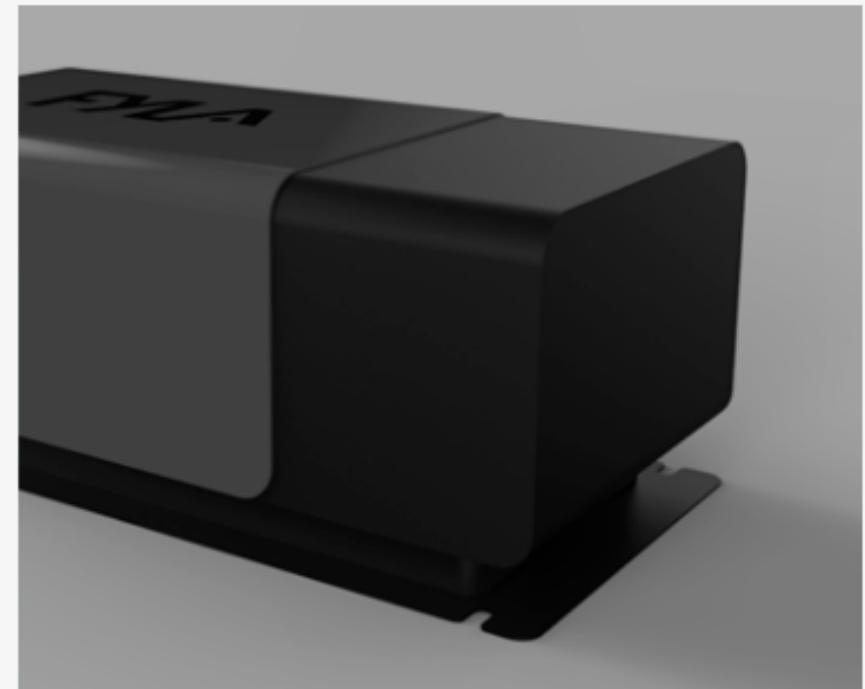
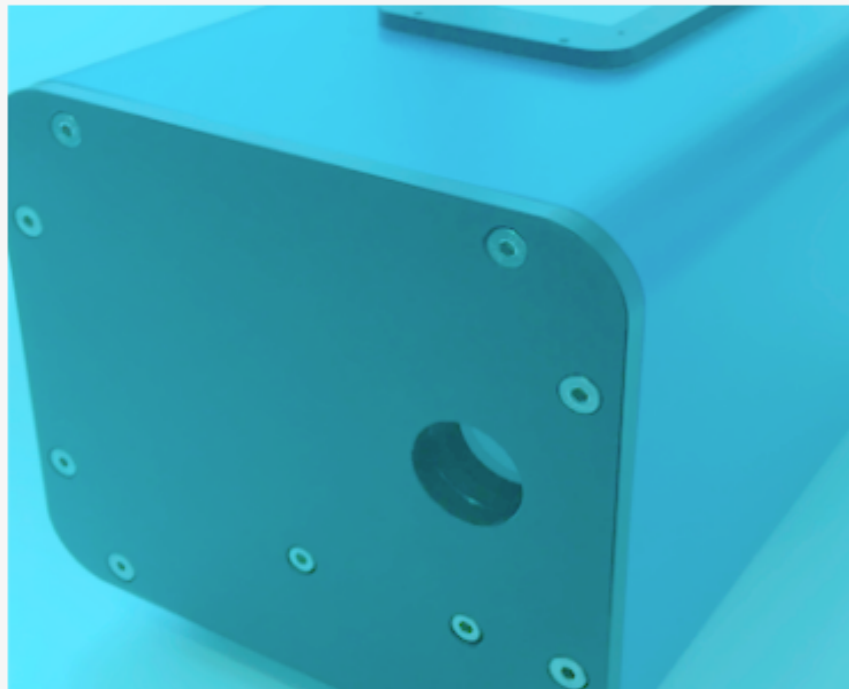
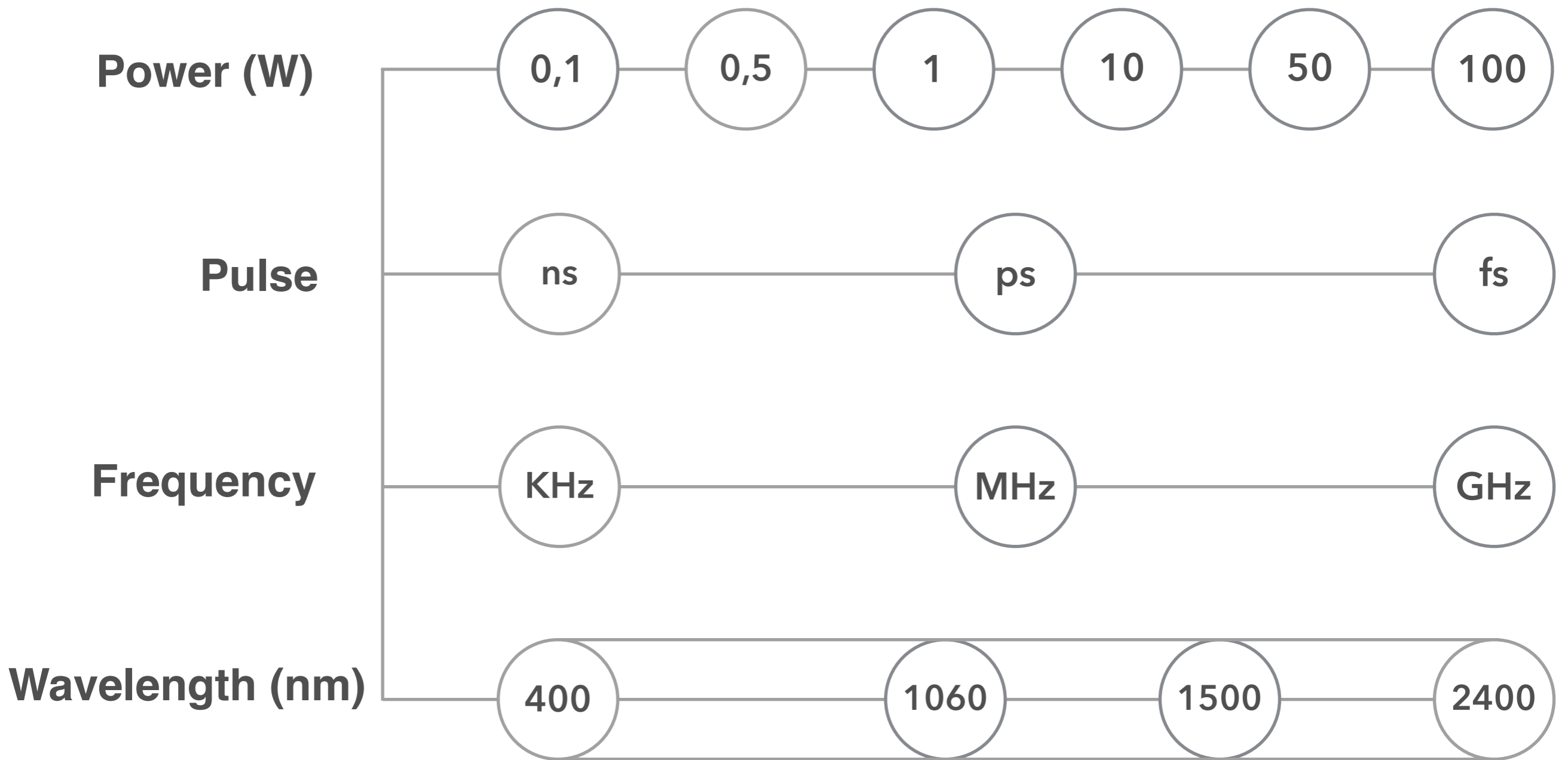




