RF TEST REPORT

Report Number		KIEL2504-YW03876		
Applicant	Company Name	SJIT Co.,Ltd		
	Address	54-11, Dongtanhana 1-gil, Hwaseong-si, Gyeonggo-do, Republic of Korea		
Product	Product Name	WIFI Halow Module		
	Model Name	WHM200A		
	FCC ID	2BEK7WHM200A		
	Manufacturer	SJIT Co.,Ltd		
Other	Receipt Date	2025.3.5	Receipt Number	RQW2503-0067
	Issued Date	2025.04.21	Tested Date	2025.04.07 ~ 2025.04.16
Standards		FCC Part 15 Subpart C ANSI C63.10-2020		
Tested by		Dominic Sim (Sign)		
Approved by		David Jang (Sign)		

KIEL Institute

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Revision History

Issued Date	Issued Report No.	Revisions
2025.04.21	KIEL2501-YW03876	Initial Issue

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1.0 Laboratory Information

Laboratory Name	KIEL Institute
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2.0 Applicant Information

Applicant Name	SJIT Co., Ltd.
Applicant Address	54-11, Dongtanhana 1-gil, Hwaseong-si, Gyeonggo-do, Republic of Korea
Manufacturer Name	SJIT Co., Ltd.
Manufacturer Address	54-11, Dongtanhana 1-gil, Hwaseong-si, Gyeonggo-do, Republic of Korea

3.0 Summary of Test Results

Applied standard: FCC part 15, subpart C 15.247

FCC Part Section(s)	Test Item	Reference	Result
15.205 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Section 6.2	P

(Note 1) P = Pass, NC = Not comply, NT = Not Tested, NA = Not Applicable
(Note 2) The general test methods used to test on this devices are ANSI C63.10.
(Note 3) Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
(Note 4) For emission test from 9 ㎑ to 30 ㎒,
Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

3.1 Meaurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2

Measurement Items	Frequency Range	Expanded Uncertainty U = kUc (*k* = 2)
Radiated Spurious Emissions	9 kHz – 30 MHz	3.96 dB
	30 MHz – 1 GHz	4.75 dB
	1 GHz – 18 GHz	3.14 dB
	18 GHz – 40 GHz	4.21 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k = 2.

4.0 General Information

4.1 EUT Description

Product name	WIFI Halow Module
Basic model	WHM200A
Power supply	DC 3.3 V
Modulation	OFDM
Transfer Rate	802.11ah : MCS10, MCS0~MCS7(1M), MCS0~MCS7(2M,4M)
Operating Frequency	802.11ah : 903.5 ~ 926.5 [MHz](1M), 905 ~ 925 [MHz](2M), 906 ~922[MHz](4M)
Number of channels	802.11ah : 24 Channels(1M), 11 Channels(2M), 5 Channels(4M)
Max Peak Output Power	802.11ah : 29.60 dBm
Antenna Type	ANT A & ANT B : Dipole
Antenna Connector	ANT A : Connector Type ANT B : Permanently Attached Type

(Note 1) The above equipment has been tested by KIEL Institute, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

4.1.1 List of Accessories

Accessories	Brand	Model	Manufacturer	Specification
-	-	-	-	-

4.1.2 Auxiliary Test equipment

Accessories	Brand	Model	Manufacturer	Specification
Laptop	Lenovo IdeaPad S500 Touch	20248	Lenovo PC HK Limited	-
AC Adapter(Laptop)	Lenovo	ADLX45NCC3A	CHICONY POWER TECHNOLOGY (SUZHOU) CO.,LTD.	Input: AC 100 V ~ 240 V / 50 ~ 60 Hz Ouput: DC 20 V

4.1.3 RF Exposure info

RF Exposure worst case value doesn't change due to new antenna and gain

4.1.4 Antenna Information

Antenna	Type	Frequency Range	Peak Gain
Ant A (Connector Type)	Dipole	902 MHz – 928 MHz	3.00 dBi
Ant B (Permanently Attached Type)	Dipole	902 MHz – 928 MHz	2.50 dBi
Original ANT	Pattern	-	3.03 dBi

4.1.5 Channel List of EUT

802.11ah(1M)							
Channel	Frequency [MHz]	Channel	Frequency [MHz]	Channel	Frequency [MHz]	Channel	Frequency [MHz]
1	903.5	7	909.5	13	915.5	19	921.5
2	904.5	8	910.5	14	916.5	20	922.5
3	905.5	9	911.5	15	917.5	21	923.5
4	906.5	10	912.5	16	918.5	22	924.5
5	907.5	11	913.5	17	919.5	23	925.5
6	908.5	12	914.5	18	920.5	24	926.5

802.11ah(2M)					
Channel	Frequency [MHz]	Channel	Frequency [MHz]	Channel	Frequency [MHz]
1	905.0	5	913.0	9	921.0
2	907.0	6	915.0	10	923.0
3	909.0	7	917.0	11	925.0
4	911.0	8	919.0		

802.11ah(4M)					
Channel	Frequency [MHz]	Channel	Frequency [MHz]	Channel	Frequency [MHz]
1	906.0	3	914.0	5	922.0
2	910.0	4	918.0		

4.2 Description of Test Mode

4.2.1 Test Mode Configuration

The equipment Under Test(EUT) was a WIFI Halow Module, 802.11ah capabilities in the 900 MHz bands.
All modes of operation and data rates were investigated by output power.
The test results shown in the following sections represent worst case.

