

# Smartphones of North Korea 2024



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## JUNE 2024 UPDATE

After several quiet years during the COVID-19 pandemic, the North Korean smartphone market is again active, with renewed imports of phones following the resumption of international trade and the launch of a new 4G cellular network.

### ***New Phones***

The variety of phones has increased greatly, and several new brand names have appeared on the market. Ten different companies now market a range of both smartphones and feature phones.

While the smartphone handsets may not match the top-of-the-line models from companies like Apple and Samsung, they do appear to be quite capable mid-market Android handsets sporting good cameras and decent technical specifications.

The latest phones run the Android 12 operating system, introduced by Google in 2021, and some phones boast cameras up to 64-megapixels.

Interestingly, there appears to be demand for simpler handsets in addition to smartphones with state media images showing the continued availability of flip and bar-type models.

Many of the latest handsets were on show at the “Light Industry Development 2023” exhibition in Pyongyang in October 2023. Details of the phones on show are included in this report.

### ***Phone Models***

North Korean smartphone brands have begun offering new handsets in several versions with differing specifications, according to one report. This mirrors the strategy of companies like Apple and Samsung, which offer two or three variants of the same basic phone at differing price points.

For example, the new Hwawon phone is available in models priced at US\$500 and \$750, while the Jindallae 6 comes in three models: 6, 6-1 and 6-2.<sup>1</sup>

### ***4G Network***

In late 2023, reports said North Korea had begun building a new 4G network. This was confirmed in early 2024 and represents the biggest upgrade to North Korea’s cellular market since the 3G network was launched in late 2008.<sup>2</sup>

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<sup>1</sup> [“N. Korea relies on phone-based orders to sell new smartphone,”](#) *DailyNK*, November 23, 2023.

<sup>2</sup> [“N. Korea imports second-hand Huawei devices to modernize telecommunications network,”](#) *DailyNK*, November 3, 2023.

By launching a 4G network now, the country continues to be a step behind many other countries, where 5G has been available for a couple of years. However, the state's approach means it can benefit from mature technology, acquire second-hand network equipment, and keep handset prices low.

The jump from 3G to 4G will provide users with significantly faster data speeds and open up new applications for the network, as long as bandwidth exists on the backbone that connects all of the base stations.

The plethora of smartphones and companies in the market suggests that the North Korean government remains confident that cellular technology does not pose a threat to its tight control of citizens.

## **Television Coverage**

In August 2022, Korean Central Television broadcast a short program entitled “손전화기사용에서 알아야 할 점들,” or “Things You Need to Know when using a Cellphone.” The program featured shorts tips such as keeping metal objects out of the charging port, not charging the phone in direct sunlight and not keeping it on charge overnight.

A second and third installment of the series were broadcast in September 2023 and January 2024 respectively.

The second program covered issues with making calls when the signal strength is too weak and adjusting the screen brightness to make it comfortable for your eyes. The third installment included tips on when to reinstall the phone operating system, and that staying in one position for too long while on a phone can be harmful to one's health.

The programs have been rebroadcast several times and point to the growing popularity of smartphones in North Korea and the need for basic education regarding the best way to use them.

## WIRELESS NETWORKS OF NORTH KOREA

North Korea's first cellular network signed on the air in 2002, but only operated commercial service for about two years before reportedly being shut down.<sup>3 4</sup>

The 2G GSM service, called Sunnet, was operated by Northeast Asia Telegraph and Telephone (NEAT&T), which already held a telecom license in North Korea for fixed line services in the Rason region.

NEAT&T was a joint venture between Thailand's Loxley Pacific, which held 70 percent of the shares, and the North Korean Ministry of Posts and Telecommunications, which held the remaining 30 percent.<sup>5</sup>

Loxley had acquired a 30-year license to offer international telecommunications services in the Rason Special Economic Zone in April 1996 and the service began in 2002. At around the same time, the North Korean government built a compatible 2G network in major cities around the country.

The first handset offered on the network was the Motorola 3588, which was made in Singapore at the time.

Total cellular subscriptions grew to around 40,000 in the country by 2004 but service was abruptly shut down in the spring of that year. There are a variety of theories on why that happened, but it seems the North Korean government became worried about illicit use of phones and halted service as a precaution.<sup>6</sup>

Sunnet never resumed commercial service; however, the author received Sunnet cellular signals for several years after the reported shutdown at a location in South Korea near the inter-Korean border. This suggests the network may have continued operating for elites or the North Korean government.

Cellular service returned in late 2008, with the launch of Koryolink.

Koryolink (고려링크) was launched in December 2008 by Cheo Technology JV, a joint venture between the Ministry of Posts and Telecommunications (25 percent) and Egypt's Orascom Telecom (75 percent). At the time of launch, Orascom specialized in investing in developing nations with low cellular penetration and that drew it to North Korea.<sup>7</sup>

The network is still run as a joint venture, although the business partnership soured in 2015 when Orascom attempted to withdraw profits from the country and the North Korean government disagreed on what exchange rate should be used.

<sup>3</sup> "Mobile phone services to begin this month in N. Korea," *Kyodo News*, October 17, 2002.

<sup>4</sup> "DPRK to open mobile phone service," *Xinhua*, November 11, 2002.

<sup>5</sup> Loxley in the DPRK: Northeast Asia Telephone and Telecommunications Company Limited (NEAT&T), *People's Korea*, 1997.

<sup>6</sup> "Thailand urges N. Korea to lift mobile phone ban," *Kyodo News*, August 29, 2005.

<sup>7</sup> "First 3G Mobile Network Kicked Off," *Korean Central News Agency*, December 15, 2008.

During the third quarter of 2022, Koryolink increased its capital and issued new shares to the Ministry of Posts and Telecommunications, thereby increasing the stake held by the government to 40 percent and reducing Orascom's stake to 60 percent.

At around the time of the dispute with Koryolink, a new cellular operator appeared on the scene. Kangsong operates a similar 3G service and it is at least partially owned by the North Korean government.

Initial reports regarding the network said it was named "byol," which is Korean for "star." This could indicate it is run with Star JV, the company that supplies North Korea's Internet connection, although this could be a coincidence. In late 2023, reports said a 4G network had begun in North Korea. There are few technical details available on the 4G network although a 4G signal from North Korea was received in South Korea near the inter-Korean border in March 2024.



Figure 1. SIM cards for the Koryolink and Kangsong networks.  
(Image: Martyn Williams)

The signal was identified by the "467-06" network number, which corresponds to the Kangsong network. At time of writing, it is unclear whether Koryolink also runs a 4G network.

At the Light Industry Development expo in Pyongyang in November 2023, Checom Technology, was already promoting a 4G handset, according to Korean Central Television coverage.

The notification bar of the illustrated phone being promoted shows "12.00 MB/s," which could refer to the network speed. It is beyond the 7Mbps top-speed of the most advanced 3G network, but well below the top 4G speed, which is around 100Mbps.



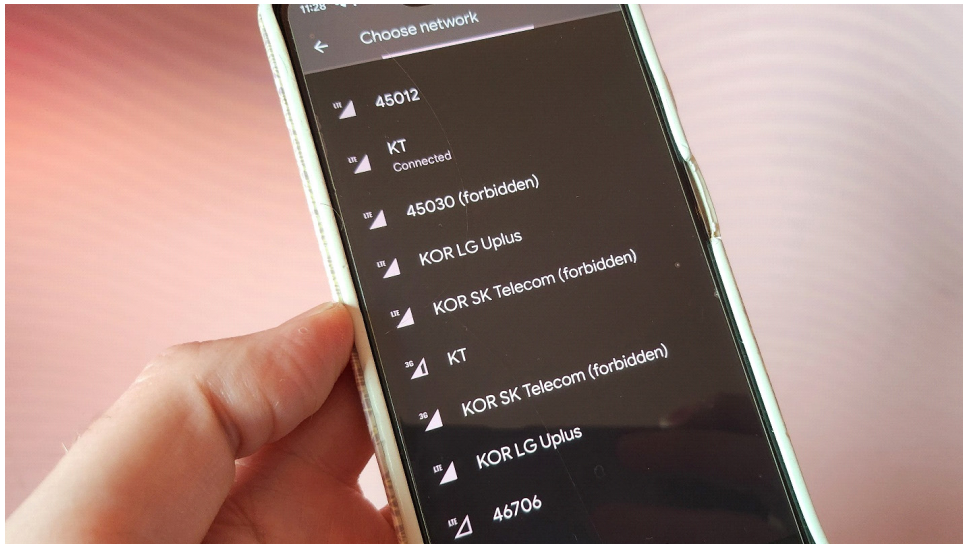


Figure 2. A scan of cellphone networks near the inter-Korean border shows a 4G LTE signal (bottom of the list) bearing the network code of Kangsong. (Image: Martyn Williams)



Figure 3. A 4G handset (yellow) is promoted at the Light Industry Development expo in Pyongyang in November 2023. (Image: KCTV)

## NETWORK COVERAGE

None of North Korea’s cellular operators provides a network map or details of coverage, however, over 1,000 cellular towers have been identified in open-source satellite imagery of the country.

While the exact coverage is impossible to determine from these images, a rough estimate of the service area can be plotted by assuming a radius of around 5kms from each tower.

The exact coverage is almost certainly greater than illustrated due to undiscovered towers. But even if the map underestimates coverage, it shows the networks extend deep into the countryside covering most towns and villages. Coverage is also offered along major roads and railways.

