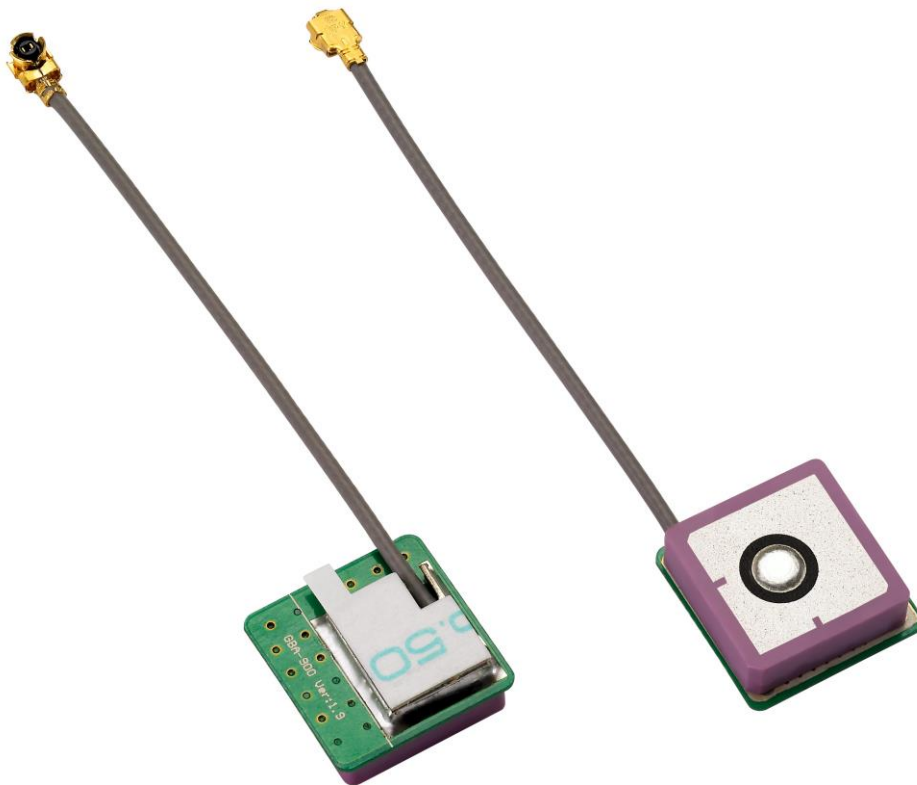


SPECIFICATION

Part No. : **AP.12B.07.0046A**

Product Name : 12mm Two Stage Active GPS/GALILEO Patch
Antenna

Features : Ultra Miniature GPS/GALILEO active patch
High performance
Ultra low power consumption
RoHS compliant



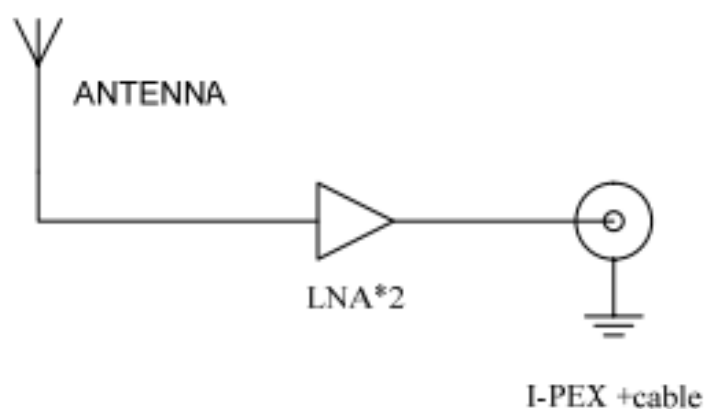
1. Introduction

This miniaturized GPS/GALILEO Active Antenna module combines a tiny 12mm squared ceramic patch antenna from Cirocomm with a two stage low noise amplifier. It is available as a 'plug and play' format for onboard integration with GPS/GALILEO receiver modules via ultra thin coaxial cable and connector from IPEX.

Only 5.5mm in height, this new Taoglas active antenna module utilises XtremeGain™ technology for the highest industry sensitivity.

Designed for use with the new generation of GPS/GALILEO receiver modules using chipsets from SiRF, Ublox, Nemerix, Fastrax, Navsync, Falcom, Telit, Tyco, Siemens etc.

