S82407 Series Frequency Extending Module
Data Sheet

Saluki Technology Inc.

Content

1 Overview

The S82407 series frequency extending module products are designed for millimeter wave spread spectrum measurement of signal/spectrum analyzer. This series frequency extending module can also be used as the front end of millimeter wave signal receiver.

The standard rectangle waveguide of corresponding band is used for the input interface of S82407 series frequency extending module. 2.4mm and SMA female coaxial adapters (3.5mm coaxial adapters are used for S82407R LO input and IF output) are used for LO input and IF output respectively.

2 Main Characteristics

- The average noise level as low as -140dBm/Hz
- The maximum outline dimension is less than 72mm×26mm×112mm (S82407/NB/A/B/C/D), 120mm× 85mm×240mm (S82407R).
- The smart USB interface is used to interconnect with the host, so as to enable automatic identification of spread spectrum module and automatic configuration of frequency conversion loss and other functions.

3 Typical Applications

Connect with Saluki S3503 Signal/Spectrum Analyzer to enable millimeter wave signal spectrum measurement.

4 Technical Specifications

Technical specifications	S82407	S82407NB	S82407A	S82407B	S82407C	S82407D	S82407R
Frequency range (GHz)	50 to 75	60 to 90	75 to 110	110 to 170	170 to 220	220 to 325	325 to 500
RF input interface (Waveguide outlet/flange)	WR15/ UG385U	WR12/ UG387U-M	WR10/ UG387U-M	WR6/ UG387U-M	WR5/ UG387U-M	WR3/ UG387U-M	WR2.2/ UG387U-M
Harmonic number	5	6	7	9	7	9	24
Frequency conversion loss (maximum, dB)	28	28	32	38	42	50	30
Average noise level (maximum, dBm/Hz)	-132	-132	-130	-120	-115	-110	-140
LO power range (dBm)	8 - 12	8 - 12	8 - 12	8 - 12	8 - 12	8 - 12	8 - 12
RF max. input power (dBm)	20	20	20	20	20	20	25

Main general information

Power consumption	S82407/NB/A/B/C/D: ≤5W; S82407R: ≤30W
Environmental adaptability	Comply with specified requirements of Level 3 equipment in GJB3947A-2009.
Temperature range	Working temperature: 0℃- 50℃, storage temperature: -40℃ to +70℃.
Safety	Comply with safety requirements of Clause 3.10 in GJB3947A-2009.
Dimension (maximum, W×H×D)	S82407/NB/A/B/C/D: 72 mm×26 mm×112mm; S82407R: 120 mm×85 mm×240mm.
Interface type	RF interface: Standard rectangular waveguide outlet IF interface: SMA (female), 50Ω S82407/NB/A/B/C/D LO interface: 2.4mm coaxial (female), 50Ω S82407R LO interface: 3.5mm coaxial (female), 50Ω Communication interface: Mini USB (female, USB2.0)
Weight	S82407/NB/A/B/C/D: ≤400g; S82407R: ≤5kg

5 Ordering Information

- **Main Unit**

Model	Designation	Frequency range
S82407	Frequency extending module	50GHz to 75GHz
S82407NB		60GHz to 90GHz
S82407A		75GHz to 110GHz
S82407B		110GHz to 170GHz
S82407C		170GHz to 220GHz
S82407D		220GHz to 325GHz
S82407R		325GHz to 500GHz

➢ Standard Package

No.	Designation
1	USB 2.0 cable assembly
2	User manual
3	Product certificate
4	Adapter (specially for S82407R): 2.4mm (female) to 3.5mm (male)

➢ Options

Option No.	Description	Function
S82407-H01	2.4mm RF cable	Connect host LO output port and LO input port of frequency extending module (Required option)
S82407-H02	SMA RF cable	Connect host IF input port and IF output port of frequency extending module (Required option)
S82407-H03	Adapter	2.4mm to 3.5mm adapter for S82407R

NOTE: S82407 series frequency extending module products can only used together with Saluki S3503 Series Signal/Spectrum Analyzer with a frequency extending option.

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