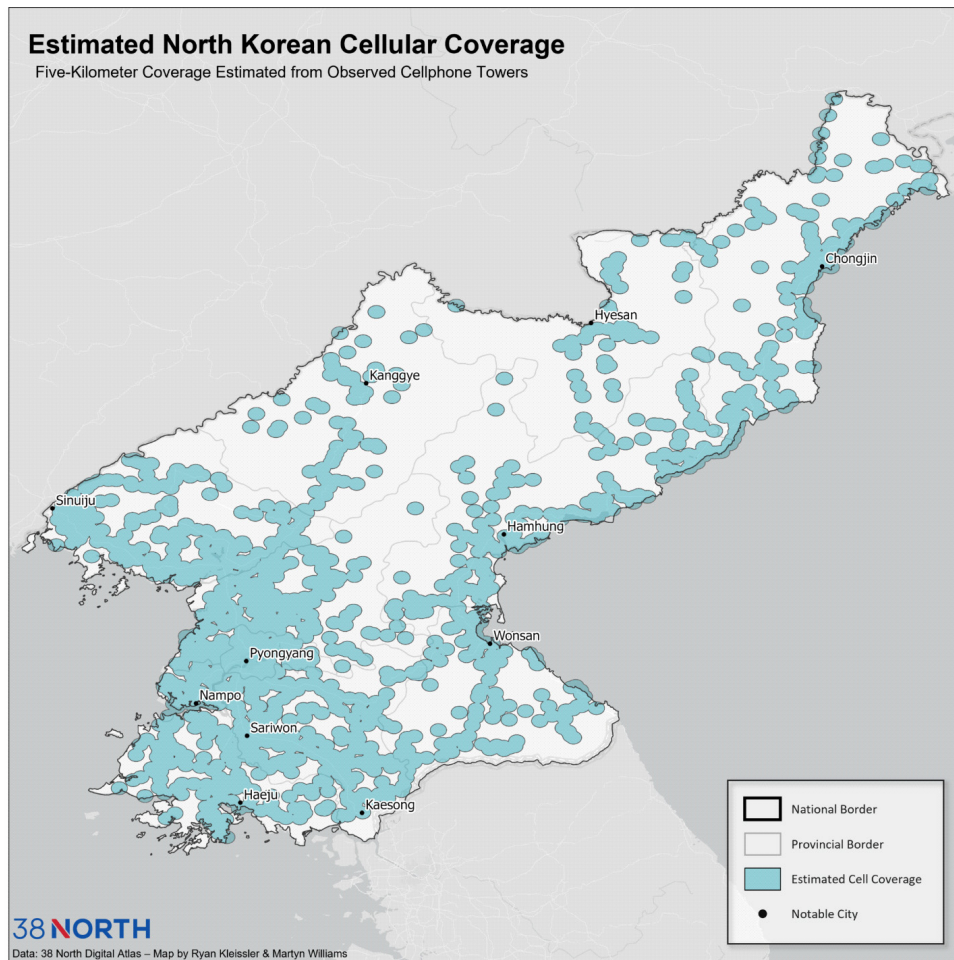


Figure 4. Estimated Coverage of North Korean cell phone towers.  
(Image: 38 North)

## KORYOLINK

Koryolink operates a 3G WCDMA network in the 2,100MHz band. It consists of hundreds of 3G base stations across North Korea. Most are built to a similar design and feature a tower with accompanying equipment building and solar panels.



Figure 5. A Koryolink base station shown on North Korean television on August 30, 2020. (Image: KCTV)

## Services

Koryolink has three classes of users: domestic, international, and elite. Most subscribers are in the first two classes.

The network has an internal firewall to separate domestic and international subscribers. Domestic subscribers were able to access domestic numbers while international subscribers could access other international subscribers and make overseas calls, but not connect to domestic numbers.

A similar arrangement exists on the fixed network and is used to hamper information flow. International subscribers initially consisted of resident foreigners in Pyongyang and later included visiting tourists.

Domestic subscribers have access to local voice calls, text messaging and to the state-run intranet. Overseas calls and Internet access are not possible for these users.

Users are required to register for service at a local telecom shop to obtain a SIM card. Credits are available via top-up scratch cards.<sup>8</sup>

<sup>8</sup> 2009 Annual Report. Orascom HI 2009 financial report.

In January 2013, service began being offered to foreign visitors. The service allowed visitors to make and receive international calls, but texting was not possible. It cost 50 euros for 14 days and came with 30 euros of calling credit. It cost 0.2 euros per minute to make and receive local calls which equates to 150 minutes. International calls were more expensive at 1.43 euros per minute to China and Southeast Asia; 0.68 euros to Russia; 0.38 euros per minute to France and Switzerland; 1.58 euros per minute to the UK and Germany; and 5 euros per minute to the U.S.<sup>9</sup>

On 25 February 2013, Orascom began offering Internet access via 3G to resident foreigners in Pyongyang. A Chinese reporter for the Xinhua news service reported it cost 75 euros to register for the PC-based service. There was an additional charge of 10 euros for a SIM card and access cost 150 euros for 2GB of data, 250 euros for 5GB and 400 euros for 10GB.<sup>10</sup>

The Internet service did not block any websites. For the first time, resident foreigners were able to send near-real time photos and video from Pyongyang through international social media.<sup>11 12</sup>

Koryolink also maintains a closed service for a limited number of elite users. The service is encrypted with a domestically developed encryption algorithm and runs on special handsets.

## Subscribers

Subscriptions initially climbed slowly after the service launched in late 2008. At the end of the first quarter of 2009, Orascom reported just 19,208 subscribers and at the end of June it was just 47,863 subscribers.

Subscriptions began rising faster from the middle of 2010 as new handsets became available and coverage area spread throughout the country. The service had one million subscribers in February 2012, two million in April 2013 and three million in October 2015. More up-to-date data is not available from the carrier.

## KANGSONG

Kangsong (강성) was established in 2015 by the North Korean government's Ministry of Information Industry (Ministry of Posts and Telecommunications at the time of formation).

Little information is available on the network, which appears to only target North Korean users. Anecdotal evidence from foreigners who have visited North Korea say Kangsong often has coverage in remote areas where Koryolink does not.

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<sup>9</sup> ["Getting Connected in North Korea," Koryo Group Blog, March 4, 2013.](#)

<sup>10</sup> ["DPRK offers mobile internet access for foreigners," Xinhua News, February 25, 2013.](#)

<sup>11</sup> ["New Internet Regulations Provide Window into N.Korea," Voice of America, February 28, 2013.](#)

<sup>12</sup> ["Tweets, pics give real-time peek into North Korea," Associated Press, February 27, 2013.](#)

It is believed to operate in the same 2,100MHz band as Koryolink for its 3G service and likely uses the same towers.

As mentioned earlier in this section, Kangsong 4G signals were verified in March 2024.

## MIRAE WI-FI NETWORK

While not a cellular network, the Mirae (미래) Wi-Fi Network is another major wireless network offered in North Korea.



Figure 6. An engineer wearing a jacket with the Kangsong logo on its arm, seen on Korean Central Television on October 22, 2023. The words on the jacket say “Fast, Accurate, Mobile Communications.” (Image: KCTV)

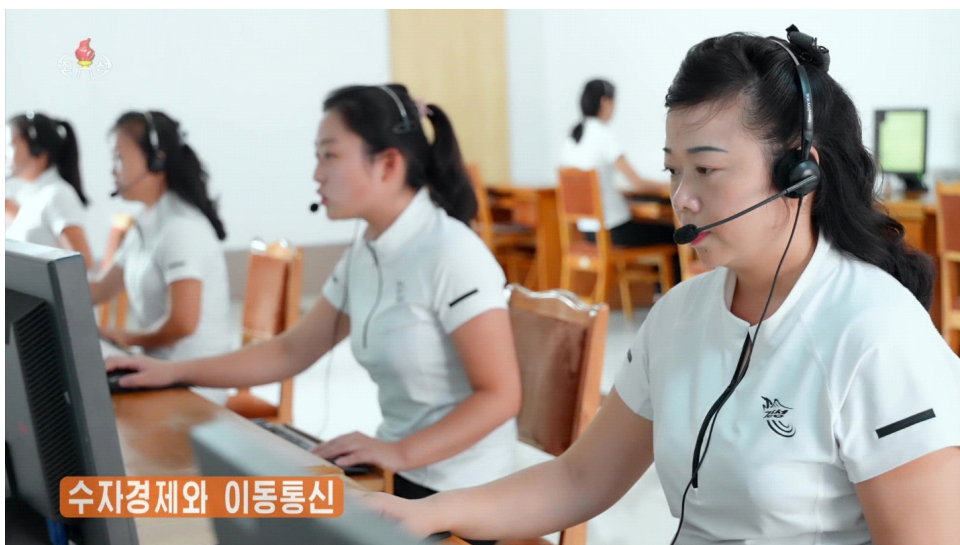


Figure 7. Employees wearing shirts with the Kangsong logo, seen on Korean Central Television on October 22, 2023. (Image: KCTV)

It was established in 2018 along Ryongmyong Street in central Pyongyang. In the years before it was launched, Wi-Fi had been disabled on most North Korean smartphones, but the new network represented a launch of the technology, albeit in a heavily controlled way.<sup>13</sup>

North Korean media reported it can deliver speeds of up to 70Mbps however, an app for the service claims speeds between 2Mbps and 33Mbps. Whichever is true, it is much faster than the country's 3G networks, which is likely why the technology was reintroduced.

A television report on the service said it uses a SIM Card-based authorization system, which is unusual for public Wi-Fi networks. Analysis of a phone featuring Mirae connectivity (in this case, the Taeyang 8321) revealed access to the network requires a supported device, a SIM card from the network provider, and a username and password.



*Figure 8. A Mirae Wi-Fi access point in Pyongyang shown on Korean Central Television on October 21, 2018. (Image: KCTV)*

To connect to the network, the Mirae app makes a number of checks to ensure that legitimate devices and SIM cards are being used by verifying specific properties of the device. Then, the app also requests users enter a username and password, adding an additional level of security.

The combination of a physical SIM card, approved device, and user account makes signing on to the network significantly more secure than just relying on a username and password alone. It also makes it impossible to use an unapproved device and unlikely that anyone other than the legitimate account holder is using any given account.

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<sup>13</sup> Korean Central Television News, October 21, 2018



Figure 9. A phone with Mirae Wi-Fi software shown on Korean Central Television on December 3, 2018. (Image: KCTV)



Figure 10. A SIM Card for the Mirae Wi-Fi network shown on Korean Central Television on October 21, 2018. (Image: KCTV)

Authorities have also made several modifications to the basic Android settings app, such as the removal of the Wi-Fi settings menu. This ensures that only the Mirae app can be used to connect to Wi-Fi and other networks cannot be accessed. Technical details of the app and authentication are included in the [“Project Reveal”](#) report that was published in 2021.

