



RADIO TEST REPORT

Test Report No. : 11285933S-B-R2

Applicant : FUJIFILM Corporation
Type of Equipment : Flat Panel Sensor
Model No. : RIC 24C
FCC ID : W2Z-01000007
Test regulation : FCC Part 15 Subpart E: 2017
Test Result : Complied

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above regulation.
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5. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
6. This test report covers Radio technical requirements. It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
7. This report is a revised version of 11285933S-B-R1.

Date of test: February 2 to June 24, 2016

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13-EM-F0429

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SECTION 1: Customer information

Company Name : FUJIFILM Corporation
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SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Flat Panel Sensor
Model No. : RIC 24C
Serial No. : Refer to Section 4, Clause 4.2
Rating : DC 8 V
Receipt Date of Sample : February 1, 2016
Country of Mass-production : Taiwan
Condition of EUT : Engineering prototype
(Not for sale. This sample is equivalent to mass-production items.)
Modification of EUT : No Modification by the test lab.

2.2 Product Description

Model: RIC 24C (referred to as the EUT in this report) is a Flat Panel Sensor.

During the antenna terminal conducted test, the built-in radio module: SX-PCEAN(FF-E) was connected with the test system for the evaluation.

General Specification

Clock frequency(ies) in the system : 40 MHz

Radio Specification (Wireless LAN module, antenna)

Equipment type	Transceiver						
Model	SX-PCEAN(FF-E)						
Frequency band	2.4GHz band		5GHz band				
			-	U-NII-1 (W52)	U-NII-2A (W53)	U-NII-2C (W56)	U-NII-3 (W58)
Frequency of operation (MHz)(*ch.: channel)	11b.g, n-20 : 2412-2462 (*ch.1-11)		11a, n-20 : 5180-5240 (*ch.36-48)	5260-5320 (*ch.52-64)	5500-5580/5650-5700 (*ch.100-116/132-140)		5745-5825 (*ch.149-165)
	11n-40 : 2422-2452 (*ch.3-9)		11n-40 : 5190-5230 (*ch.38-46)	5270-5310 (*ch.54-62)	5510,5550,5670 (*ch.102,110,134)		5755, 5795 (*ch.151,159)
Channel spacing (MHz)	5 (11b.g,n-20,n-40)		20 (11b.g,n-20) / 40 (11n-40)				
Bandwidth (MHz)	20 (11b.g,n-20) / 40 (11n-40)		20 (11b.g,n-20) / 40 (11n-40)				
Type of modulation	DSSS: DBPSK, DQPSK, CCK (11b), OFDM: BPSK, QPSK, 16QAM, 64QAM (11g,a,n-20,n-40)						
Transmit power (typical, maximum channel and data rate) and tolerance (as manufacture variation) (dBm) (*ch.: channel)	11b : 13.5 ±2.5 (*ch.1-11, 1-11Mbps)		11a : 12.5 ±2.5 (*ch.36-48, 6-54Mbps)	12.5 ±2.5 (*ch.52-64, 6-54Mbps)	15.0 ±2.5 (*ch.100-116/132-140, 6-48Mbps)		15.0 ±2.5 (*ch.149-165, 6-48Mbps)
	11g : 17.0 ±2.5 (*ch.2, 6-36Mbps)						
	11n-20 : 14.5 ±2.5 (*ch.2, MCS0-4/8-12)		11n-20 : 11.0 ±2.5 (*ch.36-48, MCS0-6/8-14)	11.0 ±2.5 (*ch.52-64, MCS0-6/8-14)	13.5 ±2.5 (*ch.100-116/132-140, MCS0-4/8-12)		13.5 ±2.5 (*ch.149-165, MCS0-4/8-12)
	11n-40 : 13.5 ±2.5 (*ch.4, MCS0-4/8-12)		11n-40 : 11.0 ±2.5 (*ch.46, MCS0-7/8-15)	11.0 ±2.5 (*ch.54, MCS0-7/8-15)	11.0 ±2.5 (*ch.102,110,134, MCS0-5/8-13)		11.0 ±2.5 (*ch.151,159, MCS0-5/8-13)
* The value in a table shows the maximum power conditions of typical on each antenna. * 3dBm is added to MIMO power. * Refer to clause 2.3 for more detail. Refer to clause 2.4 for the maximum output power which may possible. * The measured Tx output power (conducted) refers to section 6 in this report.							
Power supply	DC 3.3V (* DC3.3V is supplied from the main unit via constant voltage circuit.)						
Antenna	antenna #0 (Bottom, short-side-ant#0)			antenna #1 (Side, long-side-ant#1)			
Antenna quantity	2 pcs. (* Separation distance between the antenna #0 and the antenna #1: approx.315 mm) 11b,g,a: One selected Tx antenna operation. 11n-20,n-40: One selected Tx antenna operation (MCS0~7) / Two Tx antenna operation (MCS8~13)						
Antenna model	113Y120216 (cable length: 300 mm)			113Y120216 (cable length: 300 mm)			
Antenna type / connector type	Monopole antenna / Connector, PCB side: U.FL, Antenna side: soldered						
Antenna gain (max.peak) (*including cable loss)	-7.3 dBi (2.4GHz), -2.3 dBi (5GHz) (*installed into the platform)			-6.5 dBi (2.4GHz), -0.3 dBi (5GHz) (*installed into the platform)			

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart E
FCC Part 15 final revised on June 14, 2017 and effective July 14, 2017
Title : FCC 47CFR Part15 Radio Frequency Device Subpart E
Unlicensed National Information Infrastructure Devices
Section 15.407 General technical requirements

* All the revisions made after testing date (June 24, 2016) do not affect the test specification applied to the EUT.

3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks
Conducted Emission	FCC: ANSI C63.10-2013 IC: RSS-Gen 8.8	FCC: 15.407 (b) (6) / 15.207 IC: RSS-Gen 8.8	5.2 dB, 0.15583 MHz, N, AV, Tx, 11n-20 (MIMO), 5825 MHz with Cradle	Complied	-
26 dB Emission Bandwidth	FCC: KDB Publication Number 789033 IC: -	FCC: 15.407 (a) (1) (2) (3) IC: -	See data	N/A	Conducted
Maximum Conducted Output Power	FCC: KDB Publication Number 789033 IC: -	FCC: 15.407 (a) (1) (2) (3) IC: RSS-247 6.2.1 (1) 6.2.2 (1) 6.2.3 (1) 6.2.4 (1)		Complied	Conducted
Maximum Power Spectral Density	FCC: KDB Publication Number 789033 IC: -	FCC : 15.407 (a) (1) (2) (3) IC: RSS-247 6.2.1 (1) 6.2.2 (1) 6.2.3 (1) 6.2.4 (1)		Complied	Conducted
Spurious Emission Restricted Band Edge	FCC: ANSI C63.10-2013 KDB Publication Number 789033 IC: -	FCC: 15.407 (b), 15.205 and 15.209 IC: RSS-247 6.2.1 (2) 6.2.2 (2) 6.2.3 (2) 6.2.4 (2)		4.8 dB 5725 MHz, AV, Horizontal Tx, 11n-20 (MIMO), 5700 MHz	Complied
6 dB Emission Bandwidth	FCC: ANSI C63.10-2013 IC: -	FCC: 15.407 (e) IC: RSS-247 6.2.4 (1)	See data	Complied	Conducted

Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422.

* For DFS tests, please see the test report number 11285933S-C issued by UL Japan, Inc.

*1) Radiated test was selected over 30 MHz based on section FCC 15.407 (b) and KDB 789033 D02 G.3.b).

* In case any questions arise about test procedure, ANSI C63.10: 2013 is also referred.

FCC Part 15.31 (e)

The RF transmitter is constantly supplied voltage through the regulator regardless of input voltage. Therefore, the EUT complies with the requirement.

FCC Part 15.203

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the product. Therefore, the EUT complies with the requirement.

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3.3 Addition to standard

Item	Test Procedure	Specification	Worst margin	Results	Remarks
99 % Occupied Band Width	RSS-Gen 6.6	IC: -	N/A	N/A	Conducted

Other than above, no addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor $k=2$.
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Item	Frequency range	Uncertainty (+/-)			
		No. 1 SAC / SR	No. 2 SAC / SR	No. 3 SAC / SR	No. 4 SAC / SR
Conducted emission (AC Mains) LISN	150 kHz-30 MHz	2.1 dB	2.1 dB	2.6 dB	2.2 dB
Radiated emission (Measurement distance: 3 m)	9 kHz-30 MHz	2.7 dB	2.7 dB	3.1 dB	-
	30 MHz-300 MHz	4.4 dB	4.4 dB	4.6 dB	-
	300 MHz-1 GHz	5.6 dB	5.5 dB	5.3 dB	-
	1 GHz-13 GHz	5.2 dB	5.2 dB	5.2 dB	-
Radiated emission (Measurement distance: 1 m)	13 GHz-18 GHz	4.9 dB	4.9 dB	4.9 dB	-
	18 GHz-40 GHz	4.9 dB	4.9 dB	4.9 dB	-

SAC=Semi-Anechoic Chamber

SR= Shielded Room is applied besides radiated emission

Antenna terminal test	Uncertainty (+/-)
Power Measurement above 1 GHz (Average Detector)_SPM-06	0.76 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-06	0.79 dB
Power Measurement above 1 GHz (Average Detector)_SPM-07	0.74 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-07	1.08 dB
Spurious emission (Conducted) below 1GHz	1.5 dB
Spurious emission (Conducted) 1 GHz-3 GHz	1.7 dB
Spurious emission (Conducted) 3 GHz-18 GHz	2.4 dB
Spurious emission (Conducted) 18 GHz-26.5 GHz	2.5 dB
Spurious emission (Conducted) 26.5 GHz-40 GHz	2.5 dB
Bandwidth Measurement	0.66 %
Duty cycle and Time Measurement	0.012 %

Conducted Emission test

The data listed in this test report has enough margin, more than the site margin.

Radiated emission test

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

3.5 Test Location

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Test site	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Semi-anechoic chamber	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
No.4 Semi-anechoic chamber	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
No.1 Shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.2 Shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.3 Shielded room	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
No.4 Shielded room	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
No.5 Shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.6 Shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.8 shielded room	-	3.45 x 5.5 x 2.4	3.45 x 5.5	-
No.1 Measurement room	-	2.55 x 4.1 x 2.5	-	-

3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

SECTION 4: Operation of E.U.T. during testing

4.1 Operating Mode(s)

Test operating mode was determined as follows according to “Section 1 of 6 802.11 a/b/g/n testing - Managing Complex Regulatory Approvals -” of TCB Council Workshop October 2009.

