

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. ⁷
H01Q 13/00

(11)
(43)

2002 - 0081096
2002 10 26

(21)
(22)

10 - 2002 - 0020574
2002 04 16

(30)

09/836,024

2001 04 17

(US)

(71)

600 (: 07974 - 0636)

(72)

07922

128

07059

21

07762

2039

(74)

:

(54)

former) ,

(balun; balance to unbalance trans
(slot line)

1 .
 2 .
 3 .
 4a .
 4b 4a .
 5 .
 6 .

10: 14: 1 (leaf)

(balun) (balanced impedance) (interface)
 ion) (ground)가 가 (propagat
 ,) 1 (,) 2 (
 ,) 1 . , .

50 (coaxial cable) 50 (" RF")
 , / ,
 , / / .

900 MHz) 1 (personal communication) (cellular phone;
 2 , (air loop communication) (2 GHz)
 3 . (4 GHz)

가 (applications and services) 가 가 가

가

가 (slotline)

(

1 (10) 가 (10)

(10) / (10) (balanced configuration) (10)

2 (14, 18) (20) 1 2 (leaf) (14, 18) 1

(22) 가 (14) 2 (18) 가 (22) (20)

(10) (planar traveling wave)

(end - fire type)

(30)가 (10) (30) 1 (

,) 2 (,) 1

(30) (

(30) (unbalanced substitute and alternatives)

, (30) , (40)

(10) (50) 1 2 (14, 18) (30)

(50) 1 2 (14, 18) (30)

, (50) 2 (transformer)

(50) (tuned transmission lin

e ends or stubs) , (20)

(22) (26) , (50)

(60) 2

(64) . (60) 2 (64) (14, 18) , (20)
 . , (50) (14, 18) (30) (20)
 (26, 64) . (50) (26, 64) (14, 1
 8) (60) (electromagnetic wave reflections)
 (constructive interference) . , (26, 64)
 $1/4$ ($/4$) .

0) , (50) (10) . (26, 64) (5
 (10) 가 ,
 , (10) (passband transfer function)
 가 .

가 가 . , 가 가
 가 . 가 가
 , (50) .

2 , 가 . , 가
 (100) (100) 1 (10) 가

가 . (100) 1 2 (110, 130) , (,)
 (100) 1 (110) 가
 (100) 1 (105, 115) . 2
 (130) 3 4 (125, 135) 1 (110) 1 2
 (105, 115) 2 (130) 3 4 (125, 135) ,
 (140a, 140b) (140a, 140b) (120)

(100) . 1 2 (110, 130)
 (100) x (110, 130) (in ph
 , x 가 , (140a, 140b)
 ase) (/) . , 가
 (110, 130) (Vivaldi configuration) 가
 (dipole) 가
 ons (1997) K. Fong Lee W. Chen " (Advances in Microstr
 ip and Printed Antennas)" . , (1
 00) (configuration), (classification) 가

(150)가 (100) 1 (150) 가 2
 (,) 1 (150)
 (150) , (160) (150)
 1 (110) (,) (152a)(,) ,
 2 (130) (,) (152b) .
 5

(100) (slotted transmission network) 1 2
 (110, 130) (150) , ((set) (105, 115; 125, 135) (150)
 , 가 1 (50) ,
 (100) ,
 2 ,
 (100) , 가
 (resultant impedance)
 , Artech House (1996)
 K. C. Gupta, R. Gard, I. Bahl, P. Bhartia " (Microstrip Lines and Slotlines)"

(110) (140a) 1
 (170) , 2 (130) (140b)
 2 (180) 1 2 (170, 180)
 (170, 180) (matching) 3
 (175) 2 (180) 1 (170)
 2 (175) 3 (175) (150)
 4 (190)

(100) (110, 130) 100
 (110, 130) 3 (175) , 50
 (matching) 3 (175) (150)가 50
 (150) 가 3
 (175) , 4 (190) (150)
 4 (190) - (mouth)

