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(73)

416

(72)

215

211 303

1 4

428 902

109 104

2 1242-2

9

924 1804

(74)

:

(54)

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8a
8b
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10
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,
12 11

13 11,
14 11

< >

11 : 13 :
15 : 15-1 :
17, 17' : 17-1, 17-1' :
17-2, 17-2' : 17-3, 17-3' :
17-4, 17-4' : 17-5. 17-5' :
21 :

(non-invasive) 가 . 가 가

OK 가 .

"Radiometric sensing of biological layered media"(Radio Science, 1983), "Microwave radiometers for non-invasive measurements of subsurface tissue temperature"(Automedica, 1987, Vol. 8, pages 203-211) , US5149198, US5949845, US5688050, US474961.

1 US5149198

1 , (100)

(102) (104)

가 . (100) (104) 가 ,
 (102) (100)
 (105) , (106), (108), (1
 10) , (108) (104)
 (106) (110) (100)
 2
 2 , 가 가
 가 ,
 가
 3 가
 가
 49.8 4×10⁻¹⁶ W f1
 46.5 , f2 38 가 8.5
 가
 9.8~51.3(S/m), 0.37~3.4(S/m)
 ,
 가

가

(10)

(11)

(13)

(15)

(17)

(13)

(15)

(11) (10)

(11) , (13)

(11) 가(21)가 5 (21) (10) (10)

5 (21) z (10) p (23)

(D_f) (13) (10)

가 (9) (13) (13) , (15)

(21) (13)

(isulator) , (15-1) (17) (13)

(detector) (15) (15-2) , (15-1) 가

(15)

(15-1)

7 7 A (15-1) g2 B g1 ,

C A 가 50(W/m⁻² · Hz⁻¹ · sr⁻¹) A A g1

g2 33 가 C 34 가 g3 35 가 g1 g3 A A

B C

(17)

7 A, B C

가 (15)

(17) (17)

(17) (17-1) , (17-1) (17-2) (10)

8a 8b

8a (17)

(17-3)가 (17-2) , (17-2) (17-5) ,
 (17-4) (17-5)가 (17-4)
 8b (17-3'), (17-1'), (17-2'), (17-5') (17-4') , ((17-1')
 (17-2')가 (10') 가
 (11) (13) (15)
 (17) (15) , (15)

1

$$B_{fr} = B_f (e^{\alpha z})^2$$

$$B_f = 2k_0 T / \lambda^2, \quad (k_0 = 1.38 \times 10^{-23} J/K)$$

, B_f (Plank) - (Rayleigh-Jeans)
 , T (K), λ (m), α 2

$$\alpha = k [(\sqrt{1 + \tan^2 \delta} - 1)/2]^{1/2}, \quad (\text{단, } \tan \delta = \sigma / \omega \epsilon)$$

$$\lambda = \frac{1}{\sqrt{\mu \epsilon}}$$

σ , ϵ , $\omega = 2\pi f$. k (wave number) .
 1

9 (B_r), (B_{fr}) 가 (D_f)

5 9 h1 , 가
 10 Df 55mm , 55 Df 10mm
 9 h3 , (emitted brightness) 10 2×10⁻¹⁵ 가 55
 15×10⁻¹⁵ 가 10⁻¹⁵ (received brightness) , h2

10 , 가 (10') (54.88% DGBE(Diethyle
 ne Glycol Monobutyl Ether)44.91% 0.21%) (19), (17)

(12) A (80, 4.5) B (40, 1.35) (19)
 (12) B , 11 A
 , I2 B , (W/m⁻² · Hz⁻¹ · sr⁻¹)

(I1) 12 13 (I1) , (J2)
 12 (J1) , (I1)

가 , (k2) (I1) (k1) 가 13

14 (I2) 가 (L2) (L1) (I2)

10 14

15 17

15
)
(105)
105 , 16
115
107 , 17
121
123
(103)
(107)
111
113
103

가

(57)

1.

2.

3.

4.

5.

6.

1

7.

6

8.

1

9.

10.

