(2) Detailed power measurement results of 9 sets UL duty cycle configuration for n41:

0%≤ K1 ≤10% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=10%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} - P_{offset} @k1, 0) = 24.50-Max(6.00-10,0) = 24.50 (dBm), P_{cmax}(meas.)=24.48 (dBm).			
P_{cmax} (Meas.)(dBm)	24.48	UL duty cycle (Meas.)	10%
			
10%< K2 ≤20% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=20%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} - P_{offset} @k2, 0) = 24.50-Max(6.00-6.5,0) = 24.50 (dBm) , P_{cmax}(meas.)=24.49 (dBm).			
P_{cmax} (Meas.)(dBm)	24.49	UL duty cycle (Meas.)	20%
			

20%< K3≤ 30% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=30%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset}@k3, 0) = 24.50-Max(6.00-5,0) = 23.50 (dBm) , P_{cmax}(meas.)=23.10 (dBm).			
P_{cmax} (Meas.)(dBm)	23.10	UL duty cycle (Meas.)	30%
			
30%< K4 ≤40% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=40%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset} @k4, 0) = 24.50-Max(6.00-3.5,0) = 22.00 (dBm) , P_{cmax}(meas.)=21.70 (dBm).			
P_{cmax} (Meas.)(dBm)	21.70	UL duty cycle (Meas.)	40%
			

40%< K5 ≤50% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=50%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset} @k5, 0) = 24.50-Max(6.00-3,0) = 21.50 (dBm) , P_{cmax}(meas.)=21.40 (dBm).			
P_{cmax} (Meas.)(dBm)	21.40	UL duty cycle (Meas.)	50%
			
50%< K6 ≤60% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=60%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset} @k6, 0) = 24.50-Max(6.00-2,0) = 20.50 (dBm) , P_{cmax}(meas.)=20.04 (dBm).			
P_{cmax} (Meas.)(dBm)	20.04	UL duty cycle (Meas.)	60%
			

60%< K7 ≤70% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=70%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset}@k7, 0) = 24.50-Max(6.00-1.5,0) = 20.00 (dBm) , P_{cmax}(meas.)=19.61 (dBm).			
P_{cmax} (Meas.)(dBm)	19.61	UL duty cycle (Meas.)	70%
			
70%< K8 ≤80% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=76%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset} @k8, 0) = 24.50-Max(6.00-0.5,0) = 19.00 (dBm) , P_{cmax}(meas.)=18.62 (dBm).			
P_{cmax} (Meas.)(dBm)	18.62	UL duty cycle (Meas.)	76%
			

80% <K9 ≤100% (The mobile phone is connected to the radio communication tester) Set UL duty cycle=88%, P_{max} = 24.50 (dBm) and P_{SAR} = 6.00 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset}@k9, 0) = 24.50-Max(6.00-0,0) = 18.50 (dBm) , P_{cmax}(meas.)=17.59 (dBm). When the UL duty cycle is high, such as 100%, the mobile phone and the radio communication tester cannot be established, SAR testing using factory test mode. SAR testing is performed at P_{cmax}(meas.), and the measurement SAR(P_{cmax} meas.= 17.59 dBm) will be extended to report SAR(P_{cmax} tune up=18.50 dBm)

P_{cmax} (Meas.)(dBm)	17.59	UL duty cycle (Meas.)	88%
			

*If there is only one TDD-UL-DL-Pattern configured, the ULDutyCycle should be:

ULDutyCycle = UL symbols / Total symbols

= (nrofUplinkSymbols + 14 * nrofUplinkSlots) / 14 * Number of Slots via 38.213 v16.5 -11.1