WE LASER  
THE NEW INDUSTRY

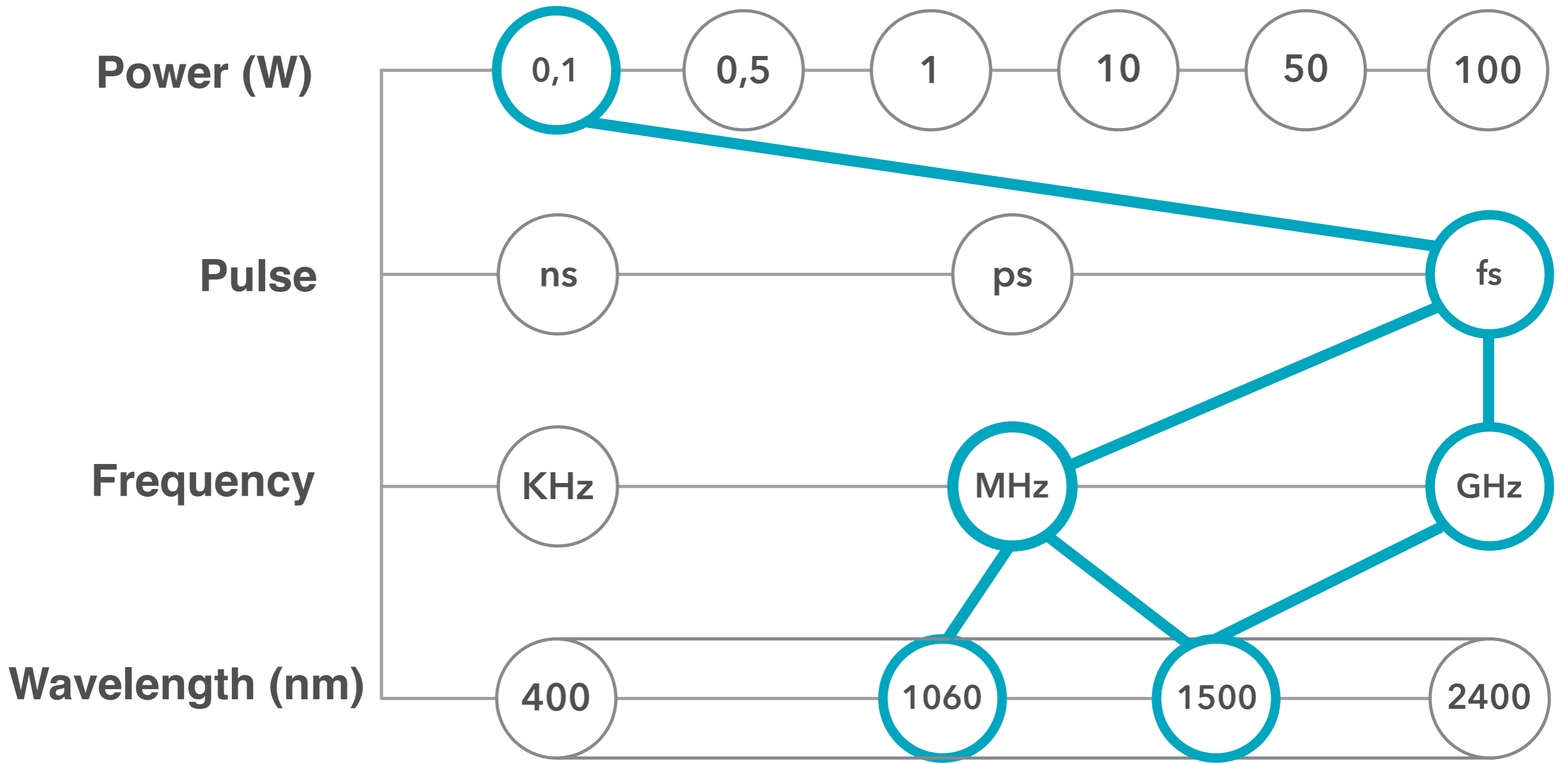






**Markets**





**Markets**

**MULTIPHOTON & THZ - COMMS**

# MULTIPHOTON & THZ - COMMS

## Insights

- Ubiquitous systems ( Car, plane, satellite...)
- Exponential data generation on shorter time frame
- Simplified Emission - Transmission - Reception Infrastructure
- Multiprotocol Systems ( 5G, LTE, UMTS, WIMAX...)
- **RoF - Radio Over Fiber Microwave Photonics**
- **Digital Radar**

## Needs

- **Foot Print reduction Comms systems ( W - g - mm )**
- **Single source “One- for- all”**
- **Increase number Transmission Carriers / Subcarriers**
