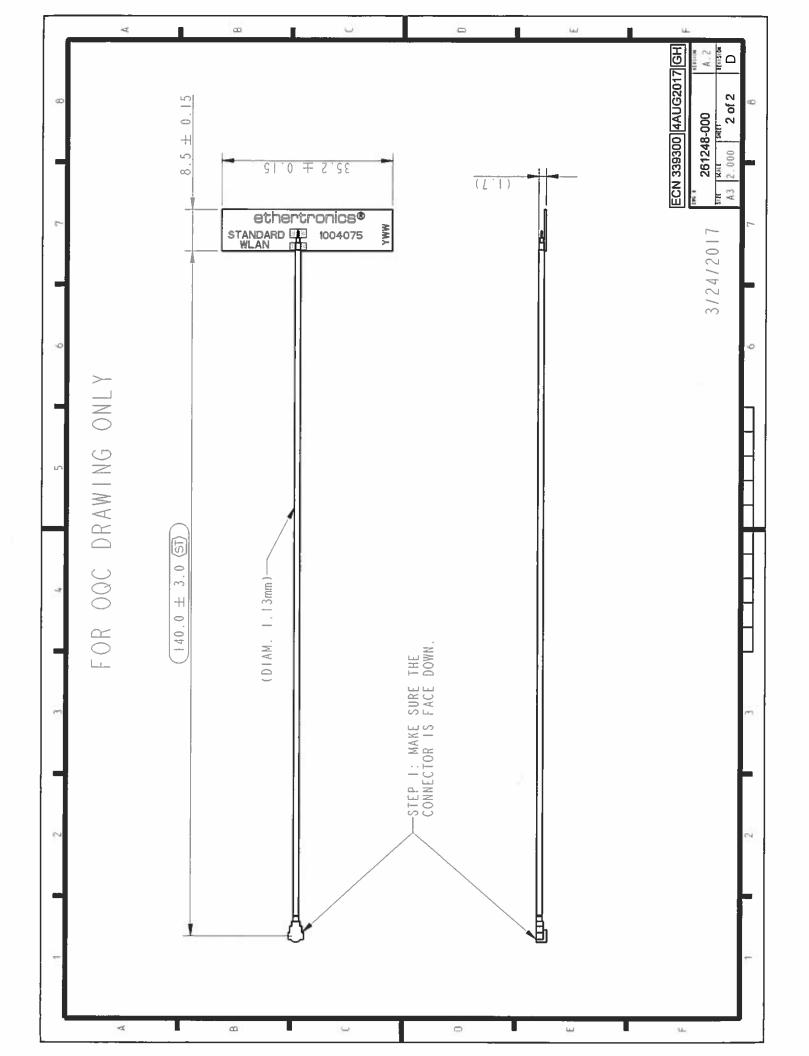
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|---|---|--|---|---|--|--|---|--|--|--|--|--------------------------|--|--|---|
| 2017-03-07                              |   | 8/8/2017   |   |   |  |  |   |  |  |  | Suite 100,                                 | USA                      | 10 11039                                 |  | Released  |
| APFORD BT<br>FRANCISCO SANCHEZ          |   | ECN 339300   |   |   |  |  |   | (  | کر ا   | ANTENNA  | Oberlin Drive,                             | C C-92/21 San Diego, USA | ANTENNIA<br>ANTENNA ASSY, WLAN 140 J1039 | 261248-000                               |   |
| CHANGED BY<br>MANUEL RODRIGUEZ          | GH  | GH   | 5   |   |  | E  | )   |  |  | BOTTOM SIDE OF AN  | о<br>С                                     | 03-07                    | 1  |  | 10  |
|   |   |  |   |   | inen ikanan  |  |   |  |  | BOTTOM   | TDON                                       |                          | 641E<br>2017-03-07                       |  |   |
| ILTISION NOTE<br>FIRST RELEASE          |   | V 1004075  | -   |   |  |  |   |  |  |  | ETHED                                      | ANDEL R                  | P100RAM MAGARE                           | Cultify &:<br>Sifyf BRIDGSAS             | FRANCISCO SANCHEZ   |
| Ē                                       | 3M VHB 2625T-01   | E HERRONICS P/N 1004075                                    |   |   |  | MAGE   |   | 2  |  | Ø  | D. blimensinger                            | 100 AURIL 100 AU         |  |  | A A   |
| N S S S S S S S S S S S S S S S S S S S |   |  |   |   | IMENSION.<br>DIMENSIONS<br>ELRST   | HYSICAL D/   |   |  |  |  | valess olveralst specifies, binkasions and | N MILITIC IN ALCONOM     | SEE DIMENSIONS                           | THE THE ANGLE                            |   |
|   |   |  | ALL BE  |   | PECIFIED IN DIMENSION.<br>R ALL DRAWING DIMENSIONS<br>H THE NUMBERED FIRST   |  | . NOI   |  | TY STUDY<br>DRAWING  |  | 2  |                          |  |  | 26251-01  |
|   | AN CULLY 2  | OVER 275% OF PAD)  | 24 BUTION STDE UF<br>3LE AND ASSEMBLY SHALL   | IGN MATTER.   | L BE PERFORMED FOR<br>L BE PERFORMED FOR<br>LE DATA ALONG WITH   | CONICS INC. CUALITY<br>DATA BASE AND THE<br>TICALLY STATED IN TI<br>Y PACKAGED AND PRO'  | <pre>46 BOX_<br/>25 LABEL SPECIFICATION<br/>ERIAL SPECIFICATION<br/>HERTRONICSINC.<br/>AENT.<br/>0F_EU_DIRECTIVE</pre>  | DI LONIAIN<br>AL FROM SEPARATELY<br>JIPMENT PER EU<br>DC TO MEASURE  | 30C) AND CAPABILITY STUDY<br>PRMED ON ALL (ST) DRAWING<br>4 A MINIMUM 500  | A PROCESS.<br>WARDED TO  |  | REMARK                   | COLOR - BLACK                            | COLOR BLACK                              | MANUFACTURER 3M<br>MANUFAC No 3M VHB                                |
| -<br>                                   | SHEET I.<br>Stadwa on surri a   | R MUST COVER 275% OF PAD)                                  | LINER ON BUILON SIDE UF<br>READABLE AND ASSEMBLY SH   | L FOREIGN MATTER.   | BLOCK UNLESS OTHERWISE SF<br>ENT SHALL BE PERFORMED FOF<br>ST ARTICLE DATA ALONG WITH  | LIHERIKONICS INC. OUALII<br>THE 3D DATA BASE AND TH<br>SPECIFICALLY STATED IN<br>VIDUALLY PACKAGED AND PR  | SHIPPING BOX<br>1000325 LABEL SPECIFICAT<br>OR MATERIAL SPECIFICATION<br>NL BY ETHERTRONICS, INC.<br>DEPARTMENT.  | MALL NUL CONTAIN<br>16 REMOVAL FROM SEPARATELY<br>101C EQUIPMENT PER EU<br>18 VSWR.  | HTROL (SOC) AND CAPABILITY<br>IE PERFORMED ON ALL (ST) DRA<br>ITS FROM A MINIMUM 500   | DDUCTION PROCESS.<br>. BE FORWARDED TO   |  | OTY REMARK               | 9 COLOR:                                 | 9 I COLOR                                | 39 T MANUFACTURER: 3M<br>MANUFAC: No.: 3M VHB                       |
