Tune up procedure

FCC ID: 2AJO5SD60

Tune up procedure shall be over the power range or at specific operating power levels.

Target Power range:

GSM Speech <SIM1>

GSM 850 (GMSK) (Burst Average Power)							
Channel Channel 251 Channel 190 Channel 128							
Target (dBm)	30.5	30.5	30.5				
Tolerance ±(dB)	1.0	1.0	1.0				
	GSM 1900 (GMSK) (Burst Average Power)						
Channel	Channel 810	Channel 661	Channel 512				
Target (dBm)	25.5	25.5	25.5				
Tolerance ±(dB)	1.0	1.0	1.0				

	GSM 850 GPRS	(GMSK) (Burst Av	verage Power)	
C	hannel	128	190	251
4 Tuelet	Target (dBm)	30.5	30.5	30.5
1 Txslot	Tolerance ±(dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	28.0	28.0	28.0
2 TXSIOU	Tolerance ±(dB)	1.0	1.0	1.0
3 Txslot	Target (dBm)	26.0	26.0	26.0
3 TXSIOT	Tolerance ±(dB)	1.0	1.0	1.0
4 Tuelet	Target (dBm)	24.0	24.0	24.0
4 Txslot	Tolerance ±(dB)	1.0	1.0	1.0
	GSM 850 EGPR	S (8PSK) (Burst A	verage Power)	
C	hannel	128	190	251
1 Txslot	Target (dBm)	28.0	28.0	28.0
1 TXSIOL	Tolerance ±(dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	25.5	25.5	25.5
2 TXSIOL	Tolerance ±(dB)	1.0	1.0	1.0
2 Tuelet	Target (dBm)	23.0	23.0	23.0
3 Txslot	Tolerance ±(dB)	1.0	1.0	1.0
4 Txslot	Target (dBm)	20.5	20.5	20.5
4 TXSIOL	Tolerance ±(dB)	1.0	1.0	1.0
	GSM 1900 GPRS	(GMSK) (Burst A	verage Power)	
C	hannel	512	661	810
1 Txslot	Target (dBm)	25.5	25.5	25.5
1 1 XSIOU	Tolerance ±(dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	22.5	22.5	22.5
2 TXSIOU	Tolerance ±(dB)	1.0	1.0	1.0
3 Txslot	Target (dBm)	21.0	21.0	21.0
3 TXSIOU	Tolerance ±(dB)	1.0	1.0	1.0
4 Tuelet	Target (dBm)	19.5	19.5	19.5
4 Txslot	Tolerance ±(dB)	1.0	1.0	1.0
	GSM 1900 EGPI	RS (8SK) (Burst A	verage Power)	
C	hannel	512	661	810
1 Txslot	Target (dBm)	23.5	23.5	23.5
1 TXSIOU	Tolerance ±(dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	22.0	22.0	21.0
2 TXSIOU	Tolerance ±(dB)	1.0	1.0	1.0
2 Typlet	Target (dBm)	21.0	21.0	21.0
3 Txslot	Tolerance ±(dB)	1.0	1.0	1.0
4 Typlet	Target (dBm)	17.5	17.5	17.5
4 Txslot	Tolerance ±(dB)	1.0	1.0	1.0

GSM Speech <SIM2>

GSM 850 (GMSK) (Burst Average Power)							
Channel	Channel 251 Channel 190 Channel 128						
Target (dBm)	30.5	30.5	30.5				
Tolerance ±(dB)	1.0	1.0 1.0					
GSM 1900 (GMSK) (Burst Average Power)							
Channel	Channel 810	Channel 661	Channel 512				
Target (dBm)	25.0	25.0	25.0				
Tolerance ±(dB)	1.0	1.0	1.0				

