

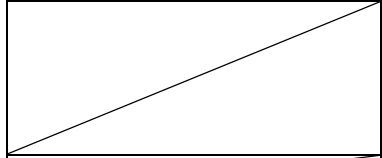
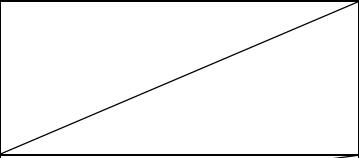
Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

APPROVAL SHEET

Hi-Cardi BT ANTENNA

CUSTOMER	MEZOO
MODEL	Hi-Cardi
ANTENNA TYPE	BT ANTENNA
ANTENNA MAKER	KDT
DOCUMENT REVISION	Rev 1.0
CUSTOMER CODE	
PART NAME	Hi-Cardi BT

	Name	Date	Sign
RF Engineer	J.S. Choi	20' 08. 25	
ME Engineer	S.M. Cha	20' 08. 25	

Development Team Manager	Q.A Team Manager	Operation Manager	Customer
			
		20' 08. 25	

Head Office

#3F, Kang Hee B/D 1264-2, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

PRODUCT PHOTO



Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

PRODUCT SPECIFICATION

MEZOO Hi-Cardi

BT ANTENNA (FPC TYPE)



- Written by

	Name	Date	Sign
RF Engineer	J.S. Choi	20' 08. 25	
ME Engineer	SM. Cha	20' 08. 25	

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

CONTENTS

	Page
1. Description -----	5/15
2. Product Drawing-----	6/15
3. PART – LIST-----	7/15
4. Technical characteristics -----	8/15
5. Electrical test environment (condition/method) -----	10/15
6. Electrical specification -----	12/15
7. 3D GAIN DATA -----	13/15
8. Packaging (Tray & Box) -----	14/15
8-1. Box drawing	
8-2. Box handling caution mark	
8-3. MSL (Moisture Sensitive Level)	

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

1. 개정 이력

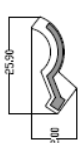
개 정 이 력		
Revision	Date	개 정 내 용
Rev 1.0	20' 08. 25	Rev 1.0 Approval sheet written.

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

2. Product drawing

NO		THE NAME OF AN ARTICLE	DWG-NO	MATERIAL	QTY	REMARK
1						
2						

* PATTERN (TOP)



* COVERLAY AREA (TOP)



* ADHESIVE TAPE & TAPE PAPER AREA (BOTTOM)



* NI & AU PLATING AREA (TOP)



PLATING THICKNESS MEASURING POINT
(CENTER POINT OF PLATING AREA)

* WHITE SILK MARK AREA (TOP)



* LAYER INFORMATION

LAYER	THICKNESS	UNIT	DATE	REVISION	DESCRIPTION
ADHESIVE TAPE PAPER					
ADHESIVE TAPE (TESA 4982 / 100μm)					
PI FILM (1 mil , 1/2 oz , ED [HANWHA / HOL-S212EM])					
COPPER					
COVERLAY YELLOW [HANWHA / HQS-A305L]					
NI & AU PLATING (1.0μm - 5.0μm / Min. 0.05μm)					
WHITE SILK MARK					

PATTERN TOLERANCE : +/- 0.05
THICKNESS TOLERANCE : +/- 0.15
COVERLAY TOLERANCE : +/- 0.15

NOTES

- 제품 외관은 스크리치 등 유해한 결함이 없어야 함.
- 부품의 지질 및 색상은 설계 사양에 준함.
- 완산 시 반드시 습기를 통한 충실한 진열 할 것.
- 본 제품의 외관 표시는 표준 규정에 준함.
- "★" 부재수는 중요관리(CTF) 항목으로 적용 함 것.
- 기타 외관사항은 반드시 설계자 확인 할 것.

