納 入 仕 様 書

iAN067 / iAN067-MB5

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改版履歴

版数	日付	承認者	改版者	改版内容
1..0	2018 年 23 日	中嶋	正木	初版発行

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■ 適用

本仕様書は、株式会社IDY（以下、「IDY」という）が供給する 3G/LTE/WiMAX および WiMAX2+向けアンテナ iAN067 および iAN067-MB5 の納入仕様書である。

■ 仕様

1. 型名　　iAN067（アンテナ本体のみ）、 iAN067-MB5 (基台 BS43D05BSM 付属)
2. 用途　　3G/LTE/WiMAX および WiMAX2+通信モジュールに接続し使用される。
3. 電気特性

周波数範囲	：	704-2700MHz	
V.S.W.R	：	≦ 3	
インピーダンス	：	50 Ω	
水平面内指向性	：	無指向性	
偏波面	：	垂直偏波	
利得	：	704-960MHz	Typ. -1.0dBi
		1447.9-1510.9MHz	Typ. -1.5dBi
		1710-2170MHz	Typ. +0.9dBi
		2500-2690MHz	Typ. +2.3dBi
		≦ 3dBi @ 704~2700MHz	

4. 外観仕様

コネクタ	：	SMA-P（オス）
寸法	：	139.9(L) x 18(W) x 13(H) mm

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Specification

1. Specification

Sample Photo	
A. Electrical Characteristics	
Frequency	**704~2700 MHz**
V.S.W.R.	**<= 3.0** **The data is tested with 1M cable**
Peak Gain	**704-960MHz Typ. -1.0dBi** **1447.9-1510.9MHz Typ. -1.5dBi** **1710-2170MHz Typ. +0.9dBi** **2500-2690MHz Typ. +2.3dBi** **≦ 3dBi @ 704~2700MHz**
Polarization	**Linear, Vertical**
Impedance	**50 Ohm**
B. Material & Mechanical Characteristics	
Material of Radiator	**PCB**
Material of Plastic	**ABS**
Cable Type	**RG-178U**
Connector Type	**SMA Male**
C. Environmental	
Operation Temperature	**- 40 ˚C ~ + 65 ˚C**
Storage Temperature	**- 40 ˚C ~ + 80 ˚C**
Antenna Color Storage life	**<= 2** year

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2. Characteristics and Reliability Test

Test Items 測試項目		Test Condition and Procedure 測試方法	Requirements 要求	Result 結果
C1	V.S.W.R. 電壓駐波比	Set DUT on Network Analyzer; make individual calibration to test 設置網路分析儀參數進行測試	Directive DUT specification 符合待測物規範	PASS
C3	Antenna Gain 天線增益	Set DUT on Antenna Chamber; make individual calibration to test 設置天線暗室參數進行測試	Directive DUT specification 符合待測物規範	PASS
M1	Vibration 震動	GB / T2423.48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction 振幅 1.5mm；頻率 20~80~20Hz；3 個方向各 2H	1. No Visual Damage 2. Frequency Tol.≤5% 無明顯外觀不良;頻率偏移≤5%	PASS
M2	Random Drop 跌落	GB / T2423.8-1995 Single：Height: 1.0 Meter; 3 directions; 1 time for each direction 單支天線，高 1m；3 個方向各 1 次	1. No parts separated、fracture 2. Frequency Tol.≤5% 產品無脫落、斷裂;頻率偏移≤5%	PASS
M4	Pull Test 拉力	Holding with individual specification; force applied to axis of terminal .單獨定義產品端子拉力	1. Directive DUT specification 2. Frequency Tol.≤5% 符合待測物規範;頻率偏移≤5%	PASS
M5	Torque Test 扭力	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal 單獨定義產品端子之順時針及逆時針扭力	1. Directive DUT specification 2. Frequency Tol.≤ 5% 符合待測物規範;頻率偏移≤5%	PASS
M6	Dimension 尺寸	Inspection of dimension, color, material, package, surface process.检查尺寸,颜色,材料,包装,表面處理	Directive DUT specification 符合待測物規範	PASS
E3	Temperature and Humidity Chamber 恒溫恒濕	GB / T 2423.3-2006 Temp: 80°C / 12 H; -40°C / 12H RH: ≥ 90%; Time: 24H 溫度 80°C 測試 12H 轉-40°C 測試 12H；濕度≥ 90%; 時間 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.≤5% 恢復 2H 后，無明顯外觀不良;頻率偏移≤5%	PASS

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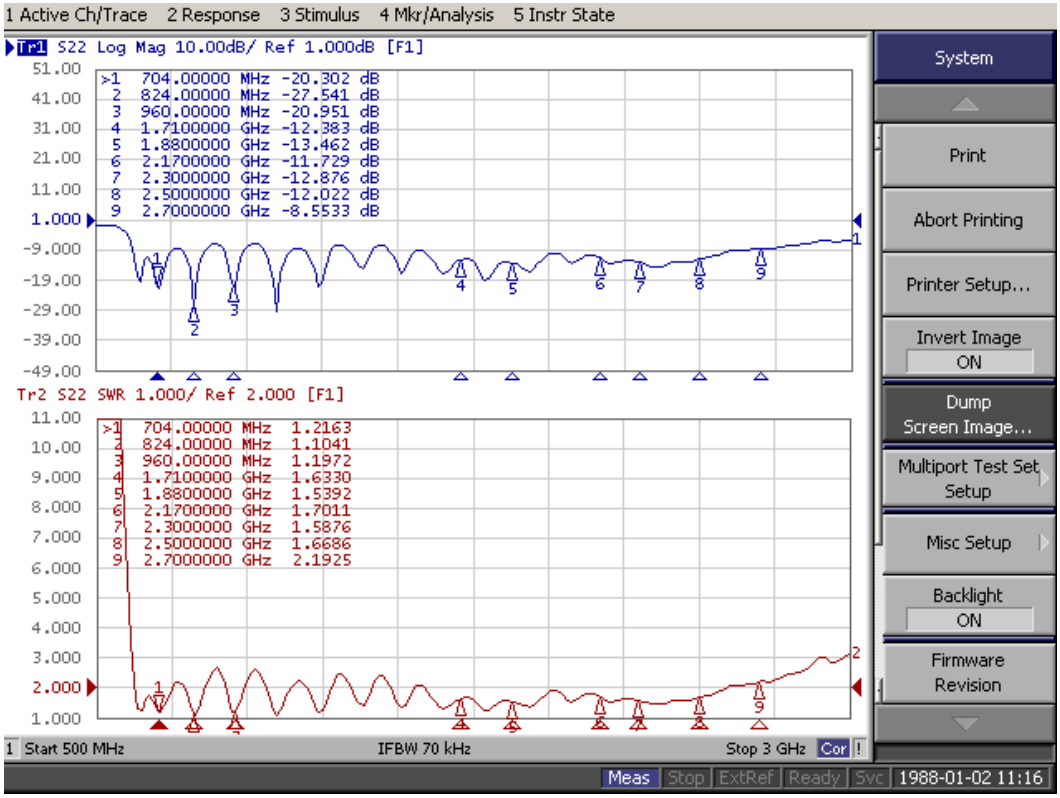
E4	Thermal Shock 冷熱衝擊	GB / T 2423.22 - 2008 - 40 ° C (30 minutes) to + 80 ° C (30 minutes); Cycles: 24 - 40 ° C 測試 30 分轉 80 ° C 測試 30 分為一個週期;共 24 週期	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.≤5% 恢復 2H 后，無明顯外觀不良;頻率偏移≤5%	PASS
E5	Aging test 老化	GB /T 2423.2 - 2008 Temp: 80°C; Time: 24 hours 溫度 80 ° C，測試 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.≤5% 無明顯外觀不良;頻率偏移≤5%	PASS
R1	RoHS	With Reference to IEC 62321:2008 with flow chart 參考 IEC 62321 測試流程	Directive RoHS 2011/65/EU 符合 RoHS 2011/65/EU 標準	PASS