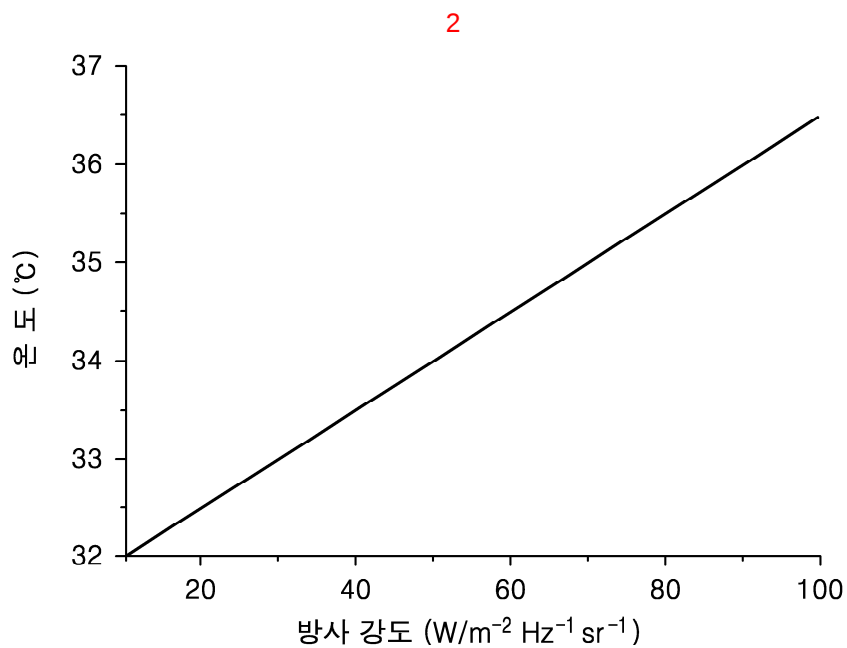
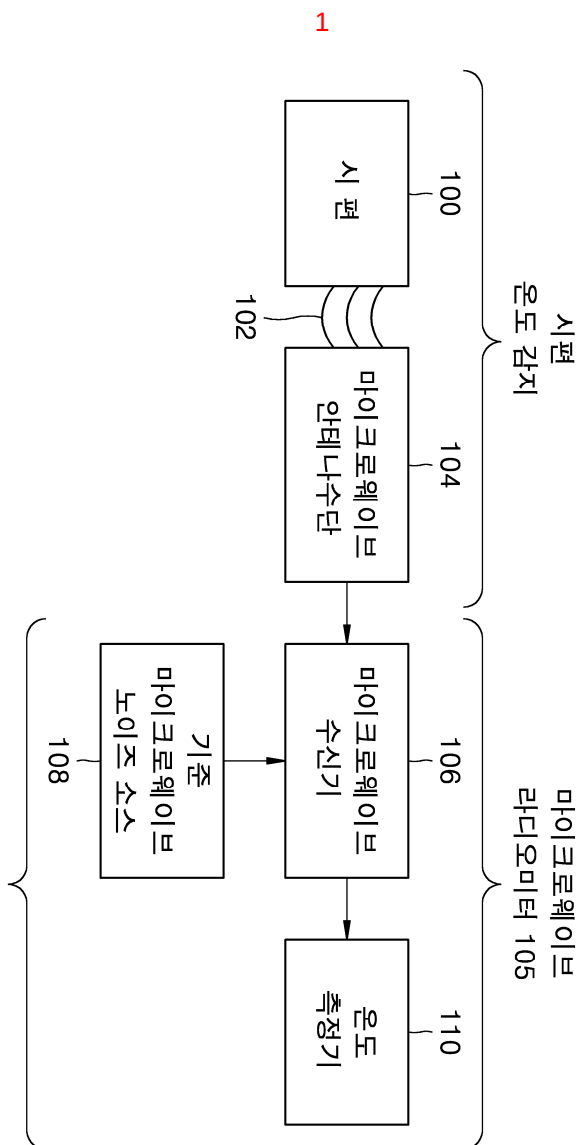
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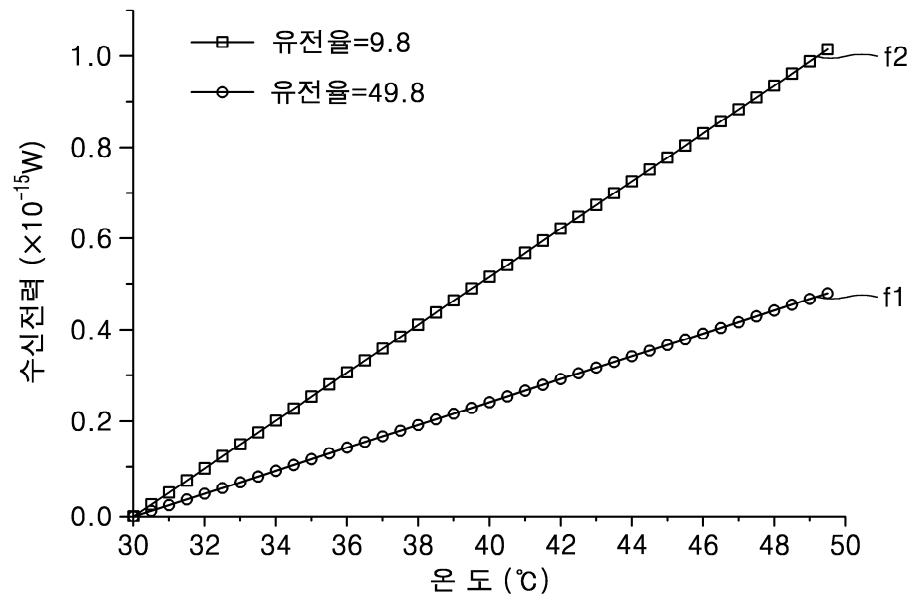
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12.