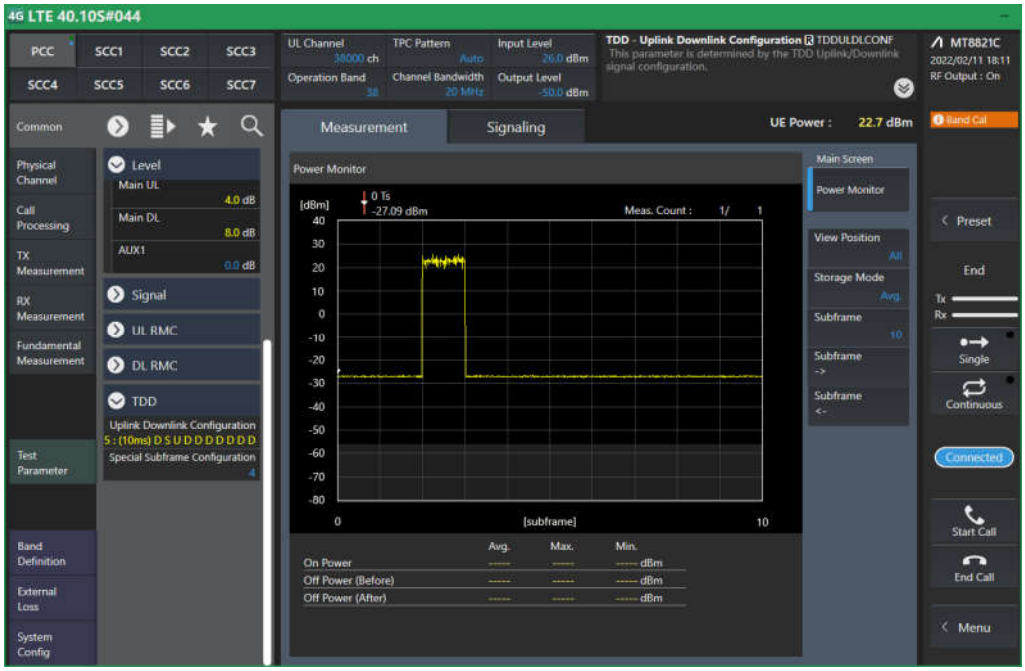
*If there is more than one TDD-UL-DL-Pattern configured, the ULDutyCycle should be:

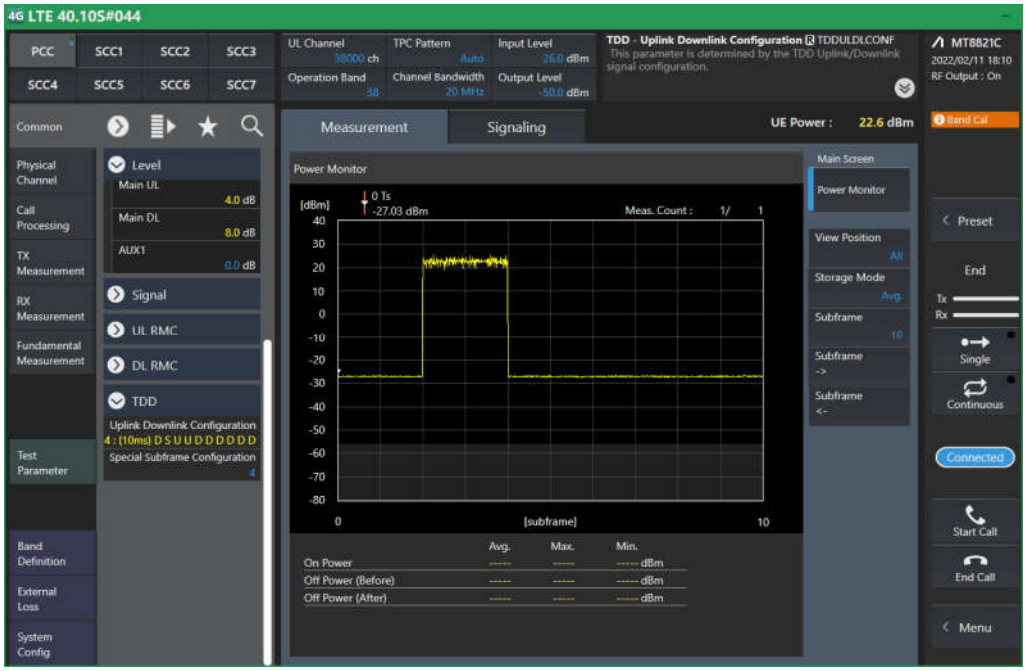
ULDutyCycle = (UL symbols(pattern 1) + UL symbols(pattern 2) [+ ...]) / 14 * (Number of Slots in pattern1 + pattern2 [+ ...])

*If dl-UL-TransmissionPeriodicity-v1530 is conifgured, the UL Duty Cycle should follow dl-UL-TransmissionPeriodicity-v1530 instead.

