Product Number: NB0190-D60GO-T
Product Name: Antenna

Specification For Approval

Date: 2012 / 08 / 17

File No.: 120817002

Version: 1.0

Customer： 盟創科技股份有限公司

Customer P/N： 65-031-240009B

INVAX P/N： NB0190-D60GO-T

Description : Antenna

Cortec Checked By: R@D Dept 2012.08.17 Jack
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
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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
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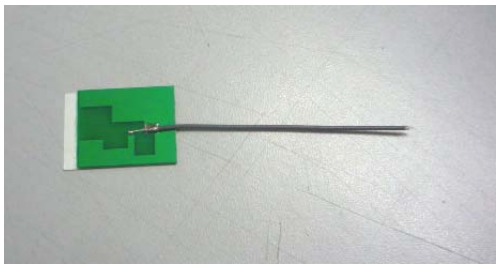
Index:

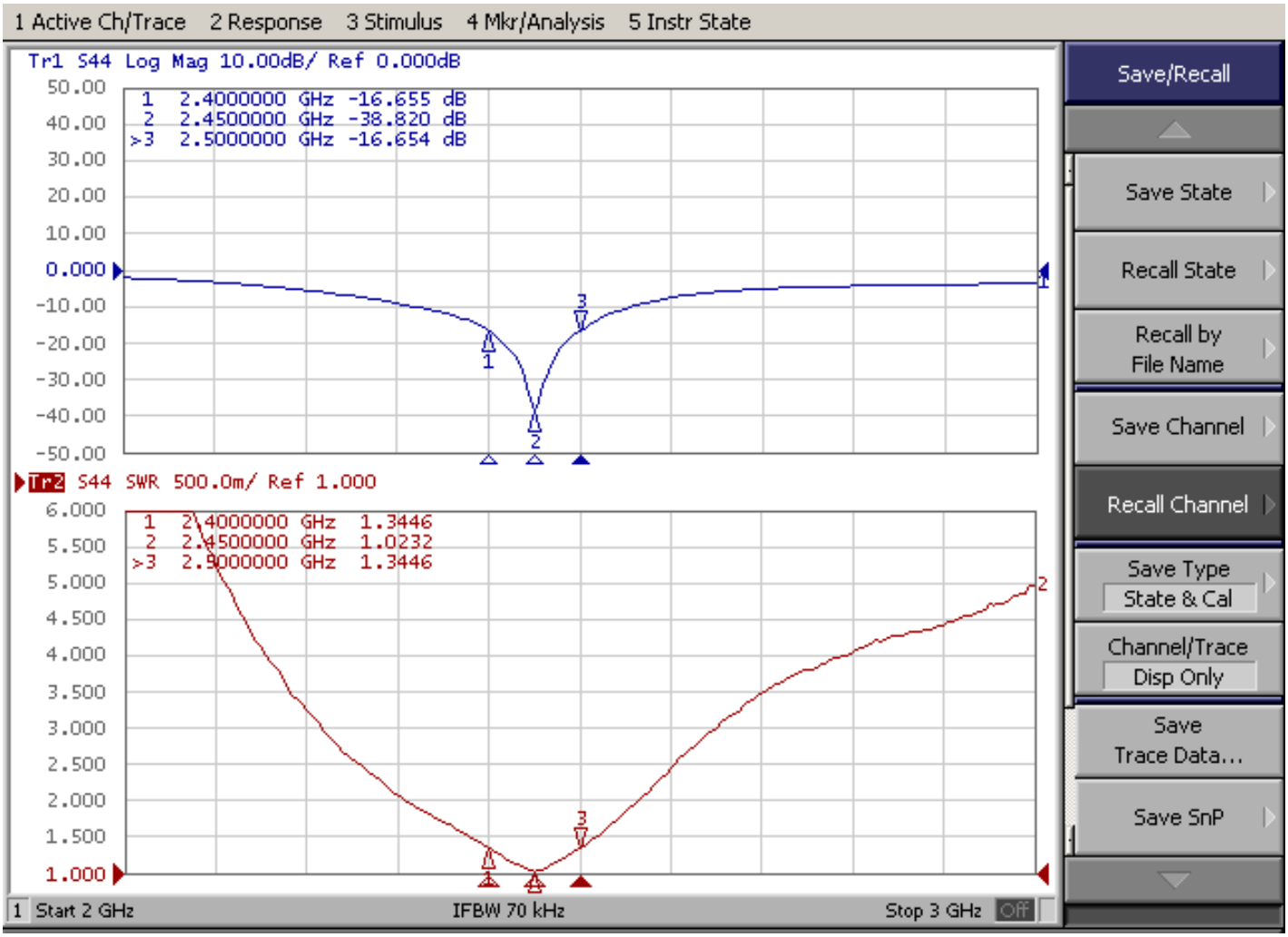
1. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	**2400 ~ 2500 MHz**
S.W.R.	**<= 2.0**
Return Loss	**<-10dB**
Max Gain	**2.7 dBi**
Efficiency	**>= 60%**
Polarization	**Linear**
Impedance	**50 Ohm**
B. Material & Mechanical Characteristics	
Material of Radiator	**PCB**
Cable Type	**O.D. 1.13 mm // 60 mm (Gray)**
C. Environmental	
Operation Temperature	**- 40 ˚C ~ + 65 ˚C**
Storage Temperature	**- 40 ˚C ~ + 80 ˚C**
Storage Time	**1800 Days**

2. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
C1	S.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 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	GB / T2423.8-1995 Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 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 2. Frequency Tol.<= 5%
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	GB / T 2423 . 17- 93 Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	GB / T 2423 . 22 - 87 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	GB /T 2423 . 2 - 89 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2002/95/EC
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC
R3	PFOA	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

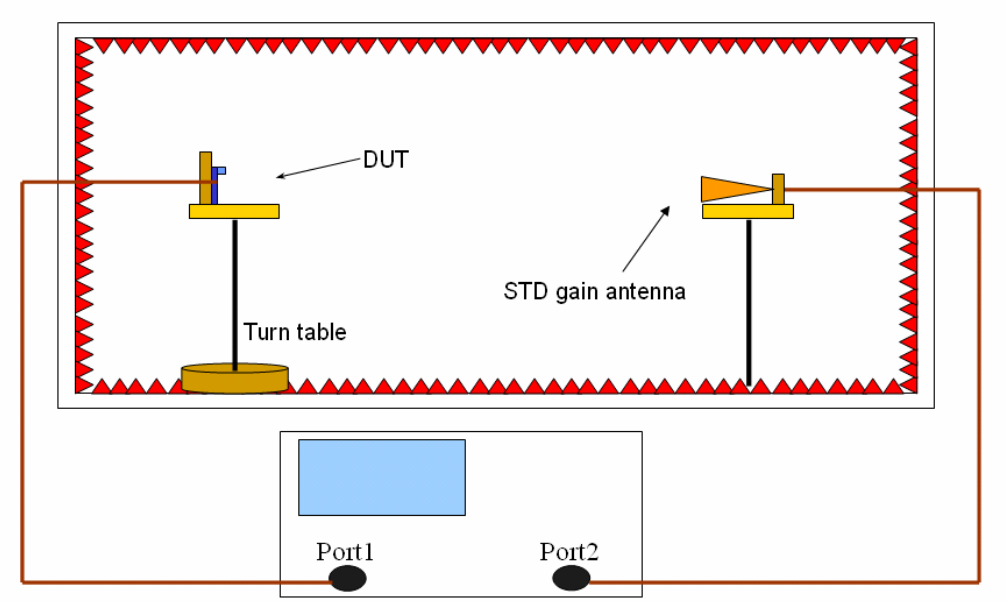
3. Antenna - S Parameter Test Data

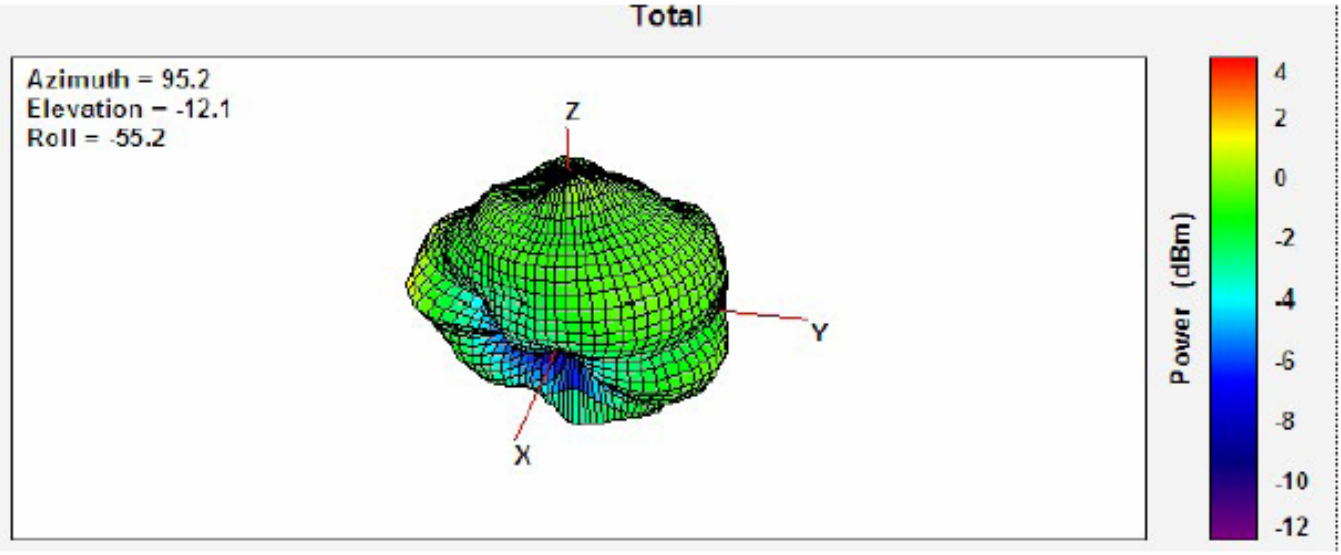


4. Antenna - Radiation Pattern Test Data

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m
Quite Zone: 600mm @1 GHz
Isolation: >100dB @ 1 MHz ~ 10 GHz
Testing Equipment: Agilent 5071B
Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration
Double Ridged Horn Antenna





Total	Point Values	Ant. Port Input Pwr. (dBm)	Tot. Rad. Pwr. (dBm)	Peak EIRP (dBm)	Directivity (dBi)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
	Frequency (MHz)							
	2400	0	-2.05151	2.30009	4.3516	-2.05151	62.3518	2.30009
	2410	0	-2.11247	2.22498	4.33745	-2.11247	63.4827	2.22498
	2420	0	-2.10255	2.17422	4.27677	-2.10255	61.6233	2.17422
	2430	0	-2.31724	1.78315	4.10039	-2.31724	63.6511	2.28315
	2440	0	-2.39328	1.5554	3.94868	-2.39328	62.6331	2.5554
	2450	0	-2.28767	1.49265	3.78033	-2.28767	65.0517	2.49265
	2460	0	-2.31029	1.42593	3.73622	-2.31029	63.745	2.42593
	2470	0	-2.21675	1.57196	3.78872	-2.21675	62.024	2.57196
	2480	0	-2.22384	1.57118	3.79503	-2.22384	62.9261	2.57118
	2490	0	-2.06032	1.72794	3.78826	-2.06032	62.2254	2.72794
	2500	0	-2.08068	1.69276	3.77344	-2.08068	62.9344	2.69276

5. Mechanical Drawing

See attached files

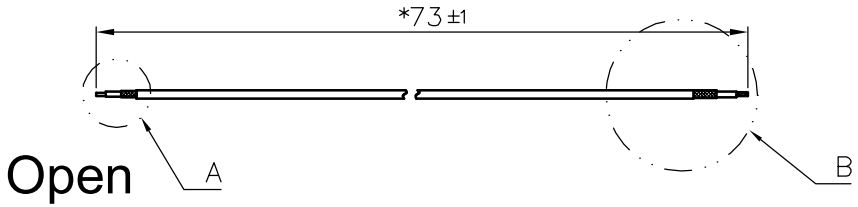
6. Material Description and RoHS Test Report