- **Robust - Stable - Reliable - Elastic**

# MULTIPHOTON & THZ - COMMS

**FYLA**  
MFS Series

- Short and Long Term Highly Stable Ultrafast All-Fiber Laser
- High Gain Bandwidth - High Gain Efficiency
- Cost efficient - Compactable system

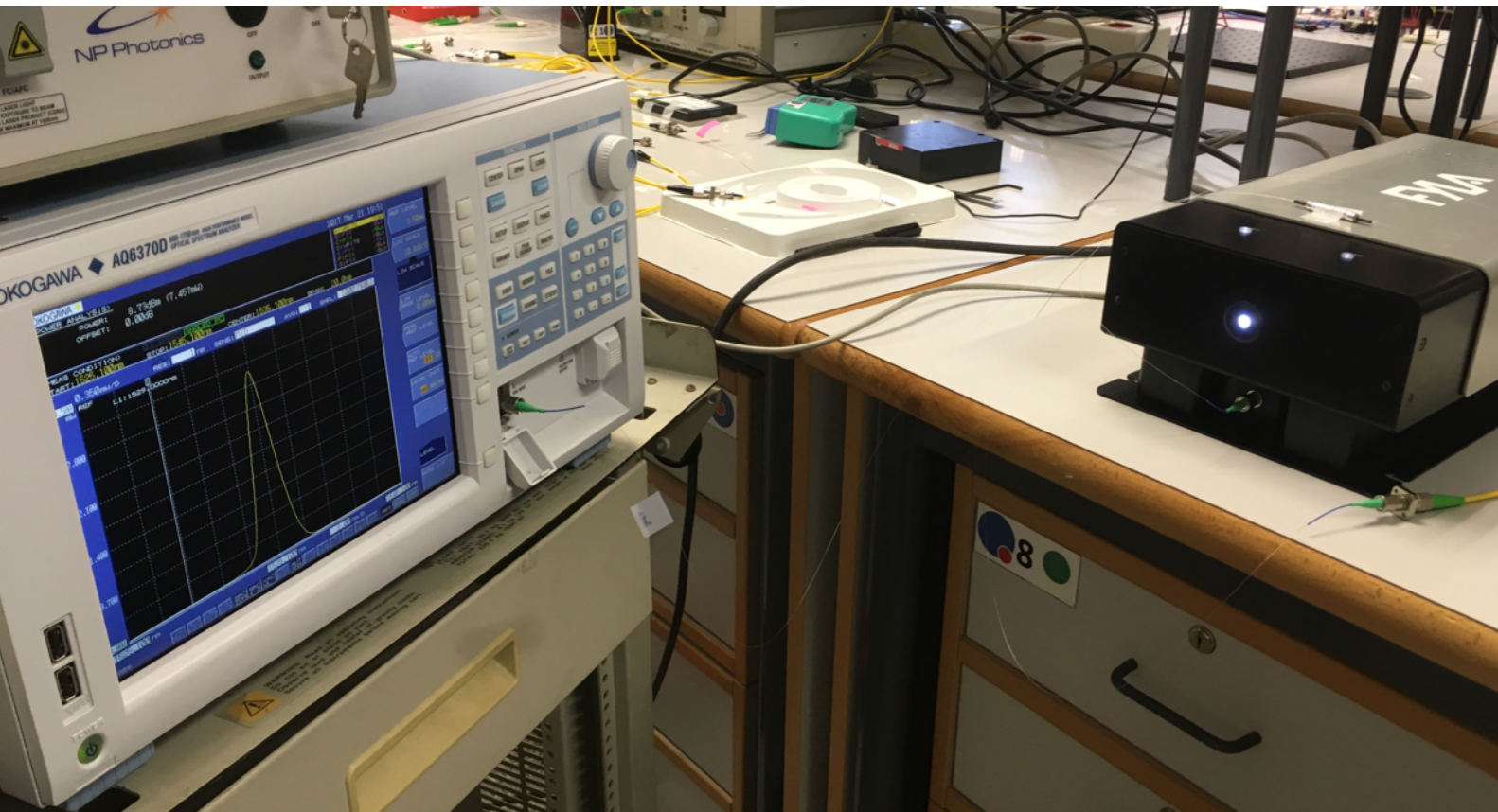
FYLA MFS Specifications	MFS1060	MFS1500	MFS1500G
Center wavelength ( optional )	1060 nm ( 1030 nm)	1560 nm	1535 nm
Laser output power	10 mW	100 mW	100 mW ( Up to 1 W )
Pulse width	< 400 fs	< 100 fs	< 900 fs
Repetition rate - Free Spectral Range	20 MHz	100 MHz	1GHz
Avr. Power Stability / Temporal Jitter	< 0,2% / <1 ps	< 0,2% / < 50 fs	< 0,2% / <1 ps