3. Antenna - S Parameter Test Data



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4. Antenna – Peak Gain and Radiation Pattern Test Data

Frequency (MHz)	703	718	733	748	816.5	817.5	830	842.5	846.5
TRP (dBm)	-5.54	-5.68	-5.62	-5.38	-4.27	-4.25	-3.22	-3.49	-3.57
Peak EIRP (dBm)	-1.29	-1.49	-1.5	-1.34	-0.86	-0.84	0.14	-0.2	-0.32
E-Total Peak Gain(dBi)	-1.29	-1.49	-1.5	-1.34	-0.86	-0.84	0.14	-0.2	-0.32
Directivity (dBi)	4.24	4.19	4.12	4.04	3.42	3.41	3.36	3.29	3.25
Efficiency (%)	27.95	27.06	27.42	28.95	37.37	37.54	47.67	44.79	43.98

Frequency (MHz)	882.5	902.5	907.5	912.5
TRP (dBm)	-5.38	-5.4	-5.35	-5.68
Peak EIRP (dBm)	-1.49	-1.25	-1.16	-1.48
E-Total Peak Gain(dBi)	-1.49	-1.25	-1.16	-1.48
Directivity (dBi)	3.89	4.15	4.19	4.2
Efficiency (%)	28.95	28.84	29.17	27.04

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Frequency (MHz)	1430.4	1445.4	1450.4	1460.4	1575	1712.5	1747.4	1764.9	1782.4
TRP (dBm)	-5.33	-5.47	-5.49	-5.51	-3.16	-3.82	-3.8	-3.77	-3.73
Peak EIRP (dBm)	-1.4	-1.56	-1.61	-1.67	1.57	-0.44	-0.49	-0.4	-0.25
E-Total Peak Gain (dBi)	-1.4	-1.56	-1.61	-1.67	1.57	-0.44	-0.49	-0.4	-0.25
Directivity (dBi)	3.93	3.91	3.88	3.84	4.73	3.39	3.31	3.37	3.48
Efficiency (%)	29.3	28.4	28.27	28.1	48.27	41.48	41.73	41.98	42.32

Frequency (MHz)	1920	1922.5	1940	1950	1955	1960	1970	1977.5
TRP (dBm)	-2.94	-2.92	-2.74	-2.59	-2.52	-2.45	-2.48	-2.5
Peak EIRP (dBm)	1.08	1.09	1.16	1.44	1.58	1.73	1.82	1.9
E-Total Peak Gain (dBi)	1.08	1.09	1.16	1.44	1.58	1.73	1.82	1.9
Directivity (dBi)	4.02	4.01	3.9	4.04	4.11	4.17	4.31	4.4
Efficiency (%)	50.79	51.07	53.23	55.02	55.97	56.95	56.48	56.19

Frequency (MHz)	2501	2550	2595	2640	2685
TRP (dBm)	-1.9	-2.23	-2.34	-2.39	-3.05
Peak EIRP (dBm)	2.7	2.44	2.34	2.35	1.68
E-Total Peak Gain (dBi)	2.7	2.44	2.34	2.35	1.68
Directivity (dBi)	4.6	4.66	4.69	4.74	4.73
Efficiency (%)	64.55	59.85	58.29	57.64	49.53

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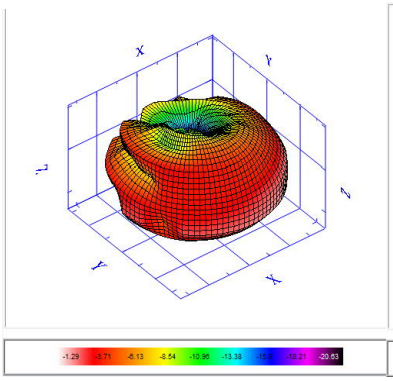
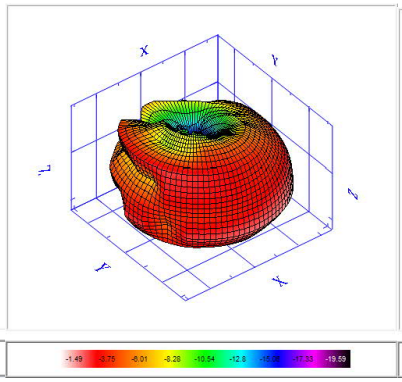
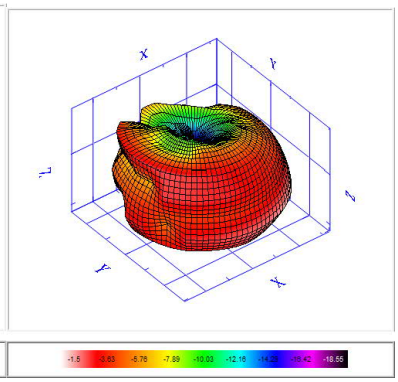
703MHz