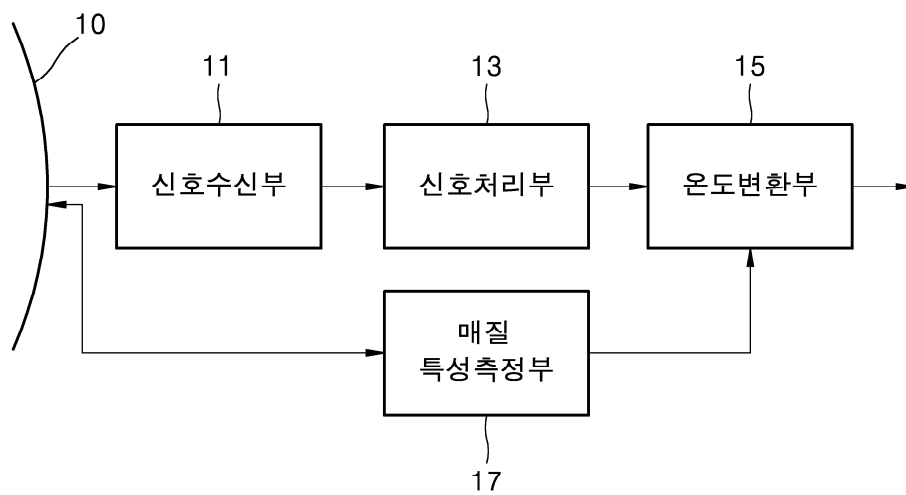
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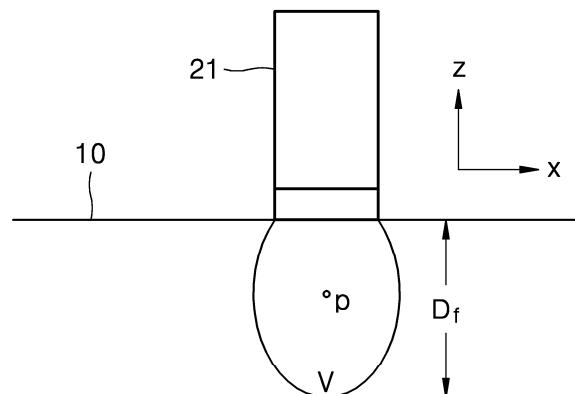
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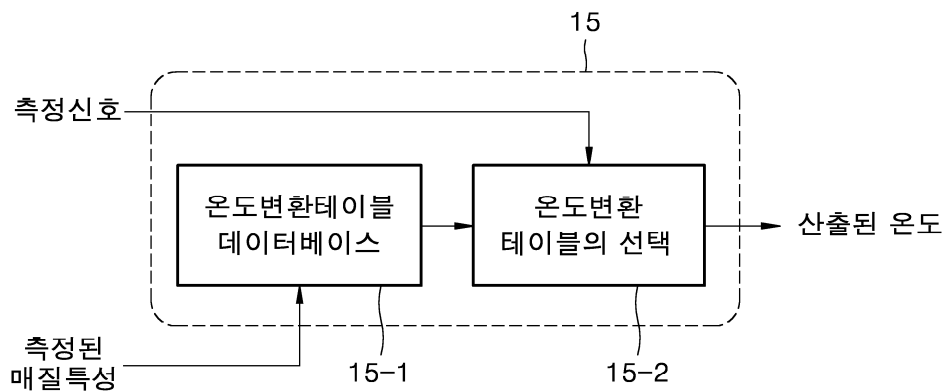
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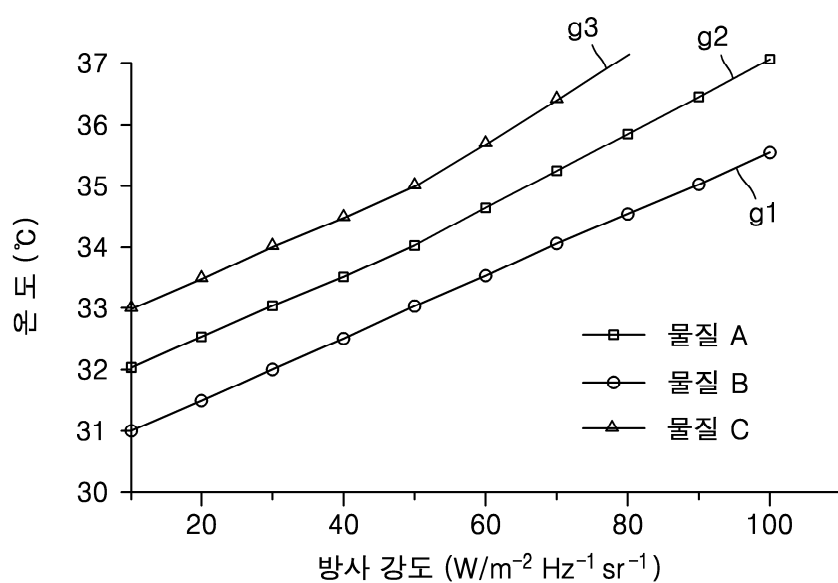
