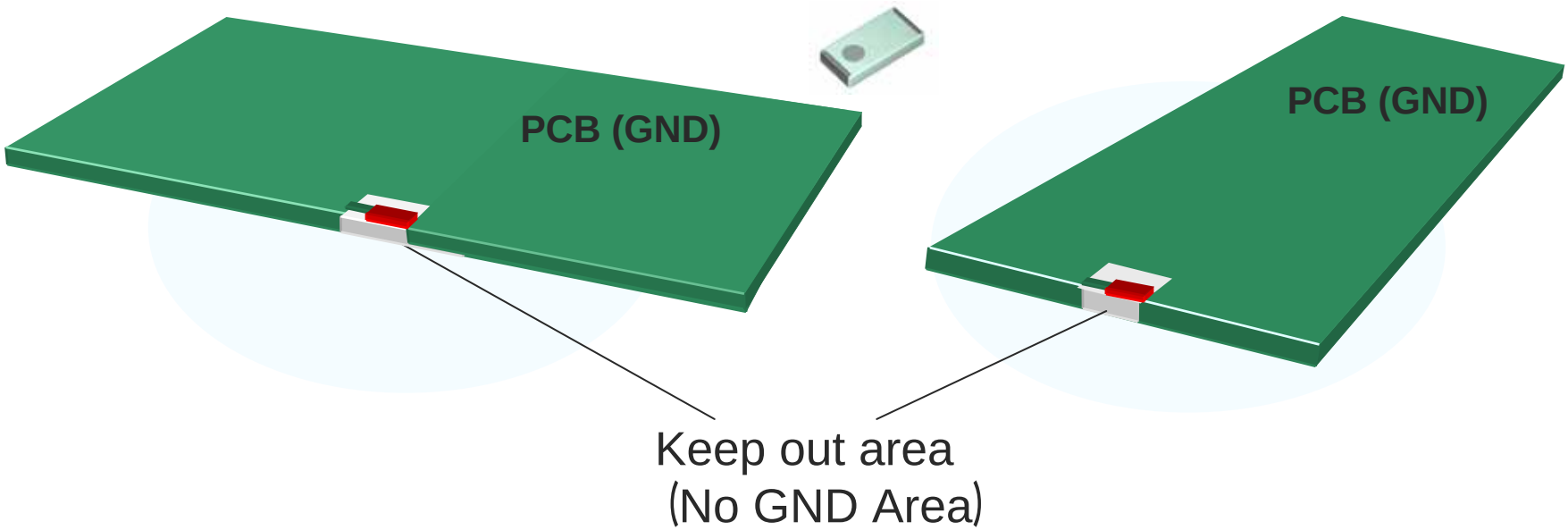
AH 316M245001
Antenna Design Guide

20121105V2.1

2.4GHz RadiEdge Antenna

2.4GHz: AH 316M245001



Keep Out Area
(No GND Area)

Recommended Size
5 x 6 mm (30m㎡)
(This minimal area provides the best performance)

Antenna Layout

Middle of PCB Edge

Data Sheet

Shapes

L= 3.2 ± 0.15 mm
W= 1.6 ± 0.15 mm
T= 0.5 ± 0.1 mm

*on Taiyo Yuden's Evaluation Board
(45 x 20 mm)
*antenna keep out area : 6 x 5 mm

Feature

* Ultra Small
* Low Profile
* High Performance
* Small Keep-out Area

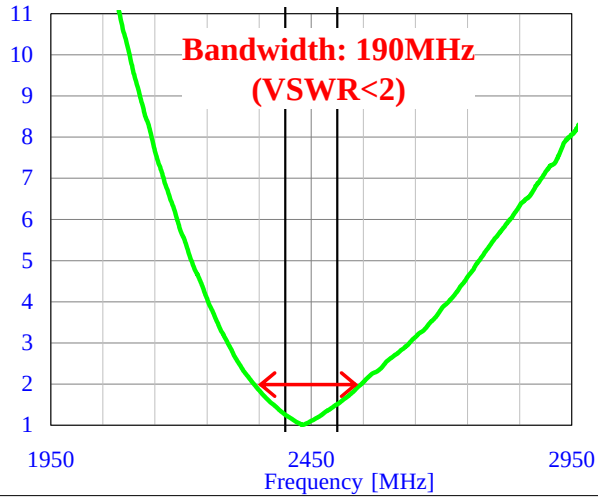
Actual data

Efficiency : -1.3dB (73%)
Peak Gain : 1.9dBi @2450MHz
Average Gain : 0.0dBi (ZX plane-Vertical polarization)

