

# Specification For Approval

Date: 2026 / 06 / 08

File No.: 2606080003

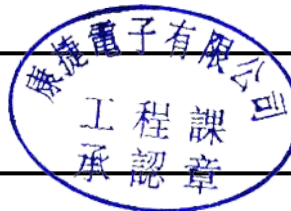
Version: 1.0

Customer : WQ

Customer P/N : /

INVAX P/N : NB1663-B098BF

Description : Antenna



Cortec Checked By:



Customer Approved By:



**INVAX System Technology Corp.**  
4F. No. 815.Chung Hsiao East Rd.,Sec.5  
Taipei, TAIWAN

TEL:886-2-2788-5218 FAX:886-2-2783-1658  
<http://www.invaxsystem.com>



**Cortec Technology Inc.**  
Xian-Xi Industrial, Sha-Tou Administration Zone,  
Chang-An Town, Dong-Guan City, Guangdong  
Province, China  
TEL:86-769-85388261 FAX:86-769-85317869  
<http://www.cortec.com.cn>

**Index:**

- 1. Revision History / Page 3**
- 2. Specification / Page 4**
- 3. Characteristics and Reliability Test / Page 5**
- 4. Antenna - S Parameter Test Data / Page 6**
- 5. Antenna - Radiation Pattern Test Data / Page 7**
- 6. Mechanical and Packing Drawing / Page 8 ~ 9**
- 7. Material Description and RoHS Test Report / Page 10 ~ end**



1. Revision History

| Revision | Date       | Change Notification | Description |
|----------|------------|---------------------|-------------|
| 1.0      | 2026.06.08 |                     |             |
|          |            |                     |             |
|          |            |                     |             |
|          |            |                     |             |
|          |            |                     |             |
|          |            |                     |             |
|          |            |                     |             |
|          |            |                     |             |
|          |            |                     |             |
|          |            |                     |             |

Product Number: NB1663-B098BF

Product Name: Antenna



## 2. Specification

| Sample Photo                                                                       |                   |
|------------------------------------------------------------------------------------|-------------------|
|  |                   |
| A. Electrical Characteristics                                                      |                   |
| Frequency                                                                          | 2400-2500 MHz     |
| V.S.W.R.                                                                           | $\leq 3.0$        |
| Peak Gain                                                                          | 3.48 dBi          |
| Polarization                                                                       | Linear            |
| Impedance                                                                          | 50 Ohm            |
| B. Material & Mechanical Characteristics                                           |                   |
| Material of Radiator                                                               | PCB               |
| Cable Type                                                                         | O.D. 0.81 mm      |
| Connector Type                                                                     | CR-081            |
| C. Environmental                                                                   |                   |
| Operation Temperature                                                              | - 40 °C ~ + 65 °C |
| Storage Temperature                                                                | - 40 °C ~ + 80 °C |

