MITAC EMC Laboratory
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FCC TEST REPORT

Regulatory Model No.:M200001UR

Prepared For:Intel Corporation

According to

FCC Part 15 Subpart B 、

ANSI C63.4 & ICES-003 Class A

Test Report No:	20200007FAR0A
Received Date:	04/06/2020
Tested Date:	04/07/2020~04/14/2020
Issued Date:	05/05/2020
Prepared by:	MITAC EMC Laboratory

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The results shown in this test report refer only to the EUT subjected under test.

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ADMINISTRATIVE DATA

Test Sample :Server

Regulatory Model Number:M200001UR

Brand Name :Intel

Applicant Name :Intel Corporation

Address :5200 N.E. Elam Young Parkway, Hillsboro, Oregon 97124-6497 USA

CONSTRUCTION OF EUT

All configurations of server were verified and components list as below table. All of the results can meet the test reference for Class A products and will present the worst case in this report.

Item	Vender	Description
Chassis	Chenbro	IPN: K82738-001
CPU	Intel	Gold 5220,2.2 GHz ,18c LGA3647
		Gold 5222,3.8 GHz,4c LGA3647
		Gold 5218,2.3 GHz ,16c LGA3647
		Gold 5217,3.0 GHz ,8c LGA3647
		Gold 5215,2.5 GHz ,10c LGA3647
		Silver 4216,2.1 GHz ,16c LGA3647
		Silver 4215,2.5 GHz ,8c LGA3647
		Silver 4214,2.2 GHz ,12c LGA3647
		Silver 4210,2.2 GHz ,10c LGA3647
		Silver 4208 ,2.1 GHz ,8c LGA3647
		Bronze 3204,1.9 GHz ,6c LGA3647
DIMM	Micron	8GB (1x8GB) RDIMM, DDR4, 1 Rank, 2933MHz
		16GB (1x16GB) RDIMM, DDR4, 2 Rank, 2933MHz
		16GB (1x16GB) RDIMM, DDR4, 1 Rank, 2933MHz
		32GB (1x32GB) RDIMM, DDR4, 2 Rank, 2933MHz
	SK Hynix	8GB (1x8GB) RDIMM, DDR4, 1 Rank, 2933MHz
		16GB (1x16GB) RDIMM, DDR4, 1 Rank, 2933MHz
		16GB (1x16GB) RDIMM, DDR4, 2 Rank, 2933MHz
		32GB (1x32GB) RDIMM, DDR4, 2 Rank, 2933MHz
		64GB (1x64GB) LRDIMM, DDR4, 4 Rank, 2933MHz
	Samsung	16GB (1x16GB) RDIMM, DDR4, 1 Rank, 2933MHz
		32GB (1x32GB) RDIMM, DDR4, 2 Rank, 2933MHz
		64GB (1x64GB) RDIMM, DDR4, 4 Rank, 2933MHz
		64GB (1x64GB) LRDIMM, DDR4, 4 Rank, 2933MHz

(cont'd)

SSD	Intel	D3-S4610 Series (960GB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4610 Series (480GB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4610 Series (3.84TB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4610 Series (240GB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4610 Series (1.92TB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4510 Series (960GB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4510 Series (480GB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4510 Series (3.84TB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4510 Series (240GB, 2.5in SATA 6Gb/s, 3D2, TLC)
		D3-S4510 Series (1.92TB, 2.5in SATA 6Gb/s, 3D2, TLC)
		DC P4800X Series (375GB, 1/2 Height PCIe x4, 3D XPoint™)
PCIe Card	Intel	Ethernet Network Adapter X722-DA2
		Ethernet Server Adapter I350-T2
		Ethernet Network Adapter XXV710-DA1
		Ethernet Network Adapter XXV710-DA2
		Ethernet Converged Network Adapter X550-T2
		Ethernet Server Adapter I350-T4
		Ethernet Converged Network Adapter X710-DA2
		Ethernet Converged Network Adapter X550-T1
MB	Intel	M20MYP1USVB Board (S2600ST)
PSU	Delta	DPS-750XB A

The EUT was configured 11 configurations and components list required as below. All of the results can meet the test reference Class A device and will present the worst case (Configuration 1) in this report.

	Config 1	Config 2	Config 3
CPU	Gold 5220,2.2 GHz ,18c	Gold 5222,3.8 GHz,4c	Gold 5218,2.3 GHz ,16c
DIMM	2933M Micron MTA72ASS8G72LZ-2G9D1 64GB *4+ SK Hynix HMAA8GL7CPR4N-WMTG 64GB *4+ Samsung M393A8G40MB2-CVF 64GB *4+ Samsung M386A8K40CM2-CVF 64GB *4	2933M Micron 8GB *4+Micron 16GB *4+Micron 16GB *4+Micron 32GB *4	2933M SK Hynix 8GB *4+SK Hynix 16GB *4+SK Hynix 16GB *4+SK Hynix 32GB *4
HDD	Intel SSD D3-S4510 3.84TB, 2.5in SATA 6Gb/s *2+ Intel SSD D3-S4610 3.84TB, 2.5in SATA 6Gb/s *2	Intel SSD D3-S4510 240GB, 2.5in SATA 6Gb/s*2+ Intel SSD D3-S4610 240GB, 2.5in SATA 6Gb/s*2	Intel SSD D3-S4510 960GB, 2.5in SATA 6Gb/s*2+ Intel SSD D3-S4510 480GB, 2.5in SATA 6Gb/s*2
PCIe card	Intel Ethernet Network Adapter X722-DA2 *1	Intel Ethernet Server Adapter I350-T2V2 *1+Intel Ethernet Network Adapter XXV710-DA1 *1	Intel Ethernet Network Adapter XXV710-DA2 *1
PSU	Delta DPS-750XB A	Delta DPS-750XB A	Delta DPS-750XB A
Resolution	1920*1200	1280*1024	1024*768
LAN	10Gbps	1Gbps	100Mbps
Raid card			

	Config 4	Config 5	Config 6
CPU	Gold 5217,3.0 GHz ,8c	Gold 5215,2.5 GHz ,10c	Silver 4216,2.1 GHz ,16c
DIMM	2933M Samsung 16G*8+Samsung 32G*8	2933M Samsung 16G*8+Samsung 32G*8	2933M Samsung 16G*8+Samsung 32G*8
HDD	Intel SSD D3-S4510 3.8TB, 2.5in SATA 6Gb/s *2+ Intel SSD D3-S4510 1.92TB, 2.5in SATA 6Gb/s *2	Intel SSD D3-S4610 3.8TB, 2.5in SATA 6Gb/s *2+ Intel SSD D3-S4610 1.92TB, 2.5in SATA 6Gb/s *2	Intel SSD D3-S4610 960GB, 2.5in SATA 6Gb/s*2+ Intel SSD D3-S4610 480GB, 2.5in SATA 6Gb/s*2
PCIe card	Intel Ethernet Converged Network Adapter X550-T2 *1	Intel Ethernet Server Adapter I350-T4 *1+Intel Ethernet Converged Network Adapter X710-DA2 *1	Intel Ethernet Converged Network Adapter X550-T1 *1
PSU	Delta DPS-750XB A	Delta DPS-750XB A	Delta DPS-750XB A
Resolution	1920*1200	1920*1200	1920*1200
LAN	10Gbps	10Gbps	10Gbps
Raid card			

	Config 7	Config 8	Config 9
CPU	Silver 4215,2.5 GHz ,8c	Silver 4214,2.2 GHz ,12c	Silver 4210,2.2 GHz ,10c
DIMM	2933M Samsung 16G*8+Samsung 32G*8	2933M Samsung 16G*8+Samsung 32G*8	2933M Samsung 16G*8+Samsung 32G*8
HDD	Intel SSD D3-S4510 240GB, 2.5in SATA 6Gb/s *2+ Intel SSD DC P4800X Series 375GB *2	Intel SSD D3-S4510 240GB, 2.5in SATA 6Gb/s*2+ Intel SSD D3-S4610 240GB, 2.5in SATA 6Gb/s*2	Intel SSD D3-S4510 240GB, 2.5in SATA 6Gb/s*2+ Intel SSD D3-S4610 240GB, 2.5in SATA 6Gb/s*2
PCIe card	NA	NA	NA
PSU	Delta DPS-750XB A	Delta DPS-750XB A	Delta DPS-750XB A
Resolution	1920*1200	1920*1200	1920*1200
LAN	10Gbps	10Gbps	10Gbps
Raid card			

	Config 10	Config 11
CPU	Silver 4208 ,2.1 GHz ,8c	Bronze 3204,1.9 GHz ,6c
DIMM	2933M Samsung 16G*8+Samsung 32G*8	2933M Samsung 16G*8+Samsung 32G*8
HDD	Intel SSD D3-S4510 240GB, 2.5in SATA 6Gb/s*2+ Intel SSD D3-S4610 240GB, 2.5in SATA 6Gb/s*2	Intel SSD D3-S4510 240GB, 2.5in SATA 6Gb/s*2+ Intel SSD D3-S4610 240GB, 2.5in SATA 6Gb/s*2
PCIe card	NA	NA
PSU	Delta DPS-750XB A	Delta DPS-750XB A
Resolution	1920*1200	1920*1200
LAN	10Gbps	10Gbps
Raid card		

