



REPEATER SOLUTION

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Home RF Repeater – LTE

SUMMARY OF FEATURES

- E-UTRA FDD Service
- Compact Size
- Easy Installation
- ALC Function
- Home Area
- **Can be Customized for TETRA, GSM**



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Can be Customized
Output Power	dBm	+10(DL/UL)	Can be Customized
Gain	dB	60	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Max Input Power	dBm	-20	
Gain Control Range	dB	30	1dB Step
AGC Range	dB	30	with Gain Control
Noise Figure	dB	7(UL)	
ACLR	dB	3GPP TS 36.104	
Unwanted Emission	dBm	3GPP TS 36.106	
Out of Band Gain	dB	3GPP TS 36.106	
Delay	uSec	5	
Input Voltage	VDC	5	AC/DC Adaptor, 100~264VAC, 47~63Hz
Function	-	Overpower Check Isolation Check Auto Gain Control	
LED	-	POWER ALC SHUTDOWN	

Indoor RF Repeater – LTE

SUMMARY OF FEATURES

- E-UTRA FDD Service
- Indoor RF Repeater
- Easy Installation
- ALC Function
- Optional Modem for NMS
- In-Building Area
- **Can be Customized for TETRA, GSM**



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Can be Customized
Output Power	dBm	+20(DL), +15(UL)	Can be Customized
Gain	dB	78	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Max Input Power	dBm	-28(DL), -33(UL)	
Gain Control	dB	30	1dB Step
AGC Range	dB	30	with Gain Control
Noise Figure	dB	7(UL)	
ACLR	dB	3GPP TS 36.104	
Unwanted Emission	dBm	3GPP TS 36.106	
Out of Band Gain	dB	3GPP TS 36.106	
Delay	uSec	5u	
Input Voltage	VAC	100~264	47~63Hz
Function	-	Overpower Check Isolation Check Auto Gain Control Local GUI Optional Web GUI Optional Modem for NMS	
LED	-	POWER ALC SHUTDOWN	

Outdoor RF Repeater – LTE

SUMMARY OF FEATURES

- E-UTRA FDD Service
- Outdoor RF Repeater
- Cabinet Type
- ALC Function
- Optional Modem for NMS
- Outdoor Shadow Area
- **Can be Customized for TETRA, GSM**



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Can be Customized
Output Power	dBm	+37(DL), +18(UL)	Can be Customized
Gain	dB	95	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Max Input Power	dBm	-28(DL), -47(UL)	
Gain Control	dB	30	1dB Step
AGC Range	dB	30	with Gain Control
Noise Figure	dB	7(UL)	
ACLR	dB	3GPP TS 36.104	
Unwanted Emission	dBm	3GPP TS 36.106	
Out of Band Gain	dB	3GPP TS 36.106	
Delay	uSec	5	
Input Voltage	VAC	100~264	47~63Hz
Function	-	Overpower Check Isolation Check Auto Gain Control Local GUI Optional Web GUI Optional Modem for NMS	
LED	-	POWER ALC SHUTDOWN	

Home RF Repeater – LTE + WCDMA

SUMMARY OF FEATURES

- E-UTRA FDD + UTRA FDD Service
- Compact Size
- Easy Installation
- ALC Function
- Home Area
- **Can be Customized for TETRA, GSM**



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA, UTRA Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Can be Customized
Output Power	dBm	+10(DL/UL)	Can be Customized
Gain	dB	60	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Max Input Power	dBm	-20	
Gain Control	dB	30	1dB Step
AGC Range	dB	30	with Gain Control
Noise Figure	dB	7(UL)	
ACLR	dB	3GPP TS36.104, 3GPP TS25.104	
Unwanted Emission	dBm	3GPP TS36.104, 3GPP TS25.106	
Out of Band Gain	dB	3GPP TS36.106, 3GPP TS25.106	
Delay	uSec	5	
Input Voltage	VDC	5	AC/DC Adaptor 100~264VAC, 47~63Hz
Function	-	Overpower Check Isolation Check Auto Gain Control	
LED	-	POWER ALC SHUTDOWN	

Indoor RF Repeater – LTE + WCDMA

SUMMARY OF FEATURES

- E-UTRA FDD + UTRA FDD Service
- Indoor RF Repeater
- Easy Installation
- ALC Function
- Optional Modem for NMS
- In-Building Area
- **Can be Customized for TETRA, GSM**



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA, UTRA Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Can be Customized
Output Power	dBm	+20(DL), +15(UL)	Can be Customized
Gain	dB	78	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Max Input Power	dBm	-28(DL), -33(UL)	
Gain Control	dB	30	1dB Step
AGC Range	dB	30	with Gain Control
Noise Figure	dB	7(UL)	
ACLR	dB	3GPP TS36.104, 3GPP TS25.104	
Unwanted Emission	dBm	3GPP TS36.104, 3GPP TS25.106	
Out of Band Gain	dB	3GPP TS36.106, 3GPP TS25.106	
Delay	uSec	5	
Input Voltage	VAC	100~264	47~63Hz
Function	-	Overpower Check Isolation Check Auto Gain Control Local GUI Optional Web GUI Optional Modem for NMS	
LED	-	POWER ALC SHUTDOWN	

