A & R Technologies Ltd

The Spec of Module C_32pin
MZ100+PCB antenna

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1. Module Mechanism

1.1 Module Size Data

The detail mechanical data for module is referred to as Figure-1(Unit is Mil). There are two kinds of pad: One is 25mil X 45mil, their pin pitch is 40mil and the other one is 100mil X 100mil.

Figure-1 88MZ100 Module Size Data (Top View)

1.2 Shielding Case Size Data

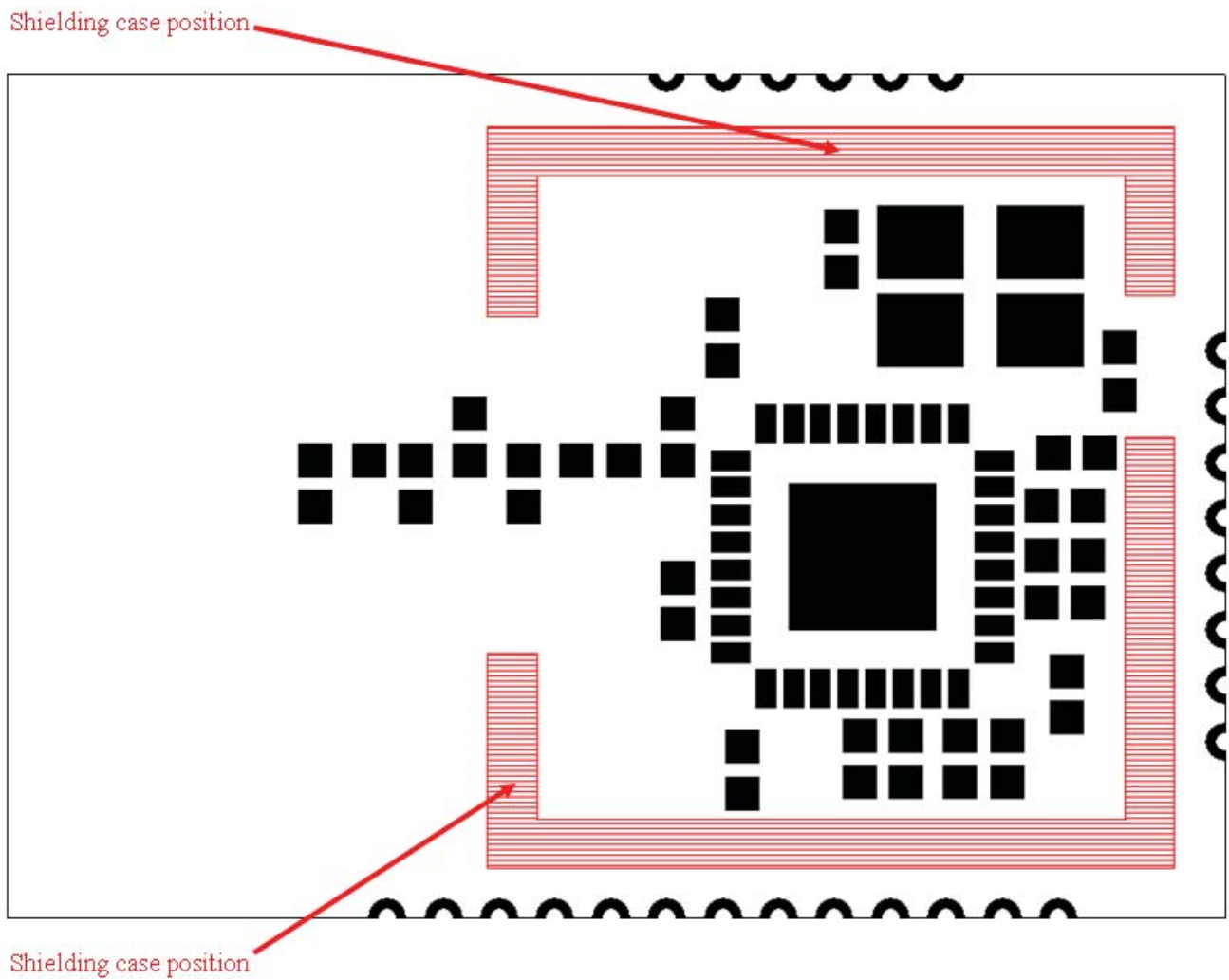The position of shielding case on module is referred to as Figure-2:

Shielding case position

Shielding case position

Figure-2 Shielding Case Position

The detail mechanical data for shielding case on module is referred to as Figure-3(Unit is mm):
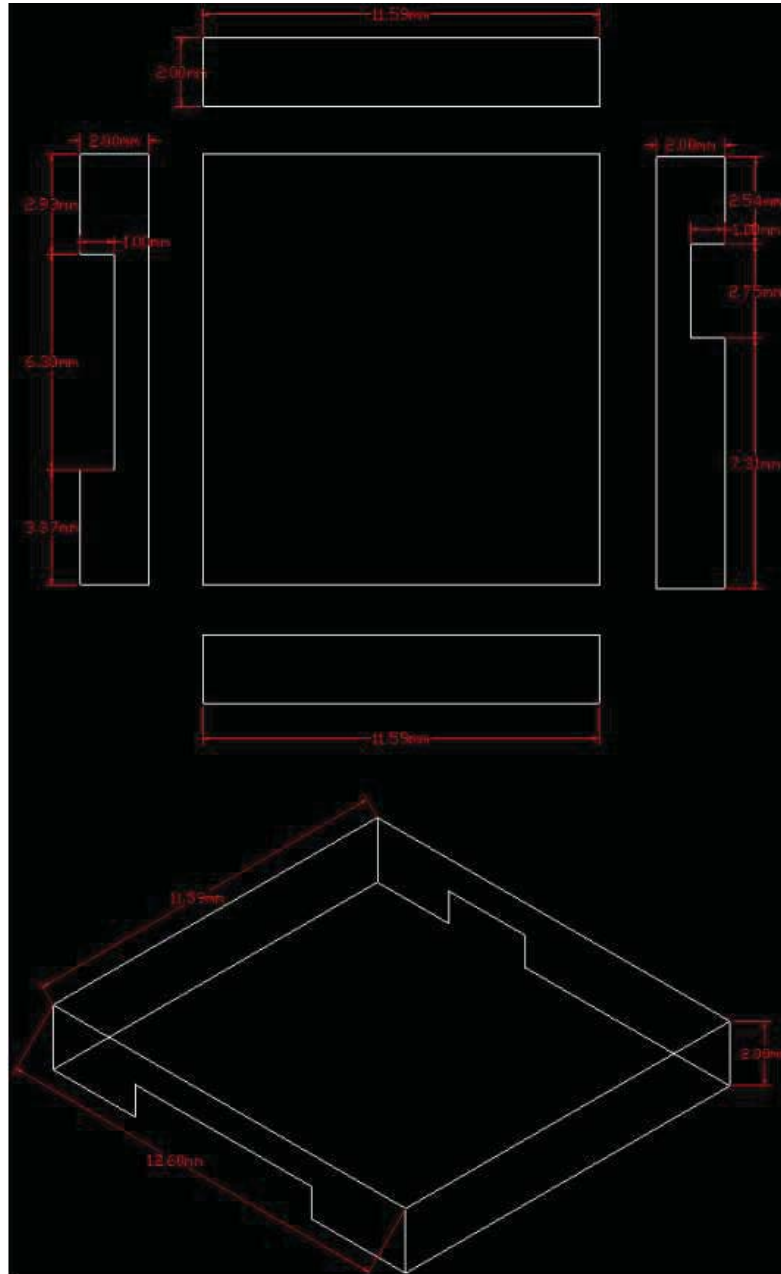

