

Test report

**5G Network Trial at 3.5GHz band
at ICBC Asia Central Branch**

Temporary Permit No. T00684 & T00701

China Mobile Hong Kong Co. Ltd. (CMHK)

May-2020

Version 1.1

1. Introduction

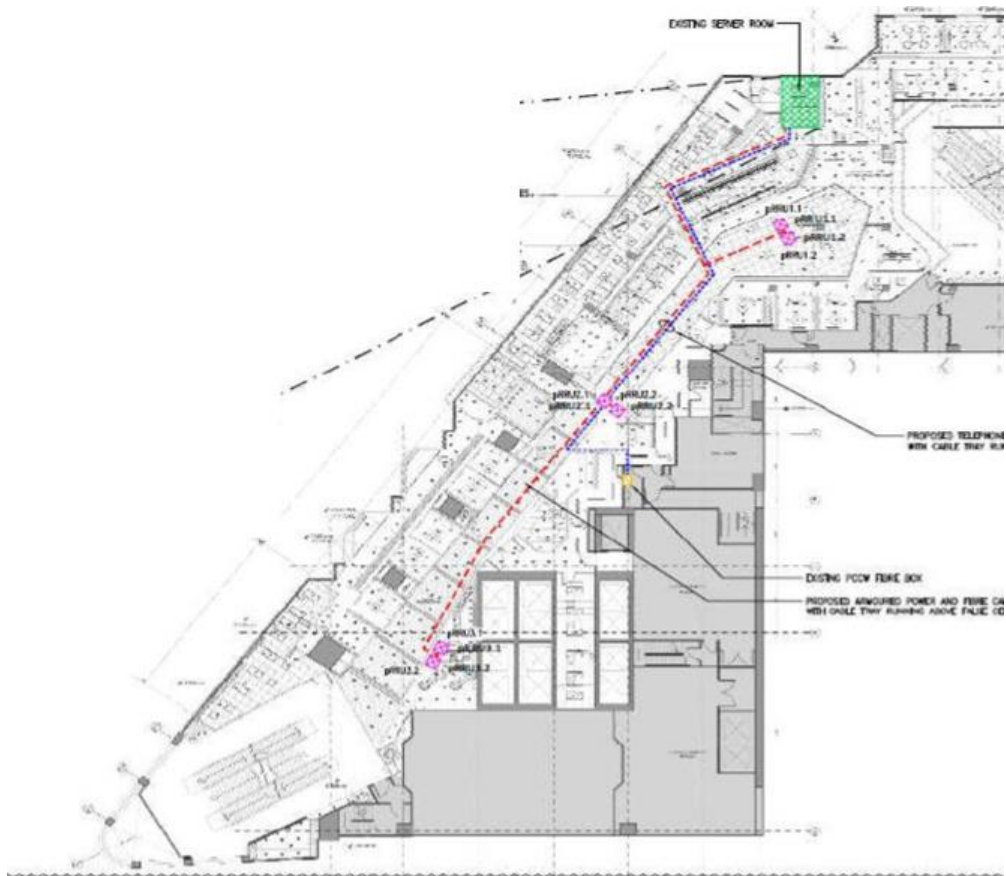
5G Development can support more Smart Financial applications in future. With cooperation with ICBC Asia, CMHK has provided 5G network coverage at their Central Branch and showcased a few innovative applications at the branch.

This test report will describe the setup and trial result of 5G 3.5GHz small cells (Huawei Lampsites) at ICBC Asia Central Branch. The trial period approved in temp permit T00684 is from 15-Sep-2019 to 5-Nov-2019, and the trial period approved in Permit T00701 is from 6-Nov-2019 to 31-Mar-2020.

2. Trial Location

- Location: ICBC Asia, Shop A1, 1/F, 9 Queen's Road Central, Central
- Testing Area : ICBC Asia (Central Branch)
- 5G site location: Indoor

The trial is based on 5G NSA network configuration. Three set of 5G 3.5GHz lampsite pRRU with anchored 4G lampsites are installed inside the branch.



