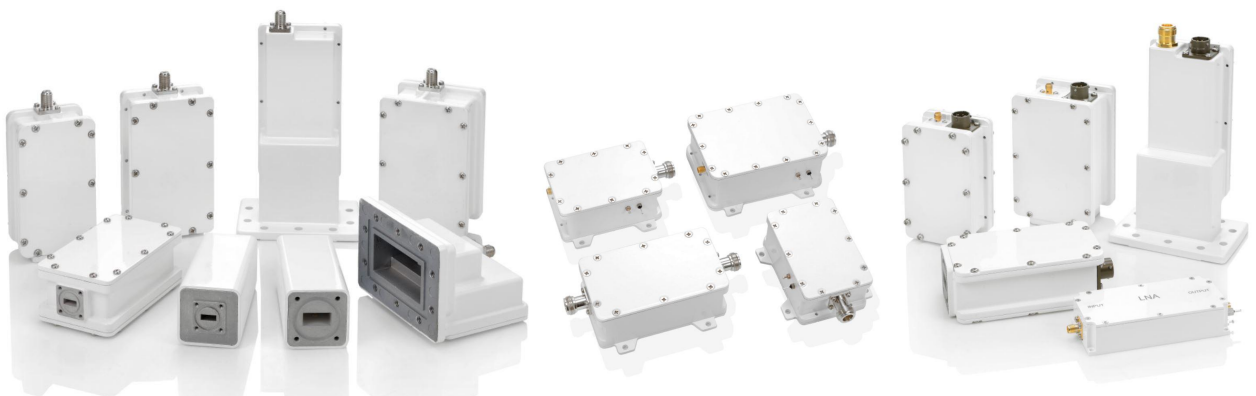


# Global Satellite Communication Devices...





## LNB (Low Noise Block down converter)



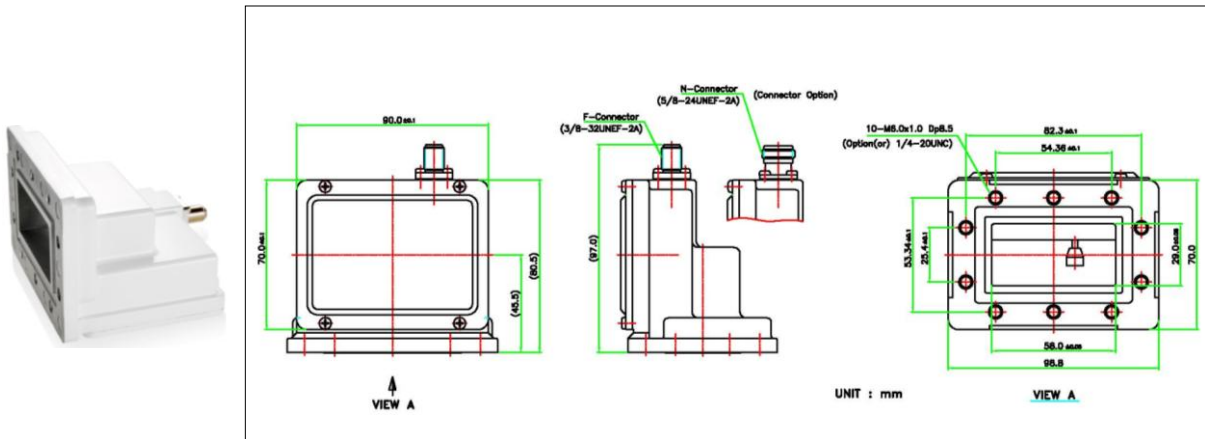
### ■ Model No. & Frequency

Band	Model No.	Input (GHz)	LO (GHz)	Output Freq.	Remarks
C-Band	A300(X) B300(X)	3.4 - 4.2 4.5 - 4.8	5.15 5.95	950 - 1750 1150 - 1450	Single LO
	S300(X)	3.4 - 4.2 4.5 - 4.8	5.15 5.95	950 - 1750 1150 - 1450	Simultaneous
Ku-Band	A500(X) A700(X)	10.7 - 12.75	9.75/10/10.75 /11.25/11.3	950 - 2050	Single LO
	AD500(X)	10.7 - 11.7 11.7 - 12.75	9.75 10.6/10.75	950 - 1950 1100 - 2150	Dual LO
	AQ500(X)	10.7 - 12.75	9.75/10/10.75/11.3	950 - 2000	Quad LO
	S500(X)	10.7 - 11.7 11.7 - 12.75	9.75 10.75	950 - 1950 950 - 2000	Simultaneous
Ka-Band	A900(X) A600(X)	17.2 - 22.2	16.25/17.25/18.25 /19.25/20.25	950 - 1950	Single LO
	AD900(X)	18.2 - 22.2	17.25/18.25 /19.25/20.25	950 - 1950	Dual LO
	AT900(X)	18.2 - 22.2	17.25/18.25 /19.25/20.25	950 - 1950	Triple LO
	BQ900(X)	17.2 - 22.2	16.25/17.25/18.25 /19.25/20.25	950 - 1950	Quad LO
	BF900(X)	17.2 - 22.2	16.25/17.25/18.25 /19.25/20.25	950 - 1950	Five LO
	BST9000(X)	17.7 - 20.2	16.75/17.25/18.25	950 - 1950	Simultaneous
X-Band	A100(X)	7.25 - 7.75	6.3	950 - 1450	Single LO

# C-Band PLL LNB

## A300(Internal), A300X(External) series

### Mechanical Drawing



### Model No & Frequency

Model No.	Input freq.(GHz)	Output Freq.(MHz)	L.O Freq.(GHz)
A300(X)	3.4 - 4.2	950 - 1750	5.15
A300(X)C	3.625 - 4.2	950 - 1525	5.15
A300(X)R	3.7 - 4.2	950 - 1450	5.15
A300(X)I	4.5 - 4.8	1150 - 1450	5.95

### Specifications

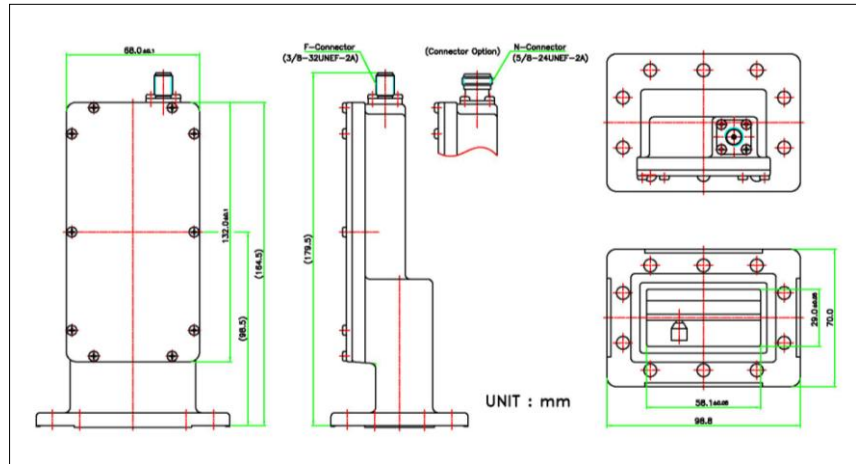
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise temperature	30°K max.
Conversion gain at -40 to +60°C	60dB typ. (55dB min. 70dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at -40 to +60°C	4 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±5, 10, 25 KHz max. External type : depends on ext. ref.
Image rejection	45 dBc min.
Phase noise	-73 dBc/Hz @1KHz -83 dBc/Hz @10KHz -93 dBc/Hz @100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-229
Output connector	F, N-Type female (option)
Power supply	+12 to +24V DC
Required current	250 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	98.8 x 70.0 x 80.5 mm
Weight	550 g

# C-Band PLL LNB

## B300(Internal), B300X(External) series

### Mechanical Drawing



### Model No & Frequency

Model No.	Input freq.(GHz)	Output Freq.(MHz)	L.O Freq.(GHz)
B300(X)	3.4 - 4.2	950 - 1750	5.15
B300(X)C	3.625 - 4.2	950 - 1525	5.15
B300(X)R	3.7 - 4.2	950 - 1450	5.15
B300(X)I	4.5 - 4.8	1150 - 1450	5.95

### Specifications

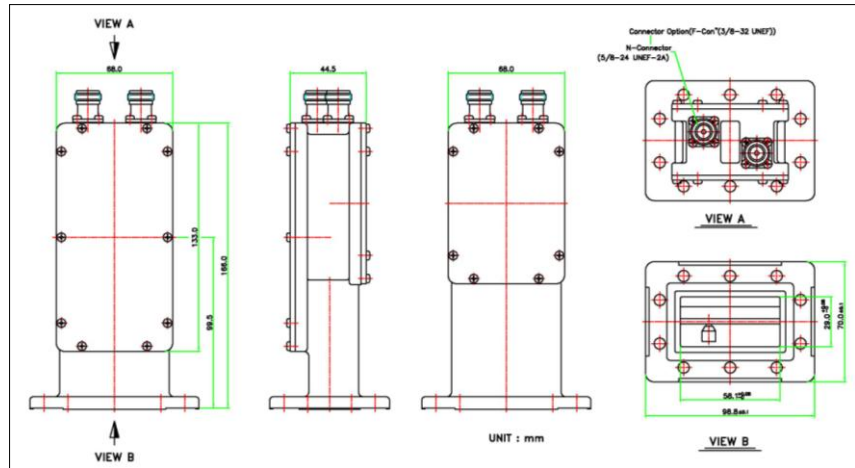
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise temperature	30°K max.
Conversion gain at -40 to +60°C	60dB typ. (55dB min. 70dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at -40 to +60°C	4 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±5, 10, 25 KHz max. External type : depends on ext. ref.
Image rejection	45 dBc min.
Phase noise	-73 dBc/Hz @1KHz -83 dBc/Hz @10KHz -93 dBc/Hz @100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-229
Output connector	F, N-Type female (option)
Power supply	+12 to +24V DC
Required current	250 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	98.8 x 70.0 x 164.5 mm
Weight	575 g

# C-Band Simultaneous PLL LNB

## S300(Internal), S300X(External) series

### Mechanical Drawing



### Model No & Frequency

Model No	Band	Input (GHz)	Output (MHz)	L.O(GHz)
S300(X)	Low	3.4 – 4.2	950 – 1750	5.15
	High	4.5 – 4.8	1150 – 1450	5.95