FINAL TEST CONSTRUCTION OF EUT

Regulatory Model No.:M200001UR	
Item	**Configuration 1**
Chassis	IPN: K82738-001 (Chenbro)
CPU	Gold 5220, 18c LGA3647/2.2GHz (Intel)
DIMM	MTA72ASS8G72LZ-2G9D1/64GB*4 (Micron)
	HMAA8GL7CPR4N-WMTG/64GB*4 (Skhynix)
	M393A8G40MB2-CVF 64GB/64GB*4 (Samsung)
	M386A8K40CM2-CVF 64GB/64GB*4 (Samsung)
SSD	D3-S4510/3.84TB*2 (Intel)
	D3-S4610/3.84TB*2 (Intel)
PCIe Card	Ethernet Network Adapter X722-DA2 (Intel)
M/B	M20MYP1USVB Board(S2600ST) (Intel)
PSU	DPS-750XB A (Delta)

DESCRIPTION OF RESOLUTION、 LAN SPEED AND OPERATING MODE OF WORST CASE

Graphic Interface	Final test Resolution/Lan Speed(Max.)	Operating mode
D-Sub Port	1920*1200/10Gbps	PC Transfer

MEASUREMENT UNCERTAINTY

Test Item	Measurement Uncertainty
Conducted Emission (AC mains power port)	Conducted Emission Measurement Uncertainty =±3.18dB.Derived from ISO/IEC 17025 and CISPR 16-4-2:ed2.0+AMD.1:2014. +AMD2:2018 to the determination of uncertainties with a coverage factor K=2.At 95% minimum confidence level.
Radiated Emission (10M Chamber)	Radiated Emission from 30MHz to 1GHz measurement uncertainly =±4.21dB. From 1GHz to 6GHz measurement uncertainty =±5.01dB. 6GHz to 18GHz measurement uncertainty =±5.14dB. Derived from ISO/IEC 17025 and CISPR 16-4-2ed2.0+ AMD.1:2014. +AMD2:2018 to the determination of uncertainties with a coverage factor K=2. At 95% minimum confidence level.
	Reference 18GHz to 40GHz measurement uncertainty =±5.45dB.

Note: 18G-40G MU budget refer as 6G-18G MU budget table E.2 to evaluate 18G-40G MU. CISPR 16-4-2 is not included.

MEASUREMENT SOFTWARE

Test Item	Measurement Software
Conducted Emission Test	EZ_EMC for Windows Version Mit-A14
Radiated Emission Test	EZ_EMC for Windows Version Mit-A14

TEST SUMMARY

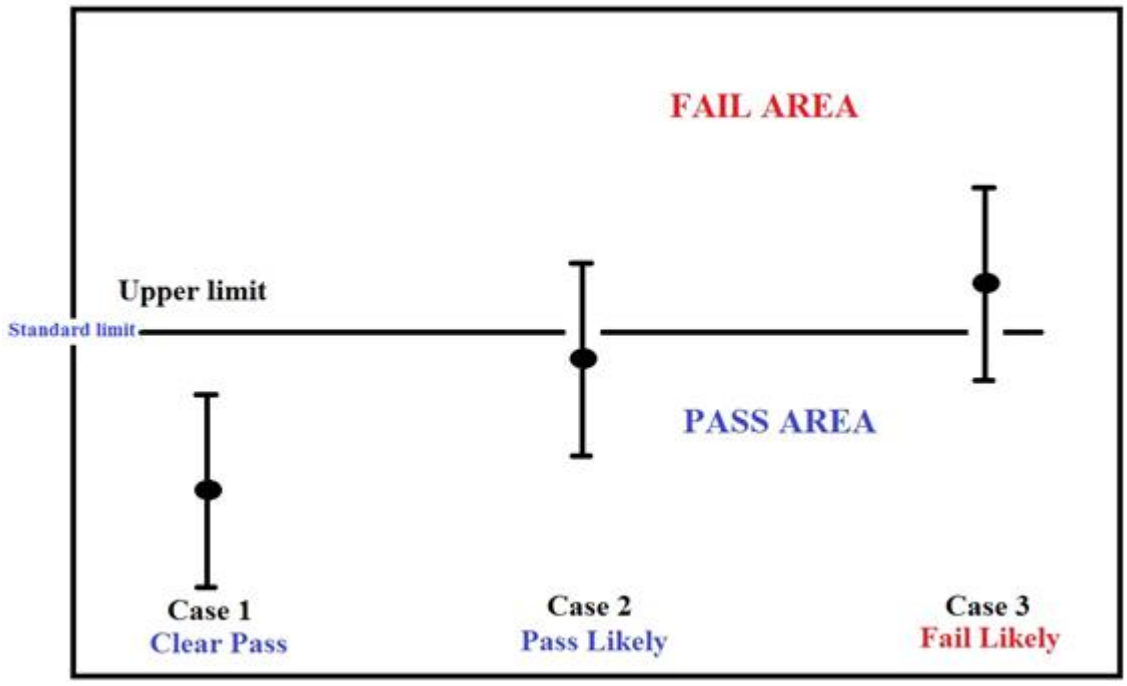
The Electromagnetic Interference requirements on model **M200001UR** for these tests are stated below. This report and test results are deemed satisfactory evidence of compliance with Federal Communications Commission Parts 15 Subpart B and Industry Canada Interference-Causing Equipment Standard ICES-003.

All results listed in this report relate exclusively to this above-mentioned model as the Equipment Under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

Test results conformance statement decision principle: Decision rules governed by regulations or standards.

Test results Compliant and Not compliant decision principle, in accordance with:
Priority when product (or product family) standards have individual specifications or the CISPR 16-4-2 and ANSI C63.4 decision rules apply. If Un does not need to be counted on FCC Part 15 Subpart B, under limit is Compliant.

In the Radiated and Conducted emission test, the test result is expressed with measurement uncertainty as the below.



Configuration 1

Emission Tests				
Standard	**Test Item**	**Test Result**	**Specification of Result**	**Remark**
FCC Part 15 Subpart B ANSI C63.4:2014 ICES-003 Issue 6:2016 Class A	Conducted Emission	Compliant	Worst margin is Passed by –17.74dB of QP Passed by –10.23dB of AVG At 24.567MHz Frequency	Attachment 1
FCC Part 15 Subpart B ANSI C63.4:2014 ICES-003 Issue 6:2016 Class A	Radiated Emission	Compliant	Worst margin is Passed by –8.36dB of QP At 624.9935MHz Frequency	Attachment 2

TECHNICAL REVIEWED: Jeff. T. Chan
Jeff.T.Chan

QUALITY REVIEWED: Richard Chien
Richard Chien

LAB MANAGER: Vincent Chia
Vincent Chia

TEST LOCATION

MITAC EMC Laboratory
No.200, Wen Hwa 2nd Rd., Kuei Shan Dist., Taoyuan City 33383, Taiwan

ACCREDITIATION BODIES

In compliance with the FCC requirement is through BSMI multilateral MRA (Mutual Recognition Arrangement).MITAC EMC Lab has been accredited as a Conformity Assessment Body(CAB). Designation Number: TW-1080.

In compliance with the site registration requirements from BSMI according to ISO/IEC 17025. Site reference No.SL2-IN-E-0063

Registered in accordance with Japanese VCCI Regulations and member No.1433
Conduction Emission Registration No: C-11173
Radiation Emission Registration No: R-11114 & G-10021
Telecommunication Ports Conducted Emission Interference Measurement Registration No.: T-11551

In compliance with the Council of Chinese National Laboratory Accreditation accredited. Lab accreditation No.3021

EUT EXERCISE SOFTWARE

The EUT exercise program “EMC Exerciser 1.0.89.0 ” was used to test during compliance testing. The program contained in a hard disk, and was loaded under”Windows Server 2016”. Once loaded, the test engineer selected each connected support device, then the program exercises each connected support device in turn, data is transmitted to them during testing.

EQUIPMENT MODIFICATION

Any modifications installed previous to testing by Intel Corporation will be incorporated in each production model sold or leased in the United States.

There were no modifications installed by MITAC EMC Laboratory.

