



# **StreamCaster MIMO Radio**

## **Basic User Manual**

|                 |            |
|-----------------|------------|
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Silvus Technologies warrants the performance of its products to the specifications applicable at the time of sale in accordance with Silvus Technologies' standard warranty.

## Revision History

| Version | Date              | Changes                                                                             |
|---------|-------------------|-------------------------------------------------------------------------------------|
| 1.0     | February 5, 2025  | 1 <sup>st</sup> release                                                             |
| 1.1     | February 28, 2025 | -235 Models EU/CE certifications added                                              |
| 1.2     | April 17, 2025    | FCC ID's updated for SC44E-235470 and SL52-245-OEM                                  |
| 1.3     | July 25, 2025     | EU-CE, UKCA markings updated                                                        |
| 1.4     | November 24, 2025 | FCC ID's updated:<br>SC424-235470<br>SC448-235470<br>SC424-235-OEM<br>SC42A-235-OEM |

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# 1. General Safety Information

The information that follows, together with local site regulations, should be studied by personnel concerned with the operation or maintenance of the equipment, to ensure awareness of potential hazards.

Switch off supplies before removing covers or disconnecting any RF cables, and before inspecting damaged cables or antennas.

Avoid standing in front of high gain antennas (such as a dish) and never look into the open end of a waveguide or cable where strong RF power may be present.

Users are strongly recommended to return any equipment that requires RF servicing to Silvus Technologies.

**CAUTION:** This system contains MOS devices. Electro-Static Discharge (ESD) precautions should be employed to prevent accidental damage.

## 1.1 Health & Safety

### Exposure to Non-Ionizing (RF) Radiation/Safe Working Distances

The safe working distance from a transmitting antenna may be calculated from the relationship:

$$\frac{P_T \cdot G_R D^2}{4\pi \cdot 10 \cdot w} =$$

In which D = safe working distance (meters)

PT = total transmit power (watts)

GR = antenna gain ratio =  $10^{\frac{G}{10}}$  where G is the antenna gain in dBi.

w = maximum allowed RF power density (mW/cm<sup>2</sup>)

The maximum allowed RF power density value is determined by reference to regulatory safety guidelines for exposure of the human body to non-ionizing radiation. It is important to note that the guidelines adopted differ throughout the world and are from time-to-time re-issued with revised guidelines. For use

in the United States, one can find the FCC guideline at the following link as of this writing:

“[https://transition.fcc.gov/Bureaus/Engineering\\_Technology/Documents/bulletins/oet65/oet65.pdf](https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf)”.

Specifically, page 67 of this link contains the table of RF power density limits for different frequency bands.

Below is a table of some example safe distances calculated based on the FCC guidelines using the limits for occupational/controlled exposure. For countries other than the US, please use the limits in the local guideline to adjust the calculation.

| Frequency | Antenna        |            |                 | Transmitter Power              |      |      |      |      | FCC limits               |
|-----------|----------------|------------|-----------------|--------------------------------|------|------|------|------|--------------------------|
|           | Type           | Gain (dBi) | Gain Ratio (GR) | 1W                             | 2W   | 4W   | 10W  | 30W  |                          |
| 2400 MHz  | Omni           | 3          | 2               | 0.06                           | 0.08 | 0.11 | 0.18 | 0.31 | 5 mW/cm <sup>2</sup>     |
| 1370 MHz  | Sector         | 20         | 100             | 0.42                           | 0.59 | 0.84 | 1.32 | 2.29 | 4.567 mW/cm <sup>2</sup> |
| 4700 MHz  | Parabolic Dish | 35         | 3162            | 2.24                           | 3.17 | 4.5  | 7.1  | 12.3 | 5 mW/cm <sup>2</sup>     |
|           |                |            |                 | Minimum Safe Distance (meters) |      |      |      |      |                          |

**Table 1 Safe Working Distances**

**Important Note:** It must be remembered that any transmitting equipment radiating power at frequencies of 100kHz and higher, has the potential to produce thermal and a-thermal effects upon the human body.

To be safe:

- Operators should not stand or walk in front of any high gain antenna such as dish antennas, nor should they allow anyone else to do so.
- Operators should not operate any RF transmitter or power amplifier with any of its covers removed, nor should they allow anyone else to do so.

## General Safety Notes

- A flashing/steady Red LED status indication is a normal condition and is not meant to convey a fault condition.
- The Power Disconnect Device for the product is the connector for the external AC/DC Adapter or other DC power source.
- Although the Low Voltage DC powered units are approved for Outdoor use (Dust/Temporary Immersion), the optional AC power option with AC/DC power supply is only certified for indoor use.
- The unit housing serves as a heatsink and must be mounted on a non-combustible surface.
- The units are not User Serviceable. Contact the manufacturer for further instructions on servicing or repair.

- All symbols, markings and warning statements marked on the equipment are shown below for reference.

### Product Symbols

This table describes the symbols marked on the device.

| Symbol                                                                            |                             | Description                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Caution<br>Read User Manual | Please follow all instructions in this User Manual including all warnings, cautions, and precautions before using the Organelle.<br>Unit is not user serviceable. Contact the manufacturer if defective or damaged. |
|  | RoHS Compliant              | The product is compliant with the RoHS 2 Directive 2011/65/EU (RoHS 2). (Note: This Symbol may not be marked on device)                                                                                             |
|  | CE                          | Product complies with the European Union Low Voltage Directive (LVD), RoHS 2 and EMC Directives.                                                                                                                    |
|  | HOT SURFACE<br>SYMBOL       | Please avoid bodily contact with the product housing and do not mount the product on a combustible surface.                                                                                                         |
|  | Disposal                    | Per the European WEEE Directive, please dispose the product in accordance with local regulations                                                                                                                    |

- Product cleaning should only be done with a soft cloth and mild detergent, do not use any solvents that might remove case markings or labels.
- The unit, at the end of its useful life is to be disposed in accordance with local regulations or may be returned to the manufacturer.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment and/or equipment performance may be impaired.

## **2. Introduction**

The StreamCaster family of MIMO radios was designed with operator ease of use in mind. Each radio is capable of operating in a multitude of configurations that are accessed via simple web pages within the radio. Settings such as transmit power, frequency, channel bandwidth, link adaptation and range control can be accessed by simply using a web browser to log into any radio within the network. This user manual contains all essential information for the user to configure the StreamCaster radio as well as how to run an iperf network test.

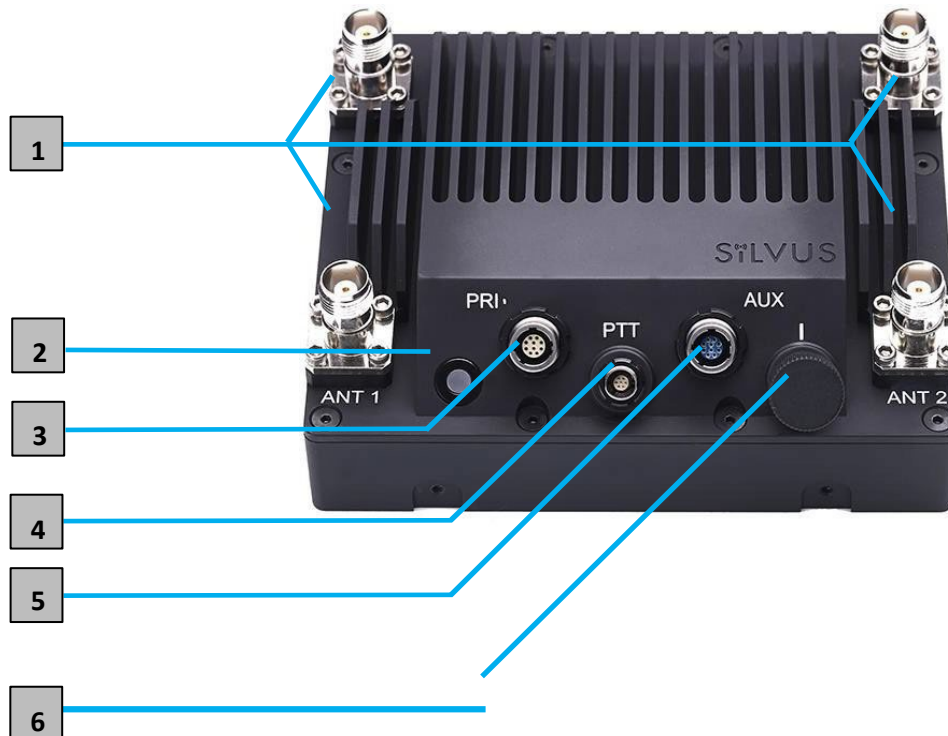
## **3. StreamCaster Network**

Each StreamCaster MIMO radio that is loaded with StreamScape 5 firmware has a fixed static IP address in the range of 172.16.xx.yy to 172.32.xx.yy network which is on the 255.240.0.0 subnet mask. The radio operates as a network switch; the user equipment does not need to be on the same subnet as the radio during operation. It is possible to setup a secondary IP address and subnet on the radio if the user finds this feature convenient. Setting up a secondary IP address is useful if the user wishes to access the radio's web interface in their network.

## 4. StreamCaster Hardware Overview

### 4.1 Hardware Interfaces

#### SC4400E



1 RF Channels 1-4 Connectors [TNC Female]

2 Bi-Color Status LED

- Red – Radio is in the process of booting up
- Flashing Green – Radio is fully booted but not wirelessly connected to any other radio
- Green – Radio is wirelessly connected to at least one other radio
- Flashing Red – Spectrum Scan in Progress
- Flashing Red – Radio has recovered from a bad state.
- Rapid Flashing Green – When the multi position switch is rotate to a new position, LED will rapidly flash green while new settings are being applied. LED will resume normal indication after settings have been applied.

3 Power (9-20V), Ethernet, and Serial Port Connector [ODU GK0YAR-P10UC00-000L]

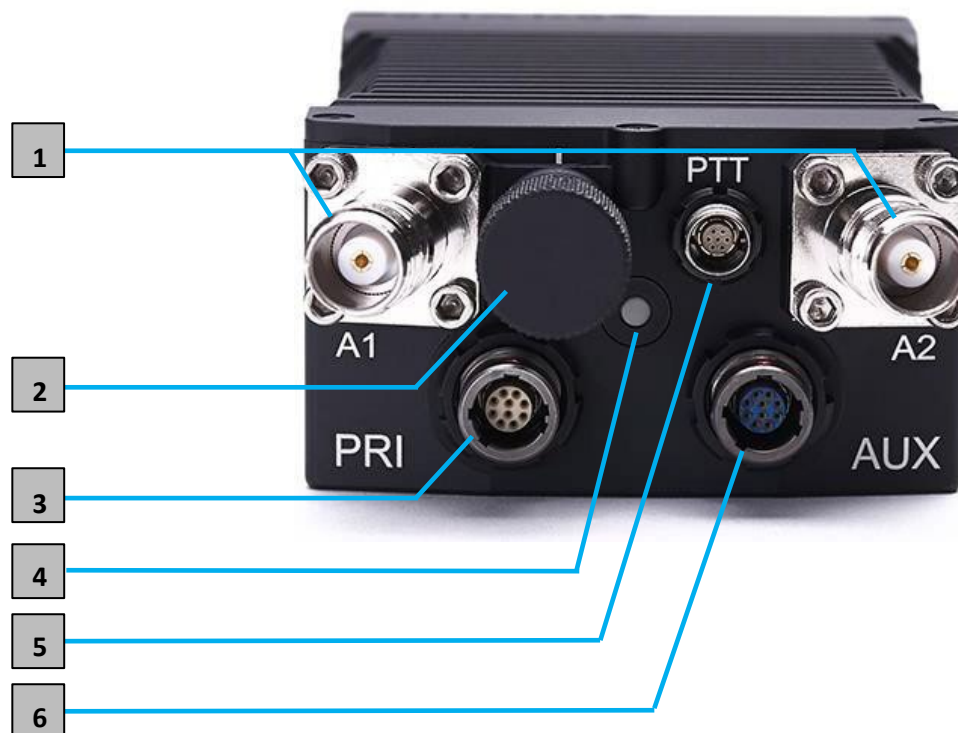
4 Push-to-Talk (PTT) Connector [ODU GK0WAM-P07UB00-000L]





 Power Switch [15-Position Rotating]

## **SC4200EP**



 RF Channels 1-2 Connectors [TNC Female]

 Power Switch [15-Position Rotating]

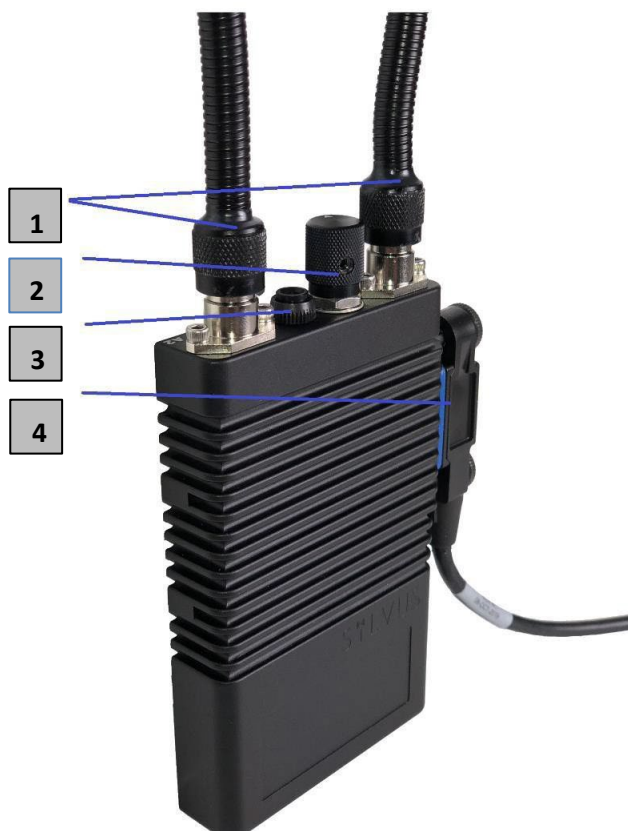
 Power (EB Version Only, 9-20V), Ethernet, and Serial Port Connector [ODU GK0YAR-P10UC00-000L]

 Bi-Color Status LED

- Red – Radio is in the process of booting up
- Flashing Green – Radio is fully booted but not wirelessly connected to any other radio
- Green – Radio is wirelessly connected to at least one other radio
- Flashing Red – Spectrum Scan in Progress
- Flashing Red – Radio has recovered from a bad state.
- Rapid Flashing Red for 1 second – The battery is less than or equal to 20%. LED will blink red rapidly for 1 second then go back to normal. This will repeat every 5 seconds.
- Rapid Flashing Green – When the multi position switch is rotate to a new position, LED will rapidly flash green while new settings are being applied. LED will resume normal indication after settings have been applied.

