



奇力新公司簡介/電感介紹

Inductor/Arvin

2021/1

Chilisin Group Milestone

1972



成立時間

- 台灣上市
- 成立東莞廠

~2001



業務拓展

~2016



全球布局

- 成立越南廠
- 設立海外辦事處: 美國, 馬來西亞 & 新加坡.

~2020

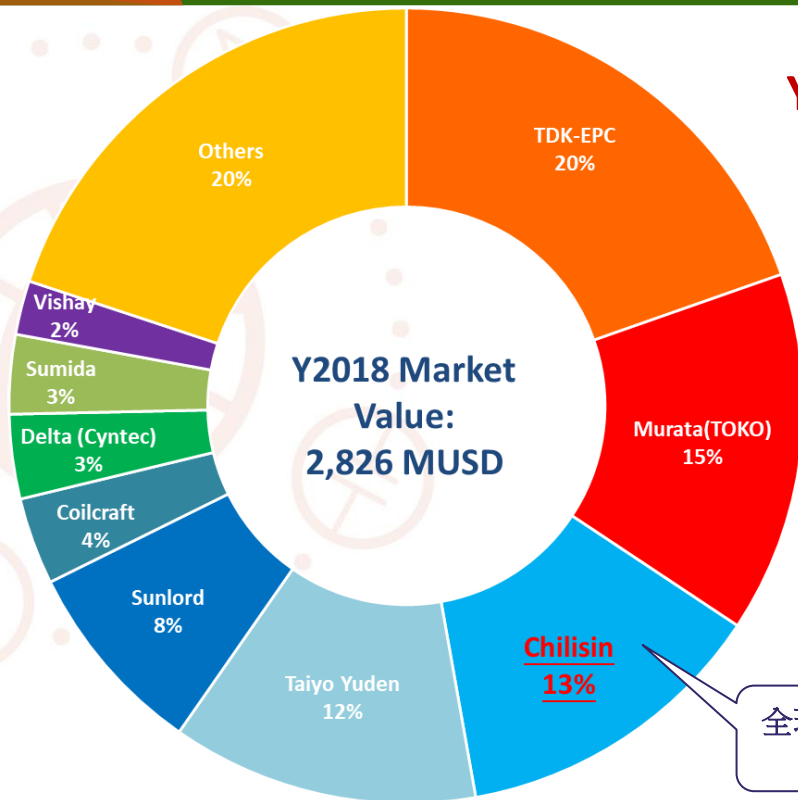


被動元件解決方案供應商

- 併購:
 - 信源電子.(2019)
 - 美磊 & 美築(2018)
- 成立集團 生產於湖南, 越南

Inductor Market Share

Y2019: 537MUSD



全球第3

Source:
Paumanok (2019)

专门针对被动组件产业做市调,也是全球顶尖的市调公司

旗艦工廠1、越南海防



地点: 越南 (海防市)

