

Notes:

- (*) This parameters is based on 1ft cable length & 1ft ground plane.
- (**) This parameters is based on 17ft cable length & 1ft ground plane.
- Antenna specification is subjected to change according to the ground plane size.

F03

| PARAMETER | SPECIFICATION | | | | | | | | | |
|-----------------------------------|---|-------------------------------|----------|----------|-----------|------------|------------|-----------|-----------|-----------|
| Antenna Model | VFQ69383B2NJU-518S / VFQ69383W2NJU-518S | | | | | | | | | |
| Number of Ports | 4 (2x- LTE, 1x- UHF, 1x- GNSS) | | | | | | | | | |
| Port Configuration | 1x- UHF | 2x- 3G/4G/ISM/CBRS (LTE/CELL) | | | | | | | | |
| Frequency Bands, MHz | 380- 520 | 698- 806 | 824- 894 | 880- 960 | 1690-1880 | 1850- 1990 | 1910- 2180 | 2300-2500 | 2500-2700 | 3300-3800 |
| Peak Gain(*), Avg. dBi | 3.7 | 0.2 | 1.0 | 1.4 | 3.2 | 3.8 | 3.1 | 2.4 | 4.2 | 6.0 |
| Peak Gain(*), Max. dBi | 4.3 | 1.1 | 2.6 | 3.0 | 4.6 | 4.7 | 4.7 | 4.8 | 5.2 | 7.2 |
| VSWR(**), Avg | 1.6 | 1.8 | 1.9 | 1.9 | 1.6 | 1.5 | 1.5 | 1.7 | 1.5 | 1.3 |
| VSWR(**), Max | 2.5 | 2.5 | 2.5 | 2.5 | 1.9 | 1.8 | 2.1 | 2.0 | 1.8 | 1.7 |
| Isolation(**)- LTE 1 to LTE 2, dB | -24 | -11 | -14 | -14 | -17 | -16 | -16 | -20 | -20 | -25 |
| Isolation(**)- LTE 1 to UHF, dB | -22 | -19 | -25 | -26 | -22 | -25 | -25 | -30 | -29 | -33 |
| Isolation(**)- LTE 2 to UHF, dB | -13 | -13 | -14 | -15 | -17 | -17 | -18 | -18 | -18 | -27 |
| Isolation(**)- GNSS to LTE 1, dB | -43 | -48 | -47 | -47 | -39 | -40 | -40 | -55 | -54 | -48 |
| Isolation(**)- GNSS to LTE 2, dB | -40 | -45 | -43 | -48 | -44 | -44 | -44 | -55 | -55 | -50 |
| Isolation(**)- GNSS to UHF, dB | -50 | -64 | -61 | -61 | -51 | -54 | -54 | -59 | -59 | -62 |
| Azimuth 3 dB Beamwidth | 360°, Omnidirectional | | | | | | | | | |
| Nominal Impedance (Ohms) | 50 | | | | | | | | | |
| Polarization | Linear Vertical | | | | | | | | | |
| Max Power/port- Ambient 25°C(W) | 60(UHF); 30 (LTE/CELL) | | | | | | | | | |