| OTHERWISE SPECIFIED)                    | SEE BILL OF MAIEKIALS ON SHEET I<br>GCEDURE:<br>HE CARDE TO DCA ANTENNA AS SUMMA ON SUFET 3                                     | FREE SOLDER ONLY. ( SOLDER MUST COVER 275% OF PAD)         | JIVE 3M YHD 2023T-UT WITH LINER ON BUTION SIDE UF<br>NNA AS SHOWN ON SHEET 3.<br>UTREMENT: MARKING SHALL BE READABLE AND ASSEMBLY SHJ                                   | ARANCE DEFECTS.<br>.LL BE CLEAN AND FREE OF ALL FOREIGN MATTER.<br>.SFF SHFFT 2                                     | TOLERANCES: SEE TOLERANCE BLOCK UNLESS OTHERWISE SF<br>E: FIRST ARTICLE MEASUREMENT SHALL BE PERFORMED FOR<br>Y SELECTED PARTS. THE FIRST ARTICLE DATA ALONG WITH<br>FS SUPPORTS OF THE FIRST ARTICLE DATA ALONG WITH  | LES SHALL BE FUKWARDED TO ETHERTRUNICS INC. GUALTI<br>LEET ALL CHARACTERISTICS OF THE 3D DATA BASE AND TH<br>RECEDENCE UNLESS OTHERWISE SPECIFICALLY STATED IN<br>OUTREMENT:PARTS TO BE INDIVIDUALLY PACKAGED AND PA   | TURE CONTROL DESICCANT IN SHIPPING BOX<br>LING REQUIREMENT: REFER TO 1000325 LABEL SPECIFICAT<br>ALL BE ALLOWED ON TOOLING OR MATERIAL SPECIFICATION<br>R EXPLICIT WRITTEN APPROVAL BY ETHERTRONICS, INC.<br>PURCHASING AND CONTRACTS DEPARTMENT.<br>NS ARE IN MILLIMETER.<br>COMPLIANT WITH THE REQUIREMENTS OF EU DIRECTIVE   | <pre>rons). additional_f thet shall not contain separately<br/>y added materials requiring removal from separately<br/>ste electrical and electronic equipment per eu<br/>12/19/EU (WEEE).<br/>electrical test including vswr.<br/>etestical test including vswr.</pre>  | D PALOLUTING (MET)<br>D BY (ST)<br>TUDY: Cpi ANALYSIS SHALL BE PERFORMED ON ALL (ST)<br>N 35 RANDOMLY SELECTED PARTS FROM A MINIMUM 500  | ART RUN WITH OPTIMIZED PRODUCTION PROCESS.<br>ATA AND MARKED PARTS SHALL BE FORWARDED TO<br>INC. OUALITY ENGINEERING.                                      | ATERIALS                                   | Y RE                     | I COLOR:                                 | COAX, 11PX 1.13B144 J1039 1 COLOR:       | 9 TE MANUFACTURER: 3M MANUFACNo; 3M VHB                             |
| NLESS OTHERWISE SPECIFIED)              | LEMAS: SEE BILL OF MATERTALS ON SHEET I<br>LY PROCEDURE:<br>DEP THE CARLE TO DEA ANTENNA AS SURVEN ON SULFT 2                   | E LEAD FREE SOLDER ONLY. ( SOLDER MUST COVER 275% OF PAD)  | D ADHESTVE SM VHB 20231-01 WITH LINEN ON BUTTOM STDE 04<br>B ANTENNA AS SHOWN ON SHEET 3.<br>IC REQUIREMENT. MARKING SHALL BE READABLE AND ASSEMBLY SHJ                 | )F APPEARANCE DEFECTS.<br>LY SHALL BE CLEAN AND FREE OF ALL FOREIGN MATTER.<br>ARKING - SFF SHFFT 2                 | FIONAL TOLERANCES: SEE TOLERANCE BLOCK UNLESS OTHERWISE SF<br>ARTICLE: FIRST ARTICLE MEASUREMENT SHALL BE PERFORMED FOR<br>ANDOMLY SELECTED PARTS. THE FIRST ARTICLE DATA ALONG WITH<br>E SAMPLES CHANGER FORMADER TO PARTS.   | E SAMPLES SHALL BE FURWARDED TO ETHERFRONTCS INC. GUALTI<br>HALL MEET ALL CHARACTERISTICS OF THE 3D DATA BASE AND TH<br>TAKE PRECEDENCE UNLESS OTHERWISE SPECIFICALLY STATED IN<br>ING REQUIREMENT:PARTS TO BE INDIVIDUALLY PACKAGED AND PR                          | E MOISTURE CONTROL DESICCANT IN SHIPPING BOX.<br>E LABELING REGUIREMENT: REFER TO 1000325 LABEL SPECIFICAT<br>NGE SHALL BE ALLOWED ON TOOLING OR MATERIAL SPECIFICATION<br>T PRIOR EXPLICIT WRITTEN APPROVAL BY ETHERTRONICS, INC.