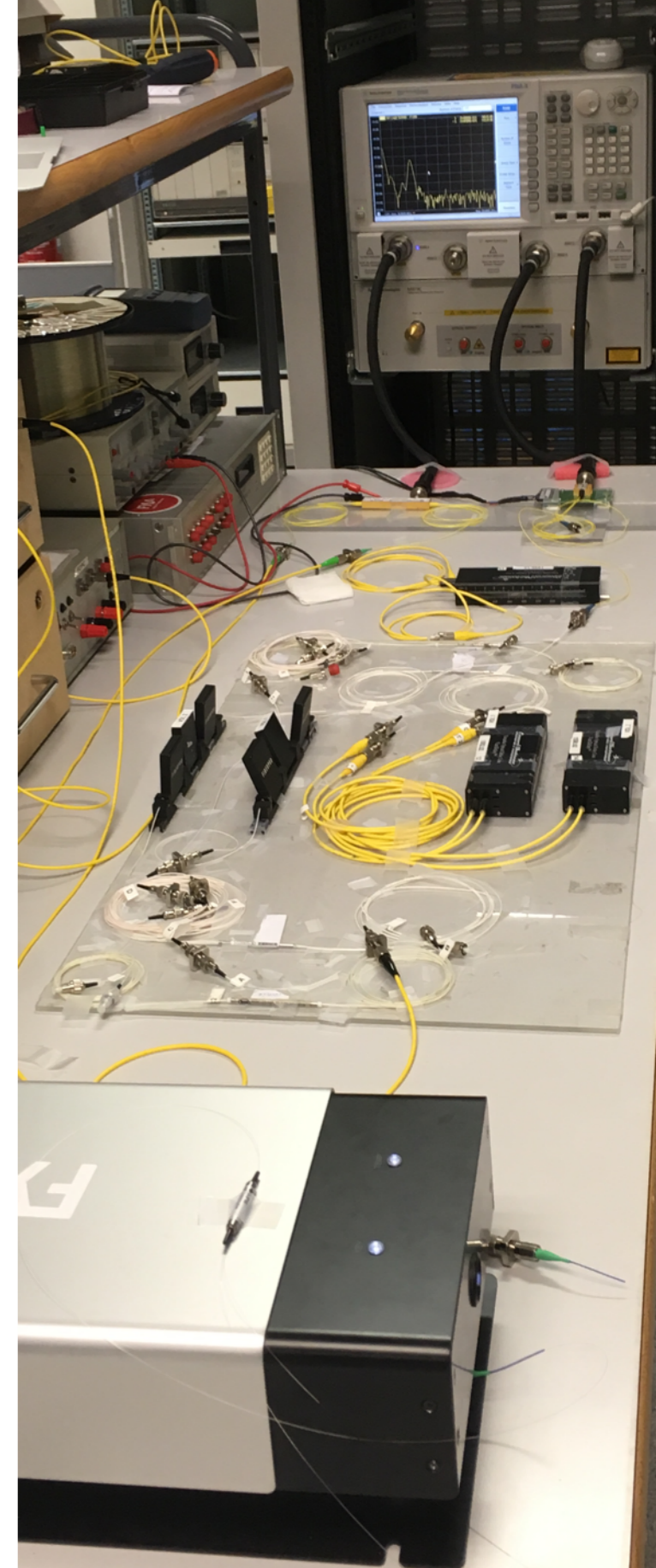


# MULTIPHOTON & THZ - COMMS

Optical Domain - laser Spectra at 1535nm



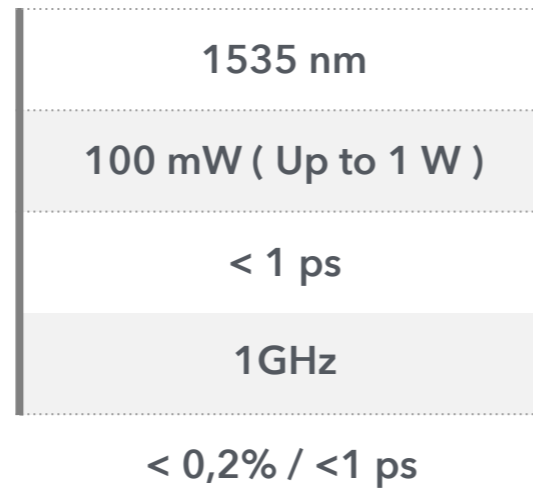
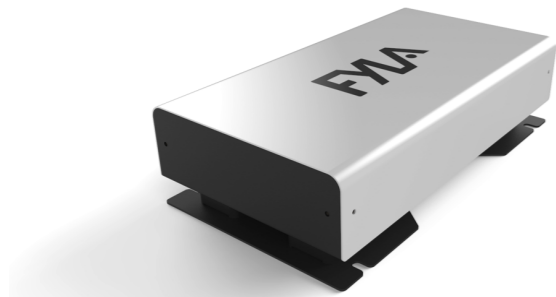
RoF Systems - Microwave Photonics  
