

SALTO DBolt

E2133

DZ0M

Antennas

Version	Date	Changes	Author
1.0	03/04/2023	First edition	U.T.

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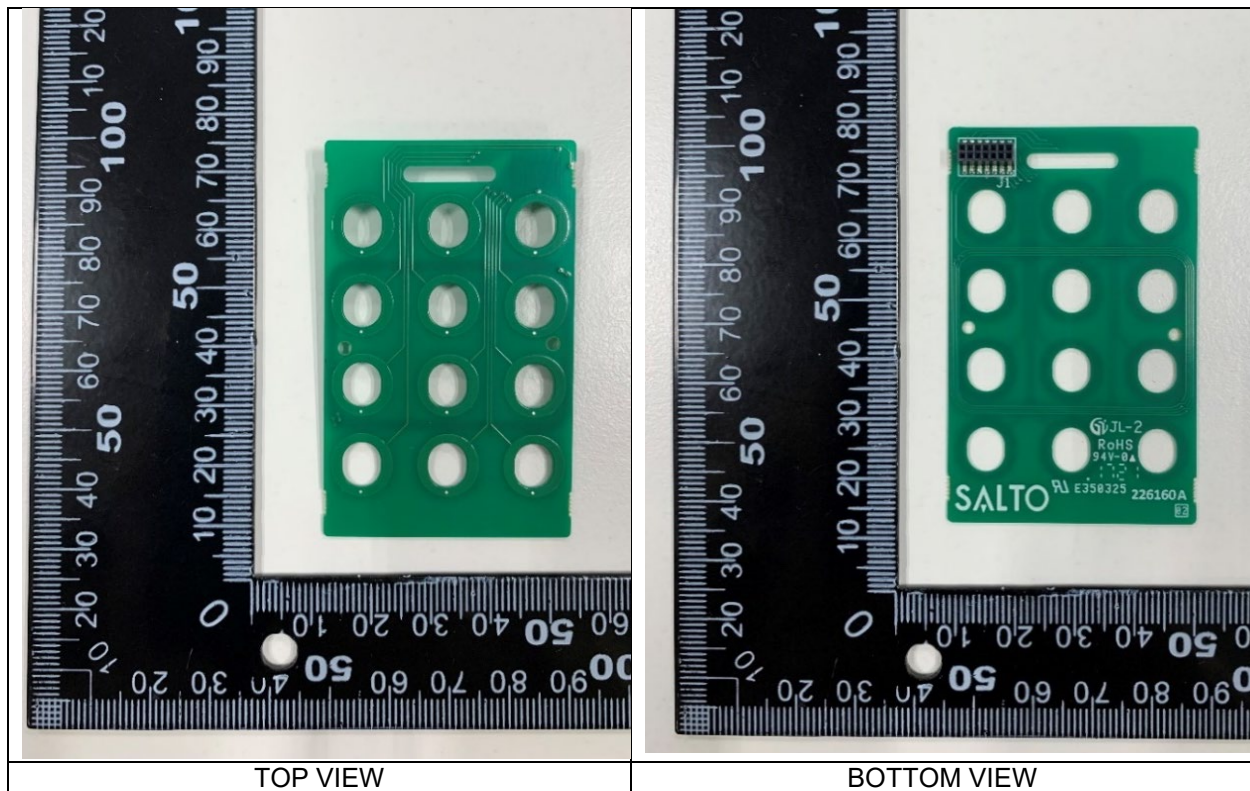
Annex I 5

1 DZ0M

SALTO DBolt E2133		DZ0M
		MIFARE (1) + BLE (2)
Antennas	Number of antennas	2
	Manufacturer	1- SALTO Systems, S.L. 2- N/A
	Model number	1- DZ0M 2- N/A
	Type	1- Integral, PCB 2- Integral, Chip
	Gain	1- N/A 2- 0.5 dBi
	Frequency of Operation	1- 13.553 - 13.567 MHz 2- 2400 - 2483.5 MHz
Channels	Number of channels	1- N/A 2- 40
	Spacing	1- N/A 2- 2 MHz
	Bandwidth	1- N/A 2- 2 MHz
Type of Modulation		1- ISO 14443A: ASK 100%, OOK (subcarrier $f_c/16$) & ISO 15693: ASK 10% - 30%, OOK (subcarrier $f_c/32$) 2- GFSK
Declared Nominal Output Power (Max.)		1- 22 dBm 2- 6 dBm
ITU Emission Designator		1- K1D 2- F1D
Equipment Configuration for frequency Stability: Data Rate		1- 106 Kbit/s, 26.48 Kbit/s 2- 1 Mbit/s
Equipment Configuration for Field Strenght Measurement: Data Rate		1- 106 Kbit/s, 26.48 Kbit/s 2- 1 Mbit/s

