

# APPROVAL SHEET (RoHS)

CUSTOMER : 啟基科技股份有限公司

CUSTOMER'S PART NO. : 08.21413.001

DESCRIPTION : RF ANTENNA ASSEMBLY

PART NO. : BTEAWT14136G0C1A02

DATE :

AUTHORIZED BY : *Alvin Chen*

	FULLY APPROVED	PARTIALLY APPROVED	REJECTED
SIGN			
SUGGESTION			

美磊科技股份有限公司

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# Antenna Specification

## ELECTRICAL PROPERTIES

1.1	Frequency Range.....	2400-2500MHz/5150-5850MHz 5875-6275MHz/6300-6700MHz 6725-7125MHz
1.2	Impedance.....	50 Ohm Nominal
1.3	VSWR.....	≤2.5
1.4	Radiation.....	Omni-directional
1.5	Gain(peak).....	2400-2500MHz/3.11dBi 5150-5850MHz/2.81dBi 5925-7125MHz/2.74dBi
1.6	Polarization.....	Linear Vertical
1.7	Admitted Power.....	1W

## PHYSICAL PROPERTIES

2.1	Antenna Cover.....	ABS
2.2	Antenna Base.....	PC+PBT
2.3	Color.....	White
2.4	Cable.....	φ 1.13 Gray
2.5	Connector.....	IPEX Compatible
2.6	Operating Temp.....	-20°C ~ +65°C
2.7	Storage Temp.....	-30°C ~ +75°C



