

# BlueCats Bluetooth Low Energy Module

Datasheet

Thursday, 5 April 2016  
Version 1.0

## BCo10 Features

- 4 Mbit External Flash (SPI)
- No external components required
- Reverse Polarity Protection built in
- Meandering Inverted-F PCB Trace Antenna
- Can be surface mounted to a daughter board or used in stand alone fashion

### **15.21 Statement - for all intentional and unintentional radiators.**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **15.105 statement (for digital devices)**

***NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:***

***—Reorient or relocate the receiving antenna.***

***—Increase the separation between the equipment and receiver.***

***—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.***

***—Consult the dealer or an experienced radio/ TV technician for help.***

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This module is exempt from SAR testing for all portable

applications when it is not co-located with any other transmitter and when it is the only antenna in a host device. Therefore this module can be placed <5 cm from a person.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

*This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.*

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

Cet équipement est conforme aux limites d'exposition aux radiations FCC définies pour un environnement non contrôlé. Ce module est exempté de tests SAR pour toutes les applications portables lorsqu'ils ne sont pas co-implanté avec un autre émetteur et quand il est la seule antenne dans un dispositif hôte. Par conséquent, ce module peut être placé < 5 cm d'une personne.

CAN ICES-3 (B)/NMB-3(B)

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## Version History

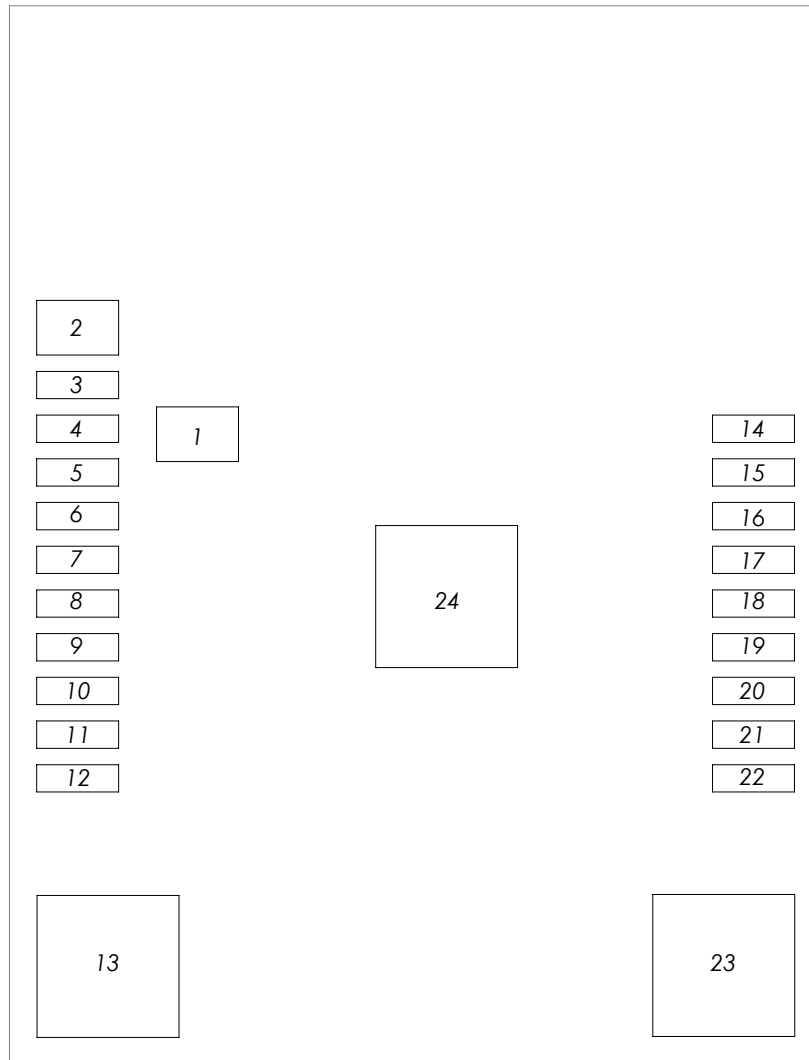
Version	Comment
1.0	Preliminary datasheet