3. Trial Setup

3.1 Test Equipment

Item	Device	Count
1	5G pRRU5935	3
2	4G pRRU5923	3
3	5G Huawei Mobile	1

Huawei 5G pRRU5935 specification:

Frequency Band (MHz)	RX Frequency Band (MHz)	TX Frequency Band (MHz)	IBW (MHz)
3500	3400 - 3600	3400 - 3600	100

Mode	Capacity	Tx/Rx Channel
NR	1 carrier	4T4R

Frequency Band (MHz)	Maximum Output Power (mW)
3500	4x250 mW

Frequency Band (MHz)	Gain (dBi)	Polarization Mode	Directionality
3500	4	Linear	Omnidirectional

3.2 5G Test Equipment Setting

The spectrum approved for trial in permit T00684 is 3.54GHz to 3.6GHz, and was amended to 3.40GHz to 3.46GHz in permit T00701. The test result is based on 60MHz bandwidth setting approved in T00684.

Below is the 5G cell configuration:

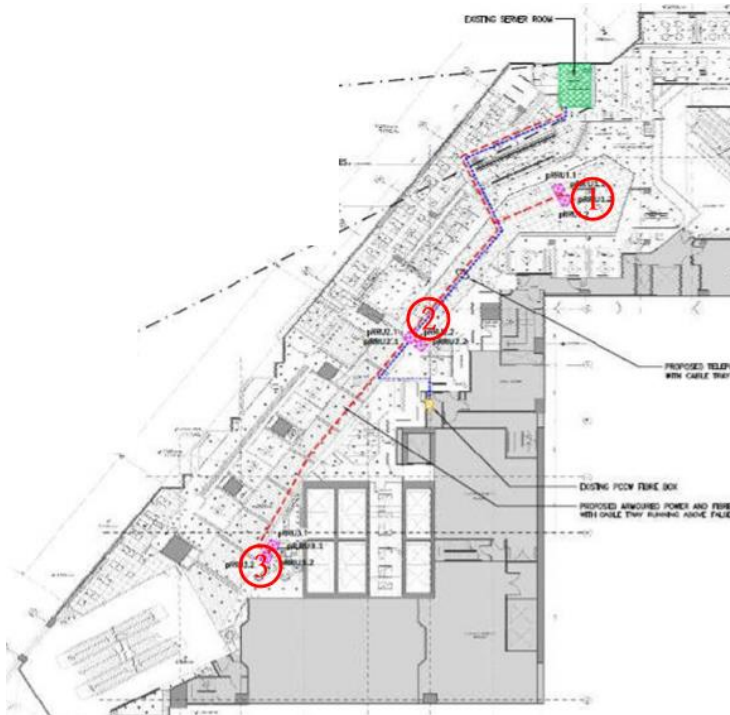
Site	Pcell PCI	Type
6426	0	NR

	Cell Configuration
Frequency Band	n78
Downlink NARFCN	638000
Downlink Bandwidth	60MHz
Subcarrier Spacing(KHz)	30
Slot Assignment	7:3
Max Transmit Power (EIRP)	34 dBm
EN-DC	OFF

4. Measurement Result

3 test positions (highlighted in red) at ICBC Asia (Central Branch) were measured for coverage and throughput

ICBC Asia (Central Branch) test positions:





Test mobile (Huawei Mate20x) was used to test the throughput by OFCA speed test APP.

ICBC Asia (Central Branch):

Test position	RSRP (dBm)	SINR (dB)	Download (Mbps)	Upload (Mbps)	Network Latency (ms)
1	-68	19	435	51.2	17
2	-69	25	423	52	16
3	-72	34	424	52.6	16

Overall test summary:

Location	Avg RSRP (dBm)	Avg SINR (dB)	Avg Download (Mbps)	Avg Upload (Mbps)	Avg Latency (ms)
ICBC Asia Central Branch	-69.6	26.0	427.3	51.9	16.3

5. Conclusion

The 5G indoor site (lampsites) at 3.5GHz band is successfully deployed and tested in ICBC Asia Central Branch. The measurement results verified that the coverage and data throughput of 5G NR are satisfactory with 60MHz bandwidth in the indoor environment.