

**TEST REPORT**

NR+LTE with NB-GB

Configuration	Carrier	NR Carrier BW(MHz)	Carrier Frequency Configuration			LTE Carrier BW(MHz)
			Bottom	Middle	Top	
NR+LTE-MC-1	1NR+1LTE	5	-	(NR)861.5+(L)868.3	-	1.4
		5	-	(NR)861.5+(L)867.5	-	3
		5	-	(NR)861.5+(L)866.5	-	5

NR+LTE+SA

Configuration	Carrier	LTE Carrier BW(MHz)	Carrier Frequency Configuration			SA Carrier BW(MHz)	NR Carrier
			Bottom	Middle	Top		
NR+LTE+SA-MC-1	1NR+1LTE +1SA	1.4	-	(NR)861.5+(LTE)864.7 + (SA)868.8	-	0.2	5
		3	-	(NR)861.5+(LTE)865.5 + (SA)868.8	-	0.2	5

NR/ESS with NB-IoT(IB)

Configuration	Carrier	NR/ESS Carrier Bandwidth(MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
NR ESS IB-1C	1	10	-	864.0	-

NR

Configuration	Carrier	NR Carrier BW(MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
NR-1C-UE	1	5	861.5	-	866.5
		10	-	864.0	-
NR-2C-UE	2	5	-	861.5+866.5	-

LTE

Configuration	Carrier	LTE Carrier BW(MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
LTE-1C-UE	1	1.4	859.7	-	868.3
		3	860.5	-	867.5
		5	861.5	-	866.5
LTE-2C-UE	2	1.4	859.7+861.1	-	866.9+868.3
		3	860.5+863.5	-	864.5+867.5
		5	-	861.5+866.5	-
LTE-6C-UE	6	1.4	859.7+861.1+862.5 +863.9+865.3+866.7	-	861.3+862.7+864.1 +865.5+866.9+868.3

Total Quality. Assured.

**TEST REPORT**
**NB-IoT GB**

Configuration	Carrier	GB Carrier BW(MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
GB-1C-UE	1	10	-	864.0	-

**NB-IoT SA**

Configuration	Carrier	SA Carrier BW(MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
SA-1C-UE	1	0.2	859.2	-	868.8
SA-2C-UE	2	0.2	859.2+860.8	-	867.2+868.8

**NR+LTE**

Configuration	Carrier	NR Carrier BW(MHz)	Carrier Frequency Configuration			LTE Carrier BW(MHz)
			Bottom	Middle	Top	
NR+LTE-MC-1-UE	1NR+1LTE	5	(NR)861.5 +(L)864.7	-	(NR)865.1 +(L)868.3	1.4
		5	(NR)861.5 +(L)865.5	-	(NR)863.5 +(L)867.5	3
		5	-	(NR)861.5+(L)866.5	-	5

**NR/ESS with NB-IoT(IB)**

Configuration	Carrier	NR ESS Carrier BW(MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
NR ESS IB-1C-UE	1	10	-	864.0	-

