SPECIFICATION

Surface Acoustic Wave Filter

USER	
USER PART No.	
SEMCO PART No.	SFHG00AA002
DOC. No.	SMS-51-L-SFT FX-47
DATE	January 27, 2014
REVISION	Preliminary

WISOL					
ISSUED BY	Ryoo,Hye-Ok 	APPROVED BY (R&D)	Hong, Seong-Su 	APPROVED BY (QC)	Choi. Jae hyeong 
User					
ISSUED BY		CHECKED BY		APPROVED BY	

WISOL CO., LTD.

531-7, GAJANG-ro, OSAN-si,

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http://www.wisol.co.kr

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1. REVISION HISTORY

000	Nov 15, 2013	All Page	Make specification

2. DEFINITION

2-1. PART No.

S F H G 0 0 A A 0 0 2

① ② ③ ④ ⑤ ⑥

No.	EXPLANATION
①	SAW Filter
②	Design Type
③	Center Frequency :1900MHz(1880 ~ 1920)
④	Input:50ohm, Output:50ohm
⑤	Package size: 1.1×0.9mm
⑥	Design Revision (02 : Molding Type)

2-2. APPLICATION : TD-SCDMA 1900MHz

3. PRECAUTIONS

3-1. This device should not be used in any type of fluid such as water, oil, organic solvent, etc.

3-2. This is a hermetic device.
MSL(Moisture Sensitive Level) is the '2a' level.

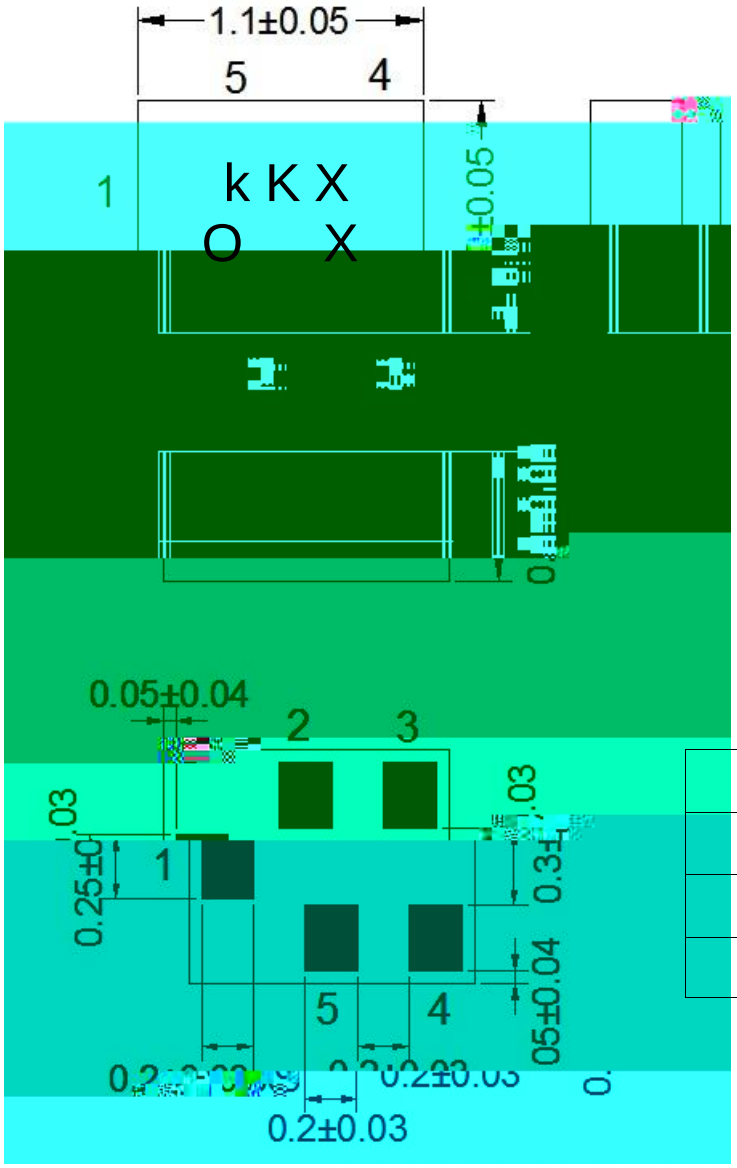
3-3. Ultrasonic cleaning shall be avoided.

3-4. Isopropyl Alcohol and Ethyl Alcohol can be used for cleaning. Contact us before using other

0 0 1 78.984 305.21 Tm [(2626.8s)-4(op)4(r)-3(o)-9(py)-3(l)-12(A)5(l2626.8s)-4(op4(ol)-10( )] TJ ET BT 1 0 0 2626.8s)-4(op6F3 12

4. OUTLINE DRAWING & DIMENSIONS

[Unit: mm]



No.	Function
2, 3, 5	Ground
1	Unbalanced Input
4	Unbalanced Output

5. MARKING

5-1. k K X X

- The 1st 2nd character 'k K' indicates the model name of SAW Filter SFHG00AA002.
- The 3rd character 'X' indicates the year and the month of manufacture.

