

휴대전화 단말기용 전파흡수체의 개발에 관한 연구

* . **

A Study on Development of EM Wave Absorbers for Mobile Phones

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Abstract : This thesis is concerned with basic research for development of EM wave absorbers in sheet type for mobile phones. By controlling the sendust ratio, the $Al(OH)_3$ coating, the thickness, the kind of binders, EM wave absorbers were prepared and examined. Central frequency shifts toward lower with increasing thickness of the absorber, and absorption ability controlled to adjust Sendust amount. The absorption band of the EM wave absorber coated with $Al(OH)_3$ becomes larger than that of non-coated one. Sendust composite microwave absorbers mixed with CPE were prepared at 70°C n temperature. The fabricated EM wave absorbers show a reflection coefficient 5.56 dB at 1.8 GHz in thickness of 0.85 mm.

Key words : $Al(OH)_3$, Absorber, Sendust, Mobile phone, EM wave absorption property

1. 서론

가
가
가
TV Ghost ,
가 (EMI ; Electromagnetic Interference)
[1].
(CISRP ; Commite International Special des Perturbations Radioelectrique),
(FCC ; Federal Communications Commissions),
가 (ANSI ; American National Standards Institute)
[2].

[3].
ferrites
Sendust CPE
Sendust
가
1.8 GHz 가 1 mm
5 dB 가
30.000 Sendust
sheet
가 $Al(OH)_3$ coating
가

가
가
가

2. 시편 제작 및 측정

Sendust :
CPE(Silicon Rubber) = 80 : 20 wt%, Sendust : CPE = 85 : 15 wt%
Open roller 가

+ (), E-mail : uckku@naver.com, Tel : 051)410-4932
++ ()

70

, $Al(OH)_3$

$Al(OH)_3$ 가 10 wt%, 15

wt%, 20 wt%
wt%

Sendust CPE 80 : 20

Sheet

Sendust

. 500 MHz ~ 3 GHz

800 MHz ~ 1.8 GHz

1 mm

PCS

1.8 GHz

sheet

2.2

3.05 mm,

6.95 mm, 2 mm

. Fig.

1 2

Network

Analyzer Sample Holder

후 기

Fig. 2

(Sample)

(Holder)

Fig. 1

Network Analyzer

2005

. (KRF-2005-005-J00501)

IT

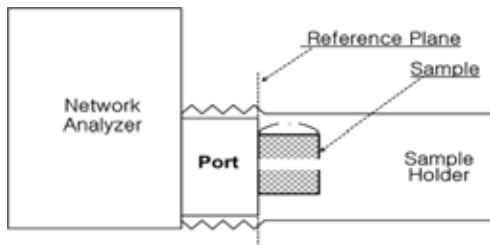


Fig. 1 Reflection coefficient measurement system

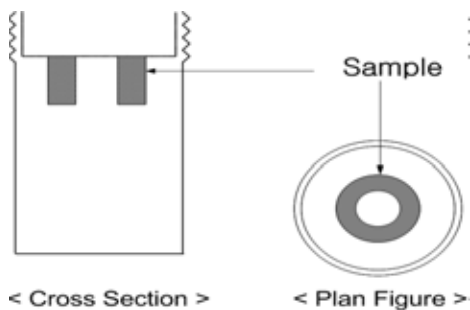


Fig. 2 Sample Holder

3. 결 론

Soft ferrites Mn-Zn
 ferrites Ni-Zn ferrites Hard ferrites Ba
 ferrites, Sr ferrites Sendust

가

$Al(OH)_3$ 가가

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