Product Number: NB1663-B098BF

Product Name: Antenna



### 3. Characteristics and Reliability Test

| Test Items |                      | Test Condition and Procedure                                                                                            | Requirements                                                            |
|------------|----------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| C1         | VS.W.R.              | Set DUT on Network Analyzer; make individual calibration to test                                                        | Directive DUT specification                                             |
| C2         | Antenna Gain         | Set DUT on Antenna Chamber; make individual calibration to test                                                         | Directive DUT specification                                             |
| M1         | Vibration            | GB / T2423.48-2008<br>Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz<br>3 directions; 2 hours for each direction | 1. No Visual Damage<br>2. Frequency Tol.<= 5%                           |
| M2         | Random Drop          | GB / T2423.8-1995<br>Height: 1.0 Meter;<br>3 directions; 1 time for each direction                                      | 1. No parts separated<br>2. Frequency Tol.<= 5%                         |
| M3         | Solderability        | GB / T2423.28-2005<br>Temp: 260±5°C;Duration: 5 seconds                                                                 | 1. Mounted on PCB<br>2. No Visual Damage                                |
| M4         | Terminal-Pull Test   | Holding with individual specification; force applied to axis of terminal                                                | 1. Directive DUT specification<br>2. Frequency Tol.<= 5%                |
| M5         | Terminal-Torque Test | Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal                   | 1. Directive DUT specification<br>2. Frequency Tol.<= 5%                |
| M6         | Dimension            | Inspection of dimension, color, material, package, surface process                                                      | Directive DUT specification                                             |
| E1         | Salt Spray           | GB / T 2423.17-2008<br>Temp: 35°C; RH: ≥ 95%; NaCl solution: ≥ 5%;Time: 24H                                             | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E2         | Humidity             | GB / T 2423.3-2006<br>Temp: 80°C / 12 H; -40°C / 12H RH: ≥ 90%; Time: 24H                                               | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E3         | Thermal Shock        | GB / T 2423.22 - 2008<br>- 40° C (30 minutes) to + 80° C (30 minutes); Cycles: 24                                       | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E4         | Life (High Temp.)    | GB / T 2423.2 - 2008<br>Temp: 80°C; Time: 24 hours                                                                      | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| R1         | RoHS                 | With Reference to IEC 62321:2008 with flow chart                                                                        | Directive RoHS 2011/65/EU                                               |