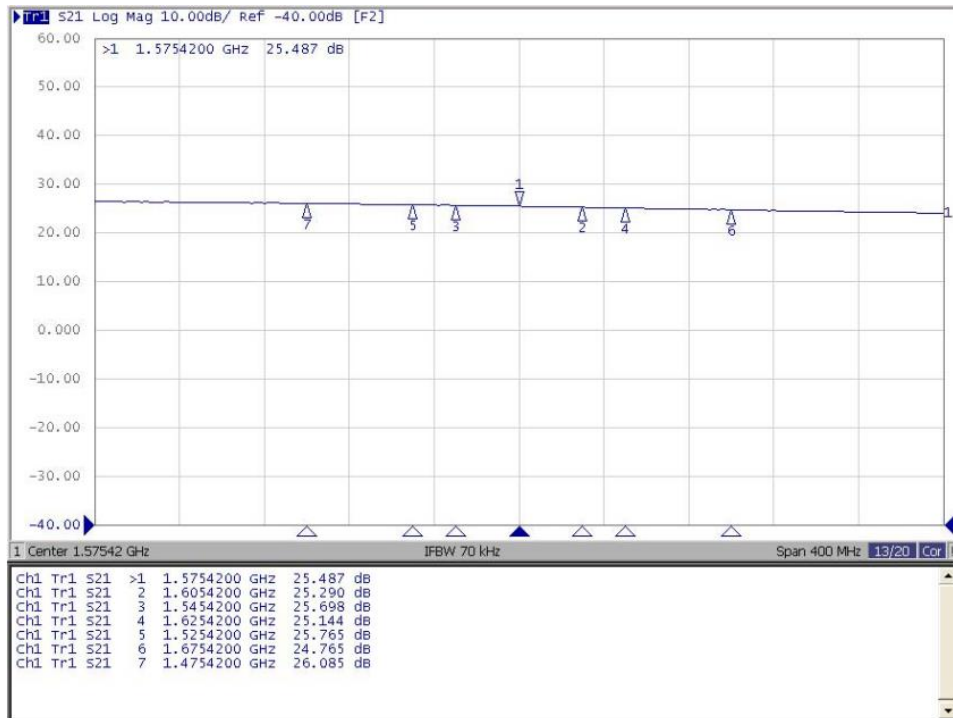
The antenna system consists of two functional blocks, the LNA portion and the patch antenna.