-  Push-to-Talk (PTT) Connector [ODU GKCWAM-P07UB00-000L]
-  AUX Connector [ODU GK0YCR-P10UC00-000L]

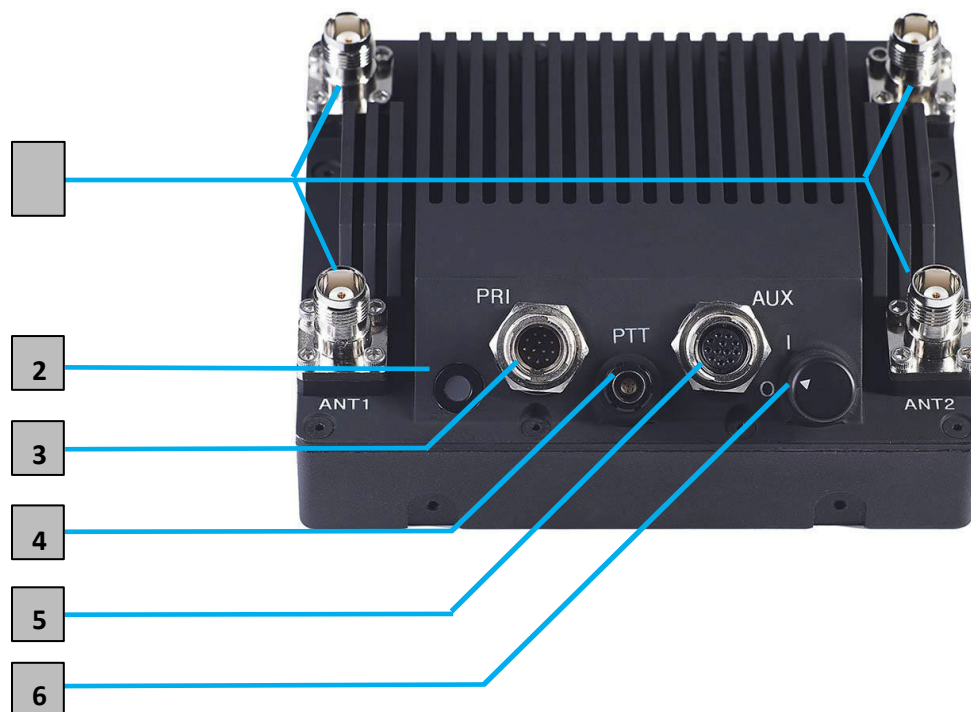
## **SL4200**



-  RF Channels 1-2 Connectors [TNC Female]
-  Power Switch [2-Position Rotating]
-  Bi-Color Status LED
  - Red – Radio is in the process of booting up
  - Flashing Green – Radio is fully booted but not wirelessly connected to any other radio
  - Green – Radio is wirelessly connected to at least one other radio
  - Flashing Red – Spectrum Scan in Progress
  - Flashing Red – Radio has recovered from a bad state and has reverted to factory default settings.
  - Rapid Flashing Red for 1 second – The battery is less than or equal to 20%. LED will blink red rapidly for 1 second then go back to normal. This will repeat every 5 seconds.

- 20-pin pogo style connector
  - 8-32VDC input / USB-C PD (9VDC)
  - 2x USB 2.0 (Host / OTG)
  - Serial RS-232
  - +5VDC output

### **SC4400:**



- RF Channels 1-4 Connectors [TNC Female]
- Bi-Color Status LED
  - Red – Radio is in the process of booting up
  - Flashing Green – Radio is fully booted but not wirelessly connected to any other radio
  - Green – Radio is wirelessly connected to at least one other radio
  - Flashing Red – Spectrum Scan in Progress
  - Flashing Red – Radio has recovered from a bad state.
- Power (9-20V), Ethernet, and Serial Port Connector [Hirose LF10WBRB-12PD]
- Push-to-Talk (PTT) Connector [ODU GKCWAM-P07UB00-000L]
- AUX Connector [Hirose LF10WBRB-12SD]
- Power Switch [2-Position Rotating]

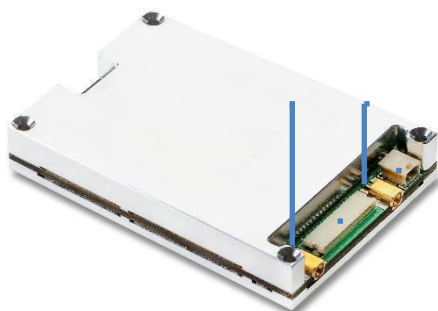
**SC4200:**



**Figure SEQ Figure \ \* ARABIC 6 StreamCaster 4200 Ruggedized Enclosure**

- ☐ RF Channels 1-2 Connectors [TNC Female]
- ☐ Power Switch [2-Position Rotating]
- ☐ Power (EB Version Only, 9-20V), Ethernet, and Serial Port Connector [Hirose LF10WBRB-12PD]
- ☐ Bi-Color Status LED
  - Red – Radio is in the process of booting up
  - Flashing Green – Radio is fully booted but not wirelessly connected to any other radio
  - Green – Radio is wirelessly connected to at least one other radio
  - Flashing Red – Spectrum Scan in Progress
  - Flashing Red – Radio has recovered from a bad state.
- ☐ Push-to-Talk (PTT) Connector [ODU GKCWAM-P07UB00-000L]
- ☐ AUX Connector [Hirose LF10WBRB-12SD]

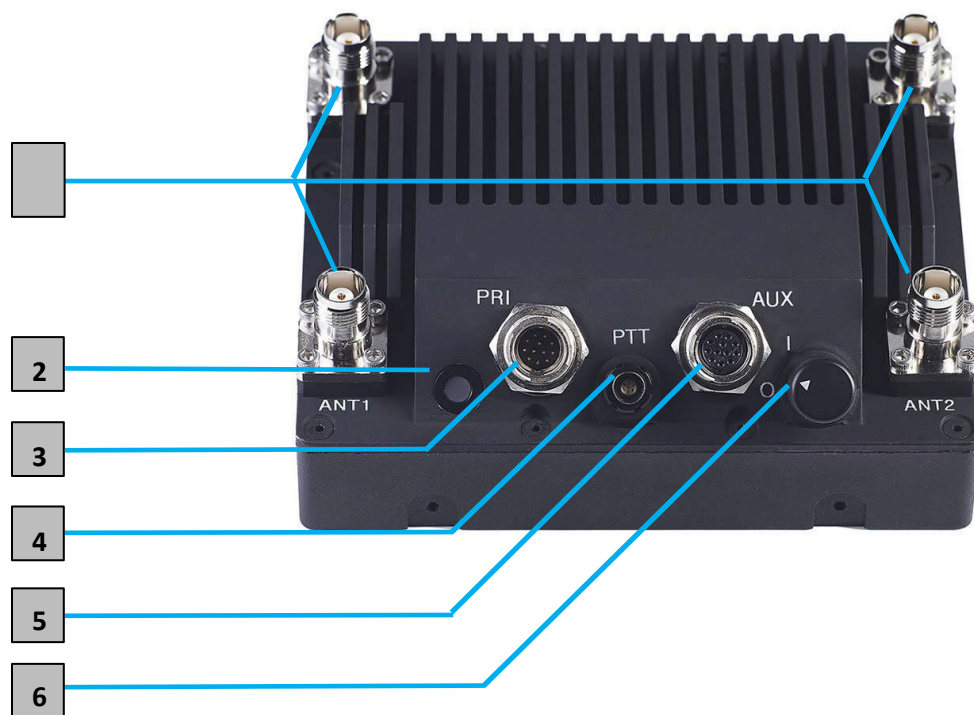
**SL/LC5200:**



***Figure 7 StreamCaster SL4200 OEM***

- ☐ RF Channels 1-2 Connectors [SMPM Female]
- ☐ Power Connector [JST SM02B-SFKH-TF]
- ☐ I/O Connector [JST SM14B-SHLS-TF(LF)(SN)]

**SC4400X:**



1 RF Channels 1-4 Connectors [TNC Female]

2 Bi-Color Status LED

- Red – Radio is in the process of booting up
- Flashing Green – Radio is fully booted but not wirelessly connected to any other radio
- Green – Radio is wirelessly connected to at least one other radio
- Flashing Red – Spectrum Scan in Progress
- Flashing Red – Radio has recovered from a bad state.

3 Power (9-20V), Ethernet, and Serial Port, Connector, Push-to-Talk, (PTT)Connector, AUX Connector

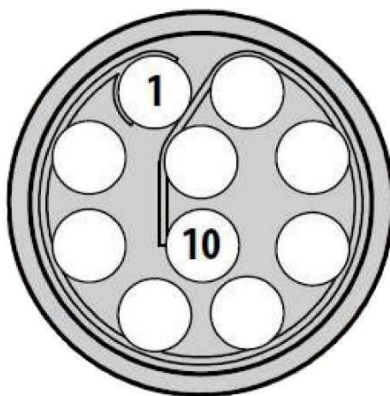
## 4.2 Connector Pinouts

### 4.2.1 SC4400E Pinouts

| SC4400E Primary Power/Ethernet/Serial Connector Pinout |                                |                                   |                                                |
|--------------------------------------------------------|--------------------------------|-----------------------------------|------------------------------------------------|
| Enclosure PWR/COMM<br>(GK0YAR-P10UC00-000L)            | Signal                         | Switchcraft Pinout<br>(EN3C2F16X) | Color of wires<br>coming from<br>ODU connector |
| 1                                                      | 5V OUT (For External GPS Puck) | NC                                | Pink                                           |
| 2                                                      | GND IN                         | 2                                 | Yellow/Blue                                    |
| 3                                                      | VCC IN                         | 1                                 | Green/Violet                                   |
| 4                                                      | ETH0_MX2N (RX-)                | NC                                | Black                                          |
| 5                                                      | ETH0_MX2P (RX+)                | NC                                | Brown                                          |
| 6                                                      | ETH0_MX1P (TX+)                | NC                                | Red                                            |
| 7                                                      | RS232_RXD                      | NC                                | Gray                                           |
| 8                                                      | RS232_TXD                      | NC                                | White                                          |
| 9                                                      | GND                            | NC                                | Light Green                                    |
| 10                                                     | ETH0_MX1N (TX-)                | NC                                | Orange                                         |

**Table 2 SC4400E Primary Power/Ethernet/Serial Connector Pinout**

\*color scheme is valid for cables built after 6/1/19



**Figure SEQ Figure \\* ARABIC 8 SC4400E Primary Power/Serial/Ethernet Pinout Diagram (Radio Side)**

| SC4400E RS-232 Pinout |        |                              |
|-----------------------|--------|------------------------------|
| RS-232 (DB9)          | Signal | Switchcraft Pinout (EN3C6FX) |
| 3                     | TxD    | 2                            |
| 2                     | RxD    | 1                            |
| NC                    | NC     | 4                            |
| NC                    | 5V OUT | 6                            |
| NC                    | NC     | 5                            |
| 5                     | Ground | 3                            |

Table 3 SC4400E Serial and GPS Pinout

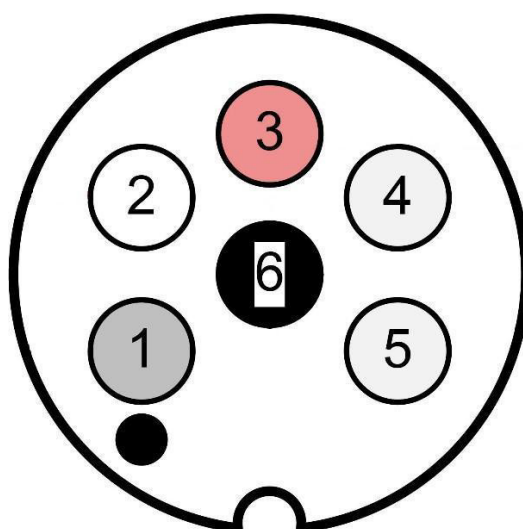


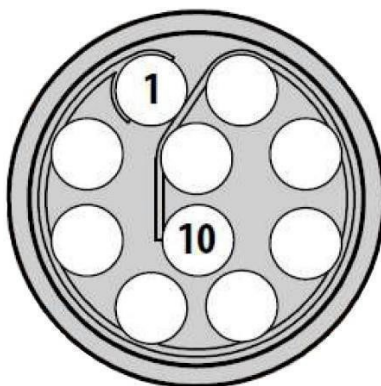
Figure SEQ Figure \\* ARABIC 9 Switchcraft connector on Primary/Power cable

| SC4400E AUX Connector Pinout           |                     |                                             |
|----------------------------------------|---------------------|---------------------------------------------|
| Enclosure AUX<br>(GK0YCR-P10UC00-000L) | Signal              | Color of wires coming from<br>ODU connector |
| 1                                      | USB GND             | Yellow/Blue                                 |
| 2                                      | USB1_D-             | Red                                         |
| 3                                      | USB1_VBUS           | Green                                       |
| 4                                      | USB0_VBUS           | Violet                                      |
| 5                                      | GPIO1 (BDA control) | Pink                                        |
| 6                                      | USB0_D+             | Black                                       |
| 7                                      | USB0_D-             | Brown                                       |
| 8                                      | GND                 | Light Green                                 |
| 9                                      | USB1_ID             | Gray                                        |
| 10                                     | USB1_D+             | Orange                                      |

