

# XS4 One+ sfc Keypad

**E2131**

**W61MK**

Antennas

Version	Date	Changes	Author
1.0	20/12/2022	First edition	M.U.
2.0	27/12/2022	Inclusion of the XS4 One+ sfc Keypad model. Electronic model W61MK.	M.U.

# Table of contents

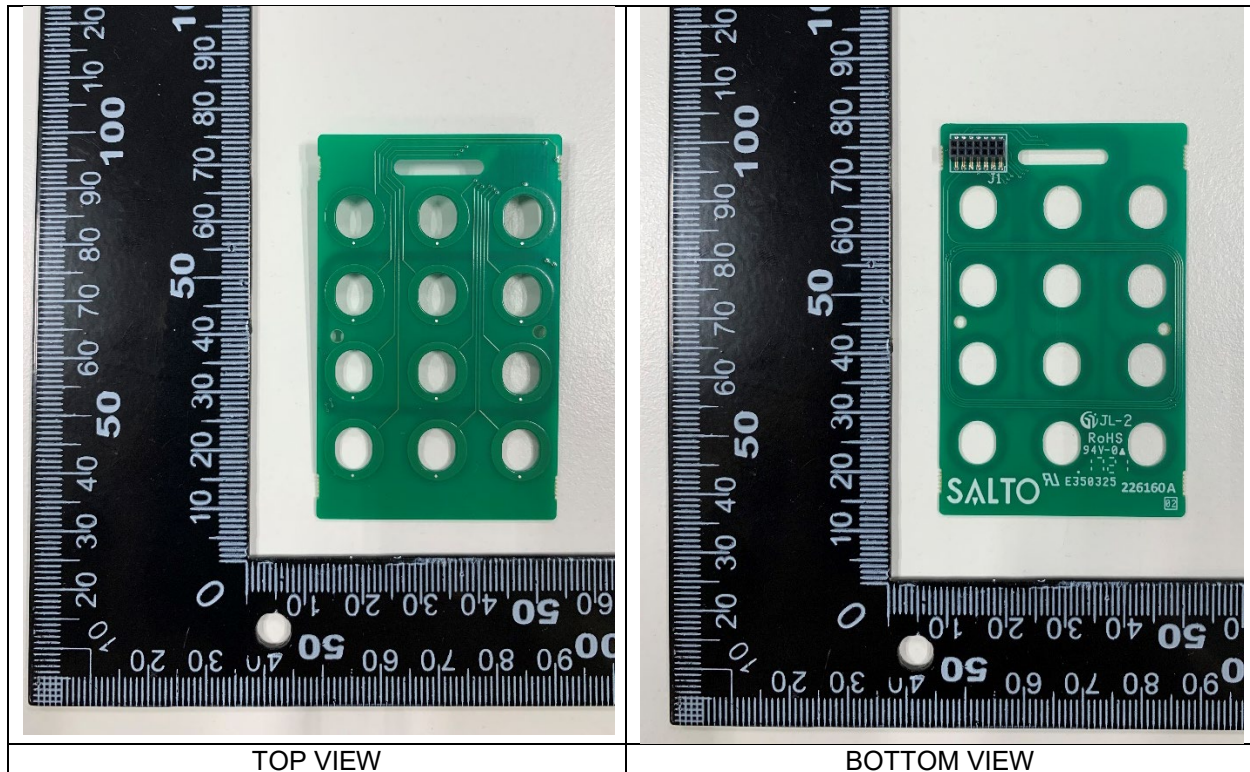
<b>1</b>	<b>W61MK</b> .....	<b>3</b>
	RFID Antenna .....	3
	Bluetooth LE Antenna .....	4
<b>Annex I</b> .....		<b>6</b>

## 1 W61MK

XS4 One+ sfc Keypad E2131		W61MK
		MIFARE (3) + Bluetooth LE SoC (2)
Antennas	Number of antennas	2
	Manufacturer	3- SALTO Systems, S.L. 2- N/A
	Model number	3- W61MK 2- N/A
	Type	3- Integral, PCB 2- Integral, Chip
	Gain	3- N/A 2- 0.5 dBi
	Frequency of Operation	3- 13.553 - 13.567 MHz 2- 2400 - 2483.5 MHz
Channels	Number of channels	3- N/A 2- 40
	Spacing	3- N/A 2- 2 MHz
	Bandwith	3- N/A 2- 2 MHz
Type of Modulation		3- ASK 100%, OOK (subcarrier fc/16) & ASK 10% - 30%, OOK (subcarrier fc/32) 2- GFSK
Declared Nominal Output Power (Max.)		3- 22 dBm 2- 6 dBm
ITU Emission Designator		3- K1D 2- F1D
Equipment Configuration for frequency Stability: Data Rate		3- 106 Kbit/s, 26.48 Kbit/s 2- 1 Mbit/s
Equipment Configuration for Field Strenght Measurement: Data Rate		3- 106 Kbit/s, 26.48 Kbit/s 2- 1 Mbit/s