Figure-3 Shielding Case Size Data

2.   Interface

2.1   Pin_out Overview
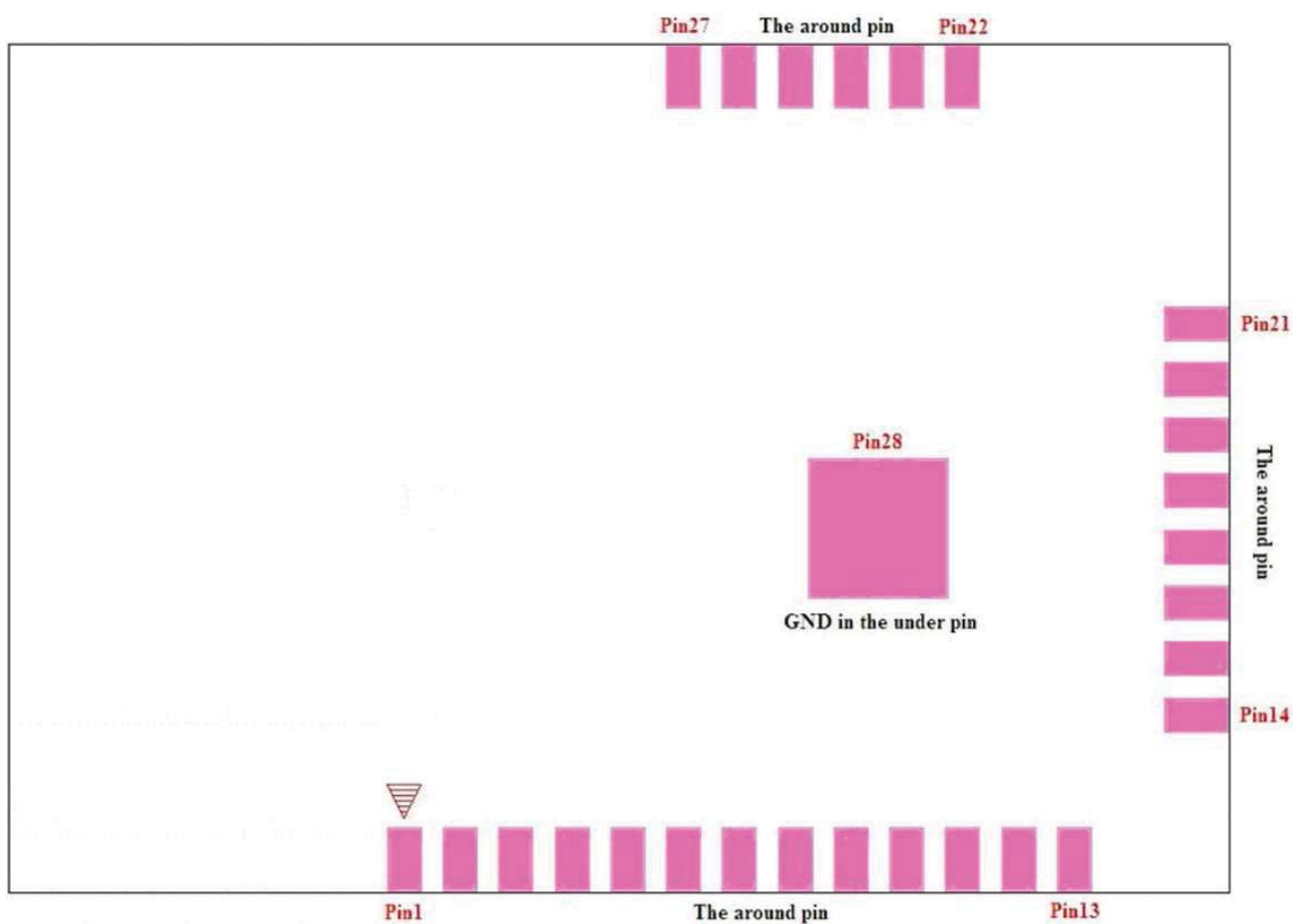
The module pin-out order is referred to as Figure-4:

Figure-4 Module Pin Out (Top View)

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2.2 Pin Definition on interface

The module pin reference definition is referred to as Table-1. The GPIO assignment is **ONLY** reference for the full application on lighting. For some specified application, please refer to the PINMUX of 88MZ100 datasheet for the flexible GPIO assignment.

