Title:	**VP2Refresh 5inch front RF antenna specification**

Project:	VP2Refresh		
Maturity:	draft/ ready/ reviewed	**Version:**	A01

Author		
Role	**Name**	**Date and signature**
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Purpose:

This document describes the VP2Refresh radio Bluetooth RF antenna specification

History of Content Changes				
Version	**Status**	**Date dd-Mmm-YYYY**	**Document Owner, Department**	**Changes** (e.g. CR-number)
A01	released	24-Sep-2015	F. Born I IC RD G EE D2	First version

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Introduction

This document describes the PCB RF antenna of the VP2Refresh 356 radio placed at the 5inch front PCB.

System description

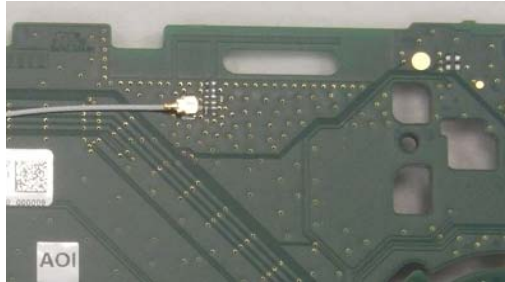The following picture shows the placement of the PCB RF antenna:

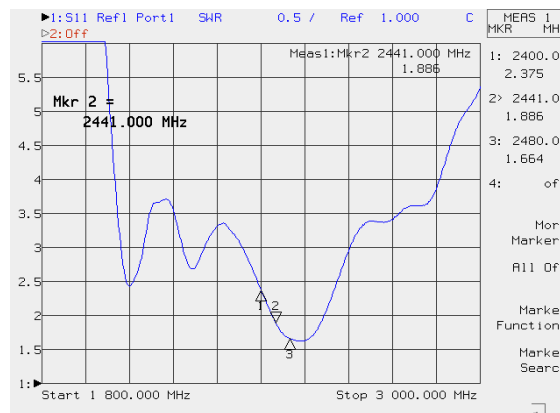
Figure1: VP2Refresh 5inch front unit with PCB RF antenna

VSWR

Figure2: VSWR <2.5:1 at BT frequency band

Antenna gain

Frequency	2400MHz		2440MHz		2480MHz	
description	G_tot/dBi (average)	G_max/dBi	G_tot/dBi (average)	G_max/dBi	G_tot/dBi (average)	G_max/dBi
X-Z axis	-6,2	0,07	-5,7	0,48	-7,9	0,03
Y-Z axis	-7,2		-5,5		-5,6	

Table1: VP2Refresh measured PCB antenna gain

Antenna measurement
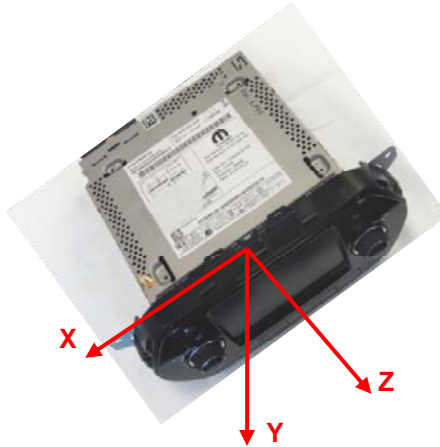
Figure3: measurement directions

Gain_total [dBi] (phi=0°) f=2400MHz, Avg -6.24, Max 0.07, Min -21.14
Gain_total [dBi] (phi=0°) f=2440MHz, Avg -5.69, Max 0.48, Min -19.15
Gain_total [dBi] (phi=0°) f=2480MHz, Avg -7.87, Max -2.08, Min -19.26
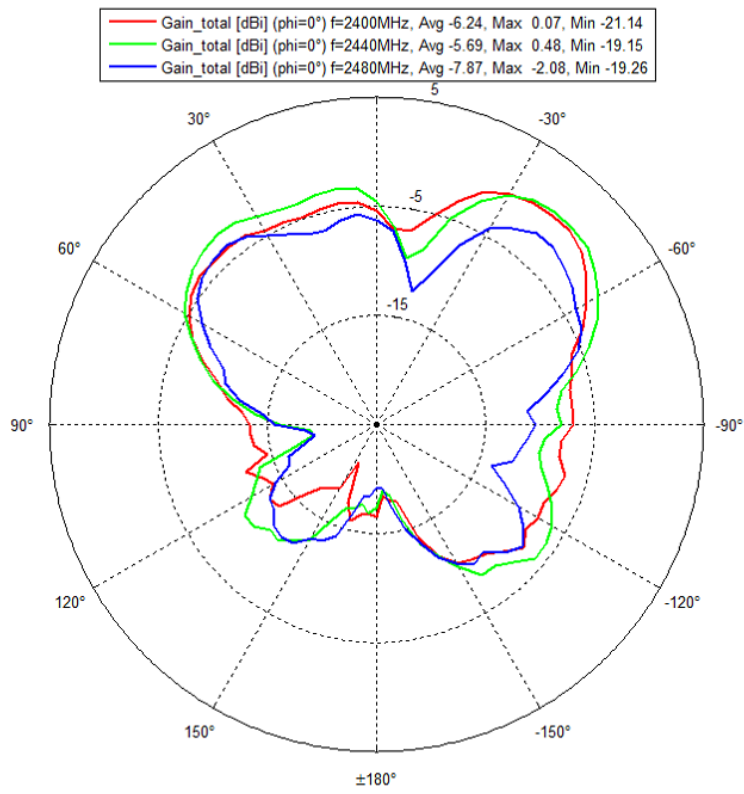
Figure4: measured X-Z plane, Z arrow =0°

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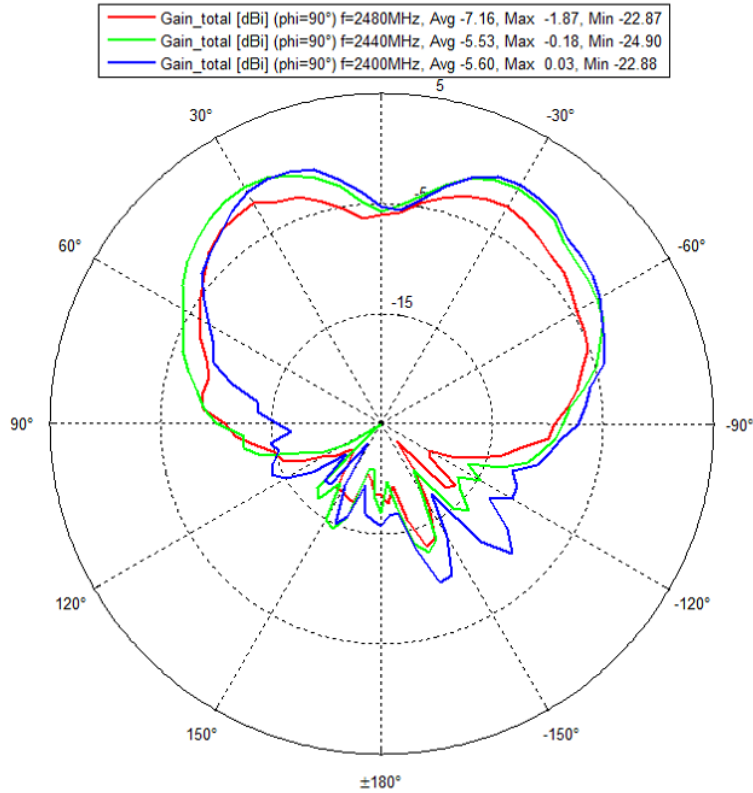
Figure5: measured Y-Z plane, Z arrow =0°

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