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# 1. Pinout and Terminal Descriptions

## *BC010 PIN Numbers*



*TOP THROUGH VIEW*

BC010 Pin	BC010 Name	CC2640	Description
1	D1	DIO_1	Digital I/O
2	D0	DIO_0	Digital I/O
3	D2	DIO_2	Digital I/O
4	GND	GND	
5	D3_SDA	DIO_3	Digital I/O
6	D4_SCL	DIO_4	Digital I/O
7	VDDS	PWR	
8	TMS	JTAG_TMSC	Programming/debug
9	TCK	JTAG_TCKC	Programming/debug
10	TDO	DIO_5	Programming/debug
11	TDI	DIO_6	Programming/debug
12	nRESET	RESET_N	
13	VDD_EB		External Voltage supply
14	GND		
15	GND		
16	GND		
17	D12	DIO_12	Digital I/O
18	D11	DIO_11	Digital I/O
19	D7_MOSI	DIO_7	Digital I/O
20	D8_SCK	DIO_8	Digital I/O
21	D10_MISO	DIO_10	Digital I/O
22	D9_CS	DIO_9	Digital I/O
23	GND		
24	GND		

## 3. Electrical Characteristics

### 3.1 Absolute Maximum Ratings

Parameter	Min	Max	Unit
VDD_EB	-0.3	4.1	V
Storage Temperature	-40	+85	°C

### 3.2 Recommended Operating Conditions

Parameter	Min	Max	Unit
VDD_EB	2.3	3.8	V
Operating Temperature	-40	+85	°C



## 4. Physical Dimensions

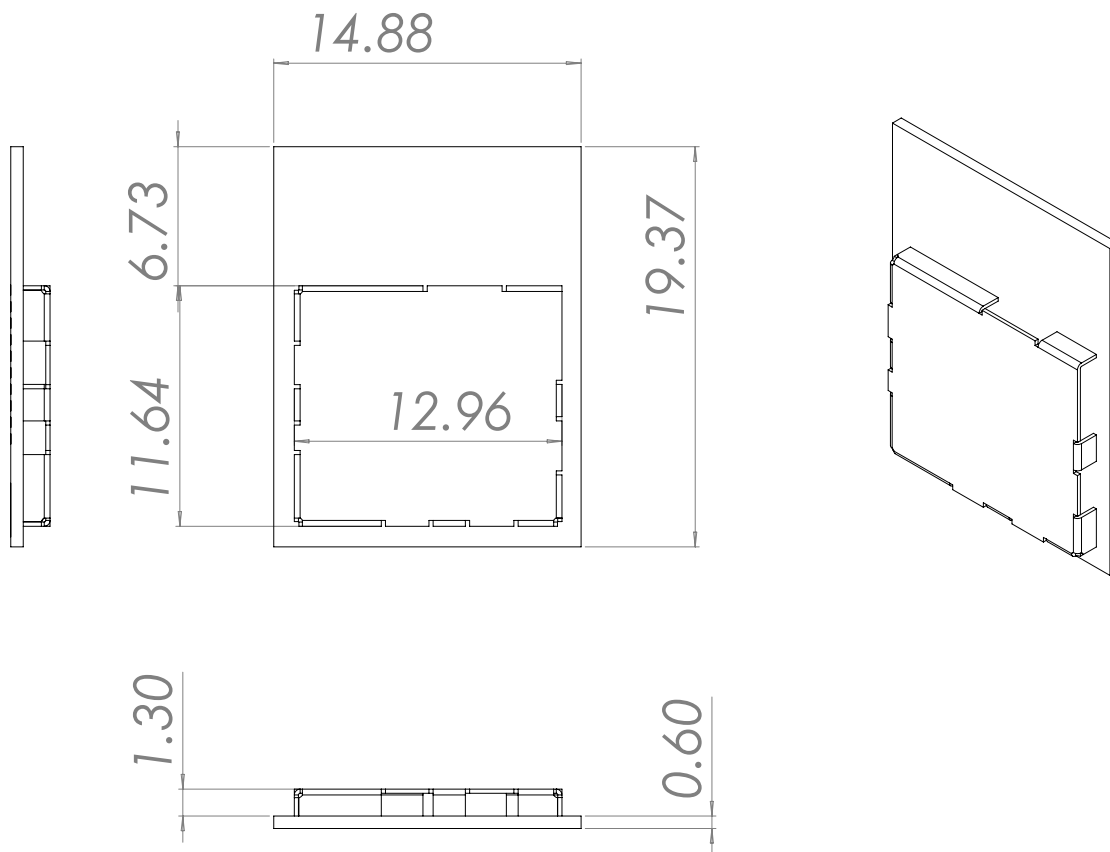
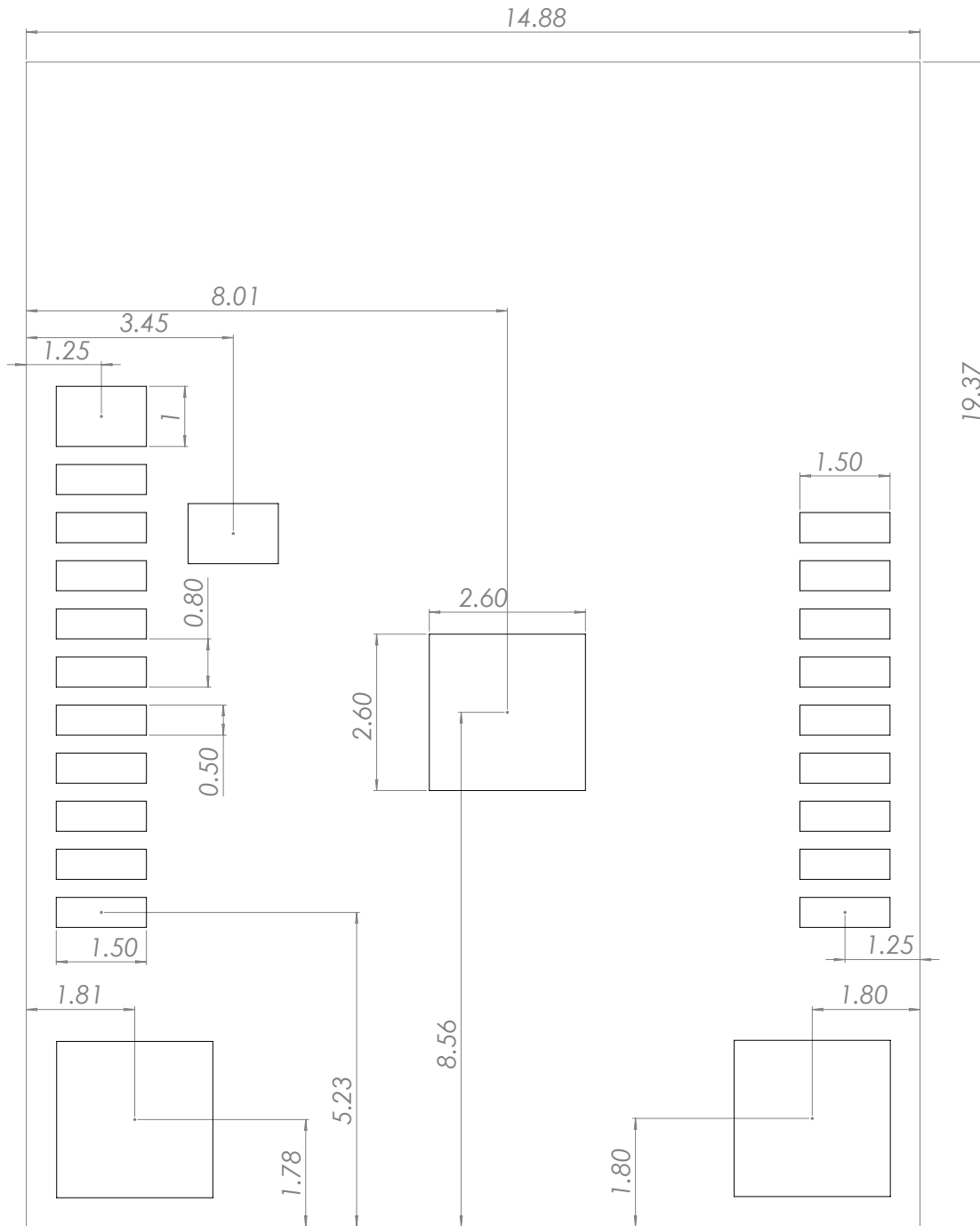


