



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0555

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Cisco Systems Inc.

Manufacturer's Technical Representative: Marc Mantelli

Mailing Address: 170 West Tasman Drive, San Jose, CA 95134

Telephone: (408) 526-7175 Email: mmantelli@cisco.com

Product Information

Product Name: Internal Communication Servers and Routers

Product Type: Servers & Routers

Product Model Number: NEXUS 9504, CATALYST 6807/3650/9300/9400/9500/9600, FIREPOWER 4120/4140, ASR 1002

General Description: Rack mounted networking switches, routers, and firewalls.

Mounting Description: Rigid, Mounted within a Floor Mounted Rack

Tested Seismic Enhancements: None

Applicant Information

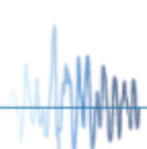
Applicant Company Name: Manwill Engineering LLC

Contact Person: Derek Manwill

Mailing Address: PO Box 1194, Bend, OR 97709

Telephone: (541) 241-2102 Email: derek@manwillSE.com

Title: President





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FACILITIES DEVELOPMENT DIVISION**

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

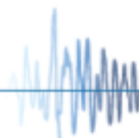
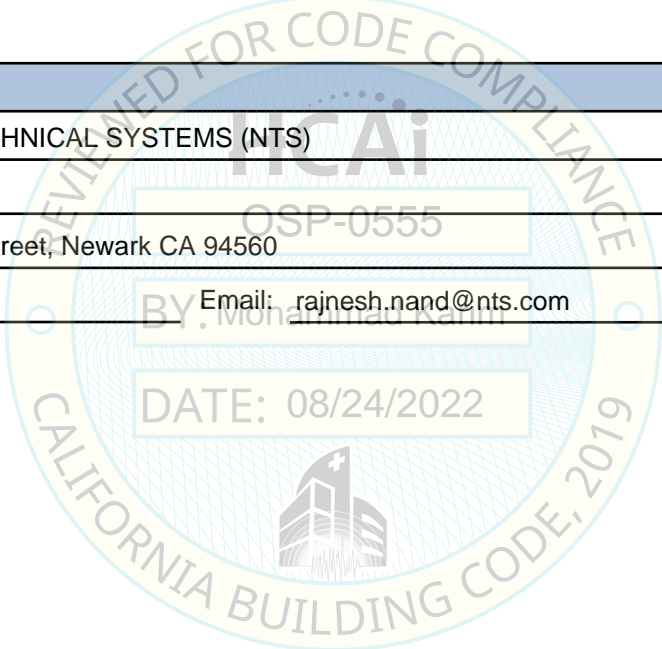
Company Name: MANWILL ENGINEERING LLC
Name: Derek Manwill California License Number: S6266
Mailing Address: PO Box 1194, Bend, OR 97709
Telephone: (541) 241-2102 Email: derek@manwillse.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: NATIONAL TECHNICAL SYSTEMS (NTS)
Contact Person: Rajnish Nand
Mailing Address: 38995 Cherry Street, Newark CA 94560
Telephone: (510) 578-3500 Email: rajnish.nand@nts.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.44 (SDS=2.00, z/h=1), 1.13 (SDS=2.50, z/h=0)

SDS (Design spectral response acceleration at short period, g) = 2.00 (z/h=1), 2.50 (z/h=0)

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

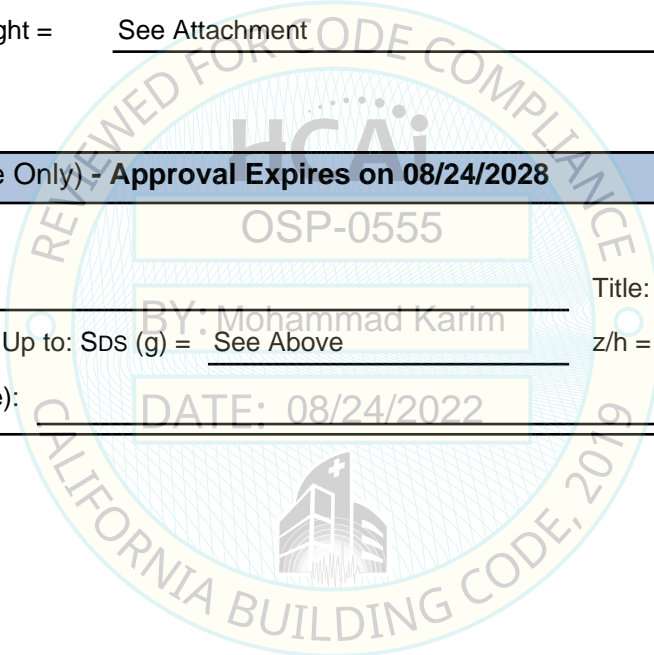
HCAI Approval (For Office Use Only) - Approval Expires on 08/24/2028