**Table 4 SC4400E USB/GPIO Connector Pinout**

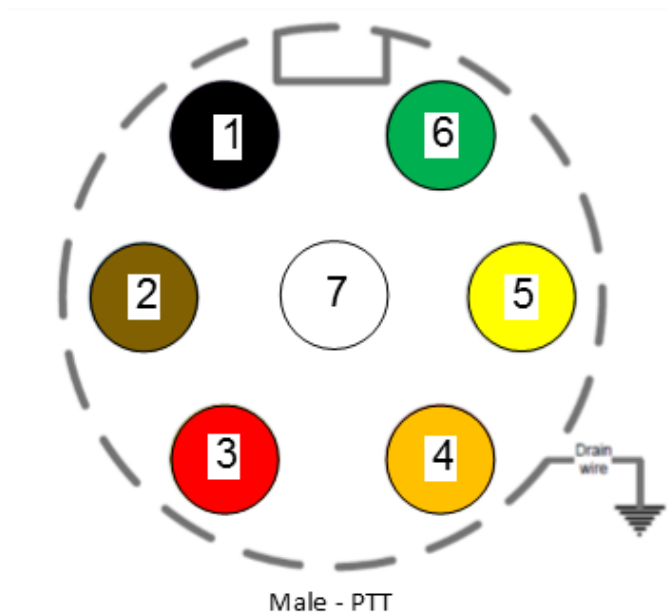
\*color scheme is valid for cables built after 6/1/19

\*\* (USB1 is USB 2.0 OTG, USB0 is USB 2.0 Host Mode Only)



| SC4400E PTT Connector                                |                           |
|------------------------------------------------------|---------------------------|
| Enclosure PTT Connector<br>(ODU GKCWAM-P07UB00-000L) | Signal                    |
| 1                                                    | 5V_OUT (Up to 400mA)      |
| 2                                                    | COR/DUAL_PTT              |
| 3                                                    | AUDIO_GND                 |
| 4                                                    | PTT                       |
| 5                                                    | SPEAKER_OUT               |
| 6                                                    | MIC_IN                    |
| 7                                                    | RESERVED (Do Not Connect) |

*Table 5 SC4400E PTT Connector Pinout*

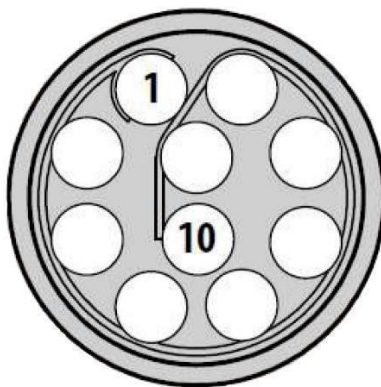


## 4.2.2 SC4200EP Pinouts

| SC4200EP Primary Power/Ethernet/Serial Connector Pinout |                                |                                   |                                                |
|---------------------------------------------------------|--------------------------------|-----------------------------------|------------------------------------------------|
| Enclosure PWR/COMM<br>(GK0YAR-P10UC00-000L)             | Signal                         | Switchcraft Pinout<br>(EN3C2F16X) | Color of wires<br>coming from<br>ODU connector |
| 1                                                       | 5V OUT (For External GPS Puck) | NC                                | Pink                                           |
| 2                                                       | GND IN                         | 2                                 | Yellow/Blue                                    |
| 3                                                       | VCC IN                         | 1                                 | Green/Violet                                   |
| 4                                                       | ETH0_MX2N (RX-)                | NC                                | Black                                          |
| 5                                                       | ETH0_MX2P (RX+)                | NC                                | Brown                                          |
| 6                                                       | ETH0_MX1P (TX+)                | NC                                | Red                                            |
| 7                                                       | RS232_RXD                      | NC                                | Gray                                           |
| 8                                                       | RS232_TXD                      | NC                                | White                                          |
| 9                                                       | GND                            | NC                                | Light Green                                    |
| 10                                                      | ETH0_MX1N (TX-)                | NC                                | Orange                                         |

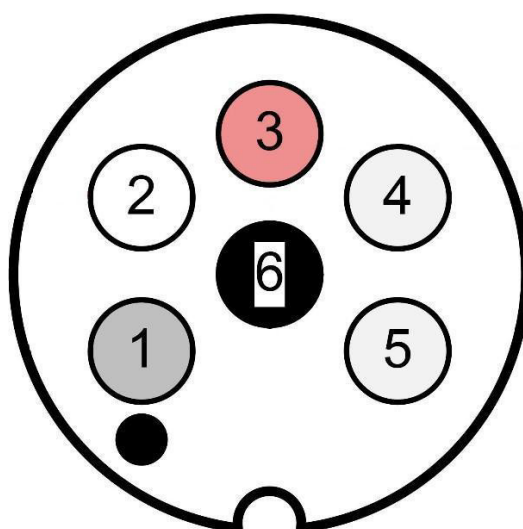
**Table 6 SC4200EP Primary Power/Ethernet/Serial Connector Pinout**

\*color scheme is valid for cables built after 6/1/19



| SC4200EP RS-232 Pinout |        |                              |
|------------------------|--------|------------------------------|
| RS-232 (DB9)           | Signal | Switchcraft Pinout (EN3C6FX) |
| 3                      | TxD    | 2                            |
| 2                      | RxD    | 1                            |
| NC                     | NC     | 4                            |
| NC                     | 5V OUT | 6                            |
| NC                     | NC     | 5                            |
| 5                      | Ground | 3                            |

*Table 7 SC4200EP Serial and GPS Pinout*

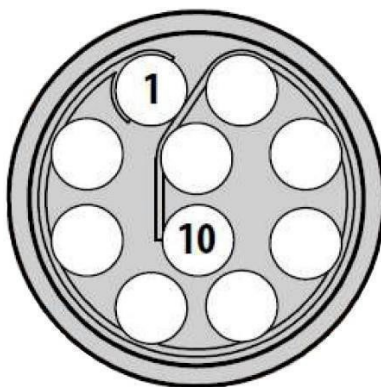


*Figure SEQ Figure \ \* ARABIC 13 Switchcraft connector on Primary/Power cable*

| SC4200EP AUX Connector Pinout          |                     |                                             |
|----------------------------------------|---------------------|---------------------------------------------|
| Enclosure AUX<br>(GK0YCR-P10UC00-000L) | Signal              | Color of wires coming from<br>ODU connector |
| 1                                      | USB GND             | Yellow/Blue                                 |
| 2                                      | USB1_D-             | Red                                         |
| 3                                      | USB1_VBUS           | Green                                       |
| 4                                      | USB0_VBUS           | Violet                                      |
| 5                                      | GPIO1 (BDA control) | Pink                                        |
| 6                                      | USB0_D+             | Black                                       |
| 7                                      | USB0_D-             | Brown                                       |
| 8                                      | GND                 | Light Green                                 |
| 9                                      | USB1_ID             | Gray                                        |
| 10                                     | USB1_D+             | Orange                                      |

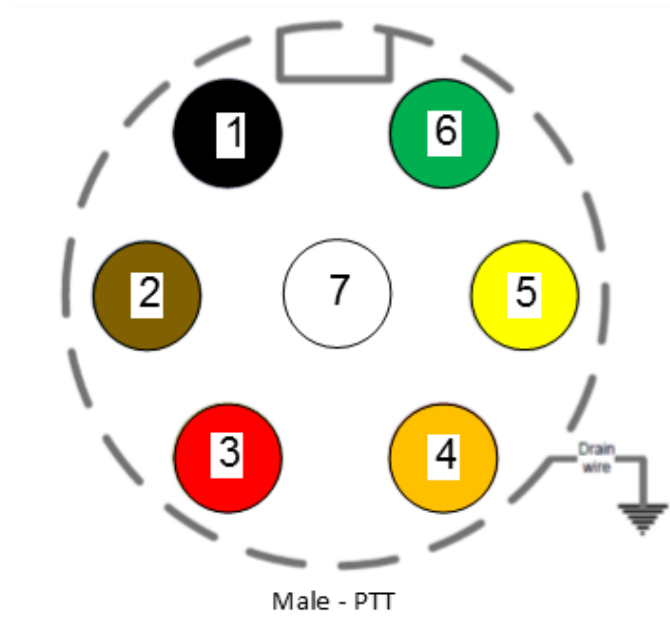
**Table 8 SC4200EP AUX USB/GPIO Connector Pinout (USB1 is USB 2.0 OTG, USB0 is USB 2.0 Host Mode Only)**

\*color scheme is valid for cables built after 6/1/19



| SC4200EP PTT Connector                               |                           |
|------------------------------------------------------|---------------------------|
| Enclosure PTT Connector<br>(ODU GKCWAM-P07UB00-000L) | Signal                    |
| 1                                                    | 5V_OUT (Up to 400mA)      |
| 2                                                    | COR/DUAL_PTT              |
| 3                                                    | AUDIO_GND                 |
| 4                                                    | PTT                       |
| 5                                                    | SPEAKER_OUT               |
| 6                                                    | MIC_IN                    |
| 7                                                    | RESERVED (Do Not Connect) |

*Table 9 SC4200EP PTT Connector Pinout*

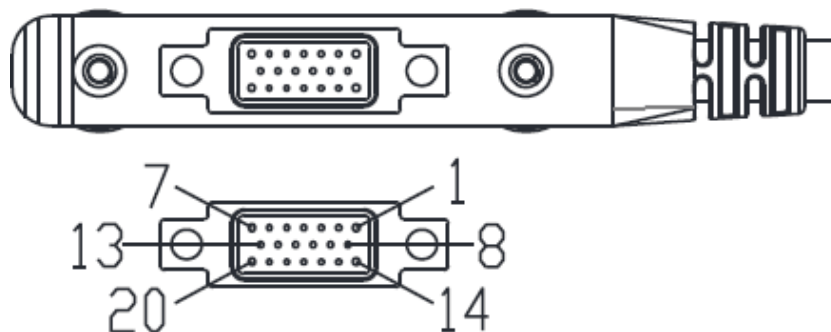


### 4.2.3 SL4200 Pinouts

| SL4200 POGO Connector Pinout |                                                                                             |
|------------------------------|---------------------------------------------------------------------------------------------|
| Pin                          | Signal                                                                                      |
| 1                            | Vbat 8-32 VDC input *                                                                       |
| 2                            | RS232 TXD                                                                                   |
| 3                            | RS232 RXD                                                                                   |
| 4                            | GPIO1                                                                                       |
| 5                            | CC2 (PD mode-config)                                                                        |
| 6                            | CC1 (CC) (PD mode-config)                                                                   |
| 7                            | USB PD VBUSS (+9 VDC) *                                                                     |
| 8                            | USB0 Vbus (USB 0 always in host mode)                                                       |
| 9                            | USB0 D+                                                                                     |
| 10                           | USB0 D-                                                                                     |
| 11                           | USB0_GND                                                                                    |
| 12                           | N/C                                                                                         |
| 13                           | N/C                                                                                         |
| 14                           | GND *                                                                                       |
| 15                           | USB1_GND                                                                                    |
| 16                           | USB1 D+                                                                                     |
| 17                           | USB1 D-                                                                                     |
| 18                           | USB1 ID (Gnd for Host Mode; Float for Client mode)                                          |
| 19                           | N/C                                                                                         |
| 20                           | VCC_5V0 OUT * (500 ma max (GPS Puck); connect to USB1 Vbus in host mode (e.g, USB-A pin 1)) |

**Table 10 SL4200 POGO Pinout**

\*Note: Pins 1,7,14,20 rated for 3A, 36V



| Supported USB 1 Modes                                                    | Wiring instruction                                                                                          |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| USB-PD and USB 2.0 from the same source                                  | USB1_ID floating and USB1 in client mode. Connect VCC_5V to USB1_VBUS on the pogo plug side or in the cable |
| USB 1 as client but not using USB-PD or PD comes from a different source | USB1_ID floating and USB1 in client mode, standard USB 2.0 wiring                                           |
| USB 1 as host but not using USB-PD or PD comes from a different source   | USB1_ID grounded and USB1 in host mode, standard USB 2.0 wiring                                             |

**Table 11 SL4200 supported USB modes**

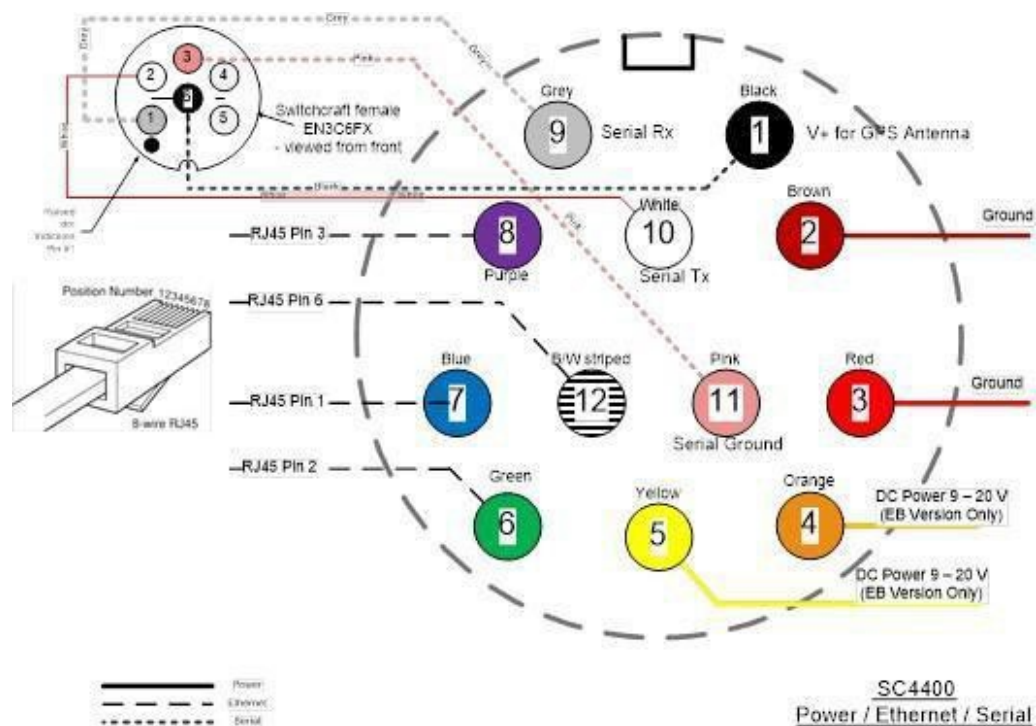
## 4.2.4 SC4400 Pinouts

| SC4400 Power/Ethernet/Serial Connector Pinout |                                |                                   |
|-----------------------------------------------|--------------------------------|-----------------------------------|
| Enclosure PWR/COMM<br>(LF10WBRB-12PD)         | Signal                         | Switchcraft Pinout<br>(EN3C2F16X) |
| 1                                             | 5V OUT (For External GPS Puck) | NC                                |
| 2                                             | GND IN                         | 2                                 |
| 3                                             | GND IN                         | 2                                 |
| 4                                             | VCC IN                         | 1                                 |
| 5                                             | VCC IN                         | 1                                 |
| 6                                             | 100-Base T ETH0 M2N (RX-)      | NC                                |
| 7                                             | 100-Base T ETH0 M2P (RX+)      | NC                                |
| 8                                             | 100-Base T ETH0 M1P (TX+)      | NC                                |
| 9                                             | RS232_RXD                      | NC                                |
| 10                                            | RS232_TXD                      | NC                                |
| 11                                            | RS232_GND                      | NC                                |
| 12                                            | 100-Base T ETH0 M1N (TX-)      | NC                                |

