

# Wayoptics

2021.05

WayOptics Co., Ltd.

# 1. Way Optics CO., Ltd

<b>Name</b>		<b>Way Optics Co., LTD</b>
Main Product		CWDM , LAN WDM , DWDM, Optical Splitter
C.E.O		Yong Tae, LEE Ph. D
Established		15 <sup>th</sup> Dec. 2008Year
Address	HQ	605 NNFC (National Nano Fab Center) KAIST Yusung Deejeon
	R&D center	Building 8 # KIMM(KOREA institute od Machin and Materials) Yusung Daejeon, KOREA
	Factory	Gwangju Korea.
<b>Key Technology</b>		<b>내 용</b>
Design of PLC waveguide		Splitter, CWDM, DWDM, VOA etc AWG IP 4 ea
Waveguide Processing Technology		8inch wafer process (Splitter, CWDM), Quartz and Silicon wafer Film deposition (PECVD, FHD), lithography, etch, etc
PLC Chip and measurement		Back end process (Dicing, Polishing, Measurements)
Design of AWG		Crosstal improve technology , phase shift compensation technology .
U-groove Fiber Array Block		Wet etch technology

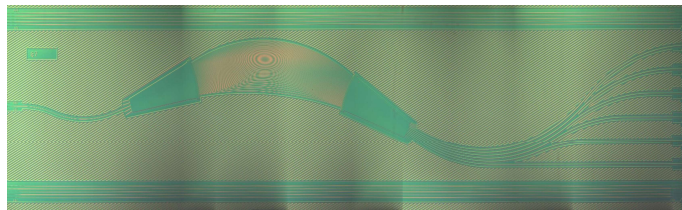
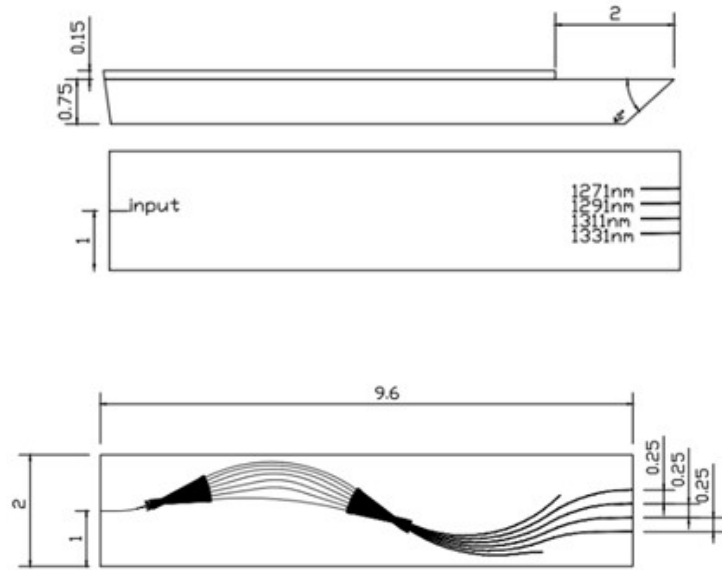
## 2. History

2018. 05	8inch CWDM Wafer product
2017. 11	Established Way Optics Research & Development Organisation
2017. 03	Venture Company
2016. 11	Capital 1,063M
2016. 02	Accelink optical splitter supply company
2014. 10	Move to KIMM
2013. 09	Capital :584M
2012. 12	Capital 292M
2012. 08	8inch optical splitter mass production
2012.03~10	Research of 8 inch wafer process
2011.10~11	IP 4 ea
2010. 05	Production line
2008. 12	Established Way aoptics

