13. RADIATED SPURIOUS EMISSIONS

13.1 Operating environment

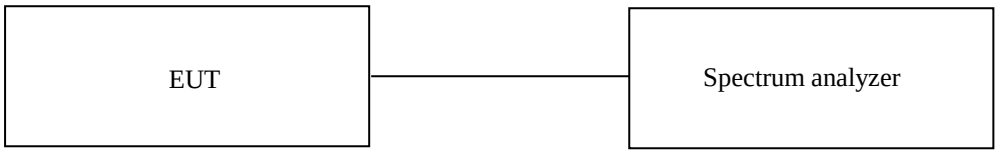
Temperature : 23 °C

Relative humidity : 45 % R.H.

13.2 Test set-up for conducted measurement

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 40 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.



13.3 Test Date

March 12, 2021 ~ March 22, 2021

13.4 Test data for Below 30 MHz

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.									

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.5 Test data for 30 MHz ~ 1 000 MHz

13.5.1 Test data for WLAN 5 GHz

Humidity Level : 45 % R.H. Temperature: 23 °C

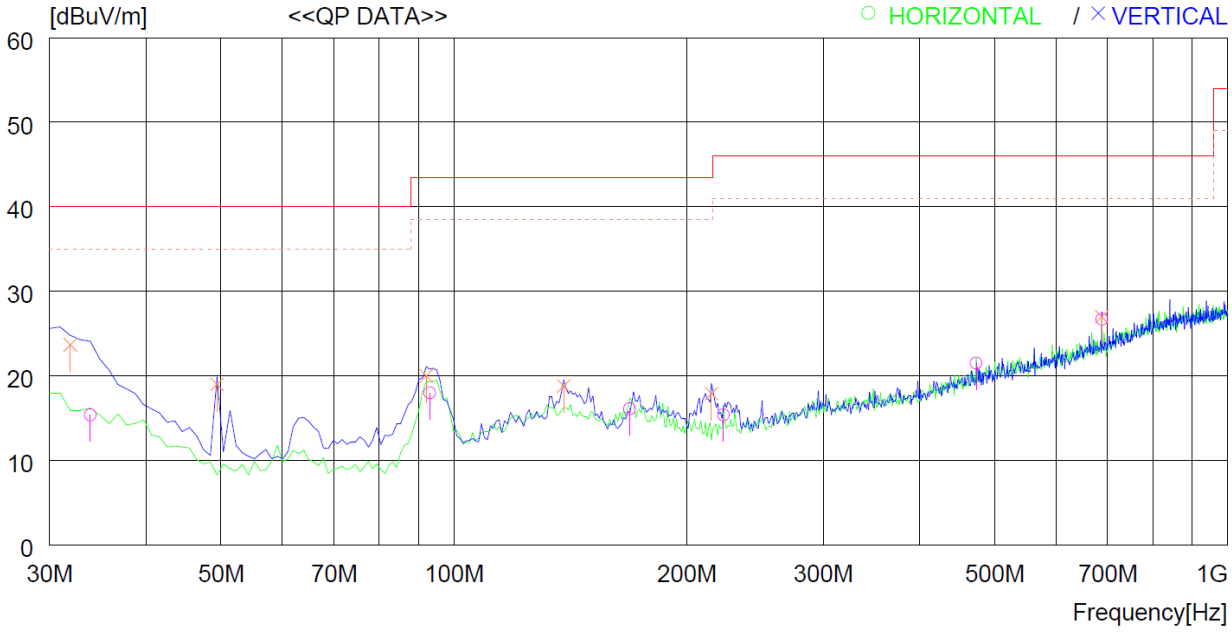
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : WI-FI Transceiver

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

-. Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	33.880	27.0	19.5	0.9	32.0	15.4	40.0	24.6	400	0
2	93.050	34.8	14.0	1.2	32.0	18.0	43.5	25.5	200	0
3	168.710	29.2	17.3	1.6	32.0	16.1	43.5	27.4	100	32
4	223.030	28.9	16.6	1.9	32.0	15.4	46.0	30.6	200	0
5	473.291	28.6	22.5	2.6	32.2	21.5	46.0	24.5	100	119
6	687.655	30.2	25.4	3.4	32.3	26.7	46.0	19.3	300	196
----- Vertical ------										
7	31.940	34.6	20.3	0.8	32.0	23.7	40.0	16.3	100	0
8	49.400	36.8	13.4	0.9	32.1	19.0	40.0	21.0	400	359
9	92.080	36.9	13.9	1.2	32.0	20.0	43.5	23.5	100	0
10	138.640	30.0	19.4	1.4	32.0	18.8	43.5	24.7	100	0
11	215.270	31.8	16.3	1.8	32.0	17.9	43.5	25.6	100	0
12	687.655	30.5	25.4	3.4	32.3	27.0	46.0	19.0	300	0

13.5.2 Test data for Intermodulation Mode(WLAN 2.4 GHz + WLAN 5 GHz)

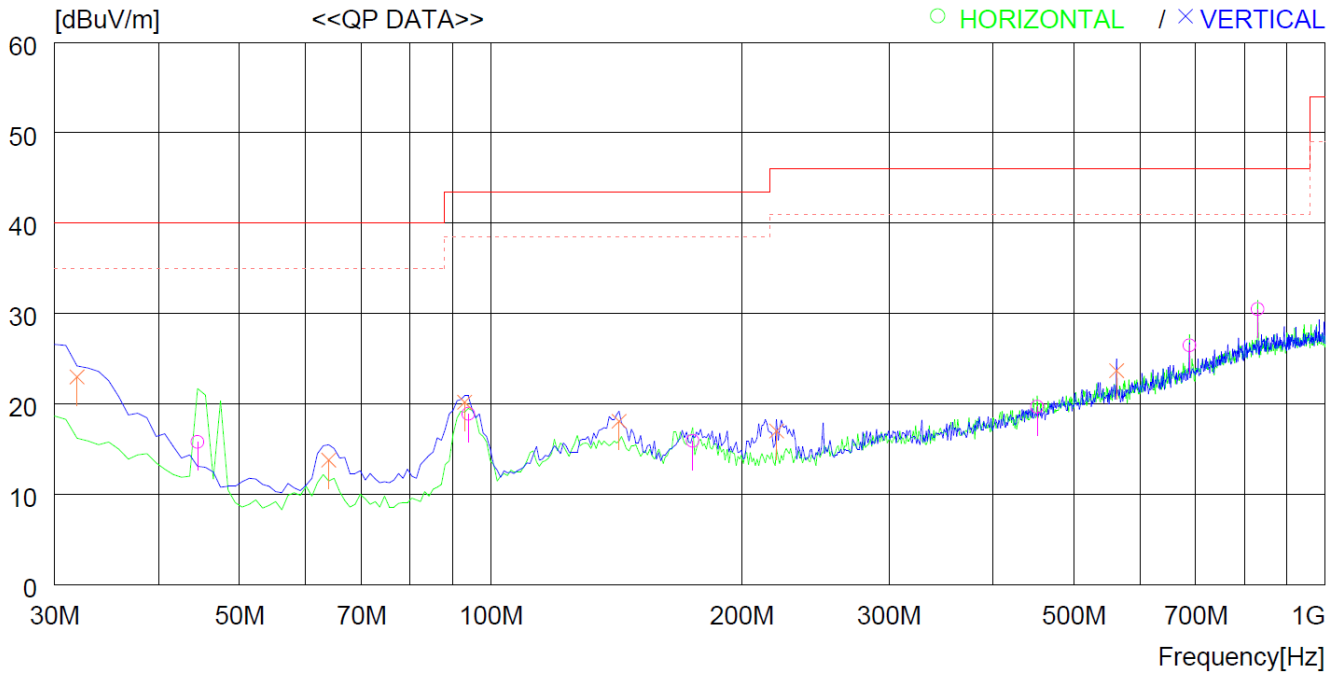
Humidity Level : 45 % R.H. Temperature: 23 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : WI-FI Transceiver

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	44.550	31.5	15.4	0.9	32.0	15.8	40.0	24.2	100	359
2	94.020	35.5	14.2	1.2	32.0	18.9	43.5	24.6	200	0
3	174.530	29.2	17.0	1.7	32.0	15.9	43.5	27.6	200	148
4	451.951	27.5	21.9	2.5	32.2	19.7	46.0	26.3	200	0
5	687.655	30.0	25.4	3.4	32.3	26.5	46.0	19.5	300	16
6	830.241	31.1	27.2	4.1	31.9	30.5	46.0	15.5	200	132
----- Vertical ------										
7	31.940	33.9	20.3	0.8	32.0	23.0	40.0	17.0	100	3
8	63.950	32.6	12.4	0.9	32.1	13.8	40.0	26.2	100	104
9	93.050	37.0	14.0	1.2	32.0	20.2	43.5	23.3	100	0
10	142.520	29.4	19.3	1.4	32.0	18.1	43.5	25.4	100	113
11	220.120	30.6	16.5	1.9	32.0	17.0	46.0	29.0	100	104
12	562.529	29.4	23.8	2.9	32.4	23.7	46.0	22.3	100	307

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6 Test data for Above 1 GHz

13.6.1 Test data for Frequency UNII I

13.6.1.1 Test data for 802.11a RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 360.00	51.46	Peak	H	39.20	18.07	46.00	62.73	68.20	5.47
10 360.00	51.34	Peak	V	39.20	18.07	46.00	62.61	68.20	5.59
Middle Channel									
10 440.00	51.52	Peak	H	39.30	18.07	46.00	62.89	68.20	5.31
10 440.00	51.23	Peak	V	39.30	18.07	46.00	62.60	68.20	5.60
High Channel									
10 480.00	51.49	Peak	H	39.40	18.07	46.00	62.96	68.20	5.24
10 480.00	51.37	Peak	V	39.40	18.07	46.00	62.84	68.20	5.36

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

13.6.1.2 Test data for 802.11n_HT20 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 360.00	51.30	Peak	H	39.20	18.07	46.00	62.57	68.20	5.63
10 360.00	51.17	Peak	V	39.20	18.07	46.00	62.44	68.20	5.76
Middle Channel									
10 440.00	51.27	Peak	H	39.30	18.07	46.00	62.64	68.20	5.56
10 440.00	51.17	Peak	V	39.30	18.07	46.00	62.54	68.20	5.66
High Channel									
10 480.00	51.29	Peak	H	39.40	18.07	46.00	62.76	68.20	5.44
10 480.00	51.11	Peak	V	39.40	18.07	46.00	62.58	68.20	5.62

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.1.3 Test data for 802.11n_HT40 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 380.00	51.15	Peak	H	39.20	18.07	46.00	62.42	68.20	5.78
10 380.00	50.70	Peak	V	39.20	18.07	46.00	61.97	68.20	6.23
High Channel									
10 460.00	51.20	Peak	H	39.30	18.07	46.00	62.57	68.20	5.63
10 460.00	50.89	Peak	V	39.30	18.07	46.00	62.26	68.20	5.94