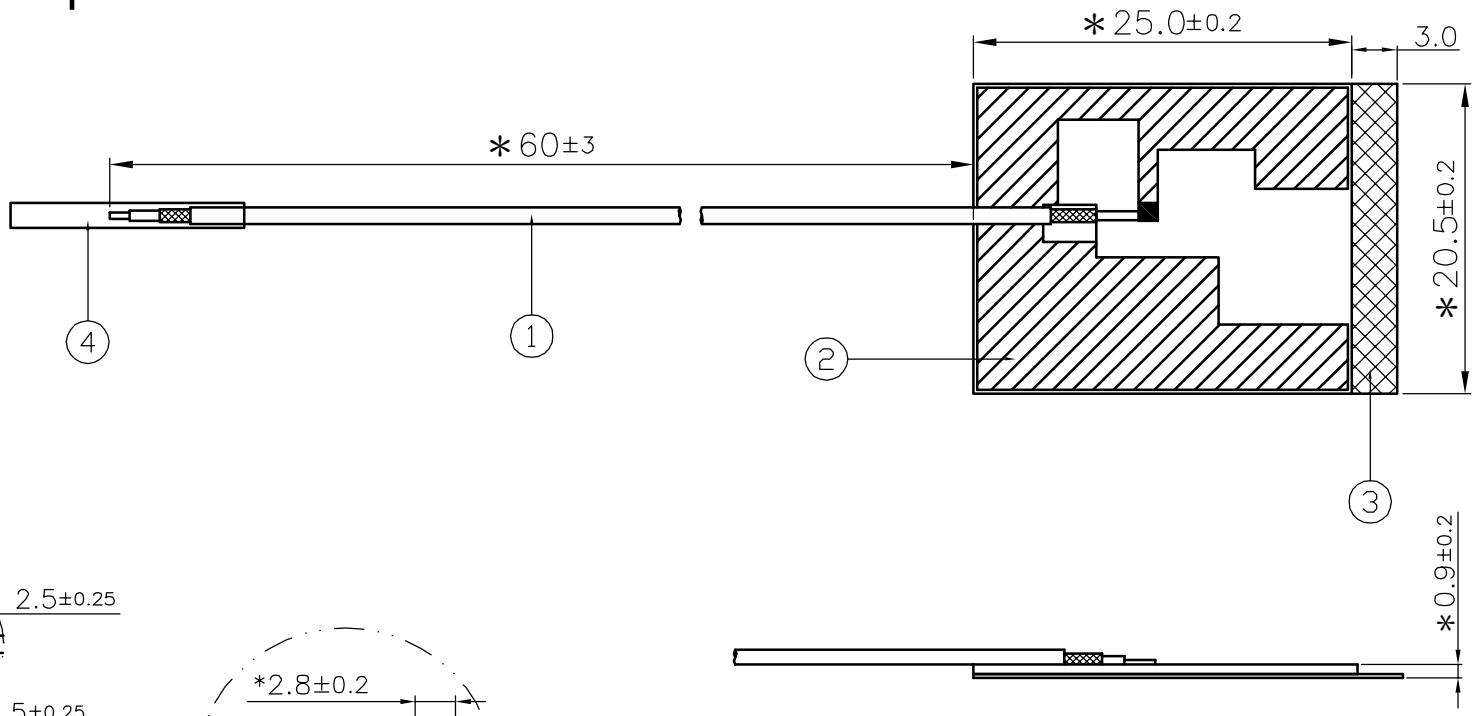
See attached files

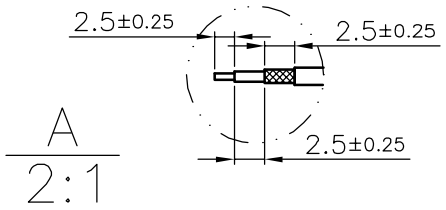
RoHS Compatible

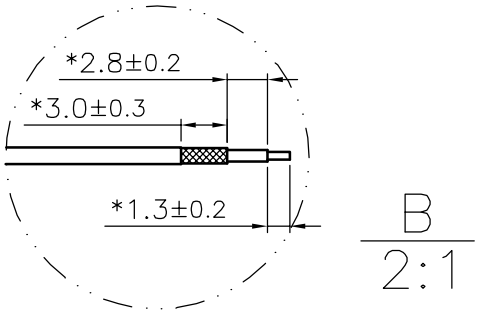
★★★★☆

SIGN	DATE	DESCRIPTION	APPROVER
B			
A			
A			









Note:
1.Take" * "is the important dimension.
2.Tolerance:Unmarked tolerance refer to the standard tolerance please.