- Axis worst case

Pre-Scan has been performed to determine the worst case axis between antenna port, XYZ axis and frequency band.

EUT Configuration	Applicable to		Description
	Ant A	Ant B	
Transmission	Z axis	Z axis	-

- Radiated Emission (Below 30 MHz) worst case

Radiated emission below 30 MHz was performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Tested Mode	Tested Channel	Data Rate	Description
802.11ah(2M)	11	MCS 0	-

- Radiated Emission (Below 1GHz, Above 1 GHz)

Radiated emission below 1GHz and above 1 GHz were performed with the EUT set to transmit Low/Mid/High channels.

802.11ah(1M)			
Frequency Plan		Band Edge	Harmonic
1	903.5 MHz	Choose	Choose one channel was selected highest output power (Ch 13(915.5MHz) @ Original Report)
2	904.5 MHz		
3	905.5 MHz		
4	906.5 MHz		
5	907.5 MHz		
6	908.5 MHz		
7	909.5 MHz		
8	910.5 MHz		
9	911.5 MHz		
10	912.5 MHz		
11	913.5 MHz		
12	914.5 MHz		
13	915.5 MHz		

14	916.5 MHz		
15	917.5 MHz		
16	918.5 MHz		
17	919.5 MHz		
18	920.5 MHz		
19	921.5 MHz		
20	922.5 MHz		
21	923.5 MHz		
22	924.5 MHz		
23	925.5 MHz		
24	926.5 MHz	Choose	

802.11ah(2M)			
Frequency Plan		**Band Edge**	**Harmonic**
1	905.0 MHz	Choose	Choose one channel was selected highest output power (Ch 11(925.0 MHz) @ Original Report)
2	907.0 MHz		
3	909.0 MHz		
4	911.0 MHz		
5	913.0 MHz		
6	915.0 MHz		
7	917.0 MHz		
8	919.0 MHz		
9	921.0 MHz		
10	923.0 MHz		
11	925.0 MHz	Choose	

802.11ah 4M			
Frequency Plan		**Band Edge**	**Harmonic**
1	906.0 MHz	Choose	Choose one channel was selected highest output power (Ch 5(922.0MHz) @ Original Report)
2	910.0 MHz		
3	914.0 MHz		
4	918.0 MHz		
5	922.0 MHz	Choose	

- Test Conditon

Applecable to	Environmental Conditions	Test Voltage	Tested by
Radiated emissions(< 1GHz)	(22.9 ± 2) ºC, (44.3 ± 3) % R.H.	DC 3.3 V	Dominic Sim
Radiated emissions(> 1GHz)	(22.9 ± 2) ºC, (44.3 ± 3) % R.H.	DC 3.3 V	Dominic Sim

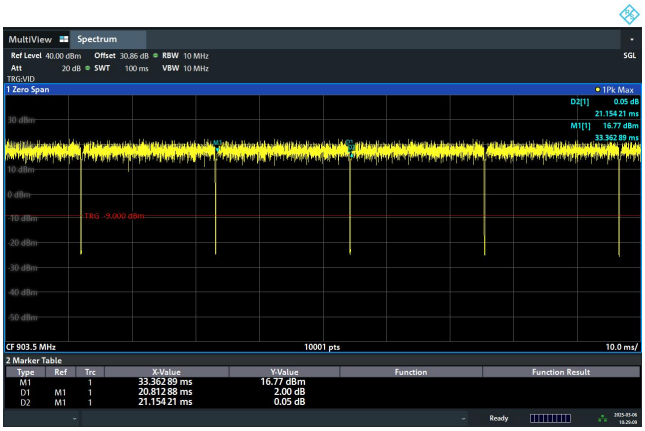
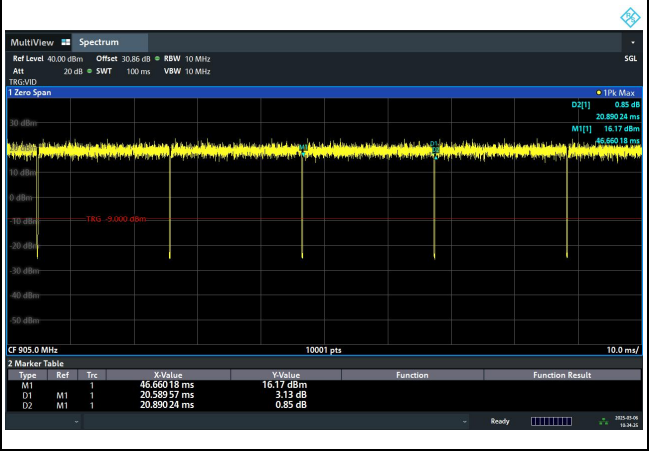
- Worst case of data rates

Transmission	Test Mode	Bandwidth [MHz]	Worst Case Data Rate / Packet Type
SISO	802.11ah	1	MCS 10
		2	MCS 0
		4	MCS 0

- Duty Cycle of Test Signal

Test Mode	Transmission	On Time [msec]	Period [msec]	Duty cycle X [Linear]	Duty Cycle [%]	DCCF [dB]
802.11ah(1M)	SISO	20.812 880	21.154 210	0.983 9	98.39	0.07
802.11ah(2M)	SISO	20.589 570	20.890 240	0.985 6	98.56	0.06
802.11ah(4M)	SISO	20.602 220	20.940 900	0.983 8	98.38	0.07

- Test Plots of Duty Cycle

802.11ah(1M)	802.11ah(2M)
	

802.11ah(4M)	
	

4.3 General Description of Applied Standard

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards.