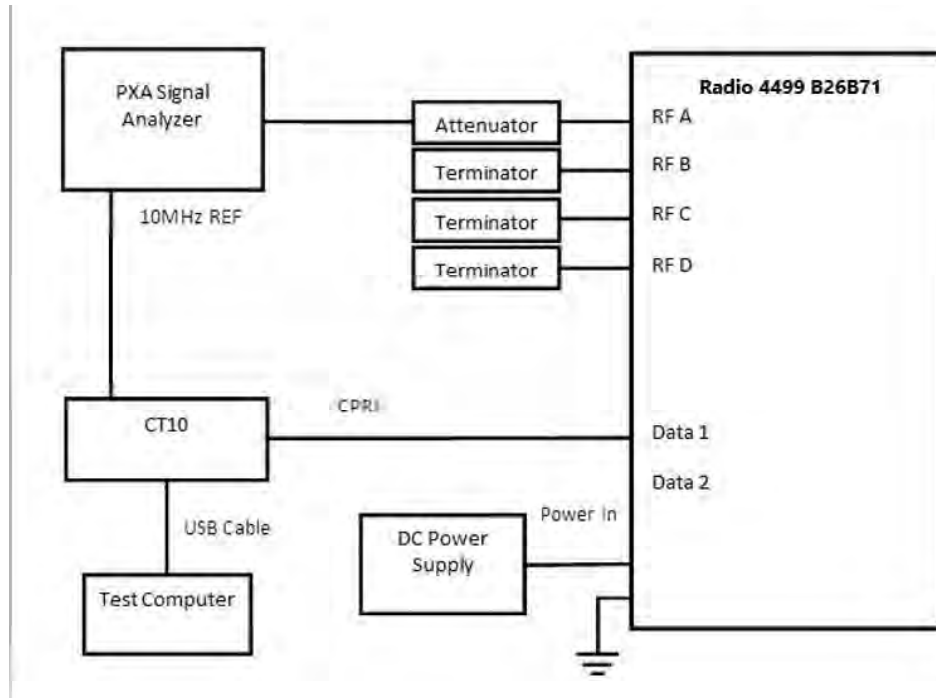
**NR+LTE+SA**

Configuration	Carrier	LTE Carrier BW(MHz)	Carrier Frequency Configuration			SA Carrier BW(MHz)	NR Carrier
			Bottom	Middle	Top		
NR+LTE+SA-MC-1-UE	1NR+1LTE +1SA	1.4	(NR)861.5 +(LTE)864.7 +(SA)865.6	-	(NR)864.7 +(LTE)867.9 +(SA)868.8	0.2	5
		3	(NR)861.5 +(LTE)865.5 +(SA)867.2	-	(NR)863.1 +(LTE)867.1 +(SA)868.8	0.2	5

**TEST REPORT**

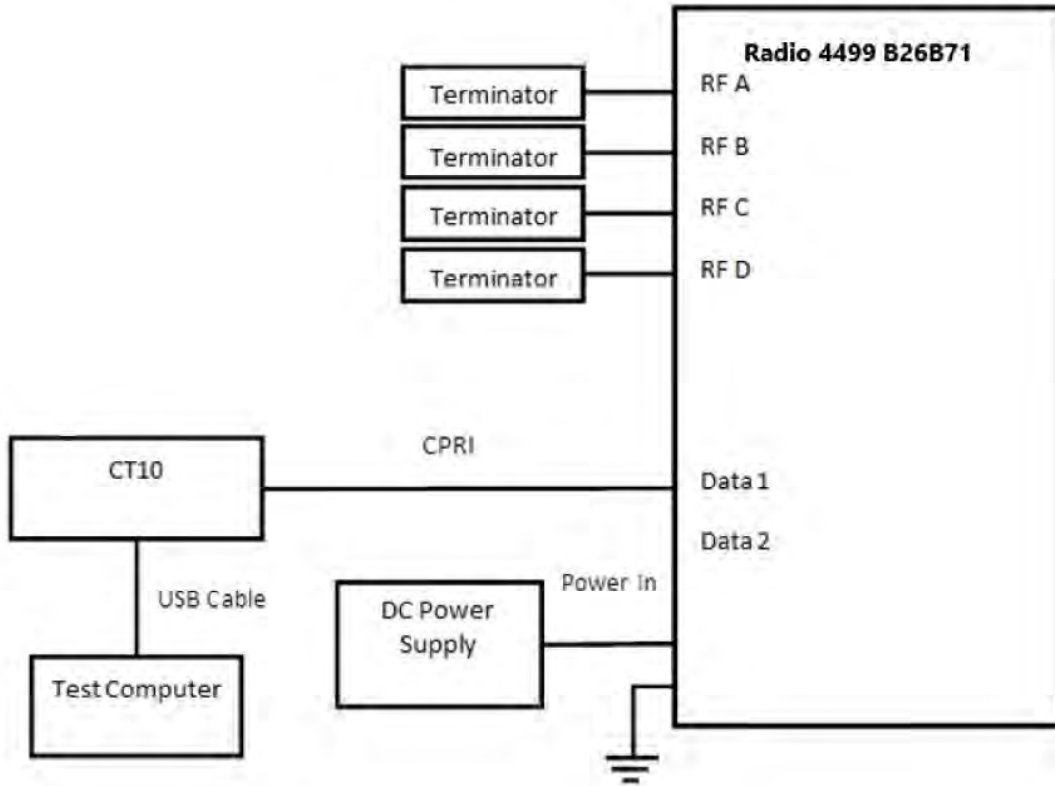
**2.4 Test Setup**

Conducted Measurement:



