

Dreamus Corp.

# APPROVAL SHEET

| HB1 |            |           |                   |
|-----|------------|-----------|-------------------|
| NO  | MODEL      | FREQUENCY |                   |
| 1   | HWI-BT-HB1 | BLUETOOTH | 2400 ~ 2483.5 MHz |

| SUPPLIER                                                                            |        |                                                                                     | CUSTOMER |        |          |
|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|----------|--------|----------|
| Engineer                                                                            | Review | Approved                                                                            | Engineer | Review | Approved |
|  |        |  |          |        |          |
| 23/04/05                                                                            |        | 23/04/05                                                                            |          |        |          |



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## HISTORY SHEET

|           |              |                 |                |                                                                                     |
|-----------|--------------|-----------------|----------------|-------------------------------------------------------------------------------------|
| ITEM      | FPCB ANTENNA | Developed by    | Kyoung-Min Lee |  |
| Part Name | HWI-BT-HB1   | Director        |                |                                                                                     |
| Rev. No.  | Date         | Description     |                | Etc.                                                                                |
| 0         | 2023-04-05   | Initial Version |                |                                                                                     |
|           |              |                 |                |                                                                                     |
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|           |              |                 |                |                                                                                     |

## ANTENNA SPECIFICATION

1. MODEL: HWI-BT-HB1

2. APPLICATION:

This specification is provided for BLUETOOTH ANTENNA.

3 ANTENNA used condition

■Portable ■Fixing ■Movement ■Out-door ■In-door ■Etc( )

4. ANTENNA Drawing

#3. Attached : Drawing paper

5. Electrical specification and performance

Satisfied next data with real used or similar environment conditions.

| No.  | ELECTRICAL DATA   | SPECIFICATIONS     |                    | REMARK       |
|------|-------------------|--------------------|--------------------|--------------|
| 5. 1 | FREQUENCY RANGE   | BLUETOOTH          | 2400 ~ 2483.5 MHz  |              |
| 5. 2 | IMPEDANCE         | 50 Ω NOMINAL       |                    |              |
| 5. 3 | V. S. W. R        | BLUETOOTH          | Less than 1 : 2.15 | #1. Attached |
| 5. 4 | PEAK GAIN         | BLUETOOTH          | -2.40 dBi          | #2. Attached |
| 5. 5 | RADIATION PATTERN | OMNI – DIRECTIONAL |                    |              |
| 5. 6 | POLARIZATION      | LINEAR             |                    |              |

6. Hardware specification and mechanical

| No.     | MECHANICAL            | SPECIFICATIONS            | REMARK |
|---------|-----------------------|---------------------------|--------|
| 2. 6. 1 | FPCB Size [W X H X T] | 14.00 X 17.26 X 0.15 (mm) |        |

## 7. SINUSOIDAL VIBRATION

Vibration Frequencies : 5- 55 Hz (1 cycle)

Sweep Rate : 1 cycle/min

Maximum Amplitude : A - 1 mm

Maximum Acceleration: 2 g

Measuring method

Antenna is combined in the test equipment.

The vibration is done X and Y direction (left, right, up and down) according to below image.

It continued for 2 hours each direction.

## 8. OPERATING TEMPERATURE

Temperature : - 40℃ / +70℃

Demands : Set Antenna and Cable for 72 hours each temperature.

No visual and mechanical changes.

The fitting and mold will be unchanged mechanically during the test.

The antenna shall satisfy the electrical data

## 9. HUMIDITY

Condition : 95% / +70℃

Measuring method

Antenna is placed in climatic chamber for 72 hours.

Antenna is taken out from the chamber and measured

after another 24 hours in room temperature

Demands : No visual and mechanical changes.

The fitting and mold will be unchanged mechanically during the test.