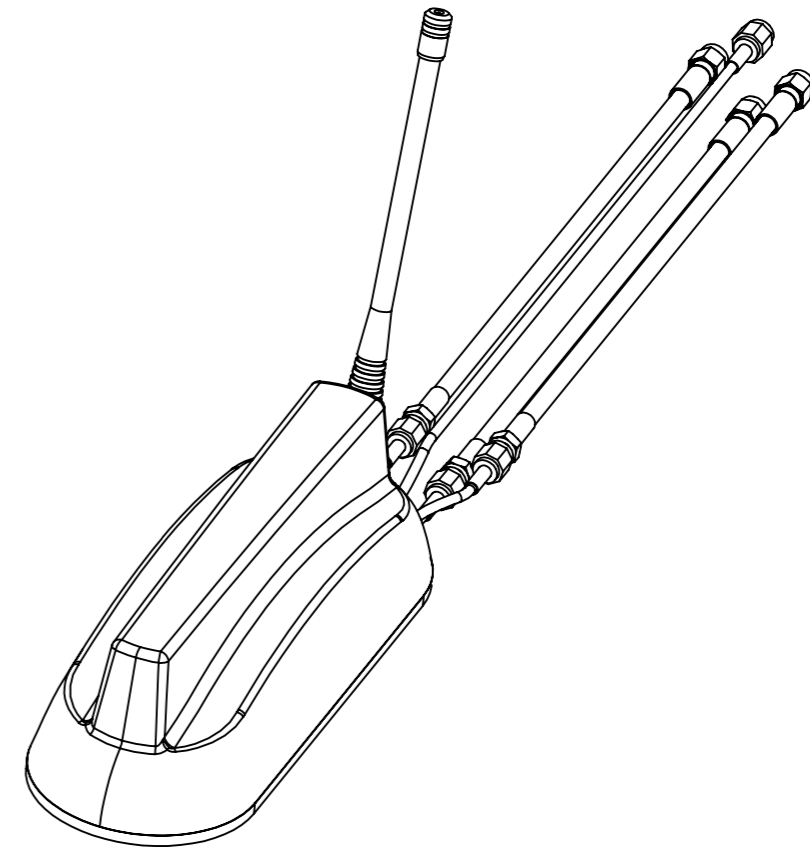
| GNSS ANTENNA SPECIFICATIONS | | | |
|---|---|----------------|------------|
| Frequency of Operation, MHz | 1559 - 1606 | | |
| Band | BEIDOU | GPS | GLONASS |
| Frequency Band, MHz | 1559 - 1563 | 1574.42 - 1576 | 1598- 1606 |
| Absolute Gain, dBi | 3.4 | 4.9 | 5.4 |
| LNA Gain Typ. @ room temp., dBi | 28 ± 3 | | |
| Noise Figure @ room temp., Max, dB | ≤ 2.5 @ 1575 MHz | | |
| Max VSWR @ room temp. | 2.5:1 | | |
| Polarization | RHCP | | |
| Nominal Impedance | 50 Ω | | |
| DC Voltage, Vdc | 2.5 - 7.0 | | |
| Current Consumption, Max @ room temp, mA | 8.5 ± 3 @ 3.0V | | |
| ESD, kV | ± 2 (contact discharge) / ± 4 (air discharge) | | |
| Out-of-band Signal Rejection Min @ room temp, dBc | 80 (@ 698- 960 MHz) | | |
| | 80 (@ 1428- 1511 MHz) | | |
| | 50 (@ 1627- 1638 MHz) | | |
| | 80 (@ 1710- 2700 MHz) | | |
| Input Max Power, dBm | -10 | | |
| Cable Type | RG174, Black | | |

F04

| MECHANICAL SPECIFICATIONS | |
|-----------------------------------|---|
| Dimensions- L x W x H mm (inches) | 179 x 63 x 48 mm (7.04 x 2.48 x 1.69) |
| Weight, kg (lbs) | 0.93 kg (2.1 lbs) |
| Mounting | P- Mount |
| Cable Type | LMR 100- pigtails, LMR 195- jumper cables |
| Color | Black or White |
| Radome Material | PC, UL94-V0 |
| Baseplate Material | Aluminum |

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| REVISIONS | | | | | |
|-----------|--------------|------|---|-----------------|------------------|
| REV. | ECN# | ZONE | DESCRIPTION | CHANGED BY/DATE | APPROVED BY/DATE |
| F01 | | | INITIAL RELEASE | LCTAN 19MAR20 | TERENCE 19MAR20 |
| F02 | | | CHANGE DESIGN & UPDATE SPECIFICATION | LCTAN 14SEP20 | TERENCE 14SEP20 |
| F03 | ECO-20-00525 | | UPDATE SPECIFICATION & VIEW | LCTAN 23DEC20 | TERENCE 23DEC20 |
| F04 | | | REMOVE RAIL COMPLIANCE STANDARD; UPDATE WHIP DIMENSION & GNSS SPEC. | LCTAN 12JAN21 | TERENCE 12JAN21 |



| ENVIRONMENTAL SPECIFICATIONS | |
|--------------------------------|--------------------------|
| Operating Environment | Outdoor Vehicle |
| Operating Temperature, °C (°F) | -30 to +70 (-22 to +158) |
| Storage Temperature | -40 to +85 (-40 to +185) |
| Ingress Protection | IP67 |
| Material Substance Compliance | RoHS Compliant |

