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(12) **United States Design Patent**
Zheng

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- (54) **ANTENNA** 7,215,296 B2 † 5/2007 Abramov H01Q 3/24
343/83
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(US) D549,696 S † 8/2007 Oshima D14/23
7,333,067 B2 † 2/2008 Hung H01Q 1/36
343/70
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455/43
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(US) 7,405,704 B1 † 8/2008 Lin H01Q 1/2266
343/70
- (**) Term: **15 Years** 7,477,195 B2 † 1/2009 Vance H01Q 9/0457
343/70
- (21) Appl. No.: **29/700,616** D592,195 S † 5/2009 Wu D14/23
(Continued)

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- (51) **LOC (12) Cl.** **14-03**
- (52) **U.S. Cl.**
USPC **D14/230**
- (58) **Field of Classification Search**
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CPC H01Q 7/00; H01Q 13/10; H01Q 9/285;
H01Q 19/30; H01Q 19/12; H01Q 1/36;
H01Q 1/38; H04B 1/0475; H04B 1/034;
H05K 11/00; G05D 1/0234; G06K
19/07749
See application file for complete search history.

References Cited

U.S. PATENT DOCUMENTS

- 6,667,718 B2 * 12/2003 Back H01Q 1/38
343/700 MS
- D493,446 S * 7/2004 Hung D14/230
- 7,061,437 B2 † 6/2006 Lin H01Q 9/0421
343/70
- 7,148,849 B2 † 12/2006 Lin H01Q 1/243
343/70

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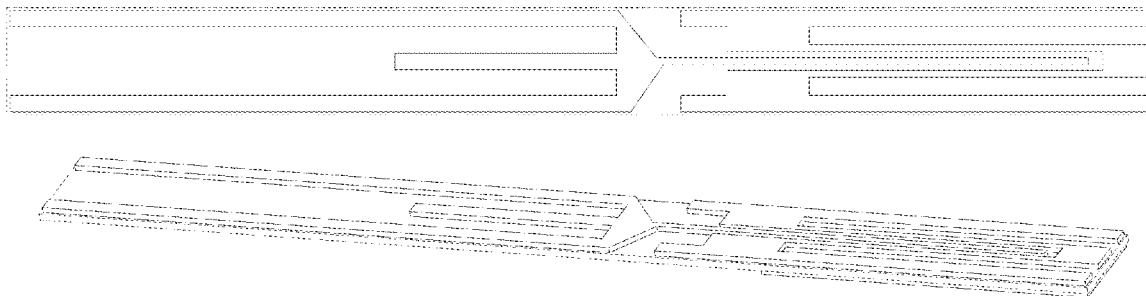
(57) **CLAIM**

The ornamental design for an antenna, as shown and described.

DESCRIPTION

FIG. 1 is a top plan view of an antenna, showing my new design;
FIG. 2 is a front elevation view thereof;
FIG. 3 is a bottom plan view thereof;
FIG. 4 is a top perspective view thereof;
FIG. 5 is a top plan view showing only the top portion of the design, with the broken line environment not shown;
FIG. 6 is a front elevation view, with the broken line environment not shown; and,
FIG. 7 is a bottom plan view showing only the bottom portion of the design, with the broken line environment not shown.
The broken lines show environment only and form no part of the claimed design.

1 Claim, 1 Drawing Sheet



(56)

