Report on the RF Testing of:

MORITEX Corporation
Handy Skin Sensor Ⅱ, Model: HSS Ⅱ
FCC ID: 2AO35-HSS2

In accordance with FCC Part15 Subpart E
Class II Permissive Change

Japan

Add value.
Inspire trust.

Prepared for: MORITEX Corporation
3-13-45, Senzui, Asaka-shi, Saitama 351-0024
Japan
Phone: +81-48-218-2907 Fax: +81-48-467-3720

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SIGNATURE			
Hiro Suzuki			
NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	17 JUN 2019

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EXECUTIVE SUMMARY

A sample(s) of this product was tested and found to be compliant with FCC Part15 Subpart E.

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NVLAP LAB CODE 200306-0

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TÜV SÜD Japan Ltd.
Yonezawa Testing Center
5-4149-7 Hachimanpara,
Yonezawa-shi, Yamagata,
992-1128 Japan

Phone: +81 (0) 238 28 2881
Fax: +81 (0) 238 28 2888
www.tuv-sud.jp

Japan

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1 Summary of Test

1.1 Modification history of the test report

Document Number	Modification History	Issue Date
JPD-TR-19084-0	First Issue	Refer to the cover page

1.2 Standards

CFR47 FCC Part 15 Subpart E

1.3 Test methods

ANSI C63.10-2013
KDB789033 D02 General U-NII Test Procedures New Rules v02r01

1.4 Deviation from standards

None

1.5 List of applied test(s) of the EUT

Test item section	Test item	Condition	Result	Remark
15.407(a)	26dB Bandwidth and 99% Occupied Bandwidth	Conducted	PASS	-
15.407(a)	Maximum Conducted Output Power	Conducted	PASS	-
15.407(a)	Peak Power Spectral Density	Conducted	PASS	-
15.407(b) 15.205 15.209	Radiated emissions (Restricted Bands of Operation)	Radiated	PASS	-
15.407(g)	Frequency Stability	Conducted	PASS	-
15.207	AC Power Line Conducted Emissions	Conducted	PASS	-
KDB 789033 D02	Duty Cycle	Conducted	PASS	-

1.6 Test information

None

1.7 Test set up

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1.8 Test period

08-May-2019 - 20-May-2019

2 Equipment Under Test

2.1 EUT information

Applicant	MORITEX Corporation 3-13-45, Senzui, Asaka-shi, Saitama 351-0024 Japan Phone: +81(0)48-218-2907 Fax: +81(0)48-467-3720
Equipment Under Test (EUT)	Handy Skin Sensor Ⅱ
Model number	HSSⅡ
Serial number	9007C (Radiated), 9008C (Conducted)
Trade name	SHISEIDO
Number of sample(s)	1
EUT condition	Production
Power rating	Battery: DC 3.6 V
Size	(W) 64.0 mm×(D) 58.6 mm×(H) 171.0 mm
Environment	Indoor and Outdoor use
Terminal limitation	5˚C to 35˚C
Hardware Version	HV1.04
Software Version	Ampak RFTestTool, Ver：5.6
Firmware Version	FW_B20190105_WT1
RF Specification	
Protocol	IEEE802.11a/n (HT20)
Frequency range	IEEE802.11a/n (HT20): 5180 MHz-5320 MHz, 5500 MHz-5700 MHz
Number of RF Channels	IEEE802.11a/n (HT20): 19 Channels
Modulation type	IEEE802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Data rate	IEEE802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE802.11n (HT20 LGI): 6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps IEEE802.11n (HT20 SGI): 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2Mbps
Channel separation	IEEE802.11a/n (HT20): 20 MHz
Output power	8.054 mW (IEEE802.11a) 6.152 mW (IEEE802.11n: HT20)
Antenna type	Internal antenna
Antenna gain	5.15-5.25 GHz band: -0.85 dBi 5.25-5.35 GHz band: -0.58 dBi 5.47-5.725 GHz band: 0.58 dBi

2.2 Modification to the EUT

The table below details modifications made to the EUT during the test project.

Modification State	Description of Modification	Modification fitted by	Date of Modification
Model: HSSⅡ, Serial Number: 9007C, 9008C			
0	As supplied by the applicant	Not Applicable	Not Applicable

2.3 Variation of family model(s)

2.3.1 List of family model(s)

Not applicable

2.3.2 Reason for selection of EUT

Not applicable

2.4 Operating channels and frequencies

[IEEE802.11a/n (HT20)]

Channel	Frequency [MHz]
36	5180
40	5200
44	5220
48	5240
52	5260
56	5280
60	5300
64	5320
100	5500
104	5520
108	5540
112	5560
116	5580
120	5600
124	5620
128	5640
132	5660
136	5680
140	5700

2.5 Description of test mode

The EUT had been tested under operating condition.
There are three channels have been tested as following:

Band	IEEE802.11a/n (HT20)	
	Channel	Frequency [MHz]
5.2 GHz Band	36	5180
	44	5220
	48	5240
5.3 GHz Band	52	5260
	60	5300
	64	5320
5.6 GHz Band	100	5500
	116	5580
	140	5700

The pre-test has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.

Band	Modulation Type	Data Rate
5.2 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (7.2Mbps)
5.3 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (7.2Mbps)
5.6 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (7.2Mbps)

The field strength of spurious emissions was measured at each position of all three axis X, Y and Z to compare the level, and the maximum noise.
The worst emission was found in Y axis and the worst case recorded.
Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports.

2.6 Operating flow

- Tx mode

i) Test program setup to the Software
ii) Select a Test mode
Operating frequency: 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band
iii) Start test mode

- Rx mode

i) Test program setup to the Software
ii) Select a Test mode
Operating frequency: 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band
iii) Start test mode

3 Configuration of Equipment

Numbers assigned to equipment on the diagram in “3.3 System configuration” correspond to the lists in “3.1 Equipment used” and “3.2 Cable(s) used”.
Cabling and setup(s) were taken into consideration and test data was taken under worse case condition.

3.1 Equipment used

No.	Equipment	Company	Model No.	Serial No.	FCC ID / DoC	Comment
1	Handy Skin Sensor Ⅱ	MORITEX Corporation	HSS Ⅱ	9007C, 9008C	2AO35-HSS2	EUT
2	Sensor Stand	MORITEX Corporation	HSS Ⅱ Stand	9007C	N/A	*
3	AC Adapter	MORITEX Corporation	UBX310-0520	H05-0558798	N/A	*

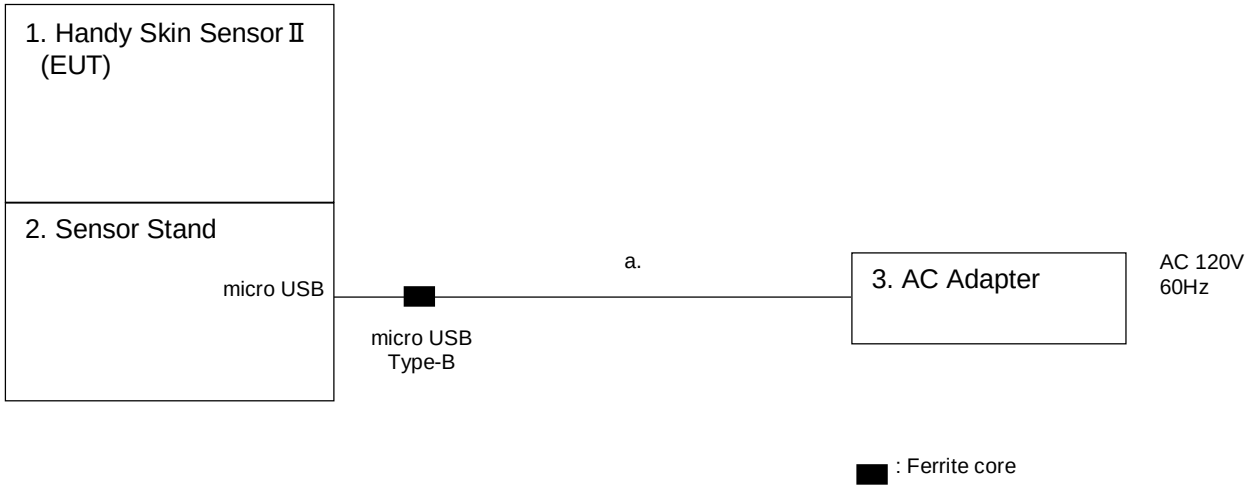
*: AC power line Conducted Emission Test.

3.2 Cable(s) used

No.	Cable	Length[m]	Shield	Connector	Comment
a	Micro USB cable (for AC Adapter)	1.6	Yes	Metal	*

*: AC power line Conducted Emission Test.

3.3 System configuration



4 Test Result

4.1 26dB Bandwidth and 99% Occupied Bandwidth

4.1.1 Measurement procedure

[FCC 15.407(a), KDB 789033 D02, Section C, D]

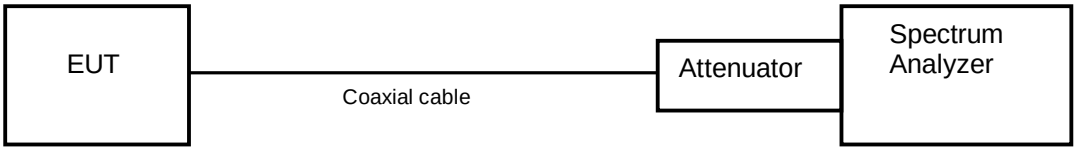
The 26dB bandwidth and 99% occupied bandwidth is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;
- RBW=200 kHz, VBW=620 kHz, Span=40 MHz
  Sweep=auto, Detector=Peak, Trace mode=Max hold

The EUT was set to operate with following conditions.
- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band

The test mode of EUT is as follows.
- Tx mode

- Test configuration



4.1.2 Limit

None

4.1.3 Measurement result

Date : 15-May-2019
Temperature : 23.6 [˚C]
Humidity : 44.2 [%]
Test place : Shielded room No.4
Test engineer : Kazunori Saito

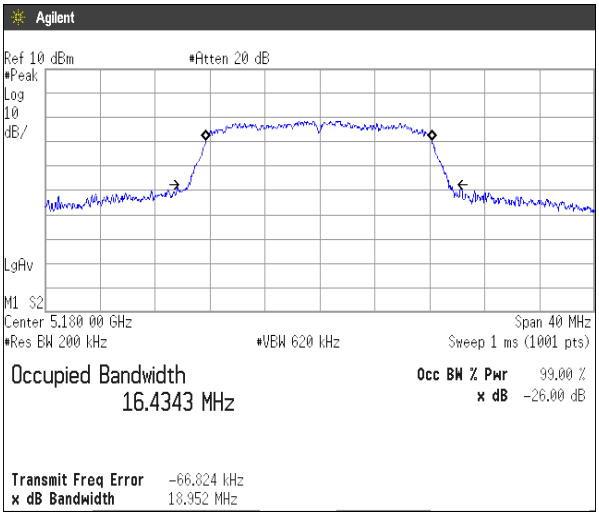
Mode	Band	Channel	Frequency (MHz)	26 dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11a	5.2 GHz Band	36	5180	18.952	16.4343
		44	5220	18.836	16.4235
		48	5240	18.804	16.4006
	5.3 GHz Band	52	5260	18.932	16.4121
		60	5300	18.798	16.4122
		64	5320	18.887	16.4222
	5.6 GHz Band	100	5500	18.811	16.4636
		116	5580	18.961	16.4493
		140	5700	18.815	16.4306

Mode	Band	Channel	Frequency (MHz)	26 dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11n (20 MHz)	5.2 GHz Band	36	5180	19.164	17.4941
		44	5220	19.067	17.4921
		48	5240	19.149	17.4824
	5.3 GHz Band	52	5260	19.105	17.4670
		60	5300	19.149	17.4899
		64	5320	19.108	17.4648
	5.6 GHz Band	100	5500	19.216	17.4930
		116	5580	19.073	17.4833
		140	5700	19.248	17.5101

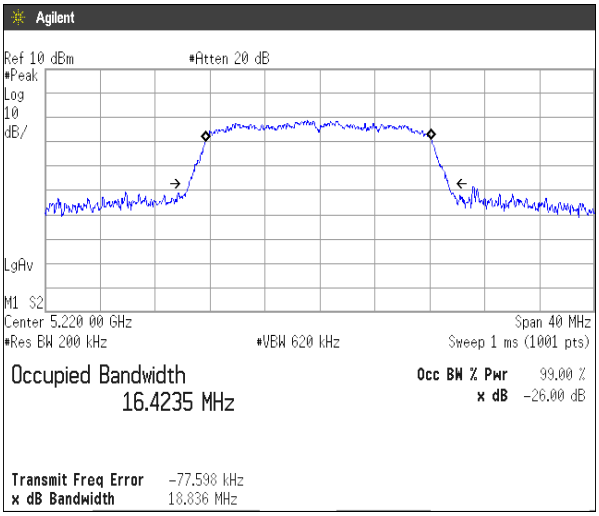
4.1.4 Trace data

[IEEE802.11a]
(5.2 GHz Band)

Channel: 36



Channel: 44



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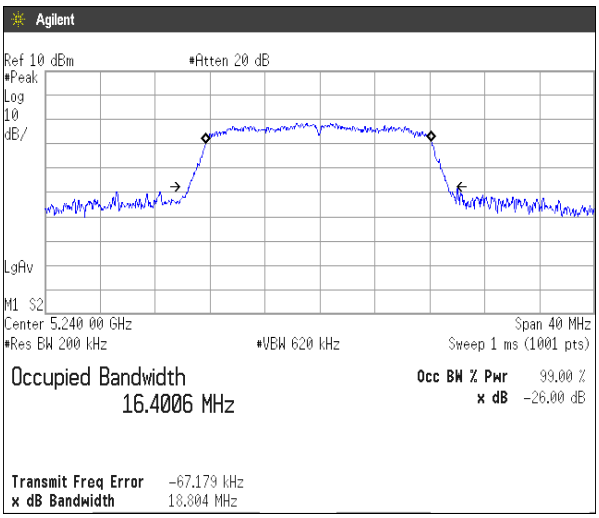
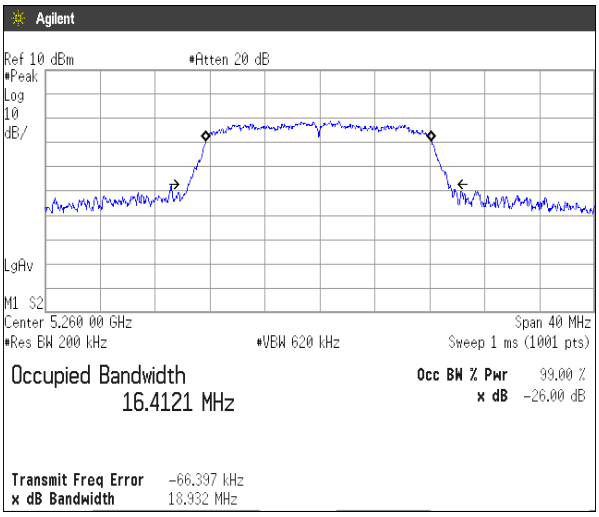
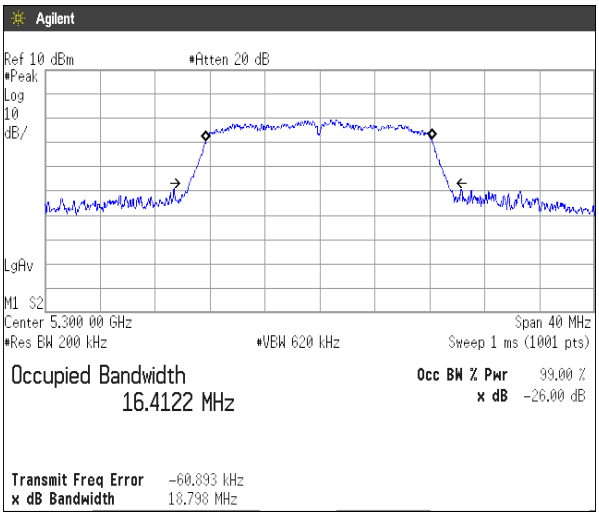


(5.3 GHz Band)

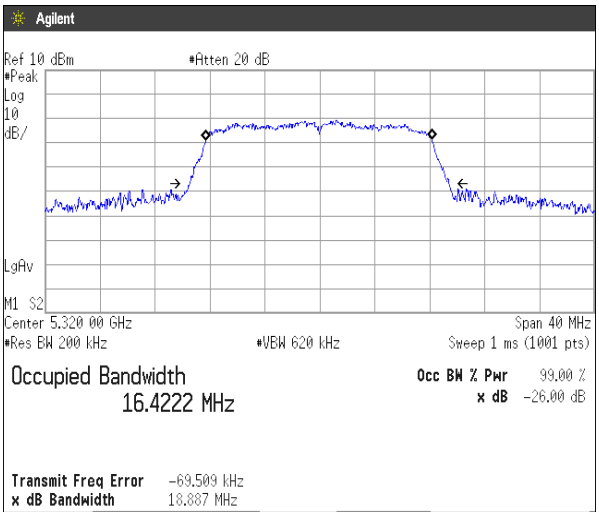
Channel: 52



Channel: 60

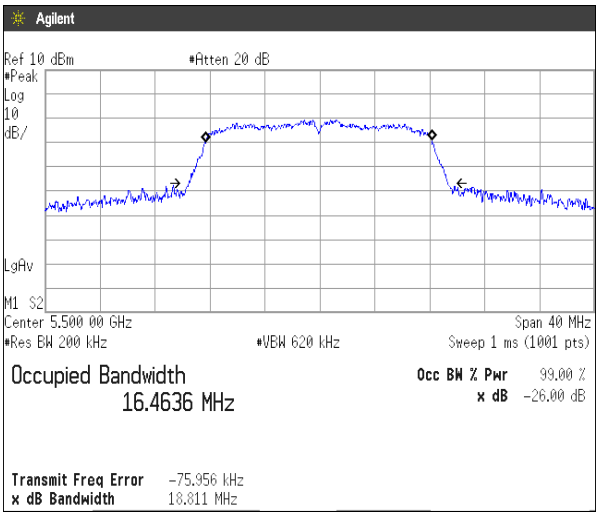


Channel: 64

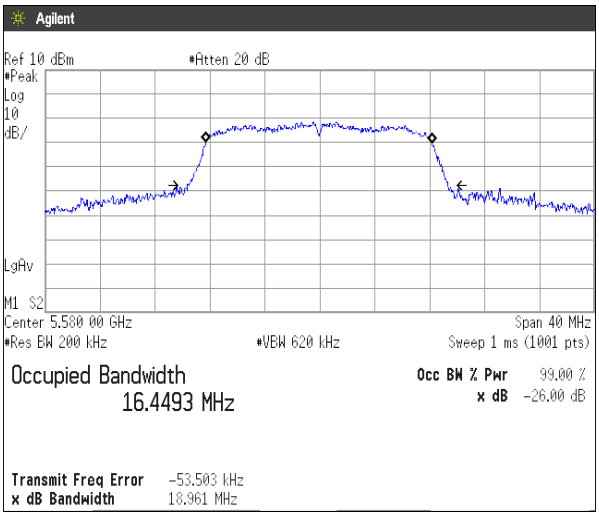


(5.6 GHz Band)

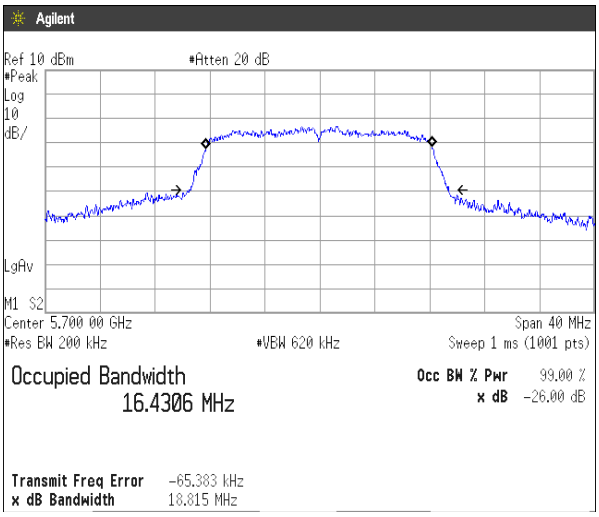
Channel: 100



Channel: 116

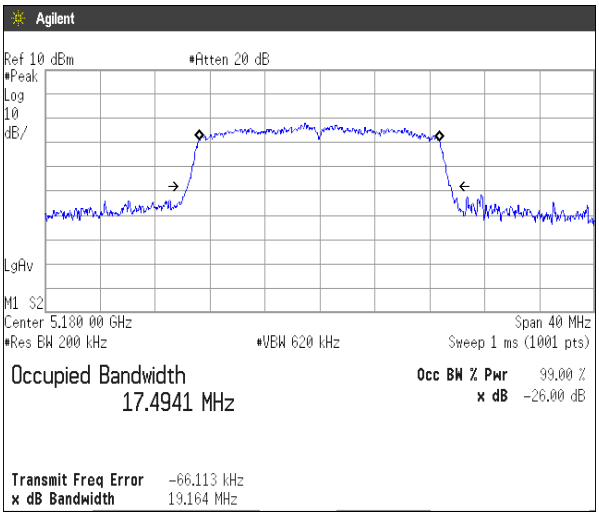


Channel: 140

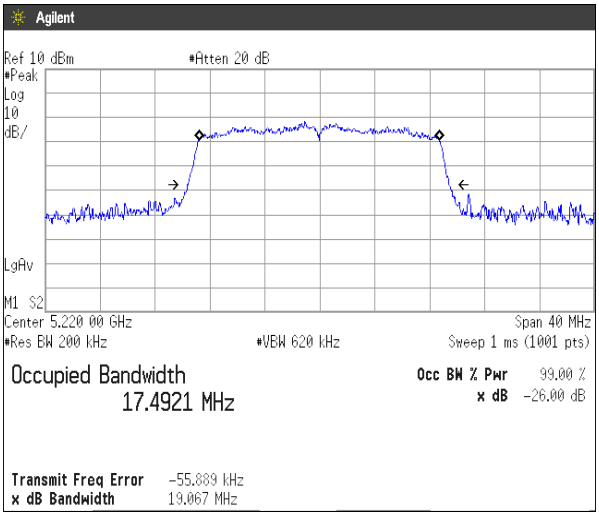


[IEEE802.11n (HT20)]
(5.2 GHz Band)