### Specifications

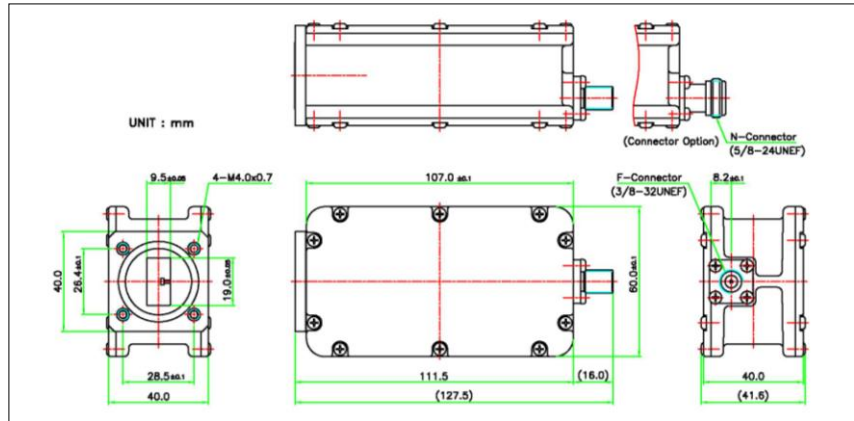
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise temperature	35°K max.
Conversion gain at -40 to +60°C	60dB typ. (55dB min. 70dB max.)
Gain flatness	5 dBp-p max.
Gain flatness at -40 to +60°C	6 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±5, 10, 25 KHz max. External type : depends on ext. ref.
Image rejection	45 dBc min.
Phase noise	-73 dBc/Hz @1KHz -83 dBc/Hz @10KHz -93 dBc/Hz @100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	3.0 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-229
Output connector	F, N-Type female (option)
Power supply	+12 to +24V DC
Required current	250 mA max. (each port)
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	98.8 x 70.0 x 165.0 mm
Weight	575 g

# Ku-Band PLL LNB

## A500(Internal), A500X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Input Freq.(GHz)	Output Freq.(MHz)	L.O Freq.GHz
A510(X)	10.7 - 11.8	950 - 2050	9.75
A520(X)	10.95 - 11.7	950 - 1700	10.0
A540(X)	11.7 - 12.2	950 - 1450	10.75
A549(X)	11.7 - 12.75	950 - 2000	10.75
A560(X)	12.2 - 12.7	950 - 1450	11.25
A570(X)	12.25 - 12.75	950 - 1450	11.3

### Specifications

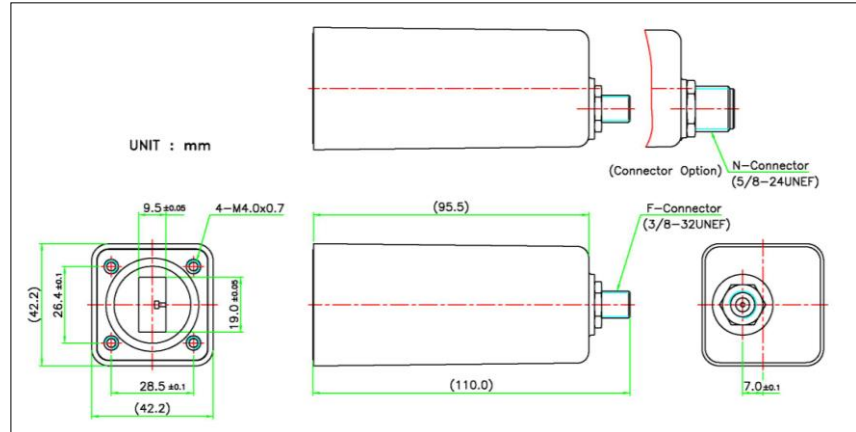
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	0.9 dB max.
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at -40 to +60°C	5 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±5, 10, 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz at 1KHz -80 dBc/Hz at 10KHz -95 dBc/Hz at 100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-75
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	350 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	60.0 x 41.6 x 111.5 mm
Weight	380 g

# Ku-Band PLL LNB

## A700(Internal), A700X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Input Freq.(GHz)	Output Freq.(MHz)	L.O
A710(X)	10.7 - 11.8	950 - 2050	9.75
A720(X)	10.95 - 11.7	950 - 1700	10.0
A740(X)	11.7 - 12.2	950 - 1450	10.75
A749(X)	11.7 - 12.75	950 - 2000	10.75
A760(X)	12.2 - 12.7	950 - 1450	11.25
A770(X)	12.25 - 12.75	950 - 1450	11.3

### Specifications

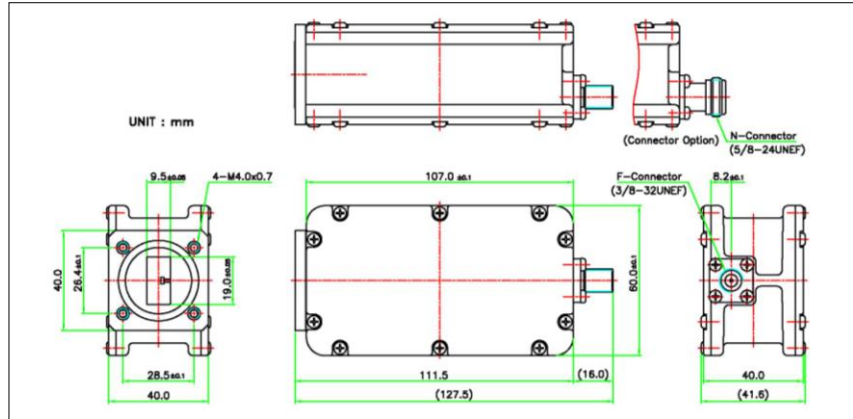
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	0.9 dB max.
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at -40 to +60°C	5 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±5, 10, 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz at 1KHz -80 dBc/Hz at 10KHz -95 dBc/Hz at 100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-75
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	350 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	42.2 x 42.2 x 97.7 mm
Weight	270 g

# Ku-Band Dual LO PLL LNB

## AD500(Internal), AD500X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Band	Input (GHz)	Output (MHz)	L.O (GHz), Switching
AD510(X)	Band 1	10.7 - 11.7	950 - 1950	9.75 @13 VDC /or 22KHz off
	Band 2	11.7 - 12.75	1100 - 2150	10.6 @18 VDC /or 22KHz on
AD520(X)	Band 1	10.7 - 11.7	950 - 1950	9.75 @13 VDC /or 22KHz off
	Band 2	11.7 - 12.75	950 - 2000	10.75@18 VDC /or 22KHz on

### Specifications

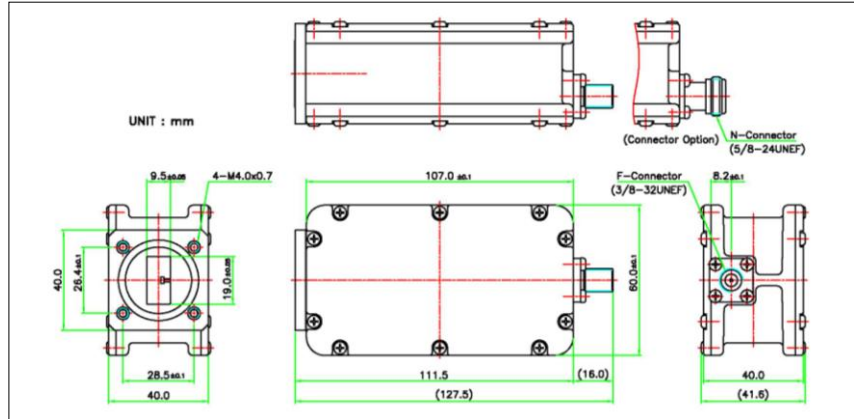
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	1.0 dB max.
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	5 dBp-p max.
Gain flatness at -40 to +60°C	6 dBp-p max.
Gain ripple at per 36MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	±5, 10, 25 KHz max.
Image rejection	External type : depends on ext. ref. 40 dBc min.
Phase noise	-70 dBc/Hz at 1KHz -80 dBc/Hz at 10KHz -95 dBc/Hz at 100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-75
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	350 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	60.0 x 41.6 x 111.5 mm
Weight	400 g

# Ku-Band Quad LO PLL LNB

## AQ500(Internal), AQ500X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Band	Input (GHz)	Output (MHz)	L.O (GHz), Switching
AQ510(X)	Band 1	10.7 - 11.7	950 - 1950	9.75 @13 VDC
	Band 2	10.95 - 11.7	950 - 1700	10.0 @13 VDC & 22KHz
	Band 3	11.7 - 12.75	950 - 2000	10.75@18 VDC
	Band 4	12.25 - 12.75	950 - 1450	11.3 @18 VDC & 22KHz
AQ520(X)	Band 1	10.7 - 11.7	950 - 1950	9.75 @13 VDC
	Band 2	10.95 - 11.7	950 - 1700	10.0 @13 VDC & 22KHz
	Band 3	11.7 - 12.75	1100- 2150	10.6 @18 VDC
	Band 4	12.25 - 12.75	950 - 1450	11.3 @18 VDC & 22KHz

### Specifications

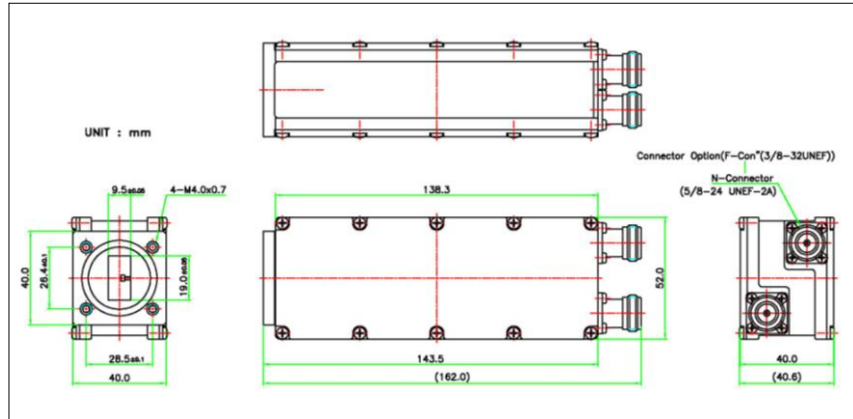
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	1.0 dB max.
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	5 dBp-p max.
Gain flatness at -40 to +60°C	6 dBp-p max.
Gain ripple at per 36MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±5, 10, 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min. @ Band 1, 2 35 dBc min. @ Band 3 15 dBc min. @ Band 4
Phase noise	-70 dBc/Hz at 1KHz -80 dBc/Hz at 10KHz -95 dBc/Hz at 100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-75
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	350 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	60.0 x 41.6 x 111.5 mm
Weight	400 g

# Ku-Band Simultaneous PLL LNB

## S500(Internal), S500X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Band	Input (GHz)	Output (MHz)	L.O.(GHz)
S510(X)	Band 1	10.7 - 11.7	950 - 1950	9.75
	Band 2	11.7 - 12.75	950 - 2000	10.75
S520(X)	Band 1	10.95- 11.7	950 - 1700	10.0
	Band 2	11.7 - 12.75	950 - 2000	10.75

