



Part No:

PC14.03.3000D

Description

Circular Dual-Band 2.4~5.2GHz PCB antenna with cable and connector

Features:

Ø42mm*0.8mm

High efficiency antenna for Wi-Fi®/ Bluetooth®/ ZigBee® applications

3M Rg-174 RP-SMA(M)

Stable efficiency, gain and radiation patterns

Cable and Connector fully customizable

RoHS Compliant Custom Cables and Connectors Available

RoHS & Reach Compliant



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1. Introduction



The PC14.03.3000D is a high performance wireless antenna for internal use in Wi-Fi® or WLAN equipment worldwide. Omni-directional gain across both bands ensures constant reception and transmission. Its compact size and high performance make it ideal for integration into today's devices.

Many module manufacturers specify peak gain limits for any antennas that are to be connected to that module. Those peak gain limits are based on free-space conditions. In practice, the peak gain of an antenna tested in free-space can degrade by at least 1 or 2dBi when put inside a device. So ideally you should go for a slightly higher peak gain antenna than mentioned on the module specification to compensate for this effect, giving you better performance.

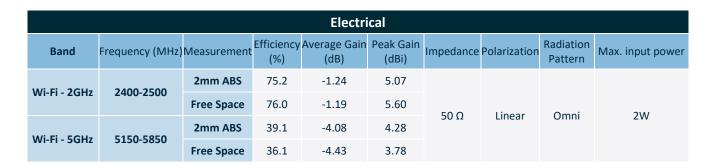
Upon testing of any of our antennas with your device and a selection of appropriate layout, integration technique, or cable, Taoglas can make sure any of our antennas' peak gain will be below the peak gain limits. Taoglas can then issue a specification and/or report for the selected antenna in your device that will clearly show it complying with the peak gain limits, so you can be assured you are meeting regulatory requirements for that module.

For example, a module manufacturer may state that the antenna must have less than 2dBi peak gain, but you don't need to select an embedded antenna that has a peak gain of less than 2dBi in free-space. This will give you a less optimized solution. It is better to go for a slightly higher free-space peak gain of 3dBi or more if available. Once that antenna gets integrated into your device, performance will degrade below this 2dBi peak gain due to the effects of GND plane, surrounding components, and device housing. If you want to be absolutely sure, contact Taoglas and we will test. Choosing a Taoglas antenna with a higher peak gain than what is specified by the module manufacturer and enlisting our help will ensure you are getting the best performance possible without exceeding the peak gain limits.

Cable and connector are fully customizable.



2. Specification



^{*}Tested with 300mm of cable (RG174).

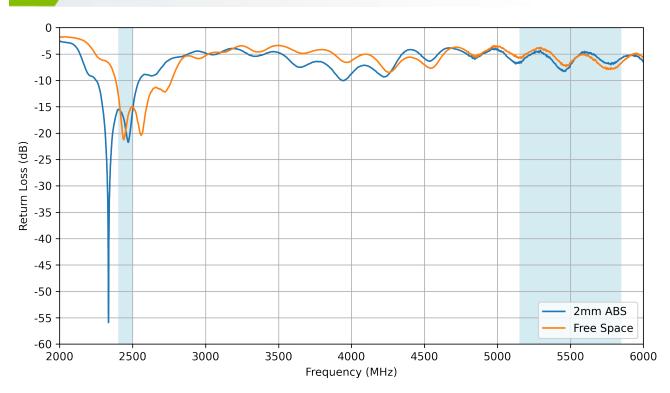
	Mechanical
Dimensions	Ø42mm*0.8 mm
Connector	RP-SMA(M)
Cable Standard	RG-174
Weight	33g

	Environmental
Operation Temperature	-40 °C ~ +85 °C
Storage Temperature	-40 °C ~ +85 °C
RoHS Compliant	Yes

