

# Swan\_soundbar\_DVT\_MIC\_sesaling test



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ALT Co., Ltd.

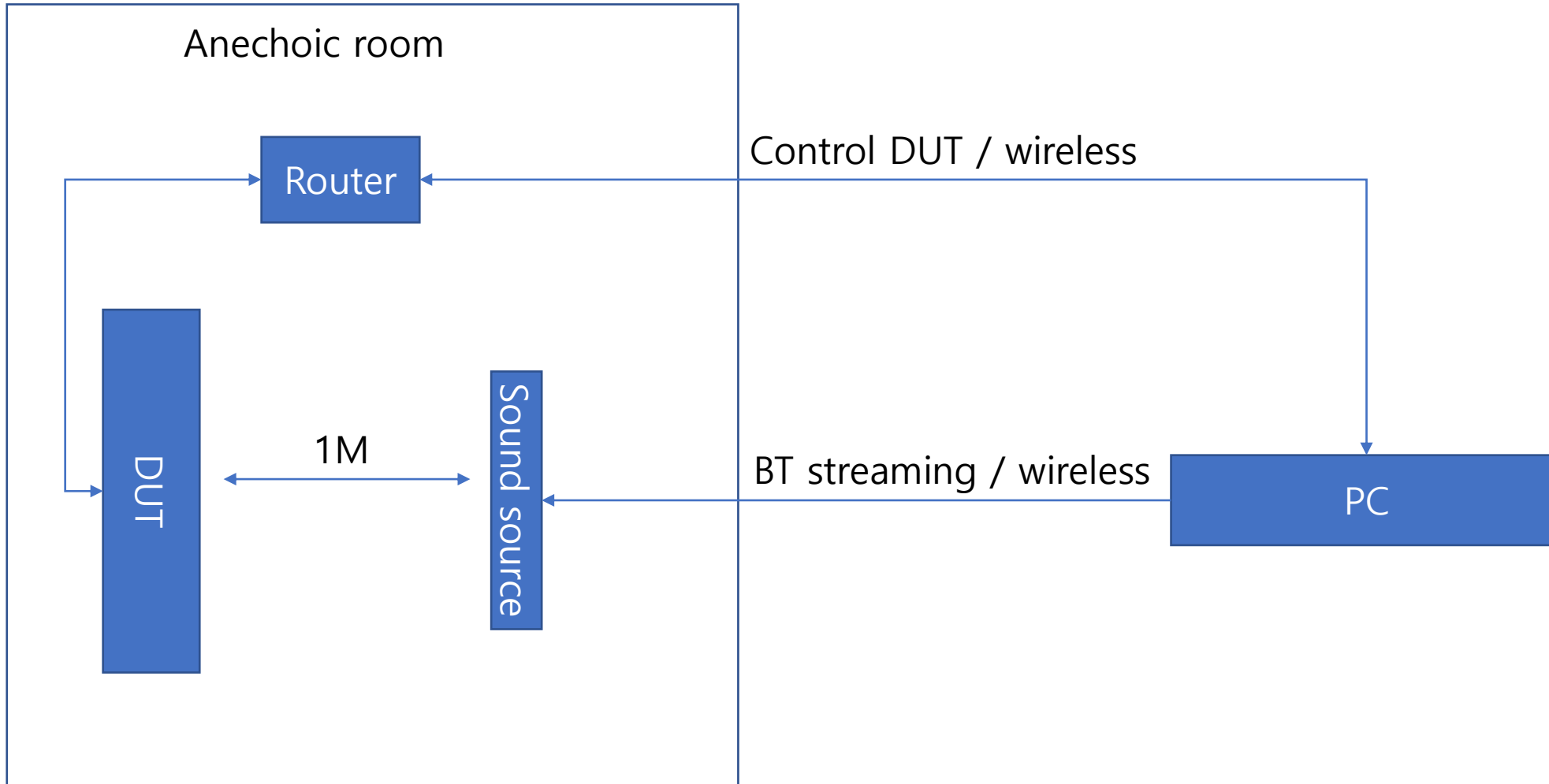
Issued Date 2021.05.21

Ver.1.0

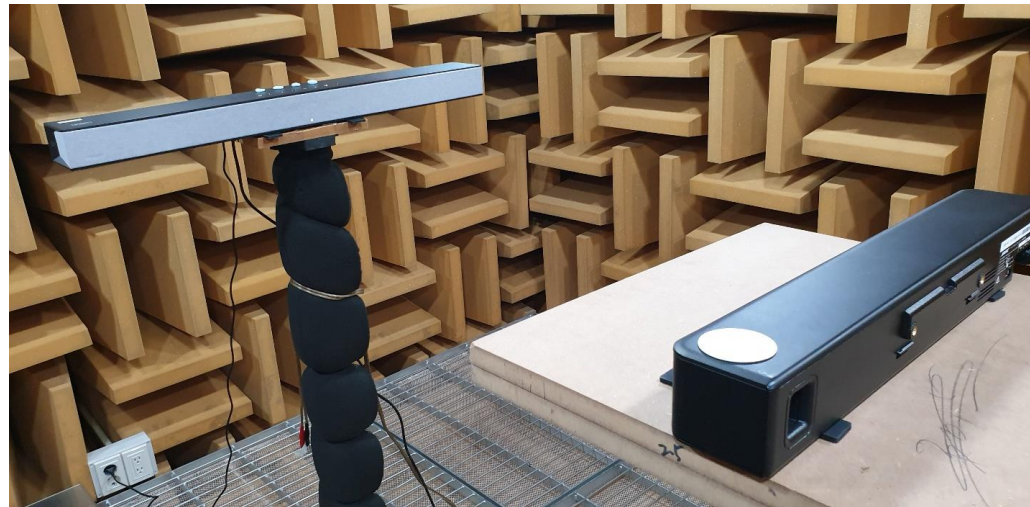
Issued by SH, SON



- Test Diagram



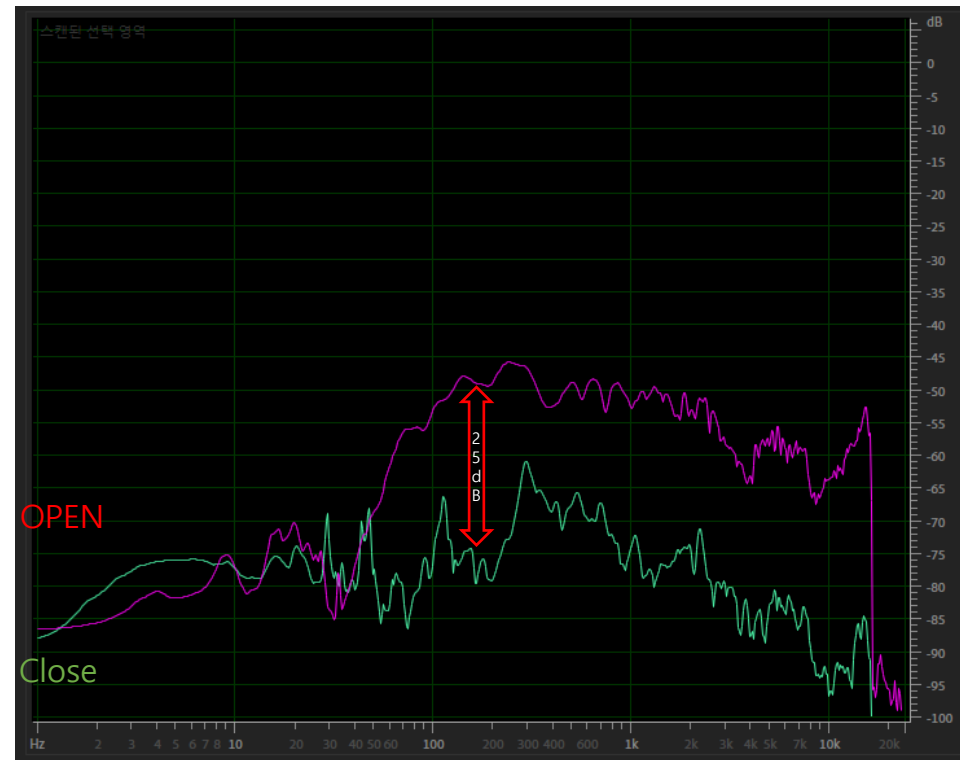
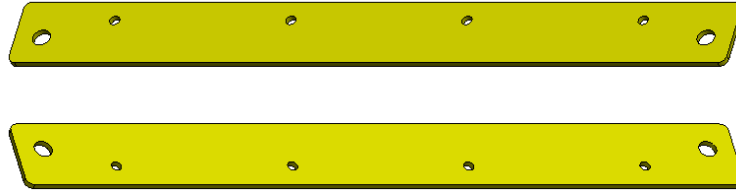
- Test Picture



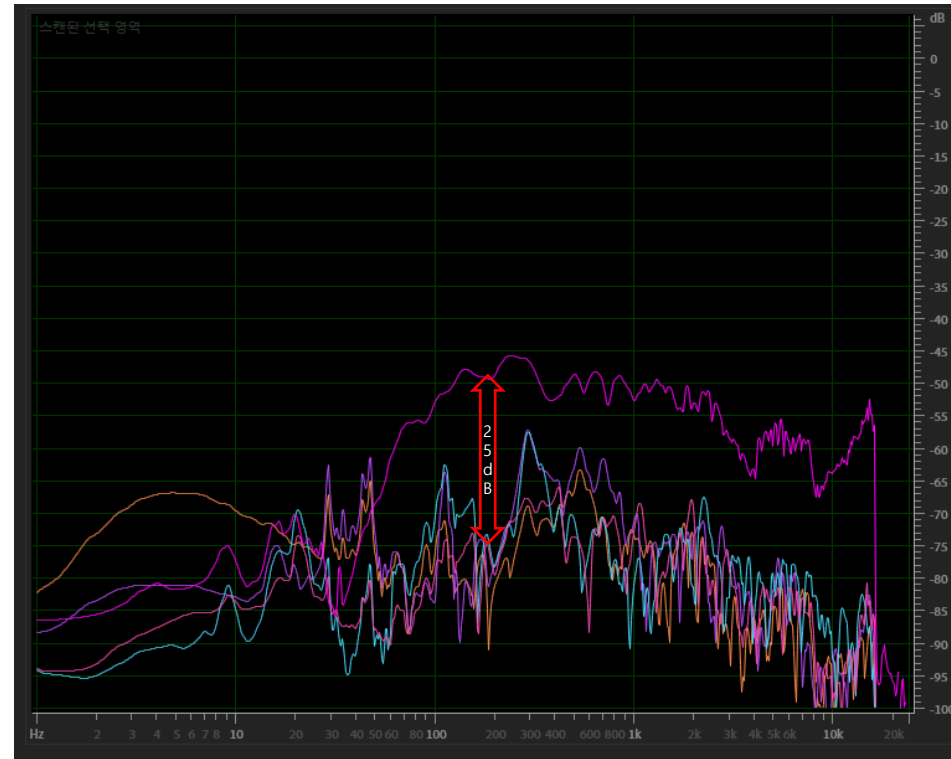
- Test info for simple test
  - Date : 2021.05.21 14:00~
  - SW version : V19.522.49
  - Location : Inkel Anechoic room
  - Test stream : Youtube 20-20,000hz Audio Sweep
    - [https://www.youtube.com/watch?v=PAsMlDptjx8&ab\\_channel=SonicElectronix](https://www.youtube.com/watch?v=PAsMlDptjx8&ab_channel=SonicElectronix)
- Test conditions
  - Audio source : Youtube play using Bluetooth
  - Audio play : SoundBAR (Bose Solo TV speaker)
    - Audio Source / Play : max volume
  - Recording SWAN MIC and playback
- Test Flow
  - Play audio source (Sweep) -> recording SWAN, opened mic hole
  - Play audio source (Sweep) -> recording SWAN, closed mic hole
  - Compare raw recording file using adobe Audition
- Test command

```
adb shell
$ su
# setenforce 0
# dmesg -n 1
# echo "0 0 0 0" > /proc/sys/kernel/printk
# service call bluetooth_manager 8
# tinycap /sdcard/test.wav -D 0 -d 0 -c 4 -r 48000 -b 32 -p 384 -n 32 -T 120
```

