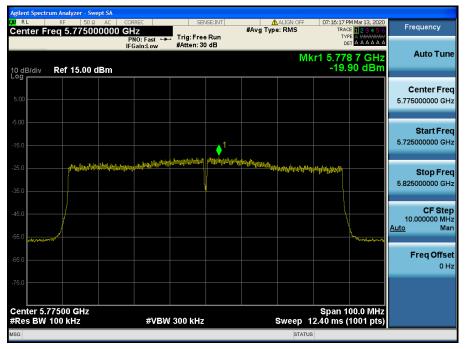


# **Maximum Power Spectral Density**

Test Mode: 802.11ac VHT80 & Ch.155





# 8.5 Radiated Spurious Emission Measurements

#### Test Requirements

#### • FCC Part 15.209(a) and (b)

Frequency (MHz)	Limit (uV/m)	Measurement Distance (meter)
0.009 - 0.490	2400/F(KHz)	300
0.490 – 1.705	24000/F(KHz)	30
1.705 – 30.0	30	30
30 ~ 88	100 **	3
88 ~ 216	150 **	3
216 ~ 960	200 **	3
Above 960	500	3

\* Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

• FCC Part 15.205 (a): Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.52025	160.52475 ~	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	12.57675 ~	160.52525	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	12.57725	160.7 ~ 160.9	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	13.36 ~ 13.41	162.0125 ~ 167.17	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.42 ~ 16.423	167.72 ~ 173.2	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	16.69475 ~	240 ~ 285	2655 ~ 2900		
8.291 ~ 8.294	16.69525	322 ~ 335.4	3260 ~ 3267		
8.362 ~ 8.366	16.80425 ~	399.90 ~ 410	3332 ~ 3339		
8.37625 ~ 8.38675	16.80475	608 ~ 614	3345.8 ~ 3358		
	25.5 ~ 25.67	960 ~ 1240	3600 ~ 4000		
	37.5 ~ 38.25				
	73 ~ 74.6				
	74.8 ~ 75.2				

• FCC Part 15.205(b): The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

• FCC Part 15.407 (b): Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the **5.15-5.25 GHz band**: all emissions outside of the **5.15-5.35 GHz band** shall not exceed an **EIRP of -27 dBm/MHz**.
- (2) For transmitters operating in the **5.25-5.35 GHz band**: all emissions outside of the **5.15-5.35 GHz band** shall not exceed an **EIRP of -27 dBm/MHz**.
- (3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in Section 15.207.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.



### Test Configuration

Refer to the APPENDIX I.

#### 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 1m or 3 m away from the receiving antenna, which is varied from 1m 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 1000 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 1000 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.

Please refer to Appendix II for the duty correction factor

#### FCC ID: TQ8-ADC20S2FN0

# **Dt&C**

#### Test Results: Comply

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		5148.67	V	Х	PK	49.82	1.99	N/A	N/A	51.81	74.00	22.19
	36 (5180 MHz)	5149.00	V	Х	AV	39.34	1.99	0.26	N/A	41.59	54.00	12.41
U-NII 1	· · · ·	10359.81	V	Х	PK	43.46	10.82	N/A	N/A	54.28	68.20	13.92
	40 (5200 MHz)	10399.69	V	Х	PK	43.17	10.63	N/A	N/A	53.80	68.20	14.40
	48 (5240 MHz)	10480.38	V	Х	PK	43.63	10.62	N/A	N/A	54.25	68.20	13.95
	52 (5260 MHz)	10520.07	V	Х	PK	43.28	10.72	N/A	N/A	54.00	68.20	14.20
		10600.13	V	Х	PK	45.50	10.74	N/A	N/A	56.24	74.00	17.76
	60 (5300 MHz)	10600.03	V	Х	AV	33.12	10.74	0.26	N/A	44.12	54.00	9.88
U-NII 2A	. ,	10599.72	V	Х	PK	44.12	10.74	N/A	N/A	54.86	68.20	13.34
0-INII ZA		5352.10	V	Х	PK	48.93	3.03	N/A	N/A	51.96	74.00	22.04
	64	5352.38	V	Х	AV	38.77	3.03	0.26	N/A	42.06	54.00	11.94
	(5320 MHz)	10639.63	V	Х	PK	42.37	10.82	N/A	N/A	53.19	74.00	20.81
		10639.95	V	Х	AV	32.28	10.82	0.26	N/A	43.36	54.00	10.64

#### Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : 802.11a & MN: ADC20S2FN0

Note.

1. No other spurious and harmonic emissions were found greater than listed emissions on above table.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result. - Calculation of distance factor =  $20 \log(\text{ applied distance } / \text{ required distance }) = 20 \log(1 \text{ m } / 3 \text{ m }) = -9.54 \text{ dB}$ 

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

Margin = Limit – Result / Result = Reading + T.F+ DCCF + DCF / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

4. The limit is converted to field strength.

#### Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : 802.11a & MN: ADC20S2FN0

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		5459.03	V	Х	PK	48.65	3.15	N/A	N/A	51.80	74.00	22.20
		5459.03	V	Х	AV	38.51	3.15	0.26	N/A	41.92	54.00	12.08
	100 (5500 MHz)	5469.25	V	Х	PK	48.15	3.17	N/A	N/A	51.32	68.20	16.88
	· · · ·	10999.98	V	Х	PK	43.68	10.95	N/A	N/A	54.63	74.00	19.37
U-NII 2C		10999.72	V	Х	AV	33.21	10.95	0.26	N/A	44.42	54.00	9.58
	116	11160.48	V	Х	PK	44.02	10.97	N/A	N/A	54.99	74.00	19.01
	(5580 MHz)	11160.17	V	Х	AV	33.18	10.97	0.26	N/A	44.41	54.00	9.59
	144	11439.87	V	Х	PK	43.69	11.14	N/A	N/A	54.83	74.00	19.17
	144 (5720 MHz)	11439.60	V	Х	AV	33.38	11.14	0.26	N/A	44.78	54.00	9.22
		5714.13	V	Х	PK	49.29	3.17	N/A	N/A	52.46	68.20	15.74
	149	5724.87	V	Х	PK	50.72	2.97	N/A	N/A	53.69	78.20	24.51
	(5745 MHz)	11489.88	V	Х	PK	45.03	11.32	N/A	N/A	56.35	74.00	17.65
		11489.92	V	Х	AV	33.47	11.32	0.26	N/A	45.05	54.00	8.95
U-NII 3	157	11570.32	V	Х	PK	44.55	11.63	N/A	N/A	56.18	74.00	17.82
U-INII 3	(5785 MHz)	11570.04	V	Х	AV	33.81	11.63	0.26	N/A	45.70	54.00	8.30
		5851.90	V	Х	PK	48.06	3.68	N/A	N/A	51.74	78.20	26.46
	165	5861.57	V	Х	PK	47.47	3.69	N/A	N/A	51.16	68.20	17.04
	(5825 MHz)	11650.02	V	Х	PK	43.99	11.85	N/A	N/A	55.84	74.00	18.16
Noto		11649.84	V	Х	AV	33.51	11.85	0.26	N/A	45.62	54.00	8.38

Note.

1. No other spurious and harmonic emissions were found greater than listed emissions on above table.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result.

- Calculation of distance factor = 20 log( applied distance / required distance ) = 20 log( 1 m / 3 m ) = -9.54 dB

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

Margin = Limit - Result / Result = Reading + T.F+ DCCF + DCF / T.F = AF + CL - AG

Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain,

DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

4. The limit is converted to field strength.

#### Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : 802.11n(HT20) & MN: ADC20S2FN0

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		5148.93	V	Х	PK	49.60	1.99	N/A	N/A	51.59	74.00	22.41
	36 (5180 MHz)	5148.69	V	Х	AV	39.06	1.99	0.26	N/A	41.31	54.00	12.69
U-NII 1	, , , , , , , , , , , , , , , , , , ,	10359.84	V	Х	PK	43.65	10.82	N/A	N/A	54.47	68.20	13.73
	40 (5200 MHz)	10399.78	V	Х	PK	43.34	10.63	N/A	N/A	53.97	68.20	14.23
	48 (5240 MHz)	10479.61	V	Х	PK	43.75	10.62	N/A	N/A	54.37	68.20	13.83
52	52 (5260 MHz)	10520.04	V	Х	PK	43.64	10.72	N/A	N/A	54.36	68.20	13.84
		10600.31	V	Х	PK	44.30	10.74	N/A	N/A	55.04	74.00	18.96
	60 (5300 MHz)	10600.29	V	Х	AV	33.27	10.74	0.26	N/A	44.27	54.00	9.73
U-NII 2A	. ,	10599.66	V	Х	PK	43.15	10.74	N/A	N/A	53.89	68.20	14.31
U-INII ZA		5350.63	V	Х	PK	49.15	3.03	N/A	N/A	52.18	74.00	21.82
	64	5350.49	V	Х	AV	38.62	3.03	0.26	N/A	41.91	54.00	12.09
	(5320 MHz)	10640.40	V	Х	PK	42.83	10.82	N/A	N/A	53.65	74.00	20.35
		10640.27	V	Х	AV	32.17	10.82	0.26	N/A	43.25	54.00	10.75

#### Note.

1. No other spurious and harmonic emissions were found greater than listed emissions on above table.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result.