No.	Auxiliary Equipment	Product Number / Model Type	Version
1	Test computer	DELL Optiplex 3050	-
2	CT10	LPC102487/1	R1C
4	DC Power Supply	N8737A	-
5	Attenuator	AT6-460-MF-IM-300	-
6	Attenuator	WDTS300-30Db-6G-NFF	-
7	Terminator	WTF100-10	-

Radiated Measurement:



No.	Auxiliary Equipment	Product Number / Model Type	Version
1	Test computer	DELL Optiplex 3050	-
2	CT10	LPC102487/1	R1C
4	DC Power Supply	N8737A	-
5	Attenuator	AT6-460-MF-IM-300	-
6	Attenuator	WDTS300-30Db-6G-NFF	-
7	Terminator	WTF100-10	-

**2.5 Test environment condition:**

Test items	Temperature	Humidity
Max Output Power and Peak to Average Power Ratio and EIRP	21°C	54% RH
Occupied Bandwidth		
Unwanted Emissions at Band Edge		
Conducted Unwanted Emission		
Radiated Unwanted Emissions	22°C	56% RH
Frequency Stability	Please refer to clause 8	

## 2.6 Instrument list

Intertek Testing Services Shanghai					
Used	Equipment	Manufacturer	Type	S/N	Due date
<input checked="" type="checkbox"/>	PXA Signal Analyzer	Keysight	N9030A	MY54490394	2023.4.7
<input checked="" type="checkbox"/>	Signal Generator	R&S	SMU200A	103457	2023.8.14
<input checked="" type="checkbox"/>	Multi-meter	Fluke	117	93990470	2023.1.9
<input checked="" type="checkbox"/>	Climatic Chamber	赛宝	CEEC-WR16H-50W	15-095	2023.9.20
<input checked="" type="checkbox"/>	Humiture meter	托普	TPJ-20	TP161108085	2023.2.21
<input checked="" type="checkbox"/>	Power sensor	R&S	NRP-Z11	120458	2023.8.9
<input checked="" type="checkbox"/>	Power sensor	R&S	NRP-Z21	104407	2023.8.9
<input checked="" type="checkbox"/>	Power meter	R&S	NRX	101173_BAMS-1001958119	2023.8.9

BEIJING BOOMWAVE TEST SERVICE CO. LTD.					
Used	Equipment	Manufacturer	Type	S/N	Due date
<input checked="" type="checkbox"/>	EMI TEST RECERVER	R&S	ESR26	101320	2023/01/11
<input checked="" type="checkbox"/>	Hybrid antenna	SCHWARZBECK	VULB9163	01266	2023/07/03
<input checked="" type="checkbox"/>	Double-Ridged Waveguide Horn Antenna	R&S	HF907	100096	2023/05/27
<input checked="" type="checkbox"/>	Pre-amplifier	Qualwave	QLAS-1000-18000-45-30	20255003	2023/01/11
<input checked="" type="checkbox"/>	Digital display temperature and humidity recorder	DICKSON	TM320	015079	2023/05/09
<input checked="" type="checkbox"/>	SAC10	TDK	SAC10	SAC10	2023/07/11

## 2.7 Measurement uncertainty

The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Measurement uncertainty
Maximum output power	0.73dB
Occupied Bandwidth	0.88%
Unwanted Emissions at Band Edge	3.03dB
Conducted Unwanted Emission	3.03dB
Radiated Unwanted Emissions below 1GHz	4.90dB
Radiated Unwanted Emissions above 1GHz	5.02dB
Frequency stability	$0.77 \times 10^{-7}$

### 3 Maximum Output Power and Peak to Average Power Ratio and EIRP

Test result: Pass

#### 3.1 Limit

The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.

Antenna height (ATT) meters (feet)	Effective radiated power (watts) <sup>1 2 4</sup>
Above 1,372 (4,500) .....	65
Above 1,220 (4,000) to 1,372 (4,500) .....	70
Above 1,067 (3,500) to 1,220 (4,000) .....	75
Above 915 (3,000) to 1,067 (3,500) .....	100
Above 763 (2,500) to 915 (3,000) .....	140
Above 610 (2,000) to 763 (2,500) .....	200
Above 458 (1,500) to 610 (2,000) .....	350
Above 305 (1,000) to 458 (1,500) .....	600
Up to 305 (1,000) .....	31,000

Peak to Average Ratio: ≤13 dB

#### 3.2 Measurement Procedure

The EUT was configured to transmit on maximum power and proper modulation. The transmitter power shall be measured in terms of a root-mean-square (RMS) average value. In case of the EUT was configured to MIMO mode, since the EUT transmits on all antennas simultaneously in the same frequency range, using the Measure-and-Sum approach, the output power at all antennas were tested, and the total output power were then summed mathematically in linear power units according to FCC KDB 662911 D01.

