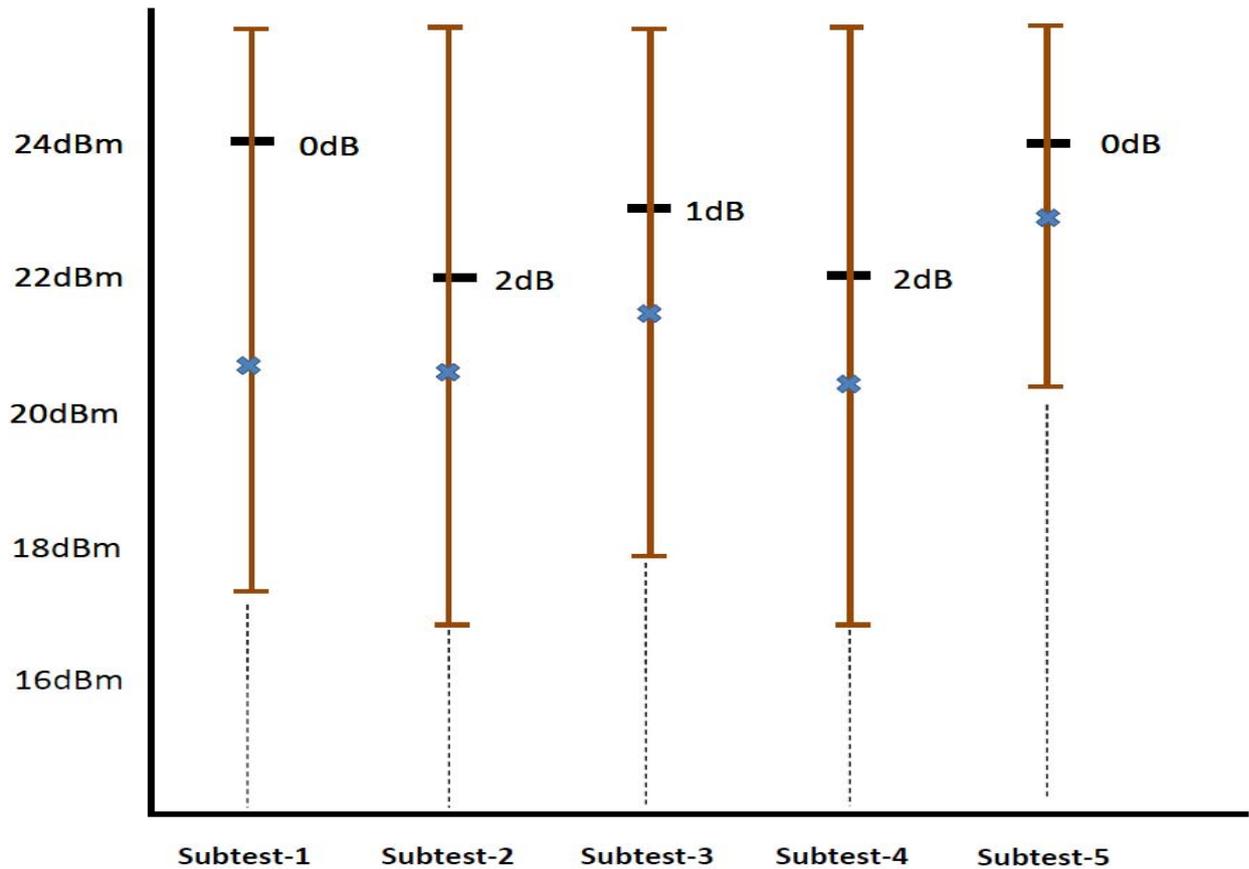# 3GPP R6 HSPA Conducted Power

JQA Report Page 16 shwos Relation-ship between parameter Subtest, MPR and Power Tolerance(dB).

JQA Report also says that Power Level of Subtest-1 should be set within 24dBm +1.7 / - 6.7.
This means that subtest-1 Max Power Level is 25.7dBm, Min Power Level is 17.3dBm.   This Permitted Power Range is showed in Brown Color Solid-line in the above, and MPR(0,2,1,2,0), measured conducted power results ✖ are also showed.

We can see through avobe graph that Subtest-1 MPR 0dB is positioned in higher of power range.
On the other hand, *Actual Conducted Power Measurement Results ✖ are set in around center of subtest-1.   Thus similarly we can found our model's power-set is set in around center of each subtests specified in 3GPP R6 HSPA.*
Please note actual conducted power is settled to get pure RF signal through power up-down control procedure.

Conducted power measurement results ✖ (JQA SAR Report Page 17)

Configuration		4233 ch (846.60MHz)
R6 HSUPA	Sub-test 1	20.67 dBm
	Sub-test 2	20.60 dBm
	Sub-test 3	21.34 dBm
	Sub-test 4	20.35 dBm
	Sub-test 5	22.87 dBm

Table 5.2B.5: Maximum Output Powers with HS-DPCCH and E-DCH for test

Sub-test in table C.11.1.3	Power Class 3		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
1	+24 0dB	+1.7/-6.7	+21	+2.7/-5.7
2	+22 -2dB	+3.7/-5.2	+19	+4.7/-4.2
3	+23 -1dB	+2.7/-5.2	+20	+3.7/-4.2
4	+22 -2dB	+3.7/-5.2	+19	+4.7/-4.2
5	+24 0dB	+1.7/-3.7	+21	+2.7/-2.7

3GPP Release 6 HSPA Settings

Settings	Release 6 HSPA				
Sub-test	1	2	3	4	5
Loopback Mode	Mode 1				
Channel Coding	E-DCH RF Test with TTI 10ms (QPSK)				
TPC Algorithm	2				1
TPC Bit Pattern	Inner Loop Power Control				
β_c	11/15	6/15	15/15	2/15	15/15
β_d	15/15	15/15	9/15	15/15	0
β_d (SF)	64				--
β_c / β_d	11/15	6/15	15/9	2/15	--
β_{hs}	22/15	12/15	30/15	4/15	5/15
β_{ec}	209/225	12/15	30/15	2/15	5/15
β_{ed}	1039/225	94/75	β_{ed1} :47/15 β_{ed2} :47/15	56/75	47/15
β_{ed} (SF)	4				
β_{ed} (codes)	1	1	2	1	1
CM (dB)	1	3	2	3	1
MPR (dB)	0	2	1	2	0
Power Tolerance (dB)	+1.7/-6.7	+3.7/-5.2	+2.7/-5.2	+3.7/-5.2	+1.7/-3.7
Absolute Grant Value	20	12	15	17	12
E-TFCI	75	67	92	71	67
Delta ACK	8				0
Delta NACK	8				0
Delta CQI	8				0
Delta E-DPCCH	6	8	8	5	0
CQI Feedback Cycle	4 ms				
Ack-Nack Repetition Factor	3				
CQI Repetition Factor	2				

Note 1: For sub-test 1 the β_c / β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 2: β_{ed} can not be set directly, it is set by Absolute Grant Value.