FCC CFR 47 Part 15, Subpart C (§15.247)
KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10-2020

All test items in this test report have been performed and recorded as per the above standards.

5.0 Test Equipment

Test Equipment is traceable to the National Institute of Standards and Technology (NIST). Measurement antenna used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

	Equipment	Manufacturer	Model	S/N	Description	Cal Due
■	Spectrum Analyzer	Rohde & Schwarz	FSV3044	101034	10 Hz ~ 44 GHz	2026-01-22
■	DC Power Supply	ODA	OPM-305D	ODA-04-0923-07960	DC 30 V, 5 A	2026-01-23
■	Signal Generator	Rohde & Schwarz	SMBV100B	101818	8 kHz ~ 6 GHz	2026-01-23
■	Vector Signal Generator	Rohde & Schwarz	SMB100A	180880	100 kHz ~ 40 GHz	2025-05-20
■	Attenuator	INMET	26A-10	3	DC to 26.5 GHz,10 dB.	2026-01-22
■	True RMS Multimeter	FLUKE	177	59570153	1000 V, 10 A	2026-01-23
■	Power Meter	Rohde & Schwarz	NRX	101971	DC ~ 40 GHz	2026-01-21
■	Power Sensor	Rohde & Schwarz	NRP-Z86	104137	50 MHz ~ 40 GHz	2025-05-27
■	High Pass Filter	WT Microwave INC.	WT-A1696-HS	WT190313-6-2	Pass band: 1.2 GHz ~ 11.5 GHz	2025-11-13
■	EMI Test Receiver	Rohde & Schwarz	ESW44	101737	1 Hz ~ 44 GHz	2026-01-21
■	EMI Test Receiver	Rohde & Schwarz	ESW26	103106	1 Hz ~ 26.5 GHz	2026-01-21
■	Active Loop Antenna	Rohde & Schwarz	HFH2-Z2E	100858	8.3 kHz ~ 30 MHz	2026-05-24
■	Bi-Log Antenna	SCHWARZBECK	VULB9168	00915	25 MHz ~ 2 GHz	2026-06-26
■	Horn Antenna	Rohde & Schwarz	HF907	103112	800 MHz ~ 18 GHz	2026-01-23
■	Preamplifier	Rohde & Schwarz	SCU-01F	100465	10 kHz ~ 1 GHz, 35 dB	2026-01-20
■	Preamplifier	Rohde & Schwarz	SCU-18F	101001	1 GHz ~ 18 GHz	2026-01-20
■	6dB Attenuator	Fairview Microwave	SA3N5W-06	190311028	DC ~ 3 GHz, 6 dB	2026-06-26
■	Turntable	Innco	DT 3000-3t	-	-	-
■	Antenna Mast_R	Innco	MA4000-EP	-	-	-
■	Controller_1	Innco	CO3000	1062	-	-
■	Controller_2	Innco	CO3000	1063	-	-
■	Software	Rohde & Schwarz	EMC32	101535	-	-
■	Software	Rohde & Schwarz	ELEKTRA	102739	-	-

6.0 Test Results

6.1 Antenna Requirement

Except from §15.203 of the FCC Rules/Regulations:
An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of the section.

- ANT A: The antenna(s) of the EUT are Unique (non-standard) antenna connector.
- ANT B: Permanently attached antenna.
  - There is no provisions for connection to an external antenna.

6.1.1 Result

The EUT complies with the requirement of §15.203

6.2 Spurious Emission, Band edge and Restricted Bands

6.2.1 Regulation

§15.247(d) : In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

§15.209(a) : Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
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 paragraph (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.

§15.205(a) : Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

1. Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
2. Above 38.6

§15.205 (b) : Except as provided in paragraphs (d) and (e) of this section, 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.

6.2.2 Test Procedure

Spurious RF Conducted Emissions

a) Establish a reference level by using the following procedure:
   1) Set instrument center frequency to DTS channel center frequency.
   2) Set the span to ≥ 1.5 times the DTS bandwidth.
   3) Set the RBW = 100 kHz.
   4) Set the VBW ≥ [3 × RBW].
   5) Detector = peak.
   6) Sweep time = No faster than coupled (auto) time.
   7) Trace mode = max hold.
   8) Allow trace to fully stabilize.
   9) Use the peak marker function to determine the maximum PSD level.

b) Establish an emission level by using the following procedure:
   1) Set the center frequency and span to encompass frequency range to be measured.
   2) Set the RBW = 100 kHz.
   3) Set the VBW ≥ [3 × RBW].
   4) d) Detector = peak.
   5) e) Sweep time = No faster than coupled (auto) time.
   6) f) Trace mode = max hold.

7) g) Allow trace to fully stabilize.
8) h) Use the peak marker function to determine the maximum amplitude level.

