Federal Communications Commission
Authorization and Evaluation division

Equipment Authorization Branch

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Subject: Declaration concerning Antenna Specifiaction for Kamstrup USB Meter Reader and FCCID OUY-USBEXT

To Whom It May Concern:

The device specified above confirms to the FCC recommendations for external antenna type described below:

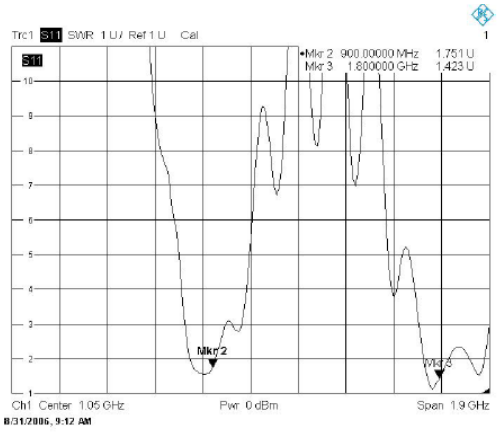
- Walk by configuration
- Drive by configuration

Model No. of antenna for the walk by configuration:

- Procell SBC-01 Stubby antenna

Type of antenna: has unique connector (i.e. reverse polarity SMA)
Gain of the antenna: 0dBi
Frequency range:880-960 MHz

Stubby antenna



VSWR data from supplier

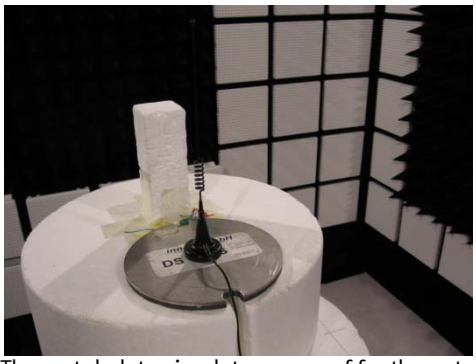
Model No. of antenna for the drive by configuration:

- Customized version of Smarteq MidiMag magnet mount antenna base with a 3.6 meter RG174 cable with RP SMA male to the transmitter and FME connection for a whip antenna.
- Smarteq RA 3146.03, product number 3146.03.00.00, 872-960 MHz whip glued with permant glue (loctide) to the Smarteq MidiMag base on the FME connector

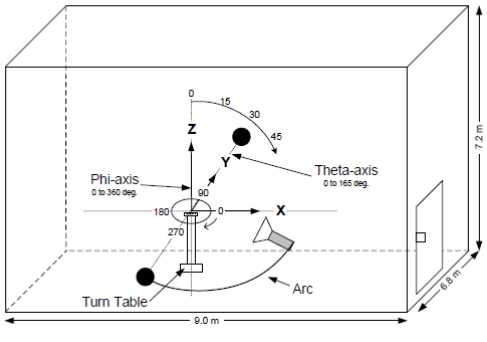
Type of antenna: has unique connector (i.e. reverse polarity SMA)
Gain of the antenna: 5.15 dBi (3 dBd reported by the supplier + 2.15 dBi for a lossless dipole antenna)
Frequency range: 872-960 MHz

Smarteq midimag magnet mount antenna base

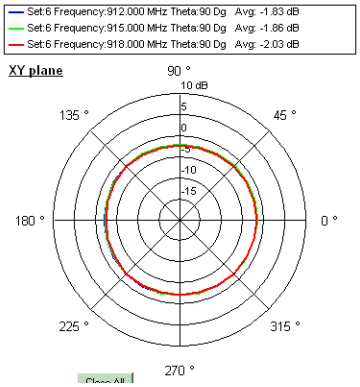
Smarteq RA 3146.03



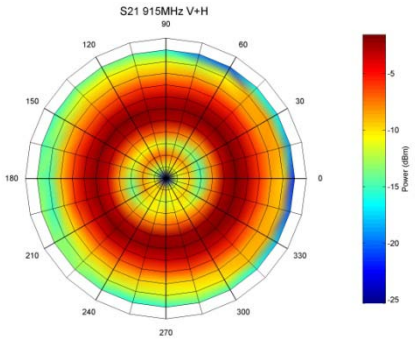
The metal plate simulate a car roof for the antenna



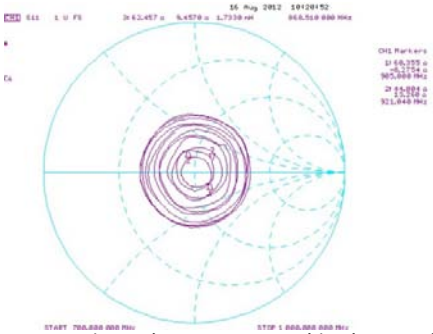
Coordinate system in the antenna chamber.



Average power measured when sending 0 dBm for theta : 90 degrees



The antenna radiation corresponds to a dipole pattern.
As seen on the picture above, no radiation energy is present for theta close to zero degrees (center of the plot) or for theta close to 180 degrees (outer countour)with a maximum for theta close to 90 degrees.



Antenna impedance measured in the anechoic chamber setup.

The mounting port of the antenna is fixed to the radio module and no other antenna should be used.

Please contact me if there is any information you may need.

Sincerely,

Kamstrup A/S

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