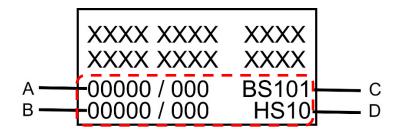# RSSI Tool Instructions

Built into each DuraFon ROAM handset is a great tool to identify the best area(s) for the base unit(s) to be installed to provide the best coverage for the handsets.

Procedure for DuraFon ROAM RSSI Testing

1) The DuraFon ROAM requires a BSC to register the base and handset to conduct the RSSI testing.
2) Once the handset and the base are registered to each other, the RSSI testing can be done between these units.
3) The base unit will be required to be powered at each location to be tested and the handset to be charged
4) Any DuraFon ROAM handset can be used, it does not have to be an administrator handset to conduct the RSSI testing
5) An outline or floorplan of the area should be available to note test results
6) There are two different sets of number to be noted during the testing: BER & RSSI
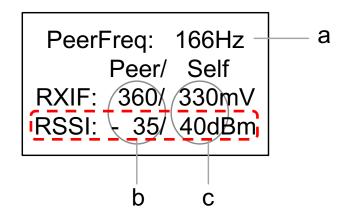7) The RSSI test is located in a hidden menu and follow the below instructions to conduct the test:

On the handset, press MENU, # # # # *, and then "SELECT" for HS to BS item in BER test.

The display will show something like

A. The received bit error number; BER (left) and frame error number; FER (right) at base side.
B. The received the bit error number; BER (left) and frame error number; FER (right) at handset side.
C. ID of the other side (base)
D. Own ID (handset)

➔ For acceptable voice quality over air, BER in the row A and B should be under 142.

Then press "Down" key to see RSSI value and frequency offset.

PeerFreq: 166Hz ——— a
          Peer/   Self
RXIF: 360/ 330mV
RSSI: - 35/ 40dBm

b   c

    a.   Frequency offset

    b.   RXIF and RSSI of the other side

    c.   Own RXIF and RSSI

➔ For acceptable voice quality over air, the RSSI value should be more than -80dBm.

➔ The frequency offset (FREQ) should be under ±1500Hz

8) Note the BER & RSSI with the location of the base and handset on the floorplan.

9) Move the base to another location with less obstacles or closer to weaker areas, then conduct the test again.   Note these results.

10) Repeat this test as necessary to identify the best area for optimal handset coverage.

11) As in the example below, mark the readings for each area with the base unit location to identify the best base location. (Ex: b1 is base 1; 1-51 is base 1 with RSSI of -51).