- DVT new mic silicon + SPONGE\_MIC\_SILICON 1.1t : DVT3 condition



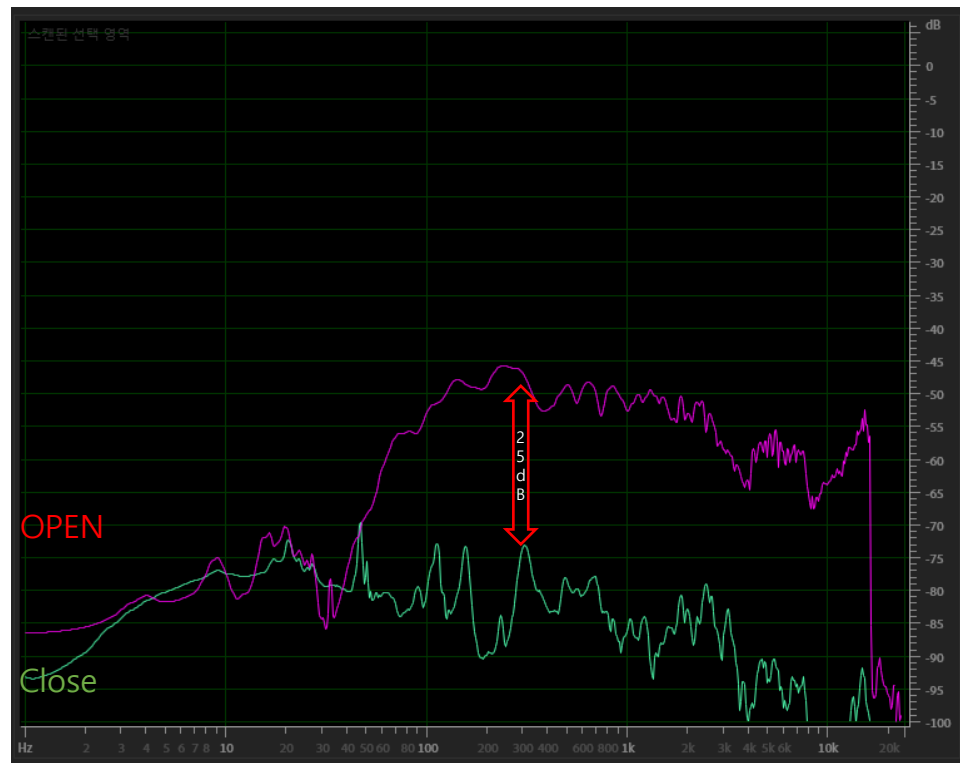
4ch average



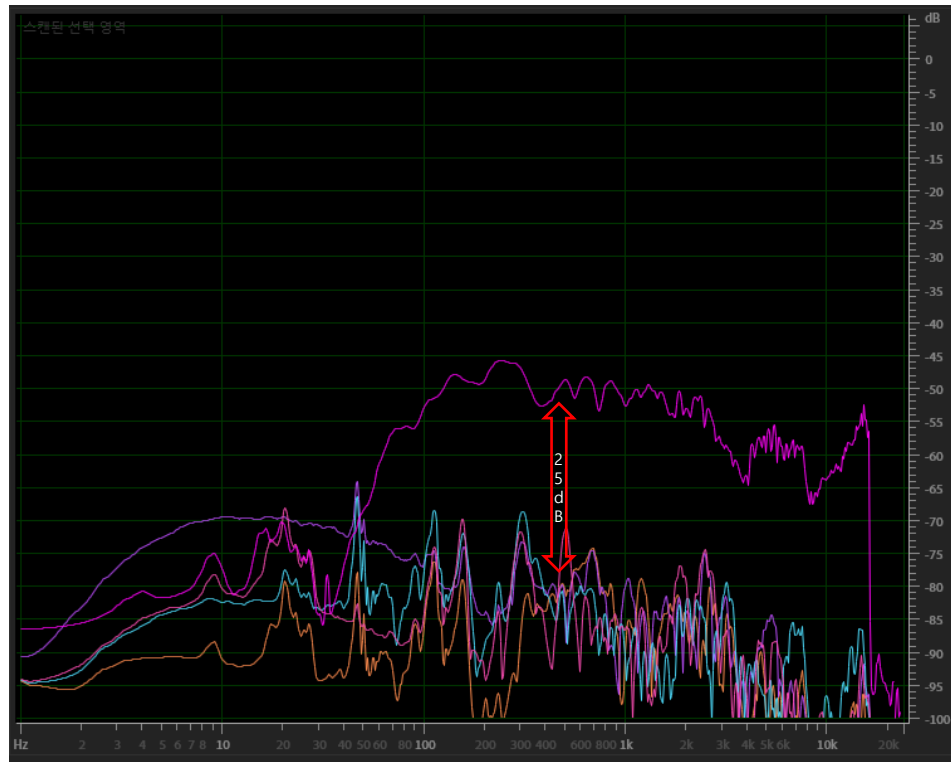
Each channel result

- Sealing performance dose not meet the requirement
- Some of range has sealing margin
- Similar test result as FII test report

