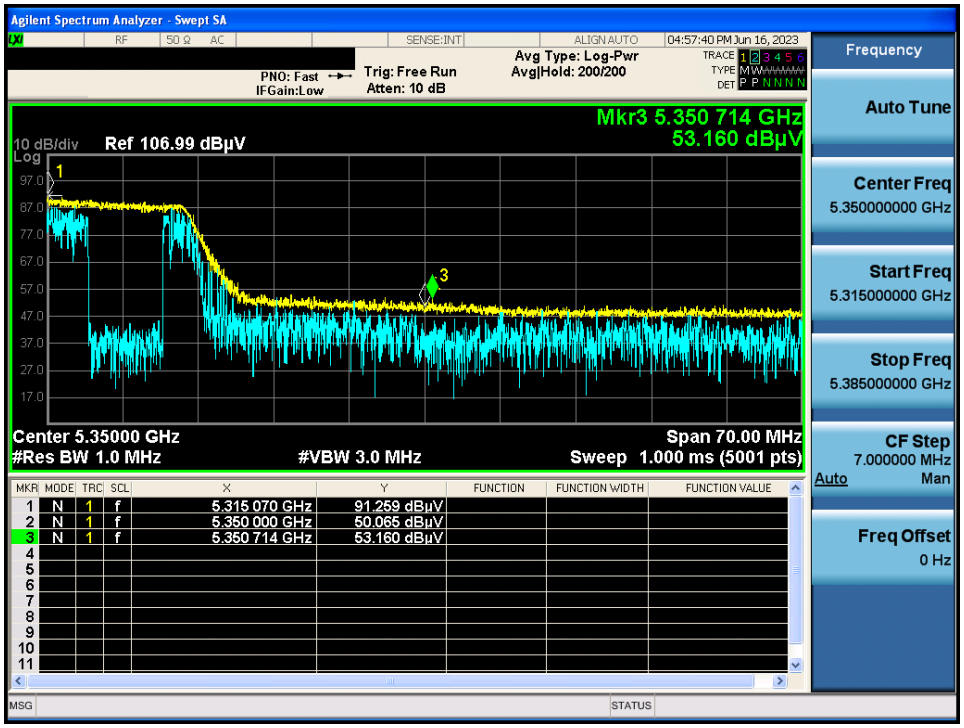
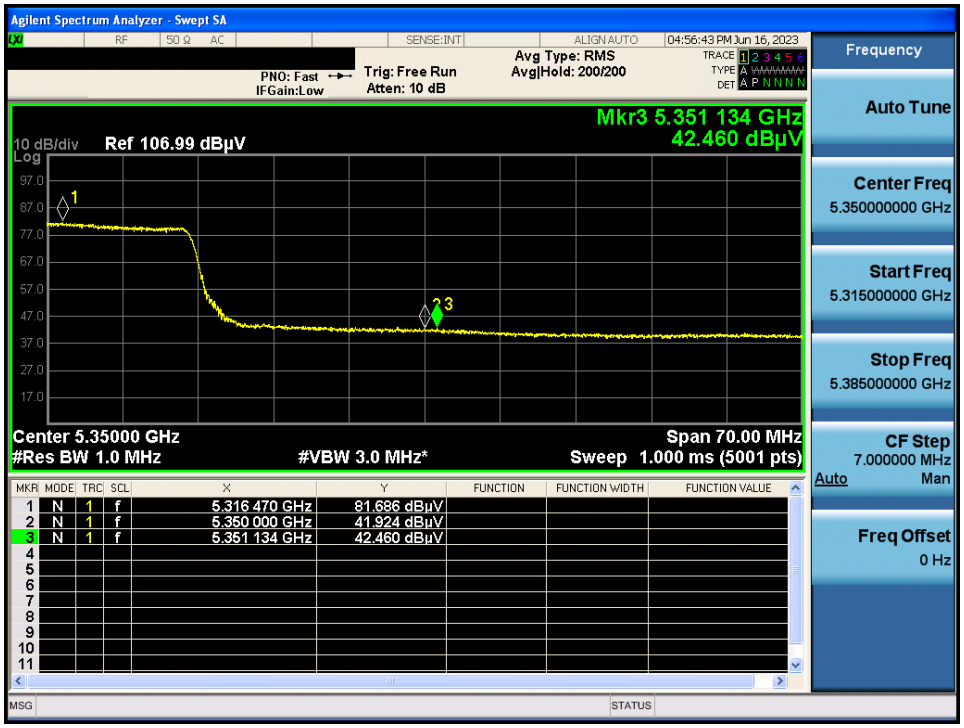


