

## A 385–500 GHz Sideband-Separating (2SB) SIS Mixer Based on a Waveguide Split-Block Coupler

Mamoru Kamikura · Yu Tomimura · Yutaro Sekimoto ·  
Shin'ichiro Asayama · Wenlei Shan · Naohisa Satou ·  
Yoshizou Iizuka · Tetsuya Ito · Toshiaki Kamba ·  
Yasutaka Serizawa · Takashi Noguchi

Published online: 18 September 2007  
© Springer Science + Business Media, LLC 2007

**Erratum to: Int J Infrared Milli Waves**  
**DOI 10.1007/s10762-006-9052-4**

In the original article the following figures were inadvertently printed as low resolution and therefore are unreadable. They are reprinted on the following pages along with the captions.

---

The online version of the original article can be found at: <http://dx.doi.org/10.1007/s10762-006-9052-4>.

M. Kamikura (✉) · Y. Tomimura · Y. Sekimoto · Y. Serizawa  
Department of Astronomy, School of Science, The University of Tokyo, 2-21-1 Osawa, Mitaka,  
Tokyo 181-8588, Japan  
e-mail: kamikura.mamoru@nao.ac.jp

M. Kamikura · Y. Tomimura · Y. Sekimoto · S. Asayama · W. Shan · N. Satou · Y. Iizuka · T. Ito ·  
T. Kamba · Y. Serizawa · T. Noguchi  
Advanced Technology Center and ALMA-J project office, National Astronomical Observatory of Japan,  
National Institutes of Natural Sciences, 2-21-1 Osawa, Mitaka, Tokyo 181-8588, Japan

W. Shan  
Purple Mountain Observatory, Chinese Academy of Sciences, 2 West Beijing Road, Nanjing 210008, China

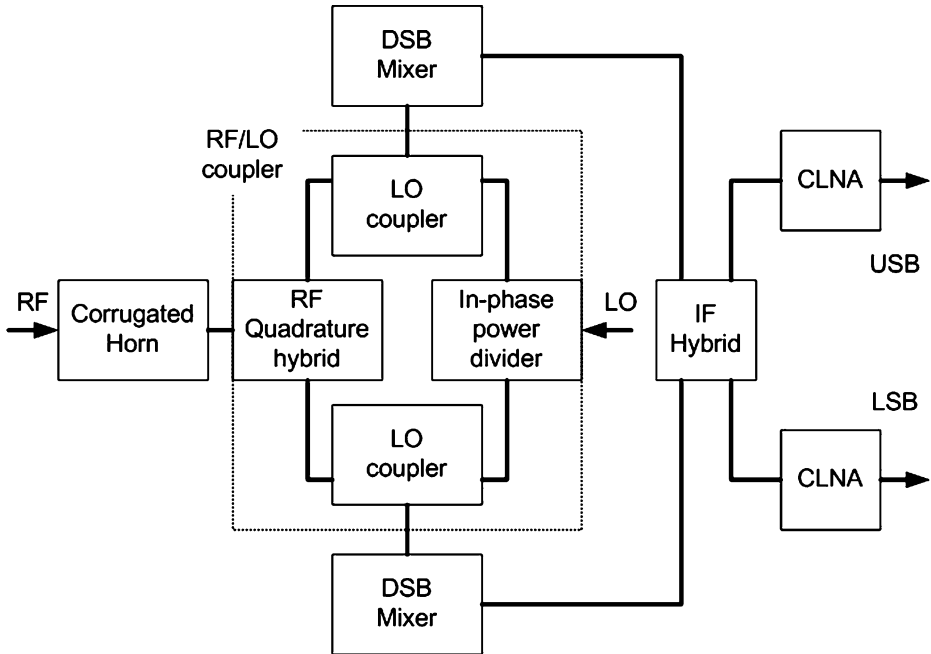
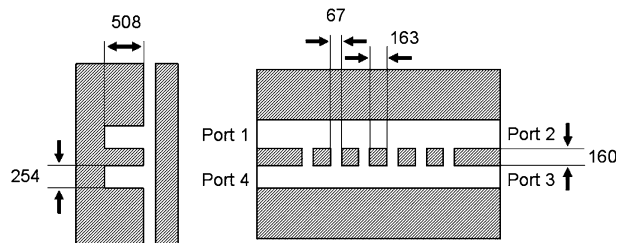
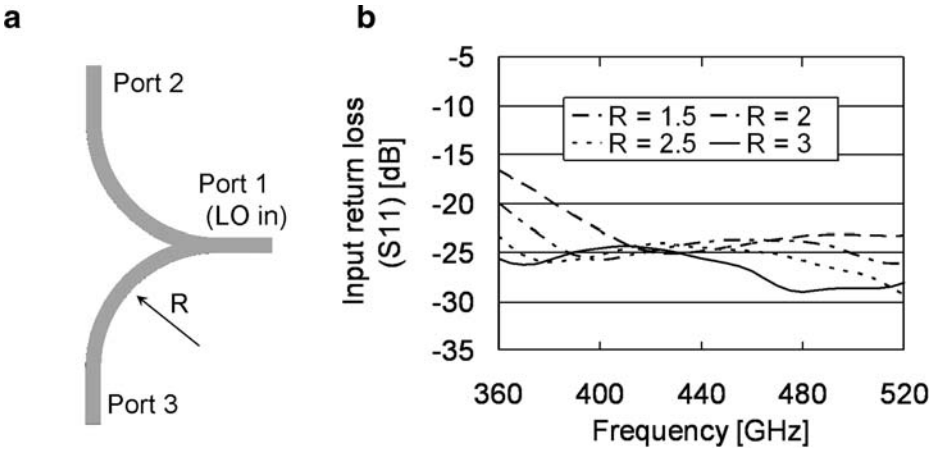