VNA Vectorial Network Analyser laser  
Tomography





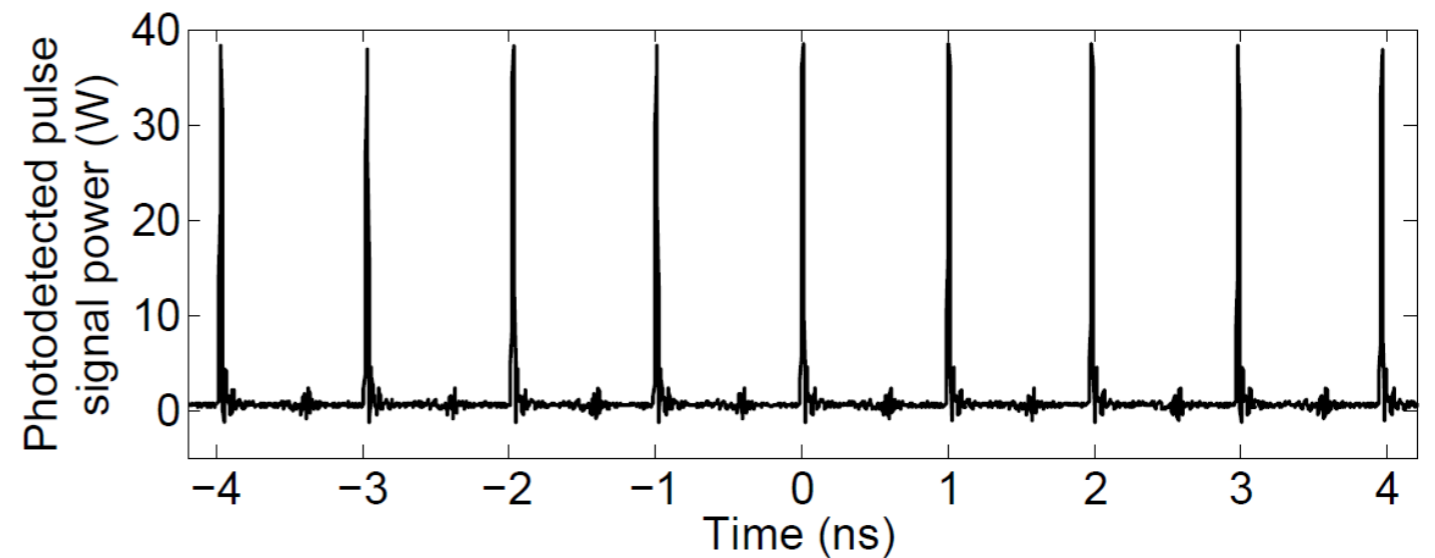
# MULTIPHOTON & THZ - COMMS

FYLA MFS 1500G



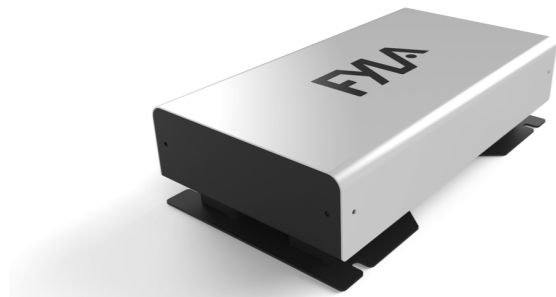
## Time Domain (Spatial Comms as local oscillator - Digital Radar - PADC)

