IS440.X

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IS440.1 – ATEX CERTIFIED COMMUNICATOR

- 5G Atex certified communication device in RSM design (small, very compact housing for an Atex 5G broadband device).

- PTT communication without limits → all devices (worldwide) with the respective PTT application can communicate with each other (group communication).

- The IS440 serves the current need for broadband communication devices for migration (substitution) from DMR/TETRA to broadband-based standard devices.

- Great savings potential in the area of maintenance → Substitution of the DMR/Tetra systems. The 4G/5G infrastructure, which already exists or is being further expanded as part of Industry 4.0, can be used. Advantages for the user: low maintenance costs, high reliability…

- Additional options compared to classic Tetra/DMR devices → 2.4" display, video (surveillance + conference), third-party APKs possible: e.g. Lone Worker Protection, localization.

- Integration into MDM infrastructure possible (legacy client).

- Target group: System providers of PTT communication solutions. All major PTT vendors supported like Motorola (**Wave**), **Nokia**, **TASSTA**, Airbus (**Agent**) , Mobile Tornado (**Instant Talk**) etc.).

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IS440.1 – ATEX CERTIFIED MOBILE 5G HOTSPOT

- With a special software extension and a more powerful battery, the IS440.1 becomes a powerful Atex 5G hotspot that brings WiFi-based devices such as the HMT into the 5G network.

- Up to 32 WiFi-based devices can be connected to the IS440.1 at the same time and connected to the Internet based on 5G.

- "White lists" can be created for authorized devices.

- Advanced DHCP/DNS management.

- Web interface for external administration (this is not standard on an Android based device).

- Battery life time in hotspot operation > 8h

- Target group: Anyone who wants to bring a WiFi-based device into the 5G network in the Atex area.

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IS440.1 – COMMUNICATOR – 1ST ATEX 5G PTTOC (MCPTT) DEVICE

- Explosion-proof communication device
- Use of existing digital networks (4G & 5G)
- Substitution of DMR and TETRA devices
- Dedicated device for PoC and lone-worker-protection
- Additional functionality (more than DMR/TETRA)
  - Android OS (AOSP) no GMS!
  - Camera for video call and surveillance
  - Sensors for LWP capability + tracking
  - SOS button
  - 2,4" display
  - Hotspot capability (WiFi/Bluetooth ←→ 4G/5G

→ **No GMS → no Zero Touch → only MDM legacy clients possible!**

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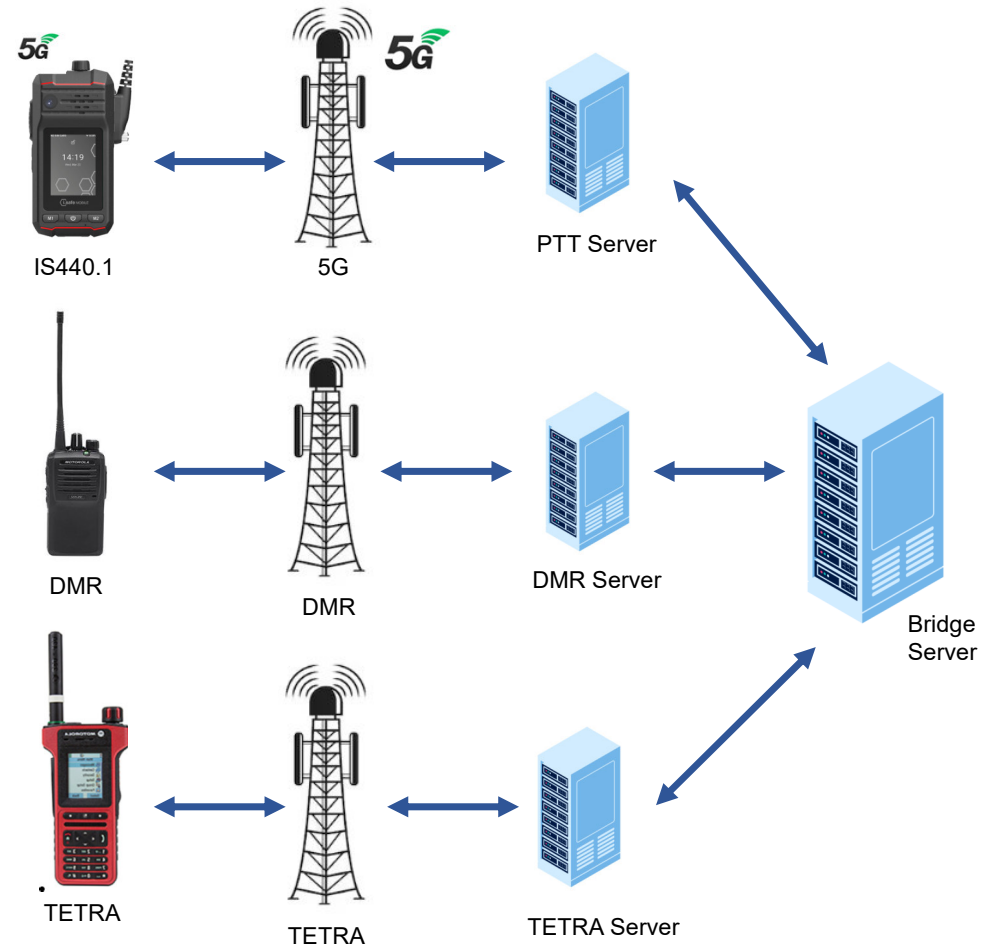# IS440.1 – ID