6. PERFORMANCE

6-1. MAXIMUM RATINGS

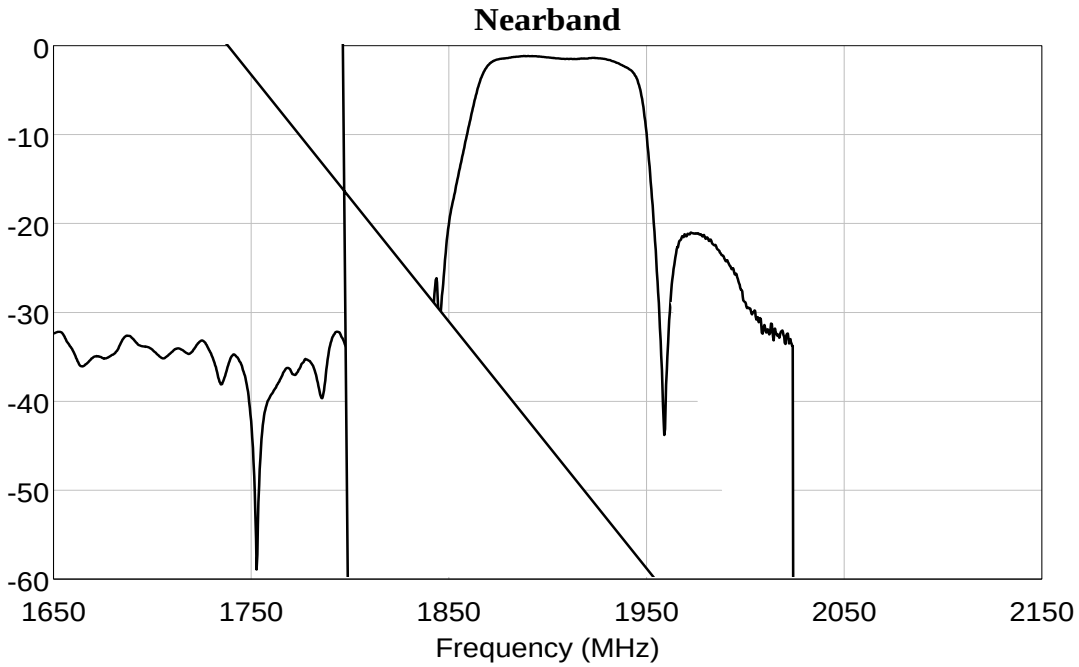
CHARACTERISTICS	RATINGS	UNITS
DC Permissive Voltage	5	V
Maximum Input Power	15	dBm
Operating Temperature Range	30 ~ +85	℃
Storage Temperature Range	40 ~ +85	℃

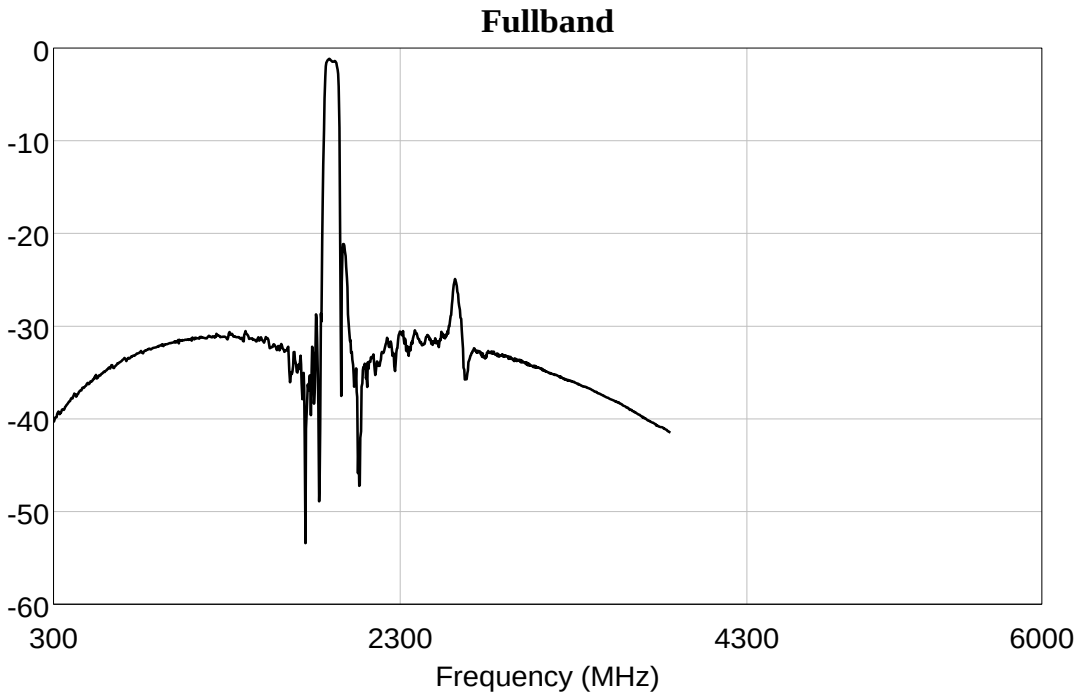
6-2. ELECTRICAL CHARACTERISTICS
6-2-1. TABLE

Ta = 30 ~ +85℃ 2.

