

## 1. Introduction



The GW.05 dual band Wi-Fi Hinged Rotatable Antenna is a high efficiency monopole antenna with the capacity to cover Wi-Fi 6 frequencies up to 7.125GHz. Compared to other much larger antennas on the market, it has superior wide-band high efficiency characteristics. The bright green colour of the antenna adds a unique quality look and feel to any modern Wi-Fi application point, device or router. It also provides differentiation if using Taoglas other similar looking antennas (such as the black color Taoglas TG.09 cellular antenna) on same device.

The GW.05, as all monopole antennas, works best connected directly to the ground-plane of the device main PCB or to the outside of a metal housing. However, it still has very good performance (>50%) even without connecting to a ground-plane, making it the best all round small Wi-Fi terminal antenna on the market.

In the un-grounded installation condition, it also comes below the max peak gain requirements for most Wi-Fi modules which are usually 2dBi, so it can comply with FCC regulations. The GW.05 is for Wi-Fi, WLAN, Zigbee, Bluetooth, and 802.11a/b/g/n/ac applications.

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.

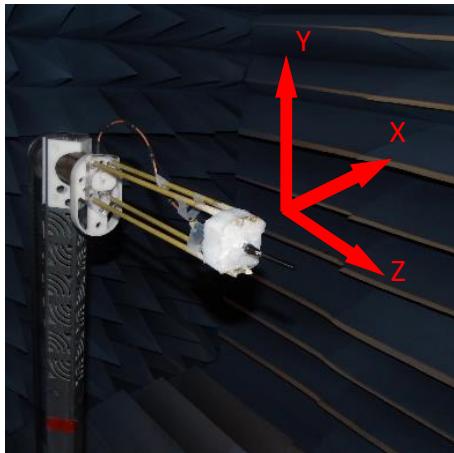
It is better not to select an embedded antenna with very low free-space peak gain (<2dBi) directly, as this antenna would have worse performance in your device, and lead to compromised performance compared to using a Taoglas antenna.

This antenna's colour and connector can be customized subject to NRE, for further information please contact your regional Taoglas customer support team.