- Pulse train measured at laser output, showing a **peak-to-peak** stability below **0.1% STD**.
- Pulse width brings a value of below 1 ps is obtained.
- Phase Noise < -110 dBc/Hz @ 10 MHz offset
- Temporal jitter < 24 fs @ 10 MHz offset



# MULTIPHOTON & THZ - COMMS

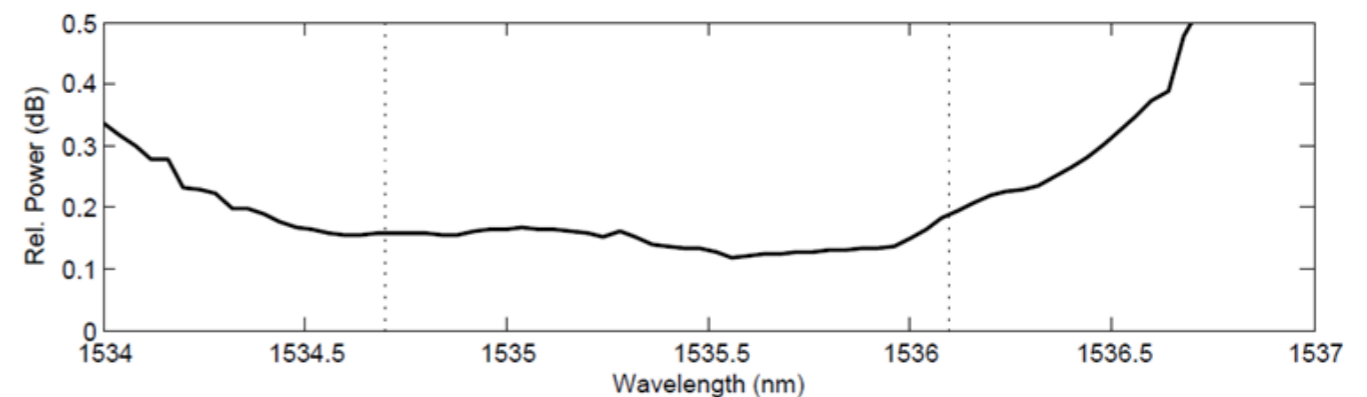
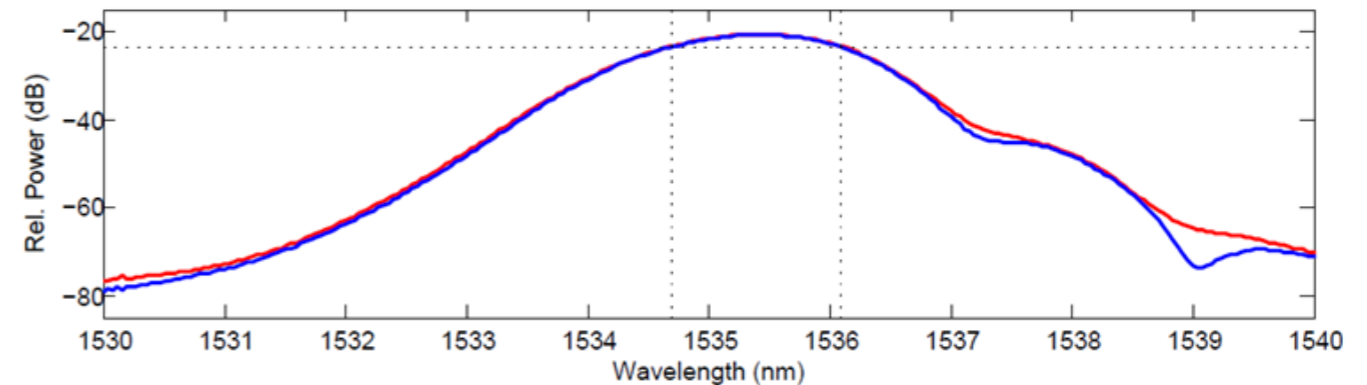
**FYLA** MFS 1500G



