# 捷变频频率综合器 Agile Freq. Synthesizer

## 特点 Features

- 输出频率 Output Freq.: 100MHz~20GHz
- 优秀的相位噪声输出 Excellent Phase Noise
- 跳频时间 Frequency Setting Time: 4us

## 规格 Electrical Specification@+25℃

| | |
|---|---|
| 输出频率 Output Freq. (MHz) | 100~10000&200~20000 |
| 频率步进 Frequency Step(Hz) | 10 |
| 跳频时间 Frequency SettingTime(us) | ≤4 |
| 输出功率 Output Power(dBm) | ≥11 |
| 输出功率平坦度 Output Power Flatness(dB) | ±2.5 |
| 频率稳定度 Frequency Stability | $2x10^{-7}$(外参考时同外参考)<br>(Sync With External Reference) |
| 频率准确度 Frequency Accuracy | $2x10^{-7}$(外参考时同外参考)<br>(Sync With External Reference) |
| 杂散 Spurious(dBc) | ≤-65/-60(典型值/最大值 Typ /Max) |
| 谐波 Harmonic(dBc) | ≤-7(100M-500M)<br>≤-40(500M-12000M)<br>≤-20(12000M-20000M) |
| 供电 Power Supply(V/A) | +12/1.6(启动 Activate)+12/1.4(稳定 Stabilize) |
| 接口要求 Interface Requirement | 射频接口 Radio Freq. Interface: SMA-KFD |
| | 控制接口 Control Interface:J30J-31 |
| 控制方式 Control Mode | 并口 |
| 脉冲调制 Pulse Modulation | |
| 调制深度 Modulation Depth | ≥60dBc(测试功率 Test Power:+10dBm) |
| 调制脉冲宽度 Pulse Modulated Width | 100ns~10ms |
| 上升沿/下降沿 Rising Edge/Falling Edge | ≤30ns/50ns |

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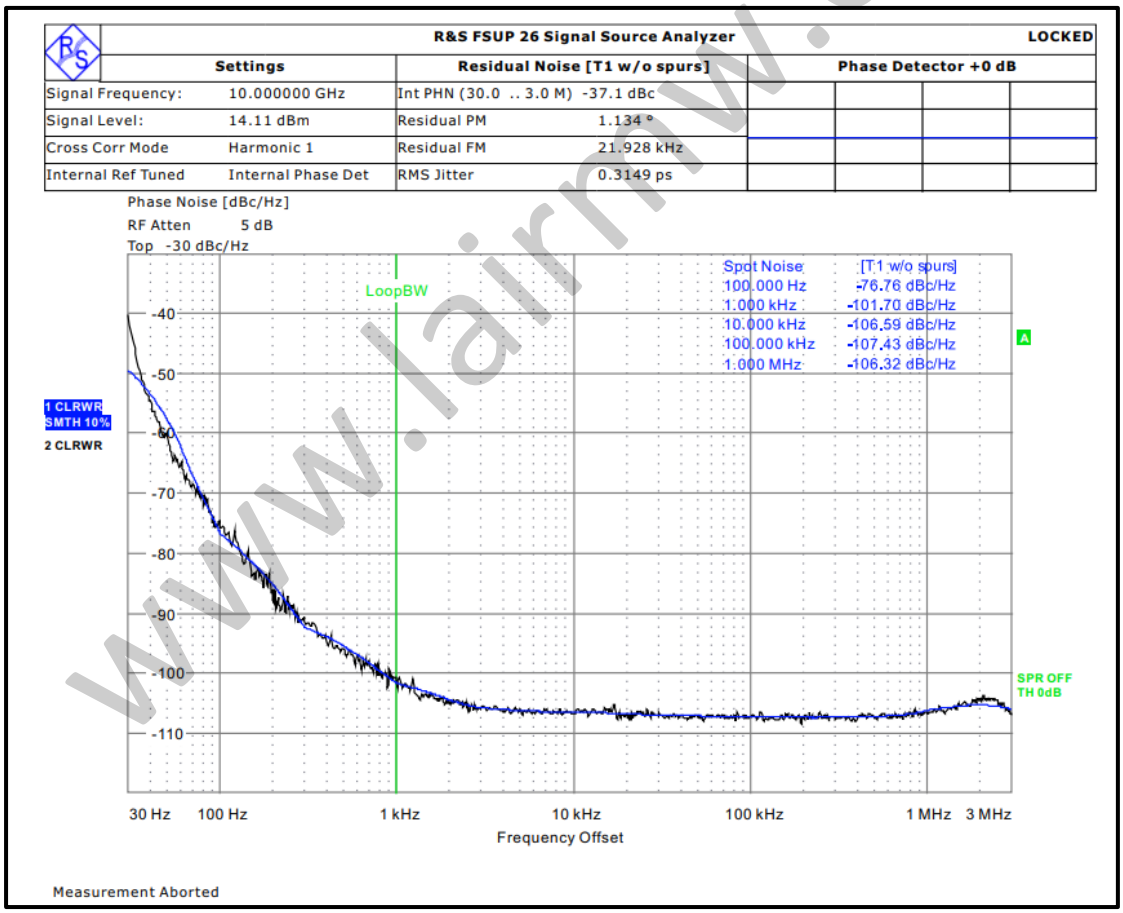
## 性能 Typical Performance@+25℃