Item	FREQUENCY RANGE [MHz]	UNIT	SPECIFICATION		
			Min.	Typ. (25℃)	Max.
Insertion Loss	1880 ~ 1920	dB	-	1.5	2.0
Inband Ripple	1880 ~ 1920	dB	-	0.4	0.9
Input VSWR	1880 ~ 1920	-	-	1.7	2.1
Output VSWR	1880 ~ 1920	-	-	1.7	2.1
Absolute Attenuation	DC ~ 1700	dB	28	30	-
	1700 ~ 1805	dB	27	31	-
	1805 ~ 1850	dB	10	16	/P <<

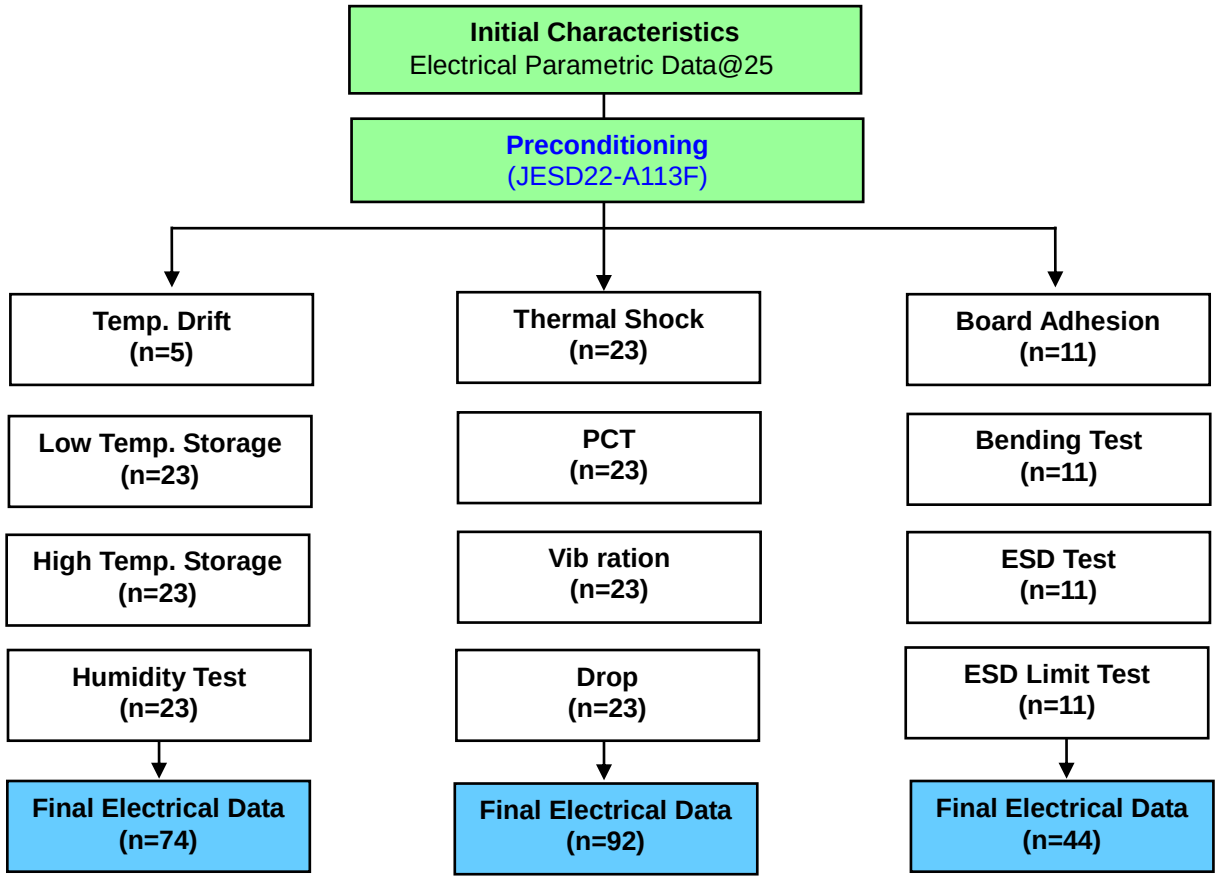
6-2-3. GRAPH


Nearband
0
-10
-20
-30
-40
-50
-60
1650
1750
1850
1950
2050
2150
Frequency (MHz)


Fullband
0
-10
-20
-30
-40
-50
-60
300
2300
4300
6000
Frequency (MHz)

