RD98XS Series- Intelligent Super Repeater

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Today more than ever, we are facing many challenges and opportunities, no matter in public safety, public utilities or commercial industry.To help your organization stands out from competition, the instant communication improving working efficiency is always the key. Besides the two-way radios, Hytera provides RD98XS series repeaters to suit your needs for communication coverage, delivering reliable and high-performance services.

Highlights

Flexible Hardware Options
RD98XS series include 2 hardware options for different coverage needs, RD98XS with 50W transmit power output and RD98XS_100W with high-power amplifier. Both can provide reliable and outstanding performance

Analog Digital Auto Switch
RD98XS series repeaters can support mixed channel mode to detect receiving signal, then automatically switch between analog mode and digital mode. Offers an easy way to migrate to digital from analog.

IP Multi-site Connection

Multiple RD98XS series repeaters can be simply connected together by an IP network, both in analog and digital modes, providing a cost-effective solution for the users to deploy a large coverage communication network across multiple places

Addable Applications

Hytera offers multifarious applications to enrich functionality for RD98XS series repeaters. SmartDispatch or SmartOne fo dispatching, OTAP for remote programming terminals. Besides, open API can be provided for third party development.

High-efficiency Technology

Based on TDMA digital technology, one RD98XS series repeater can provide 2 voice channels simultaneously, double th capacity without extra frequency and facility, and simply help the users improve the efficiency.

Smart Network Management

Hytera delivers XNMS as the professional network management platform for RD98XS series repeaters. The XNMS can remotely monitor services, configure parameters, an export statistics report for network diagnosis.

SIP Phone Interconnection

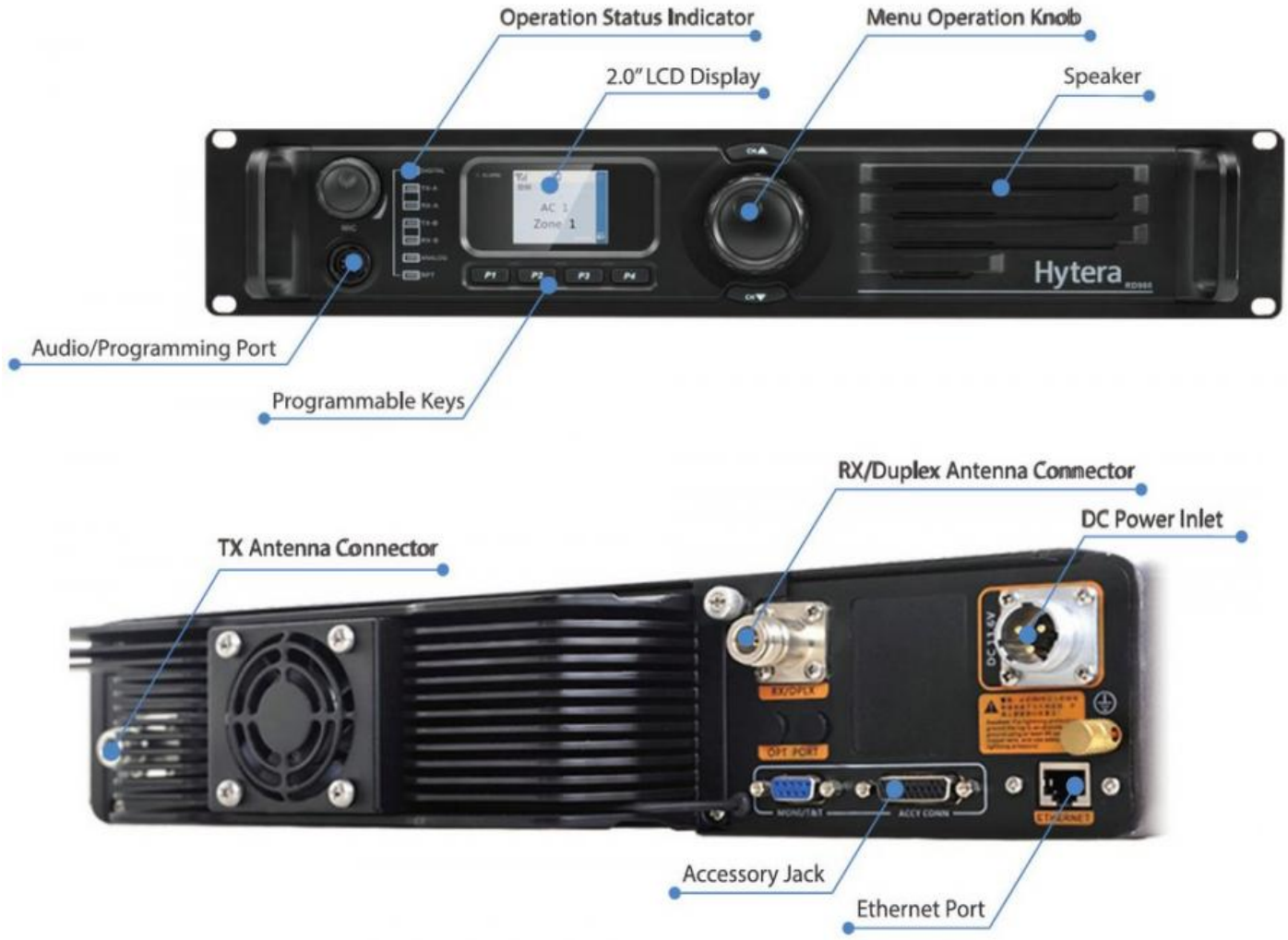
Based on SIP protocol standard, the RD98XS series repeaters can be connected with IPPBX to realize the real-time communications between the two-way radios and telephones, such as PSTN phones, VoIP phones and mobile phones.

