

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

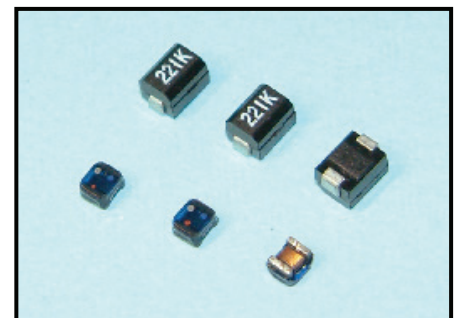
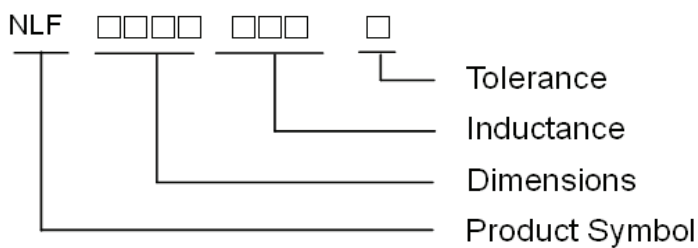
### Features:

- 1.Utilizing a miniaturized winding structure.
- 2.These products provide higher Q characteristics.
- 3.Low DC resistance design is ideal for low loss.
- 4.RoHS compliant.

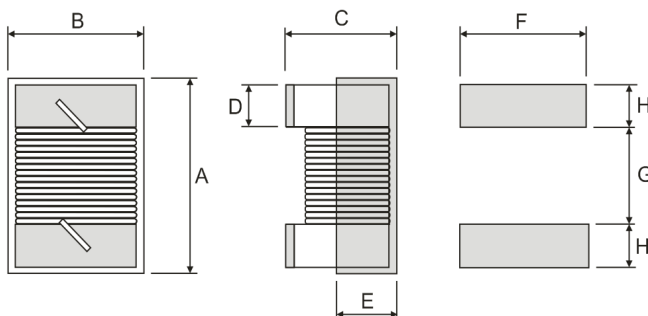
### Applications:

- 1.Personal computers,Hard disk drives.
- 2.xDSL modem and Cable modem.
- 3.Digital camera and other electronic equipment.

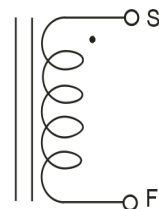
### Product Identification :



### Shape and Dimension



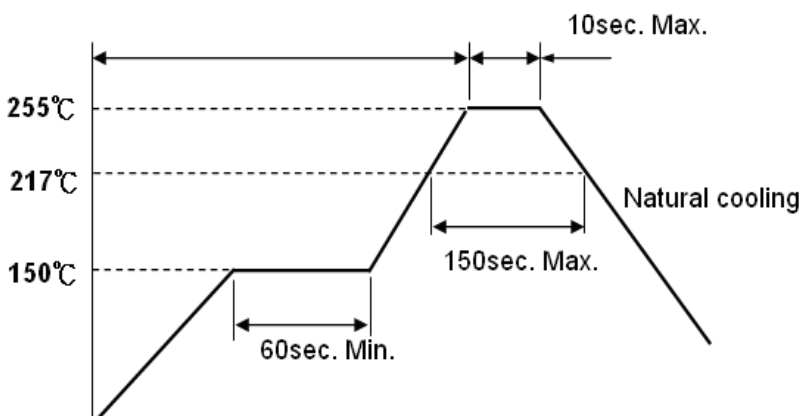
### Schematic



Dimensions in mm

TYPE	A(max)	B(max)	C(max)	D(ref)	E(ref)	F(mm)	G(mm)	H(mm)
NLF0805	2.40	1.65	1.30	0.44	0.65	1.78	0.76	1.02
NLF1008	2.90	2.54	2.06	0.50	1.30	2.54	1.27	1.02
NLF1210	3.60	2.90	2.40	0.50	1.10	2.70	2.00	1.20