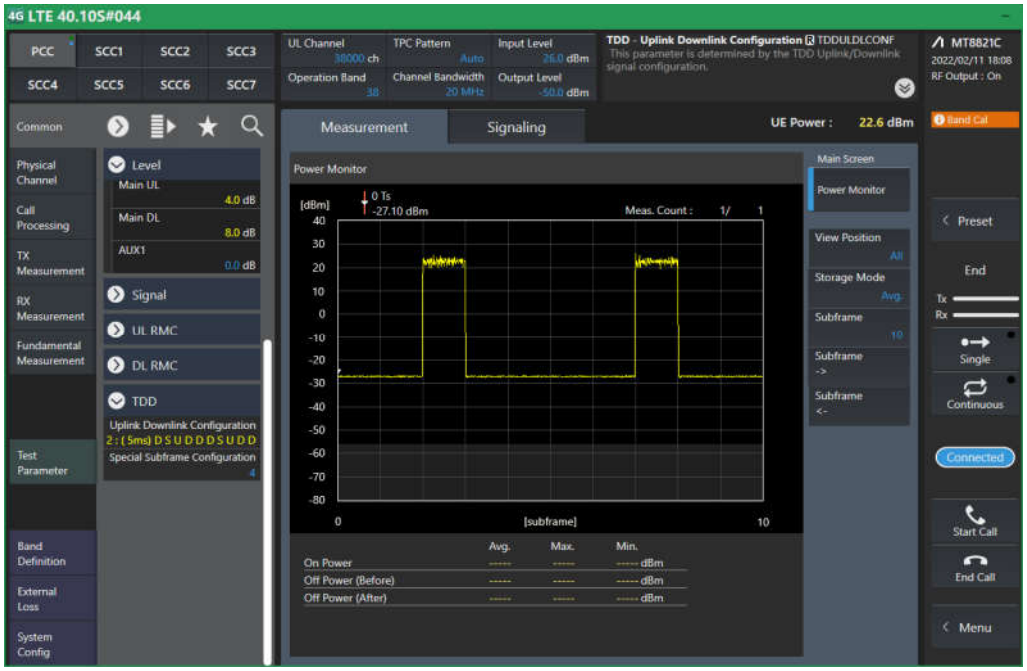
Note: FDD NR has the same characteristics as TDD NR.

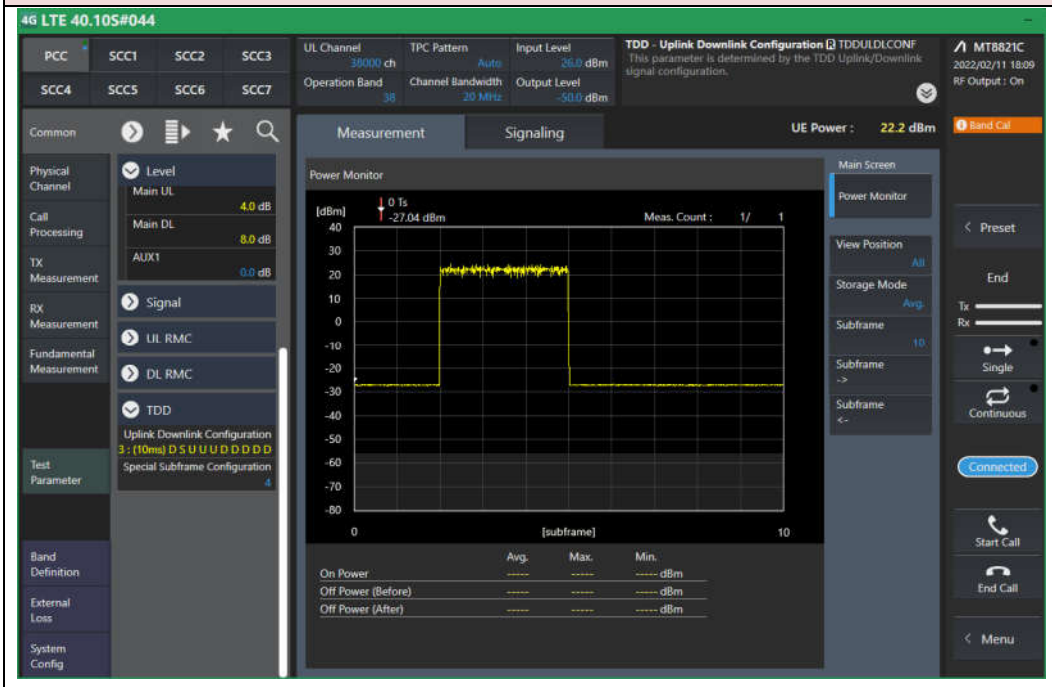
(3) Detailed power measurement results of 6 sets UL duty cycle configuration for B38:

0%< K1 ≤20% (Config5)	P_{cmax} (Meas.)(dBm)	22.70	UL duty cycle (Meas.)	10.71%~11.67%
Set UL duty cycle=10.71% (uplink-downlink configuration 5 and special subframe configuration 4), P_{max} = 23.00 (dBm) and P_{SAR} = 2.50 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset} @k1, 0) = 23.00-Max(2.50-5,0) = 23.00 (dBm) , P_{cmax}(meas.)=22.70 (dBm).				
				

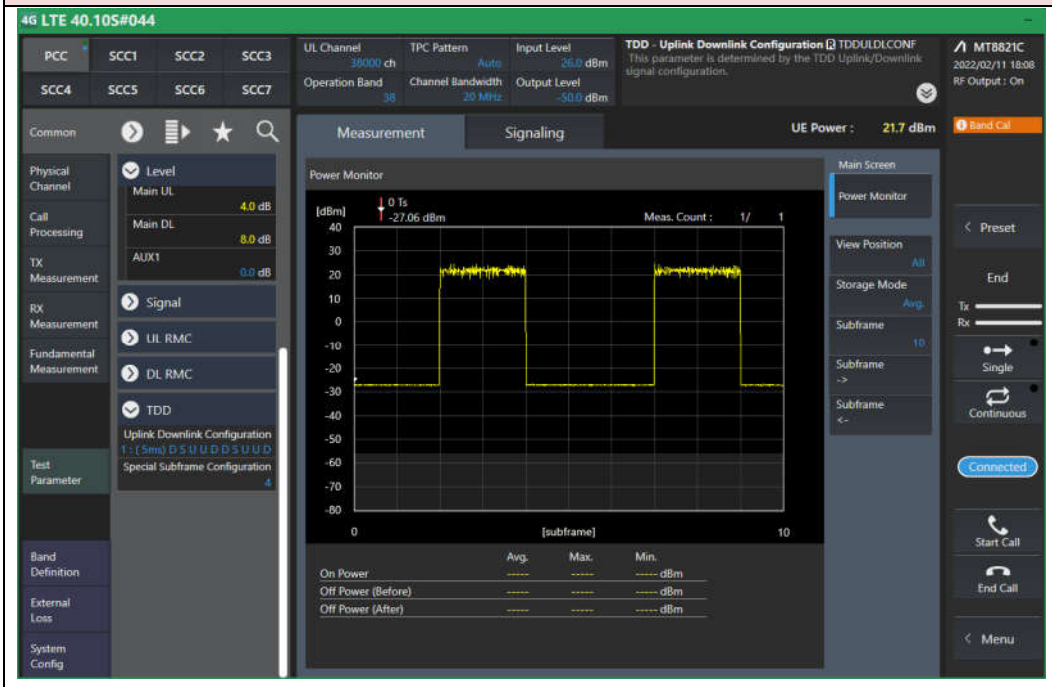
20%< K2≤ 30% (Config4)	P_{cmax} (Meas.)(dBm)	22.60	UL duty cycle (Meas.)	20.71%~21.67%
Set UL duty cycle=20.71% (uplink-downlink configuration 4 and special subframe configuration 4), P_{max} = 23.00 (dBm) and P_{SAR} = 2.50 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset}@k2, 0) = 23.00-Max(2.50-3.5,0) = 23.00 (dBm) , P_{cmax}(meas.)=22.60 (dBm).				
				

20%< K2≤ 30% (Config2)	P_{cmax} (Meas.)(dBm)	22.60	UL duty cycle (Meas.)	21.43%~23.33%
Set UL duty cycle=21.43% (uplink-downlink configuration 2 and special subframe configuration 4), P_{max} = 23.00 (dBm) and P_{SAR} = 2.50 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset}@k2, 0) = 23.00-Max(2.50-3.5,0) = 23.00 (dBm) , P_{cmax}(meas.)=22.60 (dBm).				