Spurious Radiated Emissions

1. The preliminary radiated measurement were performed to determine the frequency producing the maximum emissions in an semi-anechoic chamber at a distance of 3 meters.
2. The EUT was placed on the top of the 0.8-meter height, 1 x 1.5 meter non-metallic table. To find the maximum emission levels, the height of a measuring antenna was changed and the turntable was rotated 360º.
3. The antenna polarization was also changed from vertical to horizontal. The spectrum was scanned from 9 kHz to 30 MHz using the loop antenna, and from 30 to 1000 MHz using the Bi-Log antenna, and from 1000 MHz to 26500 MHz using the horn antenna.
4. To obtain the final measurement data, the EUT was arranged on a turntable situated on a 4 x 4 meter in an semi-anechoic chamber. The EUT was tested at a distance 3 meters.
5. Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector fuction with specified bandwidth.
6. The 0.8 m height is for below 1 GHz testing, and 1.5 m is for above 1GHz testing.

- Procedure for unwanted emissions measurements below 1 000 MHz

a) The procedure for unwanted emissions measurements below 1 000 MHz is as follows:
   1) Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
   2) RBW =

Frequency	RBW
9 kHz to 150 kHz	200 Hz to 300 Hz
0.15 MHz to 30 MHz	9 kHz to 10 kHz
30 MHz to 1000 MHz	100 kHz to 120 kHZ

   3) Detector = CISPR Quasi-peak
   4) Sweep time = auto couple
   5) Compliance shall be determined using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

- Procedure for peak unwanted emissions measurements above 1 000 MHz

The procedure for peak unwanted emissions measurements above 1 000 MHz is as follows:

a) Peak emission levels are measured by setting the instrument as follows:
   1) RBW = 1 MHz.
   2) VBW ≥ [3 × RBW].
   3) Detector = peak.
   4) Sweep time = No faster than coupled (auto) time.
   5) Trace mode = max hold.
   6) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not ontinuous, then the time required for the trace to stabilize will increase by a factor of pproximately 1 / D, where D is the duty cycle. For example, at 50 % duty cycle, the easurement time will increase by a factor of two, relative to measurement time for ontinuous transmission.

- Procedure for average unwanted emissions measurements above 1 000 MHz

Option 1)

a) The procedure full power method is as follows:

1) RBW = 1 MHz.
2) VBW ≥ [3 × RBW].
3) Detector = RMS (power averaging), 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 this condition cannot be satisfied, then the detector mode shall be set to peak.
4) Averaging type = power (i.e., rms):
   - As an alternative, the detector and averaging type may be set for linear voltage averaging.
   - Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.
5) Sweep time = auto.
6) Perform a trace average of at least 100 traces.

Option 2)

b) The procedure duty cycle correction method is as followes:

1) RBW = 1 MHz.
2) VBW ≥ [3 × RBW].
3) Detector = RMS (power averaging), 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 this condition cannot be satisfied, then the detector mode shall be set to peak.
4) Averaging type = power (i.e., rms):
   - As an alternative, the detector and averaging type may be set for linear voltage averaging.
   - Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.
5) Sweep time = auto.
6) Perform a trace average of at least 100 traces.
7) A correction factor shall be added to the measurement results prior to comparing with the emission limit to compute the emission level that would have been measured had the test been performed at 100% duty cycle.
   - If power averaging (rms) mode, then the applicable correction factor is [10 log (1 / D)], where D is the duty cycle.

Option 3)

c) The procedure Reduced VBW method is as follows:

1) RBW = 1 MHz.
2) VBW ≥ 1/*T*
3) Video bandwidth mode or display mode:
   - The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS (power averaging) and setting the average-VBW type to power (rms).
   - As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear

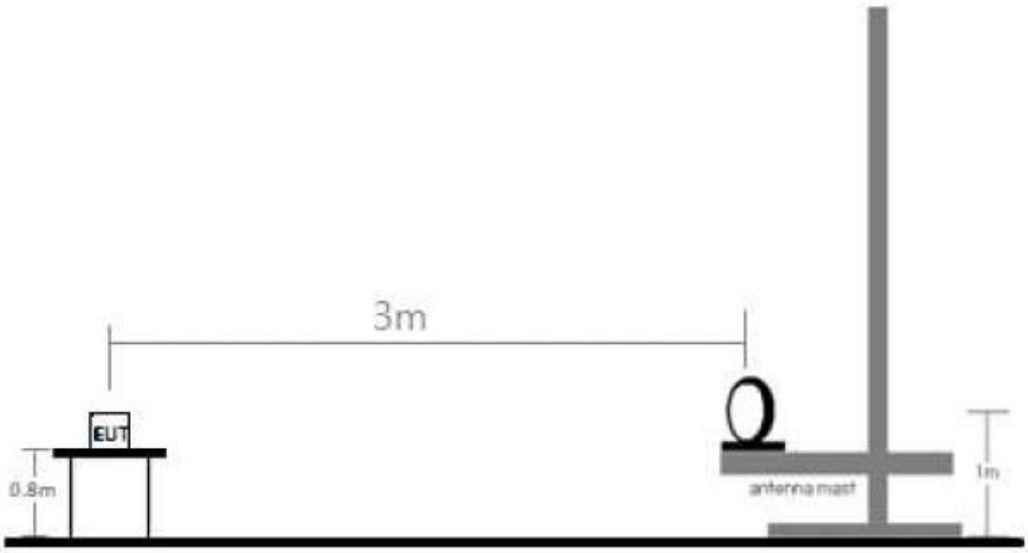
display mode to accomplish this. Others have a setting for average-VBW type, which can be set to "voltage" regardless of the display mode.