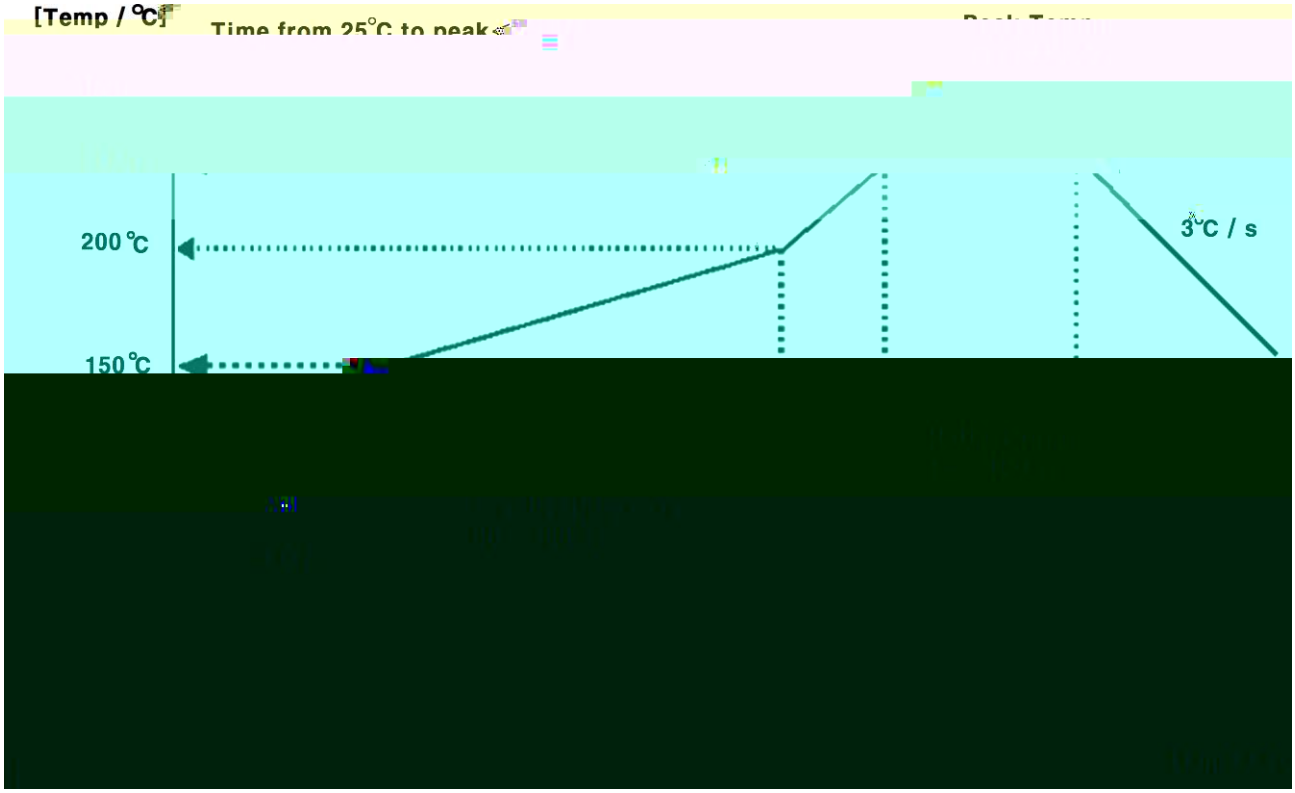
7. RELIABILITY

7-1. ENGINEERING SAMPLE FLOW CHART



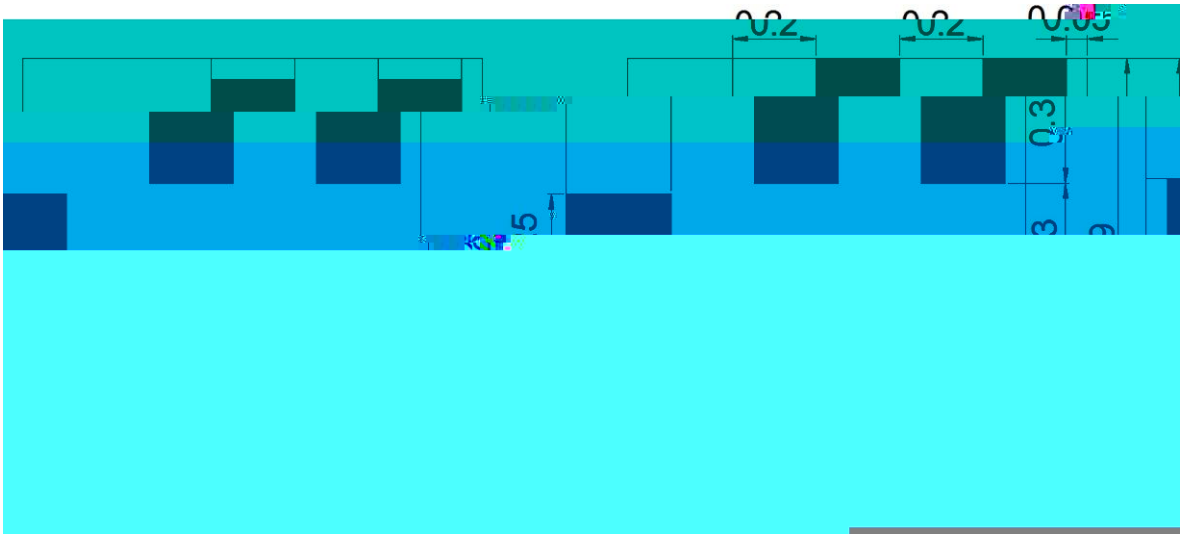
TD-SCDMA 1900MHz

8. REFLOW CONDITION



9. RECOMMENDED PCB DIMENSIONS

[unit : mm]