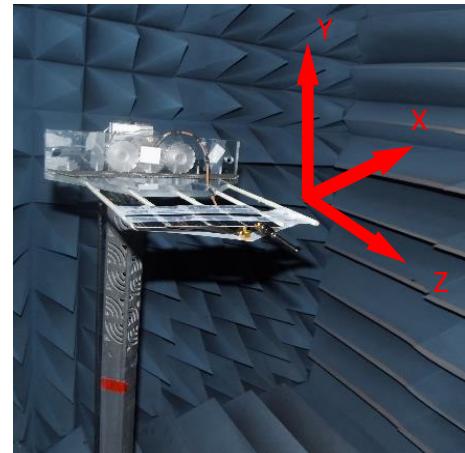


## 4. Radiation Patterns

### 4.1 Test Setup – Straight



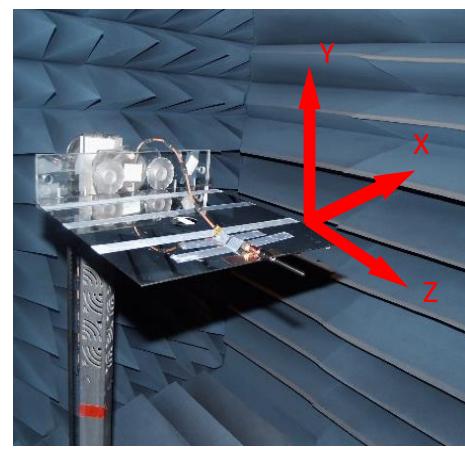
Free space



15x9cm ground plane

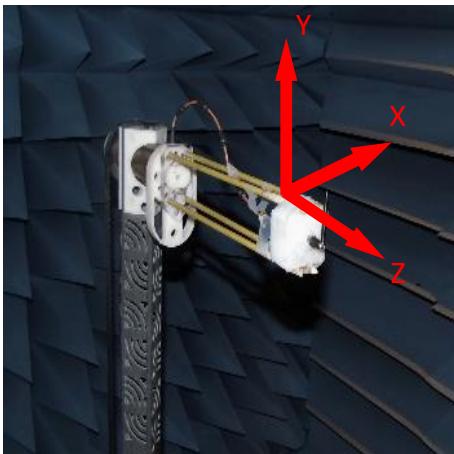


30x30cm metal ground center

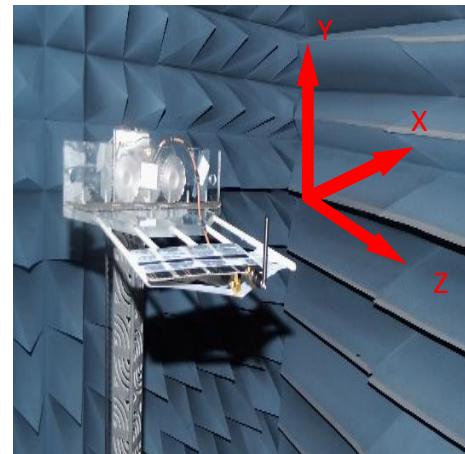


30x30cm metal ground edge

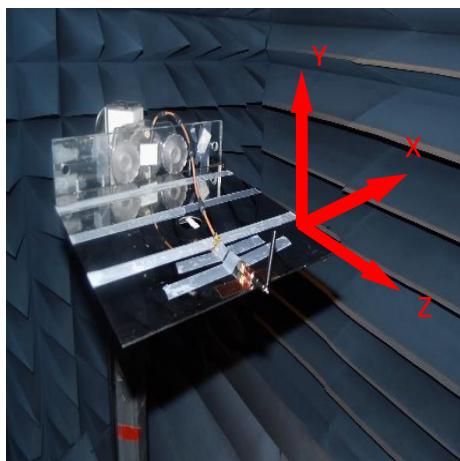
### 4.2 Test Setup – Bent (90°)