- Calculation of distance factor = 20 log( applied distance / required distance ) = 20 log( 1 m / 3 m ) = -9.54 dB

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

Margin = Limit - Result / Result = Reading + T.F + DCCF + DCF / T.F = AF + CL - AG

Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain,

DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

4. The limit is converted to field strength.

#### Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : 802.11n(HT20) & MN: ADC20S2FN0

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		5457.45	V	Х	PK	49.05	3.14	N/A	N/A	52.19	74.00	21.81
		5457.42	V	Х	AV	38.75	3.14	0.26	N/A	42.15	54.00	11.85
	100 (5500 MHz)	5469.32	V	Х	PK	47.90	3.17	N/A	N/A	51.07	68.20	17.13
		11000.08	V	Х	PK	44.95	10.95	N/A	N/A	55.90	74.00	18.10
U-NII 2C		11000.26	V	Х	AV	33.30	10.95	0.26	N/A	44.51	54.00	9.49
	116	11160.08	V	Х	PK	43.75	10.97	N/A	N/A	54.72	74.00	19.28
	(5580 MHz)	11160.05	V	Х	AV	33.75	10.97	0.26	N/A	44.98	54.00	9.02
-	144	11439.75	V	Х	PK	43.82	11.14	N/A	N/A	54.96	74.00	19.04
	144 (5720 MHz)	11439.96	V	Х	AV	33.20	11.14	0.26	N/A	44.60	54.00	9.40
		5714.30	V	Х	PK	49.65	3.17	N/A	N/A	52.82	68.20	15.38
	149	5724.90	V	Х	PK	51.23	2.97	N/A	N/A	54.20	78.20	24.00
	(5745 MHz)	11490.18	V	Х	PK	43.94	11.32	N/A	N/A	55.26	74.00	18.74
		11490.11	V	Х	AV	33.48	11.32	0.26	N/A	45.06	54.00	8.94
U-NII 3	157	11569.70	V	Х	PK	45.09	11.63	N/A	N/A	56.72	74.00	17.28
0-111 3	(5785 MHz)	11569.70	V	Х	AV	33.89	11.63	0.26	N/A	45.78	54.00	8.22
-		5850.62	V	Х	PK	48.34	3.68	N/A	N/A	52.02	78.20	26.18
	165	5860.95	V	Х	PK	47.76	3.70	N/A	N/A	51.46	68.20	16.74
	(5825 MHz)	11649.72	V	Х	PK	43.69	11.85	N/A	N/A	55.54	74.00	18.46
		11649.70	V	Х	AV	33.63	11.85	0.26	N/A	45.74	54.00	8.26

#### Note.

1. No other spurious and harmonic emissions were found greater than listed emissions on above table.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result. - Calculation of distance factor = 20 log( applied distance / required distance ) = 20 log( 1 m / 3 m ) = -9.54 dB

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

Margin = Limit – Result / Result = Reading + T.F + DCCF + DCF / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

4. The limit is converted to field strength.

#### Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : 802.11n(HT40) & MN: ADC20S2FN0

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		5149.44	V	Х	PK	49.58	1.99	N/A	N/A	51.57	74.00	22.43
	38 (5190 MHz)	5149.35	V	Х	AV	39.49	1.99	0.48	N/A	41.96	54.00	12.04
U-NII 1		10379.79	V	Х	PK	43.25	10.72	N/A	N/A	53.97	68.20	14.23
46 (5230 MH	46 (5230 MHz)	10460.43	V	Х	PK	43.66	10.59	N/A	N/A	54.25	68.20	13.95
	54 (5270 MHz)	10539.59	V	Х	PK	43.20	10.80	N/A	N/A	54.00	68.20	14.20
		5352.22	V	Х	PK	48.93	3.03	N/A	N/A	51.96	74.00	22.04
U-NII 2A	62	5352.29	V	Х	AV	38.67	3.03	0.48	N/A	42.18	54.00	11.82
	(5310 MHz)	10620.07	V	Х	PK	44.03	10.78	N/A	N/A	54.81	74.00	19.19
		10620.04	V	Х	AV	32.86	10.78	0.48	N/A	44.12	54.00	9.88

#### Note.

1. No other spurious and harmonic emissions were found greater than listed emissions on above table.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result.

- Calculation of distance factor = 20 log( applied distance / required distance ) = 20 log( 1 m / 3 m ) = -9.54 dB

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

Margin = Limit – Result / Result = Reading + T.F+ DCCF + DCF / T.F = AF + CL – AG

Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain,

DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

4. The limit is converted to field strength.

#### Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : 802.11n(HT40) & MN: ADC20S2FN0

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		5459.13	V	Х	PK	48.91	3.15	N/A	N/A	52.06	74.00	21.94
		5458.89	V	Х	AV	39.09	3.15	0.48	N/A	42.72	54.00	11.28
	102 (5510 MHz)	5469.79	V	Х	PK	49.34	3.17	N/A	N/A	52.51	68.20	15.69
	· · · ·	11020.03	V	Х	PK	44.84	10.90	N/A	N/A	55.74	74.00	18.26
U-NII 2C		11020.08	V	Х	AV	33.88	10.90	0.48	N/A	45.26	54.00	8.74
	110	11099.83	V	Х	PK	44.21	10.91	N/A	N/A	55.12	74.00	18.88
(55	(5550 MHz)	11099.70	V	Х	AV	33.35	10.91	0.48	N/A	44.74	54.00	9.26
	142	11420.31	V	Х	PK	43.82	11.07	N/A	N/A	54.89	74.00	19.11
	(5710 MHz)	11420.12	V	Х	AV	33.63	11.07	0.48	N/A	45.18	54.00	8.82
		5713.13	V	Х	PK	50.02	3.17	N/A	N/A	53.19	68.20	15.01
	151	5724.68	V	Х	PK	52.09	2.98	N/A	N/A	55.07	78.20	23.13
	(5755 MHz)	11510.16	V	Х	PK	44.57	11.39	N/A	N/A	55.96	74.00	18.04
		11510.11	V	Х	AV	33.75	11.39	0.48	N/A	45.62	54.00	8.38
U-NII 3		5851.50	V	Х	PK	49.69	3.68	N/A	N/A	53.37	78.20	24.83
	159	5862.20	V	Х	PK	47.89	3.67	N/A	N/A	51.56	68.20	16.64
	(5795 MHz)	11590.46	V	Х	PK	45.17	11.74	N/A	N/A	56.91	74.00	17.09
		11590.35	V	Х	AV	33.82	11.74	0.48	N/A	46.04	54.00	7.96

#### Note.

1. No other spurious and harmonic emissions were found greater than listed emissions on above table.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result. - Calculation of distance factor =  $20 \log(1 \text{ gplied distance / required distance}) = 20 \log(1 \text{ m / 3 m}) = -9.54 \text{ dB}$ 

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

Margin = Limit - Result / Result = Reading + T.F+ DCCF + DCF / T.F = AF + CL - AG

 $\label{eq:Where, T.F = Total Factor, \quad AF = Antenna \ Factor, \quad CL = Cable \ Loss, \quad AG = Amplifier \ Gain,$ 

DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

4. The limit is converted to field strength.

#### Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : 802.11ac(VHT80) & MN: ADC20S2FN0

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		5148.95	V	Х	PK	50.44	1.99	N/A	N/A	52.43	74.00	21.57
U-NII 1	42 (5210 MHz)	5149.18	V	Х	AV	41.19	1.99	0.90	N/A	44.08	54.00	9.92
	,	10420.00	V	Х	PK	43.31	10.61	N/A	N/A	53.92	68.20	14.28
		5351.68	V	Х	PK	49.04	3.03	N/A	N/A	52.07	74.00	21.93
U-NII 2A	58 (5290 MHz)	5351.54	V	Х	AV	39.51	3.03	0.90	N/A	43.44	54.00	10.56
	, , ,	10580.12	V	Х	PK	43.82	10.78	N/A	N/A	54.60	68.20	13.60

#### Note.

1. No other spurious and harmonic emissions were found greater than listed emissions on above table.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result. - Calculation of distance factor = 20 log( applied distance / required distance ) = 20 log( 1 m / 3 m ) = -9.54 dB

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

 $\label{eq:margin} \begin{array}{ll} \mbox{Margin} = \mbox{Limit} - \mbox{Result} & / & \mbox{Result} = \mbox{Reading} + \mbox{T.F} + \mbox{DCF} + \mbox{DCF} & / & \mbox{T.F} = \mbox{AF} + \mbox{CL} - \mbox{AG} \\ \mbox{Where, T.F} = \mbox{Total Factor,} & \mbox{AF} = \mbox{Antenna Factor,} & \mbox{CL} = \mbox{Cable Loss,} & \mbox{AG} = \mbox{Amplifier Gain,} \\ \end{array}$ 

DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

4. The limit is converted to field strength.

#### Radiated Spurious Emissions data(9 kHz ~ 40 GHz) 802.11ac(VHT80) & MN: ADC20S2FN0

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		5459.10	V	Х	PK	48.45	3.15	N/A	N/A	51.60	74.00	22.40
		5458.94	V	Х	AV	38.98	3.15	0.90	N/A	43.03	54.00	10.97
	106 (5530 MHz)	5468.83	V	Х	PK	48.57	3.17	N/A	N/A	51.74	68.20	16.46
U-NII 2C	· · · · ·	11060.27	V	Х	PK	44.43	10.85	N/A	N/A	55.28	74.00	18.72
		11060.34	V	Х	AV	33.74	10.85	0.90	N/A	45.49	54.00	8.51
	138	11380.08	V	Х	PK	44.09	11.01	N/A	N/A	55.10	74.00	18.90
	(5690 MHz)	11380.20	V	Х	AV	33.42	11.01	0.90	N/A	45.33	54.00	8.67
		5712.94	V	Х	PK	51.36	3.17	N/A	N/A	54.53	68.20	13.67
		5723.20	V	Х	PK	50.72	3.01	N/A	N/A	53.73	78.20	24.47
	155	5852.97	V	Х	PK	48.46	3.69	N/A	N/A	52.15	78.20	26.05
U-NII 3	(5775 MHz)	5860.30	V	Х	PK	48.43	3.72	N/A	N/A	52.15	68.20	16.05
		11550.27	V	Х	PK	44.67	11.53	N/A	N/A	56.20	74.00	17.80
		11550.12	V	Х	AV	33.89	11.53	0.90	N/A	46.32	54.00	7.68

#### Note.

1. No other spurious and harmonic emissions were found greater than listed emissions on above table.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result. - Calculation of distance factor = 20 log( applied distance / required distance ) = 20 log( 1 m / 3 m ) = -9.54 dB

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

Margin = Limit – Result / Result = Reading + T.F+ DCCF + DCF / T.F = AF + CL – AG

Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

4. The limit is converted to field strength.



#### Radiated Spurious Emissions data: 802.11a & MN: ADC40S2AN

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	36	5149.56	V	Х	PK	48.80	1.99	N/A	N/A	50.79	74.00	23.21
0-1111	(5180 MHz)	5149.79	V	Х	AV	39.76	1.99	0.26	N/A	42.01	54.00	11.99
		10600.05	V	Х	PK	44.66	10.74	N/A	N/A	55.40	74.00	18.60
U-NII 2A	60 (5300 MHz)	10600.11	V	Х	AV	33.25	10.74	0.26	N/A	44.25	54.00	9.75
	· · · ·	10599.94	V	Х	PK	43.99	10.74	N/A	N/A	54.73	68.20	13.47
U-NII 2C	144	11439.84	V	Х	PK	44.38	11.14	N/A	N/A	55.52	74.00	18.48
0-INII 20	(5720 MHz)	11440.01	V	Х	AV	33.36	11.14	0.26	N/A	44.76	54.00	9.24
U-NII 3	165	11650.30	V	Х	PK	44.72	11.85	N/A	N/A	56.57	74.00	17.43
0-1111 3	(5825 MHz)	11650.06	V	Х	AV	34.07	11.85	0.26	N/A	46.18	54.00	7.82

### Radiated Spurious Emissions data: 802.11n(HT20) & MN: ADC40S2AN

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	36	5147.85	V	Х	PK	49.81	1.99	N/A	N/A	51.80	74.00	22.20
0-1111 1	(5180 MHz)	5147.88	V	Х	AV	39.54	1.99	0.26	N/A	41.79	54.00	12.21
		10600.47	V	Х	PK	44.59	10.74	N/A	N/A	55.33	74.00	18.67
U-NII 2A	60 (5300 MHz)	10600.17	V	Х	AV	33.06	10.74	0.26	N/A	44.06	54.00	9.94
	· · · ·	10599.80	V	Х	PK	43.71	10.74	N/A	N/A	54.45	68.20	13.75
U-NII 2C	116	11160.18	V	Х	PK	44.01	10.97	N/A	N/A	54.98	74.00	19.02
0-NII 20	(5580 MHz)	11160.39	V	Х	AV	33.43	10.97	0.26	N/A	44.66	54.00	9.34
U-NII 3	165	11650.14	V	Х	PK	44.23	11.85	N/A	N/A	56.08	74.00	17.92
0-INII 3	(5825 MHz)	11650.28	V	Х	AV	33.90	11.85	0.26	N/A	46.01	54.00	7.99

Note.

