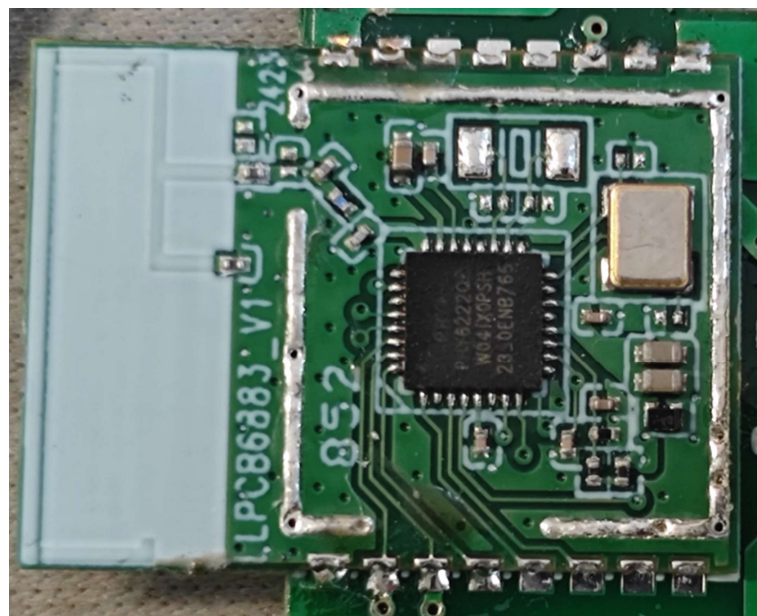


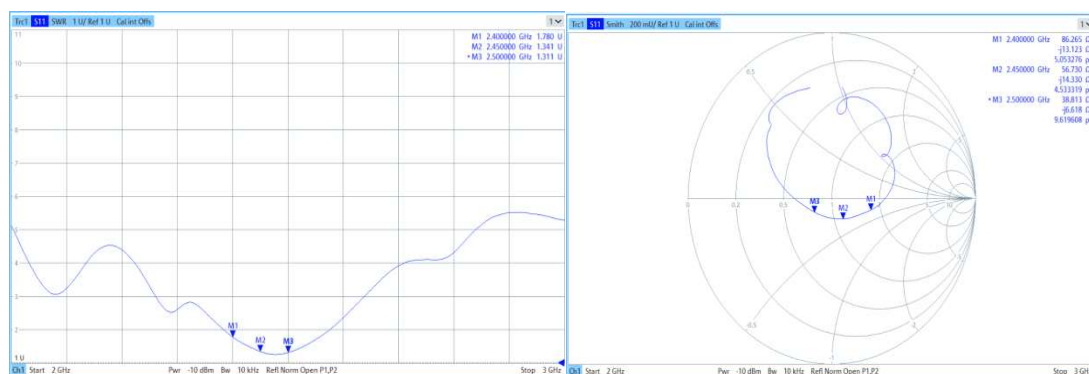
## 8.5 Antenna Specification

| ITEM   | UNIT             | MIN  | TYP | MAX  |
|--|------------------|------|-----|------|
| Frequency  | MHz              | 2400 |     | 2500 |
| V.S.W.R  |                  |      | 2.0 |      |
| Gain(Peak)   | dBi              |      | 2.0 |      |
| Antenna type   | PCB antenna      |      |     |      |
| Radiated Pattern   | Omni-directional |      |     |      |
| Impedence  | 50Ω              |      |     |      |
| Remark: Antenna gain and radiation pattern are highly dependent on the application PCB layout and mechanical design. |                  |      |     |      |

Above parameters are based on the module being mounted on the 50\*40mm evaluation board, shown as followed:



### 8.5.1 VSWR and Smith Chart



### 8.5.2 Efficiency and Peak Gain

| Model                | B21-N1E    |      |      |      |      |      |      |      |      |      |      |
|----------------------|------------|------|------|------|------|------|------|------|------|------|------|
| Test / Position      | Free Space |      |      |      |      |      |      |      |      |      |      |
| Communication System | Gain       |      |      |      |      |      |      |      |      |      |      |
| frequency            | 2400       | 2410 | 2420 | 2430 | 2440 | 2450 | 2460 | 2470 | 2480 | 2490 | 2500 |
| Peak Gain            | 2.0        | 2.0  | 1.6  | 1.3  | 1.0  | 1.0  | 0.9  | 0.9  | 1.2  | 1.3  | 1.1  |
| Directivity          | 4.8        | 4.7  | 4.4  | 4.1  | 3.7  | 3.5  | 3.2  | 3.0  | 3.1  | 3.1  | 3.0  |
| Efficiency (%)       | 55.3       | 54.0 | 51.9 | 52.2 | 53.6 | 56.8 | 58.9 | 60.9 | 64.6 | 65.9 | 63.8 |

### 8.5.3 Radiation Pattern