Date: 8/24/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = See Above

Condition of Approval (if applicable): DATE: 08/24/2022



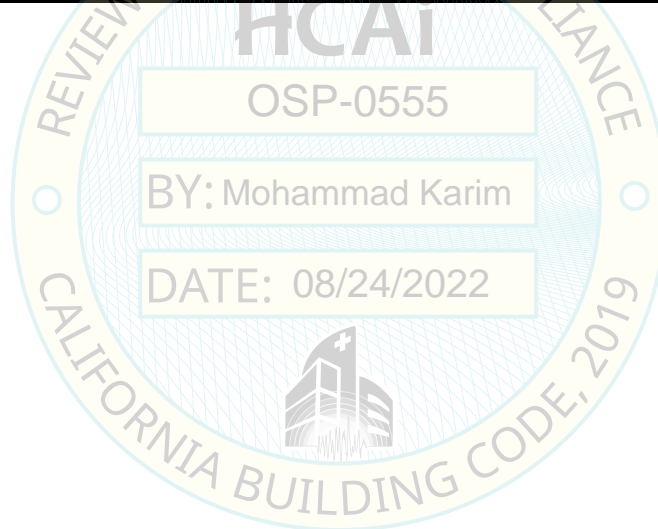
ATTACHMENT 1: CERTIFIED COMPONENTS

SPECIAL SEISMIC CERTIFICATION

TABLE 1

DOCUMENT NO.: 20122CR1.0

MANUFACTURER: CISCO SYSTEMS INC.						
PRODUCT FAMILY: NEXUS 9504, CATALYST 6807/3650/9300/9400/9500/9600, FIREPOWER 4120/4140, ASR 1002						
MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Nexus 9504 Custom Rack Configuration						
Nexus 9504 Custom	36.0	24.0	84.0	944	Wt. incl. rack, vert. C.G.=37.0in	UUT 1
Catalyst 9000 Custom Rack Configuration						
Catalyst 9000 Custom	36.0	24.0	84.0	791	Wt. incl. rack, vert. C.G.=41.6in	UUT 2
Catalyst 9600 Custom Rack Configuration						
Catalyst 9600 Custom	36.0	24.0	84.0	789	Wt. incl. rack, vert. C.G.=43.5in	UUT 3
MOUNTING:	Rigid floor mounted within Telect DR1250-84436 rack. Use identical rack with a C.G. ≤ the listed C.G. above.			SEISMIC LEVELS:	$S_{DS} = 2.0g$ for $z/h = 1$ $S_{DS} = 2.5g$ for $z/h = 0$ $I_p = 1.5$	
NOTES:	Product Construction: Carbon steel rack. Frame only, doors and panels are not certified. Options/Subcomponents: Rack may contain any combination of subcomponents listed in Table 2.					



