

DEPARTMENT : R&D

ANTENNA GAIN INFORMATIONS

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DATE : 27/02/2025

DIFFUSION

DEPARTMENT

NAME

DOCUMENT TYPE

CR	
Guide	
Note	X
Project	
Tests	

INFORMATION

DIFFUSION LIST

Open	
Limited	X
Confidential	

CIRCULATION

DATE

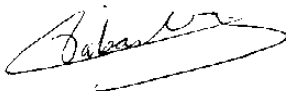
27/02/2025

VISA

OBJECT:

This document provides information about gain antenna depending frequency bands for Birdy Button devices

APPROBATION

Author	Superviser	Quality	Client
A. JABALLAH			-
27/02/2025			
			

REVISION HISTORY

Version	Date	Auteur	Modification
V0.0.1	14/02/2025	JABALLAH	Creation
V0.0.2	27/02/2025	IMALET	Antenna Description, Picture of antenna
V0.0.2	18/09/2025	IMALET/F.PECAL	Update

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1. PRESENTATION**1.1. PRODUCT PRESENTATION**

The Birdy Button is a very light and rugged POCSAG pager. It can be programmed with 128 numeric and/or alphanumeric addresses. It offers a TX capability. It is equipped with a Bluetooth module, and a LoRa module.

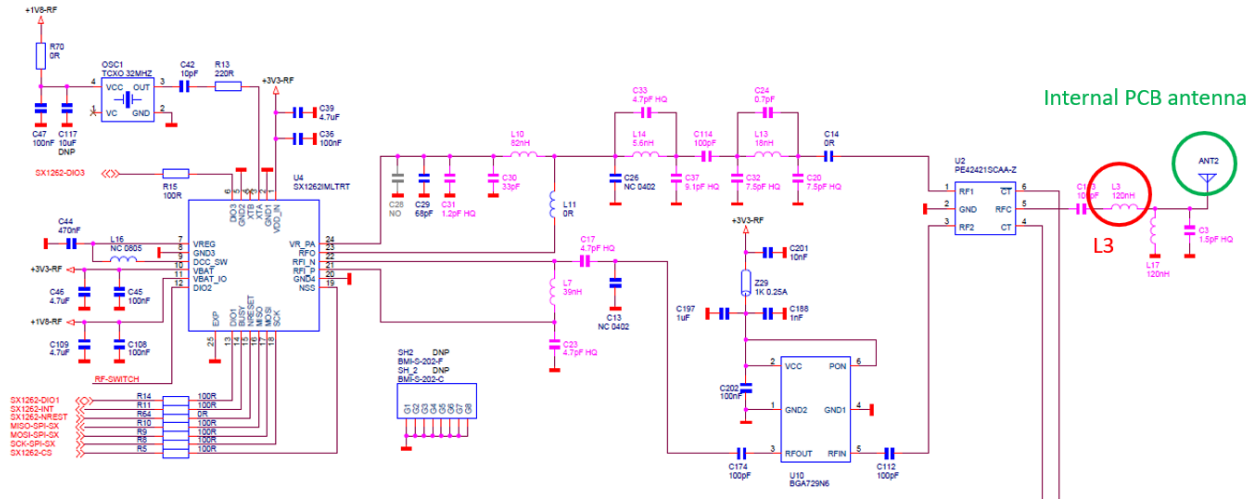


1.2. ANTENNA GAIN INFORMATION

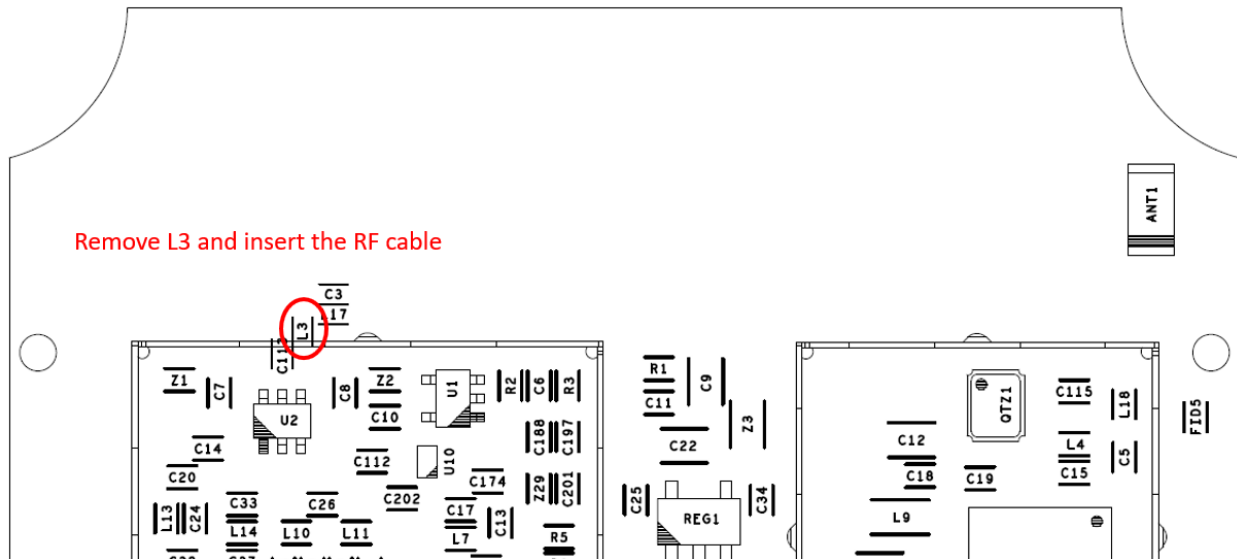
Product reference	Frequency Band	Antenna gain	Remark
BB1xLL	433-438MHz	-19dBi	The PCB has a built-in antenna
BB1xGG	438-454MHz	-19dBi	The PCB has a built-in antenna
BB1xHH	453-470MHz	-19dBi	The PCB has a built-in antenna
BB1xPP	863-870MHz	-3dBi	The PCB has a built-in antenna
BB1xUU	902-928MHz	-3dBi	The PCB has a built-in antenna
Bluetooth for all models	2400-2500Hz	+2dBi	RFANT3216120A5T