### Recommended Reflow



## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

### 4 . Electrical Characteristics ( NLF0805 TYPE )

Part No.	Inductance	L/Q Test Freq.	Q	SRF	DCR	IDC	Tolerance	Color Code		
	(uH)	(MHZ)	Min.	(MHZ)Min.	(Ω)Max.	(mA)Max.	(±%)			
NLF0805-R12□	0.12	25/25	25	1000	0.18	1500	5,10	Violet		
NLF0805-R15□	0.15	25/25	25	1000	0.18	1400	5,10	Gray		
NLF0805-R18□	0.18	25/25	30	1000	0.20	1400	5,10	Black		
NLF0805-R22□	0.22	25/25	30	830	0.25	1350	5,10	Brown		
NLF0805-R27□	0.27	25/25	30	800	0.38	1300	5,10	Red		
NLF0805-R33□	0.33	25/25	30	750	0.35	1200	5,10	Orange		
NLF0805-R39□	0.39	25/25	30	700	0.35	1160	5,10	Yellow		
NLF0805-R47□	0.47	25/25	30	690	0.40	1100	5,10	Green		
NLF0805-R56□	0.56	25/25	30	640	0.40	1040	5,10	Blue		
NLF0805-R62□	0.62	25/25	30	640	0.45	980	5,10	Brown		
NLF0805-R68□	0.68	25/25	30	510	0.50	900	5,10	Violet		
NLF0805-R82□	0.82	25/25	30	500	0.50	900	5,10	Gray		
NLF0805-R91□	0.91	25/25	30	500	0.55	900	5,10	Yellow		
NLF0805-1R0□	1	7.9/7.9	20	470	0.60	840	5,10	White		
NLF0805-1R2□	1.2	7.9/7.9	20	400	0.75	800	5,10	Black		
NLF0805-1R5□	1.5	7.9/7.9	25	400	1.00	720	5,10	Brown		
NLF0805-1R8□	1.8	7.9/7.9	25	230	1.00	660	5,10	Red		
NLF0805-2R2□	2.2	7.9/7.9	25	200	1.05	600	5,10	Orange		
NLF0805-2R7□	2.7	7.9/7.9	25	130	1.18	500	5,10	Yellow		
NLF0805-3R3□	3.3	7.9/7.9	25	160	1.26	480	5,10	Green		
NLF0805-3R9□	3.9	7.9/7.9	25	130	1.75	440	5,10	Blue		
NLF0805-4R7□	4.7	7.9/7.9	25	120	1.87	390	5,10	Violet		
NLF0805-5R6□	5.6	7.9/7.9	25	90	2.00	340	5,10	Gray		
NLF0805-6R8□	6.8	7.9/7.9	25	55	2.15	300	5,10	White		
NLF0805-8R2□	8.2	7.9/7.9	25	40	2.37	280	5,10	Black		
NLF0805-100□	10	2.5/2.5	16	40	2.55	260	5,10	Brown		
NLF0805-120□	12	2.5/2.5	16	37	2.80	220	5,10	Red		
NLF0805-150□	15	2.5/2.5	16	30	3.80	200	5,10	Orange		
NLF0805-180□	18	2.5/2.5	16	23	4.48	180	5,10	Yellow		
NLF0805-220□	22	2.5/2.5	16	20	6.30	160	5,10	Green		
NLF0805-270□	27	2.5/2.5	16	19	6.85	140	5,10	Blue		
NLF0805-330□	33	2.5/2.5	16	18	7.60	120	5,10	Violet		

### Electrical Characteristics ( NLD1008 TYPE )

Part No.	Inductance	L/Q Test Freq.	Q	SRF	DCR	IDC	Tolerance	Color Code		
	(uH)	(MHZ)	Min.	(MHZ)Min.	(Ω)Max.	(mA)Max.	(±%)	1st	2nd	3rd
NLF1008-R22□	0.22	25/25	30	930	0.40	920	5,10	Red	Red	Brown
NLF1008-R56□	0.56	25/25	30	460	0.55	900	5,10	Green	Blue	Brown
NLF1008-R62□	0.62	25/25	30	460	0.55	900	5,10	Blue	Red	Brown
NLF1008-R68□	0.68	25/25	30	420	0.55	880	5,10	Blue	Gray	Brown

