

SAMPLE



RIEGL Laser Classification

The classification is carried out according to the International Standard IEC60825-1:2014 and the European Standard EN 60825-1:2014/A11:2021, "Safety of laser products - Part 1: Equipment classification, requirements".

The standard outlines conditions for the tests to be performed (Section 5.2, "Measurement of laser radiation"). The diameters of the measurement apertures and measurement distances to be used for classification measurements are outlined in Table 10.

For scanned systems the standard states (5.4.1): "For power and energy measurement of scanned laser radiation, only condition 3 shall be used."

Table 10 states for the wavelength range 400 nm to 1400 nm apertures of 7mm and 50 mm for the stationary case and apertures ranging from 7 mm for scanned laser radiation.

Scanning laser radiation is defined in the standard (3.78) as: "Laser radiation having a time-varying direction, origin or pattern of propagation with respect to a stationary frame of reference."

Model

miniVUX-3UAV

Serial Number

S222xxxx

Date of test

YYYY-MM-DD

Tested by

xx

Parameters	
Wavelength	905nm
Pulse width	6.0ns
Beam divergence	1.05mrad
Beam diameter at exit window	13.5mm
Pulse repetition rate	300000Hz

Measurements	
Stationary Test:	
Average power detected through 50 mm aperture:	measured: 29.700mW
Average power detected through 7 mm aperture:	measured: 8.550mW
Pulse energy in 50 mm aperture:	calculated: 99.00 nJ
Pulse energy in 7mm aperture:	calculated: 28.26 nJ
Scanned Operation:	

Average power detected through 7 mm aperture:	measured: 0.118mW
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Classification Stationary Mode (not accessible for user)		
Class 1	exceeded 745.78%	average power criterion
Class 1M	exceeded 745.78%	average power criterion
Class 3R	exceeded 67.59%	average power criterion
Class 3B	fulfilled, 94.1% below limit	-
<p>Using the device in a stationary mode, if possible, would result in the change of the laser classification to</p> <p style="text-align: center;">CLASS 3B LASER PRODUCT</p> <p>According to IEC60825-1:2014 and EN60825-1:2014/A11:2021. Note that the stationary operation is not accessible to the user.</p>		

Classification Scanned Operation		
Class 1	fulfilled, 25.7% below limit	-
Class 3R	fulfilled, 85.1% below limit	-
Class 3B	fulfilled, 100.0% below limit	-

Conclusion
The miniVUX-3UAV can only be operated in the scanned mode. In case the scanner motor stops, the laser is switched off instantaneously. Therefore, the miniVUX-3UAV has to be classified as
CLASS 1 LASER PRODUCT

Form 17-05-24 LasClass 26.3