

SPECIFICATION FOR APPROVAL

PRODUCT	CERAMIC CHIP ANTENNA
MODEL	
CODE NO.	ADSBTM1003-B00
APPLICATION	Bluetooth(T700)
CUSTOMER	CRESYN Co., Ltd.
CUSTOMER MODEL	Stereo Head Set
CUSTOMER CODE No.	

Manufacturer		Customer
Drawn by	Approved by	Approved by

DATE : 2008. 4. 3.

MICRO RF CO., LTD.

TEL : 82-2-6406-5590 / FAX : 82-2-6406-5591

개정 이력

품명	Ceramic Chip Antenna	규격	
		CODE NO.	ADSBTM1003-B00

Rev No.	Date	Page	개정 항목	개정 사유
1	2008.4.3			출도

1. 제품 설명 및 적용 분야

본 Ceramic Chip Antenna는 무지향성 방사패턴으로 설계된 제품으로 무선 LAN, Bluetooth, Zigbee 등의 2.4 GHz ISM Band application에 적용된다.

2. CODE NO.

MICRO RF CODE NO. : ADSBTM1003-B00

CUSTOMER PART NO. :

3. ELECTRICAL SPECIFICATIONS

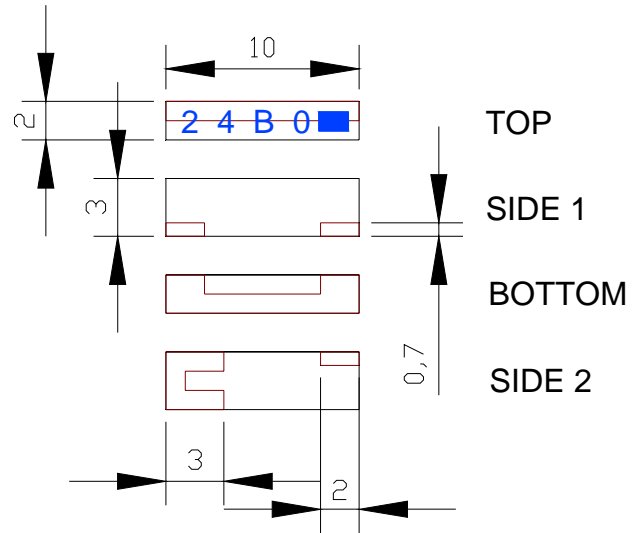
* 모든 항목은 상온 (25℃) 측정 기준임

* Standard Test board : 20 X 50 mm (Ground size : 20 X 10 mm)

No.	항목	Specification	조건
1	Frequency	2400 ~ 2500 MHz	
2	VSWR	3.5 max	
3	Gain	0 dBi	전방향 최대 이득
4	Impedance	50 Ω	
5	Polarization	Linear	

* Using matching circuit is recommended for getting the better condition.