SOS button

8MP camera

PTT-Button

Clip for MOLLE System

Vol. +/-

2.4" touch display

USB-C

Speaker > 105dB

Audio Interface for Headset

Channel button

Changeable Battery

I/O + function buttons

Charging contacts

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As long as the substitution is not yet complete, the various systems can communicate with each other via a central conversion server.

IS440.1 — 5G — PTT Server

DMR — DMR — DMR Server

TETRA — TETRA — TETRA Server

Bridge Server

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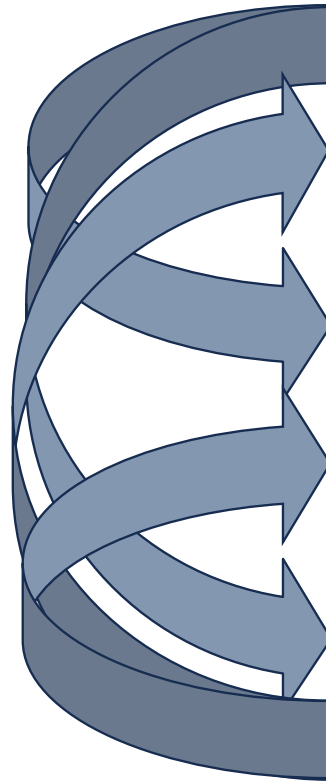
IS440.1 – COMMUNICATOR – PTT WORLDWIDE

