



*Total Solution Provider in Saw Device*

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# SD453AK2

CDMA450 H-Band, SAW Duplexer  
Revision 1: December 2005



- Electrical Characteristics
  - Package Dimensions
  - Testing Environment
  - Frequency Characteristics
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## □ Electrical Characteristics

### Maximum Ratings

| Parameters Description                         | Unit            | Minimum                                 | Typical   | Maximum |
|--|-----------------|---|-----------|---------|
| Operation Temperature Range                    | °C              | -30                                     | -         | +80     |
| Storage Temperature Range                      |                 | -40                                     | -         | +85     |
| Maximum DC Voltage                             | V               | 0                                       |           |         |
| Maximum Input Power                            | W               | 1.0 W > 50000 Hours, CW tone(Ta= +50°C) |           |         |
| Source Impedance (single ended) <sup>(1)</sup> | Ω               | 50                                      |           |         |
| Load Impedance (single ended) <sup>(1)</sup>   | Ω               | 50                                      |           |         |
| Package type & size                            |                 | K2                                      |           |         |
| Length x Width                                 | mm <sup>2</sup> | -                                       | 5.0 x 5.0 | -       |
| Height   | mm              | -                                       | -         | 1.8     |

### Electrical Specification

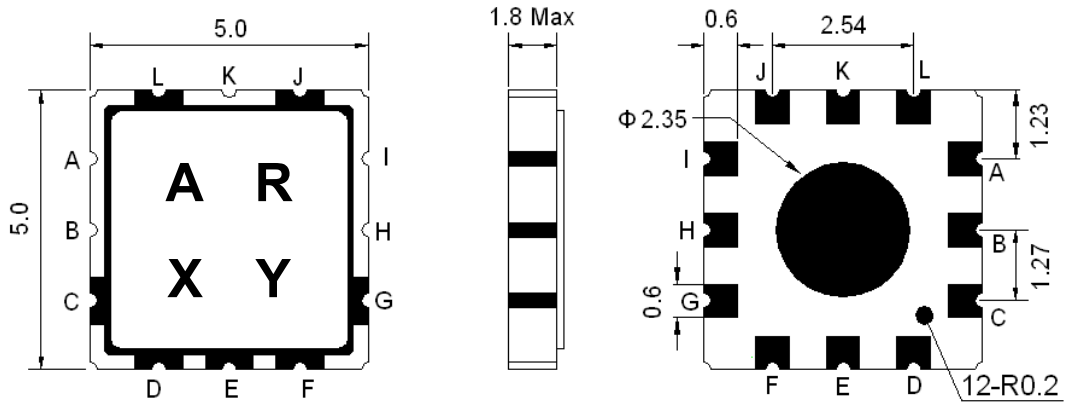
| Tx → Ant               |                 | Specifications |         |         |         |
|------------------------|-----------------|----------------|---------|---------|---------|
| Parameters Description | Condition [MHz] | Unit           | Minimum | Typical | Maximum |
| Insertion Loss         | 451.3 ~ 455.8   | dB             | -       | 2.2     | 2.8*    |
| VSWR                   | 451.3 ~ 455.8   | -              | -       | 1.3     | 2.0     |
| Absolute Attenuation   | 0.3 ~ 440.0     | dB             | 25      | 27      | -       |
|                        | 461.3 ~ 465.8   | dB             | 37*     | 55      | -       |
|                        | 465.8 ~ 1700.0  | dB             | 23      | 26      | -       |
|                        | 1700.0 ~ 2000.0 | dB             | 10      | 16      | -       |

| Ant → Rx               |                 | Specifications |         |         |         |
|------------------------|-----------------|----------------|---------|---------|---------|
| Parameters Description | Condition [MHz] | Unit           | Minimum | Typical | Maximum |
| Insertion Loss         | 461.3 ~ 465.8   | dB             | -       | 2.9     | 4.3*    |
| VSWR                   | 461.3 ~ 465.8   | -              | -       | 1.3     | 2.2     |
| Absolute Attenuation   | 0.3 ~ 451.3     | dB             | 20      | 25      | -       |
|                        | 451.3 ~ 455.8   | dB             | 38*     | 52      | -       |
|                        | 485.0 ~ 507.5   | dB             | 25      | 30      | -       |
|                        | 507.5 ~ 1200.0  | dB             | 20      | 30      | -       |
|                        | 1200.0 ~ 2000.0 | dB             | 25      | 47      | -       |

| Tx → Rx                |                 | Specifications |         |         |         |
|------------------------|-----------------|----------------|---------|---------|---------|
| Parameters Description | Condition [MHz] | Unit           | Minimum | Typical | Maximum |
| Isolation              | 451.3 ~ 455.8   | dB             | 42*     | 53      | -       |
|                        | 461.3 ~ 465.8   | dB             | 38*     | 58      | -       |