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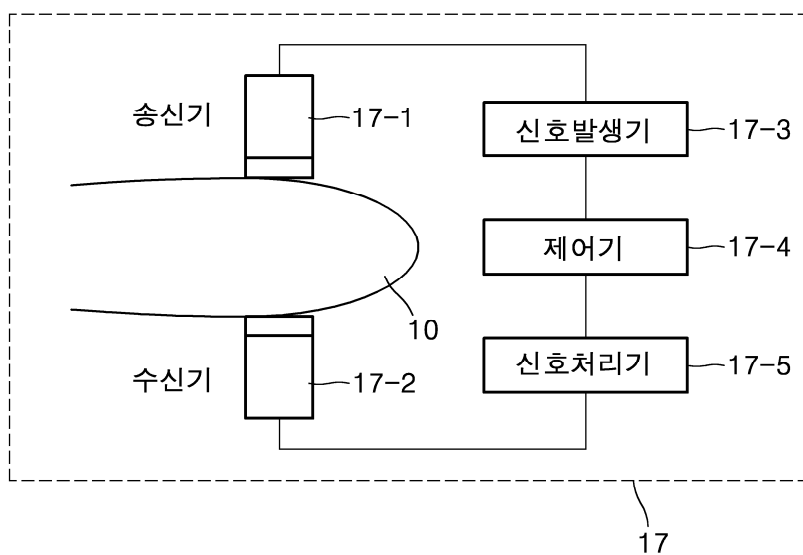
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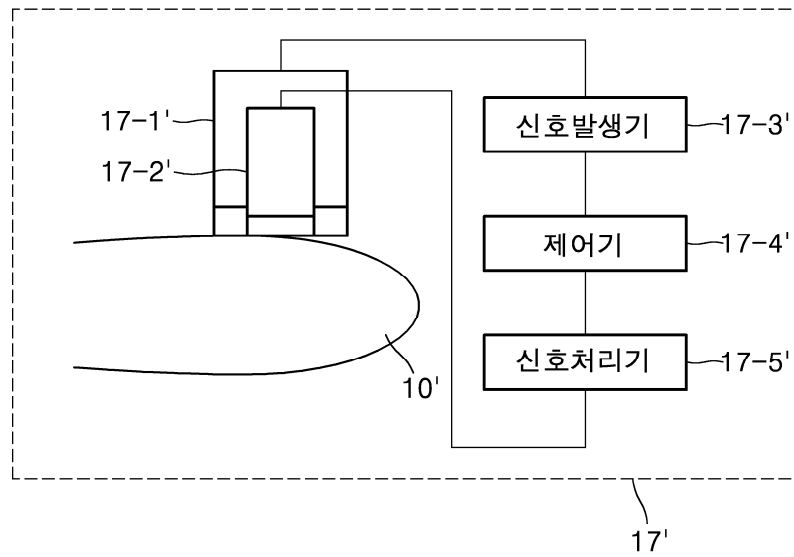
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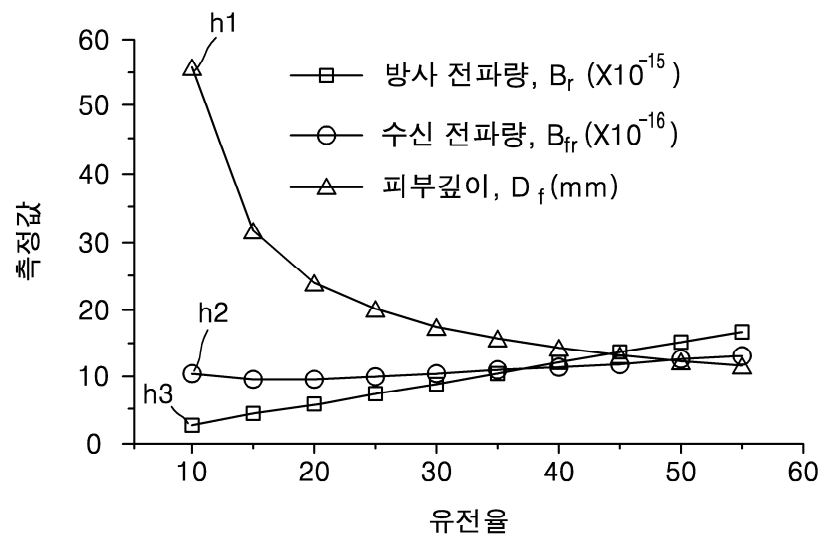
8a