Back To Back Solution

RD98XS series repeaters can realize cross-band and crosssystem communication in DMRTler 2 through Hytera Back to Back Solution. When connected to Hytera mobile radios, RD98XS series repeaters can also provide wireless connection between two systems when there is no IP link.

RD98XS 100W High Power Repeater

The RD98XS 100W is designed to maximum ensure your coverage needs, whether your workplace is inside the crowded cities or outside in the wilds, no matter it is a single building or multiple places across regions.The RD98XS 100W can he eliminate signal blind areas and enlarge the communication range, continuously providing you with reliable voice and data communication coverage. What's more, its compact structural design offers an easy way for installation.



RD98XS 100W Highlights

Wide Coverage

With 100W transmit power output, RD98XS_100W can dramatically enlarge your communication range, provide a huge area coverage while reducing your network investment. And the Ethernet port enables the access of IP network, which provides the capability for RD98XS_100W to connect everyone everywhere.

User Friendly

Thanks to the high-resolution display, programmable buttons and clear LED indicators, the RD98X series repeater is extremely easy to use, whether during ongoing operations, or during maintenance tasks.

Compact Design

Though integrated with the built-in high power amplifier, RD98XS_100W still remains the compact 2U height structural design, which is very easy and flexible to install in different cabinets, and reduces numerous concerns for installation.

High Cooling Capacity

The power amplifier can dissipate most generated heat with extraordinary efficiency. In addition, the integrated fan syster ensures stable and powerful operation.