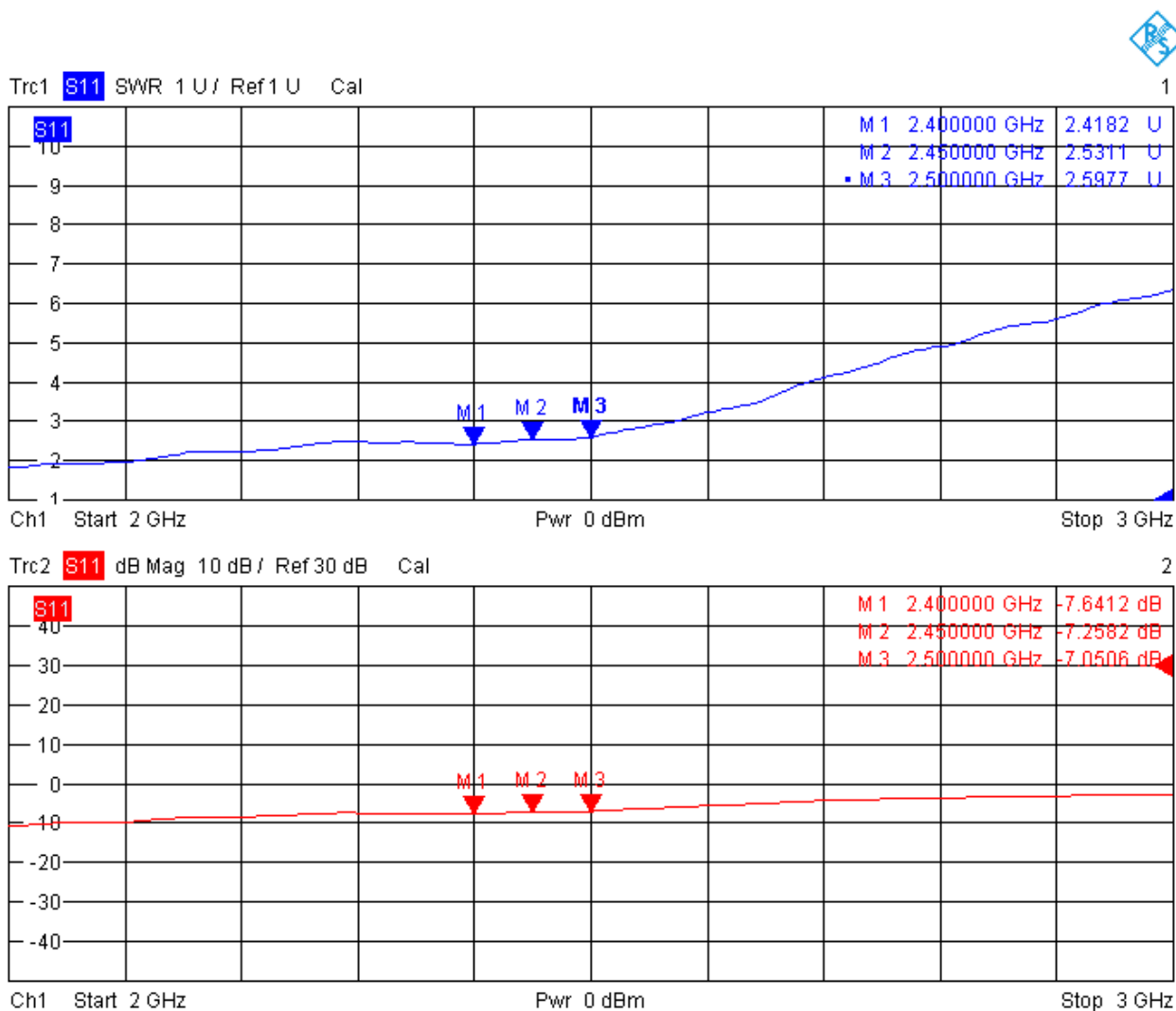
Product Number: NB1663-B098BF

Product Name: Antenna



#### 4. Antenna - S Parameter Test Data

裸測