Everywhere but not on the moon

→ **Limitless communication with PTT (group calls, video calls etc.)**

→ **No extra infrastructure and maintenance expenses**

IS440.1

5G

5G

IS440.1

5G

PTT Server

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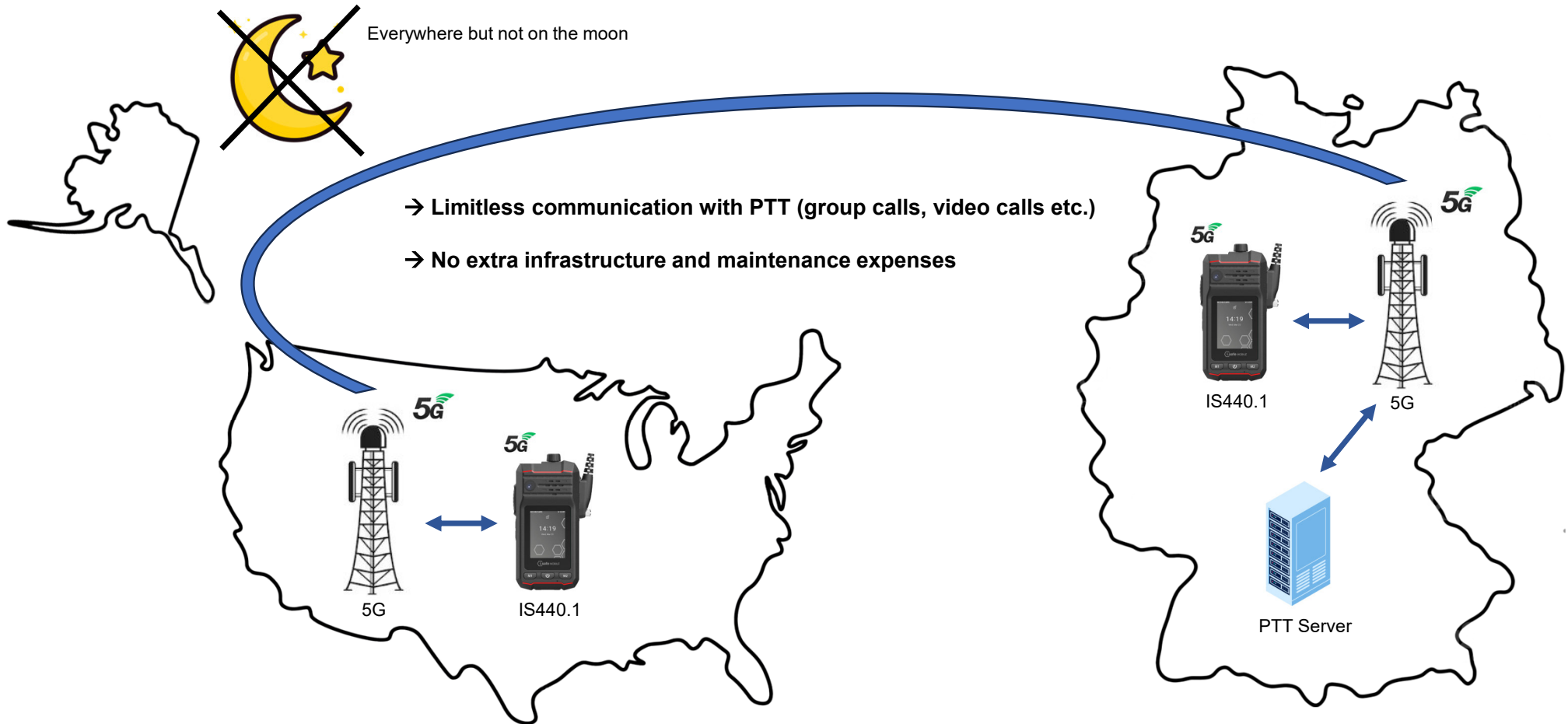
IS440.1 – TECHNICAL SPECIFICATION

Operating system	ISM-OS	
Processor	Qualcomm QCM6490	
Memory	4 GB RAM	
	64 GB internal memory	
Frequency bands	4G - FDD	1 / 2 / 3 / 4 / 5 / 7 / 8 / 12 / 13 / 14 / 17 / 20 / 25 / 26 / 28 / 29 / 30 / 66 / 68
	4G - TDD	38 / 39 / 40 / 41 / 42 / 43 / 48
	5G	n1 / n2 / n3 / n5 / n7 / n8 / n12 / n20 / n25 / n28 / n38 / n40 / n41 / n48 / n66 / n77 / n78 / n79
SIM-card	Nano SIM & eSIM	
MCPTT	3GPP-Rel. 15 | QCI: 1-9 / 65 / 66 / 69 / 70	
Dimension | weight	137 x 67 x 30 -34 mm | ~ 322 g	
Display	2,4 inch | 240 x 320 px | FHD | Gorilla Glass® (3rd generation)	
Battery	2.400 mAh | 4.800 replaceable	
Camera	8 MP front camera	
Wi-Fi	6 GHz: IEEE 802.11 a / b / g / n / ac / ax / e / k / r / v	
Bluetooth	Version: 5.2	
NFC	Supported	
Location	GPS | A-GPS | Galileo | Glonass | Beidou	
Sensors	Magnetic | Accelerometer | Gyroscope | Barometer	
Interface	8-pin ISM-Interface | USB-C 3.1	
Types of protection	IP68 | MIL-STD-810H | usable from -20° C to +55° C	
Set content	IS440.1x | Battery | Power Adapter universal | USB-C cable | Screwdriver | Display Protection Foil | Quick Start Manual & Safety Instructions	