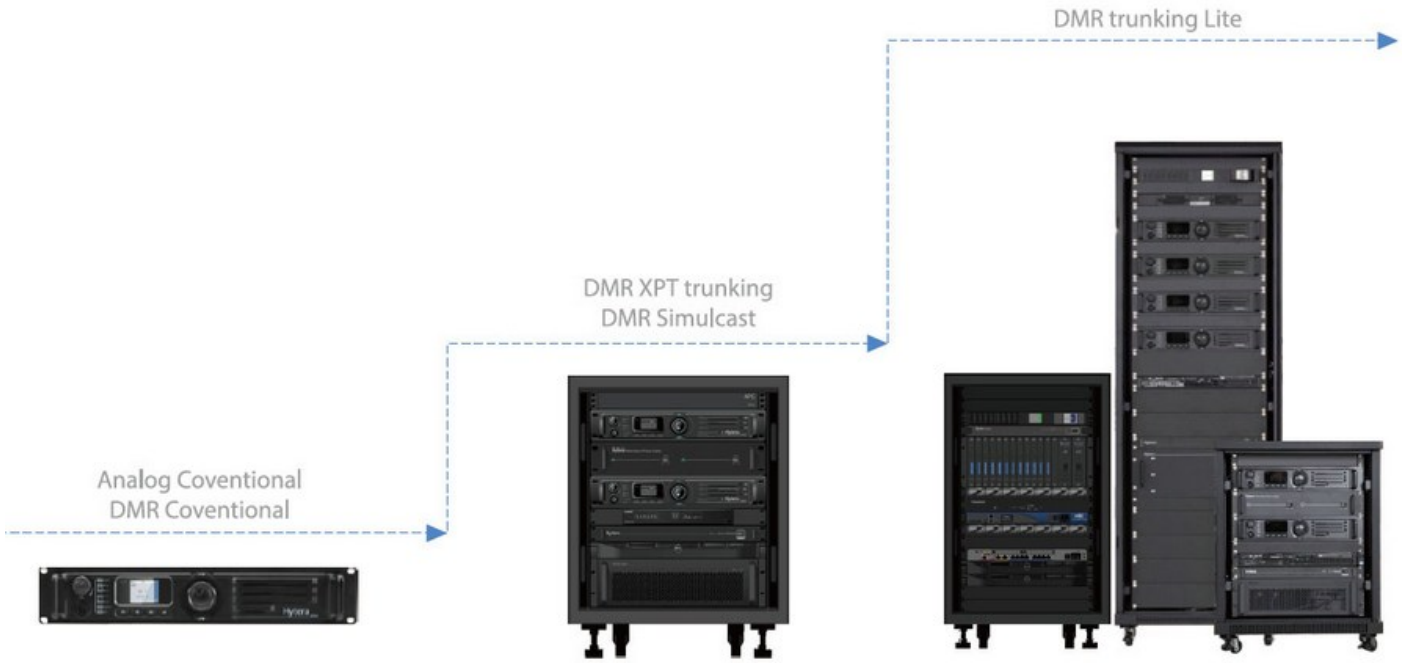
Smooth Migration With Your Business Growing

Your communication needs are always growing together with the business expansion. As the organization becomes large and larger with more and more employees, you are looking forward to upgrading for your communication system,

increasing capacity, and deploying more sites to ensure your working efficiency.

The RD98X series repeaters can be compatible with most Hytera system types: Analog Conventional ModefSingle and IP Multi-site Connection), DMR Conventional Mode, Hytera Extended Pseudo Trunking, DMR Simulcast System, DMRTrunking Lite. Whether you want to migrate from analog to digital, or switch to a large capacity trunking system, the RD98XS series repeaters can be unlocked with a chargeable license. Simple, Smooth, and Cost-effective.

Simple, Smooth, and Cost-effective



Hytera XPT System

Simple, Cost-effective, and Scalable

The XPT is a hugely cost-efficient, and easily expandable mobile radio solution from Hytera. Based on proven repeater technology, XPT can be developed as a distributed trunked radio system with increased capacity, and without controller node and dedicated control channel for demanding users.