APPROVED BY: _____ DATE: 19.12.07

DESIGNED BY: _____ DATE: 19.12.07

CHECKED BY: _____ DATE: 19.12.07

REMARK: KBT

CHECK/Model: MEGOO ET FPC ANTENNA

Name of file: BT ANT

Drawing No.: _____

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

3. PART – LIST

PART - LIST					Writing	Approval
					Internal approval completd	
Model	HI-CARDI	Customer	MEZOO	Manager	Cha Su Min	
Date	2020.08.25	Revision date	-	Revision	Rev 1.0	
No.	Part	Material	Spec	Vender	Manufacturing	
1	BT ANTENNA	COVERLAY	HGCS-A305L, 27.5um	Hanhwa	ENTERFLEX	
2		FCCL (COPPER + PI FILM)	HGLS-D212EM, 81um	Hanhwa		
	ASSEMBLY	FPC	OQC + Packing	-	KDT	

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

4. Technical characteristics

4-1. Electrical characteristic (Frequency Band & Passive Spec.)

4-1-1. Antenna Spec.

- BT 2.4~2.485GHz

Mode	SET - Antenna	
Frequency	2400 MHz	2485 MHz
VSWR Spec	1.7 : 1 Max	1.8 : 1 Max
3D Gain Spec	Peak -0.9dBi Min	Peak -1.0dBi Min

- Specified ± 0.5 point relative to VSWR standard.
- Marker (Setting frequency) is applied based on the VSWR value of the Master Sample because there are variations depending on the equipment, environment, and Jig.

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

4-2. Mechanical characteristics

DIMENSION	25.90 X 12.00 mm
ANTENNA – BASE	FPC PI Film
ANTENNA – PATTERN	Copper
OPERATING TEMP	20 ± 5 °C
OPERATING HUMIDITY	55 ± 15 %

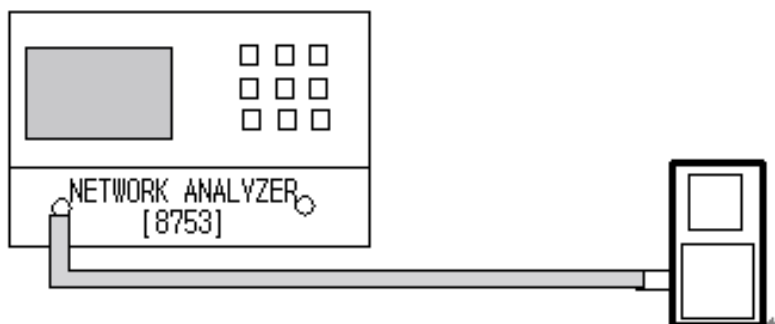
- Humidity control is performed to prevent oxidation of the plating part of the antenna.
- The simple discoloration of the plating part has no effect on the characteristics.
- The temperature and humidity of the product storage are managed in principle, and the warranty period is one year except for product damage caused by impact.