A peak to average ratio measurement is performed at the conducted ports of the EUT for single carrier for single RAT mode. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) was used and 0.1% probability value recorded.



### 3.3 Measurement result

#### NR-1C

Antenna Port	NR Modulation	NR Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	5	45.68	39.52	8.49	45.82	39.58	8.58	45.78	39.54	8.19
B	QPSK	5	45.69	39.58	8.22	45.92	39.67	8.19	45.98	39.69	8.18
C	QPSK	5	45.66	39.51	8.43	45.86	38.63	8.34	45.90	39.65	8.37
D	QPSK	5	45.71	39.52	8.29	45.90	39.67	8.39	45.89	39.67	8.33
Total			51.71	45.55	-	51.9	45.43	-	51.91	45.66	-
Limit			62.15	-	13.00	62.15	-	13.00	62.15	-	13.00
Max antenna gain			10.44	-	-	10.25	-	-	10.24	-	-

Antenna Port	NR Modulation	NR Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	10	-	-	-	47.47	38.12	7.61	-	-	-
B	QPSK	10	-	-	-	47.35	38.14	7.44	-	-	-
C	QPSK	10	-	-	-	47.45	38.18	7.48	-	-	-
D	QPSK	10	-	-	-	47.51	38.21	7.78	-	-	-
Total			-	-	-	53.47	44.18	-	-	-	-
Limit			-	-	-	62.15	-	13.00	-	-	-
Max antenna gain			-	-	-	8.68	-	-	-	-	-

#### NR-2C

Antenna Port	NR Modulation	NR Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	5	-	-	-	47.40	38.32	-	-	-	-
B	QPSK	5	-	-	-	47.35	37.25	-	-	-	-
C	QPSK	5	-	-	-	47.37	37.27	-	-	-	-
D	QPSK	5	-	-	-	47.44	38.39	-	-	-	-
Total			-	-	-	53.41	43.86	-	-	-	-
Limit			-	-	-	62.15	-	-	-	-	-
Max antenna gain			-	-	-	8.74	-	-	-	-	-

LTE-1C

Antenna Port	LTE Modulation	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	1.4	42.44	41.43	8.57	42.85	41.84	8.64	42.82	41.8	8.53
B	QPSK	1.4	42.45	41.45	8.02	42.94	41.94	8.16	42.96	41.93	8.15
C	QPSK	1.4	42.45	41.44	8.03	42.55	41.56	8.03	42.52	41.46	8.02
D	QPSK	1.4	42.58	41.63	8.45	43.03	42.06	8.47	43.04	41.95	8.46
Total			48.50	47.51	-	48.87	47.87	-	48.86	47.81	-
Limit			62.15	-	13.00	62.15	-	13.00	62.15	-	13.00
Max antenna gain			13.65	-	-	13.28	-	-	13.29	-	-

Antenna Port	LTE Modulation	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	3	42.67	38.63	8.40	42.94	38.86	8.34	42.87	38.80	8.37
B	QPSK	3	42.69	38.69	8.13	43.04	39.00	8.18	43.06	39.01	8.18
C	QPSK	3	42.67	38.69	8.14	43.01	38.97	8.18	42.98	38.92	8.25
D	QPSK	3	42.72	38.77	8.40	43.03	39.02	8.34	43.00	38.97	8.38
Total			48.71	44.72	-	49.03	44.98	-	49.00	44.95	-
Limit			62.15	-	13.00	62.15	-	13.00	62.15	-	13.00
Max antenna gain			13.44	-	-	13.12	-	-	13.15	-	-

