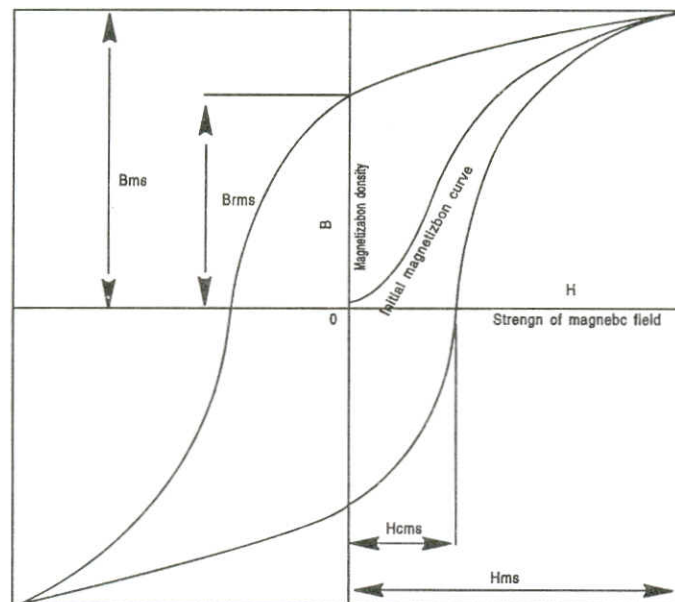


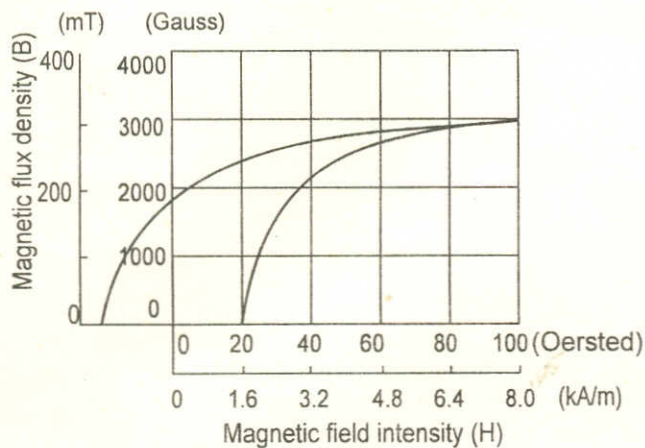
# PROPERTIES OF TAK MATERIALS

Ni-Zn Ferrite Series (For High Frequency)

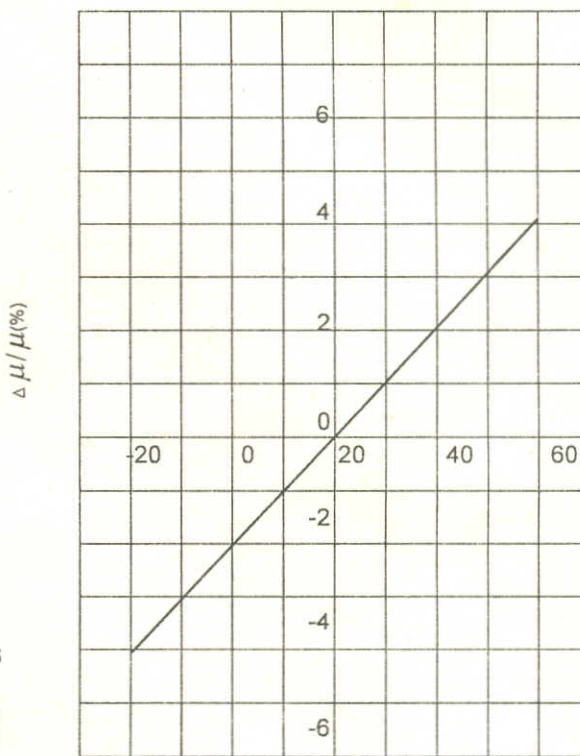
CHARACTERISTICS	UNIT	V4F1	V2F1	M5E1	M11A	M9D1	M9A	M8B1	M8C1	M61	MG2
$\mu_{iac}$	—	8	30	15	20	50	50	60	60	100	300
APPLICABLE FREQUENCY	MHz	10-250	3-70	10-120	3-80	1-50	0.5-30	0.5-15	0.5-15	0.5-10	0.1-2
$B_m$	Gauss	2100	3100	3000	2700	3700	3400	3200	3000	3500	2400
$B_r$	Gauss	1300	1700	1600	1800	2300	1900	1800	750	2100	1300
$H_c$	Oersted	38	8	15	10	4	5.5	6	4	2.5	0.8
$T_c$	°C	300	300	300	300	300	300	300	300	250	150
$\alpha \mu r$	$-6 \times 10^6 / ^\circ C$	10	70	110	80	80	60	15	10	38	9
$\tan \delta / \mu_{iac}$	$-6 \times 10$	600(10) 4000(250)	80(3.0) 400(70)	500(10) 800(120)	100(3.0) 500(80)	200(21) 600(500)	100(0.5) 300(30)	130(0.5) 350(15)	100(0.5) 1500(15)	100(0.5) 1509(10)	20(0.1) 100(2.0)
$\rho$	$\Omega cm$	$10^6$	$10^6$	$10^6$	$10^6$	$10^6$	$10^6$	$10^6$	$10^6$	$10^6$	$10^6$