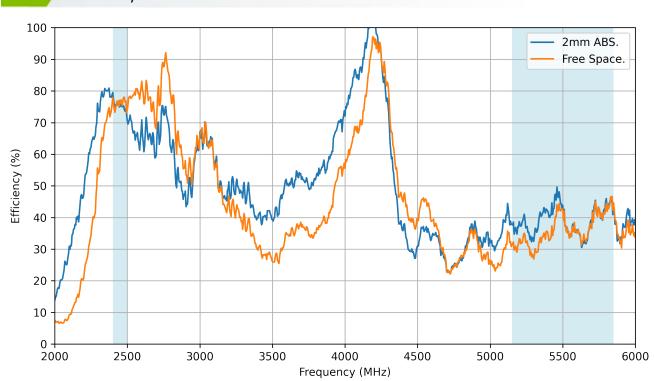


3. Antenna Characteristics

3.1 Return Loss

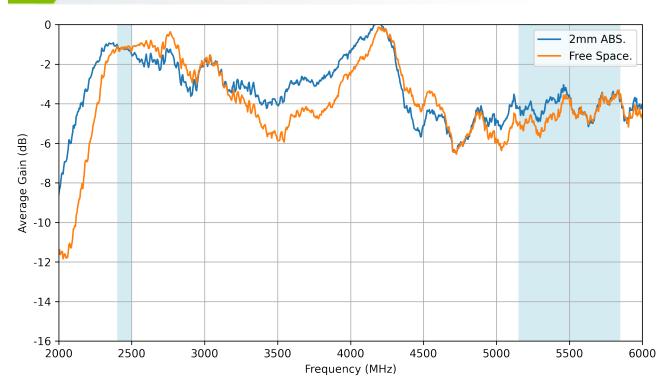


3.2 Efficiency

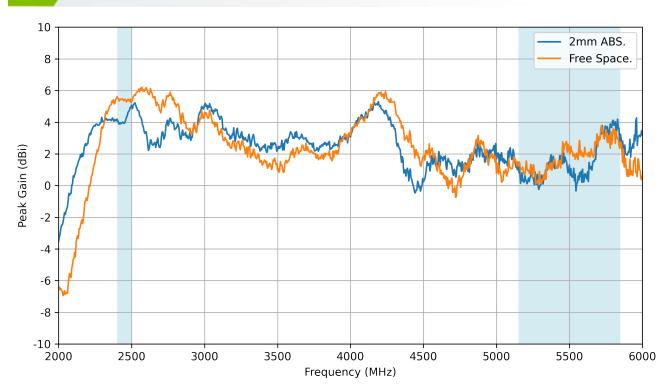




3.3 Average Gain



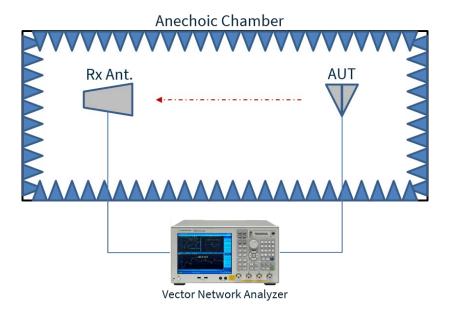
3.4 Peak Gain



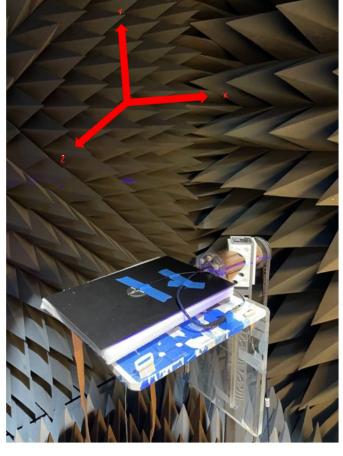


4. Radiation Patterns

4.1 Test Setup

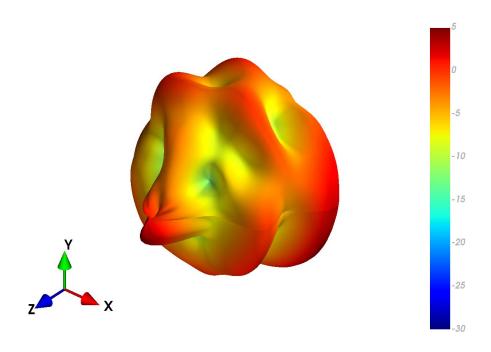


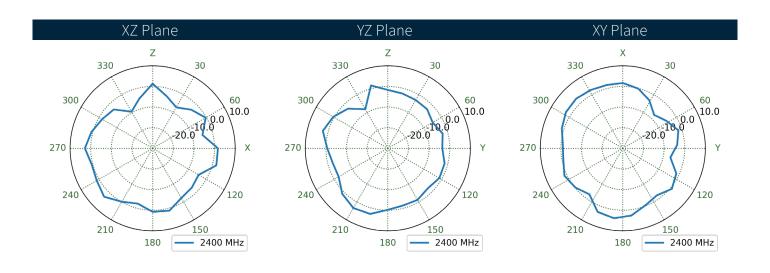






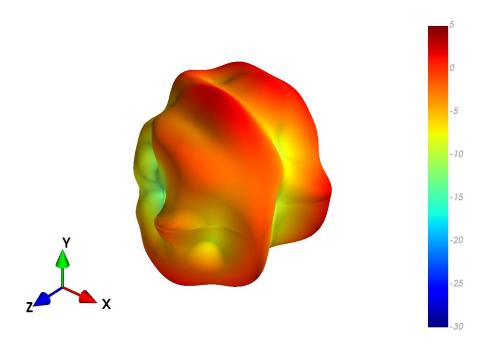
4.2 2mm ABS - Patterns at 2400 MHz