No.	Part Number	Name	Material	Finish	Q'ty
4	R-HSTUBE-PVC011TA	Sheath		ID1.1*14mm	1
3	GS-NB0190-DT	Paster	SONY-G9000	25*20*0.1mm	1
2	NB0190-D01	PCB	FR4	25*20.5*0.6mm	1
1	R-CB-113G	Coaxial Cable	OD1.13	Dark Gray	1

Invax System Group. Cortec

Cortec Technology Inc.

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Tel :886-2-27885218
Fax:886-2-27831658

TITLE: Embedded Antenna

PART NO.: NB0190-D60GO-T

CUSTOMER P/N: 65-031-240009B

APP BY	CHK BY	RF BY	DES BY
Grant 2012/08/17	Jack 2012/08/17	SiFei 2012/08/17	Seagold 2012/08/17

UNITS: mm
SCALE: 2/1
REVISION: A

Tolerance
X.X ±0.5
X.XX ±0.2
X° ±1

Invax System Group.

Cortec

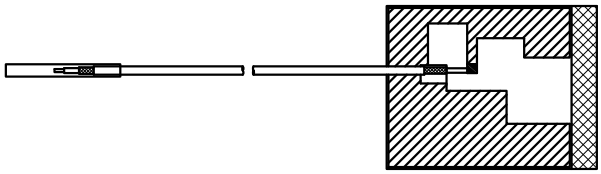
產品包裝規範
PACKING CRITERION

★★★★☆

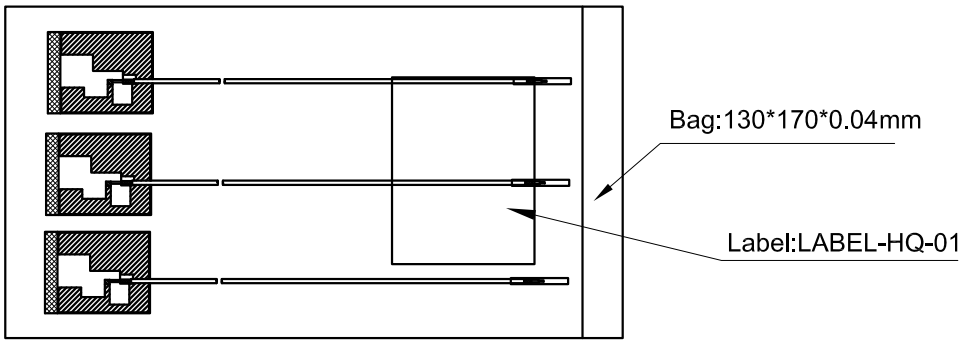
Date: 2012/04/13

Part Number : NB0190-D60GO-T	Revision : A
Name: Embedded Antenna	Customer : 盟創