Hytera Simulcast System

Wide Area Communications

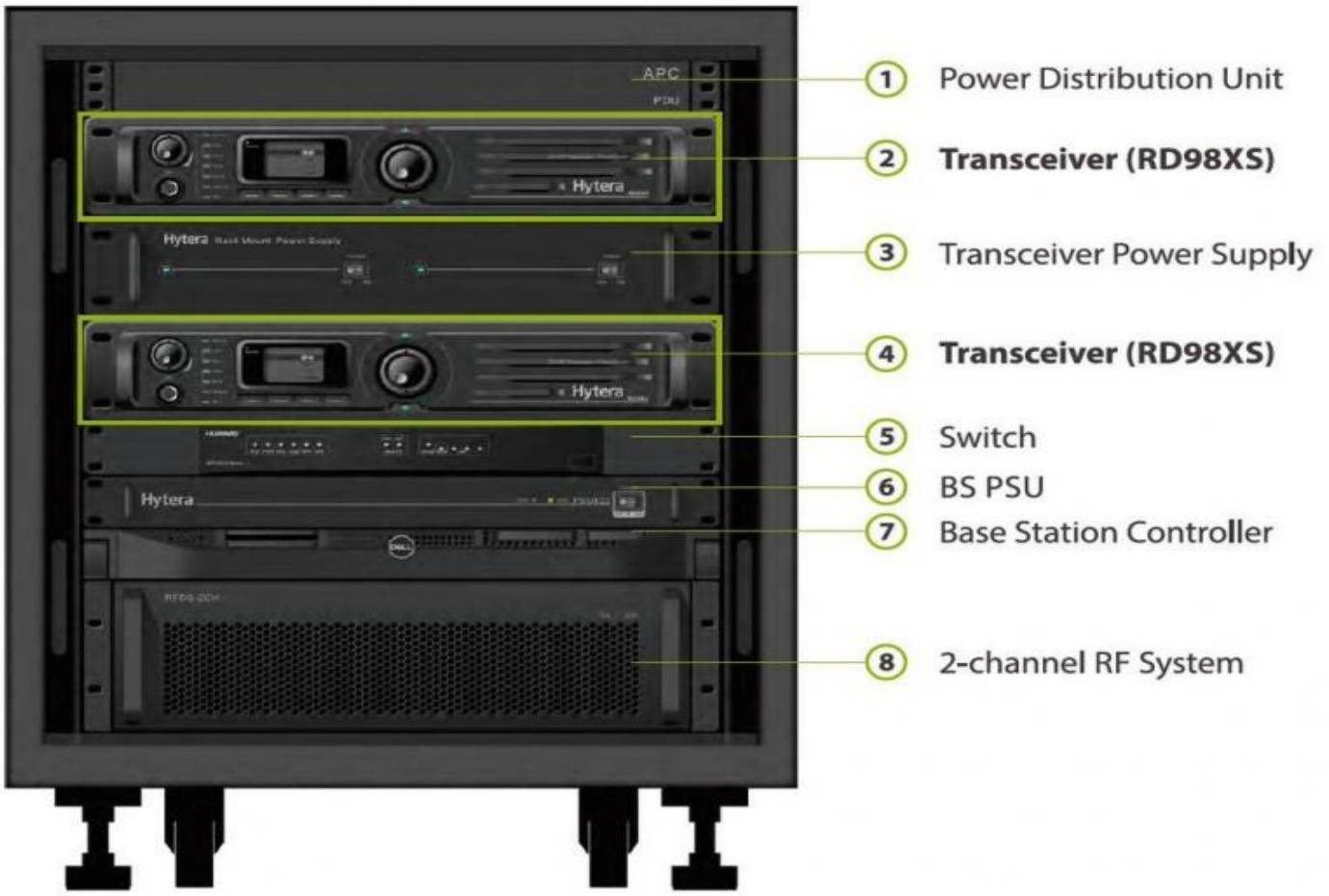
The Hytera DS-6310 Simulcast system is based on the open DMR Tier II standard. It broadcasts the same signal across multiple overlapping sites on the same frequency, simultaneously, which makes it possible to inexpensively expand large-area radio coverage with just one frequency pair.

DMR Trunking Lite

Sophisticated Communication Management

Based on the DMRTier III standard, a Hytera Trunking Lite(DS-6211) system can tackle high radio traffic, maximizing available capacity across dynamic user groups and challenging single or multi-site geographies, and delivering expansive feature set to ensure your current and future communications requirements.

Upgrade to DMR Trunking Transceiver



DMR trunking Lite 2 carrier BS

Open Standard

DMR Trunking Lite is based on DMR tier III standard, defined by ETSI in 2005, which is a digital radio standard for professional radio users. With dedicated control channel, DMR Trunking Lite can achieve versatile functions.

Smooth Migration

DMRTrunking Lite transceiver supports smooth migration from analog to digital, from conventional to trunking. Multi-mode provide you different choices for continual investment.