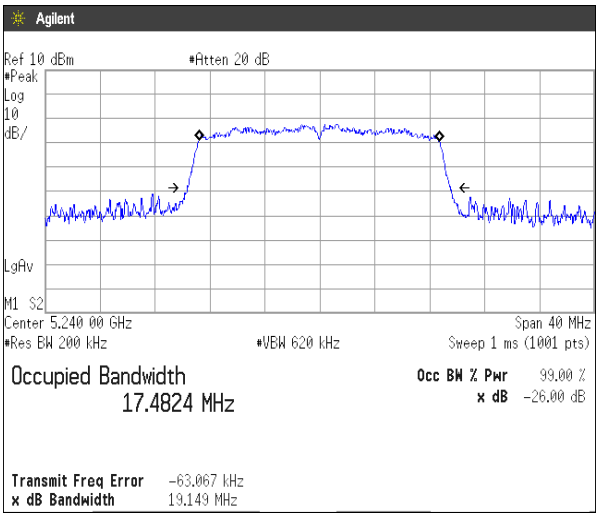
Channel: 36



Channel: 44

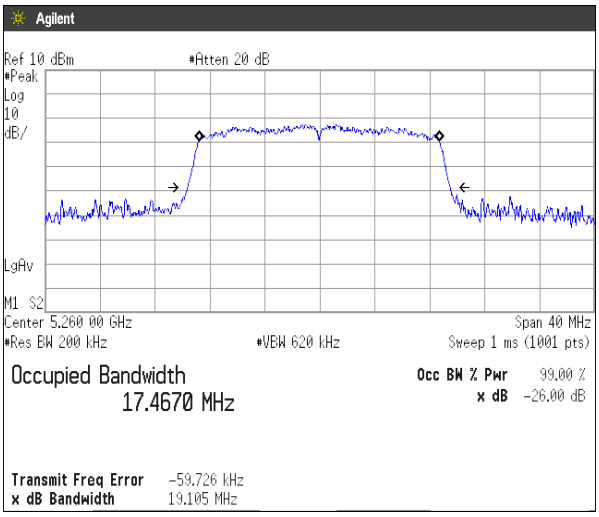


Channel: 48

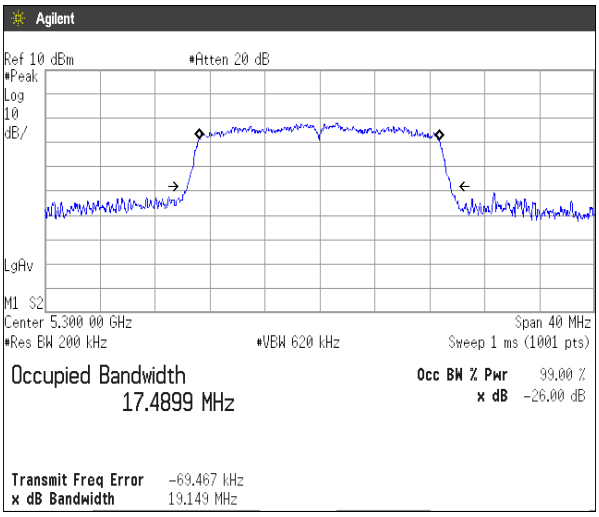


(5.3 GHz Band)

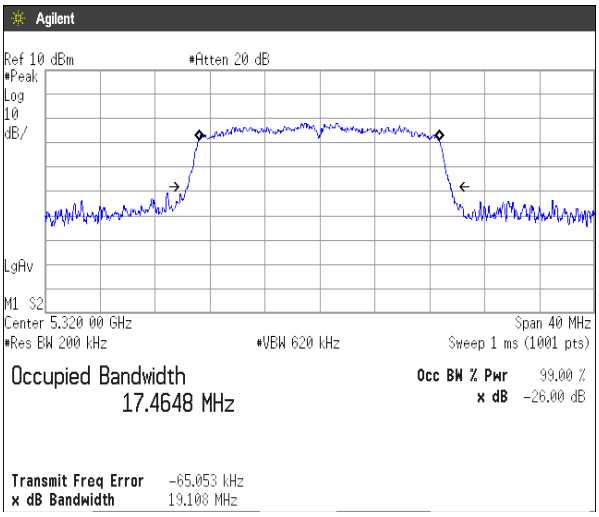
Channel: 52



Channel: 60

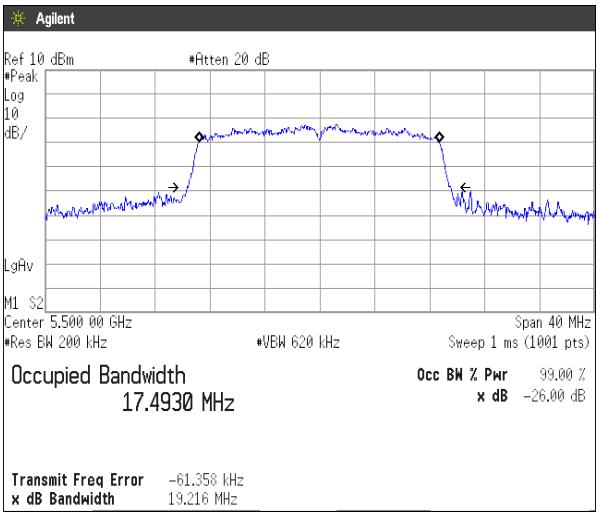


Channel: 64

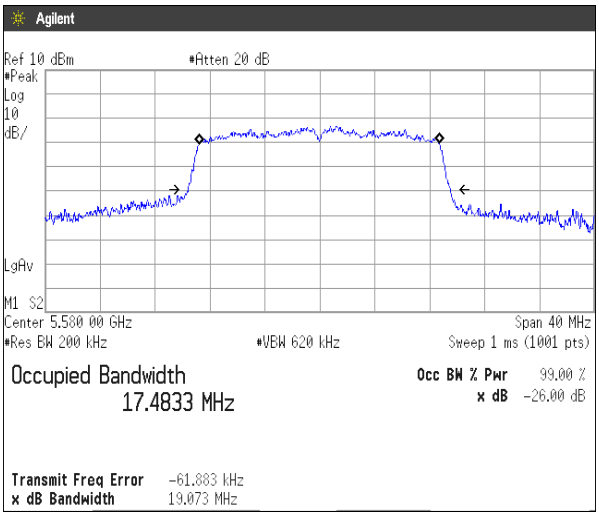


(5.6 GHz Band)

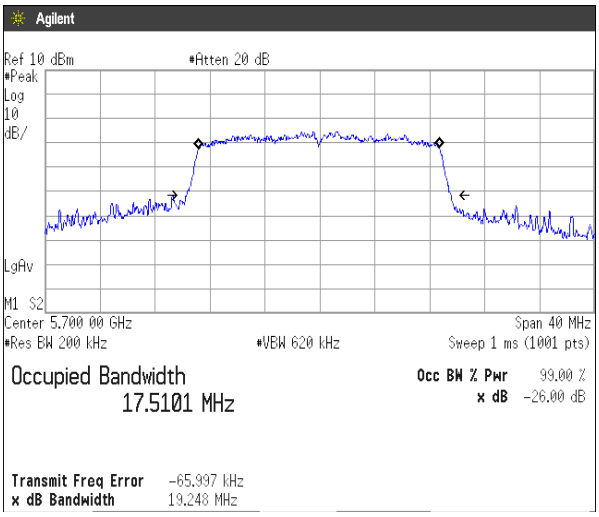
Channel: 100



Channel: 116



Channel: 140



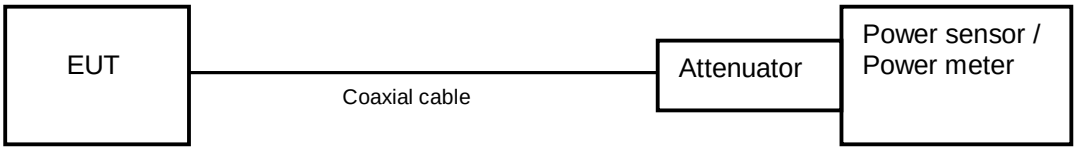
4.2 Maximum Conducted Output Power

4.2.1 Measurement procedure

[FCC 15.407(a), KDB 789033 D02, Section E.3.b) Method PM-G]

Measurement using a gated RF average power meter.
The average power is measured with a power sensor connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

- Test configuration



4.2.2 Limit

(1) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250mW or 11dBm + 10logB, where B is the 2 6dB emission bandwidth in megahertz.

(3) For the 5.725-5.85 GHz bands, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

<Output Power Limit Calculation>

Band	Mode	Power Limit (mW)	Calculated Limit (dBm)	Antenna Gain (dBi)	Determined Limit (dBm)
5.2 GHz Band	802.11a	250	23.97	-0.85	23.97
	802.11n HT20				

Band	Mode	Power Limit (mW) / Least 26dBc BW (MHz)	Calculated Limit (dBm)	Antenna Gain (dBi)	Determined Limit (dBm)
5.3 GHz Band	802.11a	250	23.97	-0.58	23.74
		18.798	23.74		
	802.11n HT20	250	23.97		23.81
		19.105	23.81		

Band	Mode	Power Limit (mW) / Least 26dBc BW (MHz)	Calculated Limit (dBm)	Antenna Gain (dBi)	Determined Limit (dBm)
5.6 GHz Band	802.11a	250	23.97	0.58	23.74
		18.811	23.74		
	802.11n HT20	250	23.97		23.80
		19.073	23.80		

4.2.3 Measurement result

Date : 09-May-2019
Temperature : 20.5 [˚C]
Humidity : 36.9 [%]
Test place : Shielded room No.4
Test engineer : Taiki Watanabe

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Determined Limit (dBm)	Result
802.11a	36	5180	8.49	7.063	23.97	PASS
	44	5220	8.58	7.211		PASS
	48	5240	8.70	7.413		PASS
	52	5260	8.85	7.674	23.74	PASS
	60	5300	8.95	7.852		PASS
	64	5320	8.99	7.925		PASS
	100	5500	9.06	8.054	23.74	PASS
	116	5580	8.27	6.714		PASS
	140	5700	6.79	4.775		PASS

Note: Output Power Value = Reading value on average power meter + cable and attenuator factor

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Determined Limit (dBm)	Result
802.11n (20MHz)	36	5180	7.22	5.272	23.97	PASS
	44	5220	7.56	5.702		PASS
	48	5240	7.63	5.794		PASS
	52	5260	7.61	5.768	23.81	PASS
	60	5300	7.82	6.053		PASS
	64	5320	7.89	6.152		PASS
	100	5500	7.13	5.164	23.80	PASS
	116	5580	6.24	4.207		PASS
	140	5700	4.65	2.917		PASS

Note: Output Power Value = Reading value on average power meter + cable and attenuator factor

4.3 Peak Power Spectral Density

4.3.1 Measurement procedure

[FCC 15.407(a), KDB 789033 D02, Section F]

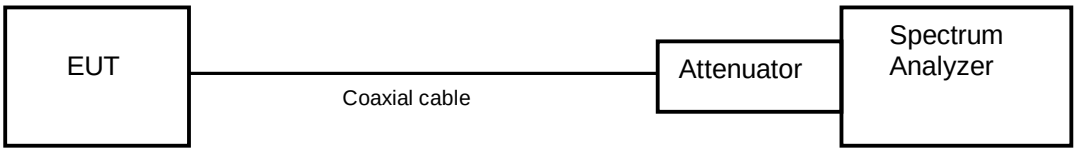
The peak power spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;
- RBW=1 MHz, VBW=3 MHz, Span=25 MHz, Sweep=Auto, Detector=RMS, Trace mode=Averaging

The EUT was set to operate with following conditions.
- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band

The test mode of EUT is as follows.
- Tx mode

- Test configuration



4.3.2 Limit

(1) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(3) For the 5.725-5.85 GHz bands, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirection applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

<Peak Power Spectral Density Limit Calculation>

Band	Antenna Gain (dBi)	Limit
5.2 GHz Band	-0.85	10.15 dBm/MHz
5.3 GHz Band	-0.58	10.42 dBm/MHz
5.6 GHz Band	0.58	11.58 dBm/MHz

4.3.3 Measurement result

Date : 8-May-2019
Temperature : 23.6 [˚C]
Humidity : 46.1 [%]
Test place : Shielded room No.4
Test engineer : Taiki Watanabe

Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)
				On Time(ms)	On+Off Time(ms)	X		
802.11a	36	5180	-1.056	1.396	1.434	0.974	0.117	-0.939
	44	5220	-1.104					-0.987
	48	5240	-0.781					-0.664
	52	5260	-0.682	1.396	1.434	0.974	0.117	-0.565
	60	5300	-0.337					-0.220
	64	5320	-0.343					-0.226
	100	5500	-0.414	1.396	1.436	0.972	0.123	-0.291
	116	5580	-1.125					-1.002
	140	5700	-3.490					-3.367

Note 1: X = On time / (On + Off time), DCF = 10log (1/x)
Note 2: Test Result = Reading + DCF

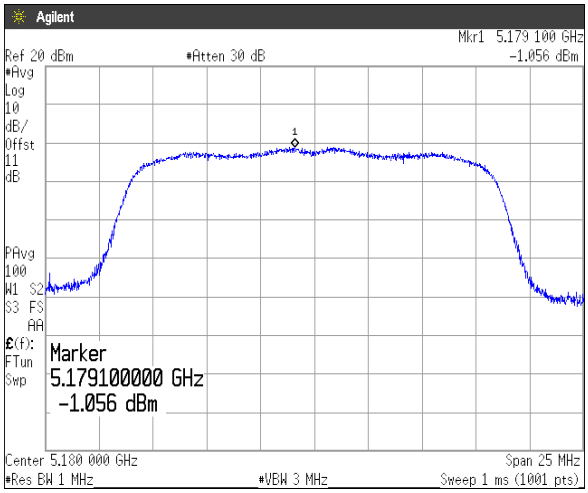
Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)
				On Time(ms)	On+Off Time(ms)	X		
802.11n (20MHz)	36	5180	-2.445	1.308	1.348	0.970	0.131	-2.314
	44	5220	-2.388					-2.257
	48	5240	-1.847					-1.716
	52	5260	-1.981	1.308	1.348	0.970	0.131	-1.850
	60	5300	-1.620					-1.489
	64	5320	-1.372					-1.241
	100	5500	-2.572	1.308	1.346	0.972	0.124	-2.448
	116	5580	-3.529					-3.405
	140	5700	-5.506					-5.382

Note 1: X = On time / (On + Off time), DCF = 10log (1/x)
Note 2: Test Result = Reading + DCF

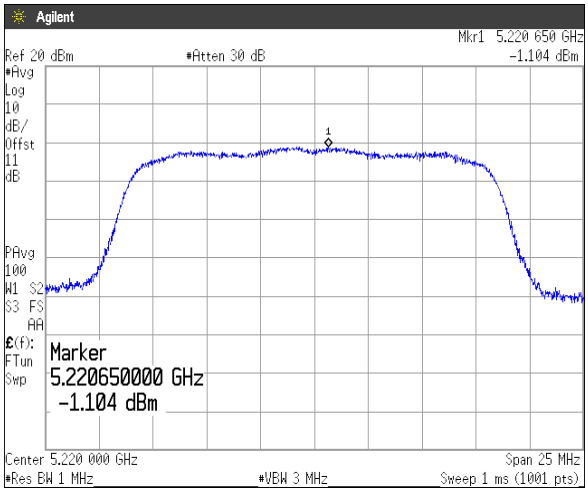
4.3.4 Trace data

[IEEE802.11a]
(5.2 GHz Band)

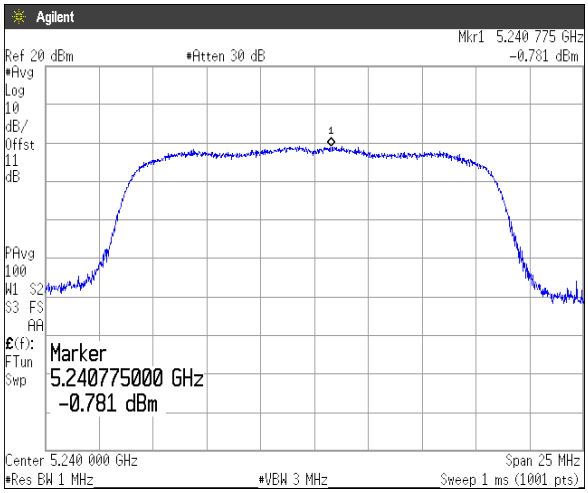
Channel: 36



Channel: 44

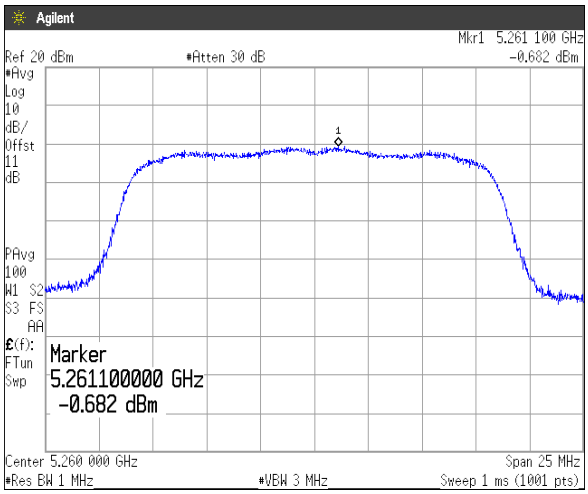


Channel: 48

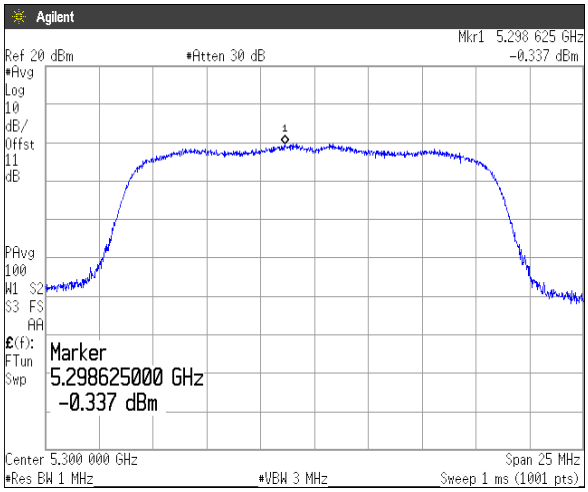


(5.3 GHz Band)

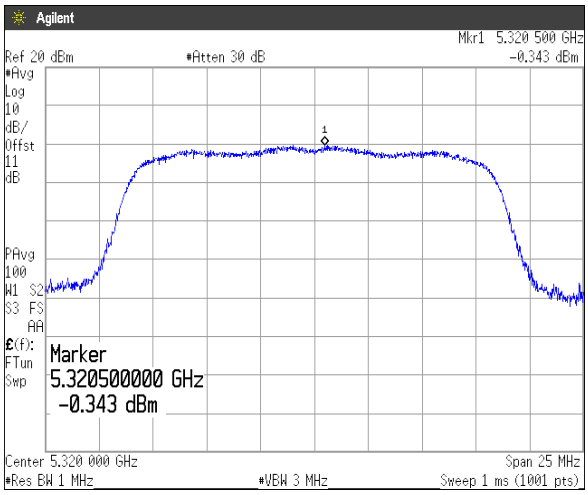
Channel: 52



Channel: 60

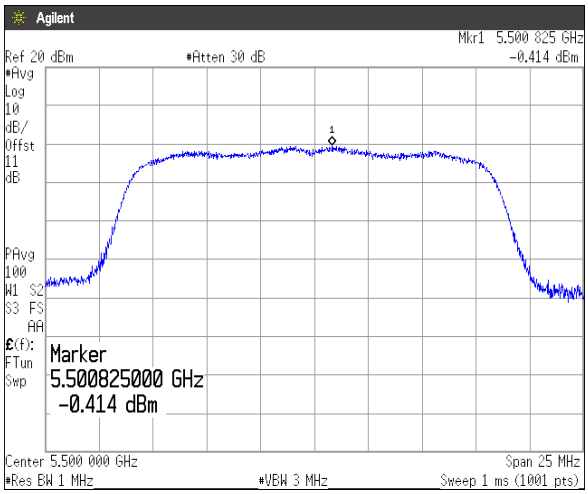


Channel: 64

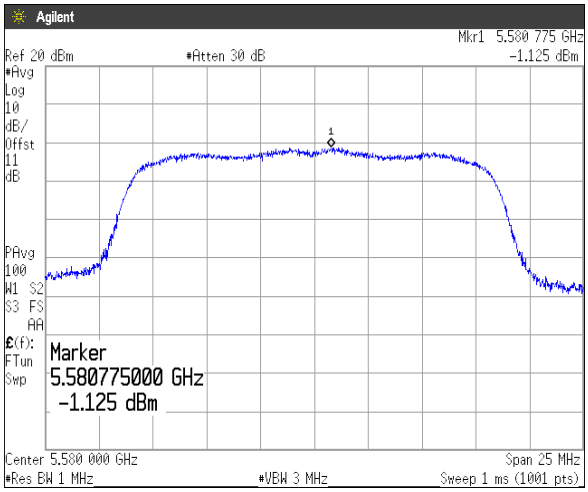


(5.6 GHz Band)