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

### Electrical Characteristics ( NLD1008 TYPE )

Part No.	Inductance	L/Q Test Freq.	Q	SRF	DCR	IDC	Tolerance	Color Code		
	(uH)	(MHZ)	Min.	(MHZ)Min.	(Ω)Max.	(mA)Max.	(±%)	1st	2nd	3rd
NLF1008-R75□	0.72	25/25	30	420	0.65	880	5,10	Violet	Green	Brown
NLF1008-R82□	0.82	25/25	30	380	0.65	840	5,10	Gray	Red	Brown
NLF1008-R91□	0.91	25/25	30	400	0.65	840	5,10	White	Brown	Brown
NLF1008-1R0□	1	7.9/7.9	25	300	0.72	800	5,10	Brown	Black	Red
NLF1008-1R2□	1.2	7.9/7.9	25	280	0.74	800	5,10	Brown	Red	Red
NLF1008-1R5□	1.5	7.9/7.9	25	245	0.85	780	5,10	Brown	Green	Red
NLF1008-1R8□	1.8	7.9/7.9	25	240	0.92	780	5,10	Brown	Gray	Red
NLF1008-2R2□	2.2	7.9/7.9	25	205	0.99	760	5,10	Red	Red	Red
NLF1008-2R7□	2.7	7.9/7.9	25	187	1.02	760	5,10	Red	Violet	Red
NLF1008-3R3□	3.3	7.9/7.9	25	165	1.37	740	5,10	Orgnge	Orgnge	Red
NLF1008-3R9□	3.9	7.9/7.9	25	144	1.66	700	5,10	Orgnge	White	Red
NLF1008-4R7□	4.7	7.9/7.9	25	110	1.68	660	5,10	Yellow	Violet	Red
NLF1008-5R6□	5.6	7.9/7.9	25	88	1.75	640	5,10	Green	Blue	Red
NLF1008-6R8□	6.8	7.9/7.9	25	70	1.85	640	5,10	Blue	Gray	Red
NLF1008-8R2□	8.2	7.9/7.9	25	57	2.00	600	5,10	Gray	Red	Red
NLF1008-100□	10	2.5/2.5	15	55	2.32	600	5,10	Brown	Black	Orange
NLF1008-120□	12	2.5/2.5	15	52	2.99	560	5,10	Brown	Red	Orange
NLF1008-150□	15	2.5/2.5	15	49	3.42	480	5,10	Brown	Green	Orange
NLF1008-180□	18	2.5/2.5	15	48	4.65	420	5,10	Brown	Gray	Orange
NLF1008-220□	22	2.5/2.5	15	25	5.12	420	5,10	Red	Red	Orange
NLF1008-270□	27	2.5/2.5	15	23	5.76	420	5,10	Red	Violet	Orange
NLF1008-330□	33	2.5/2.5	15	17	6.44	400	5,10	Orange	Orange	Orange
NLF1008-390□	39	2.5/2.5	15	15	6.85	380	5,10	Orange	White	Orange
NLF1008-470□	47	2.5/2.5	14	13	9.94	340	5,10	Yellow	Violet	Orange
NLF1008-560□	56	2.5/2.5	14	10	10.70	280	5,10	Green	Blue	Orange
NLF1008-680□	68	2.5/2.5	14	8	12.80	260	5,10	Blue	Gray	Orange
NLF1008-820□	82	2.5/2.5	14	8	18.30	240	5,10	Gray	Red	Orange
NLF1008-101□	100	1.0/1.0	8	7	19.60	200	5,10	Brown	Black	Yellow

### Electrical Characteristics ( NLD1210 TYPE )

Part No.	Inductance	L/Q Test Freq.	Q	SRF	DCR	IDC	Tolerance	Color Code		
	(uH)	(MHZ)	Min.	(MHZ)Min.	(Ω)Max.	(mA)Max.	(±%)	1st	2nd	3rd
NLF1210-1R8□	1.8	7.9/7.9	40	203	0.62	1000	5,10	Brown	Gray	Red
NLF1210-2R7□	2.7	7.9/7.9	40	200	0.65	1000	5,10	Red	Violet	Red
NLF1210-3R0□	3	7.9/7.9	40	180	0.78	800	5,10	Orange	Black	Red
NLF1210-3R3□	3.3	7.9/7.9	30	146	0.83	1200	5,10	Orange	Orange	Red
NLF1210-3R9□	3.9	7.9/7.9	30	139	1.74	900	5,10	Orange	White	Red
NLF1210-4R7□	4.7	7.9/7.9	35	124	1.90	800	5,10	Yellow	Violet	Red
NLF1210-5R6□	5.6	7.9/7.9	30	114	2.05	700	5,10	Green	Blue	Red
NLF1210-6R8□	6.8	7.9/7.9	30	109	1.37	450	5,10	Blue	Gray	Red

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

### Electrical Characteristics ( NLD1210 TYPE )

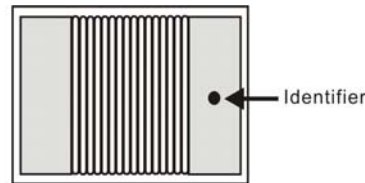
Part No.	Inductance	L/Q Test Freq.	Q	SRF	DCR	IDC	Tolerance	Color Code		
	(uH)	(MHZ)	Min.	(MHZ)Min.	(Ω)Max.	(mA)Max.	(±%)	1st	2nd	3rd
NLF1210-100□	10	2.5/2.5	23	90	1.70	590	5,10	Brown	Black	Orange
NLF1210-150□	15	2.5/2.5	25	67	2.22	340	5,10	Brown	Green	Orange
NLF1210-180□	18	2.5/2.5	25	57	2.42	330	5,10	Brown	Gray	Orange
NLF1210-220□	22	2.5/2.5	25	48	2.66	300	5,10	Red	Red	Orange
NLF1210-270□	27	2.5/2.5	25	38	2.99	250	5,10	Red	Violet	Orange
NLF1210-680□	68	2.5/2.5	23	15	4.50	340	5,10	Blue	Gray	Orange
NLF1210-820□	82	2.5/2.5	23	15	5.95	300	5,10	Gray	Red	Orange
NLF1210-101□	100	1.0/1.0	15	14	6.62	250	5,10	Brown	Black	Yellow
NLF1210-151□	150	1.0/1.0	15	11	8.29	135	5,10	Brown	Green	Yellow
NLF1210-221□	220	1.0/1.0	15	8	12.48	80	5,10	Red	Red	Yellow