GSM 850 GPRS (GMSK) (Burst Average Power)						
C	hannel	128	190	251		
1 Txslot	Target (dBm)	30.0	30.0	30.0		
I I XSIOL	Tolerance ±(dB)	1.0	1.0	1.0		
2 Txslot	Target (dBm)	27.0	28.0	28.0		
2 1 XSIOU	Tolerance ±(dB)	1.0	1.0	1.0		
3 Txslot	Target (dBm)	26.0	26.0	26.0		
3 1 X SIOL	Tolerance ±(dB)	1.0	1.0	1.0		
4 Tuelet	Target (dBm)	23.5	23.5	23.5		
4 Txslot	Tolerance ±(dB)	1.0	1.0	1.0		
	GSM 850 EGPR	S (8PSK) (Burst A	verage Power)			
C	hannel	128	190	251		
1 Txslot	Target (dBm)	27.5	27.5	27.5		
1 1 XSIOU	Tolerance ±(dB)	1.0	1.0	1.0		
2 Txslot	Target (dBm)	25.0	25.0	25.0		
2 TXSIOL	Tolerance ±(dB)	1.0	1.0	1.0		
3 Txslot	Target (dBm)	22.5	22.5	22.5		
3 TXSIOL	Tolerance ±(dB)	1.0	1.0	1.0		
4 Txslot	Target (dBm)	20.5	20.5	20.5		
4 TXSIOL	Tolerance ±(dB)	1.0	1.0	1.0		
	GSM 1900 GPRS	(GMSK) (Burst A	Average Power)			
C	hannel	512	661	810		
1 Txslot	Target (dBm)	25.0	25.0	25.0		
1 1 XSIOU	Tolerance ±(dB)	1.0	1.0	1.0		
2 Txslot	Target (dBm)	22.5	22.5	22.5		
2 1 / 5101	Tolerance ±(dB)	1.0	1.0	1.0		
3 Txslot	Target (dBm)	20.5	20.5	20.5		
3 1 x310t	Tolerance ±(dB)	1.0	1.0	1.0		
4 Txslot	Target (dBm)	19.5	19.5	19.5		
4 1 / 3101	Tolerance ±(dB)	1.0	1.0	1.0		
	GSM 1900 EGPF	RS (8SK) (Burst A	verage Power)			
C	hannel	512	661	810		
1 Txslot	Target (dBm)	23.5	23.5	23.5		
1 1 XSIOU	Tolerance ±(dB)	1.0	1.0	1.0		
2 Txslot	Target (dBm)	22.0	22.0	21.5		
2 1 X SIOL	Tolerance ±(dB)	1.0	1.0	1.0		
3 Txslot	Target (dBm)	19.5	19.5	19.5		
3 1 X SIOL	Tolerance ±(dB)	1.0	1.0	1.0		
4 Txslot	Target (dBm)	17.5	17.5	17.5		
4 1 XSIOU	Tolerance ±(dB)	1.0	1.0	1.0		

UMTS

UMTS Band V						
Channel	Channel 4132	Channel 4132 Channel 4183 Channel 4				
Target (dBm)	21.0	22.0	22.0			
Tolerance ±(dB)	1.0	1.0	1.0			
UMTS Band V HSDPA(sub-test 1)						
Channel	Channel 4132	Channel 4183	Channel 4233			
Target (dBm)	22.0	22.0	22.0			
Tolerance ±(dB)	1.0	1.0	1.0			

UMTS Band V HSDPA(sub-test 2)							
Channel	Channel 4132	Channel 4183	Channel 4233				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
UMTS Band V HSDPA(sub-test 3)							
Channel	Channel 4132	Channel 4183	Channel 4233				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSDPA(sub-test 4)					
Channel	Channel 4132	Channel 4183	Channel 4233				
Target (dBm)	22.0	21.0	21.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSUPA(sub-test 1)					
Channel	Channel 4132	Channel 4183	Channel 4233				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSUPA(sub-test 2)					
Channel	Channel 4132	Channel 4183	Channel 4233				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSUPA(sub-test 3)					
Channel	Channel 4132	Channel 4183	Channel 4233				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
UMTS Band V HSUPA(sub-test 4)							
Channel	Channel 4132	Channel 4183	Channel 4233				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSUPA(sub-test 5)					
Channel	Channel 4132	Channel 4183	Channel 4233				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				