TM 4 & U-NII 2A & 5 290 & Y axis & Ver **Detector Mode : PK**



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



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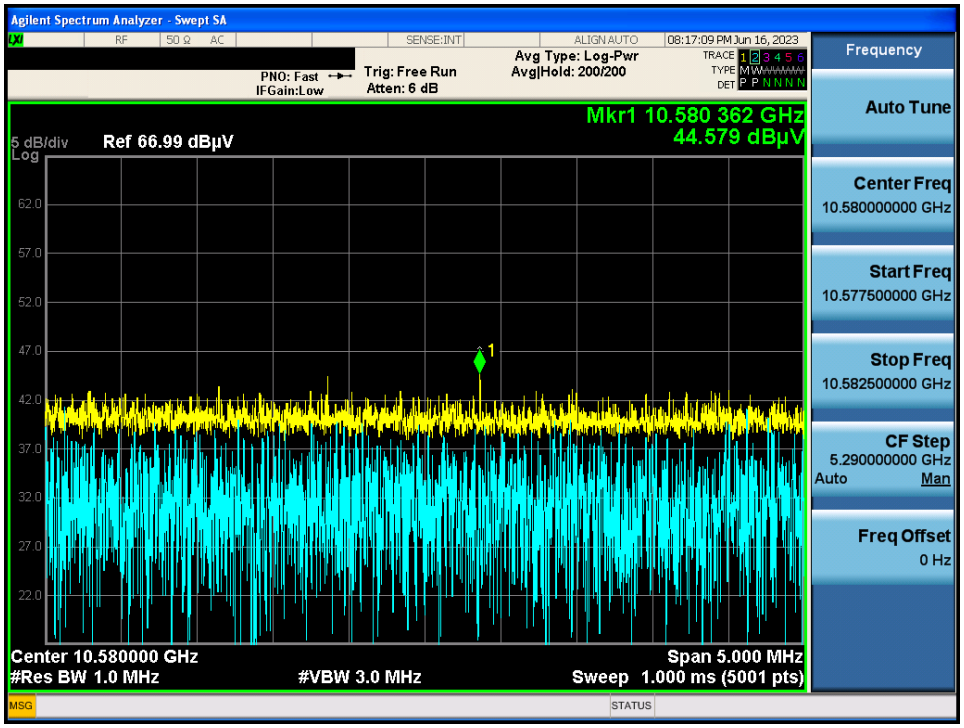
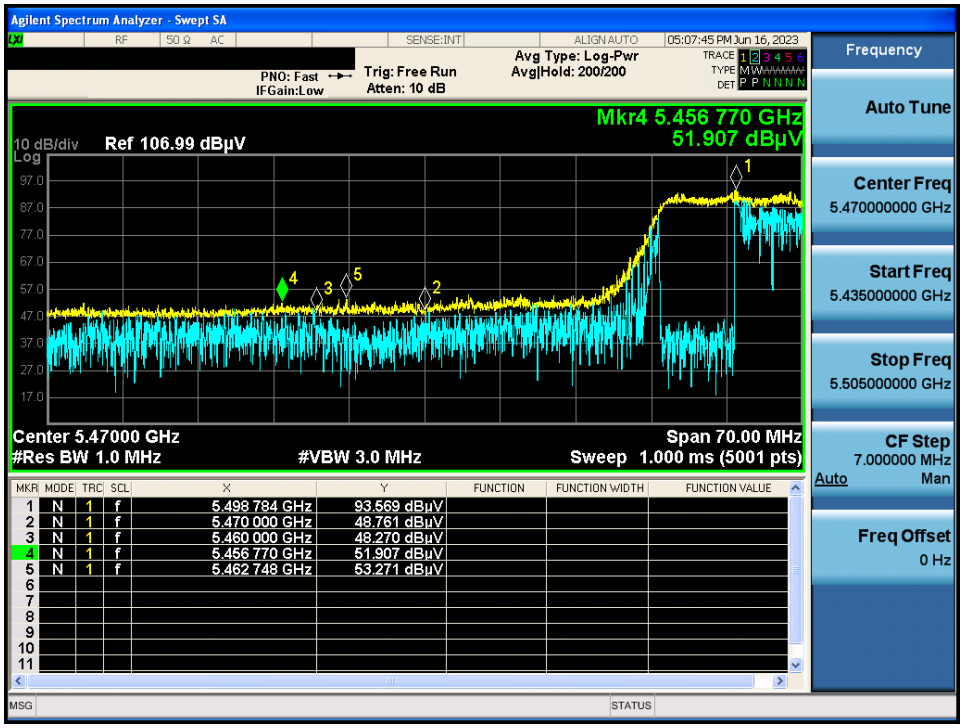