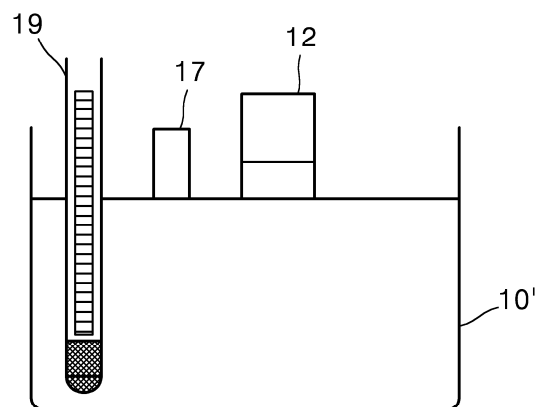
8b



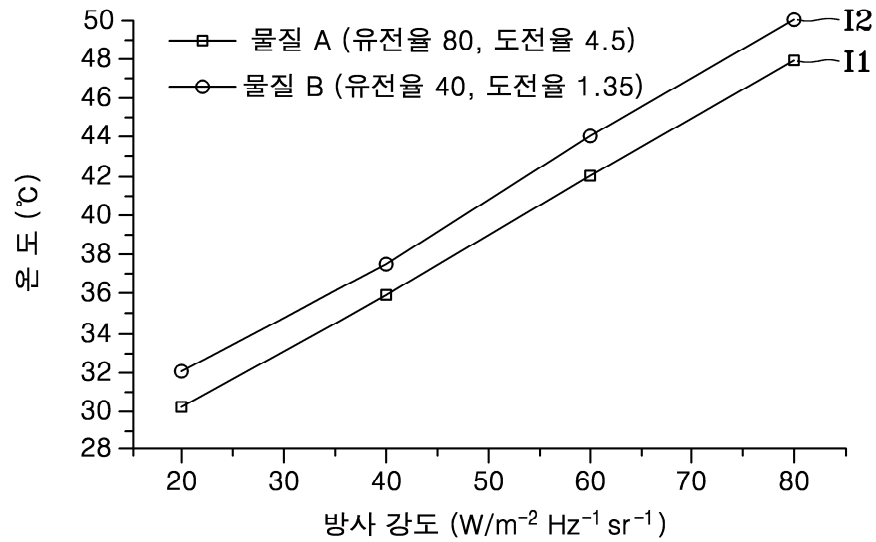
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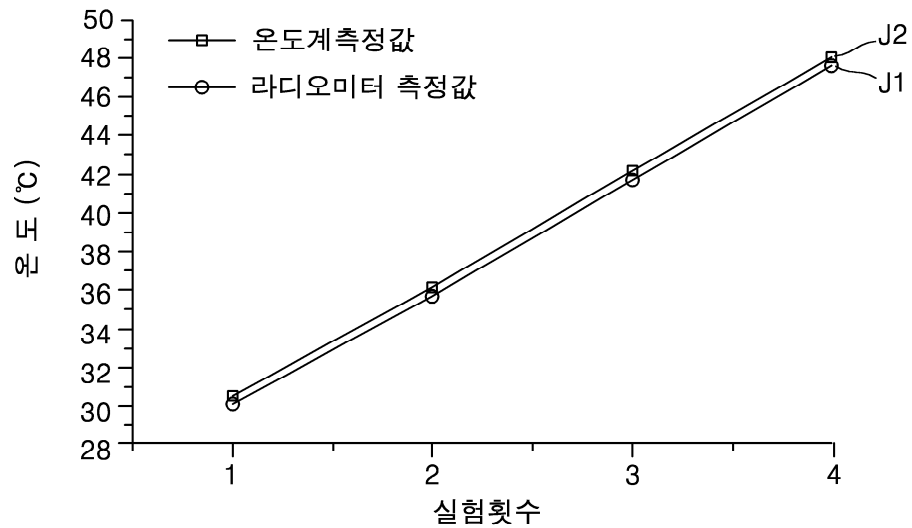
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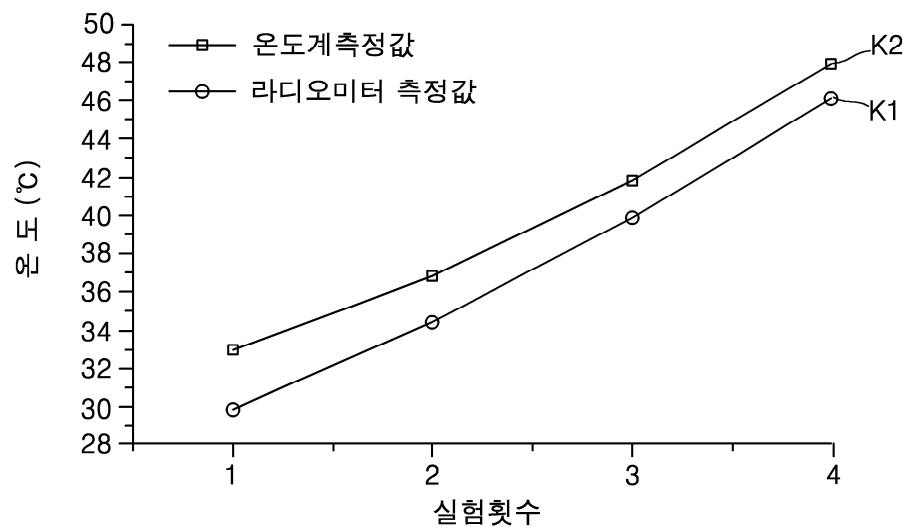