Mode		Remarks*
Transmitting (Tx), IEEE 802.11a (11a)		6 Mbps, PN9
Transmitting (Tx), IEEE 802.11n SISO 20 MHz BW (11n-20)		MCS 0, PN9
Transmitting (Tx), IEEE 802.11n MIMO 20 MHz BW (11n-20 (MIMO))		MCS 8, PN9
Transmitting (Tx), IEEE 802.11n SISO 40 MHz BW (11n-40)		MCS 0, PN9
Transmitting (Tx), IEEE 802.11n MIMO 40 MHz BW (11n-40 (MIMO))		MCS 8, PN9
*The worst antenna and condition was determined based on the test result of Maximum Conducted Output Power.		
*Power of the EUT was set by the software as follows;		
Power settings	IEEE 802.11a: 12.5dBm (5180-5320MHz), 15.0dBm (5500-5700MHz) IEEE 802.11n-20 (MIMO): 11.0dBm (5180-5320MHz), 13.5dBm (5500-5700MHz) IEEE 802.11n-40 (MIMO): 10.0dBm (5190, 5310MHz), 11.0dBm (5230, 5270, 5510-5670MHz)	
Software	Atheros Radio Test (ART) - Revision 0.9 BUILD #34 ART_11n - Customer Version (ANWI BUILD)	
*This setting of software is the worst case. Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product.		

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*The details of Operation mode(s)

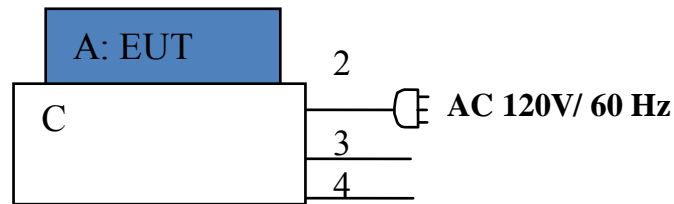
Test Item	Operating Mode	Tested Antenna	Tested Frequency			
			Lower Band	Middle Band	Additional Band	Upper Band
Conducted emission, Radiated Spurious Emission (Below 1 GHz), Conducted Spurious Emission	Tx, 11n-20(MIMO) *1)	0+1	-	-	-	5825 MHz
26 dB Emission Bandwidth	Tx, 11a, Tx, 11n-20	1	-	5260 MHz 5300 MHz	5500 MHz 5580 MHz	-
	Tx, 11n-20(MIMO)	0	-	5320 MHz	5700 MHz	-
	Tx, 11n-40, Tx, 11n-40(MIMO)	0	-	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	-
99 % Occupied Bandwidth	Tx, 11a, Tx, 11n-20	1	5180 MHz 5220 MHz	5260 MHz 5300 MHz	5500 MHz 5580 MHz	5745 MHz 5785 MHz
	Tx, 11n-20(MIMO)	0	5240 MHz	5320 MHz	5700 MHz	5825 MHz
	Tx, 11n-40, Tx, 11n-40(MIMO)	0	5190 MHz 5230 MHz	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
20 dB Bandwidth	Tx, 11a, Tx, 11n-20	1	5240 MHz	-	-	-
	Tx, 11n-20(MIMO)	0	5240 MHz	-	-	-
	Tx, 11n-40, Tx, 11n-40(MIMO)	0	5230 MHz	-	-	-
6 dB Bandwidth	Tx, 11a, Tx, 11n-20	1	-	-	-	5745 MHz 5785 MHz 5825 MHz
	Tx, 11n-20(MIMO)	0	-	-	-	
	Tx, 11n-40, Tx, 11n-40(MIMO)	0	-	-	-	5755 MHz 5795 MHz
Maximum Conducted Output Power, Maximum Power Spectral Density	Tx, 11a, Tx, 11n-20	1	5180 MHz 5220 MHz	5260 MHz 5300 MHz	5500 MHz 5580 MHz	5745 MHz 5785 MHz
	Tx, 11n-20(MIMO)	0+1	5240 MHz	5320 MHz	5700 MHz	5825 MHz
	Tx, 11n-40	0	5190 MHz	5270 MHz	5510 MHz	5755 MHz
	Tx, 11n-40(MIMO)	0+1	5230 MHz	5310 MHz	5550 MHz 5670 MHz	5795 MHz
Radiated Spurious Emission (Above 1 GHz)	Tx, 11n-20(MIMO)	0+1	5180 MHz 5240 MHz	5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	Tx, 11n-40(MIMO)	0+1	5190 MHz 5230 MHz	5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz

*1) The mode was tested as a representative, because it had the highest power at antenna terminal test.

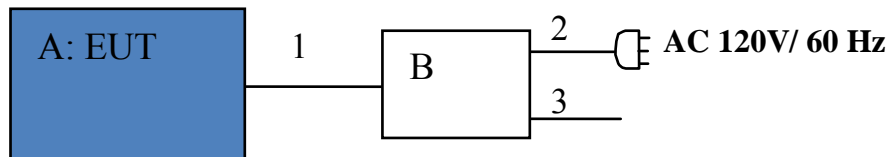
*2) The test was performed with the antenna that had higher power as a representative.

4.2 Configuration and peripherals

Conducted emission test



Conducted emission test and Radiated emission test



* The radiated emission test was pre-checked by 3 ways, with a cradle, with power supply and a standalone of EUT, and it was tested with the composition which became the worst result.

* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

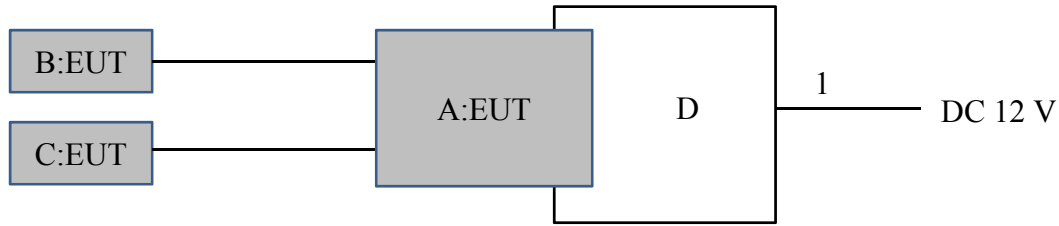
Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Flat Panel Sensor	RIC 24C	#001	FUJIFILM	EUT
B	Power supply unit	DR-ID 1200PB	-	FUJIFILM	-
C	Cradle	DR-ID 1200DU	46970002	FUJIFILM	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	Signal Cable	10	Shielded	Shielded	-
2	AC	3.0	Unshielded	Unshielded	-
3	LAN	1.5	Unshielded	Unshielded	-
4	LAN	1.5	Unshielded	Unshielded	-

Antenna terminal conducted tests



* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Wireless LAN Module	SX-PCEAN (FF-E)	008092609256	Silex technology, Inc.	EUT *1)
B	Antenna	ANTDC-084A0	-	-	EUT
C	Antenna	ANTDC-083A0	-	-	EUT
D	Jig	113Y120019	57024134	Silex technology, Inc.	-

*1) Built-in radio module of the Flat Panel Sensor RIC 24C is SX-PCEAN(FF-E).

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC	1.0	Unshielded	Unshielded	-

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane. The table is made of Styrofoam and covered with polyvinyl chloride. That has very low permittivity.

The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80 cm from any other grounded conducting surface. EUT was located 80 cm from a Line Impedance Stabilization Network (LISN) / Artificial mains Network (AMN) and excess AC cable was bundled in center.

I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane. Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN / (AMN) to the input power source.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT via ancillary equipment, in a shielded room.

The EUT via ancillary equipment was connected to a LISN (AMN).
An overview sweep with peak detection has been performed.

The test results and limit are rounded off to one decimal place, so some differences might be observed.

Detector : QP and CISPR Average
Measurement range : 0.15 MHz-30 MHz
Test data : APPENDIX
Test result : Pass

SECTION 6: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

< Below 1 GHz >

EUT was placed on a platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane. The table is made of Styrofoam and covered with polyvinyl chloride. That has very low permittivity. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

< Above 1 GHz >

EUT was placed on a urethane platform of nominal size, 0.5 m by 0.5 m, raised 1.5 m above the conducting ground plane.

The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with absorbent materials lined on a ground plane.

The height of the measuring antenna varied between 1 and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.

The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear mode).

The test was made with the detector (RBW/VBW) in the following table.

When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

< Below 1 GHz >

The result also satisfied with the general limits specified in section 15.209 (a).

< Above 1 GHz >

Inside of restricted bands (Section 15.205):

Apply to limit in the Section 15.209 (a).

Outside of the restricted bands:

Apply to limit 68.2 dBuV/m, 3 m (-27 dBm e.i.r.p.*) in the Section 15.407 (b) (1) (2) (3).

Apply to limit 68.2 dBuV/m, 3 m (-27 dBm e.i.r.p.*) or

105.2 dBuV/m, 3 m (10 dBm e.i.r.p.*) or 110.8 dBuV/m, 3 m (-15.6 dBm e.i.r.p.*) or

122.2 dBuV/m, 3 m (27 dBm e.i.r.p.*) in the Section 15.407 (b) (4).

Restricted band edge:

Apply to limit in the Section 15.209 (a).

Since this limit is severer than the limit of the inside of restricted bands.

*Electric field strength to e.i.r.p. conversion:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ (uV/m)} \quad :P \text{ is the e.i.r.p. (Watts)}$$

Test Antennas are used as below;

Frequency	30 MHz to 300 MHz	300 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

Frequency	Below 1 GHz	Above 1 GHz	
Instrument used	Test Receiver	Spectrum Analyzer	
Detector	QP	Peak	Average
IF Bandwidth	BW: 120 kHz	RBW: 1 MHz VBW: 3 MHz	Method AD *1) RBW: 1 MHz VBW: 3 MHz Detector: Power Averaging (RMS) Trace: ≥ 100 traces If duty cycle was less than 98%, a duty factor was added to the results.
Test Distance	3 m	3.8 m*2) (1 GHz – 13 GHz), 1 m*3) (13 GHz – 40 GHz)	

*1) The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v01r04 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E (Issued on June 21, 2017)".

