

# Why is the anechoic box necessary ?

◇ Offering environment for throughput test and receiving sensitivity tests of wireless equipment in OTA (Over the Air)

## \*Application\*

When performing OTA test of wireless equipment (hereinafter referred to as EUT), the correct evaluation is not possible by interference from around.

By using the anechoic box, it is possible to perform OTA test in stable environment without being affected by radio waves traveling around.

In particular, when evaluating EUTs such as 2.4GHz and 5GHz band including WiFi, mobile phone (800 MHz to 2.2 GHz) and terrestrial digital broadcasting apparatus (470 to 770 MHz), the anechoic box is a necessary tool for separation from commercial service waves. In addition, a product before obtaining the technical standards conformity certification has to be shielded by the anechoic box in order not to sprinkle an illegal radio wave.

## \*Solution\*

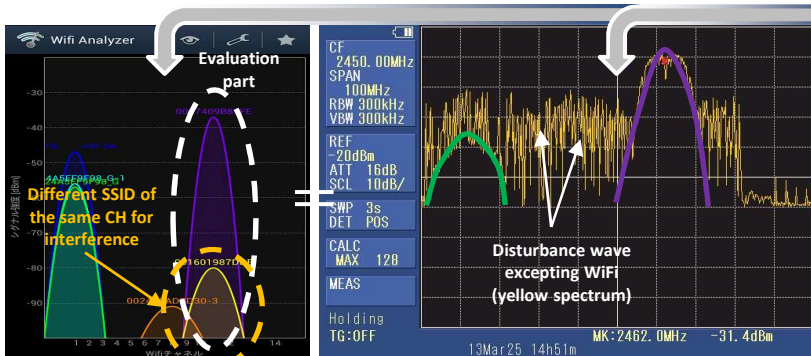


Fig.1

Fig.2

If anechoic box isn't used ?

(Fig.1) Various SSIDs are observed in the environment which isn't use the anechoic box. When performing the throughput test of terminal/SSID in white broken line, the correct effective throughput can't be measured because another SSID interferes in the same CH. (Fig. 2) The same environment as Fig.1 is measured by spectrum analyzer. The unknown wave is observed besides interference with another SSID. So, this environment is not suitable for test.

Anechoic box (MY1510)

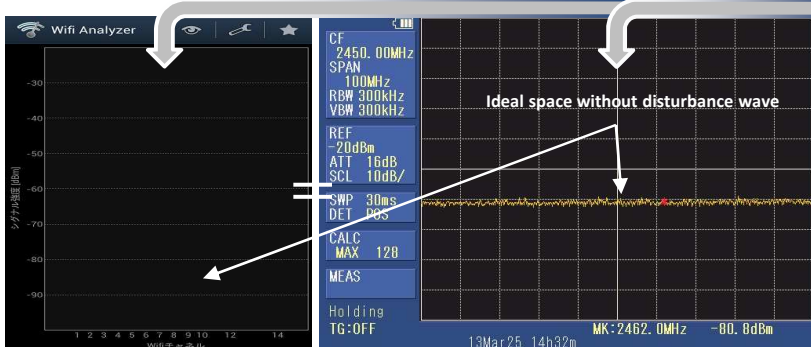


Fig.3

Fig.4

How is the inside of anechoic box ?

(Figs. 3/4) These figures show the measurement result of the environment inside anechoic box. WiFi and unknown waves are cut off and ideal space without radio wave interference is offered.

Radio waves traveling in air change to various ways depending on the location. So, by making the clean environment without interference, the exact test can be done not dependent on location. Moreover, the internal reflection will be reduced since radio wave absorbers are put on six sides of anechoic box.

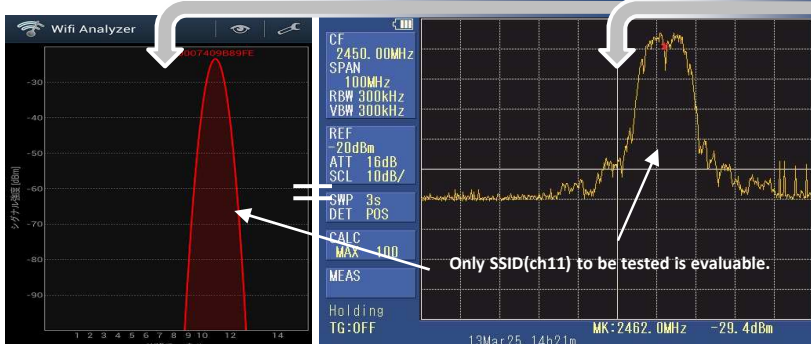


Fig.5

Fig.6

If anechoic box is used ?

(Figure 5/6) Test radio wave is radiated in anechoic box. Since only SSID to be tested is captured, this is perfect as environment of OTA test.

Anechoic box (MY1525)



## \*System configuration\*

◇ For such small terminal as smartphone (example)

1. Anechoic box / MY1510  
Convenient for carrying since it's small and lightweight.
2. I/F module / IFM2  
AC power supply(1pc), LAN(2pcs), USB(2pcs), D-sub9pin(1pc)
3. Sleeve antenna / M30x  
Offering seven kinds of antennas depending on frequency band.

◇ For terminal such as wireless router or PC with ventilation mechanism (example)

1. Anechoic box / MY1525  
Anechoic box with ventilation fan for heated equipment
2. I/F module / IFM10  
AC power supply(1pc), LAN(1pc), USB(2pcs), D-sub9pin(1pc)
3. Sleeve antenna / M30x  
Offering seven kinds of antennas depending on frequency band.