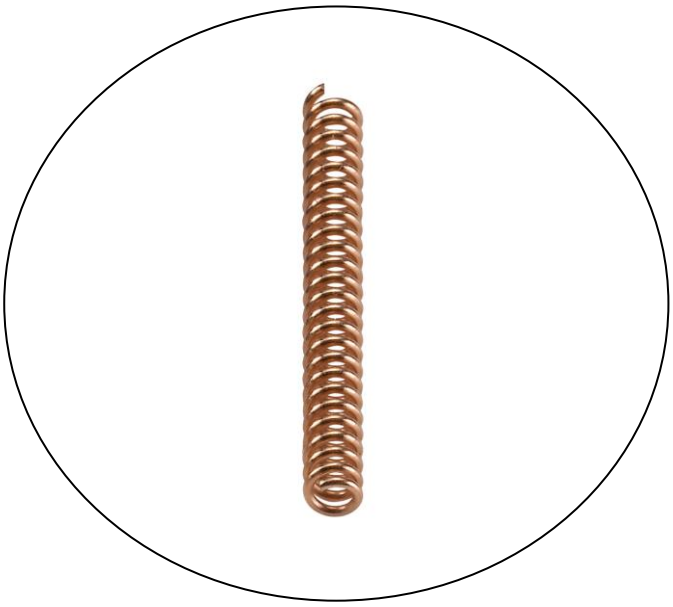
SPECIFICATION

Part No.	:	**HA.10.A**
Product Name	:	169MHz Helical Monopole Antenna
Features	:	Quarter wave-length Monopole type Helical Antenna Low profile Direct Mounted on Board Design Compact Size Length:25.5mm Ø2.8mm RoHS Compliant

Photo:



1. Introduction

The HA.10.A antenna is a 169MHz ISM band quarter wave-length monopole helical. Small and compact in dimensions , it is ideal for typical 169 MHz applications such as

- Wireless M-Bus metering
- Remote asset monitoring
- Alarms
- Paging systems
- Private mobile radio systems

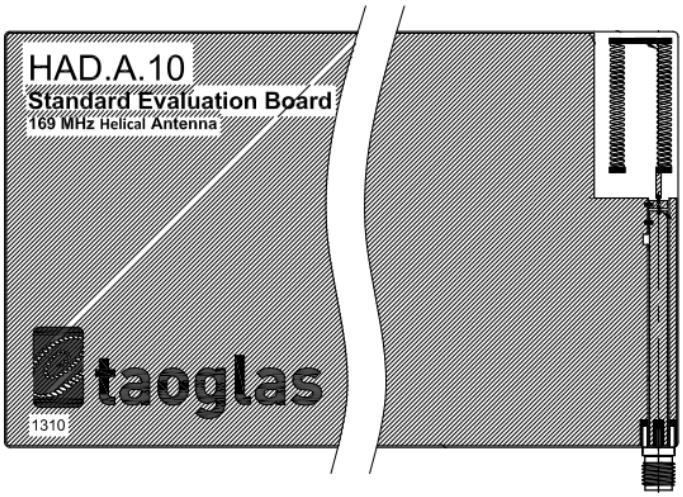
Taoglas offers a testing and tuning service for these antennas. Please contact your regional Taoglas office for support.

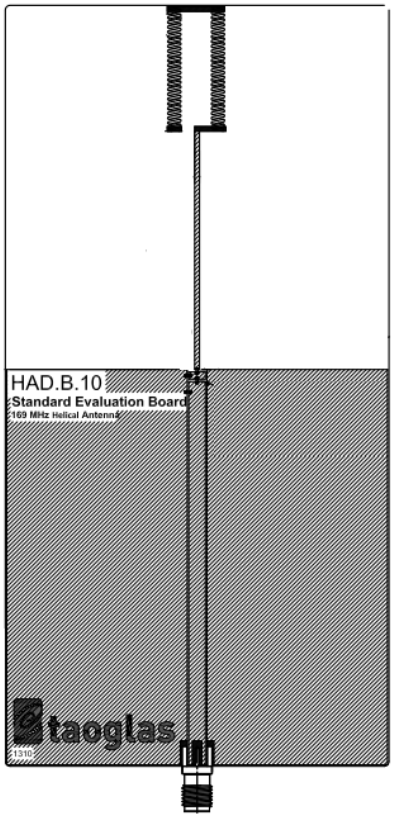
2. Specification

ELECTRICAL	
Frequency (MHz)	169
Return loss	<-10
Impedance (Ω)	50
Polarization	Linear
Radiation Pattern	Omni
MECHANICAL	
Dimensions	Length:25.5mm Ø2.8mm
Weight	4g
ENVIRONMENTAL RATINGS	
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH
RoHS Compliant	Yes

3. Antenna Characteristics

The antenna tuning depends on different antenna ground plane applications and the environment it is placed in. Taoglas provides HAD.A.10 and HAD.B.10 evaluation boards to show performance when two antennas are parallel mounted to the ground plane or when one antenna is orthogonally mounted to the ground-plane.