ATTACHMENT 1: CERTIFIED SUBCOMPONENTS

SPECIAL SEISMIC CERTIFICATION

TABLE 2 - SUBCOMPONENTS

DOCUMENT NO.: 20122CR1.0

MANUFACTURER: CISCO SYSTEMS INC.						
PRODUCT FAMILY: NEXUS 9504, CATALYST 6807/3650/9300/9400/9500/9600, FIREPOWER 4120/4140, ASR 1002						
MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Cisco - Nexus 9504						
N9K-C9504	33.2	17.5	12.3	248	Main chassis, 4 linecard slots	UUT 1
N9K-C9504-FM-E	Included in main chassis bundle				Fabric module, 100G, ACI, NX-OS	UUT 1
N9K-C9504-FAN	Included in main chassis bundle				Fan tray, port-side intake	UUT 1
N9K-SC-A	Included in main chassis bundle				System controller	UUT 1
N9K-SUP-B	Included in main chassis bundle				Supervisor B	UUT 1
N9K-PAC-3000W-B	Included in main chassis bundle				3000W power supply	UUT 1
N9K-X9732C-EX	Included in main chassis bundle				Agg/ACI linecard, 32 port 100G	UUT 1
QSFP-40G-SR-BD	Included in main chassis bundle				QSFP40G BiDi short transceiver	UUT 1
GLC-TE	Included in main chassis bundle				1000BASE-T SFP transceiver	UUT 1
SFP-10G-SR	Included in main chassis bundle				10GBASE-SR SFP module	UUT 1
Cisco - Catalyst 6807						
C6807-XL	18.1	17.4	17.5	195	Main chassis, 7 slot, 10RU	UUT 1
C6807-XL-FAN	Included in main chassis bundle				Fan tray	UUT 1
C6800-SUP6T	Included in main chassis bundle				Sup6T, 440G/slot, 8x10GE, 2x40GE	UUT 1
SFP-10G-SR	Included in main chassis bundle				10GBASE-SR SFP module	UUT 1
QSFP-40G-SR-BD	Included in main chassis bundle				QSFP40G BiDi short transceiver	UUT 1
C6800-32P10G	Included in main chassis bundle				32 port 10GE with dual DFC4	UUT 1
C6800-XL-3KW-AC	Included in main chassis bundle				3000W power supply	UUT 1
Cisco - Catalyst 3650						
C1-WS3650-48TQ/K9	17.6	17.5	1.7	20	Switch, 48 Port Data 4x10G Uplink	UUT 1
S3650UK9-163	Included in switch bundle				UNIVERSAL	UUT 1
PWR-C2-1025WAC/2	Included in switch bundle				1025W secondary power supply	UUT 1
PWR-C2-250WAC	Included in switch bundle				250W power supply	UUT 1
C3650-STACK-KIT	Included in switch bundle				Stack module	UUT 1
C3650-STACK	Included in switch bundle				Stack module	UUT 1
STACK-T2-1M	Included in switch bundle				Stacking cable	UUT 1
Cisco - Catalyst 9300 Switches						
C9300-24T	17.5	17.5	1.7	19	Switch 24-port data only	UUT 2
C9300-24P	17.5	17.5	1.7	19	Switch 24-port PoE+	INTERP
C9300-24U	17.5	17.5	1.7	19	Switch 24-port UPOE	INTERP
C9300-48T	17.5	17.5	1.7	21	Switch 48-port data only	INTERP
C9300-48P	17.5	17.5	1.7	21	Switch 48-port PoE+	INTERP
C9300-48U	17.5	17.5	1.7	21	Switch 48-port UPOE	UUT 2
Cisco - Catalyst 9300 Modules						
C9300-NM-4G	Included in switch bundle				4 x 1GE network module	UUT 2
C9300-NM-2Q	Included in switch bundle				2 x 40GE network module	INTERP
C9300-NM-4M	Included in switch bundle				4 x MGig network module	INTERP
C9300-NM-8X	Included in switch bundle				8 x 10GE network module	UUT 2
GLC-SX-MM-RGD	Included in switch bundle				1G SFP optical module	UUT 2
SFP-10G-SR	Included in switch bundle				10G SFP optical module	UUT 2
FAN-T2	Included in switch bundle				Fan module	UUT 2
NOTES:	Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.					

ATTACHMENT 1: CERTIFIED SUBCOMPONENTS

SPECIAL SEISMIC CERTIFICATION

TABLE 2 - SUBCOMPONENTS (continued)