1. The worst case data were reported for MN: ADC40S2AN.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result.

- Calculation of distance factor = 20 log( applied distance / required distance ) = 20 log( 1 m / 3 m ) = -9.54 dB

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

Margin = Limit – Result / Result = Reading + T.F+ DCCF + DCF / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

<sup>4.</sup> The limit is converted to field strength.

#### Radiated Spurious Emissions data: 802.11n(HT40) & MN: ADC40S2AN

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	38	5149.63	V	Х	PK	49.30	1.99	N/A	N/A	51.29	74.00	22.71
0-1111 1	(5190 MHz)	5149.35	V	Х	AV	39.70	1.99	0.48	N/A	42.17	54.00	11.83
U-NII 2A	62	10620.28	V	Х	PK	43.88	10.78	N/A	N/A	54.66	74.00	19.34
0-INII ZA	(5310 MHz)	10620.19	V	Х	AV	32.73	10.78	0.48	N/A	43.99	54.00	10.01
U-NII 2C	102	11020.04	V	Х	PK	43.74	10.90	N/A	N/A	54.64	74.00	19.36
0-1111 20	(5510 MHz)	11020.39	V	Х	AV	33.57	10.90	0.48	N/A	44.95	54.00	9.05
U-NII 3	159	11589.86	V	Х	PK	44.13	11.74	N/A	N/A	55.87	74.00	18.13
0-1111 3	(5795 MHz)	11589.67	V	Х	AV	33.58	11.74	0.48	N/A	45.80	54.00	8.20

#### Radiated Spurious Emissions data: 802.11ac(VHT80) & MN: ADC40S2AN

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	42	5149.39	V	Х	PK	48.93	1.99	N/A	N/A	50.92	74.00	23.08
0-11111	(5210 MHz)	5149.04	V	Х	AV	39.37	1.99	0.90	N/A	42.26	54.00	11.74
U-NII 2A	58	5351.12	V	Х	PK	48.78	3.03	N/A	N/A	51.81	74.00	22.19
0-INII ZA	(5290 MHz)	5351.73	V	Х	AV	39.01	3.03	0.90	N/A	42.94	54.00	11.06
U-NII 2C	106	11060.26	V	Х	PK	44.51	10.85	N/A	N/A	55.36	74.00	18.64
0-1111 20	(5530 MHz)	11060.39	V	Х	AV	33.76	10.85	0.90	N/A	45.51	54.00	8.49
U-NII 3	155	11549.65	V	Х	PK	44.46	11.52	N/A	N/A	55.98	74.00	18.02
0-1111 3	(5775 MHz)	11549.93	V	Х	AV	33.28	11.52	0.90	N/A	45.70	54.00	8.30

#### Note.

1. The worst case data were reported for MN: ADC40S2AN.

2. Information of Distance Factor

For finding emissions, the test distance might be reduced from 3 m to 1 m. In this case, the distance factor (-9.54 dB) is applied to the result. - Calculation of distance factor = 20 log( applied distance / required distance ) =  $20 \log(1 \text{ m / } 3 \text{ m}) = -9.54 \text{ dB}$ 

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

3. Sample Calculation.

 Margin = Limit - Result
 /
 Result = Reading + T.F + DCCF + DCF /
 T.F = AF + CL - AG

 Where, T.F = Total Factor,
 AF = Antenna Factor,
 CL = Cable Loss,
 AG = Amplifier Gain,

 DCCF = Duty Cycle Correction Factor,
 DCF = Distance Correction Factor

4. The limit is converted to field strength.



### 8.6 AC Conducted Emissions

#### Test Requirements and limit, §15.207

For 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  $\mu$ H/50 ohms line impedance stabilization network (LISN).

	Conducted	₋imit (dBuV)
Frequency Range (MHz)	Quasi-Peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	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  $\times$  3.5 m  $\times$  3.5 m (L  $\times$  W  $\times$  H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W)  $\times$  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.

#### Measurement Data

- NA

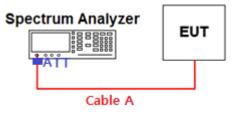
# 9. LIST OF TEST EQUIPMENT

Туре	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	19/12/16	20/12/16	MY50410357
Spectrum Analyzer	Agilent Technologies	N9020A	19/12/16	20/12/16	MY48011700
Spectrum Analyzer	Agilent Technologies	N9020A	19/12/16	20/12/16	MY48010133
Spectrum Analyzer	Agilent Technologies	N9030A	19/12/16	20/12/16	MY53310140
DC Power Supply	Agilent Technologies	66332A	19/06/25	20/06/25	MY43000211
DC Power Supply	SM techno	SDP30-5D	19/06/24	20/06/24	305DMG288
DC Power Supply	SM techno	SDP30-5D	19/06/25	20/06/25	305DNF079
Multimeter	FLUKE	17B	19/12/16	20/12/16	26030065WS
Signal Generator	Rohde Schwarz	SMBV100A	19/12/16	20/12/16	255571
Signal Generator	ANRITSU	MG3695C	19/12/16	20/12/16	173501
Thermohygrometer	BODYCOM	BJ5478	19/12/18	20/12/18	120612-1
Thermohygrometer	BODYCOM	BJ5478	19/12/18	20/12/18	120612-2
Thermohygrometer	BODYCOM	BJ5478	19/07/03	20/07/03	N/A
Loop Antenna	Schwarzbeck	FMZB1513	20/02/19	22/02/19	1513-128
BILOG ANTENNA	Schwarzbeck	VULB 9160	19/04/23	21/04/23	9160-3362
Horn Antenna	ETS-Lindgren	3115	19/01/11	21/01/11	9202-3820
Horn Antenna	A.H.Systems Inc.	SAS-574	19/07/03	21/07/03	155
PreAmplifier	tsj	MLA-0118-B01-40	19/12/16	20/12/16	1852267
PreAmplifier	tsj	MLA-1840-J02-45	19/06/27	20/06/27	16966-10728
PreAmplifier	H.P	8447D	19/12/16	20/12/16	2944A07774
High Pass Filter	Wainwright Instruments	WHKX12-935-1000- 15000-40SS	19/06/26	20/06/26	8
High Pass Filter	Wainwright Instruments	WHKX10-2838-3300- 18000-60SS	19/06/26	20/06/26	1
High Pass Filter	Wainwright Instruments	WHNX8.0/26.5-6SS	19/06/27	20/06/27	3
Attenuator	Hefei Shunze	SS5T2.92-10-40	19/06/27	20/06/27	16012202
Attenuator	SRTechnology	F01-B0606-01	19/06/27	20/06/27	13092403
Attenuator	Aeroflex/Weinschel	20515	19/06/27	20/06/27	Y2370
Attenuator	SMAJK	SMAJK-2-3	19/06/27	20/06/27	2
Attenuator	SMAJK	SMAJK-50-10	19/06/25	20/06/25	3-50-10
Power Meter & Wide Bandwidth Sensor	Anritsu	ML2496A MA2411B	19/12/16	20/12/16	1338004 1306053
EMI Receiver	ROHDE&SCHWARZ	ESW44	19/07/30	20/07/30	101645
Cable	Junkosha	MWX241	20/01/13	21/01/13	G-04
Cable	Junkosha	MWX241	20/01/13	21/01/13	G-07
Cable	DT&C	Cable	20/01/13	21/01/13	G-13
Cable	DT&C	Cable	20/01/13	21/01/13	G-14
Cable	HUBER+SUHNER	SUCOFLEX 104	20/01/13	21/01/13	G-15
Cable	Radiall	TESTPRO3	20/01/16	21/01/16	M-01
Cable	Junkosha	MWX315	20/01/16	21/01/16	M-05
Cable	Junkosha	MWX221	20/01/16	21/01/16	M-06
Cable	DT&C	Cable	20/01/13	21/01/13	RF-20
Test Software	tsj	Raidated Emission Measurement	NA	NA	Version 2.00.0177

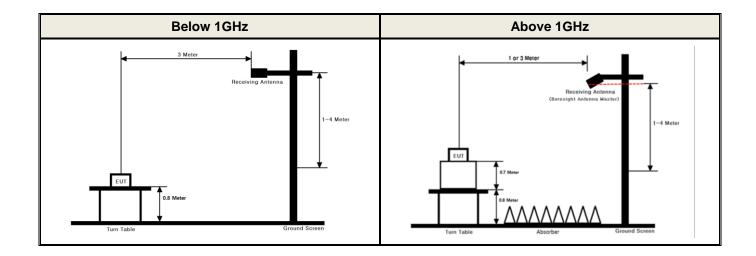
Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017 Note2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

# **APPENDIX I**

- Test set up Diagram
- Conducted Measurement



# Radiated 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  $\geq$  EBW if possible; otherwise, set RBW to the largest available value.
- 3. Set VBW  $\geq$  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 Results:

Duty	cycle

Mode	Data	Tested Frequency		aximum Achievable Cycle ( <i>x</i> ) = On / (On	-	Duty Cycle Correction	<b>50/</b> <i>T</i>	
mode	Rate	[MHz]	On Time [ms]	(On+Off) Time [ms]	x	Factor [dB]	[kHz]	
802.11a	6Mbps	5180	2.050	2.175	0.9425	0.26	24.39	
802.11n (HT20)	MCS0	5180	1.910	2.030	0.9409	0.26	26.18	
802.11n (HT40)	MCS0	5190	0.940	1.050	0.8952	0.48	53.19	
802.11ac (VHT80)	MCS0	5210	0.449	0.553	0.8120	0.90	111.36	