TM 4 & U-NII 2C & 5 530 & Y axis & Ver **Detector Mode : PK**



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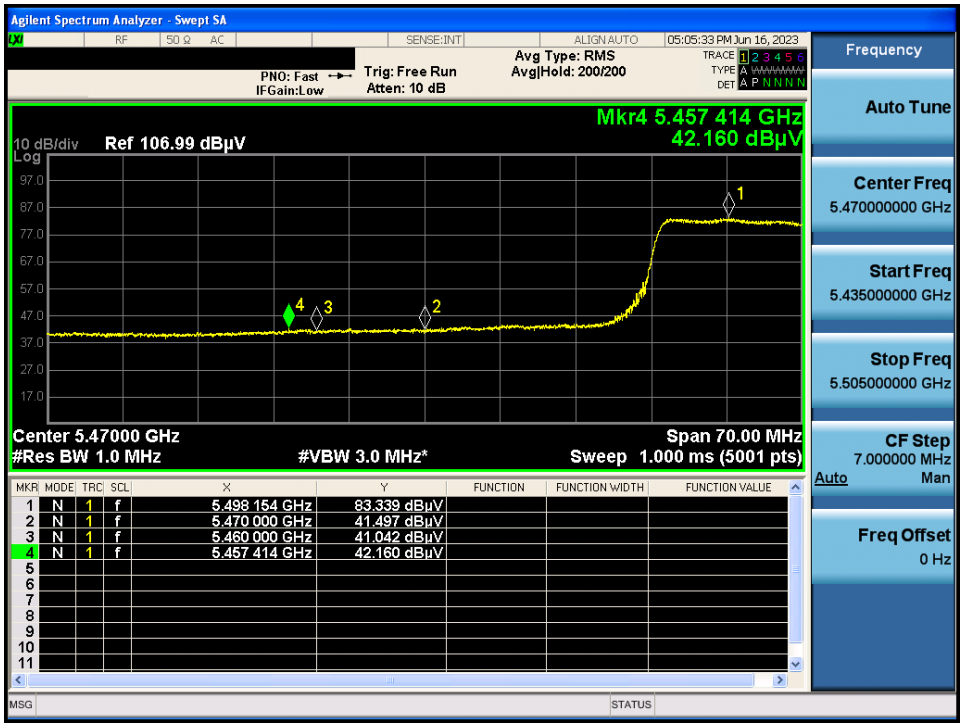

