

# Petitioner's Demonstratives

**Google LLC**  
**v.**  
**Uniloc 2017 LLC**

**IPR2020-00756**

**July 15, 2021**

**GOOGLE EXHIBIT 1028**  
**GOOGLE v. UNILOC**  
**IPR2020-00756**

# Challenged Patent: '952 Patent



(12) **United States Patent**  
Etchehoven et al.  
(10) **Patent No.:** US 9,564,952 B2  
(45) **Date of Patent:** Feb. 7, 2017

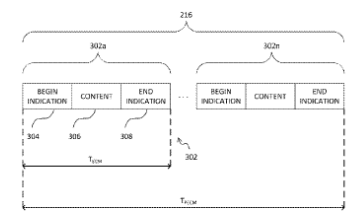
(54) **NEAR FIELD AUTHENTICATION THROUGH COMMUNICATION OF ENCLOSED CONTENT SOUND WAVES**  
(71) Applicant: **UNILOC LUXEMBOURG S.A.**, Luxembourg (LU)  
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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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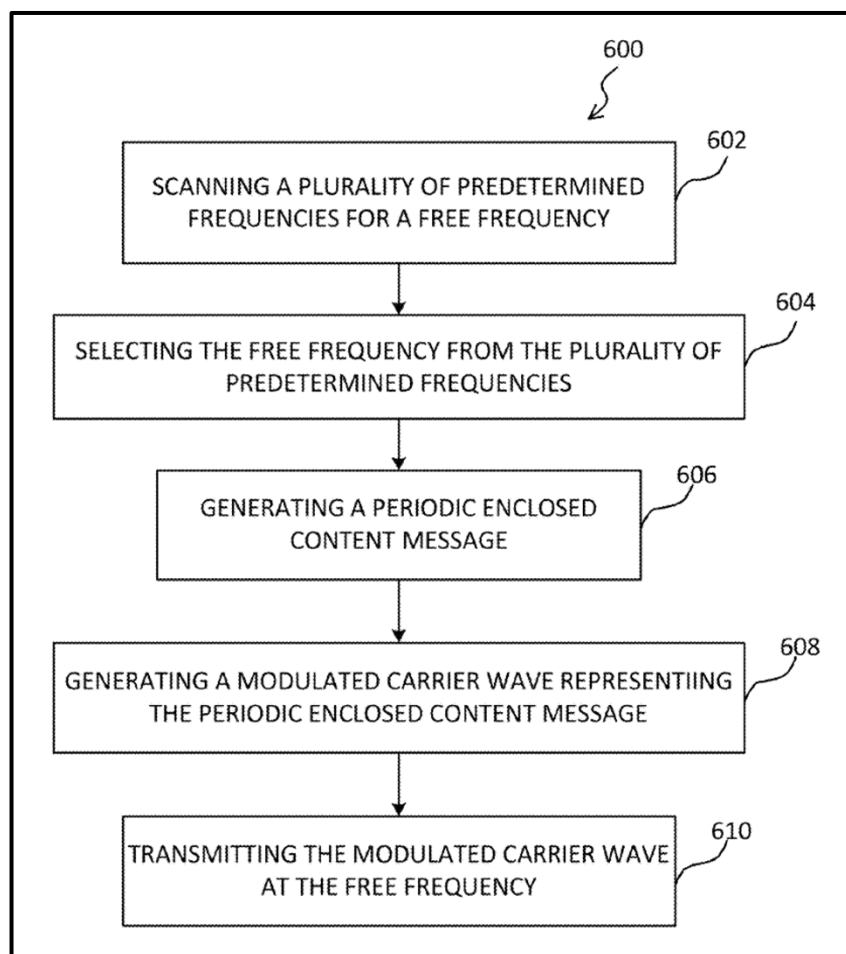
(21) Appl. No.: 13/734,178  
(22) Filed: **Jan. 4, 2013**  
(65) **Priority Publication Data**  
US 2013/0203350 A1 Aug. 8, 2013  
**Related U.S. Application Data**  
(60) Provisional application No. 61/595,599, filed on Feb. 6, 2012.  
(30) **Foreign Application Priority Data**  
Apr. 24, 2012 (AU) ..... 2012100462  
(51) **Int. Cl.**  
**H04B 7/00** (2006.01)  
**H04B 5/02** (2006.01)  
**H04B 5/00** (2006.01)  
(52) **U.S. Cl.**  
CPC ..... **H04B 5/02** (2013.01); **H04B 5/0031** (2013.01)  
(58) **Field of Classification Search**  
CPC ..... H04B 1/034; H04B 1/205; H04B 5/0031; H04B 5/02  
(Continued)

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(57) **ABSTRACT**  
A method for near field authentication of sources using an audio transceiver computing device includes scanning a plurality of predetermined frequencies for a free frequency, selecting the free frequency from the plurality of predetermined frequencies, generating a periodic enclosed content message, generating a modulated carrier wave representing the periodic enclosed content message, and transmitting the modulated carrier wave at the free frequency. A method for near field authentication of sources using a microphone input of a receiving computing device includes scanning a plurality of predetermined frequencies to detect a signal using the microphone input, verifying, responsive to detecting the signal, that the signal includes at least one enclosed content message, and extracting a content from the enclosed content message.  
**12 Claims, 9 Drawing Sheets**

**U.S. Patent No. 9,564,952**  
"Near Field Authentication Through Communication of Enclosed Content Sound Waves"



# '952 Patent: Near-Field Authentication Using Sound Waves



Petition (Paper 1) at 4;  
'952 Patent (Ex. 1001) at Figure 6.

## Challenged Claims: '952 Patent

### Claim 9

A method for near field authentication of a source, the source using an audio transceiver computing device, the method comprising:

- scanning a plurality of predetermined frequencies for a free frequency;
- selecting the free frequency from the plurality of predetermined frequencies;
- generating a periodic enclosed content message;
- generating a modulated carrier wave representing the periodic enclosed content message; and
- transmitting the modulated carrier wave at the free frequency;

wherein each period of the periodic enclosed content message includes a begin indication, a content, and an end indication;

wherein the content includes device identification data including a bit array derived from user-configurable and non-user-configurable data specific to the audio transceiver computing device; and wherein the modulated carrier wave comprises a sound wave.

Petition (Paper 1) at 5-6;  
'952 patent (Ex. 1001) at 14:53-15:5.

## Challenged Claims: '952 Patent

<b>Claim 10</b>	The method of claim 9, wherein the transmitting step further comprises transmitting the modulated carrier wave for a predetermined number of periods, or a predetermined period of time.
<b>Claim 11</b>	The method of claim 9, wherein the transmitting step 10 further comprises transmitting the modulated carrier wave until a stop indication is received from a user.
<b>Claim 12</b>	The method of claim 9 wherein the carrier wave is modulated by the periodic enclosed content message.

Petition (Paper 1) at 6;  
'952 patent at 15:6-14.

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