- FII golden sample tested Korea Lab



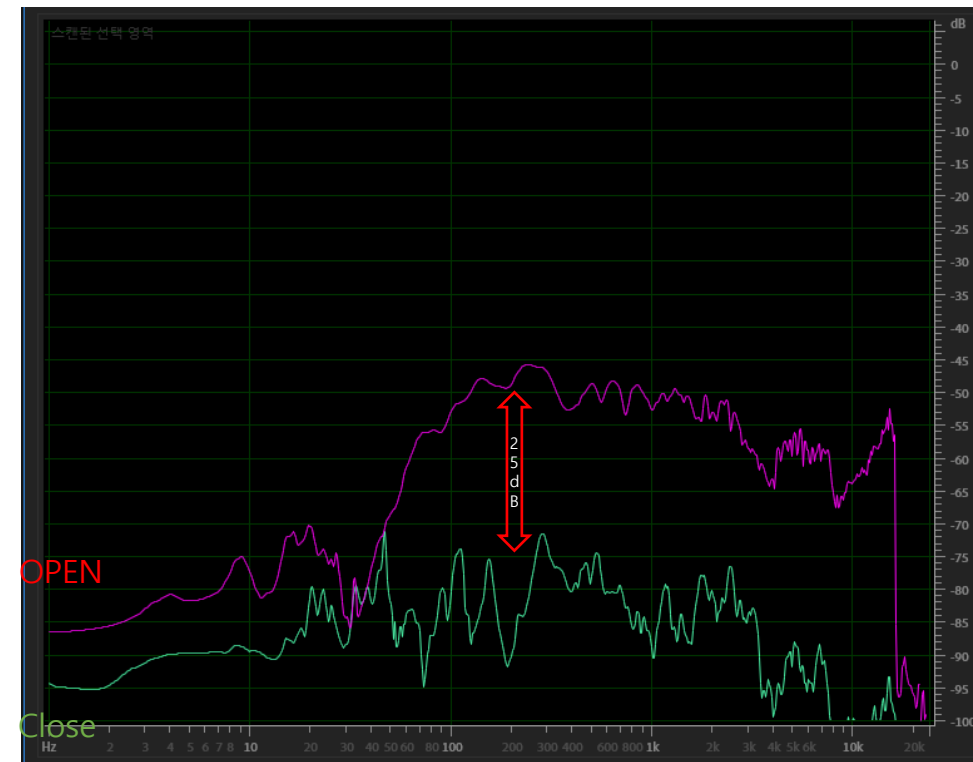
4ch average



Each channel result

- Some of frequency (120hz, 300hz, 500hz) are not meet the requirement
- The other range has sealing margin

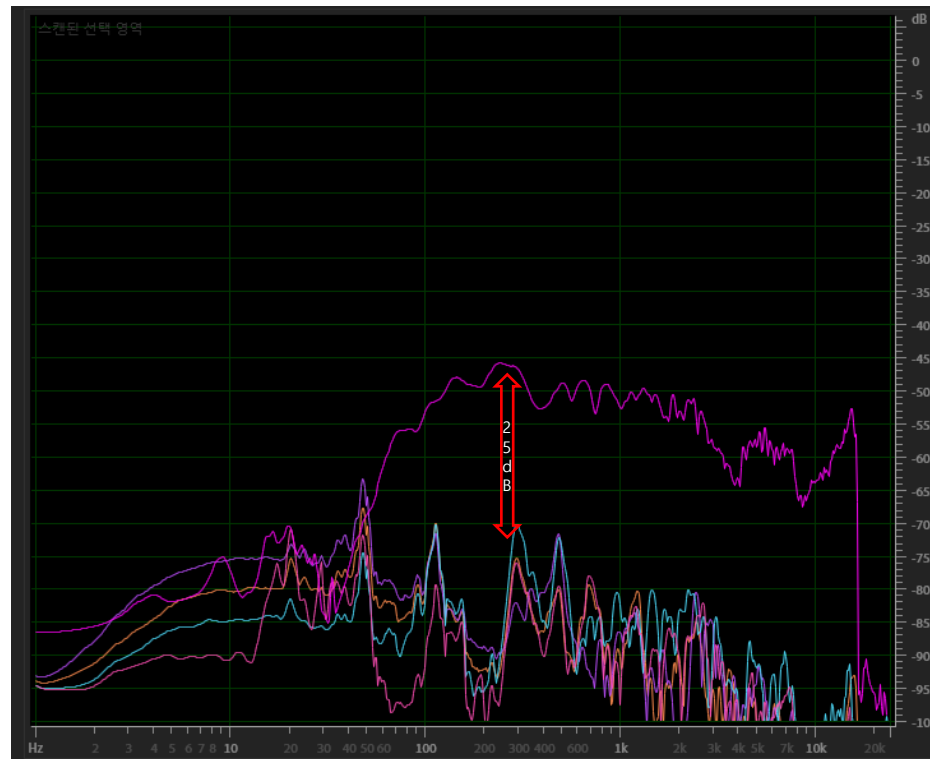
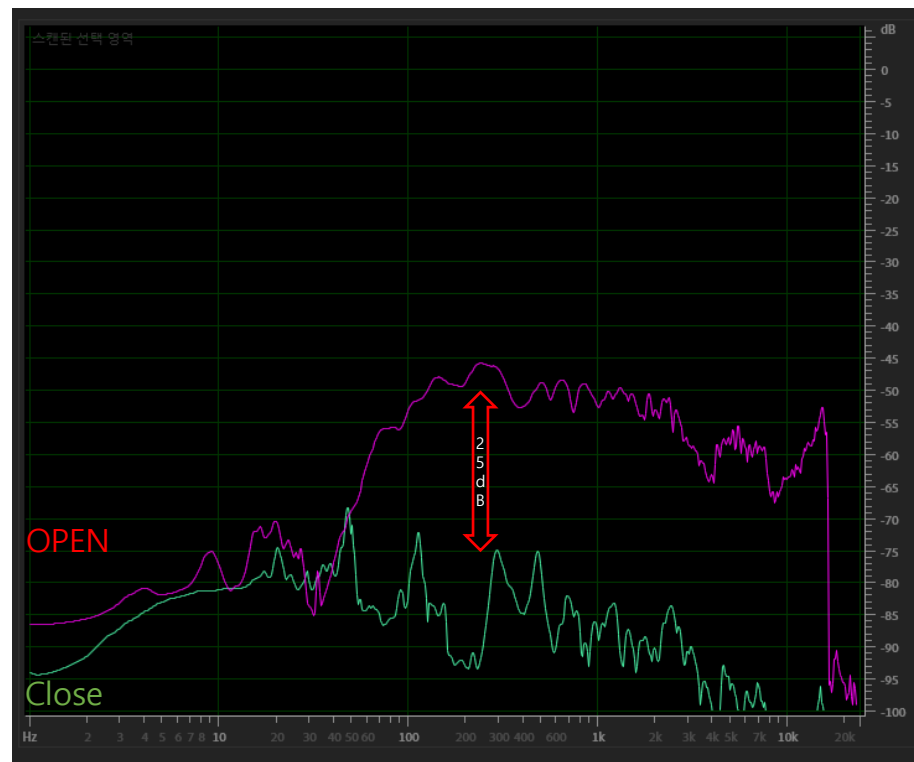
- Copy the conditions as FII golden sample