# **Single Transmit**

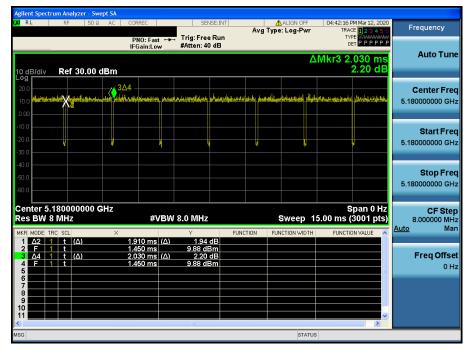
**Dt&C** 

#### Test Mode: 802.11a & Ch.36 RI Frequency Avg Type: Log-Pwr PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 40 dB DET PPPP ΔMkr3 2.175 ms 1.67 dE Auto Tune Ref 30.00 dBm **∆**3∆4 **Center Freq** 5.18000000 GHz Start Freq 5.18000000 GHz Stop Freq 5.180000000 GHz Center 5.180000000 GHz Res BW 8 MHz Span 0 Hz Sweep 15.00 ms (3001 pts) CF Step 8.000000 MHz Man #VBW 8.0 MHz Auto FUNCTION 2.30 dB 9.84 dBm 1.67 dB 9.84 dBm (Δ) (Δ) Freq Offset (Δ) 0 Hz STATUS

# Duty Cycle

# **Duty Cycle**

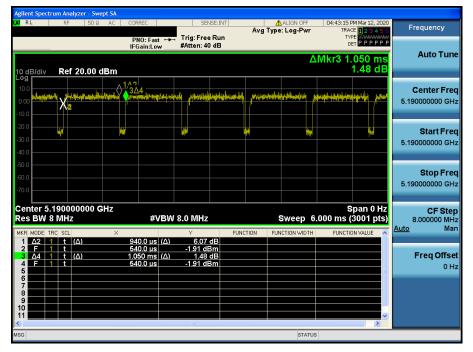
#### Test Mode: 802.11n HT20 & Ch.36



# **Dt&C**

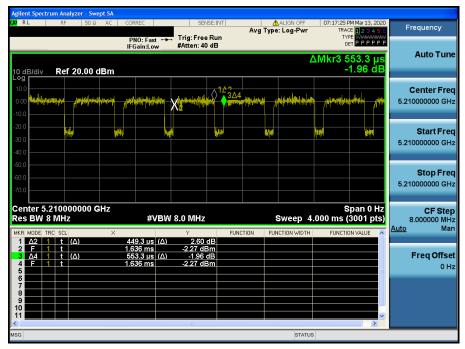
# Duty Cycle

#### Test Mode: 802.11n HT40 & Ch.38



# **Duty Cycle**

#### Test Mode: 802.11ac VHT80 & Ch.42



# **APPENDIX III**

Unwanted Emissions (Radiated) Test Plot \_ MN: ADC20S2FN0

802.11a & U-NII 1 & Ch.36 & X axis & Ver **Detector Mode : PK** TRACE 12345 TYPE MWAAAAA DET P P N N N Frequency Avg Type: Log-Pwr Avg|Hold: 100/100 Trig: Free Run Atten: 10 dB PNO: Fast IFGain:Low Auto Tune Mkr3 5.148 670 GHz 49.822 dBµ\ Ref 106.99 dBµV ídiv **∲**<sup>1</sup> **Center Freq** 5.150000000 GHz Start Freq The adjust the function of the state of the 5.115000000 GHz **Wethern** Stop Freq 5.185000000 GHz Center 5.15000 GHz #Res BW 1.0 MHz Span 70.00 MHz 1.00 ms (3001 pts) CF Step 7.000000 MHz #VBW 3.0 MHz Sweep Man Auto 91.237 dBµ\ 46.198 dBµ\ 49.822 dBµ\ NN 5.150 000 GHz 1 f **Freq Offset** 0 Hz STATUS



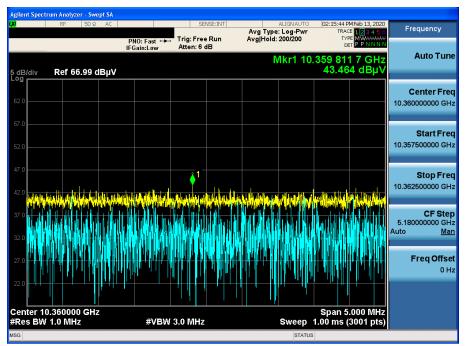
**Detector Mode : AV** 



**Detector Mode : PK** 

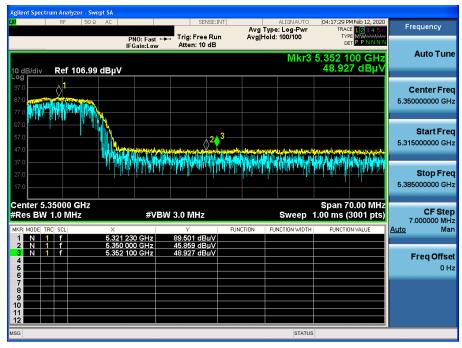


#### 802.11a & U-NII 1 & Ch.36 & X axis & Ver

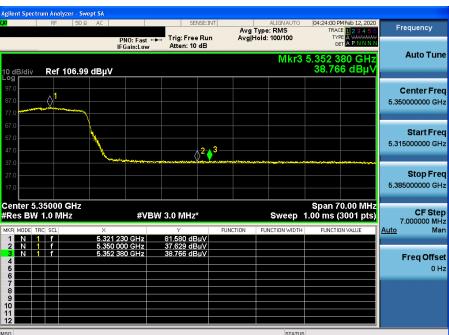


# **T**Dt&C

#### 802.11a & U-NII 2A & Ch.64 & X axis & Ver



# 802.11a & U-NII 2A & Ch.64 & X axis & Ver



# Detector Mode : PK

**Detector Mode : AV** 



#### 802.11a & U-NII 2A & Ch.60 & X axis & Ver

### **Detector Mode : AV**

1	RF	50 Ω	AC		SE	NSE:INT		ALIGN AUTO	02:27:55 PM Feb 13, 202	
				NO:Fast ↔ Gain:Low	Trig: Free Atten: 6 d		Avg Typ Avg Hold		TRACE 12345 TYPE A WAAAAAA DET A P N N N	
dB/div	Ref 6	6.99 dl						Mkr1 10.	600 031 7 GH: 33.123 dBµ\	Auto Tur
.og										Center Fre
52.0										10.600000000 Gł
57.0										Start Fre
52.0										10.597500000 GI
17.0										Stop Fr
42.0										10.602500000 G
37.0										CF Ste
						<b>∲</b> <sup>1</sup>				5.300000000 G Auto M
12.0	neisen fra Malaine Malain	talafatkapila	a the last of the second s	lener and a second s	pilyonikoyi Lidoponi	hand the task of the first of the	ayalar yiradali iyo	ang	ighean de seale grande generale de service d	
27.0										Freq Offs 01
22.0										
enter_1	0.60000	0 GHz							Span 5.000 MH:	
	V 1.0 MH			#VBW	3.0 MHz	*		Sweep	1.00 ms (3001 pts	

**Detector Mode : PK** 

# **T**Dt&C

#### 802.11a & U-NII 2C & Ch.100 & X axis & Ver

#### Frequency TRACE 1234 TYPE MWANA DET P P N N Avg Type: Log-Pwr Avg|Hold: 100/100 PNO: Fast +++ Trig: Free Run IFGain:Low Atten: 10 dB Auto Tune Mkr4 5.459 033 GHz 48.650 dBµ\ Ref 106.99 dBµV <mark>\\_1</mark> **Center Freq** 5.470000000 GHz Start Freq <mark>(</mark>42 5.435000000 GHz ntine mining provide an internet as she the Manager of the Stop Freq 5.505000000 GHz Center 5.47000 GHz #Res BW 1.0 MHz Span 70.00 MHz Sweep 1.00 ms (3001 pts) CF Step 7.000000 MHz Man #VBW 3.0 MHz Auto N 1 f N 1 f N 1 f N 1 f N 1 f N 1 f 90.230 dBµV 46.234 dBµV 45.875 dBµV 48.650 dBµV 48.153 dBµV Freq Offset 56 0 Hz STATUS

### 802.11a & U-NII 2C & Ch.100 & X axis & Ver



Spectrum Analyzer - Swept SA Frequency Avg Type: RMS Avg|Hold: 100/100 PNO: Fast ++- Trig: Free Run IFGain:Low Atten: 10 dB DET A P N Auto Tune Mkr4 .459 033 G⊦ 38.512 dBµ Ref 106.99 dBµV 10 dB/div **Center Freq** ||∆1 5.470000000 GHz Start Freq 5.435000000 GHz 42 2 Stop Freq 5.505000000 GHz Center 5.47000 GHz #Res BW 1.0 MHz Span 70.00 MHz Sweep 1.00 ms (3001 pts) CF Step 7.000000 MHz Man #VBW 3.0 MHz\* <u>Auto</u> Freq Offset NNN 1 6 38 185 dBu 0 Hz

# **T**Dt&C

# **Detector Mode : AV**

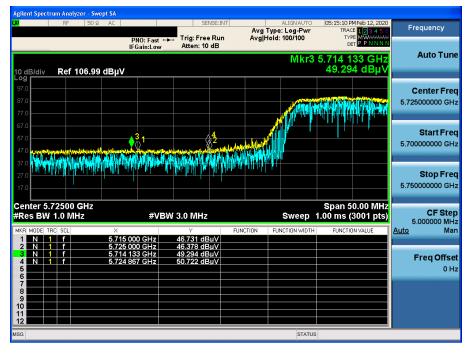
# 802.11a & U-NII 2C & Ch.144 & X axis & Ver

	RF	50Ω AC		SE	NSE:INT		ALIGN AUTO	03:08:04 PM Feb 13, 202	
			PNO: Fast ↔ IFGain:Low	Trig: Free Atten: 6 d		Avg Typ Avg Hold		TRACE 12345 TYPE A WANNA DET A P N N N	
dB/div	Ref 66	.99 dBµV				l	Mkr1 11	.439 595 0 GH 33.380 dBµ	z Auto Tur
2.0									Center Fre 11.440000000 GF
2.0									Start Fre 11.437500000 GF
2.0									<b>Stop Fre</b> 11.442500000 Gi
7.0 2.0	tine to the terms of the	aratery, je ajebola siljeg	her without land and an east of	∲1 Sester Magdina di Karangi	station of the factor	professional states	el <mark>atristaarin</mark>		CF Ste 5.720000000 GI Auto <u>M</u>
7.0									Freq Offs 01
	1.440000 1.0 MHz		#\/B\/	/ 3.0 MHz	k		Sween	Span 5.000 MH 1.00 ms (3001 pts	Z

# **T**Dt&C

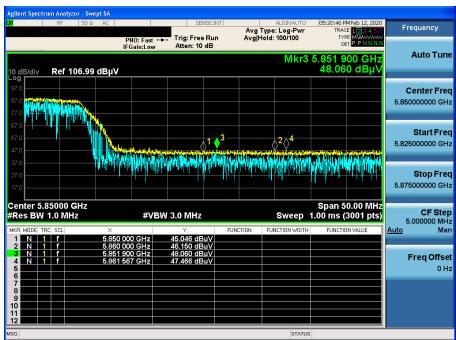
#### 802.11a & U-NII 3 & Ch.149 & X axis & Ver