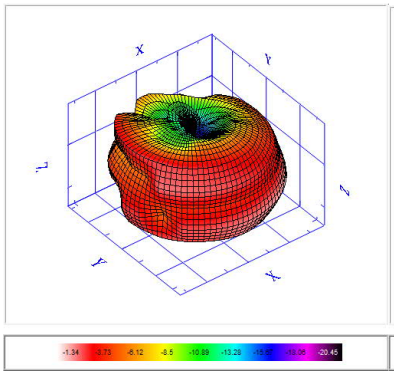
718MHz



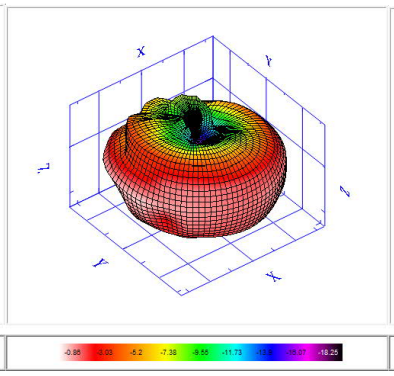
733MHz



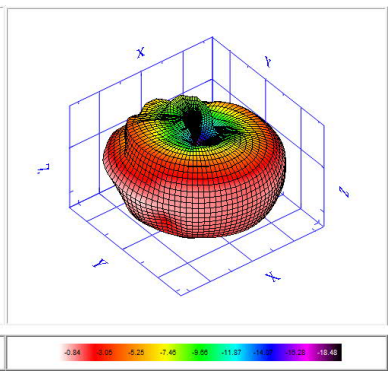
748MHz



816.5MHz



817.5MHz



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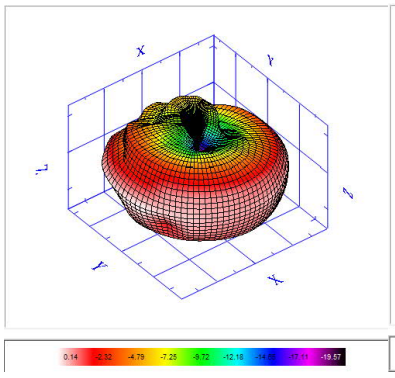
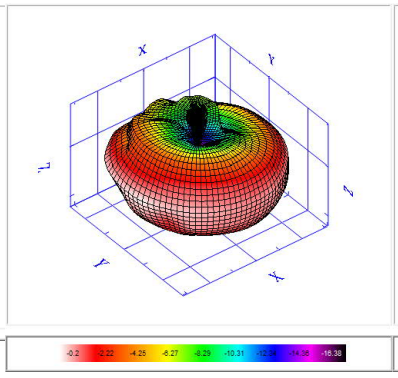
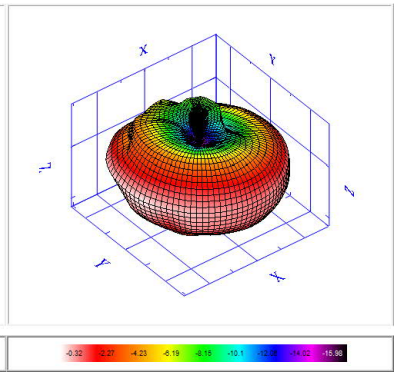


842.5MHz



846.5MHz



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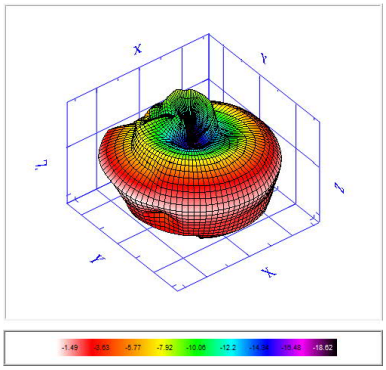
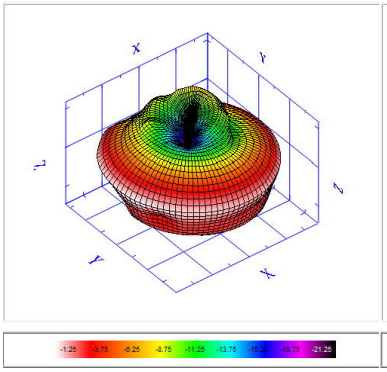
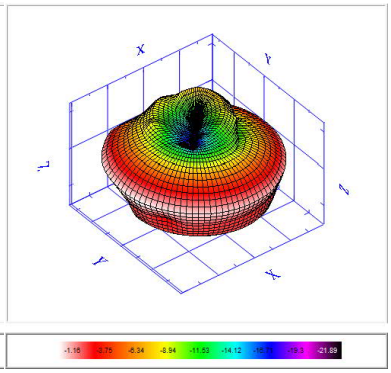
882.5MHz