# 3. CWDM DEMUX

## 3-1 CWDM

### ■ Chip Size

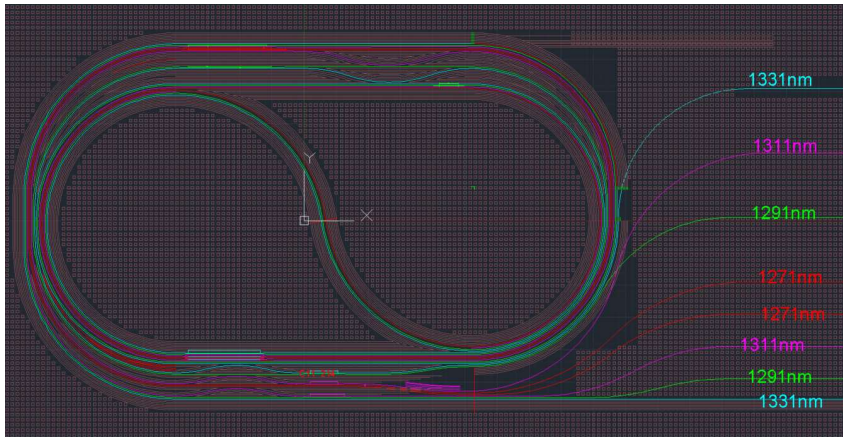


### ■ Demux Specification

Parameter	Unit	Value	
Channel Spacing	nm	20 (3543GHz)	
Channel Number	Ch	4	
Center Wavelength	nm	1271 1291 1311 1331	235.87THz 232.22THz 228.67THz 225.24THz
Insertion Loss	dB	< 2.0	
1 dB Band Width	nm	> 12	
Adjacent Channel Crosstalk	dB	> 21	
Non-Adjacent Crosstalk	dB	> 30	
PDL	dB	< 0.7	
Output Spacing	$\mu\text{m}$	250	
Polishing Angle	degree	8 42	
Size	mm	9.6X2.2	