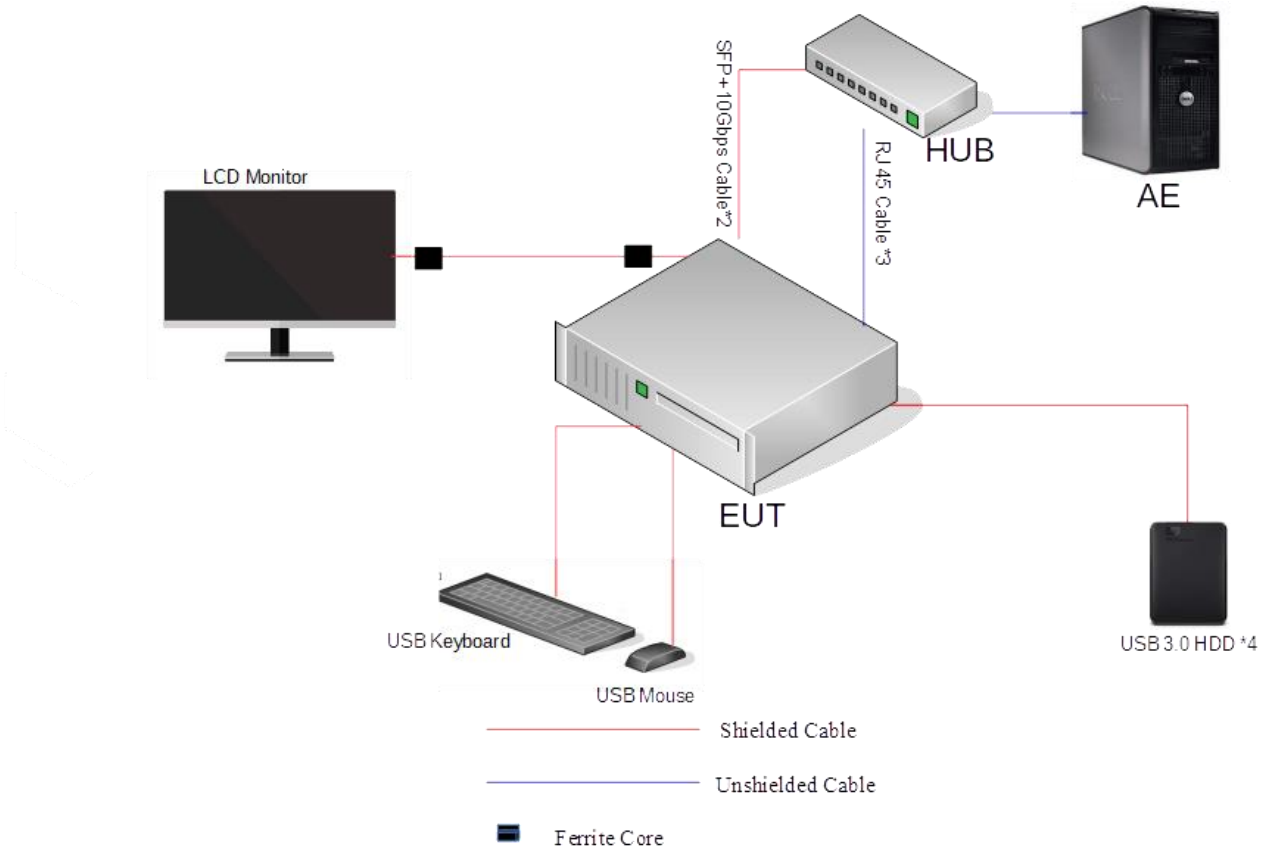
DESCRIPTION OF PERIPHERAL DEVICES AND CABLE CONNECTION

Model Number:	M200001UR
Description:	Server
Manufacturer:	Intel Corporation

Peripheral Device		
Description	**Model Number**	**Manufacturer**
USB3.0 HDD	My Passport Ultra	WD
24” LCD Monitor	U2412M	Dell Inc.
USB Keyboard	KB216t	Dell Inc.
USB Mouse	MS116p	Dell Inc.
AE	Optiplex 3020	Dell Inc.
HUB	XS505M	Netgear

Cable Description					
From	**To**	**Length (Meters)**	**Shielded (Y/N)**	**Ferrite Loaded (Y/N)**	**Type**
EUT	USB KB	1.8	Y	N	USB Cable
EUT	USB MS	1.8	Y	N	USB Cable
EUT	USB3.0 HDD	1.2	Y	N	USB Cable*4
EUT	LCD Monitor	1.8	Y	Y	D-sub Cable
EUT	HUB	3	N	N	CAT5e Cable
EUT	HUB	3	N	N	CAT6a Cable*2
EUT	HUB	3	Y	N	SFP+ 10Gbps*2
HUB	AE	RE:30 CE:3	N	N	CAT5e Cable

CONNECTION DIAGRAM OF EUT



Note:
1.The Ferrite Cores which are fitted on test peripherals by manufacturer of peripheral. No installation was done by MITAC EMC Lab during the test.
2. The AE is placed in outside of 10M chamber during the radiated emission test.

ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

CLIENT:	Intel Corporation	**TEST REFERENCE:**	FCC Part 15 Subpart B ANSI C63.4:2014 ICES-003 Issue 6:2016
MODEL NO.:	M200001UR/Configuration 1	**PRODUCT:**	Server
SERIAL NO.:	N/A	**EUT DESIGNATION:**	Business or Industrial Device
EMPERATURE:	20°C	**HUMIDITY:**	58%
ATM PRESSURE:	997mbar	**GROUNDING:**	Through AC Power Ground
TESTED BY:	Weilin Wang	**DATE OF TEST:**	April 14,2020
TEST METHOD:	FCC Part 15 Subpart B/ANSI C63.4:2014		
TEST PROCEDURE:	The EUT is set up according to the guideline of FCC Part 15 Subpart B/ANSI C63.4:2014 for conducted emissions. The measurement is using a LISN on each line and an EMI receiver peak scan is made at the frequency measurement range. The six highest significant peaks are then marked, and these signals are then quasi-peaked and averaged. The frequency range investigated is from 150kHz to 30MHz. The basic equation with a sample calculation is as follows: Corr.Data = Raw Data + LISN Loss + Cable Loss Corr.Data = Field Strength Raw Data = Receiver Amplitude LISN Loss = LISN/ISN or AMN/AAN Factor Cable Loss = Cable Loss		
TEST VOLTAGE:	AC 120V/60Hz		
RESULTS:	The EUT meets the Class A device requirement. The final tests data as shown on following page.		
CHANGES OR MODIFICATIONS:	There is no modification installed by MITAC EMC Laboratory test personnel.		

Test Equipment	Manufacturer/ Model	Serial No.	Last Calibration Date	Due Date
EMI Receiver	ROHDE&SCHWARZ/ ESR	102549	2019/5/14	2020/5/12
LISN	ROHDE&SCHWARZ /ENV216	101330	2019/9/10	2020/9/8
CABLE	EMC400-BNCM-BNCM-6000	140304	2019/6/21	2020/6/19

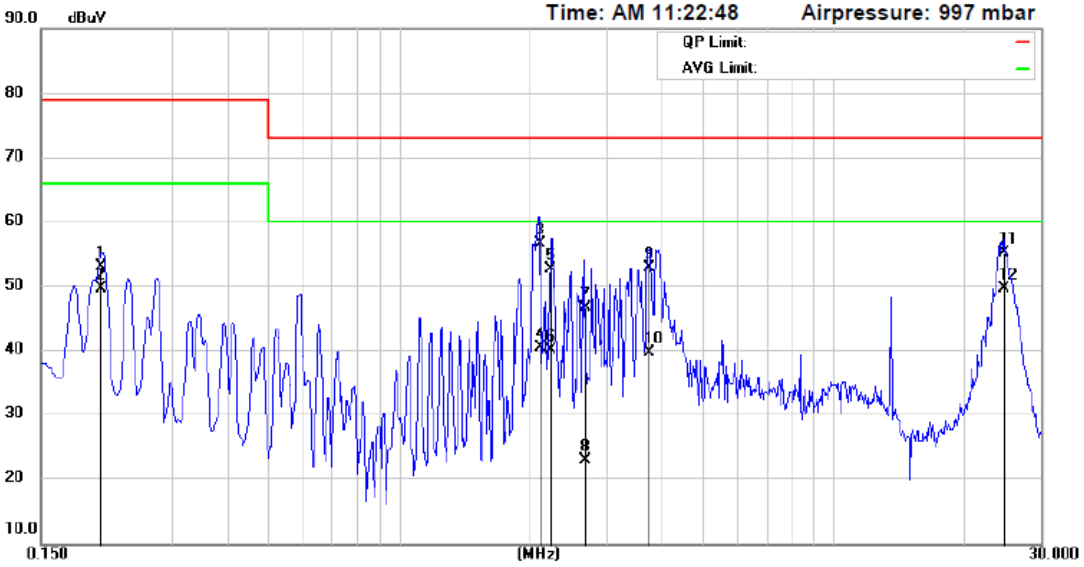
MiTAC EMC LAB Tel:+886-3-3962888 Fax:+886-3-3960324
Address: NO. 200, Wen Hua 2nd RD., Kuei San Dist., Taoyuan, Taiwan.

Operator: Weilin Wang

Conducted Emission Measurement Temperature: 20 ℃

File :20200007CE001 Data :#11 Date: 4/14/2020 Humidity: 58 %

Time: AM 11:22:48 Airpressure: 997 mbar



Site : Conduction Emission

Limit : (CE)FCC Part 15 class A_QP Phase: *L1*

Company : Intel Power : 120VAC/60Hz

EUT : M200001UR Witness:

Exercise Program : EMC Exerciser 1.0.89.0 Cable Max.:

Comments: Full system ; Mode 01.

