SCG**22**
SERIES
MOBILE RADIO

SIZE AND WEIGHT

TRANSCEIVER
Standard option:
938g
179mm x 50mm x 116mm

TETRA FREQUENCY BANDS

136 - 174 MHz - SCG2221
380 - 470 MHz - SCG2229

POWER SUPPLY

12V DC rated 90W
Range 10.8 to 15.6V DC

RF PERFORMANCE

10 watt RF power output (Class 2)
RF power adjustable in steps of 5dB, independently adjustable for TMO & DMO operations
Adaptive power control supported
Receiver static sensitivity -115dBm (-118dBm typical)
Receiver dynamic sensitivity -107dBm (-109.5dBm typical)
Receiver class A & B

AUDIO

Rated audio output - 8 W @1kHz into 4 Ohms
Fixed level line-out audio option enabling broadcast & recording support
2x1W of additional audio drive via speaker mics or handsets attached to up to two SCC front-mounted accessory ports[1]
Line-in audio for third-party console interface support
Five independent volume controls for loudspeaker & audio accessories [2, 3]
Up to three audio accessories per console

ENVIRONMENTAL

Dust & water protection to IEC60529 IP54
ETS 300 019 -2-5 drop, vibration & humidity
Operational temperature (min./max.) -30°C to +70°C[4]
Operational temperature (conformance tested) -20°C to +55°C
Storage temperature -40°C to +85°C[4]
IP67 SCC3 console option
IP67 HCU handlebar control unit option

PRODUCT OPTIONS

GNSS 4 support (GPS, BeiDou2, Glonass, Galileo) from SC2.0
Bluetooth/Wi-Fi broadband module
Micro SDHC card 32GB
DMO repeater type 1A (licence enabled)
DMO gateway (licence enabled)
Air Interface encryption options[5]
End-to-end encryption options[5]
Wide range of languages supported including Cyrillic, Chinese, Korean & Arabic
Coloured bezels on SCC3
Local & remote smart card support
Line in/out audio support (licence enabled)
Extensive console support: SCC3, HBC3, AIU.
Specialist solutions include HCU handlebar control unit & marine consoles, embedded car console.

FEATURE LICENSES

DMO-Repeater
DMO-Gateway
Virtual Console
Audio Line In & Line Out
Soft Key Function via PEI
Callout
Picture Message Push
Premium Application Pack (SDA)
Profile by Talkgroup
Network Selection by Talkgroup
DMO/TMO Selection by Talkgroup
Reset to Default Status
Extended Preferred & Fixed LA list
Dynamic Home Screen
Set DMO Power from MMI
Air Interface Migration
End-to-End Encryption
Security Class 3G
Lone Worker
Packet Data
WAP
AT Commands
Status Triggered Function

Sepura Public Protocol (SPP)
Performance Monitoring
Position Report Buffer

VOICE SERVICES

Full-duplex calls (to MS & PABX/PSTN)
Half-duplex calls (individual & group)
Priority call
Emergency call (pre-emptive priority)
Intelligent alarm reporting
Talking party identity
Calling line identity presentation
DTMF dialling
MSISDN dialling
Abbreviated dialling
Dynamic group number assignment
Background (hidden) groups
Ambience listening
Privacy mode
Whisper mode
Group focus
DMO individual call
DMO group call
DMO emergency call
DMO intelligent emergency call
Independent volume control
Gateway pairing

DATA SERVICES

Status messaging (in TMO & DMO)
SDS messaging (in TMO & DMO)
SDS store & forward
SDS via DMO gateway
Auto-capitalisation on SDS text entry
Concatenated SDS messaging
Multi-slot packet data
Circuit mode data
TETRA paging & call out
WAP browsing
WAP shortcuts in SDS
WAP support:
• WAP 2.0
• WAP browsing via TETRA
• WAP shortcuts embedded in SDS for instant data access
WAP onboard:
• Micro SDHC-based WAP sites for instant access to intelligence, images, maps & text
• Data maintained by Radio Manager2
Bluetooth module:
• Bluetooth v2.1+EDR
• Bluetooth v4.2
Bluetooth audio:
• Headset profile (HSP)
• PTT extension to HSP support
Bluetooth data services:
• Serial Port Profile (SPP) for data connectivity

