

Specification for X-Band ULPN Frequency Synthesizer
Model: N-DCN-DC113-102-IR

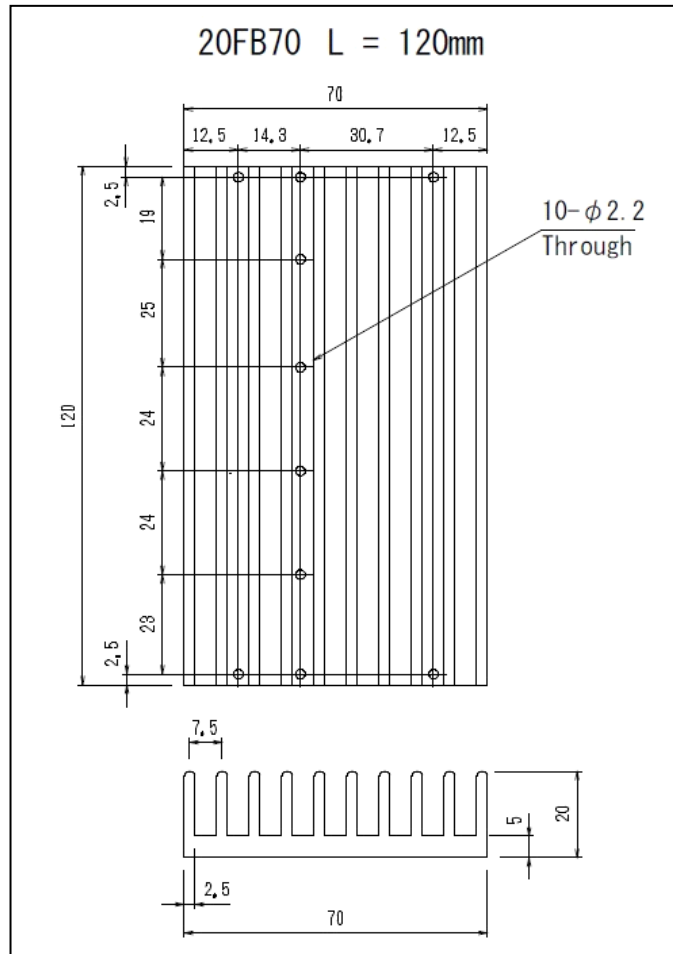
Item	Specification	Note
1.0 Electrical Performance		
1.1 RF Output Signal		
1) Frequency Range	10.2 ~ 11.0 GHz	Frequency set at power-up 10.6 GHz RL=50 ohms
2) Step Size, Min.	1 MHz	
3) RF Output Power	+16 ~ +18 dBm	
4) Phase Noise Level		Offset: 10 MHz to 1 GHz ≤ -140 dBc/Hz Typical ≤ -135 dBc/Hz Max
Offset 100 Hz	≤ -90 dBc/Hz	
1 KHz	≤ -110 dBc/Hz	
10 KHz	≤ -120 dBc/Hz	
100 KHz	≤ -120 dBc/Hz	
1 MHz	≤ -130 dBc/Hz	
5) Spurious		
Non-Harmonics	≤ -65 dBc	
Harmonics	≤ -35 dBc	
1.2 External Reference		
1) Input Frequency	10.000 MHz Sine Wave	Input Impedance=50 ohms
2) Input Level	0 ~ +13 dBm	
3) Phase Noise Level	C/N ≤ -150dBc/Hz @100Hz	
1.3 Reference Output		
1) Output Frequency	10.000 MHz Sine Wave	RL=50 ohms
2) Output Level	+6dBm±2dB	
3) Phase Noise Level	C/N ≤ -150dB/Hz @100Hz	
*1 4) Frequency Stability	Same as Ext. Ref. IN	
1.4 Control Interface		
1) 3-Wires Serial Data	Serial Data, Clock & Strobe	TTL-Level
1.5 Alarm Out	Lock : > 2.7V Un-Lock : < 0.4V	3.3V_CMOS_Level_High 3.3V_CMOS_Level_Low
1.6 Reference Indicator on pin 5 J2	External REF : > 2.7V Internal REF : < 0.4V	3.3V_CMOS_Level_High 3.3V_CMOS_Level_Low
1.7 DC Power	+12V±5% 1.1 A Max	



2.0 Operating Temp. Range	-20 ~ +70 deg. C	
3.0 Package 3.1 Package Size 3.2 Connector	120 (W) × 70 (L) × 35 (H) mm Tolerance: ±0.1 mm RF_OUT : SMA (F) REF_IN, REF_OUT : SMA (F) Control, Alarm, DC Power : DF11-14DP-2DS	See Note *2 Hirose

- *1 Frequency stability, 1x10E-7 will be kept by Internal Reference when no External Reference in.
- *2 When the products will be mounted on suitable base plate, a heat-sink may not be required.
 - A) When the synthesizer will be operated at room temperature +25 Degrees C. as environmental, the package temperature goes up approximately +48 Degrees C. In this case the synthesizer does not need any cooling.
 - B) When the synthesizer will be operated above +50 Degrees C. as environmental, the package temperature goes up above +70 Degrees C. To keep the package temperature below +70 Degrees C., the synthesizer should be mounted on a baseplate or heatsink with thermal resistance $\Theta=2$ to 2.5K/Watt.

**Recommended
HEATSINK Option:
Units: mm**





Package Outline

