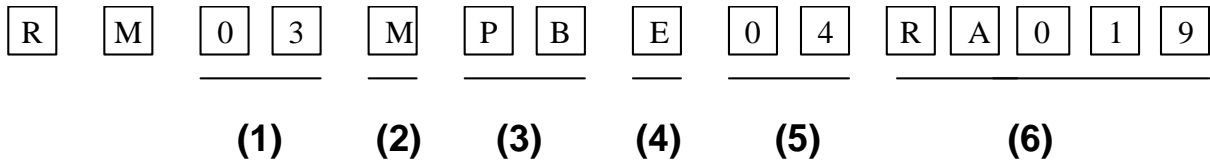


NFC Tag Module(19x12mm) for PCB

1. Explanation of Product Number



Product Code:

- (1) Antenna Dimensions / Cable Diameter / Cable Length / Connector Type:
03: 19x12x0.92 mm /without /without /No connector
- (2) Polarization:
M: Magnetic field
- (3) Product categories:
PB: PCB
- (4) Working frequency:
E: 13.56MHz
- (5) Applications:
04: NFC Tag
- (6) Antenna Series:
RA019: serial number

Tolerances (Unless otherwise specified) X : ± 1 X.X : ± 0.1 X.XX : ± 0.01 Angle : ± Hole Dia. : ±		RIFO Technologies Corporation Website: www.rifo.com.tw		
Scale :	Unit : mm	THIS SPECIFICATION IS THE PROPERTY OF RIFO TECHNOLOGIES CORPORATION AND SHALL NOT BE REPRODUCED OR USED IN ALL CIRCUMSTANCES WITHOUT WRITTEN PERMISSION		
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Designed By : Jason	Approved By : Allen			
TITLE : NFC Tag Module for PCB		DOCUMENT NO.	RM03MPBE04RA019S	REV. A

2. Features and benefits

a. RF Interface (ISO/IEC 14443A)

- * Contactless transmission of data and supply energy (no battery needed)
- * Operating distance: up to 100 mm (depending on various parameters as e.g. field strength and antenna geometry)
- * Operating frequency: 13.56 MHz
- * Fast data transfer: 106 kbit/s
- * High data integrity: 16-bit CRC, parity, bit coding, bit counting
- * True anticollision
- * 7 byte serial number (cascade level 2 according to ISO/IEC 14443-3)

b. EEPROM


- * 168 bytes of total memory, divided in 42 pages (4 bytes each)
- * 144 bytes of user r/w memory area, divided in 36 pages (4 bytes each)
- * Field programmable read-only locking function per page 16 pages (64 bytes) of the memory
- * Field programmable read-only locking function per block (2 pages)
- * 32-bit user definable One-Time Programmable (OTP) area
- * 16-bit counter
- * Data retention of 10 years
- * Write endurance 10000 cycles

c. Field detection

The NFC tag module features an additional RF field detection functionality. The corresponding output signal can be used as interrupt source to e.g. wake up an embedded microcontroller or trigger further actions. Typical applications are Bluetooth and Wi-Fi pairing.

d. Security

- * Anti-cloning support by unique 7-byte serial number for each device
- * 32-bit one way counter
- * Field programmable read-only locking function per page for first 16 pages (64 bytes) of the memory
- * Read-only locking per block for rest of memory

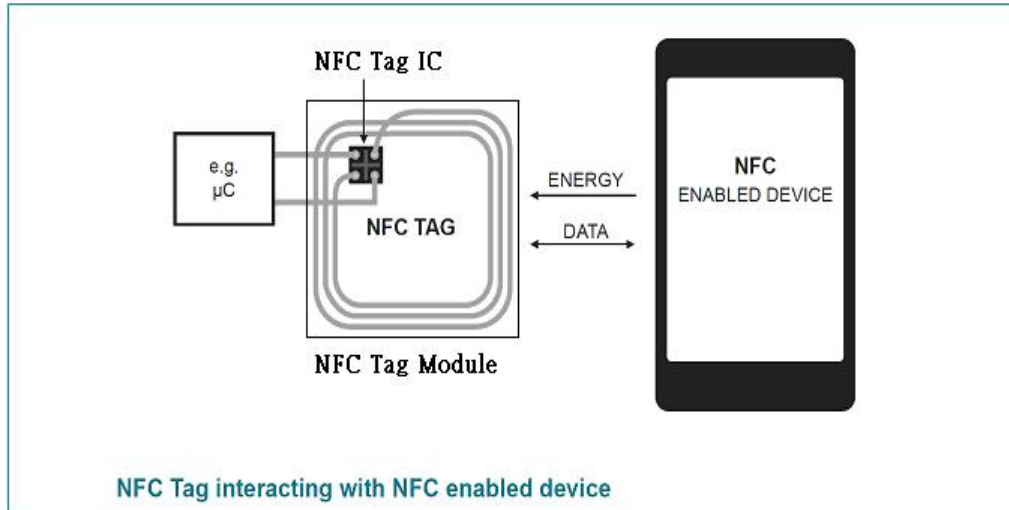
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e. Cascaded UID

The UID of the NFC tag module is 7 bytes long and supports cascade level 2 according to ISO/IEC 14443-3.

