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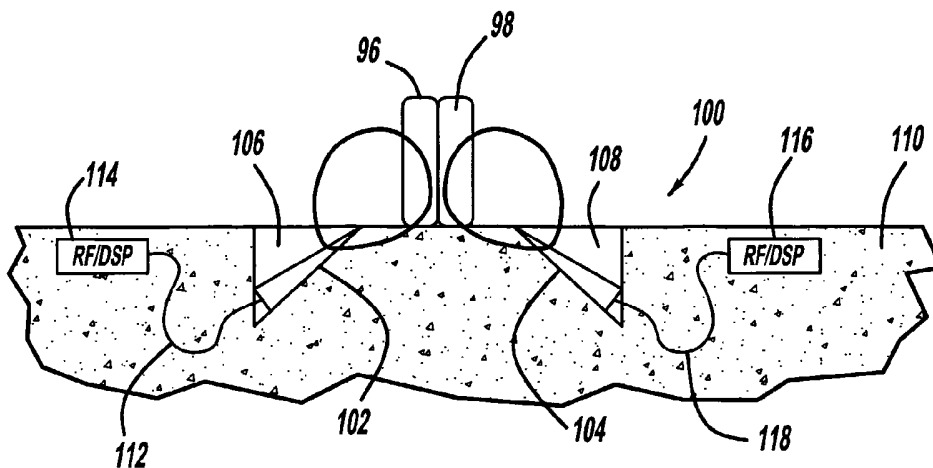
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[Continued on next page]

(54) Title: ANTENNA SYSTEM EMBEDDED IN A SUPPORT STRUCTURE FOR INTERROGATING A TIRE SENSOR TRANSPONDER



(57) Abstract: A vehicle tire interrogation system (100) for interrogating sensors embedded in a vehicle tire (96, 98). The interrogation system (100) both transmits and receives appropriate RF signals to and from the sensors. The system (100) includes antennas (1102, 104) operating at two separate frequency bands that have an input impedance at both frequency bands at 50 ohms, are horizontally polarized, and have a gain at a minimum of 2 dBi at the two frequency bands. The antennas (102, 104) may be printed dual band antennas, such as wideband tapered slot antennas (10), dual band printed dipoles (30) with reflectors or Yagi-Uda array antennas (50). The antennas (102, 104) can be embedded in various support structures (230) to protect both the antenna (102, 104) and the vehicle tires (96, 98).

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## A. CLASSIFICATION OF SUBJECT MATTER

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Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,067,235 A (MARKLAND et al) 10 January 1978 (10.01.1978), Figures 1 and 2, column 3, lines 30-55	1, 2, 4-8, 11, 14, 16, 18, 19, and 21
Y	US 5,192,954 A (BROCKELSBY et al) 09 March 1993 (09.03.1993), Figure 2, column 5, lines 22-27, column 6, 19-41 and 59-67, column 8, lines 43-64, Figure 26,	1, 2, 4-8, 11, 14, 16, 18, 19, and 21

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"P"	document published prior to the international filing date but later than the priority date claimed		

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