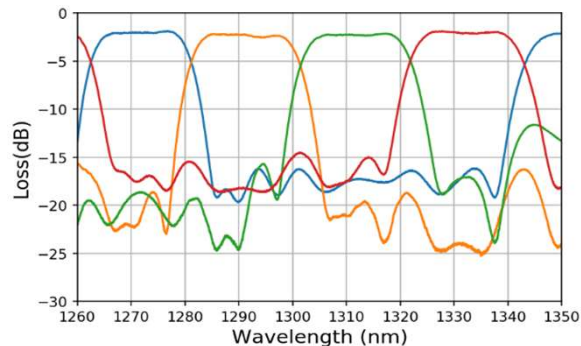
# 3. CWDM Mach Zehnder MUX

## ■ Chip Size



## New type CWDM

- Mach Zehnder type
- Low Insertion Loss
- Wide passband



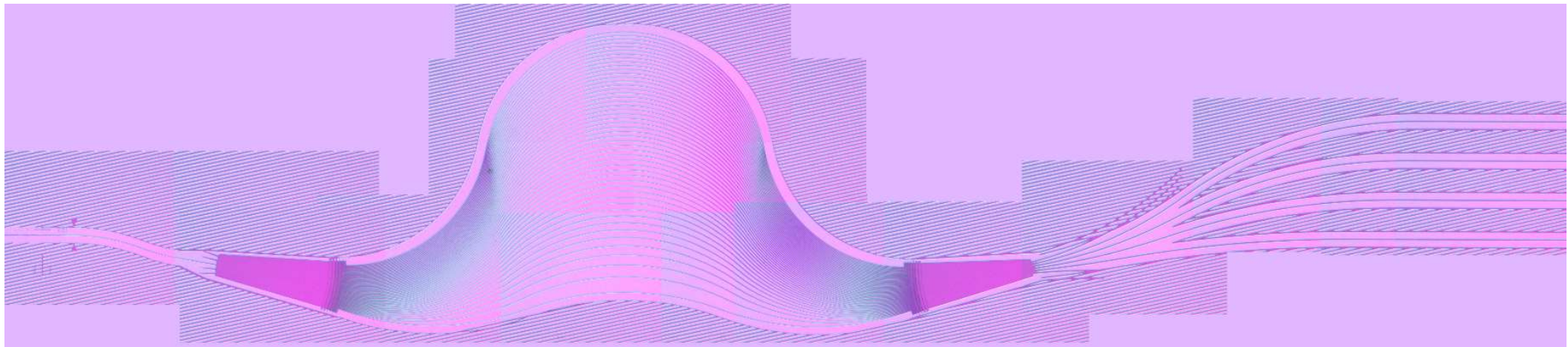
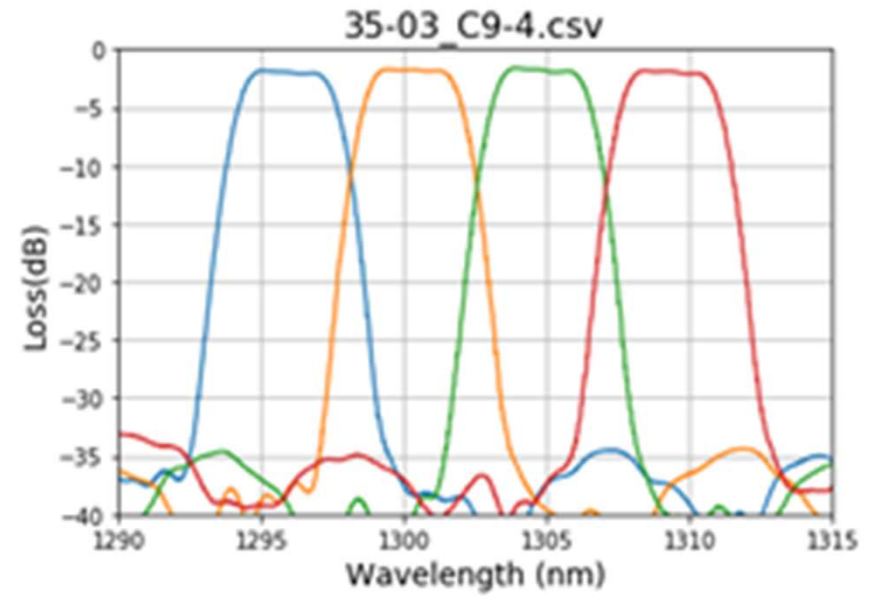
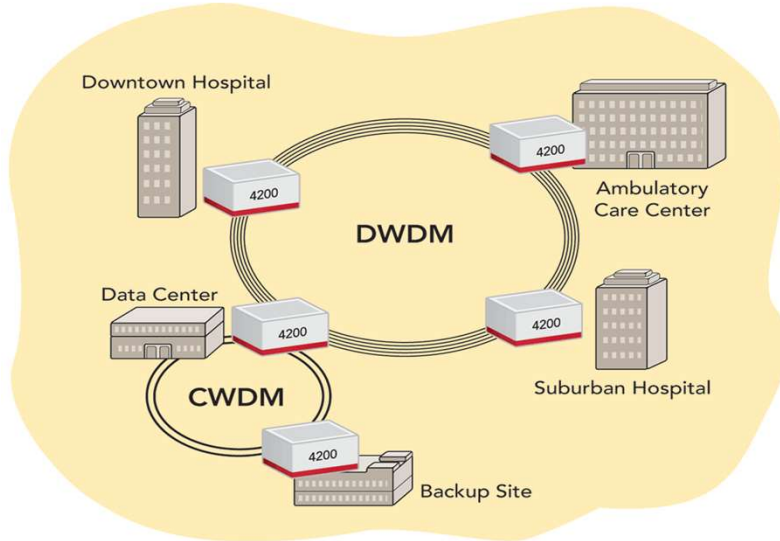
## ■ Mux Specification

Parameter	Unit	Value	
Channel Spacing	nm	20 (3543GHz)	
Channel No.	Ch	4	
Center wavelength	nm	1271 1291 1311 1331	235.87THz 232.22THz 228.67THz 225.24THz
Insertion Loss	dB	<2.5	
1-dB Band Width	nm	>14	
Output Spacing	um	500	
Size		6.6x2.7mm	



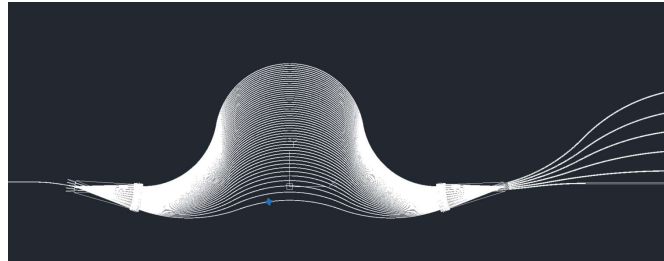
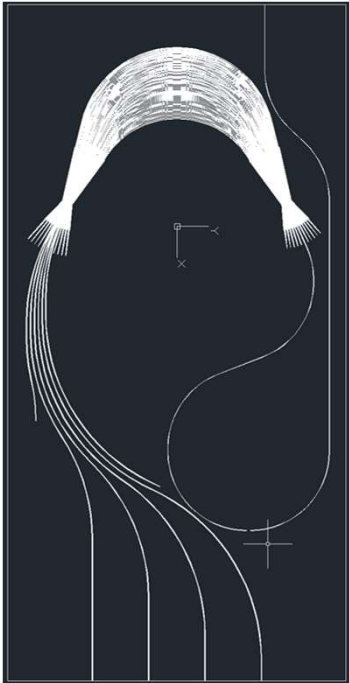
# 3. LAN-WDM