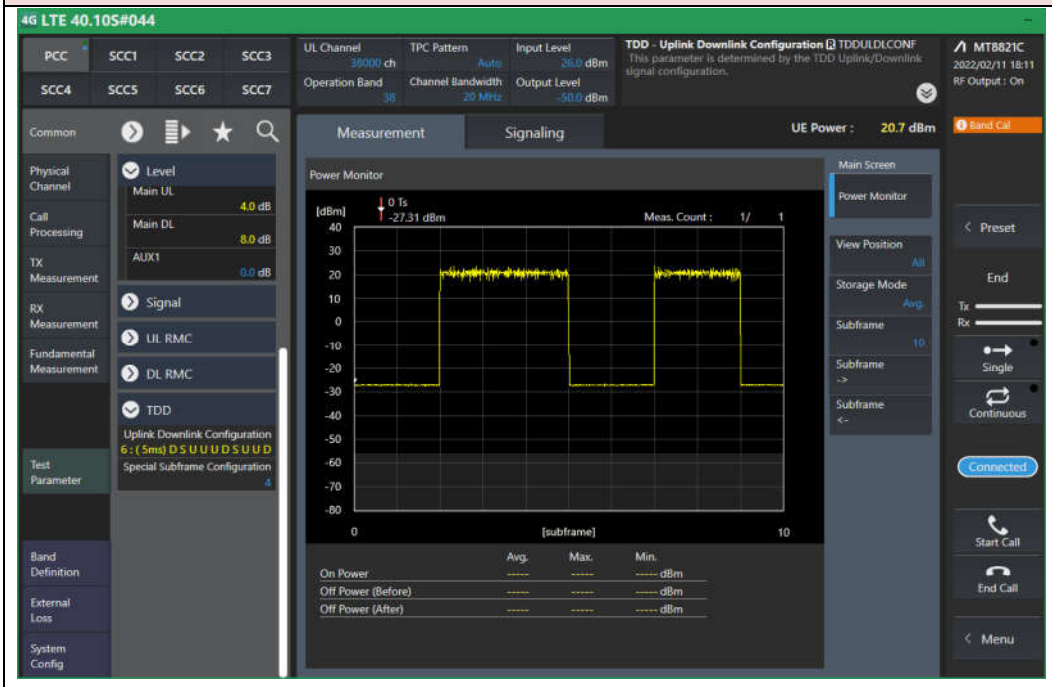


30%< K3 ≤40% (Config3)	P_{cmax} (Meas.)(dBm)	22.20	UL duty cycle (Meas.)	30.71%~31.67%
Set UL duty cycle=30.71% (uplink-downlink configuration 3 and special subframe configuration 4), P_{max} = 23.00 (dBm) and P_{SAR} = 2.50 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} –P_{offset} @k3, 0) = 23.00-Max(2.50-2,0) = 22.50 (dBm) , P_{cmax}(meas.)=22.20 (dBm).				
				

40%< K4 ≤50% (Config1)	P_{cmax} (Meas.)(dBm)	21.70	UL duty cycle (Meas.)	41.43%~43.33%
Set UL duty cycle=41.43% (uplink-downlink configuration 1 and special subframe configuration 4), P_{max} = 23.00 (dBm) and P_{SAR} = 2.50 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset}@k4, 0) = 23.00-Max(2.50-1.5,0) = 22.00 (dBm) , P_{cmax}(meas.)=21.70 (dBm).				



