

# **Preliminary**



## **Ku-band 8W Transmitter**

### **Model No. NJT5018**

Type 1 (N-type Female Input Connector)

### **Model No. NJT5018F**

Type 2 (F-type Female Input Connector)

## **Specifications**

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## Caution

The BUC (Block Up-Converter) is operated at the input voltage of -36 to -60 V dc.  
Be careful not to input a voltage over the above range.



## Note

On the BUC, the platy filter at the output RF waveguide; so-called “Iris filter” with receive-band rejection performance, is equipped in order not to make transmitting signals damage the receiving equipment as much as possible.

Connecting to interface (Waveguide Filter, OMT, Feed horn and so forth), please be aware that a space between the platy filter and the specified interface is needed to keep waveguide length of “quarter lambda g” at least.

If such a means is not implemented, no sufficient performance may be achieved. And moreover in the worst case, performance may be deteriorated significantly.

Therefore, please scrutinize the total performance after equipping the BUC with the interface (Waveguide Filter, OMT, Feed horn and so forth) at your system.

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## 1. Electrical Performance

1-1.	Output Frequency Range	14.0 to 14.5 GHz
1-2.	Input Frequency Range	950 to 1,450 MHz
1-3.	Maximum IF Input Level (without damage)	+13 dBm max.
1-4.	Conversion Type	Single, fixed L.O.
1-5.	L.O. Frequency	13.05 GHz
1-6.	Frequency Sense	Positive
1-7.	Output Power @ 1dB G.C.P.	+39 dBm min. over temp.
1-8.	Linear Gain	59 dB min.
1-9.	Gain Variation over frequency @ fixed temperature	4 dBp-p max. over 500 MHz 2 dBp-p max. over 54 MHz
1-10.	Gain Stability over temperature @ fixed frequency	4 dBp-p max. 2 dBp-p typ.
1-11.	IM3 (total power = +39dBm-3dB)	-24 dBc max.
1-12.	Requirement for External Reference	[Frequency] 10 MHz (sine-wave) [Input Power] -5 to +5 dBm @ Input port [Phase Noise] -125 dBc/Hz max. @ 100 Hz -135 dBc/Hz max. @ 1 kHz -140 dBc/Hz max. @ 10 kHz
1-13.	L.O. Phase Noise	-60 dBc/Hz max. @ 100 Hz -70 dBc/Hz max. @ 1 kHz -80 dBc/Hz max. @ 10 kHz -90 dBc/Hz max. @ 100 kHz -100 dBc/Hz max @ 1MHz
1-14.	Spurious	[in band] -50 dBc max. @ 14.0 to 14.5 GHz [in receive band] -70 dBm max. @ 10.95 to 12.75 GHz [Out-of-band] -50 dBc max. @ Pout=+39dBm
1-15.	Receive Band Noise Density	-156 dBm/Hz max. @10.95 to 12.75 GHz
1-16.	Noise Figure	20 dB max.
1-17.	Group Delay over any 54MHz	2.5 nS p-p max.
1-18.	Input Impedance	50 ohms nom. [Model No. NJT5018] 75 ohms nom. [Model No.NJT5018F]
1-19.	Input V.S.W.R.	2 : 1 max
1-20.	Output V.S.W.R.	2 : 1 max.
1-21.	Output Load VSWR for Non Damage	Infinite : 1
1-22.	DC Power Requirement	-36 to -60 VDC 105 W max.
1-23.	Mute	Shut off the HPA in case of L.O. unlocked

## 2. Mechanical Specifications

2-1.	Input Interface	N-type, female (50 ohms) [Model No. NJT5018] F-type, female (75 ohms) [Model No. NJT5018F]
2-2.	Output Interface	Waveguide, WR-75
2-3.	Dimension & Housing	T.B.D. (L) * T.B.D. (W) * T.B.D. (H) mm max.
2-4.	Weight	T.B.D. kg max.
2-5.	Vibration	5 G (3 axis, 50 Hz to 2 kHz) 1 mm p-p (3 axis, 5 to 50 Hz)
2-6.	Shock	30 G (3 axis)

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## **3. Environmental Specifications**

3-1.	Temperature Range (ambient)	-40 to +55 C (operating) -40 to +75 C (storage)
3-2.	Humidity	0 to 100 %
3-3.	Altitude	10,000 feet

## **4. Outline Drawing**

**T.B.D.**