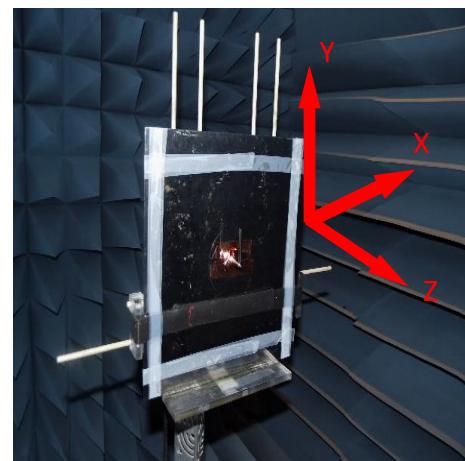
Free space



15x9cm ground plane

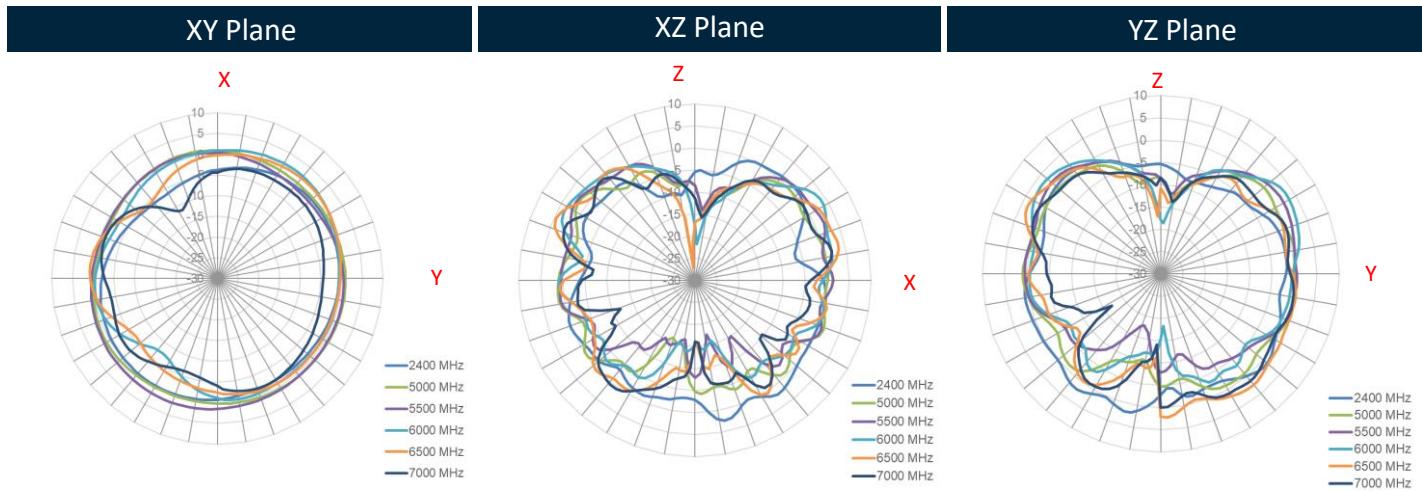


30x30cm metal ground center

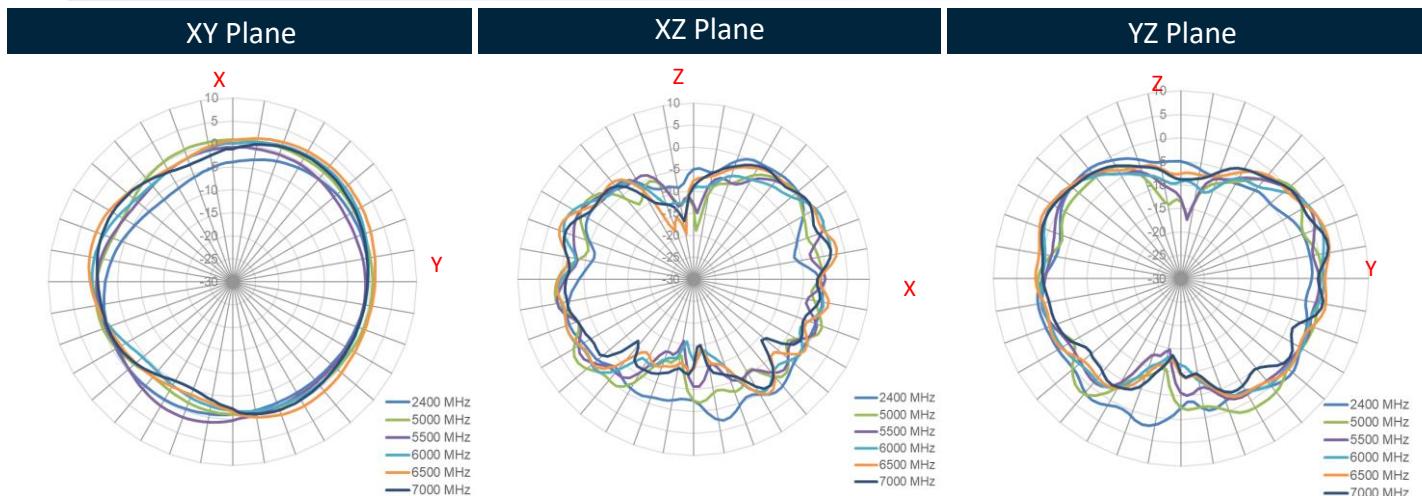


30x30cm metal ground edge

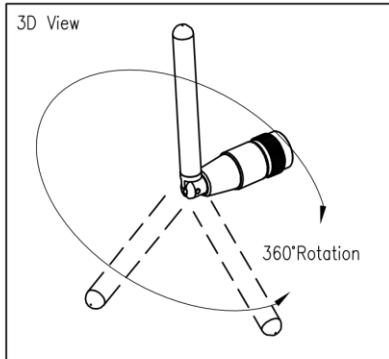
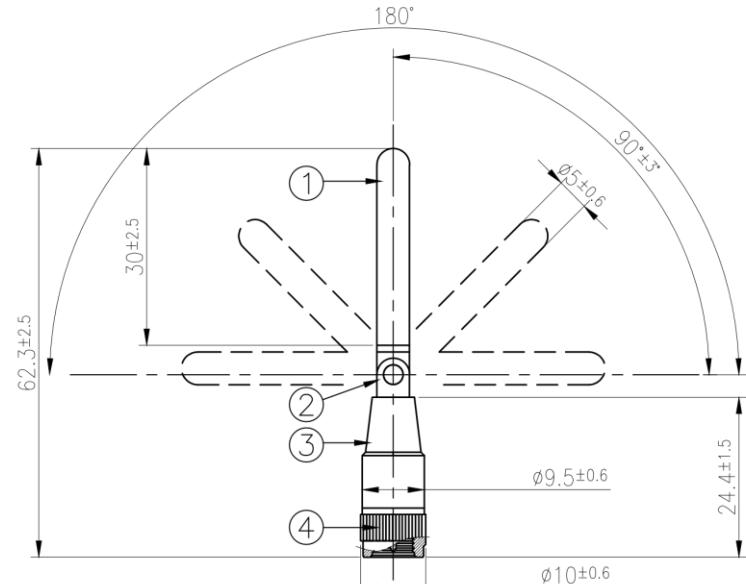
### 4.3 Straight Free Space - 2D Radiation Patterns