Figure 1: BC010 Overall Dimensions

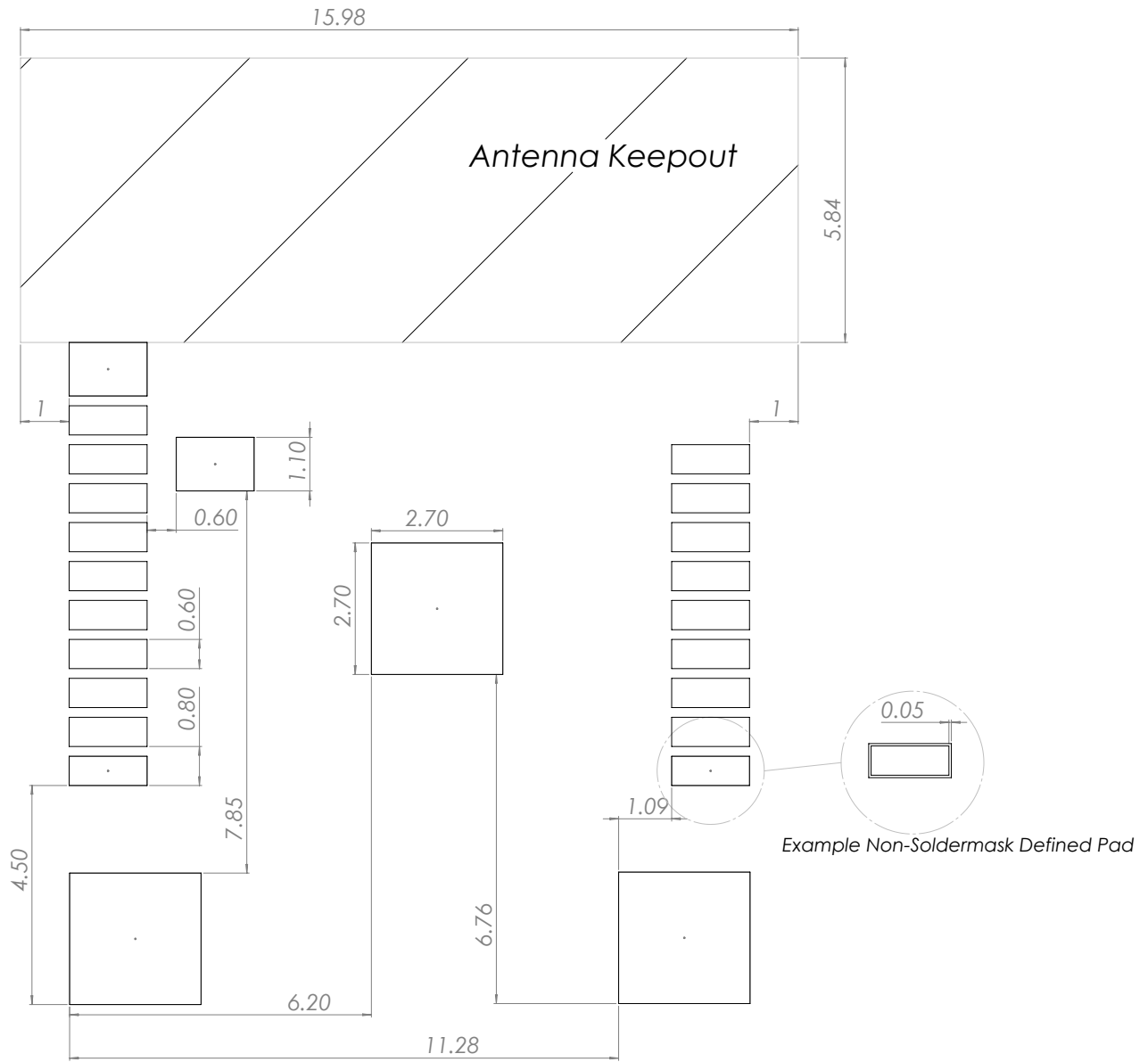
## BlueCats BC010 pin locations



### TOP THROUGH VIEW

1. All linear dimensions in millimeters
2. This drawing is subject to change without notice

## BC010 Land Pattern Data



### TOP VIEW

All linear dimensions in millimeters  
 This drawing is subject to change without notice