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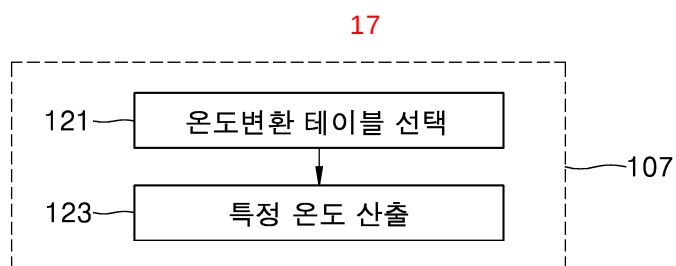
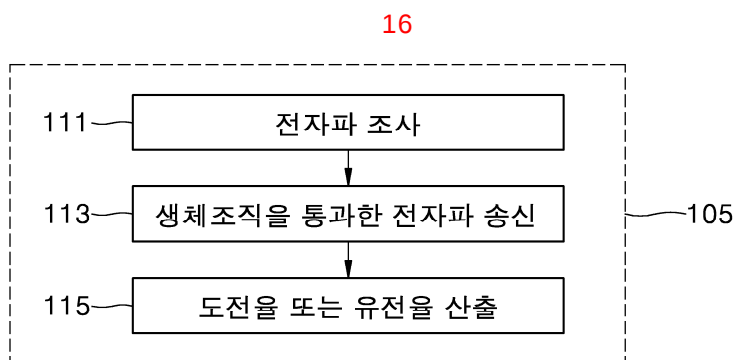
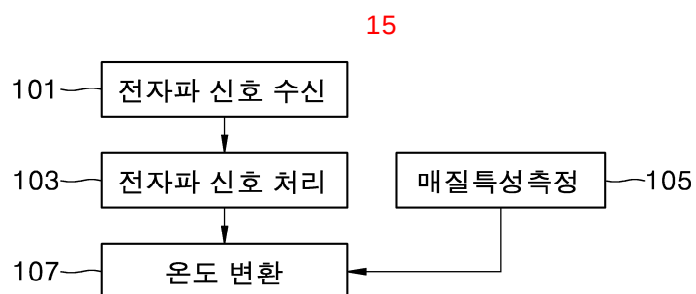
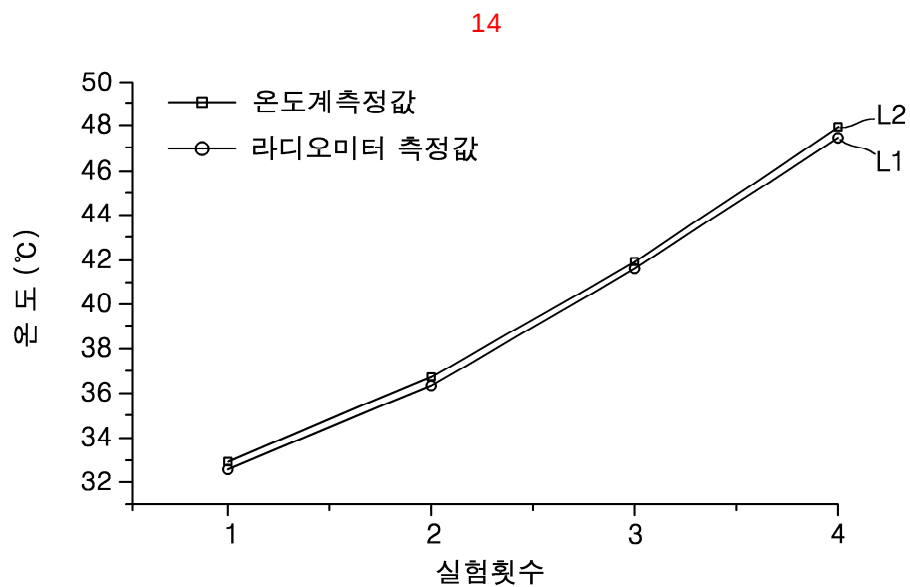