成立: 2016年

资本额: 5,500万美金

工厂面积 35,000m²

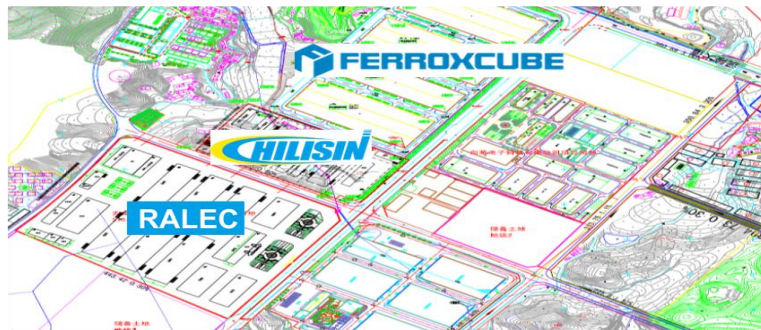
认证: ISO 9001/ISO 14001/1ATF16949

工厂面积: 24,365m²

生产产品

- SMD 叠层电感/磁珠
- 绕线高频电感.
- 一体成型电感
- 磁芯

旗艦工廠2、湖南沅陵



地点: 中国 湖南

成立: 2017年

资本额: 6,900万美金

工厂面积: 1200亩

认证: ISO 9001/ISO 14001/1ATF16949

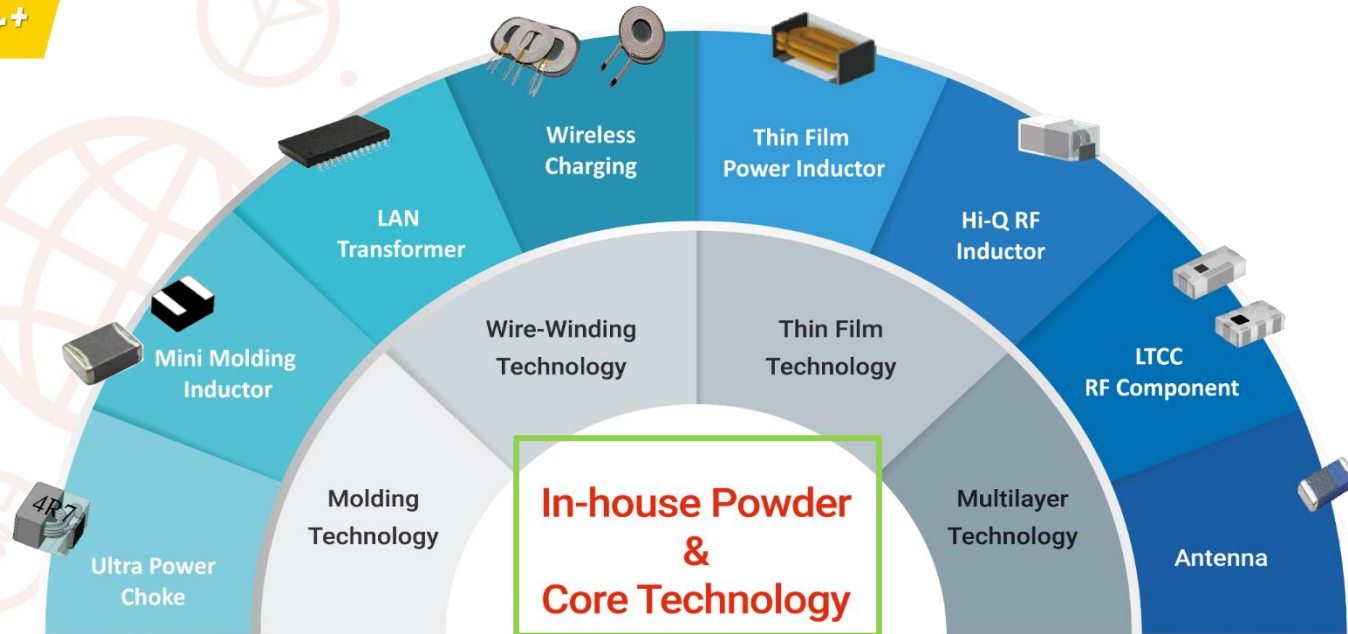
产品:

- 绕线类电感
- 一体成型电感
- 组合式大电流产品

Total Solution Provider – Inductor Plus

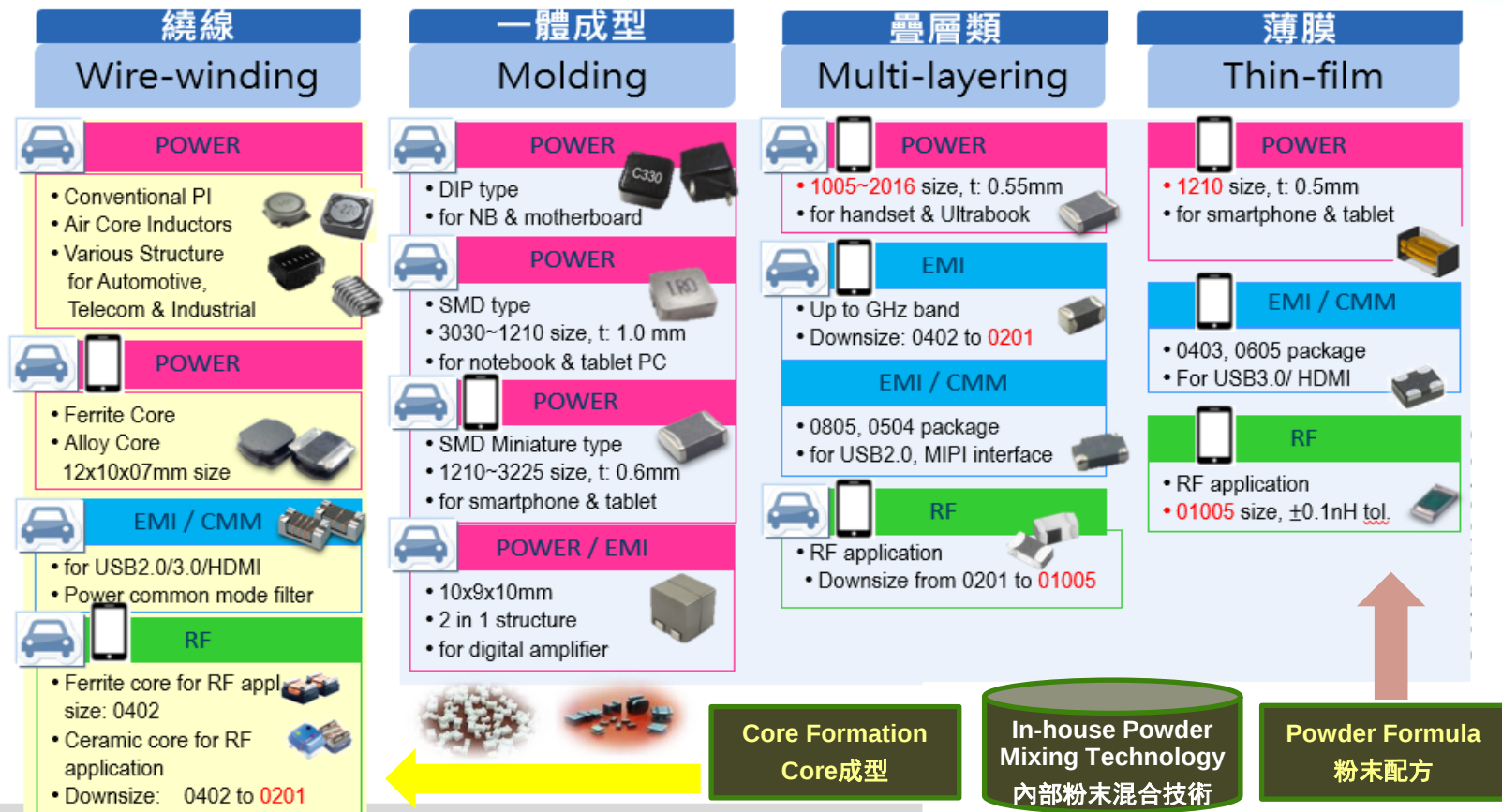


Inductor⁺

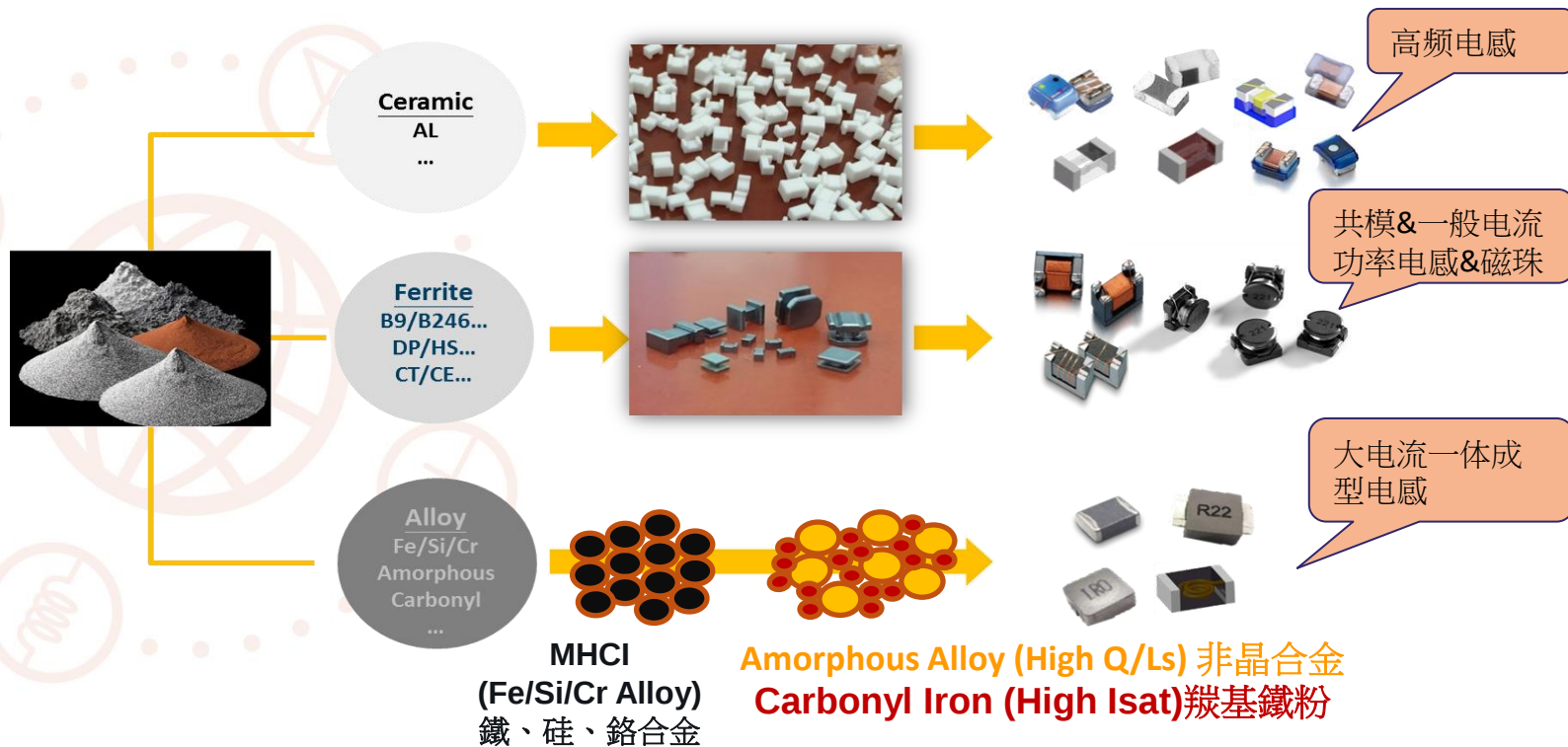


MAG.LAYERS
Scientific Technics Co., Ltd

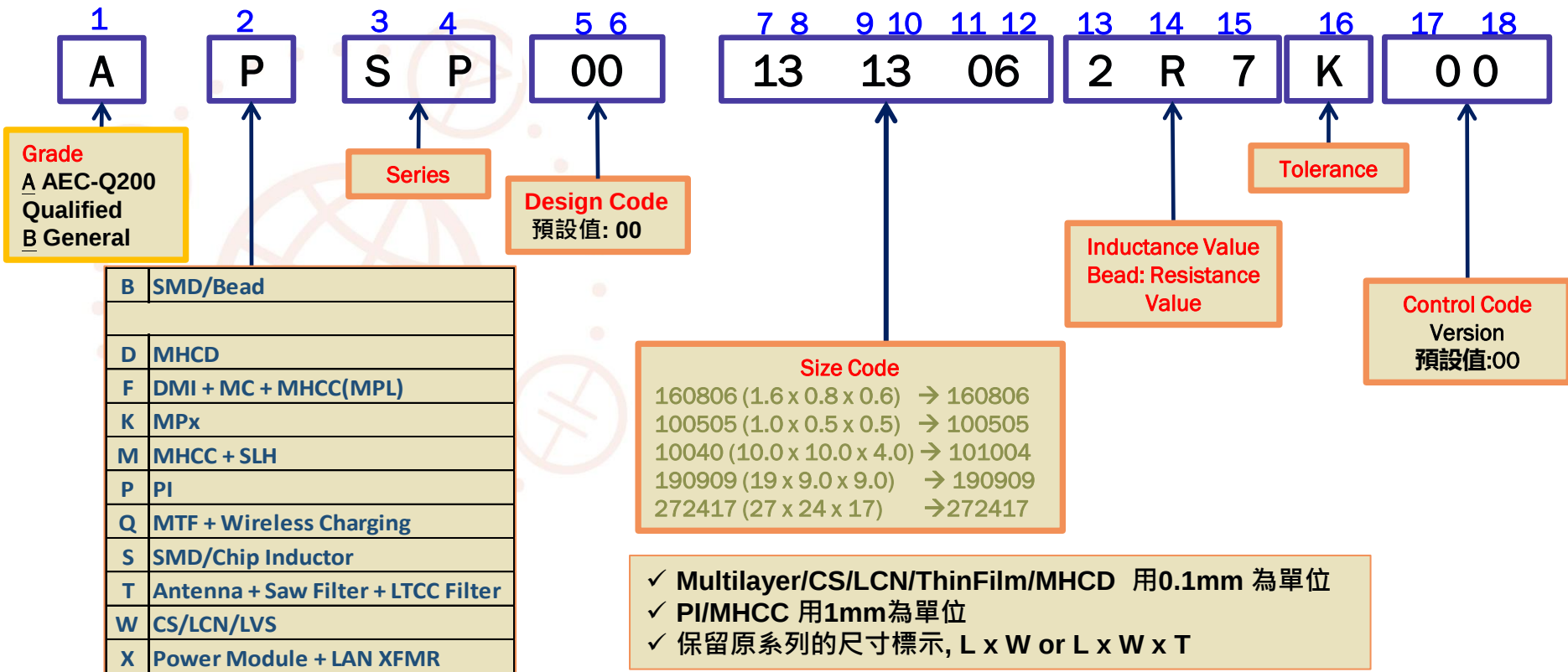
Total Solution Process



电感粉末材料&铁芯 (CORE)



奇力新電感料號命名規則



常规电感尺寸认识

Code(mm)	Dimension(mm)	公規	EIA(Inch)英寸
0603	0.6X0.3		0201
1005	1.0X0.5		0402
1608	1.6X0.8		0603
2012	2.0X1.2		0805
2520	2.5X2.0		1008
3216	3.2X1.6		1206
3225	3.2X2.5		1210
4516	4.5X1.6		1806
4532	4.5X3.2		1812
5750	5.7X5.0		2220