[SAW, X-ray Top view] [PCB, X-ray Top view]

10. CAUTION

Moisture Sensitivity Device Caution (MSL LEVEL=2a)

1. Calculated shelf life in sealed bag : 12 month at 40℃ and 90% relative Humidity(RH)
2. Peak package body temperature : 260℃
3. After bag is opened, devices that will be subjected to reflow solder or other high temperature process must be
   (a) Mo ℃/60% RH, or
   (b) Stored per J-STD-033
4. Device require bake, before mounting, if :
   (a) Humidity Indicator Card reads 60% when read at 23±5℃
   (b) 3(a) or 3(b) are not met
5. If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure

Note : Level and body temperature defined by IPC/JEDEC J-STD-020

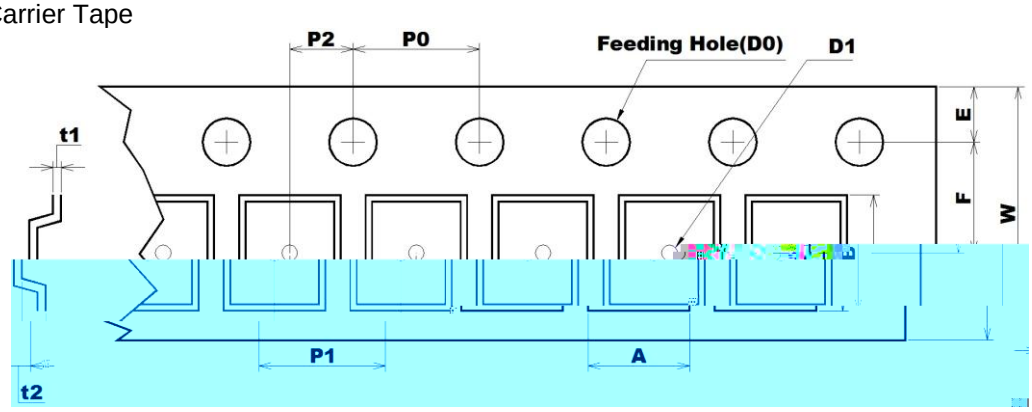
HIC(Humidity Indication Card)

10 to 60% RH

11. PACKING

11-1. DIMENSIONS

- Carrier Tape



[Unit: mm]

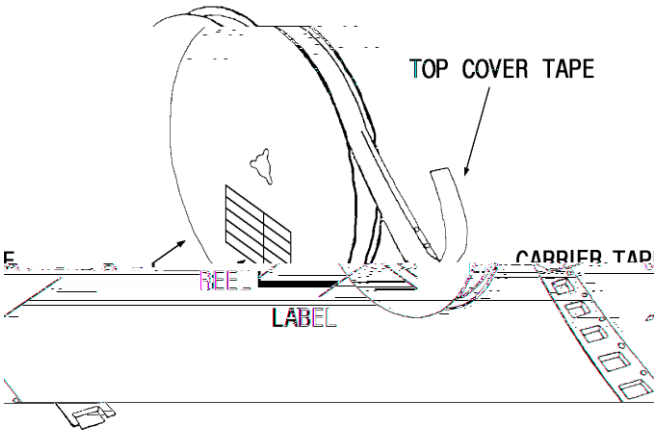
A	B	D0	D1	

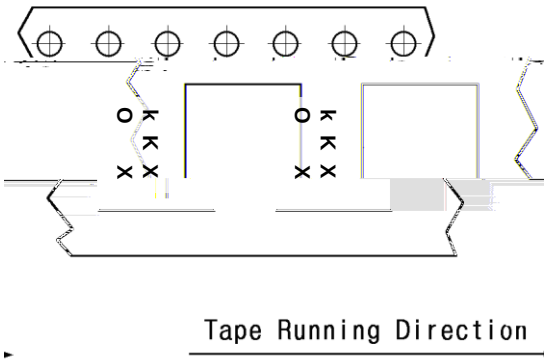
11-2. REELING QUANTITY

10 inch reel : 10,000 pcs/reel

11-3. TAPING STRUCTURE

11-3-1. The tape shall be wound around the reel in direction shown below.

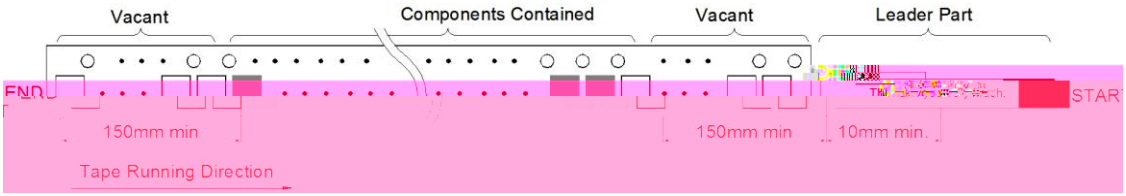




11-3-2. BAR CODE LABEL

	MODEL NAME BARCODE
SFH836AQ101	Model Name
RLYC12563	Reel number
8,000 / qAFYU	Quantity / Marking

1-3-3. Leader part and vacant position specifications.