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

13.6.1.4 Test data for 802.11ac_HT80 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Middle Channel									
10 420.00	50.98	Peak	H	39.30	18.07	46.00	62.35	68.20	5.85
10 420.00	50.83	Peak	V	39.30	18.07	46.00	62.20	68.20	6.00

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.2 Test data for Frequency UNII 2A

13.6.2.1 Test data for 802.11a RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
10 520.00	50.94	Peak	H	39.40	18.11	46.05	62.40	68.20	5.80
10 520.00	50.81	Peak	V	39.40	18.11	46.05	62.27	68.20	5.93
Middle Channel									
10 600.00	50.92	Peak	H	39.40	18.11	46.05	62.38	74.00	11.62
10 600.00	38.97	Average	H	39.40	18.11	46.05	50.43	54.00	3.57
10 600.00	50.81	Peak	V	39.40	18.11	46.05	62.27	74.00	11.73
10 600.00	38.90	Average	V	39.40	18.11	46.05	50.36	54.00	3.64
High Channel									
10 640.00	50.90	Peak	H	39.40	18.11	46.05	62.36	74.00	11.64
10 640.00	38.92	Average	H	39.40	18.11	46.05	50.38	54.00	3.62
10 640.00	50.83	Peak	V	39.40	18.11	46.05	62.29	74.00	11.71
10 640.00	38.79	Average	V	39.40	18.11	46.05	50.25	54.00	3.75

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

13.6.2.2 Test data for 802.11n_HT20 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 520.00	50.99	Peak	H	39.40	18.11	46.05	62.45	68.20	5.75
10 520.00	50.92	Peak	V	39.40	18.11	46.05	62.38	68.20	5.82
Middle Channel									
10 600.00	51.02	Peak	H	39.40	18.11	46.05	62.48	74.00	11.52
10 600.00	39.03	Average	H	39.40	18.11	46.05	50.49	54.00	3.51
10 600.00	50.97	Peak	V	39.40	18.11	46.05	62.43	74.00	11.57
10 600.00	38.86	Average	V	39.40	18.11	46.05	50.32	54.00	3.68
High Channel									
10 640.00	51.23	Peak	H	39.40	18.11	46.05	62.69	74.00	11.31
10 640.00	39.10	Average	H	39.40	18.11	46.05	50.56	54.00	3.44
10 640.00	51.15	Peak	V	39.40	18.11	46.05	62.61	74.00	11.39
10 640.00	39.02	Average	V	39.40	18.11	46.05	50.48	54.00	3.52

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.2.3 Test data for 802.11n_HT40 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 540.00	51.06	Peak	H	39.40	18.11	46.05	62.52	68.20	5.68
10 540.00	50.04	Peak	V	39.40	18.11	46.05	61.50	68.20	6.70
High Channel									
10 620.00	51.13	Peak	H	39.40	18.11	46.05	62.59	74.00	11.41
10 620.00	39.17	Average	H	39.40	18.11	46.05	50.63	54.00	3.37
10 620.00	51.04	Peak	V	39.40	18.11	46.05	62.50	74.00	11.50
10 620.00	39.10	Average	V	39.40	18.11	46.05	50.56	54.00	3.44

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.2.4 Test data for 802.11ac_HT80 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Middle Channel									
10 580.00	50.91	Peak	H	39.40	18.11	46.05	62.37	68.20	5.83
10 580.00	50.88	Peak	V	39.40	18.11	46.05	62.34	68.20	5.86

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

13.6.3 Test data for Frequency UNII 2C

13.6.3.1 Test data for 802.11a RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
11 000.00	49.40	Peak	H	39.00	17.88	46.50	59.78	74.00	14.22
11 000.00	38.30	Average	H	39.00	17.88	46.50	48.68	54.00	5.32
11 000.00	49.33	Peak	V	39.00	17.88	46.50	59.71	74.00	14.29
11 000.00	38.21	Average	V	39.00	17.88	46.50	48.59	54.00	5.41
Middle Channel									
11 160.00	49.39	Peak	H	39.00	17.91	46.50	59.80	74.00	14.20
11 160.00	38.21	Average	H	39.00	17.91	46.50	48.62	54.00	5.38
11 160.00	49.31	Peak	V	39.00	17.91	46.50	59.72	74.00	14.28
11 160.00	38.18	Average	V	39.00	17.91	46.50	48.59	54.00	5.41
High Channel									
11 400.00	49.26	Peak	H	39.00	18.08	46.50	59.84	74.00	14.16
11 400.00	38.02	Average	H	39.00	18.08	46.50	48.60	54.00	5.40
11 400.00	49.30	Peak	V	39.00	18.08	46.50	59.88	74.00	14.12
11 400.00	38.13	Average	V	39.00	18.08	46.50	48.71	54.00	5.29

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

13.6.3.2 Test data for 802.11n_HT20 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 000.00	49.56	Peak	H	39.00	17.88	46.50	59.94	74.00	14.06
11 000.00	38.23	Average	H	39.00	17.88	46.50	48.61	54.00	5.39
11 000.00	49.44	Peak	V	39.00	17.88	46.50	59.82	74.00	14.18
11 000.00	38.20	Average	V	39.00	17.88	46.50	48.58	54.00	5.42
Middle Channel									
11 160.00	49.75	Peak	H	39.00	17.91	46.50	60.16	74.00	13.84
11 160.00	38.16	Average	H	39.00	17.91	46.50	48.57	54.00	5.43
11 160.00	49.66	Peak	V	39.00	17.91	46.50	60.07	74.00	13.93
11 160.00	38.14	Average	V	39.00	17.91	46.50	48.55	54.00	5.45
High Channel									
11 400.00	49.50	Peak	H	39.00	18.08	46.50	60.08	74.00	13.92
11 400.00	38.25	Average	H	39.00	18.08	46.50	48.83	54.00	5.17
11 400.00	49.39	Peak	V	39.00	18.08	46.50	59.97	74.00	14.03
11 400.00	38.10	Average	V	39.00	18.08	46.50	48.68	54.00	5.32

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.3.3 Test data for 802.11n_HT40 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 020.00	49.49	Peak	H	39.00	17.88	46.50	59.87	74.00	14.13
11 020.00	38.40	Average	H	39.00	17.88	46.50	48.78	54.00	5.22
11 020.00	49.32	Peak	V	39.00	17.88	46.50	59.70	74.00	14.30
11 020.00	38.29	Average	V	39.00	17.88	46.50	48.67	54.00	5.33
Middle Channel									
11 100.00	49.47	Peak	H	39.00	17.91	46.50	59.88	74.00	14.12
11 100.00	38.38	Average	H	39.00	17.91	46.50	48.79	54.00	5.21
11 100.00	49.40	Peak	V	39.00	17.91	46.50	59.81	74.00	14.19
11 100.00	38.26	Average	V	39.00	17.91	46.50	48.67	54.00	5.33
High Channel									
11 340.00	49.35	Peak	H	39.00	18.08	46.50	59.93	74.00	14.07
11 340.00	38.16	Average	H	39.00	18.08	46.50	48.74	54.00	5.26
11 340.00	49.26	Peak	V	39.00	18.08	46.50	59.84	74.00	14.16
11 340.00	38.14	Average	V	39.00	18.08	46.50	48.72	54.00	5.28

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.3.4 Test data for 802.11ac_HT80 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Middle Channel									
11 060.00	49.26	Peak	H	39.00	17.91	46.50	59.67	68.20	8.53
11 060.00	49.19	Peak	V	39.00	17.91	46.50	59.60	68.20	8.60

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.4 Test data for Frequency UNII 3

13.6.4.1 Test data for 802.11a RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 490.00	49.51	Peak	H	39.30	18.65	46.35	61.11	74.00	12.89
11 490.00	38.56	Average	H	39.30	18.65	46.35	50.16	54.00	3.84
11 490.00	49.43	Peak	V	39.30	18.65	46.35	61.03	74.00	12.97
11 490.00	38.49	Average	V	39.30	18.65	46.35	50.09	54.00	3.91
Middle Channel									
11 570.00	49.40	Peak	H	39.40	18.67	46.35	61.12	74.00	12.88
11 570.00	38.63	Average	H	39.40	18.67	46.35	50.35	54.00	3.65
11 570.00	49.35	Peak	V	39.40	18.67	46.35	61.07	74.00	12.93
11 570.00	38.60	Average	V	39.40	18.67	46.35	50.32	54.00	3.68
High Channel									
11 650.00	49.44	Peak	H	39.70	18.71	46.35	61.50	74.00	12.50
11 650.00	38.60	Average	H	39.70	18.71	46.35	50.66	54.00	3.34
11 650.00	49.39	Peak	V	39.70	18.71	46.35	61.45	74.00	12.55
11 650.00	38.55	Average	V	39.70	18.71	46.35	50.61	54.00	3.39

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.4.2 Test data for 802.11n_HT20 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
11 490.00	49.63	Peak	H	39.30	18.65	46.35	61.23	74.00	12.77
11 490.00	38.49	Average	H	39.30	18.65	46.35	50.09	54.00	3.91
11 490.00	49.50	Peak	V	39.30	18.65	46.35	61.10	74.00	12.90
11 490.00	38.44	Average	V	39.30	18.65	46.35	50.04	54.00	3.96
Middle Channel									
11 570.00	49.56	Peak	H	39.40	18.67	46.35	61.28	74.00	12.72
11 570.00	38.70	Average	H	39.40	18.67	46.35	50.42	54.00	3.58
11 570.00	49.44	Peak	V	39.40	18.67	46.35	61.16	74.00	12.84
11 570.00	38.61	Average	V	39.40	18.67	46.35	50.33	54.00	3.67
High Channel									
11 650.00	49.70	Peak	H	39.70	18.71	46.35	61.76	74.00	12.24
11 650.00	38.75	Average	H	39.70	18.71	46.35	50.81	54.00	3.19
11 650.00	49.62	Peak	V	39.70	18.71	46.35	61.68	74.00	12.32
11 650.00	38.64	Average	V	39.70	18.71	46.35	50.70	54.00	3.30

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.4.3 Test data for 802.11n_HT40 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 510.00	49.43	Peak	H	39.30	18.65	46.35	61.03	74.00	12.97
11 510.00	38.56	Average	H	39.30	18.65	46.35	50.16	54.00	3.84
11 510.00	49.40	Peak	V	39.30	18.65	46.35	61.00	74.00	13.00
11 510.00	38.44	Average	V	39.30	18.65	46.35	50.04	54.00	3.96
High Channel									
11 590.00	49.50	Peak	H	39.40	18.67	46.35	61.22	74.00	12.78
11 590.00	38.51	Average	H	39.40	18.67	46.35	50.23	54.00	3.77
11 590.00	49.46	Peak	V	39.40	18.67	46.35	61.18	74.00	12.82
11 590.00	38.50	Average	V	39.40	18.67	46.35	50.22	54.00	3.78

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

13.6.4.4 Test data for 802.11ac_HT80 RLAN Mode

13.6.4.4.1 Test data for Multiple Transmit

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Middle Channel									
11 550.00	49.50	Peak	H	39.40	18.67	46.35	61.22	68.20	6.98
11 550.00	49.39	Peak	V	39.40	18.67	46.35	61.11	68.20	7.09

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

14. RADIATED RESTRICTED BAND EDGE MEASUREMENTS

14.1 Operating environment

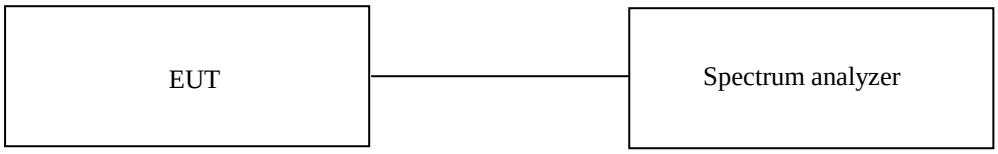
Temperature : 23 °C

Relative humidity : 45 % R.H.