<br>ERING, PURCHASING AND CONTRACTS DEPARTMENT.<br>MENSIONS ARE IN MILLIMETER.  | TED WEAPST. ADDITIONALLT THET SHALL NUT CONTAIN SEPARATELY<br>TEDWALF ADDED MATERIALS REQUIRING REMOVAL FROM SEPARATELY<br>TED WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT PER EU<br>TVE 2012/19/EU (WEEE).<br>M 100% ELECTRICAL TEST INCLUDING VSWR.  | LONS FOR RECOVERY OUT TO CONTROL (SOC) AND CAPABILITY<br>DICATED BY (ST)<br>LITY STUDY: CPA ANALYSIS SHALL BE PERFORMED ON ALL (ST) DRA<br>LONS ON 35 RANDOMLY SELECTED PARTS FROM A MINIMUM 500                         | TION PART RUN WITH OPTIMIZED PRODUCTION PROCESS.<br>/Cpk Data and marked parts shall be forwarded to<br>Ronics inc. quality engineering.                   | MATERIAL                                   | REV DESCRIPTION OTY RE   | A ANTENNA PCB, WLAN 140 J1039 1 COLOR    | HPX 1.138144 J1039 1 COLOR:              | A ADHESIVE DS TAPE, 8X35 J1039 T MANUFACTURER:3M WANUFAC.No.:3M VHB |
| NOTES: (UNLESS OTHERWISE SPECIFIED)     | COMPONENTS: SEE BILL OF MATERTALS ON SHEET I<br>ASSEMBLY PROCEDURE:<br>2.1. SOLDED THE CARLE TO DEA ANTENNA AS SHOWN ON SHEET 2 | USE LEAD FREE SOLDER ONLY ( SOLDER MUST COVER 275% OF PAD) | C.C. ADD ADTESTVE SM YHD 20231-UT WITH LINEN UN BUTTUM STUE UF<br>PCB ANTENNA AS SHOWN ON SHEET 3.<br>COSMETTIC REQUIREMENT: MARKING SHALL BE READABLE AND ASSEMBLY SHI | FREE OF APPEARANCE DEFECTS.<br>ASSEMBLY SHALL BE CLEAN AND FREE OF ALL FOREIGN MATTER.<br>PART MARKING: SFF SHFFT 2 | DIMENSIONAL TOLERANCES: SEE TOLERANCE BLOCK UNLESS OTHERWISE SF<br>FIRST ARTICLE: FIRST ARTICLE MEASUREMENT SHALL BE PERFORMED FOR<br>ON 5 RANDOMLY SELECTED PARTS. THE FIRST ARTICLE DATA ALONG WITH<br>ANTICLE SAMPLES SHALFS FOR FORMATION OF THE FIRST ARTICLE DATA ALONG WITH | PARTICLE SAMPLES SHALL BE FURWARDED TO ETHERFRONTCS INC. GUALTI<br>PART SHALL MEET ALL CHARACTERISTICS OF THE 3D DATA BASE AND TH<br>SHALL TAKE PRECEDENCE UNLESS OTHERWISE SPECIFICALLY STATED IN<br>PACKAGING REQUIREMENT:PARTS TO BE INDIVIDUALLY PACKAGED AND PR | INCLUDE MOISTURE CONTROL DESICCANT IN SHIPPING BOX<br>INCLUDE MOISTURE CONTROL DESICCANT IN SHIPPING BOX<br>IO PACKAGE LABELING REQUIREMENT: REFER TO 1000325 LABEL SPECIFICATION<br>WITHOUT PRIOR EXPLICIT WRITTEN APPROVAL BY ETHERTRONICS, INC.<br>WITHOUT PRIOR EXPLICIT WRITTEN APPROVAL BY ETHERTRONICS, INC.<br>ENGINEERING, PURCHASING AND CONTRACTS DEPARTMENT.<br>I2. ALL DIMENSIONS ARE IN MILLIMETER. | <pre>2011/05/EU (K0H3): ADDITIONALLT THET SHALL NUL CONTAIN SEPARATELY<br/>INTENTIONALLY ADDED MATERIALS REQUIRING REMOVAL FROM SEPARATELY<br/>COLLECTED WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT PER EU<br/>DIRECTIVE 2012/19/EU (WEEE).<br/>PERFORM 100% ELECTRICAL TEST INCLUDING VSWR.<br/>-(X-XX) - INDICATES, INSPECTION DIMENSION FOR QC TO MEASURE.<br/>ADDITECTIVE DISCUSSION FOR QC TO MEASURE.</pre> | DIMINSIONS FOR THE CALE OUT TO CONTROL (SOC) AND CAPABILITY<br>ARE INDICATED BY (ST)<br>CAPABILITY STUDY: CPA ANALYSIS SHALL BE PERFORMED ON ALL (ST) DRA<br>DIMENSIONS ON 35 RANDOMLY SELECTED PARTS FROM A MINIMUM 500 | PRODUCTION PART RUN WITH OPTIMIZED PRODUCTION PROCESS.<br>THE CP/Cpk DATA AND MARKED PARTS SHALL BE FORWARDED TO<br>ETHERTRONICS INC. OUALITY ENGINEERING. |  | DESCRIPTION OTY RE       | ANTENNA PCB, WLAN 140 J1039 1 COLOR-     | CABLE COAX, 11PX 1.13B144 J1039 1 COLOR: | ADHESIVE DS TAPE, 8X35 J1039 1 MANUFACTURER:3M WANUFAC, No.,3M VHB  |