Mk.	Frequency MHz	Raw Data dBuV	LISN/ISN Loss	Cable Loss dB	Corr. Data dBuV	Limit dBuV	Margin dB	Detector	Remarks
	0.2060	43.42	9.65	0.04	53.11	79.00	-25.89	QP	
	0.2060	39.93	9.65	0.04	49.62	66.00	-16.38	AVG	
	2.0997	46.95	9.66	0.12	56.73	73.00	-16.27	QP	
	2.0997	30.81	9.66	0.12	40.59	60.00	-19.41	AVG	
	2.2350	42.80	9.66	0.13	52.59	73.00	-20.41	QP	
	2.2350	30.37	9.66	0.13	40.16	60.00	-19.84	AVG	
	2.6713	36.85	9.67	0.14	46.66	73.00	-26.34	QP	
	2.6713	13.15	9.67	0.14	22.96	60.00	-37.04	AVG	
	3.7435	43.12	9.67	0.17	52.96	73.00	-20.04	QP	
	3.7435	29.86	9.67	0.17	39.70	60.00	-20.30	AVG	
	24.5670	45.16	9.69	0.41	55.26	73.00	-17.74	QP	
*	24.5670	39.67	9.69	0.41	49.77	60.00	-10.23	AVG	

Spectrum Analyzer: ESR *:Maximum data x:Over limit !:over margin

Receiver: ESR_1 RBW: 9 KHz

LISN/ISN ENV216-330 VBW: 30 KHz

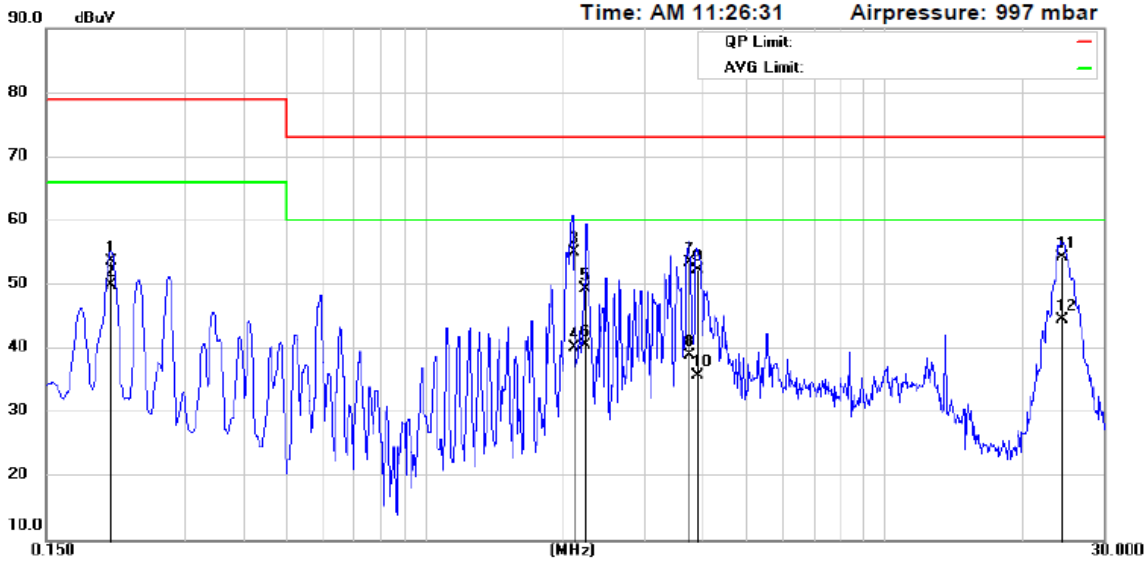
Cable: EMC400 B140304

File :20200007CE001\Data :#11 **Page: 1**

Conducted Emission Measurement

File :20200007CE001 Data :#12 Date: 4/14/2020 Time: AM 11:26:31

Temperature: 20 ℃ Humidity: 58 % Airpressure: 997 mbar



Site : Conduction Emission
Limit : (CE)FCC Part 15 class A_QP
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Phase: N
Power : 120VAC/60Hz
Witness:
Cable Max.:

Mk.	Frequency MHz	Raw Data dBuV	LISN/ISN Loss	Cable Loss dB	Corr. Data dBuV	Limit dBuV	Margin dB	Detector	Remarks
	0.2068	43.91	9.66	0.04	53.61	79.00	-25.39	QP	
	0.2068	40.23	9.66	0.04	49.93	66.00	-16.07	AVG	
	2.1006	45.26	9.67	0.12	55.05	73.00	-17.95	QP	
	2.1006	30.45	9.67	0.12	40.24	60.00	-19.76	AVG	
	2.2340	39.48	9.67	0.13	49.28	73.00	-23.72	QP	
	2.2340	30.67	9.67	0.13	40.47	60.00	-19.53	AVG	
	3.7415	43.53	9.69	0.17	53.39	73.00	-19.61	QP	
	3.7415	29.08	9.69	0.17	38.94	60.00	-21.06	AVG	
	3.9182	42.50	9.69	0.18	52.37	73.00	-20.63	QP	
	3.9182	25.88	9.69	0.18	35.75	60.00	-24.25	AVG	
	24.3095	44.00	9.79	0.41	54.20	73.00	-18.80	QP	
*	24.3095	34.40	9.79	0.41	44.60	60.00	-15.40	AVG	

Spectrum Analyzer: ESR
Receiver: ESR_1
LISN/ISN ENV216-330
Cable: EMC400 B140304

*:Maximum data x:Over limit !:over margin
RBW: 9 KHz
VBW: 30 KHz

File :20200007CE001\Data :#12 Page: 1

ATTACHMENT 2 - RADIATED EMISSION TEST RESULTS

CLIENT:	Intel Corporation	**TEST REFERENCE:**	FCC Part 15 Subpart B ANSI C63.4:2014 ICES-003 Issue 6:2016
MODEL NO.:	M200001UR/Configuration 1	**PRODUCT:**	Server
SERIAL NO.:	N/A	**EUT DESIGNATION:**	Business or Industrial Device
TEMPERATURE:	20°C	**HUMIDITY:**	60%
ATM PRESSURE:	993mbar	**GROUNDING:**	Through AC Power Ground
TESTED BY:	Jason Wen	**DATE OF TEST:**	April 8,2020
TEST METHOD:	FCC Part 15 Subpart B/ANSI C63.4:2014		
TEST PROCEDURE:	The EUT is set up according to the guidelines of FCC Part 15 Subpart B/ANSI C63.4:2014 for radiated emissions on table was placed on ground plane. The turn table can rotate 360 degrees to determine the position of the max. emission level. For 30MHz to 1GHz frequency range, EUT was set 10 meters distances and above 1GHz to 18GHz frequency range, EUT was set 3 meters distances and above 18GHz frequency range, EUT was set 1 meters distances. Semi-Anechoic chamber away from the receiving antenna which was mounted on an antenna tower. The antenna moved up and down between 1 to 4 meters for 30MHz to 1GHz frequency, then use Bore-Sight antenna for above 1GHz to 40GHz frequency to find out the max. emission level contains horizontal and vertical polarization. The basic equation with a sample calculation is as follows: Corr.Data = Raw Data+Ant_F+Cab_L-PreAmp Corr.Data = Field Strength Raw Data = Receiver Amplitude Ant_F = Antenna Factor Cab_L = Cable Loss PreAmp = Amplifier Factor The limit value is calculated by truncate one digit after the decimal point. e.g. truncate 49.54 to the one digit after the decimal point= 49.5		
TEST VOLTAGE:	AC 120V/60Hz		
RESULTS:	The EUT meets the Class A device requirement. The final tests data as shown on following page.		
CHANGES OR MODIFICATIONS:	There is no modification installed by MITAC EMC Lab test personnel.		