4) Detector = Peak
5) Sweep time = auto
6) Trace mode = max hold
7) Allow max hold to run for at least [50 x (1/D)] traces.

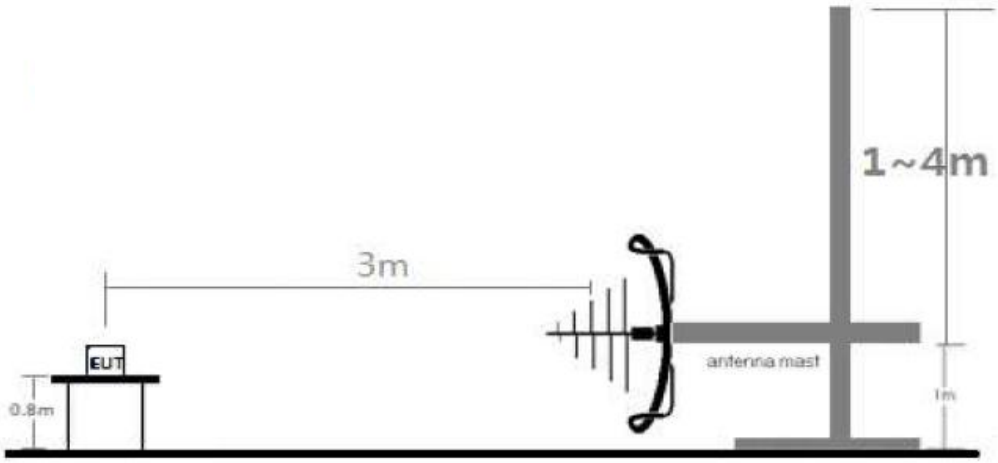
- Sample Calculation

- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m] + Duty Cycle Correction [dB]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

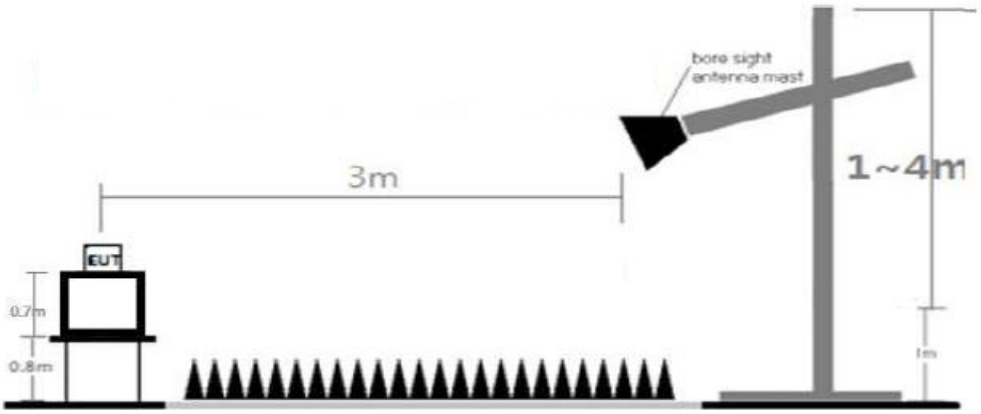
6.2.3 Test Setup

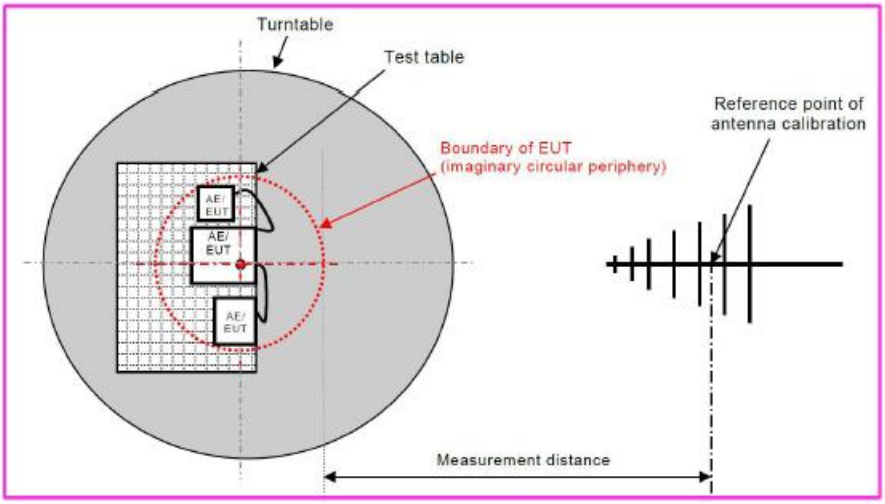


[Radiated Emission Test Setup Below 30 MHz]

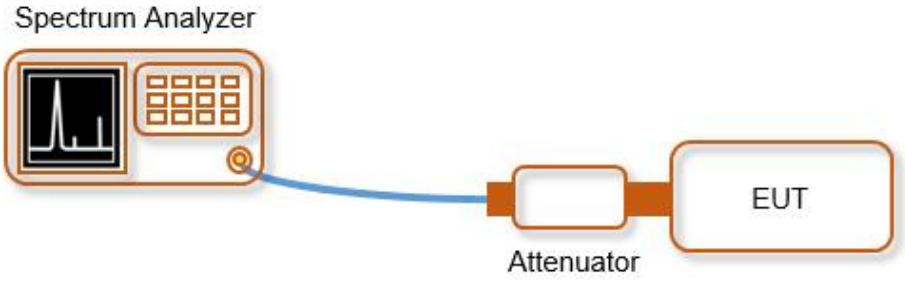


[Radiated Emission Test Setup Below 1 GHz]