# Mechanical Specification

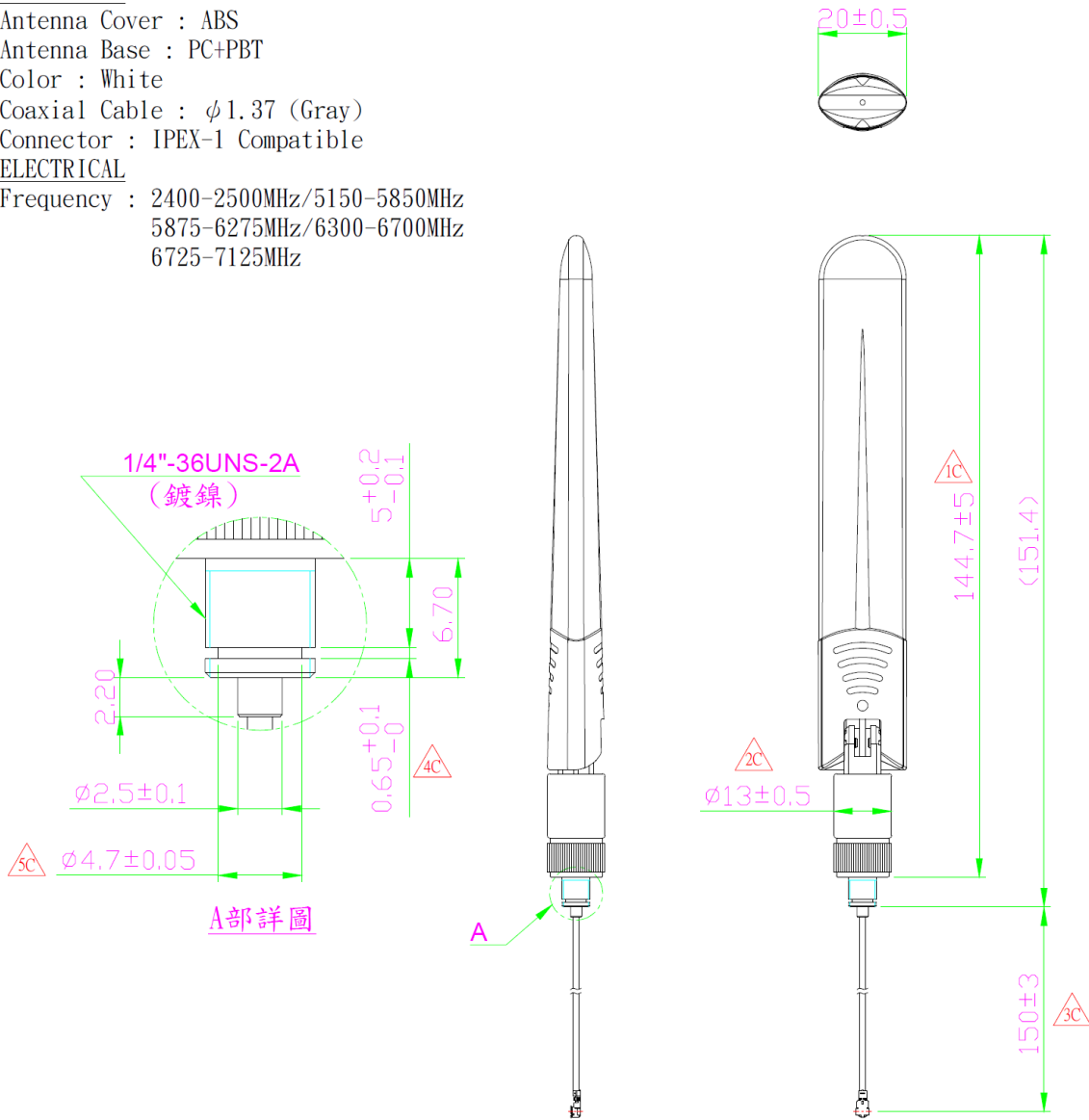
RoHS COMPLIANT

**MECHANICAL**

Antenna Cover : ABS  
 Antenna Base : PC+PBT  
 Color : White  
 Coaxial Cable :  $\phi 1.37$  (Gray)  
 Connector : IPEX-1 Compatible

**ELECTRICAL**

Frequency : 2400-2500MHz/5150-5850MHz  
 5875-6275MHz/6300-6700MHz  
 6725-7125MHz



設計 DR.		核准 APPD.	
Sheng 2022/03/16		Alvin 2022/03/16	
版本說明		REVISION NOTE	
<b>MAGLAYERS</b>			

※凡標記  $\triangle C$  記號者, 為品管檢驗之尺寸

容許公差	TOLERANCE
.XXX	$\pm 0.20$
.XX	$\pm 0.35$
.X	$\pm 0.50$
X	$\pm 1.00$
ANG	$\pm 5$

