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Pilot Walktour Pack

Data Sheet V4.8

Lightweight and modular Network Performance Benchmarking Solution

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Contents

1. Overview

1.1 Introduction

Pilot Walktour Pack is a versatile solution for mobile network evaluation and benchmarking, both outdoor and indoor. Its backpack features a compact design, providing portability and easy mobility for walking and driving tests. The tablet serves as the main controller, managing all test configuration and real-time measurement. The robust chassis, equipped with hot swappable battery for uninterrupted network testing campaign, was designed with processing power and secure device connectivity to handle multi-device testing or multi- network benchmarking.

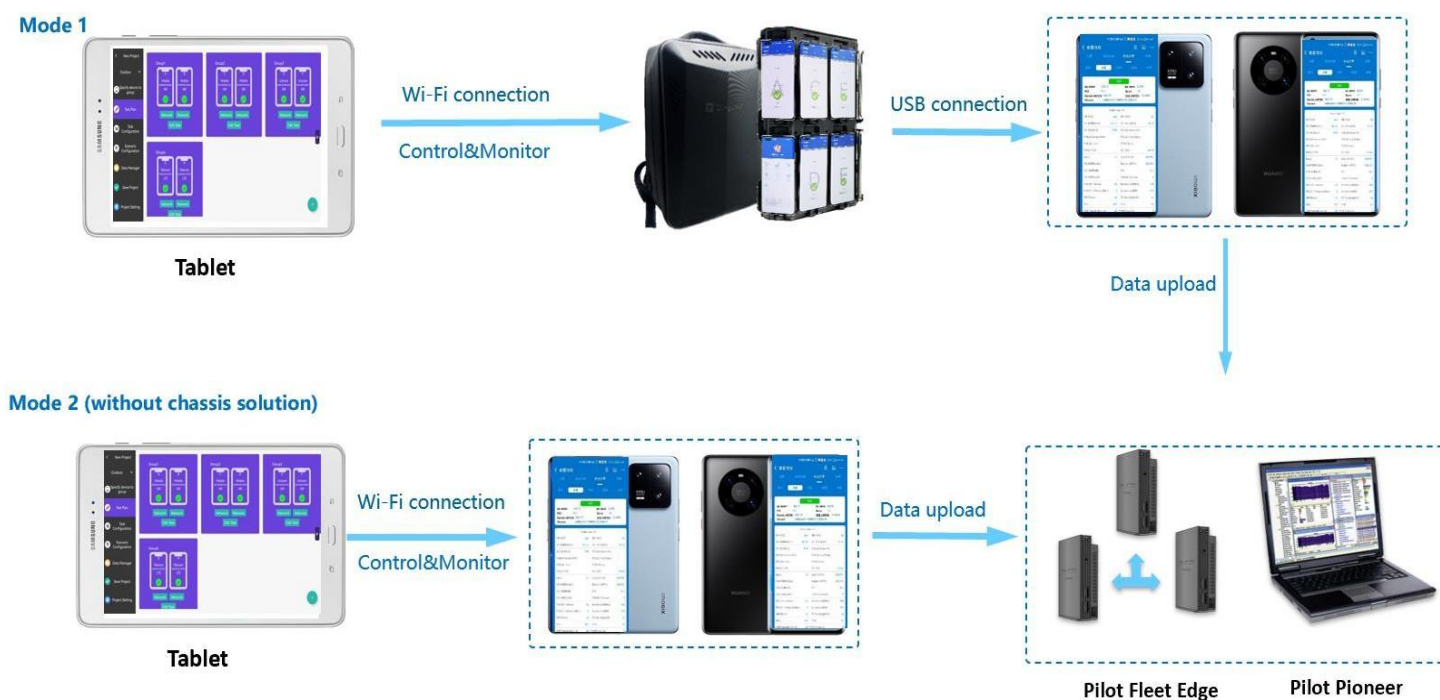## 1.2 Pilot Walktour Pack Test Solution

Figure 1.2 System architecture

2. Performance & Feature

2.1 Main Features

- Various network technologies supported: 2G/3G/4G/5G.
- Benchmarking of voice and data test for multiple networks and technologies.
- Real-time monitoring of MOC/MTC SIP signaling, decoding details, and VoLTE/VoNR events.
- Multiple FDD-LTE/TDD-LTE/5G CA modes supported.
- Real-time monitoring of CA wireless measurement, resource allocation, quality, and rate parameters.
- Supports GSM/WCDMA/TD-SCDMA/CDMA/1xEVDO/HSPA/LTE/LTE-A/LTE-A Pro/NSA/SA.
- Supports serial testing of multiple OTT services.
- A maximum of 14 handsets controlled by controller (Android based tablet) through WiFi or USB (depending on device type) with easy connection.
- Simultaneous POLQA MOS audio quality measurement with 8 terminals. A pair of terminals are required for each POLQA MO and MT call test, therefore a total of 4 mobile network operators benchmarking is feasible.
- Highly sensitive GPS to facilitate test in high-speed rail and highways scenarios.
- Real-time monitoring of caller/callee SIP signaling, MOS scores, and VoLTE events.
- Log files can be uploaded to Pilot Fleet Edge for post-processing, management, and display.
- Automatic indoor positioning with "WALK" device (integrated with a gyroscope) connected to Pilot Walktour Pack through Bluetooth connection for indoor test scenarios, for example on the escalator, lift, stairs, etc.
- Logfiles upload from Pilot Walktour to FTP/Pilot Fleet Edge server with controller unit.
- Supports connecting R&S TSME6 scanners for testing, covering 5G NR SA/NSA/LTE networks, with test servicesincluding ACD and Pilot TopN.
- The Pilot Walktour backpack is made from PP, PVC and 100% waterproof nylon to ensure excellent water resistance, allowing the pack to be used in outdoor rainy environments

	Description
Project	1. Pilot Walktour Pack can automatically detect test terminals, configures test plans on controller, which cancontrol handsets to start/end tests. 2. Data files can be uploaded to controller and Fleet Edgeserver 3. Configures FTP server information to be applied for alltests. 4. Added automatic synchronization mode. 5. Remotely reboot or shut down the Pilot Walktour PackCase on the controller. 6. Granted function permission can be listed for easy reference.

