

4.3 Measuring Instruments and Setting

Please refer to section 4.9 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Analyzer	Setting
Attenuation	Auto
Start Frequency	1GHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 3MHz for Peak, Dutycycle \geq 98% 1MHz / 10Hz for Average Dutycycle < 98% 1MHz / \geq (1/T) for Average, where T is pulse time.
RB / VB (Emission in non-restricted band)	1MHz / 3MHz for peak
Detector	Peak
Trace mode	Max hold.

Test Signal Duty Cycle (x)	T(pulse time)	S.A. Video Bandwidth
100.00% - IEEE 802.11a	NA	10Hz
96.26% - IEEE 802.11ac (VHT20)	4.4783ms	300Hz
98.27% - IEEE 802.11ac (VHT40)	NA	10Hz
96.47% - IEEE 802.11ac (VHT80)	3.1739ms	1kHz

Note : According to KDB 789033 D02 G. 6. d) **Method VB**.

- As an alternative, the analyzer 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 analyzers require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode.

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1GHz / RB 120kHz for QP

4.4 Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer. (Follow the Spectrum Analyzer Setting Table in section 4.3.)
7. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.
10. Test method of final data refers to ANCI C63.10 section 6.5.4 Radiated emission test procedure.

Note: We will zoom in on the frequency (above 1GHz) with maximum emission and get the PK and AV value.