Antenna Port	LTE Modulation	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	5	45.72	39.62	8.22	45.89	39.71	8.21	45.90	39.71	8.32
B	QPSK	5	45.80	39.71	8.19	46.01	39.84	8.16	46.03	39.85	8.21
C	QPSK	5	45.82	39.72	8.37	45.99	39.84	8.28	46.00	39.79	8.32
D	QPSK	5	45.84	39.72	8.26	46.03	39.86	8.40	46.01	39.81	8.28
Total			51.82	45.71	-	52.00	45.83	-	52.01	45.81	-
Limit			62.15	-	13.00	62.15	-	13.00	62.15	-	13.00
Max antenna gain			10.33	-	-	10.15	-	-	10.14	-	-

**TEST REPORT**

Antenna Port	LTE Modulation	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	10	-	-	-	47.53	38.45	7.48	-	-	-
B	QPSK	10	-	-	-	47.59	38.55	7.40	-	-	-
C	QPSK	10	-	-	-	47.57	38.23	7.39	-	-	-
D	QPSK	10	-	-	-	47.57	38.47	7.56	-	-	-
Total			-	-	-	53.59	44.45	-	-	-	-
Limit			-	-	-	62.15	-	13.00	-	-	-
Max antenna gain			-	-	-	8.56	-	-	-	-	-

LTE-2C

Antenna Port	LTE Modulation	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	1.4	-	-	-	45.68	41.80	-	-	-	-
B	QPSK	1.4	-	-	-	45.76	41.94	-	-	-	-
C	QPSK	1.4	-	-	-	45.34	41.90	-	-	-	-
D	QPSK	1.4	-	-	-	45.49	41.87	-	-	-	-
Total			-	-	-	51.59	47.90	-	-	-	-
Limit			-	-	-	62.15	-	-	-	-	-
Max antenna gain			-	-	-	10.56	-	-	-	-	-

Antenna Port	LTE Modulation	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	3	-	-	-	45.76	38.81	-	-	-	-
B	QPSK	3	-	-	-	45.87	38.93	-	-	-	-
C	QPSK	3	-	-	-	45.79	38.92	-	-	-	-
D	QPSK	3	-	-	-	45.83	38.89	-	-	-	-
Total			-	-	-	51.83	44.91	-	-	-	-
Limit			-	-	-	62.15	-	-	-	-	-
Max antenna gain			-	-	-	10.32	-	-	-	-	-

Antenna Port	LTE Modulation	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	5	-	-	-	47.48	38.40	-	-	-	-
B	QPSK	5	-	-	-	47.56	38.51	-	-	-	-
C	QPSK	5	-	-	-	47.52	38.41	-	-	-	-
D	QPSK	5	-	-	-	47.55	38.44	-	-	-	-
Total			-	-	-	53.55	44.46	-	-	-	-
Limit			-	-	-	62.15	-	-	-	-	-
Max antenna gain			-	-	-	8.60	-	-	-	-	-

LTE-6C

Antenna Port	LTE Modulation	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	1.4	-	-	-	47.20	38.77	-	-	-	-
B	QPSK	1.4	-	-	-	47.24	38.84	-	-	-	-
C	QPSK	1.4	-	-	-	46.93	38.84	-	-	-	-
D	QPSK	1.4	-	-	-	46.92	38.83	-	-	-	-
Total			-	-	-	53.10	44.84	-	-	-	-
Limit			-	-	-	62.15	-	-	-	-	-
Max antenna gain			-	-	-	9.05	-	-	-	-	-

GB-1C

Antenna Port	Modulation	Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	10	-	-	-	47.38	38.74	-	-	-	-
B	QPSK	10	-	-	-	47.40	38.70	-	-	-	-
C	QPSK	10	-	-	-	47.41	38.69	-	-	-	-
D	QPSK	10	-	-	-	47.44	38.73	-	-	-	-
Total			-	-	-	53.43	44.74	-	-	-	-
Limit			-	-	-	62.15	-	-	-	-	-
Max antenna gain			-	-	-	8.72	-	-	-	-	-

**TEST REPORT**

IB-1C

Antenna Port	Modulation	Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	5	45.92	40.13	8.15	46.05	40.45	8.13	45.98	40.44	8.21
B	QPSK	5	45.79	40.07	8.11	46.03	40.46	8.18	46.05	40.50	8.13
C	QPSK	5	45.78	40.05	8.14	45.96	40.37	8.12	45.90	40.37	8.12
D	QPSK	5	45.91	40.23	8.14	46.12	40.54	8.17	46.13	40.59	8.15
Total			51.87	46.14	-	52.06	46.48	-	52.04	46.50	-
Limit			62.15	-	13.00	62.15	-	13.00	62.15	-	13.00
Max antenna gain			10.28	-	-	10.09	-	-	10.11	-	-

