

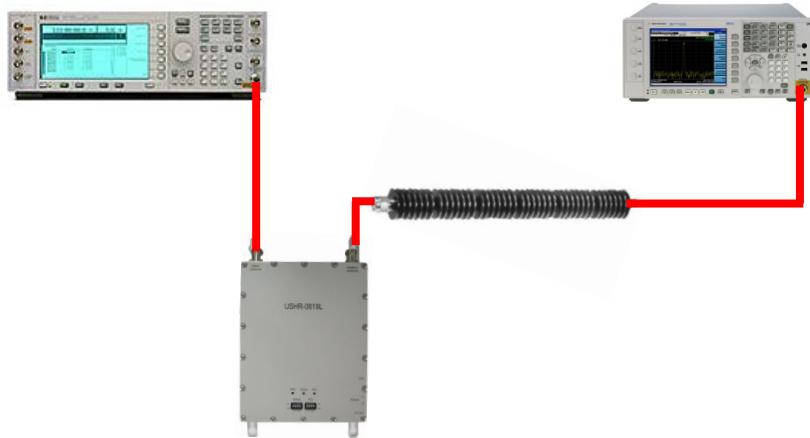
## Tune-up Procedure

### 1. Test equipment & Accessory

No	Equipment	Model Name	Manufacturer
1	Signal Generator	E4437B	Agilent
2	Spectrum Analyzer	N9020A	Agilent
3	Network Analyzer	ZVA 24	R&S
4	Attenuator	66-30-33	Weinschel

### 2. Cable

No	Cable Number	Type	Length
1	RAPA-C09	N type – N type	1 m
2	RAPA-C10	N type – N type	1 m



### 3. Test Configuration for USHR-0819L

Link	Band	Max. Gain	Min. Input Power	Output Power
Down Link	Cellular	65 dB	-53 dBm	+12 dBm
	PCS			
Up Link	Cellular	65 dB	-50 dBm	+15 dBm
	PCS			

### 4. Specification of EUT by Manufacturer

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2012.08.09	1/4	1.0
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Subject : USHR-0819L		

# SPECIFICATION SHEET

Model Name: USHR-0819L



ACE TECHNOLOGIES

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Revised date	Description	Remarks
2012.08.09	Initial version	

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2012.08.09	3/4	1.0	
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## 1. Electrical Specification

Item		Specifications		Note	
Frequency Range	Down Link	1930 ~ 1990 MHz		PCS1900 BW: 60MHz	
	Up Link	1850 ~ 1910 MHz			
	Down Link	869 ~ 894 MHz		Cellular800 BW: 25 MHz	
	Up Link	824 ~ 849 MHz			
Modulation Type		GSM, EDGE, CDMA, WCDMA			
Input Power		-28dBm max			
Output Power	Down Link	+12dBm		PCS1900	
	Up Link	+15dBm			
	Down Link	+12dBm		Cellular800	
	Up Link	+15dBm			
Gain	Down Link	65dB ( $\pm 1.0$ dB)		PCS1900, Average Gain on 60MHz BW	
	Up Link	65dB ( $\pm 1.0$ dB)			
	Down Link	65dB ( $\pm 1.0$ dB)		Cellular800, Average Gain on 25MHz BW	
	Up Link	65dB ( $\pm 1.0$ dB)			
Gain Control Range		25dB		could be changed Dip switch or GUI	
Ripple		< 6.5dB		PCS1900	
		< 4.5dB		Cellular800	
Noise Figure		< 6dB typical		PCS1900 Uplink Max Gain	
		< 5dB typical		Cellular800 Uplink Max Gain	
Propagation Delay		5us max		PCS1900/ Cellular800	
VSWR		$\leq 1.8 : 1$		PCS1900/ Cellular800	
ALC Level	Down Link	+12dBm ( $\pm 1$ dB)		PCS1900/ Cellular800	
	Up Link	+15dBm ( $\pm 1$ dB)		PCS1900/ Cellular800	
Shutdown Level	Down Link	+14dBm ( $\pm 1$ dB)		PCS1900/ Cellular800	
	Up Link	+17dBm ( $\pm 1$ dB)		PCS1900/ Cellular800	
Spectrum Mask		$\pm 750$ KHz	-45dBc/30kHz	Note1. Downlink CDMA 9CH Signal Note2. Uplink CDMA Reverse Signal	
		$\pm 1.98$ MHz	-50dBc/30kHz		
Spurious		9 ~ 150kHz	-13dBm/30kHz		
		150kHz ~ 30MHz	-13dBm/30kHz		
		30MHz ~ 1GHz	-13dBm/30kHz		
		1GHz ~ 12.75GHz	-13dBm/30kHz		
Frequency Stability		$\leq \pm 0.01$ ppm		PCS1900/ Cellular800	
GUI Interface		RS-232C			
Alarm & Status	Display	PWR	Normal : Green, Pwr turn off : Off		
		Cellular	Normal : Green, Shutdown : Off, Checking SD : Red		
		PCS	Normal : Green, Shutdown : Off, Checking SD : Red		
Power Consumption		5.6Vdc / 1.7A			
Input Voltage		DC 5.6Vdc / 2.5A		AC/DC Adapter	
RF Connector		N-type Female			

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## 2. Mechanical Specification

Item	Specifications	Note
Dimensions (L x W x H)	151mm x 191mm x 35mm (5.95 x 7.5 x 1.38 inch)	
Weight	2Kg	

## 3. Environmental Specification

Item	Specifications	Note
Temperature	-30 ~ 55°C (-22 ~ 131°F)	
Humidity	10 ~ 95%	

## 4. Operating Functions

This product has below serious functions.

- a. First function is ALC. ALC is an abbreviation for automatic level control. This function limit output power level that is changed by input signals.
- c. Third function is shutdown. This function is for protecting the booster. The booster would operate ALC function if input signal would be stronger signal then normal one. But if input signal would be over ALC range, Shutdown function will operation in this time.
- d. Fifth function is LED indicating status for booster got normal or abnormal.
- e. Sixth function is RS-232C. This function offers you to interface GUI. Therefore, User can set parameters of booster as interconnecting between laptop computer and booster.