

### Phase-Locked Source, 148GHz Pout=+15dBm, WR-06 Output



#### Product Overview

AT Microwave provides Phased Locked Dielectric Resonator Oscillator (PLDRO) with state of art performance with high stable, reliable and efficient from 33-230GHz. Output power can be provided from +10dBm to +33dBm according to request.

These phase-locked source is combined with a PDRO and Active frequency multiplier. 100MHz OXCO internal referenced in the PDRO modules. 10MHz external is optional if needed.

More information, please visit [www.atmicrowave.com](http://www.atmicrowave.com)

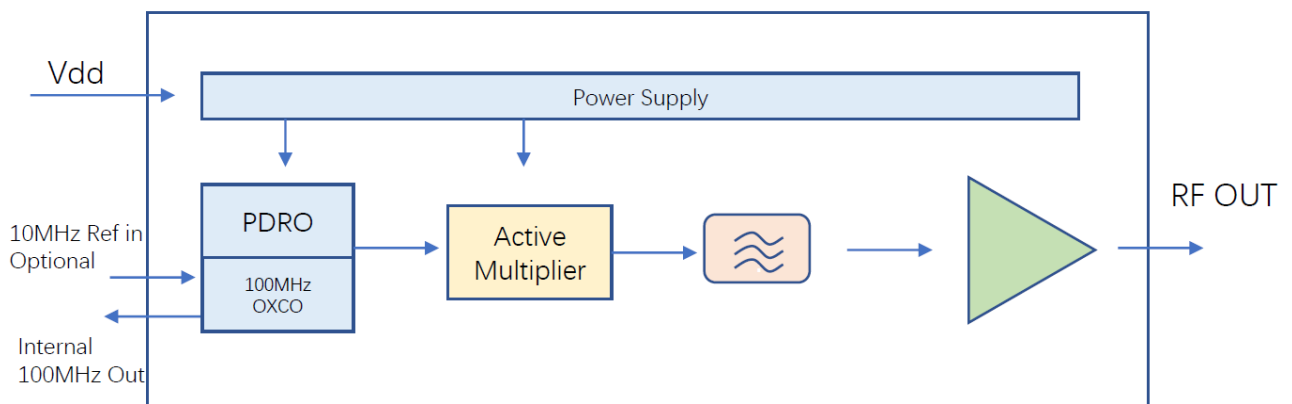
#### Advantages

- ✓ Super Low Phase Noise
- ✓ Super Low Harmonics
- ✓ Low Spurs, High Power
- ✓ Both Internal or external

#### Application

- ✓ 5G Communication
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System

#### Block Diagram





# AT-PLO-148IR-15-06

Phased Locked Dielectric Resonator Oscillator

## Key Features

Parameter	Min	Typical	Max
RF OUT Frequency Range		148GHz	
Output Power	+13	+15dBm	
Reference		Both internal and External	
Reference Inside		100MHz OXCO	
External Reference (Optional)		10MHz	
External Reference Power	+3dBm	+5dBm	+10dBm
Frequency Stability		+/-0.1ppm Internal (0-50C) or Same as External Reference	
PDRO Inside		18.5GHz	
PDRO Phase Noise		See table	
Multiplier Times		N=8	
Output Phase Noise		PDRO Phase Noise +20lgN +3dB	
Harmonics		-60dBc	
Spurs		-70dBc	
Phase Lock Indicator		TTL=High	
Power Supply/DC Option		+24V/0.5A	
Power Supply/AC Option With AC/DC Adapter	90V	220V 10W	240V
Spec Temp		25C	





# AT-PLO-148IR-15-06

Phased Locked Dielectric Resonator Oscillator

## Mechanical Information

Item	Description
RF Output Port	WR-06
External Reference Input	SMA Female
Internal Reference Output	SMA Female
Power Supply	PIN
Phase Locked Indicator	PIN
Case Material	Aluminum
Finish	Nickel Plated
Weight	1,5KG
Size:	See outline

## Absolute Maximum Ratings Table

Parameter	Value
Drain Supply	+36V
Reference Input Power	+15dBm
Operating Temperature	0 to + 50C
Storage Temperature	-45 to +85C

## Notes:

1. Datasheet may be changed according to update of MMIC, Raw materials , process, and so on.
2. This data is only for reference, not for guaranteed specifications.
3. Please contact AT Microwave team to make sure you have the most current data.





# AT-PLO-148IR-15-06

Phased Locked Dielectric Resonator Oscillator

## Part Number Selection Guide

AT - PLO - XX IR - YY - ZZ

PLO: Phase Locked PDRO

XX: Frequency in GHz, 18-230GHz available

IR: Interference inside

YY: Output Power, up to +30dBm

ZZ: Waveguide Port, 10=WR-10

For example, AT-PLO-94IR-18-10:

Frequency=94GHz, Pout=+18dBm, WR-10

## PDRO Phase Noise Inside

Frequency	1	2	4	6	8	10	12	14	16
dBc/Hz@100Hz	108	102	-96	-92	-92	-88	-88	-86	-83
dBc/Hz@1KHz	-133	-126	-120	-116	-115	-113	-110	-108	-102
dBc/Hz@10KHz	-135	-131	-126	-120	-120	-120	-118	-118	-105
dBc/Hz@100KHz	-135	-131	-126	-120	-120	-120	-120	-118	-110
dBc/Hz@1MHz	-140	-140	-140	-140	-140	-140	-140	-140	-140
Frequency	18	20	24	26	28	32	36	40	44
dBc/Hz@100Hz	-83	-80	-80	-80	-78	-78	-76	-73	-72
dBc/Hz@1KHz	-108	-104	-104	-102	-102	-96	-95	-94	-93
dBc/Hz@10KHz	-114	-113	-112	-110	-110	-99	-97	-94	-93
dBc/Hz@100KHz	-114	-113	-112	-110	-110	-104	-103	-102	-102
dBc/Hz@1MHz	-136	-134	-133	-131	-131	-130	-130	-130	-130
★ Note: Frequency 16-44GHz, Sub-harmonics: -60dBc									



### Dimension (mm)