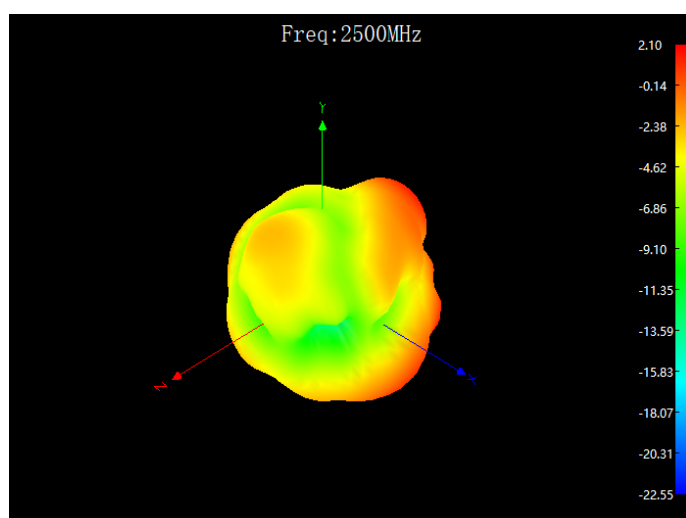
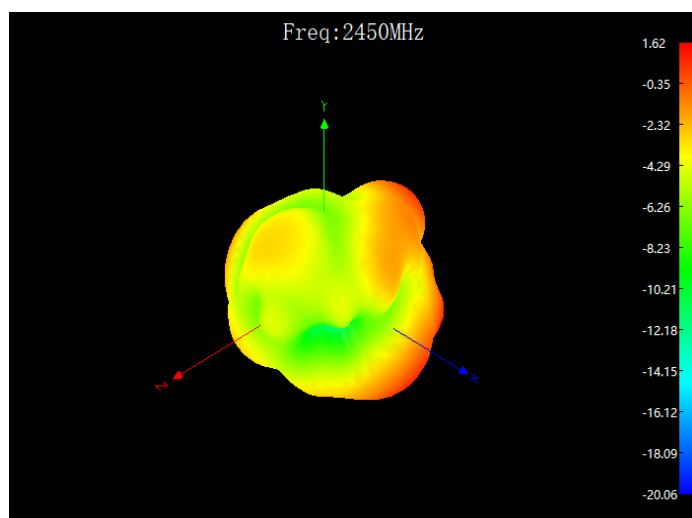
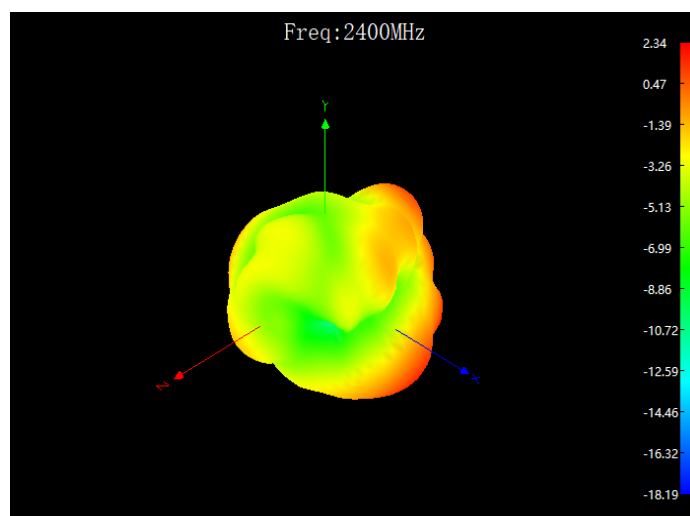
4/12/2026, 5:39 PM