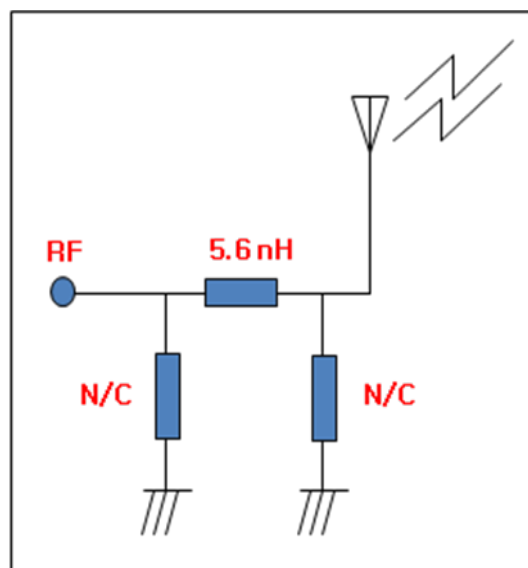
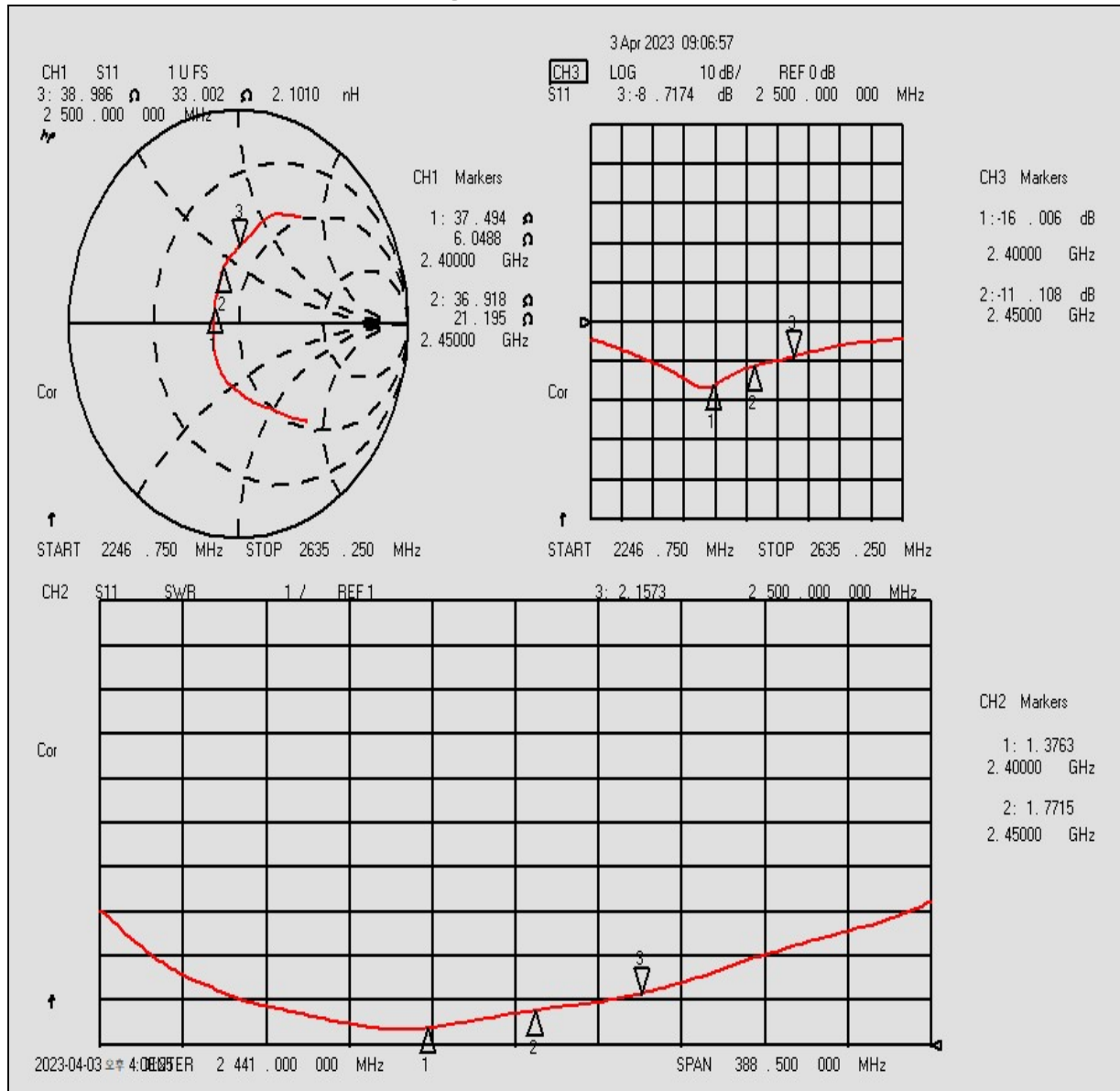
The antenna shall satisfy the electrical data.