References Cited

U.S. PATENT DOCUMENTS

7,570,215	B2 †	8/2009	Abramov	.....	H01Q 3/242	D706,751	S †	6/2014	Chang	.....	D14/23
					343/70	D708,602	S †	7/2014	Gosalia	.....	D14/23
D599,334	S †	9/2009	Chiang	.....	D14/23	D709,053	S †	7/2014	Chang	.....	D14/23
D599,787	S †	9/2009	Deguchi	.....	D14/230	D710,339	S *	8/2014	Bishop	.....	D14/230
D606,053	S †	12/2009	Wu	.....	D14/23	D710,832	S †	8/2014	Yang	.....	D14/23
D607,442	S †	1/2010	Su	.....	D14/23	D710,833	S *	8/2014	Zheng	.....	D14/230
D608,769	S †	1/2010	Bufe	.....	D14/23	8,854,265	B1 †	10/2014	Yang	.....	H01Q 9/045
D612,368	S †	3/2010	Yang	.....	D14/23						343/70
7,705,783	B2 †	4/2010	Rao	.....	H01Q 1/243	D716,775	S †	11/2014	Bidermann	.....	D14/23
					343/70	D766,883	S †	9/2016	Yang	.....	D14/230
7,729,662	B2 †	6/2010	Abramov	.....	H04B 7/0408	D796,492	S †	9/2017	He	.....	D14/230
					370/33	D798,280	S †	9/2017	Zheng	.....	D14/230
D621,819	S †	8/2010	Tsai	.....	D14/23	D814,448	S *	4/2018	Montgomery	.....	D14/230
7,843,390	B2 †	11/2010	Liu	.....	H01Q 9/42	D822,649	S †	7/2018	He	.....	D14/230
					343/70	D826,910	S *	8/2018	Zhao	.....	D14/230
D633,483	S †	3/2011	Su	.....	D14/23	D838,261	S *	1/2019	He	.....	D14/230
D635,127	S †	3/2011	Tsai	.....	D14/23	D849,724	S *	5/2019	He	.....	D14/230
7,907,971	B2 †	3/2011	Salo	.....	H04B 1/1027	D850,426	S *	6/2019	He	.....	D14/230
					455/56	D859,374	S *	9/2019	He	.....	D14/230
D635,560	S †	4/2011	Tsai	.....	D14/23	2002/0003499	A1 †	1/2002	Kouam	.....	H01Q 1/243
D635,963	S †	4/2011	Podduturi	.....	D14/23						343/70
D635,964	S *	4/2011	Podduturi	.....	D14/230	2004/0222936	A1 †	11/2004	Hung	.....	H01Q 1/38
D635,965	S †	4/2011	Mi	.....	D14/23						343/79
D636,382	S †	4/2011	Podduturi	.....	D14/23	2005/0073462	A1 †	4/2005	Lin	.....	G06F 1/1616
7,965,242	B2 †	6/2011	Abramov	.....	H01Q 1/521						343/70
					343/70	2005/0190108	A1 †	9/2005	Lin	.....	H01Q 9/42
D649,962	S †	12/2011	Tseng	.....	D14/23						343/70
D651,198	S †	12/2011	Mi	.....	D14/23	2006/0208900	A1 †	9/2006	Tavassoli Hozouri	.....	G06K 19/07749
D654,059	S †	2/2012	Mi	.....	D14/23						340/57
D654,060	S †	2/2012	Ko	.....	D14/23	2007/0030203	A1 †	2/2007	Tsai	.....	H01Q 9/42
8,115,618	B2 *	2/2012	Robertson	.....	A61B 1/00016						343/70
					340/539.12	2008/0150829	A1 †	6/2008	Lin	.....	G06F 1/1616
D658,639	S †	5/2012	Huang	.....	D14/23						343/86
D659,129	S †	5/2012	Mi	.....	D14/23	2008/0246668	A1 †	10/2008	Qi	.....	H01Q 1/243
D659,685	S †	5/2012	Huang	.....	D14/23						343/702
D659,688	S †	5/2012	Huang	.....	D14/23	2009/0002244	A1 †	1/2009	Woo	.....	H01Q 1/38
8,175,036	B2 †	5/2012	Visuri	.....	H04L 1/1874						343/70
					370/32	2009/0058739	A1 †	3/2009	Konishi	.....	G06F 1/1616
8,184,601	B2 †	5/2012	Abramov	.....	H01Q 3/24						343/70
					370/31	2009/0135072	A1 †	5/2009	Ke	.....	H01Q 1/36
D662,916	S †	7/2012	Huang	.....	D14/23						343/70
8,248,970	B2 †	8/2012	Abramov	.....	H04B 7/0617	2009/0262028	A1 †	10/2009	Mumbru	.....	H01Q 5/371
					370/26						343/70
D671,097	S †	11/2012	Mi	.....	D14/23	2010/0060526	A1 *	3/2010	Cheng	.....	H01Q 1/38
8,310,402	B2 †	11/2012	Yang	.....	H01Q 1/38						343/700 MS
					343/70	2010/0188297	A1 †	7/2010	Chen	.....	H01Q 1/243
D676,429	S †	2/2013	Gosalia	.....	D14/13						343/70
D678,255	S †	3/2013	Ko	.....	D14/23	2010/0309067	A1 †	12/2010	Tsou	.....	H01Q 3/26
8,423,084	B2 †	4/2013	Abramov	.....	H01Q 1/246						343/72
					370/33	2011/0006950	A1 †	1/2011	Park	.....	H01Q 9/0407
D682,813	S †	5/2013	Huang	.....	D14/230						343/70
D684,565	S †	6/2013	Wei	.....	D14/23	2011/0220727	A1 *	9/2011	Lee	.....	H01Q 1/2208
D684,954	S †	6/2013	Huang	.....	D14/230						235/492
D685,352	S †	7/2013	Wei	.....	D14/23	2012/0038514	A1 †	2/2012	Bang	.....	H05K 1/16
D685,772	S †	7/2013	Zheng	.....	D14/23						343/70
D686,600	S †	7/2013	Yang	.....	D14/23	2012/0229348	A1 †	9/2012	Chiang	.....	H01Q 1/2266
D689,474	S †	9/2013	Yang	.....	D14/23						343/70
D692,870	S †	11/2013	He	.....	D14/23	2012/0242546	A1 †	9/2012	Hu	.....	H01Q 1/243
D694,738	S †	12/2013	Yang	.....	D14/23						343/70
D695,279	S †	12/2013	Yang	.....	D14/23	2013/0315511	A1 *	11/2013	Chen	.....	G06K 19/07745
D695,280	S †	12/2013	Yang	.....	D14/23						383/116
D703,195	S †	4/2014	Zheng	.....	D14/23	2016/0012329	A1 *	1/2016	Machado	.....	G06K 19/07786
D703,196	S †	4/2014	Zheng	.....	D14/23						235/492
D706,247	S †	6/2014	Zheng	.....	D14/23						
D706,750	S †	6/2014	Bringuiet	.....	D14/23						