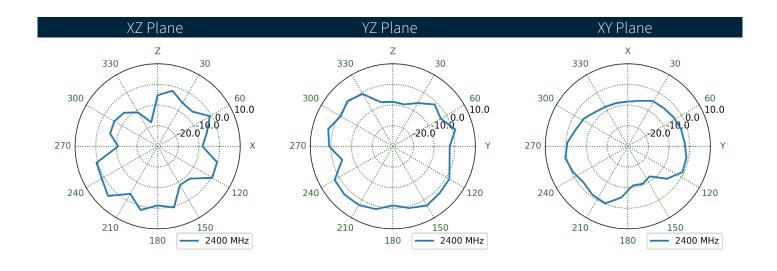






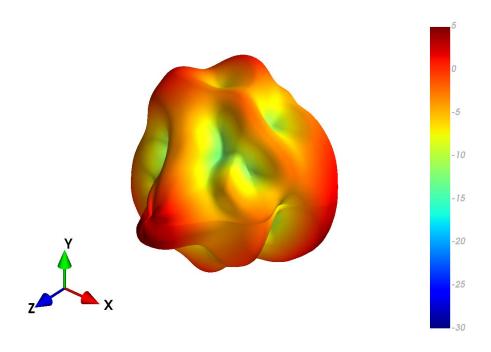
Free Space - Patterns at 2400 MHz

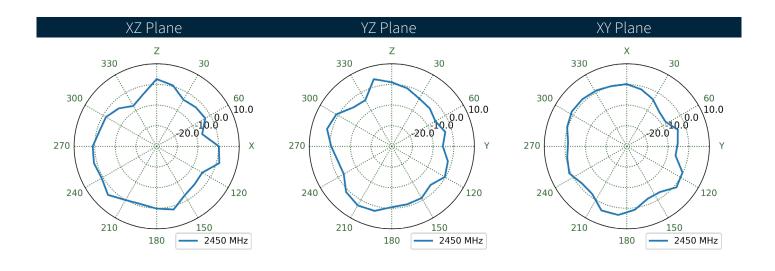






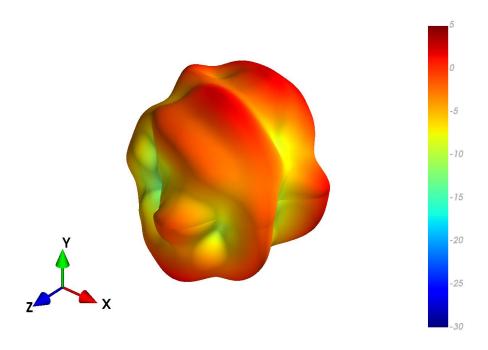
4.4 2mm ABS -Patterns at 2450 MHz

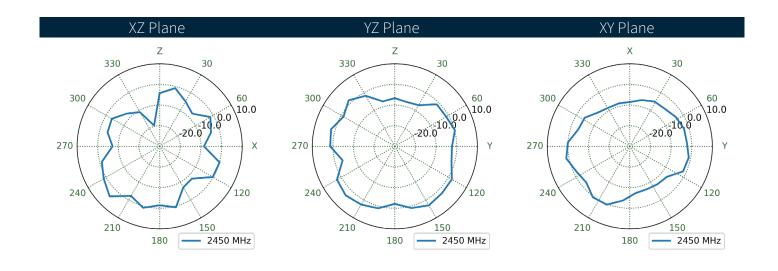






Free Space - Patterns at 2450 MHz

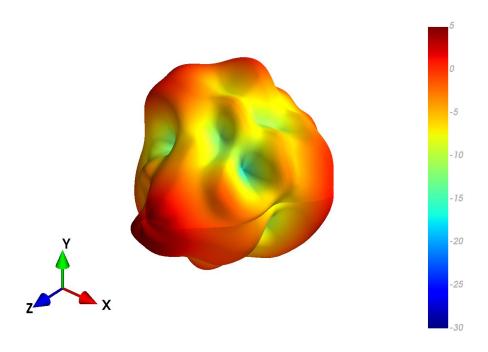


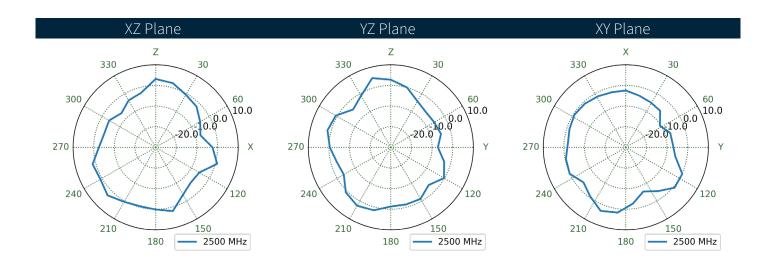




2mm ABS - Patterns at 2500 MHz

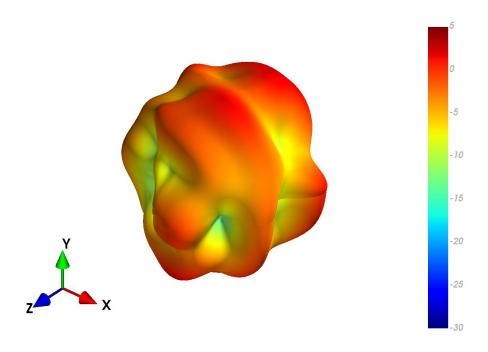
4.6

