

Xi Access Panel – Antenna Info

Prepared by Nytec

October 1, 2018 | Revision 003

Table of Contents

General Antenna Info	2
BLE Antenna Info	4
ISM Antenna Info	4
NFC Antenna Info	5
FCC Part 15	5

Table of Figures

Figure 1: Radio Info Table	2
Figure 2: General Antenna Info Table	2
Figure 3: Access Panel Picture	3
Figure 4: Access Panel Expanded Diagram	3
Figure 5: TriBand Antenna Drawing	3
Figure 6: TriBand Antenna Top Picture	4
Figure 7: TriBand Antenna Bottom Picture	4
Figure 8: BLE Antenna Info Table	4
Figure 9: BLE Antenna Drawing	4
Figure 10: ISM Antenna Info Table	4
Figure 11: ISM Antenna Drawing	5
Figure 12: NFC Antenna Info Table	5
Figure 13: NFC Antenna Drawing	5

Document history

Revision	Date	Author	Description
001	06/08/2018	Tyler Bannon	Initial version of the device hardware
002	09/27/2018	Tyler Bannon	Updated to reflect the new ISM antenna matching network
003	10/01/2018	Tyler Bannon	Updated ISM antenna section to reflect antenna gain and Peak EIRP with v2 display and new matching network.

Radios

The Access Panel has three radios:

Technology	Band Low Frequency (CH)	Band Middle Frequency (CH)	Band High Frequency (CH)	Modulation Type/Standard
BLE	2.402 GHz (37)	2.426 GHz (38)	2.48 GHz (39)	Bluetooth
SRD (Region 2 ISM)	906 MHz	n/a	n/a	2GFSK
NFC	13.56 MHz	n/a	n/a	NFC Type A

Figure 1: Radio Info Table

General Antenna Info

Each Radio on the REV8 Access Panel has its own dedicated radio. The three antennas are integrated on one antenna PCB, called the TriBand Antenna. The TriBand Antenna PCB is located under the screen glass at the bottom of the product bezel.

Product Name	Part Number	Manufacturer
TriBand Antenna	20-10146	Nytec

Figure 2: General Antenna Info Table



Figure 3: Access Panel Picture

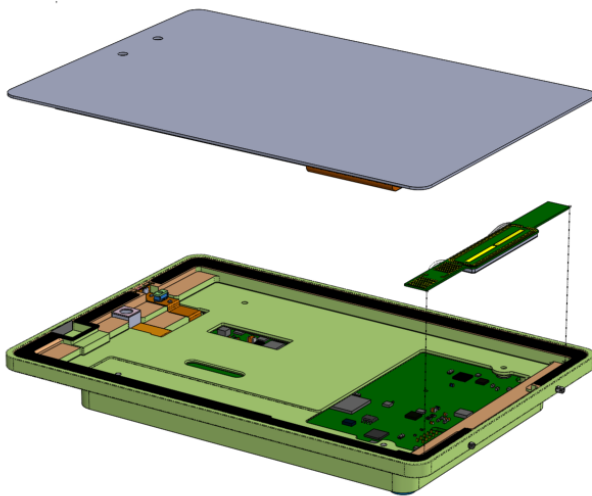


Figure 4: Access Panel Expanded Diagram

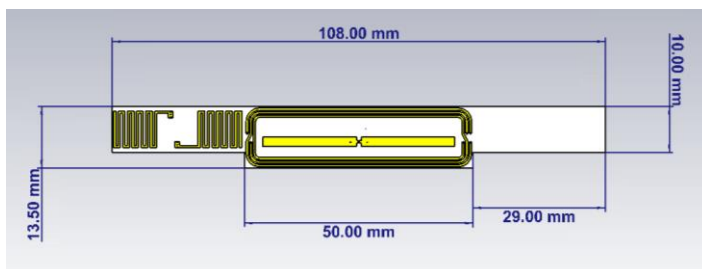


Figure 5: TriBand Antenna Drawing



Figure 6: TriBand Antenna Top Picture

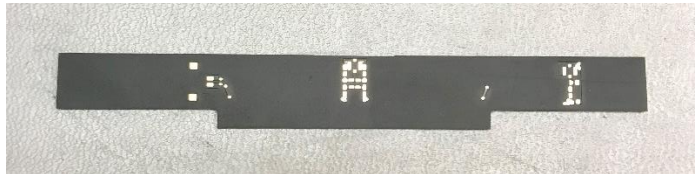


Figure 7: TriBand Antenna Bottom Picture

BLE Antenna Info

Antenna Type	Peak Gain	Radio Power	Expected Max EIRP
Dipole	-8.6 dBi	0 dBm	-8.6dBm

Figure 8: BLE Antenna Info Table

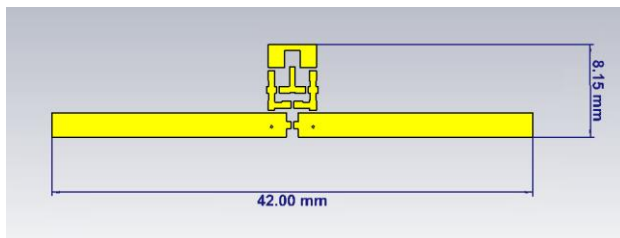


Figure 9: BLE Antenna Drawing

ISM Antenna Info

Antenna Type	Peak Gain	Radio Power	Expected Max EIRP
Meander Dipole	-16 dBi	12.5 dBm	-3.5 dBm

Figure 10: ISM Antenna Info Table

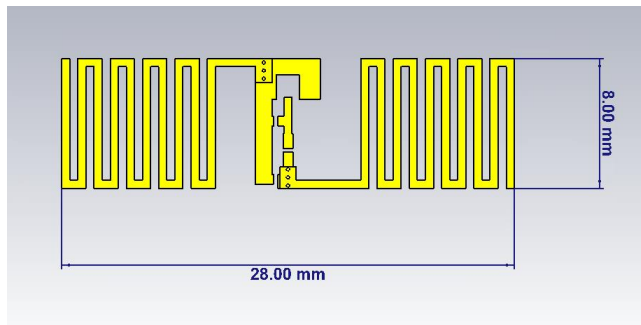


Figure 11: ISM Antenna Drawing

NFC Antenna Info

Description	Width	Length	# Turns	Max Radio Power
Balanced Coil, Rectangular with Rounded Corners	12.9 mm	49.4 mm	3	32 dBm

Figure 12: NFC Antenna Info Table

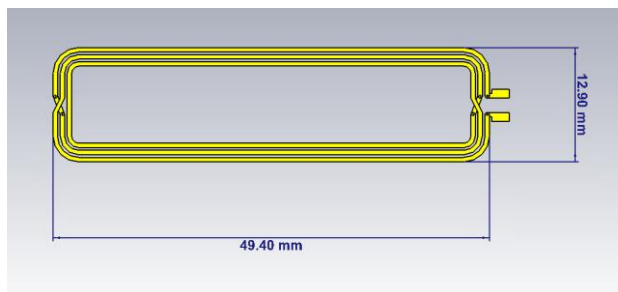


Figure 13: NFC Antenna Drawing

FCC Part 15

The REV8 Access Panel has no external RF connectors. The antennas are embedded and cannot be changed or removed without fully dismantling the product. As such, the device is in conformance with FCC 15.203.

Submitted by Nytec

Name:	Tyler Bannon
Title:	RF Engineer
Date:	10/01/2018