

# Transportable Monitoring



LS OBSERVER

Transportable Monitoring Unit



# Great Flexibility with the LS OBSERVER TMU (Transportable Monitoring Unit)

The Transportable Monitoring Unit (TMU) is highly flexible in its use and easily transportable everywhere you need it for short-term, temporary and long-term measurements.

It has the same measurement functionality as the Fixed Monitoring Unit (FMU) and can also be used as such; for permanent measurements on roof tops for instance. Everything from the fixed monitoring unit (FMU) to GPS receiver, GSM router, safety switch and batteries are pre-installed in a consolidated rack which makes the TMU deployable within seconds.

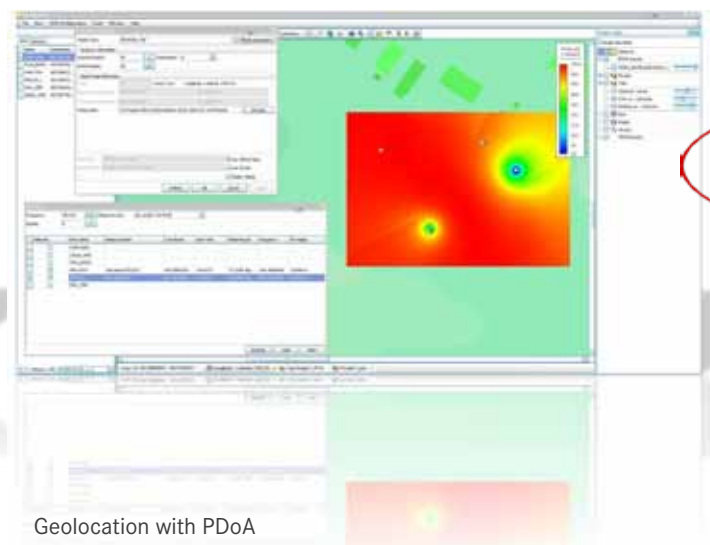
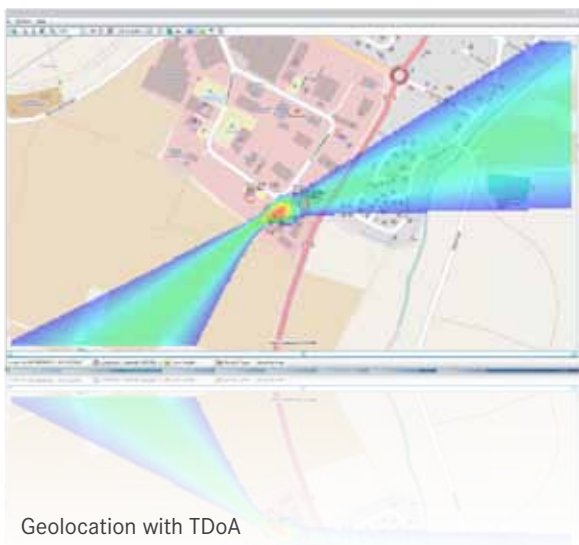
The rack is very robust and has comfortable handles for transport. The unit is connected to a direct current (DC) or alternating current (AC) Power Supply Unit and can also supply power for a laptop. Batteries allow standalone measurement for up to 4 hours.

In addition, the TMU can be used for mobile applications in vehicles.

Antennas for wideband monitoring and a global positioning system (GPS) are pre-installed in a unit with a magnetic base for easy set-up on a car roof, directly on the TMU (see picture) or on a mast.

## Use LS OBSERVER for the following Measurement Applications

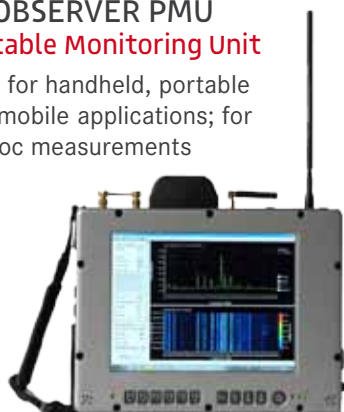
- Continuous monitoring
- Network coverage measurements
- Geolocation to locate illegal or interfering transmitters
- Radio surveillance for events, VIP or border control
- Control of critical communications networks
- Detection of white spaces
- Tunnel measurements
- Near reconnaissance
- EMF measurements