*2) Distance Factor: $20 \times \log(3.8 \text{ m}/3.0 \text{ m}) = 2.1 \text{ dB}$

*3) Distance Factor: $20 \times \log(1.0 \text{ m}/3.0 \text{ m}) = -9.5 \text{ dB}$

The carrier levels and noise levels were confirmed with cradle or power supply or standalone / at each position of X, Y and Z axes to see the position of maximum noise, and the test was made under the condition that has the maximum noise.

Antenna polarization	Carrier	Spurious					
		Below 1 GHz	1 GHz - 6.4 GHz	6.4 GHz - 13 GHz	13 GHz - 18 GHz	18 GHz - 26.5 GHz	26.5 GHz - 40 GHz
Horizontal	Y	Y	Y	Y	X	X	X
Vertical	Z	Y	Z	Z	X	X	X

Worst setup: with power supply

The test results and limit are rounded off to one decimal place, so some differences might be observed.

Measurement range : 30 MHz-40 GHz

Test data : APPENDIX

Test result : Pass

SECTION 7: Antenna Terminal Conducted Tests

Test Procedure

The tests were made with below setting connected to the antenna port.

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used and Test method
26 dB Bandwidth	Enough to capture the emission	Close to 1 % of EBW	> RBW	Auto	Peak	Max Hold	Spectrum Analyzer
99 % Occupied Bandwidth *1)	Enough width to display emission skirts	1 % to 5 % of OBW	≥ 3 RBW	Auto	Peak	Max Hold	Spectrum Analyzer
20 dB Bandwidth	Enough to capture the emission	100 kHz	300 kHz	Auto	Peak	Max Hold	Spectrum Analyzer
6 dB Bandwidth	Enough to capture the emission	100 kHz	300 kHz	Auto	Peak	Max Hold	Spectrum Analyzer
Maximum Conducted Output Power	-	-	-	Auto	Average	-	Power Meter (Sensor: 160 MHz BW) (Method PM)
Maximum Power Spectral Density	Encompass the entire EBW	100 kHz *2)	≥ 3 RBW	Auto	RMS Power Averaging (100 times)	Clear Write	Spectrum Analyzer
Conducted Spurious Emission*3)	9 kHz – 150 kHz	200 Hz	620 Hz	Auto	Peak	Max Hold	Spectrum Analyzer
	150 kHz – 30 MHz	10 kHz	30 kHz				

* The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v01r04 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E (Issued on June 21, 2017)".

*1) Peak hold was applied as Worst-case measurement.

*2) KDB 789033 D02 says that RBW is set to be 500 kHz for 5.725 GHz-5.850 GHz, but it is not possible with spectrum analyzer, so RBW Correction Factor ($10 \log(500 \text{ kHz} / 470 \text{ kHz})$) was added to the test result.

*3) In the frequency range below 30 MHz, RBW was narrowed to separate the noise contents.

Then, wide-band noise near the limit was checked separately, however the noise was not detected as shown in the chart. (9 kHz-150 kHz: RBW = 200 Hz, 150 kHz-30 MHz: RBW = 10 kHz)

The test results and limit are rounded off to two decimals place, so some differences might be observed.

Test data : APPENDIX
Test result : Pass

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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APPENDIX 1: Test data

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

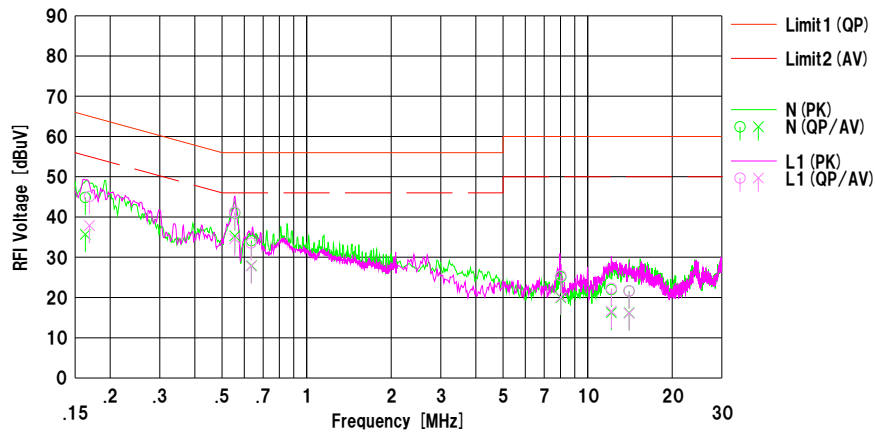
UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date : 2016/05/30

Mode : Tx, 11n-20 (MIMO), 5825 MHz
Order No. : 11285933S
Temp./Humi. : 22 deg.C / 46 %RH

Remarks : Power supply

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<OP> [dBuV]	<AV> [dBuV]		<OP> [dB]	<AV> [dBuV]	<OP> [dBuV]	<AV> [dBuV]	<OP> [dB]	<AV> [dB]		
1	0.16308	32.50	23.30	12.38	44.88	35.68	65.31	55.31	20.4	19.6	N	
2	0.55518	28.60	22.90	12.41	41.01	35.31	56.00	46.00	14.9	10.6	N	
3	0.63660	21.70	15.50	12.43	34.13	27.93	56.00	46.00	21.8	18.0	N	
4	8.02804	12.30	7.10	12.85	25.15	19.95	60.00	50.00	34.8	30.0	N	
5	12.14172	8.90	3.20	13.04	21.94	16.24	60.00	50.00	38.0	33.7	N	
6	14.03876	8.50	3.10	13.12	21.62	16.22	60.00	50.00	38.3	33.7	N	
7	0.16870	32.70	25.50	12.39	45.09	37.89	65.02	55.02	19.9	17.1	L1	
8	0.55470	28.80	22.20	12.41	41.21	34.61	56.00	46.00	14.7	11.3	L1	
9	0.63450	21.10	15.40	12.43	33.53	27.83	56.00	46.00	22.4	18.1	L1	
10	8.02916	12.60	7.30	12.85	25.45	20.15	60.00	50.00	34.5	29.8	L1	
11	12.14480	9.20	3.60	13.05	22.25	16.65	60.00	50.00	37.7	33.3	L1	
12	14.03840	8.50	3.00	13.12	21.62	16.12	60.00	50.00	38.3	33.8	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]
LISN:SLS-05

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

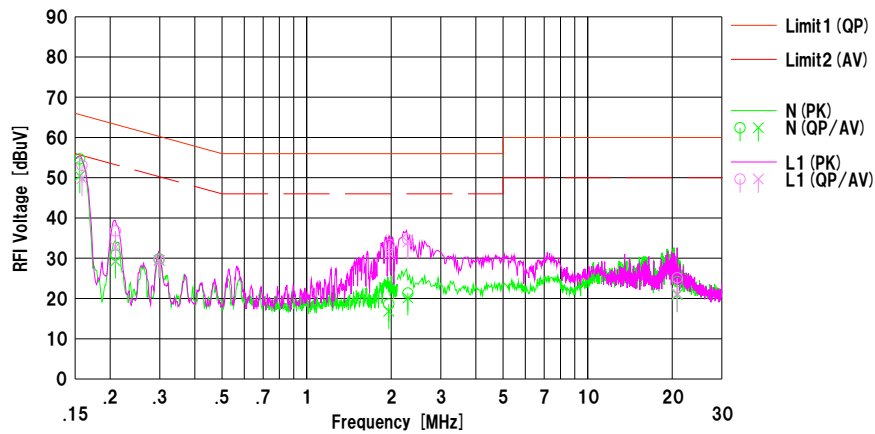
UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
Date : 2016/05/30

Mode : Tx, 11n-20 (MIMO), 5825 MHz
Order No. : 11285933S
Temp./Humi. : 22 deg.C / 46 %RH

Remarks : Cradle

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Engineer : Hikaru Shirasawa



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<OP> [dBuV]	<AV> [dBuV]		[dB]	<OP> [dBuV]	<AV> [dBuV]	<OP> [dBuV]	<AV> [dBuV]	<OP> [dB]		
1	0.15583	42.30	38.10	12.38	54.68	50.48	65.68	55.68	11.0	5.2	N	
2	0.20893	18.40	16.90	12.38	30.78	29.28	63.25	53.25	32.4	23.9	N	
3	0.29838	17.50	17.10	12.38	29.88	29.48	60.29	50.29	30.4	20.8	N	
4	1.96120	6.10	4.30	12.52	18.62	16.82	56.00	46.00	37.3	29.1	N	
5	2.29270	8.80	7.60	12.54	21.34	20.14	56.00	46.00	34.6	25.8	N	
6	20.82860	10.80	7.50	13.43	24.23	20.93	60.00	50.00	35.7	29.0	N	
7	0.15880	40.70	37.40	12.38	53.08	49.78	65.53	55.53	12.4	5.7	L1	
8	0.20887	24.40	20.40	12.38	36.78	32.78	63.25	53.25	26.4	20.4	L1	
9	0.29854	17.20	17.10	12.38	29.58	29.48	60.28	50.28	30.7	20.8	L1	
10	1.96810	20.90	18.60	12.52	33.42	31.12	56.00	46.00	22.5	14.8	L1	
11	2.28990	22.10	21.50	12.54	34.64	34.04	56.00	46.00	21.3	11.9	L1	
12	20.82660	11.70	7.80	13.43	25.13	21.23	60.00	50.00	34.8	28.7	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]
LISN:SLS-05

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11a

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
Antenna Port 1	5180	-	17.613	-
	5220	-	17.690	-
	5240	-	17.758	-
	5260	23.784	17.622	-
	5300	22.709	17.608	-
	5320	24.132	17.591	-
	5500	24.161	17.812	-
	5580	24.950	17.861	-
	5700	25.968	17.834	-
	5745	-	17.950	-
	5785	-	17.968	-
	5825	-	17.890	-

11n-20

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
Antenna Port 1	5180	-	18.707	-
	5220	-	18.690	-
	5240	-	18.631	-
	5260	23.448	18.746	-
	5300	23.626	18.685	-
	5320	23.733	18.751	-
	5500	24.329	18.927	-
	5580	24.728	18.876	-
	5700	24.663	18.869	-
	5745	-	18.870	-
	5785	-	18.944	-
	5825	-	18.935	-

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11n-20 (MIMO)