## 10. TEST and Q/C

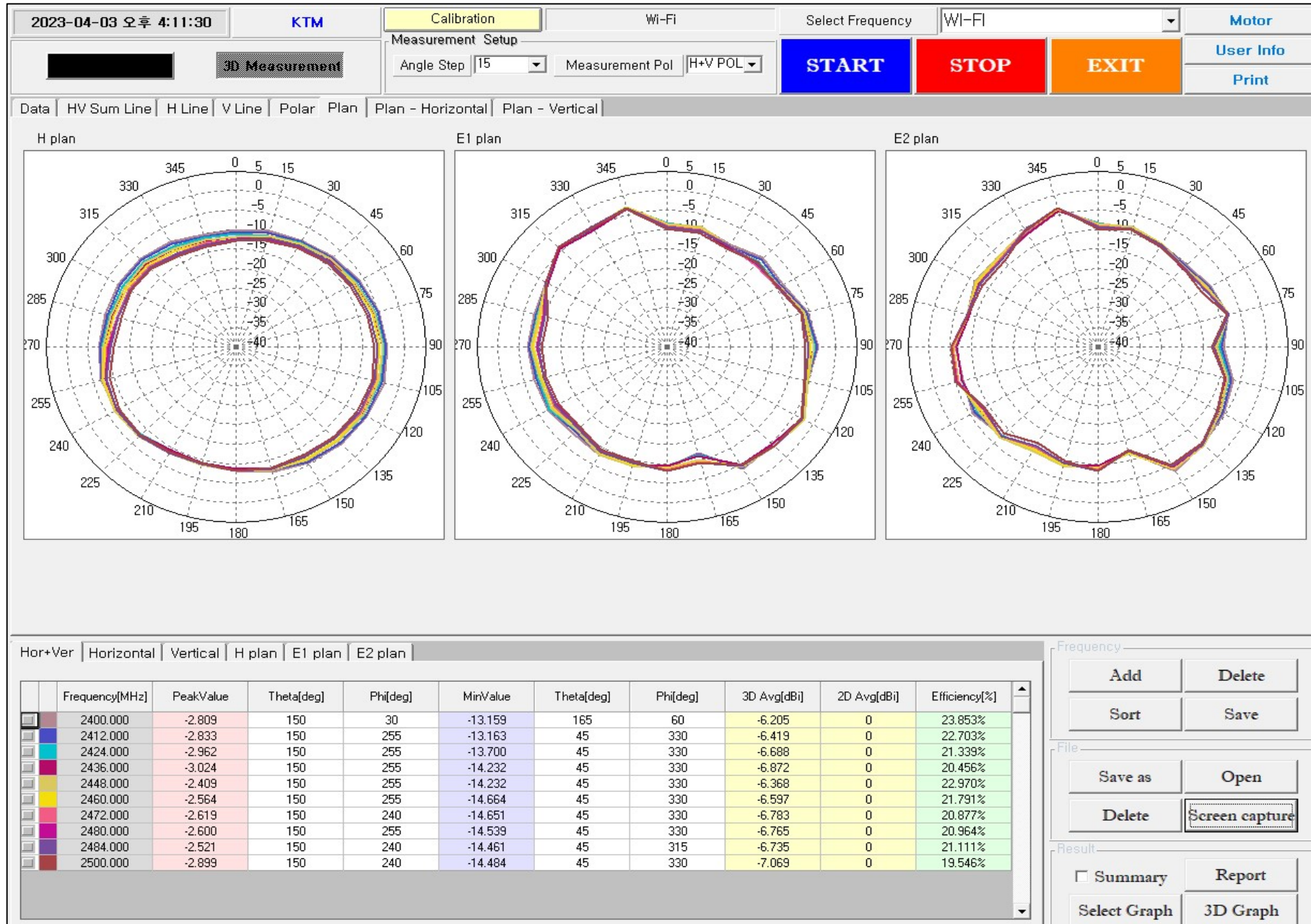
This specification is according to fixed demands and suitable Hanwool technology Q/C provision.

But it is possible to skip No. 7~9 demands, after consultation with buyer.

- #1. Attached : VSWR + Matching Value



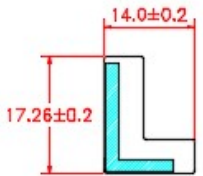
## - #2. Attached : RADIATION PATTERN(GAIN)\_BLUETOOTH



| No | Revision Note | Checked | Date |
|----|---------------|---------|------|
| △  |               |         |      |

Pattern :

TOP

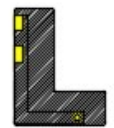


BOTTOM



INK : Black INK

TOP



BOTTOM



Silk print : White Color

TOP



HanwoolTech(드림어스)  
HWI-BT-HB1 (V.0)

1.  표시는 패턴 Area임.  
 2.  표시는 금도금 Area임.  
 3.  표시는 무광 INK 영역임.  
 4.  표시는 3M 467 영역임.  
 5. 1/2 OZ, 1/2 MIL, 단면F-PCB 적용.

\* Contact Type 필히 금도금 적용 바람.

|                      |           |           |            |                      |                    |            |        |
|----------------------|-----------|-----------|------------|----------------------|--------------------|------------|--------|
| 1                    |           |           |            |                      | 1                  |            |        |
| No                   | Part Name |           |            | Material Description |                    | Q'ty       | Finish |
| Scale                | Unit      | Title     | F-PCB      |                      | Model              | HWI-BT-HB1 |        |
| 1/1                  | mm        | Drawn by  | Checked by | Approved by          | File Name          | 드림어스       |        |
| Decimal              | Angle     | J.O,LIM   |            | H,CHOI               | Hanwool Technology |            |        |
| .X ±0.1<br>.XX ±0.05 | N/A       | 230404-52 |            |                      |                    |            |        |