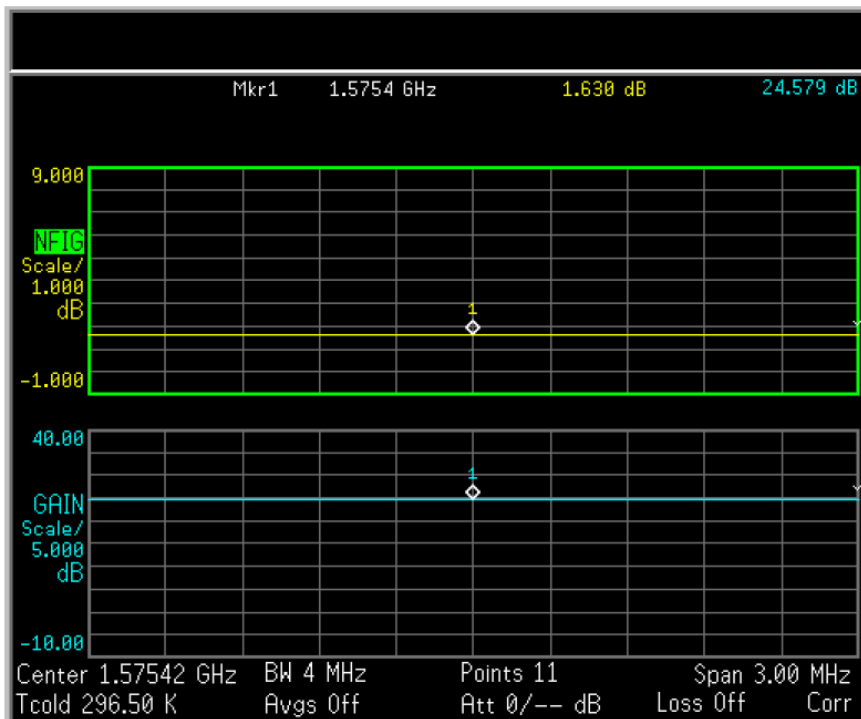
2. Specification

ELECTRICAL			
Frequency	1575.42 ± 1.023MHz		
Gain	Typ -1.5 dBic @ Zenith(13.4mm*13.4mm Ground Plane)		
Gain (with LNA)	23.5 ± 4dBic @ 90o		
Impedance	50Ω		
Polarization	RHCP		
Axial Ratio	Max 4.0dB @ Zenith		
Input Voltage	Min. 1.8V Typ 3.0V Max. 5.5V		
LNA			
Frequency	1575.42 ± 1.023MHz		
Output Impedance	50Ω		
Output VSWR	2.0 Max		
Pout at 1dB Gain Compression point	Typ.+5dBm		
LNA Gain, Power Consumption and Noise Figure			
Voltage	LNA Gain (Typ)	Power Consumption(mA) Typ	Noise Figure Typ
Min. 1.8V	9dB	2.5mA	4.5dB
Typ. 3.0V	25dB	10mA	1.6dB
Max. 5.5V	28dB	22mA	1.6dB
Input Voltage	Min. 1.8V	Typ. 3.0V	Max. 5.5V
MECHANICAL			
Dimension	12mm x 12mm x 3.5mm		
RF Cable	Coaxial Cable ψ1.13 ± 0.1mm, length 46 ± 2.5mm		
Connector	IpeX MHFI (U.FL)		
ENVIRONMENTAL			
Operation Temperature	-40°C to + 85°C		
Storage Temperature	-40°C to + 85°C		
Relative Humidity	40% to 95%		