## **Detector Mode : PK**



# 802.11a & U-NII 3 & Ch.165 & X axis & Ver

### **Detector Mode : PK**





# 802.11a & U-NII 3 & Ch.157 & X axis & Ver

### **Detector Mode : AV**

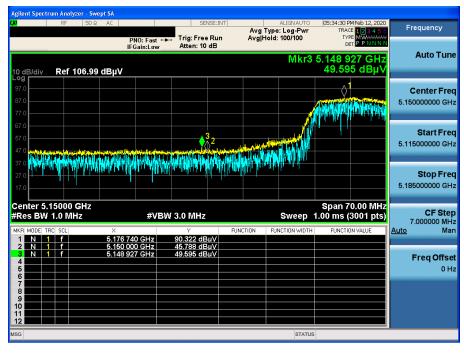
<mark>u</mark> i	RF	50 Ω AC		S	ENSE:INT	A	ALIGN AUTO	03:16:08 PM Feb 13, 2	
			PNO: Fast + IFGain:Low	► Trig: Fre Atten: 6		Avg Typ Avg Hold		TRACE 1234 TYPE A WANN DET A P N N	MW N N
dB/div	Ref 66	).99 dBµ\	/			I	Mkr1 11.	570 041 7 GI 33.812 dBj	
52.0									Center Fr 11.570000000 Gi
57.0									Start Fr 11.567500000 G
17.0									Stop Fr 11.572500000 G
12.0 37.0					<u>1</u>				CF St 5.78500000 G
32.0 <b>WWWW</b>	new generative state	herenisie fangelie	terene frank signalise	nhysrigueter	an <sup>fu</sup> idhean an	what we are a start as the	Nyathy after a shape to	hangar an	Auto <u>M</u>
27.0									Freq Offs 0
22.0									
	1.570000 1.0 MH		#VB	W 3.0 MH;	Z*		Sweep	Span 5.000 M 1.00 ms (3001 p	Hz ts)



#### 802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Ver

### **Detector Mode : PK**

**Detector Mode : AV** 



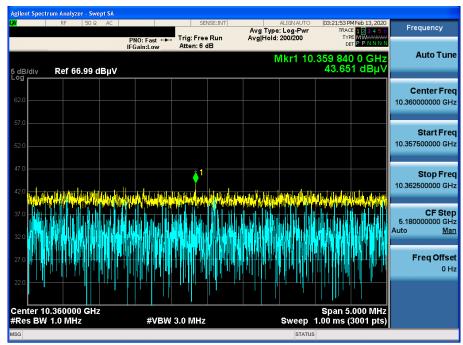
#### 802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Ver





### 802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Ver

#### **Detector Mode : PK**



**Detector Mode : PK** 

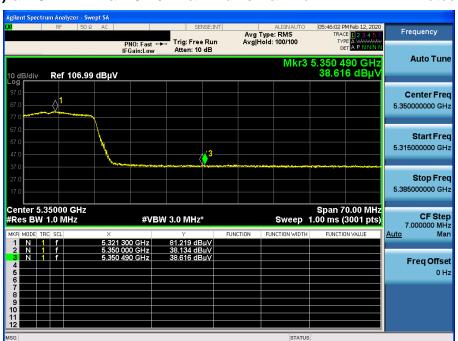


## 802.11n(HT20) & U-NII 2A & Ch.64 & X axis & Ver

#### Frequency TRACE 123 TYPE MWW DET P P N Avg Type: Log-Pwr Avg|Hold: 100/100 PNO: Fast +++ Trig: Free Run IFGain:Low Atten: 10 dB Auto Tune Mkr3 5.350 630 GHz 49.153 dBµ\ Ref 106.99 dBµV **Center Freq** 5.350000000 GHz Start Freq 5.315000000 GHz weeks in the party and provide the party of the data of the party of the party of the party of the party of the Stop Freq 5.385000000 GHz Center 5.35000 GHz #Res BW 1.0 MHz Span 70.00 MHz Sweep 1.00 ms (3001 pts) CF Step 7.000000 MHz Man #VBW 3.0 MHz Auto N 1 N 1 N 1 89.341 dBµ∨ 44.970 dBµ∨ 49.153 dBµ∨ Freq Offset 0 Hz

STATUS

# 802.11n(HT20) & U-NII 2A & Ch.64 & X axis & Ver



# Detector Mode : AV



# **Detector Mode : AV**

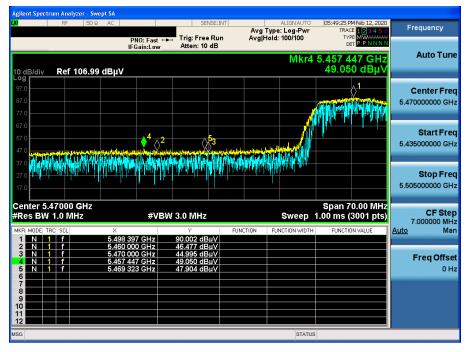
# 802.11n(HT20) & U-NII 2A & Ch.64 & X axis & Ver

RF 50Ω AC		SENSE:INT	ALIGNAUTO Avg Type: RMS	03:34:43 PM Feb 13, 2020 TRACE 2 3 4 5 6	Frequency
	PNO: Fast 🔸	Trig: Free Run Atten: 6 dB	Avg Hold: 200/200	TYPE A WWWWWW DET A P N N N N	Auto Tur
dB/div Ref 66.99 dBµV			Mkr1 10	.640 271 7 GHz 32.167 dBμV	Adio Tu
.09					Center Fre
62.0					10.640000000 GI
57.0					
52.0					Start Fr 10.637500000 G
52.0					
47.0					Stop Fr
42.0					10.642500000 G
					CF St
37.0		<u>^1</u>			5.320000000 G
32.0 <b></b>	lyter yn yr Nel o gwllether yr ad seilyr de	utradician de la contradición de la	والإيران أرادا والإنتانية المتراد المتحافظ		Auto <u>M</u>
27.0					Freq Offs
					0
22.0					
Center 10.640000 GHz				Span 5.000 MHz	
Res BW 1.0 MHz	#VBW	3.0 MHz*	Sweep	1.00 ms (3001 pts)	



#### 802.11n(HT20) & U-NII 2C & Ch.100 & X axis & Ver

### **Detector Mode : PK**



# 802.11n(HT20) & U-NII 2C & Ch.100 & X axis & Ver Detector Mode : AV





# 802.11n(HT20) & U-NII 2C & Ch.116 & X axis & Ver

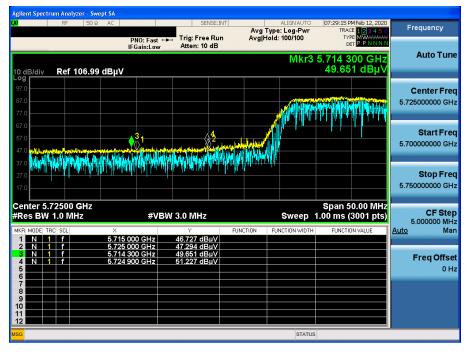
**Detector Mode : AV** 

	1.160000 GH 1.0 MHz	Z	#VBV	/ 3.0 MHz	*		Sweep	Span 5.0 1.00 ms (3	000 MHz 001 pts)	
22.0										0
27.0										Freq Offs
32.0 <b>MARANA</b>	weiler beine sterft stylfe ste	olyndialanainidyo	Neladageachar (j. 1919) an Angele	<b>e y technigen</b> som	webenthe provi	a na shalata na sha	ana lata gapapata	-nytytyternykytternelik	and a second second	Auto <u>N</u>
37.0					<u>^</u> 1					CF St 5.58000000 G
42.0										11.162500000 G
47.0										Stop Fr
52.0										11.157500000 G
57.0										Start Fr
52.0										11.160000000
°g										Center Fi
dB/div	Ref 66.99	dBµV				l	Mkr1 11	.160 051 33.746	7 GHz 6 dBµV	Auto Tu
			PNO: Fast ↔ FGain:Low	- Trig: Free Atten: 6 d		Avg Hold		TYPE	1 2 3 4 5 6 A <del>WATAWA</del> A P N N N N	
	RF 50	Ω AC		SE	NSE:INT	Avg Typ	ALIGN AUTO	03:46:37 PM	Feb 13, 2020	Frequency

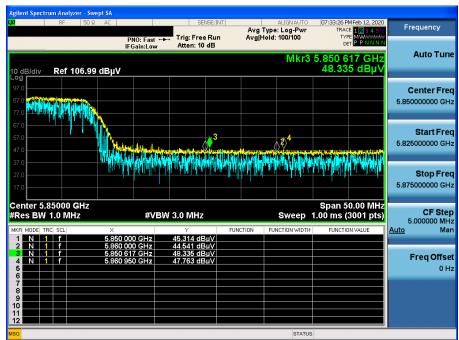


#### 802.11n(HT20) & U-NII 3 & Ch.149 & X axis & Ver

#### **Detector Mode : PK**



# 802.11n(HT20) & U-NII 3 & Ch.165 & X axis & Ver Detector Mode : PK





## Detector Mode : AV

# 802.11n(HT20) & U-NII 3 & Ch.157 & X axis & Ver

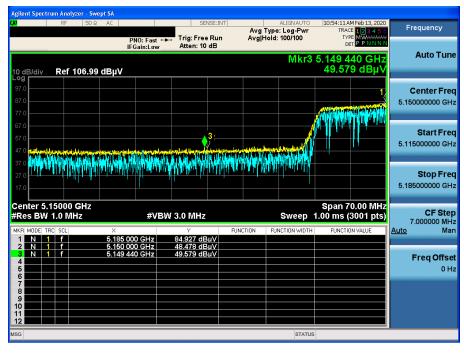
	RF	50Ω AC		SE	NSE:INT		ALIGN AUTO	04:06:39 PM		E
		1	PNO: Fast 🔸 FGain:Low	Trig: Free Atten: 6		Avg Type Avg Hold:		TYPE	123456 A WWWWWW A P N N N N	Frequency
dB/div	Ref 66.9	99 dBµV				N	/lkr1 11.	569 703 33.893		Auto Tun
52.0										Center Fre 11.570000000 GF
52.0										<b>Start Fre</b> 11.567500000 GH
47.0										<b>Stop Fro</b> 11.572500000 GI
37.0 32.0 <mark>//#////</mark>	Jonishings, Scherophie	hander and a state of the	yethani kateriyati kitan y	nin terrende by aller of	anter and the states of the	anter and the second states of the second states of the second states of the second states of the second states	hlodosata, abiedad,	v14/1-1-11/11/11-1	<sup>1</sup> 4 <sup>4</sup> 41479-19476/147 <sup>44</sup>	CF Ste 5.785000000 GI Auto <u>M</u>
27.0										Freq Offs 0 I
22.0	1.570000 (	GHz						Span 5.0	000 MHz	
	1.0 MHz	4.1	#VBW	/ 3.0 MHz	*		Sweep	1.00 ms (3	001 pts)	



