Remarks

These remarks are submitted in response to the Non-Final Office Action of June 11, 2013. At the time of the Office Action, claims 1-32 were pending. Amendments have been made to claims 1, 3, 5-8, 11-14, 16, and 18-32 in the present Office Action. No new matter has been added.

I. Allowable Subject Matter

Claims 12 - 13, 25, 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The allowable subject matter is acknowledged.

II. Rejections to Drawings

Figures 1A-1G should be designated by a legend such as --Prior Art—because only that which is old is illustrated. See MPEP § 608.02(g). Replacement claims have been submitted to overcome this rejection. Withdrawal of the rejection is respectfully requested.

III. Claim Rejections Under 35 U.S.C § 102

Claims 1-3, 8, 14 and 27 are rejected under 35 U.S.C. §102(b) as being anticipated by Bell (5, 189,434).

Amended claim 1 recites a plurality of coupling elements for electrically coupling to neighboring antenna elements of the plurality of antenna elements such that the plurality of antenna elements and the plurality of coupling elements are arranged about a periphery of the multimode antenna structure and form a single radiating structure, wherein electrical currents on one antenna element of the plurality of antenna elements flow to the neighboring antenna elements and substantially bypass the plurality of antenna ports coupled to the neighboring antenna elements such that an antenna mode excited by one of the plurality of antenna ports is substantially electrically isolated from a mode excited by another one of the plurality of antenna ports at a given desired signal frequency range without coupling a decoupling network to the plurality of antenna ports, and the multimode antenna structure generates diverse antenna patterns.

Bell describes a hybrid circuit module having baluns configured between input and output terminals to isolate sources when placed across pairs of input and output terminals—see abstract, and FIGs. 2A and 2B. It is further apparent that the hybrid circuit is a decoupling network based on the descriptions of Bell at column 5, lines 46-49, reproduced below.

> **Each module 10 includes first, second, third and fourth transmission line baluns 22, 24, 26 and 28 arranged to isolate one pair of input terminals 12, 14 from the other pair of input terminals 16, 18. In a preferred**

Accordingly, the hybrid circuit serves as a decoupling network.

Bell does not describe or suggest that electrical currents on one antenna element of the plurality of antenna elements flow to the neighboring antenna elements and substantially bypass the plurality of antenna ports coupled to the neighboring antenna elements such that an antenna mode excited by one of the plurality of antenna ports is substantially electrically isolated from a mode excited by another one of the plurality of antenna ports at a given desired signal frequency range without coupling a decoupling network to the plurality of antenna ports, and the multimode antenna structure generates diverse antenna patterns.

Accordingly, Bell does not anticipate claim 1 or dependent claims 2-3 and 8. Claims 1-3 and 8 are therefore allowable.

Amended claim 14 recites a coupling element electrically coupling the plurality of antenna elements to a common point to form a single radiating structure, wherein electrical currents on one antenna element of the plurality of antenna elements flow to another antenna element of the plurality of antenna elements and substantially bypass an antenna port of the plurality of antenna ports coupled to the another antenna element such that an antenna mode excited by the antenna port of the plurality of antenna ports is substantially electrically isolated from a mode excited by another antenna port of the plurality of antenna ports at a given desired signal frequency range without coupling a decoupling network to the plurality of antenna ports, and the antenna structure generates diverse antenna patterns.

As noted above, Bell's hybrid circuit module serves as a decoupling network using baluns. Bell does not describe or suggest that electrical currents on one antenna element of the plurality of antenna elements flow to another antenna element of the plurality of antenna

elements and substantially bypass an antenna port of the plurality of antenna ports coupled to the another antenna element such that an antenna mode excited by the antenna port of the plurality of antenna ports is substantially electrically isolated from a mode excited by another antenna port of the plurality of antenna ports at a given desired signal frequency range without coupling a decoupling network to the plurality of antenna ports, and the antenna structure generates diverse antenna patterns.

Accordingly, Bell does not anticipate claim 14. Claim 14 is therefore allowable.