## LAN WDM / DWDM

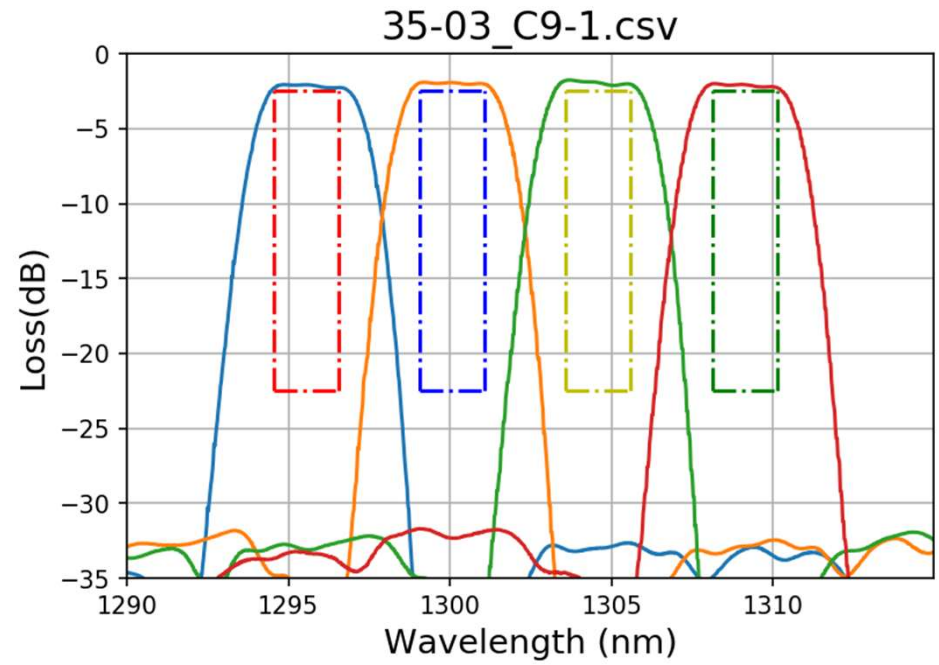


# 3. LAN-WDM

## NEW DESIGN DEMUX



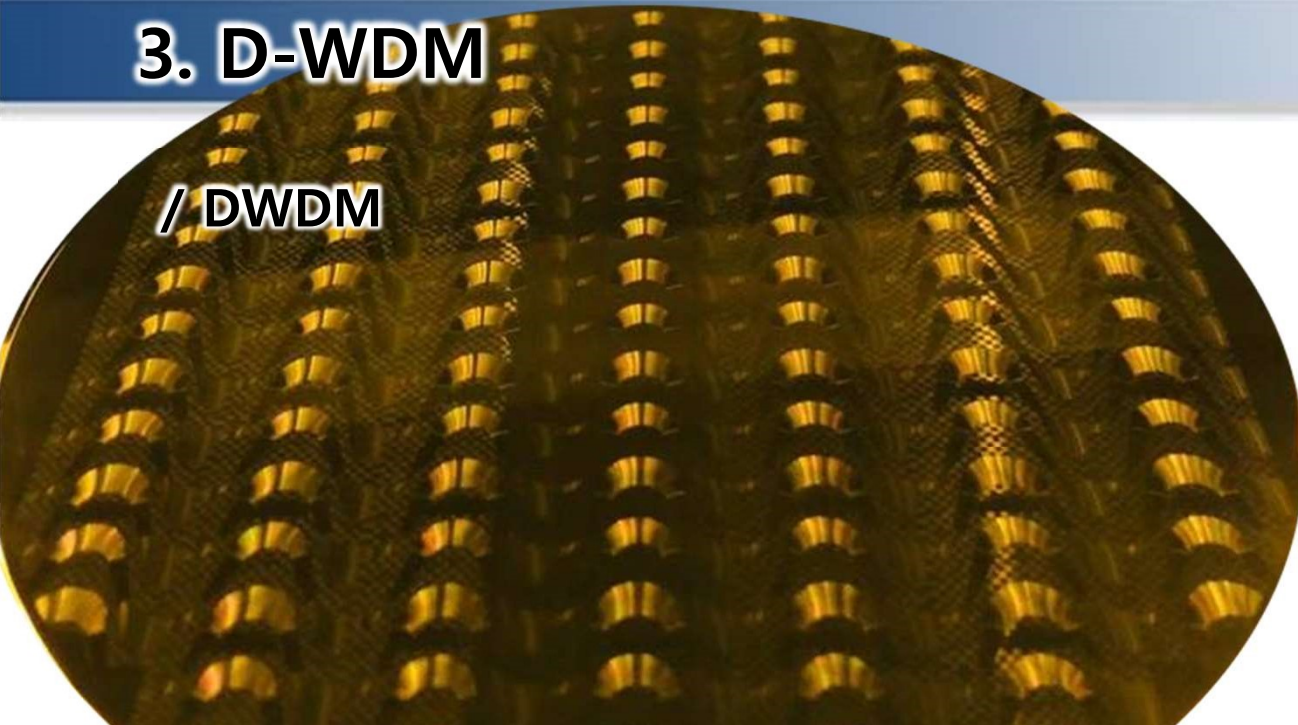
New type LAN WDM



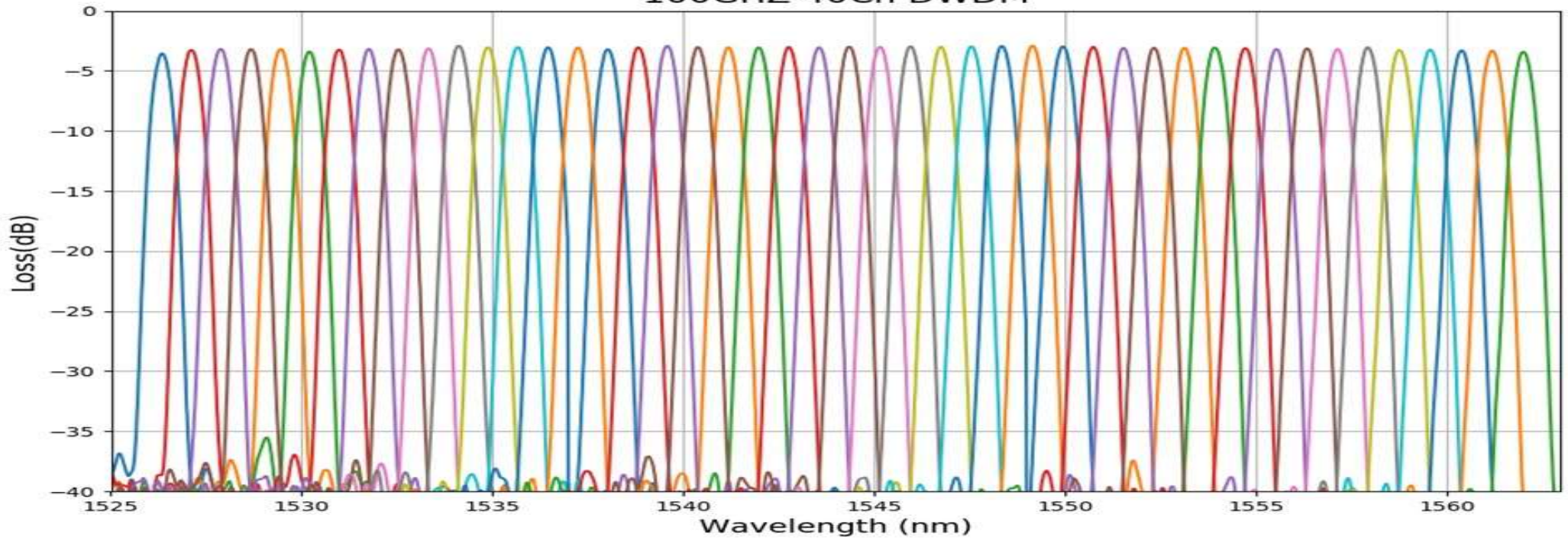


### 3. D-WDM

/ DWDM



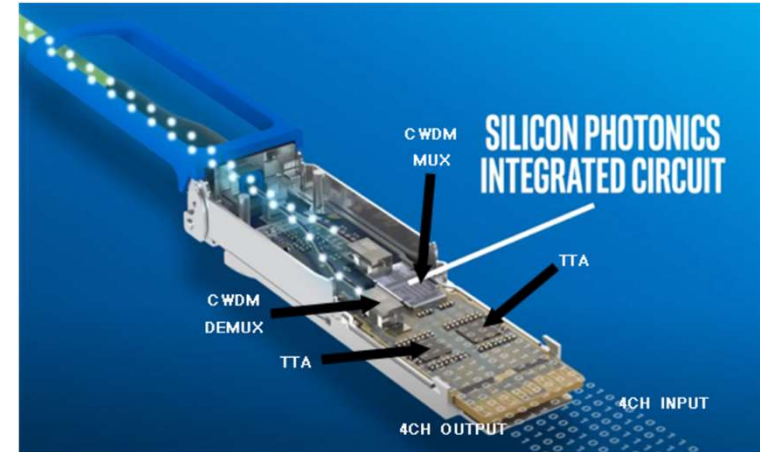