**Notes :** \* : -10°C ~ +60°C

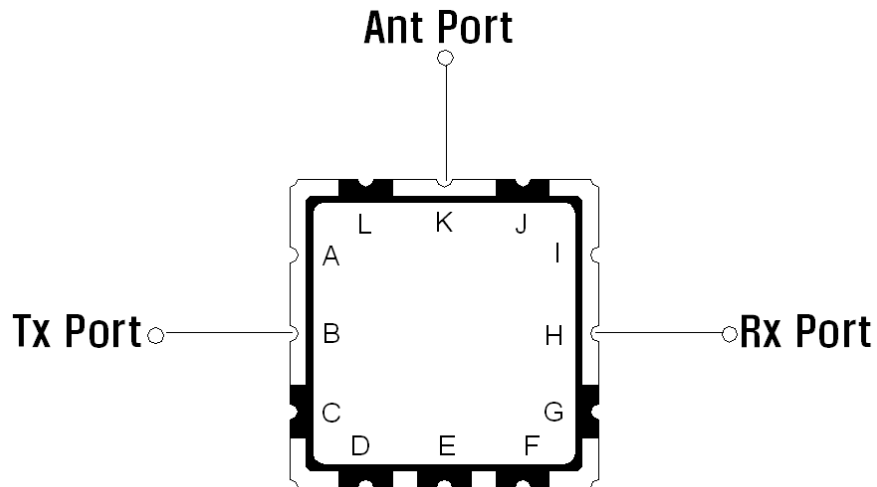
**Package Dimensions**



| Marking Descriptions |                     |
|----------------------|---------------------|
| A                    | CDMA450 Application |
| R                    | Series Number       |
| X                    | Date Code(Year)     |
| Y                    | Date Code(Month)    |

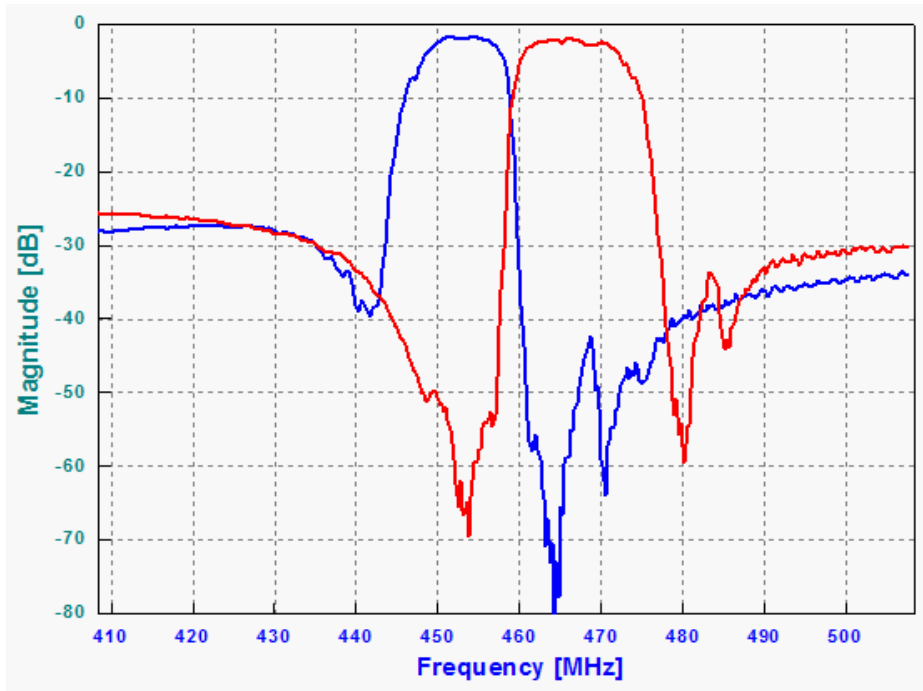
| Pin Description           |             |
|---------------------------|-------------|
| A, C, D, E, F, G, I, J, L | Ground      |
| H                         | Receiver    |
| K                         | Antenna     |
| B                         | Transmitter |

