

TUNE UP PROCEDURE

FCCID:	BCGA1934
IC ID:	579C-A1934
Model Number/HVIN:	A1934,A1979
Product Name:	iPad
Date:	27 Sept 2018

Procedure

During manufacturing, each device is individually calibrated and the RF output levels are checked. The measurement is done on a fully calibrated setup.

The calibration is done setting the maximum levels in the following tables. With the battery fully charged, the transmitter conducted power levels, for all bands are measured.

The modulation and operation modes listed below have the target power levels for operations of the same bandwidth and excludes the maximum tolerance.

Tune Up Values – Ant 3

	Emissions Power Table	Body Power Table	Tolerance dB
Bands	Target (dBm)	Target (dBm)	
WCDMA			
Band 5	25.00	20.70	±0.5
DC-HSPA+			
Band 5	25.00	20.70	±0.5
HSUPA/HSDPA			
Band 5	25.00	20.70	±0.5
GMSK 1 Slot			
850	29.50	29.50	±0.75
8PSK 1 Slot			
850	24.00	24.00	±0.75
GMSK 2 Slot			
850	28.50	26.95	±0.75
8PSK 2 Slot			
850	23.00	23.00	±0.75
LTE			
Band 5	25.00	20.90	±0.5
Band 12	25.00	19.50	±0.5
Band 13	25.00	20.80	±0.5
Band 14	25.00	20.80	±0.5
Band 17	25.00	19.50	±0.5
Band 26	25.00	20.90	±0.5

Tune Up Values – Ant 4B

	Emissions Power Table	Body Power Table	Tolerance dB
Bands	Target (dBm)	Target (dBm)	
WCDMA			
Band 2	25.00	13.70	±0.5
Band 4	25.00	14.25	±0.5
DC-HSPA+			
Band 2	25.00	13.70	±0.5
Band 4	25.00	14.25	±0.5
HSUPA/HSDPA			
Band 2	25.00	13.70	±0.5
Band 4	25.00	14.25	±0.5
GMSK 1 Slot			
1900	29.50	22.75	±0.75
8PSK 1 Slot			
1900	24.50	22.75	±0.75
GMSK 2 Slot			
1900	28.50	19.75	±0.75
8PSK 2 Slot			
1900	23.50	19.75	±0.75
LTE			
Band 2	25.00	13.70	±0.5
Band 4	25.00	14.25	±0.5
Band 7	25.00	11.80	±0.5
Band 25	25.00	13.70	±0.5
Band 30	23.00	13.20	±0.5
Band 38	25.00	14.50	±0.5
Band 41 (PC2)	26.50	14.50	±0.5
Band 41 (PC3)	26.50	14.50	±0.5
Band 66	25.00	14.25	±0.5
Band 7 ULCA	24.00	11.30	±1.0
Band 38 ULCA	24.00	14.00	±1.0
Band 41 ULCA	24.00	14.00	±1.0

Tune Up Values – Ant 4A

	Emissions Power Table	Body Power Table	Tolerance dB
Bands	Target (dBm)	Target (dBm)	
WCDMA			
Band 2	24.00	14.80	±0.5
Band 4	24.00	14.50	±0.5
DC-HSPA+			
Band 2	24.00	14.80	±0.5
Band 4	24.00	14.50	±0.5
HSUPA/HSDPA			
Band 2	24.00	14.80	±0.5
Band 4	24.00	14.50	±0.5
GMSK 1 Slot			
1900	28.50	23.55	±0.75
8PSK 1 Slot			
1900	23.50	23.50	±0.75
GMSK 2 Slot			
1900	27.50	20.55	±0.75
8PSK 2 Slot			
1900	22.50	20.55	±0.75
LTE			
Band 2	24.00	14.80	±0.5
Band 4	24.00	14.50	±0.5
Band 7	23.50	11.50	±0.5
Band 25	24.00	14.80	±0.5
Band 30	23.00	13.00	±0.5
Band 38	24.00	14.00	±0.5
Band 41 (PC2)	24.75	14.00	±0.5
Band 41 (PC3)	24.75	14.00	±0.5
Band 66	24.00	14.50	±0.5
Band 7 ULCA	22.50	11.00	±1.0
Band 38 ULCA	22.50	13.50	±1.0
Band 41 ULCA	22.50	13.50	±1.0

