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Common Interface Unit E7770A



Definitions and Conditions

The Common Interface Unit (CIU) will meet its specifications when:

- The CIU is within its calibration cycle
- The CIU has been stored at an ambient temperature within the allowed operating range for at least two hours before being turned on; if it had previously been stored at a temperature range inside the allowed storage range, but outside the allowed operating range
- The CIU has been turned on for at least 30 minutes

Specification

Specifications describe the performance parameters covered by the product warranty and are valid from 20 to 30 °C unless otherwise noted.

Typical

Typical describes additional product performance information that is not covered by the product warranty. It is performance beyond specifications that 95 percent of the units exhibit with a 95 percent confidence level. This data, shown in italics, does not include measurement uncertainty, and is valid only at room temperature, 23 °C.

Nominal

Nominal values indicate expected performance or describe product performance that is useful in the application of the product but are not covered by the product warranty.

KEYSIGHT TECHNOLOGIES

Unit Specifications

Frequency and Time	
Operating frequency range Option E7770A-HB1 Option E7770A-HB2 Option E7770A-HC1 Option E7770A-LA1/LD1 Option E7770A-LA2/LD2	 6-12 GHz (400 MHz Channel BW), Nominal 7.7-14.3 GHz (1.4 GHz Channel BW), Nominal 6-12 GHz (400 MHz Channel BW for VXT WLAN), Nominal 6-13.5 GHz 6-18.5 GHz, Nominal
Frequency setting resolution	1 Hz, analogue resolution
Frequency accuracy	See Time-base specifications
Channel Bandwidth Option E7770A-HB1/HC1 Option E7770A-HB2 Option E7770A-LA1/LA2/LD1/LD2	 800 MHz (max) (Fc = 6—8.6 GHz and 9—12 GHz), Nominal 1400 MHz (max) (Fc = 7.7—14.3 GHz), Nominal Not Applicable
Amplitude and Range	
Channel Power Output Option E7770A-HB1/HC1 Option E7770A-HB2 Option E7770A-LA1/LA2 Option E7770A-LD1/LD2	When driven by Keysight Network/Channel Emulator 0 dBm to noise floor (15 dB Crest Factor), Nominal -10 dBm to noise floor (15 dB Crest Factor), Nominal -5 dBm, Typical 0 dBm, Typical
Tx Gain level accuracy Option E7770A-HB1 Option E7770A-HB2/HC1	 ≤ ±*1.5 dB (@ 25 °C) Typical,* ≤ ± 2.5 dB (for 25 °C ± 5 °C) ≤ ±*1.5 dB (@ 25 °C) Typical,* ≤ ± 2.5 dB (for 25 °C ± 5 °C), Nominal
Rx Gain level accuracy Option E7770A-HB1 Option E7770A-HB2/HC1	 ≤ ±*1.5 dB (@ 25 °C) Typical,* ≤ ± 2.5 dB (for 25 °C ± 5 °C) ≤ ±*1.5 dB (@ 25 °C) Typical,* ≤ ± 2.5 dB (for 25 °C ± 5 °C), Nominal
LO level accuracy Option E7770A-LA1 Option E7770A-LA2	 ≤ ±*3 dB (@ 25 °C) Typical,* ≤ ± 4.5 dB (for 25 °C ± 5 °C) ≤ ±*3 dB (@ 25 °C) Typical,* ≤ ± 4.5 dB (for 25 °C ± 5 °C), Nominal
Maximum forward/reverse power (Operating) DUT IF In/Out ports, front panel IF In ports, front panel DUT IF OUT/HEAD OUT	 +18 dBm CW power, Nominal +18 dBm CW power, Nominal +18 dBm CW power, Nominal
Maximum forward/reverse power (Damage) DUT IF In/Out ports, front panel IF In ports, front panel DUT IF OUT/HEAD OUT	 +21 dBm CW power, Nominal +21 dBm CW power, Nominal +21 dBm CW power, Nominal

Loadout configurations

Configuration No.	Configuration Description	Channel Card A	Channel Card B	Channel Card C	Channel Card D	LO Source	LO Distribution	Channel Slot Blocker
1	2 Head[1]/DUT- IF Support	1[2]	-	-	-	1	1	3
2	4 Head/DUT- IF Support	1[2]	1[2]	-	-	1	1	2
3	6 Head/DUT – IF Support	1[2]	1[2]	1[2]	-	1	1	1
4	8 Head/DUT- IF Support	1[2]	1[2]	1[2]	1[2]	1	1	-
5[3]	1Head/DUT- IF Support (Duplex Frequency) Support	1	X	X	X	1	1	X
6	Two LO Source Card configuration used with EXM Test System	1	1	1	1	2	-	-

[1] M1740A Remote Radio Head supported.

[2] Channel card type can be either E7770A-HA1, E7770A-HB1, E7770A-HB2 or E7770A-HC1.

[3] Number of Channel modules and slot blockers dependent on customer channel requirement.