**Testing Environment**

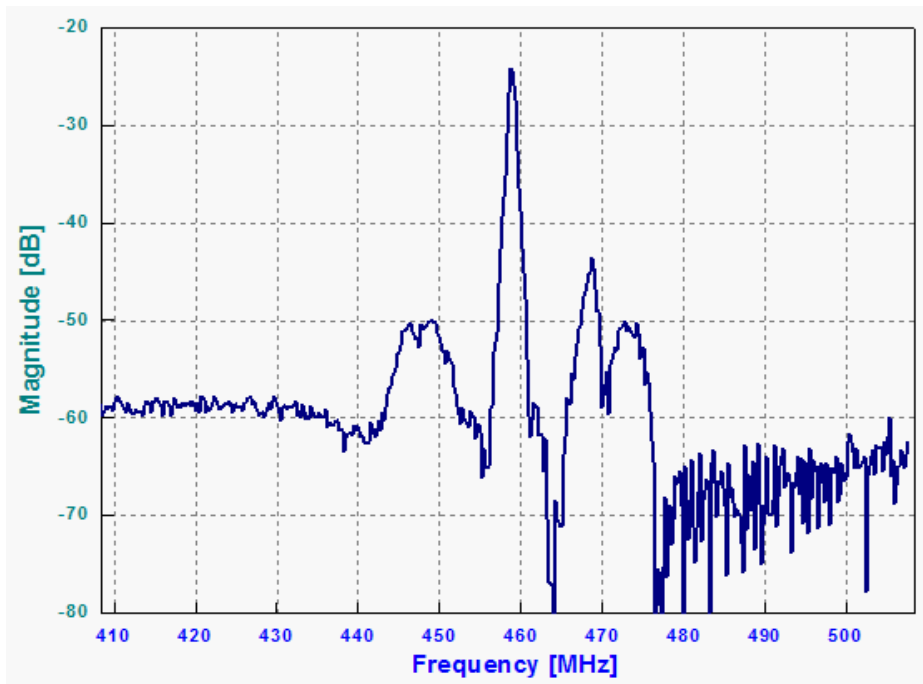


**□ Frequency Characteristics**

Tx to Ant, Ant to Rx



Tx to Rx Isolation

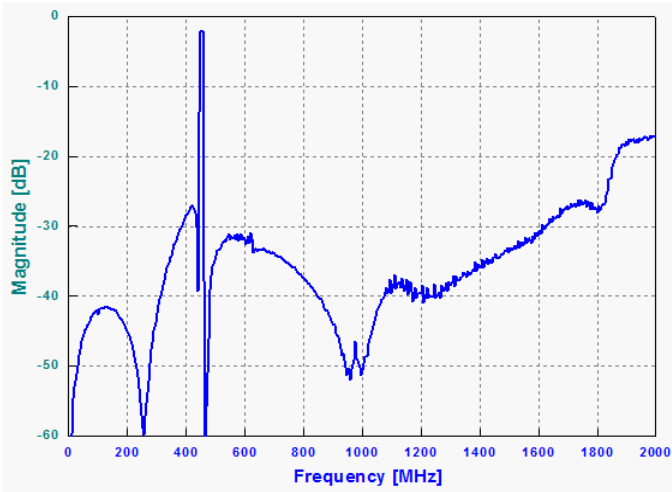




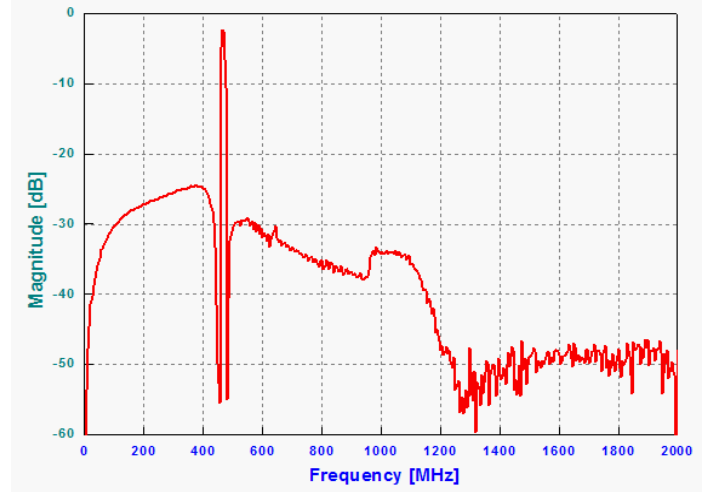
SD453AK2

CDMA450 H-Band, SAW DUPLEXER

Tx to Ant