Test Equipment	Manufacturer/ Model	Serial No.	Last Calibration Date	Due Date
EMI Receiver	ROHDE&SCHWARZ / ESCI	100696	2019/10/3	2020/10/1
EMI Receiver	ROHDE&SCHWARZ / ESU	100501	2020/2/26	2021/2/24
Antenna	Shwazbeck/9168+5dB	9168-634	2019/6/27	2020/6/25
Antenna	EMCO 3117	64070	2019/10/9	2020/10/7
Antenna	AH-840	101086	2019/10/23	2020/10/21
Pre-Amplifier	EMC9135	980343	2019/9/3	2020/9/1
Pre-Amplifier	AGILENT / 8449B	3008A01734	2019/10/25	2020/10/23
Pre-Amplifier	KEYSIGHT / 83051A	MY53010056	2020/3/3	2021/3/2
Cable	EMC-142-NM	130802&130804	2019/9/4	2020/9/2
Cable	10m Left	N/A	2019/8/22	2020/8/20
Cable	EMC104-SM-SF	170812&141007	2019/10/16	2020/10/14
RF Cable(18-40GHz)	HUBER+SUHNERSUCO FLEX102	MY2741/2&2739/2	2020/3/3	2021/3/2

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Operator: Jason Wen

Radiated Emission Measurement

File :20200007RE002R0 Data :#7 Date: 2020/4/8 Time: PM 01:53:07

Temperature: 20 ℃ Humidity: 60 % Airpressure: 993 mbar

Site : 10m Chamber
Limit : (RE)FCC PART 15 class A 10m
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Polarization: *Horizontal*
Power : 120VAC/60Hz
Witness:
Cable Max:

Mk.	Frequency MHz	Raw Data dBuV	Ant_F dB/m	Cab_L dB	PreAmp dB	Corr. Data dBuV/m	Limit dBuV/m	Margin dB	Ant. cm	Ang. deg.	Detector	Remarks
	250.0063	44.01	16.6	3.1	36.43	27.28	46.40	-19.12	299	88	QP	
	433.0850	38.57	21.29	4.05	36.71	27.20	46.40	-19.20	200	144	QP	
	500.0060	42.66	22.5	4.38	36.85	32.69	46.40	-13.71	200	89	QP	
*	624.9935	45.14	25	4.89	36.99	38.04	46.40	-8.36	100	237	QP	
	750.0211	38.09	26.8	5.49	37.15	33.23	46.40	-13.17	100	162	QP	
	832.9724	34.57	27.3	5.64	37.2	30.31	46.40	-16.09	100	299	QP	

Spectrum Analyzer: ESCI
Receiver: ESCI_1
Antenna: 9168-634+PAD
Amplifier: 9135 980343

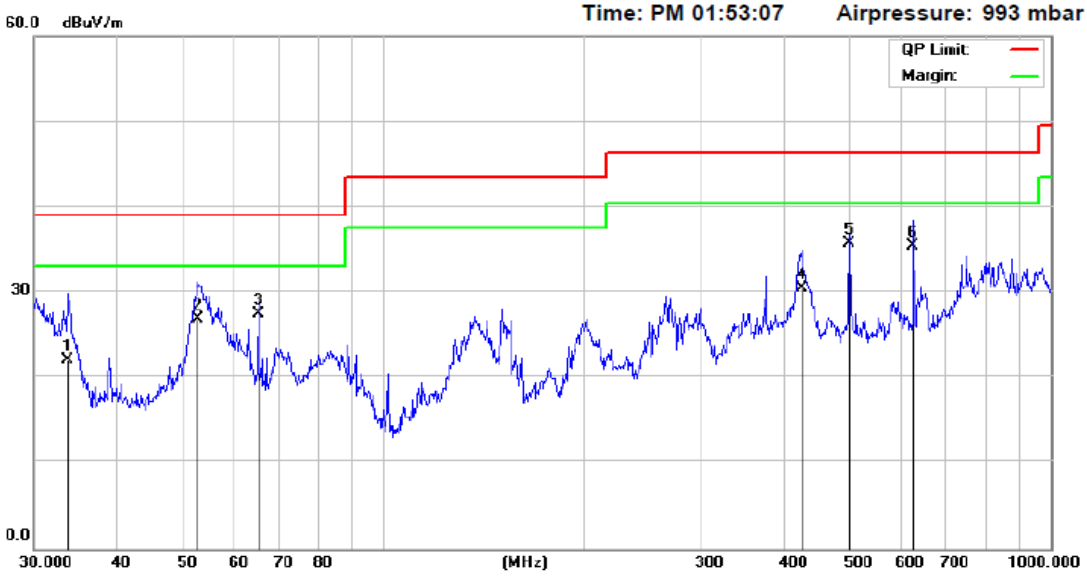
*:Maximum data x:Over limit !:over margin
RBW: 120 KHz
VBW: 300 KHz
Cable: 10ML + 130802

File :20200007RE002R0\Data :#7 *Page: 1*

Radiated Emission Measurement

File :20200007RE002R0 Data :#8 Date: 2020/4/8 Time: PM 01:53:07

Temperature: 20 ℃ Humidity: 60 % Airpressure: 993 mbar



Site : 10m Chamber
Limit : (RE)FCC PART 15 class A 10m
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Polarization: *Vertical*
Power : 120VAC/60Hz
Witness:
Cable Max:

Mk.	Frequency MHz	Raw Data dBuV	Ant_F dB/m	Cab_L dB	PreAmp dB	Corr. Data dBuV/m	Limit dBuV/m	Margin dB	Ant. cm	Ang. deg.	Detector	Remarks
	33.8465	40.23	18.07	1.23	37.42	22.11	39.00	-16.89	199	252	QP	
	52.7422	43.98	18.66	1.49	37.24	26.89	39.00	-12.11	100	198	QP	
	64.9995	45.64	17.55	1.58	37.19	27.58	39.00	-11.42	100	27	QP	
	424.5690	42.05	21.09	4.01	36.69	30.46	46.40	-15.94	400	19	QP	
*	499.9900	45.81	22.5	4.38	36.85	35.84	46.40	-10.56	100	163	QP	
	625.0021	42.59	25	4.9	36.99	35.50	46.40	-10.90	299	163	QP	

Spectrum Analyzer: ESCI
Receiver: ESCI_1
Antenna: 9168-634+PAD
Amplifier: 9135 980343

*:Maximum data x:Over limit !:over margin
RBW: 120 KHz
VBW: 300 KHz
Cable: 10ML + 130802

File :20200007RE002R0\Data :#8 *Page: 1*

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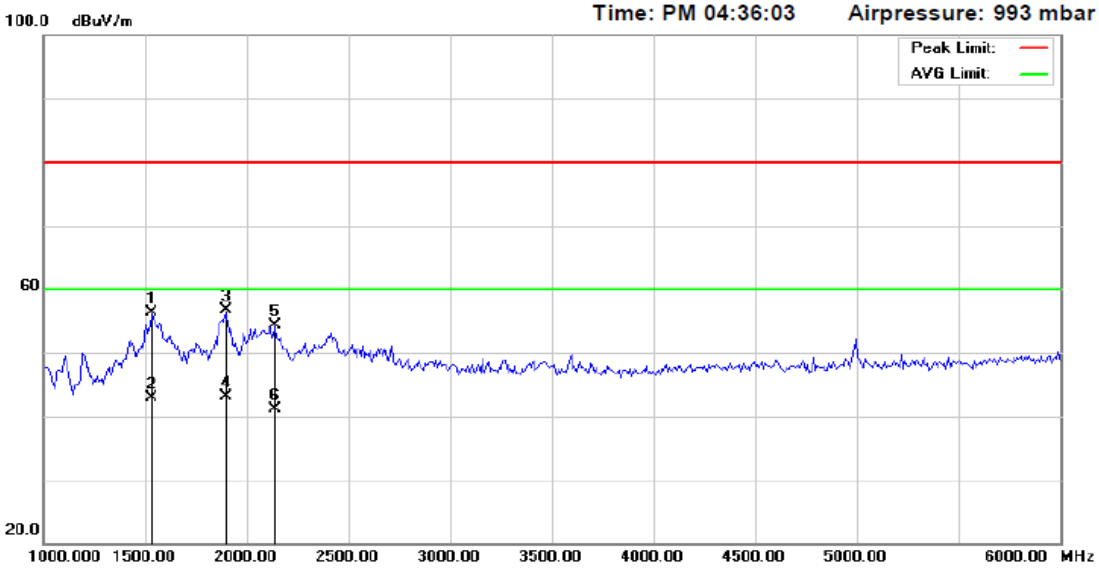
Radiated Emission Measurement

File :20200007RE002-1R0 Data :#6 Date: 2020/4/8 Time: PM 04:36:03

Temperature: 20 ℃ Humidity: 60 % Airpressure: 993 mbar



Site : 10m Chamber
Limit : (RE)FCC PART 15 class A 3m_PEAK
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Polarization: *Horizontal*
Power : 120VAC/60Hz
Witness:
Cable Max:

Mk.	Frequency MHz	Raw Data dBuV	Ant_F dB/m	Cab_L dB	PreAmp dB	Corr. Data dBuV/m	Limit dBuV/m	Margin dB	Ant. cm	Ang. deg.	Detector	Remarks
	1534.936	62.54	27.89	2.37	36.5	56.30	80.00	-23.70	100	282	peak	
	1534.936	49.06	27.89	2.37	36.5	42.82	60.00	-17.18	100	282	AVG	
	1897.436	59.54	30.86	2.63	36.39	56.64	80.00	-23.36	129	298	peak	
*	1897.436	46.06	30.86	2.63	36.39	43.16	60.00	-16.84	129	298	AVG	
	2137.821	56.13	31.81	2.8	36.41	54.33	80.00	-25.67	195	307	peak	
	2137.821	42.86	31.81	2.8	36.41	41.06	60.00	-18.94	195	307	AVG	

Spectrum Analyzer: ESU
Receiver: ESU_1
Antenna: 3117-3m-86195
Amplifier: PA-8449B-1734

*:Maximum data x:Over limit !:over margin
RBW: 1000 KHz
VBW: 3000 KHz
Cable: 104 170812&14

