S999 TECHNICAL FEATURES

RECEIVER

Satellite signals tracked	GPS: L1 C/A, L2P, L2C, L5
	GLONASS: L1, L2, L3
	BEIDOU: B1I, B2I, B3I, B1C, B2a, B2b
	GALILEO: E1, E5a, E5b, E6
	QZSS: L1, L2, L5, L6
	IRNSS: L5
	SBAS
PPP	B2b PPP, HAS
Channels	1408
Position Rate	Up to 50Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization	< 5 seconds
Hot Start	Typically < 15 s
Initialization Reliability	> 99.9 %
Internal Memory	32 GB
Tilt Sensor	IMU ±60°

POSITIONING[1]

HIGH PRECISION STATIC SURVEYING	
Horizontal	2.5 mm + 0.1 ppm RMS
Vertical	3.5 mm + 0.4 ppm RMS
REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK[2]	
Fixed RTK Horizontal	8 mm + 1 ppm RMS
Fixed RTK Vertical	15 mm + 1 ppm RMS
PPP Accuracy	< 20 cm RMS
SBAS Accuracy[3]	< 60 cm RMS

INTEGRATED GNSS ANTENNA

High accuracy multi-constellation antenna, zero phase center, with internal multipath suppressive board

INTERNAL RADIO (optional)[4]

Type	Tx – Rx 1W
Frequency Range	410 - 470 MHz
	902.4 – 928 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range[5]	3-4 Km in urban environment
	Up to 10 Km with optimal conditions

INTERNAL MODEM

Band	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/ B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 UMTS: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8 Nano SIM card

BELOW CAMERA

Resolution	2 MP
Image frame rate	30 frame/s
Field of view	72°

FRONTAL CAMERA

Resolution	2 MP
Image frame rate	5 frame/s
Video frame rate	30 frame/s
Field of view	75°

COMMUNICATION

I/O Connectors	Type-C for charging and data transfer
Bluetooth	2.1 + EDR, V5.0
Wi-Fi	802.11 a/ac/b/g/n
Web UI	To upgrade the software, manage the status and settings, and download data. Smartphone, tablet, or other electronic device with Wi-Fi capability can be used.
Reference outputs	RTCM 3.x
Navigation outputs	NMEA 0183

POWER SUPPLY

Battery	Built-in battery, 3.6V, 13.6Ah, 48.96Wh, support for PD fast charge
Power	12V DC
Working Time	Up to 10 hours
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	Ø 139 mm x 74 mm
Weight	1065 g
Operating Temperature	-40°C to 65°C (-40°F to 149°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Waterproof/Dustproof	IP68
Shock Resistance	Designed to endure to a 2 m pole drop on hardwood floor with no damage
Humidity	100% non-condensing

Illustrations, descriptions and technical specifications are not binding and may change

1. Accuracy and reliability are generally subject to satellite geometry (PDOP), multipath, atmospheric conditions, and obstructions. In static mode, they are also subject to occupation times: the longer the baseline, the longer the occupation time must be.
2. Network RTK precision depends on the network's performance and is referenced to the closest physical base station.
3. Depends on SBAS system performance.
4. Optional, can be activated via activation code.
5. Varies with the operating environment and with electromagnetic pollution.

STONEX AUTHORIZED DEALER

STONEX®
Viale dell'Industria 53 - 20037 Paderno Dugnano (MI) - Italy
Phone +39 02 78619201
www.stonex.it | info@stonex.it

STONEX

S999 GNSS Receiver

Dual Camera
GNSS Receiver

S999

cube suite

S999 Dual Cameras

S999, equipped with 1408 multi-constellation channels, guarantees precise and reliable positioning by supporting all GNSS signals, including GPS, GLONASS, Galileo, QZSS, IRNSS, and BeiDou.

It features an integrated 4G modem and a 1-Watt UHF radio operating in the 410-470 MHz and 902.4-928 MHz frequency ranges, ensuring constant connectivity and an extended working range. The advanced IMU technology enables tilted measurements of up to 60° with rapid initialization, enhancing field productivity by as much as 40%.

The S999 receiver is also equipped with two cameras: one for stakeout and one for photogrammetric applications, expanding the system's usage possibilities.

MULTIPLE CONSTELLATIONS
S999 can track and utilize signals from multiple satellite constellations, such as GPS, GLONASS, Galileo, QZSS, IRNSS, and BeiDou.

IMU TECHNOLOGY
The integrated IMU allows the receiver to automatically compensate for pole tilt up to 60 degrees, boosting surveying speed and efficiency.

CAMERAS
S999 receiver is equipped with two cameras: one for stakeout and one for photogrammetric applications.

DOUBLE FREQUENCY RADIO
S999 GNSS receiver has integrated UHF double frequency radio, 410-470MHz and 902.4-928MHz.

RUGGED RTK GNSS WITH IP68
S999 is a durable and IP68 waterproof high-precision positioning solution designed for challenging outdoor environments.

# Change the way you **Measure**!

VISUAL STAKE OUT
The front camera simplifies point staking by clearly showing the surrounding area, helping you accurately identify the point of interest. As you get closer, it automatically switches to the lower camera for precise framing, ensuring reliable measurements. Cube-a's interface uses visual aids to guide surveyors to the exact staking location. A graphical display indicates both the direction and distance to the point, adjusting as the operator approaches.

MEASURING INACCESSIBLE POINTS
The system allows you to record a video of the area you want to measure. The program extracts several photos that the operator can use toalign the points to be measured. Cube-a then immediately provides the calculated coordinates, which can be easily recorded. Measurements can be taken offline as well.
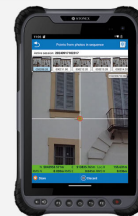
ONLINE POINT CLOUD AND MESH
The acquired video of an area can be exported and uploaded to photogrammetry software (Cube-3D) to generate a three-dimensional model (point cloud and mesh). Alternatively, it can be sent directly from Cube-a to the Stonex VScloud for semi-real-time data processing, resulting in a 3D model (point cloud and mesh). The survey can then be visualized and managed directly on the Android controller within Cube-a (v. 7).