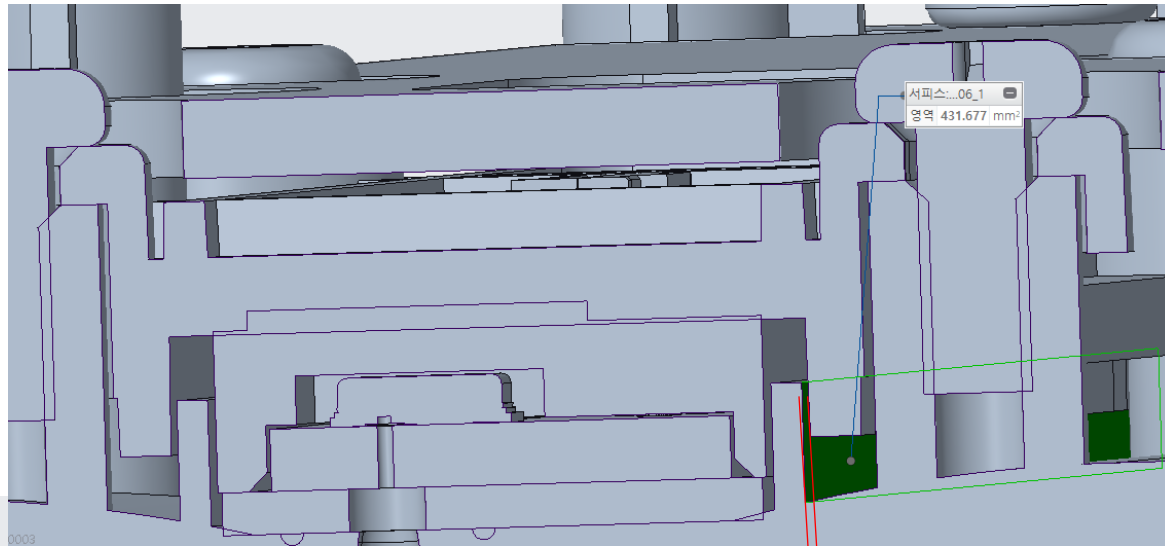
- MIC4 (Sky blue) : Some of frequency (120hz, 300hz) are not meet the requirement
- The other range has sealing margin
- Similar test result as FII test report

- Copy the conditions as FII golden sample + side rib sealing reinforce
  - See details page 10