100GHZ 40Ch DWDM



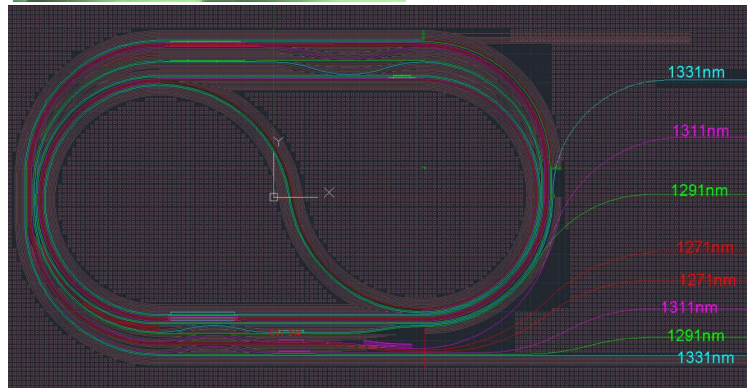


# Transiver

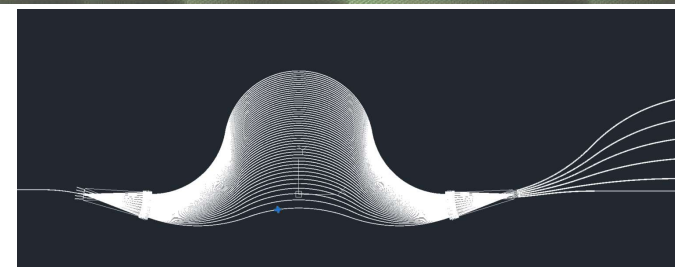
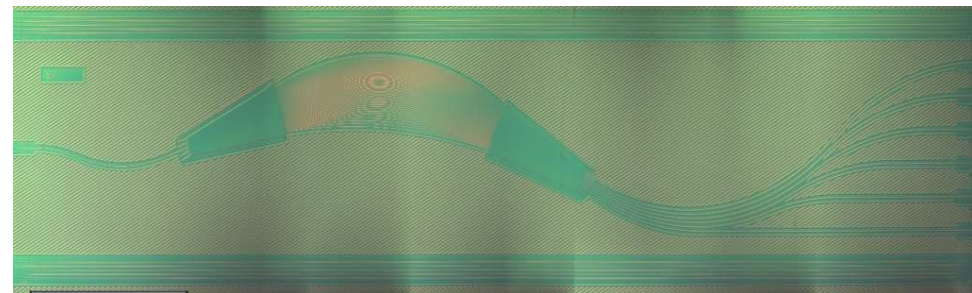
- ▶ Transiver
  - Flat passband
  - Low insertion loss



Transiver structure



CWDM LWDM MUX



CWDM LWDM DEMUX

# 4. Competitor

## 4-5 Competitor

区分	晶圆	竞争公司
本公司	8英寸 晶圆	
国内	6英寸 晶圆	
国外		

	晶圆尺寸	芯片数量	竞争力		
			技术	品质	价格
Way Optics	8 英寸	(±)1,000개	◎	◎	◎
韩国国内公司	6 英寸	(±)500개	◎	◎	△
国外公司	6英寸	(±)500개	▲	▲	◎
(上:◎, 中△, 下▲)					