4. MECHANICAL DIMENSIONS



* 제품 무게 : 0.22 gram

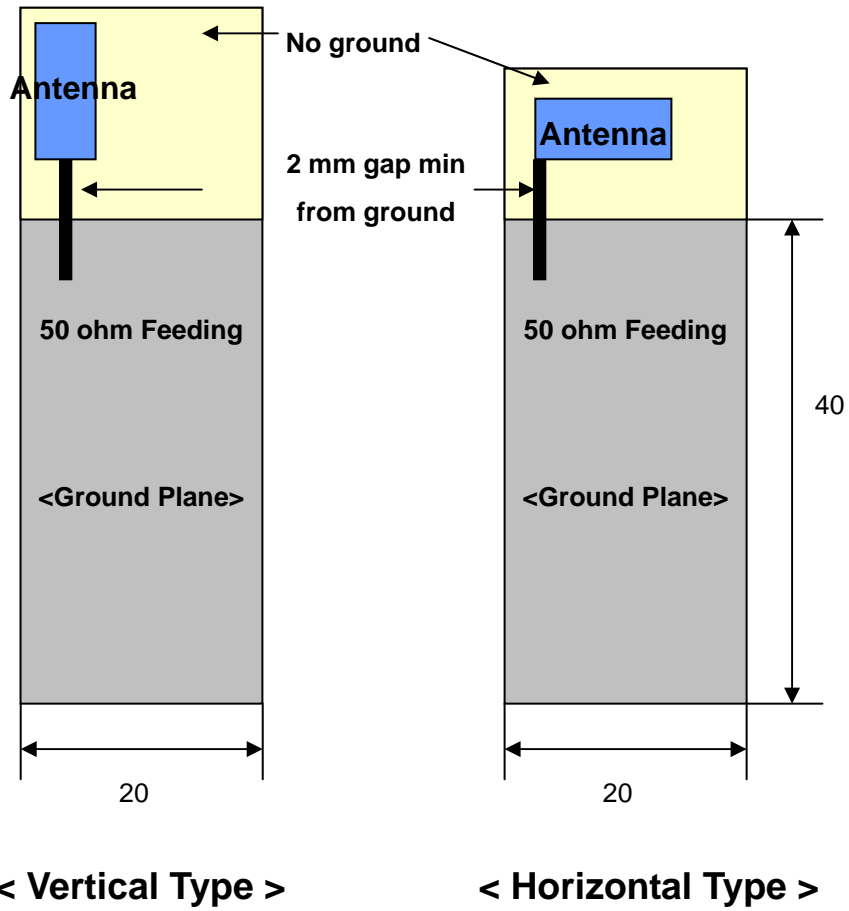
5. ENVIRONMENTAL SPECIFICATIONS

No.	항목	규격
1	Material	Pb-free
2	동작 온도 범위	-30 ~ +85 °C
2	동작 습도 범위	45 ~ 85 % RH

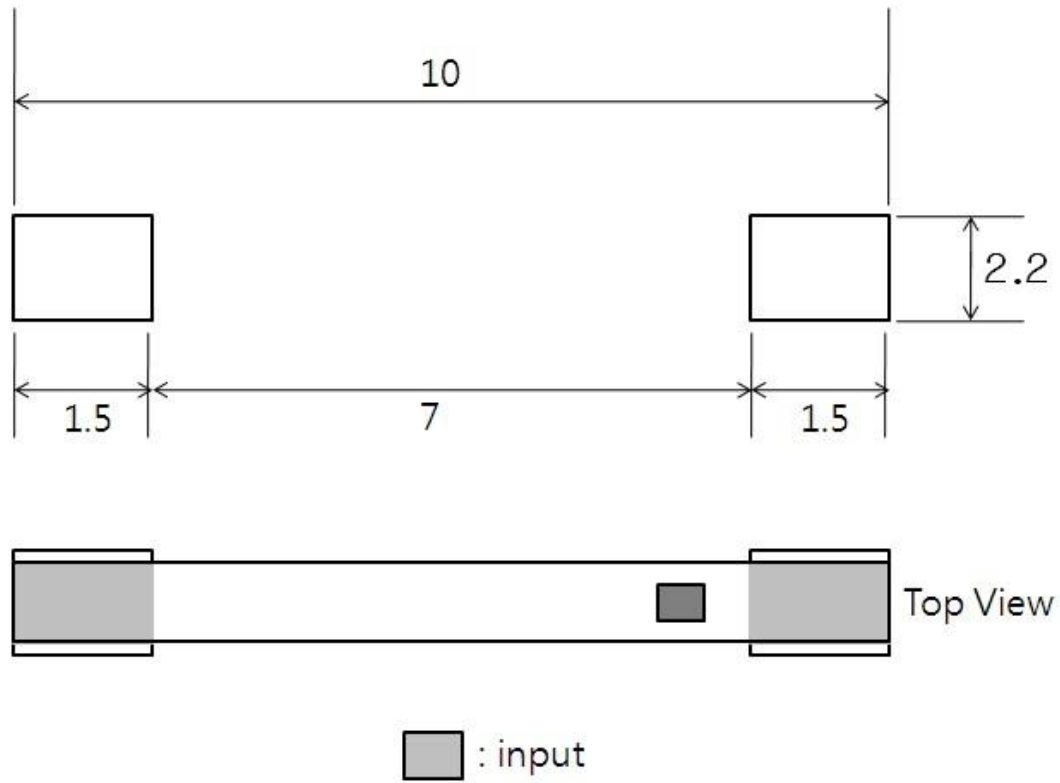
6. 환경 시험 규격

No.	항목	시험 조건 및 방법
1	고온 방치	85±2℃의 온도에서 72±2시간 방치한다. 상온 조건에서 4시간 이상 방치 후 특성 검토 시 이상이 없을 것
2	저온 방치	-30±2℃의 온도에서 72±2시간 방치한다. 상온 조건에서 4시간 이상 방치 후 특성 검토 시 이상이 없을 것
3	내습 보존	95% RH 습도 / 50±3℃의 온도에서 24±2시간 동안 방치 후 꺼내서 24시간 상온에서 방치 후 특성 검토 시 이상이 없을 것
4	열충격	저온과 고온을 주기적으로 반복한다. 정상 상태에서 4시간 이상 방치 후 전기적 특성을 검사한다. -고온 : 30분 동안 85±2℃ -저온 : 30분 동안 -30±2℃ -저온과 고온 사이에서 계속 움직임 : 5분 -반복수 : 15번
5	낙하 충격	낙하 조건은 다음과 같다. -152cm 19회 & 120cm 12회 -중량 : 150g -낙하방식 : 자유낙하
6	진동	20Hz~2000Hz까지의 주파수 변화와 변화 구간의 가속도가 5G인 상태로 진동시킨다. 그리고 x, y, z 각각의 동작에서 2시간 적용한다.
7	Solder Proof	260±5℃의 온도에서 5초 동안 soldering 후 특성 검토 시 이상이 없을 것
8	Soldering condition	245±5℃ / 2±1초