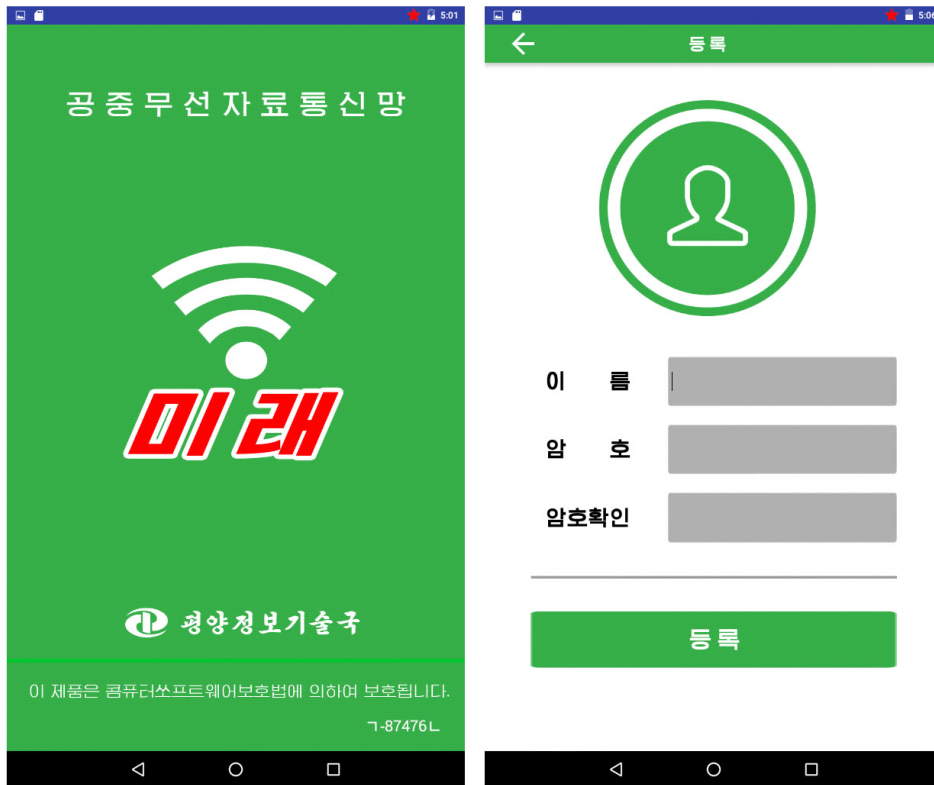


Figure 11. The splash screen and sign-on screen of the Miraе Wi-Fi app.  
(Image: Martyn Williams)



## SMARTPHONE COMPANIES OF NORTH KOREA

While several smartphone brands exist in North Korea, none of the companies are believed to manufacture the phones they sell. The level of miniaturization required to produce a modern smartphone appears to be beyond the capability of commercial electronics manufacturing operations in the country.

Instead, phones are procured on an OEM basis from major Chinese smartphone makers. The Chinese companies produce the phones to order from basic designs and badge them with a local brand name. This is a common practice in the industry and as a result, smartphones similar or identical to North Korean handsets can often be found in other markets.

The biggest difference in the phones is the level and amount of customization that takes place in software. The North Korean companies install a modified version of the Android operating system that includes security software and restrictions.

Details of these software apps and the security systems on the phones is included in the [“Project Reveal”](#) report.

### ARIRANG IT COMPANY

The Arirang IT Company (아리랑정보기술교류사) is responsible for the “Arirang” line of smartphones. The company is a general electronics supplier and also markets LCD televisions.



Figure 12. Unidentified Arirang-brand phones seen on Korean Central Television on August 18, 2022. (Image: KCTV)

The phone “production line” is at the May 11 Factory, although like all other North Korean phones the handsets are made in China. The factory occupies prime real estate near the party headquarters building in central Pyongyang.

The company has been visited twice by leadership. In July 2011, Kim Jong Il visited and looked at LCD television production and in August 2013 Kim Jong Un visited to look at the smartphone line.<sup>14 15</sup>

State media reported that Kim praised workers “for developing an application program in Korean style which provides the best convenience to the users while strictly guaranteeing security.”

It is unclear what program he was referring to, but it suggests software development also taking place at the company.

Like other North Korean smartphones, there is some question as to how much work these factories do in preparing them for sale. North Korea has never shown photos of manufacturing lines instead publishing photos of workers testing assembled devices.<sup>16 17</sup>



Figure 13. May 11 Factory in Pyongyang. (Image: Annotation by Martyn Williams / Google Earth)

<sup>14</sup> Williams, Martyn. “[Kim Jong Il visits ‘LCD TV factory’](#),” *North Korea Tech*, July 30, 2011.

<sup>15</sup> “[Kim Jong Il Provides Field Guidance to May 11 Factory](#),” *Korean Central News Agency*, July 28, 2011.

<sup>16</sup> Williams, Martyn. “[Kim Jong Un visits ‘cell phone factory’](#),” *North Korea Tech*, August 12, 2013.

<sup>17</sup> “[Kim Jong Un Visits May 11 Factory](#),” *Korean Central News Agency*, August 10, 2013.



Figure 14. Kim Jong Un visits the Arirang IT Corp in August 2013.  
(Image: KCNA)

## CHECOM TECHNOLOGY JV

Checom Technology Joint Venture Company (체콤기술합영회사) is a North Korean company based in Pyongyang that markets smartphones under the “Pyongyang” brand name. The phones are among the most popular models available in North Korea. Checom has been in operation since at least 2010.

A 2012 report by the U.S. Government’s Open Source Center said the company was established in July 2003 and partnered with a company in China’s Zhejiang province, although neither any additional information on the Chinese partner nor the source of the information was listed.<sup>18</sup>

No other information is known about Checom, although in late 2023 a retail store featuring the company’s logo was shown on state television.

<sup>18</sup> [“North Korea -- Characteristics of Joint Ventures With Foreign Partners, 2004-2011,” Open Source Center, March 1, 2012.](#)



Figure 15. A smartphone retail store, broadcast on Korean Central Television on October 22, 2023. (Image: KCTV)



Figure 16. Staff in a Checom smartphone retail store, broadcast on Korean Central Television on October 22, 2023. (Image: KCTV)

## JONSUNG ECONOMY & TECHNOLOGY EXCHANGE COMPANY

The Jonsung Economy & Technology Exchange Company (전승경제기술교류사) entered North Korea's smartphone industry in 2019 when it was spotted at the Autumn International Trade Fair in Pyongyang advertising its Samthaesong (삼태성) brand.<sup>19</sup>



Figure 17. The Samthaesong 8 (foreground) and Samthaesong 9 (background) smartphones seen on Korean Central Television on January 9, 2024. (Image: KCTV)

It's unclear when its first phone was launched. Despite the apparent imminent launch of a phone at the trade fair, the company was not mentioned in state media until the third quarter of 2021. A profile in "Foreign Trade" magazine introduced the company and said it was working to produce a phone.<sup>20</sup>

It's possible the country's COVID-19 border shutdown, which halted most imports from January 2020, led to a delay in the launch of its handset. As of early 2024, it has at least two handsets on the market and a state TV feature on smartphones in late 2023 featured footage of workers at the company's retail store.

<sup>19</sup> ["Chinese company offering "custom order" North Korean smartphones at Pyongyang fair,"](#) NK News, September 24, 2019.

<sup>20</sup> Foreign Trade 3, 2021.



Figure 18. A Samthaesong smartphone retail store, broadcast on Korean Central Television on October 22, 2023. (Image: KCTV)



Figure 19. Workers at a Samthaesong smartphone retail store, broadcast on Korean Central Television on October 22, 2023. (Image: KCTV)

The 2021 magazine feature also revealed the company has developed a web browser and messaging application.

## KWANGJA TRADING COMPANY

The Kwangja Trading Company (광야무역회사) was named in 2019 as the company behind the Kiltongmu (길동무) smartphone brand.<sup>21</sup>

No further information is available regarding the company.

## MADUSAN ECONOMIC FEDERATION

The Madusan Economic Federation (마두산경제련합회) is a North Korean business conglomerate with a range of activities.

The company was profiled in the Q2 2022 edition of “Foreign Trade” and smartphones and electronics are only a small part of the company’s business, which also includes managing a yet-to-be-built trade zone near the Chinese border.



Figure 20. An advertisement for the Madusan Economic Federation in the Q2 2022 edition of Foreign Trade magazine. (Image: Foreign Trade)

The magazine included a graphic showing several smartphones, although the model names and numbers were not identified.

It appears that the company produced smartphones under the Madusan (마두산) brand name, although in 2023 one of its phones, the Madusan 222, was renamed the Chongsong 222 (청송222). Later phones have retained the Chongsong brand name. The reason is unclear and it remains unclear if Madusan is still in charge of the phone range or has transferred them to a new company.

<sup>21</sup> 호평받고있는 새형의 지능형손전화기 《길동무》, Arirang Meari, September 9, 2019.

## MANGYONGDAE IT CORP

The Mangyongdae IT Corp (만경대정보기술사) is a Pyongyang-based company that markets smartphones under the Jindallae (진달래) brand name, which is Korean for “Azelea.”

The company also works on various wired and wireless communications products, entertainment and operating system software, automation systems and biometric ID systems, according to state media.<sup>22</sup>



Figure 21. A Mangyongdae IT Corp retail outlet in Pyongyang, seen on the Naenara website on September 22, 2023. (Image: Naenara)

A 2023 profile of the company said it had marketed 13 smartphones and 10 other phones to-date, including bar type and flip phones. The article was accompanied by images showing many of the phones on display.<sup>23</sup>

<sup>22</sup> “《진달래》손전화기와 함께 유명해진 만경대정보기술사,” *DPRK Today*, February 4, 2020.

<sup>23</sup> “Jindallae Mobile Phone Factory,” *Naenara*, September 22, 2023.





Figure 22. A Mangyondae IT Corp retail outlet in Pyongyang, seen on the Naenara website on September 22, 2023. (Image: Naenara)

It counts graduates of Kim Il-sung University and Kim Chaek University of Technology among its staff, according to a profile. Its headquarters are on the west side of the city.<sup>24</sup>



Figure 23. Mangyongdae IT Corp building in Pyongyang. (Image: Annotation by Martyn Williams /Google Earth)

<sup>24</sup> Korean Central Television broadcast, April 23, 2022.

The 2019-2 edition of North Korea's Foreign Trade Magazine contained a full-page image showing the company's factory and several of the smartphones it markets including the Jindallae 4, Jindalle 6 and Jindallae 6B. Several non-smartphone handsets were also featured.