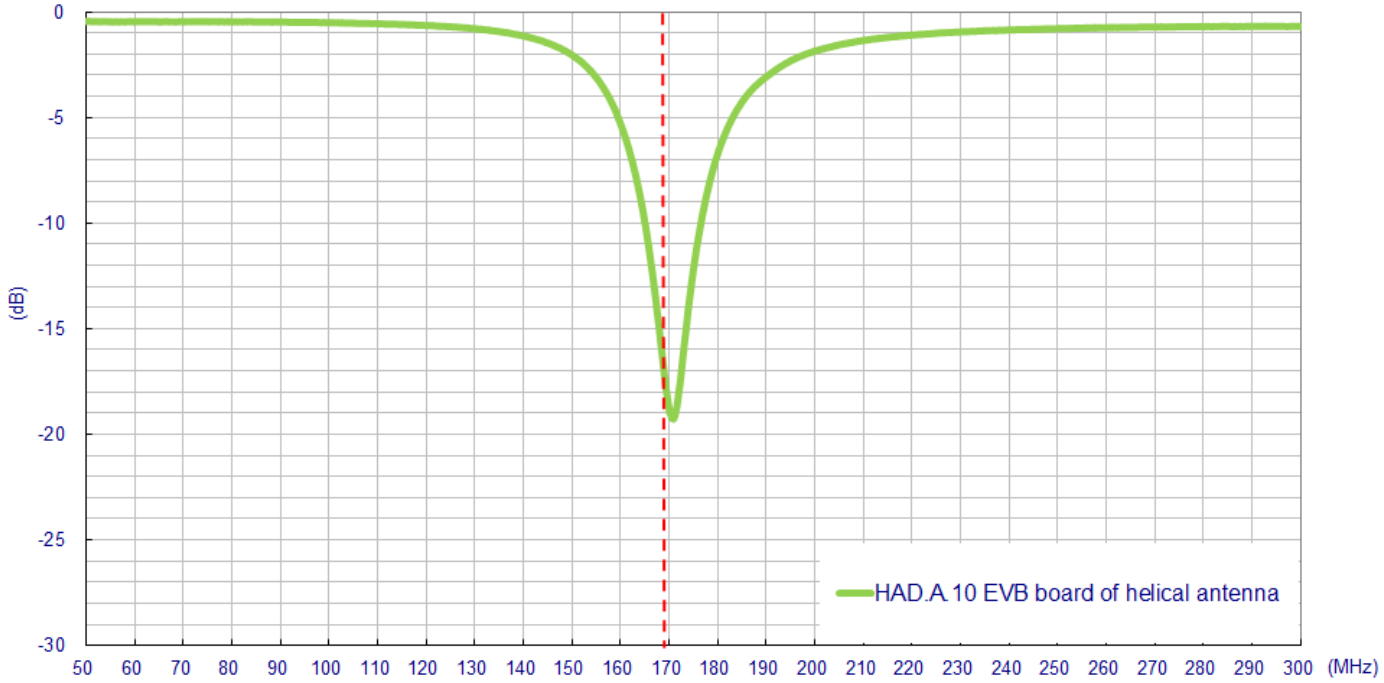


4. HAD.A.10 Antenna Characteristics

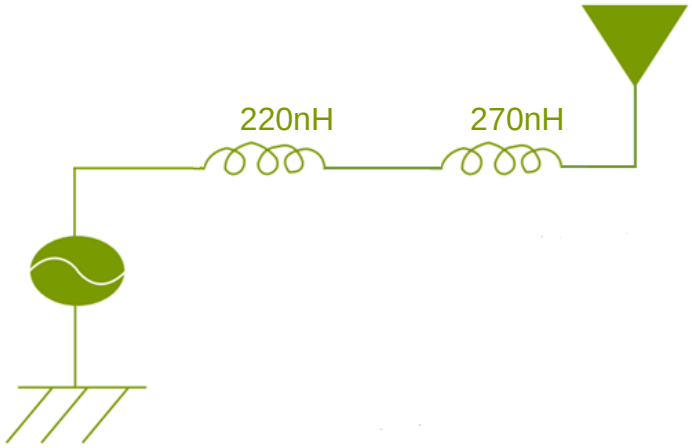
4.1 Testing setup

In Free Space

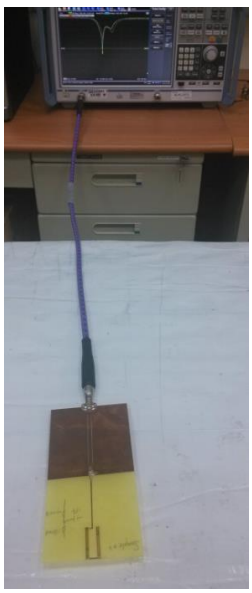
4.2 Return Loss



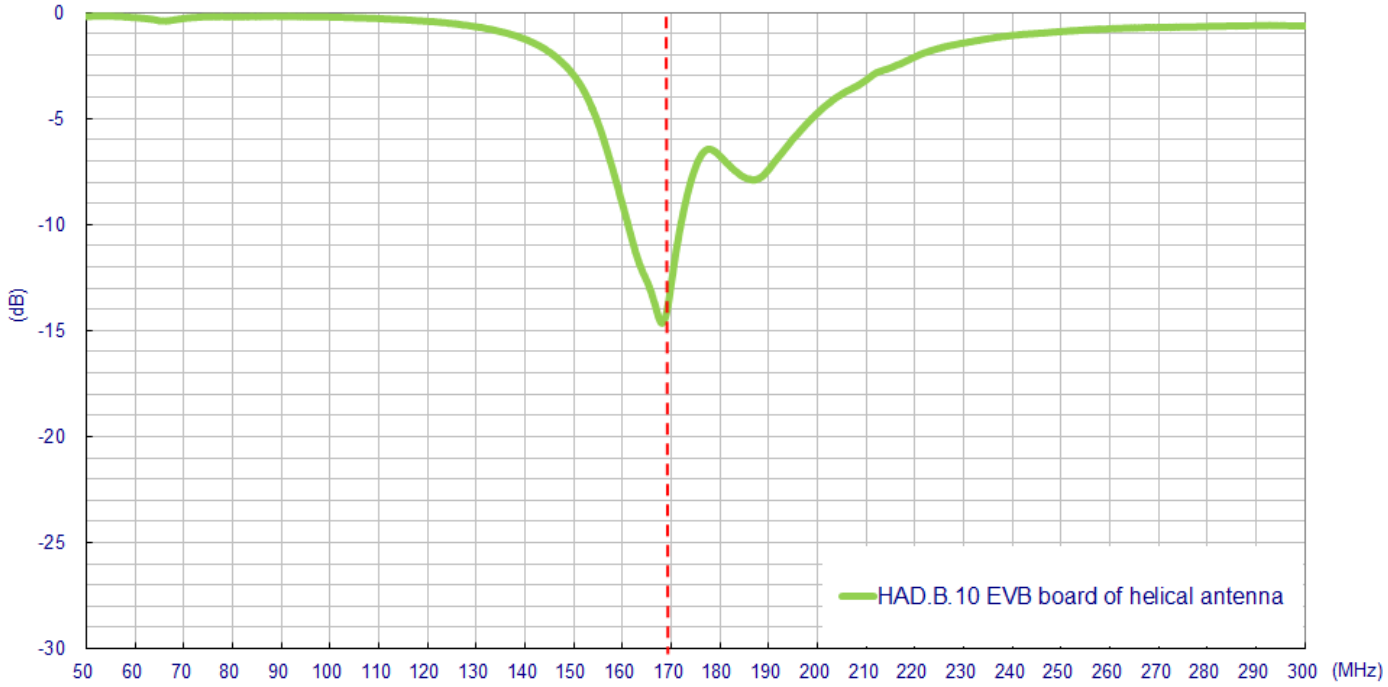
4.3 Antenna Matching Circuits