Test Services	1. Voice: MTC, MOC, Mobile-to-mobile MOS (PESQ/POLQA); support VONR, VINR, VoLTE, CSFB, 2G/3G voice test.
	2. Data: PING, FTP UL/DL, HTTP Download, HTTP Page, WAP Page, WAP Download, Email Send, Email Receive, Trace route, Video Play (HUAWEI VMOS supported), Multi FTP Upload, Multi FTP Download, HTTP Upload, PBM, SMS, MMS, Attach, DNS Lookup, SpeedTest
	3. Scan test with R&S_TSME/TSME 6
	   • Supported 5G NR, SA/NSA including test service ACD and Pilot TopN.
	4. Automatic Indoor Positioning Test: Connected to "WALK" device (integrated with a gyroscope) through Bluetooth to perform automatic indoor positioning on escalators, lift, stairs, etc.
	5. App test: WhatsApp, Instagram, Youtube
	6. Others:
	   • Idle, Parallel test
	   • Loop tests
	   • PPP disconnection mode control for data services: disconnect every time/disconnect every session/never disconnect

GIS	1. Indoor pre-pinpoint 2. Indoor pinpoint testing 3. Indoor maps in BMP, PNG, and JPG formats 4. GPS module integrated into controller 5. GPS module integrated into Pilot Walktour Pack Case

	6. Collects GPS data and display positioning plots in real time
	7. Supports online Google maps
	8. Supports offline Mapinfo
	9. Supports route file in KML format
	10. Supports user-defined parameters displayed on Map
	11. Supports site database import
	12. Supports indoor building floor management
Data Management	1. Automatically name log files based on the test location information
	2. Supports single key press upload of log files from multiple handsets to controller and Pilot Fleet Edge server
	3. Supports multiple data formats (e.g. org.rcu、 pcap、 dcf、 DLF) for upload
	4. Saves log files based on test type
	5. Saves indoor test log files in the same path with that of building and floor
	6. Filters/sorts of log files based on upload time and status
	7. Uploads log files to FTP server through WiFi
	8. Supports data transmission through USB
	9. Uploads logfiles to FTP/Pilot Fleet Edge server for data storage with controller unit
GUI Display	1. Displays based on network technologies, events,or parameters
	2. Displays the status of every test device in real time
	3. Displays network parameters measured on everytest device in real time
	4. Displays the progress of loop test in real time
	5. Displays test statistics: success rate, time delay,speed in real time
	6. Supports test result statistics by file
	7. Displays Layer 3 messages
	8. Displays the current session count and thecompleted session count
	9. Displays test control button: Start Test, Start Call,Call Disconnect, etc.
	10. Display events including dropped call, blockedcall-in real time
	11. Displays GPS information such as longitude andlatitude
	12. Freezes the real-time test information screen on controller. After freezing, there is no real time update on the event and message information.
	13. Searches events based on keywords, and corresponding events will be displayed on the interface
	14. Customize test process tags during service tests