## 5.

### 5-2

**NNFC:** national nano fab center KOREA

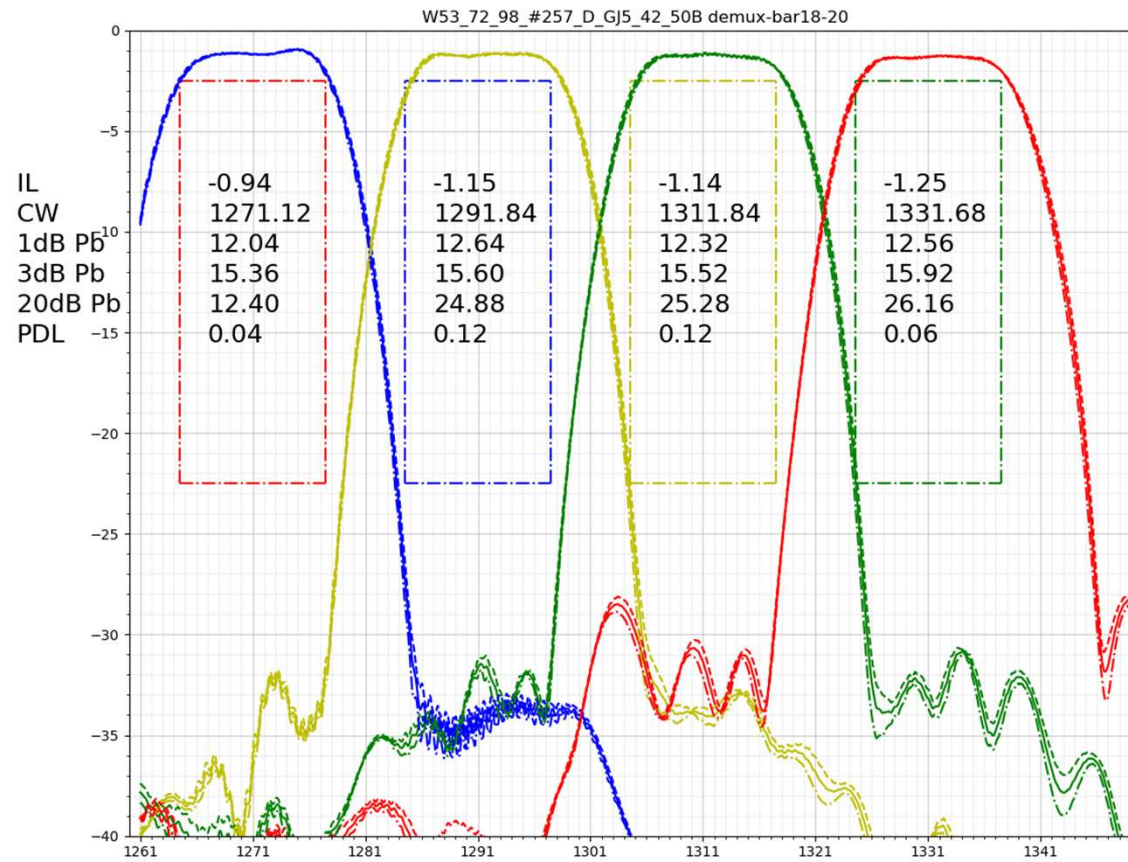
- ✓ **NNFC: Korea government Facility**
  - ✓ High quality equipment
  - ✓ KrF scanner, PECVD, ICP etcher
  - ✓ Class 10,100,1000
- ✓ **Way Optics Fab**
  - ✓ Outside NNFC :FHD, Furnace
  - ✓ Inside NNFC Fab : PECVD, ICP etcher
  - ✓ [www.wayoptics.com](http://www.wayoptics.com)