Antenna Port	Modulation	Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	10	-	-	-	47.62	39.99	-	-	-	-
B	QPSK	10	-	-	-	47.58	39.98	-	-	-	-
C	QPSK	10	-	-	-	47.59	39.96	-	-	-	-
D	QPSK	10	-	-	-	47.65	40.00	-	-	-	-
Total			-	-	-	53.63	46.00	-	-	-	-
Limit			-	-	-	62.15	-	-	-	-	-
Max antenna gain			-	-	-	8.52	-	-	-	-	-

SA-1C

Antenna Port	Modulation	Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	0.2	42.13	42.23	6.97	42.02	42.74	7.12	42.00	42.70	7.03
B	QPSK	0.2	42.11	42.20	7.14	42.11	42.83	7.04	42.12	42.82	7.06
C	QPSK	0.2	42.08	42.16	7.09	42.06	42.77	7.16	42.11	42.81	7.14
D	QPSK	0.2	42.21	42.30	7.09	42.19	42.91	7.07	42.19	42.89	7.05
Total			48.15	48.24	-	48.12	48.83	-	48.13	48.83	-
Limit			62.15	-	13.00	62.15	-	13.00	62.15	-	13.00
Max antenna gain			14.00	-	-	14.03	-	-	14.02	-	-

**TEST REPORT**

SA-2C

Antenna Port	Modulation	Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	0.2	-	-	-	42.58	40.71	-	-	-	-
B	QPSK	0.2	-	-	-	42.54	40.51	-	-	-	-
C	QPSK	0.2	-	-	-	42.70	40.88	-	-	-	-
D	QPSK	0.2	-	-	-	43.20	40.72	-	-	-	-
Total			-	-	-	48.78	46.73	-	-	-	-
Limit			-	-	-	62.15	-	-	-	-	-
Max antenna gain			-	-	-	13.37	-	-	-	-	-

NR+LTE-MC-1

Antenna Port	NR Modulation	LTE Modulation	NR Carrier Bandwidth (MHz)	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)		
					Channel position M		
					Power (dBm)	Power (dBm/MHz)	PAR (dB)
A	QPSK	QPSK	5	1.4	47.14	41.44	-
B	QPSK	QPSK	5	1.4	47.18	41.61	-
C	QPSK	QPSK	5	1.4	47.14	41.61	-
D	QPSK	QPSK	5	1.4	47.07	41.60	-
Total					53.15	47.59	-
Limit					62.15	-	-
Max antenna gain					9.00	-	-

NR+LTE-MC-2

Antenna Port	NR Modulation	LTE Modulation	NR Carrier Bandwidth (MHz)	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)		
					Channel position M		
					Power (dBm)	Power (dBm/MHz)	PAR (dB)
A	QPSK	QPSK	5	3	47.29	39.17	-
B	QPSK	QPSK	5	3	47.37	39.29	-
C	QPSK	QPSK	5	3	47.31	39.23	-
D	QPSK	QPSK	5	3	47.34	39.26	-
Total					53.35	45.26	-
Limit					62.15	-	-
Max antenna gain					8.80	-	-

**TEST REPORT**

Antenna Port	NR Modulation	LTE Modulation	NR Carrier Bandwidth (MHz)	LTE Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)		
					Channel position M		
					Power (dBm)	Power (dBm/MHz)	PAR (dB)
A	QPSK	QPSK	5	5	47.60	38.49	-
B	QPSK	QPSK	5	5	47.53	38.51	-
C	QPSK	QPSK	5	5	47.41	38.44	-
D	QPSK	QPSK	5	5	47.53	38.49	-
Total					53.54	44.50	-
Limit					62.15	-	-
Max antenna gain					8.61	-	-