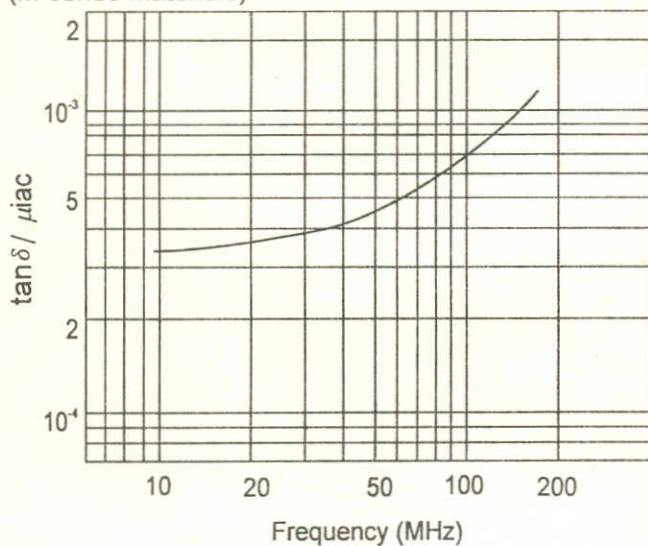
# MATERIAL **M5E1** CHARACTERISTICS



$\Delta \mu / \mu$  Vs. temperature curve (M-series materials)



$\tan \delta / \mu$  iac vs. frequency response characteristics (M-series materials)





Test Report

No. CANEC0803512707

Date: 07 Jul 2008

Page 1 of 4

TAK TECHNOLOGY CO.,LTD
NO.3RD INDUSTRIAL AREA JUZHOU SHIJIE TOWN DONGGUAN CITY GUANGDONG PROVINCE
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as :
M5E1 MATERIAL FERRITE CORE

SGS Job No. : 11133899 - SZ
SGS Internal Reference No. : 10.7
Date of Sample Received : 02 Jul 2008
Testing Period : 02 Jul 2008 - 07 Jul 2008
Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).

Signed for and on behalf of
SGS-CSTC Ltd.

Handwritten signature of Sunny

Huang Fang, Sunny
Sr. Engineer

COOPY (Large red watermark)

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GZCM 2533059

**Test Results:**

ID for specimen 1 : CAN08-035127.007  
Description for specimen 1 : Dk-gray core

**Heavy metal(s)**

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Cadmium (Cd)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	N.D.	2
Lead (Pb)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	16941	2
Mercury (Hg)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	mg/kg	IEC 62321/2nd CDV (111/95/CDV), UV-Vis	N.D.	2