7. STANDARD TEST BOARD



8. RECOMMENDED SOLDERING PATTERNS

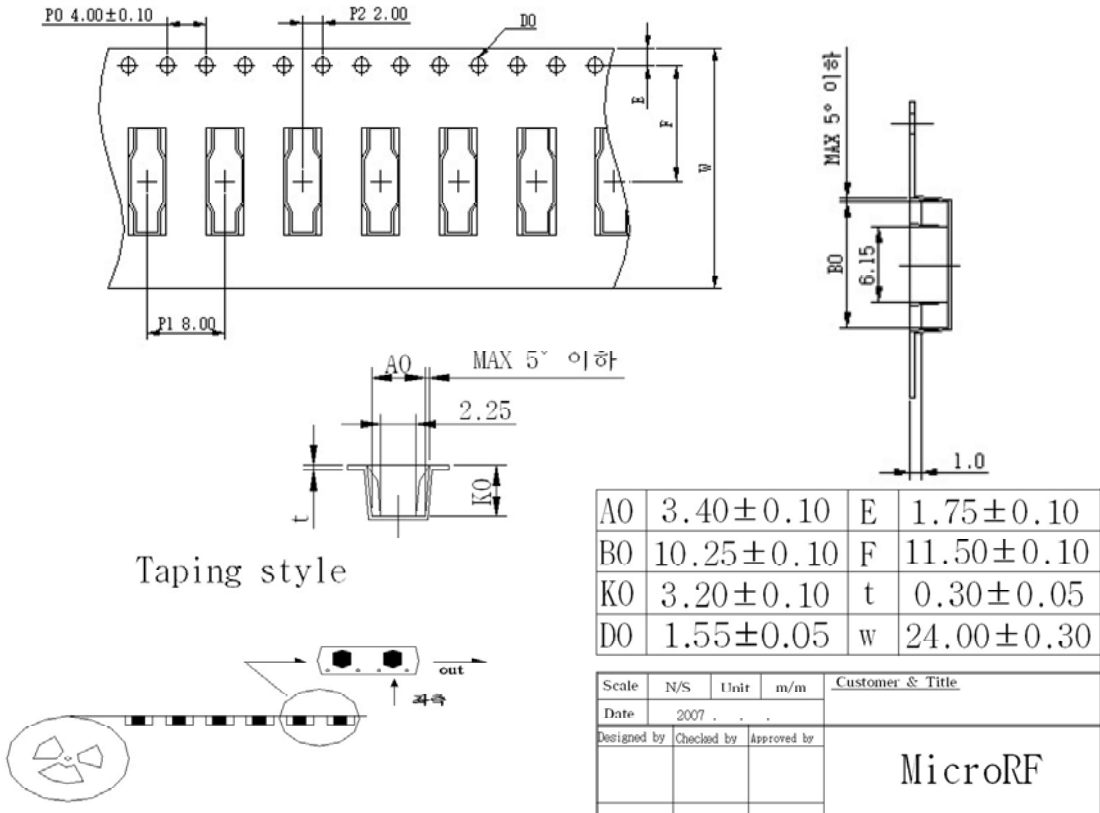


9. 포장

9-1. Reel Taping Quantity

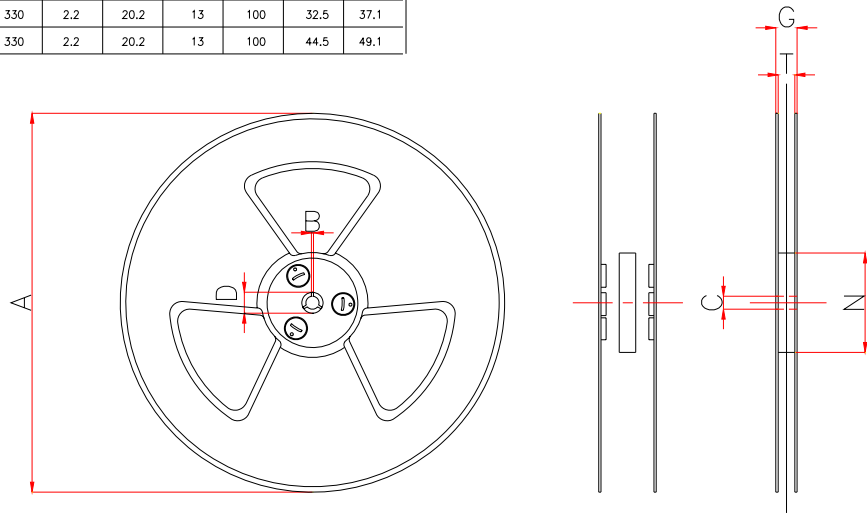
2,500 pcs / 1 reel

9-2. Carrier Tape Dimensions



9-3. Reel Dimensions

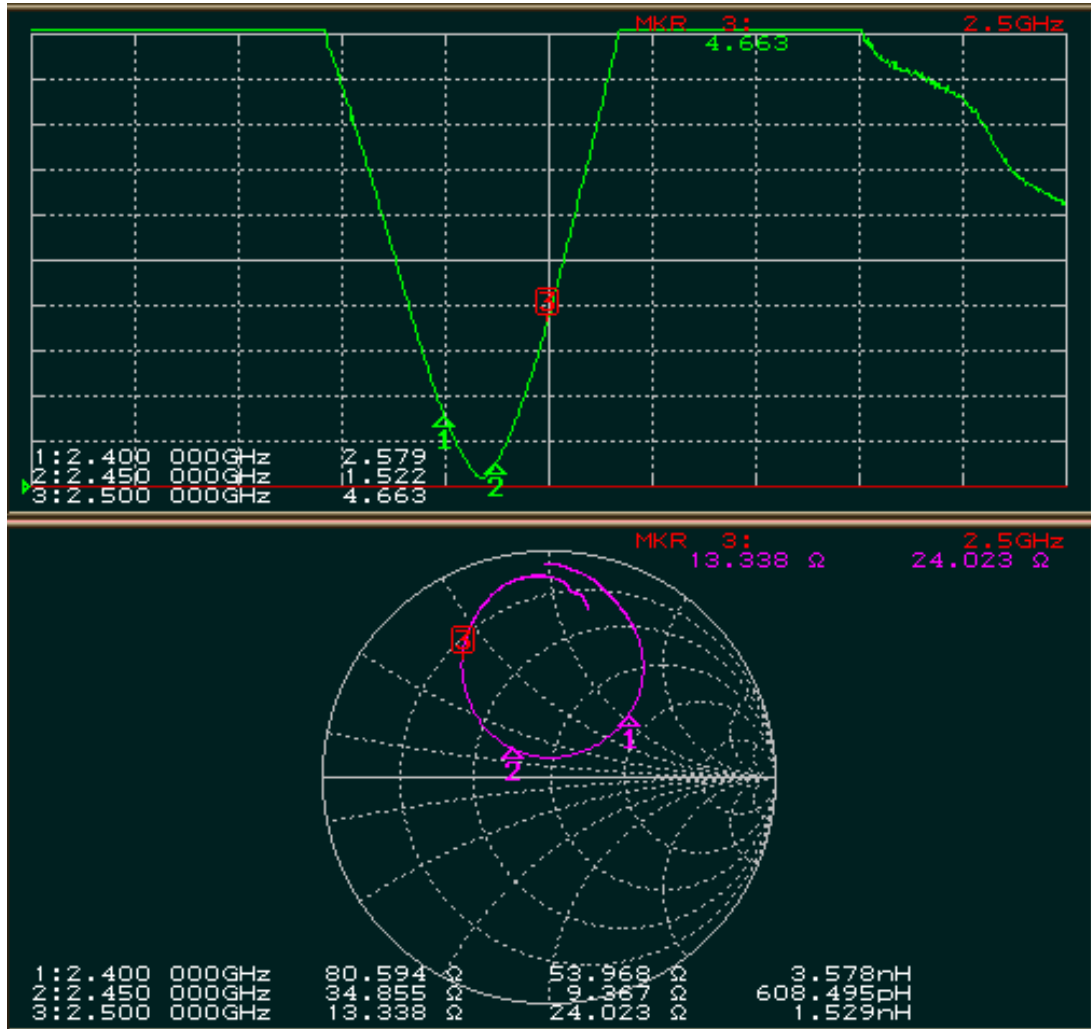
CARRIER TAPE	COVER TAPE	13" REEL 各部分尺寸						
W ±0.15	±0.15	A	B±0.5	D±1.0	C±0.2	N±1.0	T±0.1	G±2.0
8	5.3/5.5	330	2.2	20.2	13	100	8.5	13.1
12	9.3/9.5	330	2.2	20.2	13	100	12.5	17.1
16	13.3/13.5	330	2.2	20.2	13	100	16.5	21.1
24	21.3/21.5	330	2.2	20.2	13	100	24.5	29.1
32	25.5	330	2.2	20.2	13	100	32.5	37.1
44	37.5	330	2.2	20.2	13	100	44.5	49.1