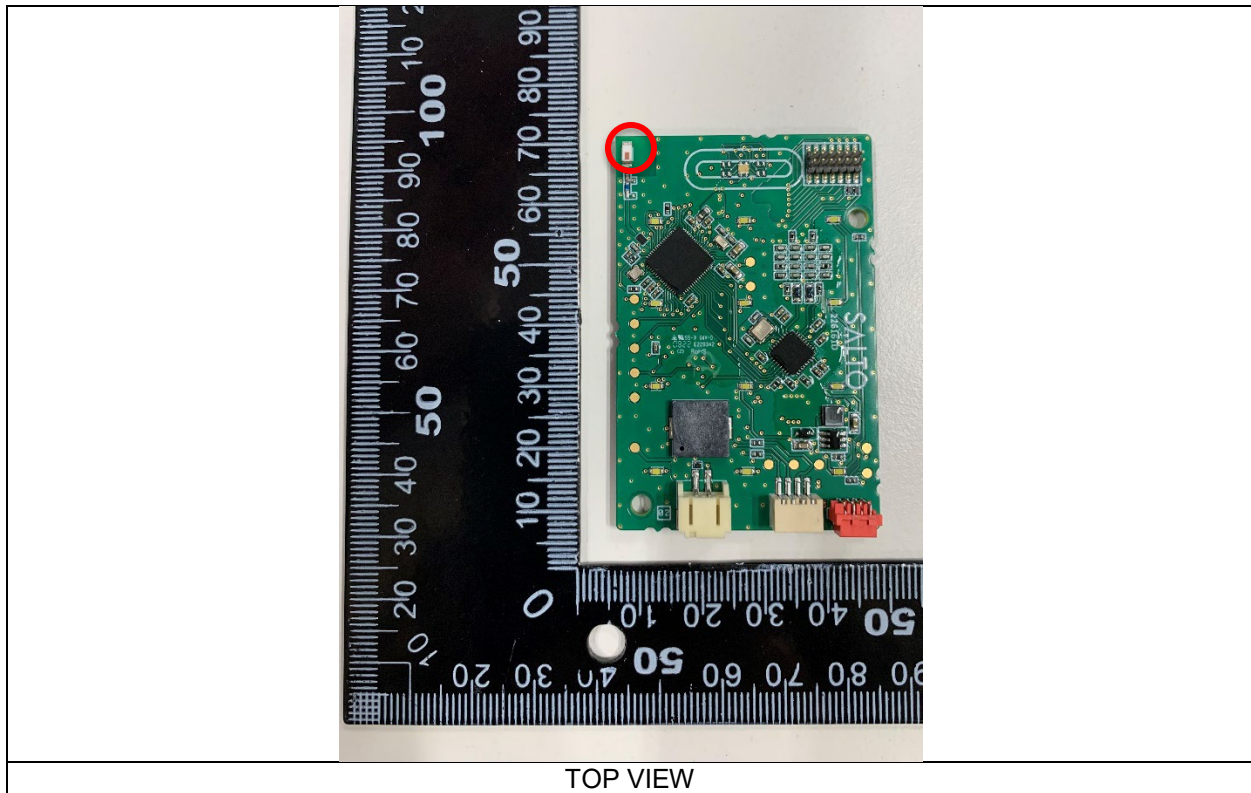
## RFID Antenna

The RFID antenna was designed by Salto Systems, S.L. at Arkotz 9, Pol. Lanbarren 20180 Oiartzun (Gipuzkoa), Spain. The antenna model is W61MK and it is located on the keypad circuit, 227563. The dimensions of the circuit and the antenna are shown in the following pictures.



## Bluetooth LE Antenna

The Bluetooth LE antenna is the 2450AT18B100 model form Johanson Technology. The antenna is located on the top right corner of the control circuit, 227563. The following image shows the location of the antenna on the control circuit.



The remaining technical information of the antenna is described in the data sheet attached in Annex I.