DATASHEET Part No. 1004075 Product: Wi-Fi Dual Band PCB Embedded Antenna

# Part No. 1004075 Wi-Fi Dual Band PCB Embedded Antenna 2.4/5 GHz



# Wi-Fi Dual Band PCB Embedded Antenna

2400-2485 MHz, 5150-5825 MHz

## **KEY BENEFITS**

## Stay-in-Tune

Ethertronics antenna technology provides superior RF field containment, resulting in less interaction with surrounding components.

## **Quicker Time-to-Market**

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

## Reliability

Products are the latest RoHS version compliant

## APPLICATIONS

- Embedded
   Telematics
   design
   Tracking
   Tracking
   Cellular,
   Headsets,
   Tablets
   Gateway,
   Access Point
   Smart Grid
- Handheld OBD-II

8/23/2017

## **Real-World Performance and Implementation**

Ethertronics PCB antennas are designed to produce optimal performances and 3D radiation patterns, offering increased coverage range without compromising on footprint dimensions.

## **Greater Flexibility**

Ethertronics' first-in-class technology enables the advance concept designs that deliver superior performance in reception critical applications.

## **Electrical Specifications**

Tested in customer's device

| Frequency            | 2400 – 2485 MHz | 5150 – 5825 MHz |
|----------------------|-----------------|-----------------|
| Peak Gain            | 3.3 dBi         | 5.1 dBi         |
| Average Efficiency   | 53%             | 53%             |
| VSWR Match           | 2:1             | max             |
| Feed Point Impedance | 50 ohms u       | nbalanced       |
| Polarization         | Lin             | ear             |
| Power Handling       | 0.5 Wa          | att CW          |

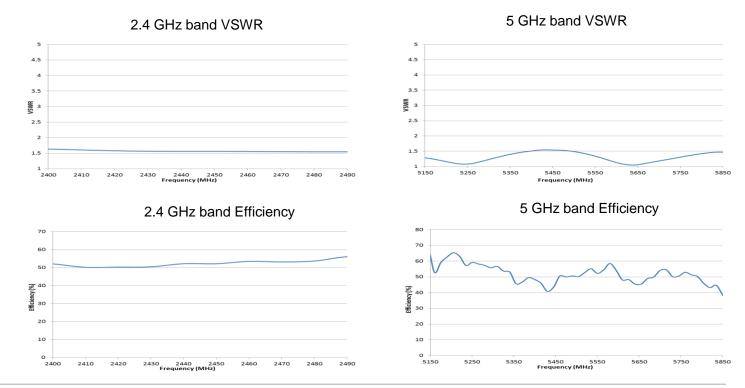
## **Mechanical Specifications**

| Size                 | 35.2 x 8.5 x 1.7 mm                              |
|----------------------|--|
| Mounting             | Adhesive mount 3M VHB 225T-01                    |
| Weight               | 0.6 g  |
| Cable and connectors | RF Ø 1.13 mm, 140 mm & u.fl compatible connector |



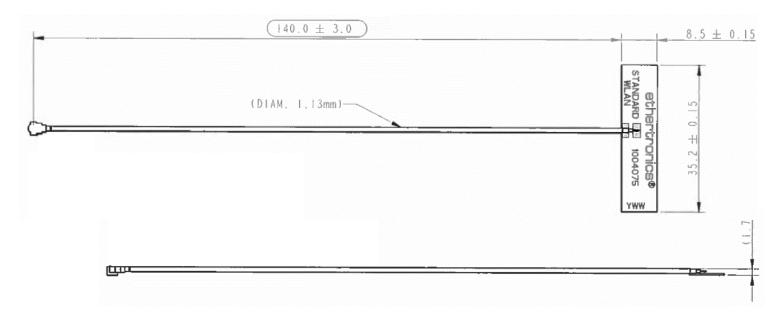
#### **Typical VSWR and Efficiency Plots**

Tested in customer's device



## **Antenna Layout**

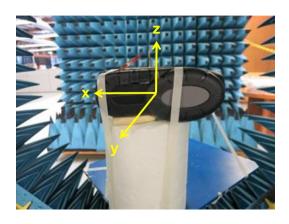
For references only, in mm.