[Radiated Emission Test Setup Above 1 GHz]

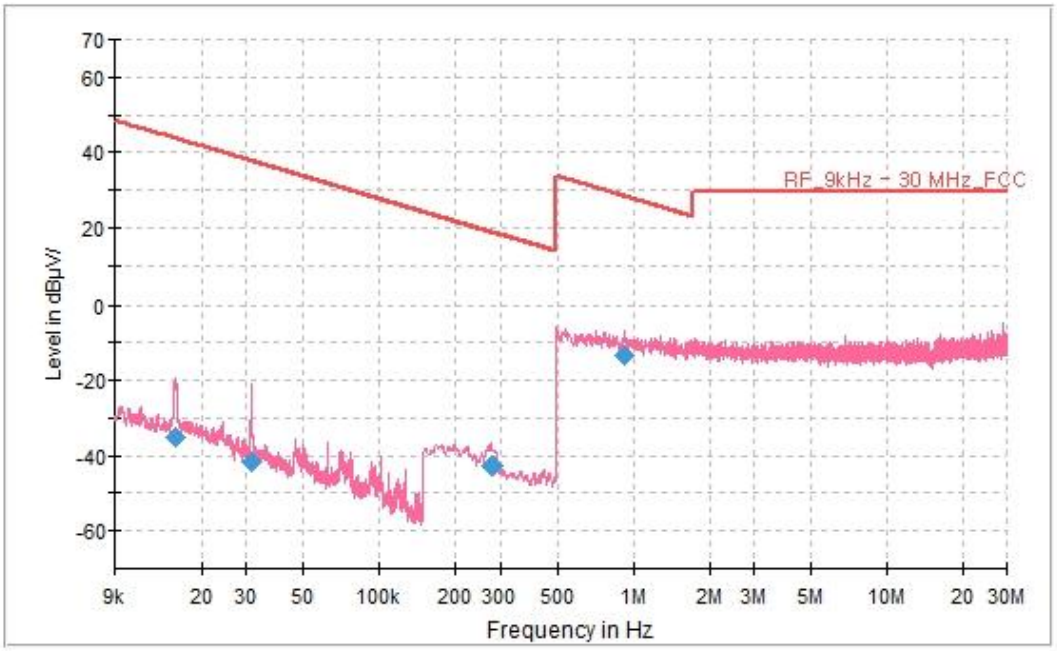


[Conducted Spurious Emission]

6.2.4 Test Result

Radiated Emission (Below 30 MHz)

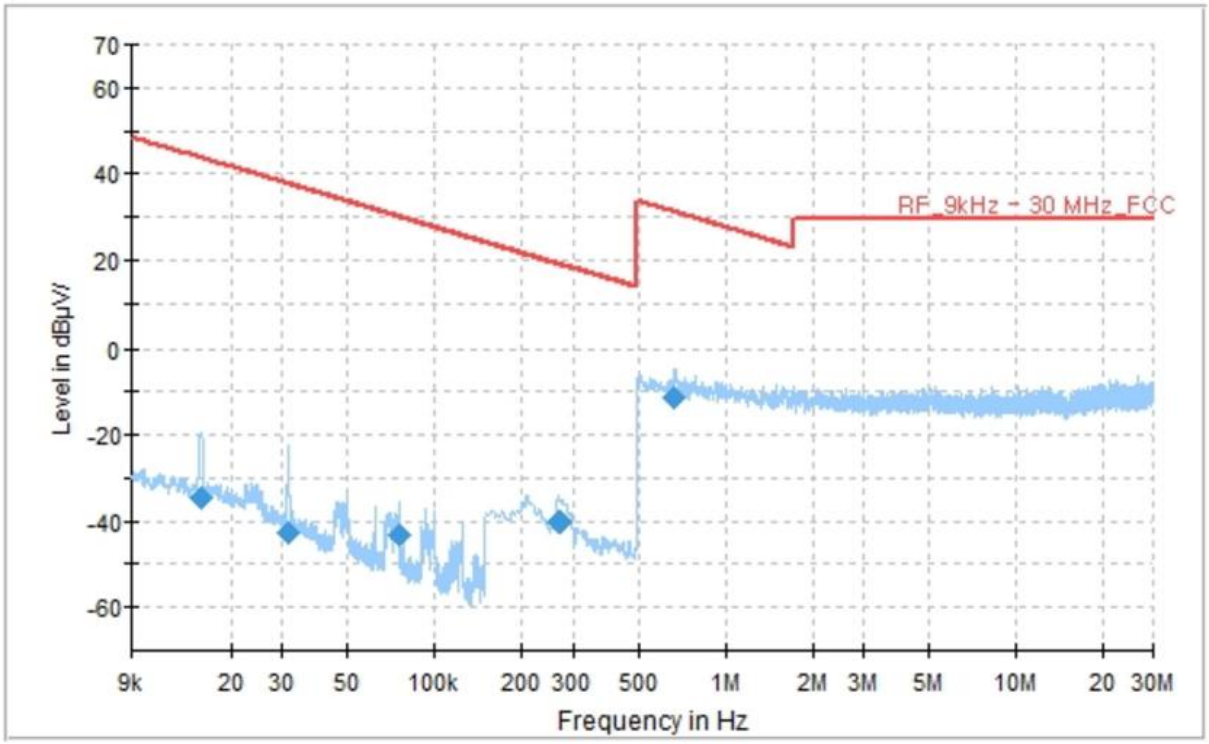
Worst case - RE(Below 30 MHz)_802.11ah(2M)_925 MHz(CH11)_ANT A