Outdoor RF Repeater – LTE + WCDMA

SUMMARY OF FEATURES

- E-UTRA FDD + UTRA FDD Service
- Outdoor RF Repeater
- Cabinet Type
- ALC Function
- Optional Modem for NMS
- Outdoor Shadow Area
- **Can be Customized for TETRA, GSM**



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA, UTRA Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Can be Customized
Output Power	dBm	+37(DL), +18(UL)	Can be Customized
Gain	dB	95	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Max Input Power	dBm	-28(DL), -47(UL)	
Gain Control	dB	30	1dB Step
AGC Range	dB	30	with Gain Control
Noise Figure	dB	7(UL)	
ACLR	dB	3GPP TS36.104, 3GPP TS25.104	
Unwanted Emission	dBm	3GPP TS36.104, 3GPP TS25.106	
Out of Band Gain	dB	3GPP TS36.106, 3GPP TS25.106	
Delay	uSec	5	
Input Voltage	VAC	100~264	47~63Hz
Function	-	Overpower Check Isolation Check Auto Gain Control Local GUI Optional Web GUI Optional Modem for NMS	
LED	-	POWER ALC SHUTDOWN	

Home ICS Repeater – LTE

SUMMARY OF FEATURES

- E-UTRA FDD
- Home ICS Repeater
- Easy Installation
- Home Area



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Any 20MHz BW
Output Power	dBm	+13(DL/UL)	Can be Customized
Gain	dB	70	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Gain Control	dB	25	1dB Step
AGC Range	dB	25	with Gain Control
Noise Figure	dB	7(UL)	
ACLR	dB	3GPP TS36.104	
Unwanted Emission	dBm	3GPP TS36.106	
Out of Band Gain	dB	3GPP TS36.106	
Input Sensitivity	dBm	-95	
Embedded Antenna	dBi	7±1dB	Service Antenna
Power Source	VDC	6(4A)	AC/DC Adaptor, 100~264VAC, 47~63Hz
Direct Feedback	dB	-15	Desired/Undesired Ratio
Cancellation Window Size	uSec	1	
LED	-	POWER Alarm Input Level Isolation Level	

Indoor ICS Repeater – LTE

SUMMARY OF FEATURES

- E-UTRA FDD Service
- Indoor ICS Repeater
- Easy Installation
- ALC Function
- Optional Modem for NMS
- In-Building Area



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA, Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Any 20MHz BW
Output Power	dBm	+20(DL), +13(UL)	Can be Customized
Gain	dB	75(DL), 70(UL)	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Max Input Power	dBm	-30(DL), -32(UL)	
Gain Control	dB	25	1dB Step
AGC Range	dB	30	with Gain Control
Noise Figure	dB	8(UL)	
ACLR	dB	3GPP TS36.104	
Unwanted Emission	dBm	3GPP TS36.106	
Out of Band Gain	dB	3GPP TS36.106	
Delay	uSec	5	
Input Voltage	VAC	100~264	47~63Hz
Direct Feedback	dB	-15.	Desired/Undesired Ratio
Cancellation Feedback Signal Number	-	5	
Cancellation Window Size	uSec	1.5	
LED	-	POWER Alarm Input Level Isolation Level	

DAS(Digital Distributed ANT System)- LTE

SUMMARY OF FEATURES

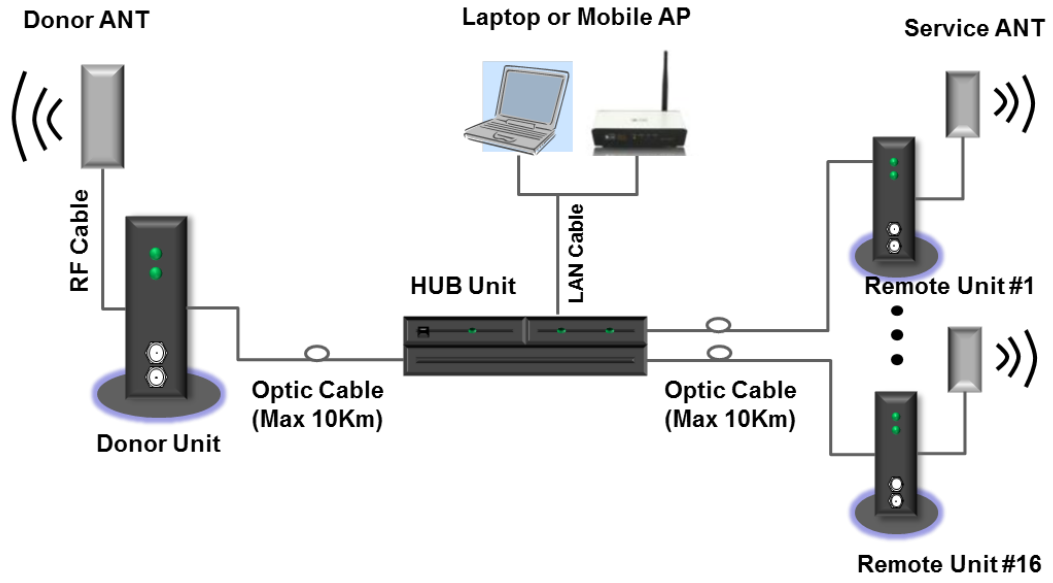
- E-UTRA FDD Service
- Digital Optic
- Max 10Km Link Distance
- Max 16 Remote Units/Donor
- In-Building Area
- **Can be Customized for Inquiry**



