**SBMS EIRP-MDS Tune Up** Sat. 25 JULY 2015

Range = 220 Ft. Path Loss= 89.3 dB

10 GHz: Meas. Sys Loss = -3.1 dB

| Callsign | Reflector Size (inches) | Radio Output (dBm) | EIRP Reading (dBm) | Syst. Loss (dB) | Calc. Ant. Gain (dBi) | Calc. EIRP (dBm) | Meas. EIRP (dBm) | Meas.-Calc. (dB) | Conditions | MDS Gen. (dBm) | MDS Attn. (dB) | Comp. MDS value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N5BF | 29.5 | 38.5 | -49.5 | 30.9 | 35 | 74 | 71 | -3 | | -32 | 65 | -94 |
| KK6MXP | 17.8 | 26.0 | -71.5 | 30.9 | 31 | 57 | 49 | -8 | | -34 | 65 | -96 |
| AF6NA | 32.8 | 39.1 | -44.6 | 30.9 | 36 | 75 | 76 | 1 | | -42 | 65 | -104 |
| W6SZ | 29.5 | 23.0 | -74.0 | 30.9 | 35 | 58 | 46 | -12 | | -42 | 65 | -104 |
| WB6DNX | 3.7 | 23.0 | -70.5 | 30.9 | 17 | 40 | 50 | 10 | HORN | -4 | 65 | -66 |
| WB6DNX2 | 3.7 | | | | 17 | | | | HORN | -8 | 65 | -70 |
| WB6DNX3 | 1.6 | 23.0 | -81.8 | 30.9 | 10 | 33 | 38 | 5 | OMNI | | | |
| N6RMJ | 29.5 | 38.5 | -46.0 | 30.9 | 35 | 74 | 74 | 1 | | -40 | 65 | -102 |
| N6RMJ2 | 29.5 | | | | 35 | | | | RETEST | -42 | 65 | -104 |
| N6RMJ3 | 29.5 | | | | 35 | | | | RETEST | -44 | 65 | -106 |
| N6RMJ4 | 29.5 | | | | 35 | | | | RETEST | -34 | 72 | -103 |
| N6RMJ5 | 29.5 | 38.5 | -46.0 | 30.9 | 35 | 74 | 74 | 1 | NEW POS. | | | |
| WA6CDR | 72.0 | 38.0 | -50.0 | 30.9 | 43 | 81 | 70 | -11 | | -41 | 72 | -110 |
| WA6CDR2 | 72.0 | 38.0 | -39.5 | 30.9 | 43 | 81 | 81 | 0 | RETEST | -41 | 72 | -110 |
| WA6CDR3 | 72.0 | 38.0 | -39.0 | 30.9 | 43 | 81 | 81 | 0 | RETEST | | | |
| WB6NOA | 24 | 30.5 | | | 33 | 64 | | | RIG DOWN | | | |

Meas. EIRP = Reading + Attenuation + Sys Loss + Path Loss
Comparative MDS value = Reading - Attenuation - Sys Loss
Sys Loss = WG Loss + G.T. Jumper Loss - Open WR-90 Gain
Ant Gain Calc - same as 2014 assumes 64% efficiency =7+20*LOG(size inches/12)+20*LOG(freq in GHz)
Path Loss - same as 2014 = -37.5+20*LOG(Dist in feet)+20*LOG(Freq MHz)
Gore-Tek Jumper loss @ 10.368.1 = 1.2 dB
12.5 ft. 3/4" Copper Pipe & WR-90 Loss @ 10.368.1 = 0.7 dB
Open WR-90 Gain assumed to be 5 dB

EIRP Readings Taken with Agilent 9918A Field Fox Microwave Analyzer in SA mode and MAX Hold
Attenuation in EIRP Test = 34 dB
MDS Signals Generated with Agilent 9918A Field Fox Microwave Analyzer in Insertion Loss mode
Attenuation in MDS Tests = 65 dB
Attenuation in WA6CDR MDS Test = 72.3 dB

SMA Attenuator Values (dB)

| | |
|---|---|
| WB6DNX Narda = | 10 |
| WB6DNX MW Fat = | 10.4 |
| WB6DNX MW A = | 10.4 |
| WB6DNX MW B = | 10 |
| WB6DNX MW C = | 10.25 |
| AF6NA MW 14 = | 14 |
| AF6NA MW 7 = | 7.25 |
| MDS | 65.05 |
| MDS-WA6CDR: | 72.3 |
| EIRP | 34 |