

# Radio over Fiber System for Electromagnetic Measurement

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**Abstract** This paper describes the outline of Radio over Fiber System. Additionally We will also introduce a microwave products. We " TAMAGAWA ELECTRONICS " is specialized in high frequency technology. Since our company was founded in 1968, we have been developing and producing systems and components designed for telecommunication, broadcasting, and so on.

**Keywords** Radio over Fiber, Power over Fiber, electrical to optical converter, RF Components

# RoF receiver System with Optical Power Supply OAL-1000



◆ **Summary** OAL-1000 is a RoF(Radio over Fiber) receiver system with Optical Power Supply. This system is consist of a Electrical to Optical Converter(RoF receiver) and a Optical to Electrical Converter(RoF receiver controller). The RoF receiver is using high efficiency laser diode driven by optical power supply. The RoF receiver is insulated electrically, and to transmit an electronic signal by an optical fiber, this system is used for floating measurement.

- ◆ **Feature**
- Wide frequency range  
100kHz~6GHz
  - High-sensitivity  
Applying for the high efficiency laser diode
  - High-isolation and low-invasive  
Miniature of RoF receiver ,Optical power supply
  - Optical fiber connections
  - Optical power supply with RoF receiver  
Needless dry battery, Possible to measure for long-term



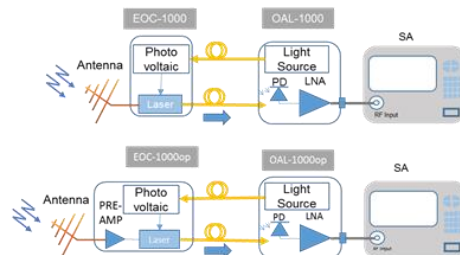
◆ RoF receiver controller OAL-1000



◆ EOC-1000 RoF receiver

- ◆ **Use case**
- Measurement of Floating circuit
  - EMC
  - Antenna

Diagram

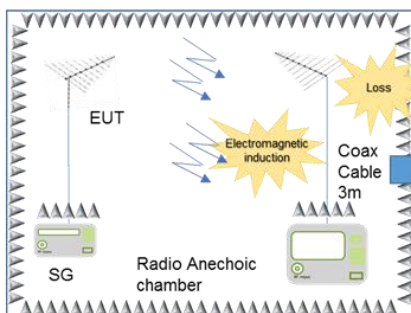


## Application note

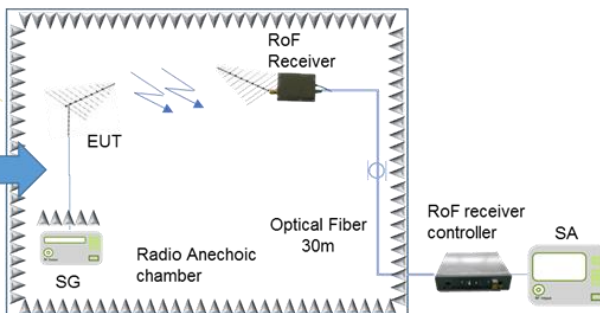
### Benefits

- Low-loss and Long-distance Optical Transmission
- No affect of Electromagnetic Induction by using a Optical Fiber, a small size RoF receiver
- Possible to evaluate for long-term measurement by using Optical power supply

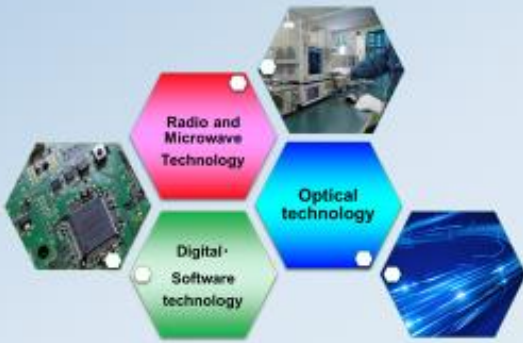
◆ The example of evaluation of antenna transmission



◆ The example of evaluation of using the optical power supply with RoF receiver



# TAMAGAWA ELECTRONICS CO.,LTD.



## Technological Fields

### Strength of Tamagawa electronics

- ① Radio and Microwave technology
- ② Combining RF and digital technology

Radio and Microwave



Digital - Software



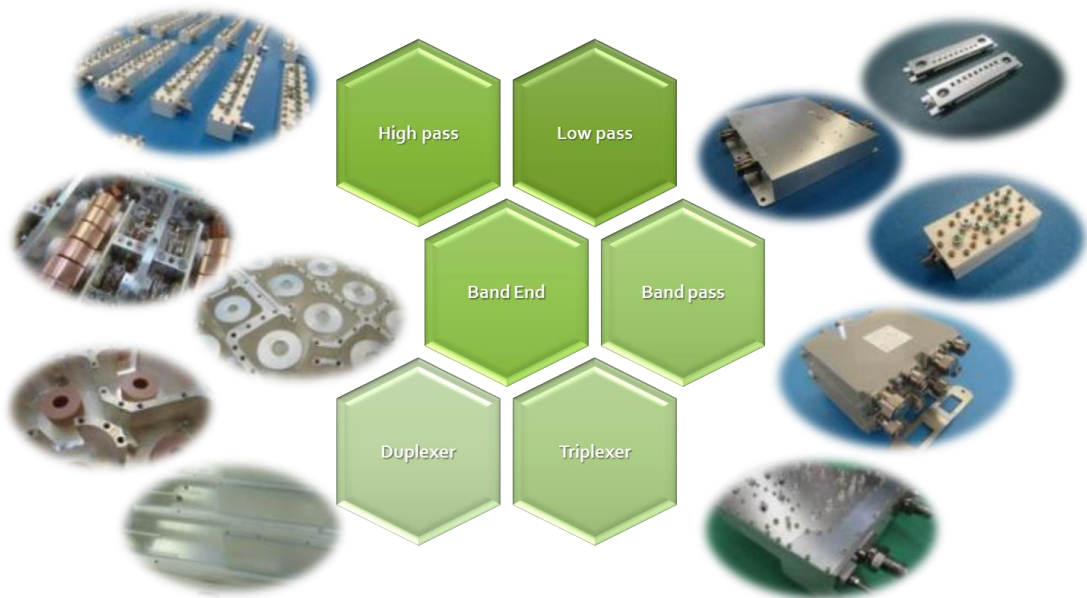
# RF Passive Devices



Frequency range



# RF Filters



Frequency range