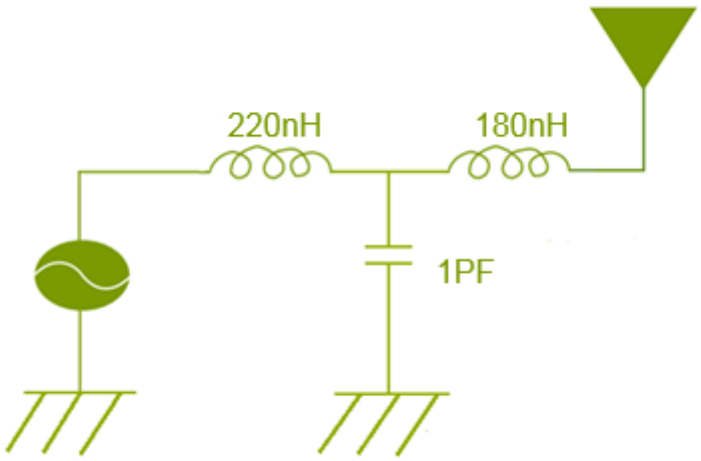
5. HAD.B.10 Antenna Characteristics

5.1 Testing setup

In Free Space

5.2 Return Loss

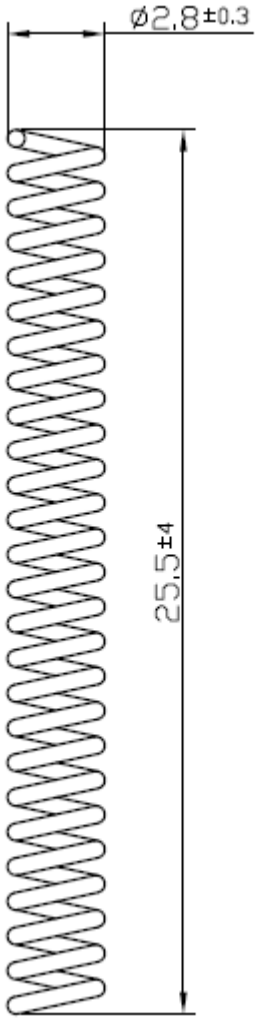


5.3 Antenna Matching Circuits

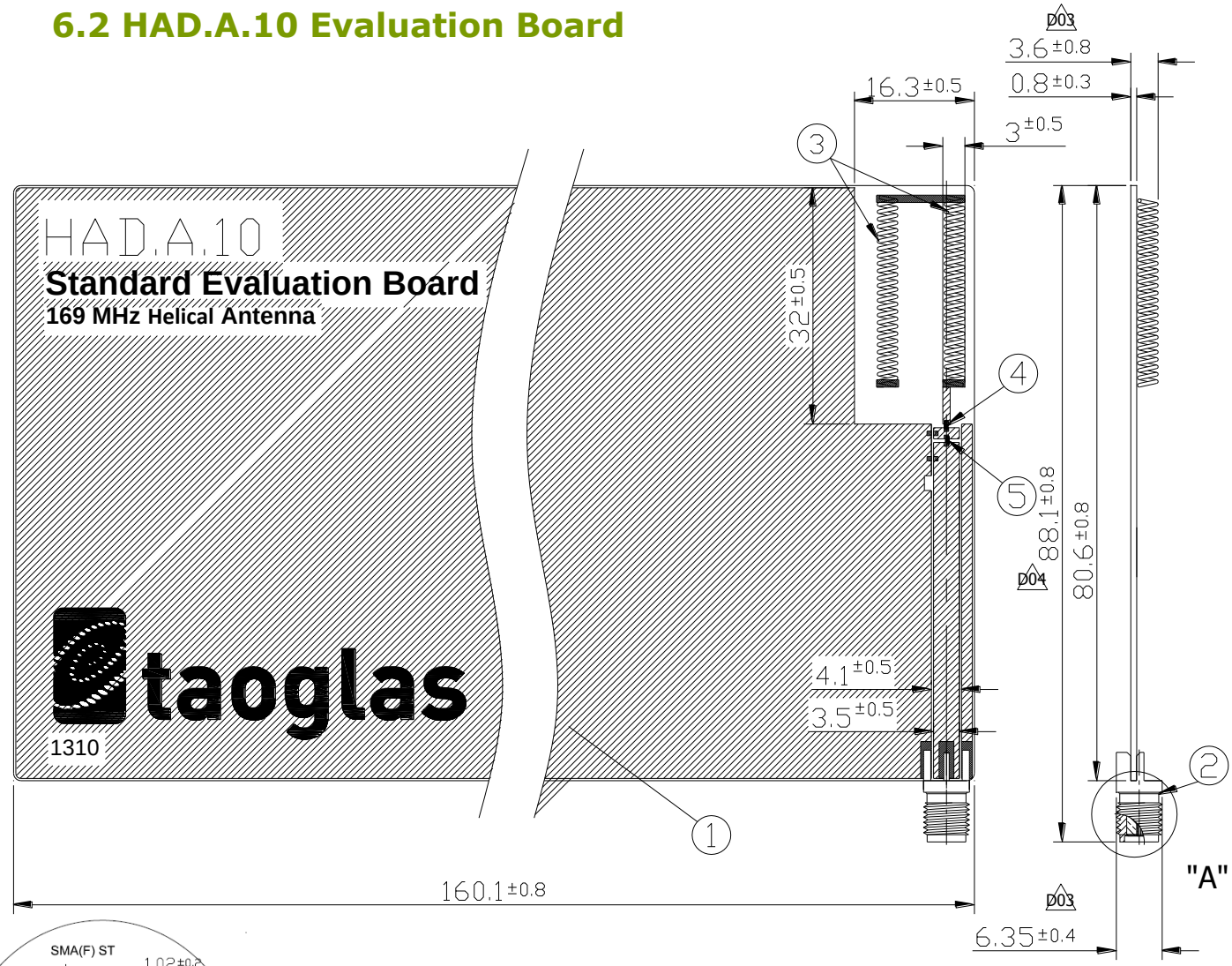


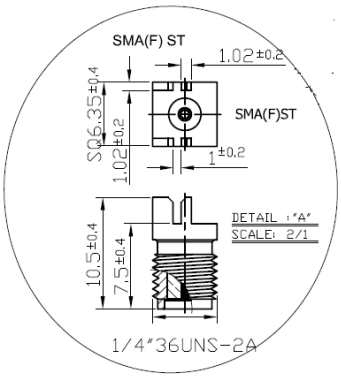
6. Mechanical Drawing

6.1 HA.10.A Antenna