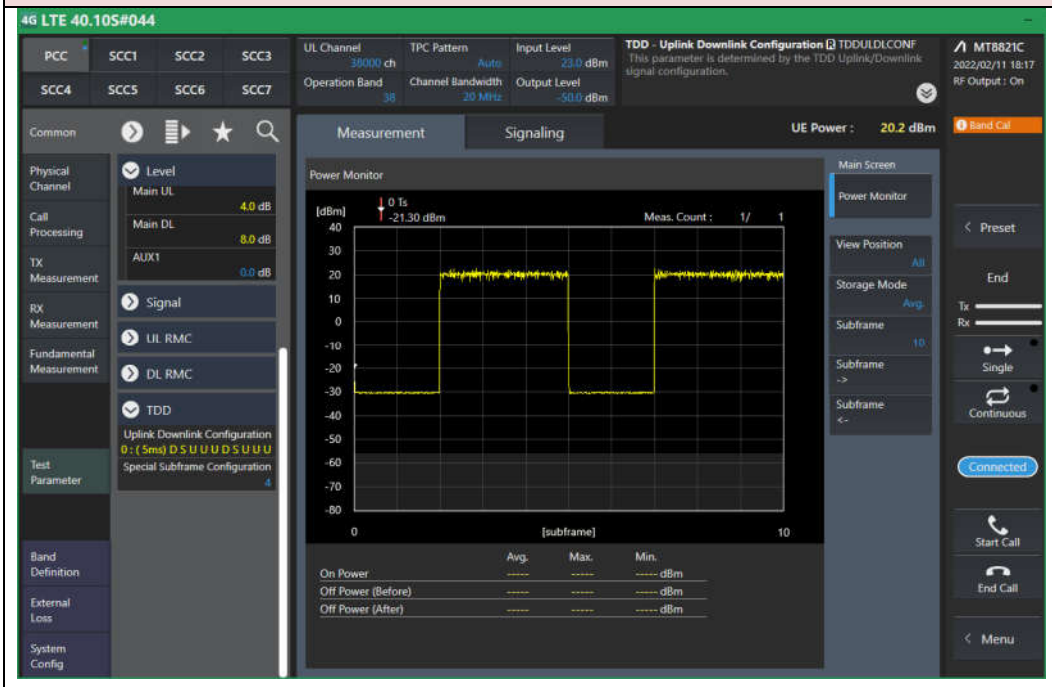
50%< K5 ≤60% (Config6)	P_{cmax} (Meas.)(dBm)	20.70	UL duty cycle (Meas.)	51.43%~53.33%
Set UL duty cycle=51.43% (uplink-downlink configuration 6 and special subframe configuration 4), P_{max} = 23.00 (dBm) and P_{SAR} = 2.50 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset}@k5, 0) = 23.00-Max(2.50-0.5,0) = 21.00 (dBm) , P_{cmax}(meas.)=20.70 (dBm).				



60%< K6 ≤63.3% (Config0)	P_{cmax}(Meas.)(dBm)	20.20	UL duty cycle (Meas.)	61.43%~63.33%

Set UL duty cycle=61.43% (uplink-downlink configuration 0 and special subframe configuration 4), P_{max} = 23.00 (dBm) and P_{SAR} = 2.50 (dB), then P_{cmax} = P_{max} – Max(P_{SAR} – P_{offset}@k6, 0) = 23.00-Max(2.50-0,0) = 20.50 (dBm) , P_{cmax}(meas.)=20.20 (dBm).

SAR testing is performed at P_{cmax}(meas.), and the measurement SAR(P_{cmax} meas.= 20.20 dBm) will be extended to report SAR(P_{cmax} tune up=20.50 dBm).



Duty cycle = (30720Ts*Ups+Uplink Component*Specials)/ (307200Ts)

Uplink Component=UpPTS

Duty cycle = [(30720Ts*Ups) + UpPTS *Specials]/ (307200Ts)

Different Duty cycles under different configurations:

Uplink-Downlink configuration	Subframe number			Configuration of special subframe							
				Normal cyclice prefix in downlink				Extended cyclice prefix in downlink			
				Normal cyclice prefix in uplink		Extended cyclice prefix in uplink		Normal cyclice prefix in uplink		Extended cyclice prefix in uplink	
	D	S	U	configuration 0~4	configuration 5~9	configuration 0~4	configuration 5~9	configuration 0~3	configuration 4~7	configuration 0~3	configuration 4~7
0	2	2	6	61.43%	62.85%	61.67%	**63.33%**	61.43%	62.85%	61.67%	**63.33%**
1	4	2	4	41.43%	42.85%	41.67%	43.33%	41.43%	42.85%	41.67%	43.33%
2	6	2	2	21.43%	22.85%	21.67%	23.33%	21.43%	22.85%	21.67%	23.33%
3	6	1	3	30.71%	31.43%	30.83%	31.67%	30.71%	31.43%	30.83%	31.67%
4	7	1	2	20.71%	21.43%	20.83%	21.67%	20.71%	21.43%	20.83%	21.67%
5	8	1	1	10.71%	11.43%	10.83%	11.67%	10.71%	11.43%	10.83%	11.67%
6	3	2	5	51.43%	52.85%	51.67%	53.33%	51.43%	52.85%	51.67%	53.33%

Note: FDD LTE does not support UL duty cycle detection mechanism.

ANNEX L: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ilac-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2020-09-29 through 2021-09-30
Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

*****END OF REPORT*****