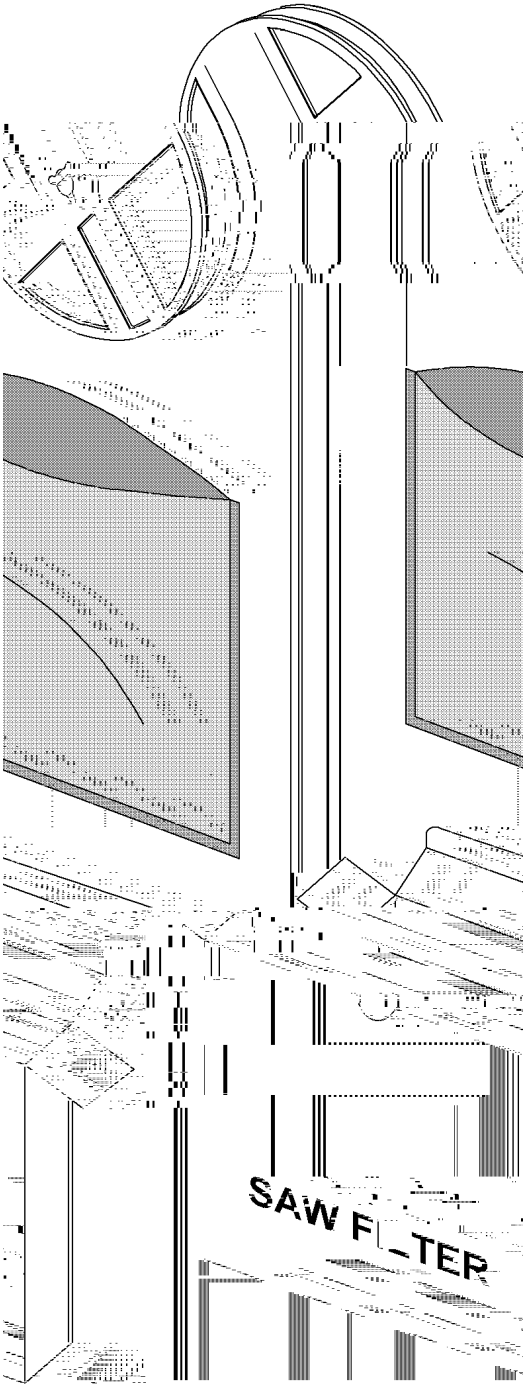


11-4. INNER BOX(Reel Packing) STRUCTURE

Material: Polycarbonate

Material : Polyethylene + Aluminium
Size : 310×370mm^2

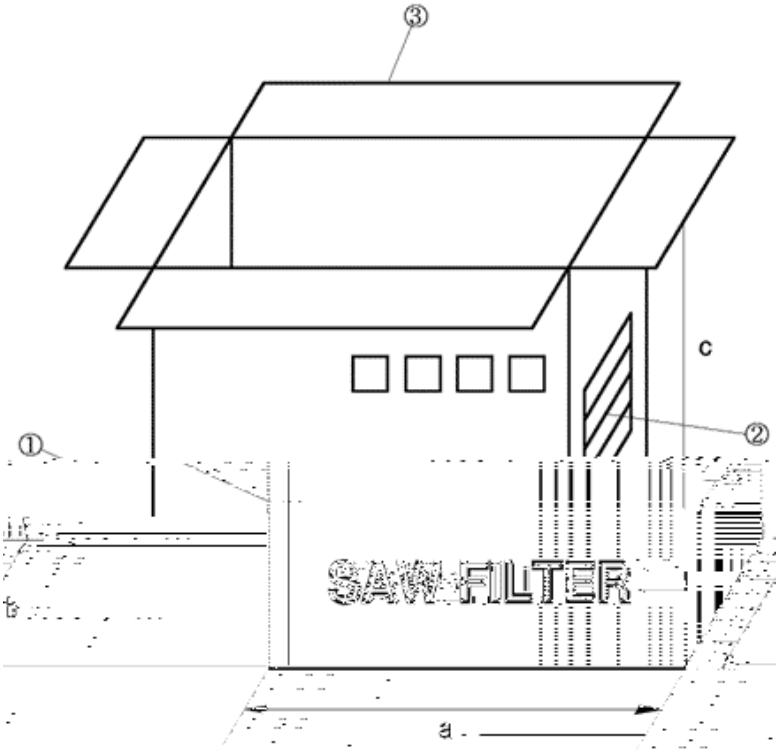
Material : Paper
Size: (D)260×(W)37×(H)265mm^3



11-5. OUTER BOX STRUCTURE

Material : Paper

TYPE	SIZE(mm)			Inner Box #
	a	b	c	
A	270	240	275	6 boxes



SIDE ①

SIDE ②

MODEL	
Q'TY	EA
USER	
DATE	. .