品名  
ARTICLE  
**BTEAWT14136G0C1A02**

單位 UNIT	比例 SCALE	張數 SHEET	版本 REV.
mm	****	1	A

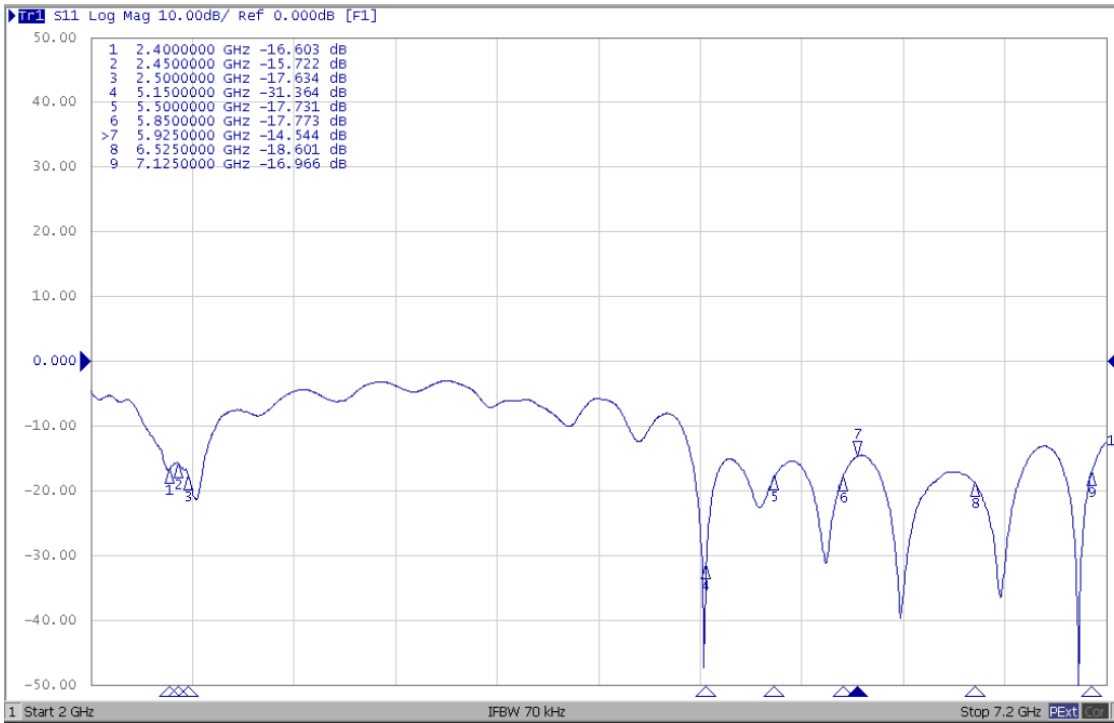
# Test Report

## ELECTRICAL CHARACTERISTICS

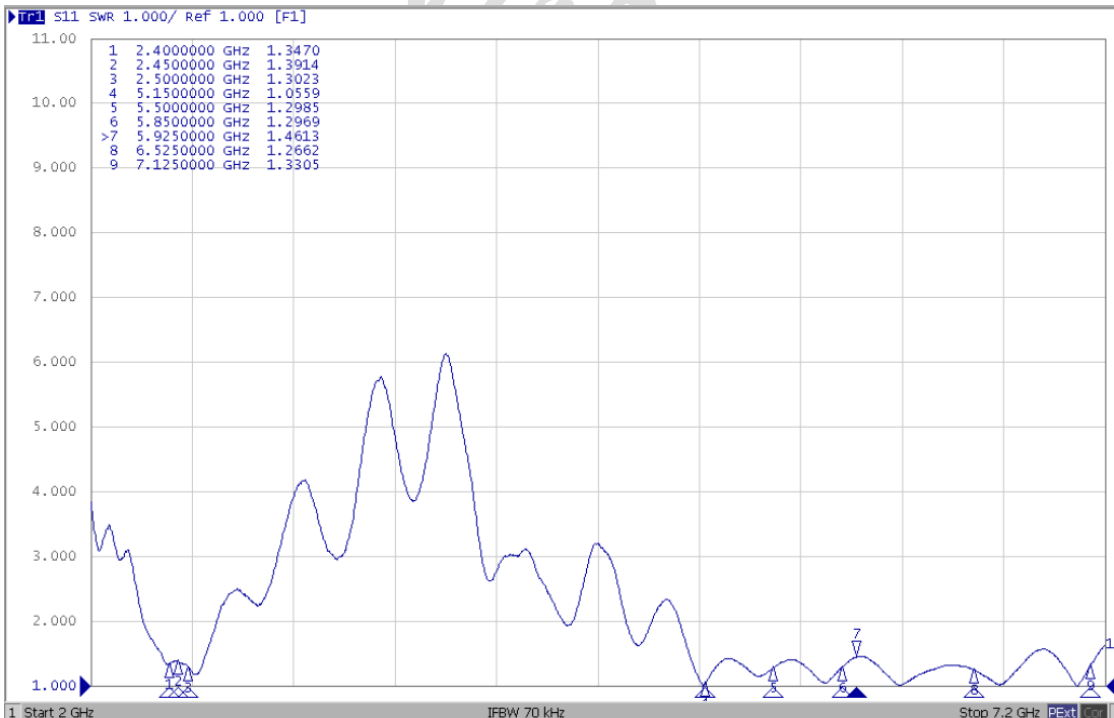
P/NO: BTEAWT14136G0C1A02

Return Loss

S11



VSWR



Frequency(MHz)	2400	2450	2500
Efficiency(%)	73%	71%	72%
Peak Gain(dBi)	3.11	3.01	2.01
Frequency(MHz)	5150	5500	5850
Efficiency(%)	60%	65%	62%
Peak Gain(dBi)	2.27	2.12	2.81
Frequency(MHz)	5925	6525	7125
Efficiency(%)	65%	63%	61%
Peak Gain(dBi)	2.35	2.55	2.74