**NOTE:**

1. Operating temperature range -25°C ~ 85°C
2. Idc for Inductance drop 10% from its value without current.
3. □Tolerance : J=±5% ; K=±10%
4. Color Coding System

**0603/0805/201614 Series**

Because of their small size, these parts are marked with a single color dot. The inductance value represented by the dot is shown on the data page for each series.



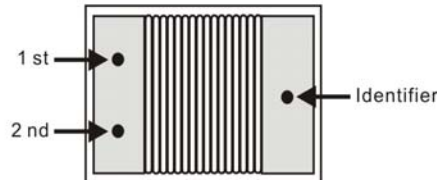
**1008/1206/252018/322522 Series**

These parts are marked with 3 color dots. The table at right side shows the significance of each color.

Dots 1 and 2 indicate the inductance in nanohenries.  
Dot 3 indicates the number of zeroes to be added.

0 = Black	5 = Green
1 = Brown	6 = Blue
2 = Red	7 = Violet
3 = Orange	8 = Gray
4 = Yellow	9 = White

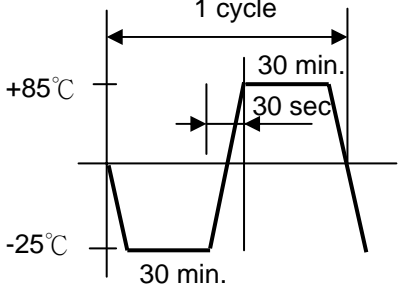
**Examples:**  
 Yellow, Violet, Black = 47nH  
 Yellow, Violet, Brown = 470nH  
 Yellow, Violet, Red = 4700nH  
 Brown, Black, Red = 1000nH



## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

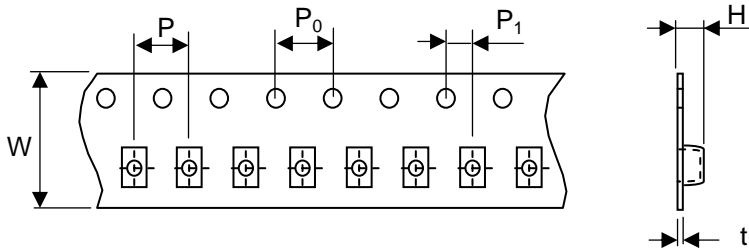
### 4. Reliability and Test Conditions(可靠性測試條件)

#### Environmental Performance

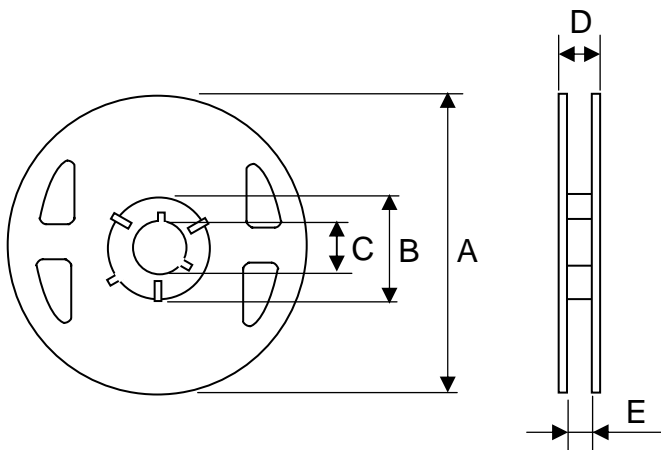
Item	Specification	Test Method
Solderability	The metalized area must have 90% minimum solder coverage.	Dip pads in flux and dip in solder pot( 96.5 Sn/3.5 Ag solder) at 255° C ±5°C.
Resistance to soldering heat	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be reflowed onto a PC board using 96.5 Sn/3.5 Ag solder paste. Solder process shall be at a maximum temperature of 260°C. For 96.5 Sn/3.5 Ag solder paste:>217°C for 90 seconds
Vibration	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Solder specimen inductor on the test printed circuit board. Apply vibrations in each of the x,y and z directions for 2 hours for a total of 6 hours. Frequency : 10~50 Hz Amplitude : 1.5mm
High temperature resistance	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature 85±2°C for 500±12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Static Humidity	Inductors must not have a shorted or open winding.	Inductors shall be subjected to temperature 85±2°C and 90 to 95%RH. for ten 24-hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Component adhesion(push test)	Inductors shall be subjected to 0.9Kg	Inductors shall be reflow soldered (255°C ±5°C for 10 seconds) to a tinned copper substrate. A force gauge shall be applied to the side of the component. The device must withstand the stated force without a failure of the termination.
Low temperature storage	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature -25±2°C for 48±12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 1 to 2 hours.
Resistance to solvent	There must be no case deformation, change in dimensions, or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.
Thermal shock	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to 10 cycles to the following temperature cycle:  Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