14.2 Test set-up for conducted measurement

The radiated emissions measurements were performed on the 3 m, open-field test site. The EUT was placed on a non-conductive turntable above the ground plane.

The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.



14.3 Test Date

March 12, 2021 ~ March 22, 2021

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

14.4 Test data for Frequency UNII I

14.4.1 Test data for 802.11a RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 143.010	53.40	Peak	H	34.20	12.50	46.30	53.80	74.00	20.20
5 147.900	41.57	Average	H	34.20	12.50	46.30	41.97	54.00	12.03
5 143.710	52.15	Peak	V	34.20	12.50	46.30	52.55	74.00	21.45
5 150.000	41.20	Average	V	34.20	12.50	46.30	41.60	54.00	12.40

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

14.4.2 Test data for 802.11n_HT20 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 146.500	53.44	Peak	H	34.20	12.50	46.30	53.84	74.00	20.16
5 147.200	41.80	Average	H	34.20	12.50	46.30	42.20	54.00	11.80
5 065.380	52.42	Peak	V	34.20	12.50	46.30	52.82	74.00	21.18
5 146.500	41.76	Average	V	34.20	12.50	46.30	42.16	54.00	11.84

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

14.4.3 Test data for 802.11n_HT40 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 149.030	60.85	Peak	H	34.20	12.50	46.30	61.25	74.00	12.75
5 149.030	46.24	Average	H	34.20	12.50	46.30	46.64	54.00	7.36
5 149.300	58.68	Peak	V	34.20	12.50	46.30	59.08	74.00	14.92
5 150.000	45.59	Average	V	34.20	12.50	46.30	45.99	54.00	8.01

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

14.4.4 Test data for 802.11ac_HT80 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 150.000	63.02	Peak	H	34.20	12.50	46.30	63.42	74.00	10.58
5 148.600	49.51	Average	H	34.20	12.50	46.30	49.91	54.00	4.09
5 150.000	62.15	Peak	V	34.20	12.50	46.30	62.55	74.00	11.45
5 147.900	48.01	Average	V	34.20	12.50	46.30	48.41	54.00	5.59

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

14.5 Test data for Frequency UNII 2A

14.5.1 Test data for 802.11a RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 354.760	55.68	Peak	H	34.10	13.31	46.28	56.81	74.00	17.19
5 350.560	43.86	Average	H	34.10	13.31	46.28	44.99	54.00	9.01
5 360.350	54.79	Peak	V	34.10	13.31	46.28	55.92	74.00	18.08
5 350.700	43.60	Average	V	34.10	13.31	46.28	44.73	54.00	9.27

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

14.5.2 Test data for 802.11n_HT20 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 350.560	54.37	Peak	H	34.10	13.31	46.28	55.50	74.00	18.50
5 350.980	43.37	Average	H	34.10	13.31	46.28	44.50	54.00	9.50
5 351.120	54.23	Peak	V	34.10	13.31	46.28	55.36	74.00	18.64
5 351.260	43.21	Average	V	34.10	13.31	46.28	44.34	54.00	9.66

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

14.5.3 Test data for 802.11n_HT40 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 350.420	62.43	Peak	H	34.10	13.31	46.28	63.56	74.00	10.44
5 350.000	46.87	Average	H	34.10	13.31	46.28	48.00	54.00	6.00
5 351.120	58.89	Peak	V	34.10	13.31	46.28	60.02	74.00	13.98
5 350.000	45.07	Average	V	34.10	13.31	46.28	46.20	54.00	7.80

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

14.5.4 Test data for 802.11ac_HT80 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 352.380	65.71	Peak	H	34.10	13.31	46.28	66.84	74.00	7.16
5 351.400	49.89	Average	H	34.10	13.31	46.28	51.02	54.00	2.98
5 352.240	64.48	Peak	V	34.10	13.31	46.28	65.61	74.00	8.39
5 350.280	49.87	Average	V	34.10	13.31	46.28	51.00	54.00	3.00

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

14.6 Test data for Frequency UNII 2C

14.6.1 Test data for 802.11a RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 450.620	54.60	Peak	H	34.10	13.31	46.28	55.73	74.00	18.27
5 460.000	42.22	Average	H	34.10	13.31	46.28	43.35	54.00	10.65
5 455.920	55.05	Peak	V	34.10	13.31	46.28	56.18	74.00	17.82
5 457.150	43.33	Average	V	34.10	13.31	46.28	44.46	54.00	9.54

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

14.6.2 Test data for 802.11n_HT20 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 457.670	53.12	Peak	H	34.10	13.31	46.28	54.25	74.00	19.75
5 447.260	42.09	Average	H	34.10	13.31	46.28	43.22	54.00	10.78
5 449.030	54.17	Peak	V	34.10	13.31	46.28	55.30	74.00	18.70
5 458.950	43.06	Average	V	34.10	13.31	46.28	44.19	54.00	9.81

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

14.6.3 Test data for 802.11n_HT40 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 448.980	53.60	Peak	H	34.10	13.31	46.28	54.73	74.00	19.27
5 460.000	41.40	Average	H	34.10	13.31	46.28	42.53	54.00	11.47
5 459.850	53.96	Peak	V	34.10	13.31	46.28	55.09	74.00	18.91
5 460.000	42.93	Average	V	34.10	13.31	46.28	44.06	54.00	9.94

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

14.6.4 Test data for 802.11ac_HT80 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 452.270	63.83	Peak	H	34.10	13.31	46.28	64.96	74.00	9.04
5 459.470	48.37	Average	H	34.10	13.31	46.28	49.50	54.00	4.50
5 453.710	62.71	Peak	V	34.10	13.31	46.28	63.84	74.00	10.16
5 459.550	49.36	Average	V	34.10	13.31	46.28	50.49	54.00	3.51

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

14.7 Test data for Frequency U-NII-3

14.7.1 Test data for 802.11a RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 678.450	50.92	Peak	H	34.10	15.39	46.25	54.16	89.25	35.09
5 718.050	51.70	Peak	H	34.10	15.39	46.25	54.94	110.25	55.31
5 723.730	54.20	Peak	H	34.10	15.39	46.25	57.44	119.30	61.86
5 854.600	50.66	Peak	H	34.40	15.55	46.23	54.38	111.71	57.33
5 871.630	50.28	Peak	H	34.40	15.55	46.23	54.00	106.14	52.14
5 875.020	50.61	Peak	H	34.40	15.55	46.23	54.33	105.19	50.86
5 686.390	51.21	Peak	V	34.10	15.39	46.25	54.45	95.13	40.68
5 716.350	51.35	Peak	V	34.10	15.39	46.25	54.59	109.78	55.19
5 723.350	52.07	Peak	V	34.10	15.39	46.25	55.31	118.44	63.13
5 853.860	50.78	Peak	V	34.40	15.55	46.23	54.50	113.40	58.90
5 871.630	50.44	Peak	V	34.40	15.55	46.23	54.16	106.14	51.98
5 879.020	50.31	Peak	V	34.40	15.55	46.23	54.03	102.23	48.20

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
High Channel									
5 691.780	50.86	Peak	H	34.10	15.39	46.25	54.10	99.12	45.02
5 712.080	50.90	Peak	H	34.10	15.39	46.25	54.14	108.58	54.44
5 721.670	51.37	Peak	H	34.10	15.39	46.25	54.61	114.61	60.00
5 851.540	51.98	Peak	H	34.40	15.55	46.23	55.70	118.69	62.99
5 858.990	50.73	Peak	H	34.40	15.55	46.23	54.45	109.68	55.23
5 883.420	50.76	Peak	H	34.40	15.55	46.23	54.48	98.97	44.49
5 698.330	51.51	Peak	V	34.10	15.39	46.25	54.75	103.96	49.21
5 715.270	50.64	Peak	V	34.10	15.39	46.25	53.88	109.48	55.60
5 722.110	50.51	Peak	V	34.10	15.39	46.25	53.75	115.61	61.86
5 850.290	51.74	Peak	V	34.40	15.55	46.23	55.46	121.54	66.08
5 859.250	50.41	Peak	V	34.40	15.55	46.23	54.13	109.61	55.48
5 922.530	50.07	Peak	V	34.40	15.55	46.23	53.79	70.03	16.24

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

14.7.2 Test data for 802.11n_HT20 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 686.790	51.95	Peak	H	34.10	15.39	46.25	55.19	95.42	40.23
5 714.640	51.62	Peak	H	34.10	15.39	46.25	54.86	109.30	54.44
5 723.650	61.29	Peak	H	34.10	15.39	46.25	64.53	119.12	54.59
5 854.160	50.18	Peak	H	34.40	15.55	46.23	53.90	112.72	58.82
5 858.570	50.42	Peak	H	34.40	15.55	46.23	54.14	109.80	55.66
5 917.530	50.86	Peak	H	34.40	15.55	46.23	54.58	73.73	19.15
5 659.120	50.64	Peak	V	34.10	15.39	46.25	53.88	74.95	21.07
5 717.030	50.47	Peak	V	34.10	15.39	46.25	53.71	109.97	56.26
5 724.720	54.68	Peak	V	34.10	15.39	46.25	57.92	121.56	63.64
5 850.250	50.31	Peak	V	34.40	15.55	46.23	54.03	121.63	67.60
5 870.550	50.18	Peak	V	34.40	15.55	46.23	53.90	106.45	52.55
5 916.980	50.20	Peak	V	34.40	15.55	46.23	53.92	74.13	20.21