1.3. ANTENNA INFORMATION FOR BB1XLL-BB1XGG-BB1XHH 438-470MHZ

1.3.1. SCHEMATIC



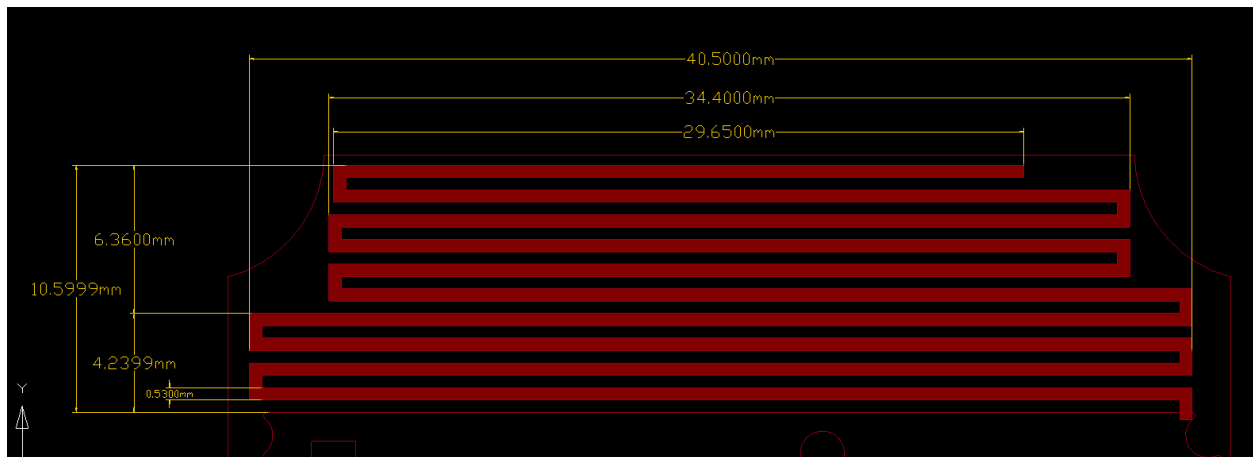
1.3.2. PLACEMENT



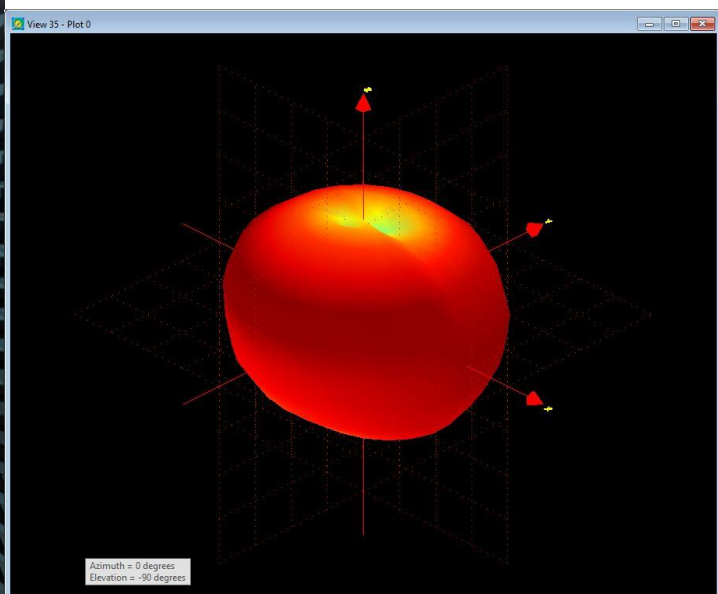
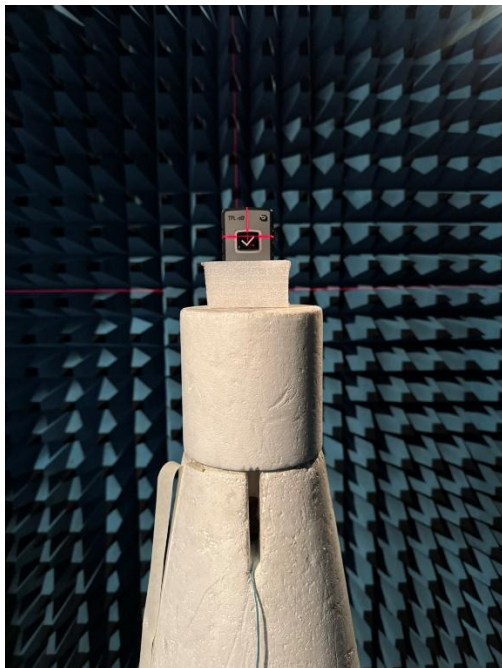
1.3.3. ANTENNA DESCRIPTION