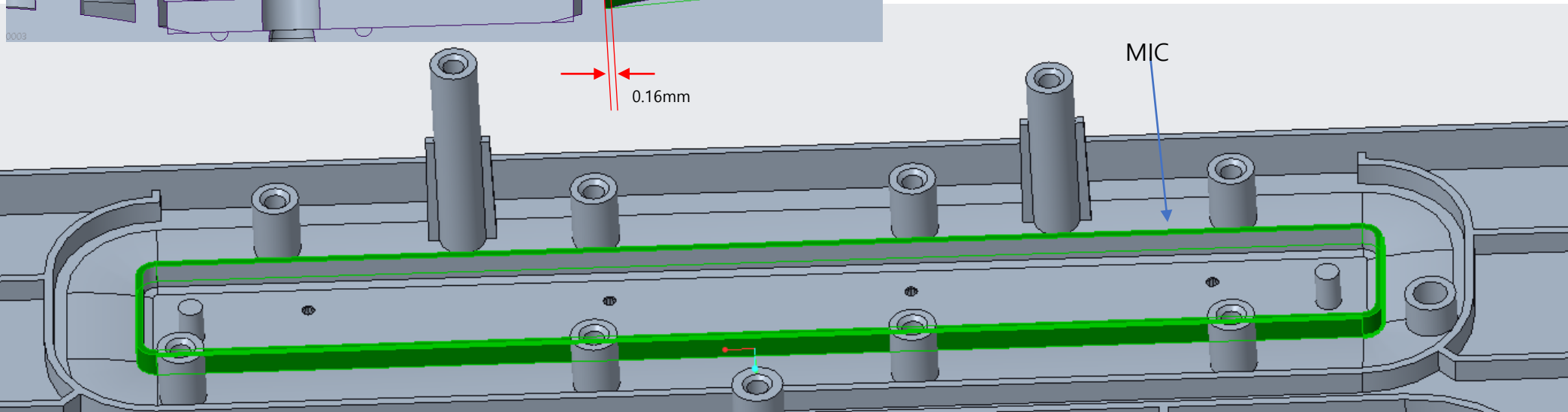
- All of range has sealing margin
- Mechanical structure will be reinforce next housing (T1)
- MIC4 (Sky blue) sealing performance will be similar to other channels.



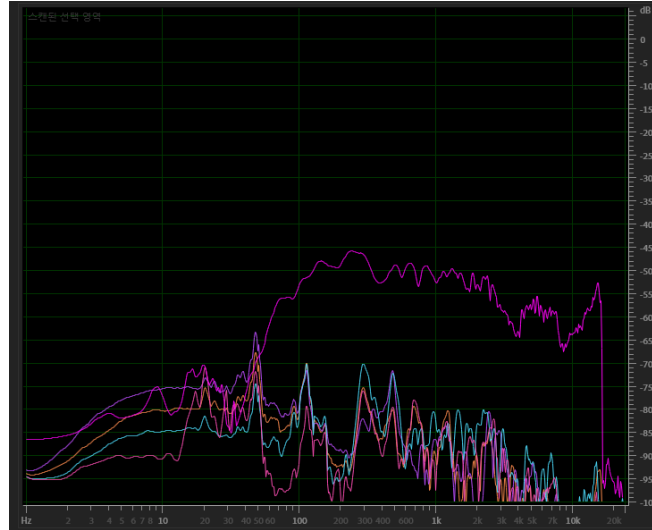
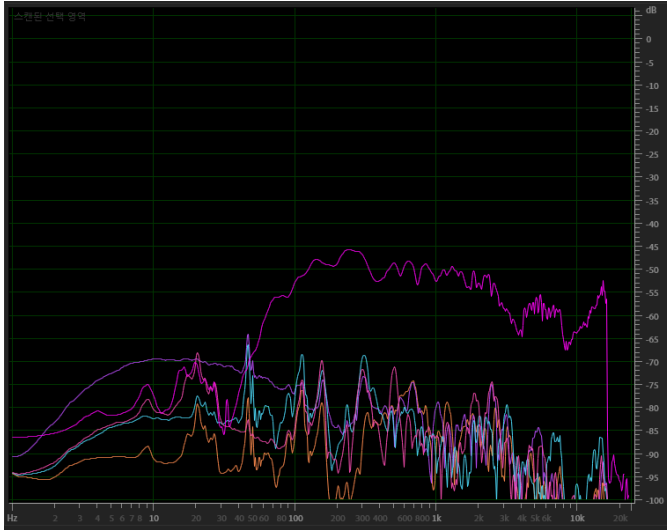
- side rib sealing reinforce : Adhesive tape 0.2t
  - Green area



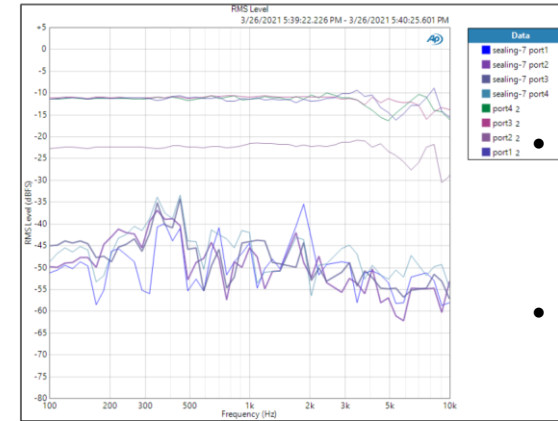
- There is an assembly gap between top housing and holder mic (bracket) : about 0.16mm
- Apply Adhesive tape 0.2t around rib area (Green color), will be better sealing performance.