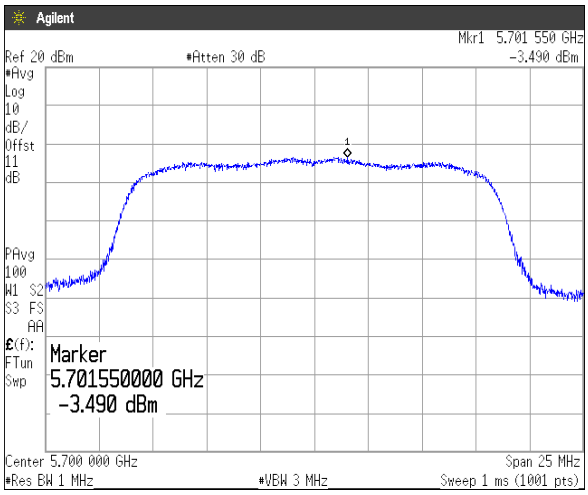
Channel: 100



Channel: 116

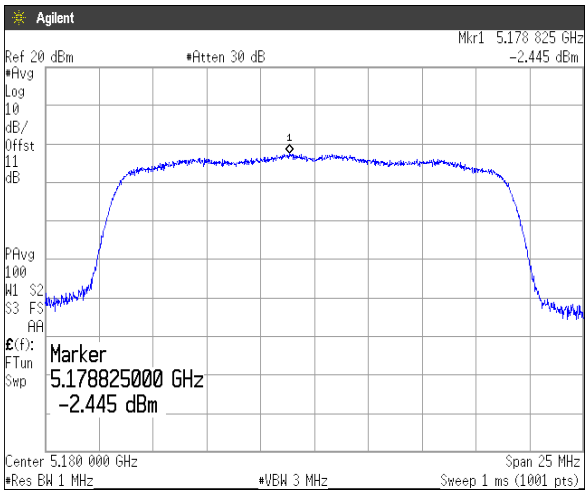


Channel: 140

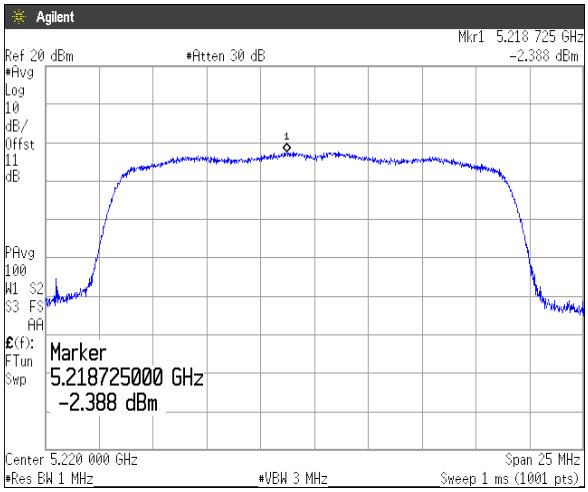


[IEEE802.11n (HT20)]
(5.2 GHz Band)

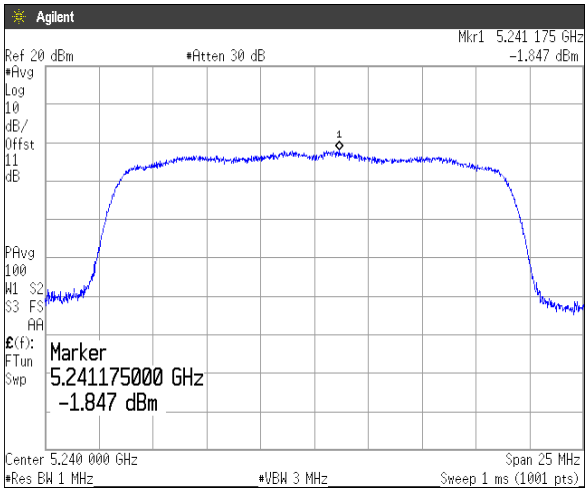
Channel: 36



Channel: 44

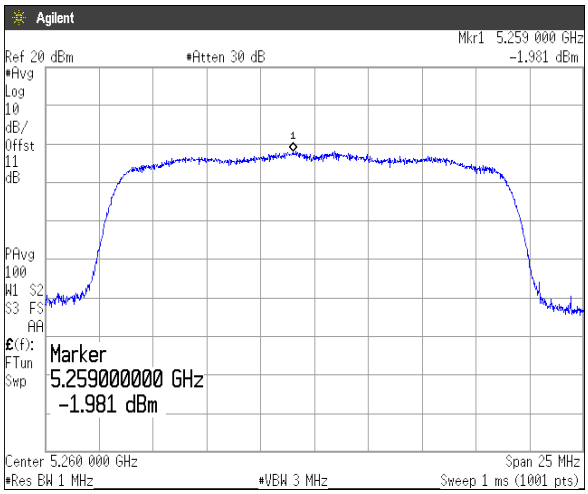


Channel: 48

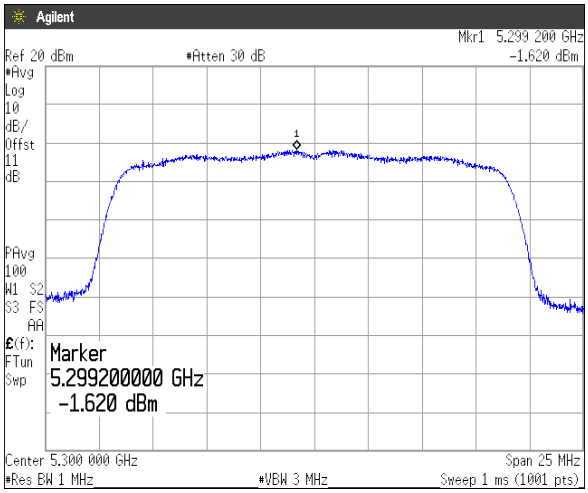


(5.3 GHz Band)

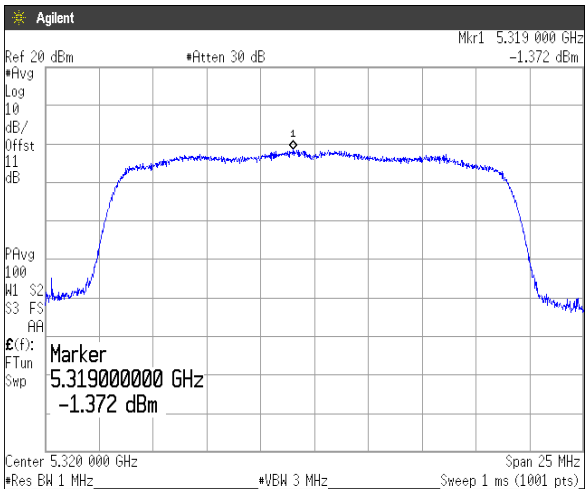
Channel: 52



Channel: 60

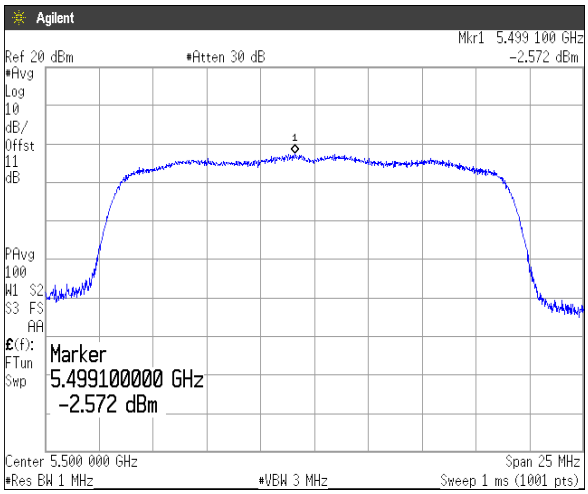


Channel: 64

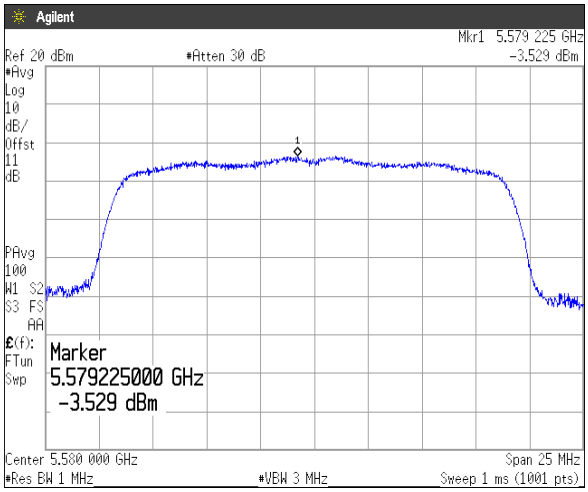


(5.6 GHz Band)

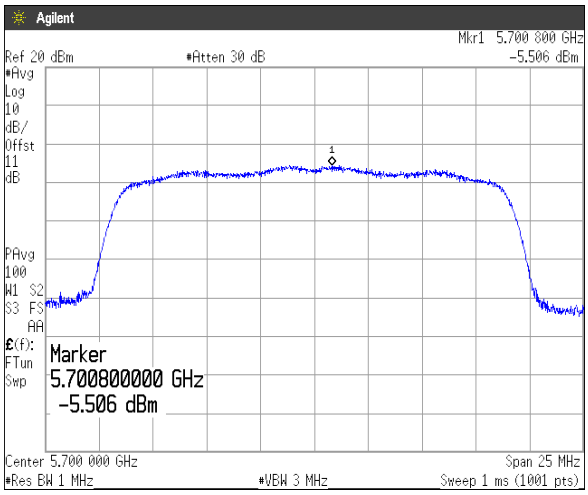
Channel: 100



Channel: 116



Channel: 140



4.4 Radiated Emissions (Restricted Bands of Operation)

4.4.1 Measurement procedure

[FCC 15.407(b), 15.205, 15.209, KDB 789033 D02, Section G.4, 5, 6.c)Method AD]

Test was applied by following conditions.

Test method	:	ANSI C63.10
Frequency range	:	9 kHz to 40 GHz
Test place	:	3m Semi-anechoic chamber
EUT was placed on	:	Styrofoam table / (W) 1.0 × (D) 1.0 ×(H) 0.8 m (below 1 GHz) Styrofoam table / (W) 0.6 × (D) 0.6 ×(H) 1.5 m (above 1 GHz)
Antenna distance	:	3m
Test receiver setting		Below 1 GHz
- Detector	:	Quasi-peak
- Bandwidth	:	120 kHz
Spectrum analyzer setting		Above 1 GHz
- Peak	:	RBW=1 MHz, VBW=3 MHz, Span=0 Hz, Sweep=auto, Detector=Peak Trace mode=Max hold
- Average	:	RBW=1 MHz, VBW=3 MHz, Span=0 Hz, Sweep=auto, Detector=RMS Trace mode=Averaging(300 counts)

Radiated emission measurements are performed at 3m distance with the broadband antenna (Loop antenna, Biconical antenna, Log periodic antenna, Double ridged guide antenna and Bload-band horn Antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1m to 4m and stopped at height producing the maximum emission. As for the Loop antenna, it is positioned with its plane vertical, and the center of the Loop antenna is 1m above the ground plane.

The EUT is Placed on a turntable, which is 0.8m (below 1 GHz) and 1.5m (above 1 GHz) above ground plane. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. The test results represent the worst case emission for each emission with manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation. Sufficient time for the EUT, support equipment, and test equipment are allowed in order for them to warm up to their normal operating condition.

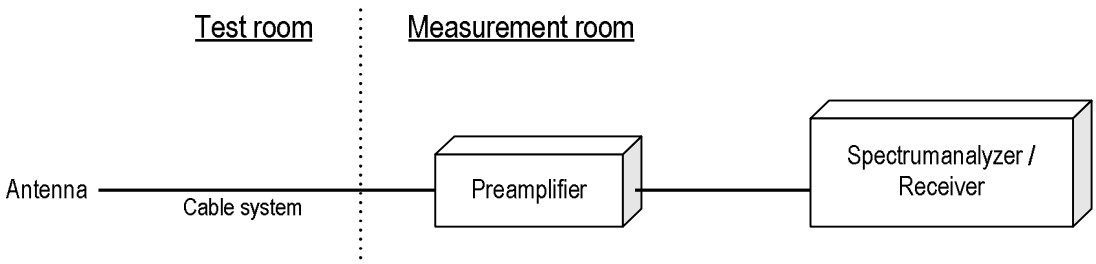
The EUT was set to operate with following conditions.

- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band

The test mode of EUT is as follows.

- Tx mode, Rx mode

- Test configuration



Duty cycle result

Mode	Band	On Time(ms)	On+Off Time(ms)	Duty Cycle (%)	DCF (dB)
802.11a	W52	1.396	1.434	97.35	0.117
	W53	1.396	1.434	97.35	0.117
	W56	1.396	1.436	97.21	0.123
802.11n (20MHz)	W52	1.308	1.348	97.03	0.131
	W53	1.308	1.348	97.03	0.131
	W56	1.308	1.346	97.18	0.124

4.4.2 Calculation method

[150 kHz to 25 GHz]
Emission level = Reading + (Ant. factor + Cable system loss - Amp. Gain)
Margin = Limit - Emission level

Example:
Detector: Peak
Limit @ 5147.0 MHz: 74.0 dBuV/m (Peak Limit)
S.A Reading = 40.9 dBuV Cable system loss = 16.4 dB
Result = 40.9 + 16.4 = 57.3 dBuV/m
Margin = 74.0 - 57.3 = 16.7 dB

4.4.3 Limit

(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725GHz band: all emissions outside of the 5.47 5-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.

Frequency [MHz]	Field strength		Distance [m]
	[uV/m]	[dBuV/m]	
0.009-0.490	2400 / F [kHz]	20logE [uV/m]	300
0.490-1.705	24000 / F [kHz]	20logE [uV/m]	30
1.705-30	30	29.5	30
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Note:
1. The lower limit shall apply at the transition frequencies.
2. Emission level [dBuV/m] = 20log Emission [uV/m]
3. As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition modulation.

4.4.4 Test data

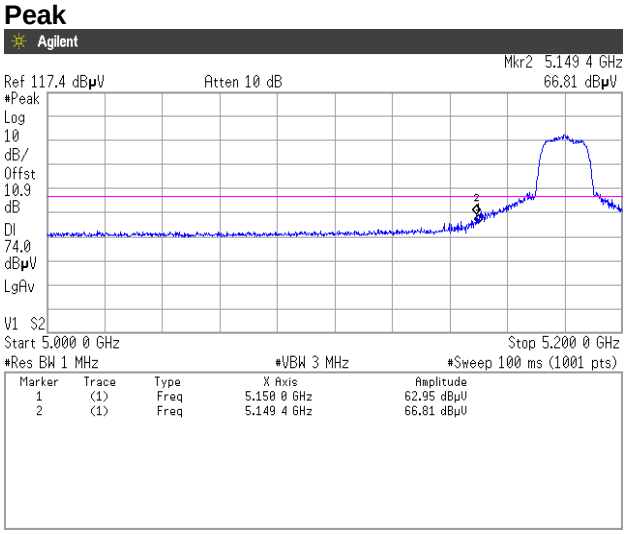
Date	:	10-May-2019		
Temperature	:	19.5 [˚C]		
Humidity	:	41.3 [%]	Test engineer	:
Test place	:	3m Semi-anechoic chamber		Chiaki Kanno

Date	:	15-May-2019		
Temperature	:	20.3 [˚C]		
Humidity	:	39.1 [%]	Test engineer	:
Test place	:	3m Semi-anechoic chamber		Chiaki Kanno

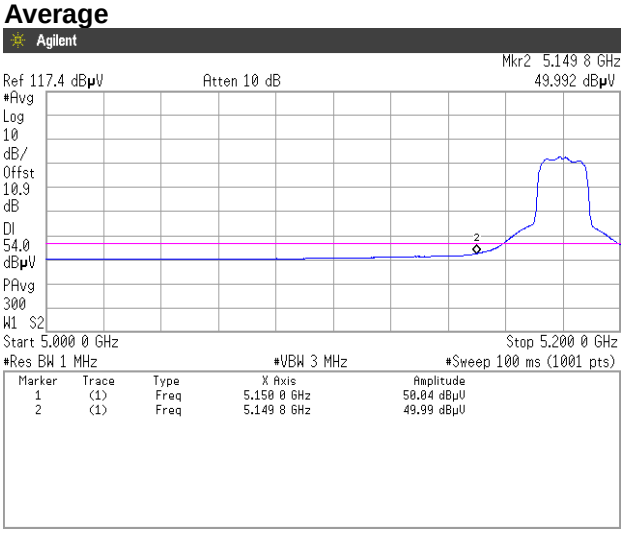
4.4.4.1 Restricted Bandedge

[IEEE802.11a]

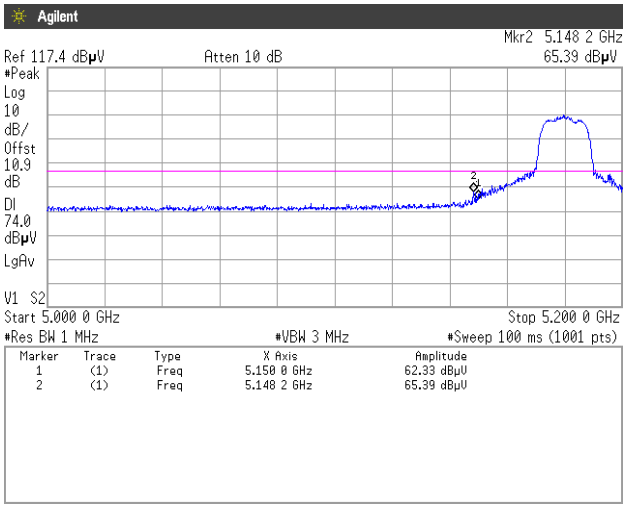
5.2 GHz Band, Channel Low
Horizontal
Peak



Average



Vertical
Peak



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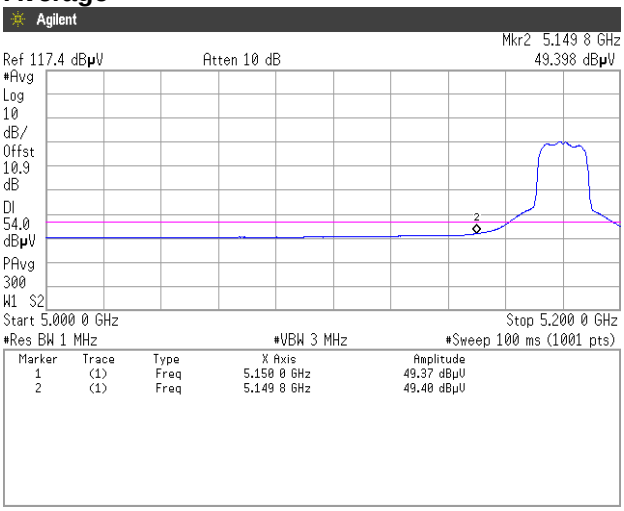
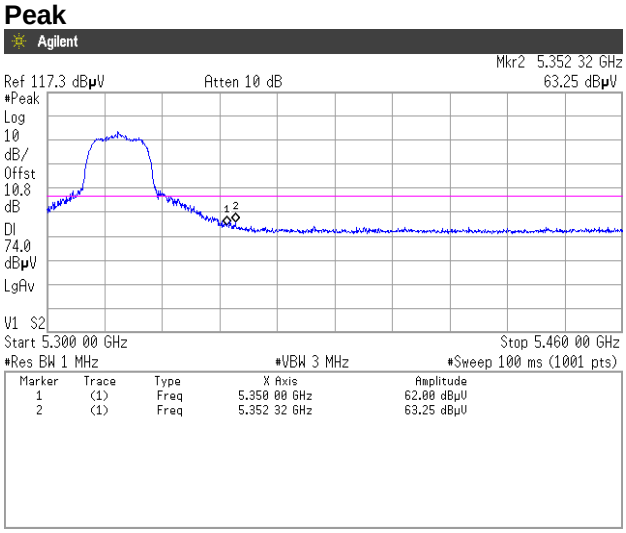


[IEEE802.11a]

5.3 GHz Band, Channel High

Horizontal

Peak



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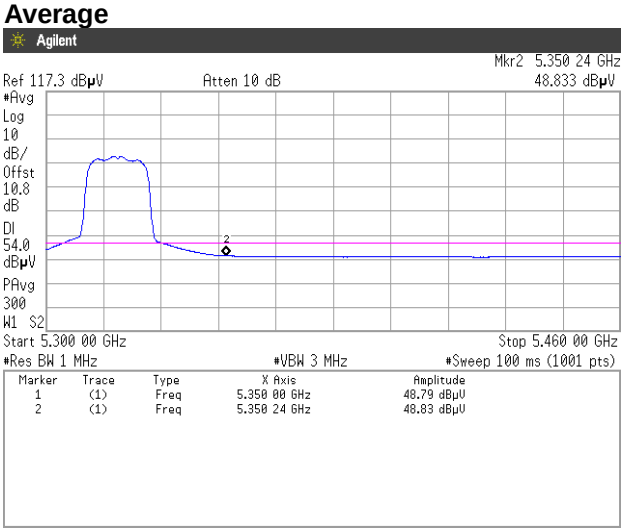
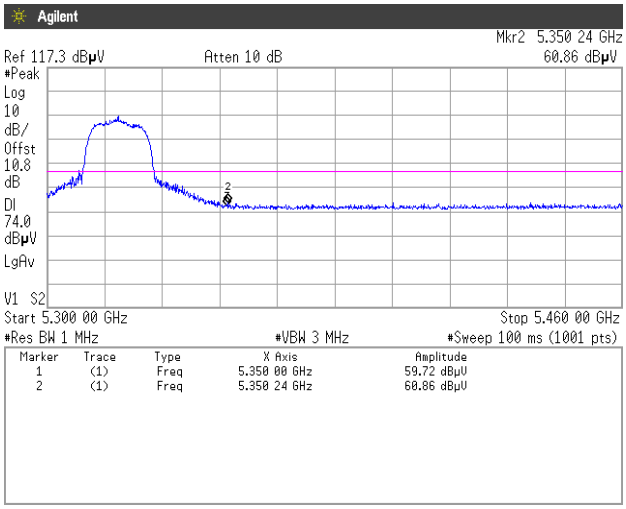


Vertical

Peak



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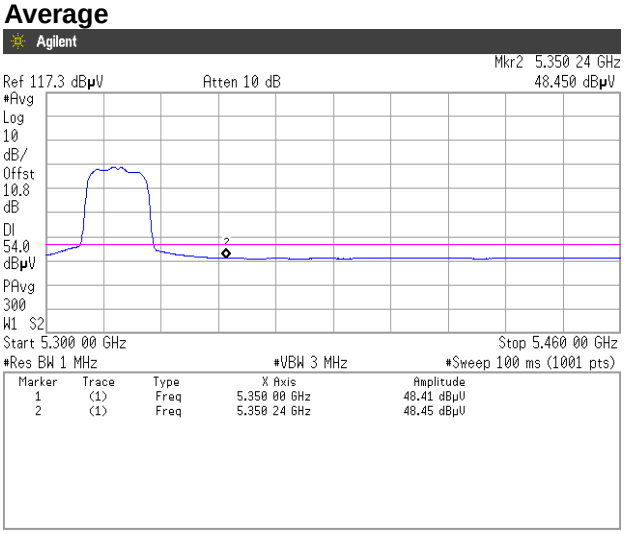
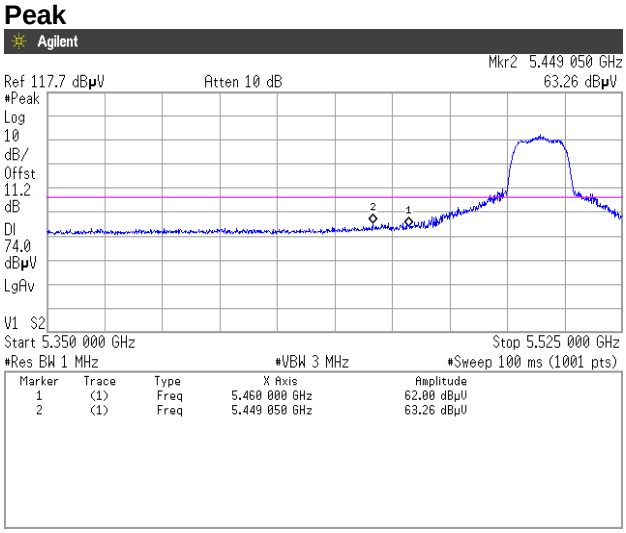