1535 nm
100 mW ( Up to 1 W )
< 1 ps
1GHz
< 0,2% / <1 ps

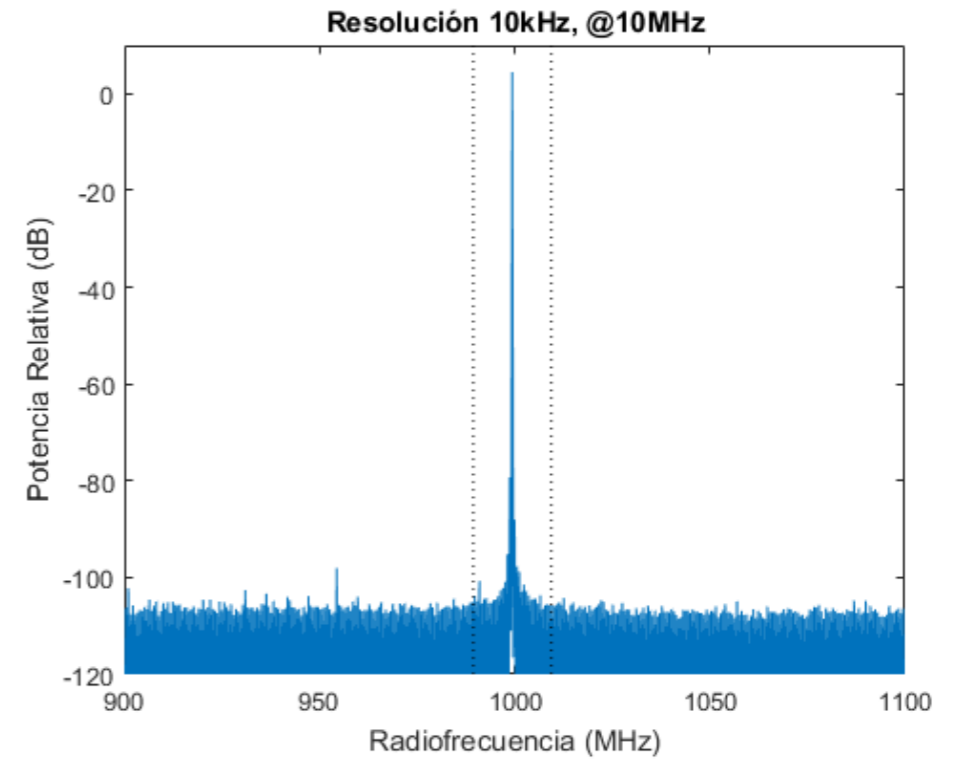
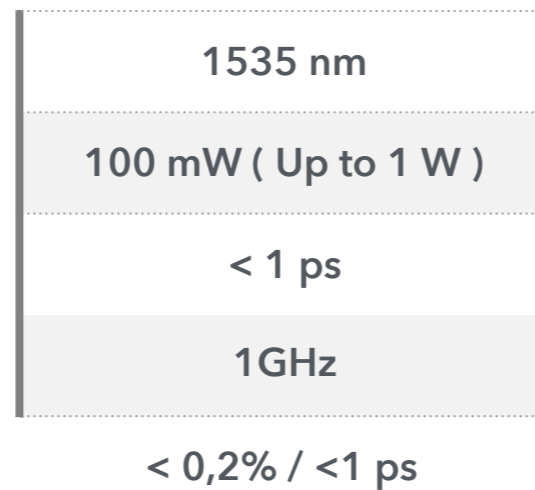
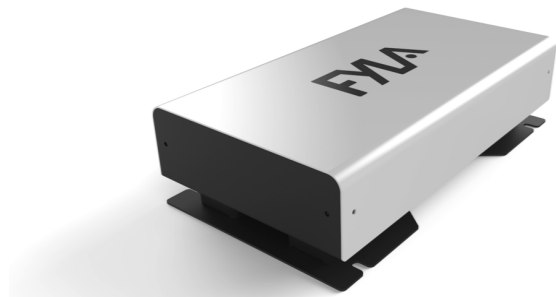
## Optical Domain (Optical Comms - LCI Low Coherence Interferometry )

- Min-Max Hold Optical Stability < 0.1 dB
- FSR = 1GHz (conversion up to > 200GHz)
- C-L Bands



