Low-Q Electrically Small Spherical Magnetic Dipole Antennas

Three novel electrically small antenna configurations radiating a TE10 spherical mode corresponding to a magnetic dipole are presented and investigated: multiarm spherical helix (MSH) antenna, spherical split ring resonator (S-SRR) antenna, and spherical split ring (SSR) antenna. All three antennas are self-resonant, with the input resistance tuned to 50 ohms by an excitation curved dipole/monopole. A prototype of the SSR antenna has been fabricated and measured, yielding results that are consistent with the numerical simulations. Radiation quality factors (Q) of these electrically small antennas (in all cases ka)

General information
State: Published
Organisations: Electromagnetic Systems, Department of Electrical Engineering
Contributors: Kim, O. S.
Pages: 2210-2217
Publication date: 2010
Peer-reviewed: Yes

Publication information
Journal: IEEE Transactions on Antennas and Propagation
Volume: 58
Issue number: 7
ISSN (Print): 0018-926X
Ratings:
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 2
Scopus rating (2017): CiteScore 4.65 SJR 1.309 SNIP 2.244
Web of Science (2017): Impact factor 4.13
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 3.8 SJR 1.226 SNIP 2.013
Web of Science (2016): Impact factor 2.957
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): CiteScore 3.48 SJR 1.743 SNIP 2.432
Web of Science (2015): Impact factor 2.053
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 2
Scopus rating (2014): CiteScore 3.36 SJR 1.766 SNIP 2.56
Web of Science (2014): Impact factor 2.181
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 2
Scopus rating (2013): CiteScore 3.65 SJR 1.377 SNIP 2.219
Web of Science (2013): Impact factor 2.459
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): CiteScore 3.63 SJR 1.244 SNIP 2.264
Web of Science (2012): Impact factor 2.332
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): CiteScore 3.42 SJR 1.249 SNIP 2.199
Web of Science (2011): Impact factor 2.151
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 2