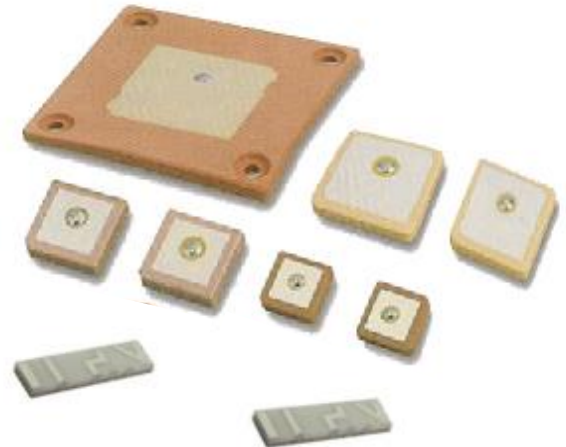


# ANTENNA PRODUCT OVERVIEW

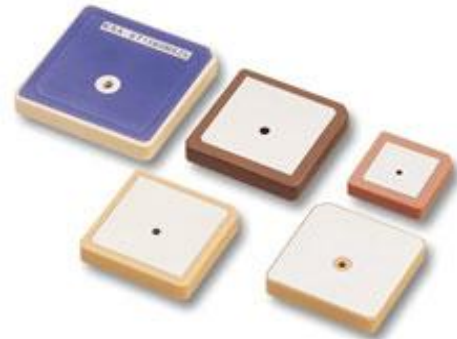
Let Sangshin Elecom assist you with all of your antenna needs...



- Sangshin Elecom offers a complete range of CERAMIC PATCH ANTENNA elements and CHIP ANTENNAS to meet the needs of today's marketplace.
- Sangshin provides the ability to develop both high volume and smaller volume custom products by utilizing its state-of-the-art production facilities.
- **DESIGN OPTIMIZATION AVAILABLE:** Sangshin will design and develop an antenna that is specifically suited for your board layout, ground plane, radome, and surrounding topology. This insures optimal antenna performance without having to change your design.
- Available in both SURFACE MOUNT and PIN TYPE configurations. SMT version eliminates both 2 sided adhesive and manual placement thus allowing Pick & Place for increased manufacturing efficiency.
- **Patch Antennas** available in 13mm, 17mm, 18mm, 20mm, 25mm, 36mm & 60mm sizes.
- **Chip Antennas** are available in various sizes (consult factory).
- Antenna frequency ranges from 900MHz – 2.5GHz

## Patch Antenna Features and Benefits

- Ø High Q ceramic
- Ø Compact and inexpensive
- Ø Temperature stable
- Ø SMT version increases manufacturing efficiency
- Ø Wide frequency range 400MHz to over 2.5 GHz
- Ø Dependable and repeatable performance
- Ø Multiple dielectric constants available
- Ø Operating temperature range -55 °C to +125 °C
- Ø Circuit miniaturization and very cost effective
- Ø High resonant impedance
- Ø Wide range of applications



Ask about  
our **NEW**  
Active Antenna Module  
w/LNA



## Electrical Specifications

### **GPS Products (Custom designs available)**

| PART NO.           | TYPE | SIZE<br>(mm) | CENTER<br>FREQ.(MHz) | BW<br>(MHz)Min. | GAIN<br>(dBi) | GROUND<br>PLANE<br>(mm) |
|--------------------|------|--------------|----------------------|-----------------|---------------|-------------------------|
|                    |      |              |                      |                 |               |                         |
| KSA-SP1575MS25-Y22 | PIN  | 25 X 25      | 1575                 | 8               | 2.5           | 35 X 35                 |
| KSA-SP1575MS25-Y26 | PIN  | 25 X 25      | 1575                 | 15              | 5             | 70 X 70                 |
| KSA-ST1580MS25     | PIN  | 25 X 25      | 1580                 | 15              | 5             | 70 X 70                 |
| KSA-ST1580MS25B    | PIN  | 25 X 25      | 1580                 | 15              | 5             | 70 X 70                 |
| KSA-ST1580MS20     | PIN  | 20 X 20      | 1580                 | 12              | 3.5           | 60 X 60                 |
| KSA-ST1580MS18     | PIN  | 18 X 18      | 1580                 | 10              | 3             | 50 X 50                 |
| KSA-ST1580MS13     | PIN  | 13 X 13      | 1580                 | 5               | 0             | 50 X 50                 |
| KSA-SP1575MS36     | PIN  | 36 X 36      | 1575                 | 30              | 6             | 80 X 80                 |
| KSA-SP1575MS60     | PIN  | 60 X 60      | 1575                 | 30              | 7             | 80 X 80                 |
| KSA-ST1227MS25-Y26 | PIN  | 25 x 25      | 1227                 | 5               | 5             | 70 x 70                 |
| KSA-M1580MS13T3.5  | SMT  | 13 X 13      | 1580                 | 4               | 2             | 50 X 50                 |
| KSA-M1580MS18      | SMT  | 18 X 18      | 1580                 | 4               | 4             | 50 X 50                 |
| KSA-M1575MS18      | SMT  | 18 X 18      | 1575                 | 4               | 4             | 50 X 50                 |
| KSA-M1580MS25B     | SMT  | 25 x 25      | 1580                 | 5               | 5             | 70 X 70                 |