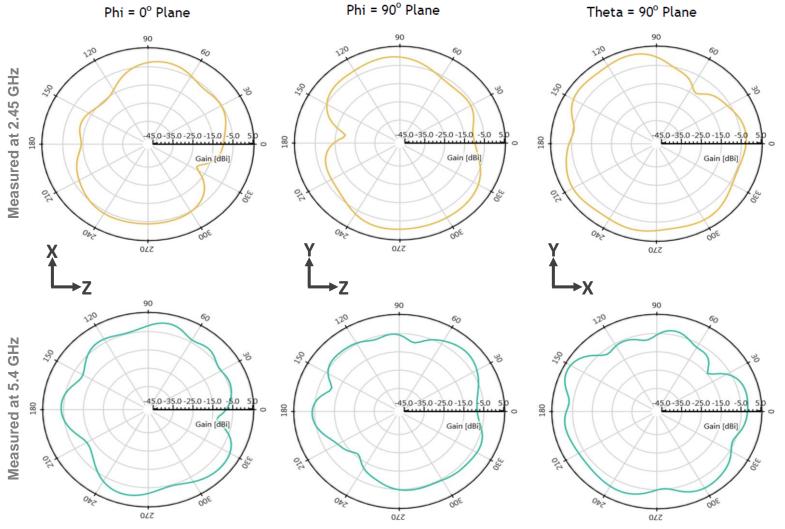




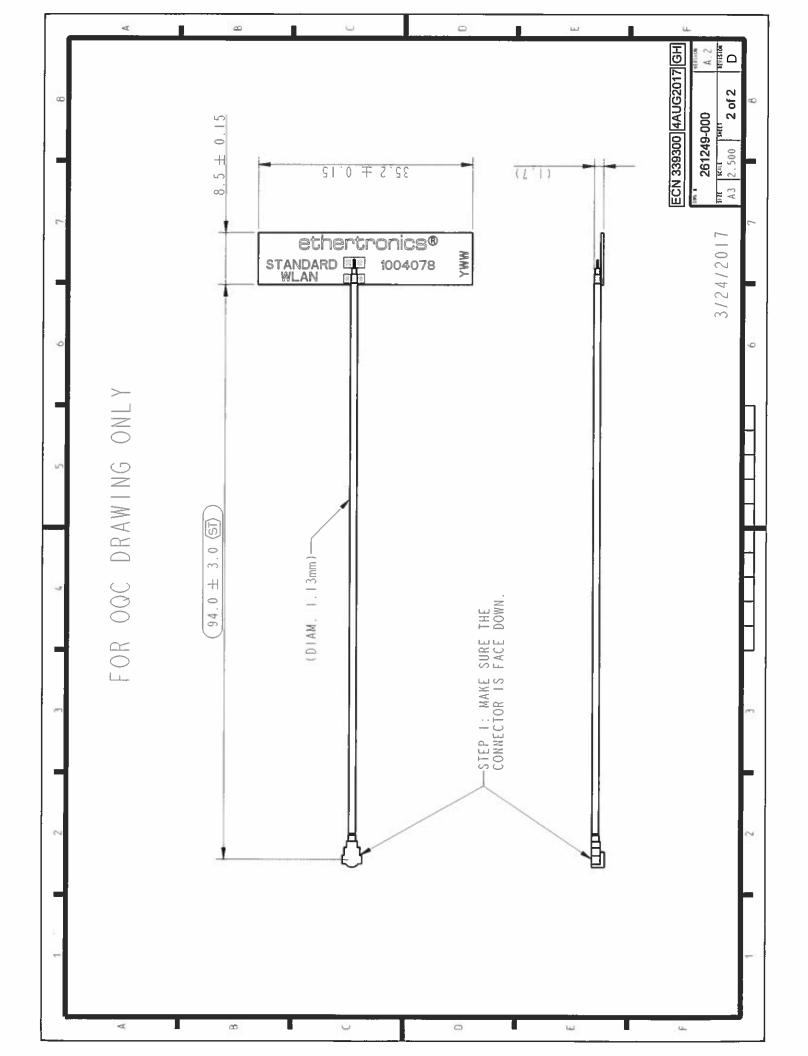
#### **Antenna Radiation Patterns**

Tested in customer's device





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|---|--|---|---|---|---|--|
| 7         8           смисть вг         личопо вг         ми           кимист. Аорлисис 2 галисте         2017-03-07           GH         ECN 3393300         8/8/2017           GH         ECN 3393406         8/8/2017           GH         ECN 3393406         8/8/2017           GH         ECN 3393406         8/8/2017  |  |   | u<br>Bottom Side of Antenna   | DNICS 5501 Obertin Drive, Suite 100,<br>MI result and characterized san Diego, USA<br>MI result and characterized is an analytic in the format is<br>2017-03-01 distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is<br>distant and characterized is an analytic in the format is an analytic in the format is<br>distant and characterized is an analytic in the format is an | 011 011-03-07 ANTENNA ASSY, WLAN 94 J1039<br>2017-03-07 ANTENNA ASSY, WLAN 94 J1039<br>2017 056.9 | 2017-03-07 261249-000<br>2017-03-01 1 of 2 D Released  |
| 6<br>Itinstee Molt<br>finst Release<br>3M VHB 2625T-01<br>ETHERTRONICS P/N 1004078<br>ADDED DATASHEET   | STANDARD GD DONOTE   |   |   |   | PROCERE REINGEL<br>CHEN HURMG   | 51EVE BR106EMS<br>2440510 41<br>FRANCISCO SAMCHE2<br>6 |
| Second                 | SPECIFIED IN DIMENSION.<br>FOR ALL DRAWING DIMENSIONS<br>(ITH THE NUMBERED FIRST<br>ITY ENGINEERING.<br>THE 3D DATA BASE<br>N THIS DRAWING<br>PROTECTED FROM PHYSICAL DAMAGE.<br>CATION.   |   |   | I WILLS OWERISE SUCCEDURED DIMINIOUS ARE<br>IN MILINESES IN LECODURED WITH ASME 14 55<br>TORTRINE   | \$  | W 7400 ABLE ₽  |
| HEET I.<br>HEET I.<br>SHOWN ON SHEET 2.<br>MUST COVER 275% OF PAD)<br>LINER ON BOTTOM SIDE OF<br>READABLE AND ASSEMBLY SHALL BE   | MATTER.<br>ESS OTHERWISE SPECIFIED IN DIN<br>BE PERFORMED FOR ALL DRAWING C<br>DATA ALONG WITH THE NUMBERED<br>ICS INC. QUALITY ENGINEERING.<br>ALLY STATED IN THIS DRAWING<br>PACKAGED AND PROTECTED FROM PH<br>PACKAGED AND PROTECTED FROM PH<br>LABEL SPECIFICATION.