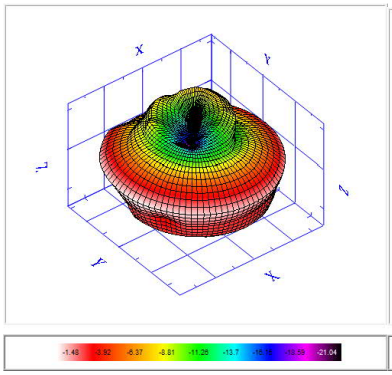
902.5MHz



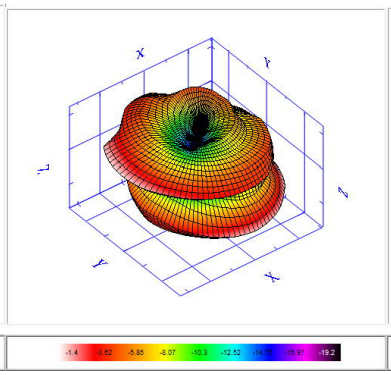
907.5MHz



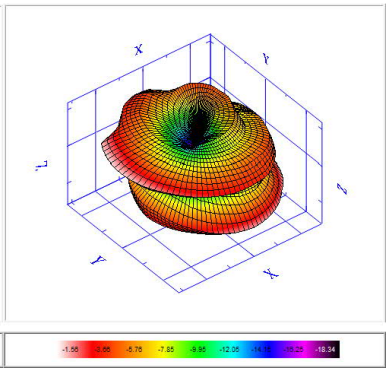
912.5MHz



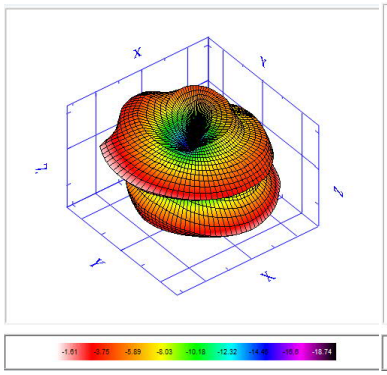
1430.4MHz



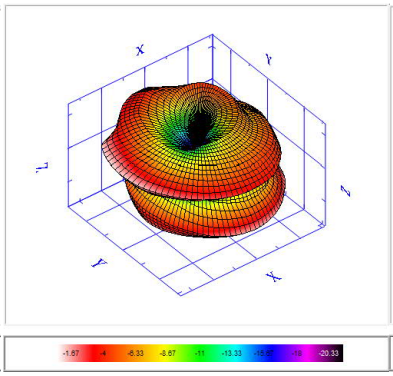
1445.4MHz



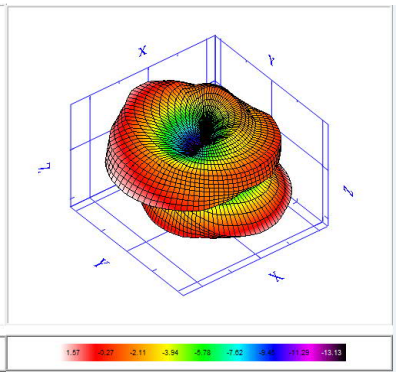
1450.4MHz



1460.4MHz



1575MHz



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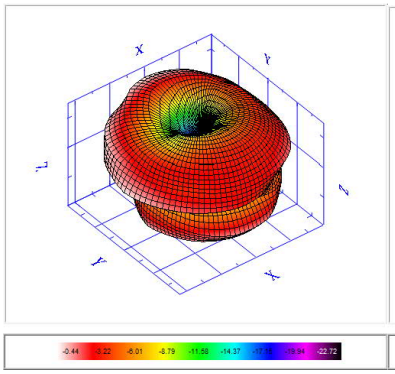
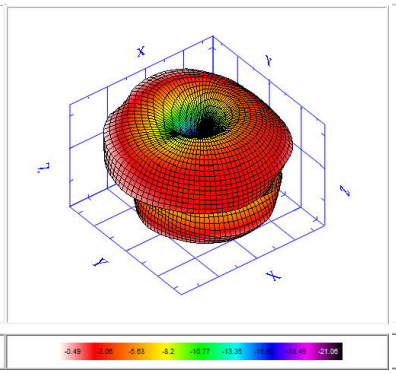
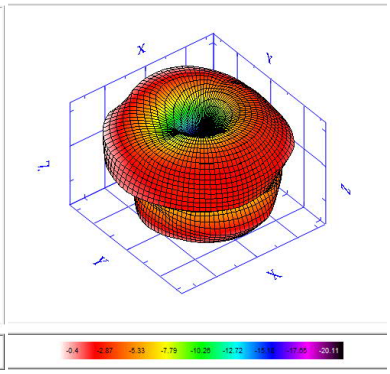
1712.5MHz



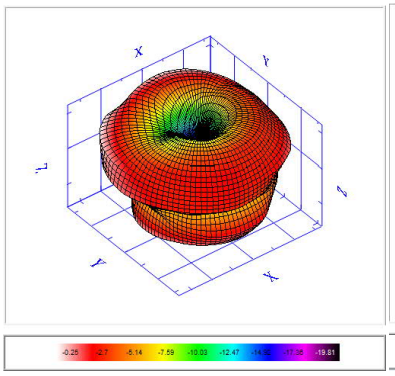
1747.4MHz



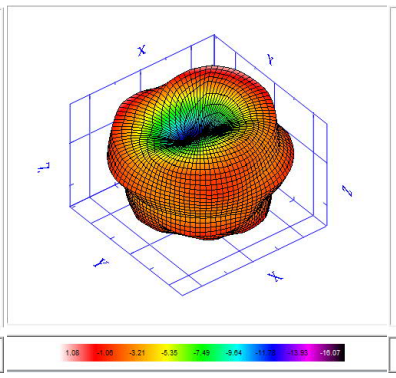
1764.9MHz



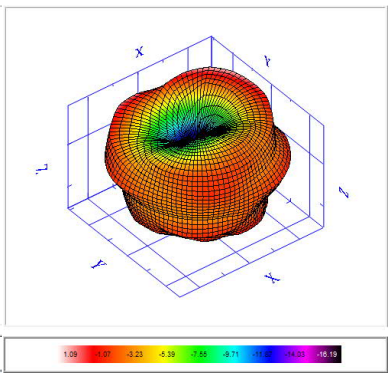
1782.4MHz



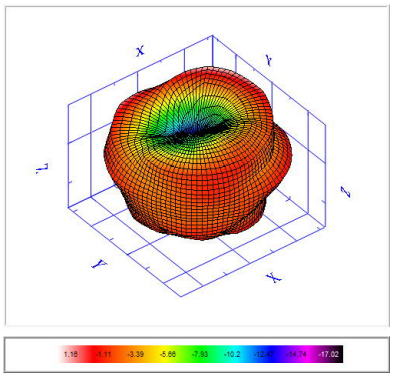
1920MHz



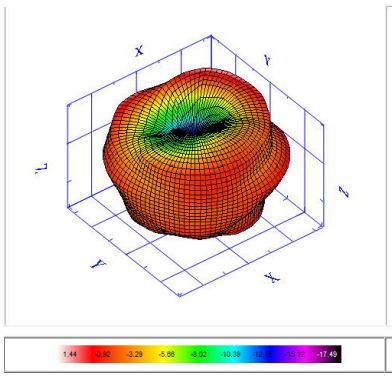
1922.5MHz



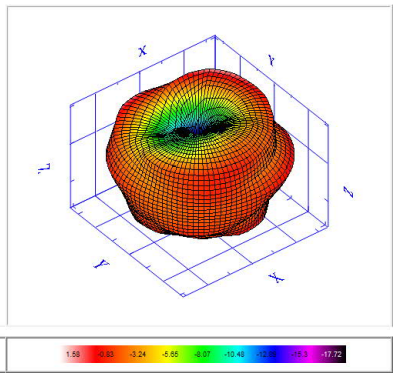
1940MHz



1950MHz



1955MHz



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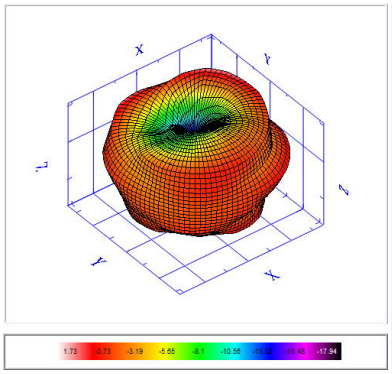
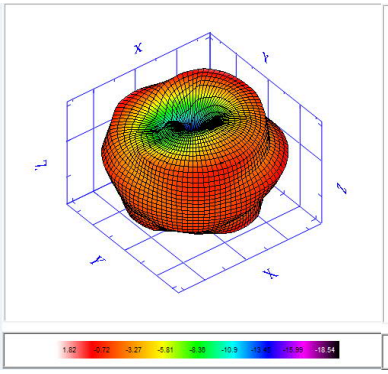
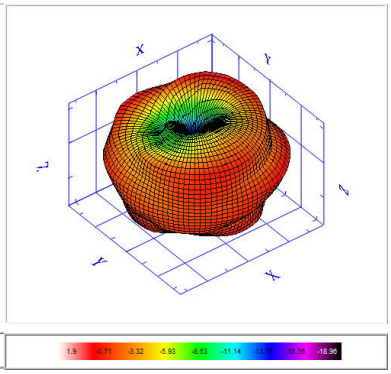
1960MHz