SPECIFICATION

Parameter	Unit	Specification	Remark
Frequency Range	MHz	E-UTRA, Operating Band	Refer to Page 12
Operating Bandwidth	MHz	20	Any 20MHz BW
Output Power	dBm	+20(DL), +10(UL)	Can be Customized
Gain	dB	40~80	Can be Customized
Gain Flatness	dB	3	Peak to Peak
Max Input Power	dBm	-30(DL), -60(UL)	
Gain Control	dB	30(Donor), 10(Remote)	
Noise Figure	dB	7(UL)	
ACLR	dB	3GPP TS36.104	
Unwanted Emission	dBm	3GPP TS36.106	
Delay	uSec	10	
Tx-Rx Isolation	dB	100	
Optic Wavelength	nm	1310	
Link Distance of Fiber	Km	10	
Input Voltage	VAC	100~264	47~63Hz
Connector	-	Ant. Port: N(f) Coupling: SMA(f) Optic: FC/APC	

CONFIGURATION



UTRA, E-UTRA Operating Frequency Band

UTRA OPERATING FREQUENCY BAND

Band	Uplink	Downlink
1	1 920 - 1 980 MHz	2 110 - 2 170 MHz
2	1 850 - 1 910 MHz	1 930 - 1 990 MHz
3	1 710 - 1 785 MHz	1 805 - 1 880 MHz
4	1 710 - 1 755 MHz	2 110 - 2 155 MHz
5	824 - 849MHz	869 - 894MHz
6	830 - 840 MHz	875 - 885 MHz
7	2 500 - 2 570 MHz	2 620 - 2 690 MHz
8	880 - 915 MHz	925 - 960 MHz
9	1 749,9 - 1 784,9 MHz	1 844,9 - 1 879,9 MHz
10	1 710 - 1 770 MHz	2 110 - 2 170 MHz
11	1427.9 - 1447.9 MHz	1475.9 - 1495.9 MHz
12	699 - 716 MHz	729 - 746 MHz
13	777 - 787 MHz	746 - 756 MHz
14	788 - 798 MHz	758 - 768 MHz
19	830 – 845 MHz	875 – 890 MHz
20	832 – 862 MHz	791 – 821 MHz
21	1447.9 - 1462.9 MHz	1495.9 - 1510.9 MHz
22	3410 – 3490 MHz	3510 – 3590 MHz
23	1850 -1915 MHz	1930 -1995 MHz

E-UTRA OPERATING FREQUENCY BAND

Band	Uplink	Downlink
1	1920 MHz –1980 MHz	2110 MHz–2170 MHz
2	1850 MHz–1910 MHz	1930 MHz –1990 MHz
3	1710 MHz–1785 MHz	1805 MHz–1880 MHz
4	1710 MHz–1755 MHz	2110 MHz–2155 MHz
5	824 MHz–849 MHz	869 MHz–894MHz
6	830 MHz–840 MHz	875 MHz–885 MHz
7	2500 MHz–2570 MHz	2620 MHz–2690 MHz
8	880 MHz–915 MHz	925 MHz–960 MHz
9	1749.9 MHz–1784.9 MHz	1844.9 MHz–1879.9 MHz
10	1710 MHz–1770 MHz	2110 MHz–2170 MHz
11	1427.9 MHz–1447.9 MHz	1475.9 MHz–1495.9 MHz
12	699 MHz–716 MHz	729 MHz–746 MHz
13	777 MHz–787 MHz	746 MHz–756 MHz
14	788 MHz–798 MHz	758 MHz–768 MHz
17	704 MHz–716 MHz	734 MHz–746 MHz
18	815 MHz–830 MHz	860 MHz–875 MHz
19	830 MHz–845 MHz	875 MHz–890 MHz
20	832 MHz–862 MHz	791 MHz–821 MHz
21	1447.9 MHz–1462.9 MHz	1495.9 MHz–1510.9 MHz
22	3410 MHz–3490 MHz	3510 MHz–3590 MHz
23	2000 MHz–2020 MHz	2180 MHz–2200 MHz
24	1626.5 MHz–1660.5 MHz	1525 MHz–1559 MHz
25	1850 MHz–1915 MHz	1930 MHz–1995 MHz
26	814 MHz–849 MHz	859 MHz–894 MHz
27	807 MHz–824 MHz	852 MHz–869 MHz
28	703 MHz–748 MHz	758 MHz–803 MHz
29	N/A	717 MHz–728 MHz