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(19) **United States**(12) **Patent Application Publication**
Dzierwa et al.(10) **Pub. No.: US 2023/0232244 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **SYSTEMS, METHODS, AND DEVICES FOR
ELECTRONIC SPECTRUM MANAGEMENT**(71) Applicant: **Digital Global Systems, Inc.**, Tysons
Corner, VA (US)(72) Inventors: **Ronald C. Dzierwa**, Baltimore, MD
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Corner, VA (US)(21) Appl. No.: **18/124,820**(22) Filed: **Mar. 22, 2023****Related U.S. Application Data**(63) Continuation of application No. 17/388,882, filed on
Jul. 29, 2021, now Pat. No. 11,617,089, which is a
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Feb. 22, 2019, now Pat. No. 10,555,180, which is a
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May 8, 2017, now Pat. No. 10,219,163, which is a
continuation-in-part of application No. 15/412,982,
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14/983,690, filed on Dec. 30, 2015, now abandoned,which is a continuation of application No. 14/788,
838, filed on Jul. 1, 2015, now Pat. No. 9,253,648,
which is a continuation of application No. 14/504,
743, filed on Oct. 2, 2014, now Pat. No. 9,094,974,
which is a continuation of application No. 14/273,
193, filed on May 8, 2014, now Pat. No. 8,868,004,
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873, filed on Nov. 18, 2013, now Pat. No. 8,805,291,
which is a continuation of application No. 13/912,
683, filed on Jun. 7, 2013, now Pat. No. 9,288,683.(60) Provisional application No. 61/789,758, filed on Mar.
15, 2013.**Publication Classification**(51) **Int. Cl.**
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H04B 17/318 (2006.01)(52) **U.S. Cl.**
CPC **H04W 28/0236** (2013.01); **H04B 17/318**
(2015.01)(57) **ABSTRACT**Devices and methods enable optimizing a signal of interest
based on identifying and analyzing the signal of interest
based on radio frequency energy measurements. Signal data
is compared with stored data to identify the signal of
interest. Signal degradation data is calculated based on noise
figure parameters, hardware parameters and environment
parameters. The signal of interest is optimized based on the
signal degradation data. Terrain data is also operable to be
used for optimizing the signal of interest.