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Application Note of HTR series on Handset, Cell/Mobile phone, PDA & Wireless Equipment

1. Introduction

The market of wireless communication is growing fast nowadays. The market of connection between internet and wireless communication; such as WAP, Third-Generation (3G), Bluetooth, etc; also expands quickly. The requirement of data and image transformation makes the handset/PDA design to become broadband and high frequency. But the trend of handset is becoming thicker and thicker. So the RFI and EMI problem becomes more and more seriously.

Normally, handset manufactures use the PU with metal coating plate covering on the RF PCB as the shielding layer. This kind of design will be insufficient due to the power consumption and frequency increasing.

So some of the handset designers add the metal box cover on the RF IC and high power IC, to make the second shielding box to overcome the RFI/EMI problem. But the metal box need to be welded on the PCB. So such design increases the manufacture cost and rate of failure.

On the other hand, in order to read the data and image easily, it is also the trend to increase LCD penal size on the handset and PDA. So the EMI problem caused by LCD penal is also occurred.

Now **HTR-3G series** absorber by **Perseus Tech.** provide the easy way of solution those problems.

2. Solution of RFI/EMI problem

The new absorber, HTR-3G series, is special design for handset or communication equipment usage. The ultra-thickness at 0.1mm(part no:HTR-3G-01)/0.2mm(part no:HTR-3G-02) is especially suitable for the application inside the handset. The absorbing frequency band-width covers from 50MHz~2GHz(0.1mm) or 800 MHz ~3GHz(0.2mm). The



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absorber for customer specified requirement also can be made.

So the customer can use the absorber depending on the customer's own problem, such as;

- a) To stick absorber on the back side of RF IC or high power IC, as shown on the Figure 1
- b) To stick absorber on the back side of handset LCD panel directly, as shown on Figure 2.
- c) To stick the small piece of absorber on the circuit layout between chips on the PCB to absorbing the microwave emission caused by the loop antenna effect formed by the interconnecting conductors on the PCB..

Customer can test our sample and choose the most suitable way to apply on your equipment.

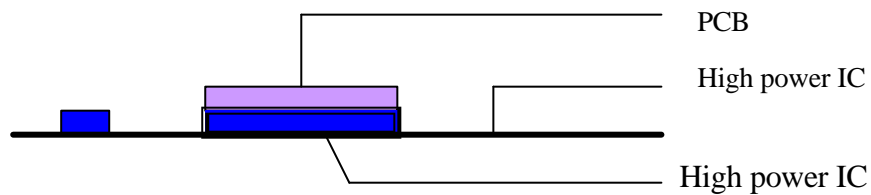


Figure 1: The application for absorber stick on the backside of high power IC without the small metal shielding box

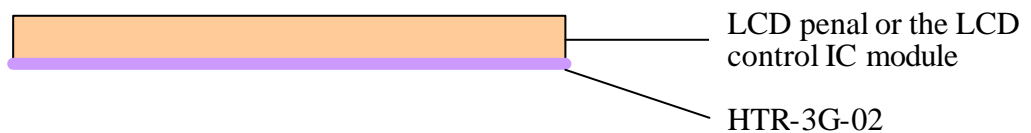


Figure 2: The application of absorber stick on the backside of handset's LCD panel or the LCD control IC module