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

5. Electrical test environment (condition/method)

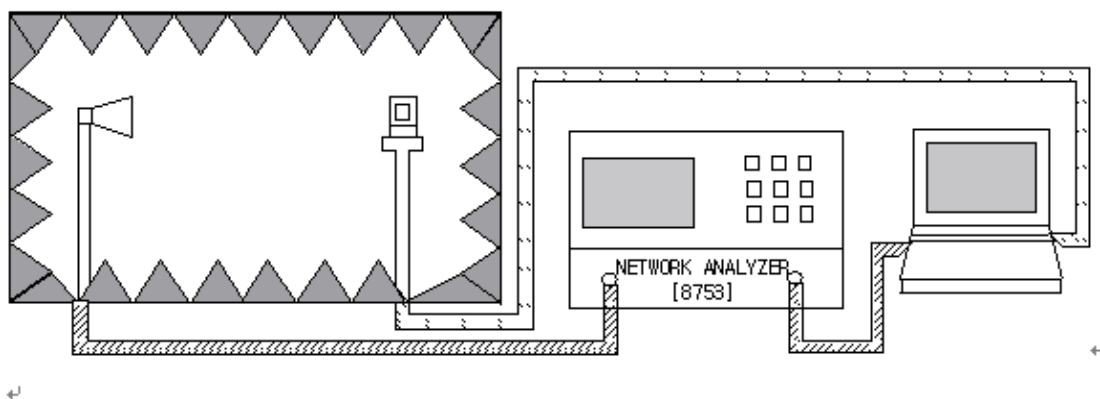
5-1. VSWR

- Step 1. Connect sample with measurement cable to network analyzer
- Step 2. Set the Network analyzer to match the target frequency
- Step 3. Measure VSWR



5-2. Radiation pattern & GAIN

- Step 1. Calibrate the chamber system using the reference antenna.
Set the frequency band to measure the software to control the chamber system.
- Step 2. Mounting the antenna to be measured.
- Step 3. Measure gain, efficiency and radiation pattern.



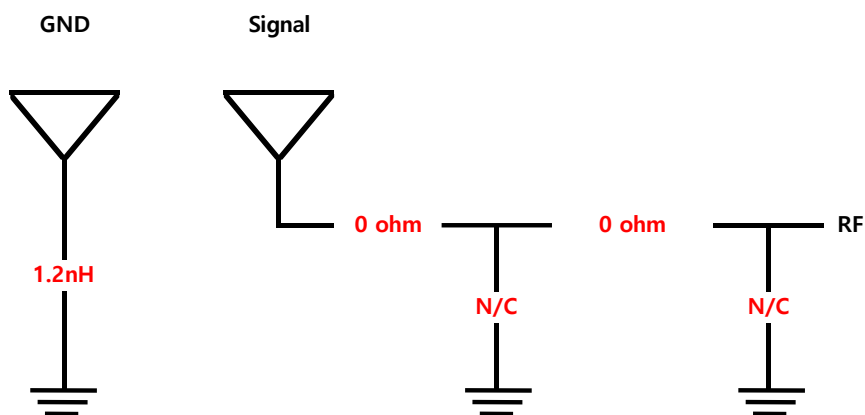
Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

5-3. Normal Spec.

IMPEDANCE	50 ohm
RADIATION PATTERN	Omni – Directional
POLARIZATION	Linear
POWER HANDLING	2W
MATCHING CIRCUIT	Circuit reference

