



FBG Filters for Active Network Monitoring Fibrain FBG Series

FBG Filters are filters that reflect the 1625 nm wavelength and transmit other wavelengths (1310 nm, 1490 nm, 1550 nm), typically integrated in LC or SC attenuator-type adapters. They are used to enable monitoring of live networks with OTDR operating at 1625 nm. OTDR measurements of the whole optical link from the OLT to the ONT are difficult due to the presence of multiport splitters (which from the point of view of the OTDR are large point attenuation) and also because large spatial resolution is required. Using 1625 nm reflectors is a reliable and cost-effective way to decrease the required dynamic range of the used OTDR. The use of FBG 1625 nm reflectors is a basic method to implement optical layer monitoring in real time on the whole link length from OLT to ONT in FTTx networks.



Technical Specifications

Parameters	Min.	Typ.	Max.
Transmitted band [nm]		1310 +/- 20 1490 +/- 20 1550 +/- 20	
Reflected band [nm]		1625 +/- 5	
Transmission band IL [dB]		≤0.7	≤1.0
Transmission band RL [dB]	≥25	≥30	
Reflected band IL [dB]	≥10	≥15	
Reflected band RL [dB]		≤2	≤5

Reference Scheme

Series	Quality	Fiber type	Wavelength	Reflected band	Filter type	Connector type	Connector type
FBG	G1	1 - G652D	S538 - T 1550 1310/1490	62 - 1620 65 - 1650	A - adapter I - in-line	ST SC SCA FC FCA LC LCA E20 E2A x - other	ST SC SCA FC FCA LC LCA E20 E2A x - other

Example: FBG-G1-1-5538-62-A-SCA-SCA - Fibrain FBG adapter filter for OTDR 1625 nm monitoring in PONs; 1310, 1490 & 1550 nm transmission channel, 1625 reflection channel, SC PC.