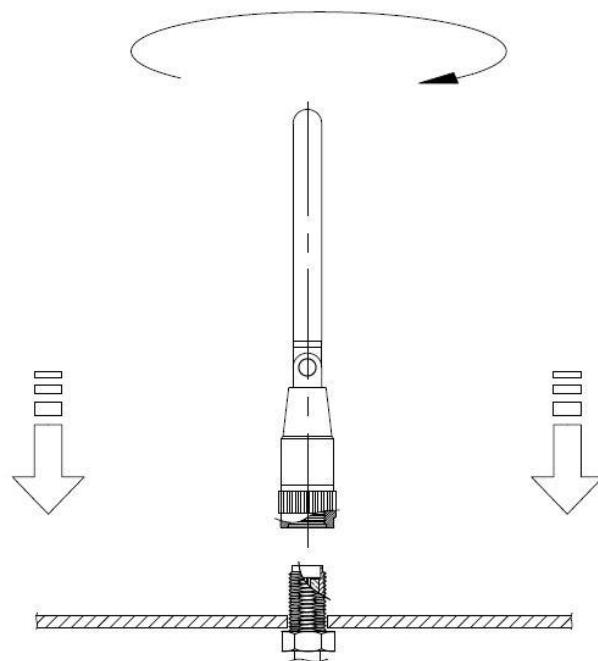
### 4.4 Bent 90° Free Space - 2D Radiation Patterns



## 5. Mechanical Drawing (Units: mm)

6	5	4	3	2	1						
ISO NO: EDW-18-8-1112		<Release>		REV	ZONE	DESCRIPTION		ENG	APPROVED	ISSUED DATE	
				▲	ALL	Initial Design		Eva	Paul	2018/10/11	
											
											
<p>NOTES:</p> <ol style="list-style-type: none"> <li>1. All Material Must Be RoHS Compliant.</li> <li>2. Housing And Cap Color : Green ST-14042819</li> </ol>											
UNLESS OTHERWISE SPECIFIED TOLERANCES ON: $.X \pm 0.2$ $XX \pm 0.5$ $XX \pm 0.1$ $X \pm 0.3$ $XXX \pm 0.05$		DATE: 2014/03/26 MAT'L: UNIT: mm FINISH: THIRD ANGLE PROJECTION				REV A					
APPROVED BY: Wayne CHECKED BY: Aine		DRAWN BY: Raisa		CUSTOMERS SIGNATURE / DATE		TITLE. : 2.4/5GHz Hinged RP-SMA(M) PART NO. : GW.05.0153					
6		5		4		3		2		1	

## 6. Installation



Recommended torque for mounting is 0.9 N·m  
Maximum torque for mounting is 1.176 N·m

## 7. Packaging

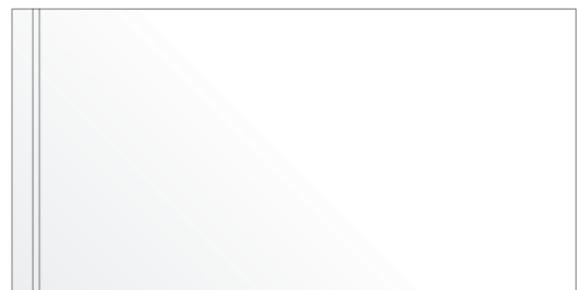
1pc GW.05.0153 per PE Bag  
 Bag Dimension: 74\*42mm  
 Weight: 8.5g



42mm

74mm

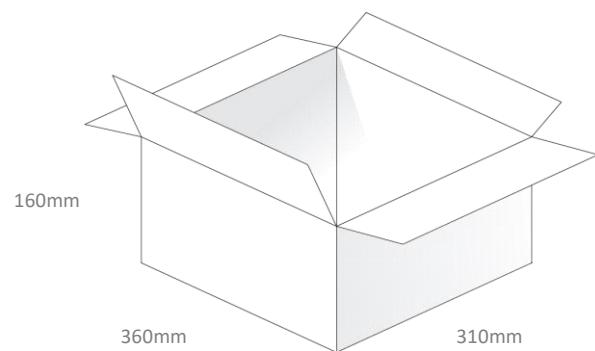
100pcs GW.05.0153 per Large PE Bag  
 Bag Dimensions: 180\*280mm  
 Weight: 100g



280mm

180mm

1500pcs GW.05.0153 per Carton  
 Dimensions: 360\*310\*160mm  
 Weight: 2.5Kg



160mm

360mm

310mm