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
Antenna Port 0	5180	-	18.456	-
	5220	-	18.411	-
	5240	-	18.443	-
	5260	22.760	18.493	-
	5300	22.337	18.441	-
	5320	23.356	18.465	-
	5500	22.070	18.458	-
	5580	23.366	18.464	-
	5700	22.695	18.478	-
	5745	-	18.763	-
	5785	-	18.760	-
	5825	-	18.726	-

11n-40

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
Antenna Port 0	5190	-	37.281	-
	-	-	-	-
	5230	-	37.337	-
	5270	49.692	37.263	-
	-	-	-	-
	5310	46.885	37.251	-
	5510	49.309	37.229	-
	5550	50.223	37.411	-
	5670	53.212	37.528	-
	5755	-	37.436	-
	-	-	-	-
	5795	-	37.292	-

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

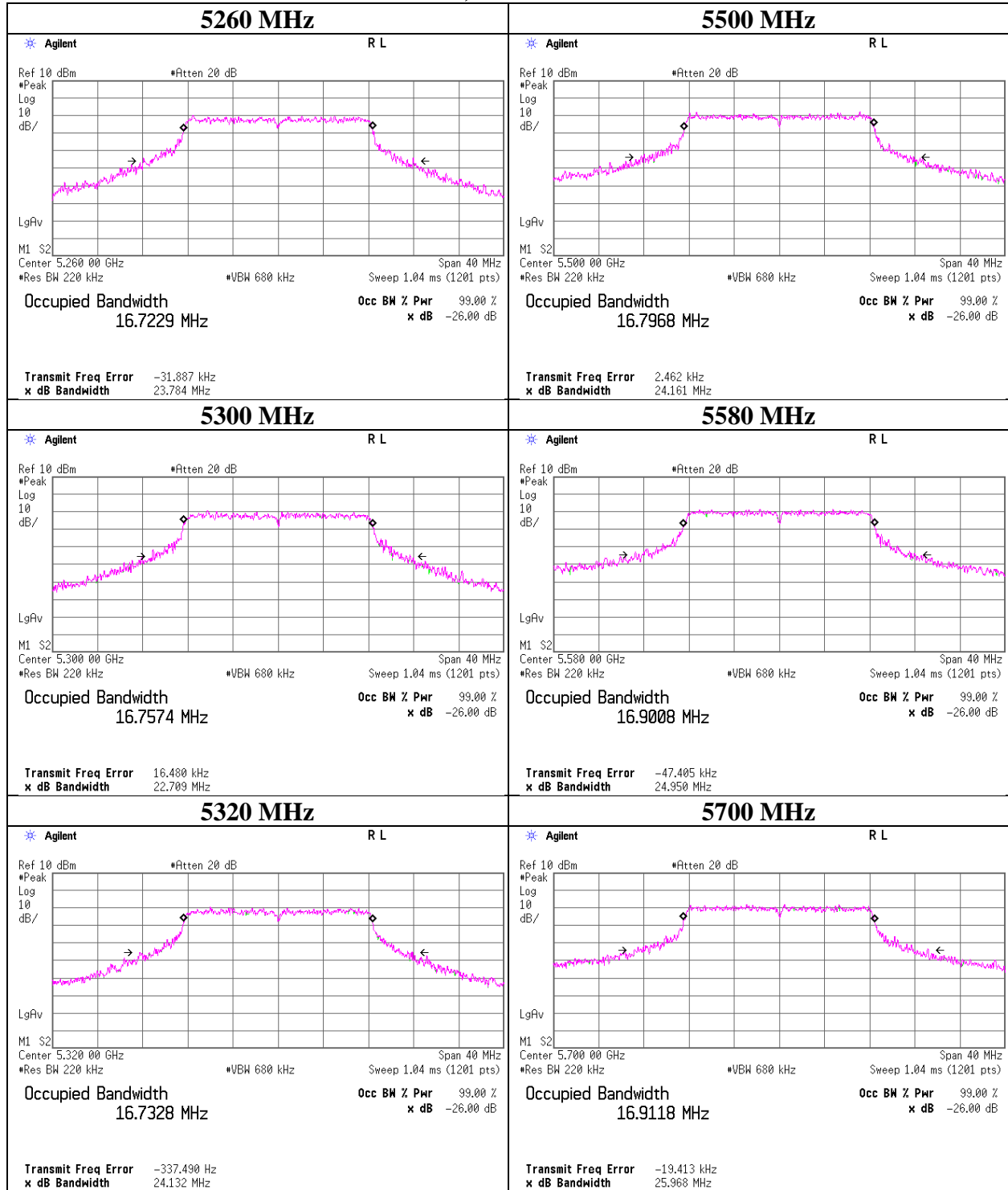
Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11n-40 (MIMO)

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
Antenna Port 0	5190	-	37.067	-
	-	-	-	-
	5230	-	37.051	-
	5270	45.397	37.003	-
	-	-	-	-
	5310	47.811	37.141	-
	5510	45.867	37.073	-
	5550	45.779	37.027	-
	5670	45.739	37.009	-
	5755	-	37.433	-
	-	-	-	-
5795	-	37.460	-	

26 dB Emission Bandwidth

11a, Antenna 1



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Shonan EMC Lab.

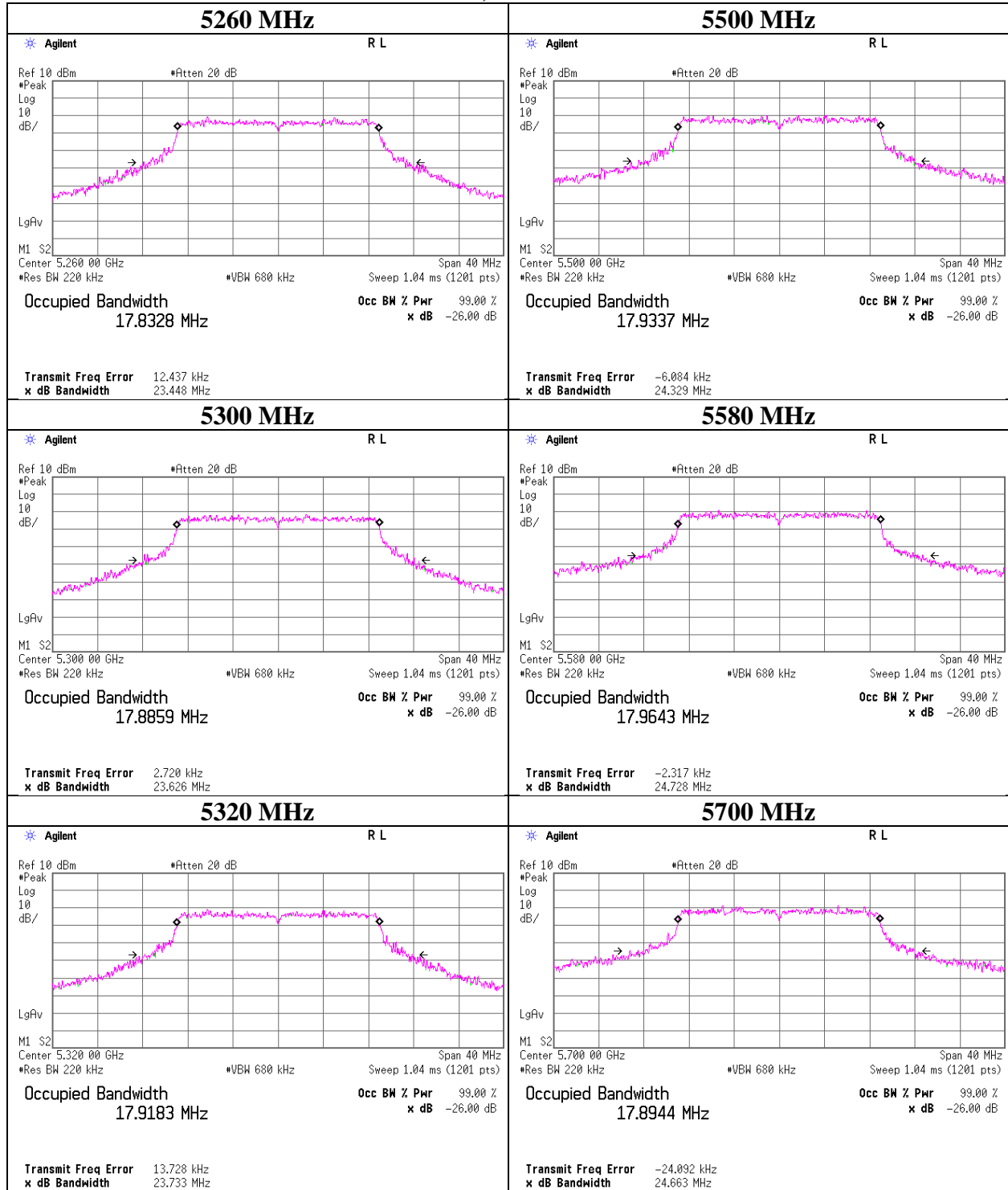
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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26 dB Emission Bandwidth

11n-20, Antenna 1



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Shonan EMC Lab.