[IEEE802.11a]

5.6 GHz Band, Channel Low
Horizontal
Peak



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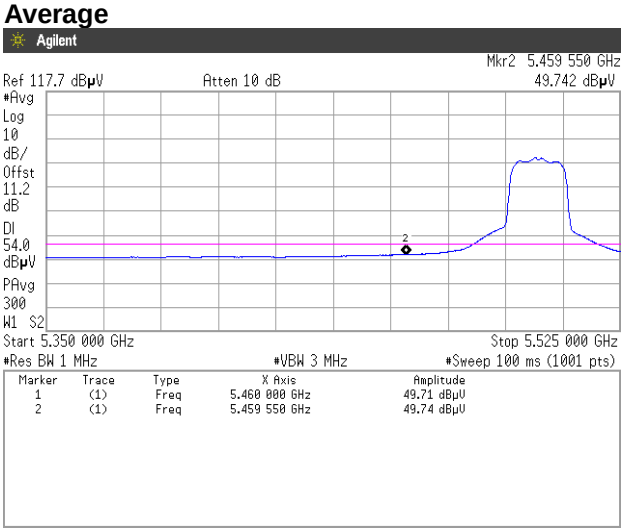
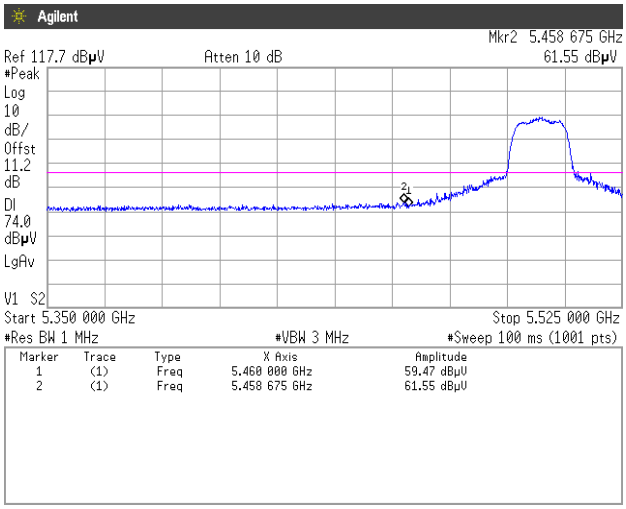


Vertical
Peak



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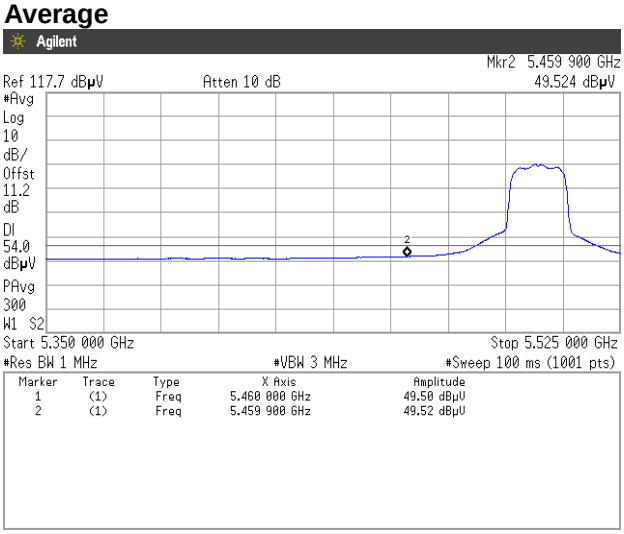
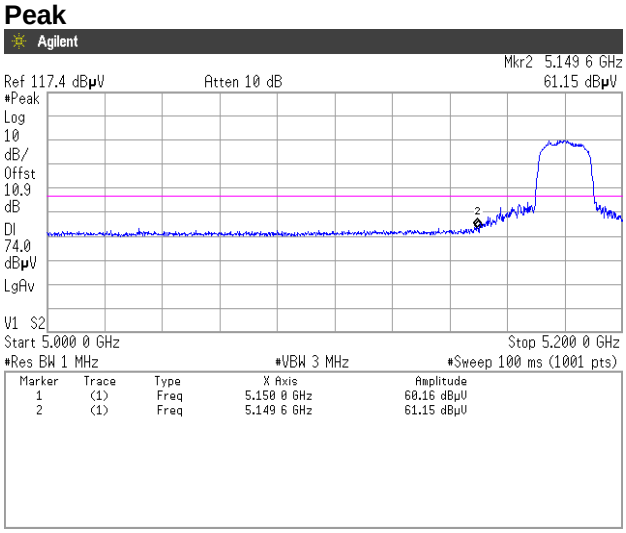
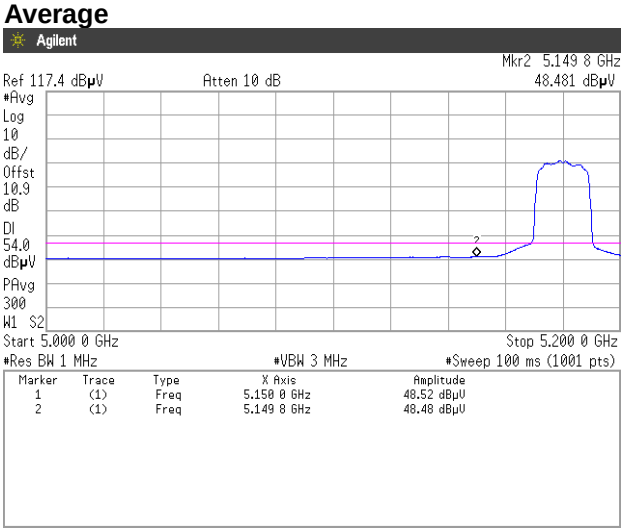


[IEEE802.11n (HT20)]

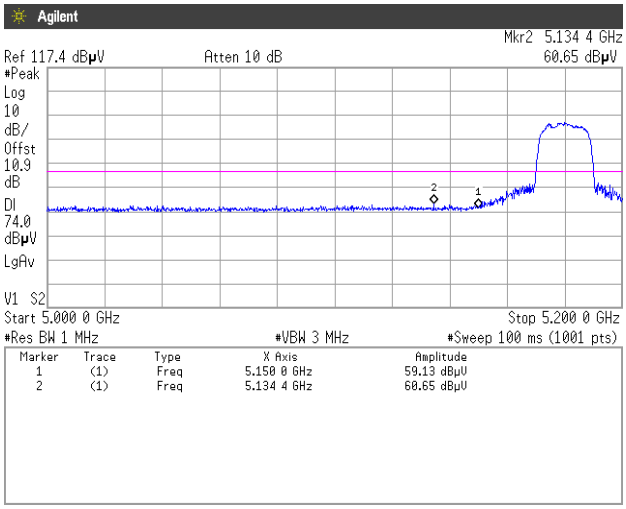
5.2 GHz Band, Channel Low
Horizontal
Peak



Average



Vertical
Peak



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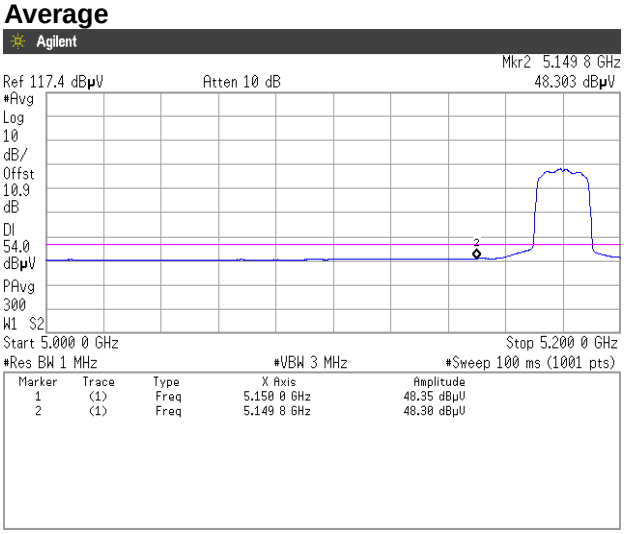
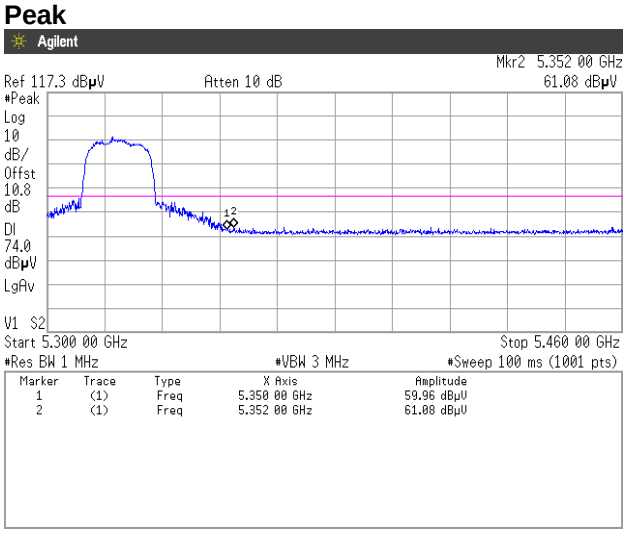


[IEEE802.11n (HT20)]

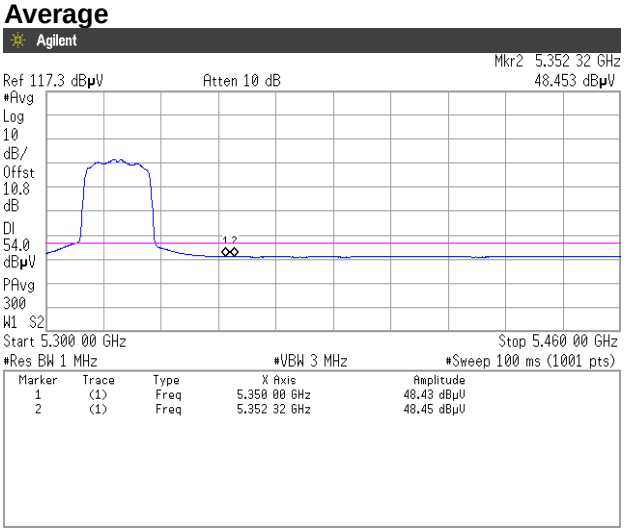
5.3 GHz Band, Channel High

Horizontal

Peak

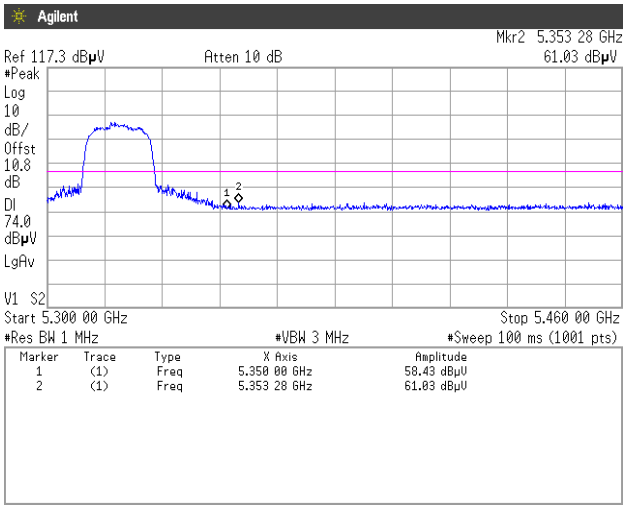


Average

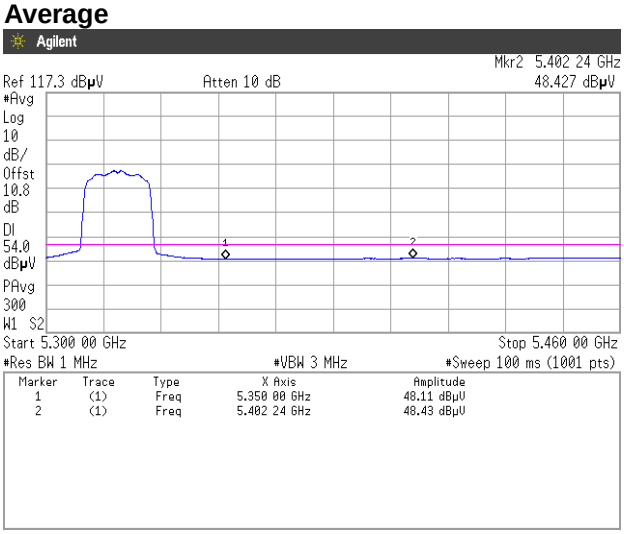


Vertical

Peak

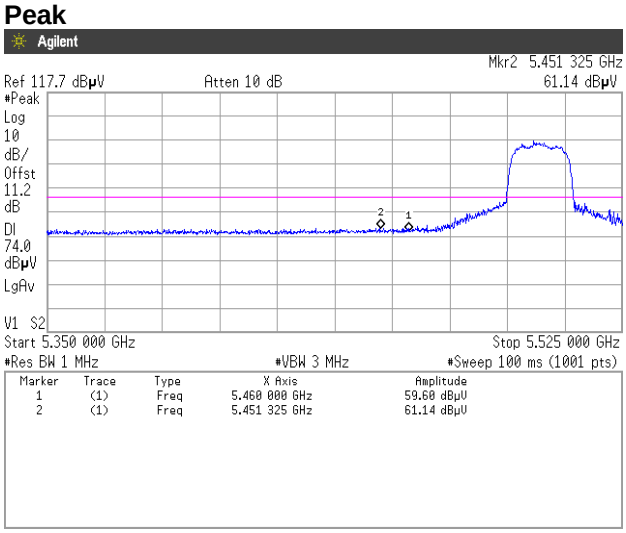


Average

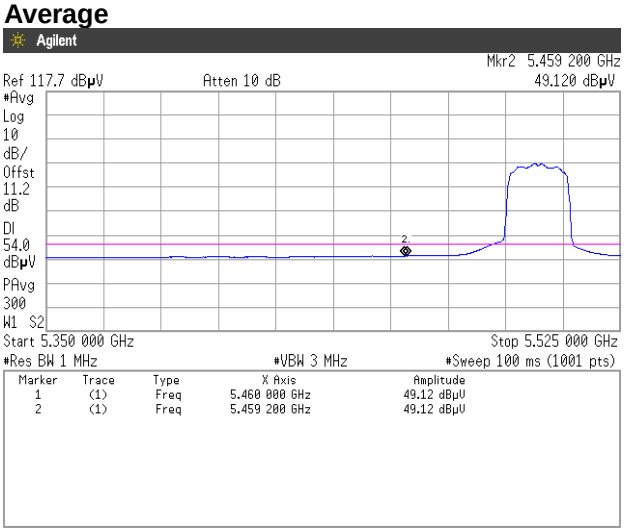


[IEEE802.11n (HT20)]

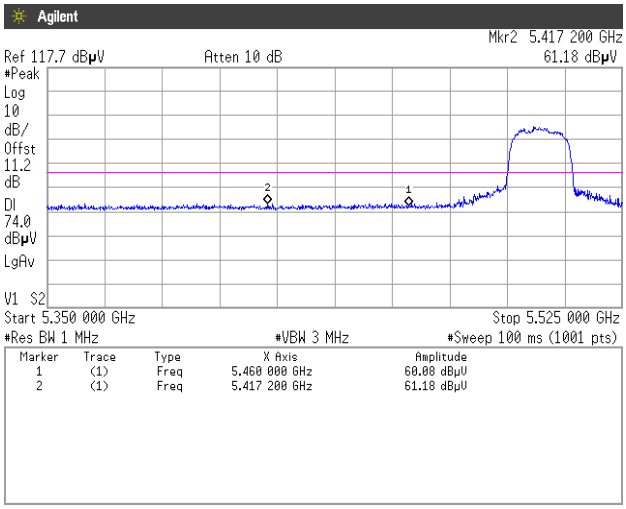
5.6 GHz Band, Channel Low
Horizontal
Peak



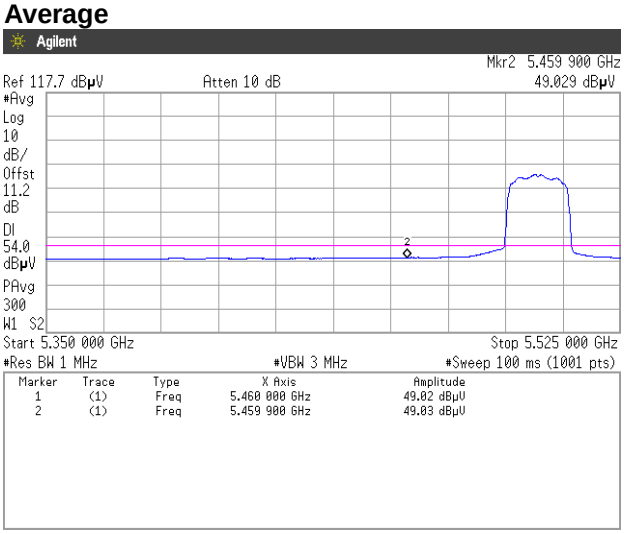
Average



Vertical
Peak



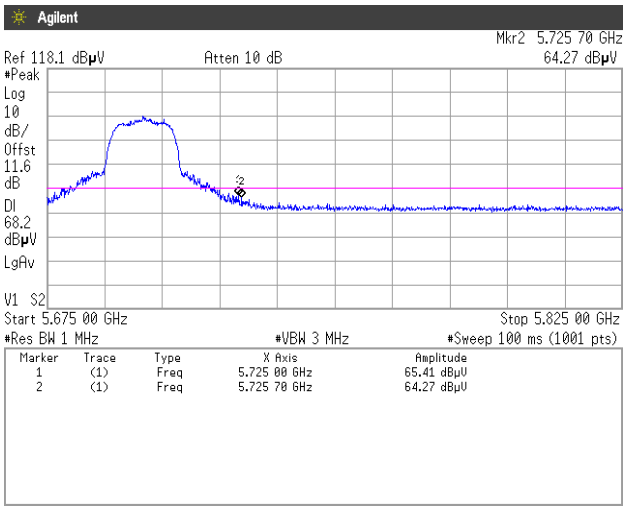
Average



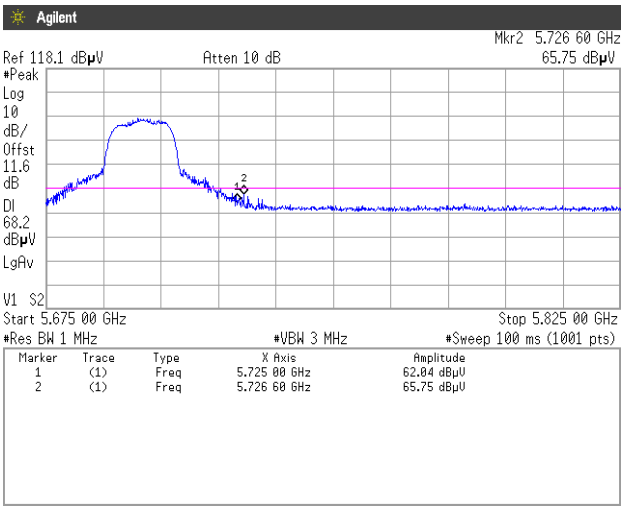
4.4.4.2 Non-Restricted Bandedge

[IEEE802.11a]

5.6 GHz Band, Channel High
Peak
Horizontal

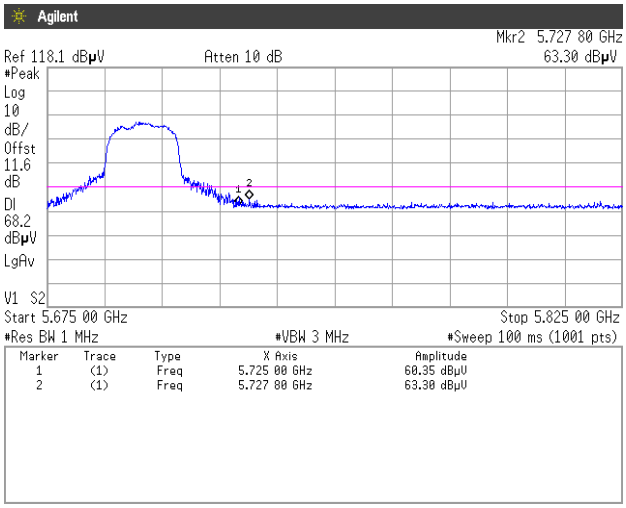


Vertical

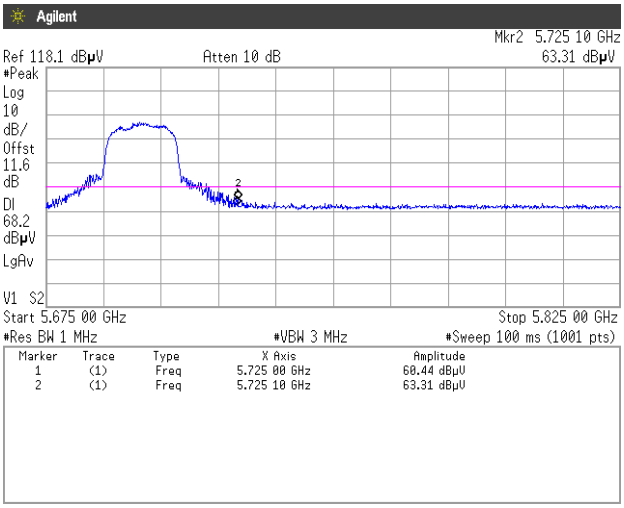


[IEEE802.11n (HT20)]

5.6GHz Band, Channel High
Peak
Horizontal



Vertical



4.4.4.3 Radiated Emissions

Date	:	10-May-2019			
Temperature	:	19.5 [˚C]			
Humidity	:	41.3 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	14~15-May-2019			
Temperature	:	20.3 [˚C]			
Humidity	:	39.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	15~16-May-2019			
Temperature	:	20.0 [˚C]			
Humidity	:	56.6 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	16~17-May-2019			
Temperature	:	20.0 [˚C]			
Humidity	:	51.2 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

[IEEE802.11a]
(5.2 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBμV)	C.F (dB)	DCF (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11a	36	5180	10360.00	H	PK	45.9	10.7		56.6	68.2	11.6

(5.3 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBμV)	C.F (dB)	DCF (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11a	64	5320	10640.00	H	PK	45.9	11.1		57.0	74.0	17.0
			10640.00	H	AV	33.8	11.1	0.117	45.0	54.0	9.0

(5.6 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBμV)	C.F (dB)	DCF (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11a	116	5580	11160.00	H	PK	45.3	11.8		57.1	74.0	16.9
			11160.00	H	AV	33.6	11.8	0.123	45.5	54.0	8.5

Note:
1. Emission Level (Margin) = Limit - [Reading + C.F (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 30 MHz to 1000 MHz at the 3 meters distance.
3. No emission was detected in the receive mode.