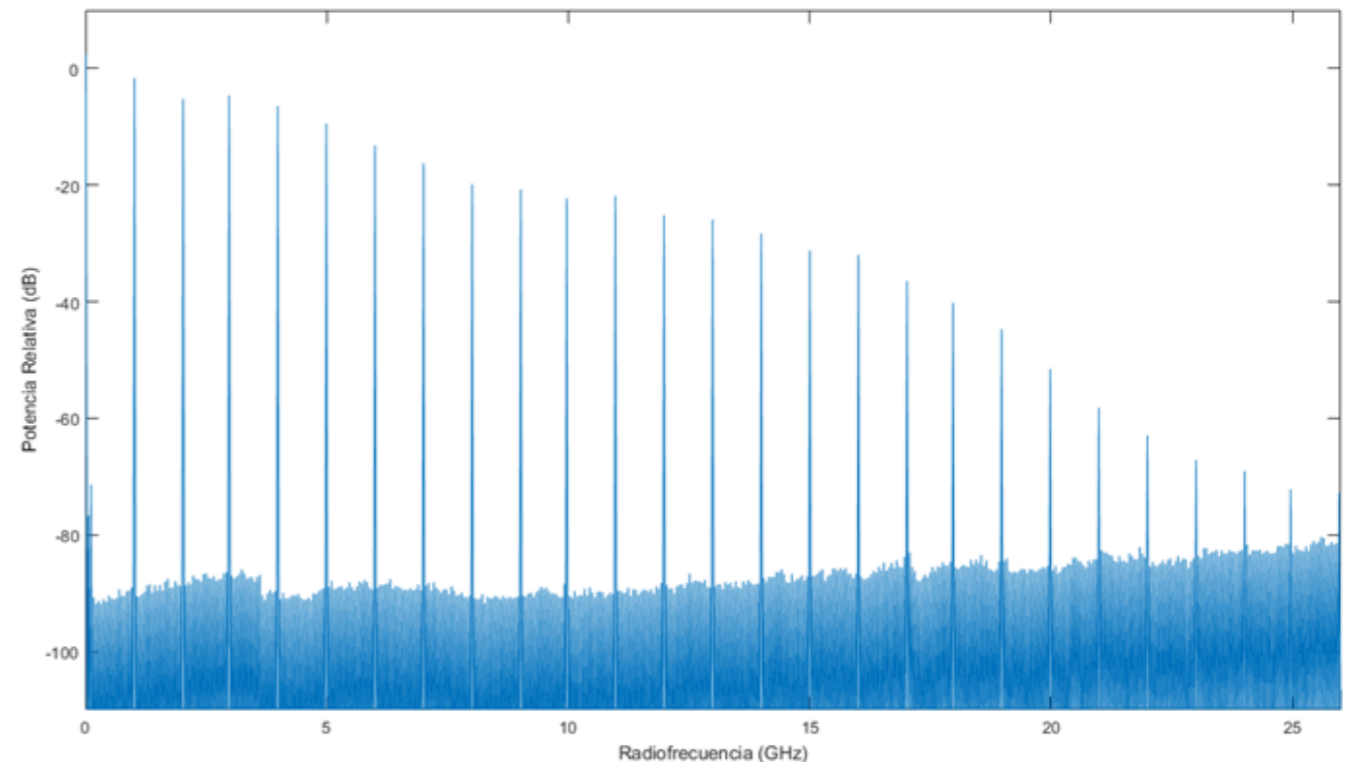
# MULTIPHOTON & THZ - COMMS

**FYLA** MFS 1500G

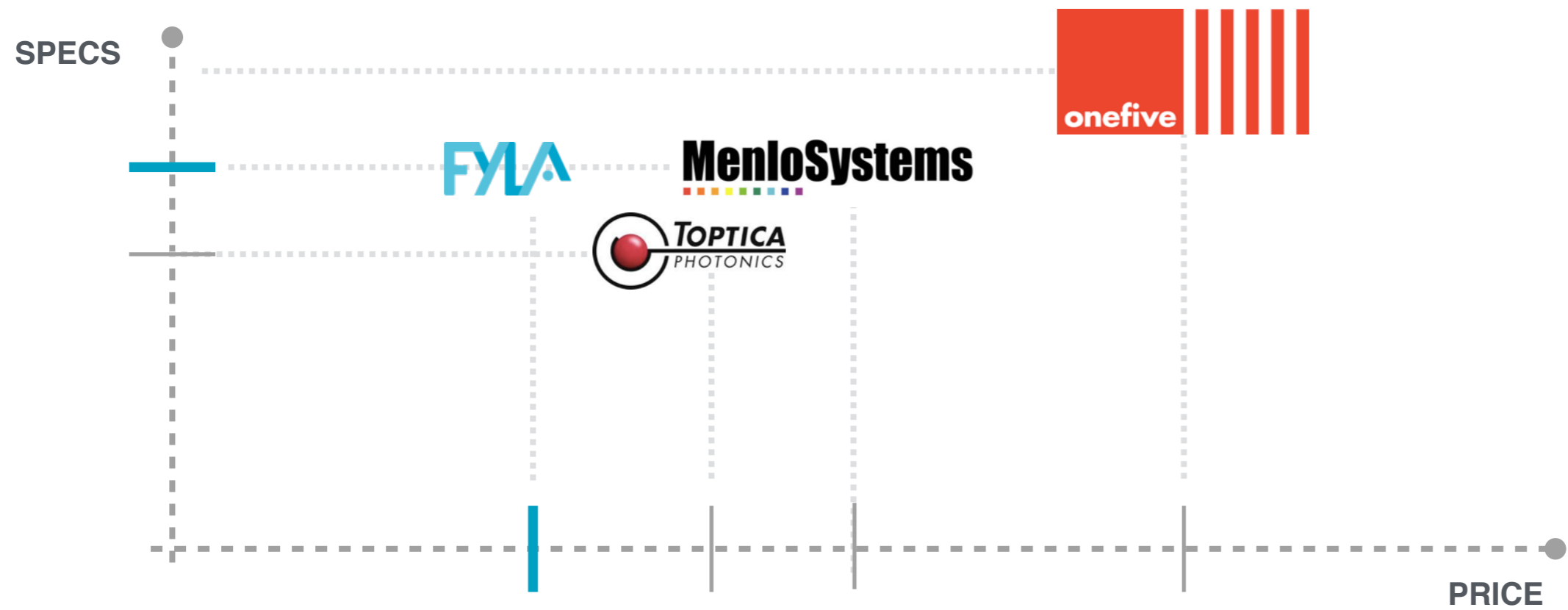


## Electrical Domain ( Multiprotocol Wireless Networks - RoF Systems - Microwave Photonics )

- RF spectra of the photodetected fundamental First harmonic FS (above) and of its first 20 harmonics (below).
- Losses-Free transmission - EMI Free
- **More than 200 harmonics**
- Phase Noise SNR > 100 dB @ 1MHz



# MULTIPHOTON & THZ - COMMS





# MULTIPHOTON & THZ - COMMS

LOOKING FOR

- **Industrial Partners**



- **Reference Clients**



- Stable OEM Partnerships



- Make Profit



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