3. Applications

*Hand-held devices when NFC tag functions are needed.



4. Description


RIFO's NFC antenna series are specially designed for 13.56MHz band application. Based on RIFO's proprietary designs and processes, this NFC antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications

5-1.

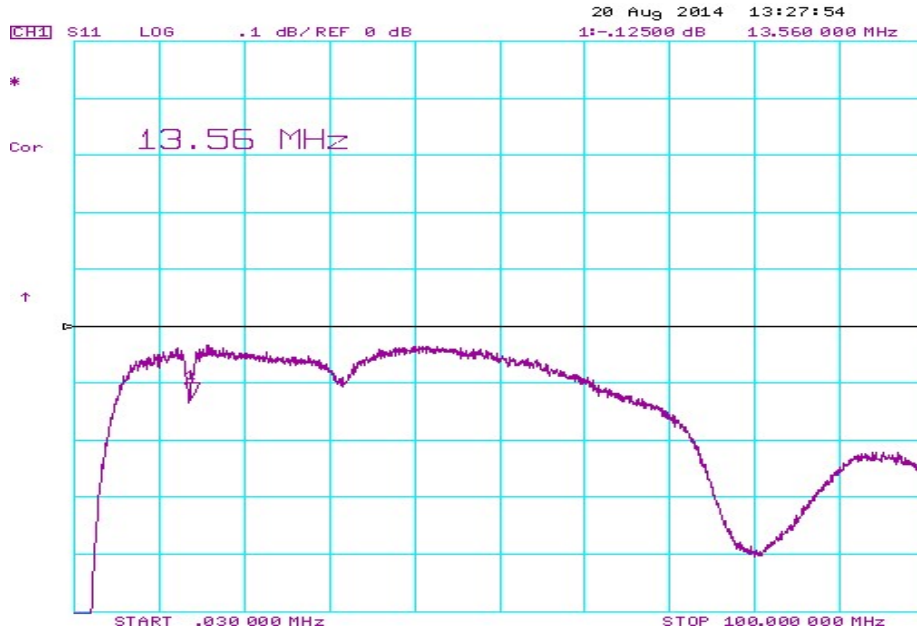
Characteristics	Specifications	Unit
Outline Dimensions	19x 12 x 0.92	mm
Center Frequency*	13.56	MHz
Impedance	50	Ω
Polarization	Magnetic field	

*Center frequency will be offset to working frequency according to the conditions of user's ground plane and radome.

Tolerances (Unless otherwise specified) X : ± 1 X.X : ± 0.1 X.XX : ± 0.01 Angle : ± Hole Dia. : ±		 RIFO Technologies Corporation Website: www.rifo.com.tw	
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5-2.

Return Loss(S₁₁)



6. NFC Tag Module Pin Configuration



Pin #	Pin name	Pin type	Description
1	FD	Digital Input	RF Field Detect connection
2	GND	GND	Ground

Tolerances (Unless otherwise specified)
 X : ± 1 X.X : ± 0.1 X.XX : ± 0.01
 Angle : ± Hole Dia. : ±



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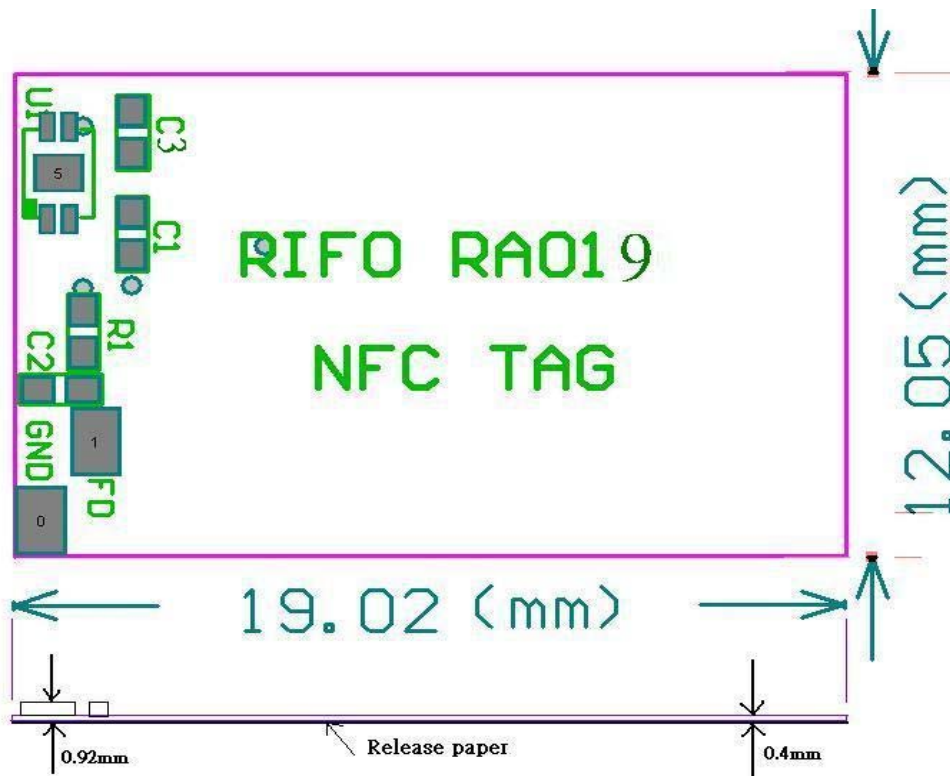
TITLE : NFC Tag Module for PCB