Figure 24. Phones marketed by Mangyondae IT Corp seen in the Q2 2019 edition of Foreign Trade Magazine. (Image: Foreign Trade)

The same building can be seen in a Korean Central Television broadcast aired in April 2022.



Figure 25. Mangyongdae IT Corp building in Pyongyang. (Image: KCTV)



Figure 26. Inside the Mangyongdae IT Corp building in Pyongyang. (Image: KCTV)



Figure 27. Inside the Mangyongdae IT Corp building in Pyongyang.  
(Photo: KCTV)

The company's phones appear to be sold from an outlet on Pyongyang's Hwasong Street. A report by *NK News* identifies a shop on the street carrying the Jindallae brand name and posters for smartphones. The shop is alongside one for Koryolink, one of the two cellular carriers.<sup>25</sup>

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<sup>25</sup> ["North Korean smartphone brand opens showcase shop on skyscraper street,"](#) *NK News*, June 21, 2023

## PHURUNHANAL ELECTRONICS

The Phurunhanal Electronics JV Co. Ltd. (푸른하늘) is a general high-tech electronics manufacturer and distributor. Its name Phurunhanal means “Blue Sky” in Korean. It was established in October 2014.

The ownership of the company is unknown although North Korean companies that identify as joint ventures (usually with “JV” in their names) are typically run with a foreign partner. In a 2019 edition of North Korea’s Foreign Trade magazine the company was referred to as “Phurun Hanal Corp.,” without the “JV,” which could indicate the departure of the foreign investor or an attempt to avoid scrutiny under sanctions.

Youth played a key role in the company. At the time of its establishment, its CEO was named as 29-year-old Choi Jin Hyok and a profile in the Choson Sinbo newspaper reported many of the engineers were also in their 20s.<sup>26</sup>

Its headquarters are on Tonggil Street in Pyongyang and consist of several two- and three-story factory and office buildings. Construction of the first factory building began around 2006 and a second building was added to the site in 2010. Work on a third building began in 2012 and a fourth building was added in 2017. The latest construction has seen a fountain and solar panels added.



Figure 28. Phurunhanal Electronics location in Pyongyang  
(Image: Annotation by 38 North /Google Earth)

<sup>26</sup> “[국산컴퓨터 개발,대량생산과 판매](#),” *Choson Sinbo*, June 19, 2015.



Figure 29. Phurunhanal Electronics building in Pyongyang. (Image: KCTV)

The factory appears to be home to some of North Korea’s most advanced electronics production lines. A circuit-board tester at the factory was featured on the cover of Foreign Trade magazine for the second quarter of 2016 and a profile at the time said the factory could handle surface-mount components. These are tiny components that require machine placement and processing and are difficult to use by hand.

**Phurunhanal Electronics JV Co Ltd**

Address: Rangnam District, Pyongyang, DPR Korea  
Tel: 9095-02-18111-341-8305  
E-mail: pho@star.vc.kp

The Phurunhanal Electronics JV Co Ltd was incorporated in June 198 (2015). The company is a technology-intensive enterprise that produces advanced and diverse goods. It established an advanced mode of business that organically combines research and development, production and sale. It is now producing various types of IT products including various computers, LED TV sets and portable multimedia projectors by CKD and SKD methods.

Equipped with all the elements necessary for the production, including SMT, DIP and other flow lines for assembling electronic goods, the production building with a total floor space of over 18 000 sq m has an annual capacity of turning out more than 200 000 boards and 200 000 IT products of various kinds.

Having selected progressing, together with production, as one of its important business categories, the company has organized a strong research team and is now developing new products and programs.

With a development team, the core of which is across of A-level software and hardware experts, the company is developing source codes for electronic devices and designing boards.

The company has engineers experienced in developing products through SMT, a reflection of its pioneering and innovative spirit. These products are enjoying good reputation among customers due to their fine appearance, high quality and reasonable price.

Products of the company include desktop, integrated, laptop, tablet and keyboard-operated computers of Core i series embedded with fourth- and fifth-generation CPU and SSD hard disk, LED TV sets of various sizes, portable multimedia projectors and digital TV signal converters.

Marketing and service to order are realized through commercial outlets in Pyongyang and the Phurunhanal IT exchange centers in the provinces.

The company is actively striving to develop new products and improving their quality to gain access into international markets.

Aiming at becoming the leading producer in electric and electronic products, the company is striving to contribute to perfecting the national network.

Figure 30. Phurunhanal Electronics products featured in Foreign Trade magazine. (Image: Foreign Trade)

The profile said the factory was over 10,000 square meters at the time and could produce 300,000 circuit boards and 200,000 products per year.

The electronics company was the subject of a two-part feature that aired on Korean Central Television on June 17 and 18, 2016. In the video, the factory, production line and products are shown.<sup>27 28</sup>

When the company was founded in 2014, its main products were desktop and laptop personal computers, including an all-in-one model. Other products included USB sticks, a digital TV set-top box and portable projector.

Its first smartphone, the Phurunhanal HI, was launched in 2018 at the 21st Pyongyang Spring International Trade Fair.<sup>29</sup>

## POTONGGANG NEW TECHNOLOGY DEVELOPMENT CENTER

The Potonggang New Technology Development Center (보통강새기술개발소) is the company behind the Chollyong smartphones.

No other information is known about the company.

## PUKSAE ELECTRONIC TRADING COMPANY

Puksae Electronic Trading Company (북새전자기술사) is the organization behind the Sonamu smartphone brand, according to a *DailyNK* report.

The company also markets smart TVs, speakers and karaoke machines.

No other information is known about the company.

## PYONGJE

Pyongje (평제회사) is a North Korean electronics company that produces smartphones and tablet PCs under the "Myohang" brand name, according to *DailyNK*.<sup>30</sup>

The company's first tablet, simply called Myohang, made headlines overseas in 2015 when it was introduced on Korean Central Television as part of the report on the Spring Pyongyang International Trade Fair. It was one of the first tablet PCs to be featured on local television.

The company lists two phone numbers in Pyongyang: 02-475-3940 and 02-475-4287.

No other information is known about the company.

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<sup>27</sup> North Korea Tech, May 19, 2020. [Phurunhanal Electronics 1/2](#), [Video] YouTube.

<sup>28</sup> North Korea Tech, May 19, 2020. [Phurunhanal Electronics 2/2](#), [Video] YouTube.

<sup>29</sup> "[North Korean electronics corporation launches new smartphone brand](#)," *NK News*, June 7, 2018

<sup>30</sup> "[N. Korea released at least five new smartphone models last year](#)," *DailyNK*, April 17, 2023.

# SMARTPHONES OF NORTH KOREA

## ARIRANG 1201

The Arirang 1201 (아리랑1201) is the first smartphone produced by the [Arirang IT Corp.](#) The phone went on sale in 2013 with support for the Koryolink network.

An analysis of the handset by a Japanese blogger determined it is based on the Chinese Uniscope AS1201 handset.<sup>31</sup>



Figure 31. The Arirang AS1201 smartphone. (Image: Author's archive)

## Specifications

According to published photographs of the phone, it has the following specifications

- OS: Android v4.0.4
- Chipset: Dual core 1GHz Mediatek CPU
- Display: 4.3-inch
- Resolution: 540 x 960-pixels
- Rear camera: 8 megapixels

<sup>31</sup> 北朝鮮の携帯電話事情(2) - 端末ラインナップ, *Wireless Wire*, February 14, 2014



## ARIRANG 151

The Arirang 151 (아리랑151) is an Android smartphone that went on sale in 2016.

The phone has a low-end sister handset, the Arirang 152. Specifications have been published by the NKICT blog.<sup>32</sup>

### Specifications

- OS: Android 4.4.2
- Chipset: Mediatek MT6580 1.3GHz
- Display: 5-inch
- Resolution: 1,280 x 720 pixels
- Rear camera: 13 megapixels
- Front camera: 5 megapixels
- Memory: 32GB ROM, 2GB RAM
- Battery: 2,500mAh
- Weight: 148 grams

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<sup>32</sup> [진화하는 북한 아리랑 스마트폰](#), *Digital Hurricane*, December 30, 2017

## ARIRANG 152

The Arirang 152 is a smartphone marketing by Pyongyang-based Arirang IT Corp. Its existence was revealed by the NKICT blog, which said it's a low-end version of the Arirang 151 that went on sale in 2016.

In December 2017, the NKICT blog published photos of the phone on display and provided specifications for the device.<sup>33</sup>

### Specifications

- OS: Android 4.4.2
- Chipset: 1.3GHz
- Front camera: 5 megapixels
- Memory: 16GB ROM, 1GB RAM
- Resolution: 480 x 800 pixels
- Weight: 125 grams
- Battery: 1,500mAh

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<sup>33</sup> [진화하는 북한 아리랑 스마트폰](#), *Digital Hurricane*, December 30, 2017

## ARIRANG 161

The Arirang 161 (아리랑161) is an Android smartphone that went on sale in 2017. It was the first phone in the Arirang range to feature fingerprint recognition.

The phone is available in black and gold, has a 4.7-inch screen and 32GB of memory. It weighs 120 grams.

Two years after its debut, the phone was shown on display at the 2019 Exhibition of IT Successes in Pyongyang.



Figure 32. The Arirang 161 smartphone (right) at the 2019 Exhibition of IT Successes. (Image: DPRK Today)

## ARIRANG 171

The Arirang 171 (아리랑171) is an Android smartphone that went on sale in 2018.<sup>34</sup>

In 2018, the phone was shown on state television being used to demonstrate the country's new Mirae Wi-Fi network.<sup>35</sup>



Figure 33. The Arirang 171 smartphone in 2018. (Image: KCTV)

## Specifications

- OS: Android 7.1.1
- Chipset: Mediatek MT6797 10-core, 2.3GHz
- Display: 5.5-inch
- Resolution: 1,920 x 1,080 pixels
- Front camera: 8 megapixels
- Rear camera: 13 megapixels
- Memory: 4GB RAM, 32GB Flash
- Battery: 3,350mAh

<sup>34</sup> Kang, Jin-gyu. "북한 안드로이드 '누가' 탑재 아리랑171 스마트폰 개발," NK Economy, June 4, 2018.