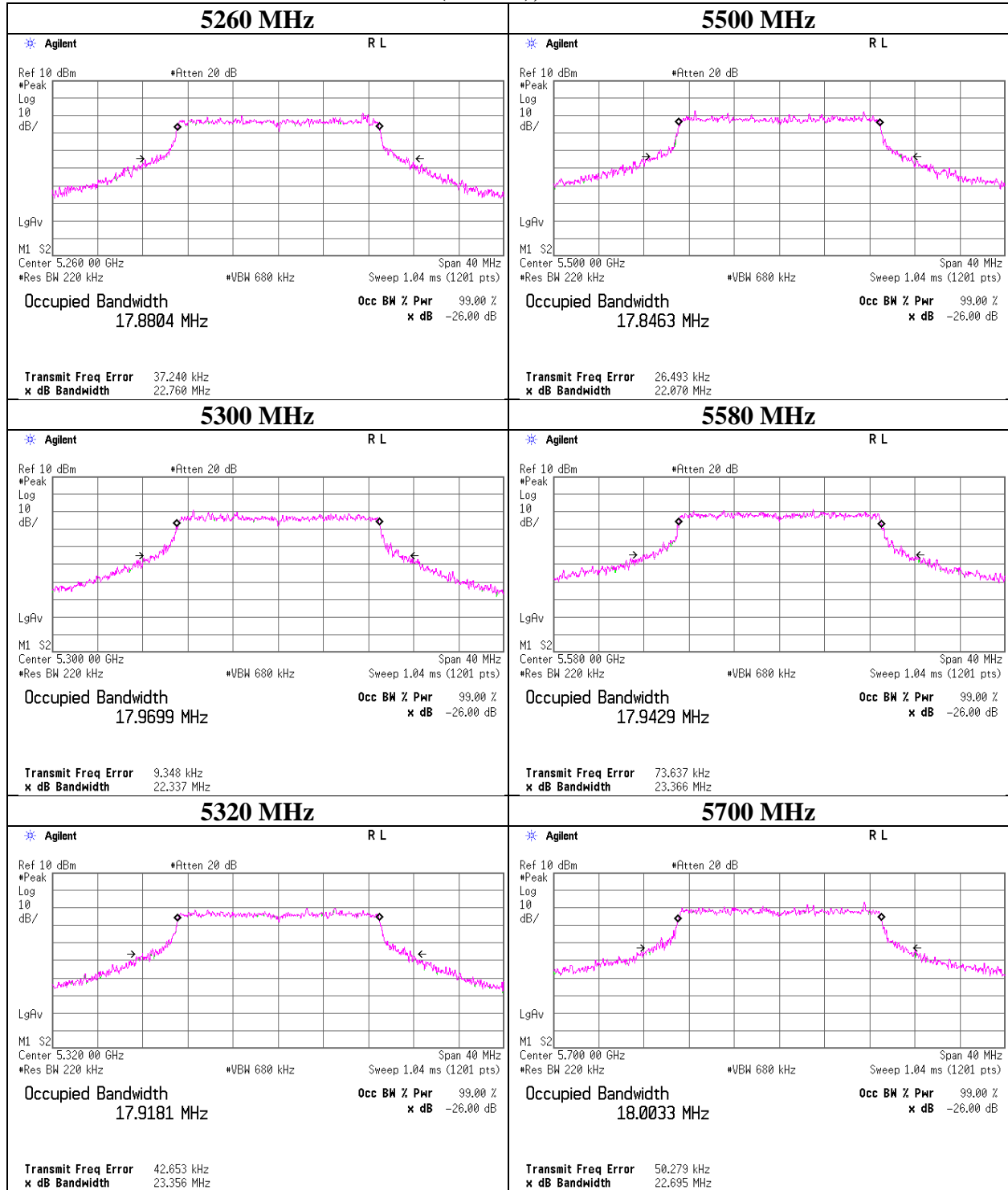
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

26 dB Emission Bandwidth

11n-20 (MIMO), Antenna 0



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Shonan EMC Lab.

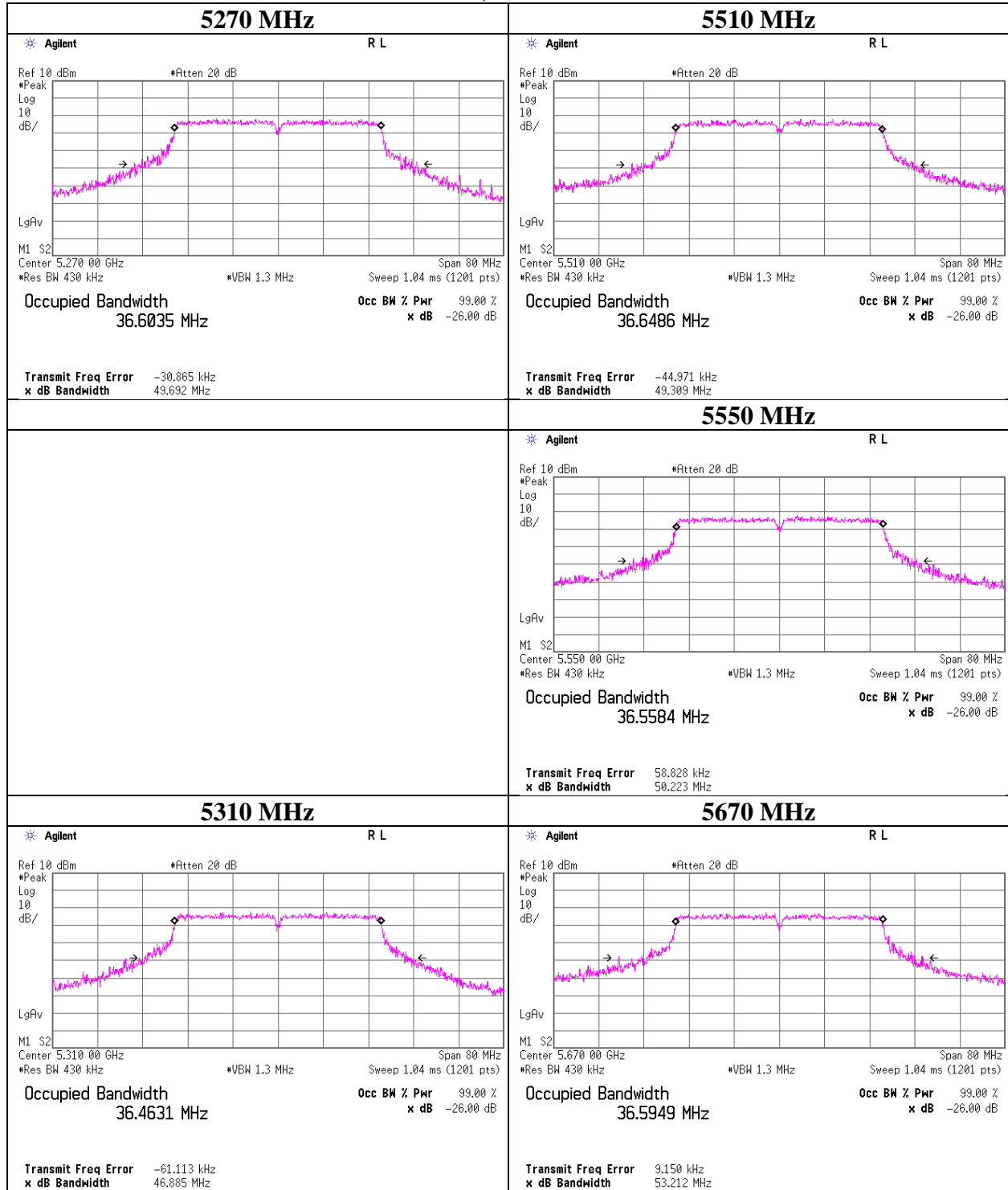
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

26 dB Emission Bandwidth

11n-40, Antenna 0



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Shonan EMC Lab.

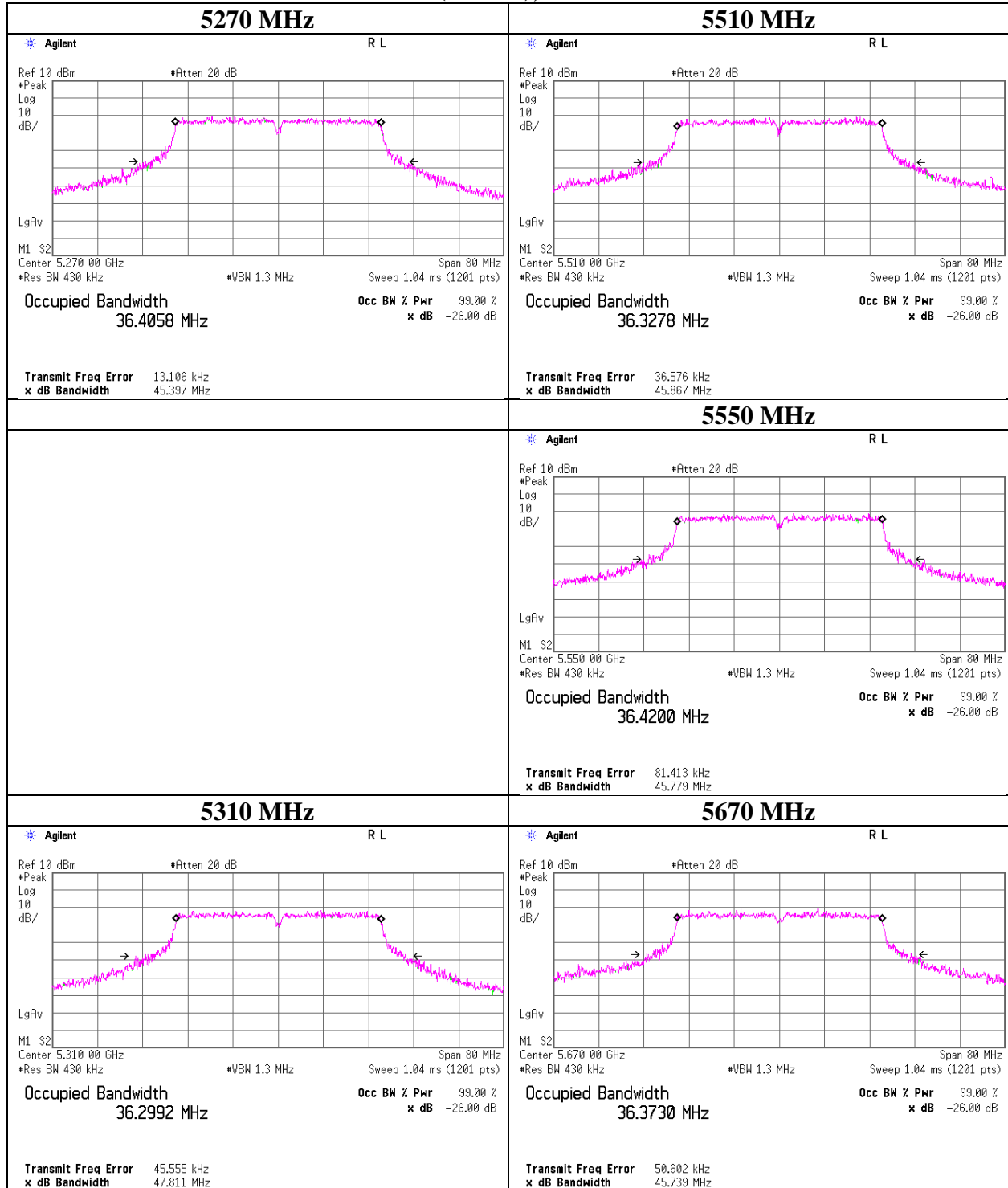
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

