

ABSTRACT

ROTATABLE TRANSPONDER SYSTEM

5 A transponder system is presented, comprising first and second antenna arrays
each comprising a plurality of antenna elements arranged in a predetermined geometry.
The antenna elements of the first antenna array are respectively interconnected with
corresponding antenna elements of the second antenna array by respective connection
lines thereby forming plurality of receiving-transmitting pairs of antenna elements. A
10 receiving-transmitting pair is configured to receive an input electro-magnetic signal by
one antenna element thereof and transmit a corresponding output signal by the other
antenna element, thereby enabling collective collection of a signal waveform and
transmission of a corresponding output signal waveform. The first and second antenna
arrays are rotatable with respect to one another about at least one predetermined rotation
15 axis, thereby enabling variation of direction of propagation of the output signal
waveform with respect to direction of propagation of the collected signal waveform.

FIG. 4