

RUAG AQUILA ROBANT

Reliable PMR reception in all situations. With our robust wearable antenna.

One of the biggest challenges for organisations dependent upon Professional Mobile Radio (PMR) systems is ensuring that personnel are always within range of reliable radio reception in all locations, even basements and subways. An antenna solution designed to be significantly decoupled from the user's body, the RUAG AQUILA ROBANT is easily integrated into uniforms and equipment. This new robust wearable antenna benefits PMR users by improving indoor coverage in challenging urban environments by 50%, while reducing and minimising their exposure to radiation.

Reliable PMR communications in all situations

Effective policing and security patrols depend on reliable PMR communications in all situations and environments. Urban indoor scenarios can present a particular challenge for existing Tetrapol/Tetra antennas, with PMR signal coverage often weak or even non-existent in some locations such as basements and railway stations.

Maximum coverage, minimum radiation

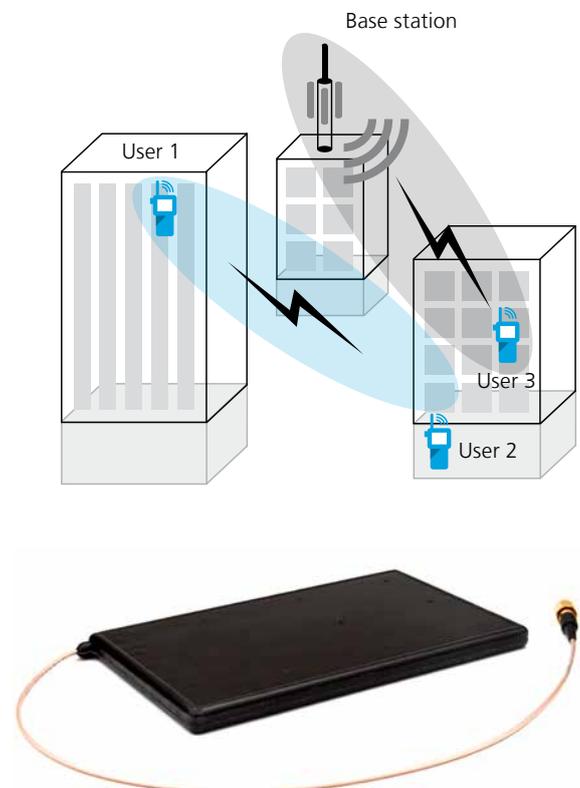
Security and law-enforcement personnel benefit from reliable PMR coverage in all operational environments. The AQUILA ROBANT delivers a 50% improvement to reception in both indoor and outdoor urban locations compared to existing Tetrapol/Tetra antennas, while dependable Direct Mode Operation (DMO) communications are possible across distances of up to ten kilometres in remote outdoor rural situations. Radiation exposure to the individual user is kept to a minimum, thanks to a unique design that maximises coverage and directs radiation away from the body. The AQUILA ROBANT has among the lowest Specific Absorption Rate (SAR) compared to the existing PMR antennas on the market.

RUAG AQUILA ROBANT features:

- Robust, waterproof construction
- Compact smartphone-sized dimensions, ideal for undercover use
- Plug-in and go
- Easy, discreet integration into uniform and equipment
- Tetrapol / Tetra technology
- Compatible with PMRs such as Covert 700, Airbus, Motorola Solutions and more

From a research project to an industrial product

RUAG Defence has been at the forefront of POLYCOM technology for more than fifteen years and it has harnessed this expertise to create an innovative solution to the issue of weak PMR coverage. RUAG AQUILA ROBANT was developed in close collaboration with the Swiss Federal Institute of Technology (EPFL).



RUAG AQUILA ROBANT benefits:

- 50% better PMR reception in challenging urban indoor and outdoor situations
- Reliable DMO communications for up to 10 kilometres in remote rural outdoor situations
- Flexible application as integrated or peripheral equipment
- Low SAR for ultimate user protection
- Proven effective in national and regional policing operations

Together
ahead. **RUAG**

Specifications

Electrical specifications

Frequency range [MHz]	380–400 or 410–430
Gain [dBi] ¹	–3
Pattern	Semi-spherical
Polarization	Elliptical
VSWR ²	< 3.5:1
Total rad. efficiency [%] ²	> 12
Impedance [Ohm]	50
SAR [W/Kg] ^{1, 3}	4.3

¹ Measurements done on phantom as surrogate body

² Measurements done on a person

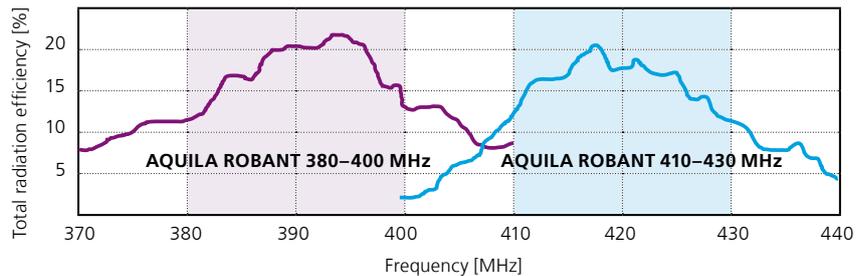
³ According to IEEE/ICNIRP exposure limits for occupational use only. 2W input power, 10g averaging, head and trunk

Mechanical and Environmental specifications

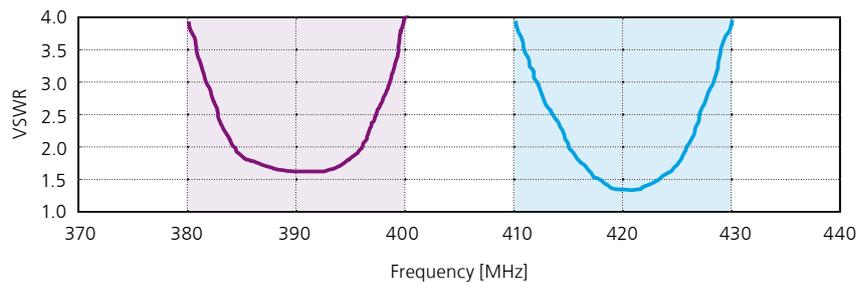
Dimensions [mm]	140 × 85 × 8
Weight [g]	< 80
Cable length [mm] ⁴	550
Connector Type ⁴	SMA male
Material	Brass, polypropylene, polyurethane
Color ⁴	Black
Temperature [°C]	–20... +60

⁴ Alternate cable lengths, connectors and colors available

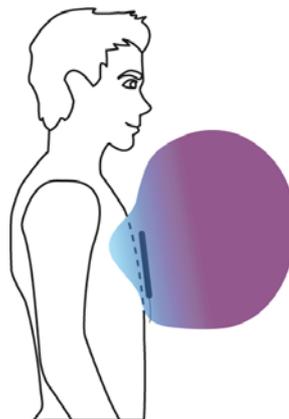
Effectively radiated power, while antenna being worn



VSWR, while antenna being worn



Radiation pattern and SAR distribution (on phantom as surrogate body)



AQUILA ROBANT versus other commercial antennas

Antenna	SAR [W/kg]*
AQUILA ROBANT	4.3
Compet. 1	6.4
Compet. 2	6.4
Compet. 3	3
Compet. 4	7.9

* Additional details available upon request