10. 사용 및 취급 시 주의사항

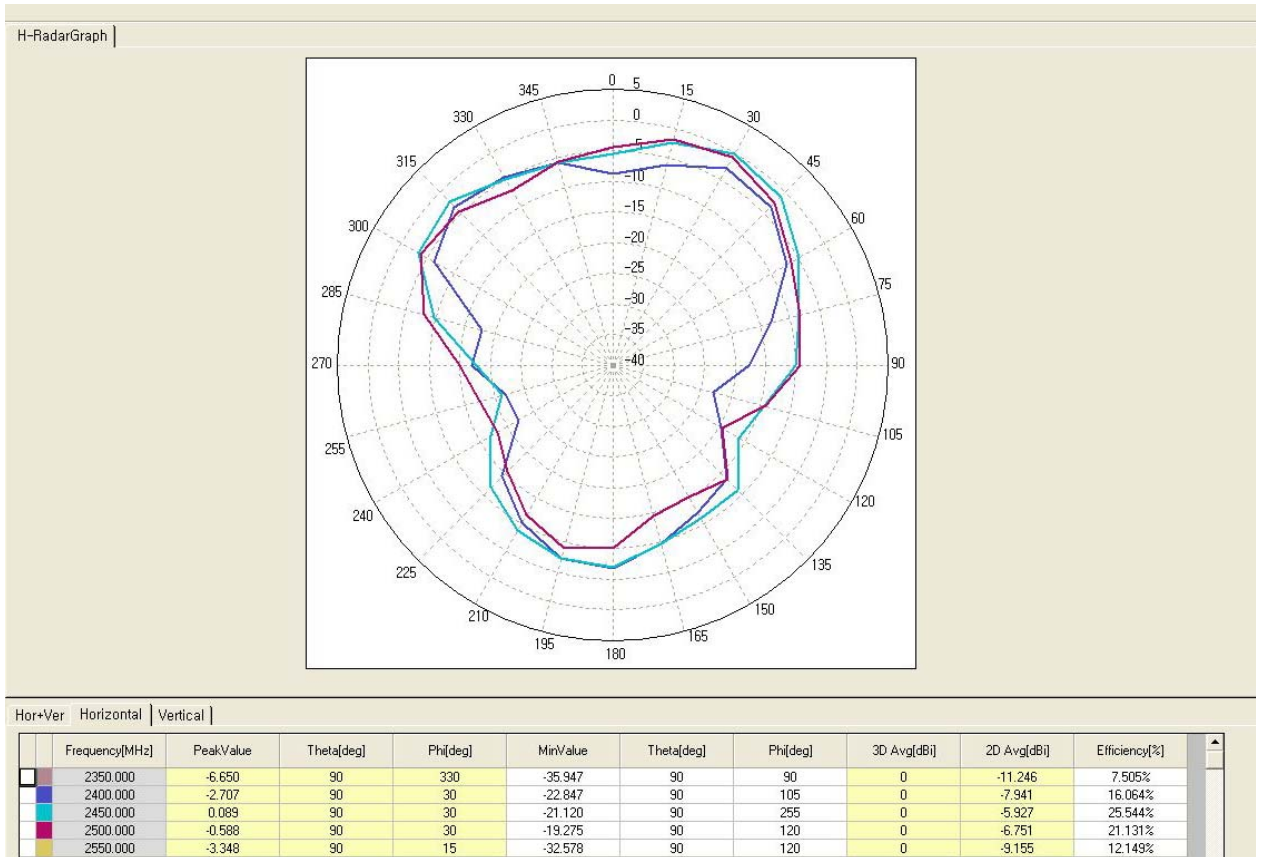
습도 60%RH 이하, 온도 20±15℃에서 Reel 포장 상태로 보관하며, 제조 후 3개월 이내에 사용할 것

<별첨1> 특성 DATA (정재파비) (set 장착 조건)

