

Capacity and oversubscription

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### CINR to MCS thresholds

MCS	20MHz		10MHz	
	DL	UL	DL	UL
0	1.70e	3.33e	4.23e	-0.33e
1	-0.70e	-2.00e	4.40e	-2.40e
2	-4.80e	2.80e	-4.90e	-1.90e
3	-1.80e	-0.70e	5.10e	-0.30e
4	-3.90e	0.20e	-2.80e	0.40e
5	-1.80e	1.20e	-1.70e	1.10e
6	-2.80e	2.20e	-6.10e	2.30e
7	1.50e	4.50e	1.40e	4.30e
8	1.50e	5.50e	2.40e	6.10e
9	4.30e	5.90e	2.40e	6.20e
10	1.00e	5.90e	3.40e	6.20e
11	3.90e	6.80e	4.00e	7.20e
12	5.40e	8.20e	5.20e	8.50e
13	1.40e	8.10e	6.40e	9.10e
14	7.80e	8.90e	7.80e	10.00e
15	1.00e	10.00e	8.00e	11.00e
16	8.00e	11.50e	8.00e	11.50e
17	11.00e	12.40e	10.00e	12.50e
18	11.00e	13.40e	12.00e	14.40e
19	13.00e	14.90e	14.00e	15.00e
20	13.00e	14.90e	15.00e	15.00e
21	15.00e	16.90e	16.00e	16.00e
22	15.00e	16.90e	17.00e	17.00e
23	18.00e	18.10e	18.00e	18.00e
24	18.00e	18.10e	19.00e	18.00e
25	20.00e	19.70e	20.00e	19.00e
26	20.00e	19.70e	21.00e	20.00e
27	22.00e	21.60e	22.00e	21.00e
28	22.00e	21.60e	23.00e	21.00e

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### TD-LTE 20MHz - DL Peak Throughput

MCS Index	0				1				2				3			
	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3
0	34.0	43.2	44.8	46.3	63.3	72.6	74.3	75.7	92.7	101.9	103.5	105.0	120.5	130.0	131.6	133.1
1	29.1	37.0	38.3	39.6	54.3	62.2	63.5	64.8	79.5	87.4	88.7	90.0	105.0	114.0	115.3	116.6
2	28.2	35.8	37.1	38.4	52.6	60.2	61.5	62.8	77.0	84.6	85.9	87.2	102.0	111.0	112.3	113.6
3	26.2	33.5	34.8	36.1	48.8	56.2	57.4	58.6	71.3	78.7	80.0	81.2	96.0	105.0	106.3	107.6
4	21.5	28.0	29.3	30.6	42.6	49.0	50.3	51.6	63.0	70.0	71.3	72.6	87.0	96.0	97.3	98.6
5	21.2	27.8	29.1	30.4	41.3	47.7	49.0	50.3	61.0	68.0	69.3	70.6	85.0	94.0	95.3	96.6
6	21.4	27.3	28.6	29.9	39.8	45.7	47.0	48.3	58.0	65.0	66.3	67.6	82.0	91.0	92.3	93.6
7	20.0	25.8	27.1	28.4	37.3	42.2	43.5	44.8	54.0	61.0	62.3	63.6	78.0	87.0	88.3	89.6
8	17.8	22.9	23.7	24.6	33.3	38.3	39.1	40.0	48.8	53.7	54.6	55.4	69.0	78.0	78.9	79.8
9	16.8	21.4	22.2	22.9	31.2	35.8	36.6	37.4	45.7	50.3	51.1	51.9	65.0	74.0	74.9	75.8
10	15.3	19.2	19.9	20.6	28.2	32.3	33.0	33.6	41.2	45.3	46.0	46.7	60.0	69.0	69.9	70.8
11	14.0	17.8	18.4	19.1	26.1	29.9	30.5	31.2	38.2	42.0	42.8	43.2	56.0	65.0	65.9	66.8
12	14.0	17.8	18.4	19.1	26.1	29.9	30.5	31.2	38.2	42.0	42.8	43.2	56.0	65.0	65.9	66.8
13	13.8	17.6	18.2	18.8	25.9	29.7	30.3	31.0	37.8	41.6	42.4	43.0	55.0	64.0	64.9	65.8
14	11.8	14.8	15.3	15.8	21.6	24.8	25.3	25.8	31.4	34.8	35.3	35.8	44.0	50.0	50.5	51.0
15	10.3	13.2	13.7	14.1	19.2	22.1	22.5	23.0	28.1	31.0	31.4	31.8	39.0	45.0	45.4	45.8
16	4.5	5.8	6.0	6.2	8.4	9.7	9.9	10.1	12.3	13.8	13.9	14.0	17.0	19.0	19.1	19.2
17	4.0	5.1	5.3	5.4	7.4	8.3	8.4	8.5	10.5	11.9	12.0	12.1	15.0	17.0	17.1	17.2
18	3.8	4.8	4.9	5.0	6.7	7.7	7.8	7.9	9.8	11.2	11.3	11.4	14.0	16.0	16.1	16.2
19	3.8	4.8	4.9	5.0	6.7	7.7	7.8	7.9	9.8	11.2	11.3	11.4	14.0	16.0	16.1	16.2
20	3.2	4.1	4.2	4.3	5.7	6.3	6.4	6.5	8.0	9.1	9.2	9.3	11.0	12.5	12.6	12.7
21	2.8	3.5	3.6	3.7	4.8	5.2	5.3	5.4	6.6	7.5	7.6	7.7	9.5	10.8	10.9	11.0
22	2.3	3.0	3.1	3.2	4.4	4.8	4.9	5.0	6.1	7.0	7.1	7.2	8.8	10.0	10.1	10.2
23	2.0	2.6	2.7	2.8	3.7	4.0	4.1	4.2	5.1	5.8	5.9	6.0	7.5	8.5	8.6	8.7
24	1.8	2.3	2.4	2.5	3.3	3.6	3.7	3.8	4.6	5.2	5.3	5.4	6.6	7.5	7.6	7.7
25	1.3	1.7	1.7	1.8	2.4	2.6	2.7	2.8	3.4	3.9	4.0	4.1	5.0	5.7	5.8	5.9
26	1.0	1.3	1.4	1.4	1.9	2.1	2.2	2.3	2.8	3.2	3.3	3.4	4.1	4.7	4.8	4.9

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### Compact 1000

COMPACT 1000	
Frequency	3.4 - 3.7 GHz
Radio Configuration	4Tx x 4Rx
Transmit Power	30dBm
/Per Port/	0 kg
Weight	0 kg
Dimensions	142.7 x 343 x 166.9mm
Power Consumption	100W
Primary Interfaces	1 x RJ-45 1Gb Copper 1 x RJ-45 1Gb Optical SFP GPS In/Out



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### Dual Carrier Dual sector

- Independent carriers using single Compact eNodeB
- Intended to increase aggregate capacity or coverage area but not peak rates beyond single carrier capabilities
- MAX capacity ~100Mbps per 20MHz carrier



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### Carrier Aggregation (CA)

- Independent component carrier aggregated at RLC to double peak rate capacity with use of CAT 6 CPE
- From usable throughput perspective single cat 6 users interprets 20+20MHz as 40MHz channel



20MHz + 20MHz ~200 Mbps

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### MU-MIMO

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100 Mbps  
100 Mbps

Highlights

- Works with Any Telrad CPE
- Optimized for fixed wireless
- Improves spectral efficiency

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Thank You!

[www.telrad.com](http://www.telrad.com)

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