常规电感感值公差认识

Letter

Tolerance

B

$\pm 0.1\text{nH}$

C

$\pm 0.2\text{nH}$

S

$\pm 0.3\text{nH}$

F

$\pm 1\%$

G

$\pm 2\%$

H

$\pm 3\%$

J

$\pm 5\%$

K

$\pm 10\%$

M

$\pm 20\%$

Y

$\pm 25\%$

T

$\pm 30\%$

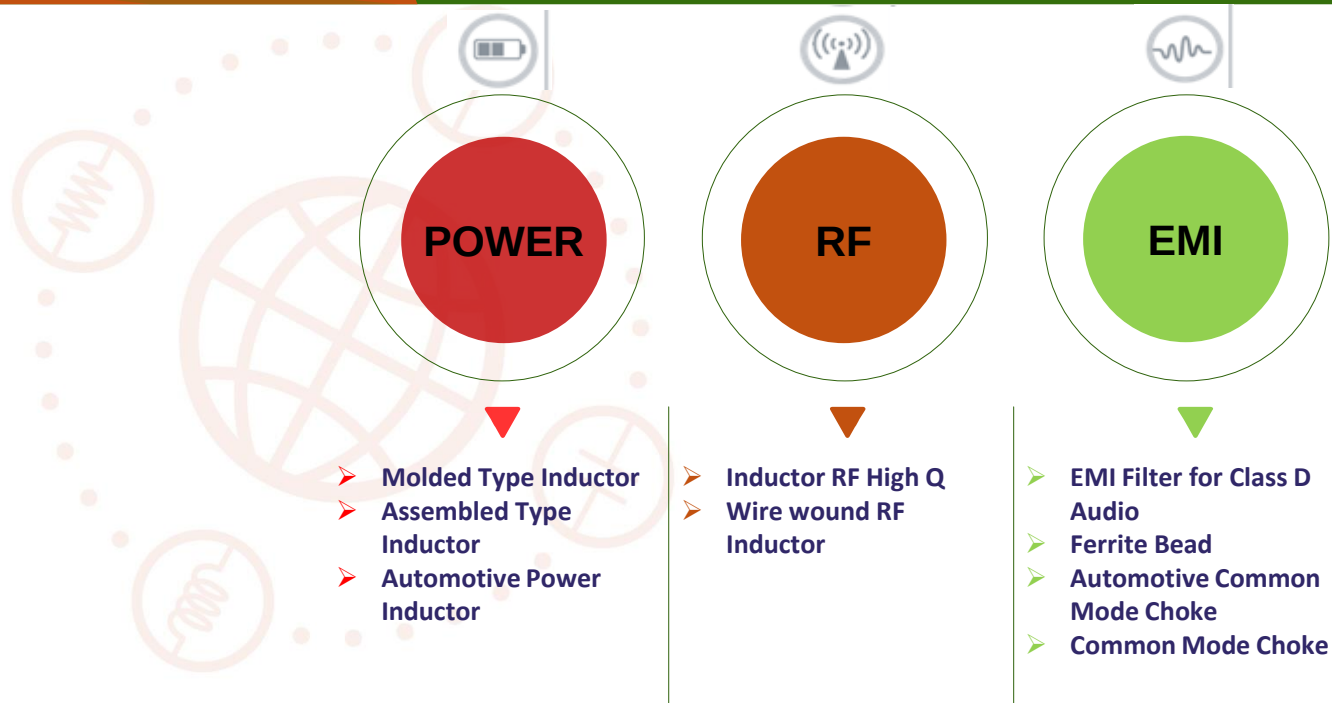
RF電感

Power電感

EMI磁珠

Power電感

Passive Total Solution Provider



Wire-wound Inductor Process

繞線

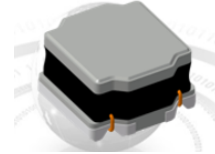
Wire-winding



POWER

- Conventional PI
- Air Core Inductors
- Various Structure for Automotive, Telecom & Industrial

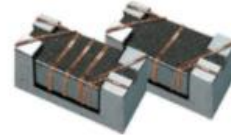
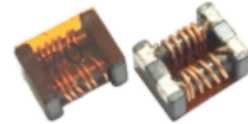
Power(電源)



POWER

- Ferrite Core
- Alloy Core
- 12x10x07mm size

EMI(防干擾)



EMI / CMM

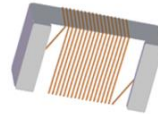
- for USB2.0/3.0/HDMI
- Power common mode filter



