

## Manufacturing Tolerance

### GSM850

Carrier frequency (MHz)	Channel No.	Tolerance (dBm)
824.2	128	29.1~33.1
836.4	189	
848.8	251	

### GPRS/EGPRS (GMSK):

Carrier frequency (MHz)	Channel No.	TX Mode	Tolerance (dBm)
824.2	128	4Downlink1uplink	29.1~33.1
836.4	189		
848.8	251		
824.2	128	3Downlink2uplink	26.0~30.0
836.4	189		
848.8	251		
824.2	128	2Downlink3uplink	24.5~28.5
836.4	189		
848.8	251		
824.2	128	1Downlink4uplink	23.0~27.0
836.4	189		
848.8	251		

### EGPRS (8PSK):

Carrier frequency (MHz)	Channel No.	TX Mode	Tolerance (dBm)
824.2	128	8PSK 4Downlink1uplink	23.1~27.1
836.4	189		
848.8	251		
824.2	128	8PSK 3Downlink2uplink	20.5~24.5
836.4	189		
848.8	251		
824.2	128	8PSK 2Downlink3uplink	19.0~23.0
836.4	189		
848.8	251		
824.2	128	8PSK 1Downlink4uplink	17.5~21.5
836.4	189		
848.8	251		

PCS1900:

Carrier frequency (MHz)	Channel No.	Tolerance (dBm)
1850.2	512	26.0~30.0
1880.0	661	
1909.8	810	

GPRS/EGPRS (GMSK):

Carrier frequency (MHz)	Channel No.	TX Mode	Tolerance (dBm)
1850.2	512	4Downlink1uplink	27.3~31.3
1880.0	661		
1909.8	810		
1850.2	512	3Downlink2uplink	24.5~28.5
1880.0	661		
1909.8	810		
1850.2	512	2Downlink3uplink	23.0~27.0
1880.0	661		
1909.8	810		
1850.2	512	1Downlink4uplink	21.5~25.5
1880.0	661		
1909.8	810		

EGPRS (8PSK):

Carrier frequency (MHz)	Channel No.	TX Mode	Tolerance (dBm)
1850.2	512	8PSK 4Downlink1uplink	23.0~27.0
1880.0	661		
1909.8	810		
1850.2	512	8PSK 3Downlink2uplink	21.0~25.0
1880.0	661		
1909.8	810		
1850.2	512	8PSK 2Downlink3uplink	18.5~22.5
1880.0	661		
1909.8	810		
1850.2	512	8PSK 1Downlink4uplink	17.5~21.5
1880.0	661		
1909.8	810		

WCDMA band II

Mode		Carrier frequency (MHz)	Channel No.	Tolerance (dBm)
Release 99	RMC,12.2kbps	1852.4	9262	16.7~20.7
		1880.0	9400	
		1907.6	9538	
	RMC,64kbps	1852.4	9262	
		1880.0	9400	
		1907.6	9538	
	RMC,144kbps	1852.4	9262	
		1880.0	9400	
		1907.6	9538	
	RMC,384kbps	1852.4	9262	
		1880.0	9400	
		1907.6	9538	
AMR,12.2kbps	1852.4	9262		
	1880.0	9400		
	1907.6	9538		
HSDPA	Subtest 1	1852.4	9262	16.0~20.0
		1880.0	9400	
		1907.6	9538	
	Subtest 2	1852.4	9262	
		1880.0	9400	
		1907.6	9538	
	Subtest 3	1852.4	9262	
		1880.0	9400	
		1907.6	9538	
	Subtest 4	1852.4	9262	
		1880.0	9400	
		1907.6	9538	
HSUPA	Subtest 1	1852.4	9262	16.0~20.0
		1880.0	9400	
		1907.6	9538	
	Subtest 2	1852.4	9262	
		1880.0	9400	
		1907.6	9538	
	Subtest 3	1852.4	9262	
		1880.0	9400	
		1907.6	9538	
	Subtest 4	1852.4	9262	
		1880.0	9400	

Mode		Carrier frequency (MHz)	Channel No.	Tolerance (dBm)
	Subtest 5	1907.6	9538	
		1852.4	9262	
		1880.0	9400	
		1907.6	9538	