**Table 12 SC4400 Primary Power/Ethernet/Serial Connector Pinout**

| SC4400 RS-232 and PS/2 (GPS) Pinout |            |        |                                 |
|-------------------------------------|------------|--------|---------------------------------|
| RS-232                              | PS/2 (GPS) | Signal | Switchcraft Pinout<br>(EN3C6FX) |
| 3                                   | 4          | TxD    | 2                               |
| 2                                   | 5          | RxD    | 1                               |
| NC                                  | NC         | NC     | 4                               |
| NC                                  | 2          | 5V OUT | 6                               |
| NC                                  | NC         | NC     | 5                               |
| 5                                   | 1          | Ground | 3                               |

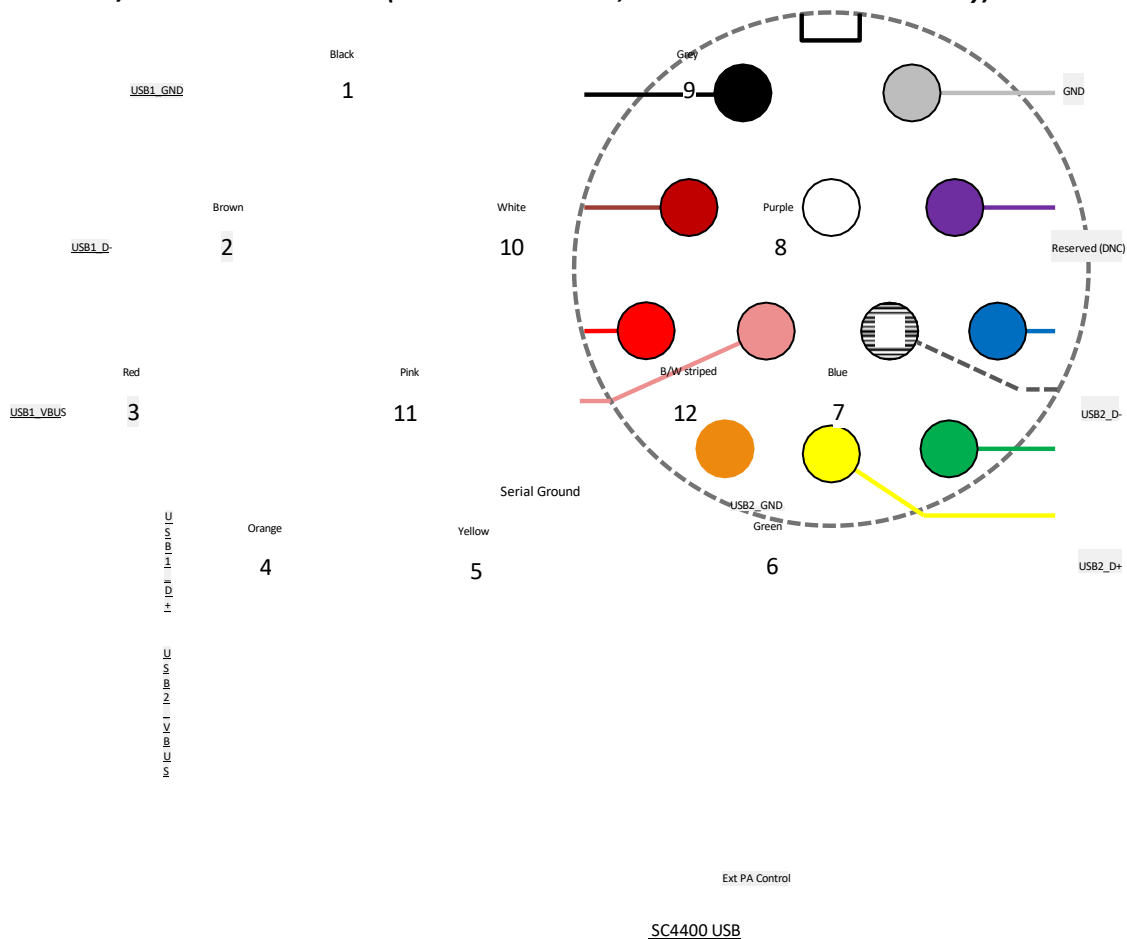
**Table 13 SC4400 Serial and GPS Pinout**



**Figure 17 SC4400 Power (Optional)/Serial/Ethernet Pinout Diagram (Cable Side)**

| SC4400 AUX Connector Pinout   |                           |
|-------------------------------|---------------------------|
| Enclosure AUX (LF10WBRB-12SD) | Signal                    |
| 1                             | USB1_GND                  |
| 2                             | USB1_D-                   |
| 3                             | USB1_VBUS                 |
| 4                             | USB0_VBUS                 |
| 5                             | GPIO1 (PA Enable 3.3V)    |
| 6                             | USB0_D+                   |
| 7                             | USB0_D-                   |
| 8                             | RESERVED (Do Not Connect) |
| 9                             | GND                       |
| 10                            | USB1_Sense                |
| 11                            | USB1_D+                   |
| 12                            | USB0_GND                  |

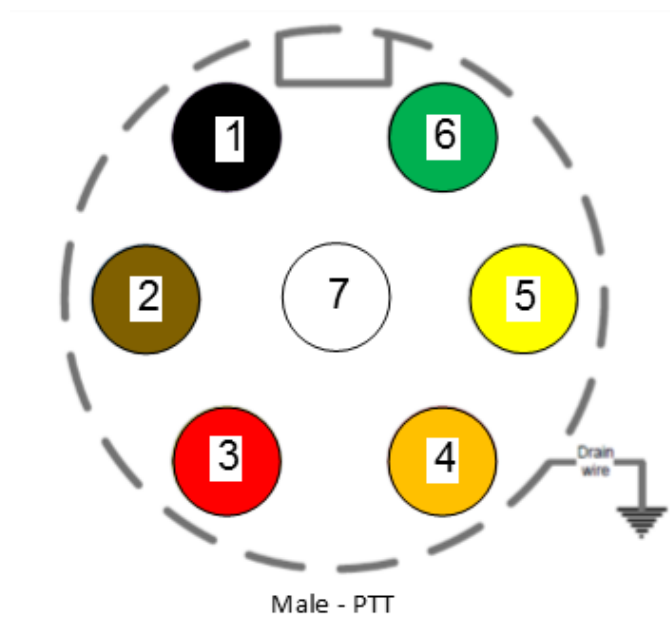
**Table 14 SC4400 AUX USB/GPIO Connector Pinout (USB1 is USB 2.0 OTG, USB0 is USB 2.0 Host Mode Only)**





| SC4400 PTT Connector                                 |                           |
|------------------------------------------------------|---------------------------|
| Enclosure PTT Connector<br>(ODU GKCWAM-P07UB00-000L) | Signal                    |
| 1                                                    | RESERVED (Do Not Connect) |
| 2                                                    | RESERVED (Do Not Connect) |
| 3                                                    | AUDIO_GND                 |
| 4                                                    | PTT                       |
| 5                                                    | SPEAKER_OUT               |
| 6                                                    | MIC_IN                    |
| 7                                                    | RESERVED (Do Not Connect) |

*Table 15 SC4400 PTT Connector Pinout*



## 4.2.5 SC4200 Pinouts

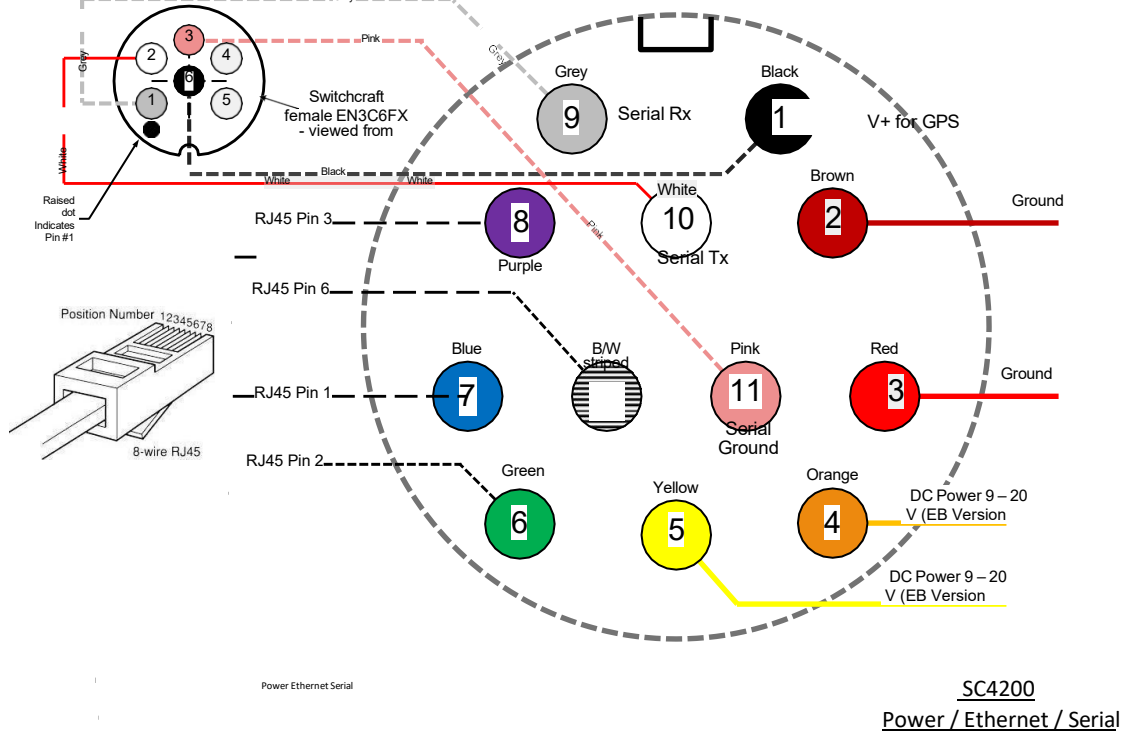
| SC4200 Power/Ethernet/Serial Connector Pinout |                                     |                                   |
|-----------------------------------------------|-------------------------------------|-----------------------------------|
| Enclosure PWR/COMM<br>(LF10WBRB-12PD)         | Signal                              | Switchcraft Pinout<br>(EN3C2F16X) |
| 1                                             | 5V OUT (For External GPS Puck)      | NC                                |
| 2                                             | GND IN (External Power Option Only) | 2                                 |
| 3                                             | GND IN (External Power Option Only) | 2                                 |
| 4                                             | VCC IN (External Power Option Only) | 1                                 |
| 5                                             | VCC IN (External Power Option Only) | 1                                 |
| 6                                             | 100-Base T ETH0 M2N (RX-)           | NC                                |
| 7                                             | 100-Base T ETH0 M2P (RX+)           | NC                                |
| 8                                             | 100-Base T ETH0 M1P (TX+)           | NC                                |
| 9                                             | RS232_RXD                           | NC                                |
| 10                                            | RS232_TXD                           | NC                                |
| 11                                            | RS232_GND                           | NC                                |
| 12                                            | 100-Base T ETH0 M1N (TX-)           | NC                                |

**Table 16 SC4200 Primary Power/Ethernet/Serial Connector Pinout**

| SC4200 RS-232 and PS/2 (GPS) Pinout |            |        |                                 |
|-------------------------------------|------------|--------|---------------------------------|
| RS-232                              | PS/2 (GPS) | Signal | Switchcraft Pinout<br>(EN3C6FX) |
| 3                                   | 4          | TxD    | 2                               |
| 2                                   | 5          | RxD    | 1                               |
| NC                                  | NC         | NC     | 4                               |
| NC                                  | 2          | 5V OUT | 6                               |
| NC                                  | NC         | NC     | 5                               |
| 5                                   | 1          | Ground | 3                               |