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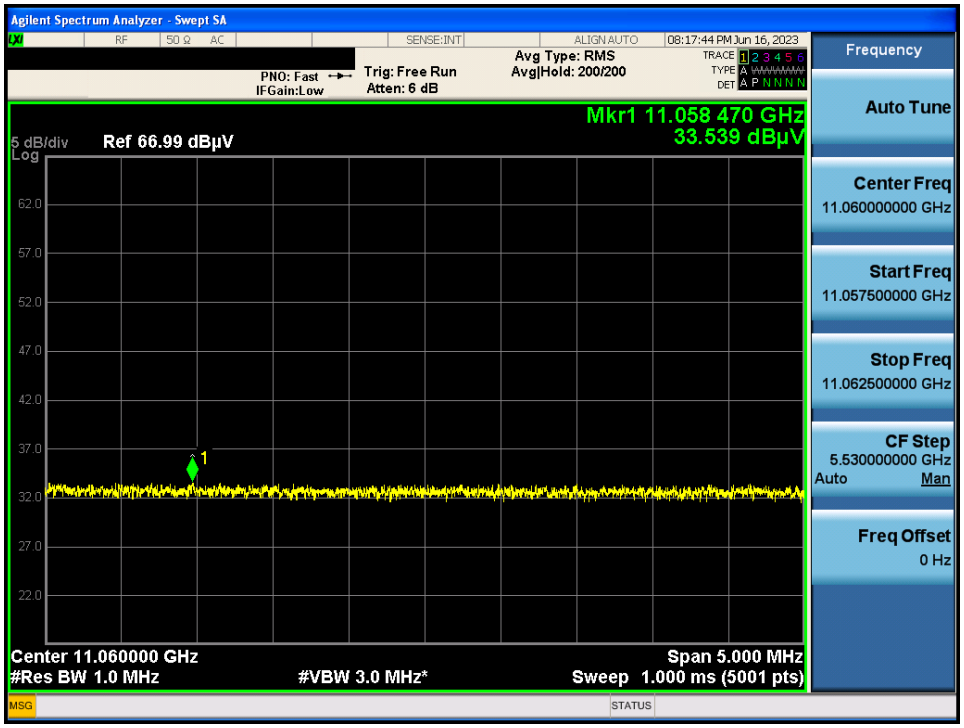
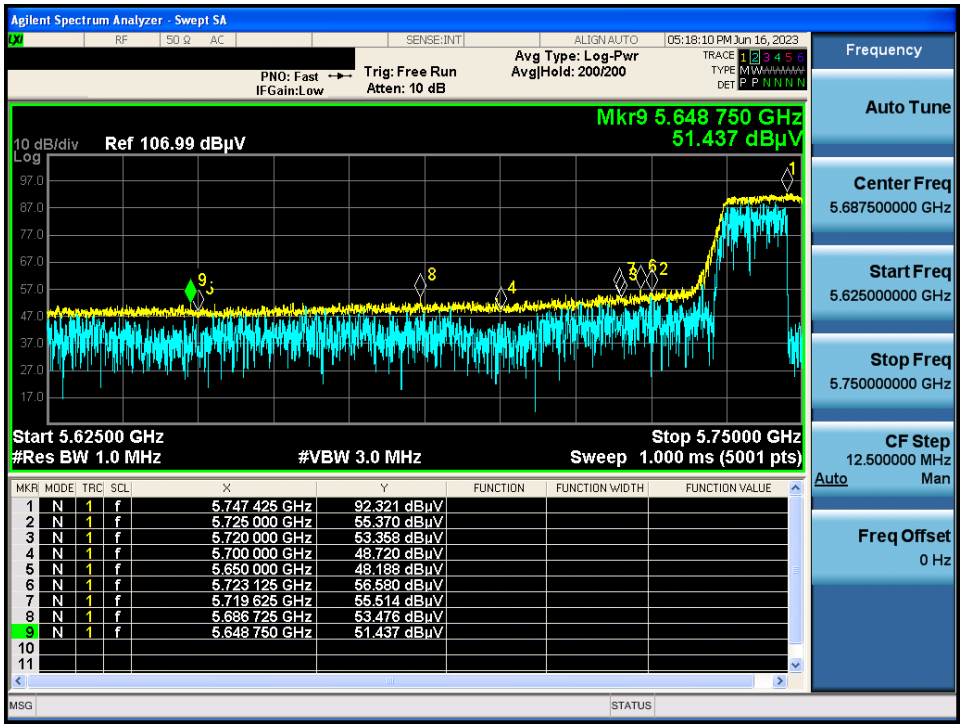
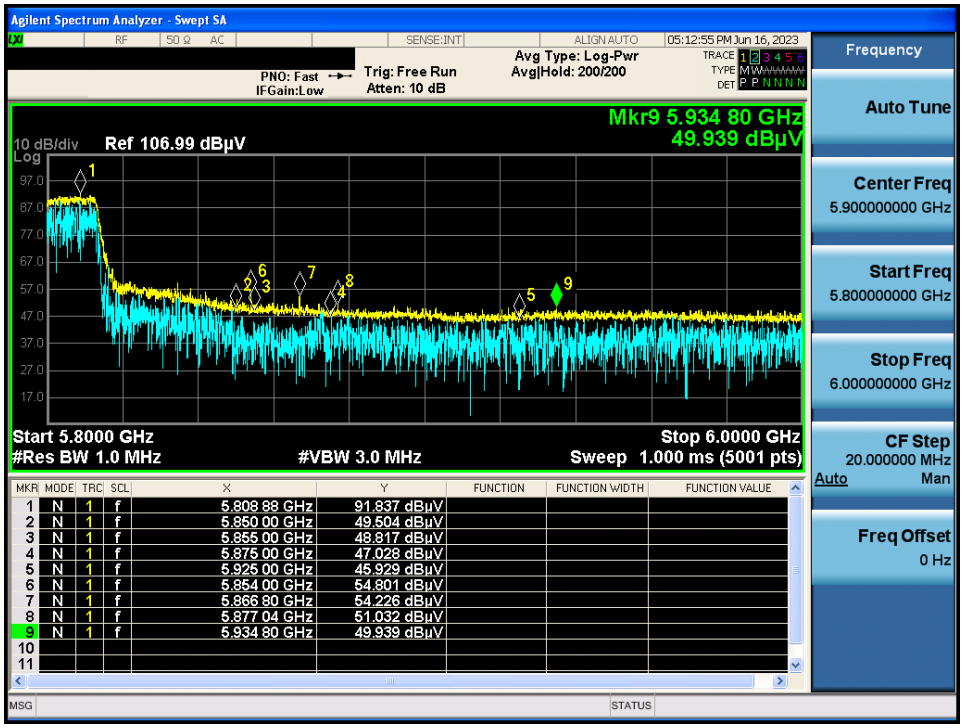


TM 4 & U-NII 3 & 5 775 & Y axis & Ver **Detector Mode : PK**



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



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