- Copy the conditions as FII golden sample + side rib sealing reinforce



7. Paste the adhesive between sponge\_mic\_0.5t(o-ring) and MIC board



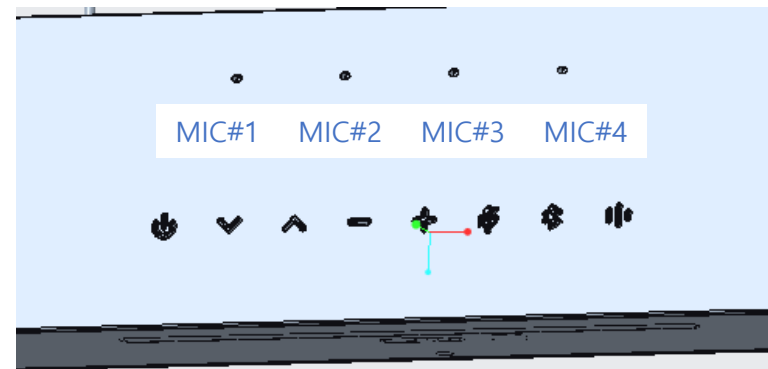
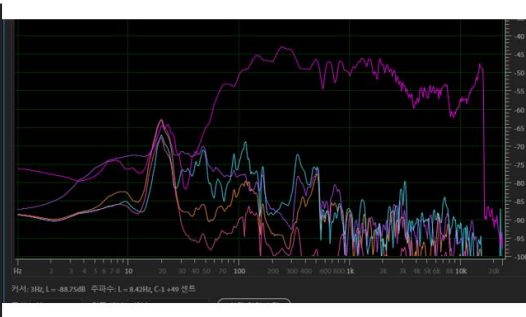
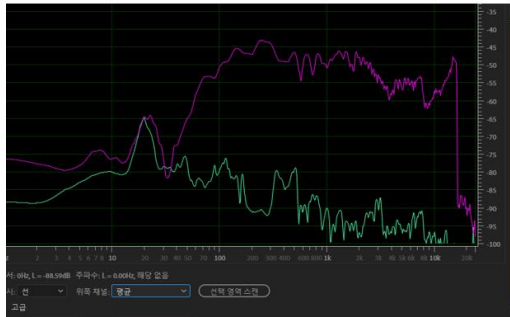
- All of range has sealing margin
- Mechanical structure will be reinforce next housing (T1)
- MIC4 (Sky blue) sealing performance will be similar to other channels.

Picture a7. Add adhesive can test pass with small mic hole.  
Mic2 hole is blocked, but we can ignore it.

Fii golden sample

ALT copy FII golden sample

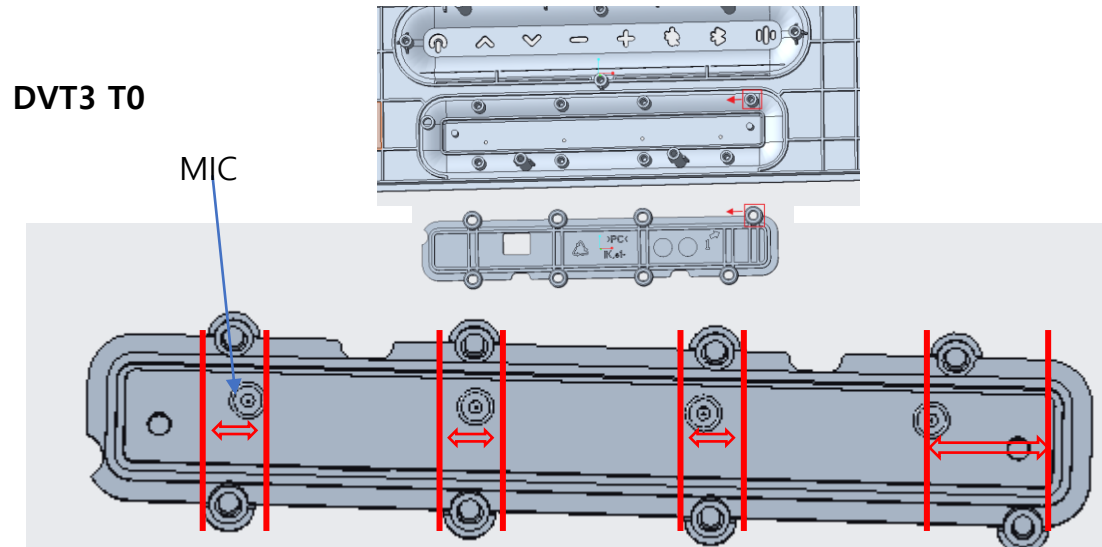
new SPONGE\_MIC\_SILICON 1.1t\_close\_woth gasket + 1t retest 2\_1



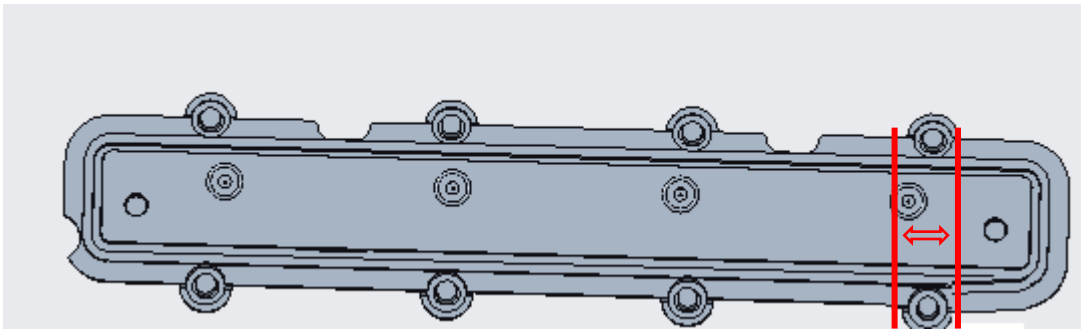
- Next Plan

- T1 mold design update – See detail next page.
  - Add more rib on the Top housing
  - Rubber design
    - sponge\_silicon\_Mic : 0.5t double side O-ring
    - silicon Mic : add 0.9t back side, Removal of rectangular structures, add rib aside the connector
  - Will verify and finalize the sealing conditions.
- Adhesive tape between PCBA and housing
  - ALT is reviewed sub assemble for sponge\_silicon\_Mic. But it can not assembly
  - The rubber stretches because of the tape.
  - Fii need to review that Adhesive tape apply on the MIC PCBA