DOCUMENT NO.: 20122CR1.0

MANUFACTURER: CISCO SYSTEMS INC.						
PRODUCT FAMILY: NEXUS 9504, CATALYST 6807/3650/9300/9400/9500/9600, FIREPOWER 4120/4140, ASR 1002						
MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Cisco - Catalyst 9300 Power Supplies						
PWR-C1-350WAC	Included in switch bundle				350WAC power supply	UUT 2
PWR-C1-715WAC	Included in switch bundle				715WAC power supply	INTERP
PWR-C1-1100WAC	Included in switch bundle				1100WAC power supply	UUT 2
Cisco - Catalyst 9400 Main Chassis						
C9407R	16.3	17.3	17.4	146	7 slot chassis	UUT 2
C9410R	16.3	17.3	22.6	174	10 slot chassis	UUT 2
Cisco - Catalyst 9400 Line Cards						
C9400-LC-24XS	Included in main chassis bundle				24-Port 10G ethernet SFP+	UUT 2
C9400-LC-48T	Included in main chassis bundle				48-Port 10/100/1000 RJ-45	INTERP
C9400-LC-48UX	Included in main chassis bundle				48Port UPOE 24p mGig 24p RJ-45	INTERP
C9400-LC-48U	Included in main chassis bundle				48-Port UPOE 10/100/1000 RJ-45	UUT 2
Cisco - Catalyst 9400 Modules						
C9400-SUP-1	Included in main chassis bundle				Supervisor 1 module	UUT 2
SFP-10G-SR	Included in main chassis bundle				10G SFP optical module	UUT 2
SFP-10G-SR-X	Included in main chassis bundle				10G SFP optical module	UUT 2
QSFP-40G-SR4	Included in main chassis bundle				40G QSFP optical module	UUT 2
C9410-FAN	Included in main chassis bundle				10 slot chassis fan tray	UUT 2
C9407-FAN	Included in main chassis bundle				7 slot chassis fan tray	UUT 2
Cisco - Catalyst 9400 Accessories						
C9410-ACC-KIT	Included in main chassis bundle				10 slot chassis accessory kit	UUT 2
C9407-ACC-KIT	Included in main chassis bundle				7 slot chassis accessory kit	UUT 2
C9410-RACK-KIT	Included in main chassis bundle				10 slot chassis rack mount	UUT 2
C9407-RACK-KIT	Included in main chassis bundle				7 slot chassis rack mount	UUT 2
C9400-S-BLANK	Included in main chassis bundle				Slot blank cover	UUT 2
Cisco - Catalyst 9400 Power Supplies						
C9400-PWR-3200AC	Included in main chassis bundle				3200W power supply	UUT 2
Cisco - Catalyst 9500 Switches						
C9500-12Q	21.5	17.5	1.7	28	Switch 12-port 40G QSFP+	EXTRAP
C9500-24Q	21.5	17.5	1.7	29	Switch 24-port 40G QSFP+	UUT 2
C9500-40X	21.5	17.5	1.7	28	Switch 40-port 10G SFP/SFP+	UUT 2
Cisco - Catalyst 9500 Modules						
C9500-NM-8X	Included in switch bundle				Network module 8-port 10G SFP+	UUT 2
C9500-NM-2Q	Included in switch bundle				Network module 2-port 40G QSFP+	UUT 2
QSFP-H40G-AOC3M	Included in switch bundle				40G QSFP optical module	UUT 2
QSFP-40G-SR4	Included in switch bundle				40G QSFP optical module	UUT 2
SFP-10G-SR	Included in switch bundle				10G SFP optical module	UUT 2
FAN-T4-R	Included in switch bundle				Fan	UUT 2
Cisco - Catalyst 9500 Power Supplies						
PWR-C4-950WAC-R	Included in switch bundle				950W power supply	UUT 2
Cisco - Catalyst 9500 Accessories						
C9500-ACC-KIT-19I	Included in switch bundle				Accessory kit 19" rack mount	UUT 2
C9500-4PT-KIT	Included in switch bundle				Extension rails/brackets four-point	UUT 2
NOTES:	Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.					

ATTACHMENT 1: CERTIFIED SUBCOMPONENTS

SPECIAL SEISMIC CERTIFICATION

TABLE 2 - SUBCOMPONENTS (continued)

DOCUMENT NO.: 20122CR1.0

MANUFACTURER: CISCO SYSTEMS INC.						
PRODUCT FAMILY: NEXUS 9504, CATALYST 6807/3650/9300/9400/9500/9600, FIREPOWER 4120/4140, ASR 1002						
MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Cisco - ASR 1002						
ASR1002-HX	19.3	17.3	3.5	34	Router 4x10GE+4x1GE, 2xP/S	UUT 1
SFP-10G-SR		Included in router bundle			10GBASE-SR SFP module	UUT 1
GLC-TE		Included in router bundle			1000BASE-T SFP transceiver	UUT 1
ASR1002HX-IPSECHW		Included in router bundle			Crypto module	UUT 1
ASR1000X-AC-750W		Included in router bundle			750W power supply	UUT 1
EPA-10X10GE		Included in router bundle			10X10GE ethernet port adapter	UUT 1
Cisco - Firepower 4120						
FPR4120-NGFW-K9	29.7	16.9	1.8	40	NGFW appliance, 1U, 2 x NetMod	UUT 1
FPR4K-PWR-AC-1100		Included in firewall bundle			1100W power supply	UUT 1
SFP-10G-SR		Included in firewall bundle			10GBASE-SR SFP module	UUT 1
FPR4K-SSD200		Included in firewall bundle			SSD for FPR-4110/4120	UUT 1
FPR4K-SSD-BBLKD		Included in firewall bundle			SSD slot carrier	UUT 1
GLC-TE		Included in firewall bundle			1000BASE-T SFP transceiver	UUT 1
FPR4K-FAN		Included in firewall bundle			Fan	UUT 1
FPR4K-NM-8X10G		Included in firewall bundle			8 port SFP+ network module	UUT 1
SFP-10G-SR		Included in firewall bundle			10GBASE-SR SFP module	UUT 1
Cisco - Firepower 4140						
FPR4140-NGFW-K9	29.7	16.9	1.8	41	NGFW Appliance, 1U, 2 x NetMod	UUT 1
FPR4K-PWR-AC-1100		Included in firewall bundle			1100W power supply	UUT 1
SFP-10G-SR		Included in firewall bundle			10GBASE-SR SFP module	UUT 1
FPR4K-SSD400		Included in firewall bundle			SSD for FPR-4140/4150	UUT 1
FPR4K-SSD-BBLKD		Included in firewall bundle			SSD slot carrier	UUT 1
GLC-TE		Included in firewall bundle			1000BASE-T SFP transceiver	UUT 1
FPR4K-FAN		Included in firewall bundle			Fan	UUT 1
FPR4K-PWR-AC-1100		Included in firewall bundle			1100W power supply	UUT 1
FPR4K-NM-4X40G		Included in firewall bundle			4 port QSFP+ network module	UUT 1
QSFP-40G-SR4		Included in firewall bundle			QSFP transceiver module w/ MPO	UUT 1
Cisco - Catalyst 9600 Main Chassis						
C9606R	16.1	17.4	14.0	135	6 slot chassis	UUT 3
Cisco - Catalyst 9600 Line Cards						
C9600-LC-24C		Included in main chassis bundle			24-Port 40GE/12-Port 100GE	UUT 3
C9600X-LC-32CD		Included in main chassis bundle			30-Port 100G,2-Port 400G	INTERP
C9600-LC-40YL4CD		Included in main chassis bundle			40-Port 1/10/25/50G,2x200G,2x400G	INTERP
C9600-LC-48S		Included in main chassis bundle			48-Port 1Gig Fiber	INTERP
C9600-LC-48TX		Included in main chassis bundle			48-Port Copper	UUT 3
C9600-LC-48YL		Included in main chassis bundle			48-Port 25GE/10GE/1GE	UUT 3
NOTES:	Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.					