相位噪声 Phase Noise

| 频率 Freq. | 1GHz | 5GHz | 10GHz | 20GHz |
|---|---|---|---|---|
| dBc/Hz@1kHz | ≤-120 | ≤-106 | ≤-100 | ≤-94 |
| dBc/Hz@10kHz | ≤-125 | ≤-111 | ≤-105 | ≤-99 |
| dBc/Hz@100kHz | ≤-125 | ≤-111 | ≤-105 | ≤-99 |
| dBc/Hz@1MHz | ≤-125 | ≤-111 | ≤-105 | ≤-99 |

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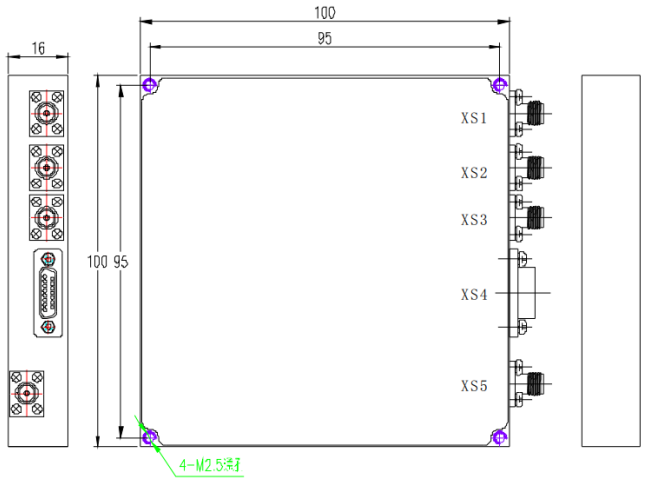
## 外观 Outline




连接器定义 Connector Definition

| | 说明 | 连接器类型 | | 说明 | 连接器类型 | | 说明 | 连接器类型 |
|---|---|---|---|---|---|---|---|---|
| XS1 | 100Min | SMA-F | XS2 | 100M out | SMA-F | XS3 | NC | SMA-F |
| XS4 | 电源及控制 | J30J-31ZKP | XS5 | RF out | SMA-F | | | |

电源及控制管脚定义(SPI 通讯接口定义)
Power Supply & Control PIN Definition (SPI Communication Interface Definition)

| | | | | | |
|---|---|---|---|---|---|
| 1 | +12V | 2 | +12V | 3.4 | GND |
| 5 | LD(锁定指示) | 6 | MOSI | 7 | MISO |
| 8 | SCK | 9 | LE | 其他 | NC |

电源及控制管脚定义(并口通讯接口定义)
Power Supply & Control PIN Definition (Parallel Communication Interface Definition)

| | | | | | |
|---|---|---|---|---|---|
| 1 | +12V | 2 | LD(锁定指示) | 3 | +12V |
| 4 | NC | 5 | GND | 6~29 | N1 并口控制码低位 |
| 27 | PLUSE(脉冲调制输入) | 30 | LE 锁存 | 28.29.31 | NC |

运行环境及外形封装 Operating Environment & Package

| | |
|---|---|
| 工作温度 Operating Temperature | -40~+70℃ |
| 储存温度 Storage Temperature | -55~+85℃ |
| 重量 Weight | ≤0.65kg |
| 外形尺寸 Size | 100x100x16.5mm |

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