### Specifications

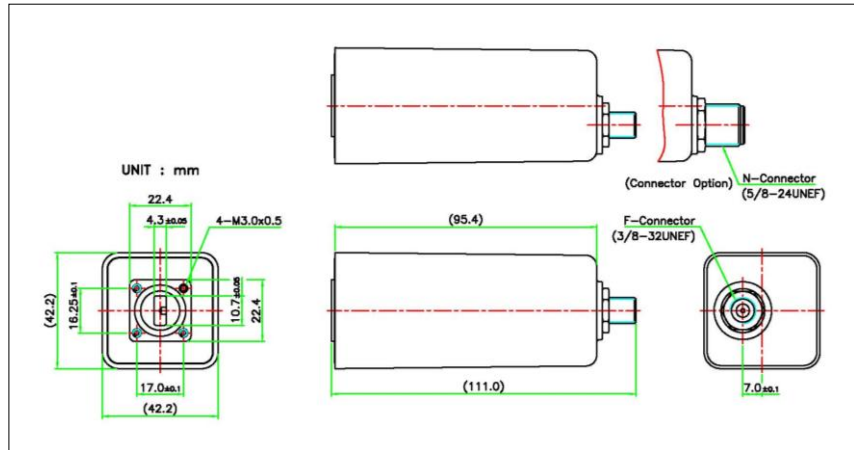
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	1.0 dB max.
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	5 dBp-p max.
Gain flatness at -40 to +60°C	6 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	±10, 25 KHz max.
Image rejection	External type : depends on ext. ref. 40 dBc min.
Phase noise	-70 dBc/Hz at 1KHz -80 dBc/Hz at 10KHz -95 dBc/Hz at 100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-75
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	350 mA max. (each band)
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	40.0 x 52.0 x 157.2 mm
Weight	500 g

# Ka-Band PLL LNB

## A600(Internal), A600X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No	Input Freq.(GHz)	Output Freq.(MHz)	L.O Freq.(GHz)
A610(X)	17.2 - 18.2	950 - 1950	16.25
A620(X)	18.2 - 19.2	950 - 1950	17.25
A630(X)	19.2 - 20.2	950 - 1950	18.25
A640(X)	20.2 - 21.2	950 - 1950	19.25
A650(X)	21.2 - 22.2	950 - 1950	20.25

### Specifications

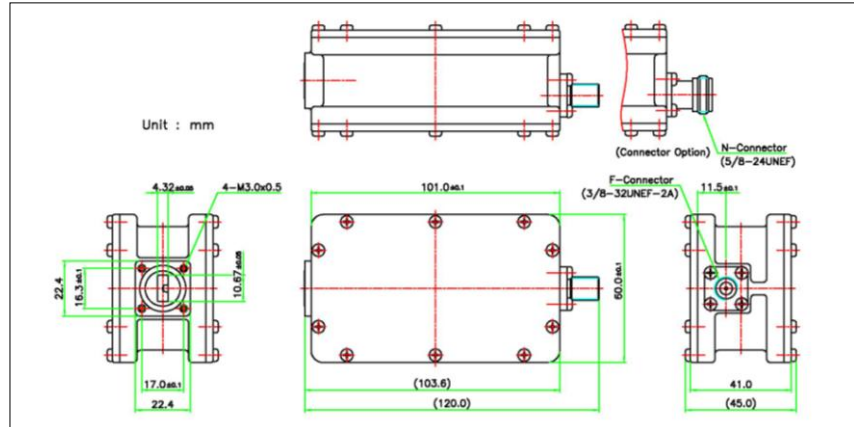
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	1.6 dB max. (A650(X) : 1.8 dB max.)
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at -40 to +60°C	5 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±10, 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz (@1 KHz) -80 dBc/Hz (@10 KHz) -95 dBc/Hz (@100 KHz)
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-42
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	450 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	42.2 x 42.2 x 98.7 mm
Weight	270 g

# Ka-Band PLL LNB

## A900(Internal), A900X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Input Freq.(GHz)	Output Freq.(MHz)	L.O Freq.(GHz)
A910(X)	17.2 - 18.2	950 - 1950	16.25
A920(X)	18.2 - 19.2	950 - 1950	17.25
A930(X)	19.2 - 20.2	950 - 1950	18.25
A940(X)	20.2 - 21.2	950 - 1950	19.25
A950(X)	21.2 - 22.2	950 - 1950	20.25

### Specifications

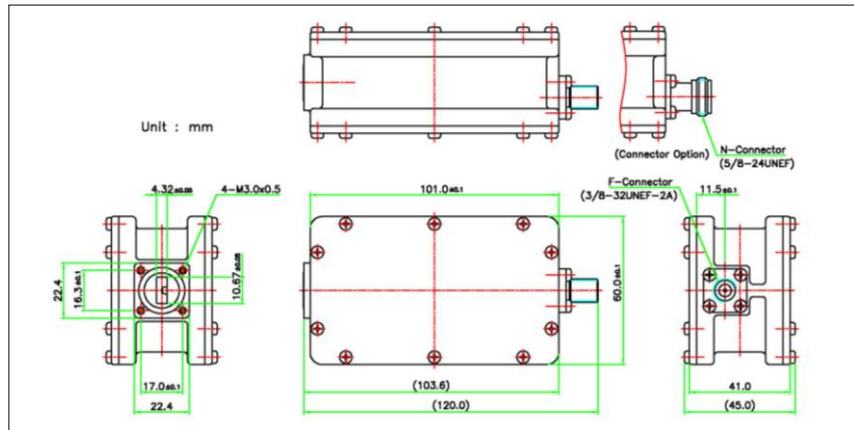
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	1.6 dB max. (A950(X) : 1.8 dB max.)
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at -40 to +60°C	5 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±10, 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz (@1 KHz) -80 dBc/Hz (@10 KHz) -95 dBc/Hz (@100 KHz)
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-42
Output connector	F, N-type female
Power supply	+12 to +24V DC
Required current	450 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	60.0 x 45.0 x 103.6 mm
Weight	420 g

# Ka-Band Dual LO PLL LNB

## AD900(Internal), AD900X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Band	Input (GHz)	Output (MHz)	L.O(GHz), Switching
AD910(X)	Band 1	18.20 - 19.20	950 - 1950	17.25 @13 VDC
	Band 2	19.20 - 20.20	950 - 1950	18.25 @18 VDC
AD920(X)	Band 1	19.20 - 20.20	950 - 1950	18.25 @13 VDC
	Band 2	20.20 - 21.20	950 - 1950	19.25 @18 VDC
AD930(X)	Band 1	20.20 - 21.20	950 - 1950	19.25 @13 VDC
	Band 2	21.20 - 22.20	950 - 1950	20.25 @18 VDC

### Specifications

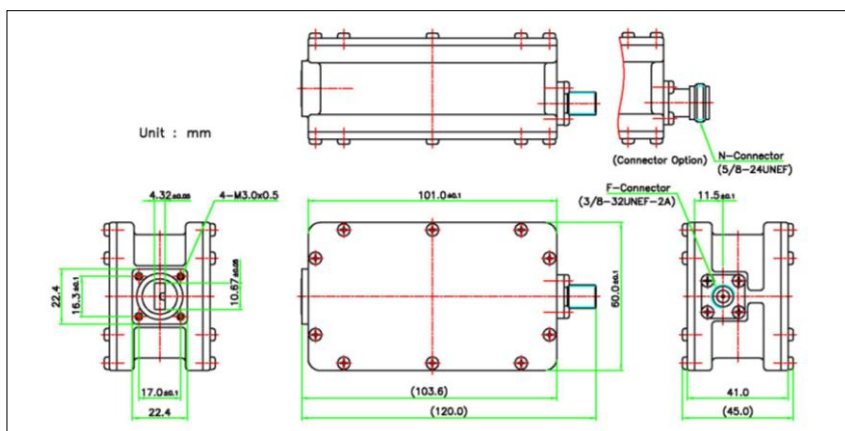
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	1.6 dB max. (AD930(X) : 1.8dB max.)
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	5 dBp-p max.
Gain flatness at -40 to +60°C	6 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±10, 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz at 1KHz -78 dBc/Hz at 10KHz -95 dBc/Hz at 100KHz
Output P1dB	+3 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-42
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	450 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	60.0 x 45.0 x 103.6 mm
Weight	420 g

## Ka-Band Triple LO PLL LNB

### AT900(Internal), AT900X(External) series

## Mechanical Drawing



## Model No. &amp; Frequency

<u>Model no.</u>	<u>Band</u>	<u>Input (GHz)</u>	<u>Output (MHz)</u>	<u>L.O(GHz), Switching</u>
AT910(X)	Band 1	18.20 - 19.20	950 - 1950	17.25 @13 VDC
	Band 2	19.20 - 20.20	950 - 1950	18.25 @18 VDC
	Band 3	20.20 - 21.20	950 - 1950	19.25 @13 VDC & 22KHz
AT920(X)	Band 1	19.20 - 20.20	950 - 1950	18.25 @13 VDC
	Band 2	20.20 - 21.20	950 - 1950	19.25 @18 VDC
	Band 3	21.20 - 22.20	950 - 1950	20.25 @13 VDC & 22KHz

**Specifications** (Temperature condition for the parameters not specified is at 23±3°C)

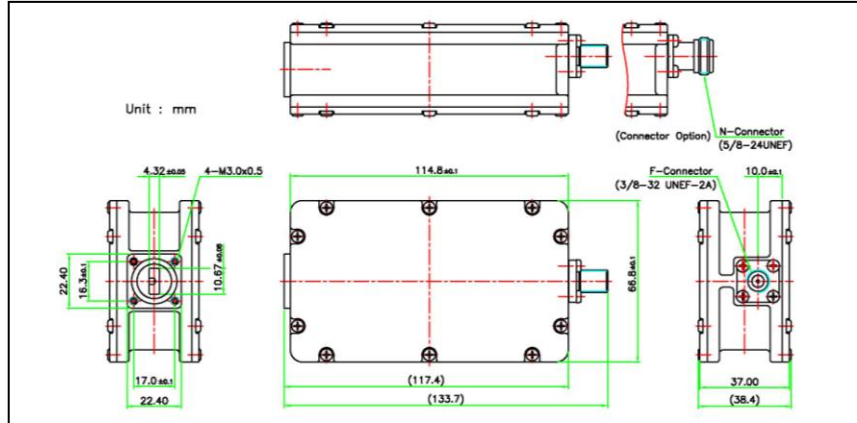
(Temperature condition for the parameters not specified is at  $23\pm3^{\circ}\text{C}$ )

<u>Parameter</u>	<u>Specification</u>
Noise figure	1.6 dB max. (AT920 : 1.8 dB max.)
Conversion gain at -40 to +60°C	60 dB typ. (55dB min. 65dB max.)
Gain flatness	5 dBp-p max.
Gain flatness at -40 to +60°C	6 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±10, 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min. @ Band 1 30 dBc min. @ Band 2 0 dBc min. @ Band 3
Phase noise	-70 dBc/Hz (@1 KHz) -78 dBc/Hz (@10 KHz) -95 dBc/Hz (@100 KHz)
Output P1dB	+3 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	3.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-42
Output connector	F, N-Type female (option)
Power supply	+12 to +24V DC
Required current	450 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	60.0 x 45.0 x 103.6 mm
Weight	420 g