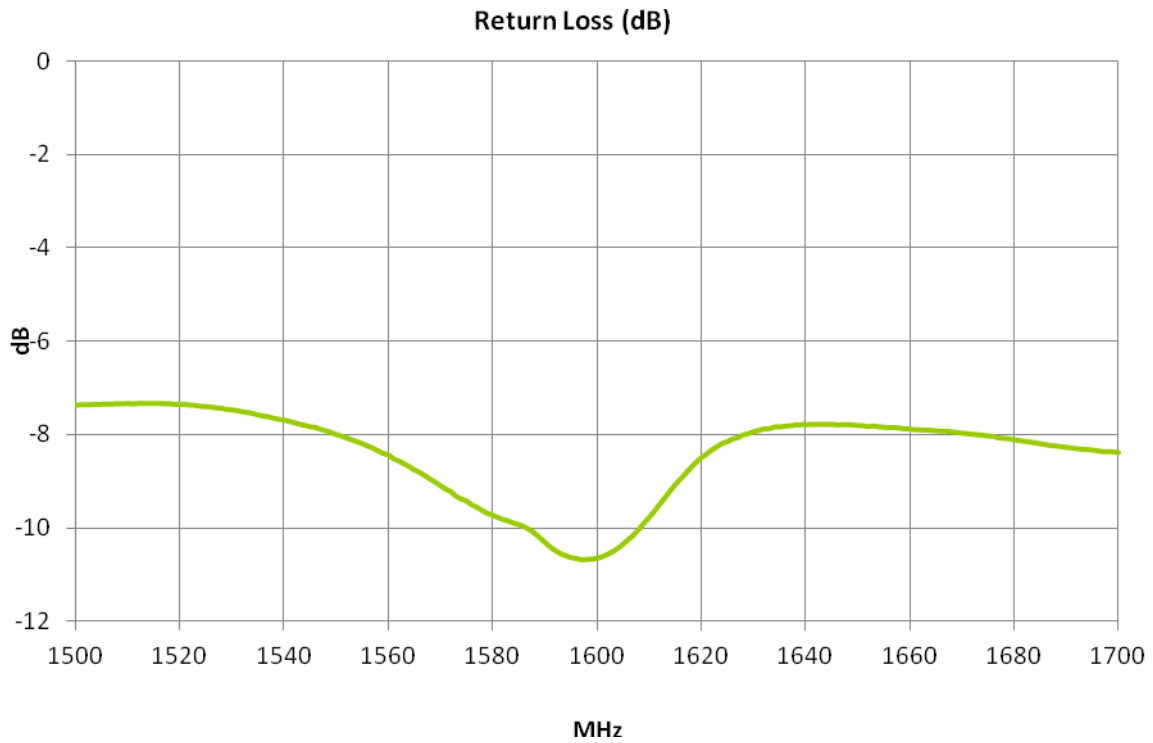
2.1. LNA Gain @3.0V



2.2. LNA Noise Figure@3.0V



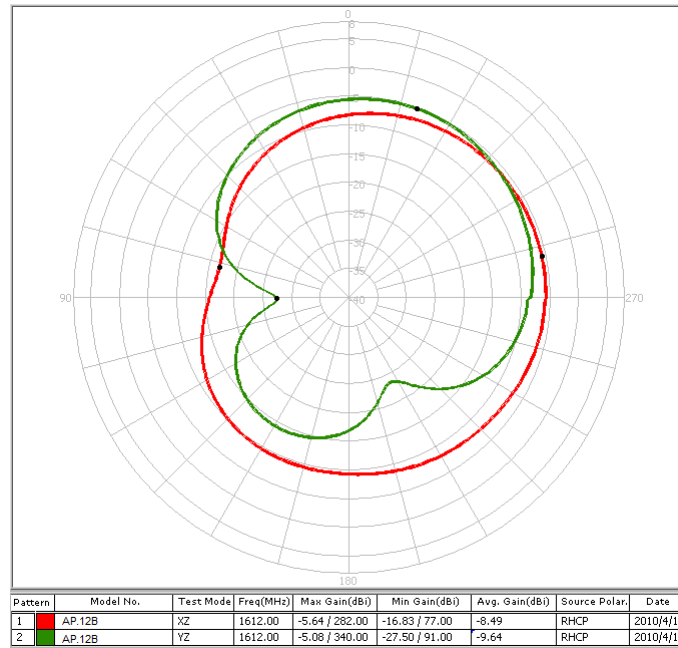
3. Return Loss



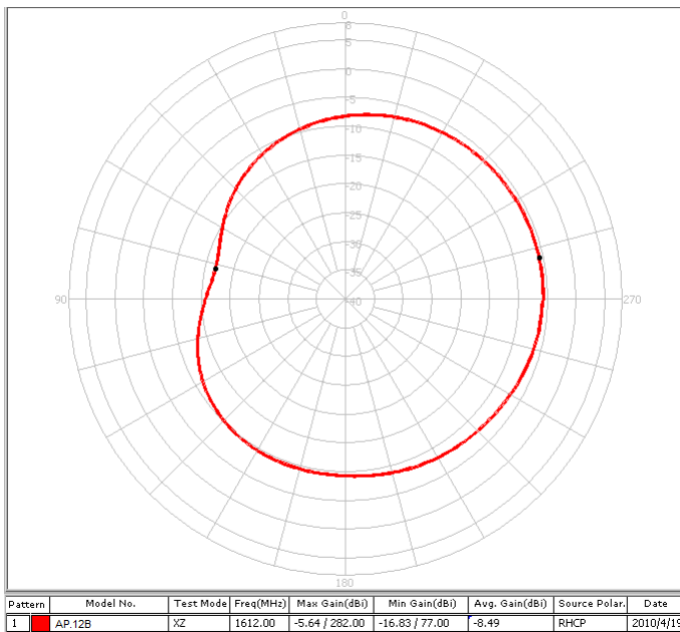
Note: it is expected that the installation of the final device (e.g. proximity to inclosure) will shift the return loss peak down so that it is at or closer to 1575MHz.