Pin Number	Signal Assignment	Reference GPIO Assignment for Lighting
Pin1-2	GND	Ground
Pin3	GPIO12	PWM output-1(Timer1)
Pin4	GPIO13	PWM output-2(Timer1)
Pin5	GPIO14	SWD Clock
Pin6	GPIO15	SWD Data
Pin7	GPIO16	IIC SDA
Pin8	VIO	The IO power
Pin9	GPIO17	IIC CLK
Pin10	GPIO18	PWM output-3(Timer1)
Pin11-13	GND	Ground
Pin14	GPIO21	UART2 TXD
Pin15	GPIO22	UART2 RXD
Pin16	GPIO23	PWM output-4(Timer1)
Pin17	GND	Ground
Pin18	VBAT	The main power
Pin19	GND	Ground
Pin20	GPIO29	Reserve
Pin21	GPIO28	Reserve
Pin22	GND	Ground
Pin23	RESET_N	The reset signal
Pin24	GPIO4	ADCx3 or ADCx1 and Wakeup INTx2
Pin25	GPIO5	ADCx3 or ADCx1 and Wakeup INTx2
Pin26	GPIO6	ADCx3 or ADCx1 and Wakeup INTx2
Pin27	GND	Ground
Pin28	The under GND	Ground

Table-1 Module Pin Definition

2.3   **Module Schematics**

The module schematic is referred to as Figure-5:
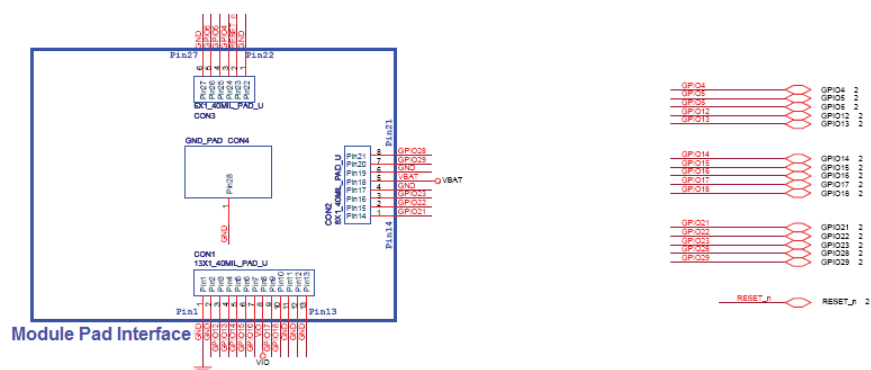
Figure-5 Module Schematics

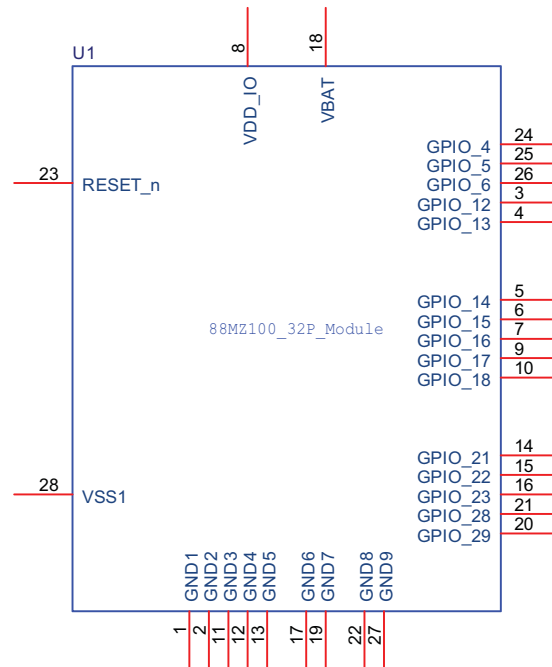The module schematics lib package is referred to as Figure-6:

Figure-6 Module C Schematics Lib Package

2.4 Reference Application Example

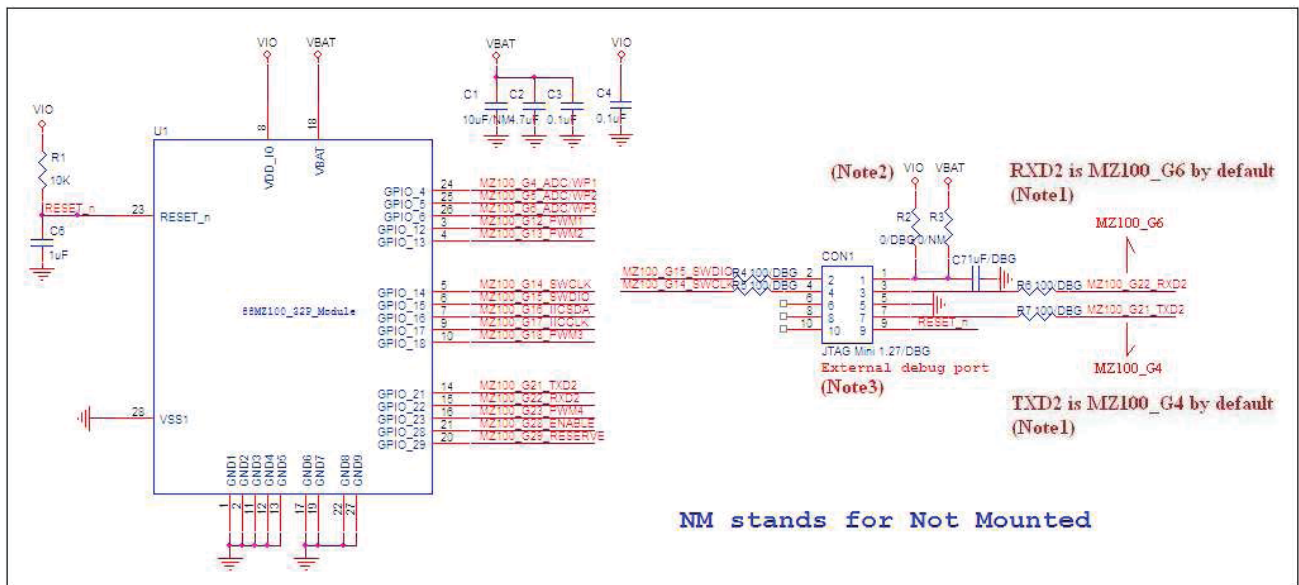The reference application example is referred to as Figure-7:

Figure-7 Module C Reference Application Example

Note1: If MZ100 GPIO6 (RXD2) and GPIO4 (TXD2) are not used for ADC and Wakeup function, suggest using them as the default UART download port.

Note2: The IO voltage level of debug board need be compatible with the one of module. VIO power and VBAT power of module can be supplied by the same power source or by the separate power sources according to the application.

Note3: The external debug port is only for debug function. In final product, it can be removed for BOM cost-down.

Note4: Recommended connector mechanical for debug port is showed in Figure 6.