ATTACHMENT 1: CERTIFIED SUBCOMPONENTS

SPECIAL SEISMIC CERTIFICATION

TABLE 2 - SUBCOMPONENTS (continued)

DOCUMENT NO.: 20122CR1.0

MANUFACTURER: CISCO SYSTEMS INC.						
PRODUCT FAMILY: NEXUS 9504, CATALYST 6807/3650/9300/9400/9500/9600, FIREPOWER 4120/4140, ASR 1002						
MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Cisco - Catalyst 9600 Modules						
C9606-FAN	Included in main chassis bundle			C9606 chassis fan tray	UUT 3	
C9600-SUP-1	Included in main chassis bundle			Supervisor 1 module	UUT 3	
C9600X-SUP-2	Included in main chassis bundle			Supervisor 2 module (identical to 1)	INTERP	
SFP-10G-SR	Included in main chassis bundle			10GBASE-SR SFP optical module	UUT 3	
SFP-25G-SR-S	Included in main chassis bundle			25GBASE-SR SFP optical module	UUT 3	
QSFP-H40G-AOC3M	Included in main chassis bundle			QSFP active optical cable	UUT 3	
QSFP-100G-SR4-S	Included in main chassis bundle			QSFP transceiver module w/ MPO	UUT 3	
QSFP-40/100-SRBD	Included in main chassis bundle			QSFP transceiver module w/ LC	UUT 3	
Cisco - Catalyst 9600 Accessories						
C9606-SLOT-BLANK	Included in main chassis bundle			Slot blank cover	UUT 3	
Cisco - Catalyst 9600 Power Supplies						
C9600-PWR-2KWDC	Included in main chassis bundle			2000W DC power supply	UUT 3	
C9600-PWR-2KWAC	Included in main chassis bundle			2000W AC power supply	UUT 3	
MOUNTING:	Mounted within unit.			SEISMIC LEVELS:	$S_{DS} = 2.0g$ for $z/h = 1$ $S_{DS} = 2.5g$ for $z/h = 0$	$I_p = 1.5$
NOTES:	Construction/Options: Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.					