26 dB Emission Bandwidth

11n-40 (MIMO), Antenna 0



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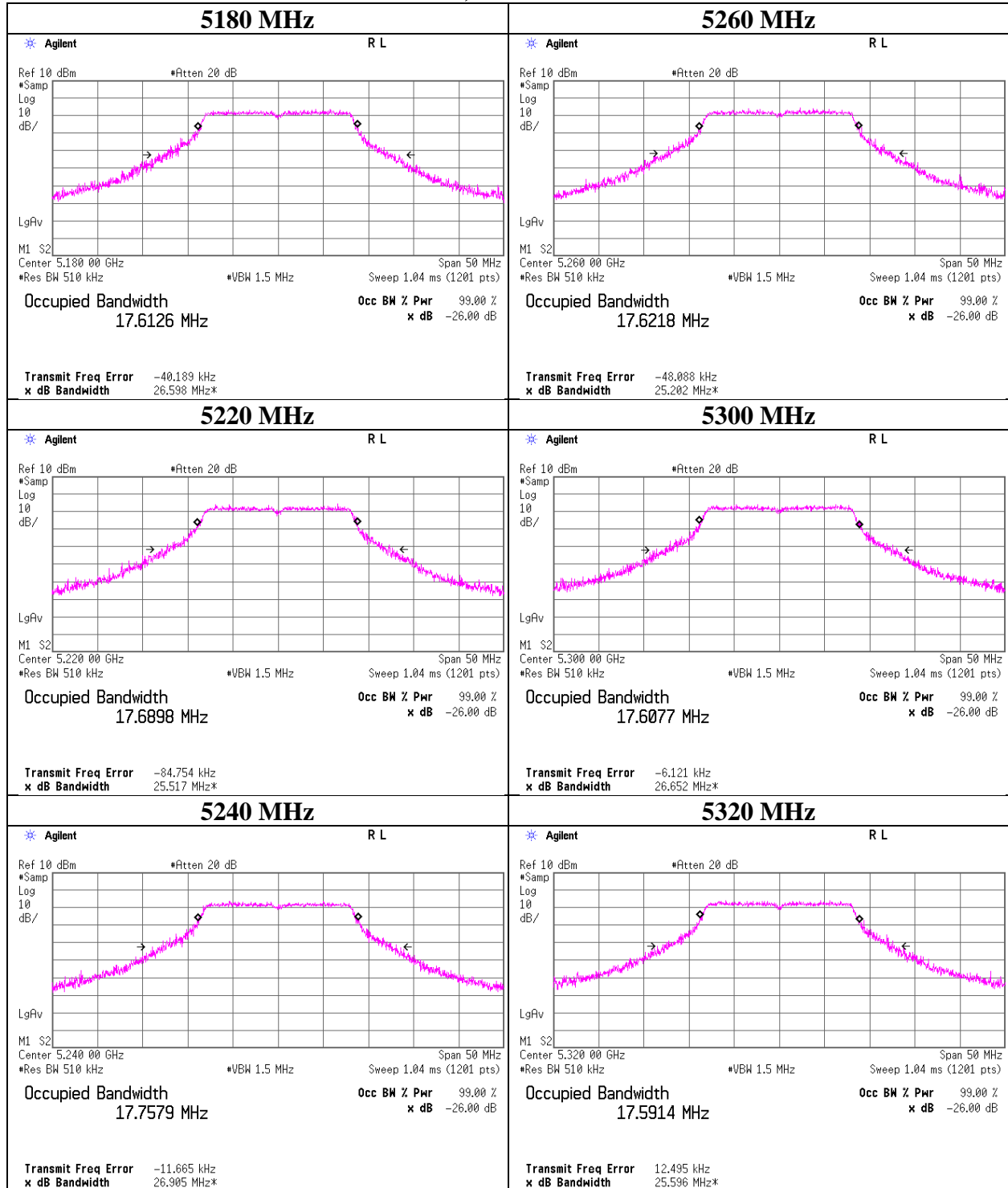
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11a, Antenna 1



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Shonan EMC Lab.

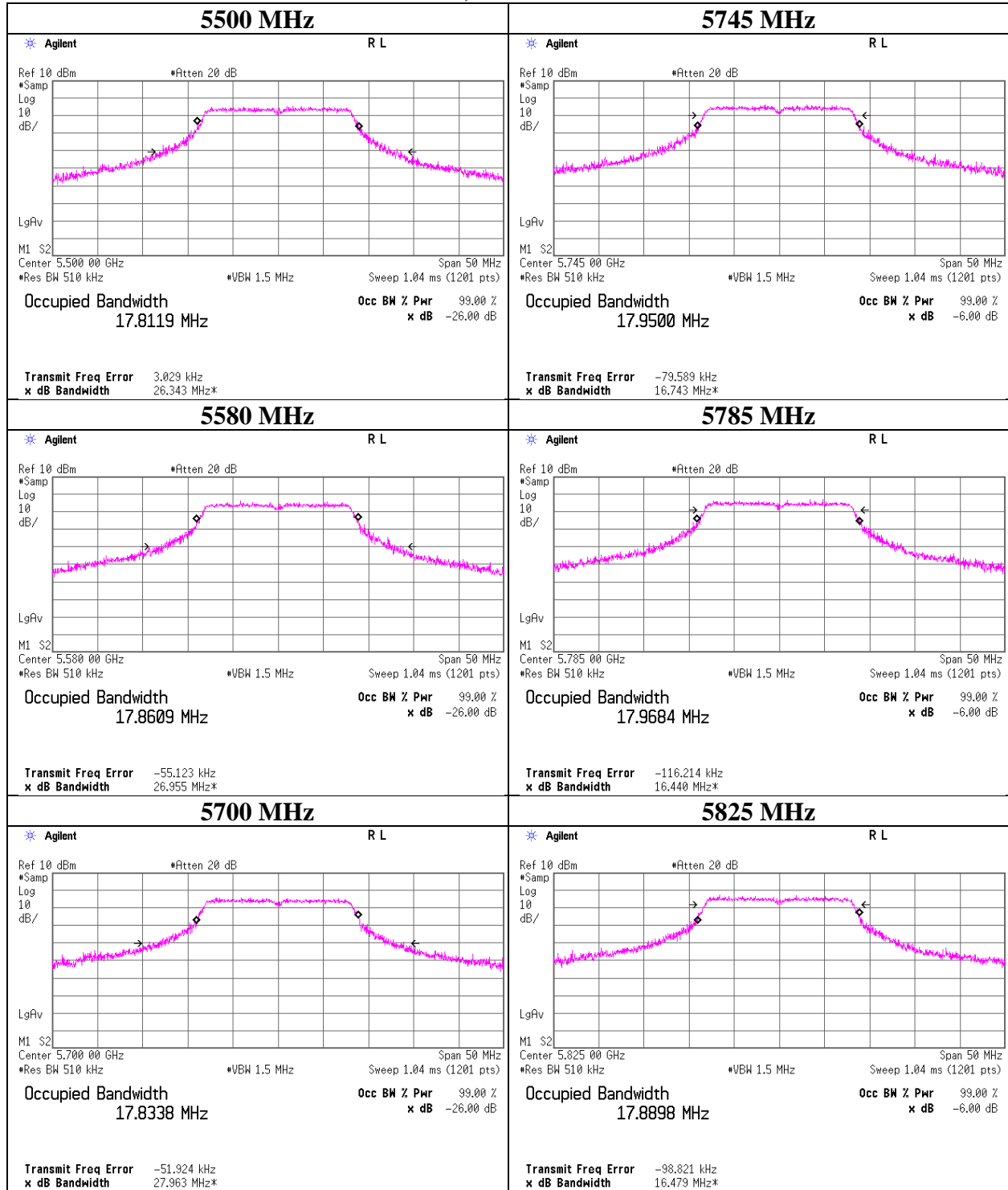
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11a, Antenna 1



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Shonan EMC Lab.

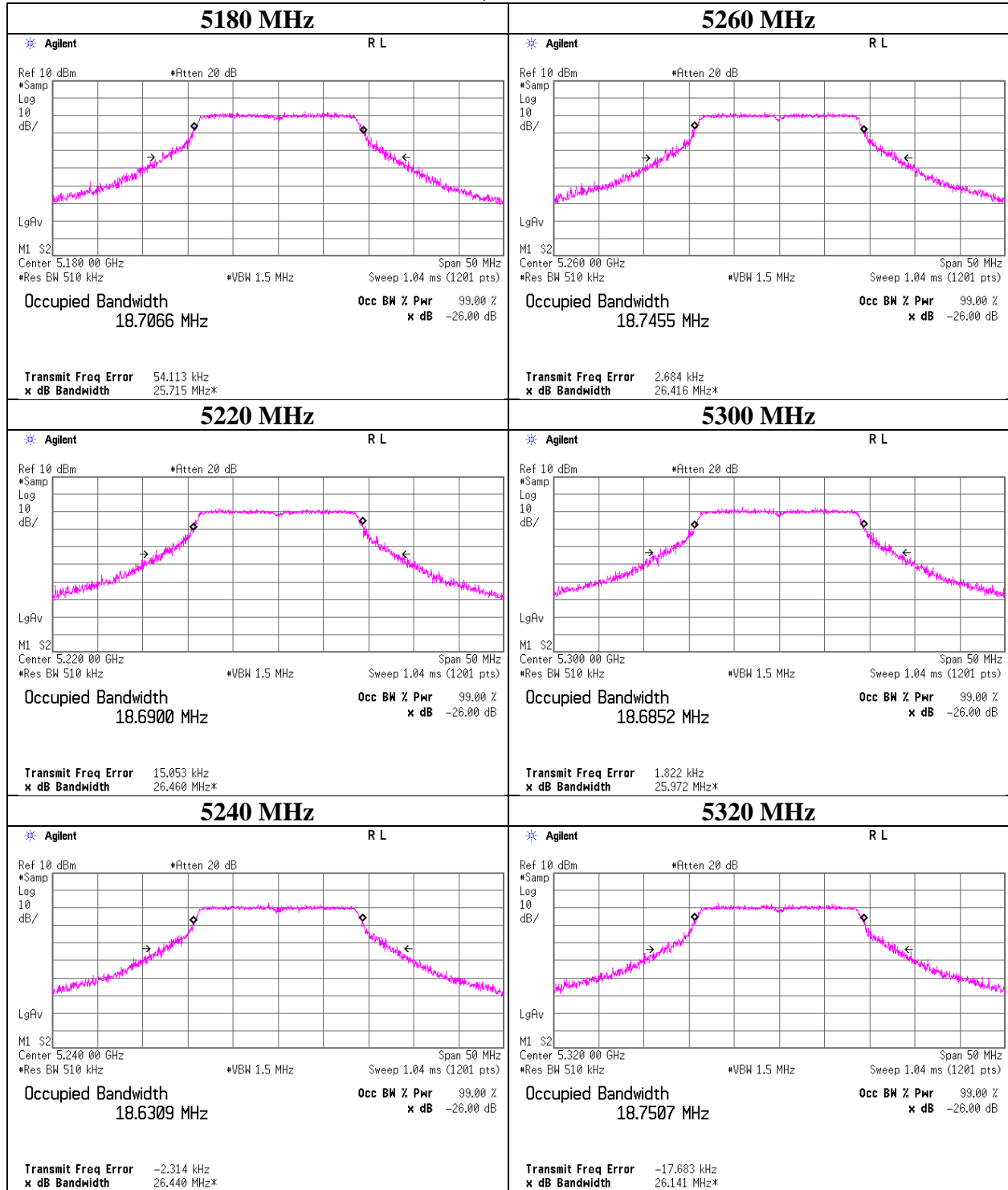
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11n-20, Antenna 1



