

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** MARK G. COCKSON, KENNETH D. SIMMONS and  
DONALD E.T. WINGO

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Appeal No. 1999-2588  
Application No. 08/694,901

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ON BRIEF

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Before HAIRSTON, BARRETT, and DIXON, **Administrative Patent Judges**.  
DIXON, **Administrative Patent Judge**.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 1-9 and 11-32, which are all of the claims pending in this application.

We REVERSE.

## BACKGROUND

Appellants' invention relates to integrated matched antenna structures using printed circuit techniques. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. An integrated matched antenna assembly comprising:

a printed circuit board;

a matching circuit, the matching circuit further comprising:

an inductor formed on the printed circuit board, the inductor being comprised of a conductive strip disposed on the printed circuit board and having a first and second end,

a capacitive element electrically connected to the inductor, the capacitive element having first and second conductors disposed in a spaced relation to provide a capacitance, at least one of the conductors being formed on the printed circuit board; and

an antenna electrically connected directly to the inductor of the matching circuit.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

|         |           |               |
|---------|-----------|---------------|
| Shyu    | 4,785,305 | Nov. 15, 1988 |
| Parfitt | 4,992,800 | Feb. 12, 1991 |

Claims 1, 2, 4, 5, 7, 11, 14-16, 18-22, and 26 stand rejected under 35 U.S.C.

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§ 102 as being anticipated by Parfitt. Claims 1-9, 11-22, 25, and 26 stand rejected under 35 U.S.C. § 102 as being anticipated by Shyu. Claims 3 and 27-32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Parfitt. Claims 23, 24, and 27-32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Shyu.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 10, mailed Jan 22, 1999) for the examiner's reasoning in support of the rejections, and to appellants' brief (Paper No. 9, filed Oct. 26, 1998) and reply brief (Paper No. 11, filed Feb. 12, 1999) for appellants' arguments thereagainst.

### **OPINION**

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we make the determinations which follow.

### **35 U.S.C. § 102**

Appellants argue that neither Parfitt nor Shyu teaches or suggests the antenna directly connected to the inductor of the matching circuit. (See brief at pages 3 and 6.) We agree with appellants. The examiner maintains that the capacitor acts as a short circuit at the RF frequency and hence the inductor is connected directly to the antenna. (See answer at

pages 3-4.) We disagree with the examiner's analysis of the recited claim language, and we do not find a teaching or suggestion of direct connection between the antenna and the inductor in either reference.

Appellants argue that the present invention is an integrated system that does not require an external glass capacitor to complete the structure. (See brief at page 4.) We agree with appellants. The examiner maintains that the claims do not preclude a structure with a glass capacitor. (See answer at page 4.) We disagree with the examiner. While a glass capacitor may be used in the system, it would have to be configured differently than as recited in the language of independent claim 1. Specifically, Figure 2 of Parfitt and Figure 4 of Shyu show the antenna connected to the capacitor. The examiner's argument concerning the RF frequency is not an appropriate argument with respect to anticipation since the structure is clearly not taught by Parfitt or Shyu. Therefore, we will not sustain the rejection of independent claim 1 under 35 U.S.C. § 102.

With respect to independent claims 18 and 26, appellants argue that Parfitt does not teach the circuit board having a plurality of layers and the capacitor being formed on plural layers. The examiner maintains that the "antenna 38 is formed on a printed circuit board which is the glass 40" of Parfitt. (See answer at pages 5 and 7.) We disagree with the examiner's interpretation of the teachings of Parfitt. In our view, the glass of the window is

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not a printed circuit board or layer thereof. With respect to the teachings of Shyu, the examiner maintains that the circuit board 5 and the dielectric glass 4 would comprise the multi-layer boards. Again, we disagree with the examiner's interpretation of Shyu, and we do not find a multi-layer printed circuit board. Since the examiner has not shown the claimed invention to be taught by either reference, we will not sustain the rejection of independent claims 18 and 26 under 35 U.S.C. § 102. The same holds true for the claims that depend from independent claim 18.

### **35 U.S.C. § 103**

With respect to the rejection under 35 U.S.C. § 103, the examiner merely relies upon the prior findings of anticipation and finds the specific details of the dependent claims to be obvious variations of physical characteristics of the structures of Parfitt and Shyu. (See answer at page 5.) This does not remedy the deficiencies in the structures of Parfitt and Shyu as noted above nor does it address the motivation to modify the disclosed circuits of Parfitt and Shyu. Therefore, the examiner has not set forth a case of obviousness. Therefore, we will not sustain the rejection of dependent claims 3, 23, 24, and 27-32 under 35 U.S.C. § 103.

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**CONCLUSION**

To summarize, the decision of the examiner to reject claims 1-9 and 11-32 under 35 U.S.C. §§ 102 and 103 is reversed.

**REVERSED**

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|-----------------------------|---|-----------------|
| KENNETH W. HAIRSTON         | ) |                 |
| Administrative Patent Judge | ) |                 |
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|                             | ) | BOARD OF PATENT |
| LEE E. BARRETT              | ) | APPEALS         |
| Administrative Patent Judge | ) | AND             |
|                             | ) | INTERFERENCES   |
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| JOSEPH L. DIXON             | ) |                 |
| Administrative Patent Judge | ) |                 |

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