DATE: 08/24/2022

ATTACHMENT 2: UNIT UNDER TEST SUMMARIES

SPECIAL SEISMIC CERTIFICATION

UUT 1

DOCUMENT NO.: 20122CR1.0

MANUFACTURER:		CISCO SYSTEMS INC.				
MODEL NUMBER:		NEXUS 9504 CUSTOM				
UNIT FUNCTION:		NETWORKING EQUIPMENT				
SERIAL NUMBER:		N/A				
DIMENSIONS (in)			WEIGHT (lb)	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT		F-B	S-S	V
36.0	24.0	84.0	944	14.0	4.9	21.4
CODE & CRITERIA:		2022 CBC		ICC-ES AC156		
TEST LABORATORY:		NTS - NEWARK				
REPORT & DATE:		18012TR1.1		March 14, 2018		
S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
2.0	1	3.20	2.40	1.68	0.68	
2.5	0					
IMPORTANCE FACTOR, I_p = 1.5						
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.						
MOUNTING:		Rigid floor mounted using (4) 1/2" Grade 8 bolts.				
CONSTRUCTION:		Carbon steel rack.				
SUBCOMPONENTS		Telect - Four Post Rack (DR1250-84436) Cisco - Nexus 9504 (N9K-C9504, N9K-C9504-FM-E, N9K-C9504-FAN, N9K-SC-A, N9K-SUP-B, N9K-PAC-3000W-B, N9K-X9732C-EX, QSFP-40G-SR-BD, GLC-TE, SFP-10G-SR) Cisco - Catalyst 6807 (C6807-XL, C6807-XL-FAN, C6800-SUP6T, SFP-10G-SR, QSFP-40G-SR-BD, C6800-32P10G, C6800-XL-3KW-AC) Cisco - Catalyst 3650 (C1-WS3650-48TQ/K9, S3650UK9-163, PWR-C2-250WAC, PWR-C2-1025WAC/2, C3650-STACK-KIT, C3650-STACK, STACK-T2-1M) Cisco - ASR 1002 (ASR1002-HX, SFP-10G-SR, GLC-TE, ASR1002HX-IPSECHW, ASR1000X-AC-750W, EPA-10X10GE) Cisco - Firepower 4120 (FPR4120-NGFW-K9, FPR4K-PWR-AC-1100, SFP-10G-SR, FPR4K-SSD200, FPR4K-SSD-BBLKD, GLC-TE, FPR4K-FAN, FPR4K-NM-8X10G, SFP-10G-SR) Cisco - Firepower 4140 (FPR4140-NGFW-K9, FPR4K-PWR-AC-1100, SFP-10G-SR, FPR4K-SSD400, FPR4K-SSD-BBLKD, GLC-TE, FPR4K-FAN, FPR4K-PWR-AC-1100, FPR4K-NM-4X40G, QSFP-40G-SR4)				
TESTING NOTES:		CG of unit = 37.0 inches from bottom.				



ATTACHMENT 2: UNIT UNDER TEST SUMMARIES

SPECIAL SEISMIC CERTIFICATION

UUT 1 - RACK CONFIGURATION

DOCUMENT NO.: 20122CR1.0

CG of unit = 37.0 inches from bottom. Total height = 84.0in.

		Weight	CG
45			
44	Catalyst 3650	20 lb	78.6 in
43	Catalyst 3650	20 lb	76.9 in
42			
41	ASR 1002	34 lb	74.3 in
40	Firepower 4120	40 lb	71.6 in
39	Firepower 4140	41 lb	69.9 in
38			
37			
36			
35			
34			
33			
32			
31			
30			
29			
28			
27			
26			
25			
24			
23			
22			
21			
20			
19			
18			
17			
16	Catalyst 6807	195 lb	28.8 in
15			
14			
13			
12			
11			
10			
9			
8			
7	Nexus 9504	248 lb	13.9 in
6			
5			
4			
3			
2			
1			