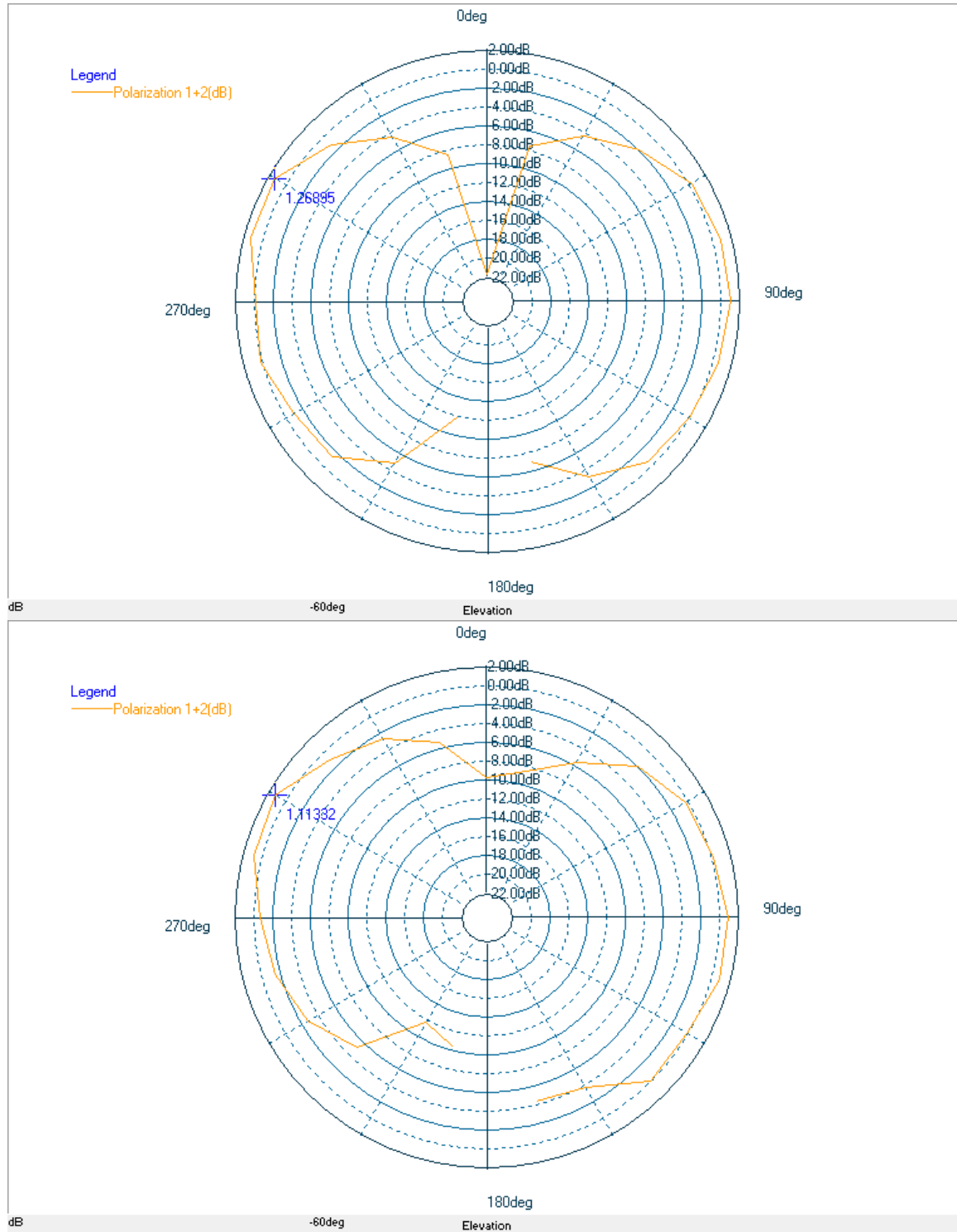
Antenna plate	Monopole Antenna
Antenna peak gain	-19 dBi
Frequency range	433 MHz – 470 MHz
Connect type	Direct connect
Manufacturer	TPL Systèmes
Model	The PCB has a built-in antenna

1.3.4. PICTURE OF ANTENNA



1.3.5. GAIN MEASUREMENT AT 446 MHZ



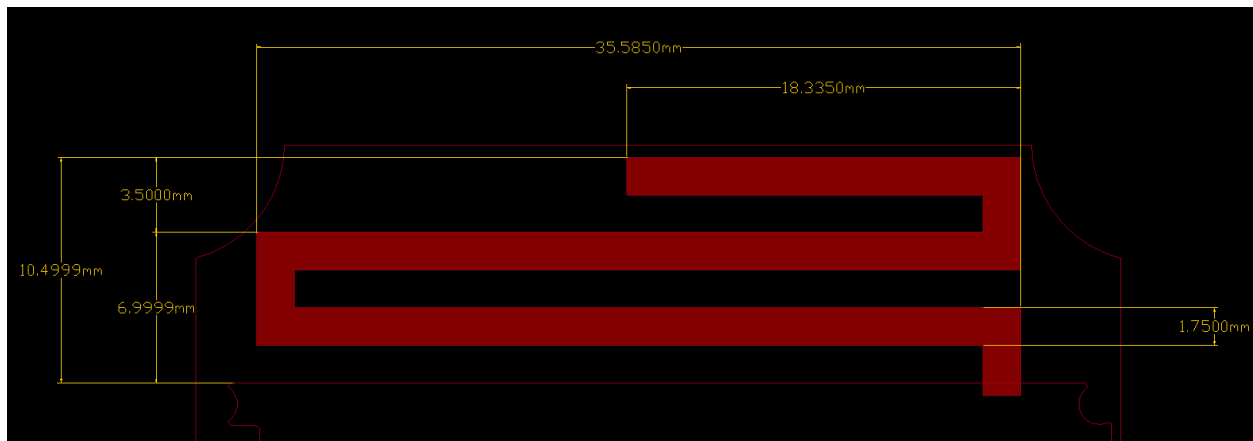


The antenna gain = Value measured [dB]-Conducted Tx Power = 1.26 – 20.5 dBm $\approx$ -19 dBi