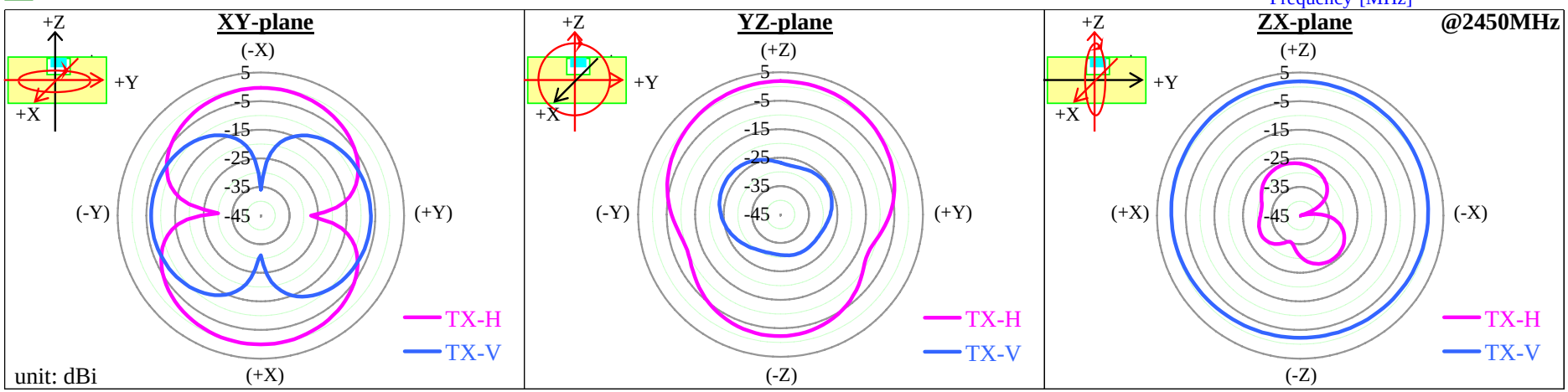
Electrical Characteristics

			2400MHz	2450MHz	2500MHz
Efficiency [dB]			**-1.4 (73%)**	**-1.3 (73%)**	**-1.4 (73%)**
Peak gain [dBi]			**1.9**	**1.9**	**1.6**
Average gain [dBi]	XY-plane	TX-H	-3.1	-3.2	-3.0
		TX-V	-9.4	-9.7	-10.4
	YZ-plane	TX-H	-2.1	-2.1	-2.3
		TX-V	-26.8	-26.3	-25.4
	ZX-plane	TX-H	-29.2	-29.2	-27.9
		TX-V	-0.1	0.0	0.0