#### 802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Ver

# **Detector Mode : PK**

**Detector Mode : AV** 

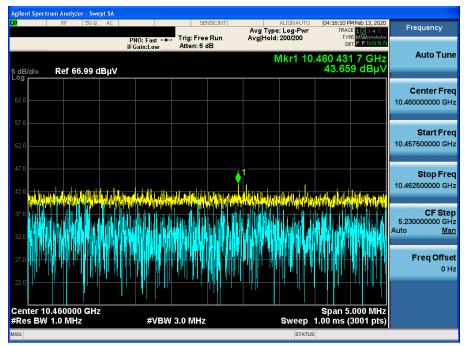


## 802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Ver





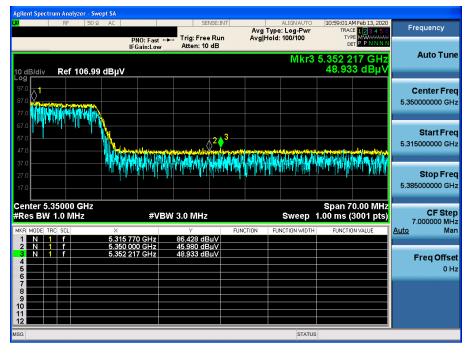
## 802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Ver





## 802.11n(HT40) & U-NII 2A & Ch.62 & X axis & Ver

# Detector Mode : PK



# 802.11n(HT40) & U-NII 2A & Ch.62 & X axis & Ver Detector Mode : AV





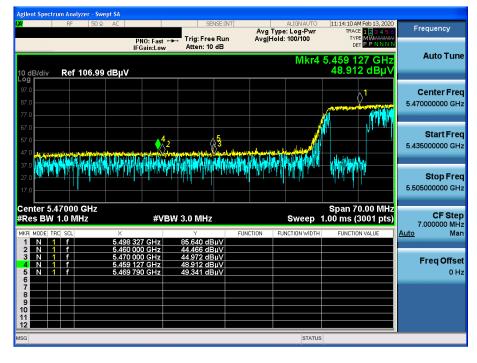
### 802.11n(HT40) & U-NII 2A & Ch.62 & X axis & Ver

l I	RF	50Ω A	AC			NSE:INT	Avg Type		TRAC	MFeb 13, 2020 E <b>1 2 3 4 5 6</b>	Frequency
				IO: Fast ↔ ain:Low	Trig: Free Atten: 6		Avg Hold:	200/200	T YF DE		
dB/div	Ref 66	.99 dBj	μV				N	/lkr1 10.	620 04 <sup>-</sup> 32.85	1 7 GHz 9 dBµV	Auto Tun
62.0											Center Fre 10.620000000 G⊦
57.0											<b>Start Fre</b> 10.617500000 GF
47.0											<b>Stop Fr</b> 10.622500000 G
37.0	hattid da hat sou		and the second	والالا المتعدمة المتعامل	المعادلة والمناطرة والتقديم	<mark>ہُ</mark> 1	****	stanti di stara na sa sa sa			CF Sto 5.310000000 G Auto <u>M</u>
27.0			4(), (D.0-24).								Freq Offs 0
22.0											
	0.620000 1.0 MHz			#VBW	3.0 MHz	*		Sweep	Span 5 1.00 ms (	.000 MHz 3001 pts)	
SG								STATUS			

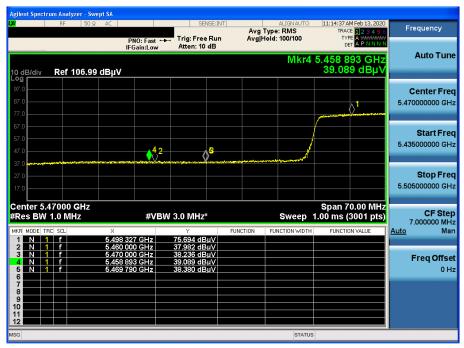
# **Dt&C**

# 802.11n(HT40) & U-NII 2C & Ch.102 & X axis & Ver

#### **Detector Mode : PK**



#### 802.11n(HT40) & U-NII 2C & Ch.102 & X axis & Ver





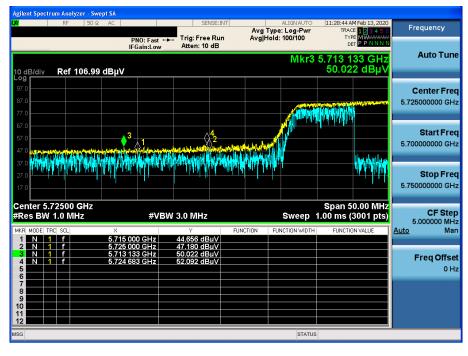
# 802.11n(HT40) & U-NII 2C & Ch.102 & X axis & Ver

	RF 50 Ω	PNO:	Fast ↔	Trig: Free		Avg Type Avg Hold:		TRAC	MFeb 13, 2020 E 1 2 3 4 5 6 E A WWWWWW T A P N N N N	Frequency
dB/div	Ref 66.99 dE	IFGain 3µV	:Low	Atten: 6 d	18	Ν	Akr1 11.	020 08	0 0 GHz 9 dBµV	Auto Tun
og										Center Fro 11.020000000 GI
52.0										<b>Start Fr</b> 11.017500000 G
17.0 12.0										<b>Stop Fr</b> 11.022500000 G
17.0	anglys <sup>an</sup> siony), also for bootstanded	hhardfortenegar	(stywarysidd)	elangeran werkelangel	∲ <sup>1</sup> ฝูไก่งุมมายๆหูม	ter a fistilister	ethere by insta	ne that has a test to as	atter for the factor of	CF St 5.510000000 G Auto <u>N</u>
7.0										Freq Off 0
enter 11	I.020000 GHz 1.0 MHz		#VBW :	3.0 MHz*			Sweep	Span 5 1.00 ms (	.000 MHz 3001 pts)	
G							STATUS			

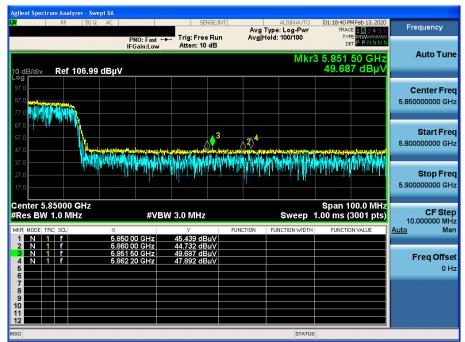


## 802.11n(HT40) & U-NII 3 & Ch.151 & X axis & Ver

# **Detector Mode : PK**



# 802.11n(HT40) & U-NII 3 & Ch.159 & X axis & Ver Detector Mode : PK





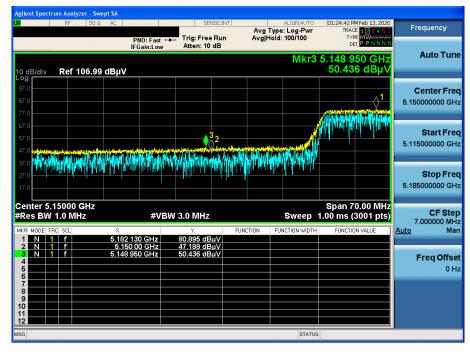
# 802.11n(HT40) & U-NII 3 & Ch.159 & X axis & Ver

u 🔰	RF 50 Ω AC			VSE:INT	Avg Typ	ALIGN AUTO	TRAC	MFeb 13, 2020 E 1 2 3 4 5 6	Frequency
		PNO: Fast 🔸	Trig: Free Atten: 6 d		Avg Hold				
dB/div	Ref 66.99 dBµV					Mkr1 11	.590 351 33.81	I7 GHz 6 dBµV	Auto Tu
.og									Center Fr
62.0									11.590000000 0
57.0									
									Start F
52.0									11.587500000
47.0									Stop F
42.0									11.592500000 (
42.0									
37.0				<u></u> 1					CF S 5.795000000 (
32.0 <b>Alquum</b>	eterhersensettenteterdeterset	rahlynopplenederhler	lije je optigder open vijer	en in the second second	an a	and the second second	an iliji hadwarda Ty	ahiyanjariyas	Auto <u>I</u>
									Freq Off
27.0									() C
22.0									
	1.590000 GHz 1.0 MHz	#VBW	3.0 MHz*			Sweep	Span 5. 1.00 ms (3	.000 MHz 3001 pts)	
ISG						STATU			



# 802.11ac(VHT80) & U-NII 1 & Ch.42 & X axis & Ver

**Detector Mode : PK** 

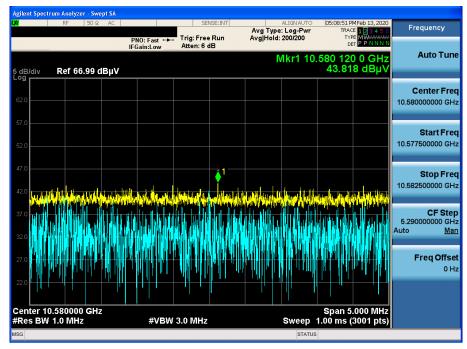


# 802.11ac(VHT80) & U-NII 1 & Ch.42 & X axis & Ver Detector Mode : AV





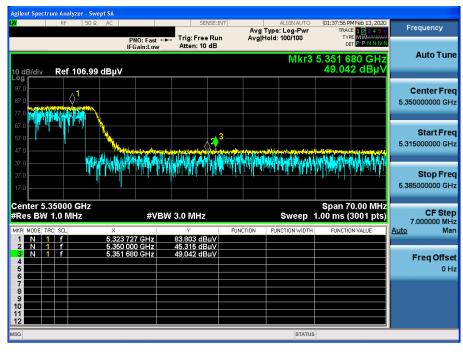
# 802.11ac(VHT80) & U-NII 1 & Ch.42 & X axis & Ver





