







## Occupied Bandwidth

Mode	LTE Band 2 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.72	2.73	4.49	4.51	9.05	9.01	13.46	13.40	18.34	18.26
Middle CH	1.09	1.09	2.73	2.73	4.49	4.51	8.99	9.05	13.46	13.43	18.34	18.42
Highest CH	1.09	1.09	2.71	2.73	4.50	4.49	9.11	9.01	13.52	13.46	18.42	18.50
Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.08		2.73		4.48		9.03		13.40		18.38	
Middle CH	1.08		2.74		4.51		9.03		13.43		18.34	
Highest CH	1.09		2.70		4.50		9.09		13.49		18.46	

Mode	LTE Band 4 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.10	2.72	2.73	4.53	4.51	9.03	9.07	13.43	13.43	18.42	18.34
Middle CH	1.10	1.10	2.71	2.72	4.50	4.50	9.07	8.97	13.46	13.40	18.46	18.34
Highest CH	1.09	1.09	2.73	2.72	4.48	4.52	9.03	9.07	13.43	13.49	18.18	18.22
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09		2.72		4.51		9.07		13.37		18.58	
Middle CH	1.09		2.73		4.49		9.01		13.37		18.30	
Highest CH	1.09		2.72		4.50		8.97		13.40		18.46	

Mode	LTE Band 5 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		1.4MHz	3MHz	5MHz	10MHz
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM	64QAM	64QAM
Lowest CH	1.09	1.09	2.72	2.70	4.50	4.51	9.03	9.03	1.09	2.73	4.51	8.99
Middle CH	1.09	1.10	2.73	2.73	4.49	4.50	9.07	9.03	1.10	2.73	4.50	9.03
Highest CH	1.09	1.09	2.72	2.71	4.50	4.51	9.03	9.03	1.09	2.73	4.48	9.03



Mode	LTE Band 7 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.50	4.51	9.07	9.03	13.43	13.40	18.34	18.30
Middle CH	-	-	-	-	4.49	4.49	9.01	9.03	13.40	13.46	18.38	18.30
Highest CH	-	-	-	-	4.51	4.52	9.03	8.97	13.40	13.40	18.30	18.34
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-		-		4.49		9.03		13.43		18.30	
Middle CH	-		-		4.50		9.07		13.46		18.38	
Highest CH	-		-		4.51		9.05		13.49		18.30	

Mode	LTE Band 12 : 99%OBW(MHz)															
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz					
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM				
Lowest CH	1.09	1.09	2.72	2.71	4.50	4.50	9.03	9.03	-	-	-	-				
Middle CH	1.09	1.09	2.72	2.72	4.47	4.50	9.07	9.01	-	-	-	-				
Highest CH	1.10	1.09	2.75	2.73	4.48	4.50	9.07	9.05	-	-	-	-				
BW	1.4MHz		3MHz		5MHz		10MHz									
Mod.	64QAM		64QAM		64QAM		64QAM									
Lowest CH	1.09		2.73		4.48		9.03									
Middle CH	1.09		2.72		4.50		9.05									
Highest CH	1.09		2.69		4.50		9.07									

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.50	4.50	-	-	-	-	-	-
Middle CH	-	-	-	-	4.50	4.50	9.05	9.01	-	-	-	-
Highest CH	-	-	-	-	4.48	4.52	-	-	-	-	-	-
BW	5MHz						10MHz					
Mod.	64QAM						64QAM					
Lowest CH	4.49						-					
Middle CH	4.49						9.09					
Highest CH	4.51						-					



Mode	LTE Band 25 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.74	2.72	4.47	4.51	9.05	9.03	13.43	13.46	18.26	18.34
Middle CH	1.09	1.09	2.72	2.73	4.49	4.50	9.03	9.01	13.46	13.40	18.42	18.42
Highest CH	1.09	1.09	2.72	2.75	4.49	4.49	8.95	8.97	13.37	13.43	18.34	18.34
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09		2.72		4.50		9.07		13.46		18.34	
Middle CH	1.09		2.75		4.51		9.05		13.46		18.42	
Highest CH	1.08		2.75		4.49		9.03		13.40		18.34	

Mode	LTE Band 26 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		CH26765	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.08	1.09	2.73	2.72	4.50	4.53	8.99	9.07	13.46	13.46	13.40	13.40
Middle CH	1.09	1.09	2.71	2.72	4.49	4.52	8.99	9.01	13.43	13.43	-	-
Highest CH	1.09	1.09	2.72	2.72	4.51	4.49	8.99	9.07	13.46	13.46	-	-
Mode	LTE Band 26 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		CH26765	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09		2.72		4.51		9.03		13.43		13.46	
Middle CH	1.09		2.73		4.48		9.03		13.46		-	
Highest CH	1.08		2.73		4.50		8.99		13.40		-	

Mode	LTE Band 41 : 99%OBW(MHz)											
BW	5MHz		10MHz		15MHz		20MHz		5MHz	10MHz	15MHz	20MHz
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM	64QAM	64QAM
Lowest CH	4.53	4.50	9.03	9.01	13.40	13.34	18.22	18.26	4.48	9.01	13.46	18.38
Middle CH	4.50	4.48	9.09	8.97	13.31	13.37	18.30	18.38	4.47	8.91	13.40	18.26
Highest CH	4.48	4.53	8.99	9.03	13.46	13.46	18.46	18.22	4.51	9.09	13.46	18.22



Mode	LTE Band 66 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.10	1.10	2.73	2.74	4.49	4.50	9.07	9.09	13.40	13.43	18.34	18.46
Middle CH	1.09	1.10	2.72	2.71	4.50	4.50	9.05	9.01	13.43	13.52	18.34	18.30
Highest CH	1.09	1.09	2.72	2.72	4.50	4.49	9.03	8.97	13.43	13.52	18.42	18.42
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09		2.72		4.51		9.07		13.43		18.38	
Middle CH	1.09		2.73		4.48		9.01		13.46		18.38	
Highest CH	1.09		2.73		4.51		9.01		13.34		18.42	



## For CA

Mode	LTE Band 41 : 99%OBW(MHz)				
QPSK					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.23	23.43	27.93	23.43	28.53
Middle CH	23.23	23.43	27.93	23.53	28.59
Highest CH	23.23	23.38	28.05	23.43	28.59
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.87	23.28	28.05	32.73	37.56
Middle CH	32.73	23.28	27.99	32.94	37.56
Highest CH	32.87	23.23	27.99	32.87	37.72

Mode	LTE Band 41 : 99%OBW(MHz)				
16QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.18	23.38	27.93	23.48	28.59
Middle CH	23.23	23.33	27.93	23.43	28.47
Highest CH	23.18	23.48	28.05	23.48	28.53
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.66	23.23	27.93	32.66	37.64
Middle CH	32.80	23.23	27.99	32.87	37.56
Highest CH	32.80	23.23	28.05	32.87	37.64

Mode	LTE Band 41 : 99%OBW(MHz)				
64QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.23	23.38	27.93	23.48	28.47
Middle CH	23.23	23.33	27.99	23.33	28.53
Highest CH	23.23	23.38	27.93	23.58	28.47
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.80	23.23	27.99	32.80	37.64
Middle CH	32.80	23.28	27.99	32.66	37.56
Highest CH	32.73	23.18	27.93	32.80	37.56









