**Note:**

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

COPY

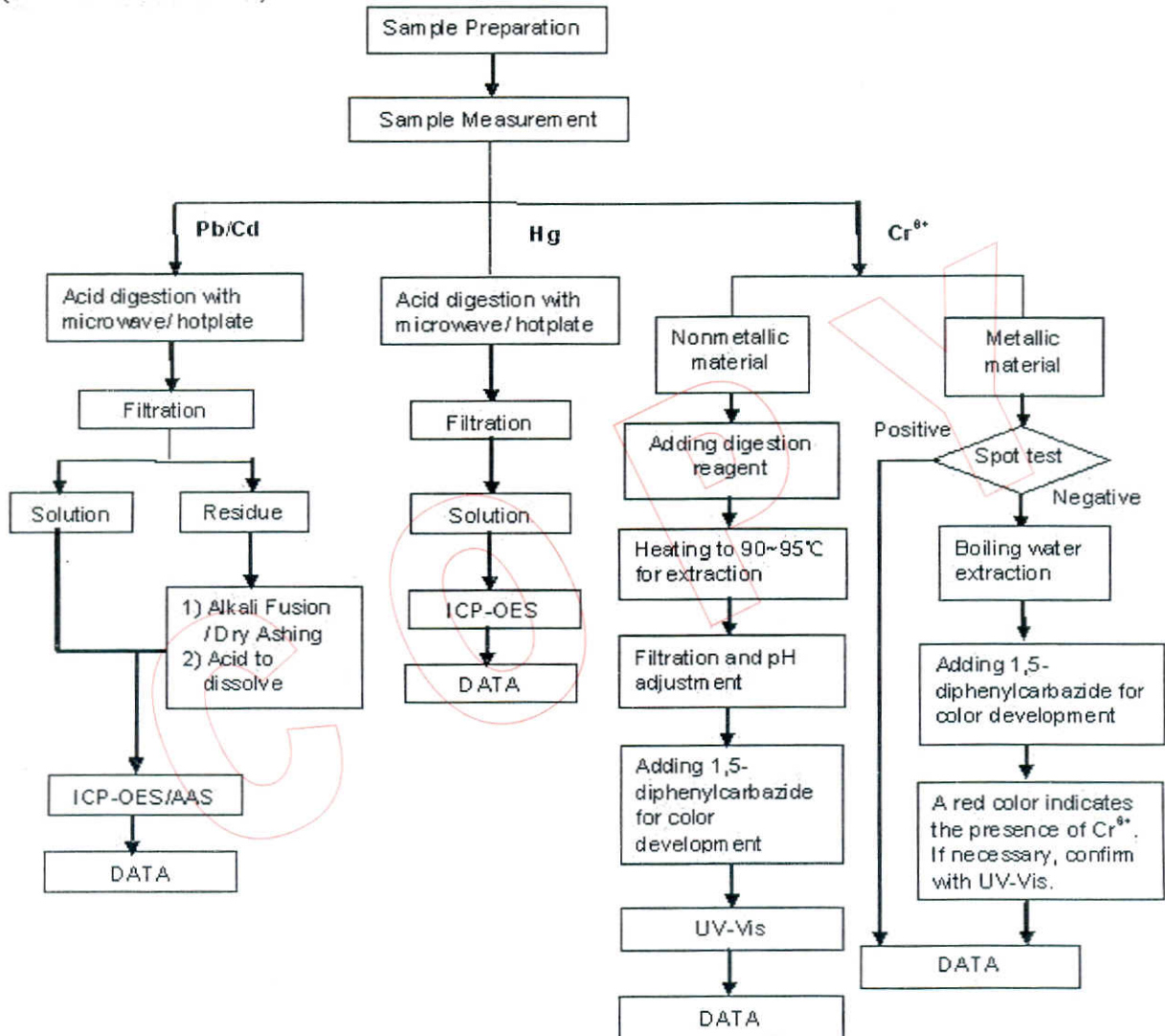
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ATTACHMENTS

Testing Flow Chart

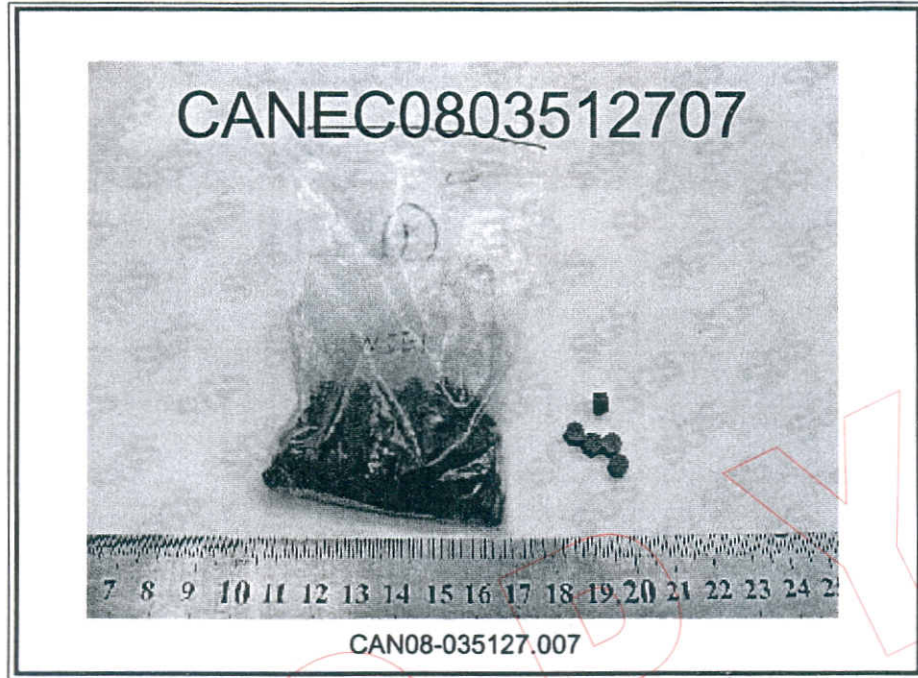
- 1) Name of the person who made measurement: Bowen Chen
- 2) Name of the person in charge of measurement: Adams Yu
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart.  
(Cr<sup>6+</sup> test method excluded)



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Sample photo:



SGS authenticate the photo on original report only

\*\*\* End of Report \*\*\*

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