WCDMA band IV

Mode		Carrier frequency (MHz)	Channel No.	Tolerance (dBm)
Release 99	RMC,12.2kbps	1712.4	1312	18.8~22.8
		1732.4	1412	
		1752.6	1513	
	RMC,64kbps	1712.4	1312	
		1732.4	1412	
		1752.6	1513	
	RMC,144kbps	1712.4	1312	
		1732.4	1412	
		1752.6	1513	
	RMC,384kbps	1712.4	1312	
		1732.4	1412	
		1752.6	1513	
AMR,12.2kbps	1712.4	1312		
	1732.4	1412		
	1752.6	1513		
HSDPA	Subtest 1	1712.4	1312	18.0~22.0
		1732.4	1412	
		1752.6	1513	
	Subtest 2	1712.4	1312	
		1732.4	1412	
		1752.6	1513	
	Subtest 3	1712.4	1312	
		1732.4	1412	
		1752.6	1513	
	Subtest 4	1712.4	1312	
		1732.4	1412	
		1752.6	1513	
HSUPA	Subtest 1	1712.4	1312	18.0~22.0
		1732.4	1412	
		1752.6	1513	
	Subtest 2	1712.4	1312	
		1732.4	1412	

Mode		Carrier frequency (MHz)	Channel No.	Tolerance (dBm)		
	Subtest 3	1752.6	1513			
		1712.4	1312			
		1732.4	1412			
	Subtest 4	1752.6	1513			
		1712.4	1312			
		1732.4	1412			
	Subtest 5	1752.6	1513			
		1712.4	1312			
		1732.4	1412			
			1752.6		1513	

WCDMA band V

Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
Release 99	RMC,12.2kbps	826.4	4132	18.8~22.8
		836.6	4183	
		846.6	4233	
	RMC,64kbps	826.4	4132	
		836.6	4183	
		846.6	4233	
	RMC,144kbps	826.4	4132	
		836.6	4183	
		846.6	4233	
	RMC,384kbps	826.4	4132	
		836.6	4183	
		846.6	4233	
	AMR,12.2kbps	826.4	4132	
		836.6	4183	
		846.6	4233	
HSDPA	Subtest 1	826.4	4132	18.0~22.0
		836.6	4183	
		846.6	4233	
	Subtest 2	826.4	4132	
		836.6	4183	
		846.6	4233	
	Subtest 3	826.4	4132	
		836.6	4183	
		846.6	4233	
	Subtest 4	826.4	4132	
		836.6	4183	

Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
		846.6	4233	
HSUPA	Subtest 1	826.4	4132	18.0~22.0
		836.6	4183	
		846.6	4233	
	Subtest 2	826.4	4132	
		836.6	4183	
		846.6	4233	
	Subtest 3	826.4	4132	
		836.6	4183	
		846.6	4233	
	Subtest 4	826.4	4132	
		836.6	4183	
		846.6	4233	
	Subtest 5	826.4	4132	
		836.6	4183	
		846.6	4233	

**Band 2**

BW	Modulation	RB allocation with different offset	Frequency range	Tolerance (dBm)
All Bandwidth	QPSK	1	Low	18.7~22.7
			Mid	
			High	
		50%	Low	17.6~21.6
			Mid	
			High	
		100%	Low	17.7~21.7
			Mid	
			High	
	16QAM	1	Low	17.3~21.3
			Mid	
			High	
		50%	Low	17.0~21.0
			Mid	
			High	
		100%	Low	17.0~21.0
			Mid	
			High	
	64QAM	1	Low	17.3~21.3
			Mid	
			High	
		50%	Low	17.0~21.0
			Mid	
			High	
100%		Low	17.0~21.0	
		Mid		
		High		

**Band 4**

BW	Modulation	RB allocation with different offset	Frequency range	Tolerance (dBm)
All Bandwidth	QPSK	1	Low	19.5~23.5
			Mid	
			High	
		50%	Low	18.6~22.6
			Mid	
			High	
		100%	Low	18.6~22.6
			Mid	
			High	
	16QAM	1	Low	18.6~22.6
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
		100%	Low	18.0~22.0
			Mid	
			High	
	64QAM	1	Low	18.6~22.6
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
100%		Low	18.0~22.0	
		Mid		
		High		