### .Packing Specifications



TYPE	Packaging Quantity		Tape Dimension(mm)					
	Pcs / Reel	Inner box	W	P	P <sub>0</sub>	P <sub>1</sub>	H	T
NLF0805	2000	10000	8	4	4	2	NA	0.23
NLF1008	2000	10000	8	4	4	2	NA	0.23
NLF1210	2000	10000	8	4	4	2	NA	0.23



TYPE	Reel Dimension(mm )				
	A	B	C	D	E
NLF0805	180	60	13	14.4	8.4
NLF1008	180	60	13	14.4	8.4
NLF1210	180	60	13	14.4	8.4

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

SGS



### 測試報告 Test Report

號碼(No.) : CE/2014/C1490      日期(Date) : 2014/12/15      頁數(Page): 1 of 11

聯磁企業股份有限公司  
EROCORE ENTERPRISE CO., LTD.  
新北市中和區中正路700號16樓  
16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by/on behalf of the applicant as) :

送樣廠商(Sample Submitted By) : 聯磁企業股份有限公司 (EROCORE ENTERPRISE CO., LTD.)  
樣品名稱(Sample Description) : POWER INDUCTOR, CHIP INDUCTOR, COMMON MODE CHOKE/ FILTER, WIDE BAND CHOKE, BEAD CORE, RADIAL CHOKE INDUCTOR SERIES  
樣品型號(Style/Item No.) : AL、ATN、BCB、SCB、CMD、CMH、CML、CMU、CNL、DRC、DSL、PB、PBA、FC、PCB、HCPI、HDPI、HPI、HSPI、JFE、JFR、LPB、LPC、MSB、MSC、MSCH、MSH、MSQ、NL、NLA、NLC、NLD、NLE、NLEA、NLF、NLH、NLHB、NLHC、NLHE、NLHS、NLQ、NLS、NLSA、NLSC、NLT、NLTR、NLV、NPL、PA、PDH、PI、PIA、PIB、PIC、PID、PIDR、PIDT、PIE、PIF、PIH、PIHA、PIHC、PIHD、PIHE、PIHF、PIHK、PIHP、PIHS、PIJ、PIK、PIL、PIM、PIME、PIMN、PIN、PIP、PIQ、PIR、PIS、PISD、PIU、PIV、R6H、R11H、RC、RHA、RHB、RIB、RIET、RIC、RICT、RSL、RTF、SL、SLB、SLBA、SLCB、SLHB、SLKC、SLMN、SLSC、SLTC、SLTF、SMTF、SPCT、SPIB、SSL、SSTC、STC SERIES  
收件日期(Sample Receiving Date) : 2014/12/08  
測試期間(Testing Period) : 2014/12/08 TO 2014/12/15

測試結果(Test Results) : 請見下一頁 (Please refer to next pages).



Troy Chang Manager - Tech  
Signed for and on behalf of  
SGS TAIWAN LTD.  
Chemical Laboratory - Taipei

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

**SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )**

**測試報告  
Test Report**

號碼(No.) : CE/2014/C1490      日期(Date) : 2014/12/15      頁數(Page): 2 of 11

 聯磁企業股份有限公司  
 EROCORE ENTERPRISE CO., LTD.  
 新北市中和區中正路700號16樓  
 16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN

**測試結果(Test Results)**

測試部位(PART NAME)No.1 : 整體混測 (MIXED ALL PARTS)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321-5: 2013方法, 以感應耦合電漿原子發射光譜儀檢測。 / With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321-5: 2013方法, 以感應耦合電漿原子發射光譜儀檢測。 / With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321-4: 2013方法, 以感應耦合電漿原子發射光譜儀檢測。 / With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	參考IEC 62321: 2008方法, 以UV-VIS檢測。 / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
六溴環十二烷及所有主要被辨別出的異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ -HBCDD, $\beta$ -HBCDD, $\gamma$ -HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	參考IEC 62321: 2008方法, 以氣相層析/質譜儀檢測。 / With reference to IEC 62321: 2008 method. Analysis was performed by GC/MS.	5	n.d.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-ElectronicDocuments.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.



## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

### 測試報告

### Test Report

號碼(No.) : CE/2014/C1490

日期(Date) : 2014/12/15

頁數(Page): 3 of 11

聯磁企業股份有限公司

EROCORE ENTERPRISE CO., LTD.

新北市中和區中正路700號16樓

16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No. 1
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321: 2008方法, 以氣相層析/質譜儀檢測. / With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
一溴聯苯 / Monobromobiphenyl	mg/kg		5	n.d.
二溴聯苯 / Dibromobiphenyl	mg/kg		5	n.d.
三溴聯苯 / Tribromobiphenyl	mg/kg		5	n.d.
四溴聯苯 / Tetrabromobiphenyl	mg/kg		5	n.d.
五溴聯苯 / Pentabromobiphenyl	mg/kg		5	n.d.
六溴聯苯 / Hexabromobiphenyl	mg/kg		5	n.d.
七溴聯苯 / Heptabromobiphenyl	mg/kg		5	n.d.
八溴聯苯 / Octabromobiphenyl	mg/kg		5	n.d.
九溴聯苯 / Nonabromobiphenyl	mg/kg		5	n.d.
十溴聯苯 / Decabromobiphenyl	mg/kg		5	n.d.
多溴聯苯醚總和 / Sum of PBDEs	mg/kg		-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg		5	n.d.
二溴聯苯醚 / Dibromodiphenyl ether	mg/kg		5	n.d.
三溴聯苯醚 / Tribromodiphenyl ether	mg/kg		5	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether	mg/kg		5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg		5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg		5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg		5	n.d.
八溴聯苯醚 / Octabromodiphenyl ether	mg/kg		5	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether	mg/kg	5	n.d.	
十溴聯苯醚 / Decabromodiphenyl ether	mg/kg	5	n.d.	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/TermsandConditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/termsandconditions/ElectronicDocuments.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

### 測試報告 Test Report

號碼(No.) : CE/2014/C1490      日期(Date) : 2014/12/15      頁數(Page): 4 of 11

聯磁企業股份有限公司

EROCORE ENTERPRISE CO., LTD.

新北市中和區中正路700號16樓

16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No. 1
鄰苯二甲酸丁苯甲酯 / BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	%	參考EN 14372, 以氣相層析/質譜儀檢測。 / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二(2-乙基己基)酯 / DEHP (Di-(2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	參考EN 14372, 以氣相層析/質譜儀檢測。 / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二異癸酯 / DIDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0; 68515-49-1)	%	參考EN 14372, 以氣相層析/質譜儀檢測。 / With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
鄰苯二甲酸二異壬酯 / DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0; 68515-48-0)	%	參考EN 14372, 以氣相層析/質譜儀檢測。 / With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
鄰苯二甲酸二正辛酯 / DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	%	參考EN 14372, 以氣相層析/質譜儀檢測。 / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	參考EN 14372, 以氣相層析/質譜儀檢測。 / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二異丁酯 / DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	%	參考EN 14372, 以氣相層析/質譜儀檢測。 / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鹵素 / Halogen				
鹵素 (氟) / Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	參考BS EN 14582:2007, 以離子層析儀分析。 / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素 (氯) / Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg		50	n.d.
鹵素 (溴) / Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	208
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n.d.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/TermsandConditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/TermsandConditions/termsDocuments.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司 | 33, Wu Chuan Rd., New Taipei Industrial Park, New Taipei City, Taiwan / 新北市新北產業園區五權路33號  
t: 886 02 2299 3279 f: 886 02 2299 3277 www.sgs.tw

Member of the SGS Group

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

### 測試報告 Test Report

號碼(No.) : CE/2014/C1490

日期(Date) : 2014/12/15

頁數(Page): 5 of 11

聯磁企業股份有限公司  
EROCORE ENTERPRISE CO., LTD.  
新北市中和區中正路700號16樓

16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



#### 備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. "-" = Not Regulated (無規格值)
5. 樣品的測試是基於申請人要求混合測試，報告中的混合測試結果不代表其中個別單一材質的含量。(The samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value.)

