

# 2.4GHz Planar Inverted F Antenna

## Model AA-INVF-IN100 Keypad Variant

### 1. Introduction

This report presents necessary adjustments for the trace length for the internal IFA antenna that is integrated on the main PCB for the Assa Abloy Aperio IN100 Keypad Variant and antenna measurements (VSWR and radiation patterns).

The mechanical housing for the IN100 may be made of plastic as well as with metal wings. The antenna measurements have been done for both possible configurations of the mechanics.



**Fig 1: IN100 Keypad Variant plastic cover with metal wings.**

**ASSA ABLOY**

110 Sargent Drive  
06511 CT New Haven



Fig 2: IN100 plastic cover.

## 2.Specifications

### 2.1. Gain

Radio Technology	Antenna Gain (dBi)
ZigBee	3.7

### 2.2. Antenna Radiation Patterns

This section provides the Radiation patterns for operation when installed in product with plastic covers and plastic covers with metal wings.

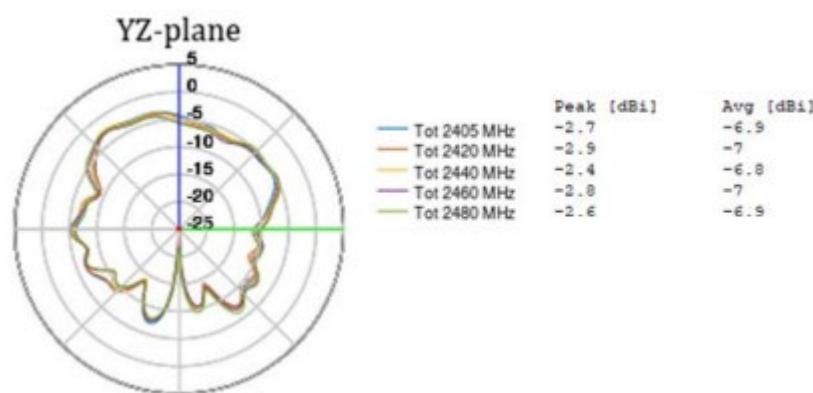
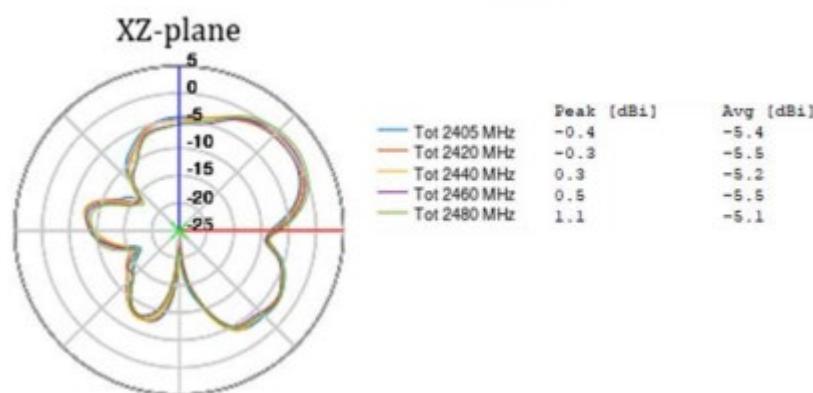
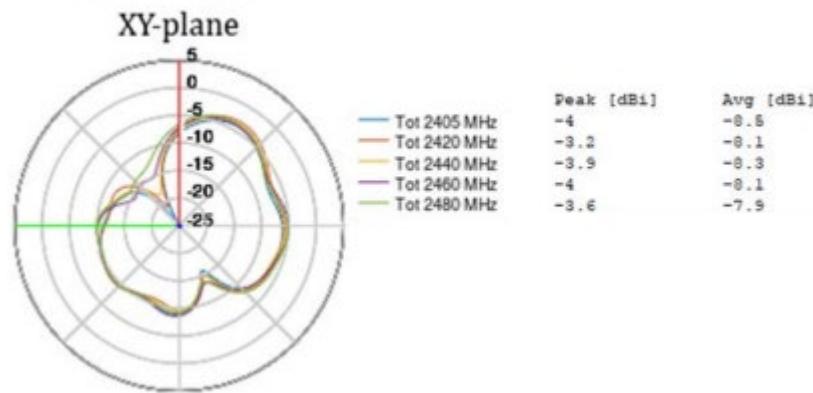
**ASSA ABLOY**

110 Sargent Drive  
06511 CT New Haven

© ASSA ABLOY, All rights reserved

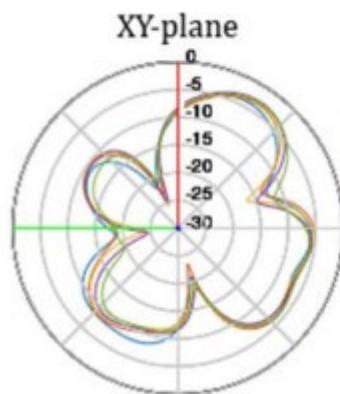
### 2.2.1. PLASTIC COVER

Front cover *Plastic*

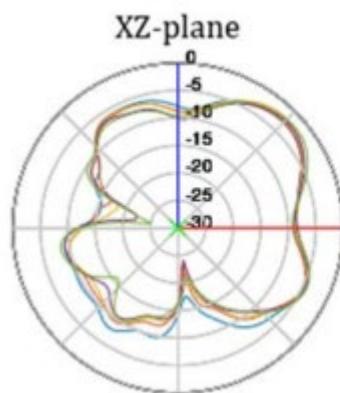


### 2.2.2. PLASTIC COVER WITH METAL WINGS

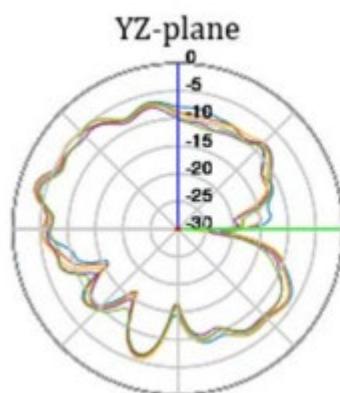
Front cover *plastic with Metal wings*



	Peak [dBi]	Avg [dBi]
Tot 2405 MHz	-4	-8.8
Tot 2420 MHz	-3.4	-8.7
Tot 2440 MHz	-3.2	-8.9
Tot 2460 MHz	-2.9	-8.7
Tot 2480 MHz	-3	-8.8



	Peak [dBi]	Avg [dBi]
Tot 2405 MHz	-2.9	-7.4
Tot 2420 MHz	-2.8	-8
Tot 2440 MHz	-2	-7.7
Tot 2460 MHz	-2.4	-8
Tot 2480 MHz	-2	-7.8



	Peak [dBi]	Avg [dBi]
Tot 2405 MHz	-2.5	-8.1
Tot 2420 MHz	-3	-8.3
Tot 2440 MHz	-3.2	-8.1
Tot 2460 MHz	-3.7	-8.8
Tot 2480 MHz	-4.1	-8.7

**ASSA ABLOY**

110 Sargent Drive  
06511 CT New Haven

© ASSA ABLOY, All rights reserved