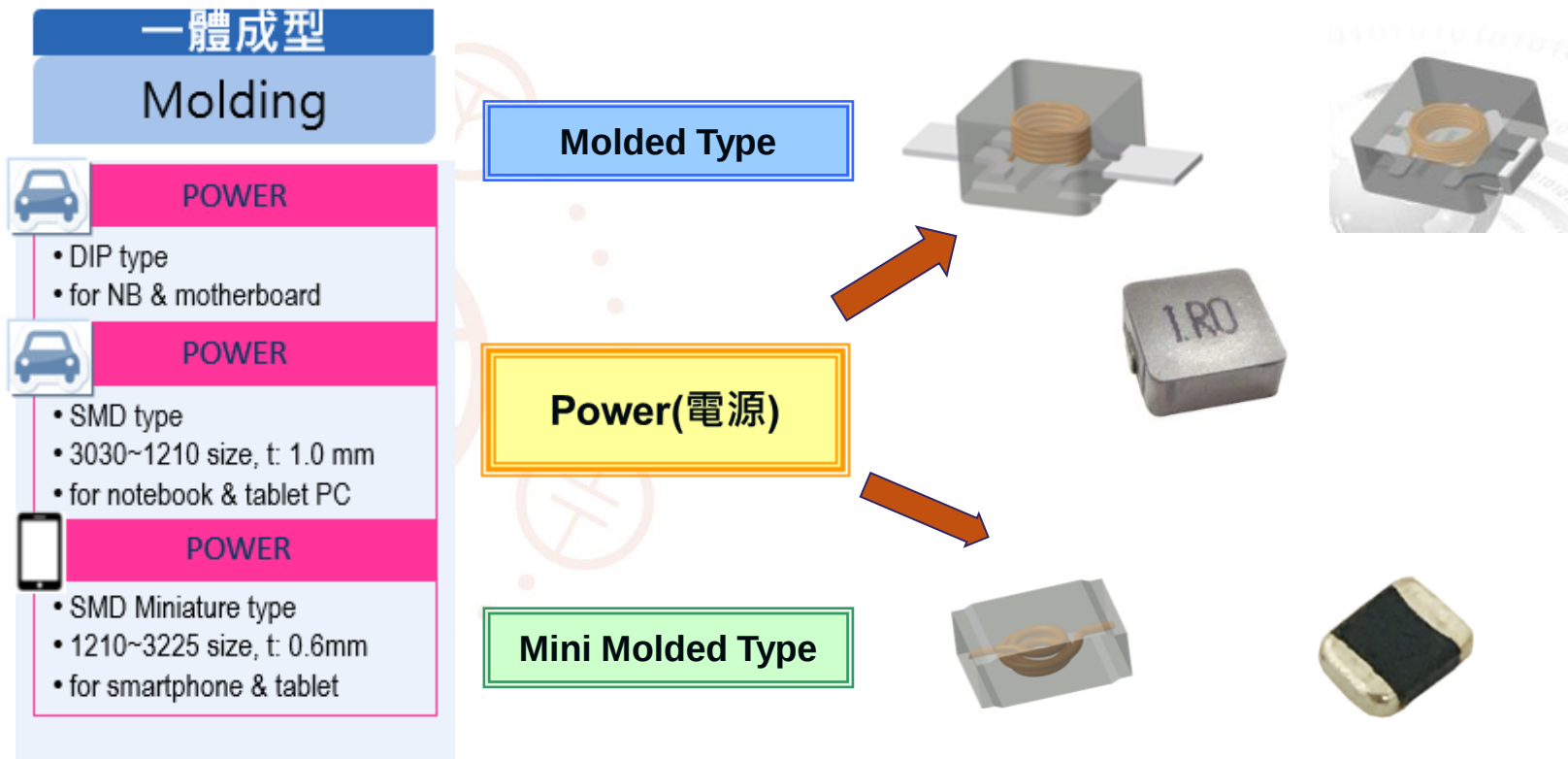
RF

- Ferrite core for RF application size: 0402
- Ceramic core for RF application
- Downsize: 0402 to 0201

RF(訊號)



Molded Power Inductor Process



Multilayer Chip Inductor/Bead Process

疊層類

Multi-layering



POWER

- 1005~2016 size, t: 0.55mm
- for handset & Ultrabook



EMI

- Up to GHz band
- Downsize: 0402 to 0201



RF

- RF application
- Downsize from 0201

Power(電源)

EMI(防干擾)

RF(訊號)



Code(mm)	Dimension(mm)	EIA(Inch)
1608	1.6X0.8	0603
2012	2.0X1.2	0805
2520	2.5X2.0	1008



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4516	4.5X1.6	1806



High
Frequency
(High-Q)

WIRE-WOUND INDUCTOR CROSSING (CERAMIC)

Size	Chilisin	Coilcraft	Murata	Sunlord
1812	BWCS00493834	1812CS		SDWL4532C
1008	BWCS00292821	1008CS		SDWL2520C
	BWHQ00302821	1008HQ		
0805	BWCS00231715	0805CS	LQW2BAS_00	SDWL2012C
	BWHQ00231816	0805HQ		
	BWCT00231711	0805HT		
	BWHP00231715	0805HP		SDWL2012CP
0603	BWCS00161008	0603CS	LQW18AS_00	SDWL1608C-N01
	BWHC00181210	0603HC		
	BWHP00161008	0603HP		SDWL1608CP
	BWCM00161008		LQW18AN_00	SDWL1608C-M
	BWPM00161108		LQW18AN_10	
0402	BWCS00120707	0402CS		MWSD1005C
	BWHP00110706	0402HP		SDWL1005CP
	BWCM00110605		LQW15AN_00	
0201	BWCS00060404	0201DS		
	BWCM00060404		LQW03AW_00	

RF MULTILAYER CHIP INDUCTOR CROSS REF

Sizes	Chilisin	Murata	TDK	Taiyo Yuden	Sunlord
0603	BSCH060303>22N	LQP03TN>22N	MLG0603S	HK0603	SDCL0603Q
	BSCQ060303≤22N	LQP03TN≤22N	MLG0603P≤22N	HKQ0603U	SDCL0603Q
	BSPQ060304≤22N (Q≥20)	LQP03HQ (Q≥20)	MHQ0603P (Q≥16)	HKQ0603W (Q≥15)	HQ0603Q
1005	BSCH100505≤R27J	LQG15HS	MLG1005S	HK1005	SDCL1005C
1608	BSCH160808≤R39J	LQG18HN	MLG1608S	HK1608	SDCL1608C

COMPETITION SPECIFICATIONS

Molding				
Size	Chilisin	TDK	Murata	Cyntec
0420	BMRA00040412	SPM0412T	FDSD0412-H	CMLB041B
	BMRA00040415	SPM0415T	FDSD0415-H	/
	BMRA00040420	SPM0420T	FDSD0420-H	CMLE042T
0503	BMRB00050512	SPM5012	FDSD0512	CMLE051B
	BMRB00050515	SPM5012	FDSD0515	/
	BMRB00050518		FDSD0518	CMLB051H
	BMRB00050520	SPM5020	/	/
	BMRB00050530	SPM5030	/	/
0603	BMRB00060612	/	/	HBLE061B
	BMRB00060615	/	/	HBLE061E
	BMRB00060618	/	/	CMLB061H
	BMRB00060624	/	/	/
	BMRB00060630	SPM6530	FDSD0630	CMLE063T
	BMRB00060650	SPM6550	/	CMLB065T
1040	BMRF00101040	SPM10040	/	CMLB104T
1206	BMRF00131350	/	/	CMLB135T
	BMRF00131360	SPM12565XT	/	CMLB136T