4. Radiation Patterns

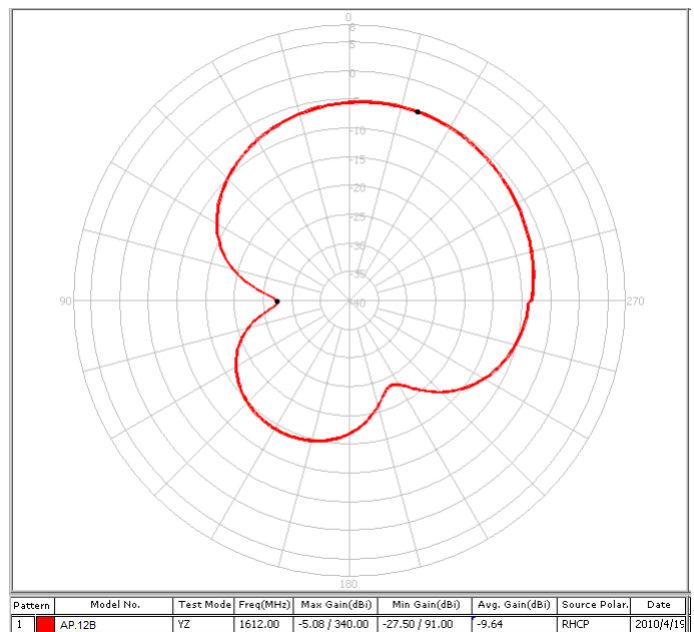
XY Plane



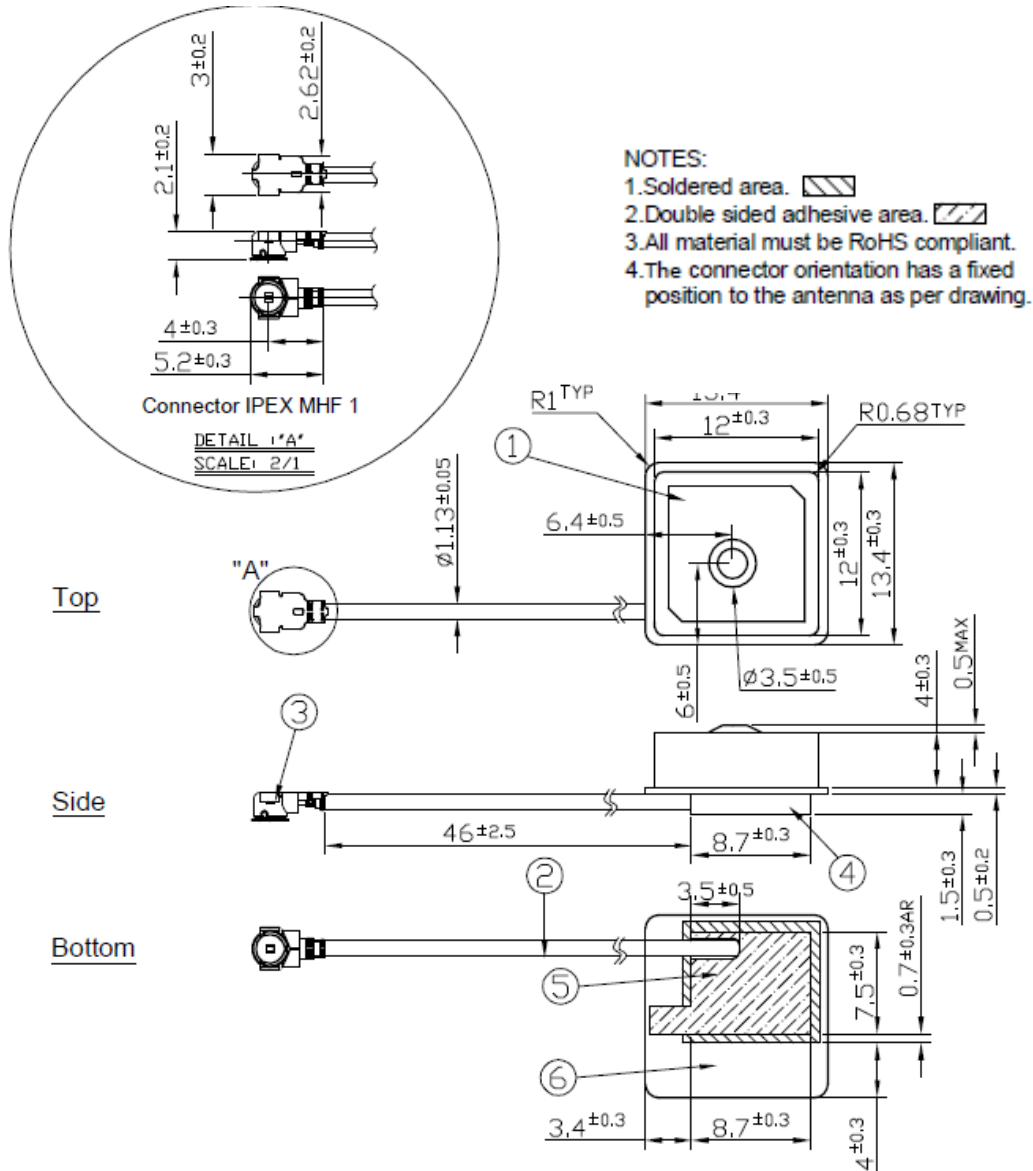
XZ Plane



YZ Plane



5. Mechanical Drawing (Unit: mm)



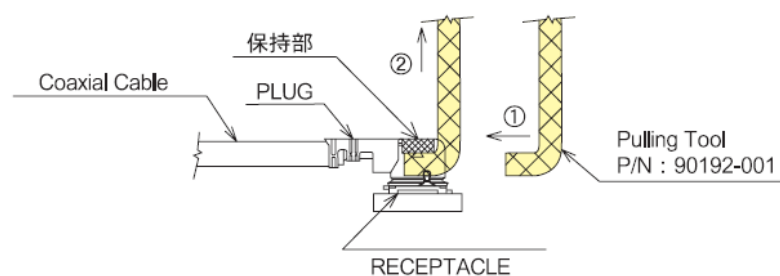
	Name	Material	Finish	QTY
1	AP.12B Patch(12*12*4mm)	Ceramic	Clear	1
2	1.13 Coaxial Cable	FEP	Gray	1
3	IPEX MHF1 Connector	Brass	Gold	1
4	Shielding Case	Tin (SPTE)	Tin Plated	1
5	Double sided Adhesive	NITTO 5015*2	White Liner	1
6	AP.12B PCB	FR4 0.5t	Green	1

6. Plugs Usage and Precautions

6.1. Mating / Un-mating

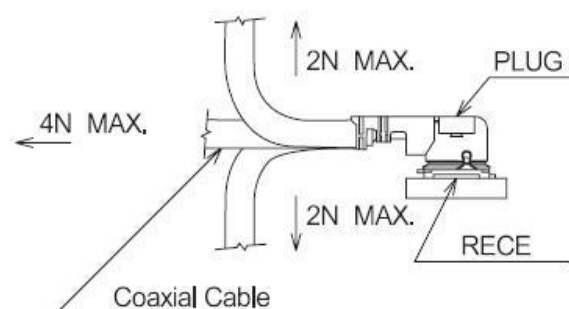
(1) To disconnect connectors, insert the end portion of I-PEX under the connector flanges and pull off vertically, in the direction of the connector mating axis.