## 5. Antenna Characteristics

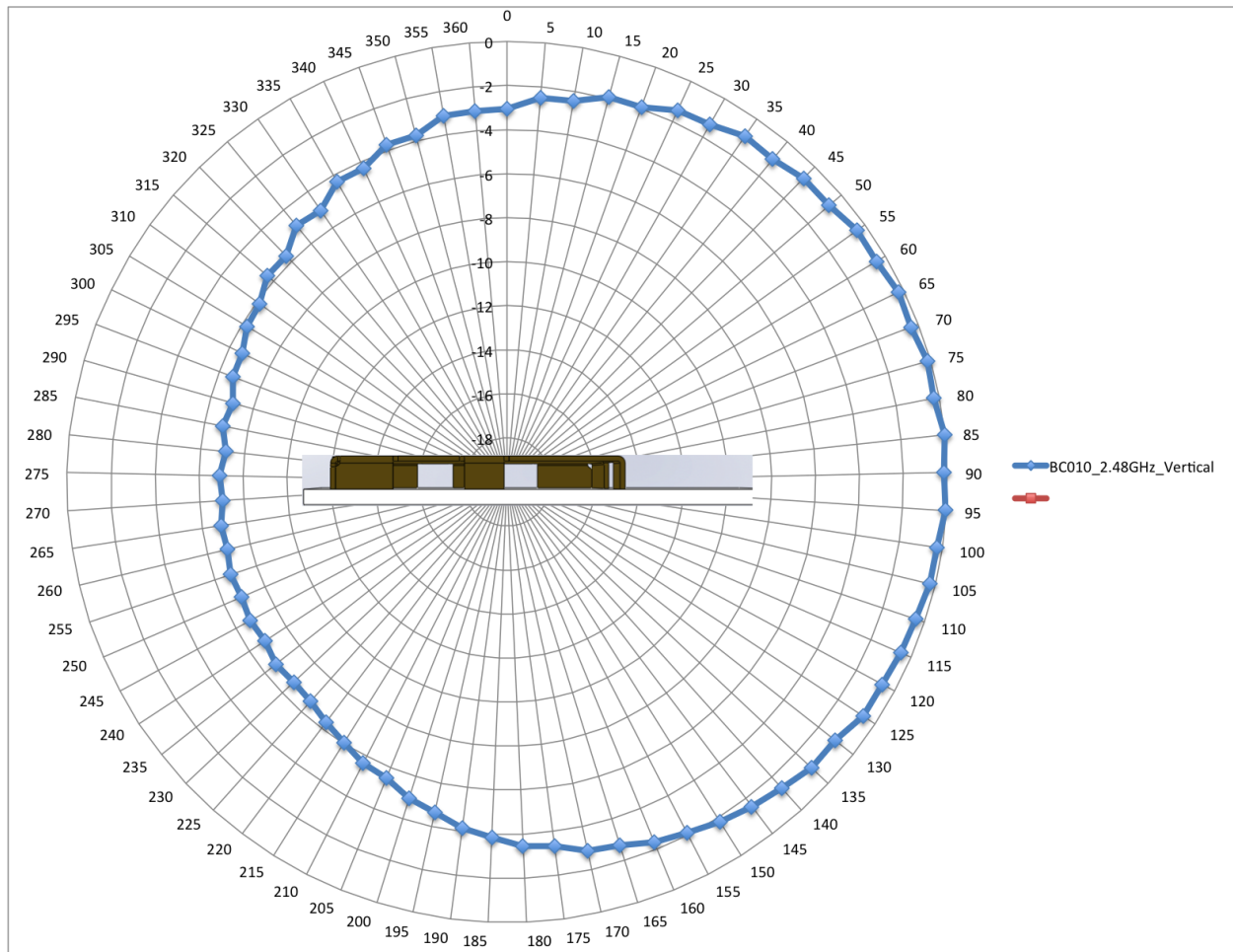


Figure 2: Elevation #1 Antenna Pattern

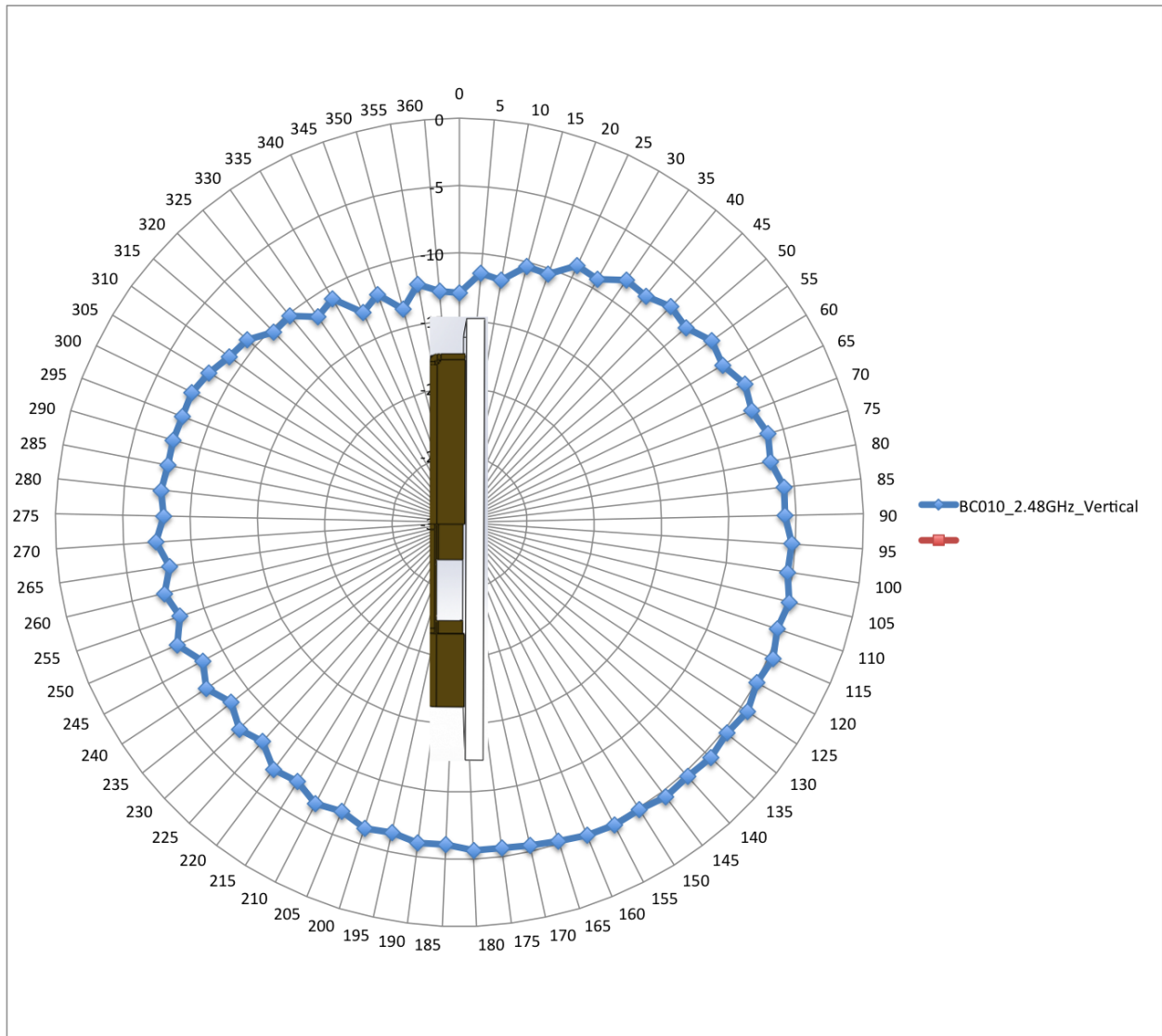


Figure 3: Elevation #2 