COMPETITION SPECIFICATIONS

Min-Molding				
Size	Chilisin	TDK	Murata	Cyntec
0603	BDHE00160808	TFM160808ALC	/	HTEH16080H
0805	BDHE00201210	/	DFE201210U	HMLQ20121T
0806	BDCD00201610	/	DFE201610P	/
	BDHE00201610	TFM201610GHM	DFE201610E	HMLQ20161T
	BDCD00201612	DFE201612P	/	VCUW20161B
	BDHE00201612	DFE201612E	/	VCTA20161B
1008	BDHE00252010	/	DFE252010P	HMLQ25201T
	BDCD00252010	/	DFE252010F	/
	BDHE00252012	/	DFE252012P	HMLQ25201B
	BDCD00252012	/	DFE252012F	/
1210	BDHE00322510	/	/	/
	BDHE00322512	TFM322512ALM	DFE322512F	HMLQ32251B
	BDHE00322525	/	DFE322520FD	/

奇力新MOLDING電感優勢

1、Core Materials

- Core材：自主研發生產，可持續升級以獲得高電流能力及高熱穩定性

2、Wide selection of package sizes

- 多種包裝尺寸可供選擇：小尺寸一體成型：3.2x2.5mm - 1.6x0.8mm；
大尺寸一體成型：4x4mm - 17x17mm

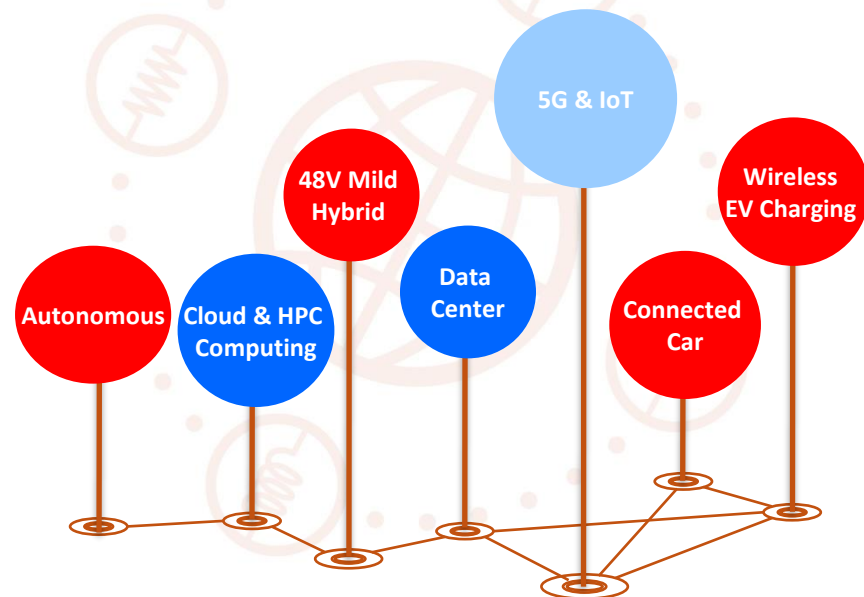
3、Automotive Grade Available

- 汽車級應用：符合AEC-Q200標準；工作溫度：-55~155℃

4、Large production capacities

- 產能強大：在中國，越南都有工廠，是全球最大的一體成型電感供應商

Market Trend.....



Automotive Electronics

- PHY (CMM)
- 48V mild hybrid
- ECU
- EV Charging
- Lighting
- Infotainment
- ADAS
- ...



Networking/Datacenter

- V-core (power bead)
- Memory (DDR5)
- WIFI 6
- NB-IOT
- 5G
- Connected Car



Handheld/Wearable Devices

- 5G phone
- Watch
- Tablet
- Smart Speaker
- TWS
- Wireless Charging
- ...

汽车电子



Autonomous

ADAS Camera, Radar,
Ultrasound & LiDAR
Autonomous Driving
AI Training & Inference



Conected

DSRC
(Dedicated Short Range
Communication)
C-V2X
(Cellular Vehicle-to-
Everything)



Electrified

EV, HEV, PHEV & BEV
EVSE
(EV Supply Equipment)



Shared

Sharing Platform,
Shared mobility services
and robo-taxis via phone,
Customized drive
experience

零组件特性要求:

高可靠度 & 使用寿命长, 奈恶劣环境, 低损耗, 高性能, 抗高电压, 抗电磁波干扰

奇力新(汽车电子解决方案)