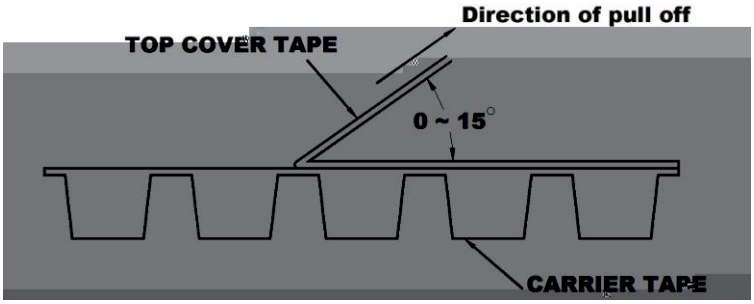
- SIDE is the same as front side.

12. TAPE SPECIFICATIONS

12-1. Tensile Strength of Carrier Tape: 4.4N/mm width

12-2. Top Cover Tape Adhesion (See the below figure)

- pull of angle: 0~15 degree
- speed: 300mm/min.
- force: 20~70g



13. RoHS DATA

013. 07. 08 Page 1 of 6

Test Report No. F690101/LF-CTSAYAA13-31939 Issued Date: 2

To: **WISOL CO., LTD.**
373-7
Gajang-dong
Osan-si
Gyeonggi-do
Korea

The following merchandise was submitted and identified by the client as :

SGS File No.	: AYAA13-31939
Product Name	: SAW FILTER
Item No./Part No.	: N/A
Received Date	: 2013. 07. 03

Test Results ::For further details, please refer to following page(s)

with following results. Test Performed ::SGS Korea tested the sample(s) selected by applicant

ating was performed only for the part Test Comments ::By the applicant's specific request, the sampling and te
indicated in the photo without disassembly.

SGS Korea Co., Ltd.

Jeff Jang / Chemical Lab Mgr

Timothy Jeon
Jinhee Kim
Cindy Park
Jerry Jung/ Testing Person

SGS

Test Report No. [illegible]101/LF-CTSAYAA13-31939 Issued Date: 2013. 07. 08 Page 3 of 6

Sample No. : AYAA13-31939.001
Sample Description : SAW FILTER
Item No./Part No. : N/A
Materials : N/A

Flame Retardants-PBBs/PBDEs

Test Items	Unit	Test Method	MDL	Results
Decabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, GC-MS	5	N.D.

Halogen Content

Test Items	Unit	Test Method	MDL	Results
Bromine(Br)	mg/kg	BS EN 14582:2007 , IC	30	N.D.
Chlorine(Cl)	mg/kg	BS EN 14582:2007 , IC	30	N.D.

Picture of Sample as Received:

NOTE:
(1) N.D. = Not detected.(<MDL)
(2) mg/kg = ppm
(3) MDL = [illegible]tection Limit
(4) - = No regulation
(5) Negative = Undetectable / Pos[illegible]tectable
[illegible]
(7) " = Boiling-water-extraction:
Negative = Absence of CrVI coating
Positive = Presence of CrVI [illegible]e detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm2 sample [illegible] area.

SGS Korea Co.,Ltd. 322, The O valley, 555-9, Hogye-dong, Dongan-gu, Anyang, t +82 (0)31 4608 000 f +82 (0)31 4608 059 [illegible]
[illegible], Gyeonggi-do, Korea 431-080 [illegible]
FDS2 Version5 Member of the [illegible]

age 4 of 6 **Test Report No.** F690101/LF-CTSAYAA13-31939 Issued Date: 2013. 07. 08

Testing Flow Chart for RoHS:Cd/Pb/Hg/Cr^{6+} /PBBs&PBDEs Testin

Sample Measurement	Sample Measurement	Sample Measurement	Sample Measurement
Metallic Material	Acid Digestion with Microwave/Hotplate	Solvent Extraction of the Sample	Nonmetallic Material
Spot Test / Boiling Water Extraction	Filtration	Screen Analysis	Adding Extraction Solution
Adding 1,5-Diphenylcarbazide for Color Development	Residue	Concentration/Dilution of Extraction Solution	Heating to 90~95°C for Extraction
A Red Color Indicates the Presence of CrVI	Total Digestion	Filtration	Filtration and pH Adjustmer
Confirm with UV-Vis	ICP-AES/AAS/MS	GC/MS	Adding 1,5-Diphenylcarbazi for Color Development
DATA	DATA	DATA	UV-Vis
			DATA

art for Cd,Pb,Hg.

The samples were dissolved totally by pre-conditioning method according to above flow ch
Section Chief : Gilsae Yi

NOTE:
(1) N.D. = Not detected.(<MDL)
(2) mg/kg = ppm
(3) MDL = Method Detection Limit
(4) - = No regulation
(5) Negative = Undetectable / Positive = Detectable
(6) ** = Qualitative analysis (No Unit)
(7) * = Boiling-water-extraction:
Negative = Absence of CrVI coating
Positive = Presence of CrVI coating; the detected concentration in boiling-water-extr
solution is equal or greater than 0.02 mg/kg with 50 cm2 sample surface area.