<br>AL SPECIFICATION.<br>AL SPECIFICATION.<br>AL SPECIFICATION.<br>FITRONICS, INC.<br>EU DIRECTIVE<br>CONTAIN<br>FROM SFPARATFLY  | MENT PER EU<br>TO MEASURE.<br>) AND CAPABILITY STUDY<br>ED ON ALL (ST) DRAWING<br>MENIMUM 500   | RDED TO   | REMARK  | COLOR - BLACK   | းပြပ 🗖   |
| T COV<br>R ON   | KETGN<br>KAUNL<br>HALLL<br>TICLE<br>RTRON<br>3D D<br>C IFIC<br>0325<br>0325<br>0325<br>0325<br>0325<br>0325<br>715<br>75<br>75<br>75<br>75<br>75<br>75<br>75<br>75<br>75<br>75<br>75<br>75<br>75   | EOUTP.<br>R. OC<br>(SOC<br>RFORM<br>ROM A   | FORWA   | 01Y   | -   |  |
| <ul> <li>I. CONTERVISE SPECIFIED)</li> <li>MPONENTS: SEE BILL OF MATERIALS ON SHEET</li> <li>SEMDER PROCEDURE:</li> <li>SOLDER PROCEDURE:</li> <li>SOLDER THE CABLE TO PCB ANTENNA AS SHOWN</li> <li>SOLDER THE CABLE TO PCB ANTENNA AS SHOWN</li> <li>SOLDER AND ADHESIVE 3M VHB 2625T-01 WITH LINER</li> <li>PCB ANTENNA AS SHOWN ON SHEET 3.</li> <li>SMETIC REQUIREMENT: MARKING SHALL BE READ.</li> <li>SMETIC REQUIREMENT: MARKING SHALL BE READ.</li> </ul>  | <ul> <li>A ASSEMDLT SHALL DE ULEAN AND FREE UF ALL FORFIGN MATTER.</li> <li>PART MARKING: SEE SHEET 2</li> <li>DIMENSIONAL TOLERANCES: SEE TOLERANCE BLOCK UNLESS OTHERWISE SPECIFIED DR</li> <li>FIRST ARTICLE: FIRST ARTICLE MEASUREMENT SHALL BE PERFORMED FOR ALL DR</li> <li>ON 5 RANDOMLY SELECTED PARTS. THE FIRST ARTICLE DATA ALONG WITH THE NU</li> <li>ARTICLE SAMPLES SHALL BE FORWARDED TO ETHERTRONICS INC. QUALITY ENGINE</li> <li>BPART SHALL MEET ALL CHARACTERISTICS OF THE 3D DATA BASE AND THE 3D DAT</li> <li>SHALL TAKE PRECEDENCE UNLESS OTHERWISE SPECIFICALLY STATED IN THIS DRA</li> <li>PARTICLE SAMPLES SHALL BE FORWARDED TO ETHERTRONICS INC. QUALITY ENGINE</li> <li>BPART SHALL MEET ALL CHARACTERISTICS OF THE 3D DATA BASE AND THE 3D DAT</li> <li>SHALL TAKE PRECEDENCE UNLESS OTHERWISE SPECIFICALLY STATED IN THIS DRA</li> <li>PACKAGING REQUIREMENT: PARTS TO BE INDIVIDUALLY PACKAGED AND PROTECTED</li> <li>INCLUDE MOISTURE CONTROL DESICCANT IN SHIPPING BOX.