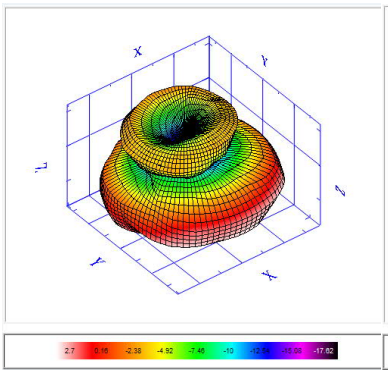
1970MHz



1977.5MHz



2501MHz



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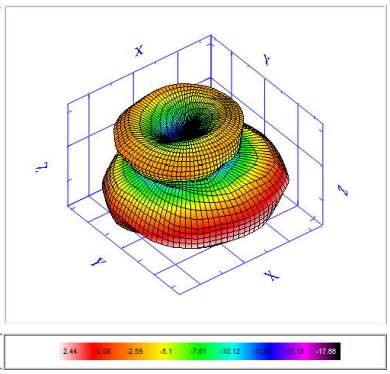
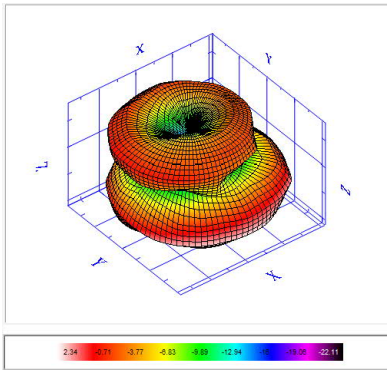
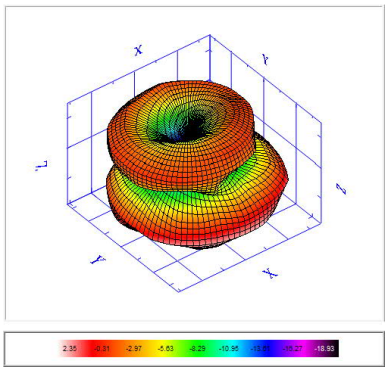


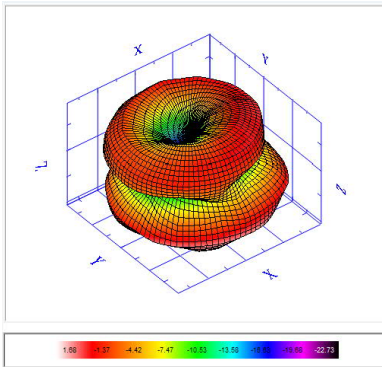
2595MHz

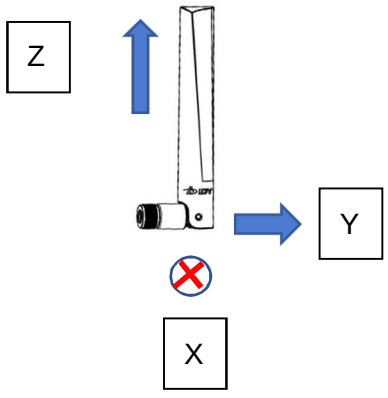


2640MHz



2685MHz





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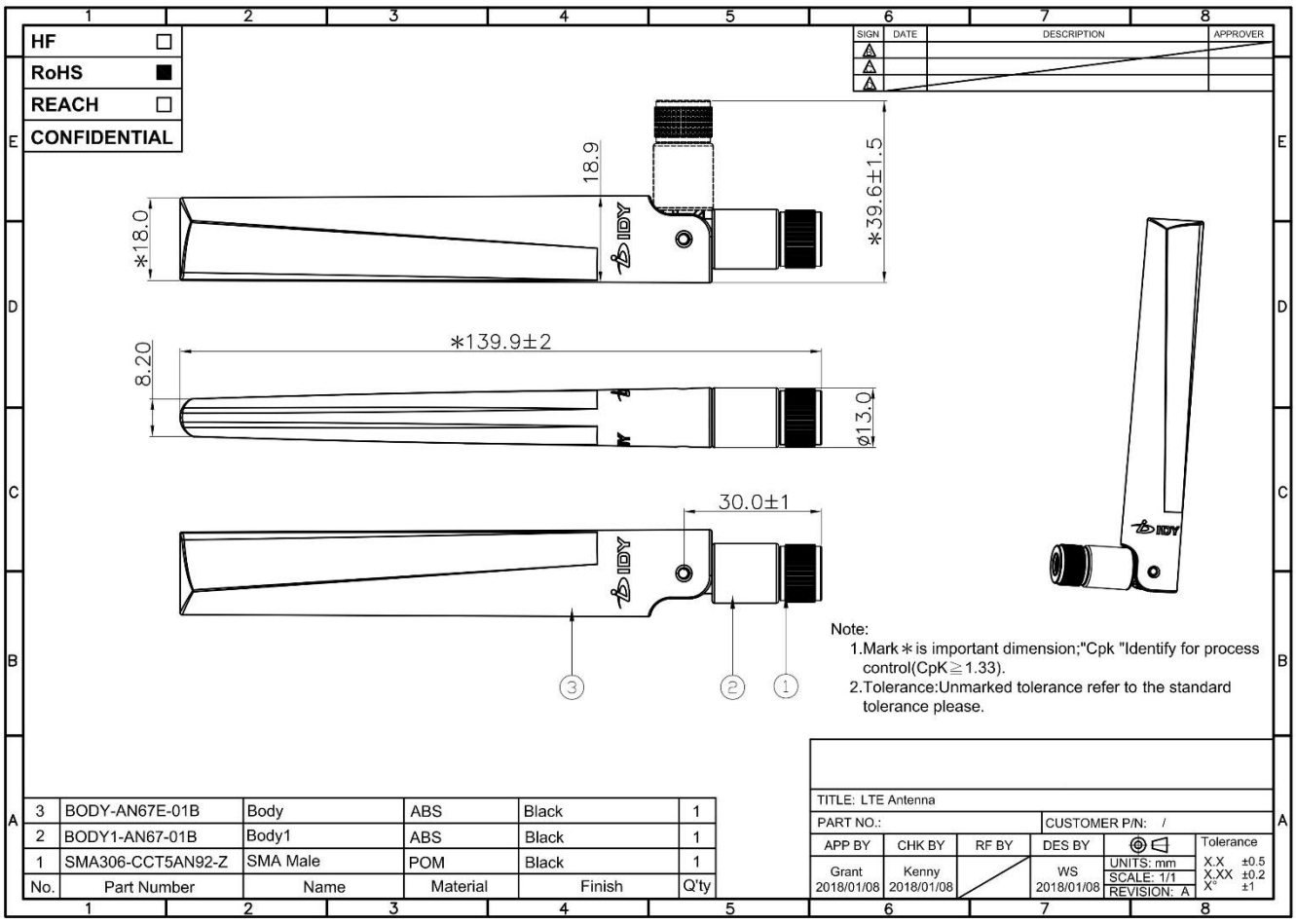
5. アンテナ本体外観仕様



