



82407/A/B/C/D/R Frequency Extending Module

(50GHz - 75GHz/75GHz - 110GHz/110GHz - 170GHz/170GHz - 220GHz/220GHz - 325GHz/325GHz - 500GHz)



Product overview

82407 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 82407 series frequency extending module. 2.4mm and SMA female coaxial adapters (3.5mm coaxial adapters are used for 82407R LO input and IF output) are used for LO input and IF output respectively.

Main characteristics

- The average noise level is lower than -132dBm/Hz/-130dBm/Hz/-120dBm/Hz/-115dBm/Hz/-110dBm/Hz/-120dBm/Hz.
- 82407/A/B/C/D: The maximum outline dimension is less than 72mm×26mm×112mm, (82407R: 120mm×85mm×240mm);
- 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.

Typical applications

Connect with 4051 Signal/Spectrum Analyzer to enable millimeter wave signal spectrum measurement.



Technical specification

➤ Main technical specifications

Table 1 Main technical specifications of frequency extending module series

Technical specifications	82407	82407NB	82407A	82407B	82407C	82407D	82407R
Frequency range (GHz)	50 - 75	60-90	75 - 110	110 - 170	170 - 220	220 - 325	325 - 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	-125

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	20

➤ Main tactical specifications

Power consumption	82407/A/B/C/D: ≤5W; 82407R: ≤30W
Environmental adaptability	Comply with specified requirements of Level 3 equipment in GJB3947A-2009.
Temperature range	Working temperature: 0°C - 50°C, storage temperature: -40°C - +70°C.
Safety	Comply with safety requirements of Clause 3.10 in GJB3947A-2009.
Dimension (maximum WxHxD)	82407/A/B/C/D: 72 mm×26 mm×112mm; 82407R: 120 mm×85 mm×240mm.
Interface type	RF interface: Standard rectangular waveguide outlet IF interface: SMA (female), 50Ω LO interface: 2.4mm coaxial (female), 50Ω (82407R being 3.5mm coaxial (female)) Communication interface: Mini USB (female, USB2.0)
Weight	82407/A/B/C/D: ≤350g; 82407R: ≤5kg

Ordering information

Host

82407	frequency extending module	50GHz - 75GHz
82407A	frequency extending module	75GHz - 110GHz
82407B	frequency extending module	110GHz - 170GHz
82407C	frequency extending module	170GHz - 220GHz
82407D	frequency extending module	220GHz - 325GHz
82407R	frequency extending module	325GHz - 500GHz

Standard configuration

S/N	Description
1	USB2.0 cable assembly
2	User manual
3	Product certificate
4	Adapter (specially for 82407R): 2.4mm (female) to 3.5mm (male)

Options

S/N	Option No.	Description	Function
1	82407-H01	2.4mm RF cable	Connect host LO output port and LO input port of frequency extending module
2	82407-H02	SMA RF cable	Connect host IF input port and IF output port of frequency extending module
3	82407-H03	Adapter	2.4mm to 3.5mm adapter for 82407R

*82407 series frequency extending module products can only used together with 4051

Series Signal/Spectrum Analyzer with a frequency extending option.