UMTS Band II							
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
UMTS Band II HSDPA(sub-test 1)							
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
	UMTS Band II I	HSDPA(sub-test 2)					
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	21.0	21.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSDPA(sub-test 3)					
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	21.0	21.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
	UMTS Band II I	HSDPA(sub-test 4)					
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	21.0	21.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSUPA(sub-test 1)					
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	22.0	22.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSUPA(sub-test 2)					
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	22.0	21.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
		HSUPA(sub-test 3)					
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	22.0	21.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
UMTS Band II HSUPA(sub-test 4)							
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	22.0	21.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				
	UMTS Band II I	HSUPA(sub-test 5)					
Channel	Channel 9262	Channel 9400	Channel 9538				
Target (dBm)	22.0	21.0	22.0				
Tolerance ±(dB)	1.0	1.0	1.0				

			Band 2	,		
	Ohanaa		Hz [<rb=1></rb=1>		Ohaaaa	140402
Channel		18607		18900	Channe	
Toward (dDay)	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	21.0	22.0	21.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0 W:1.4MHz [•	1.0	1.0	1.0	1.0
					Channa	140402
Channel	Channe		Channe		Channe	
T (/ (D)	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	22.0 1.0	21.0	22.0	21.0
Tolerance ±(dB)	1.0	1.0		1.0	1.0	1.0
	Ohanaa		tz [<rb=1>]</rb=1>	140000	Ohaana	140405
Channel	Channe			18900	Channe	
Torget (dBm)	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	23.0	23.0	23.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
		W:3MHz [<f< td=""><td></td><td></td><td></td><td></td></f<>				
Channel	Channe		Channe		Channe	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	22.0	22.0	22.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
			lz [<rb=1>]</rb=1>			
Channel	Channe			1 18900	Channe	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	22.0	23.0	22.0	23.0	23.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
		W:5MHz [<r< td=""><td>B=12>, <rb< td=""><td>=25>]</td><td></td><td></td></rb<></td></r<>	B=12>, <rb< td=""><td>=25>]</td><td></td><td></td></rb<>	=25>]		
Channel	Channe	1 18625	Channe	1 18900	Channe	l 19175
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	23.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
		BW:10M	Hz [<rb=1>]</rb=1>			
Channel	Channe	1 18650	Channe	18900	Channe	l 19150
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
	BV	V:10MHz [<f< td=""><td>RB=25>, <re< td=""><td>3=50>]</td><td></td><td></td></re<></td></f<>	RB=25>, <re< td=""><td>3=50>]</td><td></td><td></td></re<>	3=50>]		
Channel	Channe	1 18650	Channe	18900	Channe	l 19150
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	22.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
` `		BW:15M	Hz [<rb=1>]</rb=1>	1		
	Channe	1 18675	Channe	1 18900	Channe	l 19125
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	22.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
, , ,	BV	V:15MHz [<f< td=""><td></td><td></td><td></td><td></td></f<>				
		18675		1 18900	Channe	19125
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
. 515141130 2(45)			Hz [<rb=1>]</rb=1>			
Channel 18700 Channel 18900 Channel 19100						
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	21.0	21.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
Tolerance ±(ub)		/:20MHz [<r< td=""><td></td><td></td><td>1.0</td><td>1.0</td></r<>			1.0	1.0
		18700		18900	Channe	10100
Channel	QPSK					
Torget (dPm)		16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0 1.0	22.0 1.0	23.0 1.0	22.0 1.0	23.0 1.0	22.0 1.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0