Antenna Patter

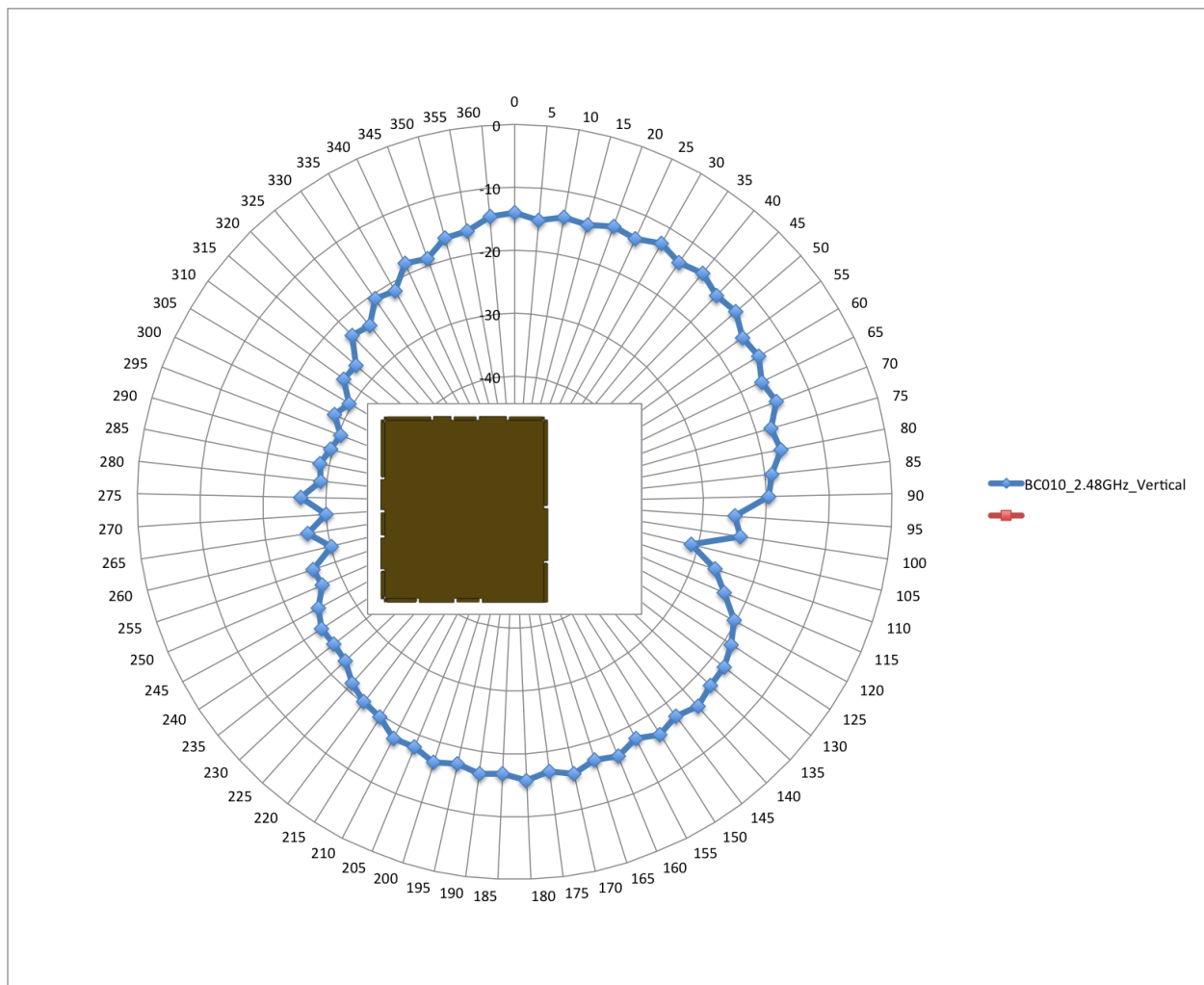


Figure 4: Azimuth Antenna Pattern