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
High Channel									
5 674.750	50.54	Peak	H	34.10	15.39	46.25	53.78	86.52	32.74
5 711.800	50.85	Peak	H	34.10	15.39	46.25	54.09	108.50	54.41
5 722.610	51.01	Peak	H	34.10	15.39	46.25	54.25	116.75	62.50
5 850.520	51.09	Peak	H	34.40	15.55	46.23	54.81	121.01	66.20
5 859.070	51.20	Peak	H	34.40	15.55	46.23	54.92	109.66	54.74
5 906.540	51.40	Peak	H	34.40	15.55	46.23	55.12	81.86	26.74
5 676.400	50.29	Peak	V	34.10	15.39	46.25	53.53	87.74	34.21
5 719.910	50.36	Peak	V	34.10	15.39	46.25	53.60	110.77	57.17
5 720.630	50.66	Peak	V	34.10	15.39	46.25	53.90	112.24	58.34
5 854.050	51.18	Peak	V	34.40	15.55	46.23	54.90	112.97	58.07
5 869.100	50.73	Peak	V	34.40	15.55	46.23	54.45	106.85	52.40
5 914.990	50.20	Peak	V	34.40	15.55	46.23	53.92	75.61	21.69

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

14.7.3 Test data for 802.11n_HT40 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 692.080	50.51	Peak	H	34.10	15.39	46.25	53.75	99.34	45.59
5 718.530	60.65	Peak	H	34.10	15.39	46.25	63.89	110.39	46.50
5 724.240	64.53	Peak	H	34.10	15.39	46.25	67.77	120.47	52.70
5 853.240	50.32	Peak	H	34.40	15.55	46.23	54.04	114.81	60.77
5 872.920	50.45	Peak	H	34.40	15.55	46.23	54.17	105.78	51.61
5 904.100	50.42	Peak	H	34.40	15.55	46.23	54.14	83.67	29.53
5 682.340	50.91	Peak	V	34.10	15.39	46.25	54.15	92.13	37.98
5 718.290	53.14	Peak	V	34.10	15.39	46.25	56.38	110.32	53.94
5 723.060	56.69	Peak	V	34.10	15.39	46.25	59.93	117.78	57.85
5 854.840	50.37	Peak	V	34.40	15.55	46.23	54.09	111.16	57.07
5 856.790	50.20	Peak	V	34.40	15.55	46.23	53.92	110.30	56.38
5 880.870	50.13	Peak	V	34.40	15.55	46.23	53.85	100.86	47.01

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
High Channel									
5 680.190	51.10	Peak	H	34.10	15.39	46.25	54.34	90.54	36.20
5 717.210	50.83	Peak	H	34.10	15.39	46.25	54.07	110.02	55.95
5 723.600	51.58	Peak	H	34.10	15.39	46.25	54.82	119.01	64.19
5 850.740	50.36	Peak	H	34.40	15.55	46.23	54.08	120.51	66.43
5 867.760	50.79	Peak	H	34.40	15.55	46.23	54.51	107.23	52.72
5 904.850	49.87	Peak	H	34.40	15.55	46.23	53.59	83.11	29.52
5 659.170	50.28	Peak	V	34.10	15.39	46.25	53.52	74.99	21.47
5 705.860	50.12	Peak	V	34.10	15.39	46.25	53.36	106.84	53.48
5 720.230	50.79	Peak	V	34.10	15.39	46.25	54.03	111.32	57.29
5 850.640	50.46	Peak	V	34.40	15.55	46.23	54.18	120.74	66.56
5 855.570	51.00	Peak	V	34.40	15.55	46.23	54.72	110.64	55.92
5 885.410	49.91	Peak	V	34.40	15.55	46.23	53.63	97.50	43.87

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

14.7.4 Test data for 802.11ac_HT80 RLAN Mode

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP FACTOR	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Middle Channel									
5 693.130	55.65	Peak	H	34.10	15.39	46.25	58.89	100.12	41.23
5 711.460	61.69	Peak	H	34.10	15.39	46.25	64.93	108.41	43.48
5 724.940	62.32	Peak	H	34.10	15.39	46.25	65.56	122.06	56.50
5 852.160	57.36	Peak	H	34.40	15.55	46.23	61.08	117.28	56.20
5 858.530	53.01	Peak	H	34.40	15.55	46.23	56.73	109.81	53.08
5 917.930	50.44	Peak	H	34.40	15.55	46.23	54.16	73.43	19.27
5 685.740	51.53	Peak	V	34.10	15.39	46.25	54.77	94.65	39.88
5 718.870	56.60	Peak	V	34.10	15.39	46.25	59.84	110.48	50.64
5 722.110	56.98	Peak	V	34.10	15.39	46.25	60.22	115.61	55.39
5 853.540	52.32	Peak	V	34.40	15.55	46.23	56.04	114.13	58.09
5 857.590	51.34	Peak	V	34.40	15.55	46.23	55.06	110.07	55.01
5 886.960	51.09	Peak	V	34.40	15.55	46.23	54.81	96.35	41.54

Tabulated test data for Restricted Band

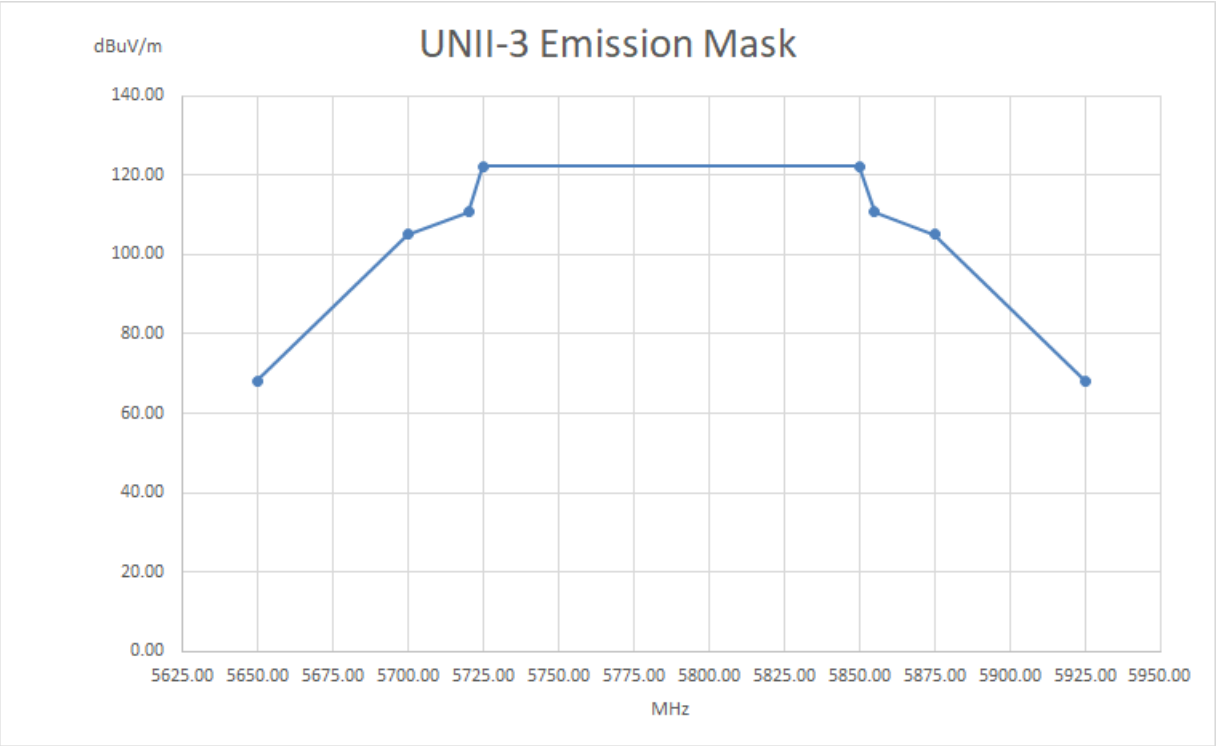
Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

14.7.5 U-NII-3 Emission Limits

14.7.5.1 Emission Mask Plots



Remark.

-. Title 47 → Part 15 → Subpart E—UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE DEVICES

§ 15.407 General technical requirements.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) 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 the band edge.

15. CONDUCTED EMISSION TEST

15.1 Operating environment

Temperature : 23 °C

Relative humidity : 45 % R.H.

15.2 Test set-up

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μH + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