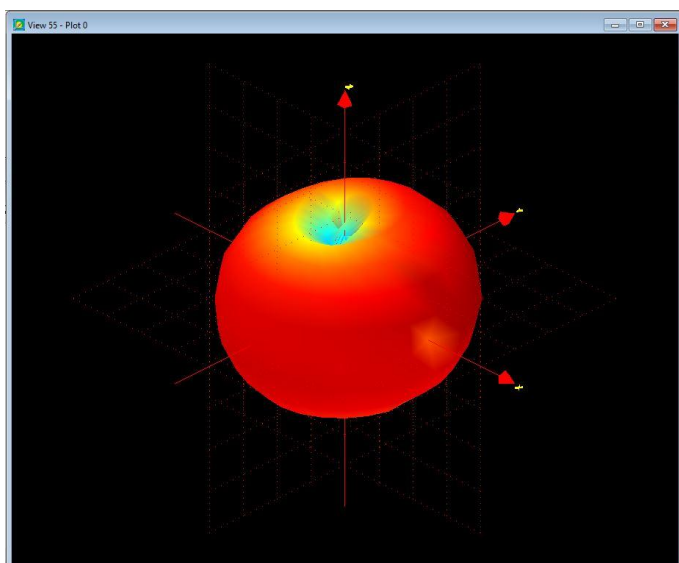
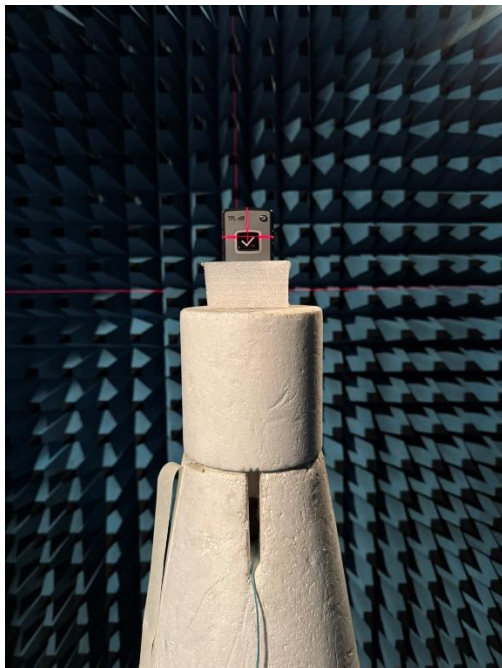
1.4.1. ANTENNA DESCRIPTION