[IEEE802.11n (HT20)]
(5.2 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBμV)	C.F (dB)	DCF (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11n (20MHz)	36	5180	10360.00	H	PK	45.8	10.7		56.5	68.2	11.7

(5.3 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBμV)	C.F (dB)	DCF (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11n (20MHz)	60	5300	10600.00	H	PK	45.6	11.0		56.6	74.0	17.4
			10600.00	H	AV	33.6	11.0	0.131	44.7	54.0	9.3

(5.6 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBμV)	C.F (dB)	DCF (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11n (20MHz)	116	5580	11160.00	H	PK	45.2	11.8		57.0	74.0	17.0
			11160.00	H	AV	33.6	11.8	0.124	45.5	54.0	8.5

Note:
1. Emission Level (Margin) = Limit - [Reading + C.F (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 30 MHz to 1000 MHz at the 3 meters distance.
3. No emission was detected in the receive mode.

4.4.4.4 Measurement chart

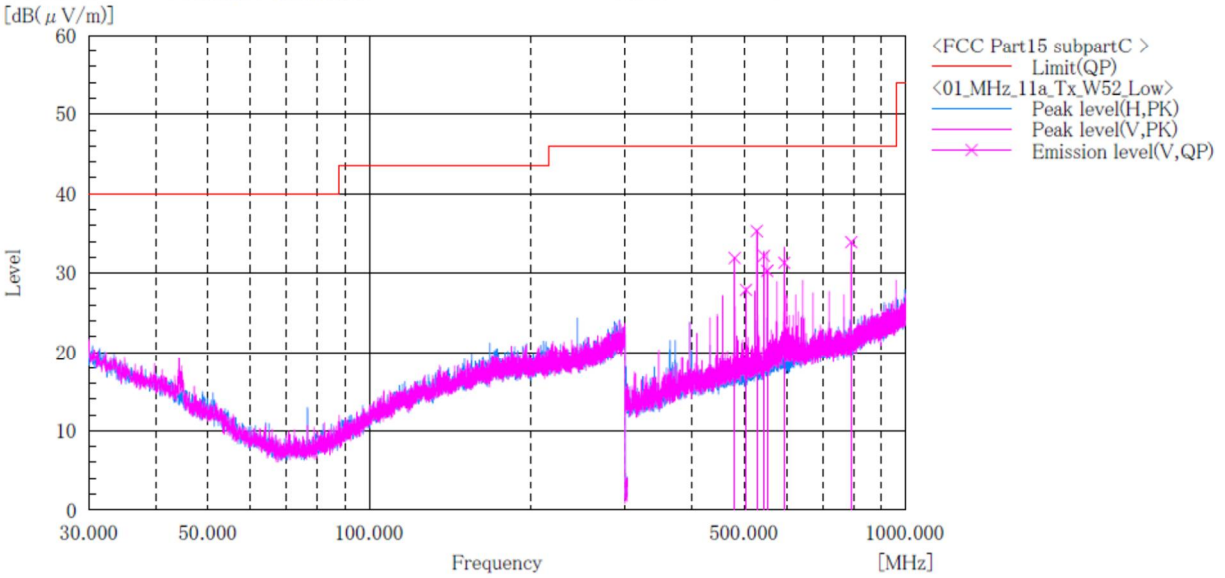
Transmission mode

[11a]
W52 / Channel Low
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.01>> 16 May,2019 04:28

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpartE
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum	: 20.0[℃] 56.6[%]
Serial No.	: 9007C	Note1	: Ch:36_5180MHz
Test mode	: 5GHz_W52_11a_Tx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	480.000	V	41.5	-9.6	31.9	46.0	14.1	100.0	14.0
2	504.000	V	37.3	-9.4	27.9	46.0	18.1	100.0	343.0
3	528.000	V	44.4	-9.1	35.3	46.0	10.7	100.0	8.0
4	544.500	V	40.9	-8.7	32.2	46.0	13.8	100.0	0.0
5	552.000	V	38.7	-8.4	30.3	46.0	15.7	100.0	0.0
6	594.000	V	39.0	-7.7	31.3	46.0	14.7	199.0	273.0
7	792.000	V	39.2	-5.3	33.9	46.0	12.1	145.0	180.0

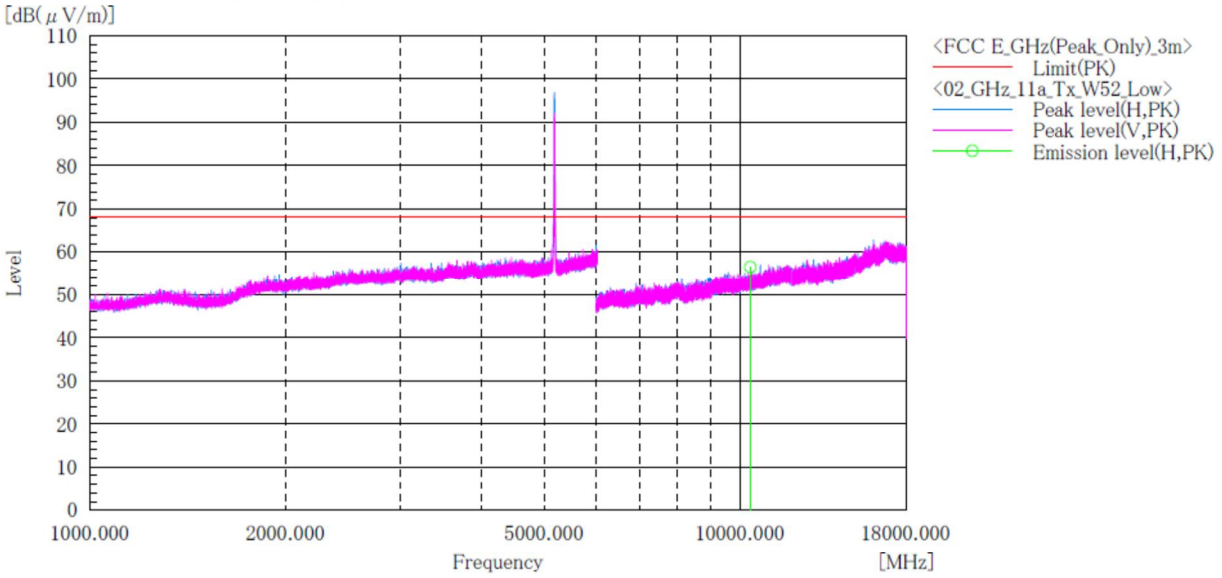
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W52 / Channel Low
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. | <<DATA Sheet No.02>> | 10 May,2019 09:00

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 19.5[℃] 41.3[%]
Serial No.	: 9007C	Note1	: Ch:36_5180MHz
Test mode	: 5GHz_W52_11a_Tx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]
1	10360.000	H	45.9	10.7	56.6	68.2	11.6	177.0	195.0

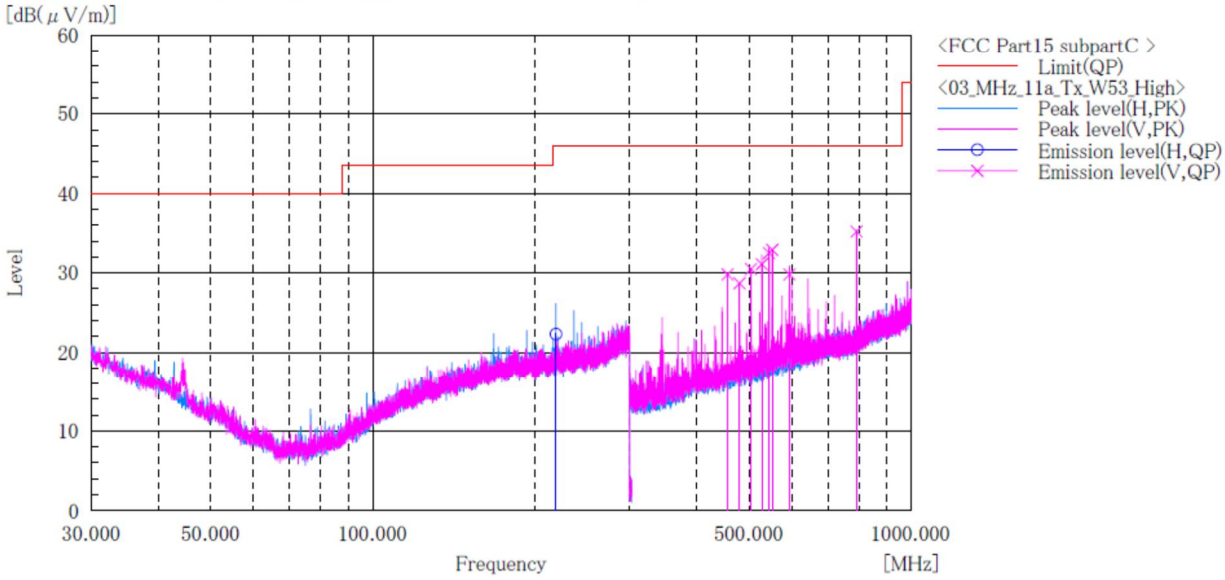
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W53 / Channel High
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.03>> 16 May,2019 05:13

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpartE
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum	: 20.0[℃] 56.6[%]
Serial No.	: 9007C	Note1	: Ch:64_5320MHz
Test mode	: 5GHz_W53_11a_Tx_High	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	218.900	H	30.4	-8.1	22.3	46.0	23.7	100.0	270.0
2	456.000	V	40.0	-10.2	29.8	46.0	16.2	122.0	317.0
3	480.000	V	38.3	-9.6	28.7	46.0	17.3	100.0	348.0
4	504.000	V	39.9	-9.4	30.5	46.0	15.5	106.0	7.0
5	528.000	V	40.2	-9.1	31.1	46.0	14.9	100.0	322.0
6	544.500	V	41.2	-8.7	32.5	46.0	13.5	100.0	292.0
7	552.000	V	41.3	-8.4	32.9	46.0	13.1	100.0	0.0
8	594.000	V	37.5	-7.7	29.8	46.0	16.2	100.0	0.0
9	792.000	V	40.5	-5.3	35.2	46.0	10.8	138.0	184.0

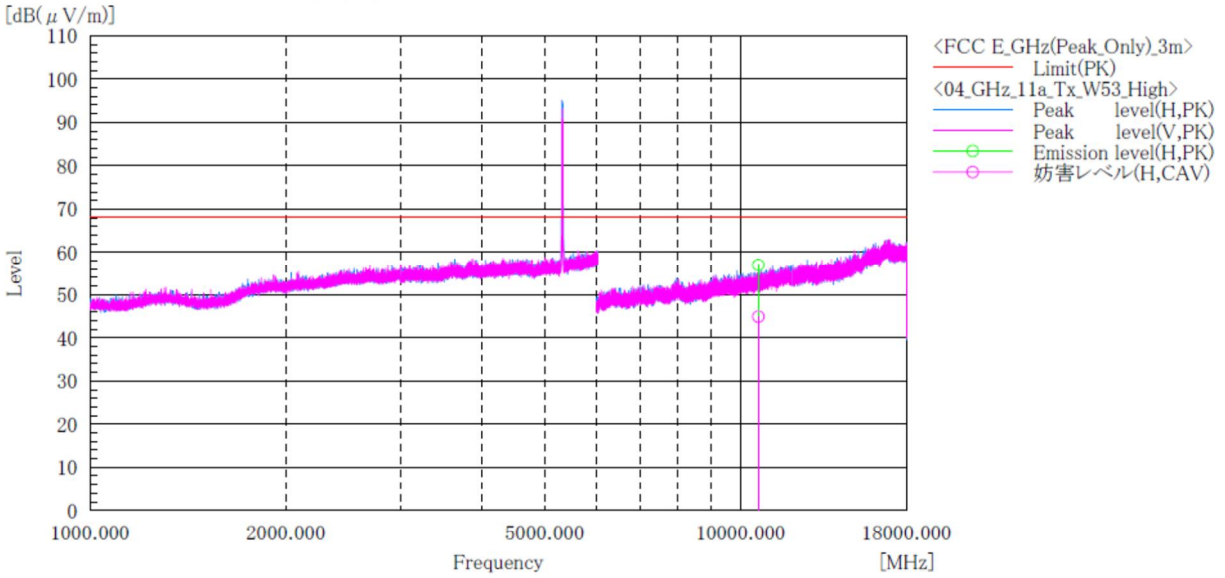
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W53 / Channel High
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. | <<DATA Sheet No.04>> | 10 May,2019 09:35

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 19.5[℃] 41.3[%]
Serial No.	: 9007C	Note1	: Ch:64_5320MHz
Test mode	: 5GHz_W53_11a_Tx_High	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]
1	10640.000	H	45.9	33.8	11.1	57.0	44.9	74.0	17.0	9.1	155.0	200.0

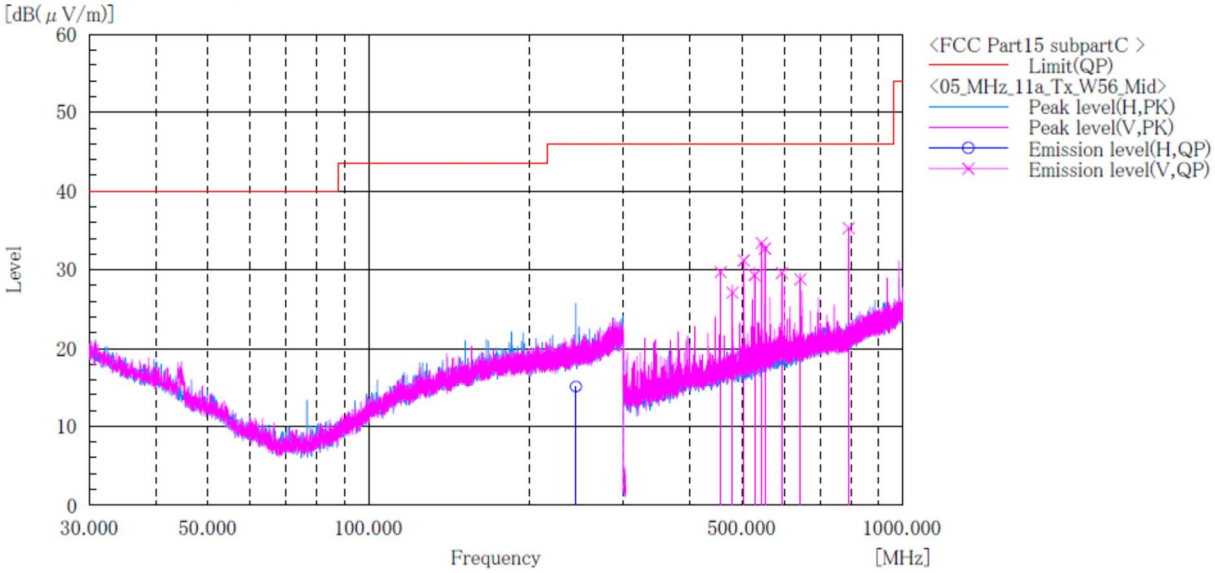
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W56 / Channel Middle
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.05>> 16 May,2019 05:54

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpartE
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum	: 20.0[℃] 56.6[%]
Serial No.	: 9007C	Note1	: Ch:116_5580MHz
Test mode	: 5GHz_W56_11a_Tx_Mid	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	244.400	H	22.7	-7.6	15.1	46.0	30.9	100.0	245.0
2	456.000	V	39.9	-10.2	29.7	46.0	16.3	100.0	347.0
3	480.000	V	36.7	-9.6	27.1	46.0	18.9	100.0	0.0
4	504.000	V	40.6	-9.4	31.2	46.0	14.8	100.0	343.0
5	528.000	V	38.4	-9.1	29.3	46.0	16.7	100.0	0.0
6	544.500	V	42.1	-8.7	33.4	46.0	12.6	100.0	25.0
7	552.000	V	41.1	-8.4	32.7	46.0	13.3	100.0	337.0
8	594.000	V	37.3	-7.7	29.6	46.0	16.4	100.0	21.0
9	643.500	V	35.9	-7.1	28.8	46.0	17.2	100.0	162.0
10	792.000	V	40.6	-5.3	35.3	46.0	10.7	149.0	137.0

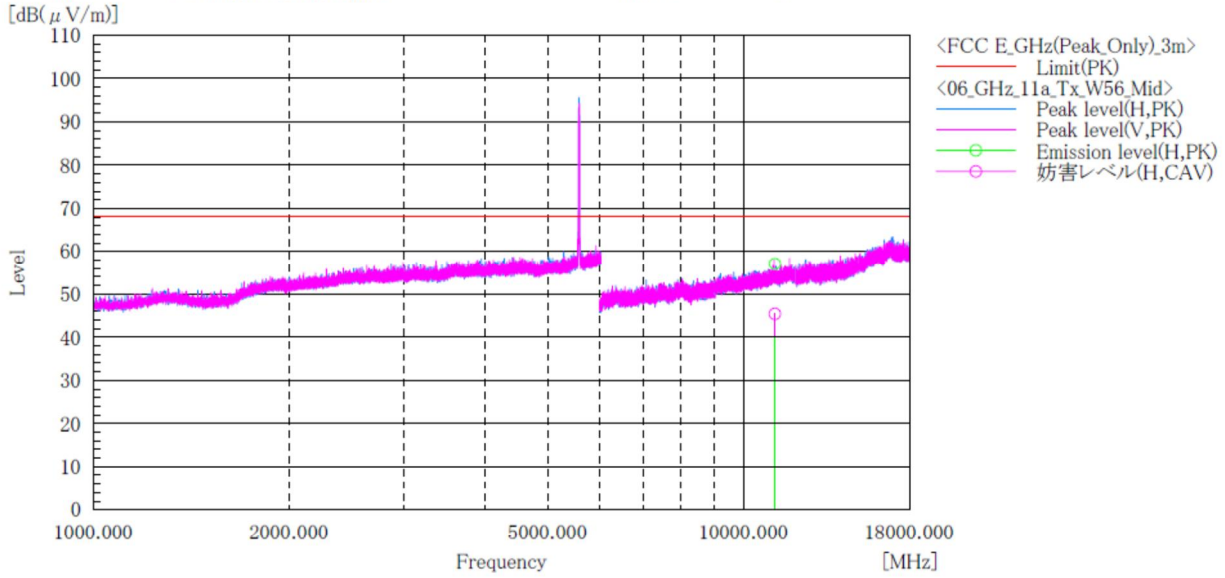
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W56 / Channel Middle
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.06>> 10 May,2019 10:08

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 19.5[℃] 41.3[%]
Serial No.	: 9007C	Note1	: Ch:116_5580MHz
Test mode	: 5GHz_W56_11a_Tx_Mid	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]
1	11160.000	H	45.3	33.6	11.8	57.1	45.4	74.0	16.9	8.6	200.0	153.0

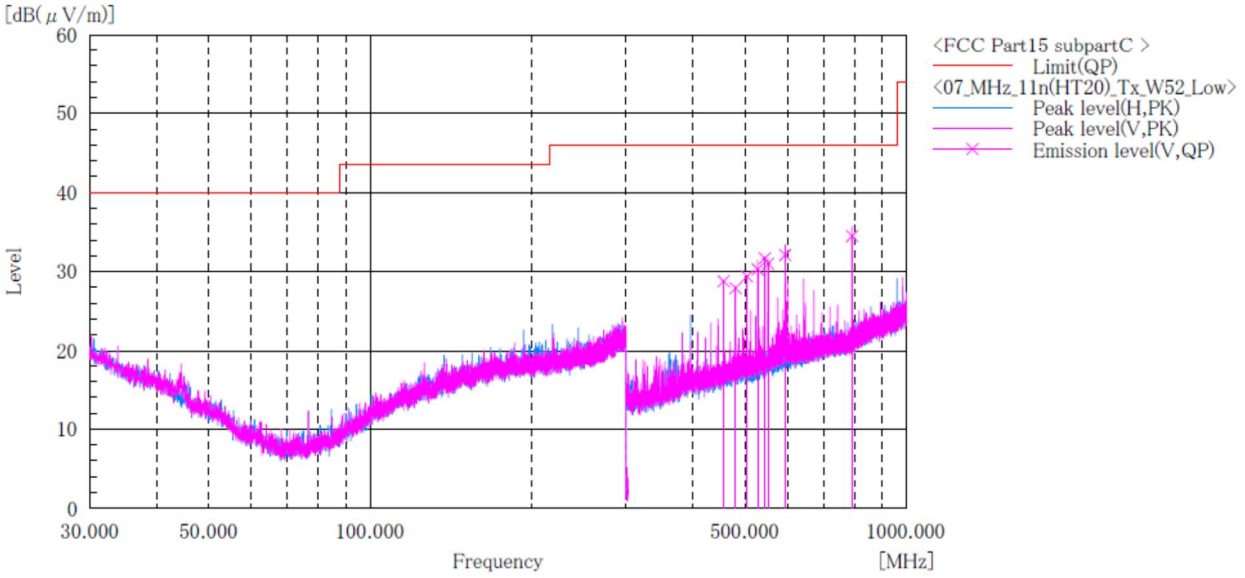
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11n(HT20)]
W52 / Channel Low
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.07>> 16 May,2019 22:30

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpartE
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum	: 20.0[℃] 51.2[%]
Serial No.	: 9007C	Note1	: Ch:36_5180MHz
Test mode	: 5GHz_W52_11n(HT20)_Tx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	456.000	V	39.0	-10.2	28.8	46.0	17.2	137.0	348.0
2	480.000	V	37.5	-9.6	27.9	46.0	18.1	132.0	17.0
3	504.000	V	38.8	-9.4	29.4	46.0	16.6	121.0	0.0
4	528.000	V	39.4	-9.1	30.3	46.0	15.7	120.0	283.0
5	544.500	V	40.4	-8.7	31.7	46.0	14.3	117.0	0.0
6	552.000	V	39.4	-8.4	31.0	46.0	15.0	100.0	21.0
7	594.000	V	39.8	-7.7	32.1	46.0	13.9	100.0	21.0
8	792.000	V	39.8	-5.3	34.5	46.0	11.5	152.0	139.0