15.3 Test Date

March 12, 2021 ~ March 22, 2021

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

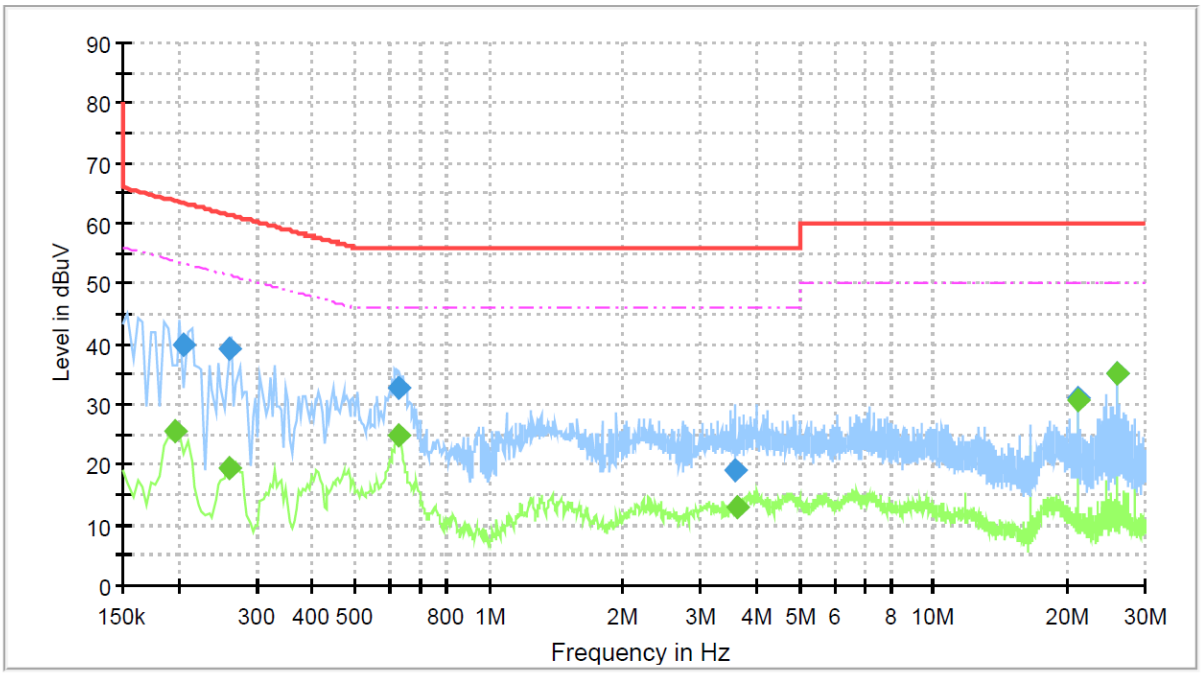
15.4 Test data for WLAN 5 GHz

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : LIVE LINE

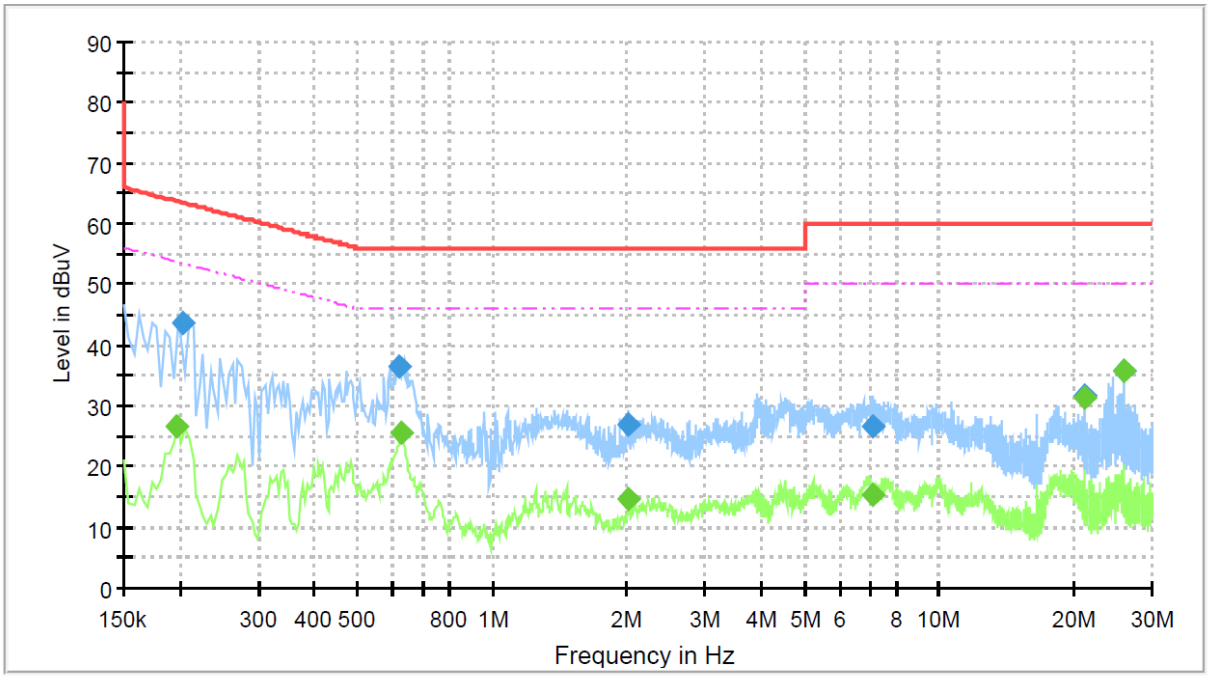
-. Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.198	---	25.65	53.72	28.07	3000.0	9.0	L1	9.93
0.206	39.72	---	63.39	23.66	3000.0	9.0	L1	9.93
0.262	---	19.58	51.38	31.80	3000.0	9.0	L1	9.93
0.262	39.17	---	61.38	22.22	3000.0	9.0	L1	9.93
0.624	32.82	---	56.00	23.18	3000.0	9.0	L1	9.94
0.628	---	24.88	46.00	21.12	3000.0	9.0	L1	9.94
3.578	19.15	---	56.00	36.85	3000.0	9.0	L1	10.04
3.606	---	12.86	46.00	33.14	3000.0	9.0	L1	10.04
21.166	31.01	---	60.00	28.99	3000.0	9.0	L1	10.61
21.166	---	30.83	50.00	19.17	3000.0	9.0	L1	10.61
25.871	---	35.09	50.00	14.91	3000.0	9.0	L1	10.68
25.871	35.25	---	60.00	24.75	3000.0	9.0	L1	10.68

-. Tested Line : NEUTRAL LINE



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.198	---	26.47	53.72	27.24	3000.0	9.0	N	9.94
0.203	43.62	---	63.51	19.89	3000.0	9.0	N	9.94
0.616	36.39	---	56.00	19.61	3000.0	9.0	N	9.95
0.628	---	25.73	46.00	20.27	3000.0	9.0	N	9.95
2.018	---	14.67	46.00	31.33	3000.0	9.0	N	10.03
2.022	26.89	---	56.00	29.11	3000.0	9.0	N	10.03
7.083	---	15.50	50.00	34.50	3000.0	9.0	N	10.21
7.131	26.43	---	60.00	33.57	3000.0	9.0	N	10.21
21.166	31.66	---	60.00	28.34	3000.0	9.0	N	10.73
21.166	---	31.53	50.00	18.47	3000.0	9.0	N	10.73
25.871	---	35.63	50.00	14.37	3000.0	9.0	N	10.76
25.871	35.82	---	60.00	24.18	3000.0	9.0	N	10.76

Remark: Margin (dB) = Limit – Level (Result)

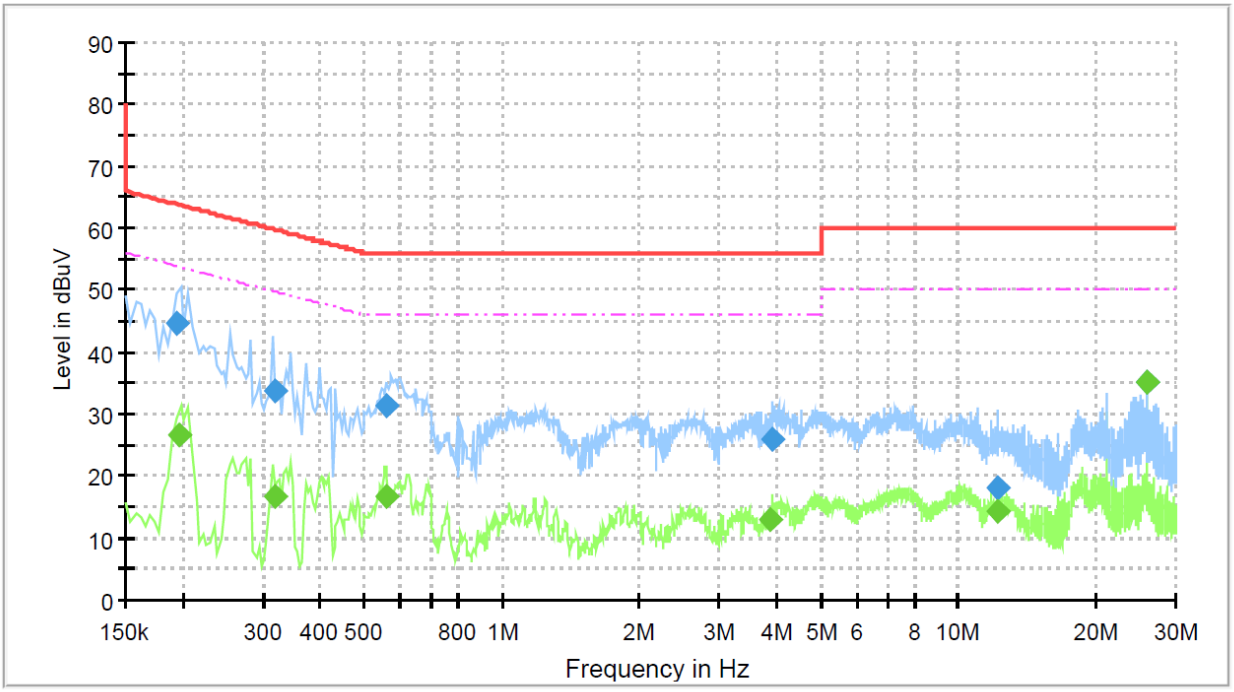
The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

15.5 Test data for Intermodulation Mode(WLAN 2.4 GHz + WLAN 5 GHz)

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : LIVE LINE

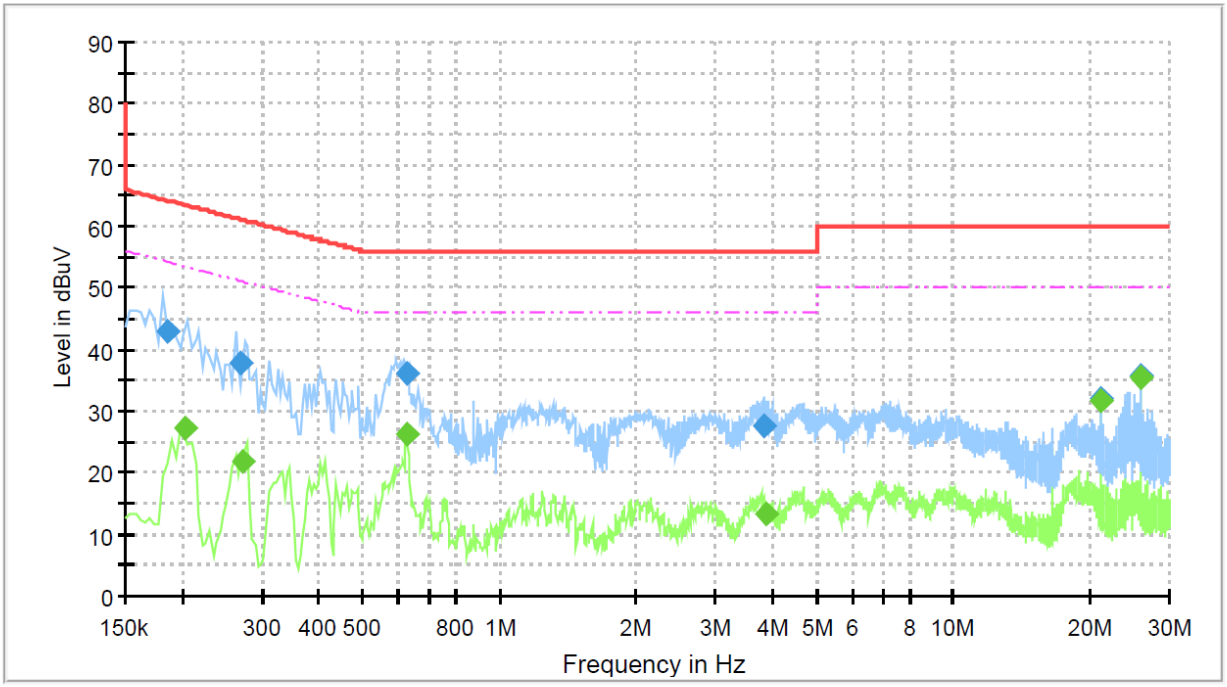


Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.194	44.67	---	63.89	19.21	3000.0	9.0	L1	9.93
0.198	---	26.68	53.72	27.03	3000.0	9.0	L1	9.93
0.319	---	16.66	49.75	33.09	3000.0	9.0	L1	9.93
0.319	33.77	---	59.75	25.98	3000.0	9.0	L1	9.93
0.556	31.21	---	56.00	24.79	3000.0	9.0	L1	9.93
0.556	---	16.60	46.00	29.40	3000.0	9.0	L1	9.93
3.883	---	12.86	46.00	33.14	3000.0	9.0	L1	10.05
3.911	26.07	---	56.00	29.93	3000.0	9.0	L1	10.05
12.153	---	14.31	50.00	35.69	3000.0	9.0	L1	10.39
12.217	18.10	---	60.00	41.90	3000.0	9.0	L1	10.39
25.871	---	35.04	50.00	14.96	3000.0	9.0	L1	10.68
25.871	35.21	---	60.00	24.79	3000.0	9.0	L1	10.68