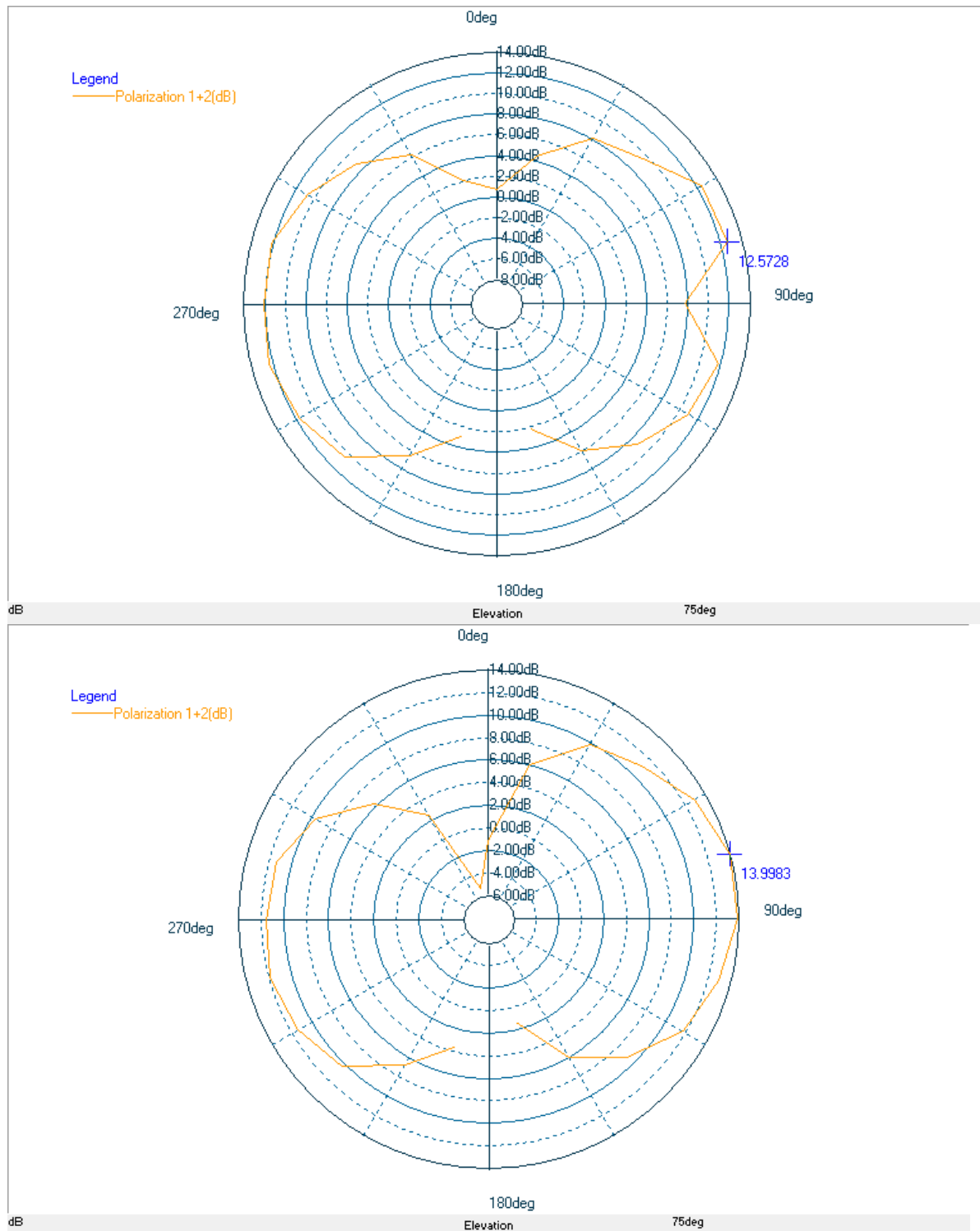
Antenna plate	Monopole Antenna
Antenna peak gain	-3 dBi
Frequency range	863 MHz – 928 MHz
Connect type	Direct connect
Manufacturer	TPL Systèmes
Model	The PCB has a built-in antenna