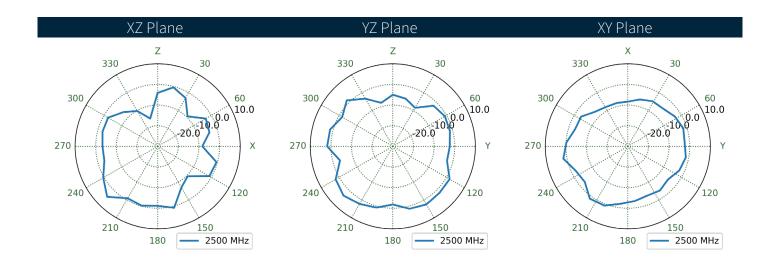






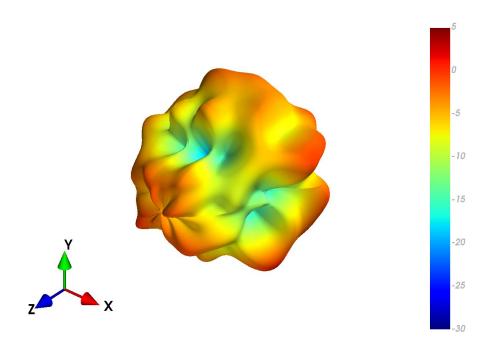
Free Space - Patterns at 2500 MHz

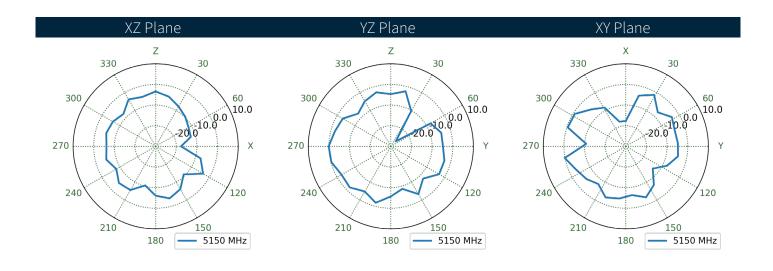






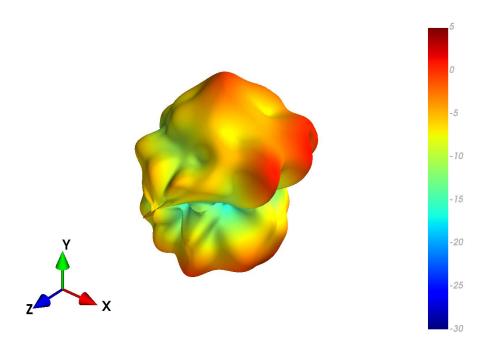
2mm ABS - Patterns at 5150 MHz

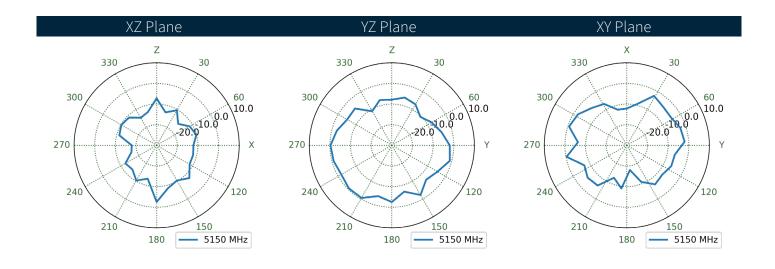






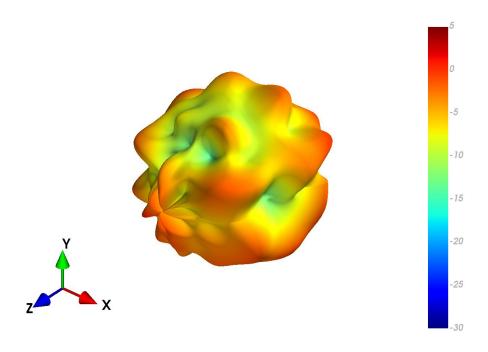
4.9 Free Space - Patterns at 5150 MHz

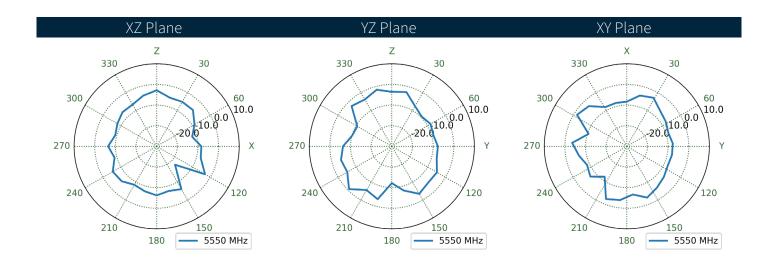






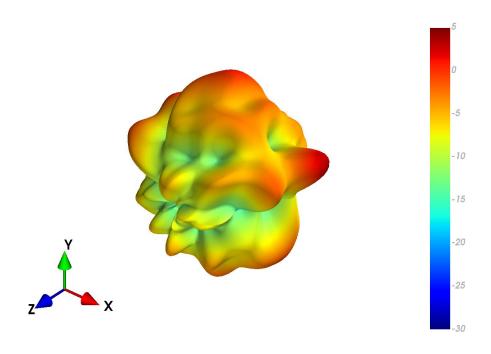
4.10 2mm ABS - Patterns at 5550 MHz

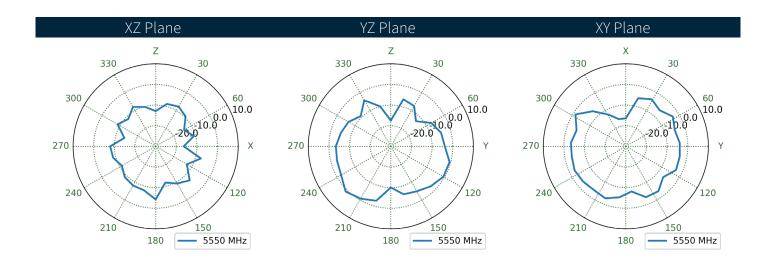