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

-. Tested Line : NEUTRAL LINE



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.187	42.97	---	64.19	21.22	3000.0	9.0	N	9.94
0.203	---	27.10	53.51	26.40	3000.0	9.0	N	9.94
0.269	37.86	---	61.13	23.27	3000.0	9.0	N	9.94
0.274	---	21.70	51.01	29.31	3000.0	9.0	N	9.94
0.624	---	26.08	46.00	19.92	3000.0	9.0	N	9.95
0.624	36.27	---	56.00	19.73	3000.0	9.0	N	9.95
3.848	27.63	---	56.00	28.37	3000.0	9.0	N	10.07
3.876	---	13.35	46.00	32.65	3000.0	9.0	N	10.07
21.166	31.96	---	60.00	28.04	3000.0	9.0	N	10.73
21.166	---	31.55	50.00	18.45	3000.0	9.0	N	10.73
25.871	---	35.59	50.00	14.41	3000.0	9.0	N	10.76
25.871	35.81	---	60.00	24.19	3000.0	9.0	N	10.76

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

16. DYNAMIC FREQUENCY SELECTION (DFS)

16.1 Operating environment

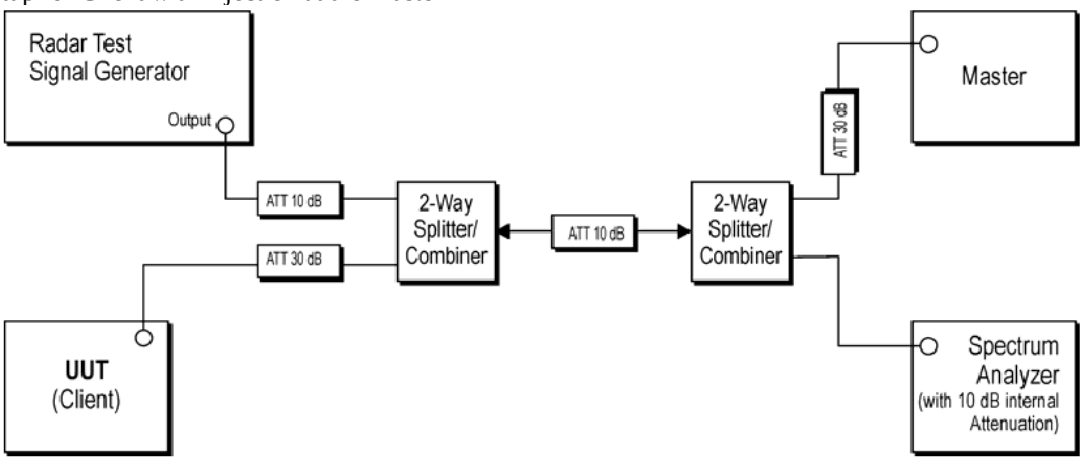
Temperature : 23 °C

Relative humidity : 45 % R.H.

16.2 Test set-ups

The FCC 06-96 and RSS-210 A9.3 describes a conducted test setup. A conducted test setup was user this testing. Figure 1 shows the typical test setup. Each one channel selected between 5 250 MHz and 5 350 MHz, 5 470 MHz and 5 725 MHz is chosen for the testing.

Figure 1. Setup for Client with injection at the Master



The operational behavior and individual DFS requirements that are associated with these modes are as follows:

<Master Devices>

a) The Master Device will use DFS in order to detect Radar Waveforms with received signal strength above the DFS Detection Threshold in the 5 250 – 5 350 MHz and 5 470 – 5 725 MHz bands. DFS is not required in the 5 150 – 5 250 MHz or 5 725 – 5 825 MHz bands.

b) Before initiating a network on a Channel, the Master Device will perform a Channel Availability Check for a specified time duration (Channel Availability Check Time) to ensure that there is no radar system operating on the Channel, using DFS described under subsection a) above.

c) The Master Device initiates a U-NII network by transmitting control signals that will enable other U-NII devices to Associate with the Master Device.

d) During normal operation, the Master Device will monitor the Channel (In-Service Monitoring) to ensure that there is no radar system operating on the Channel, using DFS described under a).

e) If the Master Device has detected a Radar Waveform during In-Service Monitoring as described under d), the Operating Channel of the U-NII network is no longer an Available Channel. The Master Device will instruct all associated Client Device(s) to stop transmitting on this Channel within the Channel Move Time. The transmissions during the Channel Move Time will be limited to the Channel Closing Transmission Time.

f) Once the Master Device has detected a Radar Waveform it will not utilize the Channel for the duration of the Non-Occupancy Period. 3

g) If the Master Device delegates the In-Service Monitoring to a Client Device, then the combination will be tested to the requirements described under d) through f) above.

<Client Devices>

a) A Client Device will not transmit before having received appropriate control signals from a Master Device.

b) A Client Device will stop all its transmissions whenever instructed by a Master Device to which it is associated and will meet the Channel Move Time and Channel Closing Transmission Time requirements. The Client Device will not resume any transmissions until it has again received control signals from a Master Device.

c) If a Client Device is performing In-Service Monitoring and detects a Radar Waveform above the DFS Detection Threshold, it will inform the Master Device. This is equivalent to the Master Device detecting the Radar Waveform and d) through f) of section 5.1.1 apply.

d) Irrespective of Client Device or Master Device detection the Channel Move Time and Channel Closing Transmission Time requirements remain the same.

e) The client test frequency must be monitored to ensure no transmission of any type has occurred for 30 minutes. Note: If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear.

<Channel Connection Information>

a) Master Devices : RF-AX88U

b) Client(=EUT) Devices : WCT731

c) Connect to test channel : See next page for measurement data.

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

16.3 DFS Test Signals

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	Roundup $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{PRI_{\mu sec}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 µ sec, with a minimum increment of 1 µ sec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per *Burst*	Number of *Bursts*	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

16.4 Technical Requirement Specification

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client (without DFS)	Client (with DFS)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client (without DFS)	Client (with DFS)
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes

16.5 Test Date

March 12, 2021 ~ March 22, 2021

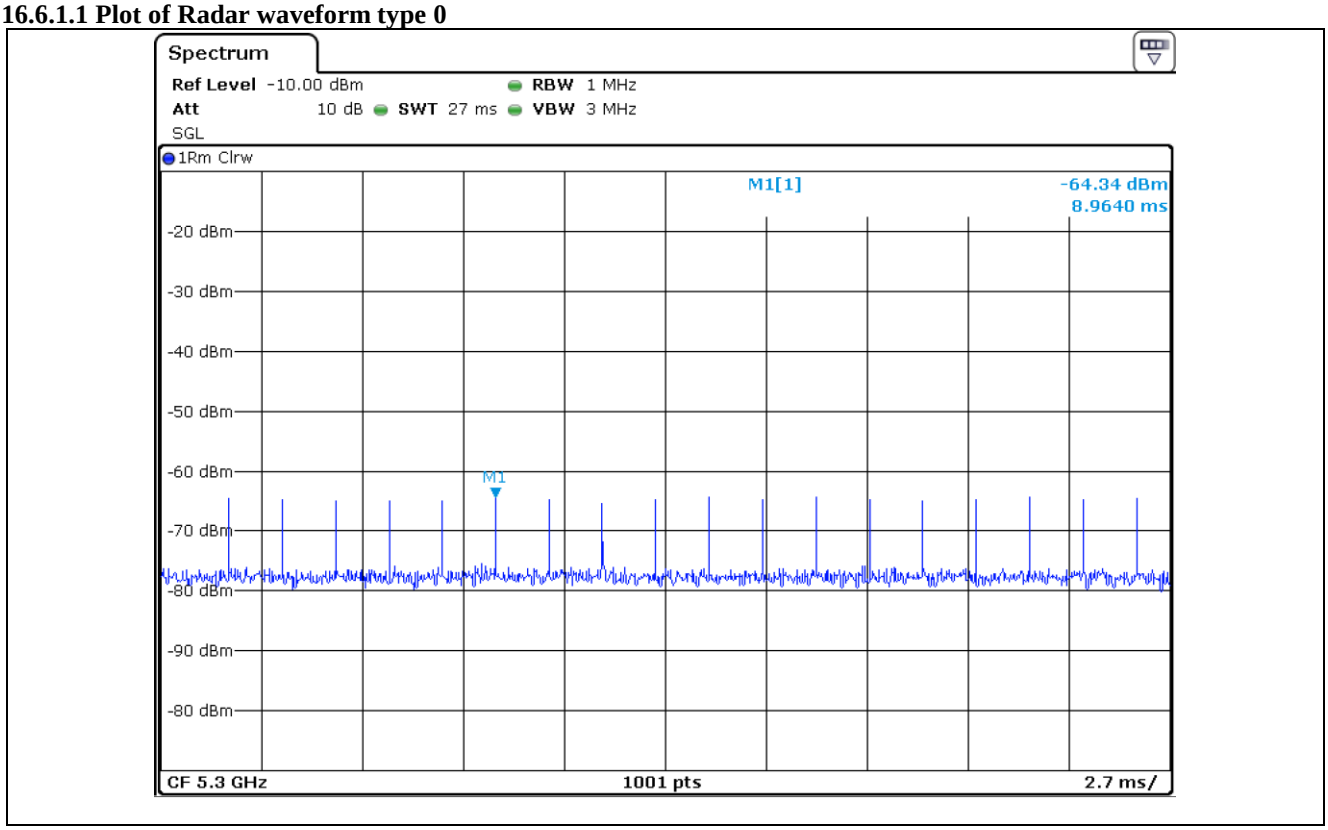
16.6 Test data

Band	Frequency (MHz)	Channel move time(s)		Channel closing transmission time(ms)	
		Measured	Limit	Measured	Limit
UNII 2A	5 320.00	0.90	10.00	3.20	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period.
UNII 2C	5 500.00	0.80		2.20	

Note. Channel closing transmission time: 16 * 0.2 ms = 3.20 ms, 11 * 0.2 ms = 2.20 ms