</li> <li>PACKAGE LABELING REQUIREMENT: REFER TO 1000325 LABEL SPECIFICATION.</li> <li>WITHOUT PRIOR EXPLICIT WRITTEN APPROVAL BY ETHERRONICS, INC.</li> <li>MITHOUT PRIOR EXPLICIT WRITTEN APPROVAL BY ETHERRONICS, INC.</li> <li>I. NO CHANGE SHALL BE ALLOWED ON TOOLING OR MATERIAL SPECIFICATION.</li> <li>WITHOUT PRIOR EXPLICIT WRITTEN APPROVAL BY ETHERRONICS, INC.</li> <li>I. NO CHANGE SHELL NOTICOLS DEPARTMENT.</li> <li>I. SALL DIMENSIONS ARE IN MILLIMETER.</li> <li>I. MO CHANGE SHELL NOT CONTRACTS DEPARTMENT.</li> <li>I. SALL DIMENSIONS ARE IN MILLIMETER.</li> <li>I. MULLIMETER.</li> <li>I. MOLLING REDNILLANT WITH THE REQUIREMENTS OF EUDIRENTS OF EUDIRECTIVE</li> <li>I. ADIMENSIONS ARE IN MILLIMETER.</li> <li>I. ADIMENSIONALLY ANDED MALEY THEY SHALL NOT CONTACTIVE</li> <li>I. ADIMENSIONS ARE IN MILLIMETER.</li> <li>I. ADIMENSIONALLY THEY SHALL NOT CONTACTIVE</li> <li>I. ADIMENSIONAL FROM SERDANT AND SEDARTMENTS OF EUDIRECTIVE</li> </ul>   | COLLECTED WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT PER EU<br>DIRECTIVE 2012/19/EU (WEEE).<br>14. PERFORM 100% ELECTRICAL TEST INCLUDING VSWR<br>15( <u>X.X</u> )- INDICATES, INSPECTION DIMENSION FOR OC TO MEASURE.<br>16. PARTS MUST BE HALOGEN FREE (HF)<br>17. DIMENSIONS FOR STATISTICAL QUALITY CONTROL (SOC) AND CAPABILIT<br>ARE INDICATED BY (ST).<br>18. CAPABILITY STUDY: CPK ANALYSIS SHALL BE PERFORMED ON ALL (ST) D<br>DIMENSIONS ON 35 RANDOMLY SELECTED PARTS FROM A MINIMUM 500  | PART RUN WITH OPTIMIZED PRODUCT<br>Data and marked parts shall be i<br>cs inc. Quality engineering.<br>Materiai S | DESCRIPTION   | ANTENNA PCB, WLAN 94 J1039<br>CABLE COAY LIDY I 13W08 L1030                                       | SIVE DS TAPE, 8X35 J103                                |
| APPER CONTRACT OF CONTRACTO OF CONTRACT OF CONTRACTO OF CONTRACTO OF CONTRACT | ARKING<br>ANTIC<br>ANTIC<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON<br>ANDON | EED W1<br>1 VE 21<br>1 VE 21 |   | , <sup>L</sup>  | A (   |  |
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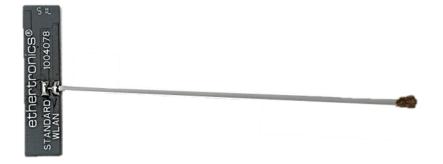