ATTACHMENT 2: UNIT UNDER TEST SUMMARIES

SPECIAL SEISMIC CERTIFICATION

UUT 2

DOCUMENT NO.: 20122CR1.0

MANUFACTURER:		CISCO SYSTEMS INC.				
MODEL NUMBER:		CATALYST 9000 CUSTOM				
UNIT FUNCTION:		NETWORKING EQUIPMENT				
SERIAL NUMBER:		N/A				
DIMENSIONS (in)			WEIGHT (lb)	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT		F-B	S-S	V
36.0	24.0	84.0	791	12.7	4.9	24.2
CODE & CRITERIA:		2022 CBC		ICC-ES AC156		
TEST LABORATORY:		NTS - NEWARK				
REPORT & DATE:		18012TR1.1		March 22, 2018		
S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
2.0	1	3.20	2.40	1.68	0.68	
2.5	0					
IMPORTANCE FACTOR, I_p = 1.5						
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.						
MOUNTING:		Rigid floor mounted using (4) 1/2" Grade 8 bolts.				
CONSTRUCTION:		Carbon steel rack.				
SUBCOMPONENTS		Telect - Four Post Rack (DR1250-84436) Cisco - Catalyst 9300-24T (C9300-24T, PWR-C1-350WAC, C9300-NM-4G, GLC-SX-MM-RGD, FAN-T2) Cisco - Catalyst 9300-48U (C9300-48U, PWR-C1-1100WAC, C9300-NM-8X, SFP-10G-SR, FAN-T2) Cisco - Catalyst 9407R (C9407R, C9400-LC-24XS, SFP-10G-SR, SFP-10G-SR-X, C9400-LC-48U, C9400-SUP-1, C9400-PWR-3200AC, C9407-FAN, C9400-S-BLANK, C9407-ACC-KIT, C9407-RACK-KIT) Cisco - Catalyst 9410R (C9410R, C9400-LC-48U, C9400-LC-24XS, SFP-10G-SR, SFP-10G-SR-X, C9400-SUP-1, QSFP-40G-SR4, C9400-PWR-3200AC, C9410-FAN, C9400-S-BLANK, C9410-ACC-KIT, C9410-RACK-KIT) Cisco - Catalyst 9500-24Q (C9500-24Q, PWR-C4-950WAC-R, QSFP-H40G-AOC3M, QSFP-40G-SR4, FAN-T4-R, C9500-ACC-KIT-19I, C9500-4PT-KIT) Cisco - Catalyst 9500-40X (C9500-40X, PWR-C4-950WAC-R, C9500-NM-8X, SFP-10G-SR, FAN-T4-R, C9500-ACC-KIT-19I, C9500-4PT-KIT) Cisco - Catalyst 9500-40X (C9500-40X, PWR-C4-950WAC-R, C9500-NM-2Q, QSFP-40G-SR4, QSFP-H40G-AOC5M, SFP-10G-SR, FAN-T4-R, C9500-ACC-KIT-19I, C9500-4PT-KIT)				
TESTING NOTES:		CG of unit = 41.6 inches from bottom.				



ATTACHMENT 2: UNIT UNDER TEST SUMMARIES

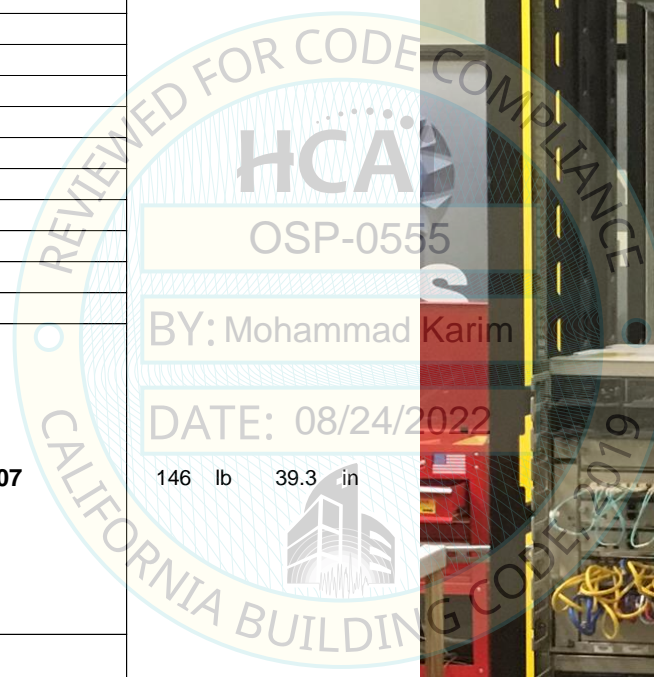
SPECIAL SEISMIC CERTIFICATION

UUT 2 - RACK CONFIGURATION

DOCUMENT NO.: 20122CR1.0

CG of unit = 41.6 inches from bottom. Total height = 84.0in.

		Weight	CG
45			
44	Catalyst 9300-24T	19 lb	78.6 in
43	Catalyst 9300-48U	21 lb	76.9 in
42	Catalyst 9500-40X	28 lb	75.1 in
41	Catalyst 9500-40X	28 lb	73.4 in
40	Catalyst 9500-24Q	29 lb	71.6 in
39			
38			
37			
36			
35			
34			
33			
32			
31			
30			
29			
28			
27			
26			
25			
24			
23			
22			
21	Catalyst C9407	146 lb	39.3 in
20			
19			
18			
17			
16			
15			
14			
13			
12			
11			
10	Catalyst C9410	174 lb	19.1 in
9			
8			
7			
6			
5			
4			
3			
2			
1			