This document is issued by the Company's subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/termsandconditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/termsandconditions/termsandconditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

# SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

## 測試報告 Test Report

號碼(No.) : CE/2014/C1490      日期(Date) : 2014/12/15      頁數(Page): 6 of 11

聯磁企業股份有限公司

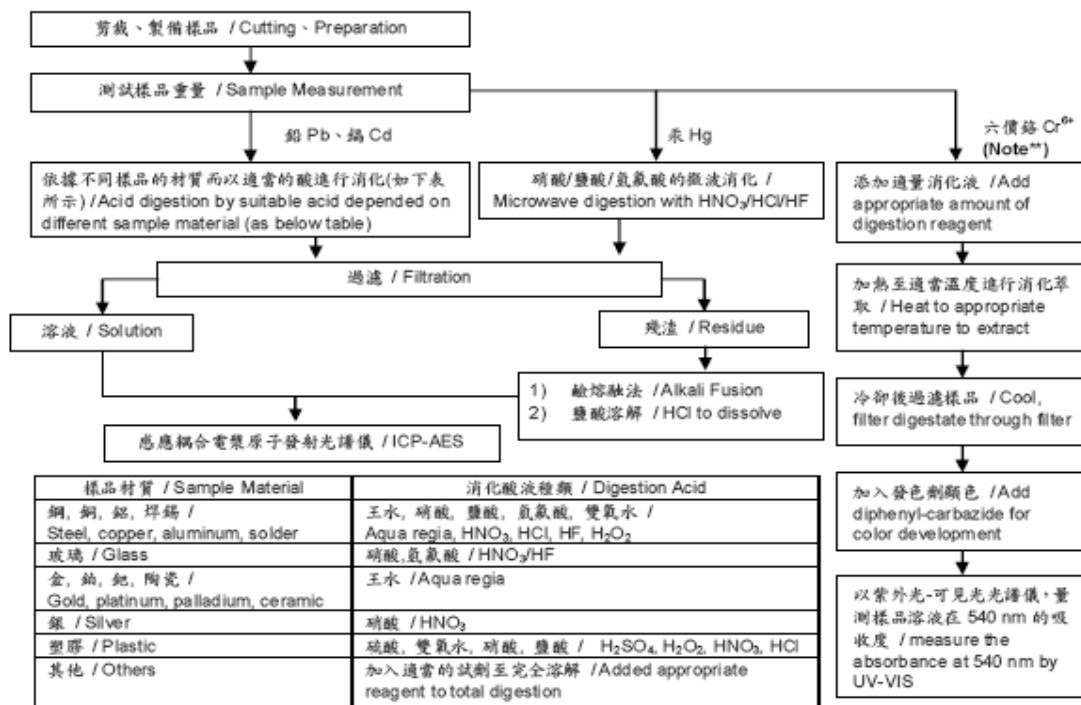
EROCORE ENTERPRISE CO., LTD.

新北市中和區中正路700號16樓

16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



### Note\*\* (For IEC 62321)

- (1) 針對非金屬材料加入鹼性消化液，加熱至 90-95°C 萃取。 / For non-metallic material, add alkaline digestion reagent and heat to 90-95°C.
- (2) 針對金屬材料加入純水，加熱至沸騰萃取。 / For metallic material, add pure water and heat to boiling.

This document is issued by the Company's subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/ElectronicDocuments.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

# SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

## 測試報告 Test Report

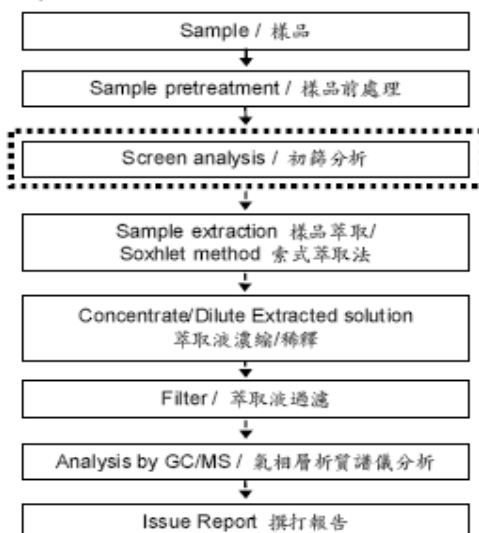
號碼(No.) : CE/2014/C1490      日期(Date) : 2014/12/15      頁數(Page): 7 of 11

聯磁企業股份有限公司  
EROCORE ENTERPRISE CO., LTD.  
新北市中和區中正路700號16樓  
16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



### 多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang
- 初次測試程序 / First testing process →
- 選擇性篩檢程序 / Optional screen process ······
- 確認程序 / Confirmation process - - - ->



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-ElectronicDocuments.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

### 測試報告 Test Report

號碼(No.) : CE/2014/C1490

日期(Date) : 2014/12/15

頁數(Page): 8 of 11

聯磁企業股份有限公司

EROCORE ENTERPRISE CO., LTD.