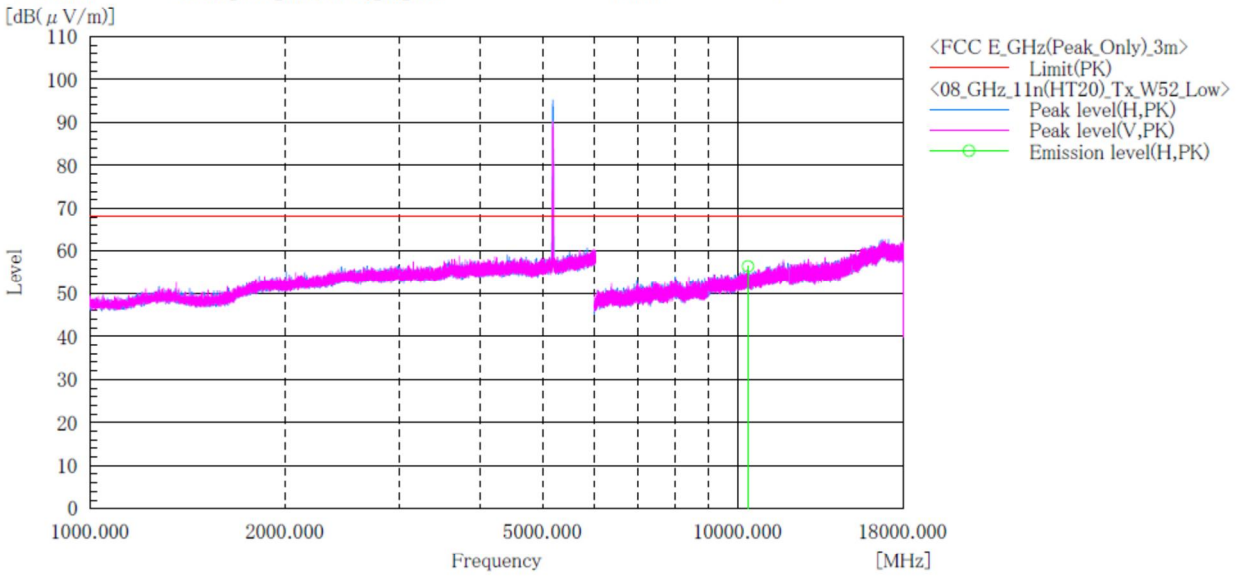
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11n(HT20)]
W52 / Channel Low
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.08>> 10 May,2019 10:53

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 19.5[℃] 41.3[%]
Serial No.	: 9007C	Note1	: Ch:36_5180MHz
Test mode	: 5GHz_W52_11n(HT20)_Tx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]
1	10360.000	H	45.8	10.7	56.5	68.2	11.7	145.0	208.0

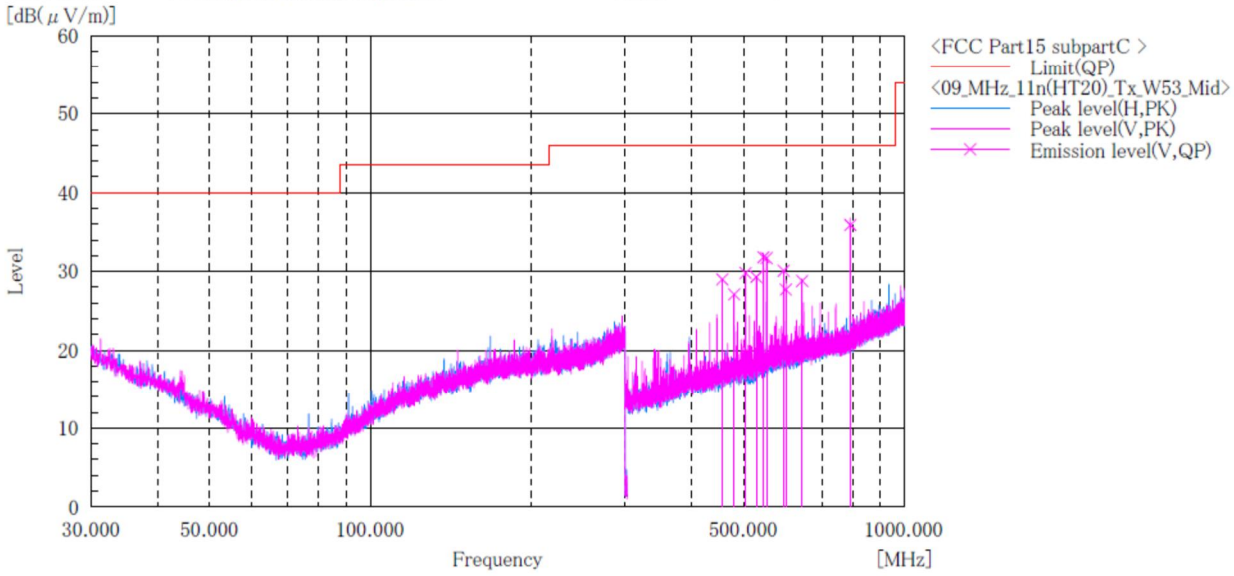
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11n(HT20)]
W53 / Channel Middle
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.09>> 16 May,2019 23:05

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpartE
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum	: 20.0[℃] 51.2[%]
Serial No.	: 9007C	Note1	: Ch:60_5300MHz
Test mode	: 5GHz_W53_11n(HT20)_Tx_Mid	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	456.000	V	39.2	-10.2	29.0	46.0	17.0	137.0	10.0
2	480.000	V	36.7	-9.6	27.1	46.0	18.9	116.0	0.0
3	504.000	V	39.2	-9.4	29.8	46.0	16.2	122.0	348.0
4	528.000	V	38.4	-9.1	29.3	46.0	16.7	122.0	345.0
5	544.500	V	40.5	-8.7	31.8	46.0	14.2	115.0	37.0
6	552.000	V	40.1	-8.4	31.7	46.0	14.3	105.0	11.0
7	594.000	V	37.8	-7.7	30.1	46.0	15.9	100.0	11.0
8	600.000	V	35.4	-7.7	27.7	46.0	18.3	100.0	71.0
9	643.500	V	35.9	-7.1	28.8	46.0	17.2	100.0	204.0
10	792.000	V	41.2	-5.3	35.9	46.0	10.1	149.0	164.0

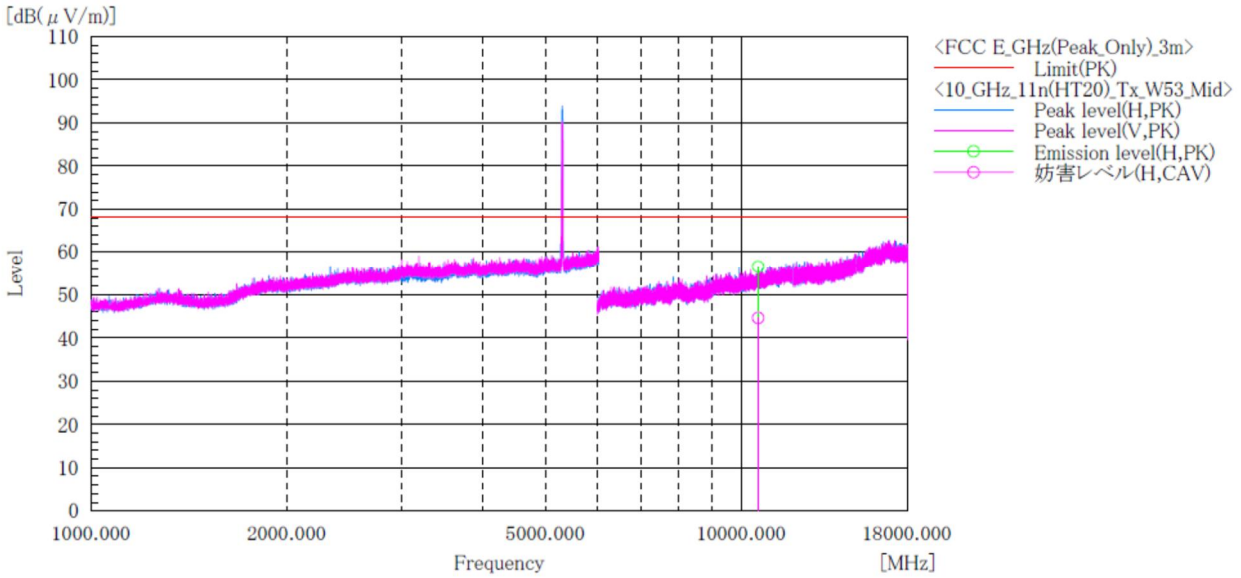
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11n(HT20)]
W53 / Channel Middle
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.10>> 10 May,2019 11:33

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 19.5[℃] 41.3[%]
Serial No.	: 9007C	Note1	: Ch:60_5300MHz
Test mode	: 5GHz_W53_11n(HT20)_Tx_Mid	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]
1	10600.000	H	45.6	33.6	11.0	56.6	44.6	74.0	17.4	9.4	153.0	201.0

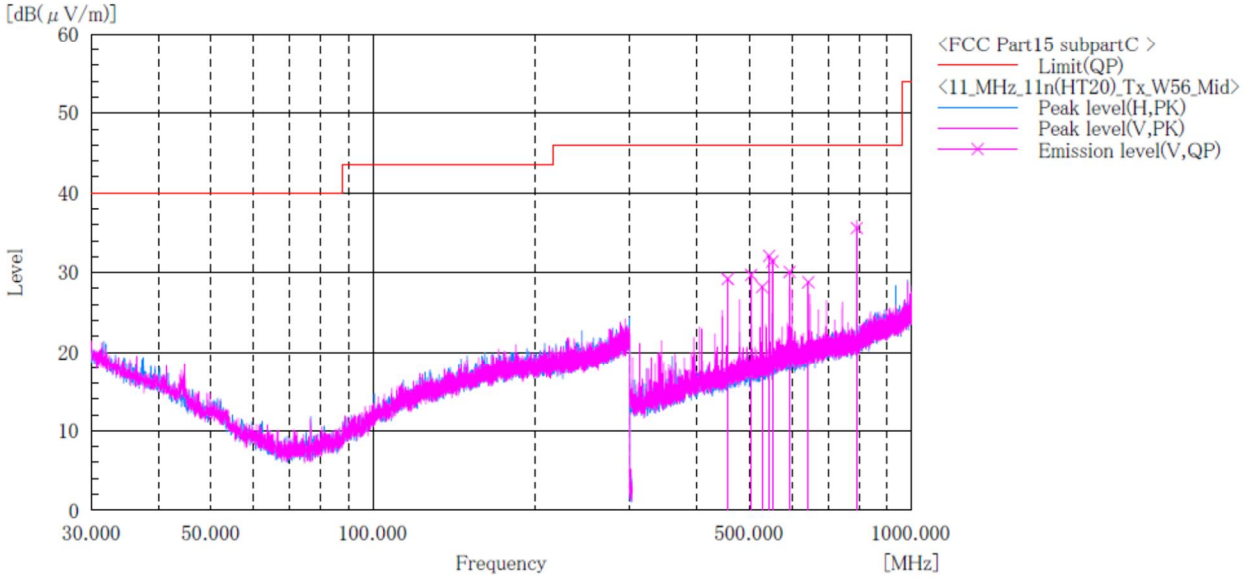
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11n(HT20)]
W56 / Channel Middle
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.11>> 16 May,2019 23:45

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpartE
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum	: 20.0[℃] 51.2[%]
Serial No.	: 9007C	Note1	: Ch:116_5580MHz
Test mode	: 5GHz_W56_11n(HT20)_Tx_Mid	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	456.000	V	39.4	-10.2	29.2	46.0	16.8	124.0	353.0
2	504.000	V	39.1	-9.4	29.7	46.0	16.3	122.0	32.0
3	528.000	V	37.3	-9.1	28.2	46.0	17.8	118.0	279.0
4	544.500	V	40.8	-8.7	32.1	46.0	13.9	117.0	11.0
5	552.000	V	39.8	-8.4	31.4	46.0	14.6	106.0	338.0
6	594.000	V	37.8	-7.7	30.1	46.0	15.9	106.0	5.0
7	643.500	V	35.9	-7.1	28.8	46.0	17.2	100.0	154.0
8	792.000	V	40.9	-5.3	35.6	46.0	10.4	156.0	199.0

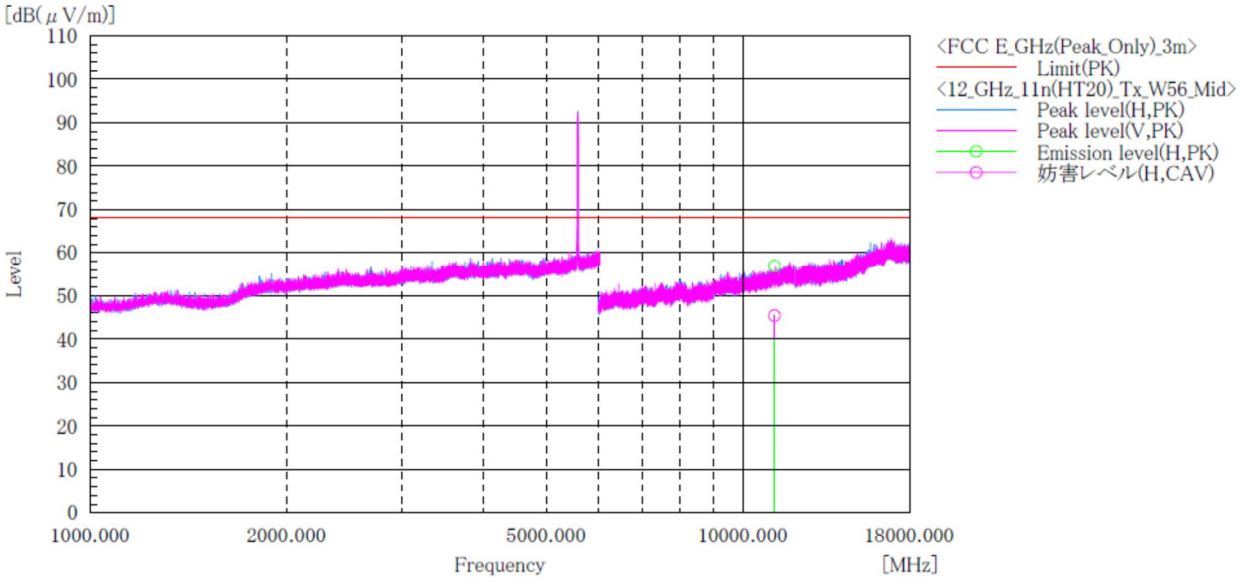
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11n(HT20)]
W56 / Channel Middle
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.12>> 10 May,2019 13:11

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 19.5[℃] 41.3[%]
Serial No.	: 9007C	Note1	: Ch:116_5580MHz
Test mode	: 5GHz_W56_11n(HT20)_Tx_Mid	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]
1	11160.000	H	45.2	33.6	11.8	57.0	45.4	74.0	17.0	8.6	156.0	195.0

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

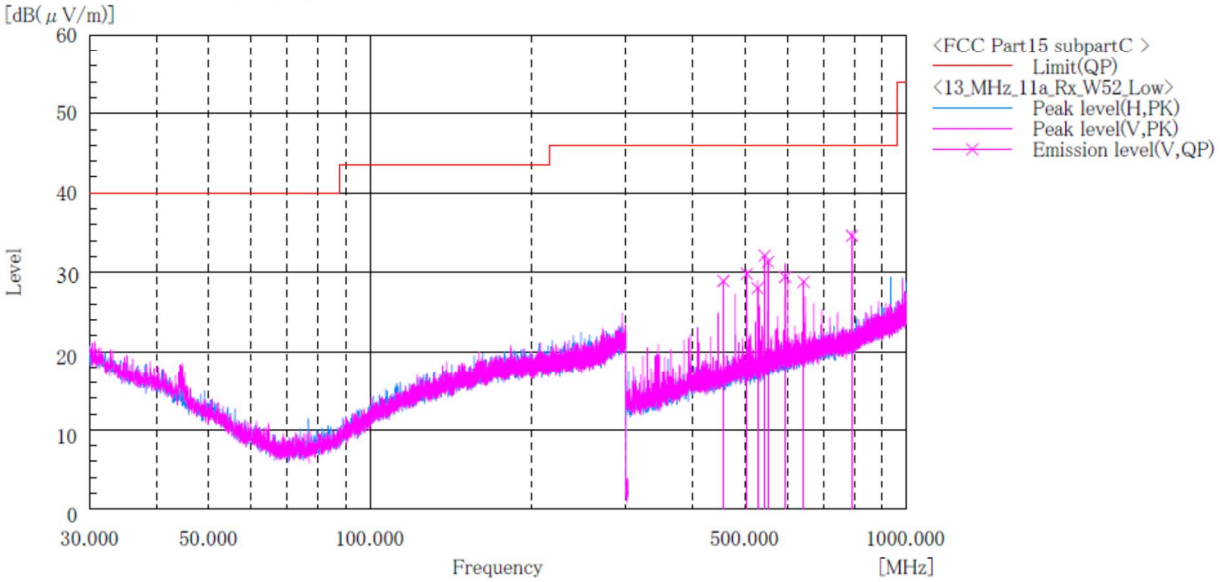
Receive mode

W52 / Channel Low
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.13>> 17 May,2019 00:30

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpartE
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum	: 20.0[℃] 51.2[%]
Serial No.	: 9007C	Note1	: Ch:36_5180MHz
Test mode	: 5GHz_W52_Rx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	456.000	V	39.1	-10.2	28.9	46.0	17.1	123.0	355.0
2	504.000	V	39.2	-9.4	29.8	46.0	16.2	121.0	348.0
3	528.000	V	37.1	-9.1	28.0	46.0	18.0	123.0	80.0
4	544.500	V	40.8	-8.7	32.1	46.0	13.9	117.0	336.0
5	552.000	V	39.7	-8.4	31.3	46.0	14.7	110.0	342.0
6	594.000	V	37.1	-7.7	29.4	46.0	16.6	100.0	32.0
7	643.500	V	35.9	-7.1	28.8	46.0	17.2	100.0	150.0
8	792.000	V	39.9	-5.3	34.6	46.0	11.4	158.0	189.0

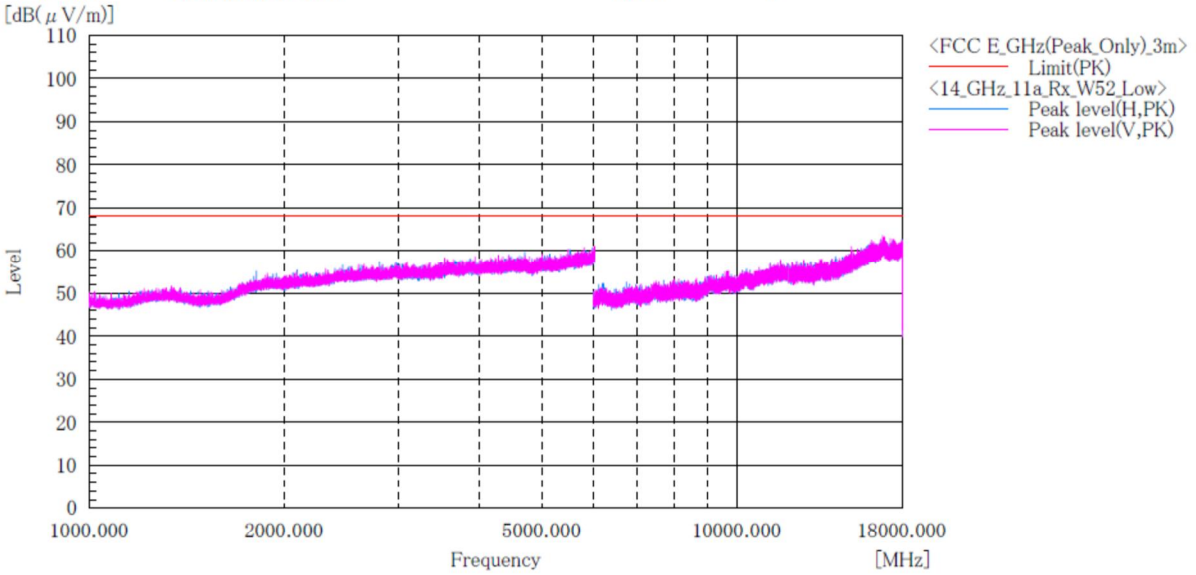
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.