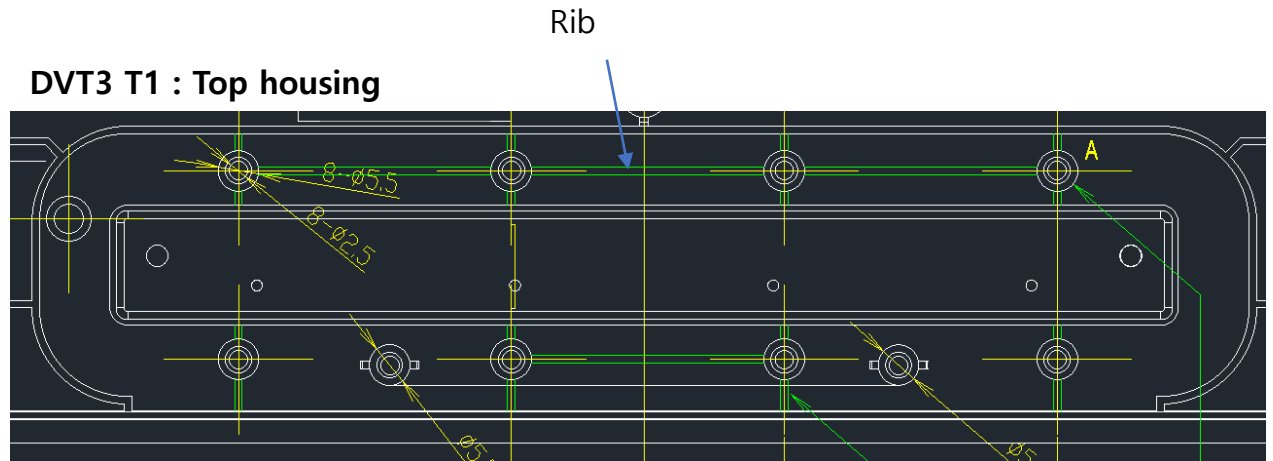
- Mechanical structure of MIC bracket



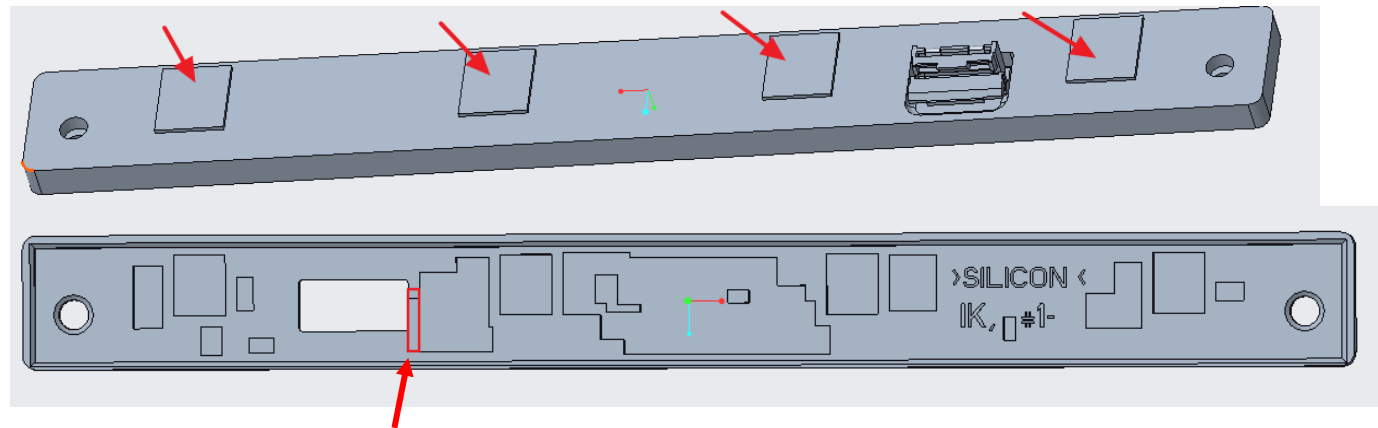
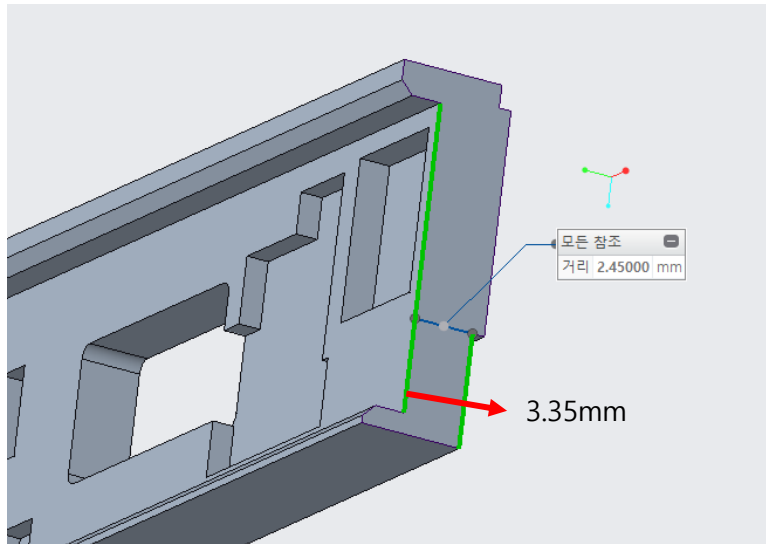
**DVT3 T1 : Holder MIC**



- The pressure applied to MIC 4 is different from the others.
- Need to verify T1 housing for MIC4 sealing performance is similar to other channels.
- And also will be more add the rib on the Top housing Mic area



- Mechanical structure of MIC silicon



- Back side, thickness add 0.9mm : 2.45mm to 3.35
- Back side, rectangular structures Removed
- Inner side, will be more add the rib on the Top housing Mic area

- End of Documents