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PATENT

Attorney Docket No.: P006.02 (78120.0034)

Client Ref. No.: WB-0439-US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

Hudson et al.

Application No.: 11/847,084

Filed: August 29, 2007

For: ADJUSTING THE POWER LEVEL  
OF A SATELLITE TRANSMITTER

Customer No.: 16565

Confirmation No.: 1549

Examiner: Duc M. Nguyen

Art Unit: 2618

**APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an appeal from the Final Office Action (“Final Office Action”) dated November 3, 2011, finally rejecting claims 20-28 and 32-40; and the decision on the Pre-Brief Appeal Conference dated March 13, 2012.

**I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is WildBlue Communications, Inc., as evidenced by an Assignment recorded at Reel 019763, Frame 0235. WildBlue Communications, Inc. is a wholly owned subsidiary of ViaSat Inc.

**II. RELATED APPEALS AND INTERFERENCES**

There are no appeals or interferences that are related to this case.

### **III. SUMMARY OF CLAIMED SUBJECT MATTER**

Claim 20, 21, 22, and 26 are independent claims; claims 23-25 and 32-33 depend from Claim 22; and claims 27-28 and 34-40 depend from Claim 26. The claims are directed, generally, to distortion-based power control systems and methods in satellite communications.

More specifically, independent claim 20 is directed to a method of adjusting the power level of a satellite transmitter on a satellite. The method of claim 20 comprises: generating test signals from a test signal generator on said satellite (see, e.g., p. 29, line 32 through p. 30, line 1; FIG. 14, ref. 322); modulating a carrier signal that is generated by said satellite transmitter with said test signals to produce a modulated output signal (see, e.g., p. 29, line 32 through p. 30, line 1; and FIG. 14, ref. 324); amplifying said modulated output signal in said satellite transmitter to produce an amplified, modulated output signal (see, e.g., p. 30, lines 1-2; and FIG. 14, ref. 326); filtering at least one frequency of said amplified, modulated output signal to determine a distortion level of said amplified, modulated output signal (see, e.g., p. 30, lines 2-3; and FIG. 14, ref. 328); and controlling a power level of said satellite transmitter based upon said distortion level of said amplified, modulated output signal (see, e.g., p. 30, lines 3-9; and FIG. 14, refs. 330-338).

Independent claim 21 is directed to a system for adjusting the power level of a satellite transmitter on a satellite. The system of claim 21 comprises: a test signal generator that generates test signals (see, e.g., p. 29, lines 23-24; and FIG. 13, refs. 270, 314); said satellite transmitter that modulates said test signals with a carrier signal to produce a modulated output signal, and amplifies said modulated output signal to produce an amplified, modulated output signal (see, e.g., p. 29, lines 25-27; and FIG. 13, ref. 282); a filter that filters a predetermined harmonic frequency of said amplified, modulated output signal to generate a distortion control signal having an amplitude that is indicative of a distortion level of said amplified, modulated output signal (see, e.g., p. 29, lines 27-29; and FIG. 13, ref. 274); and a controller that controls an power level of said satellite transmitter in response to said amplitude of said distortion control signal to maintain a constant distortion level of said amplified, modulated output signal (see, e.g., p. 29, lines 29-30; and FIG. 13, ref. 280).

Independent claim 22 is directed to a system comprising: a test signal generator configured to generate test signals (see, e.g., p. 29, lines 23-24; and FIG. 13, refs. 270, 314); a satellite transmitter configured to: modulate said test signals with a carrier signal to generate microwave communication signals; transmit said microwave communication signals (see, e.g., p. 29, lines 27-29; and FIG. 13, ref. 282); a first splitter configured to create a duplicate signal of at least a portion of said microwave communication signal transmitted by said transmitter (see, e.g., p. 29, lines 25-27; and FIG. 13, ref. 272); a filter coupled to said first splitter and configured to isolate a particular portion of said duplicate signal created by said first splitter to produce a filtered duplicate signal (see, e.g., p. 29, lines 27-29; and FIG. 13, ref. 274); and a controller coupled to said filter and configured to: receive the isolated portion of said filtered duplicate signal from said filter; and adjust a power level of said satellite transmitter in response to distortion associated with said isolated portion of said filtered duplicate signal received from said filter (see, e.g., p. 29, lines 29-30; and FIG. 13, ref. 280).

Independent claim 26 is directed to a method of controlling signal strength of a communication signal in a satellite communication system. The method of claim 26 comprises: generating a test signal (see, e.g., p. 29, line 32 through p. 30, line 1; FIG. 14, ref. 322); combining said test signal with said communication signal generated by a satellite transmitter to produce a combined communication and test signal (see, e.g., p. 29, line 32 through p. 30, line 1; and FIG. 14, ref. 324); amplifying said combined communication and test signal at an initial gain level to produce an amplified combined communication and test signal (see, e.g., p. 30, lines 1-2; and FIG. 14, ref. 326); filtering said amplified communication and test signal to isolate a distortion level associated with said test signal (see, e.g., p. 30, lines 2-3; and FIG. 14, ref. 328); and adjusting a power level of said satellite transmitter in response to said distortion (see, e.g., p. 30, lines 3-9; and FIG. 14, refs. 330-338).

#### IV. ARGUMENT

**A. During examination, the claims must be construed, the examiner must make a *prima facie* case of obviousness, and the final legal conclusion of obviousness must be correct.**