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IS440.1 – EX APPROVALS

Approval	IS440.1	IS540.M1	IS540.2
ATEX	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T135°C Db		
UKEX	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T135°C Db		
IECEx	Ex ib IIC T4 Gb Ex ib IIIC T135°C Db		
NEC500	Class I Div. 1 Groups A, B, C, D, T4 Class II Div. 1 Groups E, F, G, T4 Class III Div. 1 T4		
EAC			
KCs			
INMETRO			
PCEC			
JNIOSH			
SANS			
ANZEx			

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IS440.1 – „HOTSPOT BUNDLE"

IS440 Hotspot Bundle

IS440   +   Large battery   +   Extended Hotspot Software + Web interface
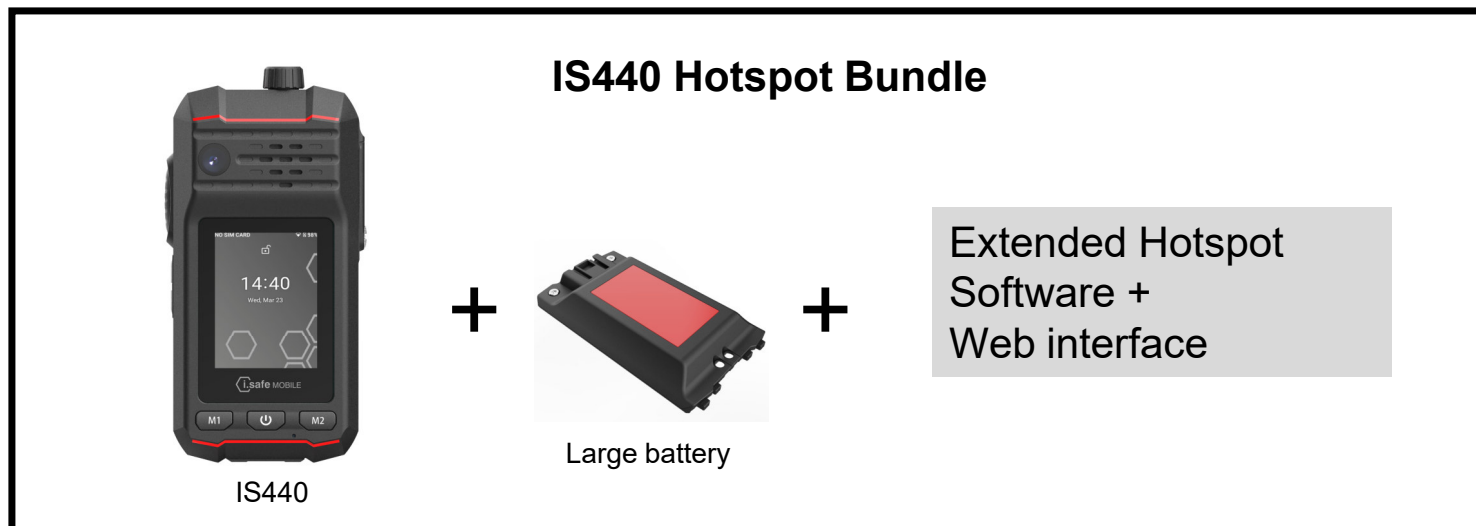
IS440.1 – „HOTSPOT BUNDLE"

Additional Hotspot Features:

- Connected devices: 32

- Turn off time setting possible

- DHCP&DNS:
    - first/last IP address can be set
    - max. number of clients can be set
    - lease time can be set

- IPv6 (IPv4 standard)