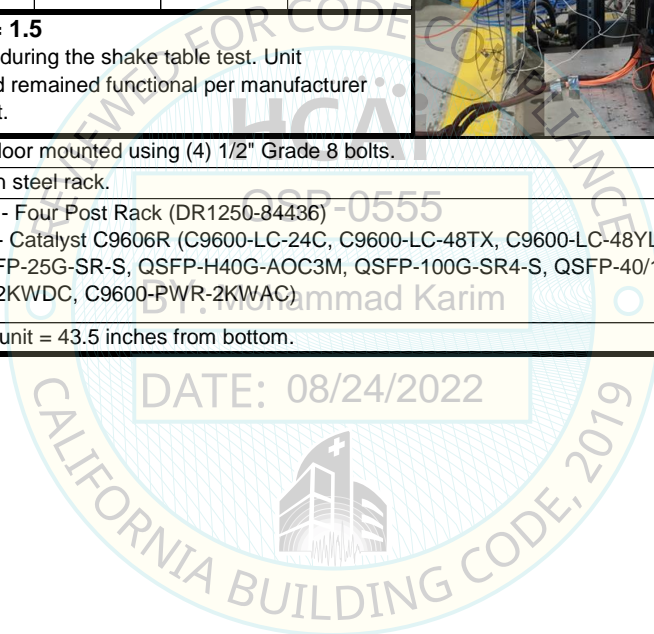
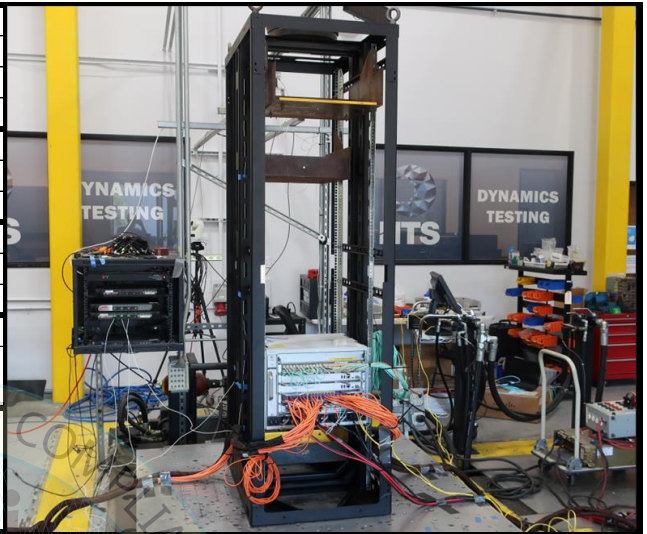
ATTACHMENT 2: UNIT UNDER TEST SUMMARIES

SPECIAL SEISMIC CERTIFICATION

UUT 3

DOCUMENT NO.: 20122CR1.0

MANUFACTURER:		CISCO SYSTEMS INC.				
MODEL NUMBER:		CATALYST 9600 CUSTOM				
UNIT FUNCTION:		NETWORKING EQUIPMENT				
SERIAL NUMBER:		N/A				
DIMENSIONS (in)			WEIGHT (lb)	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT		F-B	S-S	V
36.0	24.0	84.0	789	15.6	5.8	22.0
CODE & CRITERIA:		2022 CBC		ICC-ES AC156		
TEST LABORATORY:		NTS - NEWARK				
REPORT & DATE:		20122TR1.0		June 30, 2021		
S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)	
2.0	1	3.20	2.40	1.68	0.68	
2.5	0					
IMPORTANCE FACTOR, I_p = 1.5						
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.						
MOUNTING:		Rigid floor mounted using (4) 1/2" Grade 8 bolts.				
CONSTRUCTION:		Carbon steel rack.				
SUBCOMPONENTS		Telect - Four Post Rack (DR1250-84436) Cisco - Catalyst C9606R (C9600-LC-24C, C9600-LC-48TX, C9600-LC-48YL, C9606-FAN, C9600-SUP-1, SFP-10G-SR, SFP-25G-SR-S, QSFP-H40G-AOC3M, QSFP-100G-SR4-S, QSFP-40/100-SRBD, C9606-SLOT-BLANK, C9600-PWR-2KWDC, C9600-PWR-2KWAC)				
TESTING NOTES:		CG of unit = 43.5 inches from bottom.				



ATTACHMENT 2: UNIT UNDER TEST SUMMARIES

SPECIAL SEISMIC CERTIFICATION

UUT 3 - RACK CONFIGURATION

DOCUMENT NO.: 20122CR1.0

CG of unit = 43.5 inches from bottom. Total height = 84.0in.

		Weight	CG
45	Added Weight	78 lb	83 in
44			
43			
42			
41			
40	Added Weight	70 lb	72.5 in
39			
38			
37			
36			
35			
34	Added Weight	70 lb	62 in
33			
32			
31			
30			
29			
28			
27			
26			
25			
24			
23			
22			
21			
20			
19			
18			
17			
16			
15			
14			
13			
12	Catalyst C9606R	135 lb	24.4 in
11			
10			
9			
8			
7			
6			
5			
4			
3	Added Weight	90 lb	6.9 in
2			
1			

