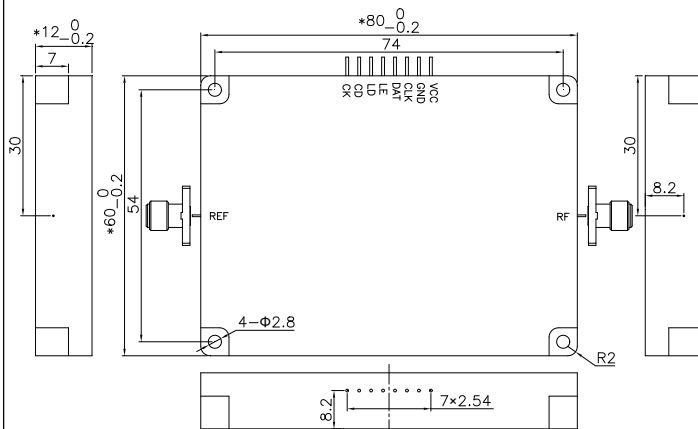
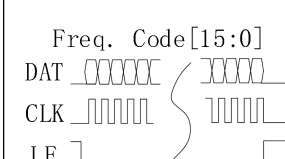


Specifications																																														
•Input Clock •Frequency: 100MHz •Level: (8 ± 2) dBm •Phase Noise: ≤-130dBc/Hz@100Hz、≤-150dBc/Hz@1kHz ≤-165dBc/Hz@10kHz、≤-165dBc/Hz@100kHz •VCC: (6V ± 0.5) V •ICC: ≤1A •Dimension: 80mm × 60mm × 12mm •Weight: ≤130g •Operation Temperature: -40℃~75℃ •Storage Temperature: -55℃~85℃		•RF Output •Frequency range: 10GHz~20GHz •Output power: (0 ± 2) dBm • Phase Noise : ≤ -73dBc/Hz@100Hz 、 ≤ -87dBc/Hz@1kHz ≤ -96dBc/Hz@10kHz 、 ≤ -96dBc/Hz@100kHz ≤ -106dBc/Hz@1MHz •Spur: ≤-65dBc •Frequency Setting time: ≤200 μ s •Frequency Step: 0.5MHz •Lock Detect: Locked:2.7V~3.5V , Unlocked: ≤0.5V																																												
Outline and Interface																																														
Unspecified tolerances: ± 0.2 mm. Only dimensions marked with * are inspected before shipment. Housing material: Aluminum Surface treatment: Natural conductive oxidation 		Interface Definition <table><tr><th>No.</th><th>Symbol</th><th>Function</th><th>Note</th></tr><tr><td>1</td><td>REF</td><td>100M Clock Input</td><td>Φ0.38mm</td></tr><tr><td>2</td><td>RF</td><td>RF Output</td><td>Φ0.38mm</td></tr><tr><td>3</td><td>VCC</td><td>Power Supply</td><td>Φ0.6mm</td></tr><tr><td>4</td><td>GND</td><td>Ground</td><td>Φ0.6mm</td></tr><tr><td>5</td><td>CLK</td><td>SPI Clock</td><td>Φ0.6mm</td></tr><tr><td>6</td><td>DAT</td><td>SPI Data</td><td>Φ0.6mm</td></tr><tr><td>7</td><td>LE</td><td>SPI Enable</td><td>Φ0.6mm</td></tr><tr><td>8</td><td>LD</td><td>Lock Detect</td><td>Φ0.6mm</td></tr><tr><td>9</td><td>CD</td><td rowspan="2">Manufacturer reserved</td><td>Φ0.6mm</td></tr><tr><td>10</td><td>CK</td><td>Φ0.6mm</td></tr></table> •CD、CK must be floating during operation. • REF and RF interfaces utilize detachable SMA-K connectors. The unit is factory-equipped with SMA connectors by default.		No.	Symbol	Function	Note	1	REF	100M Clock Input	Φ0.38mm	2	RF	RF Output	Φ0.38mm	3	VCC	Power Supply	Φ0.6mm	4	GND	Ground	Φ0.6mm	5	CLK	SPI Clock	Φ0.6mm	6	DAT	SPI Data	Φ0.6mm	7	LE	SPI Enable	Φ0.6mm	8	LD	Lock Detect	Φ0.6mm	9	CD	Manufacturer reserved	Φ0.6mm	10	CK	Φ0.6mm
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Application Note																																														
The modual employs a 3-wire SPI synchronous serial interface (LE, DAT, CLK) with a maximum clock frequency of 10 MHz. The control logic operates at 3.3V LVTTTL levels. Freq. Code Protocol: The 16-bit frequency code is transmitted MSB-first. The host (waveform controller) must pull LE low for at least 1 clock cycle before initiating data transfer. Data (DAT) is output by the controller on CLK falling edges and sampled by the frequency synthesizer on CLK rising edges. After transmitting all 16 bits, LE is pulled high to latch the frequency setting. Decimal frequency code range 0 - 20,000 corresponds to 10 GHz - 20 GHz with a 0.5 MHz 																																														

step size. Codes must be converted to hexadecimal before transmission (e.g., 19994.5 MHz = 0x4E15).

Default output frequency at power-up is 10 GHz. If an invalid code (outside 0 - 20,000) is received, the output retains the current frequency.

Absolute Maximum Ratings

Maximum Ratings	•VCC: 7V •Input Power: 14dBm •Pin soldering duration (300°C): 10s
Soldering & Handling Instructions	• ESD-sensitive device - Avoid direct contact with I/O terminals to prevent electrostatic discharge (ESD) damage. •Handle with care during transportation/assembly - Avoid mechanical shock or drops to maintain circuit integrity.