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专利名称(译)	无创生物温度测量装置及其方法		
公开(公告)号	KR100416764B1	公开(公告)日	2004-01-31
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[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	三星电子有限公司		
当前申请(专利权)人(译)	三星电子有限公司		
[标]发明人	KIM TAEWOO 김태우 LEE SANGMIN 이상민 LEE JEONGWHAN 이정환 EOM SANGJIN 엄상진 HAN WANTAEK 한완택		
发明人	김태우 이상민 이정환 엄상진 한완택		
IPC分类号	G01J5/10 G01J5/00 A61B5/01 A61B5/05 G01J5/46 G01J5/58 A61B5/00		
CPC分类号	G01J5/08 G01J5/0846 G01J5/0022 G01J5/026 A61B5/01 G01J5/0025 G01J5/02 A61B5/015 A61B5/0507		
代理人(译)	LEE, YOUNG PIL 李, 杨HAE		
其他公开文献	KR1020030075893A		
外部链接	Espacenet		

摘要(译)

公开了一种非侵入式生物体温测量装置和测量方法。所公开的生物体温测量装置包括数据库，该数据库根据信号接收部分的电导率存储多个电磁波比较温度变化表，接收从生物体的测量对象位置辐射的电磁波信号和信号处理器，处理从信号接收部分输入的电磁波信号输出电磁波和介质特性测量单元，测量生物体的测量对象位置的导电率或介电常数，并传输测量值和生物体或介电常数。并且，温度转换部分包括从电导率的测量值或介电常数和电磁波信号的电磁波中选择相应的温度。它具有以下优点：它可以在早期阶段发现人体或更多人体，同时提高可靠性，提供适合生物体介质特性的电磁波比较温度变化表，并对温度进行变换。无创，导电，介电常数，活体温度，温度变化表。