For similar reasons, Bell does not anticipate that electrical currents on one antenna element of the plurality of antenna elements flow to a neighboring antenna element of the plurality of antenna elements and substantially bypass one antenna port of the plurality of antenna ports coupled to the neighboring antenna element, wherein the electrical currents flowing through the one antenna element and the neighboring antenna element have a magnitude such that an antenna mode excited by the one antenna port is substantially electrically isolated from a mode excited by another antenna port of the plurality of antenna ports at a given desired signal frequency range without coupling a decoupling network to the plurality of antenna ports, and the antenna structure generates diverse antenna patterns.

Accordingly, Bell does not anticipate claim 27. Claim 27 is therefore allowable.

IV. Claim Rejections Under 35 U.S.C § 103

Claims 4- 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bell (5, 189,434) in view of Goubau (US 3,967,276). Goubau describes antenna structures having reactance at a free end. Goubau does not overcome the noted deficiencies in Bell. At least by virtue of their dependency on claim 1, Bell and Goubau do not render claims 4-7 obvious. Claims 4-7 are therefore allowable.

Claims 9-11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bell (5, 189,434) in view of Ho (US PG Pub. No. 2006/0050009). Ho describes a multi-mode antenna and multi-band combination. However, Ho does not overcome the noted deficiencies in claim 1. At least by virtue of their dependency on claim 1, Bell and Ho do not render claims 9-11 obvious. Claims 9-11 are therefore allowable.

Claims 14-20 and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Goubau (US 3,967,276). Goubau describes antenna structures having reactance at a free end.

Goubau does not describe or suggest that electrical currents on one antenna element of the plurality of antenna elements flow to another antenna element of the plurality of antenna elements and substantially bypass an antenna port of the plurality of antenna ports coupled to the another antenna element such that an antenna mode excited by the antenna port of the plurality of antenna ports is substantially electrically isolated from a mode excited by another antenna port of the plurality of antenna ports at a given desired signal frequency range without coupling a decoupling network to the plurality of antenna ports, and the antenna structure generates diverse antenna patterns as recited in claim 14.

Goubau also does not describe or suggest that electrical currents on one antenna element of the plurality of antenna elements flow to a neighboring antenna element of the plurality of antenna elements and substantially bypass one antenna port of the plurality of antenna ports coupled to the neighboring antenna element, wherein the electrical currents flowing through the one antenna element and the neighboring antenna element have a magnitude such that an antenna mode excited by the one antenna port is substantially electrically isolated from a mode excited by another antenna port of the plurality of antenna ports at a given desired signal frequency range without coupling a decoupling network to the plurality of antenna ports, and the antenna structure generates diverse antenna patterns as recited in claim 27.

It appears that the Office has taken official notice on certain features of claims 14 and 27. Section 2144.03(A) of the MPEP states that "[i]t is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based." Section 2144.03(C) further states that "[i]f applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. See 37 CFR 1.104(c)(2)." It is believed that the Office has failed to provide evidentiary support for its position. Accordingly, the Official Notice taken by the Office to reject claims 14 and 27 are respectfully traversed.

Accordingly, Goubau does not render claim 14 and its dependent claims 15-20, or claim 27 obvious. Claims 14-20 and 27 are therefore allowable.

Claims 21-24 and 30-32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Goubau (US 3,967,276) in view of Ho (2006/0050009). At least by virtue of their dependency on claims 14 and 27, Goubau and Ho do not render claims 21-24 and 30- 32 obvious. Claims 21-24 and 30-32 are therefore allowable.

Claims 28 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Goubau (US 3,967,276) in view of Bell (US 5, 189,434). At least by virtue of their dependency on claim 27, Goubau and Bell do not render claims 28-29 obvious. Claims 28-29 are therefore allowable.

V. Conclusion

This application is in condition for allowance, which action is respectfully requested. It is respectfully requested that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion. Please charge any deficiencies or credit any overpayment to Deposit Account No. 50-5199.

Respectfully submitted,

/Ed Guntin/

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