<sup>35</sup> Ji, Dagyum. "Smartphone-capable Wi-Fi on show at Pyongyang IT exhibition, state TV reveals," NK News, November 14, 2018.

## ARIRANG 182

The Arirang 182 (아리랑182) is a bar-type phone that was on display at the 2019 Exhibition of IT Successes.

The phone was also advertised on the Arirang IT Company booth at the Light Industry Development show in Pyongyang in October 2023. No more information is currently available.



Figure 34. The Arirang 182 phone (left) at the 2019 Exhibition of IT Successes. (Image: DPRK Today)



Figure 35. An advertisement for the Arirang 182 phone, seen at the Light Industry Development Exhibition in 2023. (Image: Instagram)

## ARIRANG 191

The Arirang 191 (아리랑191) is a smartphone. It was on display at the Light Industry Development show in Pyongyang in October 2023.

The advertisement indicated it has an Active Matrix Organic Light Emitting Diode (AMOLED) type of LCD display.

No more information is currently available.



*Figure 36.* Figure 36. An advertisement for the Arirang 191 smartphone at the Light Industry Development Exhibition in 2023. (Image: Instagram)

## ARIRANG 221

A poster featuring the Arirang 221 (아리랑221) was displayed at the Light Industry Development show in Pyongyang in October 2023.

The phone's design and specifications match that of the "Blu Bold N2," a phone released in August 2022 and sold by a U.S.-based company, and the Cherry Mobile Aqua SV sold in the Philippines. Both Blu and Cherry Mobile do not make the phone itself but rely on Chinese contract manufacturers and it is likely the same Chinese company supplied the same basic phone model to North Korea.



Figure 37. The Arirang 221 smartphone at the Light Industry Development Exhibition in 2023. (Image: Instagram)

## Specifications

- OS: Android 11.0
- Chipset: Mediatek MP6833, 8-core, 2.4GHz
- Display: 6.6-inch AMOLED
- Resolution: 2,340 x 1,080 pixels
- Front camera: 16 megapixels
- Rear camera: 64 megapixel main camera, 5 megapixel ultra-wide, 2 megapixel macro, 2 megapixel depth sensor
- Memory: 8GB RAM, 256GB ROM
- Battery: 4,200mAh



Figure 38. The Blu Bold N2. (Image: Blu)



## CHONGSONG 222

The Chongsong 222 (청송222) is an Android smartphone marketed by Madusan Economic Federation. The phone was initially launched in late 2022 or early 2023 as the Madusan 222 but the name was later changed for unknown reasons.

A report by *DailyNK* in March 2024 said it was one of the most popular phones in North Korea.

An early report on the phone, when it was still known as the Madusan 222, provided the following specifications.<sup>36</sup>

### Specifications

- OS: Android 12
- Processor: Mediatek MT6789 8 Core, 2.2GHz
- Storage: 8GB memory, 256GB storage
- Display: 6.78 inch
- Resolution: 2,460 x 1,080 pixels
- Front camera: 20 megapixels
- Rear camera: 64 megapixels
- Battery: 4,500mAh

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<sup>36</sup>Hui, Mun Dong. "[N. Korea continues to release new smartphones despite border closure,](#)" *DailyNK*, May 23, 2023.

## CHONGSONG 234

The Chongsong 234 (청송234) phone was displayed at the Light Industry Development show in Pyongyang in October 2023.

It has a distinctive rear camera arrangement that groups several cameras into a rounded area in the center of the phone that make it appear similar to the Huawei Mate P50 Pro. The Huawei phone was launched in September 2022, although as no specifications of the North Korean device are available, there is not enough information is available to determine if the Chongsong 234 is based on the phone.

A report by *DailyNK* in March 2024 said it was one of the most popular phones in North Korea.



Figure 39. The Chongsong 234 on show at the Light Industry Development Show in Pyongyang. (Image: KCTV)



Figure 40. The Huawei Mate 50 Pro. (Image: Huawei)

## HWAWON 201

The Hwawon 201 (화원201) featured in state media coverage of the Light Industry Development show in Pyongyang in October 2023. Technical specifications of the phone were displayed on a poster but the resolution of the television image is not sufficient to read them clearly.

It appears to list the Android 12 operating system (released in late 2021), a 16-megapixel camera and 4,800mAh battery.



Figure 41. The Hwawon 201 smartphone, seen in Korean Central Television coverage on October 26, 2023. (Image: KCTV)

## HWAWON 301

The Hwawon 301 (화원301) was also first seen in state media coverage of the Light Industry Development show in Pyongyang in October 2023. Few technical details are available but it appears to have three cameras on the rear and an AMOLED display.

The phone has a similar design to the Honor X7b, although there is not enough data available to determine if the Hwawon 301 is based on that model.



Figure 42. The Hwawon 301 smartphone, seen in Korean Central Television coverage on October 26, 2023. (Image: KCTV)



Figure 43. The Hwawon 301 smartphone, seen in Korean Central Television coverage on October 26, 2023. (Image: KCTV)



Figure 44. The Honor X7b. (Image: Honor)

## JINDALLAE

The Jindallae (진달래) was the first smartphone from the Mangyondae IT Corp. Details of the phone were published in 2018 although the name and specifications indicate it went on sale prior to the Jindallae 3, which launched in June 2017.<sup>37</sup>

### Specifications

The following specifications were published in 2018:

- Android 4.4.2
- Processor: ARM Cortex A7 quad-core 1.3GHz
- Graphics processor: Mali 400
- Display: 4.7-inch
- Resolution: 1,280 x 720 pixels
- Front camera: 2 megapixels
- Rear camera: 8 megapixels
- Memory: 1GB RAM, 16GB Flash
- Battery: 1,850mAh?

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<sup>37</sup> "New-model Mobile Phone JINDALLE," Naenara, January 13, 2018.

## JINDALLAE 3

The Jindallae 3 (진달래3) went on sale in June 2017.<sup>38 39</sup>

### Specifications

Wikipedia lists the following specifications although the source of the information is not provided.<sup>40</sup>

- OS: Android 7.1.1
- Processor: Qualcomm Snapdragon 427 quad-core processor
- Chipset: 28nm ARM Cortex-A53 MP4 1.4 GHz CPU and Qualcomm Adreno 308 MP6 500 MHz GPU
- Display: 5.2-inch
- Resolution: 720 x 1,280 pixel
- Memory: 4GB RAM, 32GB ROM
- Rear camera: 13 megapixels
- Front camera: 8 megapixels
- Battery: 3,100mAh



Figure 45. The Jindallae 3 smartphone. (Image: Author's archive)

<sup>38</sup> "우리 식의 새로운 지능형손전화기 《진달래3》이 출품," *Arirang Meari*, March 6, 2017.

<sup>39</sup> "호평받는 지능형손전화기 《진달래3》," *DPRK Today*, June 24, 2017.

<sup>40</sup> "진달래-3," Wikipedia.

## JINDALLAE 5

The Jindallae 5 (진달래5) smartphone was launched in January.

### Specifications

- OS: Android
- Chipset: MediaTek Mali 400MP
- Processor: ARM Cortex-A73 MT6580T Quad core 1.3GHz CPU
- GPU: ARM Mali-G72 800MHz MP3 GPU
- Display: 5.45-inch
- Resolution: 1,440 x 720 pixel
- Memory: 2GB RAM, 16GB ROM
- Rear camera: 13 megapixels
- Front camera: 8 megapixels
- Battery: 3,800mAh
- Dimensions: 147 x 70 x 9.4mm
- Weight: 145g



Figure 46. The Jindallae 5 smartphone. (Image: Author's archive)



## JINDALLAE 6

The Jindallae 6 (진달래6) and Jindallae 6+ (진달래6가) went on sale in early 2020 simultaneously with the Jindallae 7 (진달래7) and were the first from the company to run Android 8.

Jindallae is the Korean word for rhododendron.

The phones include biometric identification functions including fingerprint, voice and facial recognition, according to DPRK Today.

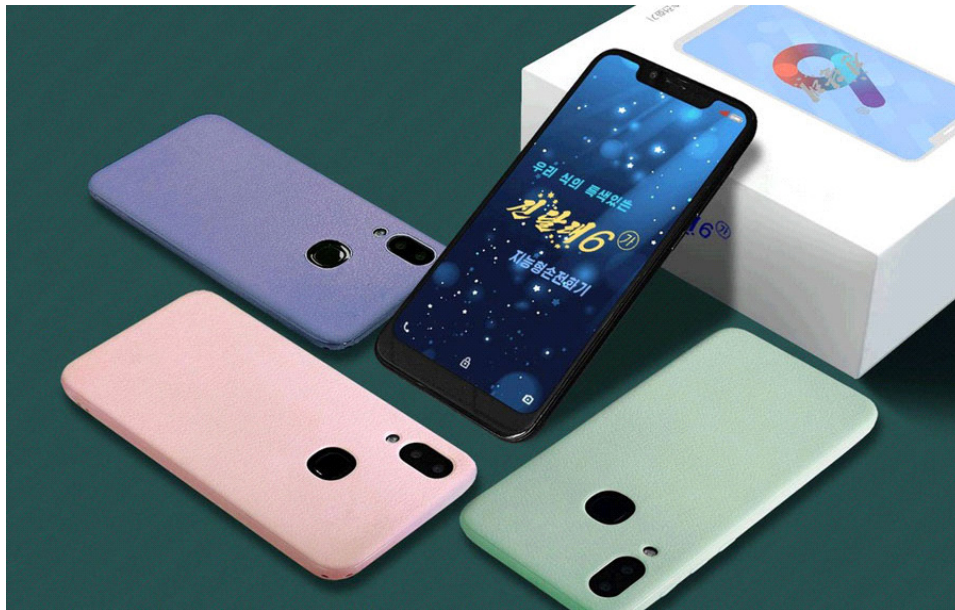


Figure 47. The Jindallae 6+ smartphone. (Photo: DPRK Today)

## Specifications

Wikipedia lists the following specifications for the Jindallae 6, although the source is unclear.<sup>41</sup>

- OS: Android 8.1
- Chipset: MediaTek MT6771 octa core, 12nm processor
- Processor: ARM Cortex-A73 MP4 2.0GHz and ARM Cortex-A53 MP4 2.0GHz CPUs
- GPU: ARM Mali-G72 800MHz MP3 GPU
- Display: 6.2-inch
- Resolution: 2,246 x 1,080 pixel
- Memory: 6GB RAM, 64GB Flash
- Rear camera: 16 megapixels
- Front camera: 8 megapixels
- Battery: 3,550mAh

<sup>41</sup> “진달래6,” Wikipedia.