16.6.1 UNII 2A

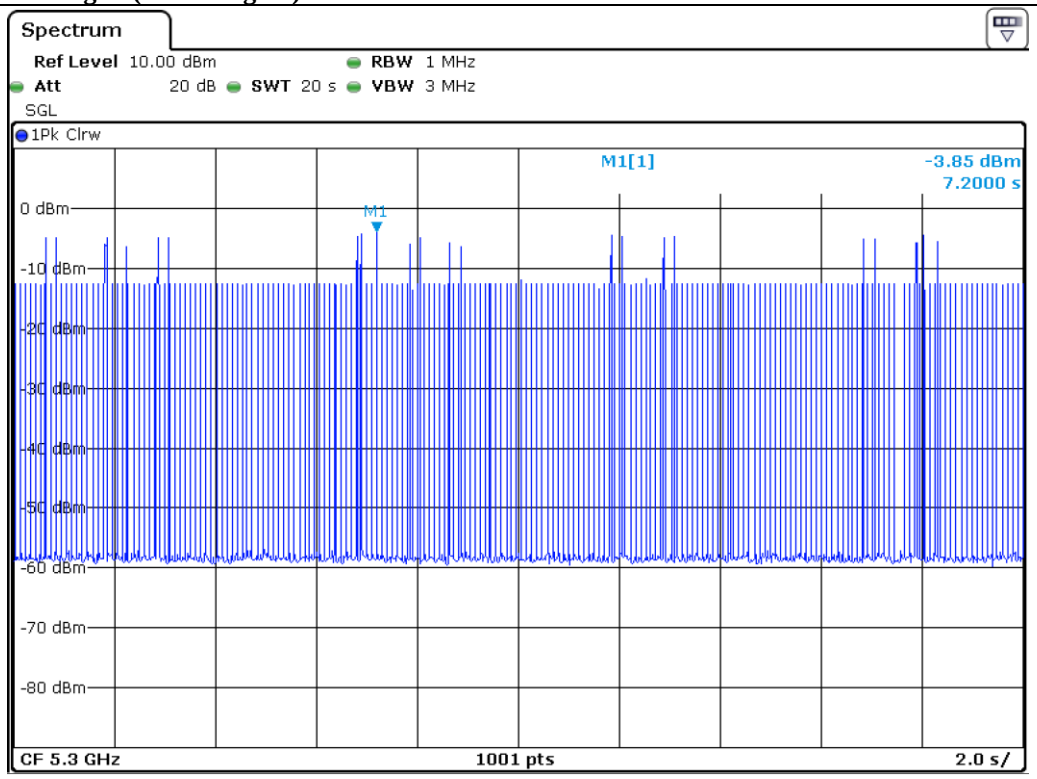
16.6.1.1 Plot of Radar waveform type 0



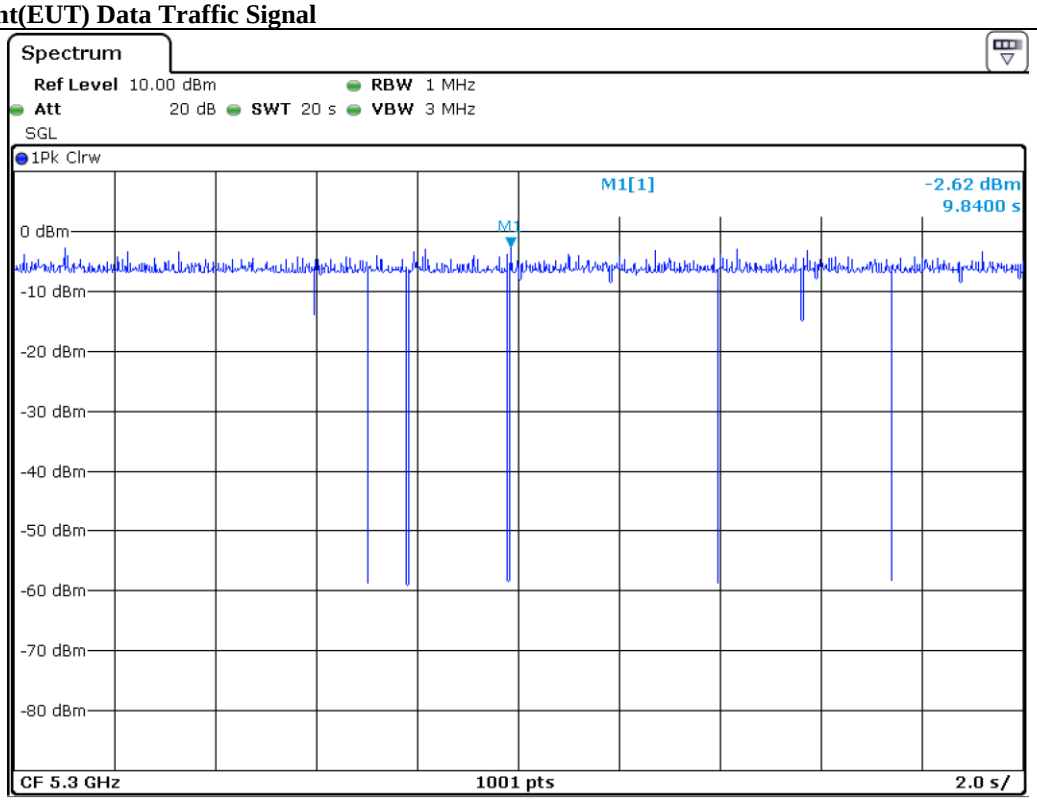
Note: The calibrated conducted DFS detection threshold level is set to -64.34 dBm (-62+1+0.50=-60.50 dBm)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

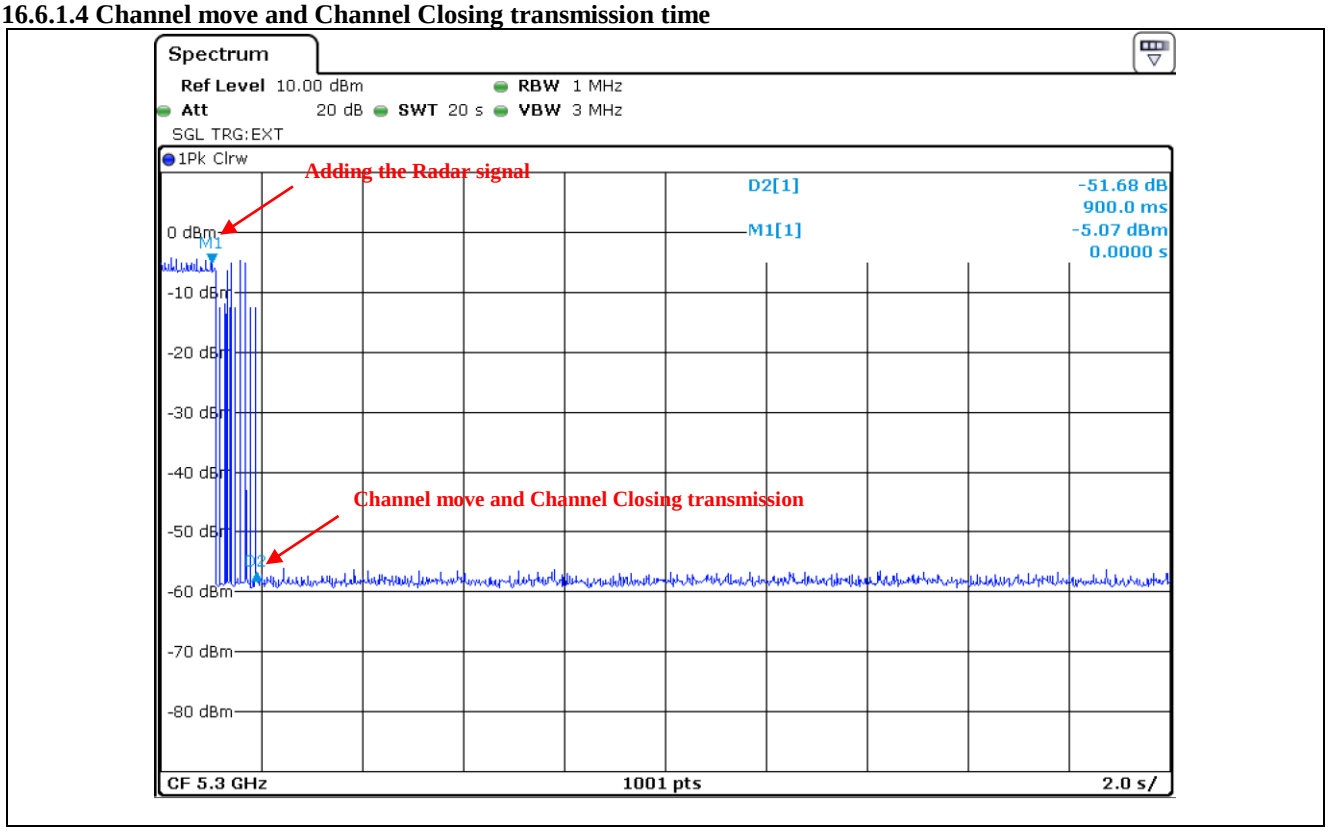
16.6.1.2 No traffic signal(master signal)



16.6.1.3 Client(EUT) Data Traffic Signal



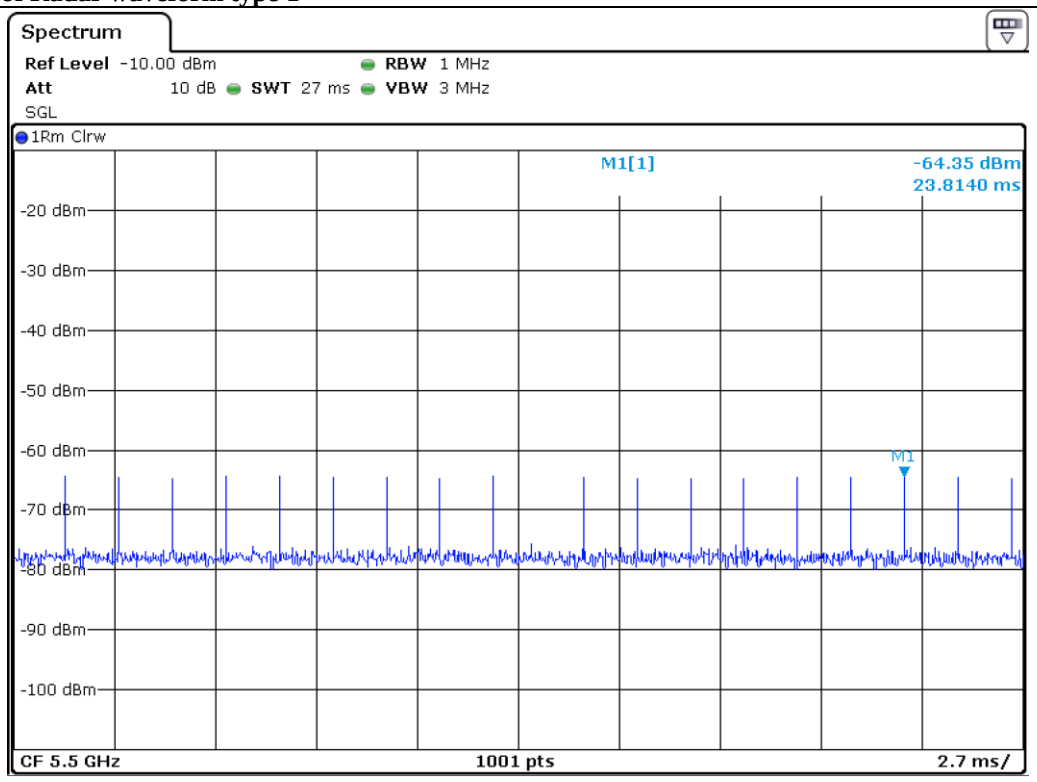
16.6.1.4 Channel move and Channel Closing transmission time



ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

16.6.2 UNII 3

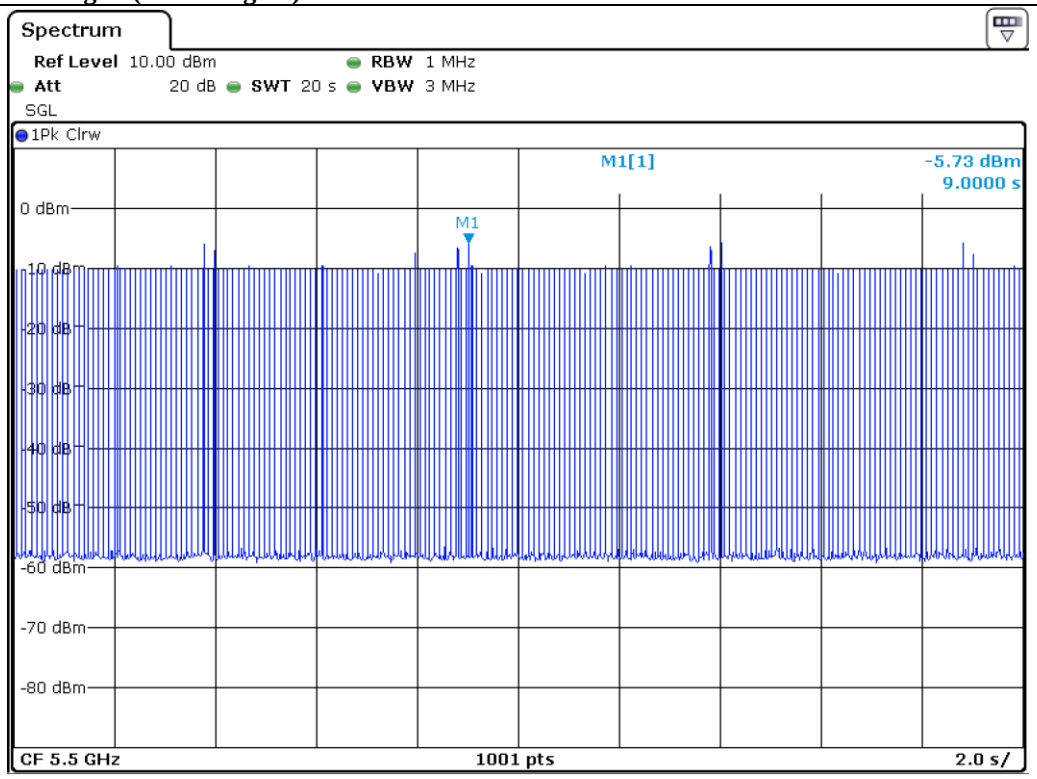
16.6.2.1 Plot of Radar waveform type 1



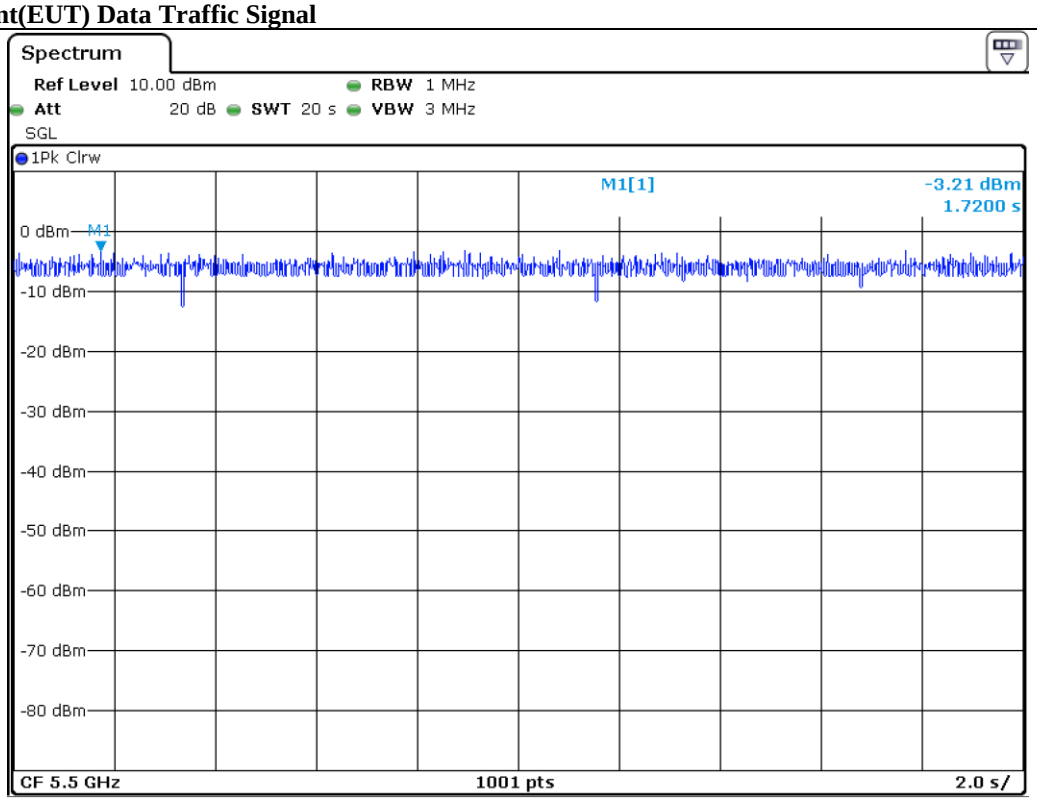
Note: The calibrated conducted DFS detection threshold level is set to -64.35 dBm (-62+1+0.10=-60.90 dBm)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

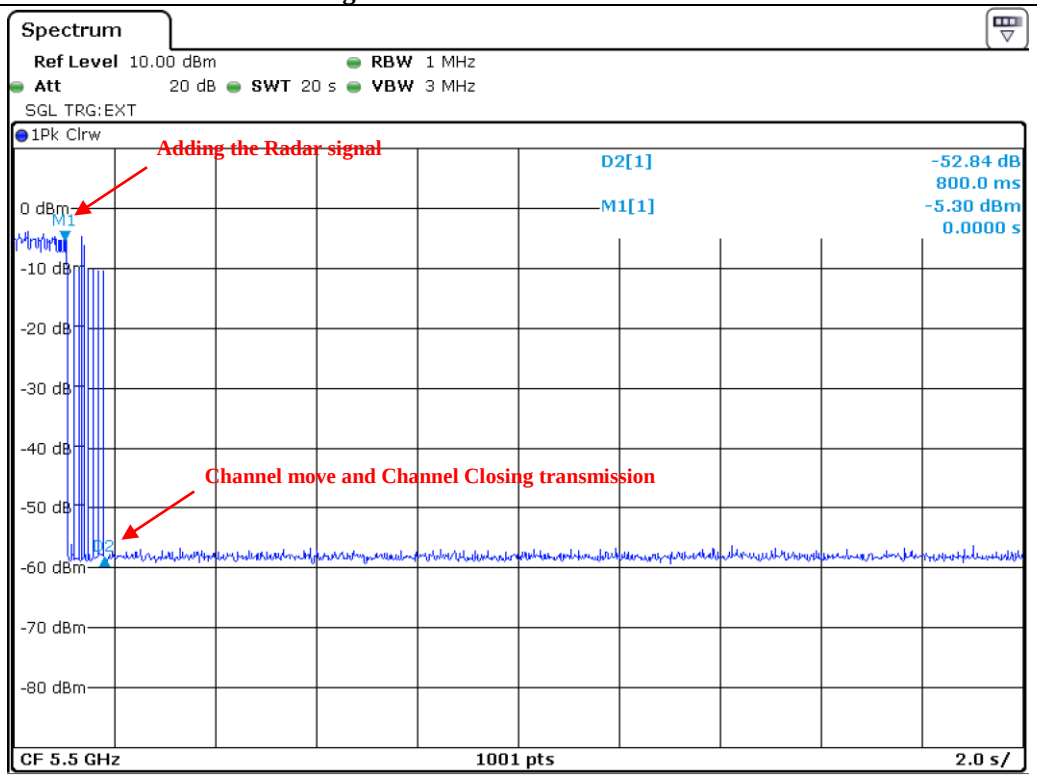
16.6.2.2 No traffic signal(master signal)



16.6.2.3 Client(EUT) Data Traffic Signal



16.6.2.4 Channel move and Channel Closing transmission time



17. LIST OF TEST EQUIPMENT

Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
FSV40-N	Rohde & Schwarz	Signal Analyzer	102177	Apr. 20, 2020 (1Y)
FSW43	Rohde & Schwarz	Signal Analyzer	104544	Jul. 15, 2020 (1Y)
ESW	Rohde & Schwarz	EMI Test Receiver	101851	Mar. 22, 2021 (1Y)
NRP-Z81	Rohde & Schwarz	Wide band Sensor	101975	Feb. 09, 2021 (1Y)
SSE-43CI-A	Samkun Tech	Humidity Chamber	60712	Feb. 09, 2021 (1Y)
E3632A	FinePower	DC Power supply	MY50370016	Feb. 08, 2021 (1Y)
310N	Sonoma Instrument	Pre-Amplifier	392756	Oct. 16, 2020 (1Y)
PAM-118A	Com-Power	Pre-Amplifier	18040081	Oct. 12, 2020 (1Y)
PAM-840A	Com-Power	Pre-Amplifier	461339	Oct. 16, 2020 (1Y)
DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
FMZB 1513	Schwarzbeck	Loop Antenna	1513-235	Mar. 24, 2020 (2Y)
HLP-2008	TDK	Hybrid Antenna	131316	Feb. 27, 2020 (2Y)
AH-118	Com-Power	Horn Antenna	10050061	Oct. 15, 2020 (1Y)
BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jan. 07, 2021(1Y)
ESR3	Rohde & Schwarz	EMI TEST RECEIVER	102602	Mar. 15, 2021 (1Y)
NSLK8126	Schwarzbeck	AMN	8126-404	Mar. 15, 2021 (1Y)
ESH3Z2	Rohde & Schwarz	PULSE LIMITER	357.8810.52	Mar. 15, 2021 (1Y)
D-05180-2	RLC Electronis Inc.	Combiner	0813	N/A
11636B	Hewlett Packard	Combiner	12268	N/A
SMBV100A	R/S	Signal Generator	260423	Feb. 09, 2021 (1Y)
RF-AX88U	ASUS	Dual Band Gigabit Router	NA	N/A

Note. Dual Band Gigabit Router(Model : RF-AX88U) Information.

; FCC ID : MSQ-RTAXHP00, IC ID : 3568A-RTAXHP00

Note. This Device not support TPC Function.

All test equipment used is calibrated on a regular basis.