# Annex I

## "High Frequency Ceramic Solutions"

**2450 MHz Antenna** **P/N 2450AT18B100**  
 Detail Specification: 08/10/09 Page 1 of 3

**General Specifications**

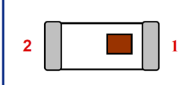
Part Number	2450AT18B100
Frequency Range	2400 - 2500 Mhz
Peak Gain	0.5 dBi typ. (XZ-V)
Average Gain	-0.5 dBi typ. (XZ-V)
Return Loss	9.5 dB min.

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

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

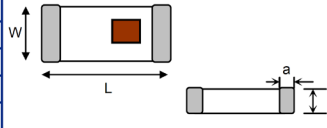
**Terminal Configuration**

No.	Function
1	Feeding Point
2	NC



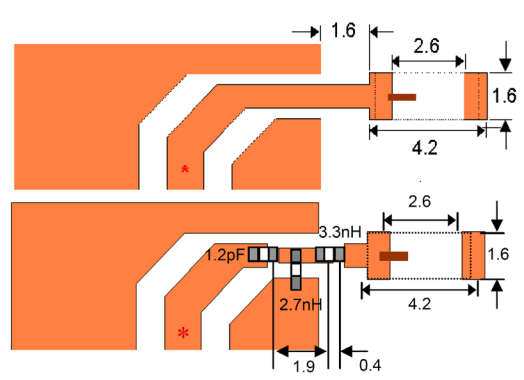
**Mechanical Dimensions**

	In	mm
L	0.126 ± 0.008	3.20 ± 0.20
W	0.063 ± 0.008	1.60 ± 0.20
T	0.051 +0.004/-0.008	1.30 +0.1/-0.2
a	0.020 ± 0.012	0.50 ± 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.  
 All sales are subject to Johanson Technology, Inc. terms and conditions.



[www.johansontechnology.com](http://www.johansontechnology.com)  
 4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821  
 2009 Johanson Technology, Inc. All Rights Reserved