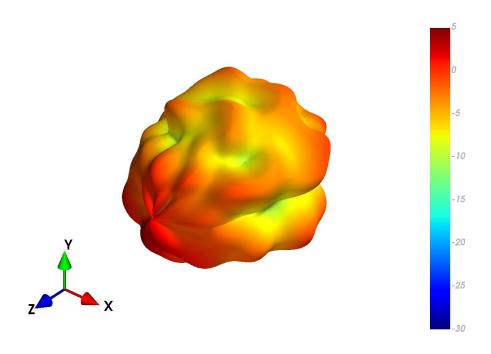
4.11 Free Space - Patterns at 5550 MHz

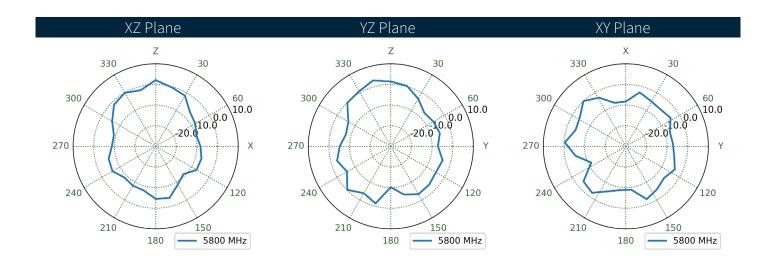






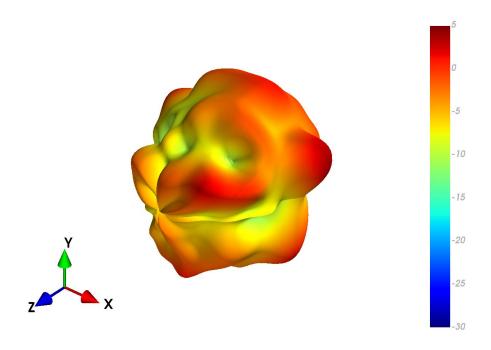
4.12 2mm ABS - Patterns at 5800 MHz

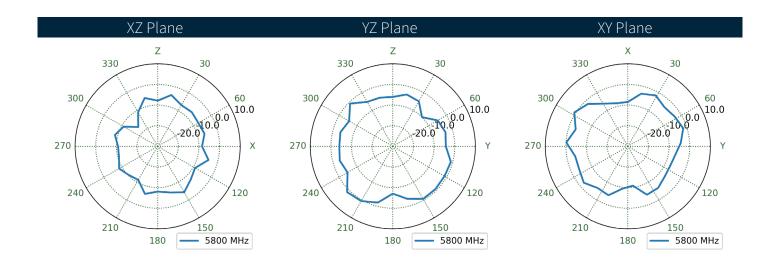






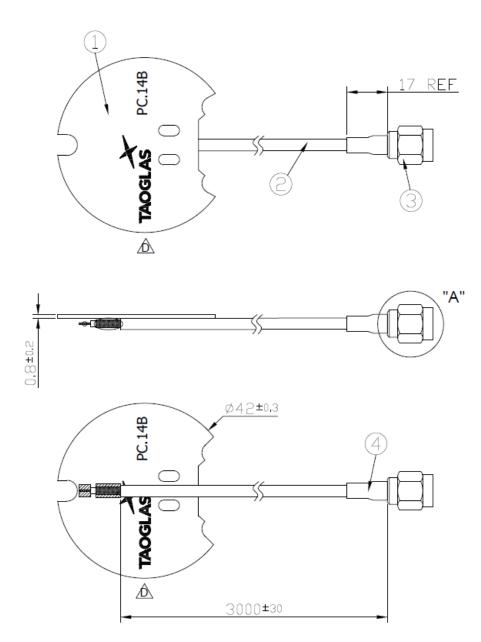
4.13 Free Space - Patterns at 5800 MHz

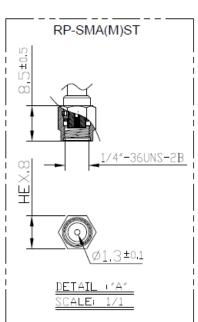






. Mechanical Drawing





	Name	P/N		Material	Finish	QTY
1	PC.14B PCB	100211D000011A	B	FR4 0.8t	Black	1