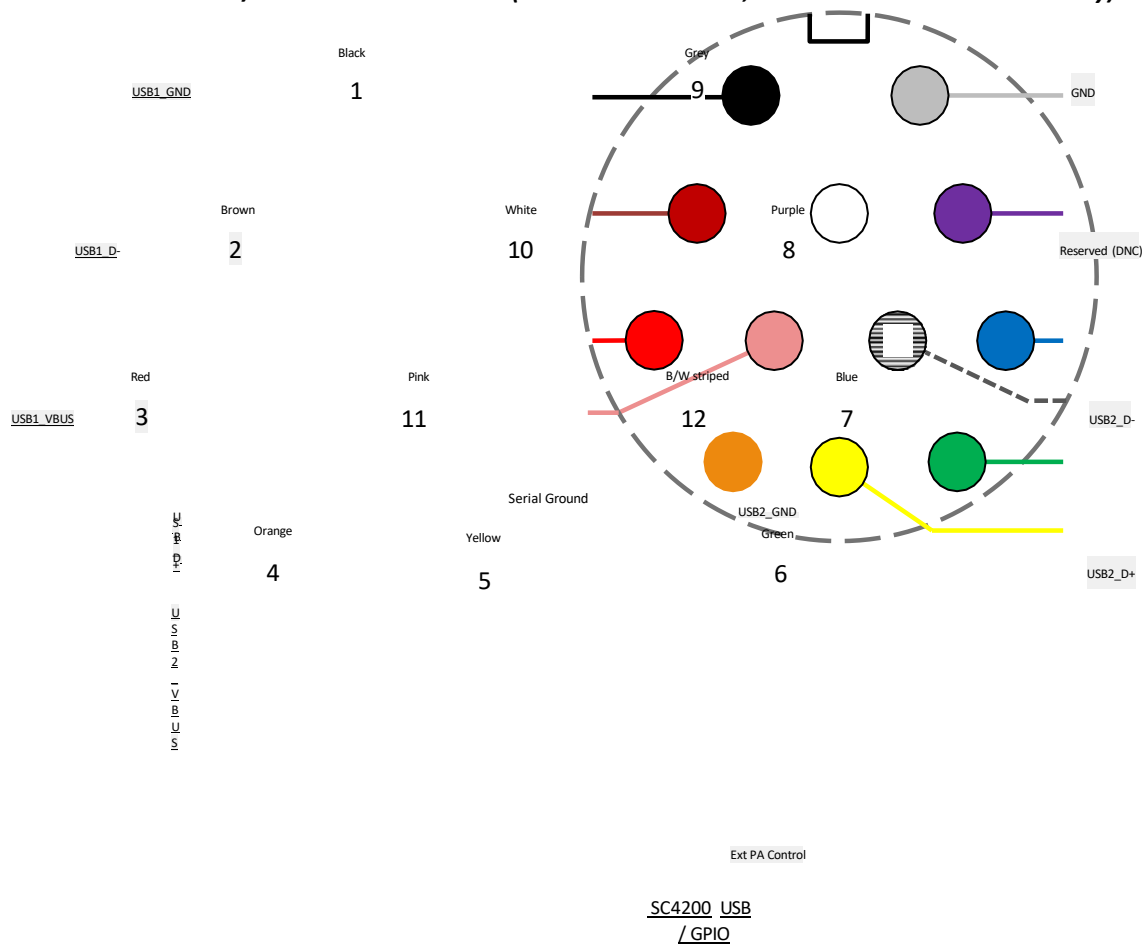
**Table 17 SC4200 Serial and GPS Pinout**

## StreamCaster MIMO Radio Basic User Manual



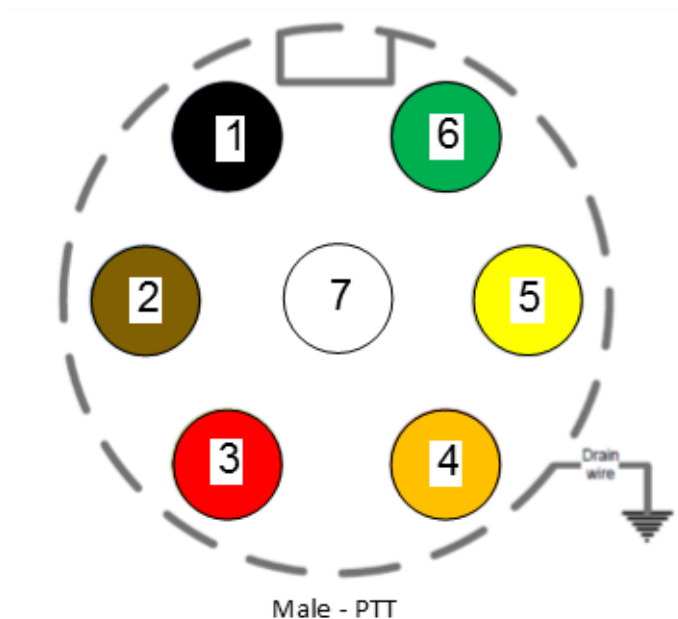
| SC4200 AUX Connector Pinout   |                           |
|-------------------------------|---------------------------|
| Enclosure AUX (LF10WBRB-12SD) | Signal                    |
| 1                             | USB1_GND                  |
| 2                             | USB1_D-                   |
| 3                             | USB1_VBUS                 |
| 4                             | USB0_VBUS                 |
| 5                             | GPIO1 (PA Enable 3.3V)    |
| 6                             | USB0_D+                   |
| 7                             | USB0_D-                   |
| 8                             | RESERVED (Do Not Connect) |
| 9                             | GND                       |
| 10                            | USB1_Sense                |
| 11                            | USB1_D+                   |
| 12                            | USB0_GND                  |

**Table 18 SC4200 AUX USB/GPIO Connector Pinout (USB1 is USB 2.0 OTG, USB0 is USB 2.0 Host Mode Only)**



| SC4200 PTT Connector                                 |                           |
|------------------------------------------------------|---------------------------|
| Enclosure PTT Connector<br>(ODU GKCWAM-P07UB00-000L) | Signal                    |
| 1                                                    | RESERVED (Do Not Connect) |
| 2                                                    | RESERVED (Do Not Connect) |
| 3                                                    | AUDIO_GND                 |
| 4                                                    | PTT                       |
| 5                                                    | SPEAKER_OUT               |
| 6                                                    | MIC_IN                    |
| 7                                                    | RESERVED (Do Not Connect) |

Table 19 SC4200 PTT Connector Pinout



#### 4.2.6 SL/LC 5200 Pinouts

| SL/LC5200 I/O Connector Pinout |             |                                                                           |
|--------------------------------|-------------|---------------------------------------------------------------------------|
| Pin #                          | Description | Comments/Notes                                                            |
| 1                              | ETH0_MX0_P  | Ethernet TX+/BI_DA+                                                       |
| 2                              | ETH0_MX0_N  | Ethernet TX-/BI_DA-                                                       |
| 3                              | ETH0_MX1_P  | Ethernet RX+/BI_DB+                                                       |
| 4                              | ETH0_MX1_N  | Ethernet RX-/BI_DB-                                                       |
| 5                              | VCC_5V0_ACC | 5V accessory supply (Pins 5 and 6 combined provide up to 1.0A Continuous) |

**StreamCaster MIMO Radio Basic User Manual**

|    |           |                          |
|----|-----------|--------------------------|
| 6  | USB0_VBUS | USB 5V supply            |
| 7  | USB0_D_P  | USB Data +               |
| 8  | USB0_D_N  | USB Data -               |
| 9  | USB0_ID   | USB OTG ID pin           |
| 10 | RESERVED  |                          |
| 11 | RS232_TXD | RS232 transmit data      |
| 12 | RS232_RXD | RS232 receive data       |
| 13 | GPIO1     | Reserved, Do Not Connect |
| 14 | GND       | Ground                   |

**Table 20 SL/LC5200 I/O Connector Pinout**

| SL/LC5200 PWR Connector Pinout |             |                            |
|--------------------------------|-------------|----------------------------|
| Pin #                          | Description | Comments/Notes             |
| 1                              | VBAT_IN     | Input voltage range 9V-36V |
| 2                              | GND         | Ground connection          |

**Table 21 SL/LC5200 Power Connector Pinout**

## 4.3 Mechanical and Operating Specifications

### SC4400E:

#### Mechanical

- Ambient Temp. -40° to +65° C
- IP Rating IP-68 (Dust / Submersible in Water to 20m)\*\*
- Dimensions 5.25" x 4.5" x 1.8" (Excluding Connectors)
- Weight 2.5 lbs. (40 oz./1.13 kg.)
- Color Black Anodized
- Mounting 4-Hole Mounting Pattern

#### Power

- Voltage/Current 9 – 20 VDC (± 5%), 5A
- Power Consumption
  - 8 W – 100 W @ 20 W TX Power
  - 8 W – 43 W @ 8 W TX Power
  - 8 W – 24 W @ 1 W TX Power
- Optional External Power Supply (for indoor only) 12VDC, 5A

#### Interfaces

- RF 4 x TNC(f)  
[ N(f) Optional ]
- Primary Ruggedized Push/Pull Connector  
[ 1 x Ethernet, 1 x RS232, DC Input ]
- Auxiliary Ruggedized Push/Pull Connector  
[ 1 x USB 2.0 Host, 1 x USB 2.0 OTG ]
- PTT (Push-to-Talk) Ruggedized Break away Connector (Front Panel)
- Status Indicator Tri-Color LED
- Control Interface Multi-Position  
Switch 13 presets plus  
zeroize crypto  
Web-Based StreamScape™ Network Manager

#### Mechanical – OEM

- Dimensions 4.29" x 3.3" x 0.82"
- Weight 9.1 oz (w/ Outer Shields)

- **RF Connectors**

SMP (m)

(\*\*) Must have all connectors mated with IP68+

**SC4200EP:**

**Mechanical**

- **Ambient Temp.** -40° to +65° C
- **IP Rating** IP-68 (Dust / Submersible in Water up to 20m)\*\*
- **Dimensions** 4.00" x 2.63" x 1.51" (Excluding Connectors)
- **Weight** 0.94 lbs. (15 oz./0.43 kg.)
- **Color** Black Anodized
- **Mounting** 4-Hole Mounting Pattern (Through-Hole)

**Power**

- **Voltage/Current** 9 – 20 VDC (± 5%), 5A
- **Power Consumption** 4.8 W – 48 W @ 10W TX Power  
4.8 W – 24 W @ 4W TX Power  
4.8 W – 16 W @ 1W TX Power
- **Battery Life** Up to 12 Hours (6.8Ah MBITR Battery)
- **Power Options** Twist-Lock Battery or Front Panel
- **Optional External Power Supply (for indoor only)** 12VDC, 5A

**Interfaces**

- **RF** TNC(f) (2 Each)
- **Primary** Ruggedized Push/Pull Connector (Front Panel)  
1 x Ethernet, 1x RS232, DC Input (Optional)
- **Auxiliary** Ruggedized Push/Pull Connector (Front Panel)  
1 x USB 2.0 Host, 1 x USB 2.0 OTG
- **PTT (Push-to-Talk)** Ruggedized Breakaway Connector (Front Panel)
- **Status Indicator** Tri-Color LED
- **Management Interface** Multi-Position  
Switch 13 presets plus  
zeroize crypto  
Web-Based StreamScape™ Network Manager

**Mechanical – OEM**

- **Dimensions** 3.61" x 2.15" x 0.71"

- Weight
- RF Connectors

(\*\*) Must have all connectors mated with IP68 + 4.1.0.2 (w/ Outer Shields)  
SMP (m)

(\*\*) Must have all connectors mated with IP68+

**SL4200:**

**Mechanical**

- Ambient Temp. -40° to +65° C
- IP Rating IP-67 (Dust / Submersible in Water up to 1m)\*\*
- Dimensions 119 x 74 x 18 mm (Excluding Connectors)
- Weight 295 grams
- Color Black Anodized Aluminum

**Power**

- Voltage/Current 8-32VDC input / USB-C PD (9VDC)
- Power Consumption 4.8 W – 17 W @ 1 W TX Power

**Interfaces**

- RF TNC(f) (2 Each)
- Power/Data 20-pin “POGO” style connector 8-32VDC input / USB-C PD (9VDC)  
2x USB 2.0 (Host / OTG)  
Serial RS-232  
+5VDC output
- Status Indicator Tri-Color LED
- Management Interface On/Off  
  
Switch Web-Based StreamScape™ Network Manager

**Mechanical – OEM**

- Dimensions 0.45” x 2.15” (ears: 2.74”)x 3.83”
- Weight 105 g (Module)  
45 g (PCBA only)
- RF Connectors SMA

(\*\*) Must have all connectors mated with IP67+ cables/antennas

**SC4400:**

## Mechanical

- Ambient Temp. -40° to +65° C
- IP Rating IP-67 (Dust / Immersion in Water up to 1m)\*\*
- Dimensions 5.25" x 4.5" x 1.8" (Excluding Connectors)
- Weight 2.5 lbs. (40 oz./1.13 kg.)
- Color Black Anodized
- Mounting 4-Hole Mounting Pattern

## Power

- Voltage/Current 9 – 20 VDC (± 5%), 5A
- Power Consumption 8 W – 43 W @ 8 W TX Power  
8 W – 24 W @ 1 W TX Power
- Optional External Power Supply (for indoor only) 12VDC, 5A

## Interfaces

- RF 4 x TNC(f)  
[ N(f) Optional ]
- Primary Ruggedized Circular Connector  
[ 1 x Ethernet, 1 x RS232, DC Input ]
- Auxiliary Ruggedized Circular Connector  
[ 1 x USB 2.0 Host, 1 x USB 2.0 OTG ]
- PTT (Push-to-Talk) Ruggedized Break away Connector (Front Panel)
- Status Indicator Tri-Color LED
- Management Interface Web-Based StreamScape™ Network Manager

## Mechanical – OEM

- Dimensions 4.29" x 3.3" x 0.82"
- Weight 9.1 oz (w/ Outer Shields)
- RF Connectors SMP (m)

(\*\*) Must have all connectors mated with IP67+ cables/antennas

**SC4200:**

## Mechanical

- Ambient Temp. -40° to +65° C
- IP Rating IP-67 (Dust / Immersion in Water up to 1m)\*\*
- Dimensions 4.00" x 2.63" x 1.51" (Excluding Connectors)
- Weight 0.94 lbs. (15 oz./0.43 kg.)
- Color Black Anodized
- Mounting 4-Hole Mounting Pattern (Through-Hole)

## Power

- Voltage/Current 9 – 20 VDC (± 5%), 5A
- Power Consumption 4.8 W – 24 W @ 4W TX Power  
4.8 W – 16 W @ 1W TX Power
- Battery Life Up to 12 Hours (6.8Ah MBITR Battery)
- Power Options Twist-Lock Battery or Front Panel
- Optional External Power Supply (for indoor only) 12VDC, 5A