No.	Part Number	Name	Material	Finish	Q'ty
3	BODY-AN67E-01B	Body	ABS	Black	1
2	BODY1-AN67-01B	Body1	ABS	Black	1
1	SMA306-CCT5AN92-Z	SMA Male	POM	Black	1

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6. アンテナ本体梱包仕様

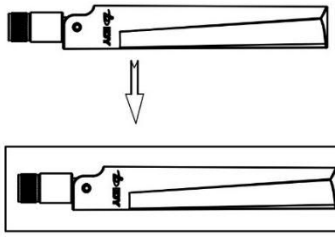
CONFIDENTIAL

PACKING CRITERION

Date：2018/02/06 Page：1 of 1

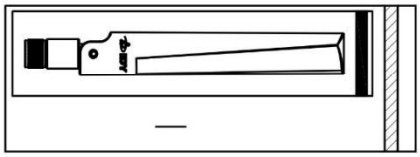
Part Number : **iAN067**	Revision : A
Name: Antenna	Customer :

1．WITH THE ANT INTO THE PE BAG



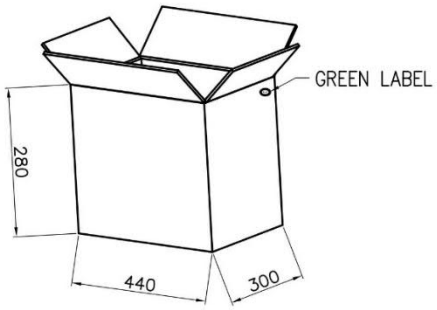
R-STI-BAG-20040

2．10 PCS/PE BAG

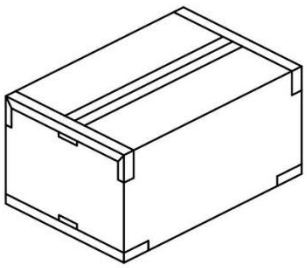


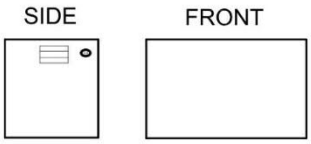
R-PE-BAG-220260

3．PACKING



500PCS / CARTON





UNITS: mm

APPROVED BY: Grant CHECKED BY: Kenny DESIDNED BY: WS

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7. アンテナ本体 RoHS 試験

SGS 台灣網站 → http://twap.sgs.com/sgsrsts/chn/cheres_tw.asp
SGS 大陸網站 → http://rsts.cn.sgs.com/chn/cheres_cn.asp
SGS 韓國網站 → http://rohs.kr.sgs.com/sgsrsts/en/cheres_en.asp

請輸入以下報告正確資料及檢查碼以便查核
1. 報告編號
2. 報告日期 (YYYY/MM/DD)
3. 產品名稱 (輸入前 10 個字不含空白)
4. 圖示檢查碼 (依指示畫面)

物料中HSF對象物質含量調查表

填表：	時麗
部門：	研發部
職務：	文員

物料名稱：AN0727-67E01BSM

序號	物料型號	物料各構成名稱	各構成物料的材質	測試報告裡RoHS對應物質測試結果						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				
1	BODY-AN67E-01B	Body	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SCL01J017327001E	2017.03.28	BS塑胶粒	CTI
2	BODY1-AN67-01B	Body1	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SCL01J017327001E	2017.03.28	BS塑胶粒	CTI
3	SMA306-CCT5AN92-Z	SMA公頭母針	銅	19	26246	N.D.	N.D.	N.D.	N.D.	SHAMLP1702061602	2017.02.16	铅黄铜棒.	SGS
4	PB-AN67E-01FB	PCB	FR4	N.D.	9	N.D.	N.D.	N.D.	N.D.	CANEC1701735806	2017.02.20	The Halogen	SGS
5	R-RG-178U	線材	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	NGBML1800155002	2018.01.17	聚全氟乙丙烯树脂.	SGS
6			PTFE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	NGBML1800151702	2018.01.16	聚四氟乙烯分散树脂.	SGS
7			镀银铜	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SHAEC1703852402	2017.03.16	镀银圆铜线.	SGS

根據測試報告如實填寫鉛、鎘、汞、六價鉻、PBBs和PBDEs六項禁用物質的含量
包裝材料中鉛、鎘、汞、六價鉻總含量不超過100ppm，鎘的允許濃度為5ppm
歐盟ROHS指令豁免條款2009/95/BC、鋼中合金元素中的鉛含量达0.35%、铝含量达0.4%、铜合金中的铅含量达4%

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BS43D05BSM マグネット基台部

1. 基台部 電気特性

A. Electrical Characteristics	
Impedance	50 Ohm
B. Material	
Material of Radiator	Cu (Plated)
Material of Coaxial Cable	RG58 / 1000mm / Cable Loss: 0.9dB @ 2450MHz for 1 Meter
C. Environmental	
Operation Temperature	- 40 ˚C ~ + 65 ˚C
Storage Temperature	- 40 ˚C ~ + 80 ˚C

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2. 基台部 信頼性試験

Test Item	Procedure	Requirement
1. Visual inspection and Dimension Check	Applicable methods using x5 magnification	follow specification
2. Rapid Changing of Temperature	-40˚C (30minutes) to 80˚C (30minutes); 24 cycles	After 2 hours recovery: 1. no visible damage 2. Freq. Tol.: < ±5%
3. Damp Heat	24 hours at 60˚C; 90 ~ 95% RH	After 2 hours recovery: 1. no visible damage 2. Freq. Tol. : < ±5%
4. Endurance	24 hours at 80˚C	After 2 hours recovery: 1. no visible damage 2. Freq Tol.: < ±5%