Tune Up Values – Ant 1

	Emissions Power Table	Body Power Table	Tolerance dB
Bands	Target (dBm)	Target (dBm)	
WCDMA			
Band 5	23.25	19.50	±0.5
DC-HSPA+			
Band 5	23.25	19.50	±0.5
HSUPA/HSDPA			
Band 5	23.25	19.50	±0.5
GMSK 1 Slot			
850	26.75	26.75	±0.75
8PSK 1 Slot			
850	21.25	21.25	±0.75
GMSK 2 Slot			
850	25.75	25.75	±0.75
8PSK 2 Slot			
850	20.25	20.25	±0.75
LTE			
Band 5	23.25	19.80	±0.5
Band 12	23.25	19.20	±0.5
Band 13	23.25	20.80	±0.5
Band 14	23.25	20.80	±0.5
Band 17	23.25	19.20	±0.5
Band 26	23.25	19.80	±0.5

Tune Up Values – Ant 2B

	Emissions Power Table	Body Power Table	Tolerance dB
Bands	Target (dBm)	Target (dBm)	
WCDMA			
Band 2	21.75	13.20	±0.5
Band 4	21.75	13.80	±0.5
DC-HSPA+			
Band 2	21.75	13.20	±0.5
Band 4	21.75	13.80	±0.5
HSUPA/HSDPA			
Band 2	21.75	13.20	±0.5
Band 4	21.75	13.80	±0.5
GMSK 1 Slot			
1900	26.00	22.25	±0.75
8PSK 1 Slot			
1900	21.00	21.00	±0.75
GMSK 2 Slot			
1900	25.00	19.25	±0.75
8PSK 2 Slot			
1900	20.00	19.25	±0.75
LTE			
Band 2	22.00	13.20	±0.5
Band 4	22.00	13.80	±0.5
Band 7	21.75	11.80	±0.5
Band 25	22.00	13.20	±0.5
Band 30	21.75	12.90	±0.5
Band 38	22.00	14.00	±0.5
Band 41 (PC2)	23.25	14.00	±0.5
Band 41 (PC3)	23.25	14.00	±0.5
Band 66	22.00	13.80	±0.5
Band 7 ULCA	20.75	11.30	±1.0
Band 38 ULCA	20.75	13.50	±1.0
Band 41 ULCA	20.75	13.50	±1.0

Tune Up Values – Ant 2A

	Emissions Power Table	Body Power Table	Tolerance dB
Bands	Target (dBm)	Target (dBm)	
WCDMA			
Band 2	21.50	13.50	±0.5
Band 4	21.50	14.20	±0.5
DC-HSPA+			
Band 2	21.50	13.50	±0.5
Band 4	21.50	14.20	±0.5
HSUPA/HSDPA			
Band 2	21.50	13.50	±0.5
Band 4	21.50	14.20	±0.5
GMSK 1 Slot			
1900	26.00	22.55	±0.75
8PSK 1 Slot			
1900	21.00	21.00	±0.75
GMSK 2 Slot			
1900	25.00	19.55	±0.75
8PSK 2 Slot			
1900	20.00	19.55	±0.75
LTE			
Band 2	21.50	13.50	±0.5
Band 4	21.50	14.20	±0.5
Band 7	21.00	11.50	±0.5
Band 25	21.50	13.50	±0.5
Band 30	21.50	12.10	±0.5
Band 38	21.50	14.30	±0.5
Band 41 (PC2)	22.25	14.30	±0.5
Band 41 (PC3)	22.25	14.30	±0.5
Band 66	21.50	14.20	±0.5
Band 7 ULCA	20.50	11.00	±1.0
Band 38 ULCA	20.50	13.80	±1.0
Band 41 ULCA	20.50	13.80	±1.0