Channel 20407 Channel 20525 Channel 20643			LTE	Band 5									
Channel QPSK 16QAM QPSK 16QAM QPSK 22.0 23.0 23.0 22.0 23.0 2			BW:1.4M	Hz [<rb=1></rb=1>	1								
Target (dBm)	Channal	Channe	1 20407	Channe	el 20525	Channe	120643						
Tolerance ±(dB)	Chamilei	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM						
Channel Channel 20407 Channel 20525 Channel 20643	Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0						
Channel Channel 20407 Channel 20525 Channel 20643 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 23.0 22.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 BW:3MHz [<rb=1>] Channel 20415 Channel 20525 Channel 20635 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 21.0 22.0 21.0 1.0 1.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 BW:3MHz [<rb=8>, <rb=15>] Channel 20415 Channel 20525 Channel 20635 Channel 20415 Channel 20525 Channel 20635 Channel 20415 Channel 20525 Channel 20635 Channel 20425 Channel 20525 Channel 20635 Channel 20425 Channel 20525 Chan</rb=15></rb=8></rb=1>	Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0						
Channel QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 23.0		В	W:1.4MHz [<rb=3>, <ri< td=""><td>B=6>]</td><td></td><td></td></ri<></rb=3>	B=6>]								
Target (dBm) 23.0 22.0 23.0 22.0 23.0 22.0 23.0 22.0 23.0 22.0 23.0 22.0 23.0 22.0 23.0 22.0 23.0 22.0	Channal	Channe	1 20407	Channe	el 20525	Channe	120643						
Tolerance ±(dB)	Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM						
Channel Channel 20415 Channel 20525 Channel 20635	Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0						
Channel Channel 20415 Channel 20525 Channel 20635 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 21.0 22.0 21.0 22.0 21.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 BW:3MHz [<rb=8>, <rb=15>] Channel 20415 Channel 20525 Channel 20635 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 21.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 BW:5MHz [<rb=1>] Channel 20425 Channel 20525 Channel 20625 Channel 20625 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.1 22.1 22.0 22.0 22.0 22.0 Channel 20425 Channel 20525 <td< td=""><td>Tolerance ±(dB)</td><td>1.0</td><td>1.0</td><td>1.0</td><td>1.0</td><td>1.0</td><td>1.0</td></td<></rb=1></rb=15></rb=8>	Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0						
Channel QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 21.0 22.0 21.0 22.0 21.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 BW:3MHz [<rb=8>, <rb=15>] Channel 20415 Channel 20525 Channel 20635 QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 21.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 Tolerance ±(dBm) 22.1 22.1 22.0</rb=15></rb=8>			BW:3MI										
Target (dBm) 22.0 21.0 22.0 21.0 22.0 21.0 22.0 21.0 22.0 21.0 22.0 21.0 22.0 21.0 22.0 21.0 22.0 21.0 22.0 21.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 20.0 22.	Channal	Channe	l 20415	Channe	el 20525	Channe	120635						
Tolerance ±(dB)	Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM						
Channel 20415	Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0						
Channel Channel 20415 Channel 20525 Channel 20635 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 21.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 Channel 20425 Channel 20525 Channel 20625 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.1 22.1 22.0 22.0 22.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 BW:5MHz [<rb=12>, <rb=25>] Channel 20425 Channel 20525 Channel 20625 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 23.0 22.0 23.0 22.0</rb=25></rb=12>	Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0						
Channel QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 21.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0		E	3W:3MHz [<f< td=""><td>RB=8>, <rb=< td=""><td>=15>]</td><td></td><td></td></rb=<></td></f<>	RB=8>, <rb=< td=""><td>=15>]</td><td></td><td></td></rb=<>	=15>]								
Target (dBm) 22.0 21.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 BW:5MHz [<rb=1>]</rb=1>	Channel	Channe	1 20415	Channe	el 20525	Channel 20635							
Tolerance ±(dB)	Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM						
Channel 20425	Target (dBm)	22.0	21.0	22.0	21.0	23.0	22.0						
Channel 20425 Channel 20525 Channel 20625 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.1 22.1 22.0 22.0 22.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 BW:5MHz [<rb=12>, <rb=25>] Channel 20425 Channel 20525 Channel 20625 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 23.0 22.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 Tolerance ±(dBm) 22.0 22.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 Tolerance ±(dB) 1.0<td>Tolerance ±(dB)</td><td>1.0</td><td>1.0</td><td>1.0</td><td>1.0</td><td>1.0</td><td>1.0</td></rb=25></rb=12>	Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0						
Channel QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.1 22.1 22.0 22.0 22.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 BW:5MHz [<rb=12>, <rb=25>] Channel 20425 Channel 20525 Channel 20625 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 23.0 22.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 Channel 20450 Channel 20525 Channel 20600 Channel 20450 Channel 20525 Channel 20600 22.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 <td <="" colspan="6" td=""><td></td><td></td><td>BW:5M</td><td>lz [<rb=1>]</rb=1></td><td></td><td></td><td></td></td></rb=25></rb=12>	<td></td> <td></td> <td>BW:5M</td> <td>lz [<rb=1>]</rb=1></td> <td></td> <td></td> <td></td>								BW:5M	lz [<rb=1>]</rb=1>			
Target (dBm) 22.1 22.1 22.0 22.0 22.0 22.0 22.0	Channal	Channe	Channel 20425 Channel 20525		el 20525	Channe	120625						
Tolerance ±(dB) 1.0	Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM						
Channel 20425 Channel 20525 Channel 20625 Channel 20425 Channel 20525 Channel 20625 QPSK	Target (dBm)	22.1	22.1	22.0	22.0	22.0	22.0						
Channel 20425 Channel 20525 Channel 20625 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 23.0 22.0 23.0 22.0 BW:10MHz [<rb=1>] Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 22.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 BW:10MHz [<rb=25>, <rb=50>] Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 22.0 23.0 22.0</rb=50></rb=25></rb=1>	Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0						
Channel QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 BW:10MHz [<rb=1>] Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 22.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 BW:10MHz [<rb=25>, <rb=50>] Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 22.0 23.0 22.0</rb=50></rb=25></rb=1>		В	W:5MHz [<r< td=""><td>B=12>, <rb< td=""><td>=25>]</td><td></td><td></td></rb<></td></r<>	B=12>, <rb< td=""><td>=25>]</td><td></td><td></td></rb<>	=25>]								
Target (dBm) 23.0 22.0 23.0 22.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0	Channal	Channe	l 20425	Channe	el 20525	Channe	120625						
Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 BW:10MHz [<rb=1>] Channel 20450</rb=1>	Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM						
Channel 20450 Channel 20525 Channel 20600	Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0						
Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 BW:10MHz [<rb=25>, <rb=50>] Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 22.0 23.0 22.0</rb=50></rb=25>	Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0						
Channel QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 22.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 BW:10MHz [<rb=25>, <rb=50>] Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 23.0 23.0 22.0</rb=50></rb=25>			BW:10M	Hz [<rb=1></rb=1>]								
Target (dBm) 22.0 22.0 22.0 21.0 23.0 22.0 Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0	Channel	Channe	1 20450	Channe	el 20525	Channe	120600						
Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 BW:10MHz [<rb=25>, <rb=50>] Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 22.0 23.0 22.0</rb=50></rb=25>	Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM						
Channel 20450 Channel 20525 Channel 20600 Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 23.0 22.0	Target (dBm)	22.0	22.0	22.0	21.0	23.0	22.0						
Channel Channel 20450 Channel 20525 Channel 20600 QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 23.0 23.0 22.0	Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0						
Channel QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 23.0 23.0 22.0		BI	W:10MHz [<f< td=""><td>RB=25>, <re< td=""><td>3=50>]</td><td></td><td></td></re<></td></f<>	RB=25>, <re< td=""><td>3=50>]</td><td></td><td></td></re<>	3=50>]								
QPSK 16QAM QPSK 16QAM QPSK 16QAM Target (dBm) 23.0 22.0 22.0 23.0 22.0	Channal	Channe	1 20450	Channe	el 20525	Channe	120600						
	Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM						
Tolerance ±(dB) 1.0 1.0 1.0 1.0 1.0	Target (dBm)	23.0	22.0	22.0	22.0	23.0	22.0						
1.0	Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0						