2	RG174	301313A000002A	B	PVC	Black	1
3	RP-SMA(M)ST	200211J010002A	À	Brass	Gold	1
4	Heat Shrink Tube	001311F000002A	B	PE	Black	1



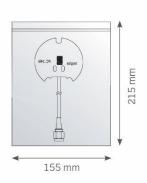
6. Packaging

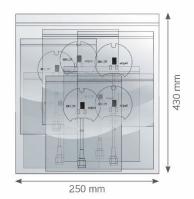
1pc PC14.03.3000D per PE Bag Bag Dimensions - 215 x 155mm Weight - 44g

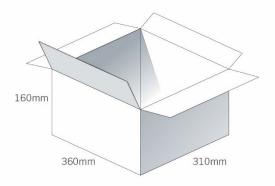
25pcs PC14.03.3000D per PE Large Bag Bag Dimensions - 430 x 250mm Weight - 1.1kg

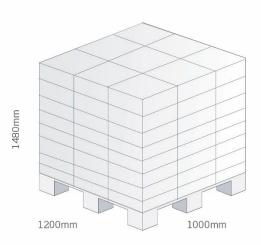
200 pcs PC14.03.3000D per carton Carton - 360 x 310 x 160mm Weight - 8.8Kg

Pallet Dimensions 1200x 1000 x 1480mm 72 Cartons per Pallet 9 Cartons per layer 8 Layers











Changelog for the datashee

SPE-12-8-110 - PC14.03.3000D

Revision: C (Current	Version)
Date:	2022-10-24
Changes:	Full datasheet update.
Changes Made by:	Gary West

Previous Revisions

Revision: B		
Date:	2015-04-03	
Changes:		
Changes Made by:	Technical Writer	
Revision: A (Origina		
Date:	2012-08-15	
Notes:		
Author:	Technical Writer	





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