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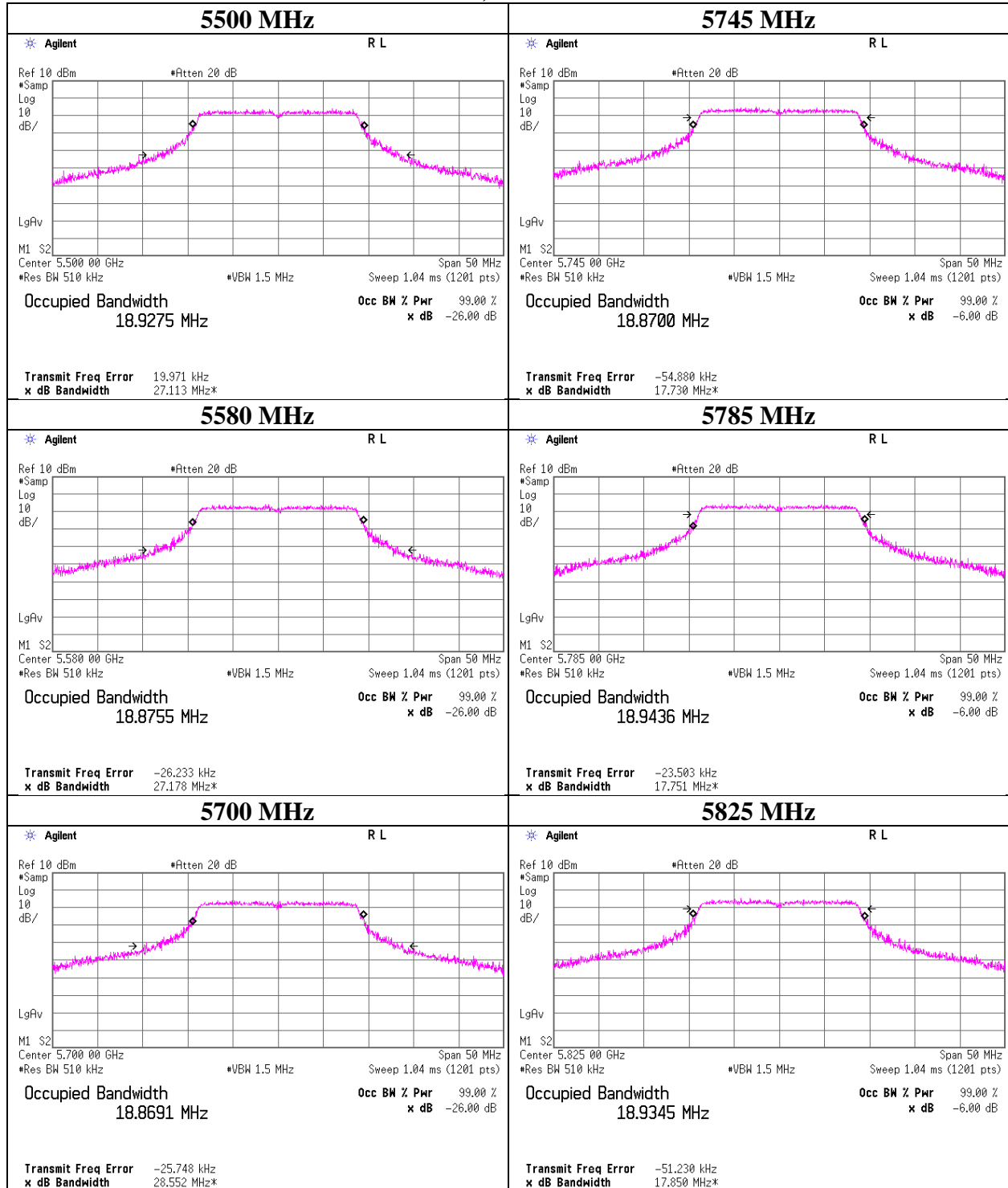
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11n-20, Antenna 1



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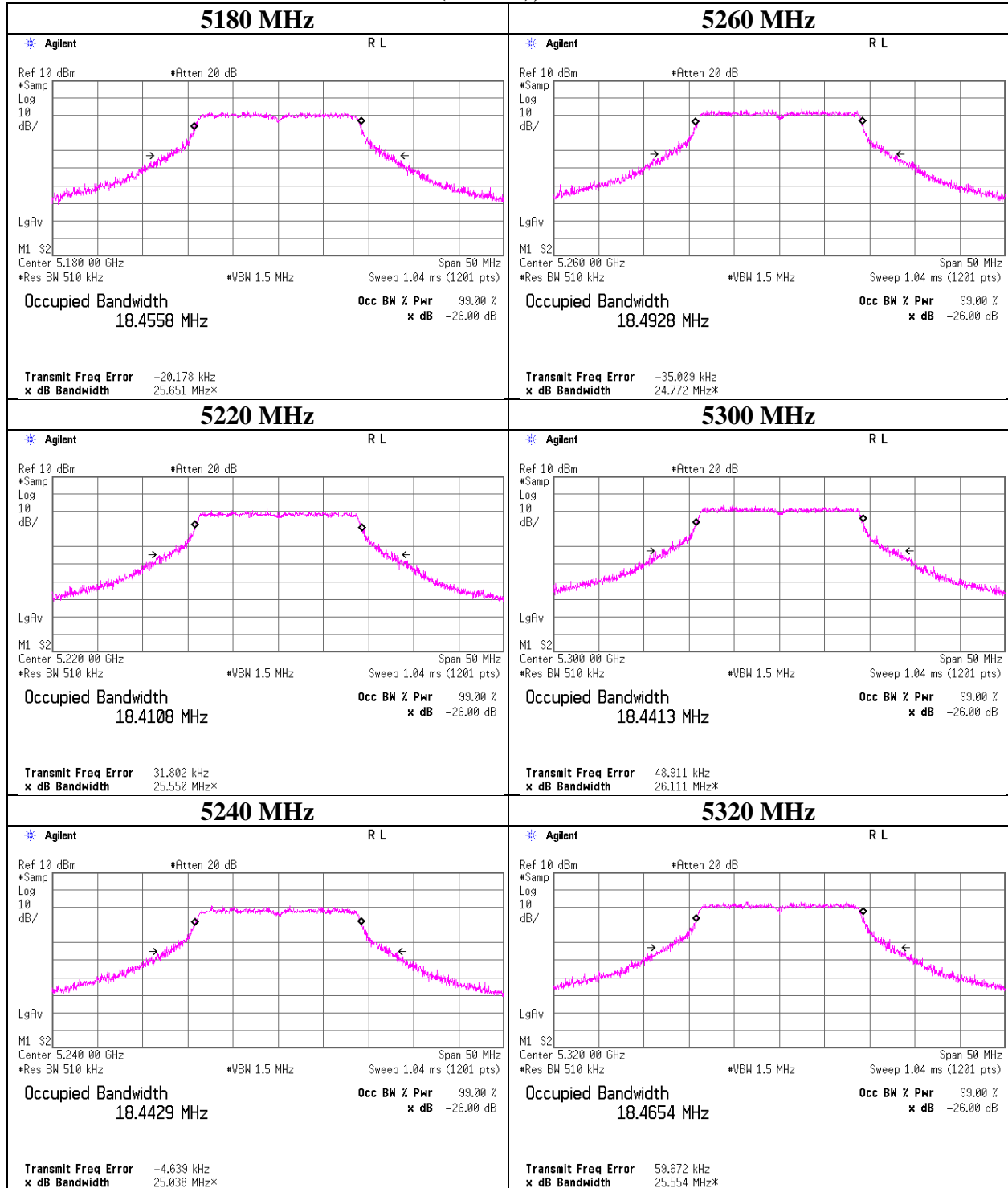
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11n-20 (MIMO), Antenna 0



