

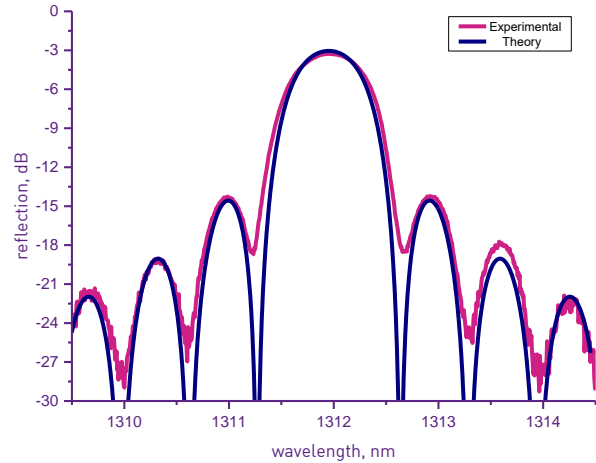
# FIBER BRAGG GRATINGS (FBG)

## UNIFORM FBG

### ARTICLE GTL-FBG-UF-810

Fiber Bragg Gratings have many applications in optical communication, laser technique and sensing systems. The FBGs are widely used like in-fiber mirrors or optical filters with narrow band optical spectrum. FBGs can be used like a sensitive element for strain and temperature measuring.

We produce the uniform gratings with grating length 0.5mm to 10mm. Such gratings have FWHM from 0.015nm (R=25%) to 0.03nm (R=90%) for wavelength 633nm (0.1nm and 0.17nm at wavelength 1580nm) and gratings length 9mm. Standard Uniform FBGs have bandwidth 0.15nm ÷ 0.6nm, reflectivity 5% ÷ 99% and gratings length 1mm – 3.5mm. Fiber Bragg gratings are sensitive to strain and temperature changes. Uniform FBGs can be provided as separated or chain of FBGs with different wavelength. Multy - points temperature, strain or other physical parameter monitoring are available by use of chain FBGs. Different types of single mode optical fibers and fibers coating are used for writable. Acrylate coating fibers applying for normal temperature range -40°C to +100°C. Polyimide or metal (Cu, Al) coating fibers are used for high temperature application with maximum temperature 300°C and 500°C respectively. The experimental and theoretical reflection spectrum of FBGs is presented in the graph.



FBG CHARACTERISTICS	ARTICLE GTL-FBG-UF-810	TOLERANCE/NOTE
Wavelength range, nm	600 ÷ 2300	± 0.1 ÷ ± 1 custom request
Types of fiber	Single-Mode, PM, Double clad, LMA	or custom
Wavelength to quick order, nm	633, 780, 794, 797, 799, 801, 809, 830, 852, 895, 940, 976, 1030, 1057, 1060, 1064, 1080, 1125, 1150, 1178, 1240, 1270, 1310, 1484, 1510 ÷ 1580, 1650, 1900, 1908, 1952, 2300	± 0.1 ÷ ± 1 custom request
Reflectivity, %	0.2 ÷ 99.9	2 ÷ 5 custom request
Bandwidth (WFHM), nm	0.05 ÷ 1.2	custom request
SLSR, dB	~ 8	or custom
FBG Pigtail Length, m	≥ 0.5	or custom
FBG Recoating	None, Acrylate, Polyimide, Aluminium, Copper	or custom
Tensile Strength, kpsi	> 100	
Optical Connector	Bare fiber, FC/APC, LC/APC	or custom

The configuration can be changed at the customer's request. The parameters specified in this specification can be changed in accordance with the terms of reference.