(2) To mate the connectors, the mating axes of both connectors must be aligned and the connectors can be mated. The "click" will confirm fully mated connection. Do not attempt to insert on an extreme angle.

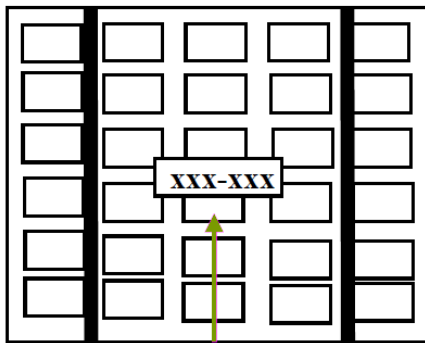


6.2. Pull forces on the cable after connectors are mated

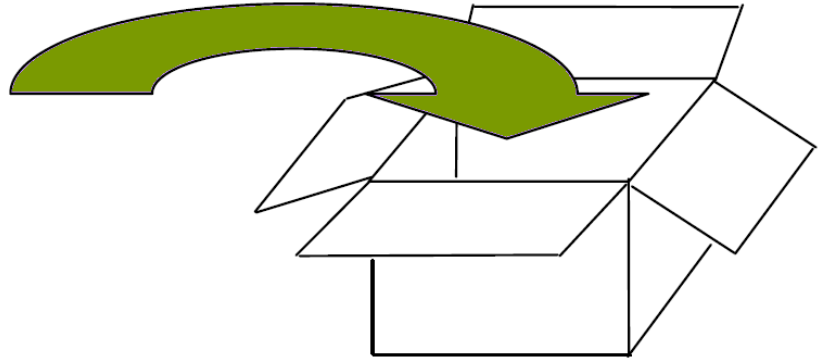
After the connectors are mating, do not apply a load to the cable in excess of the values indicated in the diagram below.



7. Packaging



- *Packaged in Tray with Foam
- *One Tray = 60 pieces
- *6 Trays per Section = 360 pcs



- *Each Carton contains 3 Sections
- *1080 pieces per Carton

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