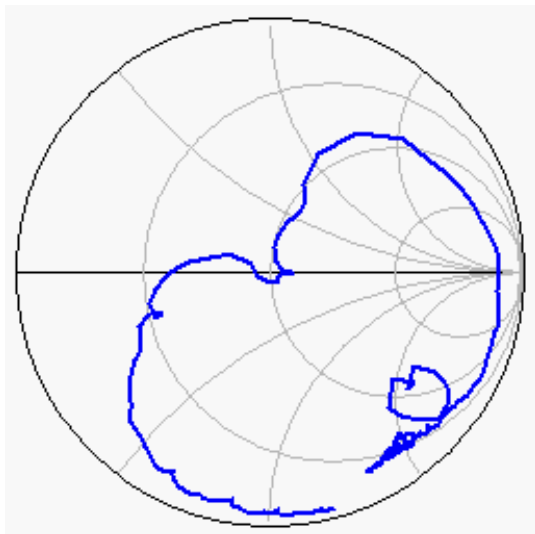


Ant to Rx

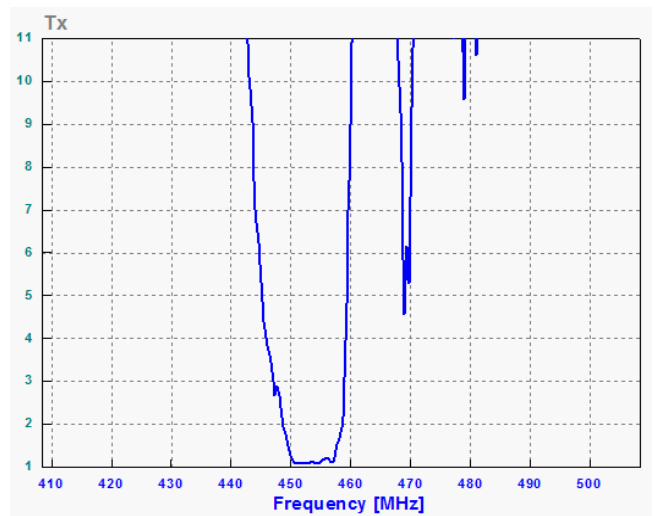


Tx Port

Smith Chart

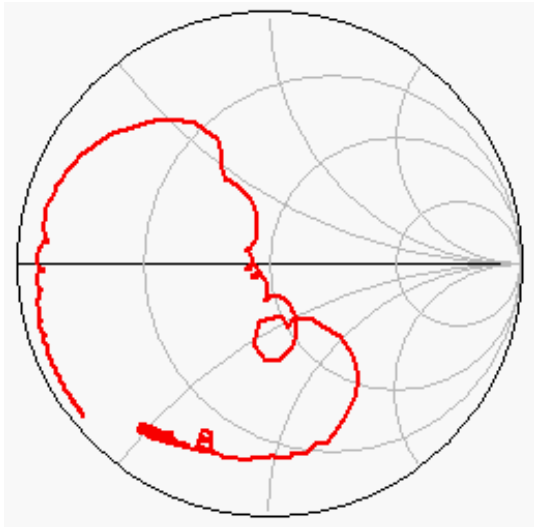


VSWR

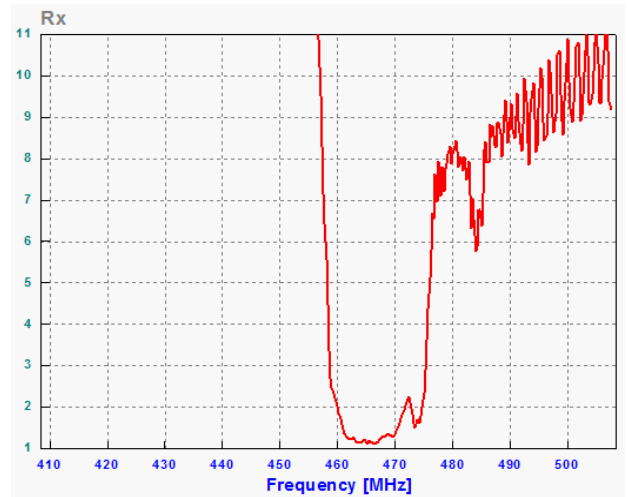


### Rx Port

Smith Chart

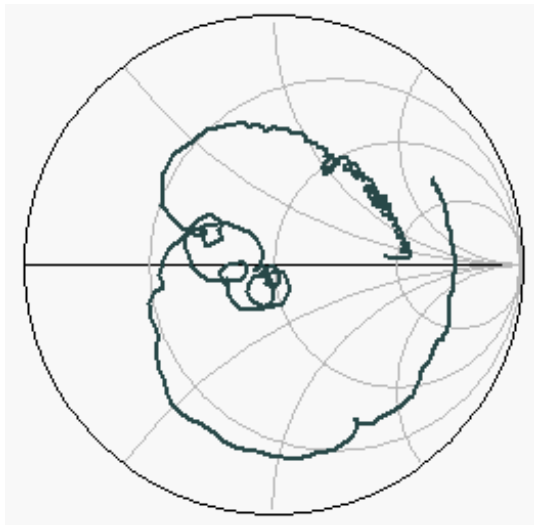


VSWR



### Ant Port

Smith Chart



VSWR