#### 802.11ac(VHT80) & U-NII 2A & Ch.58 & X axis & Ver

# **Detector Mode : PK**

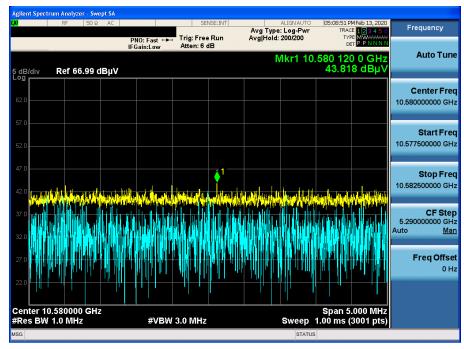


# 802.11ac(VHT80) & U-NII 2A & Ch.58 & X axis & Ver Detector Mode : AV

	RF 50 Ω	2 AC		SEN	ISE:INT	Aun 1	ALIGN AUTO		MFeb 13, 2020 E <b>1 2 3 4 5 6</b>	Frequency
			PNO: Fast  • FGain:Low	→ Trig: Free Atten: 10			lold: 100/100	TY	A WANANANA A P N N N N	
0 dB/div	Ref 106.99	) dBµV					Mkr3		40 GHz 8 dBµV	Auto Tu
<b>og</b> 97.0										Center Fr
7.0										5.350000000 G
7.0										
7.0										Start Fr
17.0		N.			<mark>∼}3</mark> —					5.315000000 G
7.0		- Manandard	194 <b>1 - 1949 - 1949 - 1949 - 19</b>	*****	and an approximation of	ri "pastaan ya				
7.0										Stop Fr 5.385000000 G
	0000 CH2							Span 7	0.00 MHz	
enter 5.35 Res BW 1.			#VB	W 3.0 MHz*			Sweep	1.00 ms (	3001 pts)	CF St 7.000000 M
	.0 MHz	× 5 323 7		Y	FU	INCTION	Sweep FUNCTION WIDTH			
Res BW 1.	.0 MHz	5.323 7 5.350 0	27 GHz 00 GHz	Y 73.613 dB 38.473 dB	FU HV	INCTION				7.000000 M <u>Auto</u> M
Res         BW         1.           KR         MODE         TRC           1         N         1           2         N         1           3         N         1           4         4         4	.0 MHz	5.323 7 5.350 0	27 GHz	۲ 73.613 dB	FU HV	INCTION				7.000000 M <u>Auto</u> M Freq Offs
Res BW 1.           KR MODE         TRC           1         N         1           2         N         1           3         N         1           4	.0 MHz	5.323 7 5.350 0	27 GHz 00 GHz	Y 73.613 dB 38.473 dB	FU HV	INCTION				7.000000 M <u>Auto</u> M
Res BW 1.           KR MODE         TRC           1         N         1           2         N         1           3         N         1           4         -         -           5         -         -           6         -         -           7         -         -           8         -         -	.0 MHz	5.323 7 5.350 0	27 GHz 00 GHz	Y 73.613 dB 38.473 dB	FU HV	INCTION				7.000000 M <u>Auto</u> M Freq Offs
Res BW 1.           KR MODE         TRC           1         N         1           2         N         1           3         N         1           4	.0 MHz	5.323 7 5.350 0	27 GHz 00 GHz	Y 73.613 dB 38.473 dB	FU HV	INCTION				7.000000 M <u>Auto</u> M Freq Offs



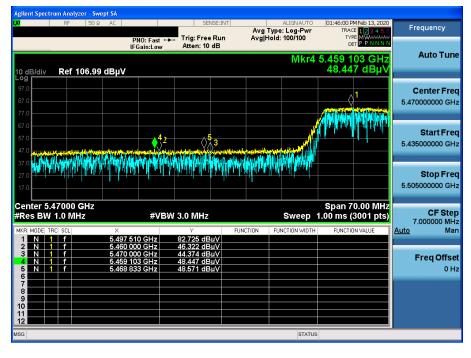
## 802.11ac(VHT80) & U-NII 2A & Ch.58 & X axis & Ver



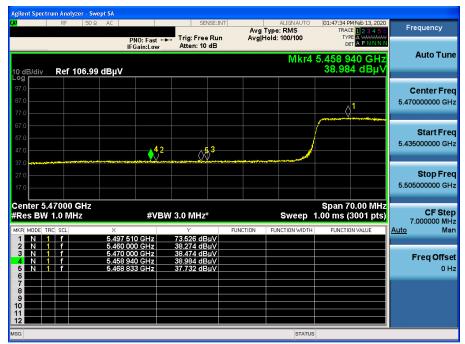
# **Dt&C**

# 802.11ac(VHT80) & U-NII 2C & Ch.106 & X axis & Ver

# **Detector Mode : PK**



# 802.11ac(VHT80) & U-NII 2C & Ch.106 & X axis & Ver Detector Mode : AV





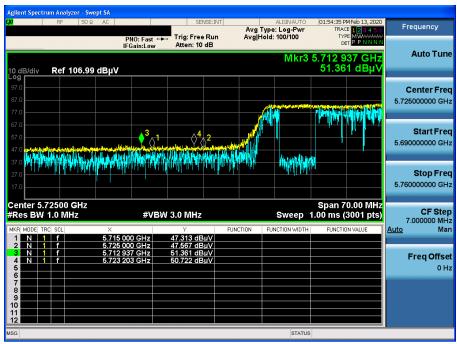
# 802.11ac(VHT80) & U-NII 2C & Ch.106 & X axis & Ver

	RF 50Ω ;			Tala		Avg Type Avg Hold:		TRAC	MFeb 13, 2020	Frequency
dB/div	Ref 66.99 dB	IFGa	D: Fast ↔ ain:Low	Atten: 6 o			/kr1 11.	060 343	3 3 GHz 7 dBµV	Auto Tur
		μν								Center Fre 11.060000000 GH
52.0										<b>Start Fr</b> 11.057500000 Gi
17.0										<b>Stop Fr</b> 11.062500000 G
87.0 82.0 <b>wid-unst</b>	th <sup>i</sup> n fathy is the internet in the internet internet in the internet in the internet in	yerd, yfferdyjl i dyfly	-	hjirayniris,firinantay	1 1	**************************************	tel-states-wester	ooloogiaa	the state of the s	CF St 5.530000000 G Auto <u>N</u>
2.0										Freq Off 0
enter 1	1.060000 GHz 1.0 MHz		#VBW	3.0 MHz	ĸ		Sweep 7		.000 MHz 3001 pts)	
iG							STATUS			

**Detector Mode : PK** 

# **T**Dt&C

# 802.11ac(VHT80) & U-NII 3 & Ch.155 & X axis & Ver



# 802.11ac(VHT80) & U-NII 3 & Ch.155 & X axis & Ver

#### Frequency Avg Type: Log-Pwr Avg|Hold: 100/100 PNO: Fast ↔↔ IFGain:Low Trig: Free Run Atten: 10 dB TYPE DET MW Auto Tune Mkr3 5.852 97 GH 48.456 dBµ Ref 106.99 dBµV l0 dB/div **Center Freq** 5.85000000 GHz Start Freq **∆**<sup>1</sup> **→**<sup>3</sup> 5.80000000 GHz di Marilan Amerikan Amerikan Malakuma Instal Stop Freq 5.90000000 GHz Center 5.85000 GHz #Res BW 1.0 MHz Span 100.0 MHz Sweep 1.00 ms (3001 pts) **CF Step** 10.000000 MHz <u>0</u> Man #VBW 3.0 MHz Auto 44.230 dBµ\ 48.456 dBµ\ 48.427 dBµ\ Freq Offset <u>N 1 f</u> N 1 f 0 Hz

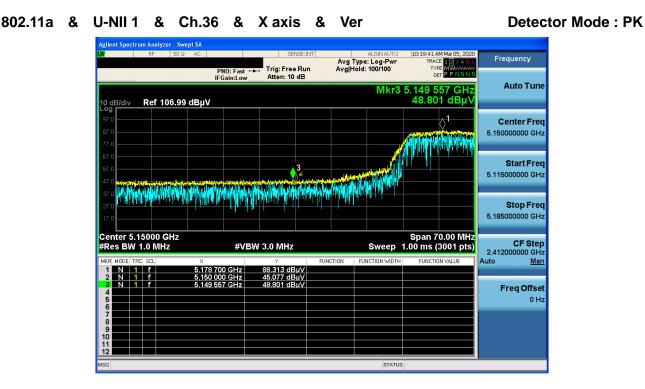


# **Detector Mode : AV**

# 802.11ac(VHT80) & U-NII 3 & Ch.155 & X axis & Ver

u l	RF 50 Ω		PNO: Fast ↔ EGain:Low			Avg Typ Avg Hold		TYPE A	b 13, 2020 2 3 4 5 6 WMAAAAAA P N N N N	Frequency
dB/div	Ref 66.99		Gain:Low	Attent			Mkr1 11.	550 121 7 33.892	′ GHz dBμV	Auto Tur
62.0										Center Fre 11.55000000 Gi
57.0										<b>Start Fr</b> 11.547500000 G
47.0										<b>Stop Fr</b> 11.552500000 G
37.0 32.0 <b>***** /s./**</b>	المراجع والمعارفة والمعارفة والمعارفة والمعارفة والمحافظة والمعارفة والمحافظة والمحافظة والمحافظة والمحافظة وال	an a	Anger Man Mar	at state	1 Addatus miliopie	her with some the first professor	regenskipy gebief og	n Jaha Magalajini ya	Mithage Martin	CF Sto 5.775000000 G Auto <u>M</u>
27.0										Freq Offs 01
Center 11.5 Res BW 1.		z	#VBW	' 3.0 MHz'	•		Sweep	Span 5.00 1.00 ms (30	0 MHz	

# Unwanted Emissions (Radiated) Test Plot \_ MN: ADC40S2AN



# 802.11a & U-NII 1 & Ch.36 & X axis & Ver



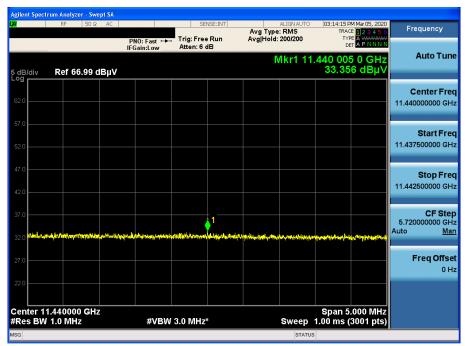


#### 802.11a & U-NII 2A & Ch.60 & X axis & Ver

**Detector Mode : AV** 

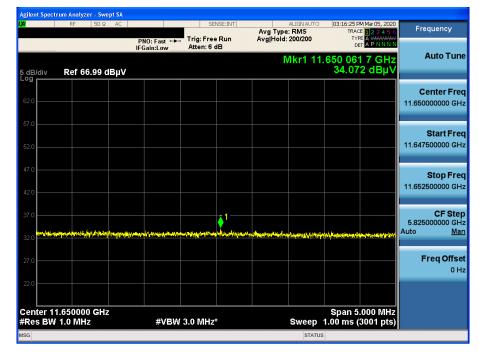


# 802.11a & U-NII 2C & Ch.144 & X axis & Ver





#### 802.11a & U-NII 3 & Ch.165 & X axis & Ver





## 802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Ver

# **Detector Mode : PK**



# 802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Ver Detector Mode : AV



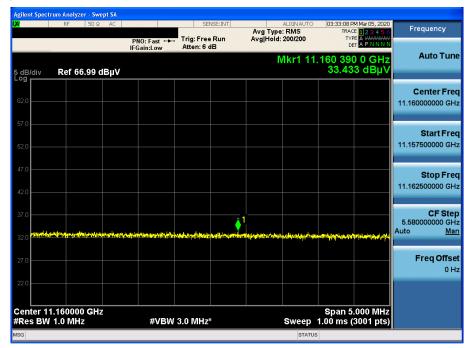


#### 802.11n(HT20) & U-NII 2A & Ch.60 & X axis & Ver

**Detector Mode : AV** 



# 802.11n(HT20) & U-NII 2C & Ch.116 & X axis & Ver Detector Mode : AV





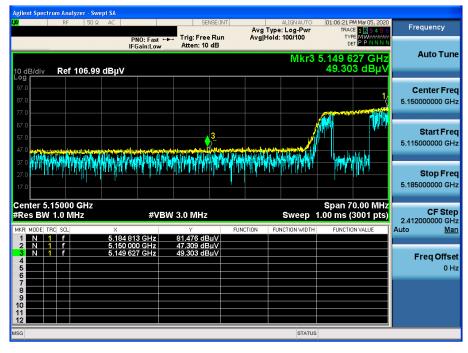
### 802.11n(HT20) & U-NII 3 & Ch.165 & X axis & Ver