DOCUMENT NO.

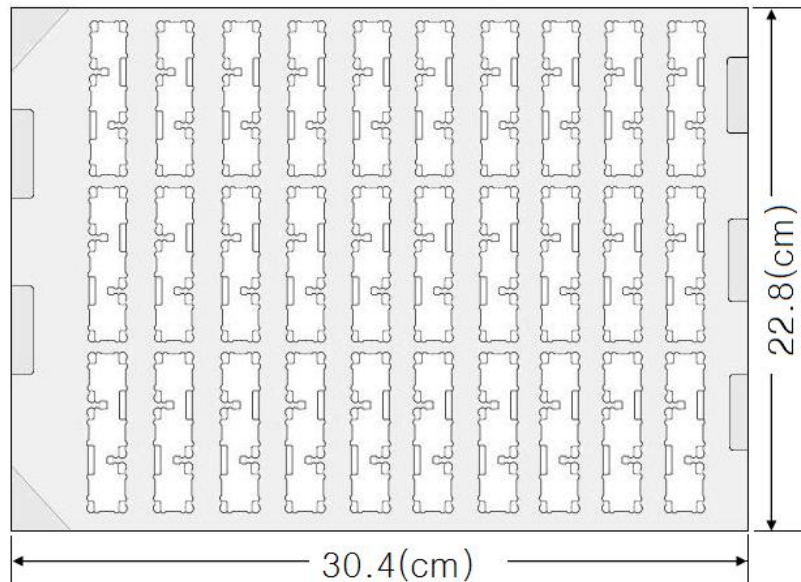
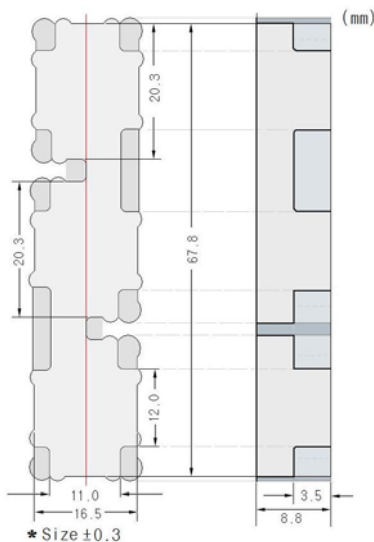
RM03MPBE04RA019S

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7. NFC Tag Module Dimensions(Tolerances:±0.1mm)



8. Skin packing Information



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : ± Hole Dia. : ±

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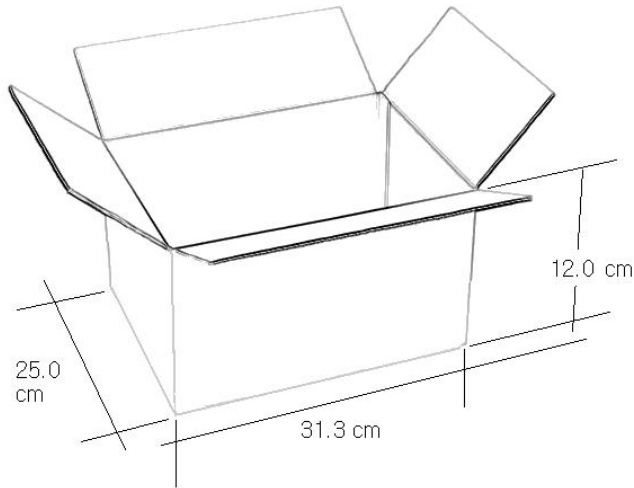
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9. Skin packing box Information



Device	Type	SPQ	Length(cm)	Width(cm)	Height(cm)
RM03MPBE04RA019	Module	1800	31.3	25.0	12.0

Tolerances (Unless otherwise specified)
 X : ± 1 X.X : ± 0.1 X.XX : ± 0.01
 Angle : \pm Hole Dia. : \pm



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