## Interfaces

- RF TNC(f) (2 Each)
- Primary Ruggedized Circular Connector (Front Panel)  
1 x Ethernet, 1x RS232, DC Input (Optional)
- Auxiliary Ruggedized Circular Connector (Front Panel)  
1 x USB 2.0 Host, 1 x USB 2.0 OTG
- PTT (Push-to-Talk) Ruggedized Break away Connector (Front Panel)
- Status Indicator Tri-Color LED
- Management Interface Web-Based StreamScape™ Network Manager

## Mechanical – OEM

- Dimensions 3.61" x 2.15" x 0.71"
- Weight 4.1 oz (w/ Outer Shields)
- RF Connectors SMP (m)

(\*\*) Must have all connectors mated with IP67+ cables/antennas

**SL/LC5200:**

**Mechanical - OEM**

- Ambient Temp. -40° to +85° C
- Dimensions 63.5 x 44.5 x 10.4 mm
- Weight 26 g (Bare PCB), 52 g (With Shields)

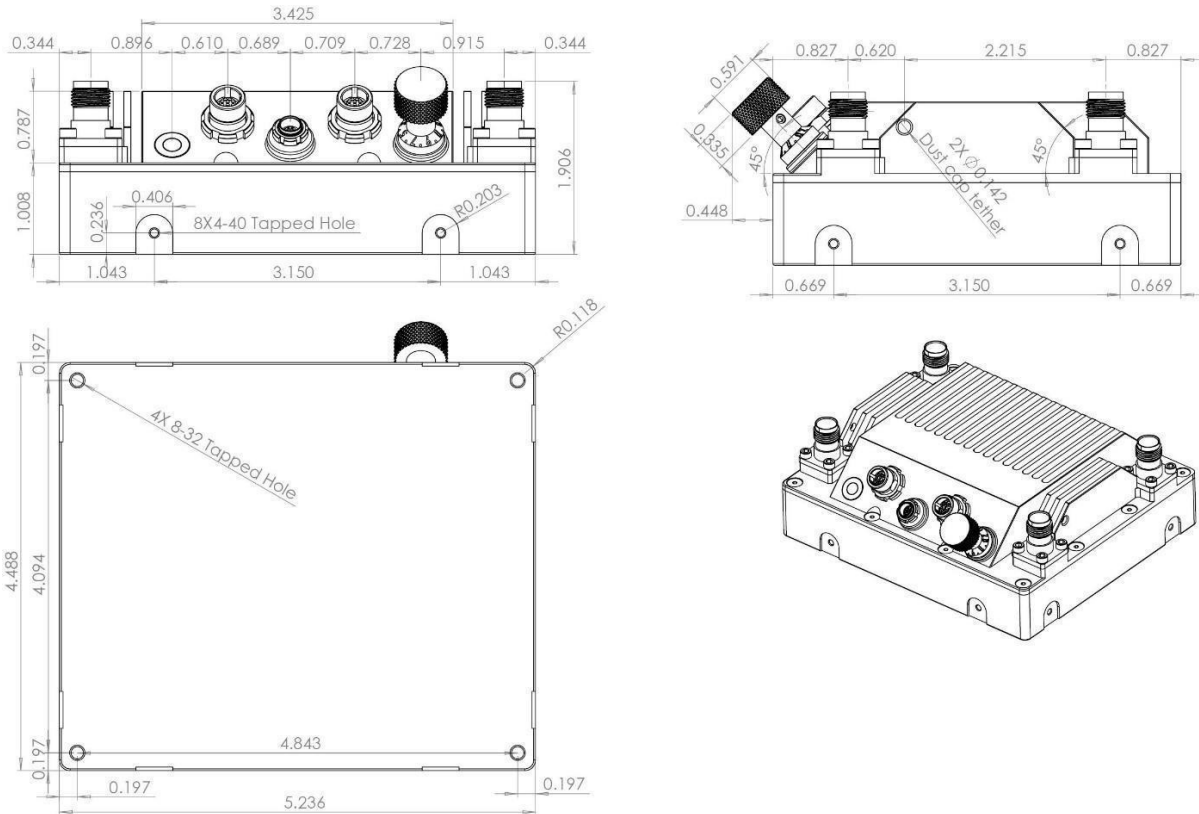
**Power**

- Voltage/Current 9 – 36 VDC ( $\pm 5\%$ ), 5A
- Power Consumption 4 - 13 W @ 2W TX Power

**Interfaces**

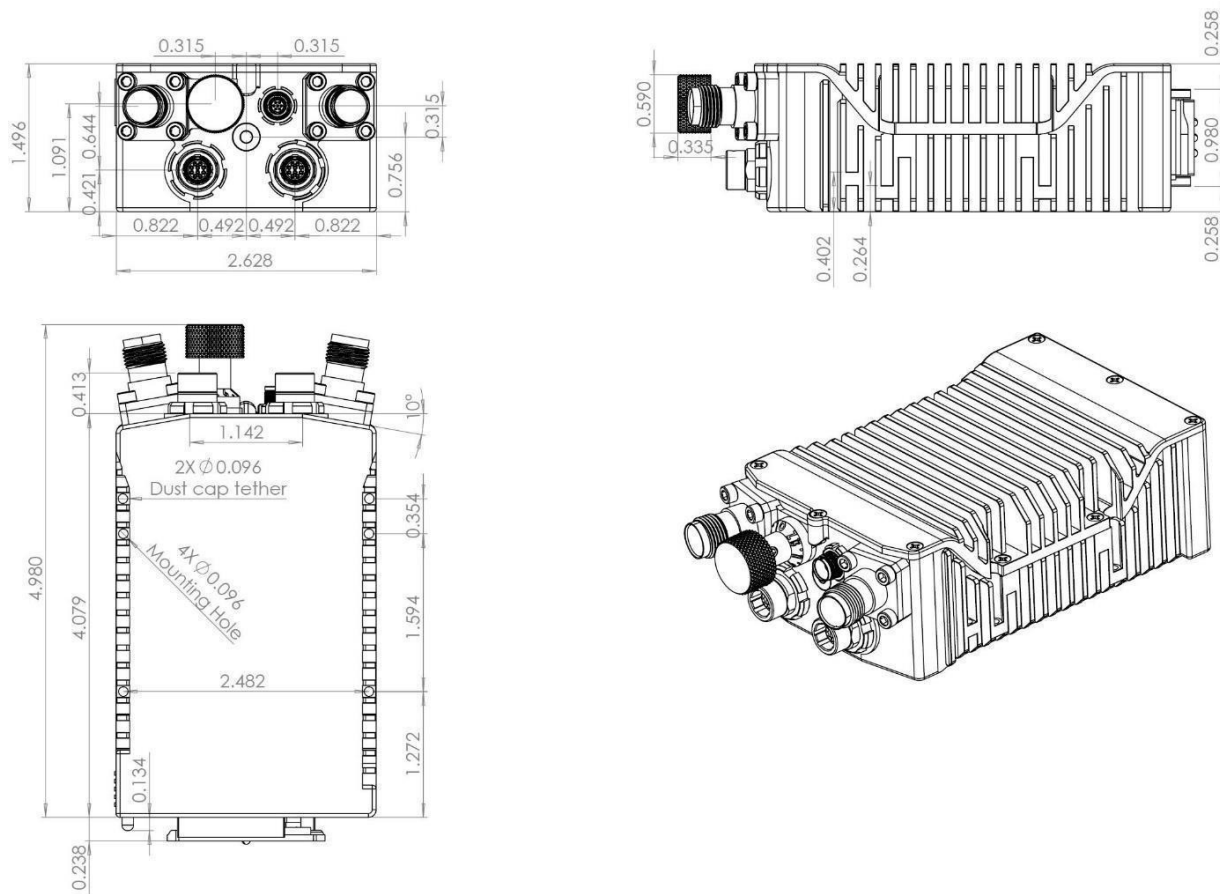
- RF SMPM(f) (2 Each)
- I/O JST SM14B-SHLS-TF(LF)(SN)
- Power JST SM02B-SFKH-TF
- Management Interface Web-Based StreamScape™ Network Manager

### 4.3.1 SC4400E Enclosure Mechanical Drawing



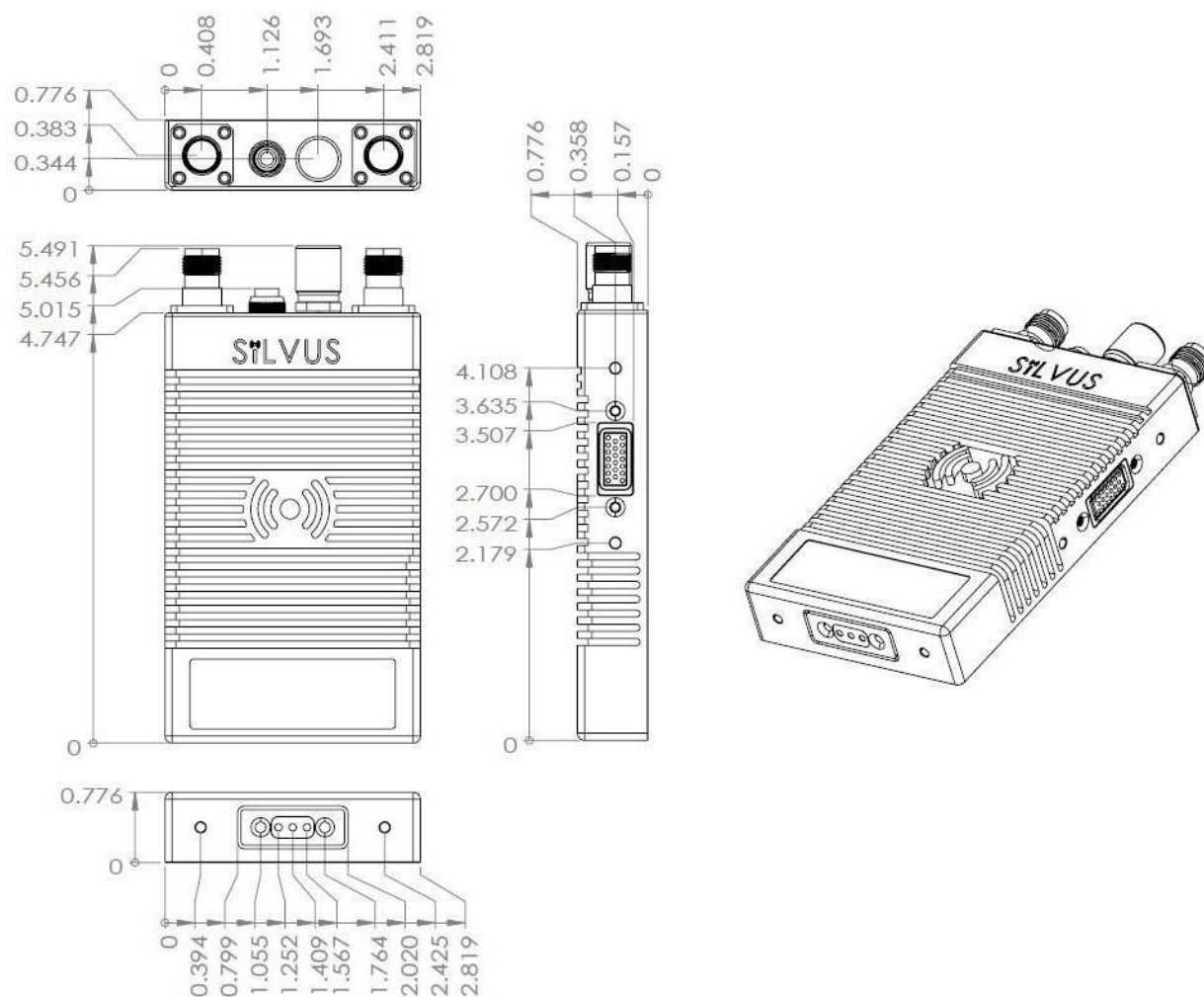
\*Tapped mounting holes are available on bottom (8-32) and on the sides (4-40) of radio as indicated in

### 4.3.2 SC4200EP Enclosure Mechanical Drawing

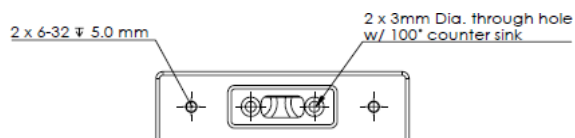


\*mounting holes utilize <https://www.mcmaster.com/96006a234> or equivalent. Hex head (5/64" drive), 2-56 thread, head diameter 9/64"; stainless steel; 3/8" length or longer

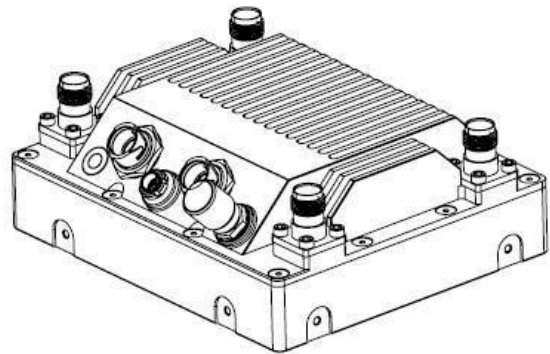
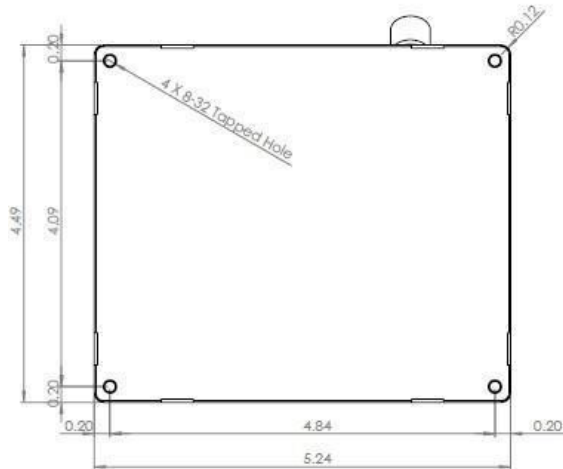
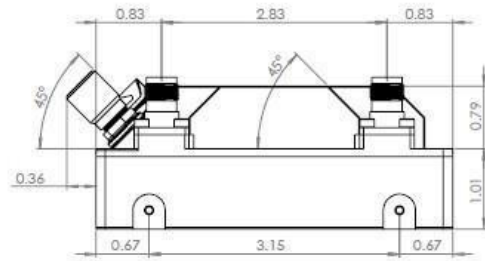
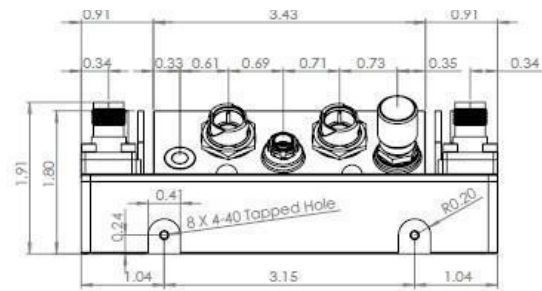
### 4.3.3 SL4200 Enclosure Mechanical Drawing



\* Tapped mounting holes are available on bottom 6-32 screw, 0.196inch (5.0mm) depth.