F04

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|-------------------|------------------------|--|--|---|---------|
| MATERIAL: SEE BOM | THIRD ANGLE PROJECTION | | TITLE: VFQ69383x2NJU-518S | | |
| FINISH: N/A | DO NOT SCALE DRAWING | | | | |
| APPROVALS | | INTERPRET DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH ASME Y14.5M-2009 TOLERANCES UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS | SIZE A3 DWG. NO. VFQ69383x2NJU-518SMO REV F04 | | |
| DRAWN BY | LCTAN | | | DATE | 19MAR20 |
| ELEC. ENG. | TH LEE | | | DATE | 19MAR20 |
| MECH. ENG. | WTNG | | | DATE | 19MAR20 |
| MFG./OPS. | GL YEAP | DATE | 19MAR20 | ANGLE: ±30' 0 PLACE DECIMAL: ±0.5 1 PLACE DECIMAL: ±0.25 2 PLACE DECIMAL: ±0.13 SURFACE ROUGHNESS 1.6/√ | |
| SCALE: 1:2 | | PREVIOUS# ERROR!:Old Number | | SHEET 1 OF 2 | |

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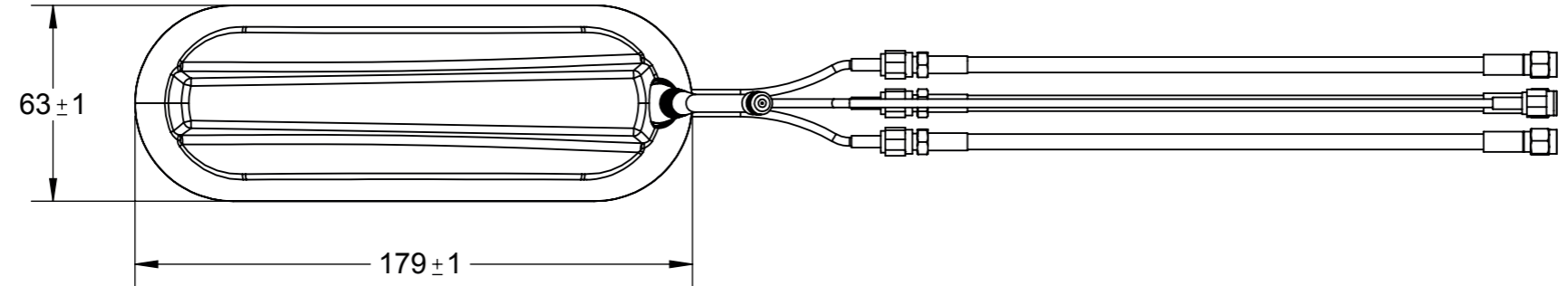
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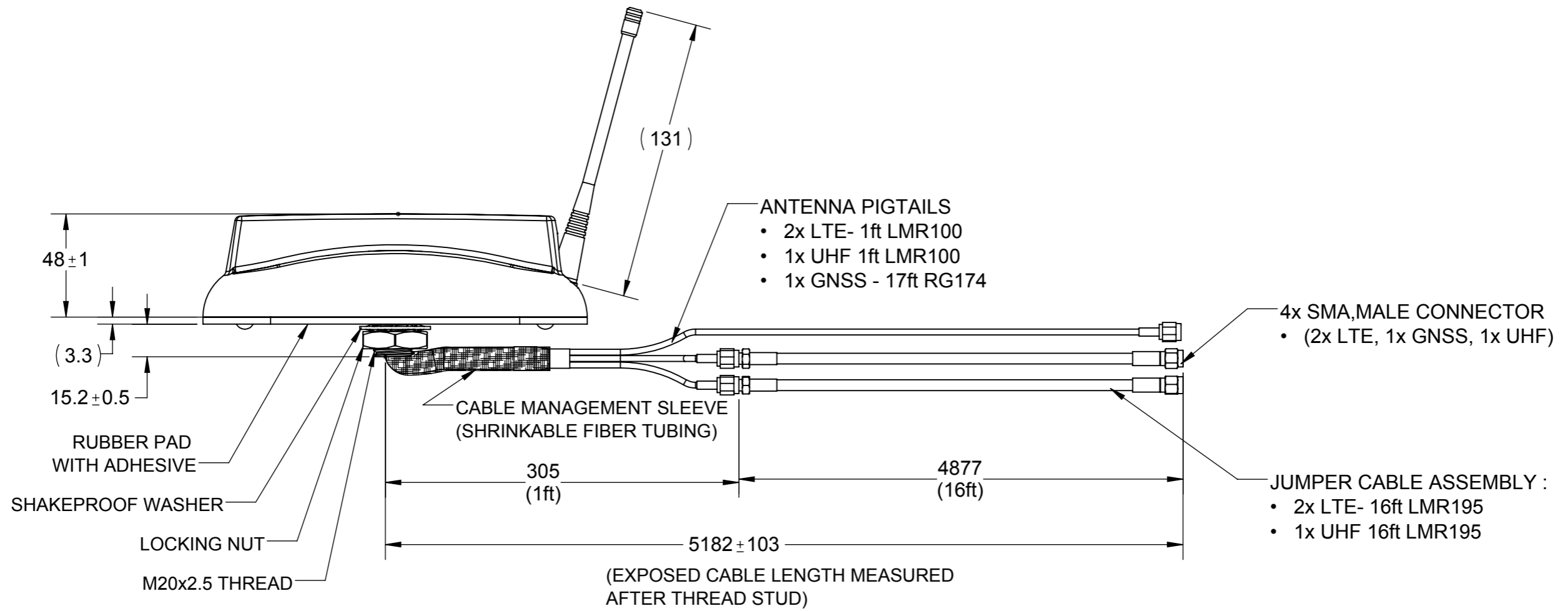
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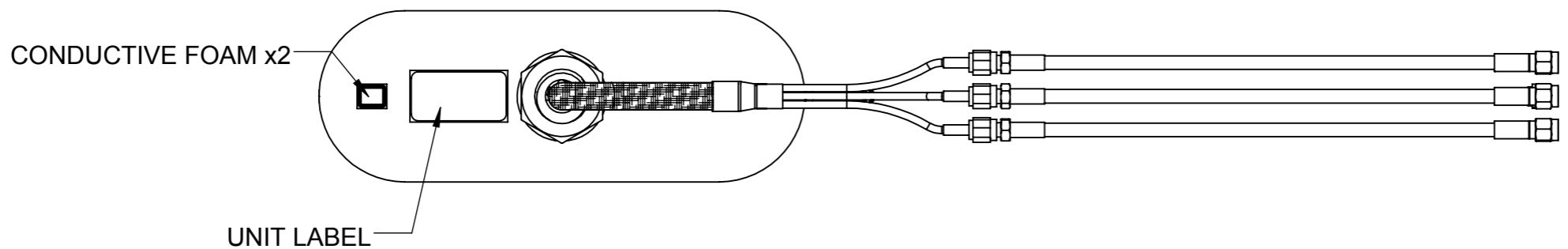


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|-------------------|---|-------------------|
| | | |
| SIZE A3 | DWG. NO. VFQ69383x2NJU-518SMO | REV F04 |
| SCALE: 1:2.2 | PREVIOUS# ERROR!:Old Number | SHEET 2 OF 2 |

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