Figure 48. The Jindallae 6 smartphone. (Image: NK Economy)

## JINDALLAE 7

The Jindallae 7 (진달래7) is an Android-based smartphone that went on sale in early 2020 simultaneously with the Jindallae 6 (진달래6) and Jindallae 6+ (진달래6가) and was the first from the company to run Android 9.

The phones include biometric identification functions including fingerprint, voice and facial recognition, according to DPRK Today.

*DailyNK* reported the International Mobile Equipment Identity (IMEI) number of a Jindallae 7 belonged to the F7 smartphone produced by China's Umdigi. IMEI numbers are unique serial numbers given to each phone that also include a code identifying the manufacturer and model number.

While the appearance of the two phones is similar, the specifications are not the same, so the match is not conclusive.<sup>42</sup>



Figure 49. The Jindallae 7 smartphone. (Photo: DPRK Today)

<sup>42</sup> Hui, Mun Dong. "[The Jindallae 7 phone was manufactured in China](#)," *DailyNK*, July 23, 2020.

## Specifications

- OS: Android 9.0
- Display: 6.3-inch
- Resolution: 2,340 x 1,080 pixels
- Front camera: 16 megapixels
- Rear camera: 21 megapixels
- Battery: 5,200mAh

## JINDALLAE 9

The Jindallae 9 smartphone has a 6.22-inch screen and runs the Android 7.0 operating system.<sup>43</sup>

Both the operating system and screen resolution are lower than the Jindallae 7, launched in 2020, indicating the Jindallae 9 is intended to be a low-end model.

### Specifications

- OS: Android 7
- Processor: Mediatek MT6580 4x Cortex A71 1.3GHz processor
- Display: 6.22-inch
- Front camera: 5 megapixels
- Rear camera: 13 megapixels
- Resolution: 1560 x 720 pixels
- Battery: 4,200mAh
- Dimensions: 156.8 x 76.2 x 9.5 millimeters

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<sup>43</sup> Hui, Mun Dong. "[N. Korea continues to release new smartphones despite border closure,](#)" *DailyNK*, May 23, 2023.

## JINDALLAE 400

The Jindallae 400 was launched in 2022 or early 2023, according to *DailyNK*.<sup>44</sup>

The phone is said to come in two versions, with differing storage and camera resolutions.

The reported use of the “400” number is notable as it does not follow the numbering convention used by the company to-date.

### Specifications

- OS: Android 11
- Processor: Mediatek MT6785 8-core Cortex A73, 2.3GHz
- Storage: 6GB memory, 128GB storage (standard edition), 8GB memory, 256GB storage (enhanced edition)
- Front camera: 16 megapixels (standard edition); 24 megapixels (enhanced edition)
- Rear camera: 48 megapixels (standard edition), 64 megapixels (enhanced edition)
- Display: 6.39-inch
- Resolution: 2,340 pixels by 1,080 pixels
- Battery: 4,500mAh
- Dimensions: 158.5 x 75.7 x 9.5 millimeters

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<sup>44</sup> Ibid.

## JINDALLAE

An additional Jindallae model has been seen in North Korean media, though the product name has not been revealed.

A North Korean advertisement published by *DailyNK* shows the phone has a 6.4-inch screen with 2,340 pixels by 1,080 pixels resolution.<sup>45</sup>

It also appears to have a pop-out camera.

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<sup>45</sup> Ibid.

## KILTONGMU

The Kiltongmu (길동무) smartphone was first revealed on September 9, 2019, by Arirang Meari.

The image accompanying the article (below) appears to show the model name as “10,” “1041,” “1061” or “1081,” but is too blurred to be made out clearly.

Features are said to include a fingerprint sensor, face unlock and handwriting input. It comes loaded with 30 apps, including dictionaries and entertainment, the report said.

No other information regarding the device is known.



Figure 50. The Kiltongmu smartphone seen on the Arirang Meari website on September 9, 2019. (Image: Arirang Meari)



## MADUSAN 215

The Madusan 215 (마두산215) smartphone was launched in 2022 and runs Android 11.<sup>46</sup>

No other details regarding the device are known.

## MADUSAN 217S

The Madusan 217S (마두산217S) was released in 2022 and runs Android 10.<sup>47</sup>

No other details regarding the device are known.

## MADUSAN 222

See Chongsong 222 (청송222).

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<sup>46</sup> Hui, Mun Dong. "[N. Korea released at least five new smartphone models last year,](#)" *DailyNK*, April 17, 2023.

<sup>47</sup> *Ibid.*

## MYOHYANG 901

The Myohyang 901 was released in 2022 and runs Android 10.<sup>48</sup>

DailyNK reported that it had the highest performance of all phones launched in 2022.

No other details regarding the device are known.

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<sup>48</sup> Ibid

## PHURUNHANAL H1

The Phurunhanal H1 (푸른하늘H1) is the first smartphone marketed by Pyongyang-based Phurunhanal Electronics.

The phone debuted at the 21st Pyongyang Spring International Trade Fair in May 2018 and features a 5.5-inch display and 6,000mAh battery.<sup>49</sup>

### Specifications

Additional specifications were published by *NK News*.<sup>50</sup>

- OS: Android
- Chipset: Mediatek MT6753 1.3GHz
- Display: 5.5 inch
- Memory: 3GB RAM, 32GB ROM
- Front camera: 8 megapixels
- Rear camera: 16 megapixels
- Battery: 6,000mAh

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<sup>49</sup> "새형의 지능형손전화기 《푸른하늘H1》," Sogwang, June 5, 2018.

<sup>50</sup> Ji, Dayyum. "[North Korean electronics corporation launches new smartphone brand](#)," *NK News*, June 7, 2018.

## PHURUNHANAL H2

This is the second phone in the Phurunhanal range.

The IMEI of a Phurunhanal phone matches that of the Sancup A8 in the imei.info database. However, the A8 is a bar-type feature phone and does not match the specifications of the H2.

### *Specifications*

The phone has the following specifications:<sup>51</sup>

- OS: Android
- Chipset: Mediatek MT6750
- Display: 6-inch
- Resolution: 1,440 x 720 pixels
- Front camera: 13.3 megapixels
- Rear camera: 21.2 megapixels
- Memory: 4GB RAM, 64GB ROM
- Battery: 4,300 mAh
- Size: 159 x 76.2 x 9.6 mm
- Weight: 240 grams

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<sup>51</sup> Phurunhanal H2 user manual

## PHURUNHANAL 9-2

The Phurunhanal 9-2 was seen in a social media posting in March 2023. Details on the phone are unclear, but like other North Korean phones it runs on the Android operating system. It has a distinctive large, rectangular rear camera design.



Figure 51. The Phurunhanal 9-2 smartphone, seen in a social media post in 2023. (Image: YouTube)

## PYONGYANG 1105

The Pyongyang 1105 is a candy bar phone.

It was seen on show at a Pyongyang electronics store in a photo published by the North Korean Sogwang website on April 8, 2019.

No other information is known.



*Figure 52.* Pyongyang 1105 cellphone seen in an April 2019 photo.  
(Photo: Sogwang)

## PYONGYANG 1202

The Pyongyang 1202 is a clamshell phone.

It was seen on show at a Pyongyang electronics store in a photo published by the North Korean Sogwang website on April 8, 2019.

No other information is known.



*Figure 53. Pyongyang 1202 cellphone seen in an April 2019 photo. (Photo: Sogwang)*

## PYONGYANG 2405

The Pyongyang 2405 appears to be an early-generation smartphone.

It was seen on show at a Pyongyang electronics store in a photo published by the North Korean Sogwang website on April 8, 2019.

No other information is known.



*Figure 54. Pyongyang 2405 cellphone seen in an April 2019 photo. (Photo: Sogwang)*



## **PYONGYANG 2406**

The Pyongyang 2406 is an early-generation smartphone that runs version 4.2.2 of the Android operating system. It went on sale in late 2015 or early 2016. It features 1GB of user memory. The phone includes Bluetooth support but no Wi-Fi.

## PYONGYANG 2407

The Pyongyang 2407 is an Android-based smartphone released in North Korea in 2016 or 2017.

It was the first North Korean Android phone to receive wide public scrutiny due to a disk image published on the KCC website.<sup>52</sup>

The phone is based on a handset produced by China's Gionee and has the following specifications:

- OS: Android
- Chipset: Mediatek MT6582SC CPU
- Display: 4.7-inch
- Resolution: 720 x 1280 pixels
- Front camera: 2 megapixels
- Rear camera: 8 megapixels
- Memory: 8GB
- Battery: 1,800mAh

The same basic Gionee phone is sold in other markets like the Gionee CTRL V5, the Walton Primo H3 and the Blu Life Play 2.



Figure 55. Pyongyang 2407 cellphone seen in an April 2019 photo. (Photo: Sogwang)

<sup>52</sup> Korea Computer Center, [Pyongyang 2407 Cellphone disk image](#), photograph, Korea Computer Center Blog.

The Pyongyang 2407 was the subject of a software and hardware investigation published by Hacker House in January 2019.

After the disk image of the phone was published online, the Hacker House team got the software running on an identical handset that was designed for a foreign market. The work was introduced and released online.<sup>53</sup>

The analysis confirmed that several known-North Korean surveillance and security techniques were present on the phone including the NATISIGN and SELFSIGN digital signature system and Trace Viewer.

The researchers were able to successfully watch a movie on the handset after patching the phone's software to bypass the digital signature check for all media.

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<sup>53</sup> Hickey, Matthew. "[Hacking North Korea's Android](#)," *Hacker House*, January 13, 2019.

## PYONGYANG 2408

The Pyongyang 2408 appears to be an early-generation smartphone.

It was seen on show at a Pyongyang electronics store in a photo published by the North Korean Sogwang website on April 8, 2019.

No other information is known.



Figure 56. Pyongyang 2408 cellphone seen in an April 2019 photo. (Photo: Sogwang)

## PYONGYANG 2409

The Pyongyang 2409 is an Android-based smartphone that went on sale in 2016.