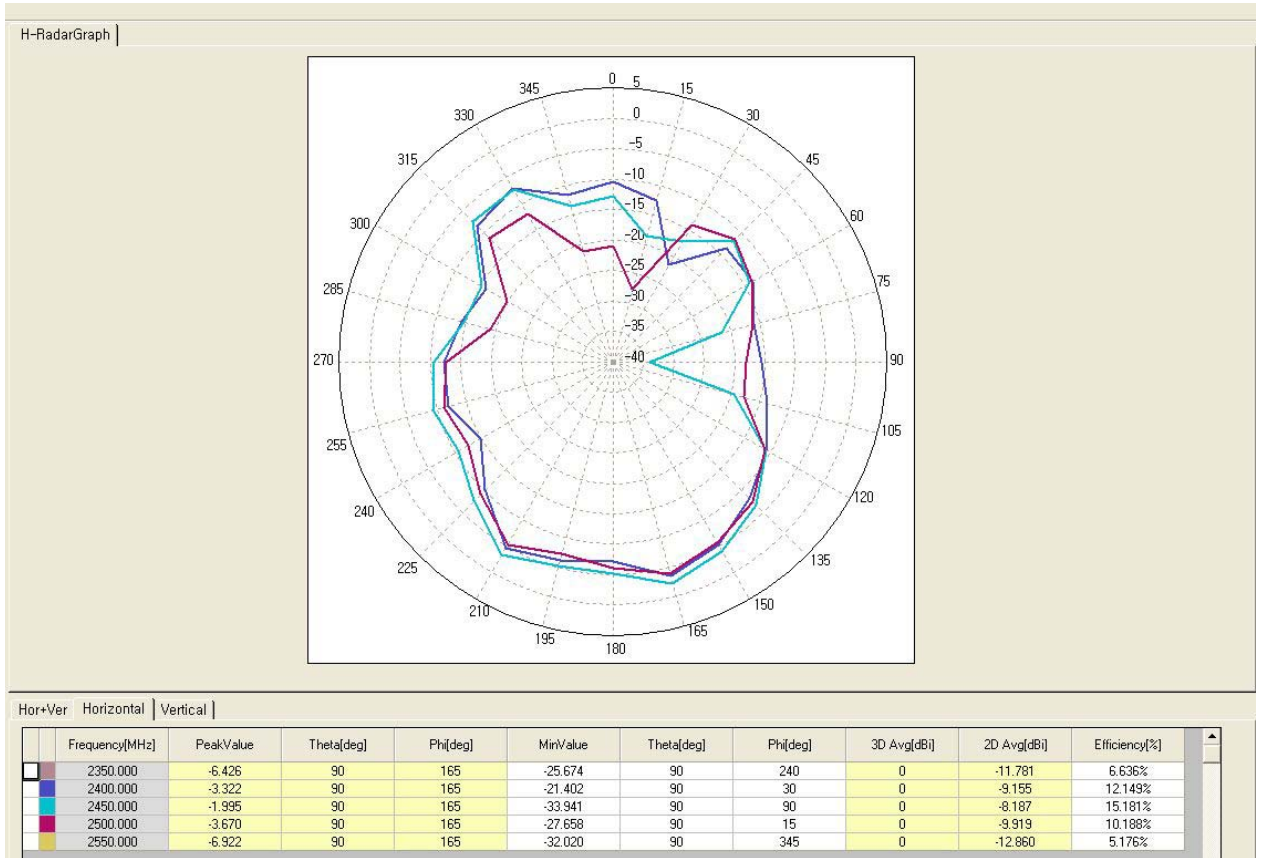


<별첨2> 특성 DATA (이득)