DATASHEET Part No. 1004078 Product: Wi-Fi Dual Band PCB Embedded Antenna

# Part No. 1004078 Wi-Fi Dual Band PCB Embedded Antenna 2.4/5 GHz



# Wi-Fi Dual Band PCB Embedded Antenna

2400-2485 MHz, 5150-5825 MHz

## **KEY BENEFITS**

## Stay-in-Tune

Ethertronics antenna technology provides superior RF field containment, resulting in less interaction with surrounding components.

## **Quicker Time-to-Market**

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

## Reliability

Products are the latest RoHS version compliant

## APPLICATIONS

- Embedded
   Telematics
   design
   Tracking
   Cellular,
   Healthcare
   Headsets,
   M2M,
  - TabletsIndustrialGateway,devicesAccess PointSmart Grid
- Handheld OBD-II

## **Real-World Performance and Implementation**

Ethertronics PCB antennas are designed to produce optimal performances and 3D radiation patterns, offering increased coverage range without compromising on footprint dimensions.

## **Greater Flexibility**

Ethertronics' first-in-class technology enables the advance concept designs that deliver superior performance in reception critical applications.

## **Electrical Specifications**

## Tested in customer's device

| Frequency            | 2400 – 2485 MHz | 5150 – 5825 MHz |
|----------------------|-----------------|-----------------|
| Peak Gain            | 3.4 dBi         | 4.2 dBi         |
| Average Efficiency   | 55%             | 53%             |
| VSWR Match           | 2:1             | max             |
| Feed Point Impedance | 50 ohms u       | nbalanced       |
| Polarization         | Lin             | ear             |
| Power Handling       | 0.5 Wa          | att CW          |

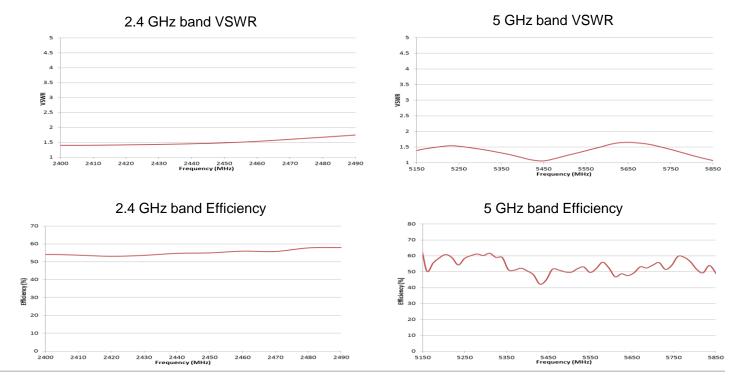
## **Mechanical Specifications**

| Size                 | 35.2 x 8.5 x 1.7 mm                             |
|----------------------|---|
| Mounting             | Adhesive mount 3M VHB 225T-01                   |
| Weight               | 0.6 g   |
| Cable and connectors | RF Ø 1.13 mm, 94 mm & u.fl compatible connector |



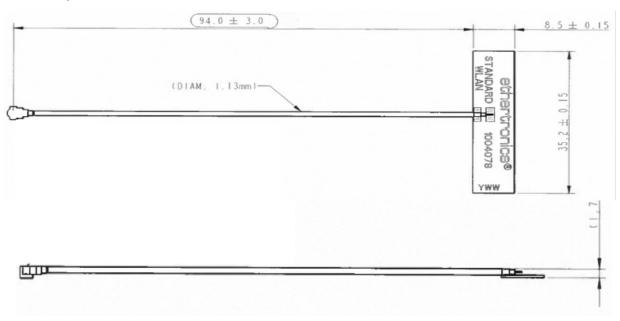
#### **Typical VSWR and Efficiency Plots**

Tested in customer's device



## **Antenna Layout**

For references only, in mm.





#### **Antenna Radiation Patterns**

Tested in customer's device

