

BFX-UA300

Hardware Unit Test Report

4 *MIC Test

Hardware version	FW version	Sample No.
V045-DVT3	Google TV	S/N: TBD

Test DVT3 sample for far field MIC sealing issue: 2021/7/26

SPONGE_MIC_SILICON_140X24X0D5T rubber

--0.5mm, O-ring@top cover side

SILICON_MIC_UA300 rubber

--New DVT3 version

Sub assembly

BFX-UA300 Part List – 1. CASE TOP ASS'Y

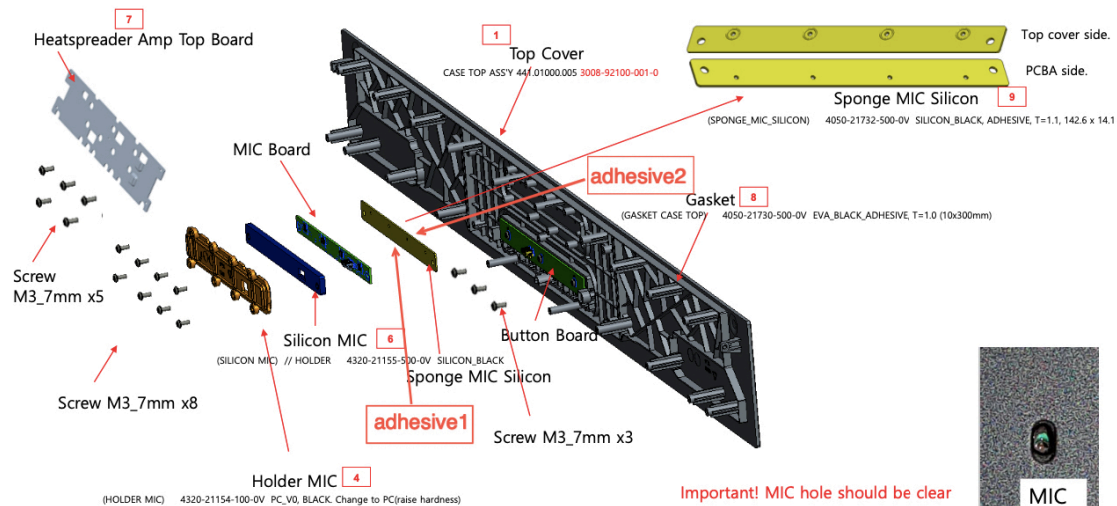


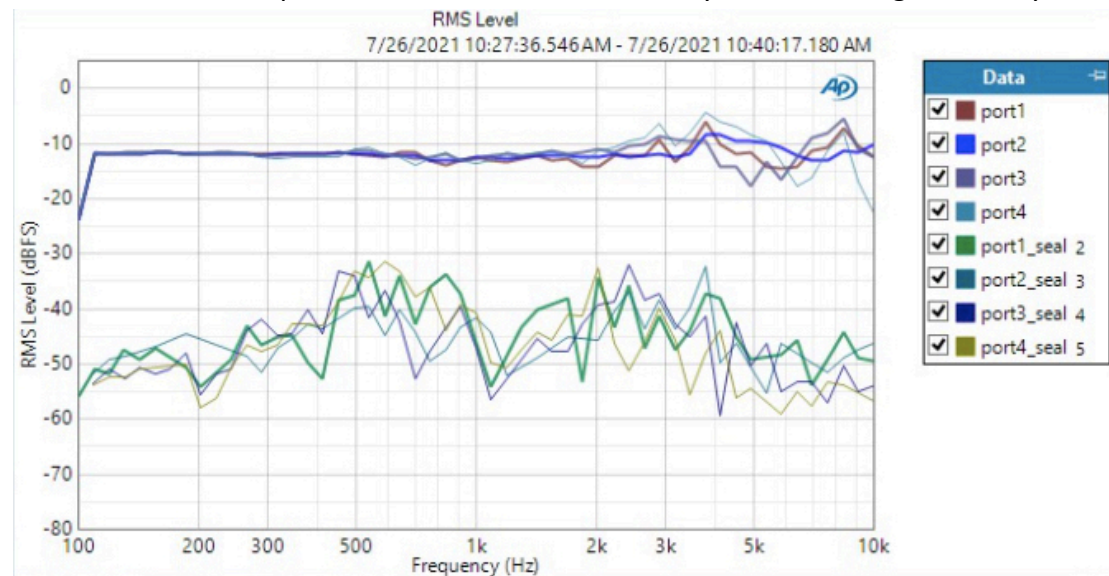
Figure 1. Mechanical structure. Note for adhesive1 and adhesive2.