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# Cable UL

2021/1/27

AVLV2.E349435 - Appliance Wiring Material - Component | UL Product iQ

UL Product iQ™



## AVLV2.E349435 - Appliance Wiring Material - Component

### Appliance Wiring Material - Component

[See General Information for Appliance Wiring Material - Component](#)

**JIANGYIN KAIBO COMMUNICATION TECHNOLOGY CO LTD**

No.83 Dong Ding Rd. Mountain View Town  
Jiangyin, Jiangsu 214400 CHINA

E349435

Table of Recognized Styles

Single-conductor, thermoplastic insulation.							
<a href="#">1007</a>	<a href="#">1061</a>	<a href="#">1569</a>	<a href="#">10064</a>	<a href="#">10304</a>	<a href="#">10369</a>	<a href="#">11149</a>	
<a href="#">1015</a>	<a href="#">1354</a>	<a href="#">1571</a>	<a href="#">10248</a>	<a href="#">10368</a>	<a href="#">10871</a>	<a href="#">11180</a>	
Single-conductor, thermoset insulation.							
<a href="#">3302</a>	<a href="#">3385</a>	<a href="#">3386</a>	<a href="#">3619</a>				

Marking: Company name, voltage rating, temperature rating, conductor size, conductor material if other than copper, and use.

[Last Updated](#) on 2021-01-15

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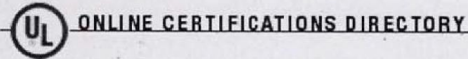
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# Connector UL PTFE

QMFZ2.E252343 - Plastics - Component

http://database.ul.com/cgi-bin/XYV/temp



## QMFZ2.E252343 Plastics - Component

For enhanced search functionality, please visit UL's [iQ™ Family of Databases](#).  
Click on a product designation for complete information.

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### Plastics - Component

[See General Information for Plastics - Component](#)

**DAIKIN FLUORO CHEMICALS (CHINA) CO LTD**  
CHANGSHU INTERNATIONAL  
CHEMICAL INDUSTRIAL PARK  
HAIYU TOWN  
CHANGSHU, JIANGSU 215522 CHINA

E252343

									H	D	
		Min.		H	H	R T I			V	4	C
		Thk	Flame	W	A	Elec	Mech		T	9	T
Material Dsg	Color	mm	Class	I	I		Imp	Str	R	5	I
<b>Polytetrafluoroethylene (PTFE), furnished as pellets.</b>											
F-208H	NC	0.81	V-0	-	-	180	180	180	-	-	-
		1.6-1.76	V-0	-	-	180	180	180			
M-139	NC	0.81	V-0	-	-	180	180	180	-	-	-
		1.40-1.54	V-0	-	-	180	180	180			
<b>Polytetrafluoroethylene (PTFE), furnished as powder.</b>											
F-201	NC	0.81	V-0	-	-	180	180	180	-	-	-
		1.6	V-0	-	-	180	180	180			
M-18	NC	0.81	V-0	-	-	180	180	180	-	-	-
		1.6	V-0	-	-	180	180	180			
M-18F	NC	0.81	V-0	-	-	180	180	180	-	-	-
		1.6	V-0	-	-	180	180	180			
RMS574	NC	0.81	V-0	-	-	180	180	180	-	-	-
		1.6	V-0	-	-	180	180	180			
<b>Polytetrafluoroethylene (PTFE).</b>											
F-104	NC	0.81-1.8	V-0	-	-	180	180	180	-	-	-
F-108	NC	0.81-1.8	V-0	-	-	180	180	180	-	-	-
F-208	NC	0.81-1.8	V-0	-	-	180	180	180	-	-	-
F-303	NC	0.81-1.8	V-0	-	-	180	180	180	-	-	-

Marking: Company name and material designation on container, wrapper or finished part.