车身电子Body Electronics

- RF Inductor
- Power Inductor
- EMI Bead
- Common Mode Choke

通讯传输设备GPS/DVBT/BT/WiFi/FM/GSM

- RF Inductor

车联网Ethernet Phy

- RF Inductor
- Power Inductor
- EMI Bead
- Common Mode Choke

Powertrain动力系统

- Common Mode Choke
- Power Inductor

多媒体 Infotainment

- RF Inductor
- Power Inductor
- EMI Bead
- Common Mode Choke

ADAS驾驶辅助系统

- Power Inductor
- RF Inductor
- EMI Bead
- Common Mode Choke

电脑控制模组ECU

- Power Inductor
- Common Mode Choke

车灯Lighting

- RF Inductor
- Power Inductor
- EMI Bead

奇力新(數據中心解決方案)

直流转换DC-DC Converter

- Power Inductor/Molding
- Power Inductor/Wire-Winding
- Power Inductor/Multilayer

信号端 EMI Filter for Signal

- RF Inductor/Multilayer
- RF Inductor/Wire-Winding

电源端的 EMI Filter for Power

- EMI/Bead

中央处理器 V core / CPU

- Power Inductor/Wire-Winding



影像传出HDMI/DVI/Analog RGB

- EMI/CMM

48v 二级系统(谐振电路) 2-STAGE SYSTEM (LC TANK)

- Power Inductor/Wire-Winding

传输接口USB3.0/IEEE1394/LAN Interface

- EMI/CMM



TWS耳機



For Apple
公模版



功能 Function	品牌 Brand	品名PN/ 系列 Series
耳機主控芯片	中國BES 恆玄科技	BES2000IZ
耳機升降壓電感	CHILISIN	LD、LS0603/LD0805 Series
充電盒 Boost	CHILISIN	LVF3030 Series-2.2/3.3uH



客製化
私模版



功能 Function	品牌 Brand	品名PN/ 系列 Series
耳機主控芯片	絡達科技	AB1526
耳機升降壓電感	CHILISIN	LD、LS0603/LD0805 Series
充電盒 Boost	CHILISIN	LVF3030 Series-2.2/3.3uH

电脑

Vcore (CPU)

Molding

(BMRx)

Multilayer

(BBPY)



South Bridge

Multilayer

(BBPY)



Video Chip

Multilayer

(BBUP)



RF / Wireless LAN

Multilayer

(BBNQ/BKPX/BSCL)

Wire-Winding

(BWCS)



(BSCH/BSCQ)



DC-DC Converter

Molding

(BMRx)



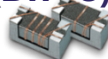
Multilayer

(BBPY)



Wire-Winding

(BPSC) (BWCU)



LCD Backlight

Wire-Winding

(BWVx)

(BPSD)

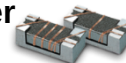


HDMI/DVI/Analog RGB

/LVDS Transceiver

Wire-Winding

(BWCU)



USB3.0/IEEE1394/

LAN Interface

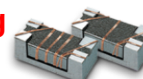
Multilayer

(BBPY)



Wire-Winding

(BWCU)



RF Circuit (LTE/GPS/4、5G/WiFi/BT)

Multilayer RF Inductor / Bead

(BWCM/BWCS)

(BSCQ)



(BBNQ/BBSJ/BBFJ)



Camera Unit

Multilayer Bead

(BSCL, BBSY, BKPb)



Back Lighting

Wire-Winding Inductor

(BWMF)



(BWMR)



DC-DC Converter

Molding Power Inductor

(BDHE/BDCD)



Wire-Winding Power Inductor

(BWMx)



Analog TV & Audio Circuit

Multilayer

(BSCQ)



Wire-Winding RF Inductor

(BWCS/BWCM)



(BWLS)



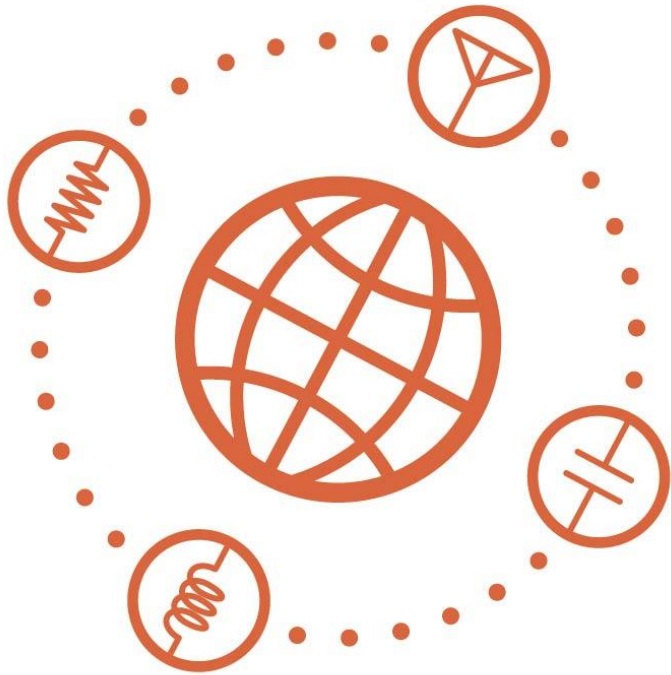
Wire-Winding EMI Filter

(BWCU)



产能状况

Category	Product Type	2021 Capacity	Unit
Inductor	Multilayer 	3,000	Mpcs /M
	Wire-winding 	360	
	Molding 	880	
	Thin Film 	250	
	Through-Hole 	100	



Thank you!