Test for DVT3 samples for mic sealing function:

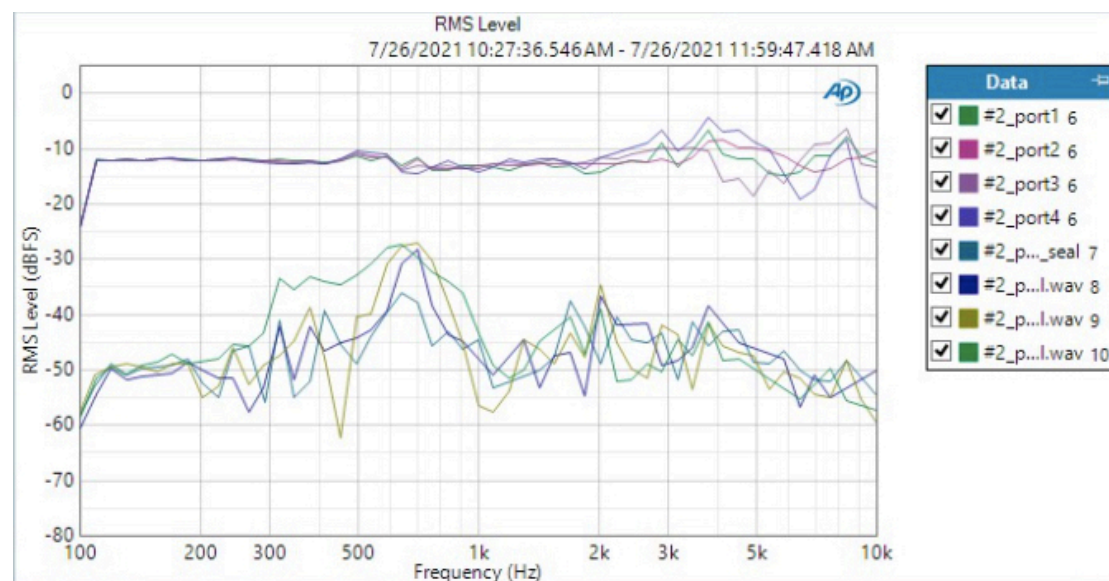
1. Paste adhesive1 between PCB and sponge mic silicon rubber.
Using 2 top covers to test to see if assembly affects sealing sensitivity.
2. Paste adhesive2 between top cover and sponge mic silicon rubber.
The test cannot satisfy 25dB, so needs another adhesive to strengthen sealing.

Test results:

1. Paste adhesive1 between PCB and sponge mic silicon rubber.
Here we use 2 top covers to test to see if assembly affects sealing sensitivity.

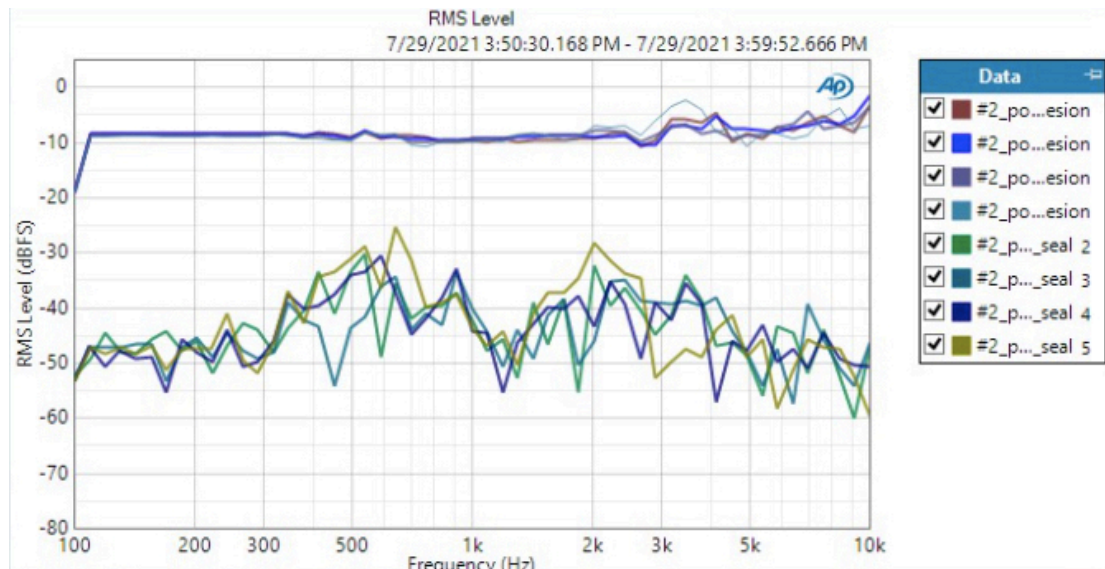


Picture 2. #1 top cover test result.



Picture 3. #2 top cover test result.

#1 and #2 top cover test results are not satisfied for 25dB sealing sensitivity, see picture 2 and picture 3. We re-assembly again from #2 top cover, but the result is not satisfied 25dB, too. See picture 4.