A family of 6 different types of Remote Monitoring Units (RMU) is available with LS OBSERVER de

### LS OBSERVER PMU Portable Monitoring Unit

Ideal for handheld, portable and mobile applications; for ad-hoc measurements



### LS OBSERVER FMU Fixed Monitoring Unit

Ideal for continuous measurements/long-term installation, to cover a large range of frequencies



### LS OBSERVER MMU Mobile Monitoring Unit

Ideal for drive-tests and commissioning measurements





Why would I use  
LS OBSERVER TMU ?



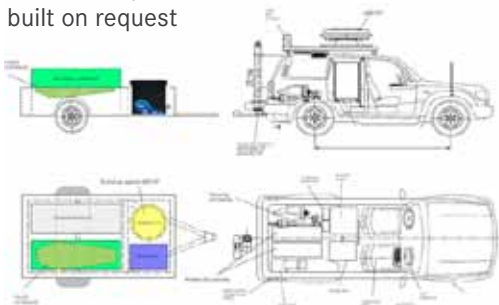
+ Because I can use my measurement results straight away AND store them for future needs. (I may want to compare today's measurement results with measurements I make in the future or against data in the database.)  
+ Because the LS OBSERVER TMU is part of a monitoring system that grows with my needs and my budget. (I can order a small number of units or a complete system, I can add stations one by one, and any type of station that I need.)

pending on your needs - for flexible use and a wide range of applications



### LS OBSERVER System Integration

Customer specific solutions, built on request



### Airborne Measurement Service Using Remotely Piloted Aircraft (RPA)

RF & antenna pattern measurements, site inspection and very mobile monitoring



Service offered by **Colibrex**  
Member of the LS telcom Group

# Technical Details **LS OBSERVER TMU**

		TMU 100
<b>RF Characteristics</b>		
RF Characteristics	Frequency range	9 kHz to 6 GHz**
	Scanning speed	up to 24 GHz/s
	Input level (min. / max.)	-152 dBm / +20 dBm, 0 VDC
	IQ bandwidth	up to 27 MHz
	Frequency accuracy	1 ppm
<b>Connectivity</b>		
Connectivity	RF antenna inputs	1x N-Type
	External GPS antenna input	yes
	Wired networking	1 x Gigabit-Ethernet
	Wireless networking	opt. UMTS, opt. WiMax
	Wireless local networking	opt. WiFi (802.11 b/g)
<b>Geolocation</b>		
Geo-location	Direction Finding (DF)	available on a project basis
	Power Difference of Arrival (PDoA)	yes
	Time Difference of Arrival (TDoA)	yes
	GPS receiver	yes
	Integrated GPS antenna	yes
<b>Storage</b>		
Storage	Storage time of raw data	up to 30 days
	Storage time of statistic data	up to 2 years
<b>Environmental Parameters</b>		
Environmental Parameters	Ruggedised	yes
	Temperature range	-30°C up to +60°C
	Power supply	+15 VDC, 19A 100-240 VAC 50Hz, 3.5A with AC/DC adapter (PSU100)
	Power consumption	typ. 60W charged, max. 300W while charging
	Battery runtime	typical 8 hours at 25°C
	Weight	system unit: 65.5 kg, antennas: 6.5 kg, covers: 10.5 kg
	Dimensions in mm (W/H/D)	system unit: 600x700x750 system unit + covers: 600x700x900 system unit + covers + antennas: 600x1300x900
	Humidity (non condensing)	0% up to 100%
	Shock / Vibration	40g shock spectrum / 5 Hz to 150 Hz (sinus), 10 Hz to 500 Hz (random)
	Protection	IP 54 to IP 67*
Colour	white	

\*: IP 54 with ventilated covers (standard), IP 67 for storage with non ventilated covers (on request)

\*\* : the standard antennas set delivered with TMU 100 is optimised for 20 MHz to 6 GHz. Additional antenna configurations available on request.