가 (150) 가 , 가
 2 (150) 4 (190) 1
 .
 Van Nostrand Co. (1952) D. King , " (Measurements At Centimeter Wavelength)"
 (100) ,
 .
 3 , 가 , (200)
 (200) 1 (10)
 가 가 .
 2 (100) , (200) 가 (broadside) -
 (planar, wave design) . (200) 가 ,
 (220) 가 , 가 - , (200) Z
 .
 , (200) (4) (215, 225, 235, 245) ,
 (215, 225, 235, 245)
 , (240a 240d)
 (240a 240d) (220)
 (200) 가 (horn) 가
 ,
 (240a 240d) , ,
 (200) , ,
 가 .
 (250)가 (200) (250) 가 2 (,
) 1 1 (250)
 ,
 (250) (260) (250)
 (215) (,) (252a)(,) ,
 (235) (,) (252b) .
 5
 .
 (200) 가 (250)
 (250)
 (240a)
 1 , (240b) 2
 1 (270) , 2
 (280) (240c) 3 , 3 (240d)
 4 1 2 3
 (275) 3 4 . 4

(290) (200)
(250)

, (200) 300 ((215, 225) , 1 (270) , 150
, 2 (280) 75
, (290) (250) ((250)가 75
) (250) 가 3 (275)
, 4 (290) (250)
가 가 - 가 (250)
가 가 , 가 (250) 가
(250)가 50 , 4 (290)
(200) (250) 50

4(a) , (300) 가 (300)
1 2 (315, 320) (310)
, (300) W b , (310)
, Artech House (1996) K. C. Gupta, R. Gar
d, I. Bahl, P. Bhartia "

4(b) , (300) 가 (300) (310)
, (dominant mode of propagation) 가 ,
,
가 , (300)
(300) . 2 () , 100
(310) , ()가 ,
가 , (300) 9.5
(Al₂O₃)

5 , (400) (450)가 가 ,
(400) (450) (400) 1 (450)
(,) , (450) 2 (420)
(,)

(, 10 kHz) (, 50 GHz)
, (thick film technology)
, 가 Al₂O₃ (metal load

d, organic - based paste) (screen printing) (routinely) 가 .

(via;) . (500

1600) .

, 가 가 .

가 (emulsion bonded) ,

(wire mesh) 가 (mesh) .

가 (dam) (, , 2

00 ,) . 50 , 7 10

. 50 .

- 가 (binder), (dispersing agent), (solvent)

(rheology) 가

가 , (squeegee;)

가 ,

가 (metal trace)

. 6 , , 가

/ 가 (, ,)

4(a) (300) , , 100

(W) , 1 2 (315, 320)

(DuPont) Fodel - 가 (photo - printable) 40 100

. 100 .

, , (

) (視準) (collimated)

, 가 , .

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5 ,

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7.

6 ,

(Vivaldi)

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8.

2 ,

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12.

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13.

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14.

13 ,

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15.

11 ,

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16.

15 ,

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17.

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18.

17 ,

가

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가

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19.