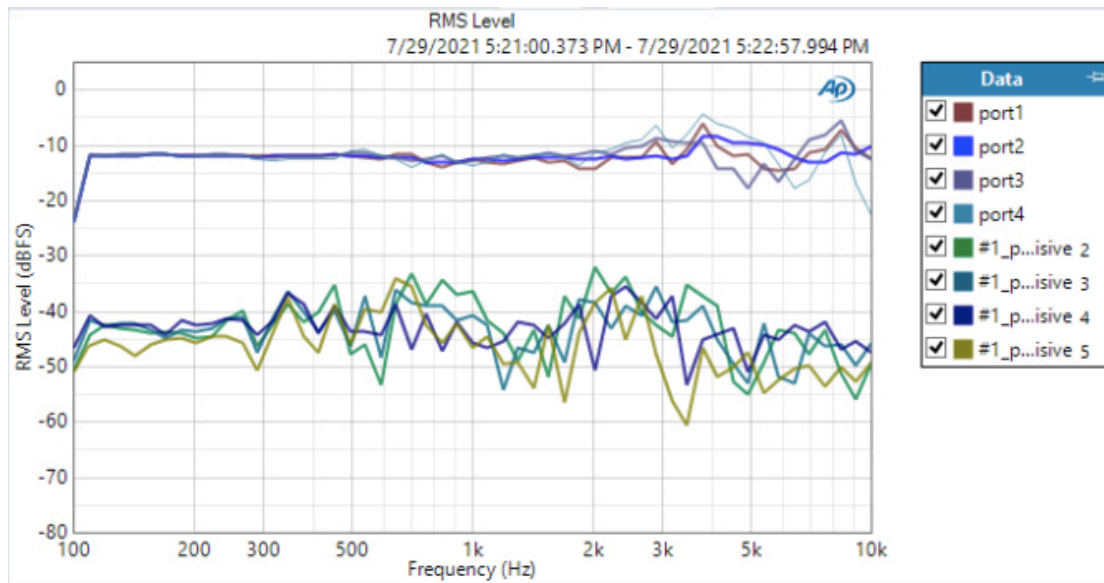
Picture 4. Re-assembly #2 top cover test result.

2. Paste adhesive2 between top cover and sponge mic silicon rubber.
The test cannot satisfy 25dB, so needs another adhesive to strengthen sealing sensitivity. We add to paste an adhesive on #1 and #2 top cover, see picture 5.

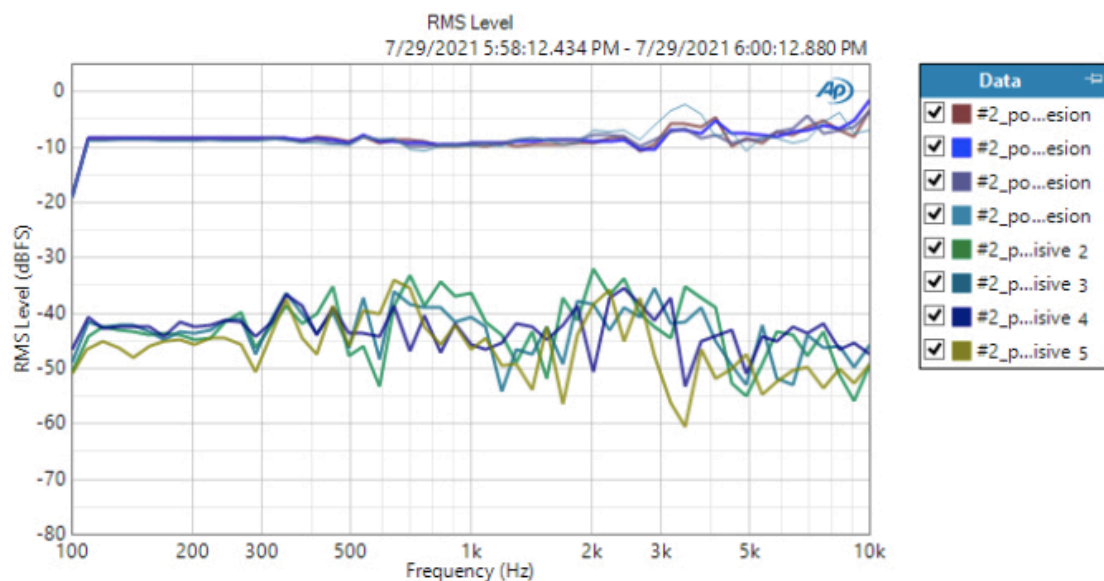


Picture 5. Add adhesive to top cover.

The test results can satisfy 25dB for mic sealing, see picture 6 and picture 7.



Picture 6. #1 top cover. Add adhesive on double side of sponge mic silicon rubber.



Picture 7. #2 top cover. Add adhesive on double side of sponge mic silicon rubber.

Summary

1. We follow as our suggestion to add adhesive between PCB and sponge mic silicon rubber, #1 top cover is around 20dB, #2 top cover is around 16dB. Seems related to assembly issue.
2. Re-assembly #2 top cover can improve 1~2dB, but still cannot satisfy 25dB. It is not only related to assembly issue, but also related to adhesive.
3. Add adhesive on top cover side to strengthen sealing, the test results are good to 25dB. After #1 and #2 top cover paste double adhesive, these two top cover have the same test results.
4. Consider to assembly for FATP, we need rubber vendor to glue on double sides of sponge mic silicon rubber. Suggest rubber vendor to glue on double side for VN FATP.