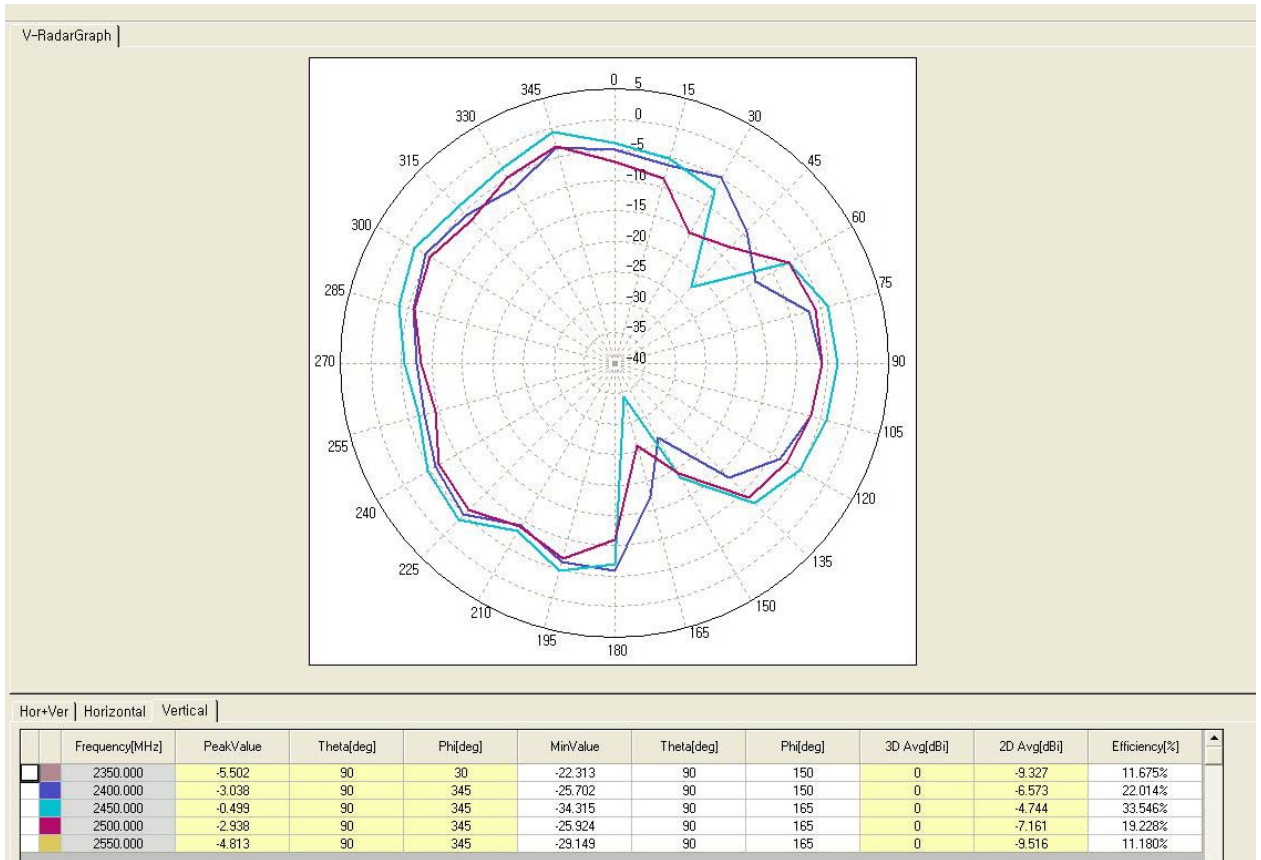
(Azimuth-vertical polarization)



