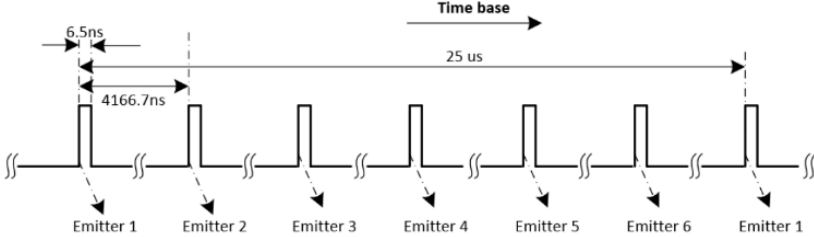




Data needed

Data needed for the validation of laser systems	
Quantum System	
Product Name : Qube240	
Lidar integrated Systems Manufacturer: YellowScan OEM product	
A. Parameters of the laser	
Laser name	Livoxtech Avia <small>(Name describing the laser system, p/n, NSN).</small>
Laser type	Semiconductor laser <small>Description of the laser medium.</small>
Laser class	Class-1 (IEC60825-1:2014)(Eye Safety) <small>Manufacturer's classification, according to IEC 60825-1, stating the version and date of the used standard (Will be validated).</small>
Wavelength(s)	905 nm <small>Wavelength or wavelength range of the laser in nanometers, including the original wavelength of the medium, if shifted. If dependent of temperature, then specify.</small>
Maximum output	Pulsed laser, 245 nJ <small>Maximum output power in Watts for a CW-laser, maximum energy in Joules for a pulsed laser (including temperature effects).</small>
Beam shape	Normal Gaussian <small>Normal Gaussian or state other shape.</small>
Beam dimensions	6.00mm×13.87mm at the aperture <small>Minimum dimensions (diameter) at 1/e point of the beam at the aperture in millimetres. Provide information on position and width of an external beam waist, if applicable.</small>
Divergence	0.28°×0.03° <small>Minimum angle of diverging at 1/e point of the laser beam in milliradians. In case of non-cylindrical beam provide separate values for x and y direction.</small>
Temporal parameters	<p>Pulsed laser The real pulse sequence is shown as below:</p>  <p>Continuous Wave or pulsed laser. In case of a pulsed laser, complete information about pulse energy, shape, timings and modulations must be given. Laser "on" time, i.e. continuously on, or time limited.</p>
B. Calculation of hazard distances	
NOHD, E-NOHD (for magnifying optics) and NSHD	Class1 is eye safe, no need to provide it <small>Complete and clear calculation of hazard distances, based on worst case considerations for time, energy, beam size parameters and temperature.</small>
MPE	Class1 is eye safe, no need to provide it <small>MPE's used for calculation of eye and skin hazard distances.</small>

Directorate Logistics Establishments

MB/DSP/PU Optronics

Knowledge Centre

LASERteam

Date

24 February 2010

Our reference

12345