Unit Specifications (continued)

Input Power Requirements	
Voltage and frequency	100/120/220/240 VAC, 50/60 Hz
Power consumption (Fully loaded configuration)	600 W max
Additional Specifications	
Dimensions (H x W x L) Without feet and handles With feet and handles	 132.5 mm x 445 mm x 382 mm 145.6 mm x 449 mm x 424 mm
Weight Fully loaded configuration	 25 Kg
Operating temperature	+10 to +40 °C, 30 g/m³ absolute humidity, 5 to 85% non-condensing relative humidity
Storage temperature	-40 to +70 °C, 50 g/m³ absolute humidity, 5 to 85% non-condensing relative humidity
Forced airflow direction	Left to Right
Altitude	Up to 2000 m
EMC	Complies with European EMC Directive 2004/108/EC IEC/EN 61326-1 CISPR Pub 11 Group 1, class A AS/NZS CISPR 11 ICES/NMB-001 This ISM device complies with Canadian ICES-001. Cet appareil ISM est conforme a la norme NMB-001 du Canada. South Korean Class A EMC declaration: This equipment is Class A suitable for professional use and is for use in electromagnetic environments outside of the home. A급 기기 (업무용 방송통신기 자재) 이기기는 업무용(A급) 전자파 적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
Mechanical resistance	EN60068-2-6, EN60068-2-27, EN60068-2-64
RoHS compliant	
Safety	Complies with European Low Voltage Directive 2006/95/EC IEC/EN 61010-1, 3rd edition Canada: CAN/CSA C22.2 No. 61010-1012 USA: UL std no. 61010-1, 3rd Edition Acoustic statement (European Machinery Directive 2002/42/EC, 1.7.4.2u) Acoustic noise emission, LpA <70 dB, Operator position, Normal operation mode, Per ISO 7779

Unit Specifications (continued)

Front panel

Connector Name	Number / Card	Connector	Description
IF Out A	1x per channel card	N type	UL IF output channel A (into Network Emulator)
IF Out B	1x per channel card	N type	UL IF output channel B (into Network Emulator)
DUT IF In/Out A	1x per channel card	SMA	IN/OUT connection channel A for testing a DUT with a high IF
DUT IF In/Out B	1x per channel card	SMA	IN/OUT connection channel B for testing a DUT with a high IF
IF In A	1x per channel card	N type	DL IF input channel A (from Network Emulator)
IF In B	1x per channel card	N type	DL IF input channel B (from Network Emulator)
LO In	1x per channel card	SMA	Local oscillator input for the channel card
10 MHz In	1x per LO card	BNC	10 MHz Reference in
LO Out	1x per LO card	SMA	Local oscillator output 1
LO Aux Out	1x per LO card	SMA	Local oscillator (auxiliary) output 2
Ref Out	1x per LO card	SMA	Not used by customer
Clk In	1x per LO card	SMA	Not used by customer
LO In	1x per LO Distribution Card	SMA	Local oscillator input
LO Out 1	1x per LO Distribution Card	SMA	Local oscillator output 1
LO Out 2	1x per LO Distribution Card	SMA	Local oscillator output 2
LO Out 3	1x per LO Distribution Card	SMA	Local oscillator output 3
LO Out 4	1x per LO Distribution Card	SMA	Local oscillator output 4
LO Aux In	1x per LO Distribution Card	SMA	Local oscillator auxiliary input
LO Aux 1	1x per LO Distribution Card	SMA	Local oscillator auxiliary output 1
LO Aux 2	1x per LO Distribution Card	SMA	Local oscillator auxiliary output 2
LO Aux 3	1x per LO Distribution Card	SMA	Local oscillator auxiliary output 3
LO Aux 4	1x per LO Distribution Card	SMA	Local oscillator auxiliary output 4
LO In 2	1x per LO Distribution Card	SMA	Local oscillator auxiliary input 2

Rear panel

Connector Name	Number / Card	Connector	Description
DUT IF OUT/ HEAD OUT	2x per channel card	N type	Output port for connecting to DUT for High IF testing OR Output for connecting to a mmWave head IF input A and B channels for each card
LO/ CTRL/ PWR	2x per channel card	TNC	Local oscillator, control and power for a mmWave head
DUT IF IN/ HEAD IN	2x per channel card	N type	Input port for connecting to DUT for High IF testing OR Input for connecting to a mmWave head IF output A and B channels for each card
CTRL 1	1x on controller card	Micro HDMI	Provision for future usage
CTRL 2	1x on controller card	Micro HDMI	Provision for future usage
	1x on controller card	USB 2	Service port.
TRIG 1	1x on controller card	BNC	Configurable trigger
TRIG 2	1x on controller card	BNC	Configurable trigger
TRIG 3	1x on controller card	BNC	Configurable trigger
TRIG 4	1x on controller card	BNC	Configurable trigger

Unit Specifications (continued)

Time Base	
The CIU requires the following external 10MHz frequency reference	
Maximum frequency drift	± 50 ppb/2 years
Warm-up time	30 min
External Clock Time Reference	
Connector type	BNC connector 10 MHz In, front panel
Frequency	
Sine wave	10 MHz
Square wave (greater than 40% ON duty cycle)	10 MHz
Input range	-10 dBm to +20 dBm (0.2—6.32Vpp), Nominal
Impedance	50 Ω, Nominal
Calibration	
Recommended calibration cycle	One year

Edition 2

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