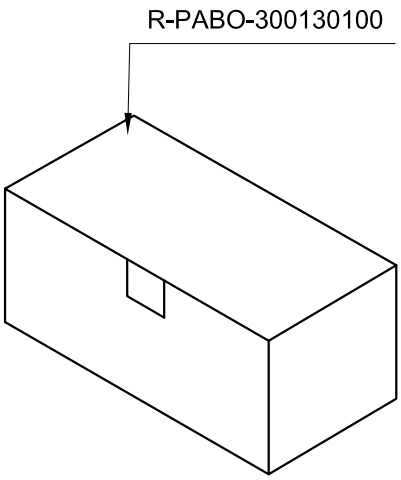
1. The Product



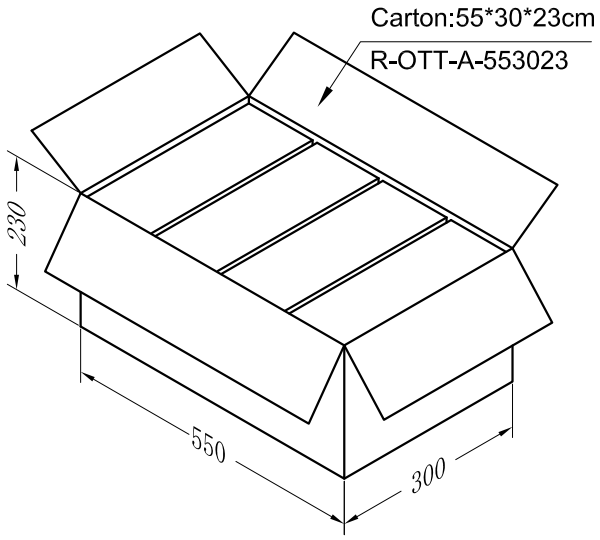
2. 10PCS/per Bag

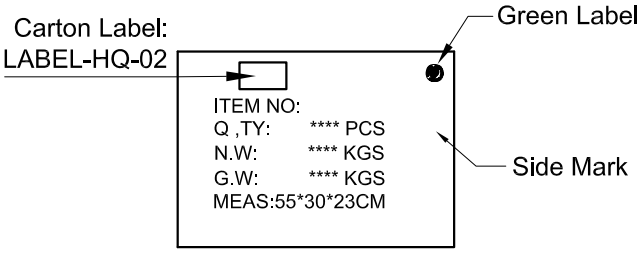


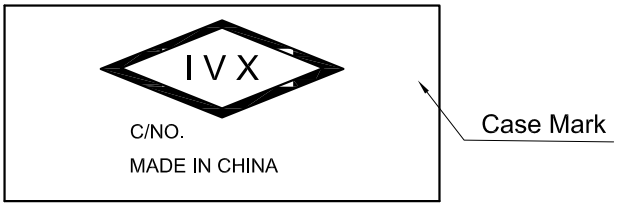
3. 250PCS/per Box



4. 2000PCS/per Carton







APPROVED BY：Grant CHECKED BY：Jack DESIGNED BY：Seagold

SONY

Technical Data Sheet

強力高性能両面接着テープ
G9000

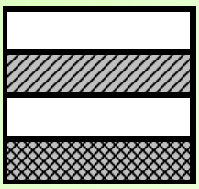
特　　長

□従来品に比べ接着力が強力な基材入りの両面接着テープです

□接着特性のバランスが良く、特に耐熱性に優れています。

□従来のように、塗工時に有機溶剤を使用しないため、地球環境への影響が少ない次世代の接着テープです

基 本 構 成



	名称	厚み
←――	ｱｸﾘﾙ粘着剤	（約　５０μｍ）
←――	不織布	（約　５０μｍ）
←――	ｱｸﾘﾙ粘着剤	（約　５０μｍ）
←――	剥 離 紙	（約　１５０μｍ）

仕　　様

粘着剤主成分	アクリル系樹脂	粘着剤厚み (基材含む)	0.15㎜
色	無色透明	形　状	抜き加工品
基　　材	不織布		ロール品

SONY

Technical Data Sheet

特性

1. 剥離強度（180度ピール）

・テープ幅：20㎜
・圧着条件：2kgロール１往復
・常温１時間放置後
・測定雰囲気：23℃±5℃ 65%±10%
・引張りスピード：300㎜／min
・バッキング材：25μmPET