Matching Circuit

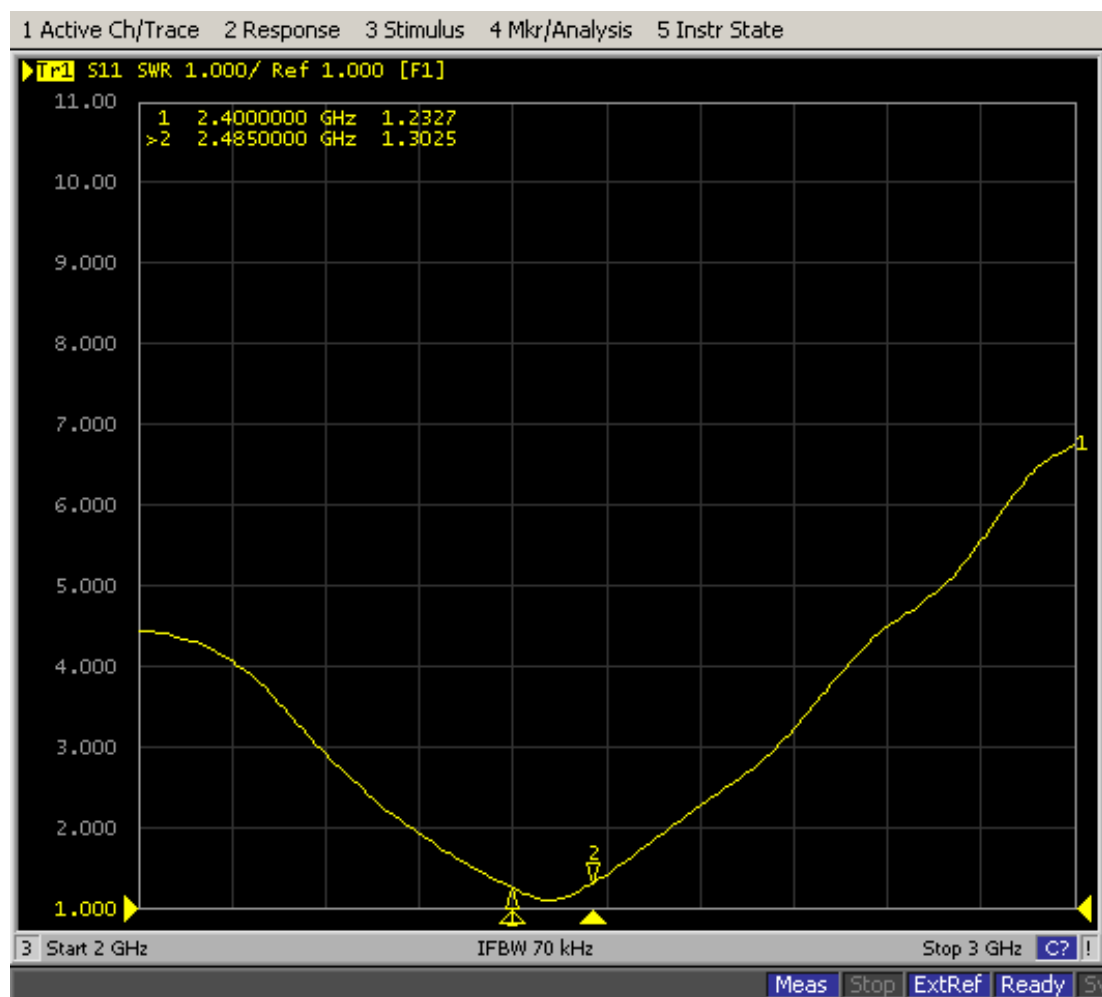
- BT



Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

6. Electrical specification

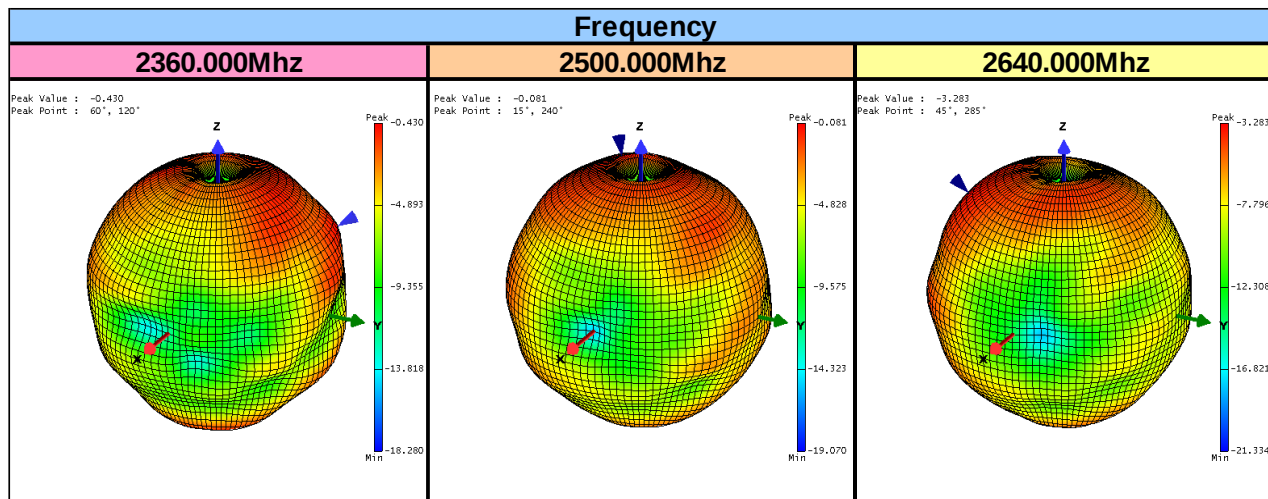
6-1. VSWR



Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

7. 3D GAIN DATA

- BT



Test Results

Frequency [MHz]	Peak Value		Minimum Value		Avg. Gain [dBi]	Efficiency [%]
	Value[dBi]	Degree	Value[dBi]	Degree		
2400	0.604	030 / 285	-16.94	105 / 165	-3.575	43.70%
2420	0.321	030 / 285	-16.711	105 / 165	-3.718	42.29%
2440	0.913	030 / 285	-15.973	105 / 210	-3.14	48.31%
2460	0.92	030 / 285	-16.681	105 / 210	-2.953	50.44%
2480	0.521	015 / 240	-17.708	105 / 210	-3.287	46.69%
2500	-0.081	015 / 240	-19.07	105 / 210	-4.079	38.91%

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

8. Packaging (Tray & Box)

8-1. BOX drawing

NO	THE NAME OF AN ARTICLE	DWG-NO	MATERIAL	Q'TY	REMARK
1					
2					

KDT / 520*340*210

Korea Development Technology

 KDT Korea Development Technology	 KDT Korea Development Technology	 KDT Korea Development Technology
--	--	--

NOTES

1. 제품 외관은 스크리치 등 유해한 결함이 없도록 것.
2. 부품의 재료 및 색상은 설계 시황에 준할 것.
3. 양산 시 반드시 승인을 통한 총생산 전출할 것.
4. 본 제품의 외관 장서는 표본 견본에 준할 것.
5. *★ 부 치수는 중요관리(CTF) 항목으로 정할 것.
6. 기타 의문사항은 반드시 설계자와 협의 할 것.

Harmful substance standard document			
Substance	Unit	A standard of judgement	Restriction