(Elevation1–horizontal polarization)



(Elevation2–horizontal polarization)



(RoHS)



Report No. : RoHS-07-08356

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Testing Report



Client : MICRO RF CO.,LTD.
Name : KIM SEUNG YUN
Address : #709, Business Incubating Center, Suwon University, Bongdam-eup, Hwaseong-si, Gyeonggi-do, KOREA
Tel. : +82-31- 226-6845 Fax : +82-31- 220-2699

Name of Product : Bluetooth Chip Antenna
Model / Ref. No. : ADSBTXXXX-XXX
Remark : The above set of complex sample (Bluetooth Chip Antenna) is completely ground and mixed up by a request of client. This analytical report is only based on the completely ground and mixed complex sample, not homogeneous one.

Date of Application : 10 August, 2007
Test Period : 4 days
Date of Issue : 16 August, 2007

Test Result : For further details, please refer to the following page.

Tested by : Nayeon Lee
Approved by : Bongjin Jung (Technical Director, Ph.D./Prof.)

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Certificated by 



Signed by Director of CECT
Chan-Kyo, Chung

Center for Environmental & Clean Technologies
The University of Suwon

1. Testing Condition(Lab.) : 23±2°C, 55% R.H below
2. Testing Specification : Heavy Metals & Flame Retardants
3. Testing Result

1) Heavy Metals

Test Item	Test Method	Unit	MDL	Analytical Instrument	Result
Pb	KS M 1061 : 2007	mg/kg	5	ICP-AES	N.D.
Cd	KS M 1061 : 2007	mg/kg	0.5	ICP-AES	N.D.
Hg	KS M 1061 : 2007	mg/kg	2	ICP-AES	N.D.
Cr ⁶⁺	KS M 1061 : 2007	mg/kg	1	UV-VIS	N.D.

Note)- 1. N.D. : Not Detected 2. MDL : Method Detection Limit 3. mg/kg = ppm

2) Flame Retardants

Test Item	Test Method	Unit	MDL	Analytical Instrument	Result
Total PBBs	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Mono-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Di-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Tri-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Tetra-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Penta-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Hexa-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Hepta-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Octa-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Nona-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Deca-BB	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.

Test Item	Test Method	Unit	MDL	Analytical Instrument	Result
Total PBDEs	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Mono-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Di-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Tri-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Tetra-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Penta-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Hexa-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Hepta-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Octa-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Nona-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.
Deca-BDE	KS M 1061 : 2007	mg/kg	5	GC/MS	N.D.

1. PBBs : Polybrominated biphenyls, PBDEs : Polybrominated diphenyl ether

1. The above results are for the samples that the client has offered, and all sample names are obtained from the client.
2. Analysis results are effective limited to the above samples, and they are not allowed to be corrected or reused without the approval of the Director of Center for Environmental & Clean Technologies, The University of Suwon.

Received Sample



Name of Product : Bluetooth Chip Antenna

Model / Ref. No : AD\$BTXXXXX-XXX

Remark : The above set of complex sample (Bluetooth Chip Antenna) is completely ground and mixed up by a request of client. This analytical report is only based on the completely ground and mixed complex sample, not homogeneous one.