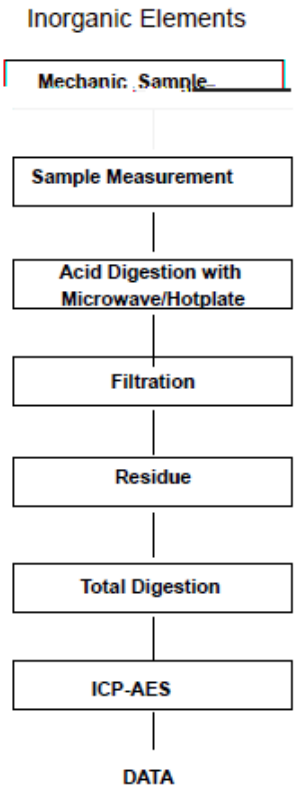
raction

SGS

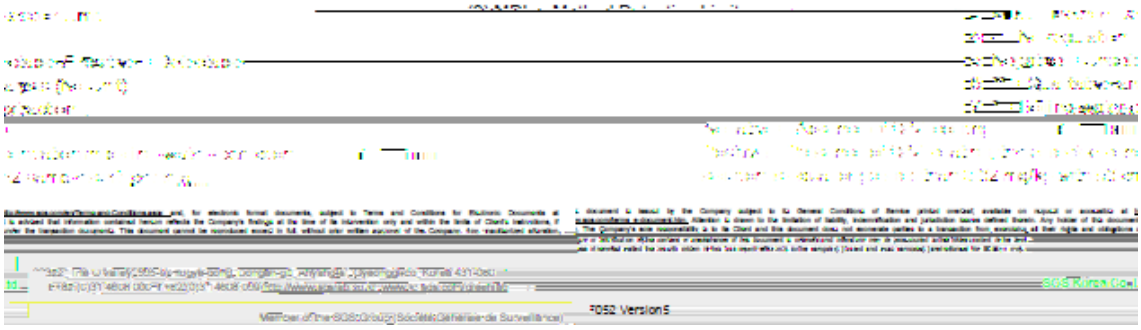
Test Report No.

Testing

Flow Chart for Inorganic Elements



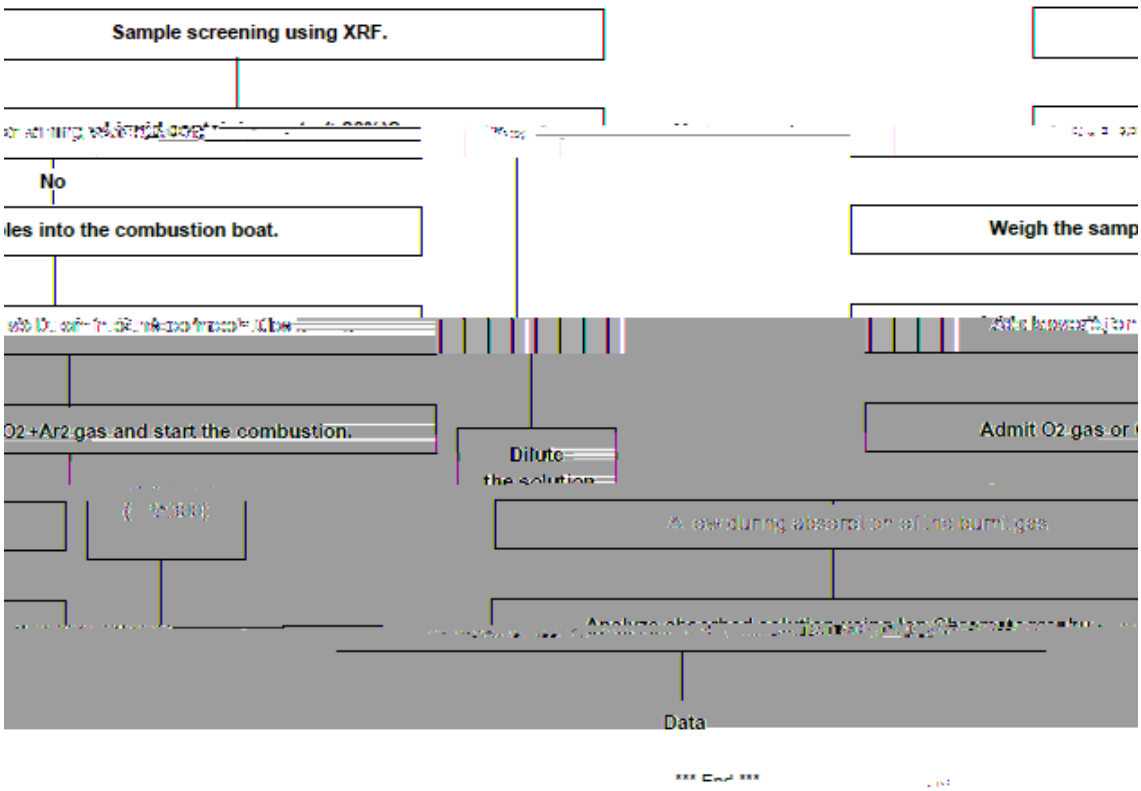
NOTE:
(1) N.D. = Not detected.(<MDL)
(2) mg/kg = ppm



SGS

Test Report No.

Flow Chart for Halogen Test



NOTE:
(1) N.D. = Not detected.(<MDL)