		LTE	Band 7			
		BW:5MI	Hz [<rb=1>]</rb=1>			
Channel	Channe	el 20775	Channe	el 21100	Channe	l 21425
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	22.0	23.0	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
			B=12>, <rb< td=""><td></td><td></td><td></td></rb<>			
Channel		el 20775		el 21100	Channe	
Chamilei	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	21.0	22.0	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
			Hz [<rb=1>]</rb=1>			
Channel	Channe	el 20800	Channe	el 21100	Channe	l 21400
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	22.0	21.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
	B\	W:10MHz [<	RB=25>, <re< td=""><td>3=50>]</td><td></td><td></td></re<>	3=50>]		
Channel	Channe	el 20800	Channe	el 21100	Channe	l 21400
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	21.0	22.0	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
r oloranos =(ab)	1.0		Hz [<rb=1>]</rb=1>		1.0	1.0
	Channe			1 21100	Channe	1 21375
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	21.0	21.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
` ' '	BV	V:15MHz [<f< td=""><td>RB=37>, <re< td=""><td>3=75>1</td><td></td><td>•</td></re<></td></f<>	RB=37>, <re< td=""><td>3=75>1</td><td></td><td>•</td></re<>	3=75>1		•
01 1	Channe			1 21100	Channe	1 21375
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	23.0	22.0	23.0	23.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
		BW:20M	Hz [<rb=1>]</rb=1>			
01 1	Channe			1 21100	Channe	121350
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	22.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
	BW		B=50>, <rb< td=""><td>=100>]</td><td></td><td></td></rb<>	=100>]		
Oharraal	Channe			1 21100	Channe	121350
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	22.0	23.0	22.0	22.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0