- White list for authorized devices

- User interface + Web interface for external configuration

- Battery 4.800 mAh > 8h running time

Use Case: n Hotspots – n Wireless Device

200m
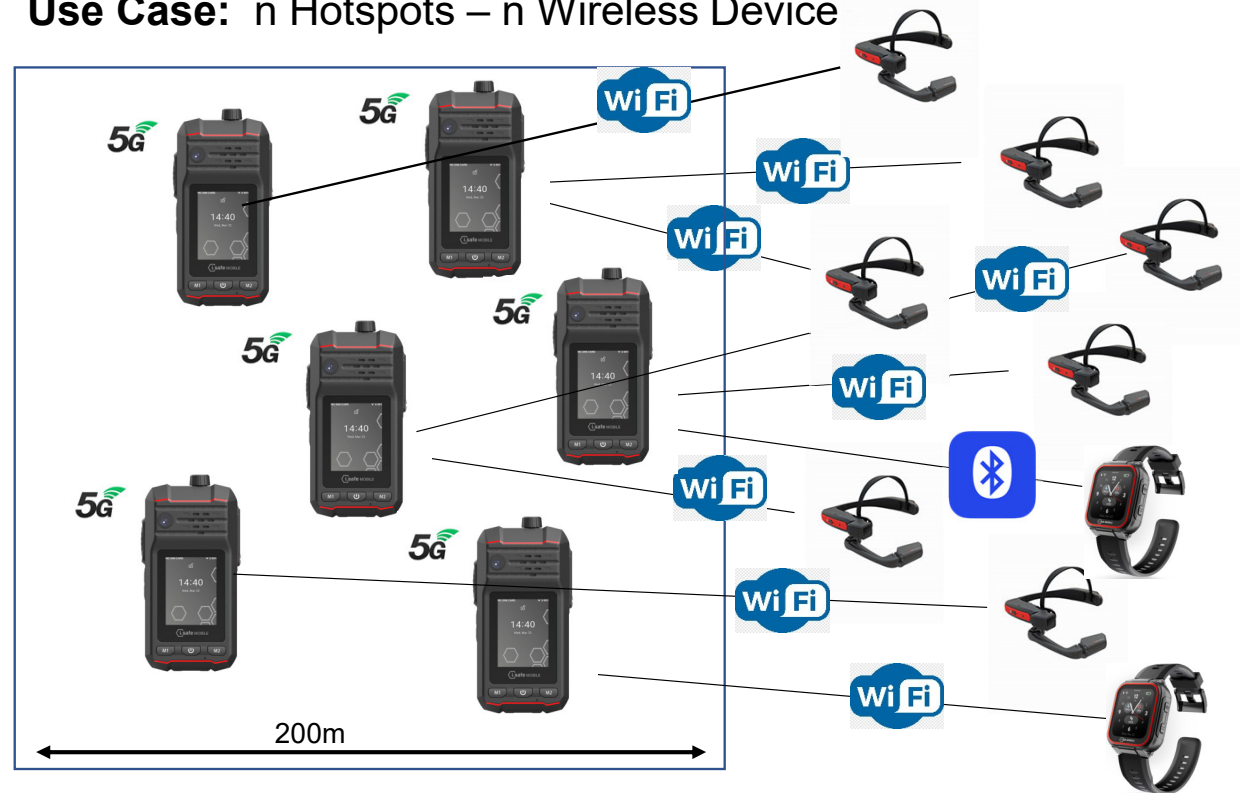
All authorized devices (UEs) have access to the distributed Mobile Routers in the area and select always the best WiFi connectivity

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IS440.1 & IS-SW1.1 THE PERFECT LWP BUNDLE

Back Office / Control Room

- Process visualisation
- Working instructions
- Machine Data
- Worker´s Vital Data
- Worker´s Position
- Message/Alert Generator
- Emergency call centre

4G / 5G / Wi-Fi

Possible 3rd party accessories

Gas-Detector

Radiation-Detector

Smartwatch

- Display Messages
- Alerts (disp+vibration)
- Dynamic Access Control
- Machine Data (display)
- Working instructions
- Remote SOS (button)
- Machine Tag Information
- Worker´s Vital Data

Wi-Fi
(stand-alone)

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IS440.1 & IS-SW1.1 THE PERFECT LWP BUNDLE

5G

4G / 5G / Wi-Fi

NFC

Reading
NFC-TAGs

Based on
13,56 MHz (HF)

MIFARE Plus
emulation

API

API & ADDITIONS

The IS-SW1.1 uses Android SDK Level 27
(based on Android 8.1) and the standard i.safe
framework we use in all our devices

SOS-intent
android.intent.action.SOS.up
android.intent.action.SOS.down

SENSORS
SpO²: AOSP's Sensor.TYPE_LIGHT

Pulse: AOSP Sensor.TYPE_HEART_RATE

Step: AOSP Sensor.TYPE_STEP_COUNTER

A complete guide on how to use the sensors can be found here:
https://developer.android.com/reference/android/hardware/Sensor

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