**Band 5**

BW	Modulation	RB allocation with different offset	Frequency range	Tolerance (dBm)
All Bandwidth	QPSK	1	Low	19.5~23.5
			Mid	
			High	
		50%	Low	18.5~22.5
			Mid	
			High	
		100%	Low	18.5~22.5
			Mid	
			High	
	16QAM	1	Low	18.5~22.5
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
		100%	Low	18.0~22.0
			Mid	
			High	
	64QAM	1	Low	18.5~22.5
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
100%		Low	18.0~22.0	
		Mid		
		High		

**Band 12**

BW	Modulation	RB allocation with different offset	Frequency range	Tolerance (dBm)
All Bandwidth	QPSK	1	Low	19.0~23.0
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
		100%	Low	18.0~22.0
			Mid	
			High	
	16QAM	1	Low	18.0~22.0
			Mid	
			High	
		50%	Low	18.0~21.0
			Mid	
			High	
		100%	Low	18.2~21.2
			Mid	
			High	
	64QAM	1	Low	18.0~22.0
			Mid	
			High	
		50%	Low	18.0~21.0
			Mid	
			High	
100%		Low	18.2~21.2	
		Mid		
		High		

**Band 25**

BW	Modulation	RB allocation with different offset	Frequency range	Tolerance (dBm)
All Bandwidth	QPSK	1	Low	19.0~23.0
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
		100%	Low	18.0~22.0
			Mid	
			High	
	16QAM	1	Low	18.0~22.0
			Mid	
			High	
		50%	Low	17.0~21.0
			Mid	
			High	
		100%	Low	17.0~21.0
			Mid	
			High	
	64QAM	1	Low	18.0~22.0
			Mid	
			High	
		50%	Low	17.0~21.0
			Mid	
			High	
100%		Low	17.0~21.0	
		Mid		
		High		

**Band 41**

BW	Modulation	RB allocation with different offset	Frequency range	Tolerance (dBm)
All Bandwidth	QPSK	1	Low	20.0~24.0
			Mid	
			High	
		50%	Low	19.0~23.0
			Mid	
			High	
		100%	Low	19.1~23.1
			Mid	
			High	
	16QAM	1	Low	19.0~23.0
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
		100%	Low	18.0~22.0
			Mid	
			High	
	64QAM	1	Low	19.0~23.0
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
100%		Low	18.0~22.0	
		Mid		
		High		

**Band 66**

BW	Modulation	RB allocation with different offset	Frequency range	Tolerance (dBm)
All Bandwidth	QPSK	1	Low	19.5~23.5
			Mid	
			High	
		50%	Low	19.0~23.0
			Mid	
			High	
		100%	Low	19.0~23.0
			Mid	
			High	
	16QAM	1	Low	18.0~22.0
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
		100%	Low	18.0~22.0
			Mid	
			High	
	64QAM	1	Low	18.0~22.0
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
100%		Low	18.0~22.0	
		Mid		
		High		

**Band 71**

BW	Modulation	RB allocation with different offset	Frequency range	Tolerance (dBm)
All Bandwidth	QPSK	1	Low	20.0~24.0
			Mid	
			High	
		50%	Low	19.0~23.0
			Mid	
			High	
		100%	Low	19.0~23.0
			Mid	
			High	
	16QAM	1	Low	19.5~23.5
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
		100%	Low	18.0~22.0
			Mid	
			High	
	64QAM	1	Low	19.5~23.5
			Mid	
			High	
		50%	Low	18.0~22.0
			Mid	
			High	
100%		Low	18.0~22.0	
		Mid		
		High		

### Bluetooth

Modulation type	Tolerance (dBm)		
	2402MHz(Ch0)	2441MHz(Ch39)	2480MHz(Ch78)
GFSK	3.4~7.4		
$\pi/4$ DQPSK	2.6~6.6		
8DPSK	2.1~6.1		

### Bluetooth (BLE)

Modulation type	Average Power Output (dBm)		
	2402MHz (Ch0)	2440MHz (Ch19)	2480MHz (Ch39)
GFSK (LE 1Mbps)	-1.0~3.0		