LTE Band 41

		LIL	Band 41				
			lz [<rb=1>]</rb=1>				
Channol	Channel 39675		Channe	Channel 40620		Channel 41565	
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	
Target (dBm)	/	/	23.0	22.0	/	/	
Tolerance ±(dB)	/	/	1.0	1.0	/	/	
		W:5MHz [<r< td=""><td>B=12>, <rb< td=""><td>=25>]</td><td></td><td></td></rb<></td></r<>	B=12>, <rb< td=""><td>=25>]</td><td></td><td></td></rb<>	=25>]			
Channel	Channe	l 39675	Channe	l 40620	Channe	l 41565	
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	
Target (dBm)	/	/	22.0	22.0	/	/	
Tolerance ±(dB)	/	/	1.0	1.0	/	/	
			Hz [<rb=1>]</rb=1>				
Channel	Channe	l 39700	Channe	l 40620	Channe	l 41540	
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	
Target (dBm)	/	/	23.0	22.0	/	/	
Tolerance ±(dB)	/	/	1.0	1.0	/	/	
	BV	N:10MHz [<f< td=""><td></td><td></td><td></td><td></td></f<>					
Channel	Channe	l 39700	Channe	l 40620	Channe	l 41540	
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	
Target (dBm)	/	/	23.0	22.0	/	/	
Tolerance ±(dB)	/	/	1.0	1.0	/	/	
		BW:15M	Hz [<rb=1>]</rb=1>				
Channel	Channe	l 39725	Channe	l 40620	Channel 41515		
Channel	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	
Target (dBm)	/	/	23.0	22.0	/	/	
Tolerance ±(dB)	/	/	1.0	1.0	/	/	
BW:15MHz [<rb=37>, <rb=75>]</rb=75></rb=37>							
Channel		l 39725		l 40620	Channe	l 41515	
Charmer	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	
Target (dBm)	/	/	22.0	21.0	/	/	
Tolerance ±(dB)	/	/	1.0	1.0	/	1	