6.2 HAD.A.10 Evaluation Board

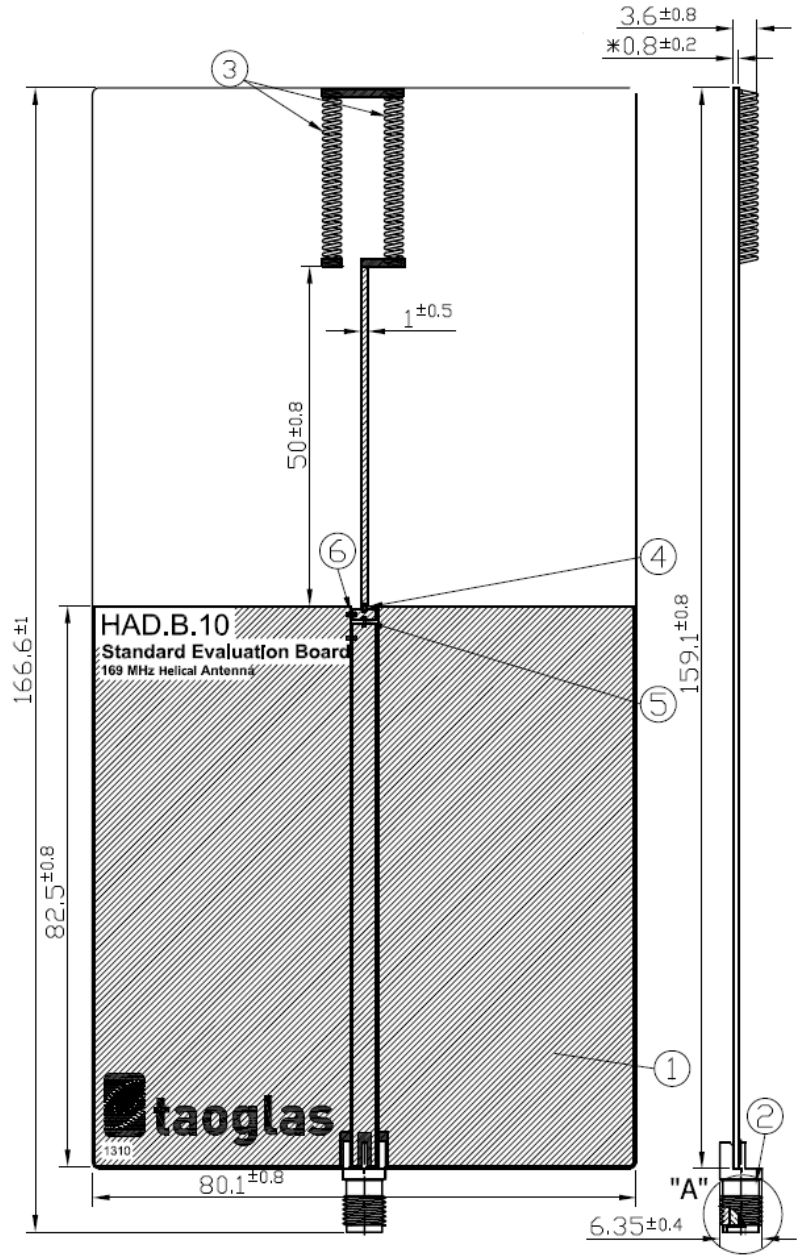


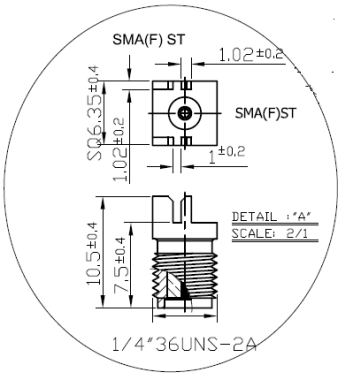


	Name	P/N	Material	Finish	QTY
1	HAD.A.10 EVB PCB	100213K000011A	FR4 0.8t	Black	1
2	SMA(F) ST	200413H000002A	Brass	Gold	1
3	HA.10.A Antenna	000813G000058A Ø02	Phosphor bronze Ø03	N/A	2
4	Inductor (L=270nH)0402	001513J000055A Ø05	Ceramic	N/A	1
5	Inductor (L=220nH) 0402	001513G030055A Ø05	Ceramic	N/A	1

Note:
1. Week Batch Code
   Example: 2010 Week 1=01.10
2.Soldered area Ø03
3.Copper area
4. Logo & Text Ink Printing : Black
5. Ground Clearance Area
6. All Material Must Be RoHS Compliant.