W52 / Channel Low
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. | <<DATA Sheet No.14>> | 15 May,2019 03:53

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 20.3[℃] 39.1[%]
Serial No.	: 9007C	Note1	: Ch:36_5180MHz
Test mode	: 5GHz_W52_Rx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]

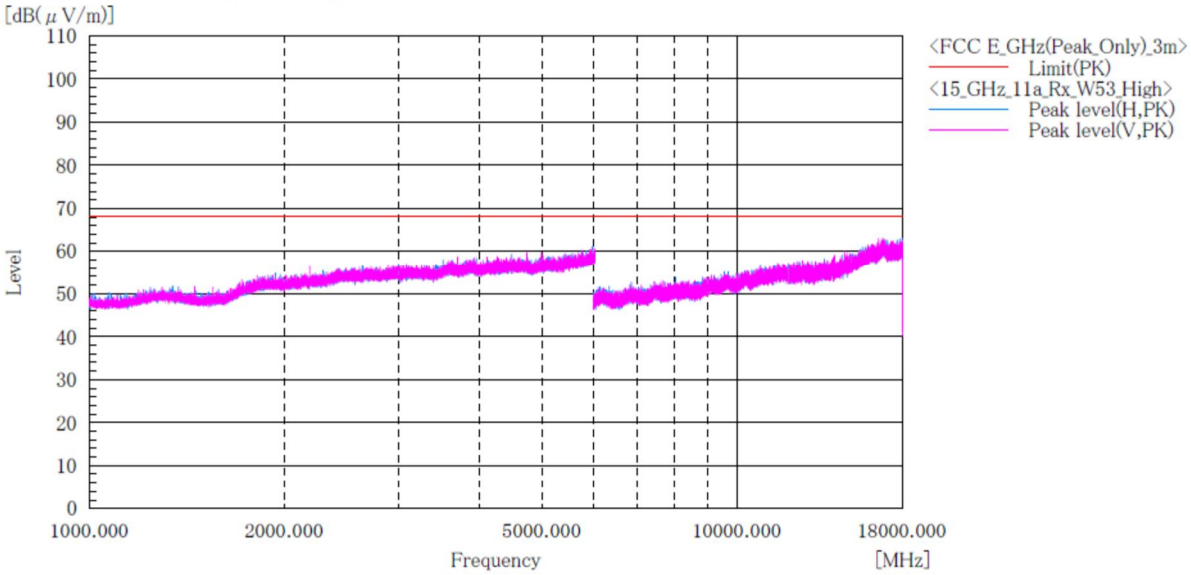
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

W53 / Channel High
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.15>> 15 May,2019 04:29

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 20.3[℃] 39.1[%]
Serial No.	: 9007C	Note1	: Ch:64_5320MHz
Test mode	: 5GHz_W53_Rx_High	Note2	:



Final Result

No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]

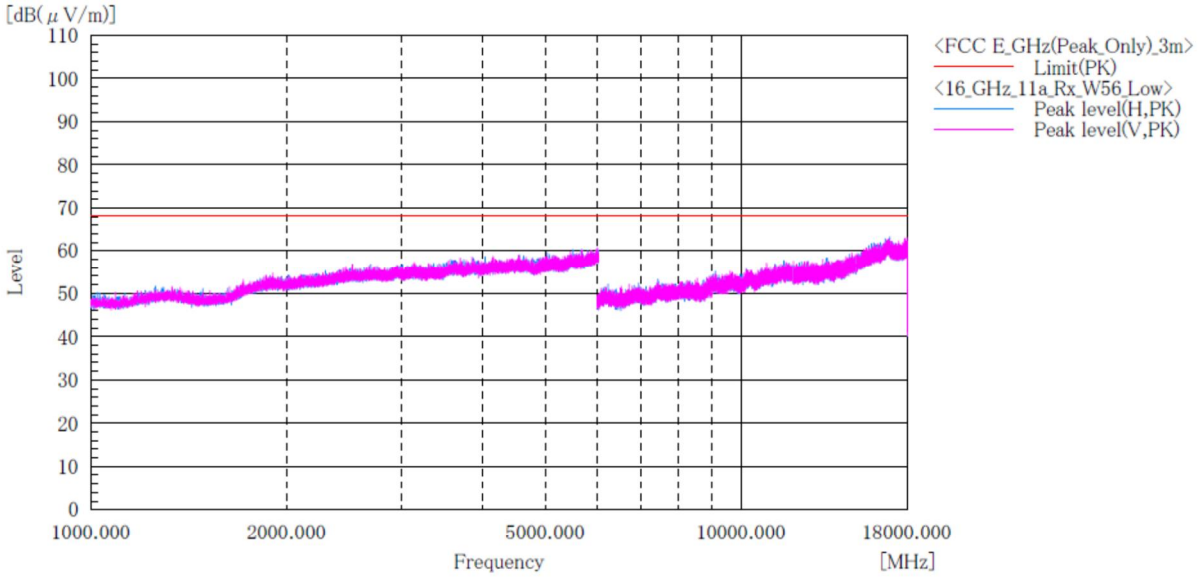
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

W56 / Channel Low
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. | <<DATA Sheet No.16>> | 15 May,2019 04:56

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 20.3[℃] 39.1[%]
Serial No.	: 9007C	Note1	: Ch:100_5500MHz
Test mode	: 5GHz_W56_Rx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]

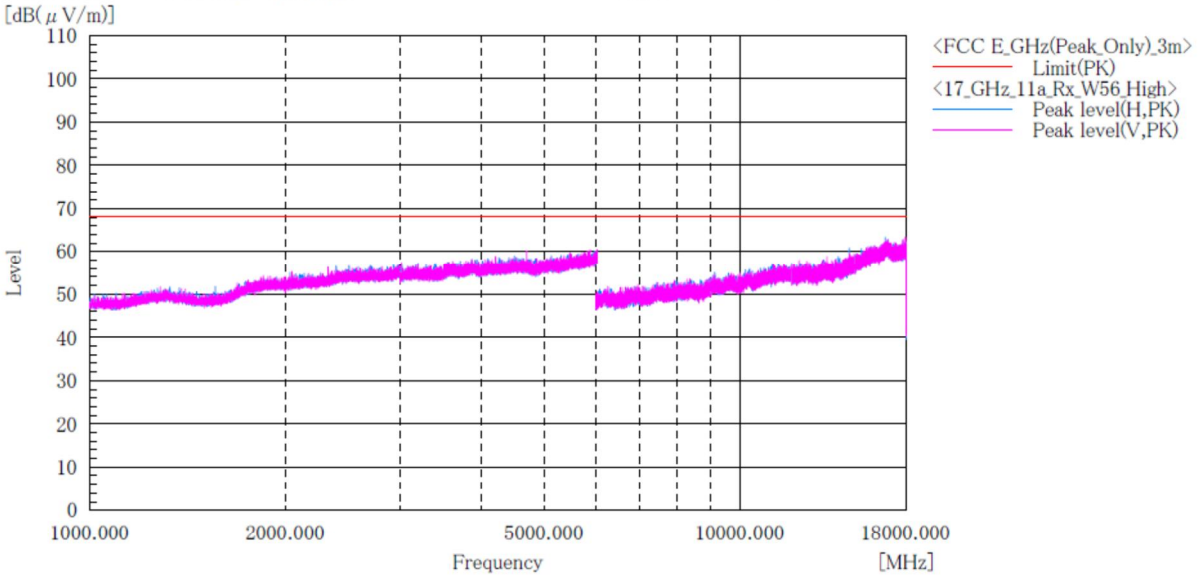
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

W56 / Channel High
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. | <<DATA Sheet No.17>> | 15 May,2019 05:23

Company name	: Moritex Corporation	Standard	: FCC Part.15 subpart E
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 20.3[℃] 39.1[%]
Serial No.	: 9007C	Note1	: Ch:140_5700MHz
Test mode	: 5GHz_W56_Rx_High	Note2	:



Final Result

No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

4.5 Frequency Stability

4.5.1 Measurement procedure

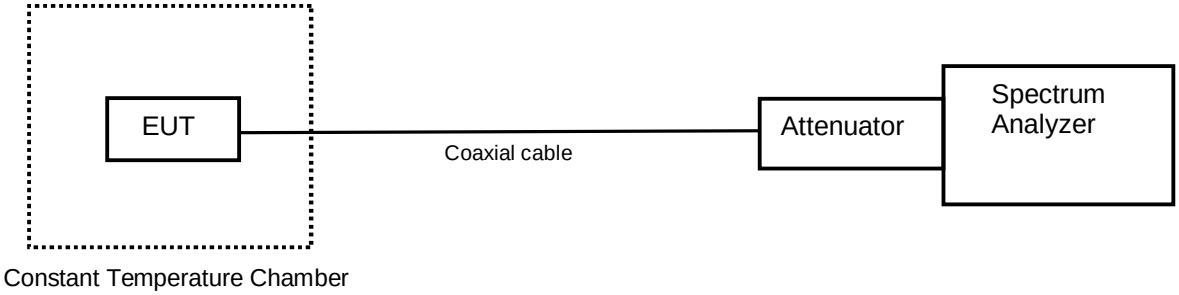
[FCC 15.407(g)]

The EUT was placed of an inside of an constant temperature chamber as the temperature in the chamber was varied between -30˚C and +60˚C. The temperature was incremented by 10˚C intervals and the unit was allowed to stabilize at each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channels center frequency was recorded.

The EUT was set to operate with following conditions.
- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band

The test mode of EUT is as follows.
- Tx mode

- Test configuration



4.5.2 Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified.

4.5.3 Measurement result

Date : 16-May-2019
Temperature : 21.4 [˚C]
Humidity : 48.9 [%]
Test place : Shielded room No.4
Test engineer : Kazunori Saito

Date : 20-May-2019
Temperature : 23.4 [˚C]
Humidity : 31.8 [%]
Test place : Shielded room No.4
Test engineer : Kazunori Saito

[Channel: 36 (5180 MHz)]

Power Supply [V]	Temperature [ºC]	Measurements Frequency (startup) [Hz]	Frequency Tolerance (startup) [ppm]	Measurements Frequency (2mins) [Hz]	Frequency Tolerance (2mins) [ppm]	Measurements Frequency (5mins) [Hz]	Frequency Tolerance (5mins) [ppm]	Measurements Frequency (10mins) [Hz]	Frequency Tolerance (10mins) [ppm]
3.60	25(Ref.)	5179947293	0.00000000	5179941549	-1.10889159	5179971990	4.76780913	5179935200	-2.33457974
	60	5179936258	-2.13033056	5179928572	-3.61412944	5179932406	-2.87396747	5179960557	2.56064382
	50	5179946958	-0.06467247	5179964071	3.23902910	5179958418	2.14770525	5179947382	0.01718164
	40	5179954688	1.42762070	5179939715	-1.46294925	5179944470	-0.54498624	5179942237	-0.97607171
	30	5179951646	0.84035604	5179945319	-0.38108496	5179944837	-0.47413610	5179927910	-3.74192997
	20	5179944399	-0.55869294	5179935094	-2.35504327	5179959045	2.26874895	5179954422	1.37626883
	10	5179984331	7.15026580	5179979980	6.31029587	5179966844	3.77436273	5179968456	4.08556281
	0	5179986678	7.60335922	5179980441	6.39929291	5179971450	4.66356097	5179981975	6.69543492
	-10	5179996900	9.57673837	5179998989	9.98002433	5180003304	10.81304439	5180004095	10.96574864
	-20	5180022495	14.51790834	5180007140	11.55359246	5180008509	11.81788087	5179997567	9.70550416
	-30	5180022045	14.43103487	5180028275	15.63374981	5180029101	15.79321089	5180010171	12.13873355
3.24	25	5179962516	2.93883299	5179961591	2.76025975	5179951359	0.78495007	5179941120	-1.19171097
3.96	25	5179952883	1.07916156	5179963073	3.04636304	5179971146	4.60487311	5179950473	0.61390586

[Channel: 64 (5320 MHz)]

Power Supply [V]	Temperature [ºC]	Measurements Frequency (startup) [Hz]	Frequency Tolerance (startup) [ppm]	Measurements Frequency (2mins) [Hz]	Frequency Tolerance (2mins) [ppm]	Measurements Frequency (5mins) [Hz]	Frequency Tolerance (5mins) [ppm]	Measurements Frequency (10mins) [Hz]	Frequency Tolerance (10mins) [ppm]
3.60	25(Ref.)	5319937592	0.00000000	5319945925	1.56637176	5319950799	2.48254792	5319934227	-0.63252622
	60	5319954059	3.09533706	5319960821	4.36640460	5319966478	5.42976294	5319968392	5.78954160
	50	5319948589	2.06712951	5319951415	2.59833875	5319937359	-0.04379751	5319955366	3.34101664
	40	5319943084	1.03234294	5319963924	4.94968212	5319958663	3.96076075	5319922787	-2.78292738
	30	5319950882	2.49814961	5319910479	-5.09648836	5319924382	-2.48311184	5319941098	0.65903029
	20	5319944748	1.34512856	5319945176	1.42558063	5319944538	1.30565441	5319945672	1.51881481
	10	5319954371	3.15398437	5319967275	5.57957673	5319959845	4.18294381	5319965341	5.21603863
	0	5319971216	6.32037490	5319983451	8.62021390	5319964403	5.03972077	5319964560	5.06923240
	-10	5320001724	12.05502863	5319986836	9.25649956	5319990682	9.97944038	5319982941	8.52434812
	-20	5320012403	14.06238301	5320004463	12.56988430	5320005548	12.77383406	5320002093	12.12439035
	-30	5320004263	12.53228987	5320013476	14.26407710	5320019606	15.41634626	5320023208	16.09342187
3.24	25	5319946864	1.74287759	5319938453	0.16184400	5319931284	-1.18572820	5319947432	1.84964576
3.96	25	5319955600	3.38500211	5319953483	2.98706512	5319940003	0.45320081	5319946100	1.59926688

[Channel: 140 (5700 MHz)]

Power Supply [V]	Temperature [ºC]	Measurements Frequency (startup) [Hz]	Frequency Tolerance (startup) [ppm]	Measurements Frequency (2mins) [Hz]	Frequency Tolerance (2mins) [ppm]	Measurements Frequency (5mins) [Hz]	Frequency Tolerance (5mins) [ppm]	Measurements Frequency (10mins) [Hz]	Frequency Tolerance (10mins) [ppm]
3.60	25(Ref.)	5699931112	0.00000000	5699948390	3.03126470	5699921506	-1.68528353	5699924617	-1.13948746
	60	5699981696	8.87449322	5699973889	7.50482754	5699971542	7.09306818	5699983516	9.19379532
	50	5699934942	0.67193795	5699958599	4.82233898	5699939820	1.52773776	5699968423	6.54586858
	40	5699937953	1.20018994	5699938447	1.28685766	5699937943	1.19843554	5699940981	1.73142443
	30	5699965633	6.05638898	5699943917	2.24651838	5699917486	-2.39055521	5699920758	-1.81651318
	20	5699954953	4.18268213	5699948061	2.97354471	5699932622	0.26491548	5699930999	-0.01982480
	10	5699950649	3.42758528	5699968989	6.64516803	5699963310	5.64884020	5699950076	3.32705775
	0	5699998888	11.89067002	5699970817	6.96587366	5699984007	9.27993672	5699951993	3.66337761
	-10	5699987628	9.91520755	5699983497	9.19046195	5699991829	10.65223400	5699995501	11.29645231
	-20	5700016475	14.97614591	5700009218	13.70297263	5700021819	15.91370110	5700019480	15.50334526
	-30	5700035254	18.27074713	5700022145	15.97089477	5700018359	15.30667622	5700022558	16.04335179
3.24	25	5699958086	4.73233789	5699938302	1.26141875	5699945781	2.57353987	5699999919	12.07149344
3.96	25	5699944217	2.29915059	5699943766	2.22002683	5699941772	1.87019804	5699940130	1.58212438

4.6 AC Power Line Conducted Emissions

4.6.1 Measurement procedure

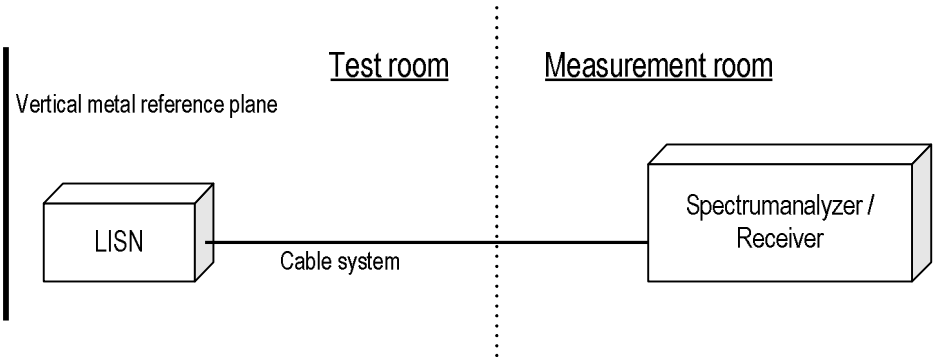
[FCC 15.207]

Test was applied by following conditions.

Test method	:	ANSI C63.10
Frequency range	:	0.15 MHz to 30 MHz
Test place	:	3m Semi-anechoic chamber
EUT was placed on	:	FRP table / (W) 2.0 × (D) 1.0 × (H) 0.8 m
Vertical Metal Reference Plane	:	(W) 2.0 × (H) 2.0 m, 0.4 m away from EUT
Test receiver setting		
- Detector	:	Quasi-peak, Average
- Bandwidth	:	9 kHz

EUT and peripherals are connected to 50Ω/50μH Line Impedance Stabilization Network (LISN) which are connected to reference ground plane, and are placed 80cm away from EUT. Excess of AC power cable is bundled in center.
LISN for peripheral is terminated in 50Ω.
EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Maximum emission configuration is determined by manipulating the EUT, peripherals, interconnecting cables. Then, emission measurements are performed with test receiver in above setting to each current-carrying conductor of the mains port. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits.

- Test configuration



4.6.2 Calculation method

Emission level = Reading + (LISN. factor + Cable system loss)
Margin = Limit – Emission level

4.6.3 Limit

Frequency [MHz]	Limit	
	QP [dBuV]	AV [dBuV]
0.15-0.5	66-56*	56-46*
0.5-5	56	46
5-30	60	50

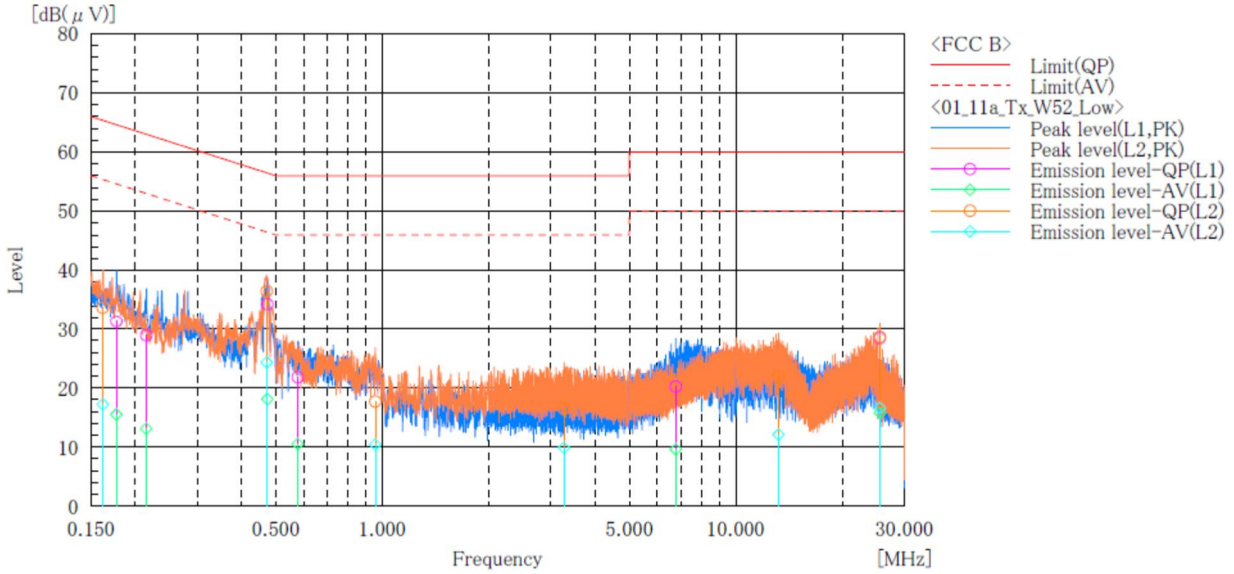
*: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

4.6.4 Test data

***** CONDUCTED EMISSION at MAINS PORT *****
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. | <<Data Sheet No.01>> | 17 May,2019 03:07

Company Name	: Moritex Corporation	Standard	: FCC Part.15 Class B
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 20.0[℃] 51.2[%]
Serial No.	: N/A	Note1	: 36ch 5180MHz
Test mode	: 5GHz_W52_11a_Tx_Low	Note2	:



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.177	20.9	5.1	10.4	31.3	15.5	64.6	54.6	33.3	39.1
2	0.215	18.5	2.7	10.4	28.9	13.1	63.0	53.0	34.1	39.9
3	0.473	24.0	7.8	10.3	34.3	18.1	56.5	46.5	22.2	28.4
4	0.577	11.5	0.2	10.3	21.8	10.5	56.0	46.0	34.2	35.5
5	6.768	9.6	-1.0	10.6	20.2	9.6	60.0	50.0	39.8	40.4
6	25.563	17.2	4.6	11.2	28.4	15.8	60.0	50.0	31.6	34.2

--- L2 Phase ---

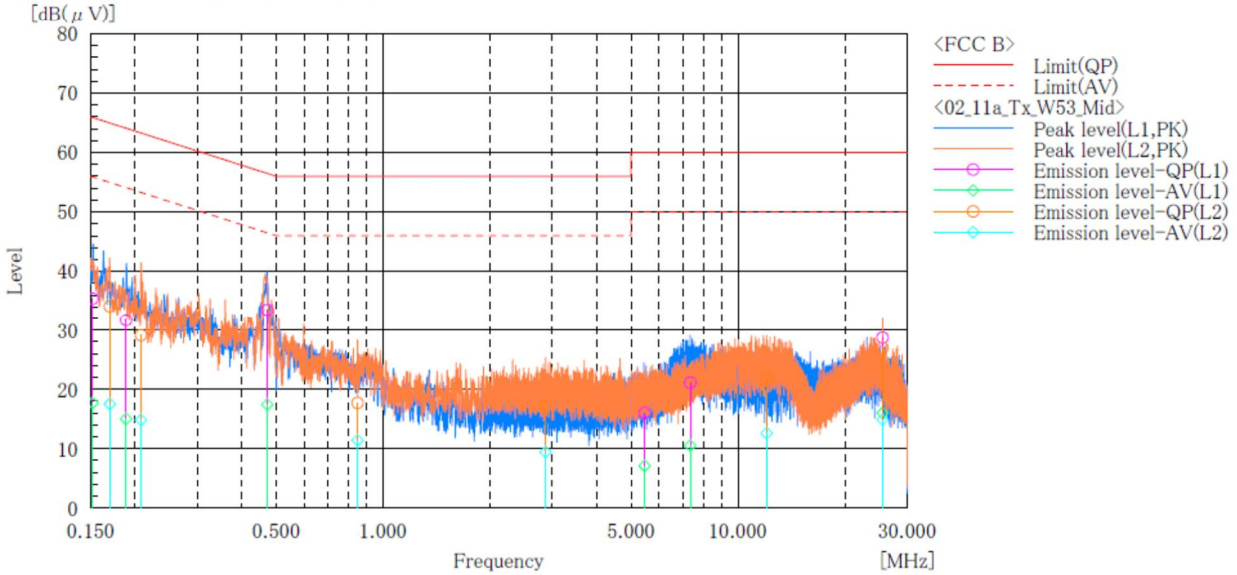
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.162	23.3	6.8	10.4	33.7	17.2	65.4	55.4	31.7	38.2
2	0.471	26.2	14.0	10.3	36.5	24.3	56.5	46.5	20.0	22.2
3	0.956	7.4	0.1	10.3	17.7	10.4	56.0	46.0	38.3	35.6
4	3.267	6.0	-0.6	10.5	16.5	9.9	56.0	46.0	39.5	36.1
5	13.219	11.1	1.3	10.8	21.9	12.1	60.0	50.0	38.1	37.9
6	25.563	17.4	5.4	11.2	28.6	16.6	60.0	50.0	31.4	33.4