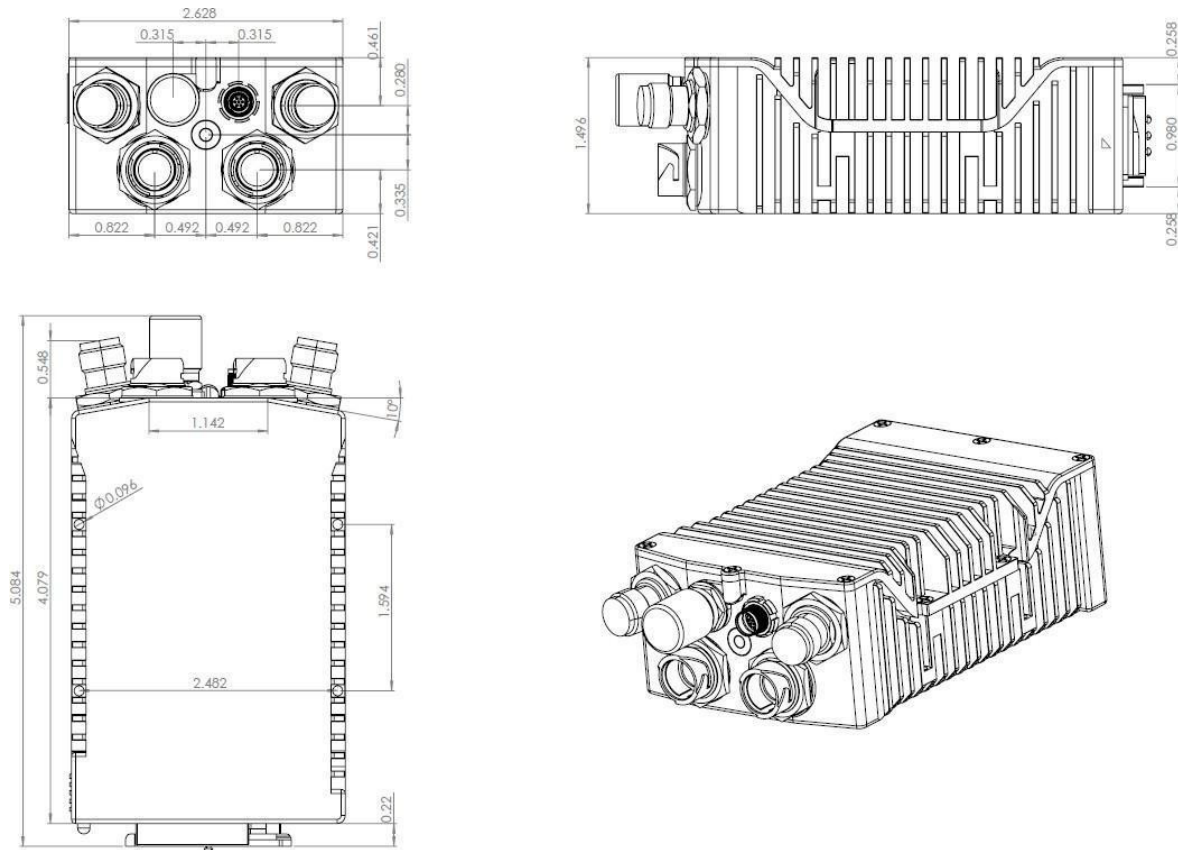


### 4.3.4 SC4400 Enclosure Mechanical Drawing



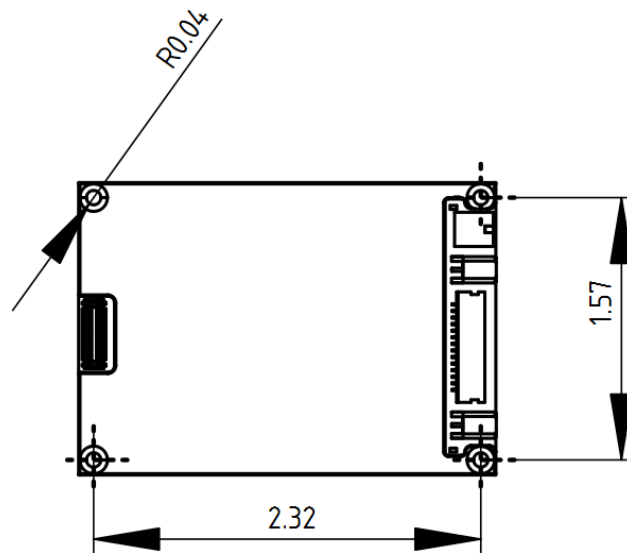
\*Tapped mounting holes are available on bottom (8-32) and on the sides (4-40) of radio as indicated in

### 4.3.5 SC4200 Enclosure Mechanical Drawing

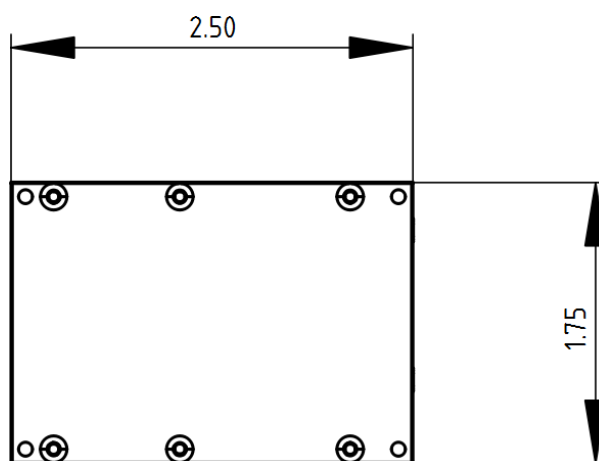


\*mounting holes utilize <https://www.mcmaster.com/96006a234> or equivalent. Hex head (5/64" drive), 2-56 thread, head diameter 9/64"; stainless steel; 3/8" length or longer

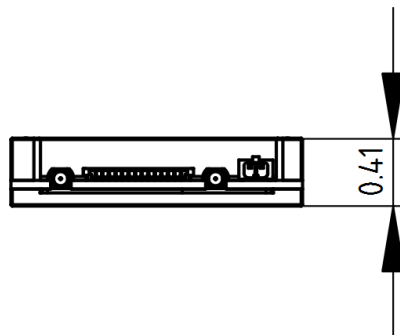
### 4.3.6 SL/LC5200 Enclosure Mechanical Drawing



**Figure 28 SL5200 OEM Top View (Dimensioned)**



**Figure 29 SL5200 OEM Bottom View (Dimensioned)**



*Figure 30 SL5200 OEM End View (Dimensioned)*

(note: For exact dimensions, please refer to STEP file)

## 4.4 SC4400E Specifications

### General

- **Waveform** Mobile Networked MIMO (MN-MIMO™)
- **Modulation** BPSK, QPSK, 16-QAM, 64-QAM
- **Channel Bandwidth** 5, 10 & 20 MHz (1.25\*, 2.5\*)
- **Encryption** DES Standard, AES/GCM 128/256 Optional (FIPS 140-2 Level 2 certified), Suite B
- **Tuning Step Size** 1kHz
- **Data Rates** Up to 100 Mbps (Adaptive)
- **Error Correction** 1/2, 2/3, 3/4, 5/6
- **Antenna Processing** Spatial Multiplexing, Space-Time Coding, TX Eigen Beamforming, RX Eigen Beamforming
- **No. of Spatial Streams** 1-2
- **No. of Antennas** 4

### Performance

- **Latency** 7ms Average (20MHz BW)
- **Sensitivity** -102 dBm @ 5MHz BW
- **Frequency Bands** Bands from 400MHz to 6GHz Available  
Dual Band Optional
- **Onboard Storage** 64 GB\*

### Frequency Band Options

| <u>Band (Freq. Code)</u> | <u>Frequency Range</u> | <u>Band (Freq. Code)</u> | <u>Frequency Range</u> |
|--------------------------|------------------------|--------------------------|------------------------|
| UHF (042)                | 400-450                | Low C Band (455)         | 4400-4700              |
| ISM 900 (091)            | 902-928                | Federal C-1 (467)        | 4400-4940              |
| L Band (137)             | 1350-1390              | High C Band (485)        | 4700-5000              |
| Upper L (181)            | 1780-1850              | 5.2GHz ISM (520)         | 5150-5250              |
| Broadcast B (206)        | 2025-2110              | 5.8GHz ISM (580)         | 5725-5875              |
| Federal S (225)          | 2200-2300              |                          |                        |
| S Band (235)             | 2200-2500              |                          |                        |
| 2.4GHz ISM (245)         | 2400-2500              |                          |                        |

(All bands listed in MHz)

Note: If band of interest is not listed, please contact a sales representative.

Footnote: (\*) in development

## 4.5 SC4200EP Specifications

### General

- **Waveform** Mobile Networked MIMO (MN-MIMO™)
- **Modulation** BPSK, QPSK, 16-QAM, 64-QAM
- **Channel Bandwidth** 5, 10 & 20 MHz (1.25\*, 2.5\*)
- **Encryption** DES Standard, AES/GCM 128/256 Optional (FIPS 140-2 Level 2 certified), Suite B
- **Tuning Step Size** 1kHz
- **Data Rates** Up to 100 Mbps (Adaptive)
- **Error Correction** 1/2, 2/3, 3/4, 5/6
- **Antenna Processing** Spatial Multiplexing, Space-Time Coding, TX Eigen Beamforming, RX Eigen Beamforming
- **No. of Spatial Streams** 1-2
- **No. of Antennas** 2

### Performance

- **Latency** 7ms Average
- **Sensitivity** -99 dBm @ 5MHz BW
- **Frequency Bands** Bands from 400MHz to 6GHz Available
- **Onboard Storage** Dual Band Optional 64 GB\*

### Frequency Band Options

| <u>Band (Freq. Code)</u> | <u>Frequency Range</u> | <u>Band (Freq. Code)</u> | <u>Frequency Range</u> |
|--------------------------|------------------------|--------------------------|------------------------|
| UHF (042)                | 400-450                | Low C Band (455)         | 4400-4700              |
| ISM 900 (091)            | 902-928                | Federal C-1 (467)        | 4400-4940              |
| L Band (137)             | 1350-1390              | High C Band (485)        | 4700-5000              |
| Upper L (181)            | 1780-1850              | 5.2GHz ISM (520)         | 5150-5250              |
| Broadcast B (206)        | 2025-2110              | 5.8GHz ISM (580)         | 5725-5875              |
| Federal S (225)          | 2200-2300              |                          |                        |
| S Band (235)             | 2200-2500              |                          |                        |



(All bands listed in MHz)

Note: If band of interest is not listed, please contact a sales representative

**Footnote: (\*) in development**

## **SC4400E/SC4200EP PTT**

### **Supported Mic Type**

Moving Coil or Condenser  
(Software Configurable)

- **Max Avg. Speaker Output Power** 2.65W with 4 Ohm Speaker Impedance
- **MIC Bias** 2.15V or 3V (Software Configurable); Applied via a 2K Ohm Resistor
- **Recommended Speaker Impedance (Handset)** 4 Ohm to 16 Ohm
- **Recommended Speaker Impedance (Headset)** 75 Ohm to 300 Ohm
- **Recommended MIC impedance** <= 1K Ohm
- **Peak Speaker Output Voltage** 5.5V
- **Absolute MIC Input Voltage** 3.3V

## 4.6 SL4200 Specifications

### General

- **Waveform** Mobile Networked MIMO (MN-MIMO™)
- **Modulation** BPSK, QPSK, 16-QAM, 64-QAM
- **Channel Bandwidth** 1.25, 2.5 or 5 MHz
- **Encryption** DES Standard, AES/GCM 128/256 Optional (FIPS 140-2)
- **Tuning Step Size** 1kHz
- **Data Rates** Up to 20 Mbps (Adaptive)
- **Error Correction** 1/2, 2/3, 3/4, 5/6
- **Antenna Processing** Spatial Multiplexing, Space-Time Coding,  
TX Eigen Beamforming, RX Eigen Beamforming
- **No. of Spatial Streams** 1-2
- **No. of Antennas** 2

### Performance

- **Latency** 28ms Average (5MHz BW)
- **Sensitivity** -104 dBm @ 1.25MHz BW
- **Frequency Bands** 2.2 - 2.5 GHz  
4.4-4.94 GHz  
(additional bands in development)

## 4.7 SC4400 Specifications

### General

- **Waveform** Mobile Networked MIMO (MN-MIMO™)
- **Modulation** BPSK, QPSK, 16-QAM, 64-QAM
- **Channel Bandwidth** 5, 10 & 20 MHz (1.25\*, 2.5\*)
- **Encryption** DES Standard, AES/GCM 128/256 Optional (FIPS 140-2 Level 2 certified), Suite B
- **Tuning Step Size** 1kHz
- **Data Rates** Up to 100 Mbps (Adaptive)
- **Error Correction** 1/2, 2/3, 3/4, 5/6
- **Antenna Processing** Spatial Multiplexing, Space-Time Coding, TX Eigen Beamforming, RX Eigen Beamforming
- **No. of Spatial Streams** 1-2
- **No. of Antennas** 4