6.3 HAD.B.10 Evaluation Board



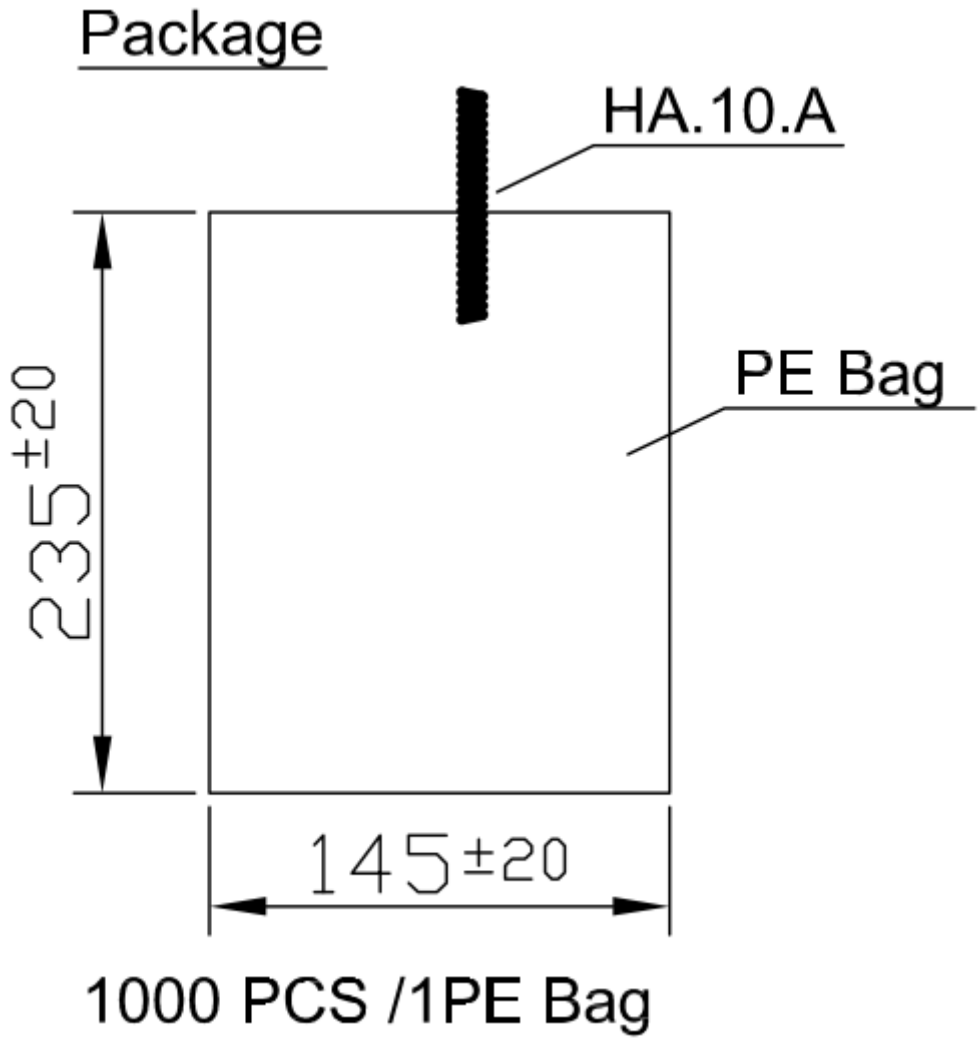


	Name	P/N	Material	Finish	QTY
1	HAD.B.10 EVB PCB	100213K010011A	FR4 0.8t	Black	1
2	SMA(F) ST	200413H000002A	Brass	Gold	1
3	HA.10.A Antenna	001513E020012A	Phosphor bronze	N/A	2
4	Inductor (L=180nH) 0402	001513E010012A	Ceramic	N/A	1
5	Inductor (L=220nH) 0402	001513G030055A	Ceramic	N/A	1
6	Capacitor (C=1pF) 0402	001513G010055A	Ceramic	N/A	1

Note:
1. Week Batch Code
   Example: 2010 Week 1=01.10
2. Soldered area D02
3. Copper area
4. Logo & Text Ink Printing : Black
5. Ground Clearance Area
6. All Material Must Be RoHS Compliant.