Product Number: NB1663-B098BF

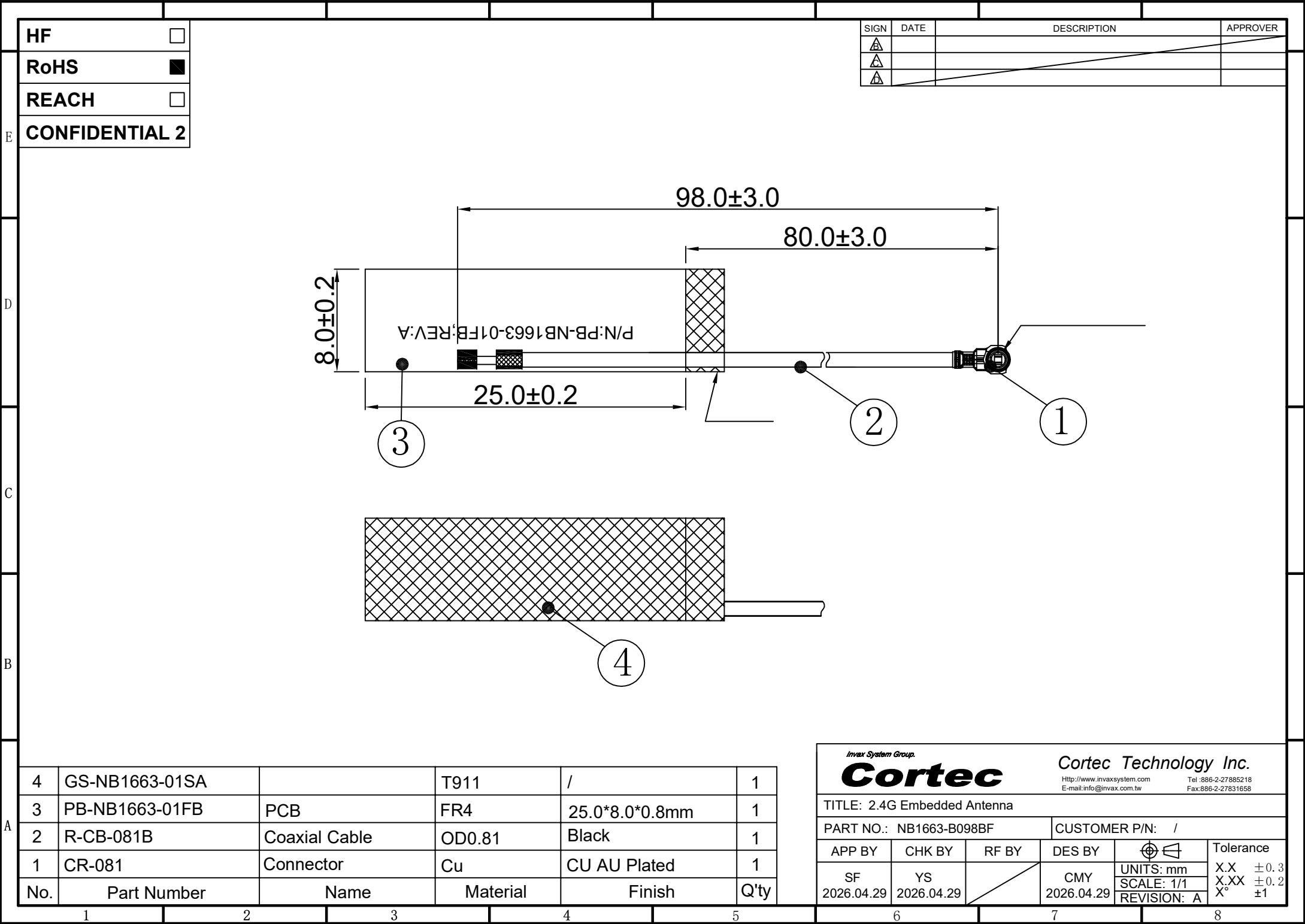
Product Name: Antenna



## 5. Antenna - Radiation Pattern Test Data



| Frequency/MHz  | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| MaxGain/dBi    | 2.34  | 3.09  | 3.34  | 2.82  | 3.48  | 1.62  | 2.08  | 2.17  | 2.56  | 2.78  | 2.1   |
| Efficiency / % | 41.78 | 45.29 | 48.75 | 50.82 | 51.76 | 40.27 | 39.45 | 38.73 | 40.27 | 38.46 | 35.81 |



Date: 2026.04.29

Page: 1 of 1

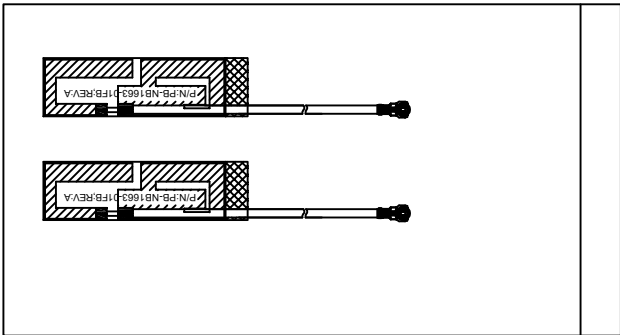
|                             |              |
|-----------------------------|--------------|
| Part Number : NB1663-B098BF | Revision : A |
| Name: Embedded Antenna      | Customer :   |

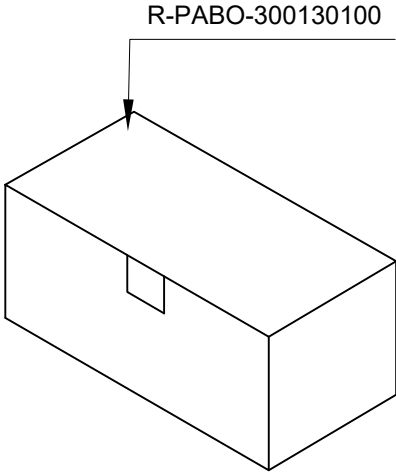
1. The Product



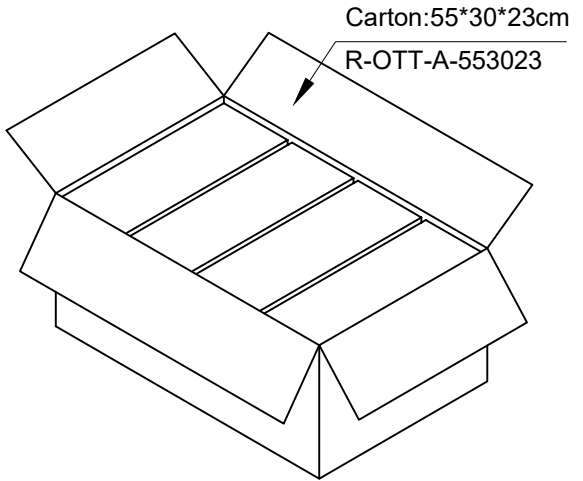
2. 50 PCS/per Bag



3. 1000 PCS/per Box



4. 8000 PCS/per Carton



Carton Label:

ITEM NO:  
 Q, TY: \*\*\*\* PCS  
 N.W: \*\*\*\* KGS  
 G.W: \*\*\*\* KGS  
 MEAS:55\*30\*23CM

Green Label

Side Mark

  
 C/NO.  
 MADE IN CHINA

Case Mark

APPROVED BY : SFCHECKED BY : YSDESIGNED BY : CMY



物料名稱：NB1663-B098BF

| 序號 | 物料型號           | 物料各構成名稱 | 各構成物料的材質 | The test results for the RoHS-related substances in the test report |      |      |        |      |       |      |      |      |      | 檢測報告編號             | 測試日期       | 測試名稱                 | 測試機構名稱 |
|----|----------------|---------|----------|---------------------------------------------------------------------|------|------|--------|------|-------|------|------|------|------|--------------------|------------|----------------------|--------|
|    |                |         |          | Cd                                                                  | Pb   | Hg   | Cr(VI) | PBBs | PBDEs | DBP  | BBP  | DIBP | DEHP |                    |            |                      |        |
| 1  | PB-NB1663-01FB | PCB     | FR4      | N.D.                                                                | 15   | N.D. | N.D.   | N.D. | N.D.  | N.D. | N.D. | N.D. | N.D. | SHAEC25018891229   | 2025.08.04 | Laminate (FR-4.0)    | SGS    |
| 2  | GS-NB1663-01SA | T911    | T911     | N.D.                                                                | N.D. | N.D. | N.D.   | N.D. | N.D.  | N.D. | N.D. | N.D. | N.D. | ETR26302108        | 2026.03.18 | ADHESIVE             | SGS    |
| 3  | R-CB-081B      | Cable   | FEP黑色    | N.D.                                                                | N.D. | N.D. | N.D.   | N.D. | N.D.  | N.D. | N.D. | N.D. | N.D. | NGBPC25006099715   | 2025.09.23 | Colored-FEP (Black)  | SGS    |
| 4  |                |         | FEP      | N.D.                                                                | N.D. | N.D. | N.D.   | N.D. | N.D.  | N.D. | N.D. | N.D. | N.D. | NGBPC26000015815   | 2026.01.19 | FLUORINATED ETHYLENE | SGS    |
| 5  |                |         | 镀银铜      | N.D.                                                                | N.D. | N.D. | N.D.   | N.D. | N.D.  | N.D. | N.D. | N.D. | N.D. | CANEC25032495501   | 2026.01.04 | Silver Plated Copper | SGS    |
| 6  |                |         | 镀银铜      | N.D.                                                                | N.D. | N.D. | N.D.   | N.D. | N.D.  | N.D. | N.D. | N.D. | N.D. | CANEC25032495501   | 2026.01.04 | Silver Plated Copper | SGS    |
| 7  | CR-081         | MHF1    | PBT      | N.D.                                                                | 4.71 | N.D. | N.D.   | N.D. | N.D.  | N.D. | N.D. | N.D. | N.D. | ETR25C01675        | 2025.12.16 | POLYBUTYLENE         | SGS    |
| 8  |                |         | 铜        | N.D.                                                                | 4    | N.D. | N.D.   | N.D. | N.D.  | N.D. | N.D. | N.D. | N.D. | CANEC25027363005   | 2025.11.13 | BRONZE：C5210         | SGS    |
| 9  |                |         | 镀金层      | N.D                                                                 | N.D  | N.D  | N.D    | N.D  | N.D   | N.D  | N.D  | N.D  | N.D  | A2250930053101001E | 2025.12.23 | 纯金镀层                 | CTI    |