sepura

Going further in critical communications

- Dial-up networking (DUN)
- Discovery mode
- Generic attributes profile (GATT)
- Hardware-ready for:
––Object push profile
––Heart device (heart rate & temperature)
––Battery service profile
––Devices identity profile
––Message Access profile
––Human Interface Device (HID) profile
––HID over GATT profile
Bluetooth trusted device, auto re-connect
Battery status advised immediately on start-up
Short data applications (SDAs)
Lone Worker feature
Missed event application
30 quick status messages

AppSPACE

Allows use of secure apps on your radio
Apps increase operational safety and productivity whilst reducing costs
Apps can be customised to suit your workflows
Controlled deployment by your fleet manager

GNSS LOCATION-BASED SERVICES (OPTIONAL)[6]

GPS -194dBw (-164dBm) tracking sensitivity
Over-The-Air GPS reporting:
- ETSI location standard reporting (LIP)
- NMEA & Sepura compact messaging
Max. simultaneous satellite track = 24
Integral antenna plus active external antenna input option for use in sky obscured vehicles
GPS-based compass
On-board mapping capable
Enhanced start-up & acquire through 'predictive ephemeris'
- Glonass and BeiDou2 support[6]
34-channel concurrent GPS/GLONASS receiver
SBAS differential GPS support
-191dBW (-161dBm) acquisition sensitivity
-191dBW (-161dBm) tracking sensitivity
Over-The-Air GPS reporting using the following protocols:
– ETSI location standard reporting (LIP)
– NMEA & Sepura compact messaging
Active anti-jamming of Continuous Wave (CW) jammers
Multipath mitigation

SECURITY SERVICES

Authentication: mutual and SwMI initiated
TMO & DMO Air Interface encryption support: TEA1, TEA2, TEA3 & TEA4[5]
Trunked mode class 1, 2, 3 & 3G TETRA security
Direct mode DM-2C support
PIN & PUK entry temporary enable and disable
Fully integrated E2E hardware with tamper protection
Public & private algorithm E2E support enabled via software upgrade[5]
Integral SIM connector for smart card-based E2EE options[5]
Optional remote smart card reader
Dual E2EE algorithm support with dynamic switching of active algorithm[5]
Software authenticity & protection employing digital signature

GATEWAY SERVICES (LICENCE REQUIRED)

Group voice call between DMO & TMO
Individual voice calls between DMO &TMO
Emergency group call from DMO to TMO & TMO to DMO
Pre-emption (in either direction) of existing call
SDS messaging in either direction
Configurable routing of SDS messages to console or PEI intelligent handling of point to point calls & SDS messages whilst operating as a gateway

REPEATER SERVICES (LICENCE REQUIRED)

DMO voice repeated
DMO tone signalling repeated
Group status & SDS repeated
Type 1A efficient operation over one RF channel
Presence signal support
Emergency call
Monitoring & participation in calls

CONNECTIVITY

TETRA voice & data
Bluetooth support for voice & data
Wi-Fi support
PEI data via RS232, or USB data cables direct to radio or via SCC3
Accessory connections via consoles and AIU
SASI high speed interface for feature-rich audio accessories

Digital I/O lines expandable via AIU or expand by second board in main unit
Line level audio connection
Remote control via status-triggered functions
Ethernet [1] (hardware ready)

PROGRAMMING CAPABILITY

Micro SDHC contents manageable via Radio Manager 2
On-screen programming progress bar
High-speed programming via USB slave cable
Background 'over the air' programming via Wi-Fi Radio Manager 2 compatible

1- Factory fit option
2 - Further information available on request
3 - Accessories connected at the rear of a console use the same volume level
4 - Operating at temperature extremes may limit some aspects of operational performance
5 - Functionality is subject to an export license
6 - GNSS any 2 of 4

sepura

Going further in critical communications