NR+LTE+SA-MC-1

Antenna Port	NR/LTE/SA Modulation	NR Carrier Bandwidth (MHz)	LTE Carrier Bandwidth (MHz)	SA Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)		
					Channel position M		
					Power (dBm)	Power (dBm/MHz)	PAR (dB)
A	QPSK	5	1.4	0.2	46.87	42.82	-
B	QPSK	5	1.4	0.2	46.97	42.35	-
C	QPSK	5	1.4	0.2	46.89	42.21	-
D	QPSK	5	1.4	0.2	46.92	42.20	-
Total					52.93	48.42	-
Limit					62.15	-	-
Max antenna gain					9.22	-	-

Antenna Port	NR/LTE/SA Modulation	NR Carrier Bandwidth (MHz)	LTE Carrier Bandwidth (MHz)	SA Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)		
					Channel position M		
					Power (dBm)	Power (dBm/MHz)	PAR (dB)
A	QPSK	5	3	0.2	47.23	43.22	-
B	QPSK	5	3	0.2	47.50	42.84	-
C	QPSK	5	3	0.2	47.39	42.69	-
D	QPSK	5	3	0.2	47.35	42.71	-
Total					53.39	48.89	-
Limit					62.15	-	-
Max antenna gain					8.76	-	-

NR ESS IB-1C

Antenna Port	NR ESS IB Modulation	NR ESS IB Carrier Bandwidth (MHz)	Output power / Peak-to-Average Ratio (PAR)								
			Channel position B			Channel position M			Channel position T		
			Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)	Power (dBm)	Power (dBm /MHz)	PAR (dB)
A	QPSK	10	-	-	-	47.49	38.75	7.57	-	-	-
B	QPSK	10	-	-	-	47.44	38.73	7.55	-	-	-
C	QPSK	10	-	-	-	47.34	38.66	7.50	-	-	-
D	QPSK	10	-	-	-	47.51	38.74	7.55	-	-	-
Total			-	-	-	53.47	44.74	-	-	-	-
Limit			-	-	-	62.15	-	13.00	-	-	-
Max antenna gain			-	-	-	8.68	-	-	-	-	-



**TEST REPORT****4 Occupied Bandwidth****Test result: Pass****4.1 Measurement Procedure**

The EUT was set to transmit at maximum power and testing was carried out on bottom, middle and top channels. Using the Occupied Bandwidth measurement function in the spectrum analyzer, the 26dB bandwidth was measured in accordance with FCC KDB 971168 D01 Clause 4.2.

The measurement method is from KDB 971168 4.2:

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
- c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least  $10\log(\text{OBW} / \text{RBW})$  below the reference level.
- d) Set the detection mode to peak, and the trace mode to max hold.
- e) Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

