

# Test Certificate

Model: **RIEGL VQ – 580**

Serial No: 59999057

Manufacturing date: 15.05.2012

## Range Measurement Performance:

| Laser Pulse<br>Repetition Rate PRR<br>(rounded values) | Mean Amplitude [dB]<br>MeasDist $\approx$ 620m<br>diffuse reflectance<br>$\rho_{\text{target}} \approx 100\%$ | Specified<br>Maximum Distance |               | Calculate<br>Maximum Distance<br>without attenuation *) |               | OK                                  |
|--|---|-------------------------------|---------------|---|---------------|-------------------------------------|
|  |   | $\rho = 60\%$                 | $\rho = 20\%$ | $\rho = 60\%$   | $\rho = 20\%$ |                                     |
|  |   |                               |               |   |               |                                     |
| 50 kHz   | 20,2  | 2350 m                        | 1500 m        | 2378 m  | 1656 m        | <input checked="" type="checkbox"/> |
| 100 kHz  | 17,2  | 1750 m                        | 1100 m        | 1903 m  | 1289 m        | <input checked="" type="checkbox"/> |
| 150 kHz  | 15,4  | 1500 m                        | 900 m         | 1656 m  | 1104 m        | <input checked="" type="checkbox"/> |
| 200 kHz  | 14,2  | 1300 m                        | 800 m         | 1496 m  | 986 m         | <input checked="" type="checkbox"/> |
| 300 kHz  | 12,4  | 1100 m                        | 650 m         | 1289 m  | 837 m         | <input checked="" type="checkbox"/> |
| 380 kHz  | 11,4  | 1000 m                        | 600 m         | 1178 m  | 758 m         | <input checked="" type="checkbox"/> |

\*) Taking into account the atmospheric attenuation for visibility approx. 10 km.

## Measurement Accuracy and Precision:

| Target Plate        | Nominal Value | Measured Value | Specified Accuracy | 1 $\sigma$ Standard Deviation | Specified Precision | OK                                  |
|---------------------|---------------|----------------|--------------------|-------------------------------|---------------------|-------------------------------------|
| $\rho \geq 80\%$    | 129,261 m     | 129,262 m      | +/- 25 mm          | 4 mm                          | +/- 25 mm           | <input checked="" type="checkbox"/> |
| $\rho \approx 10\%$ | 131,332 m     | 131,326 m      | +/- 25 mm          | 7 mm                          | +/- 25 mm           | <input checked="" type="checkbox"/> |

## Measurement Rate:

|                                    |                                     |
|------------------------------------|-------------------------------------|
| Maximum effective measurement rate | OK                                  |
| up to 190 000 meas/sec.            | <input checked="" type="checkbox"/> |

## Scan Speed:

|                      |                                     |
|----------------------|-------------------------------------|
| Specified scan speed | OK                                  |
| 10 scans/sec.        | <input checked="" type="checkbox"/> |
| 150 scans/sec.       | <input checked="" type="checkbox"/> |