Frequency [MHz]	Quasi-peak Reading [dBuV]	Quasi-Peak Result [dBuV/m]	Distance Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Corrction Factor [dB/m]
0.016	25.38	-34.92	-80	43.65	78.57	100	Ground parallel	211	-60.30
0.031	18.58	-41.52	-80	37.71	79.23	100	Ground parallel	3	-60.10
0.278	17.76	-42.54	-40	18.73	61.26	100	Ground parallel	43	-60.30
0.920	6.71	-13.29	-40	28.33	41.62	100	Ground parallel	122	-20.00

Note)
1. Quasi Peak(dBuV/m) = QP Reading Value(dBµV) + Correction Factor(dB/m) + Distance Factor(dB)
2. Correction Factor(dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Limit (dBµV/m) – (Quasi Peak) Result (dBµV/m)
4. We tested three kind of Antenna Pol (Parallel, Perpendicular, Ground parallel) and reported worst case antenna Pol.

Worst case - RE(Below 30 MHz)_802.11ah(2M)_925 MHz(CH11)_ANT B

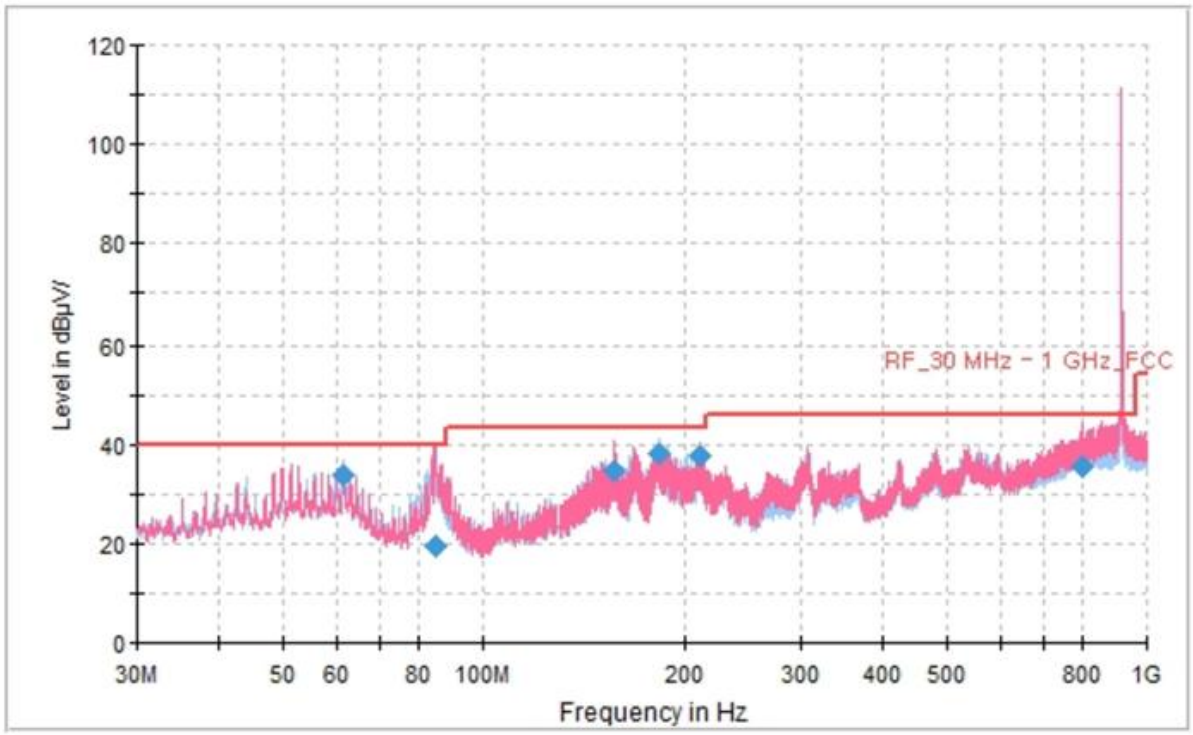


Frequency [MHz]	Quasi-peak Reading [dBuV]	Quasi-Peak Result [dBuV/m]	Distance Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Corrction Factor [dB/m]
0.016	25.83	-34.47	-80	43.76	78.24	100	Parallel	8	-60.30
0.031	17.50	-42.60	-80	37.71	80.31	100	Parallel	2	-60.10
0.075	16.91	-43.29	-40	30.05	73.35	100	Parallel	68	-60.20
0.268	20.03	-40.27	-40	19.03	59.30	100	Parallel	216	-60.30
0.668	8.86	-11.24	-40	31.11	42.35	100	Parallel	200	-20.10

Note)
1. Quasi Peak(dBuV/m) = QP Reading Value(dBµV) + Correction Factor(dB/m) + Distance Factor(dB)
2. Correction Factor(dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Limit (dBµV/m) – (Quasi Peak) Result (dBµV/m)
4. We tested three kind of Antenna Pol (Parallel, Perpendicular, Ground parallel) and reported worst case antenna Pol.