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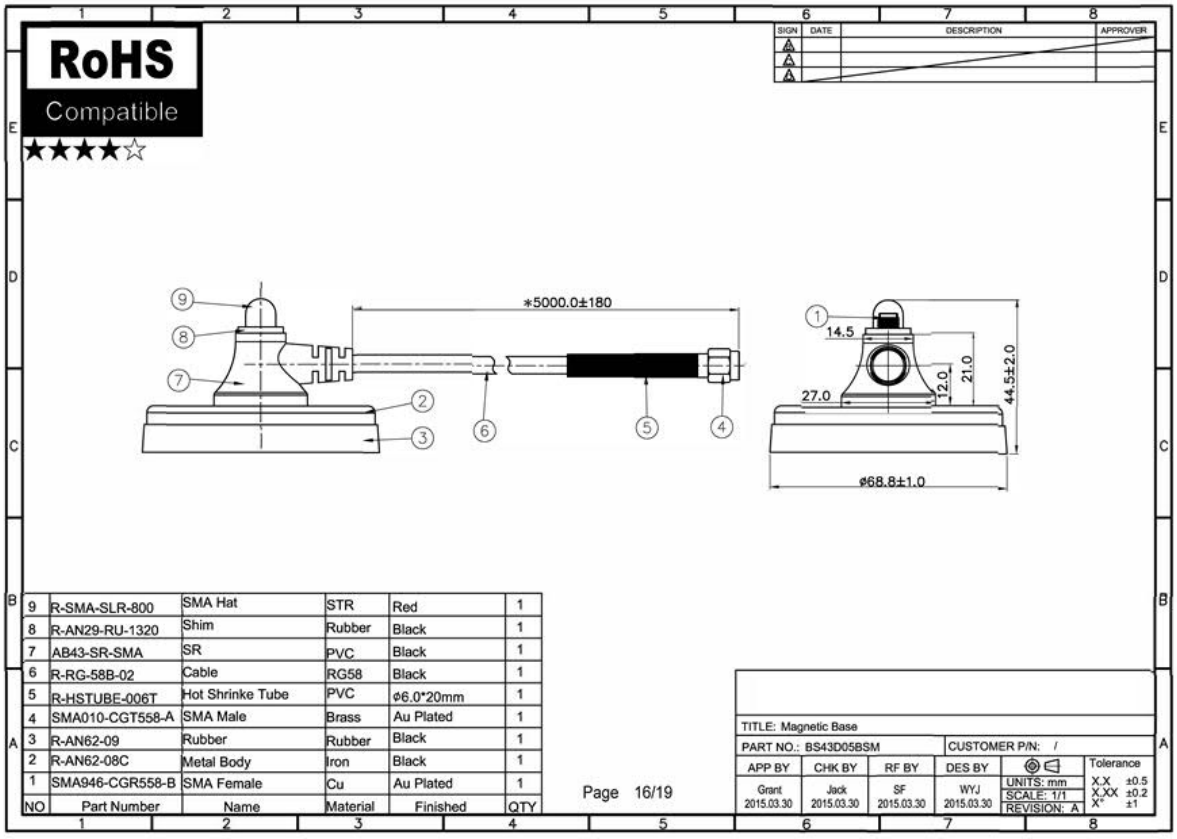
3. 基台部 外観仕様



NO	Part Number	Name	Material	Finished	QTY
9	R-SMA-SLR-800	SMA Hat	STR	Red	1
8	R-AN29-RU-1320	Shim	Rubber	Black	1
7	AB43-SR-SMA	SR	PVC	Black	1
6	R-RG-58B-02	Cable	RG58	Black	1
5	R-HSTUBE-006T	Hot Shrinke Tube	PVC	ø6.0*20mm	1
4	SMA010-CGT558-A	SMA Male	Brass	Au Plated	1
3	R-AN62-09	Rubber	Rubber	Black	1
2	R-AN62-08C	Metal Body	Iron	Black	1
1	SMA946-CGR558-B	SMA Female	Cu	Au Plated	1

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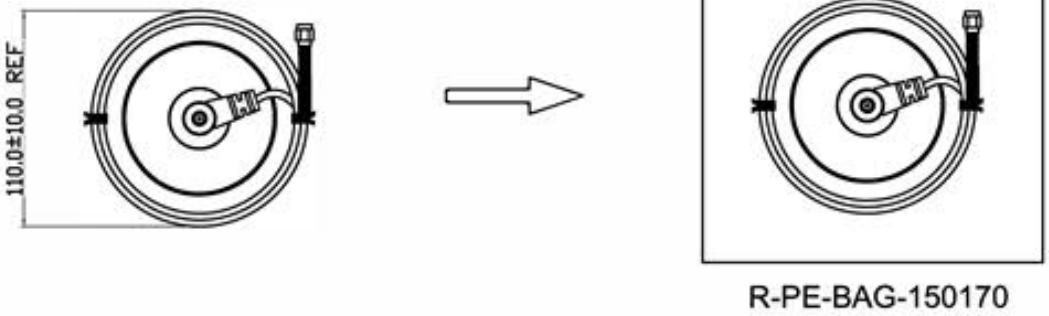
4. 基台部 梱包仕様

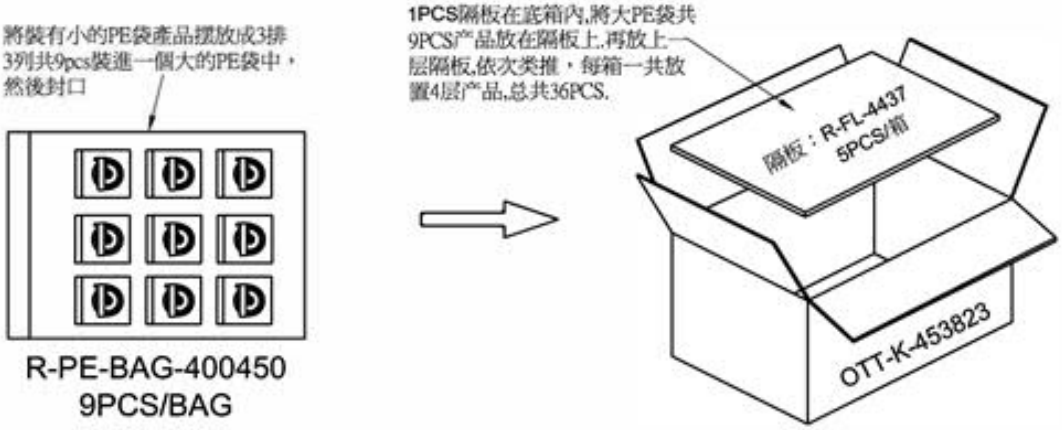
Part Number : BS43D05BSM	Revision : A
Name: Magnetic Base	Customer : ALL

