QT3-1 antenna measurement report

Quuppa

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Revision History

Version number	Changes	Date	Person
1.0	First release	15.9.2022	NL
1.1	Updated the correct dates to the footer	7.10.2022	IT
1.2	Added measurement information	14.11.2022	IT

1. Measurement description

1.1 Measurement setup

The tag measurements are done using MVG SG 64, previously known as Satimo Stargate 64 (details). The system consists of an Anechoic chamber, where there are 64 measurement probes fed for both polarizations separately. The device under test is rotated 180 degrees on the rotator, so almost 360 degree 3d-pattern can be measured.

Due to short measurement distance, the measurement result includes some near field term. MVG measurement software includes proprietary near field to far field conversion. This is optimized for the measurement setup and the system is calibrated according to the manufacturer instructions.

1.2 Measurement method

Active measurement type is used. The tag under test is commanded to transmit sine wave (cw-test mode) on the measurement frequency on full power (ideally +6 dBm) and then the measurement cycle of Stargate is started. Frequency analyzer is used to receive the signal. The conductive CW power is then deducted from the measured equivalent power to extract the plain antenna gain.

1.3 Measurement information

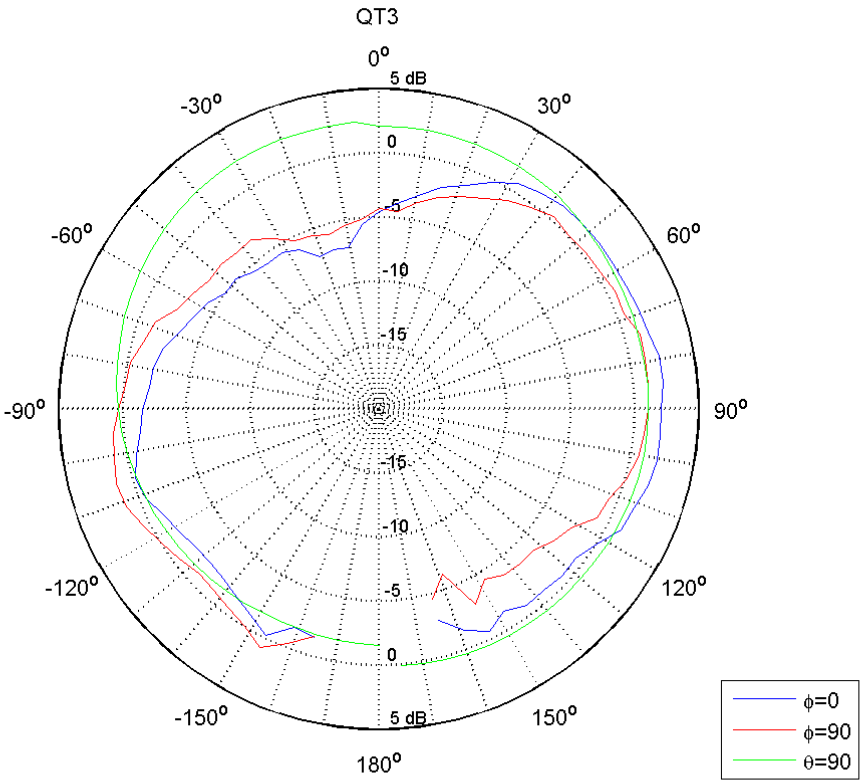
Test engineer: Henry Sand

Result analysis: Niko Lindvall

Measurement equipment: MVG SG 64, Software: Satimo SMM 1.7.3 , Calibrated: 4.4.2022

2. Results

2.1 Gain



2.2 Max gain

Maximum gain over full space is 2.5dBi

3.Antenna design

Antenna type: PIFA

Antenna connector: None