The phone was on sale at a Koryolink store in Pyongyang in 2017 for 14,000 North Korean won (US\$133 at official exchange rate).

It was seen on show at a Pyongyang electronics store in a photo published by the North Korean Sogwang website on April 8, 2019.

No other information is known.



*Figure 57. Pyongyang 2409 cellphone seen in an April 2019 photo.  
(Photo: Sogwang)*

## PYONGYANG 2410

The Pyongyang 2410 is an Android-based smartphone that went on sale around 2016 or 2017.

It was seen on show at a Pyongyang electronics store in a photo published by the North Korean Sogwang website on April 8, 2019.

No other information is known.



*Figure 58.* Pyongyang 2410 cellphone seen in an April 2019 photo.  
(Photo: Sogwang)

## PYONGYANG 2411

The Pyongyang 2411 is an Android-based smartphone that went on sale around 2016 or 2017.

It was seen on show at a Pyongyang electronics store in a photo published by the North Korean Sogwang website on April 8, 2019.

No other information is known.



*Figure 59. Pyongyang 2411 cellphone seen in an April 2019 photo.  
(Photo: Sogwang)*

## **PYONGYANG 2413**

The Pyongyang 2413 is an Android-based smartphone. It was mentioned to the author in a 2022 interview with a North Korean escapee but no other information is available.



## PYONGYANG 2416

The Pyongyang 2416 is an Android-based smartphone that went on sale around 2017.

It was photographed at the Central Information Equipment Shop (중앙정보통신기자재판매소) in Pyongyang in 2017.<sup>54</sup>

No other information is known.

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<sup>54</sup> "[북한 지문인식 가능한 스마트폰 '평양 2419' 개발](#)," *Digital Hurricane*, December 23, 2017

## PYONGYANG 2418

The Pyongyang 2418 is an Android smartphone that went on sale in 2017.

It was photographed at the Central Information Equipment Shop (중앙정보통신기재판매소) in Pyongyang the same year by the South Korean Digital Hurricane blog.<sup>55</sup>

In June 2019, *DailyNK* reported the Pyongyang 2418 was made by China's Gionee and is like Gionee's 2413 model.<sup>56</sup>

### Specifications

*DailyNK* published these specifications for the Pyongyang 2418 as part of a comparison with the [Pyongyang 2423](#).<sup>57</sup>

- OS: Android 5.1
- Chipset: Mediatek MT6580 CPU with 1.2GHz ARM Cortex A7 MP4 core
- CPU: ARM Mali 400 MP2 GPU
- Front camera: 5 megapixels
- Rear camera: 8 megapixels
- Display: 5.0 inch
- Resolution: 720 x 1280 pixels
- RAM: 2GB
- ROM: 16GB
- Battery: 4,000mAh
- Size: 142 x 71 x 9mm
- Weight: 199 grams

<sup>55</sup> "북한 지문인식 가능한 스마트폰 '평양 2419' 개발," *Digital Hurricane*, December 23, 2017.

<sup>56</sup> Hui, Mun Dong. "North Korea's latest smartphone made by Chinese manufacturer," *DailyNK*, June 19, 2019.

<sup>57</sup> Hui, Mun Dong. "A look inside the Pyongyang 2423, North Korea's latest smartphone," *DailyNK*, January 11, 2019.

## PYONGYANG 2419

The Pyongyang 2419 is an Android-based smartphone that went on sale in 2017.

The NK Economy blog obtained one of the handsets in 2019 and published photographs and specifications.<sup>58</sup>

It was also photographed by the Digital Hurricane blog on sale at the Central Information Equipment Shop (중앙정보통신기자판매소) in Pyongyang in 2017.<sup>59</sup>

### Specifications

- OS: Android
- Chipset: Mediatek MT6755M CPU
- Display: 5.5 inch
- Resolution: 1,080 x 1,920 pixels
- Front camera: 8 megapixels
- Rear camera: 13 megapixels
- Memory: 4GB RAM, 32GB ROM
- Battery: 3,130mAh
- Weight: 168 grams
- Size: 153 x 75.26 x 7.6mm

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<sup>58</sup> Kang, Jin-gyu. "[안드로이드 마시멜로 탑재된 북한 스마트폰 '평양2419'](#)," *NK Economy*, March 12, 2019.

<sup>59</sup> "[북한 지문인식 가능한 스마트폰 '평양 2419' 개발](#)," *Digital Hurricane*, December 23, 2017.

## PYONGYANG 2423

The Pyongyang 2423 (평양2423) smartphone was released in late 2018 by Checom Technology JV. DailyNK managed to obtain a phone and said several security controls had been added to further restrict what users could do on the device.

With the country's previous smartphones and tablets, it was possible to access internal folders by connecting them to a computer via USB, but the Pyongyang 2423's internal folders cannot be accessed in such a way. This means that external files cannot be transferred to North Korea's latest smartphone.<sup>60</sup>

Further, the site said the phone requires SD cards to be formatted when inserted into the phone. Users are also asked to decide if the SD card is used as "a memory card" or as "internal memory." The former doesn't allow folder access while the latter is restricted to use with the handset into which it was inserted.

However, the phone wasn't completely locked down. It included a card playing app that allowed up to four people to play over Bluetooth.<sup>61</sup>



Figure 60. The Pyongyang 2423 smartphone. (Image: Lumen)

<sup>60</sup> Hui, Mun Dong. "A look inside the Pyongyang 2423, North Korea's latest smartphone," DailyNK, January 11, 2019.

<sup>61</sup> "Smartphones interwoven into all aspects of North Korean life," *Hankyoreh*, March 24, 2019.

## Specifications

- OS: Android 8.0
- Chipset: Mediatek MT6737 CPU (4x 1.3GHz Cortex A53-cores)
- Processor: ARM Mali T720 MP2 GPU
- Memory: 16GB ROM, 2GB RAM
- Front camera: 8 megapixels
- Rear camera: 13 megapixels
- Display: 5.5 inch
- Resolution: 720 × 1440 pixels
- Battery: 3,000mAh
- Size: 148.3 x 71.76 x 8.1mm
- Weight: 140 grams

## Origins

The specifications helped narrow down the original manufacturer of the phone to be Shenzhen Chenyee Technology Co. Ltd. (深圳市诚壹科技有限公司), a Chinese ODM smartphone maker. The phone shares almost the same specifications as the Chenyee Soda S1.<sup>62</sup>

The same base model phone was on sale in several other countries under different brand names: the Blu Vivo XL3, sold in the U.S.; the Condor Plume L2, sold in Europe; the Allview Viper V3, sold in Poland; and the Highscreen Expanse, sold in Russia.

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<sup>62</sup> Williams, Martyn. "[The origins of the Pyongyang 2423 smartphone](#)," *North Korea Tech*, February 5, 2019.

## Apps

The phone comes with many of the same apps that are present in the Pyongyang 2425 smartphone.

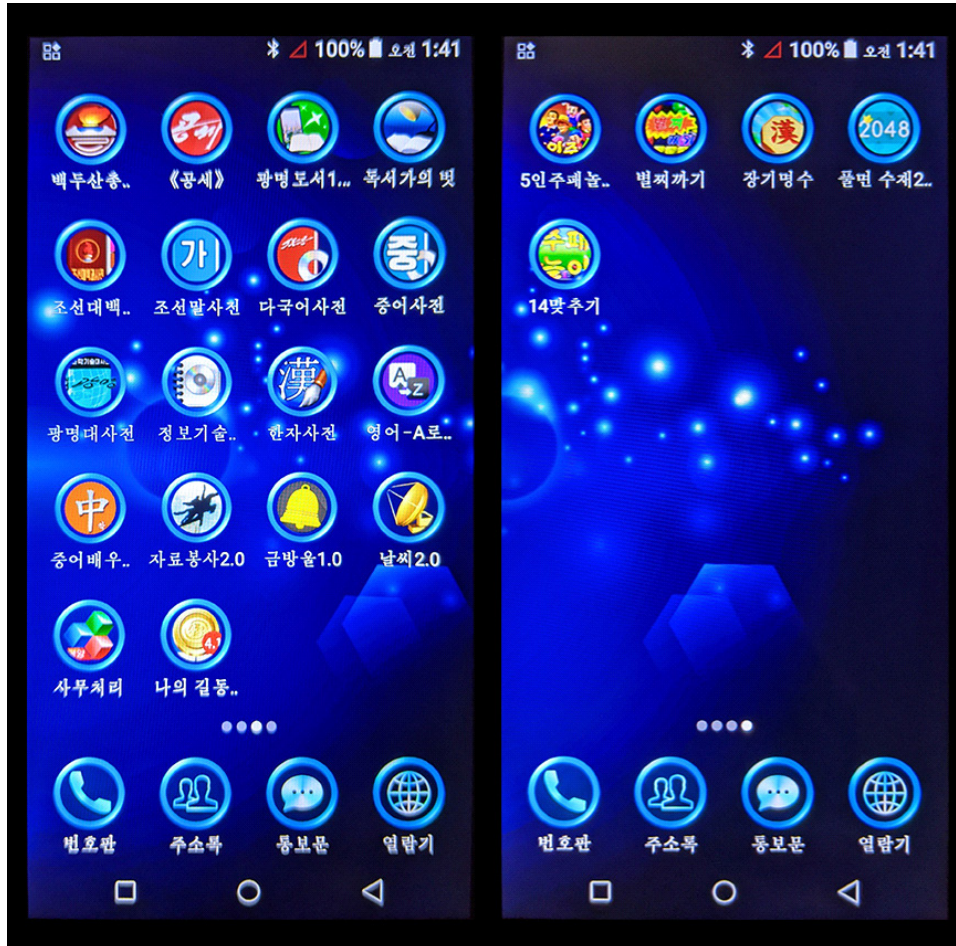


Figure 61. Apps on the Pyongyang 2423. (Image: Lumen)

## **PYONGYANG 2425**

The Pyongyang 2425 smartphone was released in 2019

Its major features include:

- OS: Android 8.1
- Chipset: Mediatek MT6771
- Display: 6.2 inches
- Resolution: 2,246 x 1,080 pixel
- Front camera: 16 megapixels
- Rear camera: 5 megapixels
- Memory: 4GB RAM, 32GB ROM
- Battery: 3,050mAh
- “Wi-Fi ready”
- Fingerprint reader
- Wireless charging

The IMEI number of the phone obtained matched one associated with China’s Gionee. The model number of the Chinese handset is reported to be 2417, but no reference could be found. Gionee was associated with Shenzhen Chenyee Technology but both companies went out of business.