一 .1pcs產品裝入PE袋。



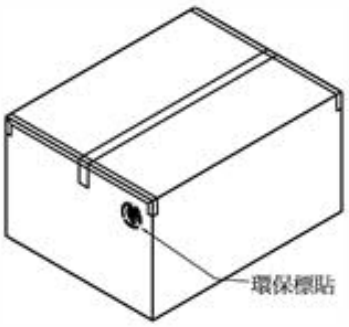
R-PE-BAG-150170

二.裝外箱(36PCS/箱)



R-PE-BAG-400450
9PCS/BAG

三. 封箱並貼環保標貼



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5. 基台部 RoHS 試験

SGS 台灣網站 → http://twap.sgs.com/sgsrsts/chn/cheres_tw.asp
SGS 大陸網站 → http://rsts.cn.sgs.com/chn/cheres_cn.asp
SGS 韓國網站 → http://rohs.kr.sgs.com/sgsrsts/en/cheres_en.asp

請輸入以下報告正確資料及檢查碼以便查核
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2. 報告日期 (YYYY/MM/DD)
3. 產品名稱 (輸入前 10 個字不含空白)
4. 圖示檢查碼 (依指示畫面)

物料中HSF對象物質含量調查表

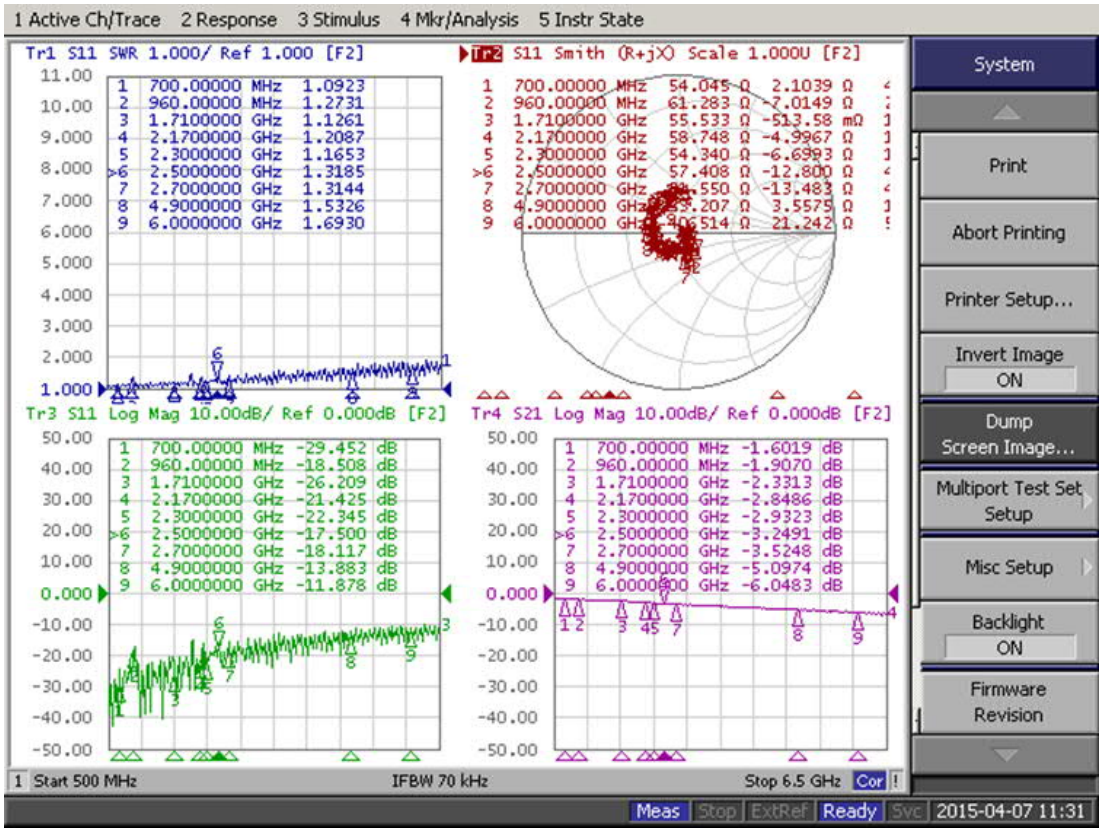
填表：	時麗
部門：	研發部
職稱：	文員

物料名稱： BS43D05BSM

序號	物料型號	物料各構成名稱	各構成物料的材質	測試報告裡RoHS對應物質測試結果 Cd	Pb	Hg	Cr(VI)	PBBs	PBDEs	檢測報告編號	測試日期	測試名稱	測試機構名稱
1	R-AN62-08C	Metal Body	Iron	N.D.	N.D.	N.D.	Negative			CANEC1402559406	2014.03.11	单光铁料SPCC	SGS
2	R-RG-58B-02	Cable	外被PVC	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1502724602	2015.03.09	BLACK PVC	SGS
3			PE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1409066101	2014.06.17	HDPE/XLPE/FPE	SGS
4			裸銅線	N.D.	8 mg/kg	N.D.	Negative	N.D.	N.D.	ECL03G003675001E	2014.12.12	Bare Copper Wire	CTI
5	SMA946-CGR558-B SMA010-CGT558-A	SMA母頭母針 SMA公頭公針	銅	36	26662	N.D.	Negative			CANEC1408043401	2014.05.30	C3604 Copper bar	SGS
6			鍍金	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANML1410789606	2014.07.10	溶槽:金溶液.	SGS
7	R-AN62-09 R-AN29-RU-1320	Rubber	橡胶	8	35	N.D.	N.D.	N.D.	N.D.	CANEC1401509117	2014.02.24	Environmental Protection rubber sheet	SGS
8	R-SMA-SLR-800	SMA Hat	硅膠	N.D.	10	N.D.	N.D.	N.D.	N.D.	SHAEC1402241106	2014.03.01	混炼胶	SGS
9	R-HSTUBE-006T	SHTUBE	PVC	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1501457205	2015.02.02	HEAT SHRINKABLE	SGS
10	AB43-SR-SMA	SR	PVC	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1502724602	2015.03.09	BLACK PVC	SGS

根據測試報告如實填寫鉛、鎘、汞、六價鉻、PBBs和PBDEs六項禁用物質的含量
包裝材料中鉛、鎘、汞、六價鉻總含量不超過100ppm，鎘的允許濃度爲5ppm
歐盟ROHS指令豁免條款2009/95/EC、鋼中合金元素中的鉛含量达0.35%、鋁含量达0.4%、銅合金中的鉛含量达4%

6. 基台部 S11 / SWR 及び S21 / Insertion Loss Test Data



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○ お問い合わせ

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〒101－0025
東京都千代田区神田佐久間町二丁目8番地1　シャンピア秋葉原ビル5階
TEL：03－4400－7970　FAX：03－4400－7969

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