	15. Displays LTE CA parameters 16. Displays TDD LTE parameters 17. Displays 5G NR SA/ NSA parameters
Alarm	1. Network alarms 2. Device alarms 3. Audio alarms 4. Alarm with icons 5. Alarm with subtitle 6. Record and query of alarms log history
Hardware	1. Dual pluggable batteries ensure measurement stability and continuous power supply. 4 hours continuous test (8 hours with backup battery) 2. Dual fans on the bottom and large space vents on the top and front section of the backpack to enhancecooling. 3. using carbon fiber shell to increase heat dissipation and mobile phone placement with reduced interference. 4. using an original mobile phone fixed placement structure to stabilize the state of the mobile phone. 5. Using specific data cable (straight on one side and curved on the other) to reduce the space for movement and increase the service life of the wire harness. 6. The Pilot Walktour backpack is made from PP, PVC and 100% waterproof nylon to ensure excellent water resistance.

2.2 Supported Devices

Item	Devices
Tablet controller	➢ Samsung Galaxy Tab S7 ➢ Huawei Tablet C5 BZT4-AL10 ➢ Or an Android tablet the same size as the screen
Supported Terminals	**Hisilicon**： ➢ HUAWEI P40 ➢ HUAWEI P40 pro ➢ HAUWEI MATE40 ➢ HUAWEI MATE40 pro **Qualcomm**： ➢ Samsung Galaxy S24/S23/S22/S21 ➢ Xiaomi 14/14pro/13/13 Pro ➢ Xiaomi 12S ➢ Xiaomi Mix 4

3. Hardware Specification

Main Unit	
Model	Pilot Walktour Pack V4.8
Size	400*300*72mm
Weight	3.2kg
Material	Carbon Fiber
Color	Black
CPU	Intel 4 cores, 4 threads, processor basic frequency 2.00 GHz
GPS	SMB Interface
WiFi	2.4GHz, 5.8GHz
Storage	
Hard Drive	256G or Customized
Memory	4GB/8GB
Battery	
Charging Power	Max.70W off, 35W standard charge
Battery capacity	11.1V，6800mAh*2
Working capacity	4 hours~8 hours
Operating system	
System	Windows
Instruction	
Indicator light	Power LED, Charge LED, GPS LED, MODEM LED
Power light	4*LED
Interfaces	
Charging Interface	DC5525
Data Interface	8*TYPE C+6*TYPE A
LAN Interface	RJ45，Gigabit
Audio Interface	8*3.5mm
Other Info.	
Supply Voltage	DC12V~24V
Rated power	<70W
Work Temperature	-10°~+45°
Storage Temperature	-40°~+85°
Packing Detail	Main Unit*1; Backpack*1; GPS*1; AC DC Power Cable*1; Cigarette Lighter Cable*1

4. Backpack Specification

4.1 Standard backpack

Name	Pilot Walktour Pack Backpack 1.0	
Color	Black	
Fabrics	Front: PVC + PP Back: 100% Waterproof Nylon	
Size	43cm x 31cm x 12cm	
Water Proof	General water proofing	
Height	1.0kg	

4.2 Waterproof backpack

Name	Pilot Walktour Pack Backpack 2.0	
Color	Black	
Fabrics	Front: PVC +PP Back: 100% Waterproof Nylon Zip: Waterproof	
Water Proof	IPX 3	
Size	43cm x 31cm x 12cm	
Height	1.2kg	

- PVC (Polyvinyl Chloride) is a synthetic plastic polymer and is the primary waterproof material used in rain gear
- PP (Polypropylene) is waterproof because its molecules are so close together that water cannot pass between them .