[Last Updated](#) on 2015-07-30

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# Connector UL POM



Component - Plastics  
File Number: E45034

POLYPLASTICS CO LTD  
18-1 KONAN, 2-CHOME, MINATO-KU TOKYO 108-8280 JP



DURACON: M25-44(r5), M90-44(r5), M140-44(r5), M270-44(r5), M450-44(r5)

Acetal "Polyoxymethylene" (POM), pellets

(r5) - Virgin and Re grind from 1 to 100% by weight inclusive have the same basic material characteristics except for the RTI's are 50C for all three properties for Re grind from 26 - 100%

Flammability	Value	Test Method
Flame Rating		UL 94
0.75 mm, ALL	HB	
1.5 mm, ALL	HB	
3.0 mm, ALL	HB	
Flammability Classification		IEC 60695-11-10, -20
3.0 mm, ALL	HB40	
0.75 mm, ALL	HB75	
1.5 mm, ALL	HB75	
Electrical	Value	Test Method
Hot-wire Ignition (HWI)		UL 746
0.75 mm	PLC 4	
1.5 mm	PLC 4	
3.0 mm	PLC 3	
High Amp Arc Ignition (HAI)		UL 746
0.75 mm	PLC 0	
1.5 mm	PLC 0	
3.0 mm	PLC 0	
Comparative Tracking Index (CTI)	PLC 0	UL 746
Dielectric Strength	29 kV/mm	ASTM D149
High Voltage Arc Tracking Rate (HVTR)	PLC 0	UL 746
Volume Resistivity	1.0E+15 ohms-cm	ASTM D257
Volume Resistivity	1.0E+15 ohms-cm	IEC 60093
Arc Resistance	PLC 5	ASTM D495
Electric Strength	29 kV/mm	IEC 60243-1
Thermal	Value	Test Method
RTI Elec		UL 746
0.75 mm	110 °C	
1.5 mm	110 °C	
3.0 mm	110 °C	
RTI Imp		UL 746
0.75 mm	95.0 °C	
1.5 mm	95.0 °C	
3.0 mm	95.0 °C	
RTI Str		UL 746
0.75 mm	100 °C	
1.5 mm	100 °C	
3.0 mm	100 °C	
Physical	Value	Test Method
Dimensional Stability	0.0 %	ASTM D1042



Physical	Value	Test Method
Dimensional Stability	0.0 %	ISO 2796

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# Cover UL ABS



**Component - Plastics**  
File Number: E56070

CHI MEI CORPORATION  
59-1 SAN CHIA, JEN TE, TAINAN 717 TW



**Polylac: PA-757(+)**

Acrylonitrile Butadiene Styrene (ABS), pellets

(+) - Optional prefix or suffix; may be used to denote usage of 0-0.5 percent acid scavengers. For PC-110(+). Optional the suffix except L, N, U, V, T, and F. For Grades PC-6015(+), PB-1202(+). Maybe none or replace by one alphabet to indicate the color.

Flammability	Value	Test Method
Flame Rating		
1.50 mm, ALL	HB	UL 94
3.00 mm, ALL	HB	UL 94
3.00 mm, ALL	HB40	IEC 60695-11-10, -20
1.50 mm, ALL	HB75	IEC 60695-11-10, -20
Electrical	Value	Test Method
Hot wire Ignition (HWI)		UL 746
1.50 mm	PLC 4	
3.00 mm	PLC 3	
High Amp Arc Ignition (HAI)		UL 746
1.50 mm	PLC 0	
3.00 mm	PLC 0	
Comparative Tracking Index (CTI)	PLC 0	UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 1	UL 746
Arc Resistance	PLC 7	ASTM D495
Thermal	Value	Test Method
RTI Elec		UL 746
1.50 mm	85.0 °C	
3.00 mm	85.0 °C	
RTI Imp		UL 746
1.50 mm	80.0 °C	
3.00 mm	80.0 °C	
RTI St		UL 746
1.50 mm	85.0 °C	
3.00 mm	85.0 °C	

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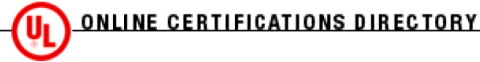