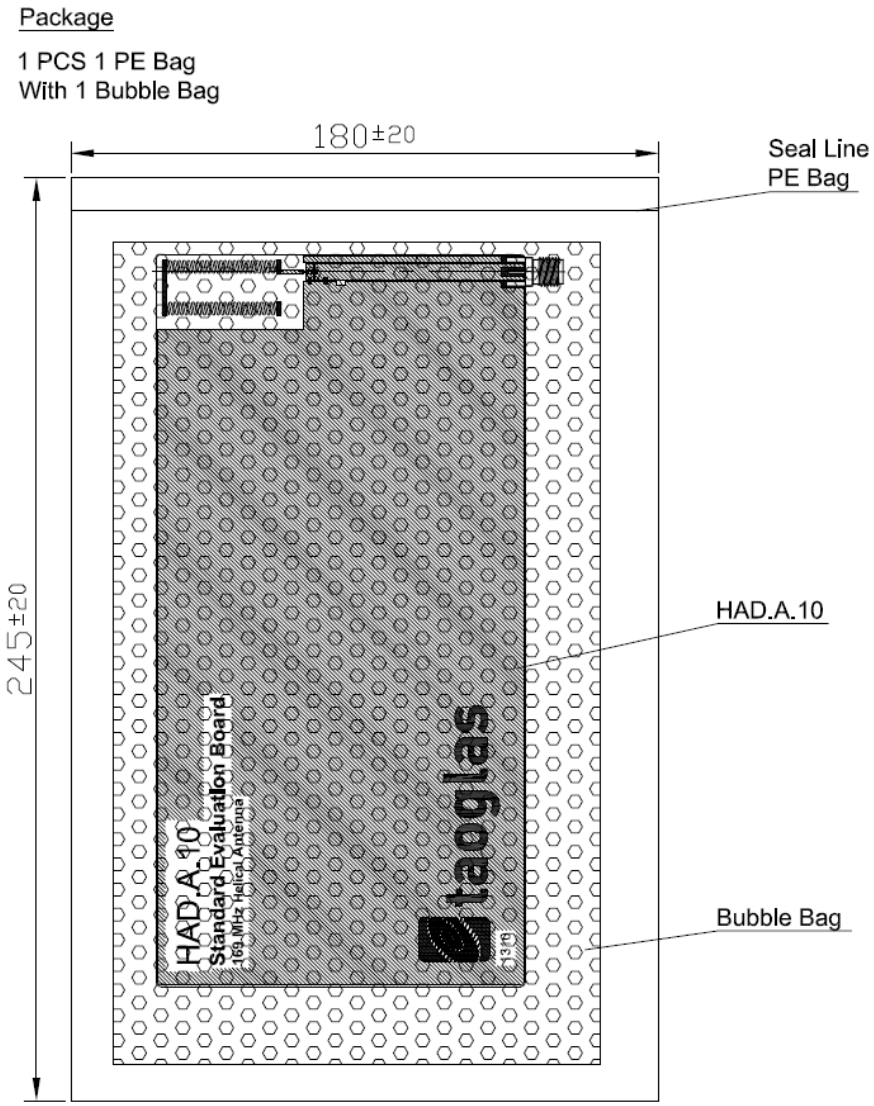
7. PACKAGING

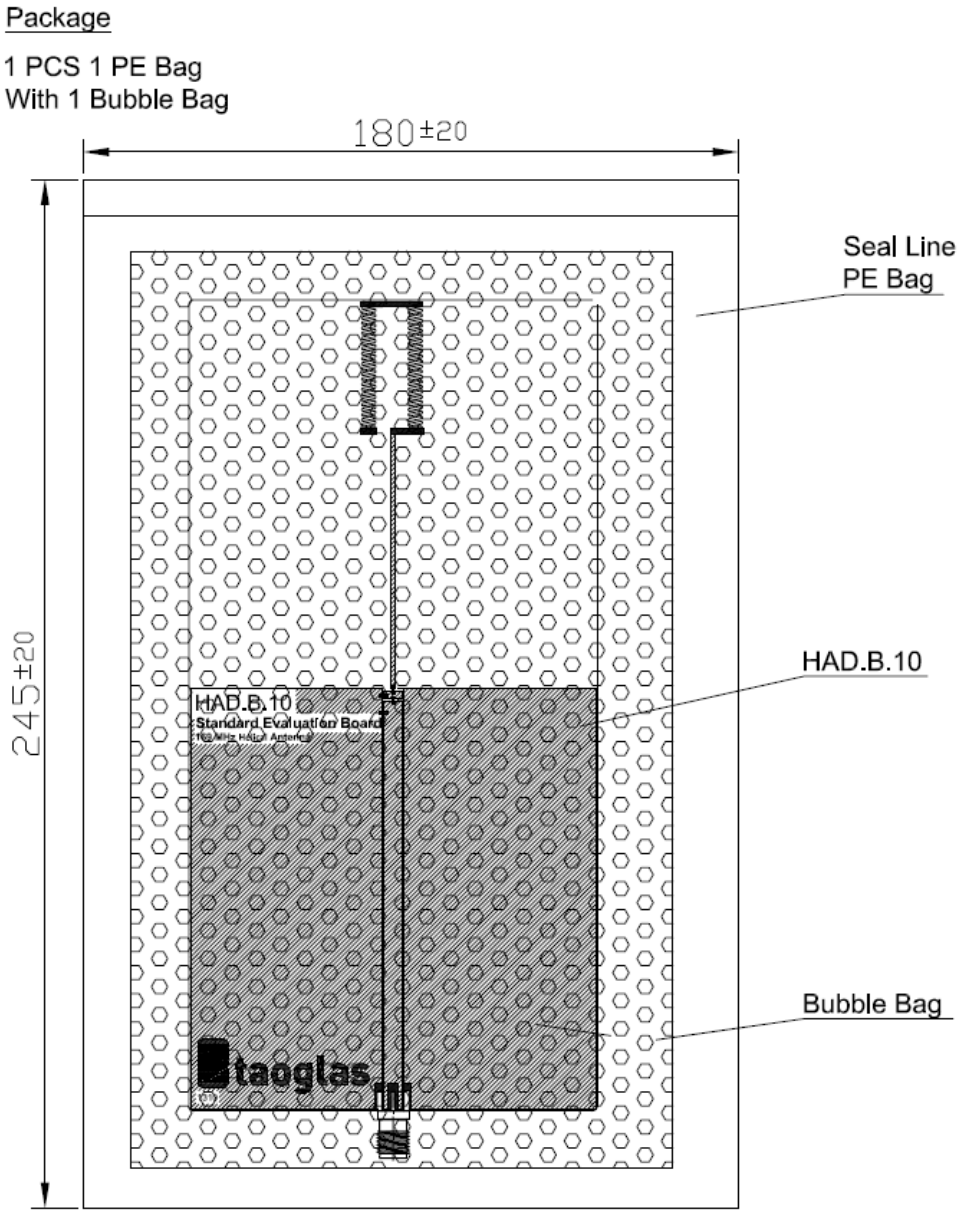
7.1 HA.10.A Antenna



7.2 HAD.A.10 Evaluation Board

Weight: 50g



7.3 HAD.B.10 Evaluation Board

Weight: 50g