File :20200007RE002-1R0\Data :#6 **Page: 1**

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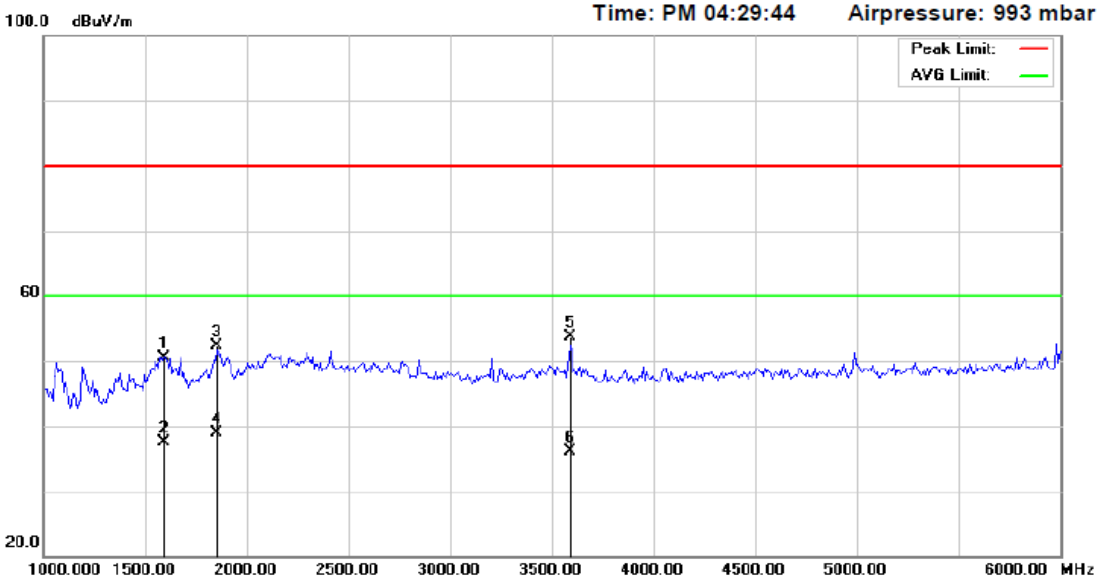
Radiated Emission Measurement

File :20200007RE002-1R0 Data :#5 Date: 2020/4/8 Time: PM 04:29:44

Temperature: 20 ℃ Humidity: 60 % Airpressure: 993 mbar



Site : 10m Chamber
Limit : (RE)FCC PART 15 class A 3m_PEAK
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Polarization: *Vertical*
Power : 120VAC/60Hz
Witness:
Cable Max:

Mk.	Frequency MHz	Raw Data dBuV	Ant_F dB/m	Cab_L dB	PreAmp dB	Corr. Data dBuV/m	Limit dBuV/m	Margin dB	Ant. cm	Ang. deg.	Detector	Remarks
	1592.949	56.24	28.36	2.41	36.48	50.53	80.00	-29.47	100	224	peak	
	1592.949	43.17	28.36	2.41	36.48	37.46	60.00	-22.54	100	224	AVG	
	1849.359	55.74	30.46	2.6	36.41	52.39	80.00	-27.61	213	0	peak	
*	1849.359	42.31	30.46	2.6	36.41	38.96	60.00	-21.04	213	0	AVG	
	3586.923	54.04	32.77	3.64	36.79	53.66	80.00	-26.34	133	183	peak	
	3586.923	36.48	32.77	3.64	36.79	36.10	60.00	-23.90	133	183	AVG	

Spectrum Analyzer: ESU
Receiver: ESU_1
Antenna: 3117-3m-86195
Amplifier: PA-8449B-1734

*:Maximum data x:Over limit !:over margin
RBW: 1000 KHz
VBW: 3000 KHz
Cable: 104 170812&14

File :20200007RE002-1R0\Data :#5 **Page: 1**

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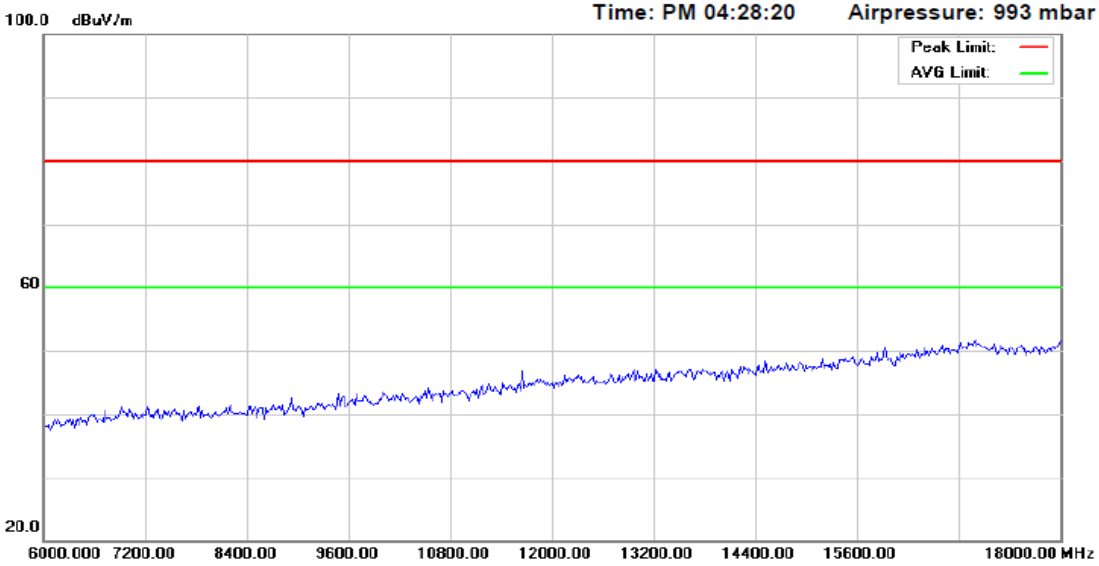
Radiated Emission Measurement

File :20200007RE002-1R0 Data :#4 Date: 2020/4/8 Time: PM 04:28:20

Temperature: 20 ℃ Humidity: 60 % Airpressure: 993 mbar



Site : 10m Chamber
Limit : (RE)FCC PART 15 class A 3m_PEAK
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Polarization: *Horizontal*
Power : 120VAC/60Hz
Witness:
Cable Max:

Mk.	Frequency MHz	Raw Data dBuV	Ant_F dB/m	Cab_L dB	PreAmp dB	Corr. Data dBuV/m	Limit dBuV/m	Margin dB	Ant. cm	Ang. deg.	Detector	Remarks

Spectrum Analyzer: ESU
Receiver: ESU_1
Antenna: 3117-3m-86195
Amplifier: PA-8449B-1734

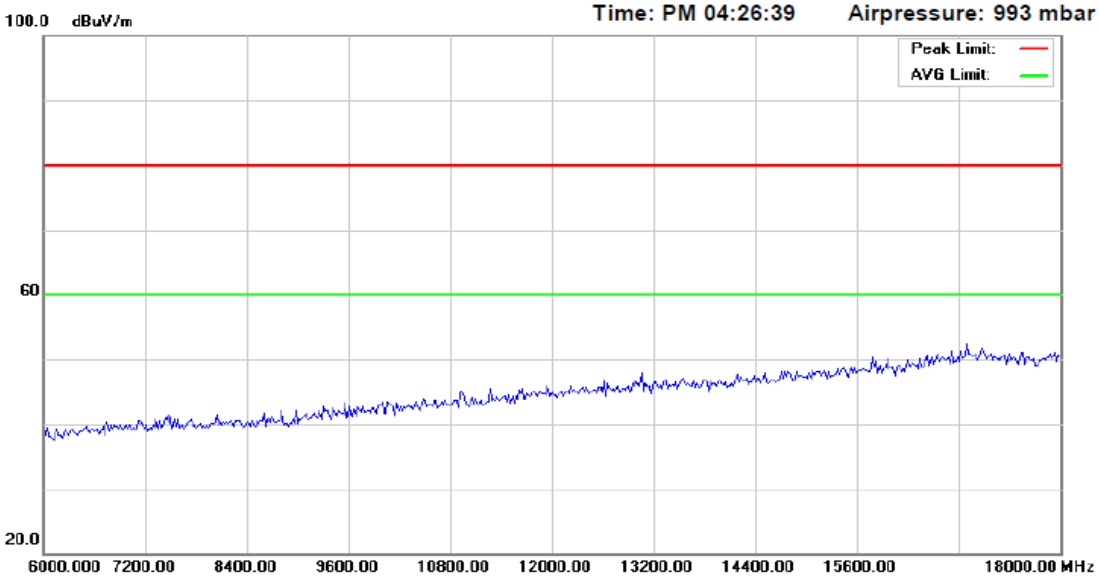
*:Maximum data x:Over limit !:over margin
RBW: 1000 KHz
VBW: 3000 KHz
Cable: 104 170812&14

File :20200007RE002-1R0\Data :#4 **Page: 1**

Radiated Emission Measurement

File :20200007RE002-1R0 Data :#3 Date: 2020/4/8 Time: PM 04:26:39

Temperature: 20 ℃ Humidity: 60 % Airpressure: 993 mbar



Site : 10m Chamber
Limit : (RE)FCC PART 15 class A 3m_PEAK
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Polarization: *Vertical*
Power : 120VAC/60Hz
Witness:
Cable Max:

Mk.	Frequency MHz	Raw Data dBuV	Ant_F dB/m	Cab_L dB	PreAmp dB	Corr. Data dBuV/m	Limit dBuV/m	Margin dB	Ant. cm	Ang. deg.	Detector	Remarks

Spectrum Analyzer: ESU
Receiver: ESU_1
Antenna: 3117-3m-86195
Amplifier: PA-8449B-1734

*:Maximum data x:Over limit !:over margin
RBW: 1000 KHz
VBW: 3000 KHz
Cable: 104 170812&14

File :20200007RE002-1R0\Data :#3 **Page: 1**

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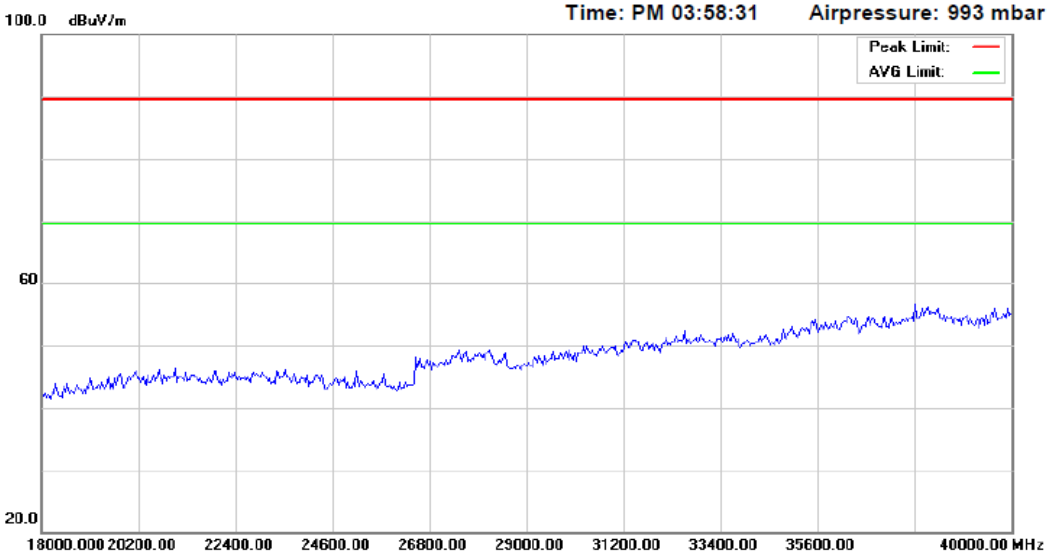
Radiated Emission Measurement

File :20200007RE002-1R0 Data :#1 Date: 2020/4/8 Time: PM 03:58:31

Temperature: 20 ℃ Humidity: 60 % Airpressure: 993 mbar



Site : 10m Chamber
Limit : (RE)FCC PART 15 class A 1m_PEAK
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Polarization: *Horizontal*
Power : 120VAC/60Hz
Witness:
Cable Max:

Mk.	Frequency MHz	Raw Data dBuV	Ant_F dB/m	Cab_L dB	PreAmp dB	Corr. Data dBuV/m	Limit dBuV/m	Margin dB	Ant. cm	Ang. deg.	Detector	Remarks

Spectrum Analyzer: ESU
Receiver: ESU_1
Antenna: AH-840 40G
Amplifier: 83051A 40G

*:Maximum data x:Over limit !:over margin
RBW: 1000 KHz
VBW: 3000 KHz
Cable: SUCOFLEX 40G

File :20200007RE002-1R0\Data :#1 **Page: 1**

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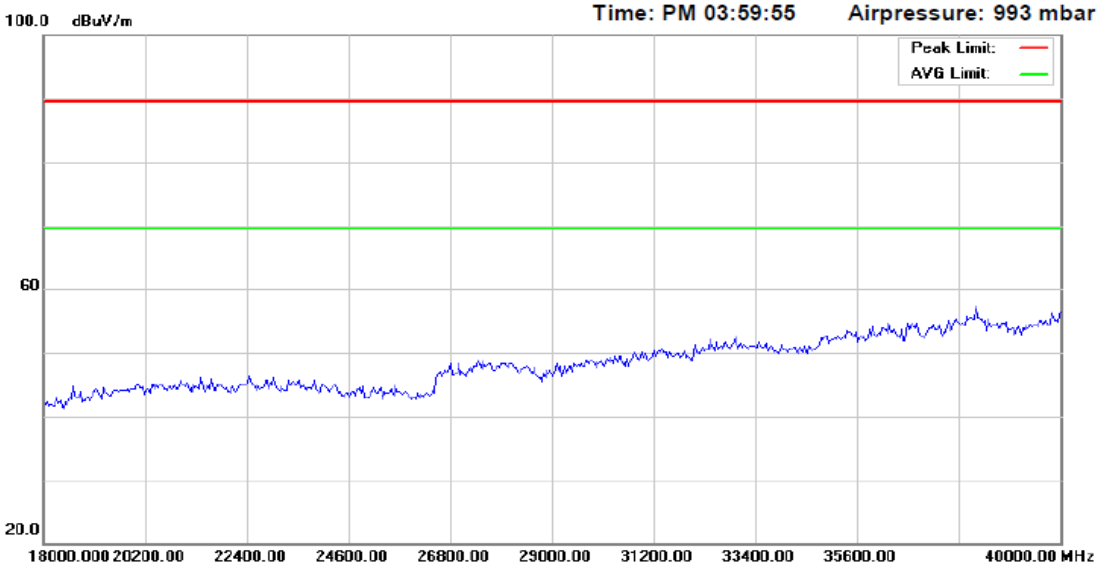
Radiated Emission Measurement

File :20200007RE002-1R0 Data :#2 Date: 2020/4/8 Time: PM 03:59:55

Temperature: 20 ℃ Humidity: 60 % Airpressure: 993 mbar



Site : 10m Chamber
Limit : (RE)FCC PART 15 class A 1m_PEAK
Company : Intel
EUT : M200001UR
Exercise Program : EMC Exerciser 1.0.89.0
Comments: Full system ; Mode 01.

Polarization: *Vertical*
Power : 120VAC/60Hz
Witness:
Cable Max:

Mk.	Frequency MHz	Raw Data dBuV	Ant_F dB/m	Cab_L dB	PreAmp dB	Corr. Data dBuV/m	Limit dBuV/m	Margin dB	Ant. cm	Ang. deg.	Detector	Remarks

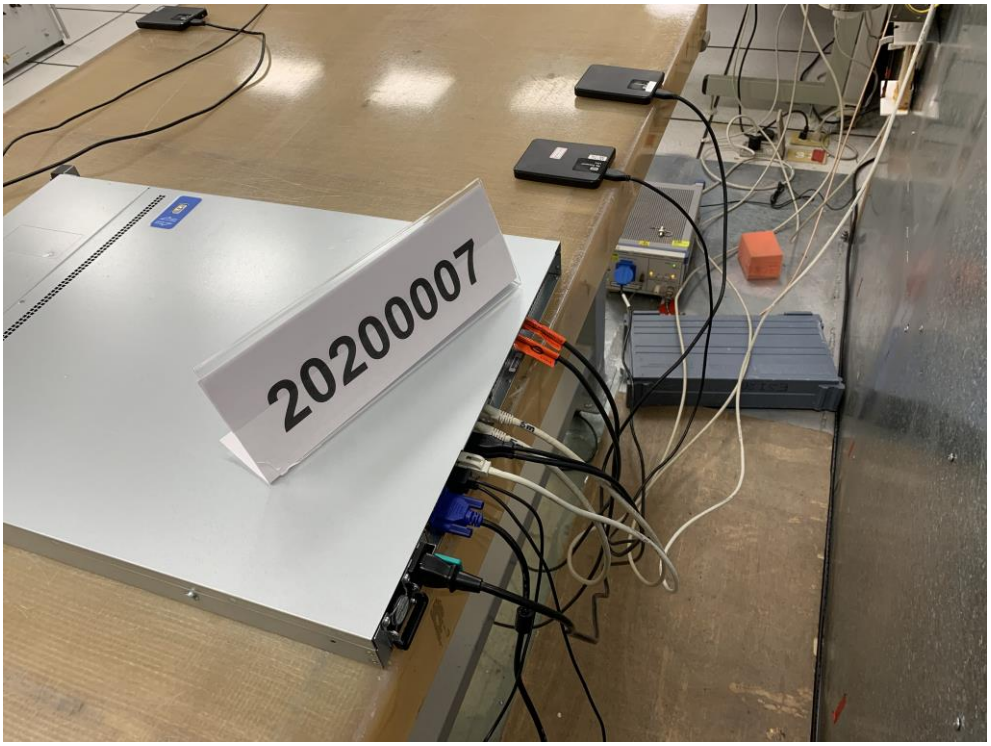
Spectrum Analyzer: ESU
Receiver: ESU_1
Antenna: AH-840 40G
Amplifier: 83051A 40G

