

## PD78X Remote Speaker MIC No Audio Output Repair Case

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### 1. Trouble introduction

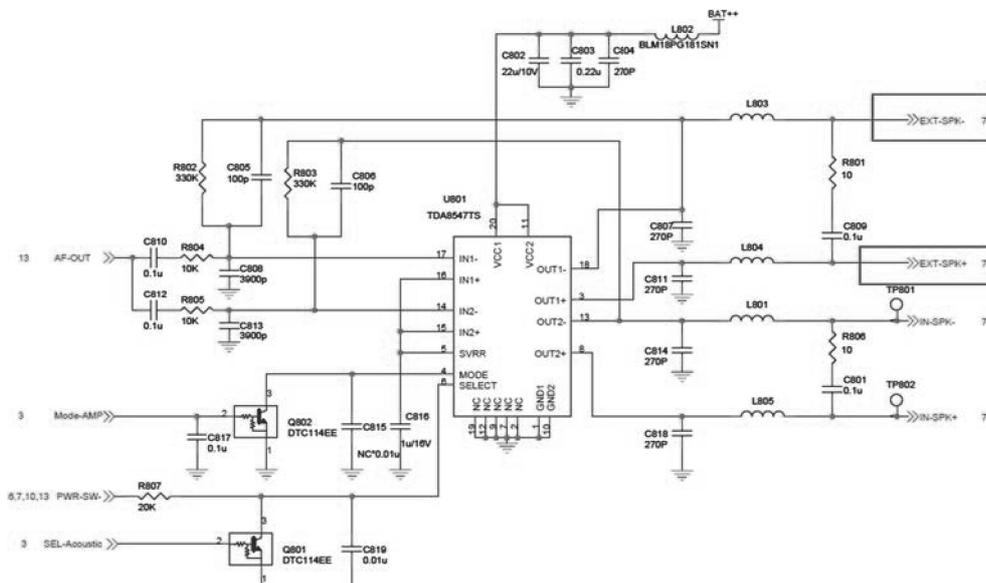
Hytera received one remote speaker MIC of PD785G from one customer, in which there was no audio output (earphone was working well). Detailed information is as below:  
Customers found this problem when they used their own remote speaker MIC which was designed by them. After that, they applied Hytera standard remote speaker MIC for test and found that the problem was the same. But earphone's audio output was normal.

### 2. Problem analysis

Analyze the 3 main working conditions of audio output of remote speaker MIC:

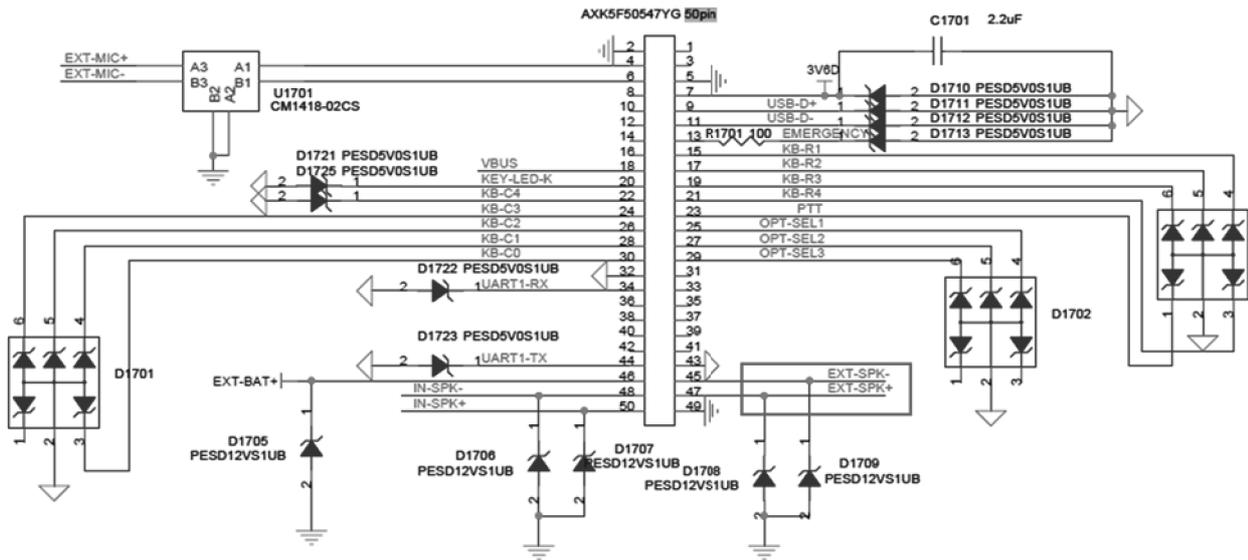
- Whether audio signal is transmitted to the speaker or not
- Whether audio output signal of OMAP is normal or not
- Power supply of remote speaker MIC