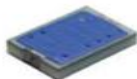
### **WLAN Products (Custom designs available)**

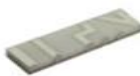
| PART NO.       | TYPE | SIZE<br>(mm) | CENTER<br>FREQ.(MHz) | BW<br>(MHz)Min. | GAIN<br>(dBi) | GROUND<br>PLANE<br>(mm) |
|----------------|------|--------------|----------------------|-----------------|---------------|-------------------------|
|                |      |              |                      |                 |               |                         |
| KSA-SP2450MS25 | PIN  | 25 X 25      | 2450                 | 50              | 4             | 70 x 70                 |

### **SDARS & INMARSAT Products (Custom designs available)**

| PART NO.         | TYPE | SIZE<br>(mm) | CENTER<br>FREQ.(MHz) | BW<br>(MHz)Min. | GAIN<br>(dBi) | GROUND<br>PLANE<br>(mm) |
|------------------|------|--------------|----------------------|-----------------|---------------|-------------------------|
|                  |      |              |                      |                 |               |                         |
| KSA-LCSP1615MS25 | PIN  | 25 X 25      | 1615                 | 6               | 4             | 70 x 70                 |
| KSA-LCSP2326MS25 | PIN  | 25 X 25      | 2326                 | 8               | 6             | 70 x 70                 |
| KSA-LCSP2345MS25 | PIN  | 25 x 25      | 2345                 | 20              | 5             | 70 x 70                 |
| KSA-LCSP2370MS25 | PIN  | 25 x 25      | 2370                 | 20              | 5             | 70 x 70                 |

## Chip Antenna Specifications

|                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|-------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                   |  |  |  |  |
| KSCA -            | <b>B2442 AP</b>                                                                   | <b>B2442 BP</b>                                                                   | <b>B2442 CAP</b>                                                                    | <b>B2442 DP</b>                                                                     |
| Gain              | 3.15 dBi                                                                          | 0.35 dBi                                                                          | 0 dBi                                                                               | -2.3 dBi                                                                            |
| Bandwidth[@-10dB] | 200 MHz min.                                                                      | 200 MHz min.                                                                      | 120 MHz min.                                                                        | 50 MHz min.                                                                         |
| L x W x H mm      | 9.8 x 6.7 x 1.0                                                                   | 6.0 x 4.0 x 1.0                                                                   | 19.5 x 3.0 x 3.3                                                                    | 11.0 x 3.2 x 1.8                                                                    |
|                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |

|                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|-------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                   |  |  |  |  |
| KSCA -            | <b>B2450MHA</b>                                                                   | <b>B2450H62A</b>                                                                  | <b>B2450H103A</b>                                                                   | <b>B2450H62A</b>                                                                    |
| Gain              | 2.3 dBi                                                                           | 1.2 dBi                                                                           | 3.1 dBi                                                                             | 3.2 dBi                                                                             |
| Bandwidth[@-10dB] | 80 MHz min.                                                                       | 80 MHz min.                                                                       | 150 MHz min.                                                                        | 150 MHz min.                                                                        |
| L x W x H mm      | 10.0 x 2.5 x 1.1                                                                  | 6.1 x 2.0 x 1.1                                                                   | 10.0 x 3.0 x 1.0                                                                    | 11.0 x 3.0 x 1.0                                                                    |
| Matching          |                                                                                   | Shunt L 1.0nH                                                                     | Shunt L 1.2nH                                                                       | Shunt L 1.8nH                                                                       |