# Ka-Band Quad LO PLL LNB

## BQ900(Internal), BQ900X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Band	Input (GHz)	Output (MHz)	L.O (GHz), Switching
BQ910(X)	Band 1	17.20 - 18.20	950 - 1950	16.25 @13V
	Band 2	18.20 - 19.20	950 - 1950	17.25 @13V & 22KHz
	Band 3	19.20 - 20.20	950 - 1950	18.25 @18V
	Band 4	20.20 - 21.20	950 - 1950	19.25 @18V & 22KHz
BQ920(X)	Band 1	18.20 - 19.20	950 - 1950	17.25 @13V
	Band 2	19.20 - 20.20	950 - 1950	18.25 @13V & 22KHz
	Band 3	20.20 - 21.20	950 - 1950	19.25 @18V
	Band 4	21.20 - 22.20	950 - 1950	20.25 @18V & 22KHz

### Specifications

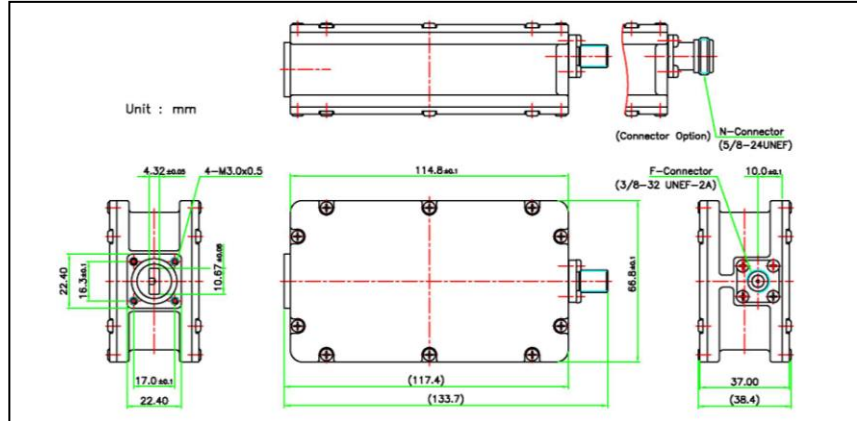
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	2.0 dB max.
Conversion gain at -40 to +60°C	60 dB yp. (55dB min, 65dB max.)
Gain flatness	4 dBp-p max. (each band)
Gain flatness at -40 to +60°C	5 dBp-p max. (each band)
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±10 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min. @ Band 1 25 dBc min. @ Band 2 0 dBc min. @ Band 3, 4
Phase noise	-70 dBc/Hz (@1 KHz) -80 dBc/Hz (@10 KHz) -95 dBc/Hz (@100 KHz)
Output P1dB	+10 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	3.5 : 1 max.
Output VSWR	2.2 : 1 max.
Input waveguide flange	WR-42
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	450 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	66.8 x 38.4 x 117.4 mm
Weight	520 g

# Ka-Band Five LO PLL LNB

## BF900(Internal), BF900X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Band	Input (GHz)	Output (MHz)	L.O (GHz), Switching
BF910(X)	Band 1	17.20 - 18.20	950 - 1950	16.25 @13V
	Band 2	18.20 - 19.20	950 - 1950	17.25 @13V & 22KHz
	Band 3	19.20 - 20.20	950 - 1950	18.25 @18V
	Band 4	20.20 - 21.20	950 - 1950	19.25 @18V & 22KHz
	Band 5	21.20 - 22.20	950 - 1950	20.25 @22V

### Specifications

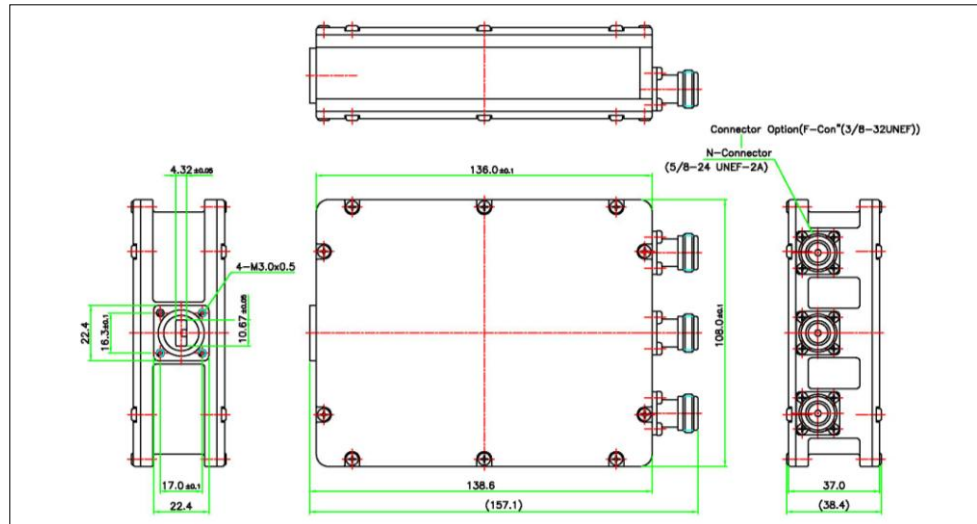
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	2.3 dB max.
Conversion gain at -40 to +60°C	60 dB typ. (55dB min, 65dB max.)
Gain flatness	4 dBp-p max. (each band)
Gain flatness at -40 to +60°C	5 dBp-p max. (each band)
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±10 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min. @ Band 1 25 dBc min. @ Band 2 0 dBc min. @ Band 3, 4, 5
Phase noise	-70 dBc/Hz (@1 KHz) -78 dBc/Hz (@10 KHz) -93 dBc/Hz (@100 KHz)
Output P1dB	+10 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	3.5 : 1 max.
Output VSWR	2.2 : 1 max.
Input waveguide flange	WR-42
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	450 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	66.8 x 38.4 x 117.4 mm
Weight	520 g

# Ka-Band 3 LO Simultaneous PLL LNB

## BST900(Internal), BST900X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Band	Input Freq.(GHz)	Output (MHz)	L.O(GHz)
BST900(X)	Band 1	17.70 - 18.20	950 - 1450	16.75
	Band 2	18.20 - 19.20	950 - 1950	17.25
	Band 3	19.20 - 20.20	950 - 1950	18.25

### Specifications

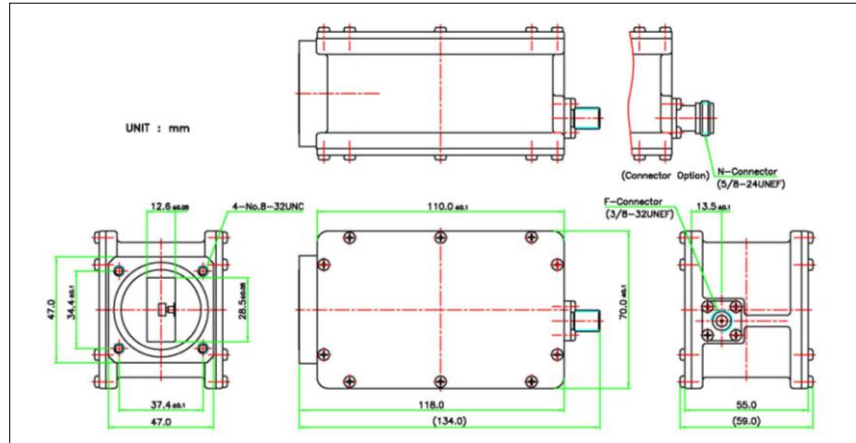
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	1.8 dB max.
Conversion gain at -40 to +60°C	60 dB typ. (55dB min, 65dB max.)
Gain flatness	4 dBp-p max. (each band)
Gain flatness at -40 to +60°C	5 dBp-p max. (each band)
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz (@1 KHz) -80 dBc/Hz (@10 KHz) -95 dBc/Hz (@100 KHz)
Output P1dB	+10 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	3.0 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-42
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	1000 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	38.4 x 108.0 x 138.6 mm
Weight	g

# X-Band PLL LNB

## A100(Internal), A100X(External) series

### Mechanical Drawing



### Model No. & Frequency

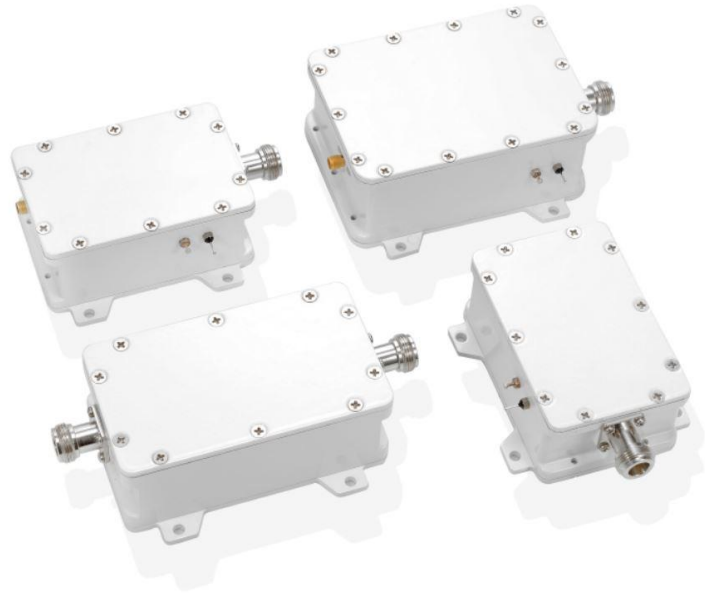
Model No.	Input Freq.(GHz)	Output Freq.(MHz)	L.O
A100(X)	7.25 - 7.75	950 - 1450	6.3

### Specifications

(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise figure	0.7 dB max.
Conversion gain at -40 to +60°C	55 dB typ. (50dB min. 62dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at -40 to +60°C	5 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±10, 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-75 dBc/Hz at 1KHz -85 dBc/Hz at 10KHz -95 dBc/Hz at 100KHz
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Input waveguide flange	WR-112
Output connector	F, N-type female (option)
Power supply	+12 to +24V DC
Required current	300 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	70.0 x 59.0 x 118.0 mm
Weight	620 g

## BDC (Block down converter)



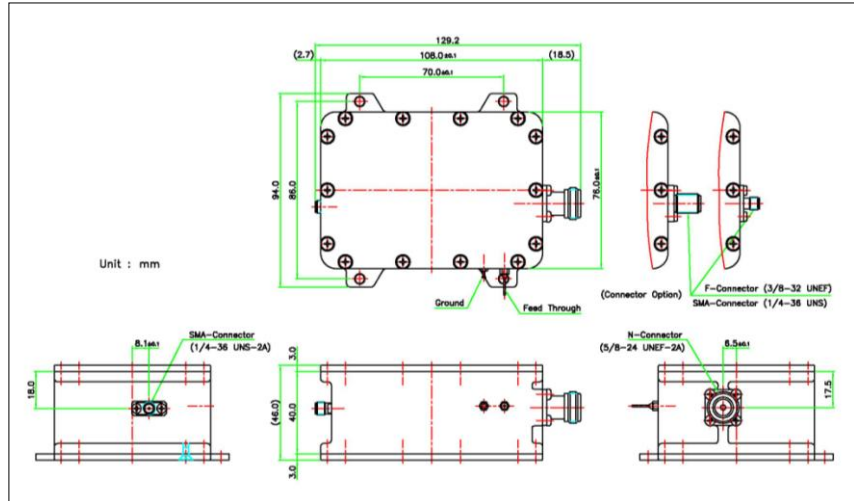
### ■ Model No. & Frequency

Band	Model No.	Input (GHz)	LO (GHz)	Output Freq.	Remarks
C-Band	BDC-310(X)	3.4 - 4.2	5.15	950 - 1750	
	BDC-320(X)	4.5 - 4.8	5.95	950 - 1150	
Ku-Band	BDC-510(X)	10.7 - 11.8	9.75	950 - 2050	
	BDC-520(X)	10.95 - 11.7	10.0	950 - 1700	
	BDC-540(X)	11.7 - 12.2	10.75	950 - 1450	
	BDC-549(X)	11.7 - 12.75	10.75	950 - 2000	
	BDC-560(X)	12.2 - 12.7	11.25	950 - 1450	
	BDC-570(X)	12.25 - 12.75	11.3	950 - 1450	
Ka-Band	BDC-910(X)	17.2 - 18.2	16.25	950 - 1950	
	BDC-920(X)	18.2 - 19.2	17.25	950 - 1950	
	BDC-930(X)	19.2 - 20.2	18.25	950 - 1950	
	BDC-940(X)	20.2 - 21.2	19.25	950 - 1950	
	BDC-950(X)	21.2 - 22.2	20.25	950 - 1950	
X-Band	BDC-100(X)	7.25 - 7.75	6.3	950 - 1450	