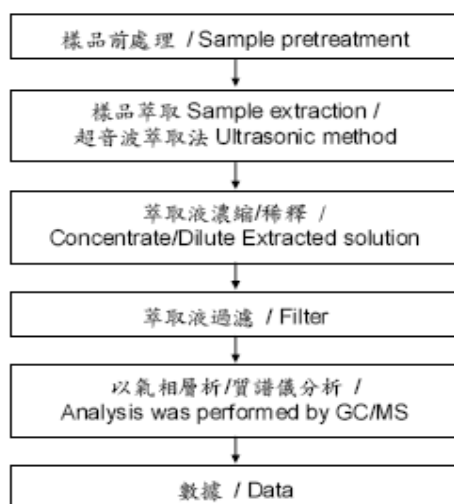
新北市中和區中正路700號16樓

16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



#### 六溴環十二烷分析流程圖 / HBCDD analytical flow chart

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/TermsandConditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/TermsandConditions/TermsandConditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the samples tested.

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

### 測試報告 Test Report

號碼(No.) : CE/2014/C1490

日期(Date) : 2014/12/15

頁數(Page): 9 of 11

聯磁企業股份有限公司  
EROCORE ENTERPRISE CO., LTD.

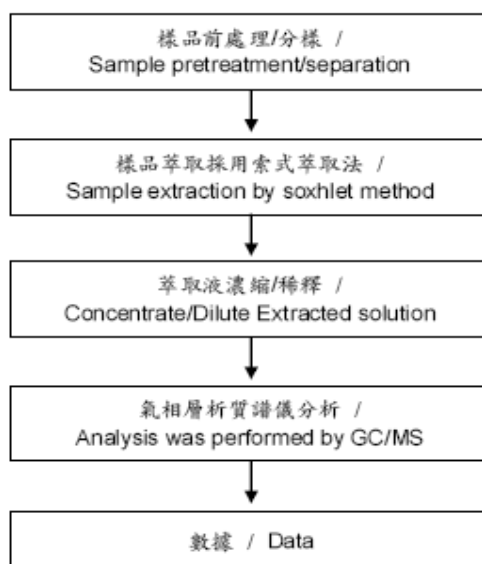
新北市中和區中正路700號16樓

16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



#### 可塑劑分析流程圖 / Analytical flow chart of phthalate content

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

### 測試報告 Test Report

號碼(No.) : CE/2014/C1490      日期(Date) : 2014/12/15      頁數(Page): 10 of 11

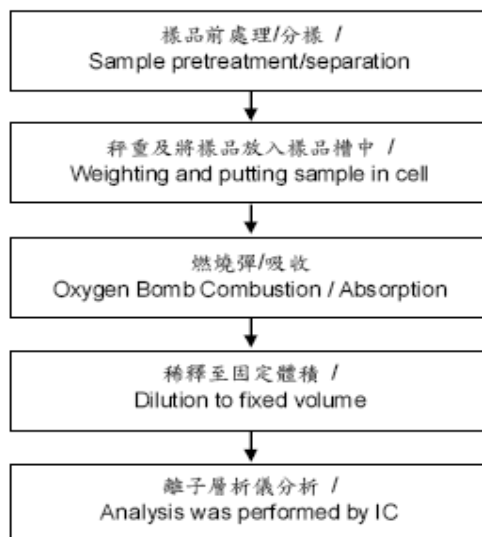
聯磁企業股份有限公司  
EROCORE ENTERPRISE CO., LTD.  
新北市中和區中正路700號16樓

16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



#### 鹵素分析流程圖 / Analytical flow chart of halogen content

- 測試人員：陳恩臻 / Name of the person who made measurement: Rita Chen
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/TermsandConditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/TermsandConditions/TermsElectronic.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorised alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the samples tested.



## SMD Wire Wound Chip Inductors / NLF TYPE ( For Signal Line )

# SGS

### 測試報告

### Test Report

號碼(No.) : CE/2014/C1490

日期(Date) : 2014/12/15

頁數(Page): 11 of 11

聯磁企業股份有限公司

EROCORE ENTERPRISE CO., LTD.

新北市中和區中正路700號16樓

16F., NO. 700, ZHONGZHENG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN



\* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。 \*

(The tested sample / part is marked by an arrow if it's shown on the photo.)

### CE/2014/C1490



### CE/2014/C1490



\*\* 報告結尾 (End of Report) \*\*

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/TermsandConditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/TermsandConditions/TermsandConditionsDocument.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not constitute parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the result shown in this test report refer only to the sample(s) tested.