Japan

***** CONDUCTED EMISSION at MAINS PORT *****
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<Data Sheet No.02>> 17 May,2019 03:42

Company Name	: Moritex Corporation	Standard	: FCC Part.15 Class B
EUT	: Handy Skin Sensor	Operator	: C.Kanno
Model No.	: HSS II	Temp,Hum,Atm	: 20.0[℃] 51.2[%]
Serial No.	: N/A	Note1	: 60ch 5300MHz
Test mode	: 5GHz_W53_11a_Tx_Mid	Note2	:



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.152	24.9	7.2	10.5	35.4	17.7	65.9	55.9	30.5	38.2
2	0.189	21.3	4.6	10.4	31.7	15.0	64.1	54.1	32.4	39.1
3	0.472	23.2	7.1	10.3	33.5	17.4	56.5	46.5	23.0	29.1
4	5.462	5.5	-3.4	10.5	16.0	7.1	60.0	50.0	44.0	42.9
5	7.335	10.5	-0.1	10.6	21.1	10.5	60.0	50.0	38.9	39.5
6	25.563	17.5	4.8	11.2	28.7	16.0	60.0	50.0	31.3	34.0

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.170	23.7	7.1	10.4	34.1	17.5	65.0	55.0	30.9	37.5
2	0.208	18.7	4.4	10.4	29.1	14.8	63.3	53.3	34.2	38.5
3	0.848	7.4	1.1	10.3	17.7	11.4	56.0	46.0	38.3	34.6
4	2.871	6.7	-1.0	10.4	17.1	9.4	56.0	46.0	38.9	36.6
5	12.048	11.0	1.8	10.8	21.8	12.6	60.0	50.0	38.2	37.4
6	25.566	15.8	3.7	11.2	27.0	14.9	60.0	50.0	33.0	35.1

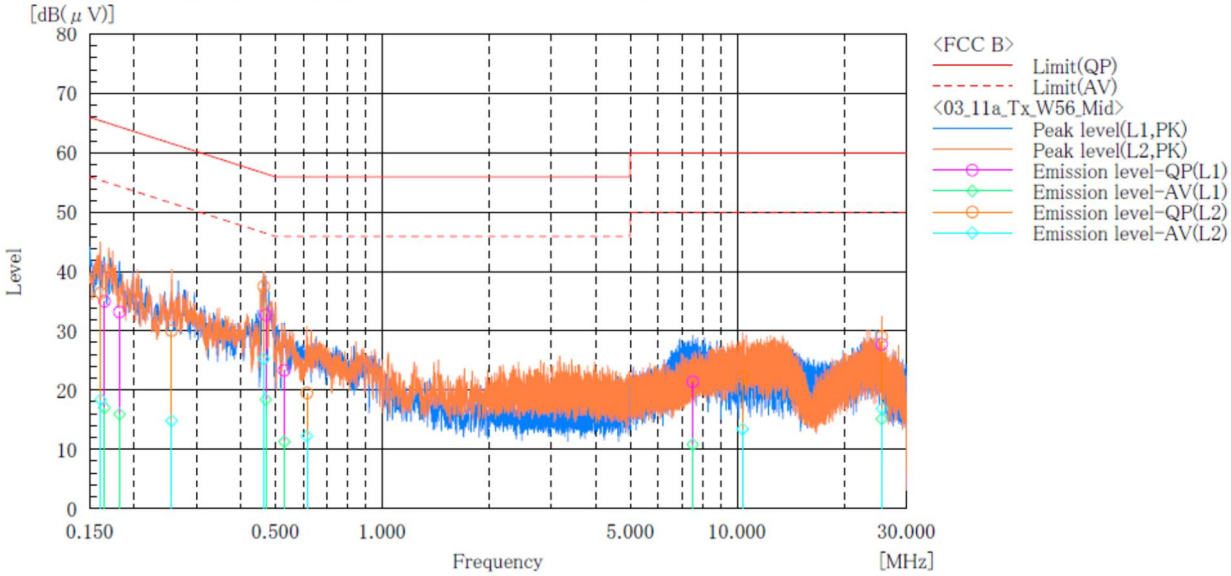
Japan

***** CONDUCTED EMISSION at MAINS PORT *****
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<Data Sheet No.03>> 17 May,2019 04:05

Company Name : Moritex Corporation
EUT : Handy Skin Sensor
Model No. : HSS II
Serial No. : N/A
Test mode : 5GHz_W56_11a_Tx_Mid

Standard : FCC Part.15 Class B
Operator : C.Kanno
Temp,Hum,Atm : 20.0[℃] 51.2[%]
Note1 : 118ch 5580MHz
Note2 :



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.165	24.7	6.6	10.4	35.1	17.0	65.2	55.2	30.1	38.2
2	0.182	22.9	5.5	10.4	33.3	15.9	64.4	54.4	31.1	38.5
3	0.470	22.5	8.1	10.3	32.8	18.4	56.5	46.5	23.7	28.1
4	0.530	13.0	1.0	10.3	23.3	11.3	56.0	46.0	32.7	34.7
5	7.502	10.8	0.2	10.6	21.4	10.8	60.0	50.0	38.6	39.2
6	25.560	16.5	3.9	11.2	27.7	15.1	60.0	50.0	32.3	34.9

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.161	26.1	8.0	10.4	36.5	18.4	65.4	55.4	28.9	37.0
2	0.255	19.6	4.4	10.4	30.0	14.8	61.6	51.6	31.6	36.8
3	0.464	27.3	14.9	10.3	37.6	25.2	56.6	46.6	19.0	21.4
4	0.614	9.2	1.9	10.3	19.5	12.2	56.0	46.0	36.5	33.8
5	10.366	11.5	2.7	10.7	22.2	13.4	60.0	50.0	37.8	36.6
6	25.563	17.8	5.7	11.2	29.0	16.9	60.0	50.0	31.0	33.1

4.7 Duty Cycle

4.7.1 Measurement procedure

[KDB 789033 D02, Section B, Zero-Span Spectrum Analyzer Method]

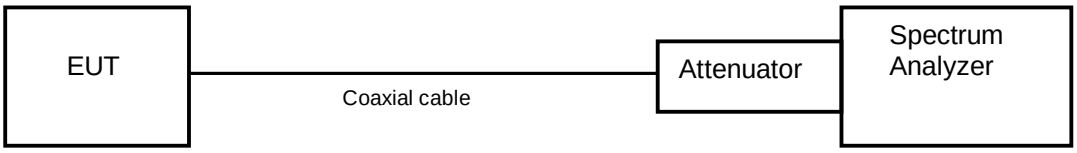
The duty cycle is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;
- RBW=8 MHz, VBW=8 MHz, Span=0 Hz, Sweep=Auto, Detector=Peak, Trace mode=Single

The EUT was set to operate with following conditions.
- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band

The test mode of EUT is as follows.
- Tx mode

- Test configuration



4.7.2 Limit

None

4.7.3 Measurement result

Date	:	9-May-2019		
Temperature	:	20.5 [˚C]		
Humidity	:	36.9 [%]	Test engineer	:
Test place	:	Shielded room No.4		Taiki Watanabe

Mode	Channel	Frequency (MHz)	Duty Cycle				DCF (dB) 10log(1/x)	DCF (dB) 20log(1/x)
			On Time (ms)	On+Off Time (ms)	X	1/T		
802.11a	36	5180	1.396	1.434	0.974	716.3	0.117	0.233
	44	5220						
	48	5240						
	52	5260	1.396	1.434	0.974	716.3	0.117	0.233
	60	5300						
	64	5320						
	100	5500	1.396	1.436	0.972	716.3	0.123	0.245
	116	5580						
	140	5700						

Note: X = On time / (On + Off time)

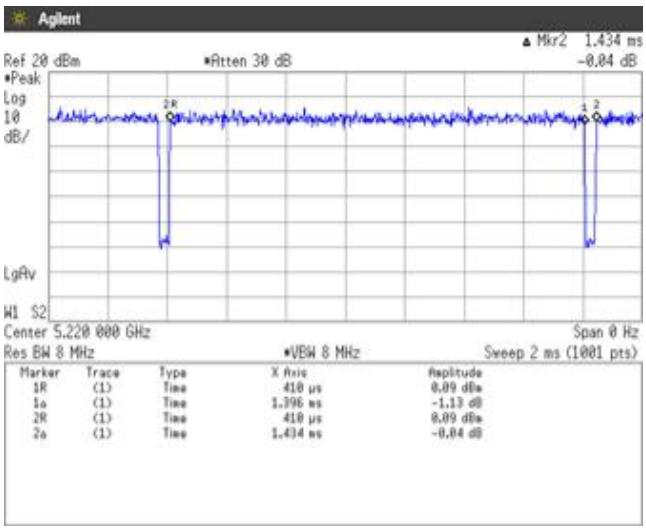
Mode	Channel	Frequency (MHz)	Duty Cycle				DCF (dB) 10log(1/x)	DCF (dB) 20log(1/x)
			On Time (ms)	On+Off Time (ms)	X	1/T		
802.11n (20MHz)	36	5180	1.308	1.348	0.970	764.5	0.131	0.262
	44	5220						
	48	5240						
	52	5260	1.308	1.348	0.970	764.5	0.131	0.262
	60	5300						
	64	5320						
	100	5500	1.308	1.346	0.972	764.5	0.124	0.249
	116	5580						
	140	5700						

Note: X = On time / (On + Off time)

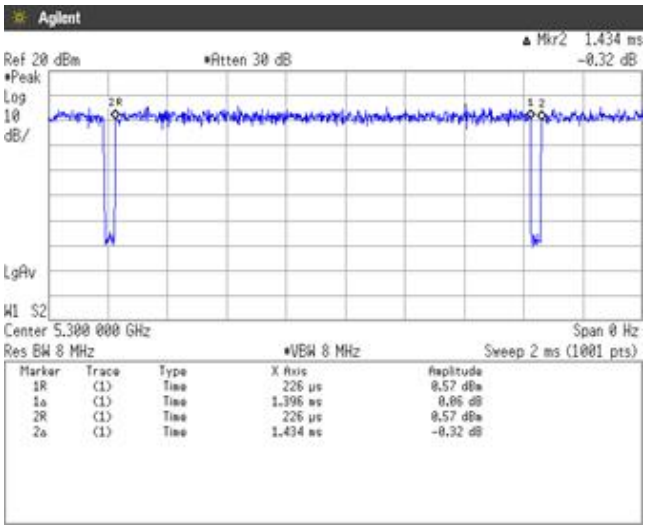
4.7.4 Trace data

[IEEE802.11a]

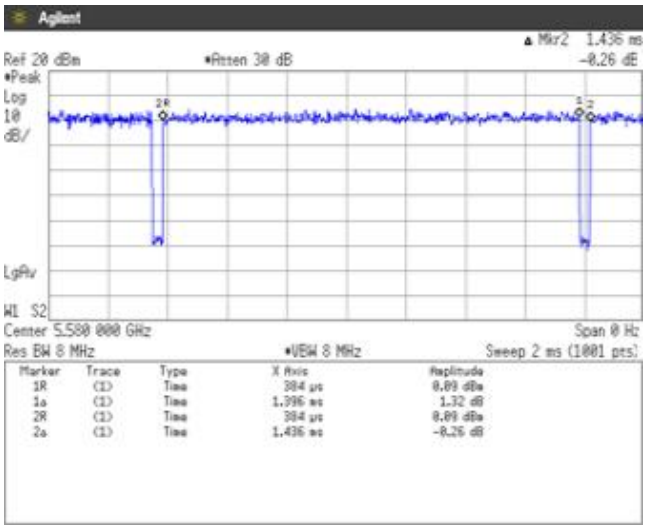
Channel: 44



Channel: 60

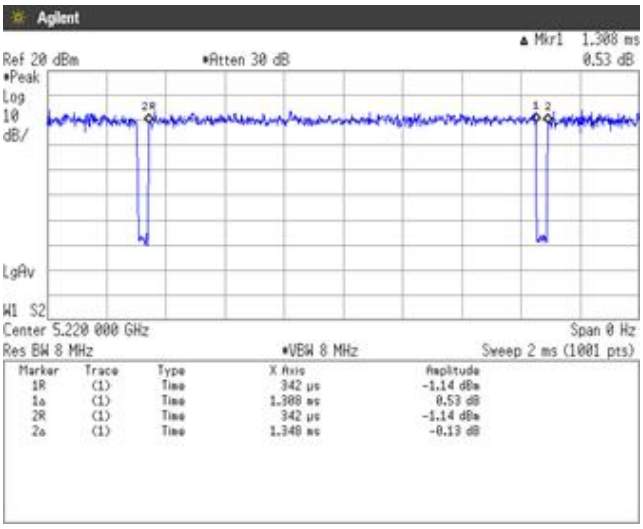


Channel: 116

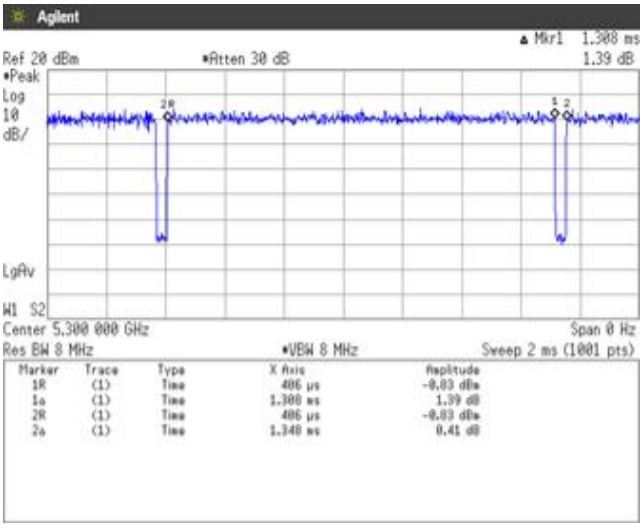


[IEEE802.11n (HT20)]

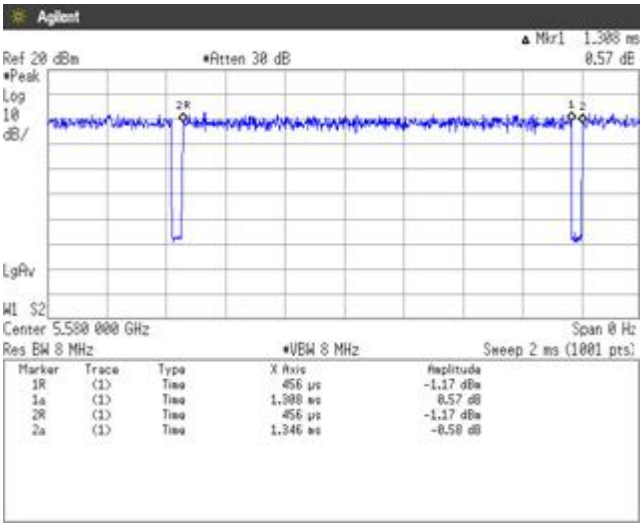
Channel: 44



Channel: 60



Channel: 116



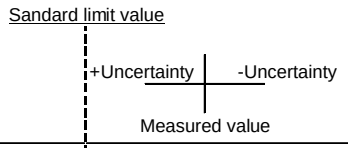
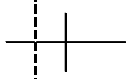
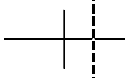
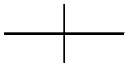
5 Antenna requirement

According to FCC section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
The antenna is a special antenna mounted inside of the EUT. Therefore, the EUT complies with the antenna requirement of FCC section 15.203.

6 Measurement uncertainty

Expanded uncertainties stated are calculated with a coverage Factor k=2.
Please note that these results are not taken into account when measurement uncertainty considerations contained in ETSI TR 100 028 Parts 1 and 2 determining compliance or non-compliance with test result.

Test item	Measurement uncertainty
Conducted emission, AMN (9 kHz – 150 kHz)	±3.8 dB
Conducted emission, AMN (150 kHz – 30 MHz)	±3.3 dB
Radiated emission (9kHz – 30 MHz)	±3.1 dB
Radiated emission (30 MHz – 1000 MHz)	±4.9 dB
Radiated emission (1 GHz – 6 GHz)	±4.8 dB
Radiated emission (6 GHz – 18 GHz)	±5.1 dB
Radiated emission (18 GHz – 40 GHz)	±5.8 dB
Radio Frequency	$\pm 1.4 * 10^{-8}$
RF power, conducted	±0.6 dB
Temperature	±0.6 °C
Humidity	±1.2 %
Voltage (DC)	±0.4 %
Voltage (AC, <10kHz)	±0.2 %

Judge	Measured value and standard limit value
PASS	**Case1**  Even if it takes uncertainty into consideration, a standard limit value is fulfilled.
	Case2  Although measured value is in a standard limit value, a limit value won't be fulfilled if uncertainty is taken into consideration.
FAIL	**Case3**  Although measured value exceeds a standard limit value, a limit value will be fulfilled if uncertainty is taken into consideration.
	Case4  Even if it takes uncertainty into consideration, a standard limit value isn't fulfilled.

7 Laboratory Information

Testing was performed and the report was issued at:

TÜV SÜD Japan Ltd. Yonezawa Testing Center

Address: 5-4149-7 Hachimanpara, Yonezawa-shi, Yamagata, 992-1128 Japan
Phone: +81-238-28-2881
Fax: +81-238-28-2888

Accreditation and Registration
NVLAP
LAB CODE: 200306-0

VLAC
Accreditation No.: VLAC-013

BSMI
Laboratory Code: SL2-IN-E-6018, SL2-A1-E-6018

Innovation, Science and Economic Development Canada

Site number	Facility	Expiration date
4224A-4	3 m Semi-anechoic chamber	27-November-2020
4224A-5	10 m Semi-anechoic chamber No. 1	27-November-2020
4224A-6	10 m Semi-anechoic chamber No. 2	14-December-2019

VCCI Council

Registration number	Expiration date
A-0166	03-July-2019

Appendix A. Test Equipment

Antenna port conducted test

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
Spectrum analyzer	Agilent Technologies	E4440A	US44302655	31-Jul-2019	02-Jul-2018
Attenuator	Weinschel	56-10	J4180	31-Jul-2019	12-Jul-2018
Power meter	ROHDE&SCHWARZ	NRP2	103269	31-Aug-2019	01-Aug-2018
Power sensor	ROHDE&SCHWARZ	NRP-Z81	102467	31-Aug-2019	01-Aug-2018
Temperature and humidity chamber	ESPEC	PL1KP	14007261	31-Dec-2019	07-Dec-2018

Radiated emission

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
EMI Receiver	ROHDE&SCHWARZ	ESCI	100765	30-Sep-2019	20-Sep-2018
Spectrum analyzer	Agilent Technologies	E4447A	MY46180188	30-Apr-2020	16-Apr-2019
Spectrum analyzer	Agilent Technologies	E4440A	US40420937	31-Oct-2019	12-Oct-2018
Preamplifier	SONOMA	310	372170	30-Sep-2019	20-Sep-2018
Loop antenna	ROHDE&SCHWARZ	HFH2-Z2	100515	28-Mar-2020	07-Mar-2019
Attenuator	TDC	TAT-43B-06	N/A(S209)	31-Jul-2019	11-Jul-2018
Biconical antenna	Schwarzbeck	VHA9103/BBA9106	VHA91032155	31-Aug-2019	06-Aug-2018
Log periodic antenna	Schwarzbeck	UHALP9108A	0560	31-Aug-2019	06-Aug-2018
Attenuator	TAMAGAWA.ELEC	CFA-01/6dB	N/A(S465)	31-May-2020	17-May-2019
Attenuator	TAMAGAWA.ELEC	CFA-10/3dB	N/A(S503)	31-Jul-2019	11-Jul-2018
Preamplifier	TSJ	MLA-100M18-B02-40	1929118	31-Jan-2020	17-Jan-2019
Attenuator	AEROFLEX	26A-10	081217-08	31-Jan-2020	17-Jan-2019
Double ridged guide antenna	ETS LINDGREN	3117	00224193	31-Jan-2020	23-Jan-2019
Attenuator	Agilent Technologies	8491B	MY39268633	31-Mar-2020	08-Mar-2019
Double ridged guide antenna	A.H.Systems Inc.	SAS-574	469	31-Aug-2019	24-Aug-2018
Preamplifier	TSJ	MLA-1840-B03-35	1240332	31-Aug-2019	24-Aug-2018
Notch filter	Micro-Tronics	BRM50716	006	31-Jul-2019	12-Jul-2018
Microwave cable	HUBER+SUHNER	SUCOFLEX104/9m	MY30037/4	31-Jan-2020	16-Jan-2019
		SUCOFLEX104/1m	my24610/4	31-Jan-2020	16-Jan-2019
		SUCOFLEX104/8m	SN MY30031/4	31-Jan-2020	16-Jan-2019
		SUCOFLEX104/1.5m	MY32976/4	31-Jan-2020	16-Jan-2019
		SUCOFLEX104/1.5m	MY19309/4	31-Jan-2020	16-Jan-2019
		SUCOFLEX104/7m	41625/6	31-Jan-2020	16-Jan-2019
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/RE-AJ	0611193/V5.6.0	N/A	N/A
Absorber	RIKEN	PFP30	N/A	N/A	N/A
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-NSA)	31-May-2019	21-May-2018
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-SVSWR)	31-May-2019	22-May-2018

Conducted emission at mains port

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
EMI Receiver	ROHDE&SCHWARZ	ESCI	100765	30-Sep-2019	20-Sep-2018
Attenuator	HUBER+SUHNER	6810.01.A	N/A (S411)	31-Jan-2020	17-Jan-2019
Line impedance stabilization network for EUT	Kyoritsu Electrical Works, Ltd.	KNW-407F2	12-17-110-2	31-May-2020	16-May-2019
Coaxial cable	FUJIKURA	5D-2W/4m	N/A (S350)	31-Jan-2020	16-Jan-2019
Coaxial cable	FUJIKURA	5D-2W/1m	N/A (S193)	31-Jan-2020	16-Jan-2019
Coaxial cable	HUBER+SUHNER	RG214/U/10m	N/A (S194)	31-Jan-2020	16-Jan-2019
PC	DELL	DIMENSION	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/CE-AJ	0611193/V5.4.11	N/A	N/A

*: The calibrations of the above equipment are traceable to NIST or equivalent standards of the reference organizations.