		RF	50 Ω	AC		SEI	NSE:INT	Avg Type	ALIGN AUTO		M Mar 05, 2020 E <mark>1 2 3 4 5 6</mark>	Frequency
					PNO: Fast ↔ IFGain:Low	Trig: Free Atten: 6 d		Avg Hold:		TYF	E A WANNAN A P N N N N	
dBi og	/div	Ref 6	6.99 d	Βμ∨				ľ	Vlkr1 11.	650 278 33.90	3 3 GHz 1 dBµV	Auto Tur
52.0												Center Fre 11.650000000 GF
57.0 52.0												<b>Start Fr</b> 11.647500000 G
47.0 42.0												<b>Stop Fr</b> 11.652500000 G
37.0 32.0	Materia de la companya	show and the second	direct floor	<b>Net de la de</b>	A.rink president forman	Kenner Markana and Markana Markana and Markana and Mark	nen, daalkan ya	an a	nalifati, secondrantja	A killer og fan kan andres	ana ang ang ang ang ang ang ang ang ang	<b>CF St</b> 5.825000000 G Auto <u>M</u>
27.0												Freq Offs 0
22.0												
	ter 11 s BW				#VB	A/ 3.0 MHz*	ę		Sweep	Span 5 1.00 ms (	.000 MHz 3001 pts)	
SG									STATUS			

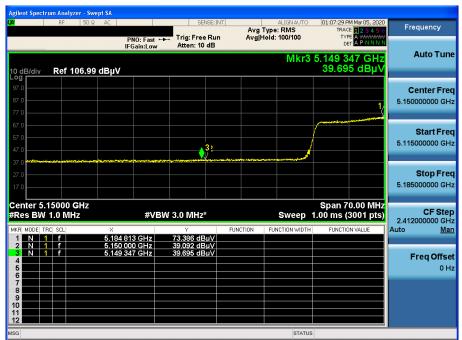
# **Dt&C**

# 802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Ver

# Detector Mode : PK



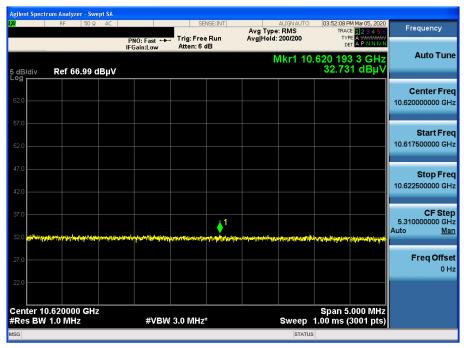
# 802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Ver Detector Mode : AV



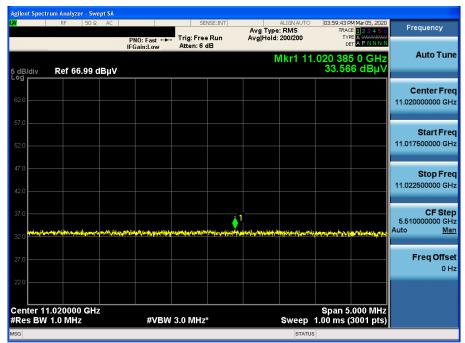


#### 802.11n(HT40) & U-NII 2A & Ch.62 & X axis & Ver

**Detector Mode : AV** 



# 802.11n(HT40) & U-NII 2C & Ch.102 & X axis & Ver Detector Mode : AV





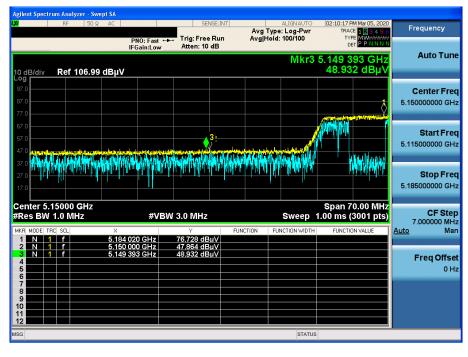
# 802.11n(HT40) & U-NII 3 & Ch.159 & X axis & Ver

	RF	50 Ω	AC			SE	NSE:INT		ALIGN AUTO	04:06:32 P	M Mar 05, 2020	_
				PNO: Fast IFGain:Low		rig: Free tten: 6	e Run	Avg Typ Avg Hold	e: RMS	TRAC	E 1 2 3 4 5 6 E A 444444 T A P N N N N	Frequency
dB/div	Ref 6	6.99 d	BμV						Mkr1 11.		5 0 GHz 4 dBµV	Auto Tur
52.0												Center Fre 11.59000000 GF
57.0												<b>Start Fr</b> 11.587500000 GI
47.0 42.0												<b>Stop Fr</b> 11.592500000 G
37.0 32.0 من الم	elsiette en joet	ulle (Jurbh Vile	at the state of the	e fattige the state of	-roaliga jan	1	- Nie Propry hales	1.1 and the state of the state of	dinaliyo ya makat	ader, her beite singet of	sessed and the second	<b>CF St</b> ( 5.795000000 G Auto <u>M</u>
27.0												Freq Offs 0
22.0 enter 17										Span 5	.000 MHz	
Res BW	1.0 MH	z		#VI	BW 3.0	0 MHz	*		Sweep	1.00 ms (	3001 pts)	

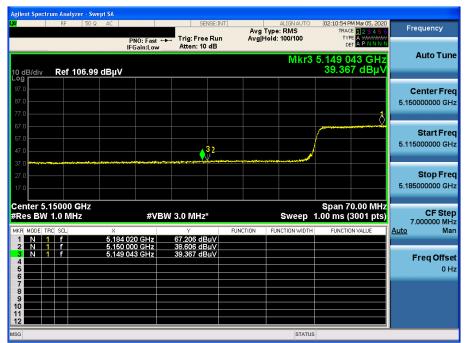


# 802.11ac(VHT80) & U-NII 1 & Ch.42 & X axis & Ver

# **Detector Mode : PK**



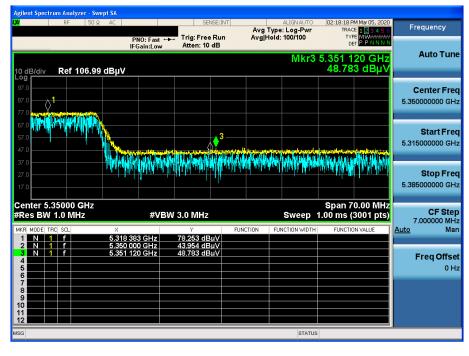
# 802.11ac(VHT80) & U-NII 1 & Ch.42 & X axis & Ver Detector Mode : AV



# **Dt&C**

# 802.11ac(VHT80) & U-NII 2A & Ch.58 & X axis & Ver

# **Detector Mode : PK**



# 802.11ac(VHT80) & U-NII 2A & Ch.58 & X axis & Ver Detector Mode : AV

	50 Ω AC		SENSE:IN		ALIGN AUTO	02:18:50 PM Mar 05,	
		PNO: Fast ↔ IFGain:Low	Trig: Free Run Atten: 10 dB		Type: RMS Iold: 100/100	TRACE 1 2 3 TYPE A WWW DET A P N 1	
dB/div Ref	106.99 dBµV				Mkr3	5.351 727 G 39.012 dB	
7.0 7.0 7.0							Center Fre 5.350000000 GI
7.0			2¢3				<b>Start Fre</b> 5.315000000 GI
7.0							Stop Fre 5.385000000 G
enter 5.35000 Res BW 1.0 MI		#VBV	V 3.0 MHz*		Sweep	Span 70.00 M 1.00 ms (3001 p	1Hz ots) CF Ste 7.000000 M
KR MODE TRC SCL		383 GHz 000 GHz	γ 68.576 dBμV 38.162 dBμV	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Auto M
1 N 1 f 2 N 1 f		727 GHz	39.012 dBµV				Freq Offs
2 N 1 f 3 N 1 f 4 5 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.351						0
2 N 1 f 3 N 1 f 4 5	5.351						-

#### 802.11ac(VHT80) & U-NII 2C & Ch.138 & X axis & Ver

**Detector Mode : AV** 



### 802.11ac(VHT80) & U-NII 3 & Ch.155 & X axis & Ver Detector Mode : AV

	RF !	50 Ω AC		SE	NSE:INT		ALIGN AUTO	04:30:41 PM		Fraguares
			PNO: Fast ↔ FGain:Low	. Trig: Free Atten: 6 d		Avg Type Avg Hold:		TYPE	123456 A <del>Manadat</del> A P N N N N	Frequency
dB/div	Ref 66.9	99 dBµV				Γ	/lkr1 11	.549 928 33.278		Auto Tu
										Center Fr
;2.0										11.550000000 G
7.0										Start Fr
;2.0										11.547500000 G
17.0										Stop Fr
12.0										11.552500000 G
7.0				<b>^</b>	1					CF Sto 5.775000000 G
2.0 4444	d)@?^how\/7/%/b	ener al al magnetic	ntin til som	en feisege in stander	aler Normalisa (**	curstaer-destript	and the set of the set	etropolitar mar	n an	Auto <u>M</u>
7.0										Freq Offs 0
2.0										0
optor 1	1.550000	GHz		3.0 MHz				Span 5.0 1.00 ms (3	00 MHz	
Contor 1	1.550000 (	GHz						Span 5.0	00 MHz	