# 6. 产品现状

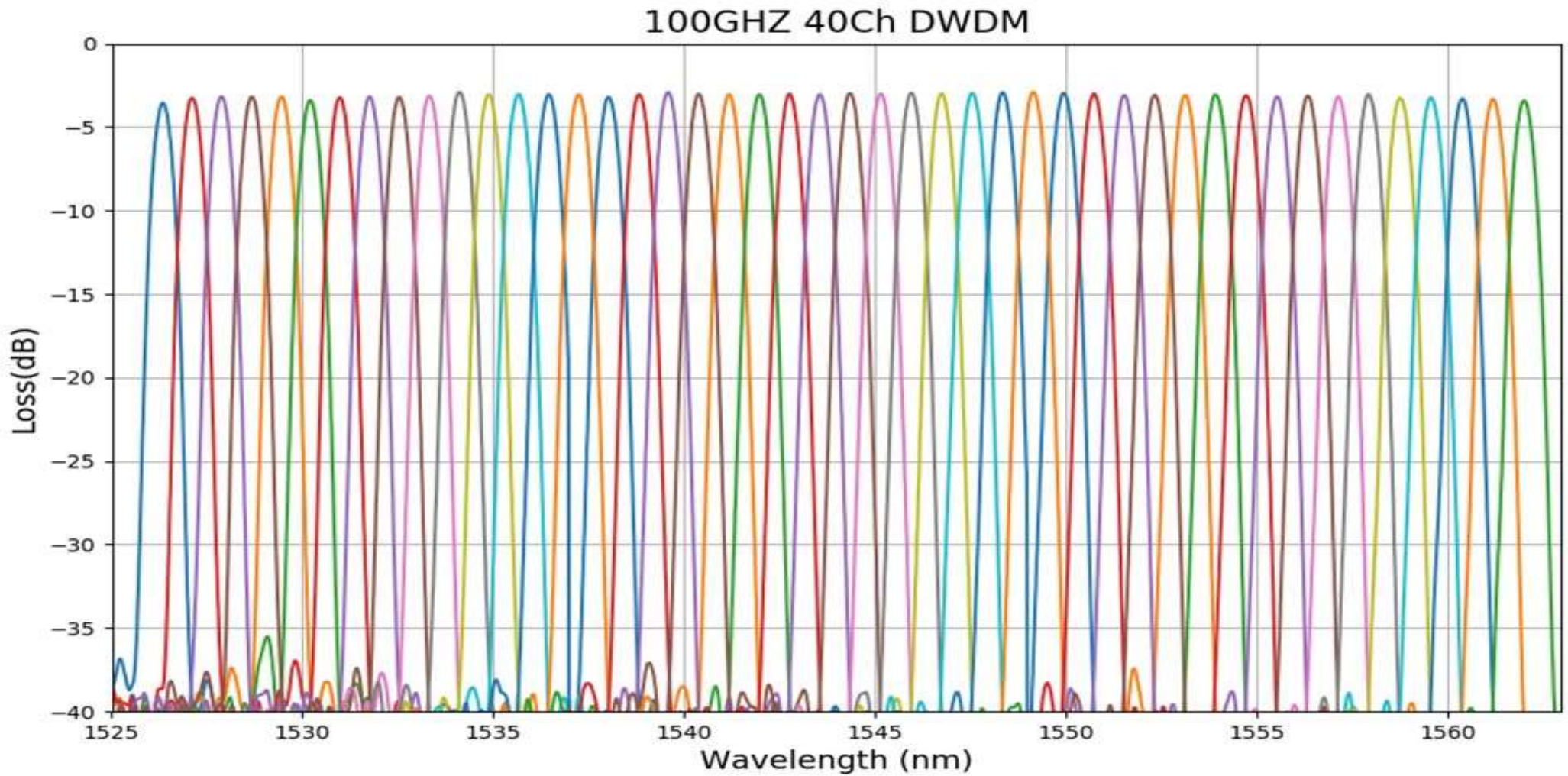
## 6-1产品数据图 (CWDM)





## 6. 产品现状

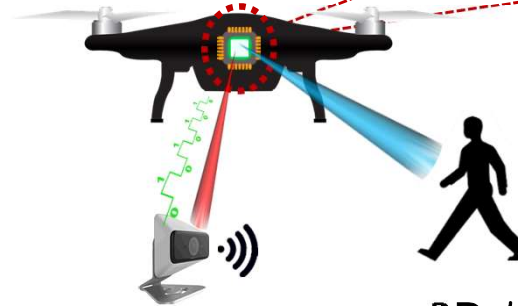
### 6-1产品数据图 (DWDM)



# Optical Phase Array for Lidar

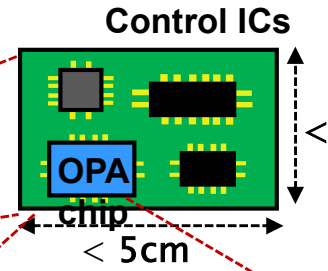


LiDAR  
: 200cm<sup>3</sup>  
: W



OPA image sensor  
: < 5 cm<sup>3</sup>  
: < 0.5 W

3D 상



Silica OPA chip





# Etch