## C-Band BDC

### BDC-300(Internal), BDC-300X(External) series

#### Mechanical Drawing



#### Model No. & Frequency

Model No.	Input Freq.(GHz)	Output Freq.(MHz)	L.O Freq.(GHz)
BDC-310(X)	3.4 - 4.2	950 - 1750	5.15
BDC-320(X)	4.5 - 4.8	1150 - 1450	5.95

#### Specifications

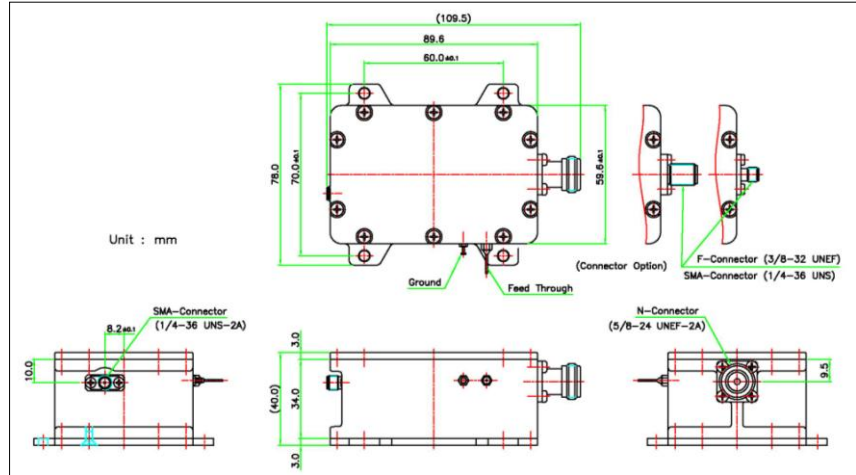
(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter	Specification
Noise figure	10 dB max.
Conversion gain at $-40$ to $+60^{\circ}\text{C}$	40 dB typ. (37dB min. 43dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at $-40$ to $+60^{\circ}\text{C}$	5 dBp-p max.
Gain ripple at per 27MHz, $-40$ to $+60^{\circ}\text{C}$	1 dBp-p max.
L.O stability at $-40$ to $+60^{\circ}\text{C}$	Internal type : $\pm 5, 10, 25$ KHz max. External type : depends on ext. ref.
Image rejection	45 dBc min.
Phase noise	-73 dBc/Hz (@1KHz) -83 dBc/Hz (@10KHz) -93 dBc/Hz (@100KHz)
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.0 : 1 max.
Output VSWR	2.0 : 1 max.
Input Connector	SMA-type female
Output connector	F, N, SMA-type female (option)
Power supply	+12 to +24V DC
Power supply connector	Feed thru and/or output connector
Required current	300 mA max.
Operating temperature	$-40$ to $+60^{\circ}\text{C}$
Waterproof	IP 67
Dimension (exclude connector)	108.0 x 94.0 x 46.0 mm
Weight	620 g

# Ku-Band BDC

## BDC-500(Internal), BDC-500X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Input Freq.(GHz)	Output Freq.(MHz)	L.O Freq.(GHz)
BDC-510(X)	10.7 - 11.8	950 - 2050	9.75
BDC-520(X)	10.95 - 11.7	950 - 1700	10.0
BDC-540(X)	11.7 - 12.2	950 - 1450	10.75
BDC-549(X)	11.7 - 12.75	950 - 2000	10.75
BDC-560(X)	12.2 - 12.7	950 - 1450	11.25
BDC-570(X)	12.25 - 12.75	950 - 1450	11.3

### Specifications

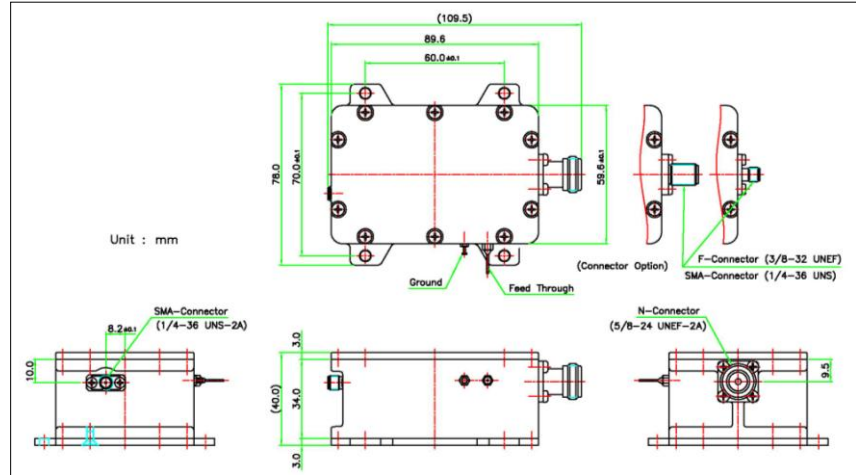
(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter	Specification
Noise figure	15 dB max.
Conversion gain at $-40$ to $+60^{\circ}\text{C}$	20 dB typ. (17dB min. 23dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at $-40$ to $+60^{\circ}\text{C}$	5 dBp-p max.
Gain ripple at per 27MHz, $-40$ to $+60^{\circ}\text{C}$	1 dBp-p max.
L.O stability at $-40$ to $+60^{\circ}\text{C}$	Internal type : $\pm 5, 10, 25$ KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz (@1KHz) -80 dBc/Hz (@10KHz) -95 dBc/Hz (@100KHz)
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input VSWR	2.0 : 1 max.
Output VSWR	2.0 : 1 max.
Input Connector	SMA-type female
Output connector	F, N, SMA-Type female (option)
Power supply	+12 to +24V DC
Power supply connector	Feed thru and/or output connector
Required current	300 mA max.
Operating temperature	$-40$ to $+60^{\circ}\text{C}$
Waterproof	IP 67
Dimension (exclude connector)	89.6 x 78.0 x 40.0 mm
Weight	400 g

# Ka-Band BDC

## BDC-900(Internal), BDC-900X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model No.	Input Freq.(GHz)	Output Freq.(MHz)	L.O Freq.(GHz)
BDC-910(X)	17.2 - 18.2	950 - 1950	16.25
BDC-920(X)	18.2 - 19.2	950 - 1950	17.25
BDC-930(X)	19.2 - 20.2	950 - 1950	18.25
BDC-940(X)	20.2 - 21.2	950 - 1950	19.25
BDC-950(X)	21.2 - 22.2	950 - 1950	20.25

### Specifications

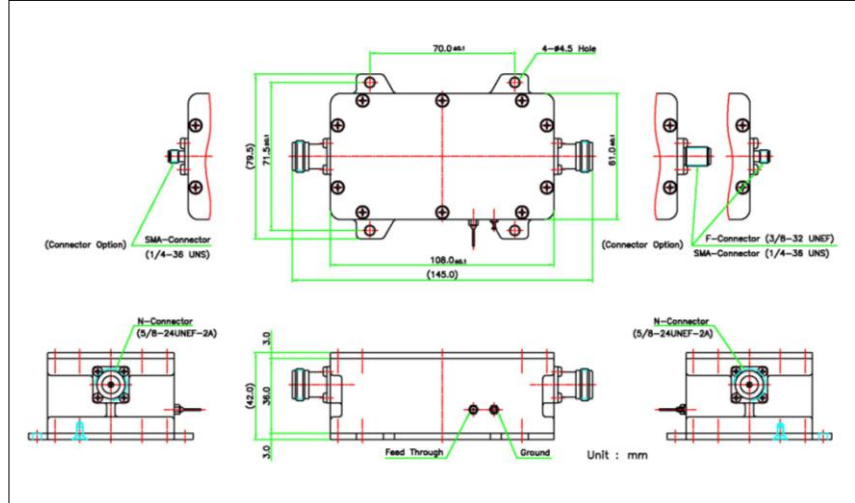
(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter	Specification
Noise figure	18 dB max.
Conversion gain at $-40$ to $+60^{\circ}\text{C}$	25 dB typ. (22dB min. 28dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at $-40$ to $+60^{\circ}\text{C}$	5 dBp-p max.
Gain ripple at per 27MHz, $-40$ to $+60^{\circ}\text{C}$	1 dBp-p max.
L.O stability at $-40$ to $+60^{\circ}\text{C}$	Internal : $\pm 10$ , 25KHz max. External : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz (@1KHz) -80 dBc/Hz (@10KHz) -95 dBc/Hz (@100KHz)
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	Output connector
Input VSWR	2.2 : 1 max.
Output VSWR	2.2 : 1 max.
Input Connector	SMA-type female
Output connector	SMA, F, N-Type female (option)
Power supply	+15 to +24V DC
Power supply connector (option)	Feed thru and/or output connector
Required current	300 mA max.
Operating temperature	$-40$ to $+60^{\circ}\text{C}$
Waterproof	IP 67
Dimension (exclude connector)	89.6 x 78.0 x 40.0 mm
Weight	400 g

# X-Band BDC

## BDC-100(Internal), BDC-100X(External) series

### Mechanical Drawing



### Model No. & Frequency

Model	Input Freq.(GHz)	Output Freq.(MHz)	L.O Freq.(GHz)
BDC-100(X)	7.25 – 7.75	950 - 1450	6.3