North Korean state media published several photos of the handset, and the phone was featured in the New DPRK YouTube channel.

## PYONGYANG 2426

The Pyongyang 2426 (평양2426) was launched in mid-2019 by Checom Technology JV. An image of the rear of the phone was posted on Instagram by a tourist to North Korea in 2023, although the trip took place earlier.

In the image the IMEI number of the phone was present, however an IMEI lookup site was unable to provide a positive identification.

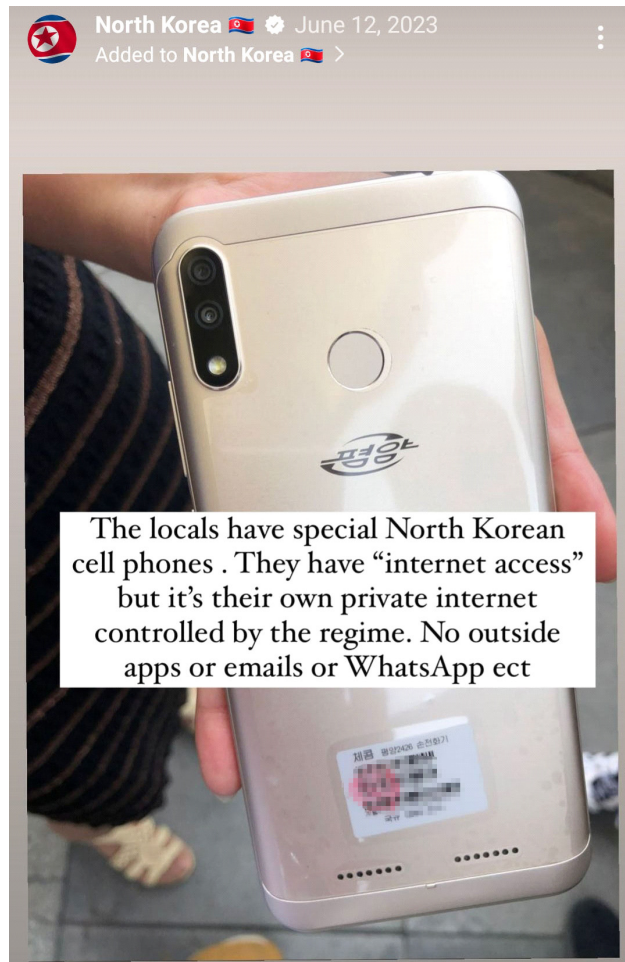


Figure 62. Image of the Pyongyang 2426 phone posted by a tourist. (Image: Instagram)



## Specifications

It has the following specifications:<sup>63</sup>

- OS: Android 8.1
- Display: 6.19 inches
- Resolution: 1,520 x 720 pixels
- Front camera: 8 megapixels
- Rear camera: 13 megapixels and 2 megapixels
- Memory: 3GB RAM, 32GB ROM
- Battery: 4,050 mAh

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<sup>63</sup> Moon, Dong-hee. "[성능 떨어진 평양2426... '외화 흡수전략' 맞춤 보급형 가능성](#)," *DailyNK*, April 16, 2020.

## PYONGYANG 2428

The Pyongyang 2428 (평양2428) smartphone was released in 2020, according to a report by DailyNK. The phone was a follow-on from the Pyongyang 2426 model.<sup>64</sup>

It runs Android 9.0, which makes it likely the first North Korean smartphone to run the “Pie” version of the operating system.<sup>65</sup>

### Specifications

It has the following specifications:<sup>66</sup>

- OS: Android 9.0 “Pie”
- Display: 6.3 inches
- Resolution: 2,340 x 1,080 pixels
- Front camera: 16 megapixels
- Rear camera: 45 megapixels and 5 megapixels
- Memory: 4GB RAM, 32GB ROM
- Battery: 4,000 mAh

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<sup>64</sup> Hui, Mun Dong. “[North Korea launches new smartphone: the Pyongyang 2428](#),” *DailyNK*, April 7, 2020.

<sup>65</sup> Hui, Mun Dong. “[Pyongyang 2428 boasts only slight performance upgrades](#),” *DailyNK*, September 24, 2020.

<sup>66</sup> Hui, Mun Dong. “[Pyongyang 2428 boasts only slight performance upgrades](#),” *DailyNK*, September 24, 2020.

## PYONGYANG 2431

The Pyongyang 2431 was identified in an image from the Light Industry Development expo in Pyongyang in November 2023. No additional information is known about the handset.



Figure 63. The Pyongyang 2431 smartphone, seen on the Arirang Meari website in November 2023. (Image: Arirang Meari)

## PYONGYANG 2435

The Pyongyang 2435 was identified in an image from the Light Industry Development expo in Pyongyang in November 2023. No additional information is known about the handset.



*Figure 64.*he Pyongyang 2435 smartphone, seen on the Arirang Meari website in November 2023.  
(Image: Arirang Meari)

## PYONGYANG 2436

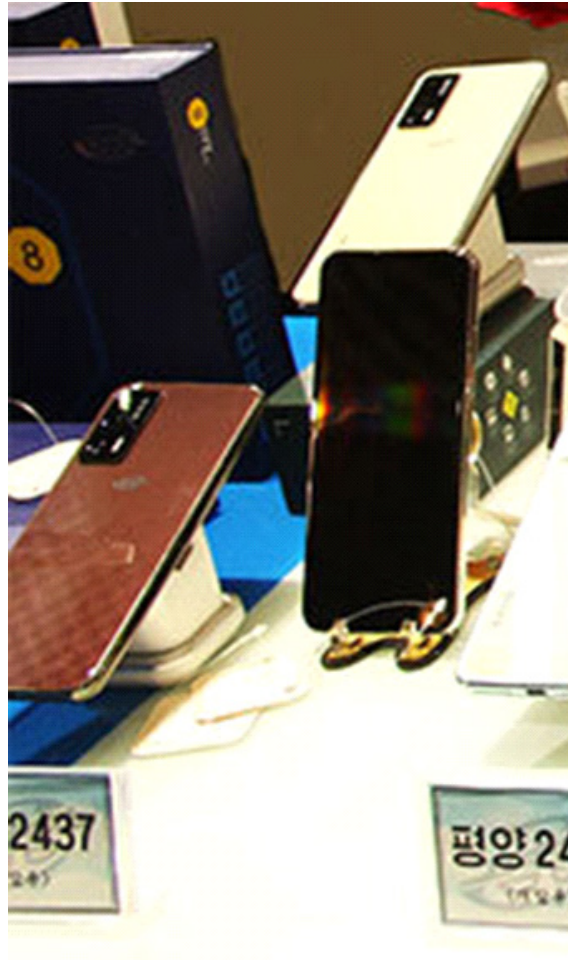
The Pyongyang 2436 was identified in an image from the Light Industry Development expo in Pyongyang in November 2023. No additional information is known about the handset.



Figure 65. The Pyongyang 2436 smartphone, seen on the Arirang Meari website in November 2023. (Image: Arirang Meari)

## PYONGYANG 2437

The Pyongyang 2437 was identified in an image from the Light Industry Development expo in Pyongyang in November 2023. No additional information is known about the handset.



*Figure 66.* The Pyongyang 2437 smartphone, seen on the Arirang Meari website in November 2023. (Image: Arirang Meari)

## SAMTHAESONG

The Samthaesong smartphone is—or was—a planned phone from Jongsung Economy & Technology Exchange Company. The phone first appeared in posters at the 2019 Autumn International Trade Fair in Pyongyang where it was advertised as running Android 9.<sup>67</sup>

No other information on the phone was published until the third quarter 2021 issue of *North Korea's Foreign Trade* magazine, which said the phone was still under development.

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<sup>67</sup> Zwirko, Colin. "[Chinese company offering "custom order" North Korean smartphones at Pyongyang fair](#)," NK News, September 24, 2019.

## SAMTHAESONG 8

The Samthaesong 8 smartphone was revealed during a Korean Central Television broadcast on September 7, 2023. The program gave viewers tips on using smartphones and the phones were featured during the program but not introduced.

A report by DailyNK in March 2024 said it was one of the most popular phones in North Korea. No additional information is known about the device.



Figure 67. The Samthaesong 8 smartphone, seen on Korean Central Television on September 7, 2023. (Photo: KCTV)



Figure 68. The Samthaesong 8 smartphone, seen on Korean Central Television on September 7, 2023. (Photo: KCTV)



## SAMTHAESONG 9

The Samthaesong 9 smartphone was revealed during a Korean Central Television broadcast on October 28, 2023. The program gave viewers tips on using smartphones and the phones were featured during the program but not specifically introduced.

The only specification obvious from the broadcast is that the phone has three rear cameras, including one with 64-megapixel resolution.



Figure 69. The Samthaesong 9 smartphone, seen on Korean Central Television on October 28, 2023. (Photo: KCTV)



Figure 70. The Samthaesong 9 smartphone, seen on Korean Central Television on October 28, 2023. (Photo: KCTV)



Figure 71. The Samthaesong 9 smartphone, seen on Korean Central Television on October 28, 2023. (Photo: KCTV)

## SONAMU 381

The Sonamu 381 was released in 2022 and runs Android 9. It has a 6.85-inch display, weighs 178 grams, is 8.4mm thick and has a 4,020mAh battery.<sup>68</sup>

No other details regarding the device are known.

## SONAMU 382

The Sonamu 382 was released in 2022 and runs Android 10. It has a 7-inch display, weighs 320 grams, is 9.25mm thick and has a 4,680mAh battery.<sup>69</sup>

A report by *DailyNK* said it was had the second-best performance of all phones launched in 2022.

No other details regarding the device are known.

## SONAMU 383

A poster advertising the Sonamu 383 was visible at the Light Industry Development exhibition in Pyongyang in October 2023.

No other details regarding the device are known.

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<sup>68</sup> Hui, Mun Dong. "[N. Korea released at least five new smartphone models last year,](#)" *DailyNK*, April 17, 2023.

<sup>69</sup> *Ibid.*