2.1 According to customer's feedback, there was no audio output in remote speaker MIC, but earphone was working well. So, we can get that audio signal output is normal. Checked audio amplifier double end output pins No.3 and No.18 by oscilloscope and found signals were normal.

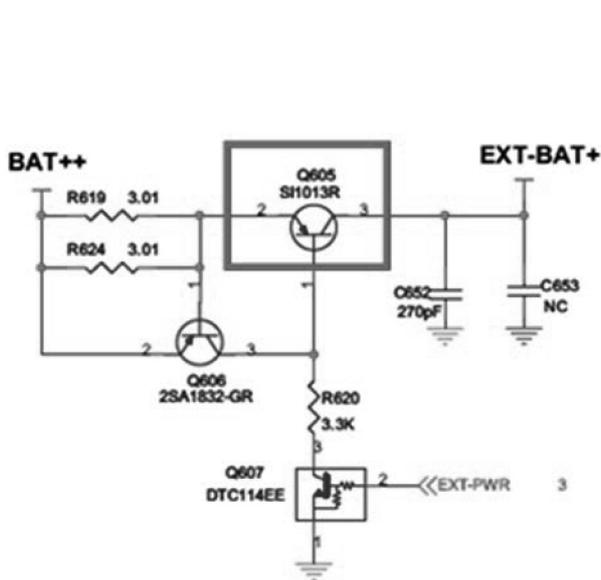


2.2 Checked audio output end 45th and 47th pins of earphone 50 Pin ribbon cable socket, signals were all normal. It means that the circuit from audio amplifier to earphone interface has no problem.

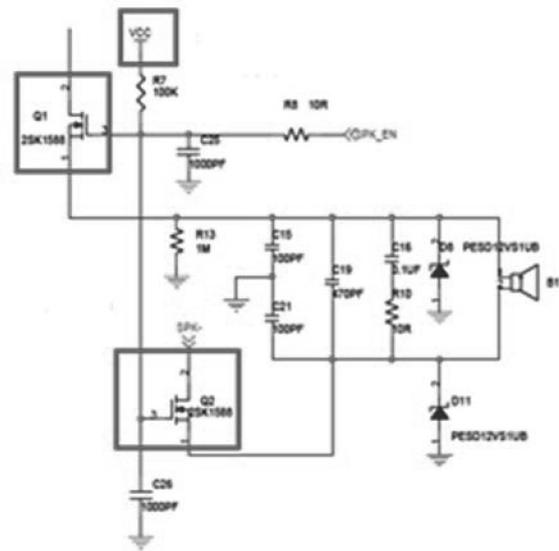
# Repair Case Section



2.3 Checked remote speaker MIC's power supply and found there was no voltage input. Its cable continuity was normal and no wire was non-conducted, it means that remote speak MIC is normal. So, problem should be in the circuit of radio power supply unit. We checked power supply output port Q605 of external accessories and found there was no output. Switch power supply circuit of external accessories was abnormal and PMOS transistor Q605 was burnt, which caused EXT-BAT+ no output and VCC also had no output. In this case, Q1 and Q2 couldn't be switched on and remote speaker MIC had no audio output.



Q605 was burnt , which caused power supply of external accessories no output



VCC had no output ,Q1 and Q2 couldn't be switched on and speaker had no audio output .

### 3. Conclusion

After we replaced Q605 voltage-regulator transistor, VCC voltage was normal and remote speaker MIC was also working well. Generally speaking, if EXT-BAT+ is short-circuited for some time (more than 5s), which will lead Q605 to be burnt. So, we doubted that maybe it's their own remote speaker MIC designed by themselves, which caused radio interface power supply unit short-circuited.