WiFi 2.4G

802.11b (Average)						
Channel	Channel 1	Channel 6	Channel 11			
Target (dBm)	15.0	16.0	16.0			
Tolerance ±(dB)	1.0	1.0	1.0			
Tolerance ±(db)			1.0			
	802.11g (A	verage)				
Channel	Channel 1	Channel 6	Channel 11			
Target (dBm)	Target (dBm) 18.0		20.0			
Tolerance ±(dB)	Tolerance ±(dB) 1.0		1.0			
	802.11n HT20	(Average)				
Channel	Channel 1	Channel 6	Channel 11			
Target (dBm)	19.0	19.0	19.0			
Tolerance ±(dB)	1.0	1.0	1.0			
802.11n HT40 (Average)						
Channel	Channel 3	Channel 6	Channel 9			
Target (dBm)	19.0	19.0	19.0			
Tolerance ±(dB)	1.0	1.0	1.0			

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IEEE 802.11a (Average)							
Channel	Channel 36	Channel 40		Channel 48			
Target (dBm)	20.0	20.0		19.0			
Tolerance ±(dB)	1.0	1.0		1.0			
IEEE 802.11n(20MHz) (Average)							
Channel	Channel 36	Channel 40		Channel 48			
Target (dBm)	18.0	20.0		19.0			
Tolerance ±(dB)	1.0	1.0		1.0			
IEEE 802.11n(40MHz) Average)							
Channel	Channel 38		Channel 46				
Target (dBm)	21.0		19.0				
Tolerance ±(dB)	1.0			1.0			
IEEE 802.11ac(20MHz) (Average)							
Channel	Channel 36	Chann	el 40	Channel 48			
Target (dBm)	16.0	18.0		17.0			
Tolerance ±(dB)	1.0	1.0		1.0			
IEEE 802.11ac(40MHz) Average)							
Channel	Channel 38		Channel 46				
Target (dBm)	19.0		18.0				
Tolerance ±(dB)	1.0		1.0				

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IEEE 802.11a (Average)							
Channel	Channel 149	Channel 157		Channel 165			
Target (dBm)	15.0	15.0		15.0			
Tolerance ±(dB)	1.0	1.0		1.0			
IEEE 802.11n(20MHz) (Average)							
Channel	Channel 149	Channel 157		Channel 165			
Target (dBm)	17.0	15.0		14.0			
Tolerance ±(dB)	1.0	1.0		1.0			
IEEE 802.11n(40MHz) HT20 (Average)							
Channel	Channel 151		Channel 159				
Target (dBm)	16.0		16.0				
Tolerance ±(dB)	1.0			1.0			
IEEE 802.11n(20MHz) (Average)							
Channel	Channel 149	Channel 157		Channel 165			
Target (dBm)	15.0	13.0		12.0			
Tolerance ±(dB)	1.0	1.0		1.0			
IEEE 802.11ac(40MHz) HT20 (Average)							
Channel	Channel 151		Channel 159				
Target (dBm)	16.0		14.0				
Tolerance ±(dB)	1.0		1.0				

Bluetooth V4.0

BLE-GFSK (Average)						
Channel	Channel 0	Channel 19	Channel 39			
Target (dBm)	3.0	2.0	4.0			
Tolerance ±(dB)	1.0	1.0	1.0			
GFSK (Average)						
Channel	Channel 0	Channel 39	Channel 78			
Target (dBm)	3.0	2.0	3.0			
Tolerance ±(dB)	1.0	1.0	1.0			
π/4DQPSK (Average)						
Channel	Channel 0	Channel 39	Channel 78			
Target (dBm)	2.0	2.0	3.0			
Tolerance ±(dB)	1.0	1.0	1.0			
8DPSK (Average)						
Channel	Channel 0	Channel 39	Channel 78			
Target (dBm)	2.0	2.0	3.0			
Tolerance ±(dB)	1.0	1.0 1.0				

Then these appropriate gain settings are stored in each device individually. The user has no possibility to change these settings later on, and during manufacturing each device will be individual calibrated. The measurement is done in fully calibrated setup, which is based on the base station simulator. Furthermore, the highest power level is verified afterwards measurement on three channels (low, middle and high)

Sincerely,

Huang Jianning

Signature

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[Title] Oversea Manager

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