1.4.2. PICTURE OF ANTENNA



1.4.1. GAIN MEASUREMENT AT 915 MHZ

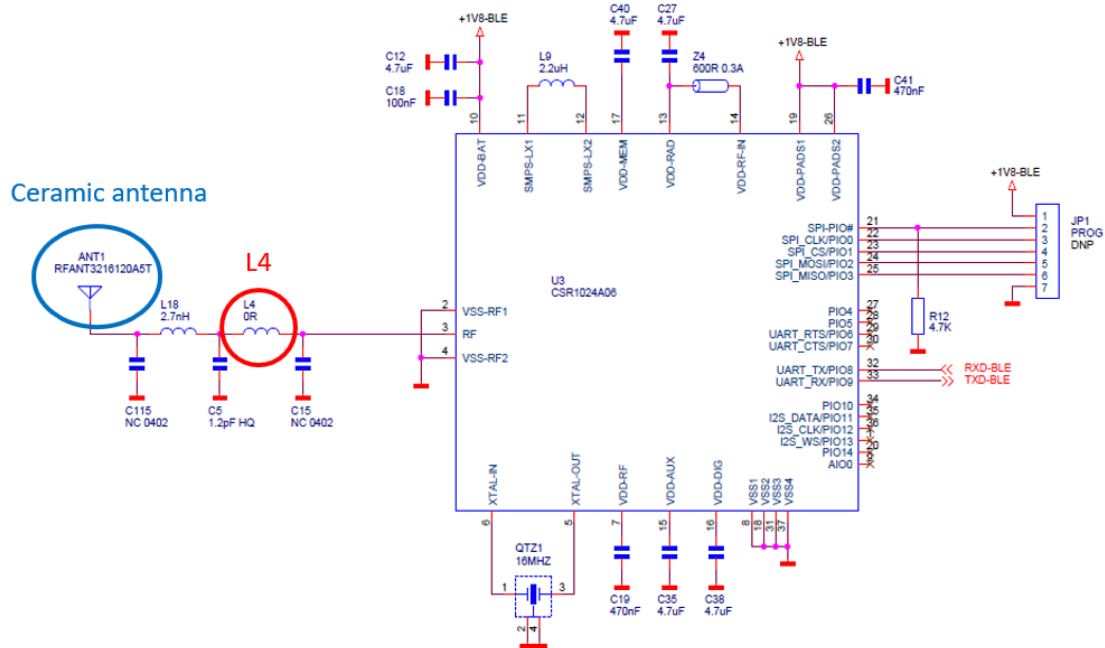




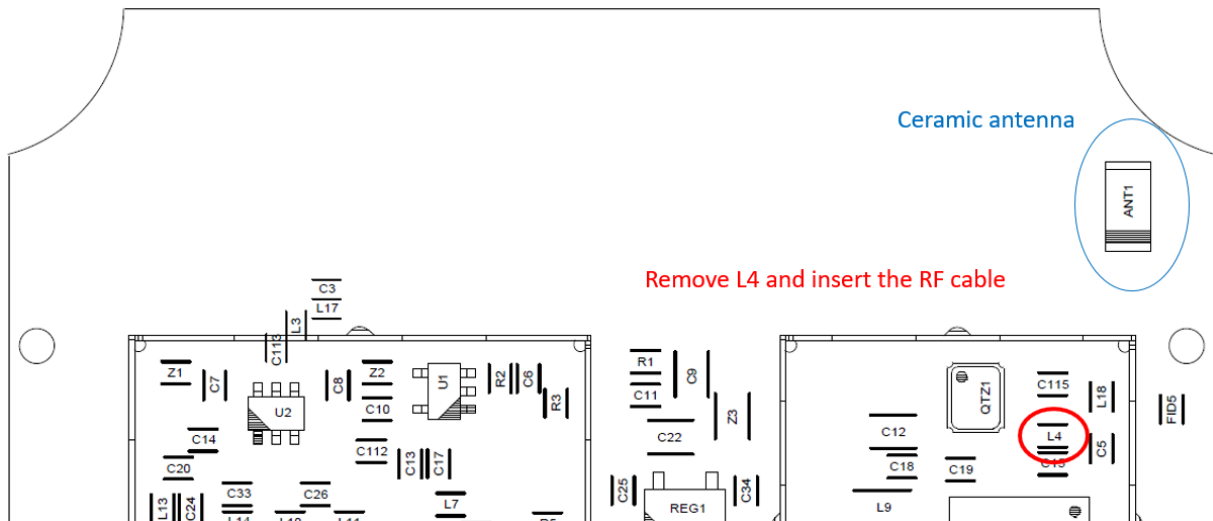
The antenna gain [dBi] = Value measured [dB] – Conducted Tx Power (dBm) = 13.9 dB – 16.5 dBm $\approx$ -3 dBi.

1.5. ANTENNA INFORMATION FOR BLUETOOTH

1.5.1. SCHEMATIC



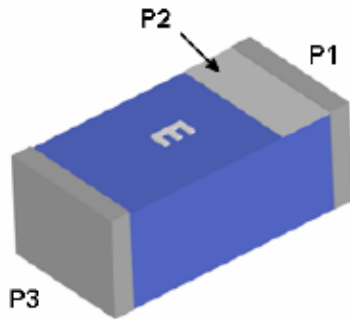
1.5.2. PLACEMENT



1.5.3. ANTENNA DESCRIPTION

Antenna plate	Omni-directionnal
Antenna peak gain	+2 dBi
Frequency range	2400 MHz – 2500 MHz
Connect type	Direct connect
Manufacturer	Walsin Technology Corporation
Model	Ceramic Antenna – RFANT3216120A5T

1.5.4. PICTURE OF ANTENNA



PIN	Connection
1	Feeding
2	Identification Mark
3	Soldering terminal

DIMENSIONS

Figure	Symbol	Dimension (mm)
	L	3.20 ± 0.20
	W	1.60 ± 0.10
	T	1.20 ± 0.10
	A	0.25 ± 0.15