Fig. 1 Block diagram of a 2SB mixer.

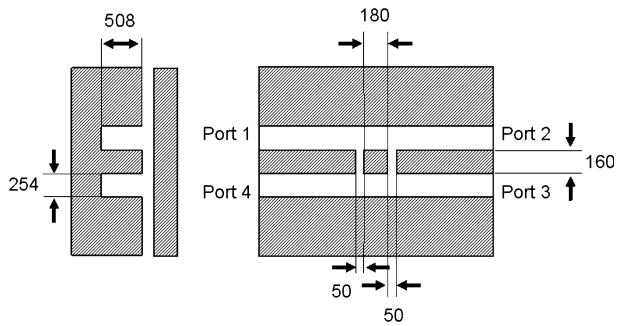
Fig. 2 Diagram of the RF quadrature hybrid. Dimensions are in  $\mu\text{m}$ .



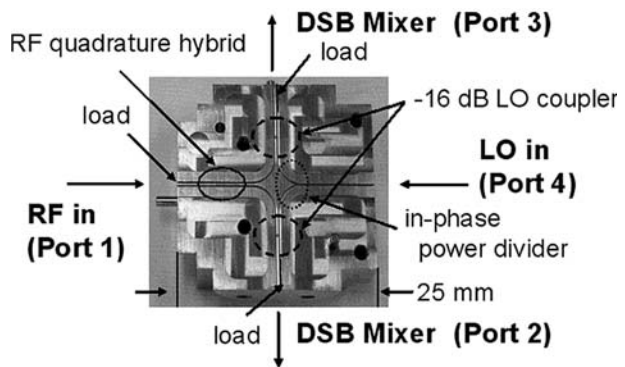


**Fig. 4** (a) Diagram of the in-phase power divider. This is an E-plane Y-junction. The waveguide size is  $508 \mu\text{m} \times 254 \mu\text{m}$ . (b) Simulated results of the input return loss of the in-phase power divider when the radius is varied from 1.5 mm to 3.0 mm.

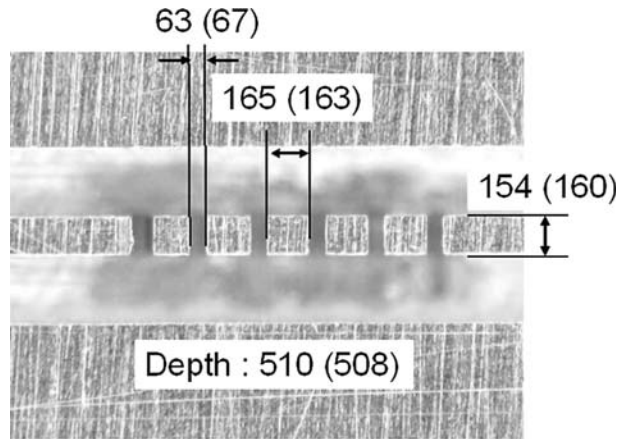
**Fig. 6** Diagram of the LO coupler. Dimensions are in  $\mu\text{m}$ .



**Fig. 8** Photograph of the RF/LO coupler.



**Fig. 9** Photograph of the RF quadrature hybrid. The RF quadrature hybrid is a 6 branch-line coupler. The dimensions are in  $\mu\text{m}$ . The values with and without the parentheses show the design and optically measured values, respectively.



**Fig. 11** Photograph of the LO coupler. This LO coupler is a 2-slot coupler. The dimensions are in  $\mu\text{m}$ . The values with and without the parentheses show design and optically measured values, respectively.