*:Maximum data x:Over limit !:over margin
RBW: 1000 KHz
VBW: 3000 KHz
Cable: SUCOFLEX 40G

File :20200007RE002-1R0\Data :#2 **Page: 1**

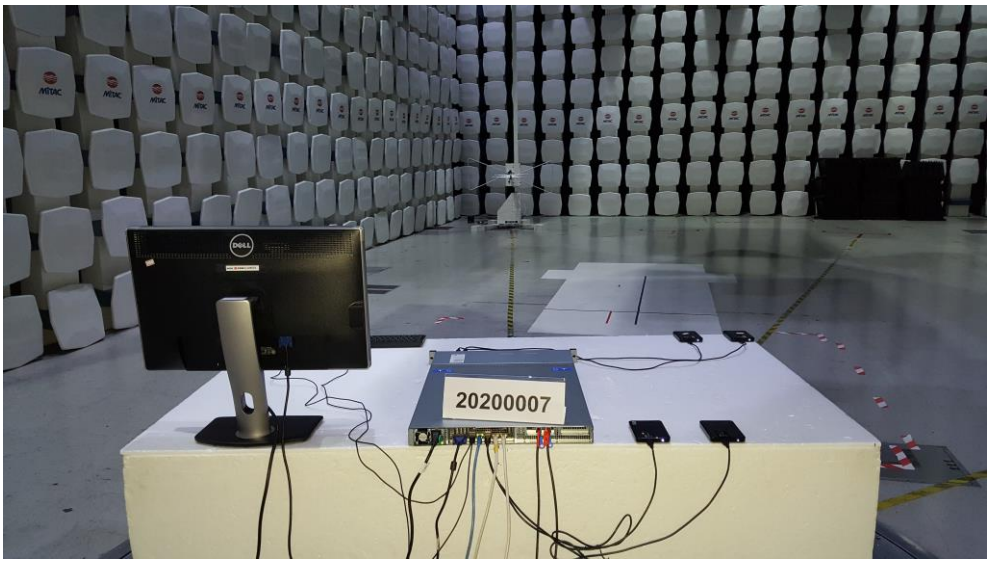
PHOTOGRAPHS OF TEST

Conducted Emission Test Set up-Front View of AC mains power port



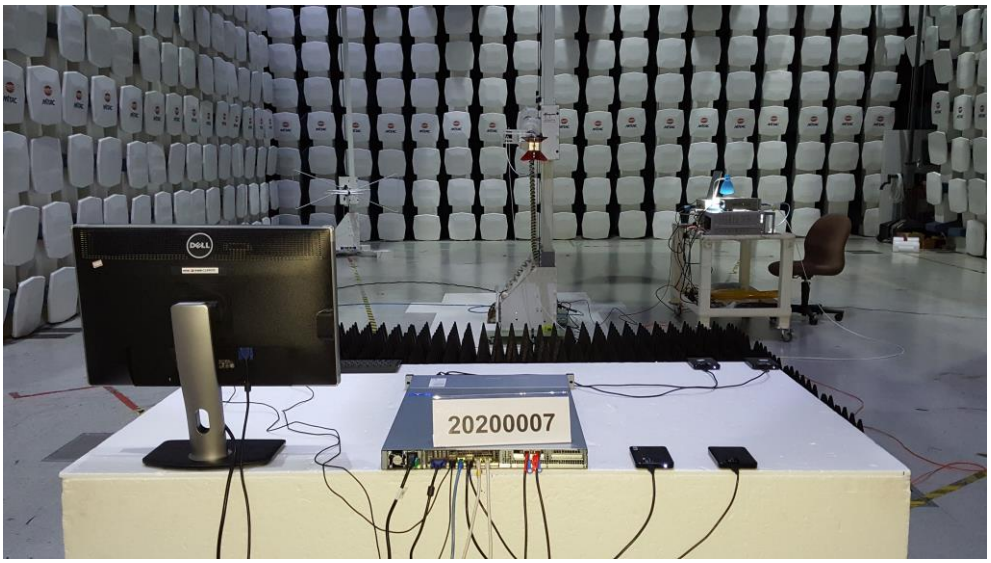
Conducted Emission Test Set up-Rear View of AC mains power port

Radiated Emission Test Set up(Below 1GHz)-Front View



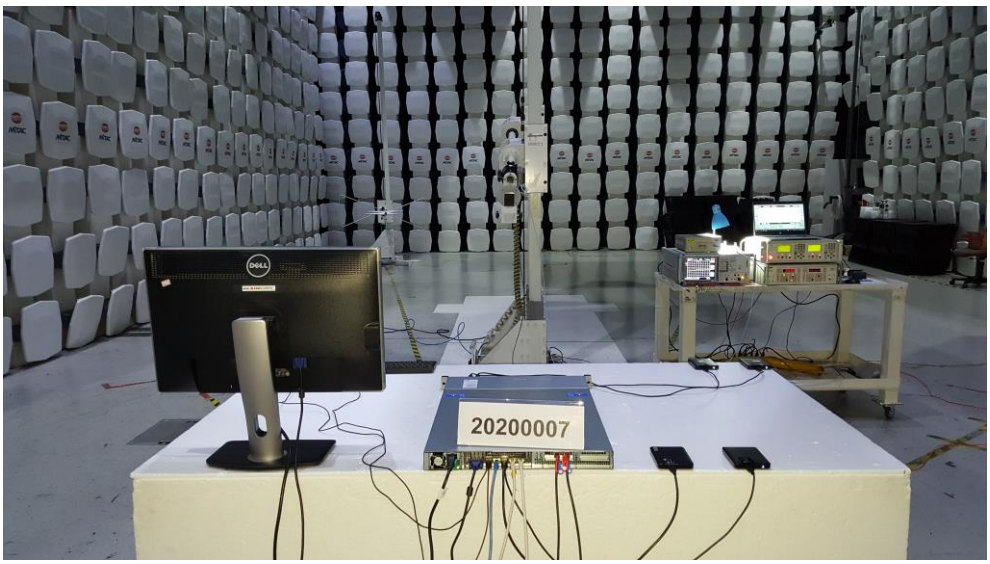
Radiated Emission Test Set up(Below 1GHz)-Rear View

Radiated Emission Test Set up(1~18GHz)-Front View



Radiated Emission Test Set up(1~18GHz)-Rear View

Radiated Emission Test Set up(18~40GHz)-Front View



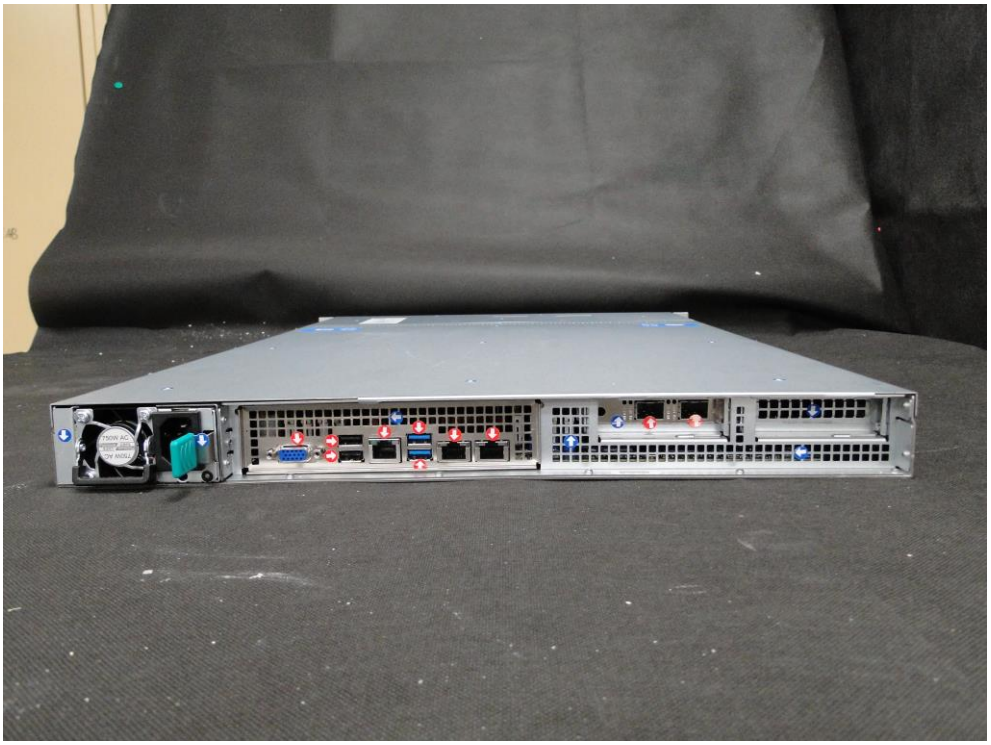
Radiated Emission Test Set up(18~40GHz)-Rear View

PHOTOGRAPHS OF EUT

EUT-Front View

EUT-Rear View

IO Port-Front View



IO Port-Rear View