* cited by examiner

† imported from a related application

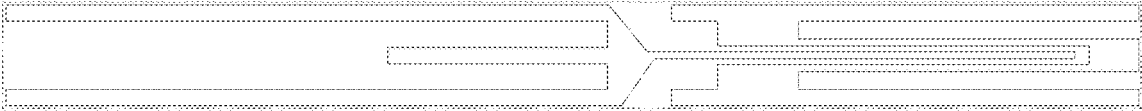


FIG. 1



FIG. 2



FIG. 3

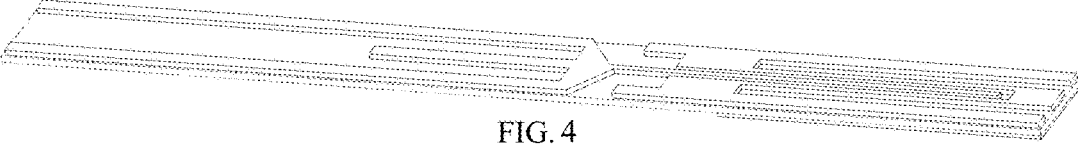


FIG. 4



FIG. 5



FIG. 6

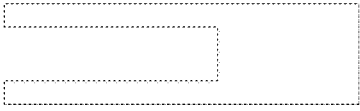


FIG. 7