17 ,

1

2

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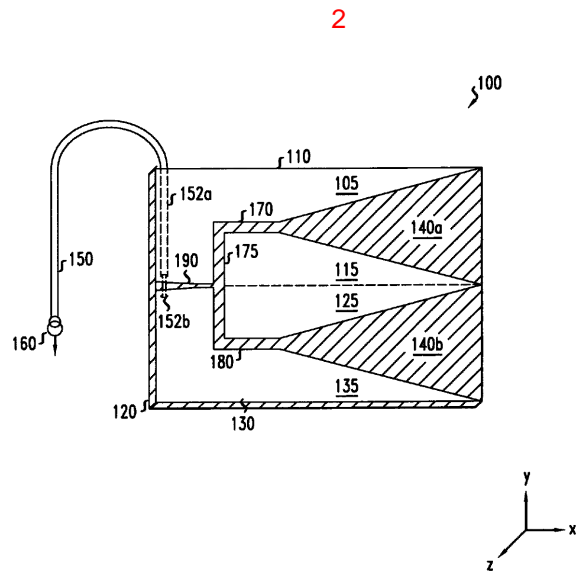
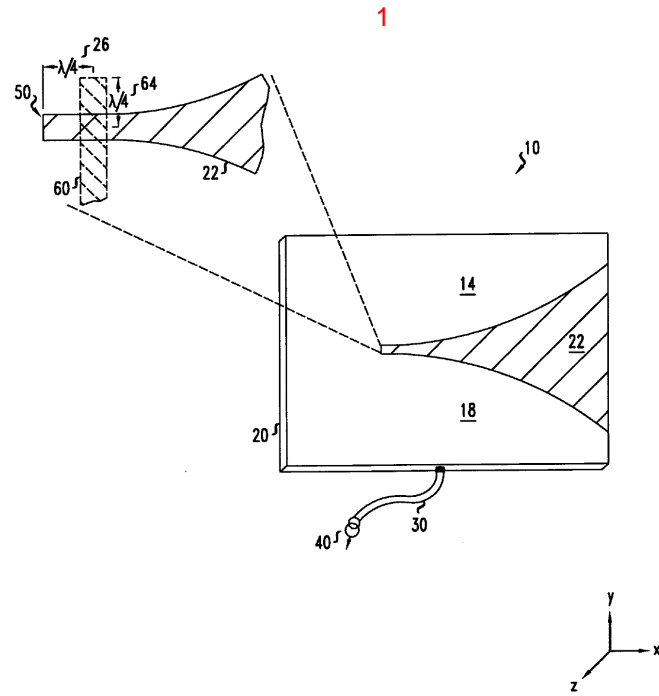
20.

19 ,

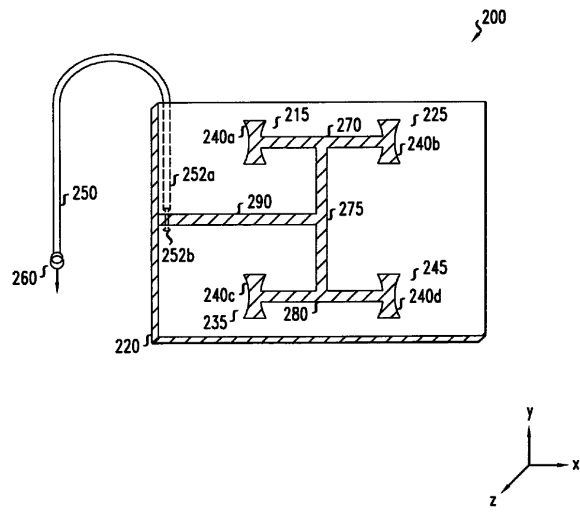
1

2

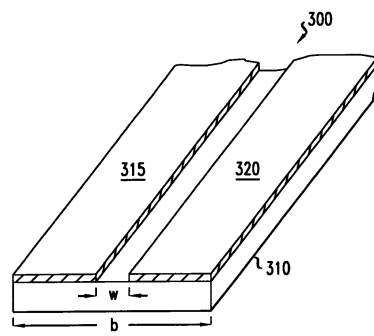
.



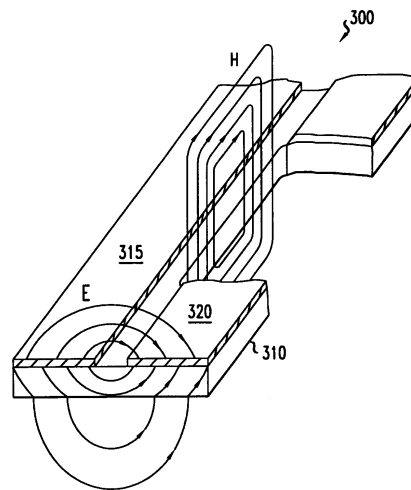
3



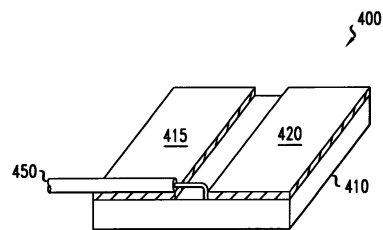
4a



4b



5



6