# IPEX UL

QMFZ2 Component - Plastics		Wednesday, September 14, 2005					E107536			
SHINKONG SYNTHETIC FIBERS CORP 223 YEN PING RD SEC 3 PIN CHENG TAOYUAN HSIEN 324 TW										
Material Designation: <b>A724</b>										
Product Description: Polybutylene Terephthalate/Polycarbonate (PBT/PC), furnished as pellets.										
Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI	
NC	0.8	HB	4	1	75	75	75	-	-	
	1.6	HB	4	1	75	75	75	-	-	
	3.2	HB	2	1	75	75	75	-	-	
CTI: -	IEC CTI (V): -	HVTR: 2			D495: -			IEC Ball Pressure (°C): -		
Dielectric Strength (kV/mm): 38		Volume Resistivity (10 <sup>9</sup> ohm-cm): 17					Dimensional Stability(%): -			
ISO Tensile Strength (MPa): -		ISO Flexural Strength (MPa): -					ISO Heat Deflection (°C): -			
ISO Tensile Impact (kJ/m <sup>2</sup> ): -		ISO Izod Impact (kJ/m <sup>2</sup> ): -					ISO Charpy Impact (kJ/m <sup>2</sup> ): -			
Report Date: 4/6/1992		Underwriters Laboratories Inc®								
UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.										



# PCB UL



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### ZPMV2.E327405 Wiring, Printed - Component

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### Wiring, Printed - Component

[See General Information for Wiring, Printed - Component](#)

HUNG HING ELECTRONICS CO LTD  
ROOM 1801, 18TH FL, TREASURE CENTRE  
42 HUNG TO RD  
KWUN TONG, KOWLOON HONG KONG

E327405

Cond Width				Max		Max					
	Min	Cond	SS/	Area	Solder	Oper		Meets	C		
	Min	Edge	Thk	DS/	Diam	Limits	Temp	Flame	UL796	T	
Type	mm(in)	mm(in)	mic(mil)	DS0	mm(in)	C	sec	C	Class	DSR	I
Single layer printed wiring boards.											
HH-02;HF-02A (#)											
	0.16 (0.006)	0.22 (0.009)	34 (1.34)	SS	25.4 (1.0)	260	10	130	V-0	All	-
HH-03;HF-07A											
	0.10 (0.004)	0.15 (0.006)	34 (1.34)	DS	25.4 (1.0)	280	10	130	V-0	All	-
HH-	0.10 (0.004)	0.15 (0.006)	17 (0.67)	DS	50.8 (2.0)	280	10	130	V-0	▲	-



TABLE II - BASE MATERIALS

Type	Base Material &			Min. Thk. (mm)	Min. Copper Thk. (mics)	SS/ DS <sup>@</sup>	PWB Mfg. Process	Meets UL 746E DSR	CTI (PLC)
	UL/ ANSI Grade	Mfr +	Grade						
HH-02; HF-02A	FR-1	SJ	ZD-90F	0.80	34	SS	A	Yes	-
	FR-1	KB	KB-3151C	0.80	34	SS	A	Yes	-
	FR-1	KB	KB-3152	0.80	34	SS	A	Yes	-
	FR-1	CC	CCP-3400	0.80	34	SS	A	Yes	-
	FR-1	CC	CCP-6400	0.80	34	SS	A	Yes	-
	FR-1	DS	DS-1108	0.80	34	SS	A	Yes	-
HH-03; HF-07A; HF-08	CEM-1	SJ	ZD-95(G)F	0.63	34	DS	B	Yes	-
	CEM-1	KB	KB-5150	0.63	34	DS	B	Yes	-
	CEM-3	KB	KB-7152	0.63	34	DS	B	Yes	-
HH-05	FR-4	NH	NHL-4806	0.38	17	DS	B	-	-
	FR-4	KB	KB-6160, KB-6164, KB-6167	0.38	17	DS	B	Yes	-
	FR-4	GM	ILM-R1, GEM-R1##	0.38	17	DS	B	Yes	-

& - Recognized Component, Industrial Laminate (QMTS2)

@ - SS - Single Sided; DS - Double Sided or Single Sided

+ - SJ: Shandong Jinbao (E141940); NH: Nam Hing (E74035);  
KB: Kingboard (E123995); CC: Chang Chun (E108591);  
DS: Doosan (E103670); GM: Goldenmax (E224772)