VSWR

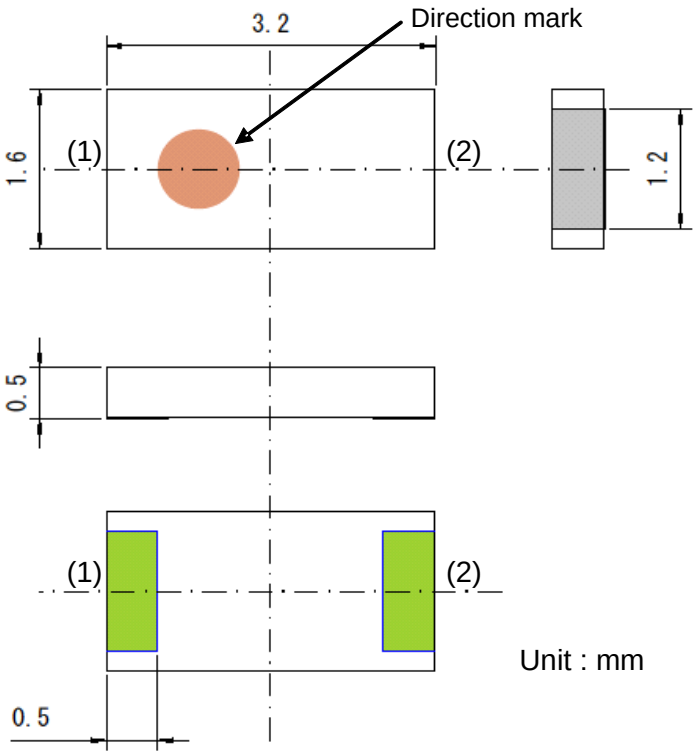


Radiation Pattern



Dimensions and Land pattern

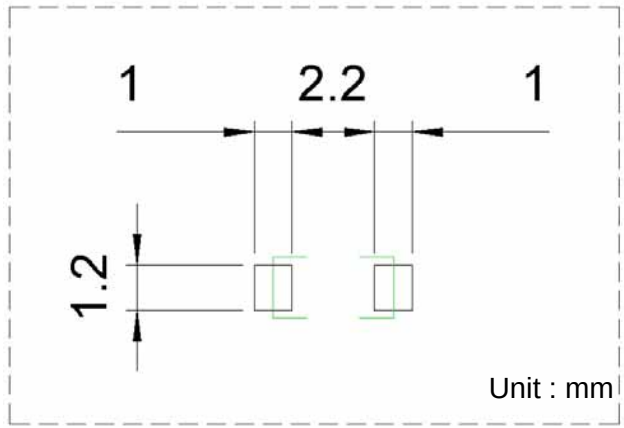
External Dimensions



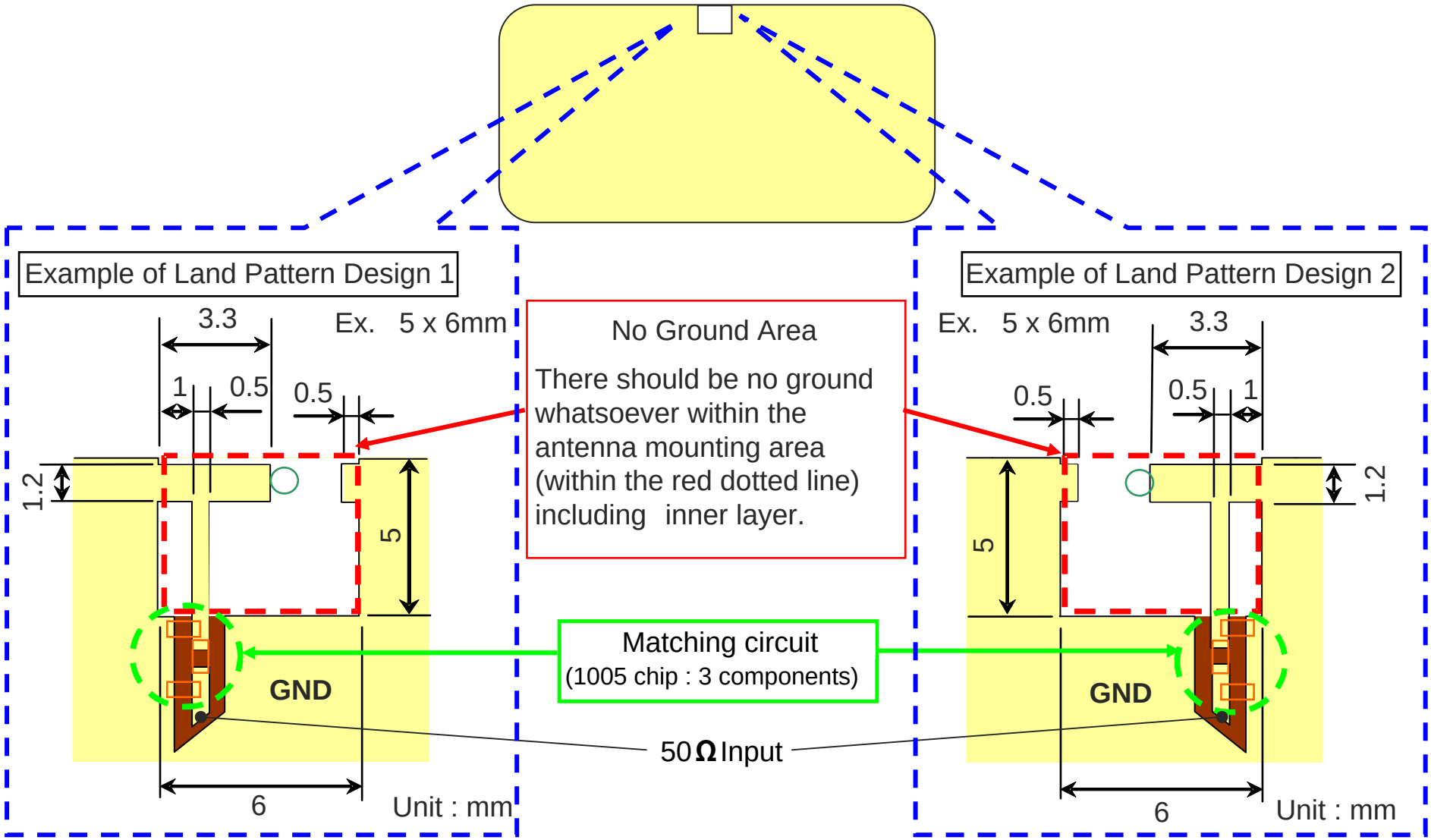
Unit : mm

Terminal No.	Terminal Name
(1)	FEED
(2)	GND

Recommended Land Pattern



Recommended Pattern Layout

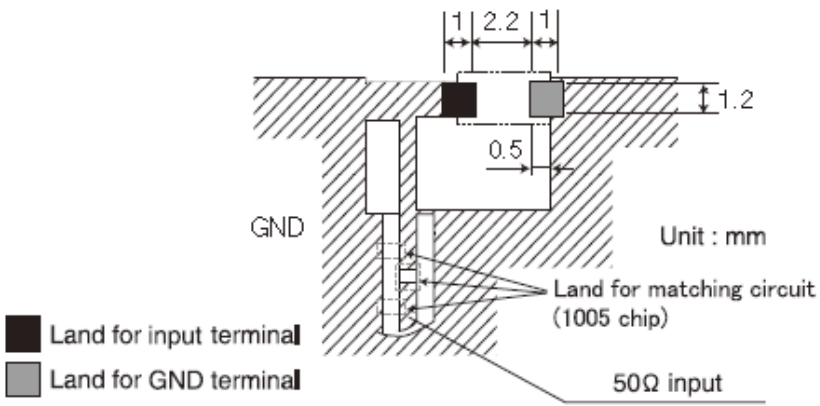


Design Guide

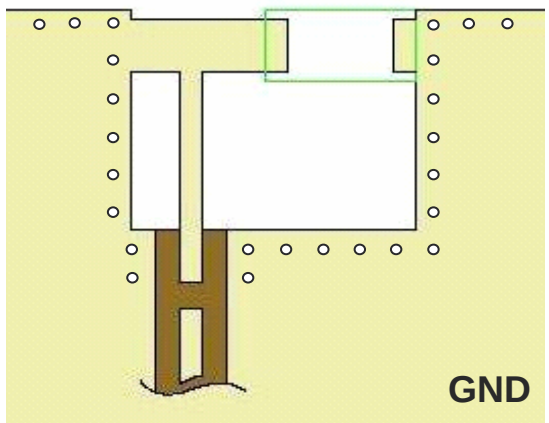
Precautions

I . Surface GND layer around the antenna area should be connected with inner GND layer via through hole.
II . Matching circuit line should be designed as 50Ω.
III. Thickness of PCB can be flexible.
IV. Matching circuit should be placed as close as possible to the antenna.
V . Use of Taiyo Yuden HK1005 and EVK105 series as matching components are highly recommended for the optimized result.
VI. Matching values may be required to get readjusted contingent upon the condition such as proximity to the metal and/or chassis, board size, etc.