### Specifications

(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter	Specification
Noise figure	13 dB max.
Conversion gain at $-40$ to $+60^{\circ}\text{C}$	30 dB typ. (27dB min. 33dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at $-40$ to $+60^{\circ}\text{C}$	5 dBp-p max.
Gain ripple at per 27MHz, $-40$ to $+60^{\circ}\text{C}$	1 dBp-p max.
L.O stability at $-40$ to $+60^{\circ}\text{C}$	Internal type : $\pm 10$ , 25 KHz max. External type : depends on ext. ref.
Image rejection	40 dBc min.
Phase noise	-70 dBc/Hz (@1KHz) -80 dBc/Hz (@10KHz) -95 dBc/Hz (@100KHz)
Output P1dB	+5 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	Output connector
Input VSWR	2.2 : 1 max.
Output VSWR	2.2 : 1 max.
Input Connector	SMA, N-type female (option)
Output connector	F, N, SMA-type female (option)
Power supply	+12 to +24V DC
Power supply connector (option)	Feed thru and/or output connector
Required current	300 mA max.
Operating temperature	$-40$ to $+60^{\circ}\text{C}$
Waterproof	IP 67
Dimension (exclude connector)	108.0 x 79.5 x 42.0 mm
Weight	550 g

## LNA (Low Noise Amplifier)



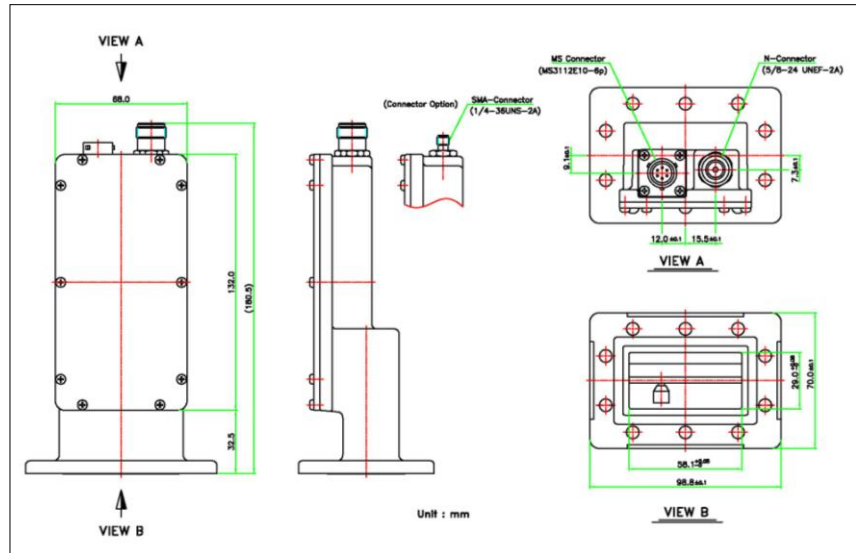
### ■ Model No. & Frequency

Band	Model No.	Frequency range	Remarks
C-Band	LNA-300	3.4 - 4.2 GHz	
	LNA-310	4.5 - 4.8 GHz	
Ku-Band	LNA-500	10.7 - 12.75 GHz	
Ka-Band	LNA-910	17.2 - 18.2 GHz	
	LNA-920	18.2 - 19.2 GHz	
	LNA-930	19.2 - 20.2 GHz	
	LNA-940	20.2 - 21.2 GHz	
	LNA-950	21.2 - 22.2 GHz	
X-Band	LNA-100	7.25 - 7.75 GHz	
L-Band	LNA-1150-1650	1150 - 1650 MHz	
	LNA-2100-2500	2100 - 2500 MHz	
Wide-Band	LNA-1000-6000	1000 - 6000 MHz	

# C-Band LNA

## LNA-300 series

### Mechanical Drawing



### Model No & Frequency

Model No.	Frequency range
LNA-300	3.4 - 4.2 GHz
LNA-310	4.5 - 4.8 GHz

### Specifications

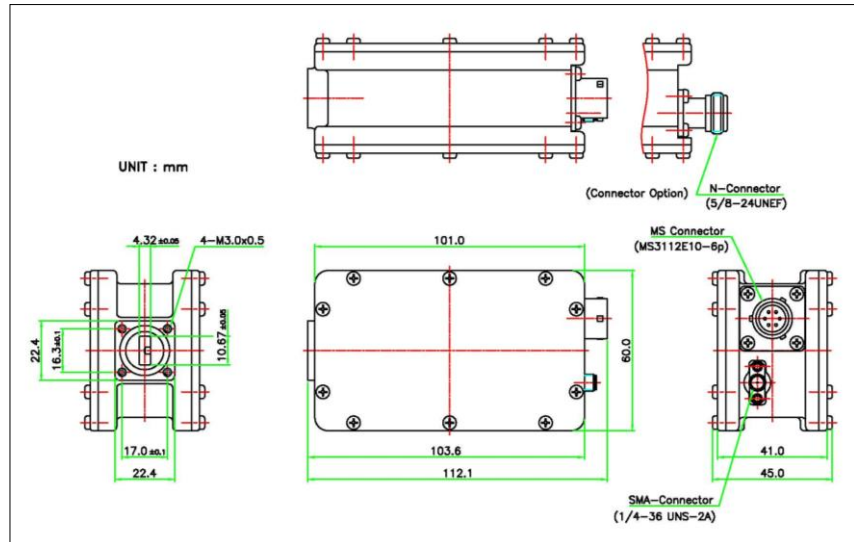
(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter	Specification
Noise temperature	30°K max.
Conversion gain at $-40$ to $+60^{\circ}\text{C}$	55dB typ. (50dB min. 60dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at $-40$ to $+60^{\circ}\text{C}$	4 dBp-p max.
Gain ripple at per 27MHz, $-40$ to $+60^{\circ}\text{C}$	1 dBp-p max.
Output P1dB	+5 dBm min.
Input VSWR	2.2 : 1 max.
Output VSWR	2.2 : 1 max.
Input waveguide flange	WR-229
Output connector	N, SMA type female (option)
Power connector	MS3112E10-6P (option)
Power supply	+12 to +24V DC
Required current	150 mA max.
Operating temperature	$-40$ to $+60^{\circ}\text{C}$
Waterproof	IP 67
Dimension (exclude connector)	98.8 x 70.0 x 164.5 mm
Weight	630 g

# Ku-Band LNA

## LNA-500

### Mechanical Drawing



### Model No. & Frequency

Model No

LNA-500

Frequency range

10.7 - 12.75 GHz

### Specifications

(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter

Specification

Noise figure

0.8 dB max.

Conversion gain at  $-40$  to  $+60^{\circ}\text{C}$

55 dB typ. (50dB min. 60dB max.)

Gain flatness

4 dBp-p max.

Gain flatness at  $40$  to  $+65^{\circ}\text{C}$

5 dBp-p max.

Gain ripple at per 27MHz,  $40$  to  $+60^{\circ}\text{C}$

1 dBp-p max.

Output P1dB

+5 dBm min.

Input VSWR

2.0 : 1 max.

Output VSWR

2.0 : 1 max.

Input waveguide flange

WR-75

Output connector

N, SMA type female (option)

Power connector

MS3112E10-6P (option)

Power supply

+12 to +24V DC

Required current

250 mA max.

Operating temperature

$-40$  to  $+60^{\circ}\text{C}$

Waterproof

IP 67

Dimension (exclude connector)

60.0 x 41.6 x 111.5 mm

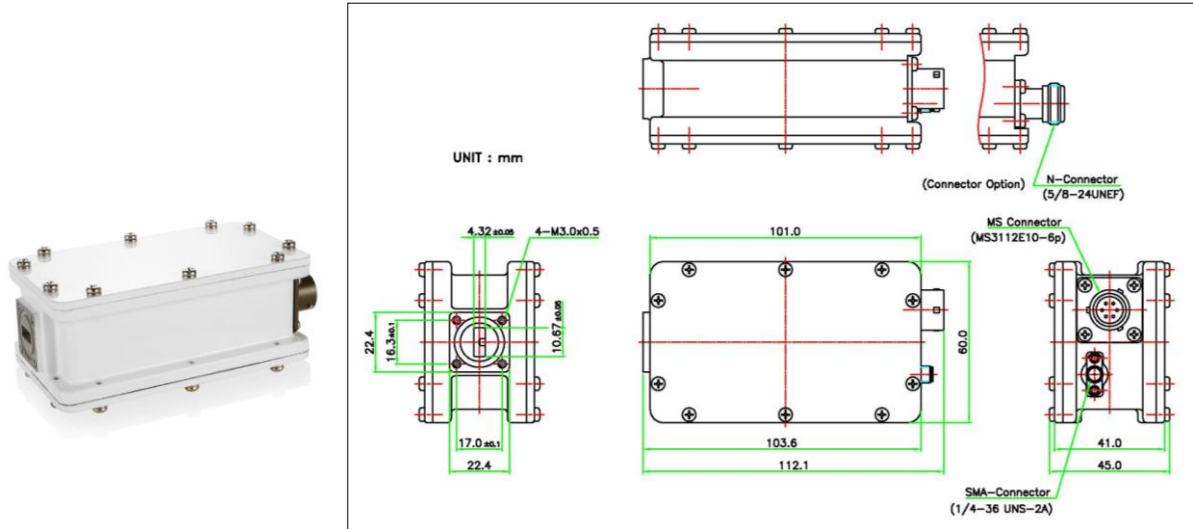
Weight

450 g

# Ka-Band LNA

## LNA-900 series

### Mechanical Drawing



### Model No. & Frequency

Model No	Frequency range
LNA-910	17.2 - 18.2 GHz
LNA-920	18.2 - 19.2 GHz
LNA-930	19.2 - 20.2 GHz
LNA-940	20.2 - 21.2 GHz
LNA-950	21.2 - 22.2 GHz

### Specifications

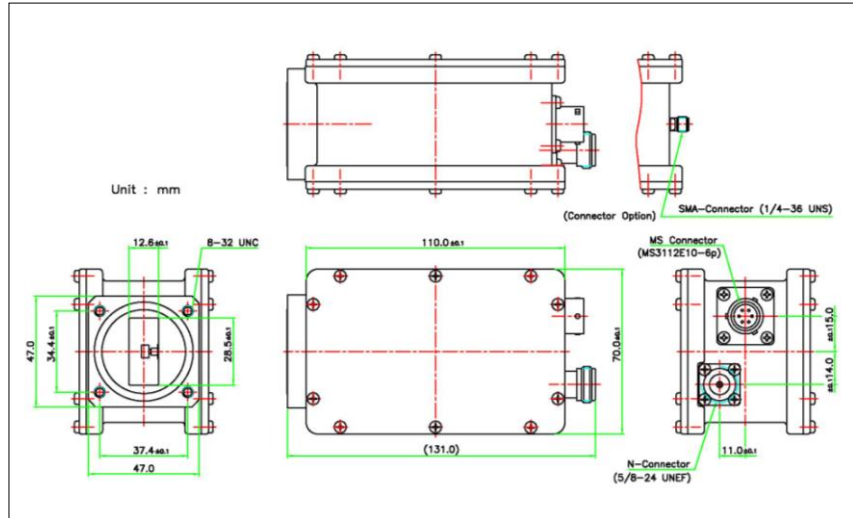
(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter	Specification
Noise figure	1.5 dB max.
Conversion gain at $-40$ to $+60^{\circ}\text{C}$	55 dB typ. (50dB min. 60dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at $-40$ to $+60^{\circ}\text{C}$	5 dBp-p max.
Gain ripple at per 27MHz, $-40$ to $+60^{\circ}\text{C}$	1 dBp-p max.
Output P1dB	+5 dBm min.
Input VSWR	2.2 : 1 max.
Output VSWR	2.2 : 1 max.
Input waveguide flange	WR-42
Output connector	N, SMA type female (option)
Power connector	MS3112E10-6P (option)
Power supply	+12 to +24V DC
Required current	250 mA max.
Operating temperature	$-40$ to $+60^{\circ}\text{C}$
Waterproof	IP 67
Dimension (exclude connector)	60.0 x 45.0 x 103.6 mm
Weight	450 g

# X-Band LNA

## LNA-100

### Mechanical Drawing



### Model No. & Frequency

Model No

LNA-100

Frequency range

7.25 – 7.75 GHz

### Specifications

(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter

Specification

Noise figure

0.8 dB max.