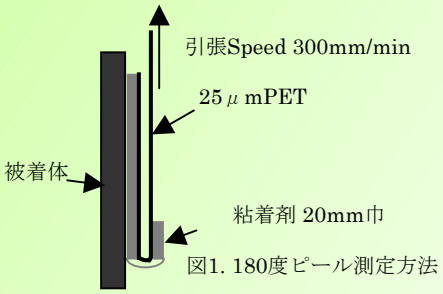


図1. 180度ピール測定方法

（N/2cm）

被着体	ＳＵＳ	ＡＬ	ＡＢＳ	アクリル	ＰＳ	ＰＰ	ＰＣ
接着強度	13.7	8.8	11.6	12.4	11.5	5.1	11.9

被着体	軟質PVC	硬質PVC	ガラス	ＣＲ	ＮＲ
接着強度	12.6	13.2	12.9	3.4	4.0

ジャーキー

2. 保持力

・テープ貼付け面積：２５×２５㎜
・被着体：ＳＵＳ３０４
・圧着条件：２kgローラー１往復
・荷重：１kg
・１時間後のズレ（㎜）を測定

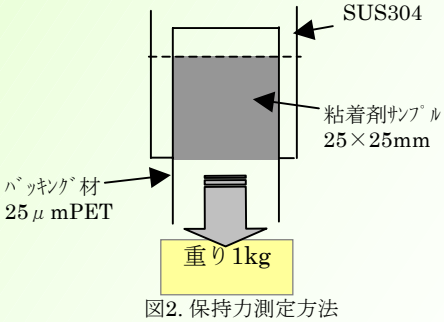


図2. 保持力測定方法

測定温度	40℃	60℃	80℃	100℃
ズレ（㎜）	0.2	0.3	0.3	0.6

3. ボールタック（J. Dow法）

ボールタック （ボール№）	2～×

×：1未満

SONY

Technical Data Sheet

4. 温度特性（180度ピール）

・テープ幅：20㎜
・圧着条件：2kgロール１往復
・常温１日放置後
・測定雰囲気：各温度
・引張りスピード：300㎜／min
・バッキング材：100μmAL箔(-20～5℃)、25μmPET(10～100℃)
・被着体：SUS

（N/2cm）

測定温度	-20℃	0℃	5℃	10℃	23℃	40℃	60℃	80℃	100℃
ズレ(㎜)	AL	94.2	91.0	25.5	17.4	14.4	11.9	10.8	9.3

AL:ﾊﾞｯｷﾝｸﾞ材からのaf　両 af

5. 定荷重剥離試験

・テープ幅　：　20mm
・圧着条件　：　2kgローラー１往復
・荷重　：　100g
・はく離距離（mm）を測定
・RT 1時間後、RTにて測定

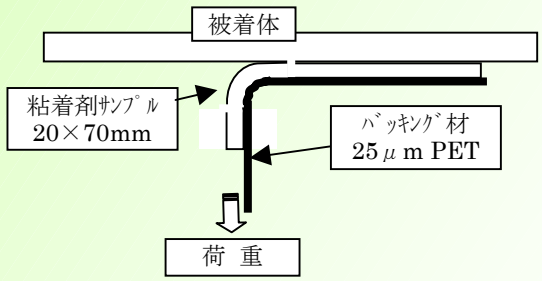


図3. 定荷重剥離測定方法

		SUS	AL	ABS	PS	アクリル	PP
定荷重剥離剥離距離(㎜) 100g/2cm	1h後	1.0	2.0	2.0	2.5	2.0	3.5
	3h後	1.3	3.0	3.5	5.0	3.3	7.8
	5h後	1.3	2.8	4.5	7.5	4.5	11.0
	24h後	1.5	9.5	18.5	34.0	16.0	59.0

ソニーケミカル株式会社
http://www.scc.sony.co.jp/

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関　　西　〒542-0081　大阪市中央区南船橋4-12-12　Tel.06-6243-9561(代)
鹿沼工場　〒322-8502　栃木県鹿沼市さつき町12-3　Tel.0289-76-0211(代)

Coaxial Cable Datasheet

O.D. 1.13 mm (AWG32) Coaxial Cable Specification		
1. Cable Type	O.D. 1.13 mm (AWG32)	
2. Impedance	50 ± 3 ohm	
3. Inner Conductor	**Material**	silver-coated cooper
	Conductor Numbers	7
	Conductor Size	0.08 mm
	Outer Diameter	0.24 mm
4. Dielectric Layer	**Material**	FEP
	Color	Clear
	Average Thickness	0.22 mm
	Diameter	0.68 mm
5. Braid (Shielding)	**Material**	tin-coated cooper
	Construction	16-4-0.05 mm
	Coverage	90 %
6. Outer Cover	**Material**	FEP
	Color	Black / white / gray
	Average Thickness	0.10 mm
	Diameter	1.13 ± 0.05 mm
7. V.S.W.R Testing (DC ~ 6GHz)	< 1.3	
8. Attenuation (dB / 1 meter)	**100 MHz**	0.60
	400 MHz	1.25
	1800 MHz	2.23
	2400 MHz	2.70
	5200 MHz	4.15
9. Capacitance	97 ± 3 (pF / meter)	
10. Maximum Power	30 dBm	
11. Spark Test	500 V	
12. Rating Temp. and Volt.	200˚C / 30V	
13. Conductor Resistance	520 ohm / KM / 20˚C max.	
14. Dielectric Resistance	1500 M ohm / KM / 20˚C min.	