# "High Frequency Ceramic Solutions"

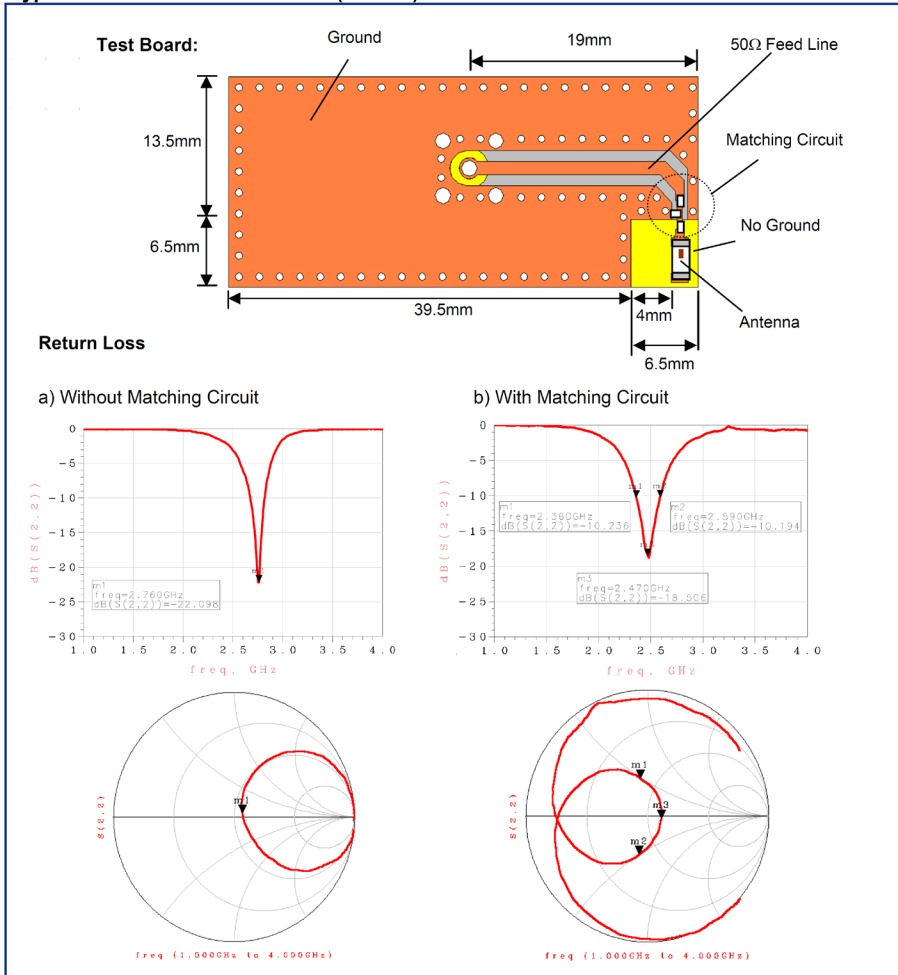
**2450 MHz Antenna**

**P/N 2450AT18B100**

Detail Specification: 08/10/09

Page 2 of 3

**Typical Electrical Characteristics (T=25°C)**



Johanson Technology, Inc. reserves the right to make design changes without notice.  
All sales are subject to Johanson Technology, Inc. terms and conditions.



[www.johansontechnology.com](http://www.johansontechnology.com)  
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821  
2009 Johanson Technology, Inc. All Rights Reserved

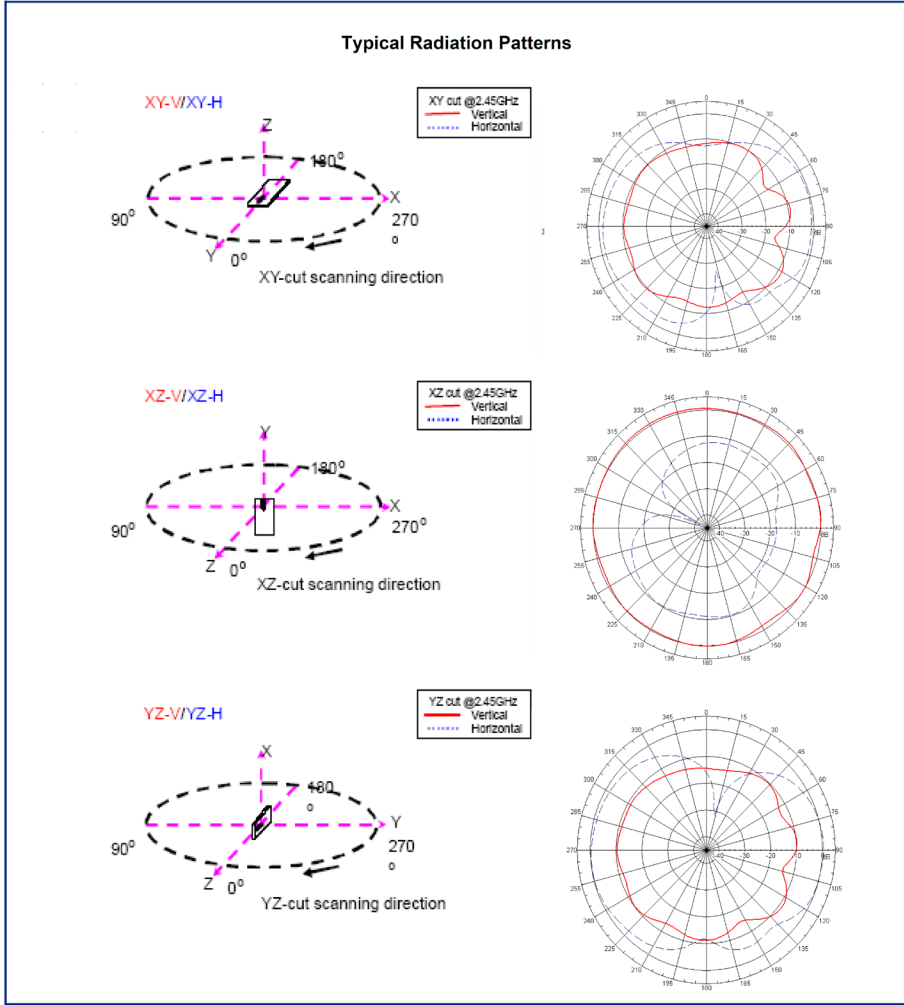
**"High Frequency Ceramic Solutions"**

**2450 MHz Antenna**

**P/N 2450AT18B100**

Detail Specification: 08/10/09

Page 3 of 3



Johanson Technology, Inc. reserves the right to make design changes without notice.  
 All sales are subject to Johanson Technology, Inc. terms and conditions.



[www.johansontechnology.com](http://www.johansontechnology.com)  
 4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

2009 Johanson Technology, Inc. All Rights Reserved