Conversion gain at  $-40$  to  $+60^{\circ}\text{C}$

55 dB typ. (50dB min, 60dB max.)

Gain flatness

4 dBp-p max.

Gain flatness at  $-40$  to  $+60^{\circ}\text{C}$

4 dBp-p max.

Gain ripple at per 36MHz,  $-30$  to  $+60^{\circ}\text{C}$

1 dBp-p max.

Output P1dB

+10 dBm min.

Input VSWR

2.0 : 1 max.

Output VSWR

2.0 : 1 max.

Input waveguide flange

WR-112

Output connector

N, SMA type female (option)

Power connector

MS3112E10-6P (option)

Power supply

+12 to +24V DC

Required current

150 mA max.

Operating temperature

$-40$  to  $+60^{\circ}\text{C}$

Waterproof

IP 67

Dimension (exclude connector)

70.0 x 59.0 x 118.0 mm

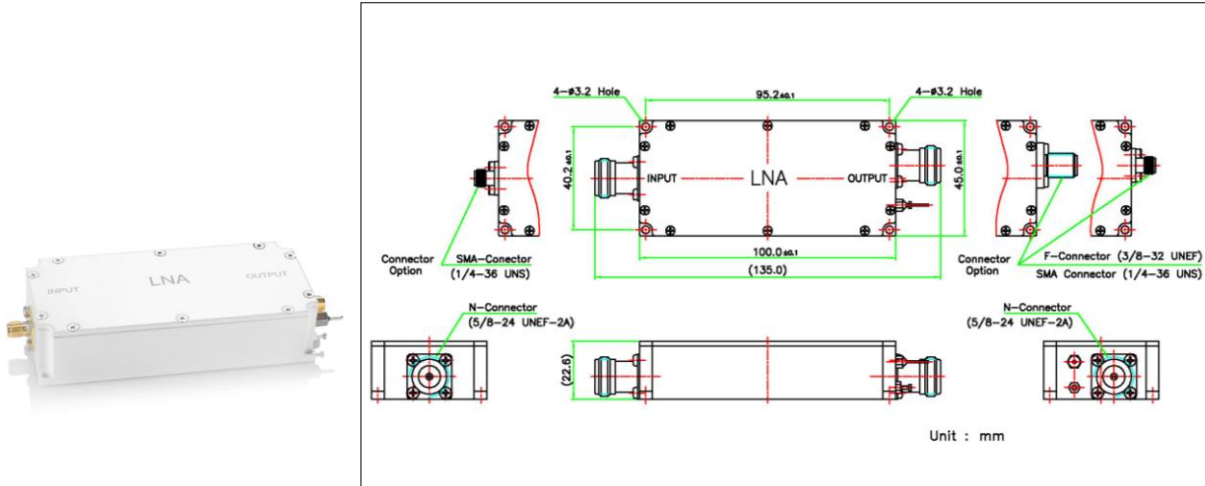
Weight

620 g

# L-Band LNA

LNA-1150-1650, 2100-2500

## Mechanical Drawing



## Model No. & Frequency

Model No

LNA-1150-1650

LNA-2100-2500

Frequency range

1150 - 1650 MHz

2100 - 2500 MHz

## Specifications

(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter

Specification

Noise temperature

45'K max.

Conversion gain at  $-40$  to  $+60^{\circ}\text{C}$

60 dB typ. (55 dB min. 65dB max.)

Gain flatness

2 dBp-p max.

Gain flatness at  $-40$  to  $+60^{\circ}\text{C}$

2 dBp-p max.

Output P1dB

+10 dBm min.

Input VSWR

1.8 : 1 max.

Output VSWR

1.8 : 1 max.

Input connector

N , SMA-type female (option)

Output connector

F, N, SMA-type female (option)

Power connector

Pin thru connector

Power supply

+12 to +24V DC

Required current

300 mA max.

Operating temperature

$-40$  to  $+60^{\circ}\text{C}$

Dimension (exclude connector)

100.0 x 45.0 x 22.6 mm

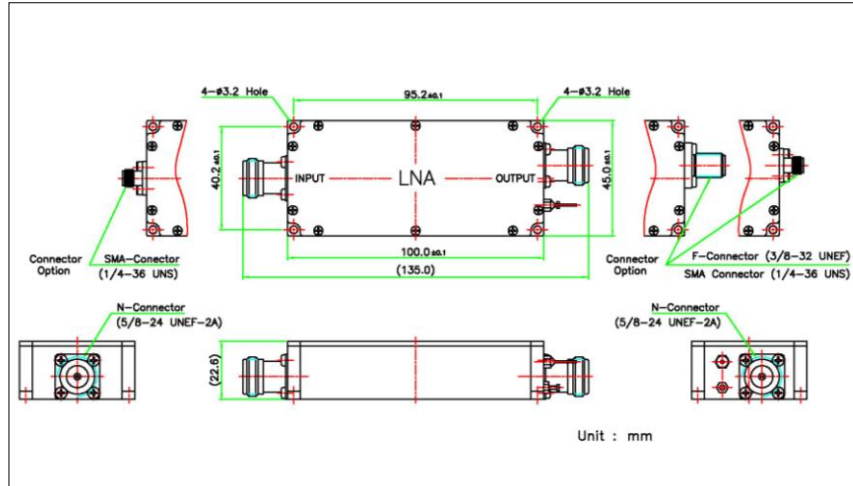
Weight

250 g

# Wide-Band LNA

## LNA-1000-6000

### Mechanical Drawing



### Model No. & Frequency

Model No

LNA-1000-6000

Frequency range

1000 - 6000 MHz

### Specifications

(Temperature condition for the parameters not specified is at  $\pm 23^{\circ}\text{C}$ )

Parameter

Specification

Noise figure

1.8 dB max.

Conversion gain at  $-40$  to  $+60^{\circ}\text{C}$

40 dB min. 45dB max.

Gain flatness

5 dBp-p max.

Gain flatness at  $-40$  to  $+60^{\circ}\text{C}$

5 dBp-p max.

Output P1dB

+10 dBm min.

Input VSWR

2.5 : 1 max.

Output VSWR

2.5 : 1 max.

Input connector

SMA, N-type female (option)

Output connector

F, N, SMA-type female (option)

Power connector

Pin thru connector

Power supply

+12 to +24V DC

Required current

250 mA max.

Operating temperature

$-40$  to  $+60^{\circ}\text{C}$

Dimension (exclude connector)

100.0 x 45.0 x 22.6 mm

Weight

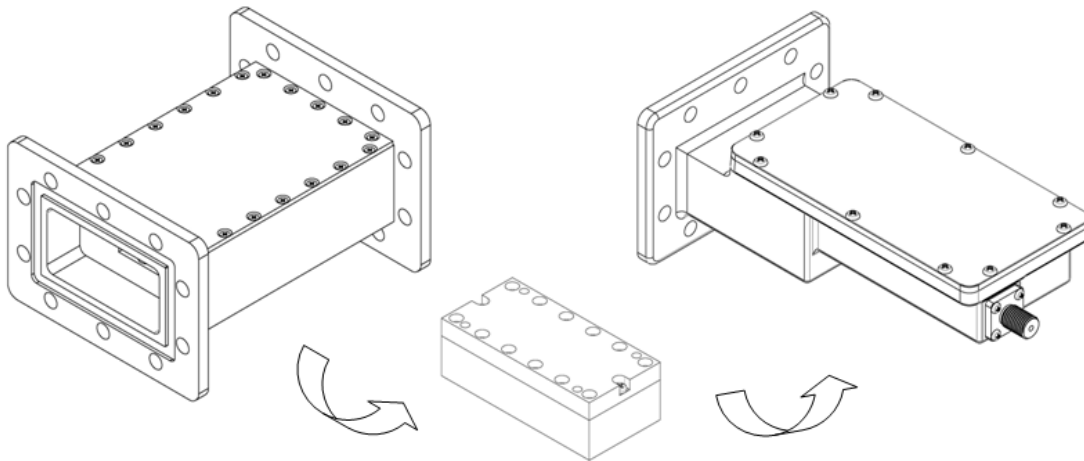
250 g

## C-Band PLL LNB for 5G Interference Rejection

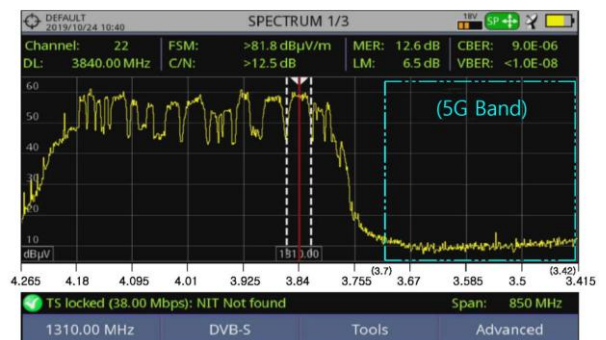
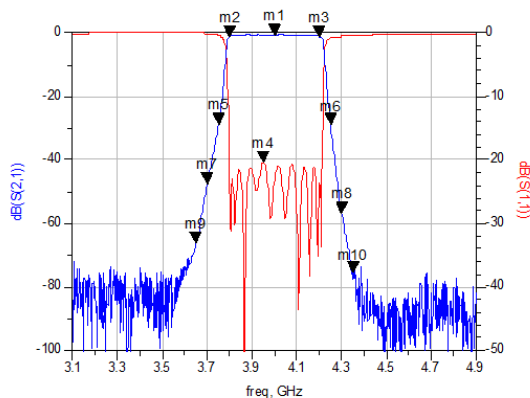
In general, External Waveguide Band Pass Filter is recommended as an effective way to prevent the interference from strong terrestrial 5G signal power causing any saturation or intermodulation to C-Band satellite receiving system.

However, in case of Waveguide type of BPF, it is too heavy and bulky, so it is not so easy to install the OMT units and to keep a good condition as well. Furthermore, the inevitable insertion loss makes the signal quality of LNB so bad, and the cost should be higher.