### Performance

- **Latency** 7ms Average (20MHz BW)
- **Sensitivity** -102 dBm @ 5MHz BW
- **Frequency Bands** Bands from 400MHz to 6GHz Available  
Dual Band Optional
- **Onboard Storage** 64 GB\*

### Frequency Band Options

| <u>Band (Freq. Code)</u> | <u>Frequency Range</u> | <u>Band (Freq. Code)</u> | <u>Frequency Range</u> |
|--------------------------|------------------------|--------------------------|------------------------|
| UHF (042)                | 400-450                | Low C Band (455)         | 4400-4700              |
| ISM 900 (091)            | 902-928                | Federal C-1 (467)        | 4400-4940              |
| L Band (137)             | 1350-1390              | Federal C-2 (469)*       | 4400-4990              |
| Upper L (181)            | 1780-1850              | High C Band (485)        | 4700-5000              |
| Broadcast B (206)        | 2025-2110              | 5.2GHz ISM (520)         | 5150-5250              |
| Federal S (225)          | 2200-2300              | 5.8GHz ISM (580)         | 5725-5875              |
| S Band (235)             | 2200-2500              |                          |                        |
| 2.4GHz ISM (245)         | 2400-2500              |                          |                        |

(All bands listed in MHz)

Note: If band of interest is not listed, please contact a sales representative

Footnote: (\*) in development

## 4.8 SC4200 Specifications

### General

- **Waveform** Mobile Networked MIMO (MN-MIMO™)
- **Modulation** BPSK, QPSK, 16-QAM, 64-QAM
- **Channel Bandwidth** 5, 10 & 20 MHz (1.25\*, 2.5\*)
- **Encryption** DES Standard, AES/GCM 128/256 Optional (FIPS 140-2 Level 2 certified), Suite B
- **Tuning Step Size** 1KHz
- **Data Rates** Up to 100 Mbps (Adaptive)
- **Error Correction** 1/2, 2/3, 3/4, 5/6
- **Antenna Processing** Spatial Multiplexing, Space-Time Coding, TX Eigen Beamforming, RX Eigen Beamforming
- **No. of Spatial Streams** 1-2
- **No. of Antennas** 2

### Performance

- **Latency** 7ms Average
- **Sensitivity** -99 dBm @ 5MHz BW
- **Frequency Bands** Bands from 400MHz to 6GHz Available
- **Onboard Storage** Dual Band Optional 64 GB\*

### Frequency Band Options

| <u>Band (Freq. Code)</u> | <u>Frequency Range</u> | <u>Band (Freq. Code)</u> | <u>Frequency Range</u> |
|--------------------------|------------------------|--------------------------|------------------------|
| UHF (042)                | 400-450                | Low C Band (455)         | 4400-4700              |
| ISM 900 (091)            | 902-928                | Federal C-1 (467)        | 4400-4940              |
| L Band (137)             | 1350-1390              | Federal C-2 (469)*       | 4400-4990              |
| Upper L (181)            | 1780-1850              | High C Band (485)        | 4700-5000              |
| Broadcast B (206)        | 2025-2110              | 5.2GHz ISM (520)         | 5150-5250              |
| Federal S (225)          | 2200-2300              | 5.8GHz ISM (580)         | 5725-5875              |
| S Band (235)             | 2200-2500              |                          |                        |
| 2.4GHz ISM (245)         | 2400-2500              |                          |                        |

(All bands listed in MHz)

Note: If band of interest is not listed, please contact a sales representative

Footnote: (\*) in development

## SC4400/SC4200 PTT

### Supported Mic Type

Moving Coil or Condenser  
(Software Configurable)

- **Max Avg. Speaker Output Power** 2.65W with 4 Ohm Speaker Impedance
- **MIC Bias** 2.15V or 3V (Software Configurable); Applied via a 2K Ohm Resistor
- **Recommended Speaker Impedance (Handset)** 4 Ohm to 16 Ohm
- **Recommended Speaker Impedance (Headset)** 75 Ohm to 300 Ohm
- **Recommended MIC impedance** <= 1K Ohm
- **Peak Speaker Output Voltage** 5.5V
- **Absolute MIC Input Voltage** 3.3V

## 4.9 SL/LC5200 Specifications

### General

- **Waveform** Mobile Networked MIMO (MN-MIMO™)
- **Modulation** BPSK, QPSK, 16-QAM, 64-QAM
- **Channel Bandwidth** 5, 10 & 20 MHz (1.25\*, 2.5\*)
- **Encryption** DES Standard, AES/GCM 128/256 Optional (FIPS 140-2 Level 2 certified), Suite B

- **Tuning Step Size** 1KHz
- **Data Rates** Up to 100 Mbps (Adaptive)
- **Error Correction** 1/2, 2/3, 3/4, 5/6
- **Antenna Processing** Spatial Multiplexing, Space-Time Coding,  
TX Eigen Beamforming, RX Eigen Beamforming
- **No. of Spatial Streams** 1-2
- **No. of Antennas** 2

## Performance

- **Latency** 7ms Average
- **Sensitivity** -101 dBm @ 5MHz BW
- **Frequency Bands** Bands from 400MHz to 6GHz Available  
Dual Band Optional

## Frequency Band Options

| <u>Band (Freq. Code)</u> | <u>Frequency Range</u> | <u>Band (Freq. Code)</u> | <u>Frequency Range</u> |
|--------------------------|------------------------|--------------------------|------------------------|
| L Band (139)             | 1350-1440              |                          |                        |
| S Band (235)             | 2200-2500              |                          |                        |

---

(All bands listed in MHz)

Note: If band of interest is not listed, please contact a sales representative

**Footnote: (\*) in development**

## **SC4400/SC4200 PTT**

### **Supported Mic Type**

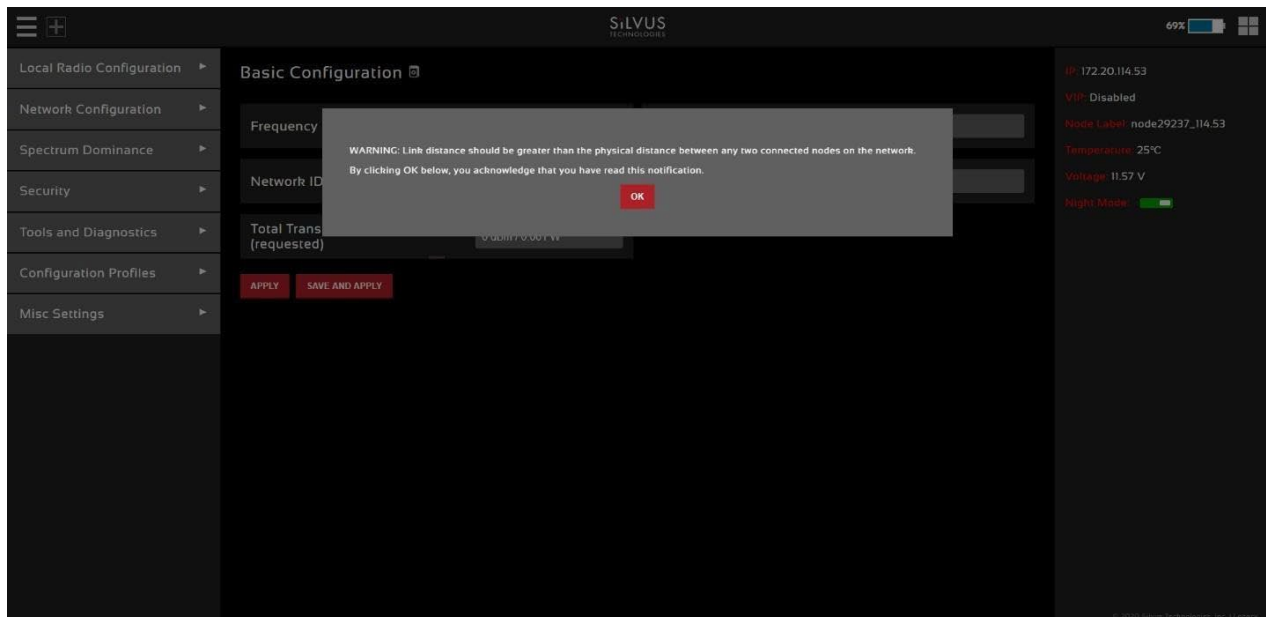
Moving Coil or Condenser  
(Software Configurable)

- **Max Avg. Speaker Output Power** 2.65W with 4 Ohm Speaker Impedance
- **MIC Bias** 2.15V or 3V (Software Configurable); Applied via a 2K Ohm Resistor
- **Recommended Speaker Impedance (Handset)** 4 Ohm to 16 Ohm
- **Recommended Speaker Impedance (Headset)** 75 Ohm to 300 Ohm
- **Recommended MIC impedance** <= 1K Ohm
- **Peak Speaker Output Voltage** 5.5V
- **Absolute MIC Input Voltage** 3.3V

## 5. Web Interface

### 5.1 Getting Started

Connect a laptop to the StreamCaster radio using the supplied Ethernet cable and turn on the radio. Users can type “ping <IP address>” in order to determine whether the radio is fully booted. A web configuration will then be available by typing the radio IP address in a web browser. Please ensure that your laptop is on the same subnet as the radio (172.20.xx.xx by default). Users will initially see the link distance warning, then be directed to the Local Radio Configuration page. (See **Figure 27 Initial boot up warning**) You will be able to navigate to various configuration pages from the drop-down menu on the left-hand side. On the right, you can open additional details about the radio by selecting the four squares icon on the top right of the screen. After selecting, you will see details such as local radio IP, VIP, Node Label, temperature, voltage, and an option to use night mode or not. Night mode will have a dark background and below screen shots are an example of the GUI in night mode. Throughout the user interface, if there is a red bar below the parameter you will be able to click on it for either additional notes about the parameter or see additional options.



Upon first boot up and login to the GUI, you will see a warning message. This message is meant to emphasize the importance of having the correct link distance setting.

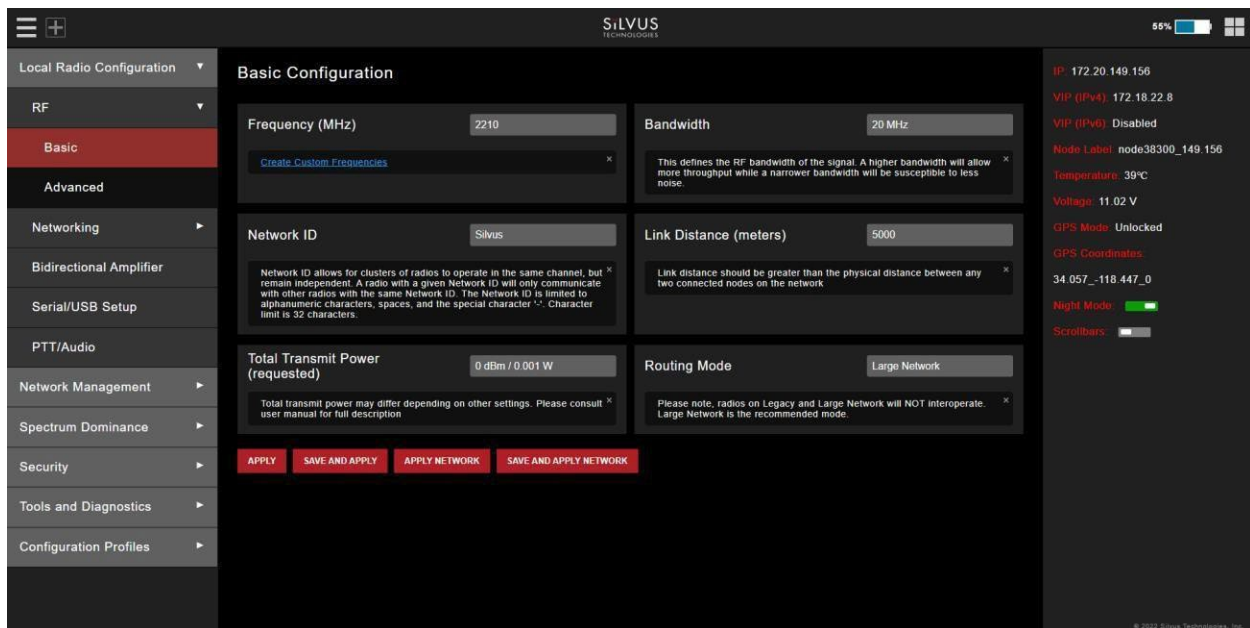
### 5.2 Local Radio Configuration

The first group of configurations on the left side of the GUI is the Local Radio Configurations. This group

of parameters can help adjust your network to perform better in various environments, conditions, and applications. You will be able to adjust the radio's RF characteristics, networking parameters, BDA configurations, serial/USB configurations, and PTT settings.

## 5.2.1 RF

The RF section of the Local Radio Configurations will let you adjust some Basic configurations as well as some Advanced parameters. These configurations will optimize the link performance in different types of deployments. To get radios to link and form a mesh network the center frequency, bandwidth, network ID, and Link Distance parameters in the Basic configuration page need to all match. To optimize the network's performance, you can make some adjustments to the MAC settings under the Advanced section.



This page is used to set basic configurations. A brief description of each parameter is given below.

- Frequency:** This defines the frequency of the signal. There is a drop-down menu for frequency selection. The frequency choices will vary depending on the StreamCaster model(s) you are using. In the additional information section of the frequency section (click on the red bar directly below), you can select a link that will take you to create custom frequencies. Please see Section 8 Custom Frequency Plan for “Create Custom Frequencies” access and installation instructions.
- Bandwidth:** This defines the RF bandwidth of the signal. A higher bandwidth will allow more throughput while a narrower bandwidth will be susceptible to less noise.