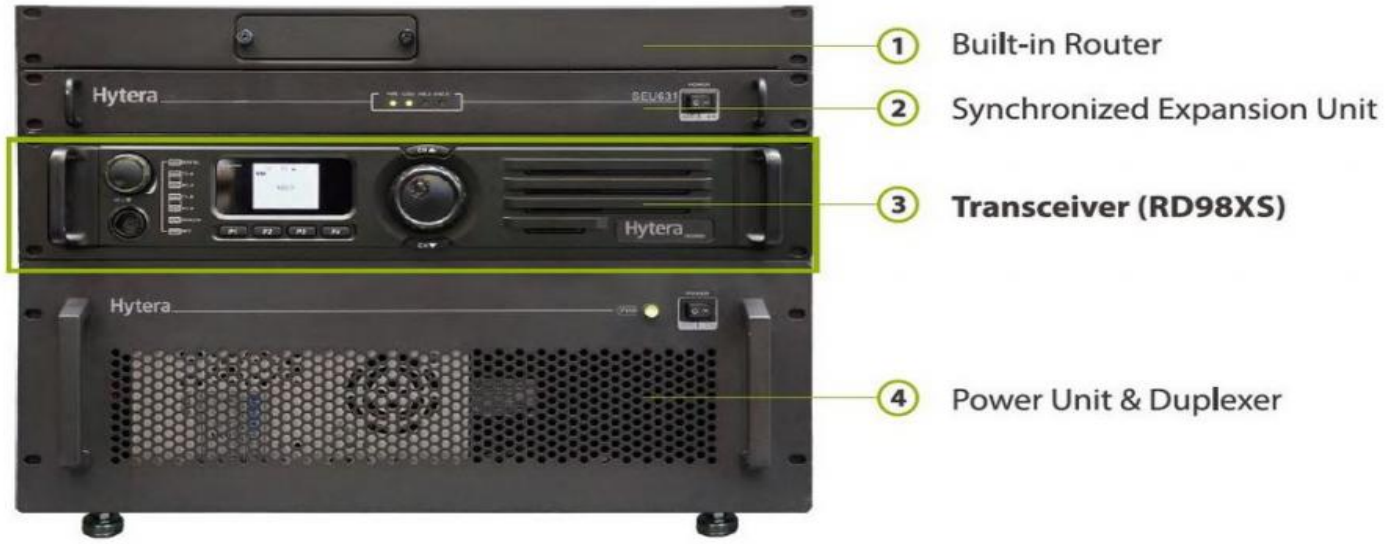
Integrated RF System

Intergrated 2-carrier RF system, significantly reduces the space and cost for divider, combiner and duplexer.

Non-centralilzed Structure Design

Non-centralized structure is only used for less than 5 base stations.
It will ensure a cost-effective and flexible networking especially suited to small scale networks.

Upgrade to DMR Simulcast Transceiver



DMR Simulcast Single Carrier BS

Smooth Roaming and Handover
In a simulcast system, the radio is capable of roaming and handover seamlessly between different BSs, the ongoing communication can continue normally during handover.

Dynamic Voting
Simulcast system can provide good voice performance in overlap area as radios in overlap area can always receive the best voice frame through dynamic voting. As a voting center, MSO is used to analyze each voice frame received from Base Stations in real time. The best voice frame will be extracted and sent to radios.

Analog/Digital Self-adaptive
Simulcast Base Station channels support working both in analog and digital mode, ensuring smooth migration from analo to digital network. Digital or analog mode is automatically selected based on the incoming signals.

Smart Subnetting and Patching
According to management requirements, DMR simulcast system can be divided into different subnets by Base Station or by time slot of channel unit in each Base Station. Each subnet can work as a independent simulcast system.
Different subnets can be patched to make a larger subnet temporarily according to the requirements.

Upgrade Features

Flexible application via software or hardware upgrade:

- ☑ Digital conventional repeater
- ☑ Digital simulcast transceiver
- ☑ DMR trunking transceiver
- ☑ Analog conventional repeater
- ☑ Analog simulcast transceiver
- ☑ MPT trunking transceiver