Heavy Metal	Cd	Heavy metal mg/kg	50 under
	Pb	mg/kg	70 under
	Hg	mg/kg	100 under
Flammable	C14	mg/kg	300 under
	C15	mg/kg	300 under
	C16	mg/kg	300 under
Flammable	C17	mg/kg	300 under
	C18	mg/kg	300 under

KDT
Korea Development Technology

OFFICIAL BOX_A

Drawing No.

[A4]

Customer	Model	Customer Code	Date	Document Revision
MEZOO	Hi-Cardi		20' 08. 25	Rev 1.0

8-2. Box handling caution mark

	FRAGILE: must be handled with care to avoid breakage.
	LAYER LIMIT: Stack a maximum of 5 five squares.
	KEEP DRY: should stay away from water
	USE NO HOOKS: Absolutely no hand hooks should be attached to pull the parcel.
	THIS WAY UP: should not be tipped on its side or laid down flat.

8-3. MSL (Moisture Sensitive Level): MSL Level 2

LEVEL	FLOOR LIFE		REMARK
	Condition	Time	
1	$\leq 30^{\circ}\text{C} / 85 \% \text{ RH}$	Unlimited	
2	$\leq 30^{\circ}\text{C} / 60 \% \text{ RH}$	1 year	
2A	$\leq 30^{\circ}\text{C} / 60 \% \text{ RH}$	1 week	
3	$\leq 30^{\circ}\text{C} / 60 \% \text{ RH}$	168 hours (1 week)	
4	$\leq 30^{\circ}\text{C} / 60 \% \text{ RH}$	72 hours (3 days)	
5	$\leq 30^{\circ}\text{C} / 60 \% \text{ RH}$	48 hours (2 days)	
5A	$\leq 30^{\circ}\text{C} / 60 \% \text{ RH}$	24 hours	
6	$\leq 30^{\circ}\text{C} / 60 \% \text{ RH}$	6 hours	

- Not applicable to delivered finished products.