Considering the cost effectiveness and better signal quality, Atron designed the minimized Waveguide BPF, and put it into our LNB inside. Our product works very well in 5G circumstance filtering 5G signal better than External Waveguide BPF, and keeps a better signal quality without any degradation of NF performance. Atron 5G LNB solution will be the most cost effective as well as the best signal quality in worldwide market



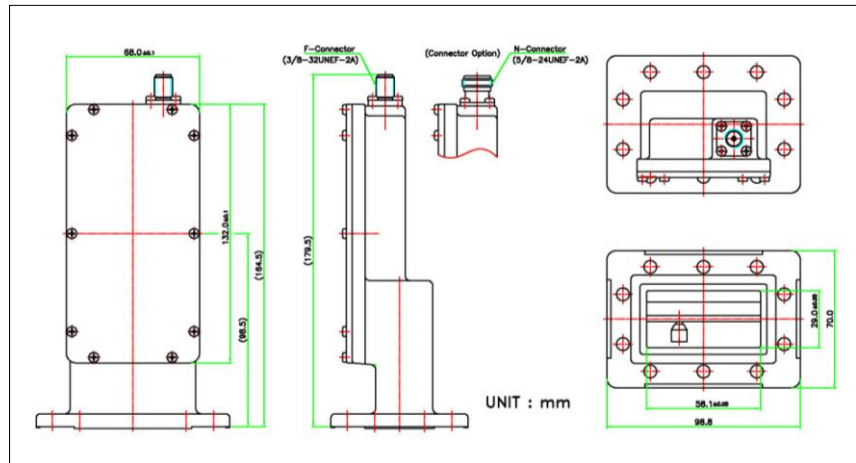
Model No.	Input (GHz)	Output (MHz)	L.O (GHz)	Rejection of 5G interference signal
G300(X)-3742	3.70 - 4.20	950 - 1450	5.15	
G300(X)-37542	3.75 - 4.20	950 - 1400	5.15	40 dB min. @ pass band +/- 50MHz
G300(X)-3842	3.80 - 4.20	950 - 1350	5.15	95 dB min. @ pass band +/- 100MHz
G300(X)-3942	3.90 - 4.20	950 - 1250	5.15	110dB min. @ pass band +/- 150MHz
G300(X)-4042	4.00 - 4.20	950 - 1150	5.15	



## C-Band PLL LNB (Include Cavity Waveguide BPF)

### G300(Internal), G300X(External) series (5G Interference Rejection)

#### Mechanical Drawing



#### Model No & Frequency

Model No.	Input freq.(GHz)	Output freq.(MHz)	L.O freq(GHz)
G300(X)-3742	3.70 - 4.20	950 - 1450	5.15
G300(X)-37542	3.75 - 4.20	950 - 1400	5.15
G300(X)-3842	3.80 - 4.20	950 - 1350	5.15
G300(X)-3942	3.90 - 4.20	950 - 1250	5.15
G300(X)-4042	4.00 - 4.20	950 - 1150	5.15

#### Specifications

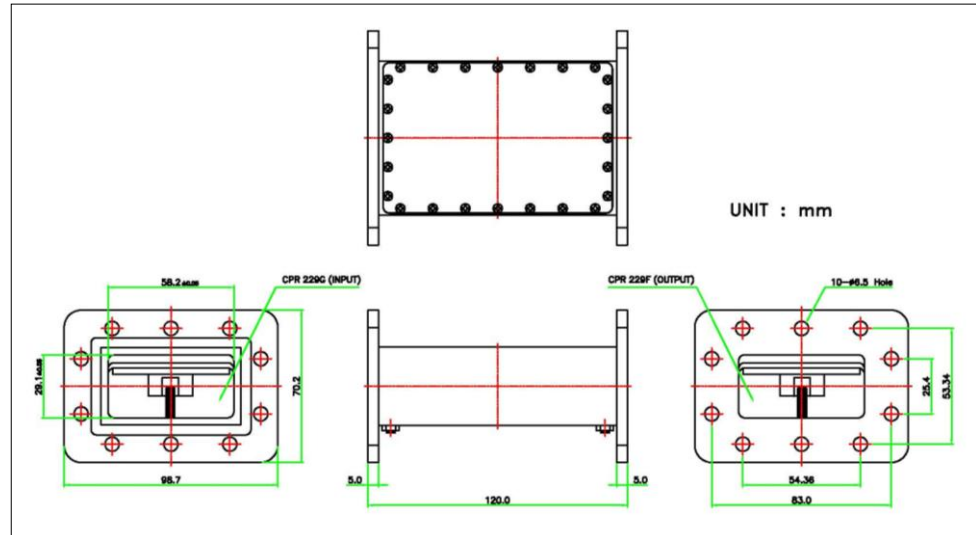
(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
Noise temperature	30°K max.
Conversion gain at -40 to +60°C	60dB typ. (55dB min. 65dB max.)
Gain flatness	4 dBp-p max.
Gain flatness at -40 to +60°C	4 dBp-p max.
Gain ripple at per 27MHz, -40 to +60°C	1 dBp-p max.
L.O stability at -40 to +60°C	Internal type : ±5, 10, 25 KHz max. External type : depends on ext. ref.
Image rejection	70 dBc min.
Rejection	40 dB min. @ pass band +, - 50MHz 95 dB min. @ pass band +, - 100MHz 110dB min. @ pass band +, - 150MHz
Phase noise	-73 dBc/Hz @1KHz -83 dBc/Hz @10KHz -93 dBc/Hz @100KHz
Output P1dB	+10 dBm min.
Ext. ref. input freq. & power	10 MHz, -5 to +5 dBm
Ext. ref. input port	IF output connector
Input / output VSWR	2.5 : 1 / 2.5:1 max.
Input waveguide flange	WR 229
Output connector	F, N-type female (option)
Power supply & current	+12 to +24V DC, 250 mA max.
Operating temperature	-40 to +60°C
Waterproof	IP 67
Dimension (exclude connector)	98.8 x 70.0 x 164.5 mm
Weight	575 g

# C-Band Waveguide Band Pass Filter

## WG300 series (Terrestrial Interference Rejection)

### Mechanical Drawing



### Model No & Rejection

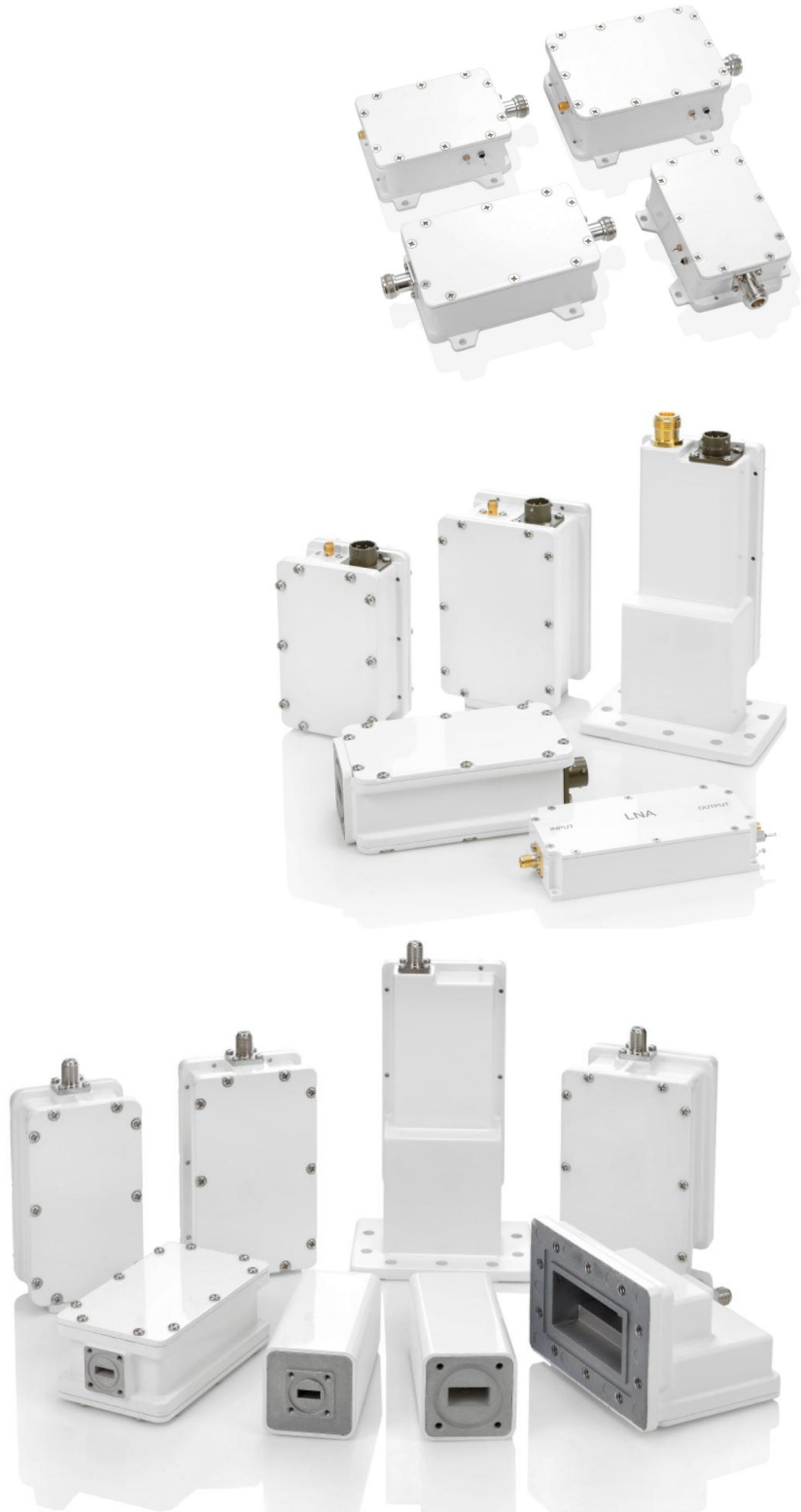
Model No.	Frequency range	Rejection
WG300-362542	3.625 - 4.2 GHz	25dB min at 3.575 GHz & 4.25 GHz 60dB min at 3.475 GHz & 4.35 GHz 70dB min at 3.425 GHz & 4.40 GHz
WG300-3742	3.70 - 4.2 GHz	25dB min at 3.65 GHz & 4.25 GHz 60dB min at 3.55 GHz & 4.35 GHz 70dB min at 3.50 GHz & 4.40 GHz
WG300-37542	3.75 - 4.2 GHz	25dB min at 3.70 GHz & 4.25 GHz 60dB min at 3.60 GHz & 4.35 GHz 70dB min at 3.55 GHz & 4.40 GHz
WG300-3842	3.80 - 4.2 GHz	25dB min at 3.75 GHz & 4.25 GHz 60dB min at 3.65 GHz & 4.35 GHz 70dB min at 3.60 GHz & 4.40 GHz
WG300-3942	3.90 - 4.2 GHz	25dB min at 3.85 GHz & 4.25 GHz 60dB min at 3.75 GHz & 4.35 GHz 70dB min at 3.70 GHz & 4.40 GHz

### Specifications

(Temperature condition for the parameters not specified is at 23±3°C)

Parameter	Specification
VSWR	1.4 : 1 max.
Insertion Loss	0.5 dB max.
Waveguide flange	CPR-229G at input CPR-229F at output
Dimension	70.0 x 98.8 x 120.0 mm
Weight	650 g





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