RD98XS Accessories

Standard Accessories

Optional Accessories

Power Cord (10A 12AWG) PWC11

Palm Microphone SM16A1

Desktop Microphone SM10A1

Build-in Duplexer Installation Kit (for DT11-DT17) BRK16

External Power Supply (300W, backup power applicable) PS22002

Bracket (2U)(black) BRK12

Bracket (2U)(grey) BRK14

10pin programming cable (USB) PC37

DB26 data cable (USB) PC40

Omni-directional Antenna

Palm Microphone (IP67) SM16A2

Back to Back Data Cable PC49

DT11: Duplexer(Frequency: 380-470MHz) (Frequency Spacing:10MHz)(Non-RoHS)
DT12: Duplexer(Frequency: 160-174MHz)(Tx/Rx Spacing:5MHz)(RoHS)
DT13: Duplexer(Frequency: 148-160MHz)(Tx/Rx Spacing:5MHz)(RoHS)
DT14: Duplexer(Frequency: 330-400MHz)(Tx/Rx Spacing:10MHz)(Non-RoHS)
DT15: Duplexer(Frequency: 136-148MHz)(Tx/Rx Spacing:5MHz)(RoHS)
DT16: Duplexer(Frequency: 440-480MHz)(Tx/Rx Spacing:5MHz)(RoHS)
DT17: Duplexer(Frequency: 480-512MHz)(Tx/Rx Spacing:5MHz)(RoHS)
DT23: Duplexer(Frequency: 136-174MHz)(Tx/Rx Spacing:4MHz)(Non-RoHS)

Duplexer

Pictures above are for reference only and may vary from actual products.

Applications

Specifications

General

Frequency Range		RD98XS: UHF1:400-470MHz; UHF2:450-520MHz; UHF3:350-400MHz; VHF: 136-174MHz RD98XS 100W; UHF1:400-470MHz
Channel Capacity		16
Channel Spacing		12.5kHz/20kHz/25kHz
Operating Voltage		RD98XS: 13.6V±15% RD98XS: 100W: 28 VDC
Current Drain	Standby	RD98XS: <1.0A RD98XS100W: <0.5A
	Transmit	RD98XS: <11A RD98XS 100W: <12.5A
Frequency Stability		± 0.5ppm
Antenna Impedance		50Ω
Duty Cycle		100%
Dimensions (H x W x D)		88 x 483 x 366 mm
Weight		8.5 kg
LCD Display		220 x 176 pixels, 262000 colors, 2.0 inch, 4 rows

Receiver

Sensitivity	Analog	0.28pV(12dB SINAD); 0.22pV (Typical)(1 2dB SINAD); 0.4pV(20dB SINAD)
	Digital	0.3pV/BER5%
Adjacent Channel Selectivity	TIA-603	65dB @ 12.5kHz; 70dB @ 20/25kHz
	ETSI	65dB @ 12.5kHz; 70dB @ 20/25kHz
Intermodulation	TIA-603	75dB @ 12.5/20/25kHz
	ETSI	70dB @ 12.5/20/25kHz
Spurious Response Rejection	TIA-603	80dB @ 12.5/20/25kHz
	ETSI	80dB @ 12.5/20/25kHz
Hum and Noise		40dB @ 12.5 kHz 43dB @ 20kHz 45dB @ 25kHz
Rated Audio Power Output		0.5W
Rated Audio Distortion		≤ 3%
Audio Response		+1 to -3dB
Conducted		<-57dBm

Spurious Emission	
Transmitter	
RF Power Output	RD98XS: 5-50W (adjustable) RD98XS100W; 5-100W (adjustable)
FM Modulation	11K0F3E @ 12.5kHz; 14K0F3E @ 20kHz; 16K0F3E @ 25kHz
4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD; 12.5kHz Data & Voice: 7K60FXW
Conducted/ Radiated Emission	-36dBm <1 GHz; -30dBm >1 GHz
Modulation Limiting	± 2.5kHz @ 12.5kHz; ± 4.0kHz @ 20kHz; ± 5.0kHz @ 25kHz
FM Hum & Noise	40dB @ 12.5kHz; 43dB @ 20kHz; 45dB @ 25kHz
Adjacent Channel Power	60dB @ 12.5kHz; 70dB @ 20/25kHz
Audio Response	+1 to -3dB
Audio Distortion	≤ 3%
Digital Vocoder Type	AMBE++, SELP, NVOC, COMM
Digital Protocol	ETSI-TS102 361-1,-2,-3
Environmental Specifications	
Operating Temperature	-30°C to +60°C
Storage Temperature	-40°C to +85°C