Recommended land pattern



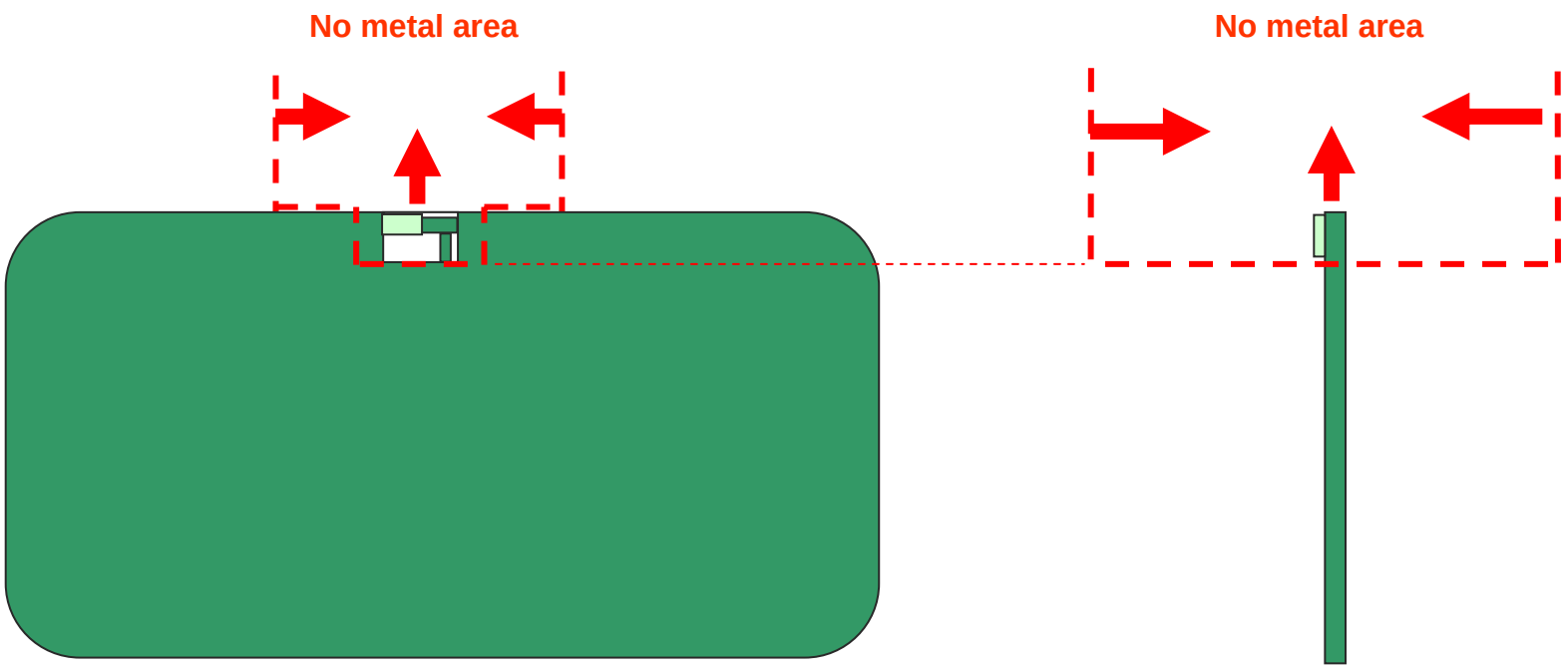
Example of through hole



◎ Do not arrange the surface and inside of layer pattern near the antenna mounting area.

Metal Avoidance Area

Please do not set close to a metal housing, paint including the metal, board GND, the metal chassis,etc.



Front or Back **Side**

TAIYO YUDEN