Radiated Emission (Below 1 GHz)

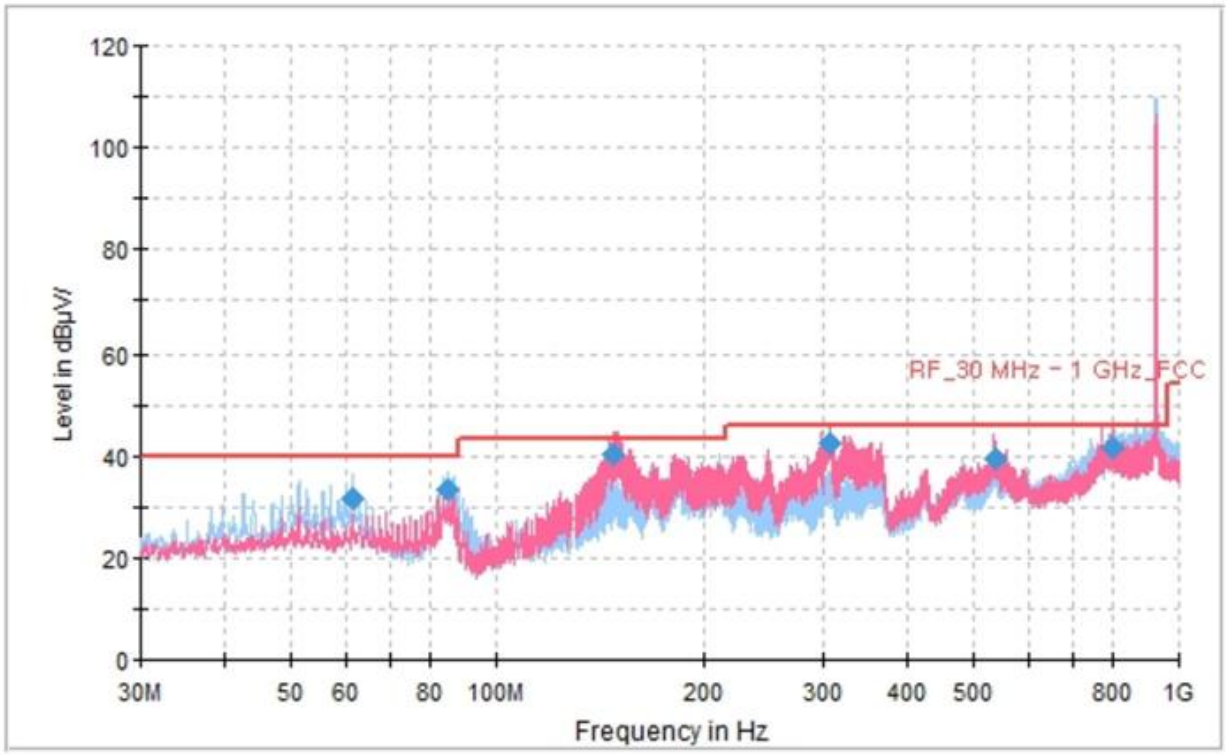
Worst case - RE(Below 1 GHz)_802.11ah(1M)_915.5 MHz(CH13)_ANT A



Frequency [MHz]	Quasi-Peak Reading [dBuV]	Quasi-Peak Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Corrction Factor [dB/m]
61.464	31.68	33.68	40.00	6.32	100	H	323	2.00
84.502	22.56	19.56	40.00	20.44	100	V	236	-3.00
156.828	31.50	34.60	43.52	8.92	100	V	198	3.10
183.078	36.98	38.08	43.52	5.45	100	H	154	1.10
210.663	37.66	37.56	43.52	5.96	100	V	240	-0.10
800.544	20.11	35.51	46.02	10.51	100	V	124	15.40

Note)
1. Quasi Peak(dBµV/m) = Quasi Peak Reading Value(dBµV) + Correction Factor(dB/m)
2. Correction Factor(dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Limit (dBµV/m) – (Quasi Peak) Result (dBµV/m).

Worst case - RE(Below 1 GHz)_802.11ah(2M)_925 MHz(CH11)_ANT A



Frequency [MHz]	Quasi-Peak Reading [dBuV]	Quasi-Peak Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Corrction Factor [dB/m]
61.464	29.56	31.56	40.00	8.44	100	H	353	2.00
84.866	36.60	33.50	40.00	6.5	100	H	53	-3.10
148.037	37.45	40.25	43.52	3.27	200	V	210	2.80
307.602	38.00	42.60	46.02	3.42	100	V	162	4.60
538.219	29.04	39.44	46.02	6.58	200	V	236	10.40
799.998	26.17	41.57	46.02	4.45	100	V	303	15.40

Note)
1. Quasi Peak(dBµV/m) = Quasi Peak Reading Value(dBµV) + Correction Factor(dB/m)
2. Correction Factor(dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Limit (dBµV/m) – (Quasi Peak) Result (dBµV/m).