## TEST REPORT

### 4.2 Measurement result

NR-1C

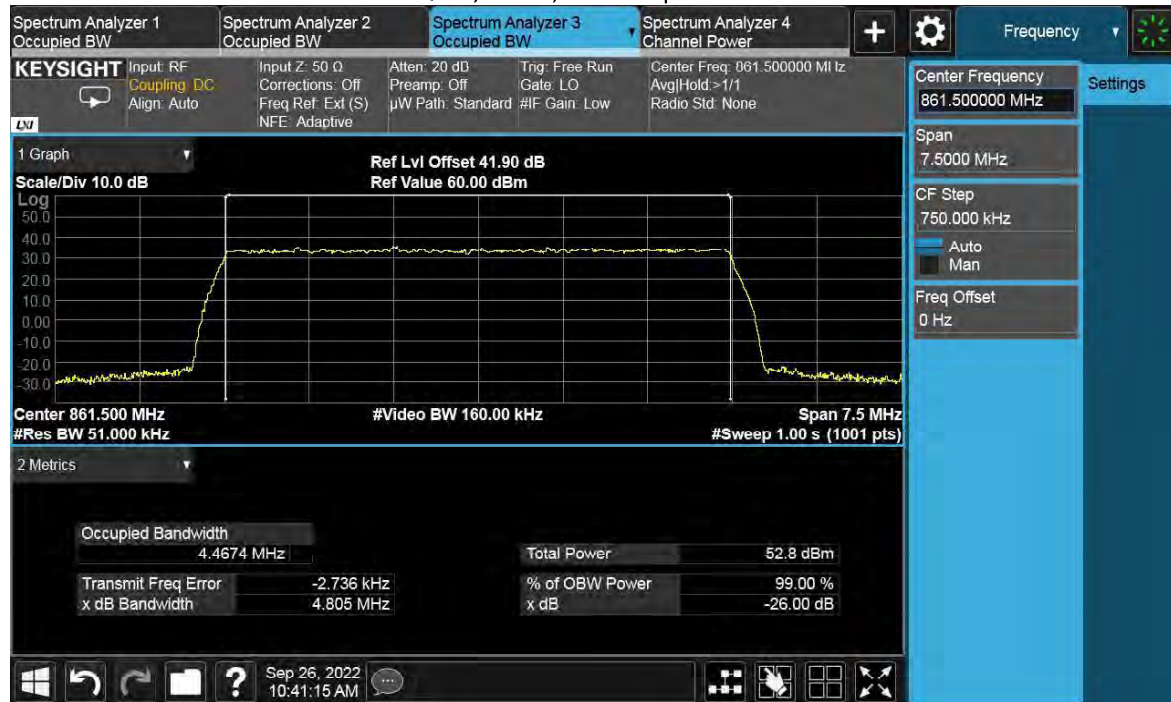
99% Occupied Bandwidth

Antenna Port	Modulation	Bandwidth	Occupied Bandwidth (MHz)		
			Channel Position B	Channel Position M	Channel Position T
D	QPSK	5MHz	4.4674	4.4647	4.4626
D	QPSK	10MHz	-	9.2720	-

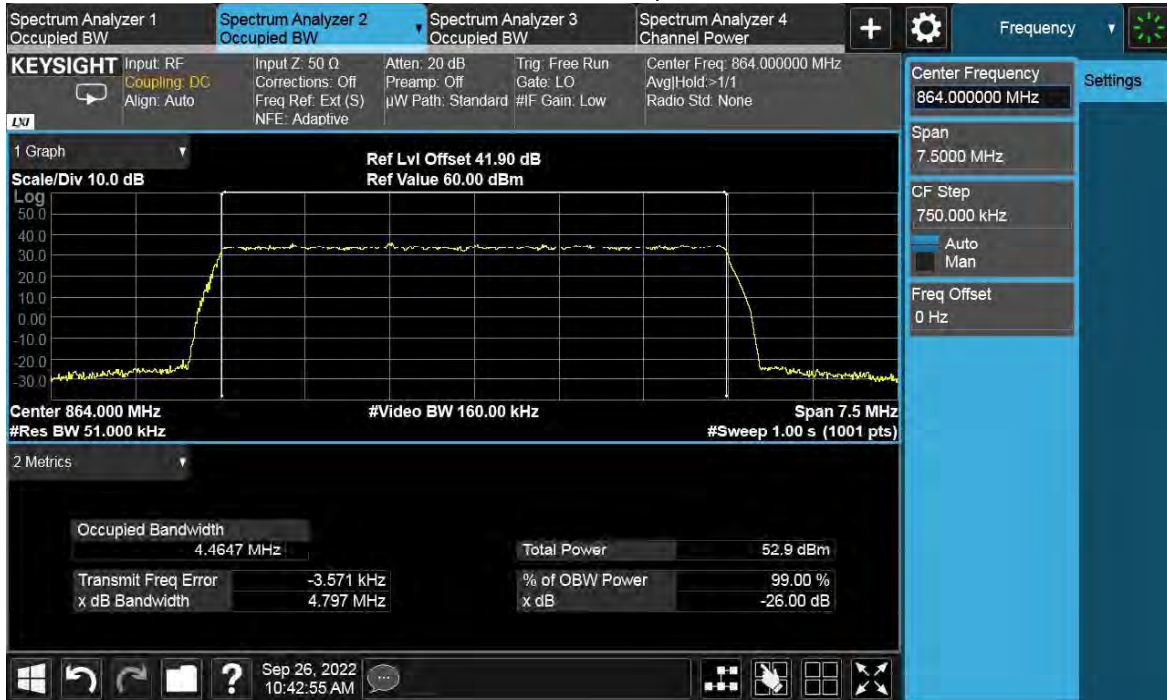
-26dBc Occupied Bandwidth

Antenna Port	Modulation	Bandwidth	Occupied Bandwidth (MHz)		
			Channel Position B	Channel Position M	Channel Position T
D	QPSK	5MHz	4.805	4.797	4.815
D	QPSK	10MHz	-	9.766	-

QPSK, 5MHz, Channel position B



### QPSK, 5MHz, Channel position M



### QPSK, 5MHz, Channel position T