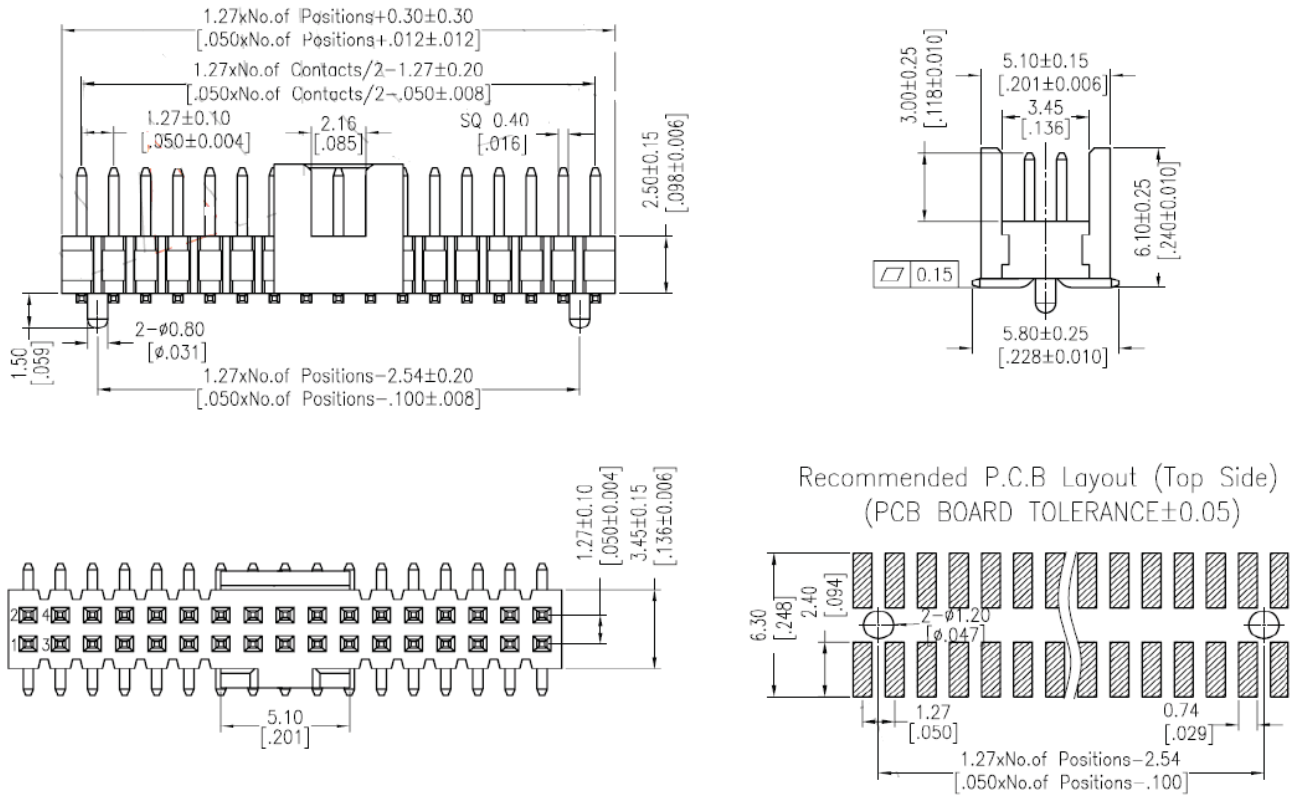2X5 10Pin External Debug Port is referred to as Figure-8:

Figure-8 2X5 10Pin External Debug Port

3.   RF Parts

3.1   PCB antenna
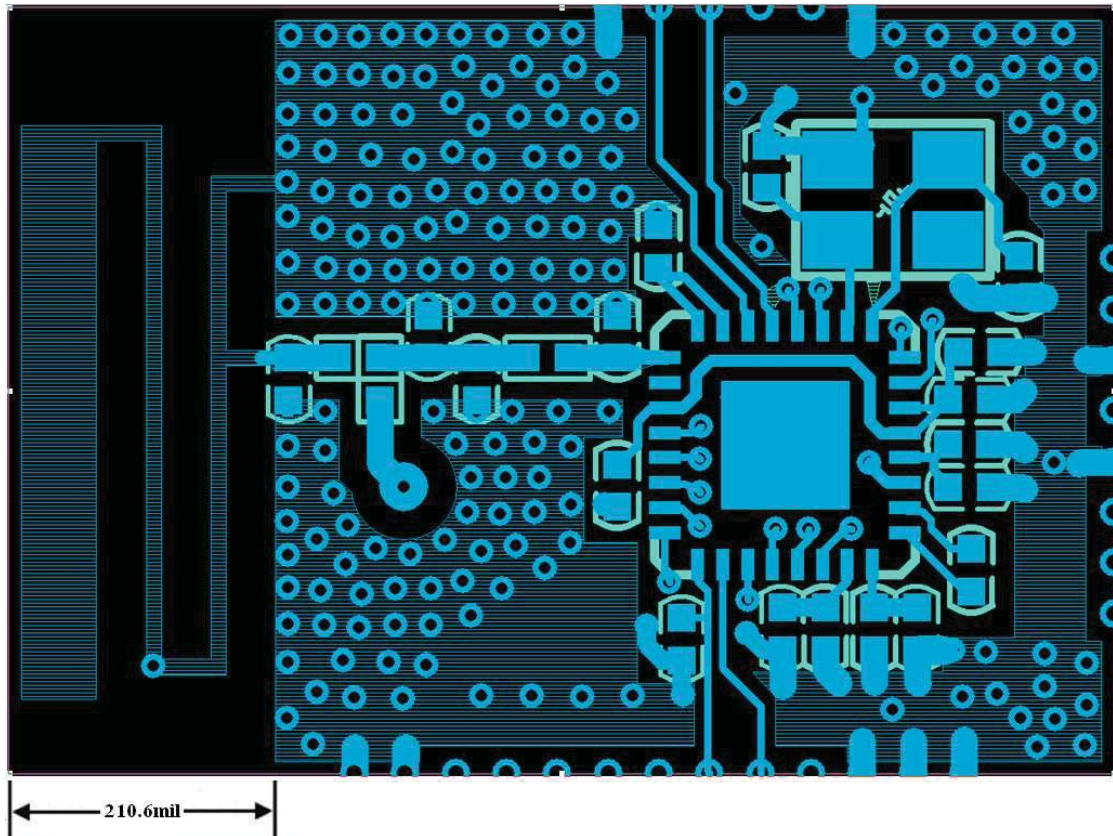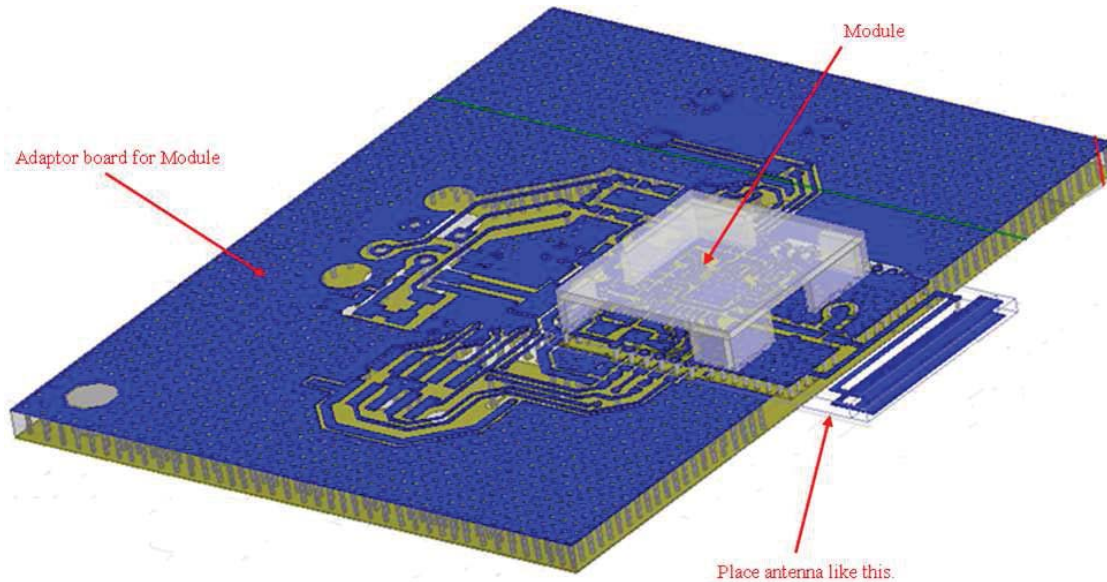
The PCB antenna on board is like Figure-9:

Figure-9 PCB Antenna On Module Board

3.2 Placement of PCB antenna

In principle, it should keep clear around the antenna like Figure-10:

Module C_32pin MZ100+PCB antenna

Figure-10 Reference Placement For PCB Antenna

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
FCC Radiation Exposure Statement
This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module.
This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: 2AG8T-MZ100 Or Contains FCC ID: 2AG8T-MZ100"
When the module is installed inside another device, the user manual of the host must contain below warning statements;
1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.