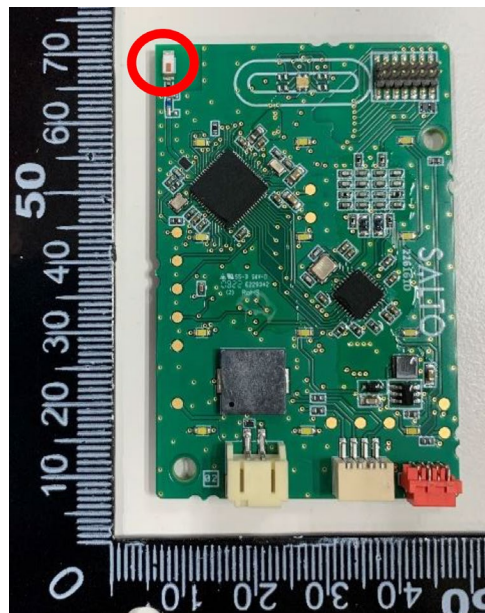
RFID Antenna

The RFID antenna was designed by Salto Systems S.L. at Arkotz 9, Pol. Lanbarren, 20180 Oiartzun, (Gipuzkoa), Spain. The antenna model is DZ0M and it is located on the keypad circuit, 226160. The dimensions of the circuit and the antenna are shown in the following images.



Bluetooth LE antenna

The antenna used for Bluetooth LE is a monopole from Johanson Technology. The model is 2450AT18B100. The antenna is located on the top left side of the circuit, 226161. The following image shows the location and dimensions of the antenna on the circuit.



Annex I

"High Frequency Ceramic Solutions"

2450 MHz Antenna

P/N 2450AT18B100

Detail Specification: 08/10/09

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General Specifications

Part Number	2450AT18B100
Frequency Range	2400 - 2500 Mhz
Peak Gain	0.5 dBi typ. (XZ-V)
Average Gain	-0.5 dBi typ. (XZ-V)
Return Loss	9.5 dB min.

Input Power	3W max.
Impedance	50 Ω
Operating Temperature	-40 to +85°C
Reel Quantity	3,000

P/N Suffix	Packaging	Bulk	Suffix = S	Eg. 2450AT18B100S
	Style	T & R	Suffix = E	Eg. 2450AT18B100E
	Termination	100% Tin	Suffix = None	Eg. 2450AT18B100(E or S)
	Style	Tin / Lead	Please consult Factory	

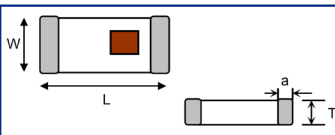
Terminal Configuration

No.	Function
1	Feeding Point
2	NC



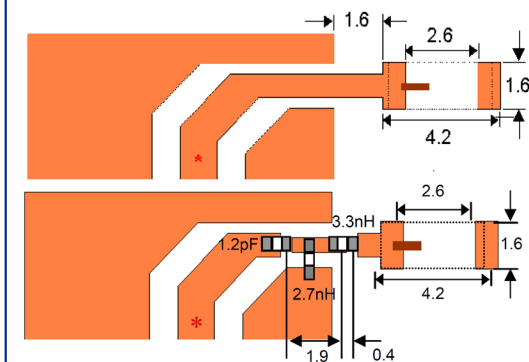
Mechanical Dimensions

	In	mm
L	0.126 $\pm$ 0.008	3.20 $\pm$ 0.20
W	0.063 $\pm$ 0.008	1.60 $\pm$ 0.20
T	0.051 $\pm$ 0.004/-0.008	1.30 $\pm$ 0.1/-0.2
a	0.020 $\pm$ 0.012	0.50 $\pm$ 0.30



Mounting Considerations

Mount these devices with brown mark facing up. Units: mm

Line width should be designed to provide 50 Ω impedance matching characteristics.

a) Without Matching Circuits

b) With Matching Circuits

JTI P/N for Matching Circuit:
 Cap (1.2pF): 500R07S1R2BV4T
 Inductor (2.7nH): L-07C2N7SV6T
 Inductor (3.3nH): L-07C3N3SV6T

