



## WR-05 Sub-Harmonic Mixer 140-220 GHz: SPM-05-0002

Farran offers a wide variety of Sub-Harmonic mixers. These are based on planar technology and GaAs Schottky barrier beam lead diodes.

They feature low conversion loss, low noise figure, excellent noise suppression and LO-RF isolation. They are extremely rugged devices for their small physical size and mass. Designs can be chosen from a portfolio of mixer architectures,

### Key Facts:

- High Performance
- Sub-Harmonically pumped
- Low Noise Figure
- Low LO power level required
- Low Conversion Loss



### APPLICATIONS

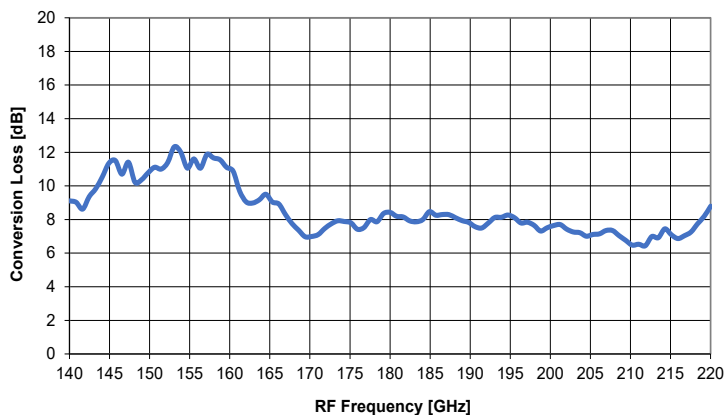
- Hetrodyne Receivers
- Instrumentation
- Imaging Front end
- Laboratory Test systems



### ACCESSORIES

- User Manual

Conversion Loss (SSB) vs Frequency



"We have made many Farran purchases, including amplifiers, mixers and multipliers. They are all high-performance devices and always meet our expectations. Farran supplied each component with comprehensive set of test results and a manual, which is not necessarily a given in this industry."

**Microwave Circuit Designer & Engineer, Multinational Electronic Test Equipment Manufacturer.**



## Product Specification

Specification	Unit	Min	Typ	Max
RF Frequency Range	GHz	140	-	220
LO Frequency Range	GHz	70	-	110
IF Frequency <sup>1</sup>	GHz	0.01	-	4
Conversion Loss	dB	-	10	15
Noise Figure (DSB) <sup>2</sup>	dB	-	9	13
LO Drive level	mW	3	5	8
RF Waveguide	-	-	WR-05 UG-387/U-M	-
LO waveguide	-	-	WR-10 UG-387/U-M	-
IF Connector	-	-	SMA (f)	-

1 Operation on higher IF frequencies possible at the expense of NF/CL performance.

2 Noise and conversion loss performance specified for IF = 4 GHz.



### SERVICES AVAILABLE

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Hardware Support

For more information on any of our products or services please visit our website: [www.farran.com](http://www.farran.com)



### TECHNICAL SUPPORT

- Technical support provided directly by our knowledgeable and friendly engineers.
- Support for pre- and post-purchase: system configuration, installation and troubleshooting.



### PRODUCT INSIGHTS

- For more product insights register at [www.farran.com/customer](http://www.farran.com/customer)
- Additional information: test data, CAD drawings and 3D models available.



### WARRANTY

- Standard 1 year warranty.

### Specification Definitions

**Nominal value (nom.)** – ensured by design, not tested. **Measured value (min, max)** – expected and warranted product performance obtained from the actual measurements of product sample. **Non-traceable measured value (n. trc. meas.)** – expected product performance obtained from the actual measurements of a product sample by means of using Farran’s own equipment and methods. Traceable only to Farran laboratory equipment. **Typical data (typ.)** – value that represents the product specification met over 90% of bandwidth or a mean value. **Specifications without limits** – represent the warranted product performance; with values of no or a negligible deviation from the given value and as such have a secondary impact on the product performance.