Johanson Technology, Inc. reserves the right to make design changes without notice.
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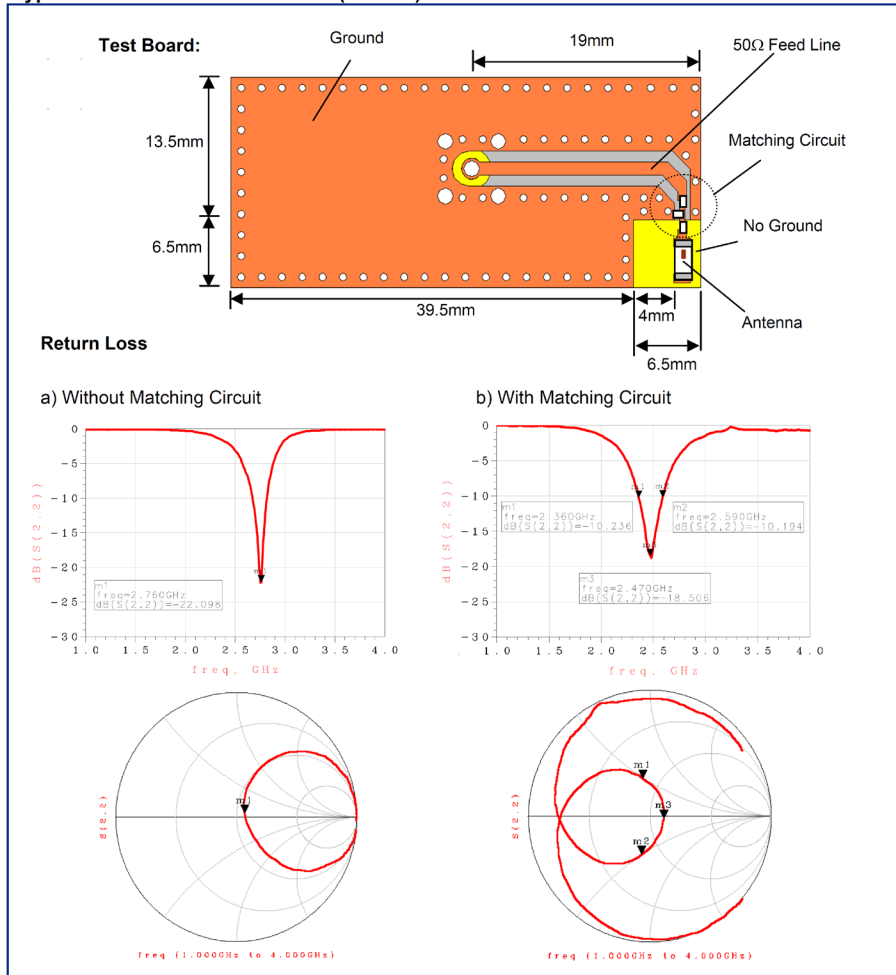
2450 MHz Antenna

Detail Specification: 08/10/09

P/N 2450AT18B100

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Typical Electrical Characteristics (T=25°C)



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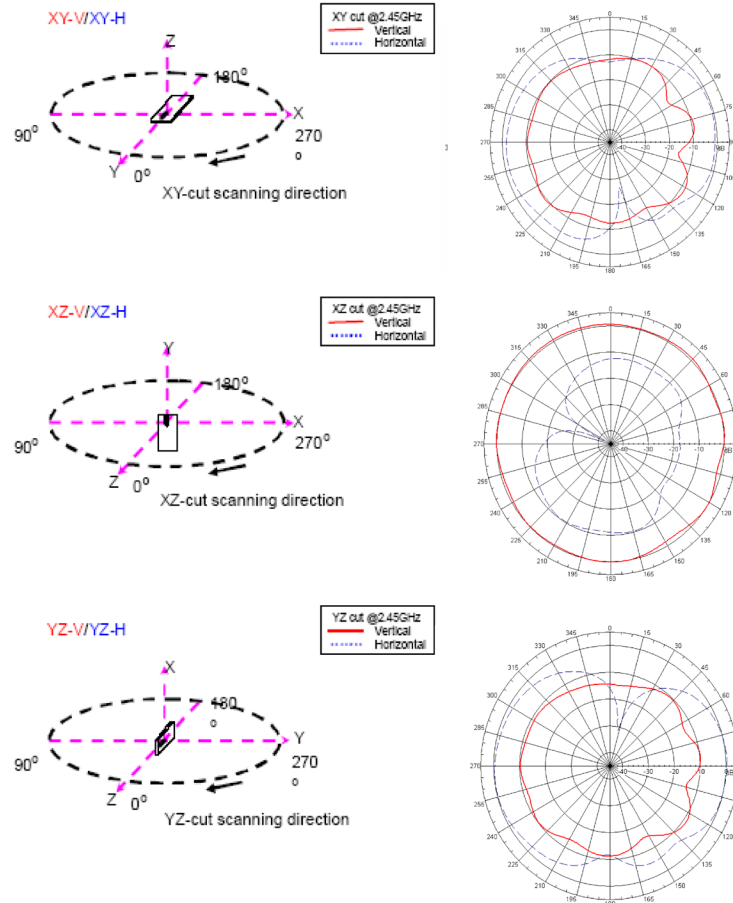
2450 MHz Antenna

Detail Specification: 08/10/09

P/N 2450AT18B100

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Typical Radiation Patterns



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