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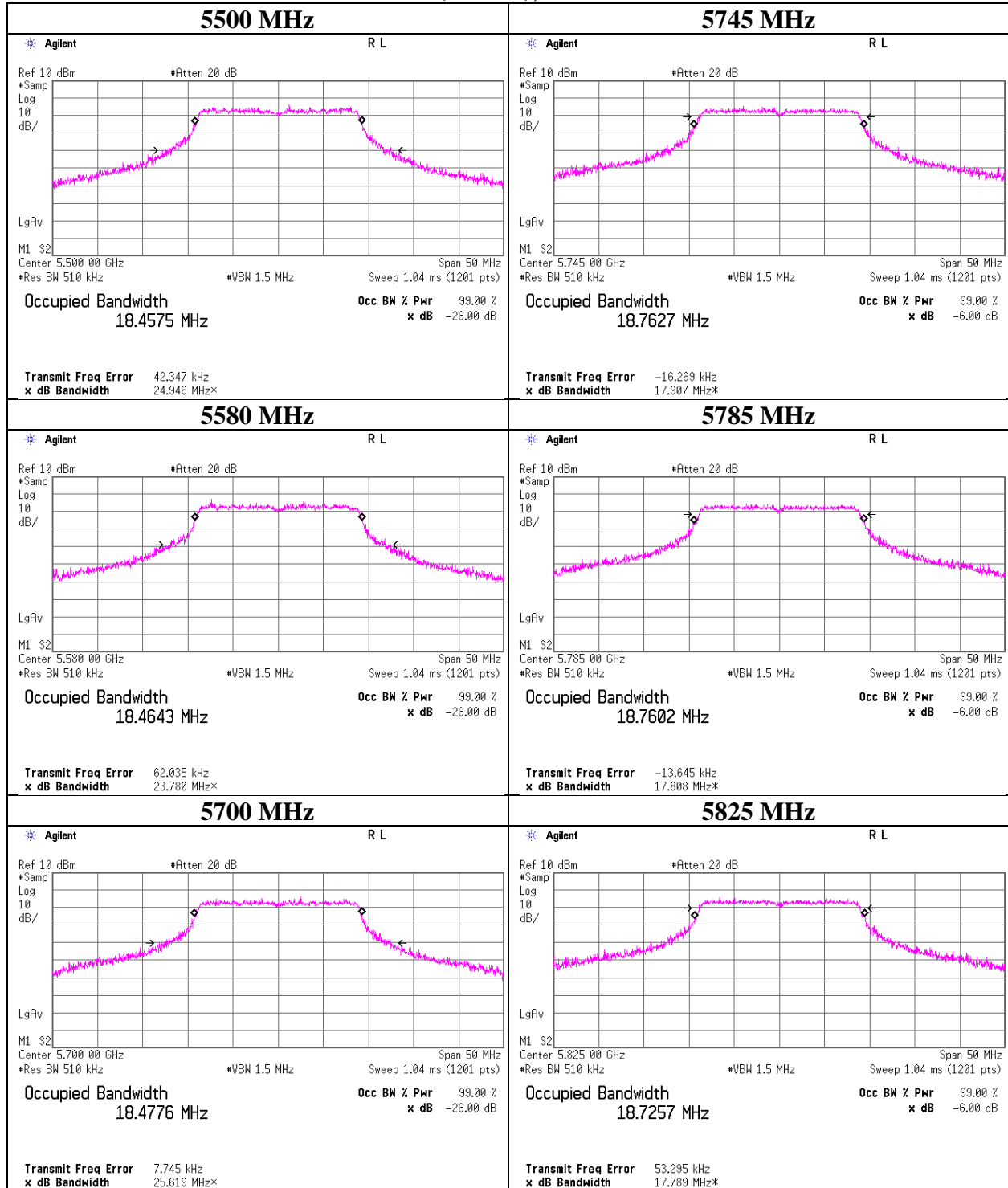
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11n-20 (MIMO), Antenna 0



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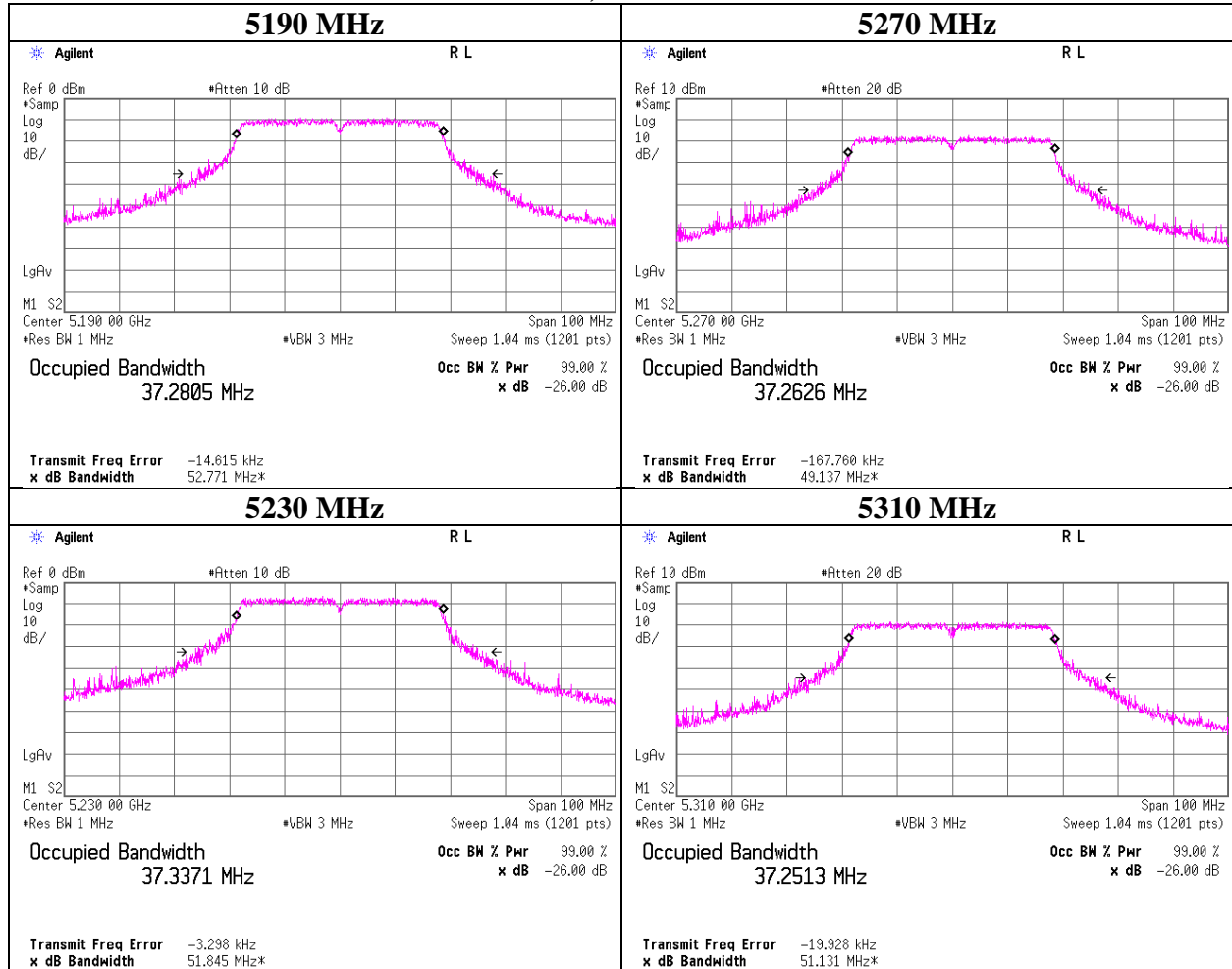
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11n-40, Antenna 0



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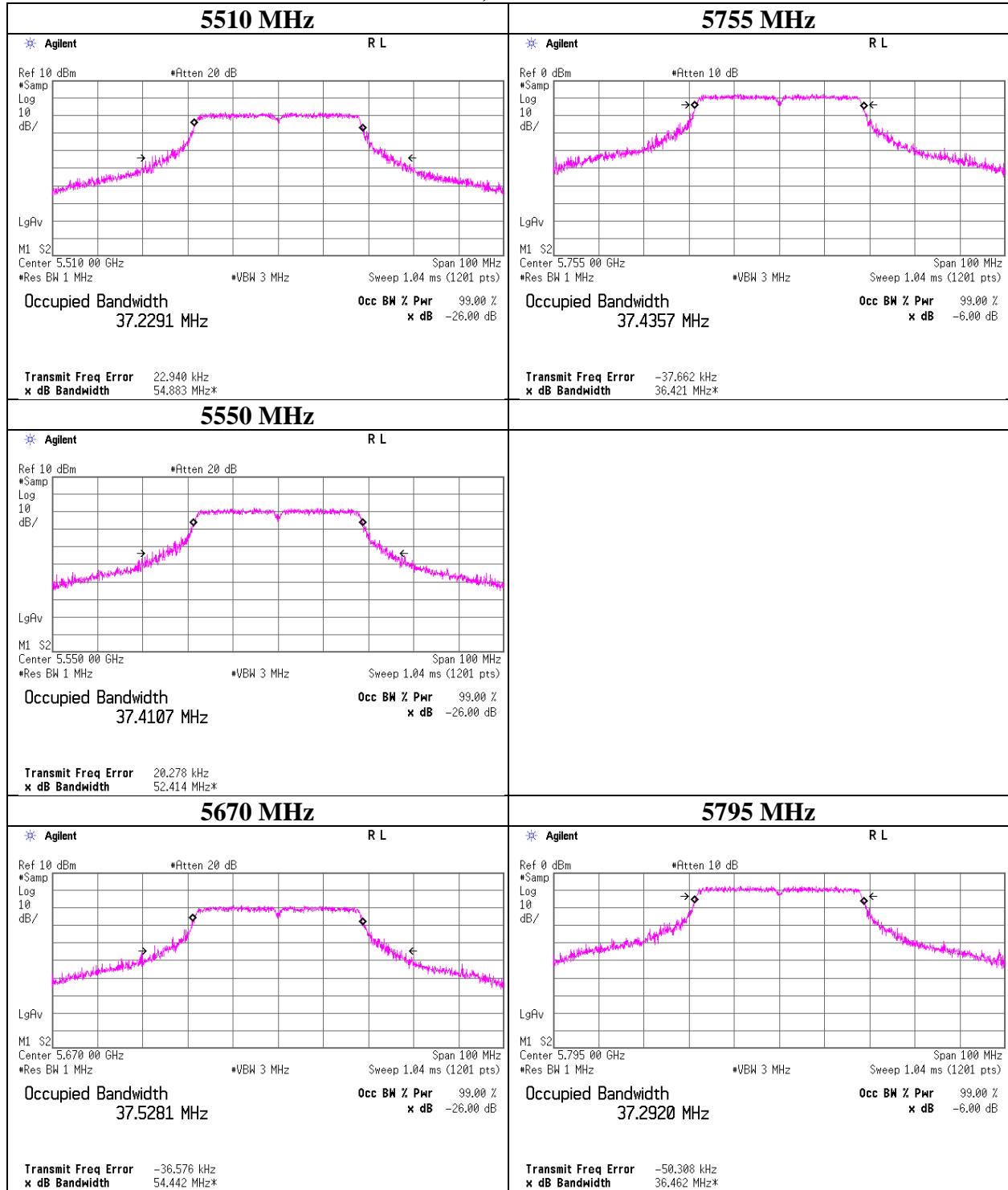
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11n-40, Antenna 0



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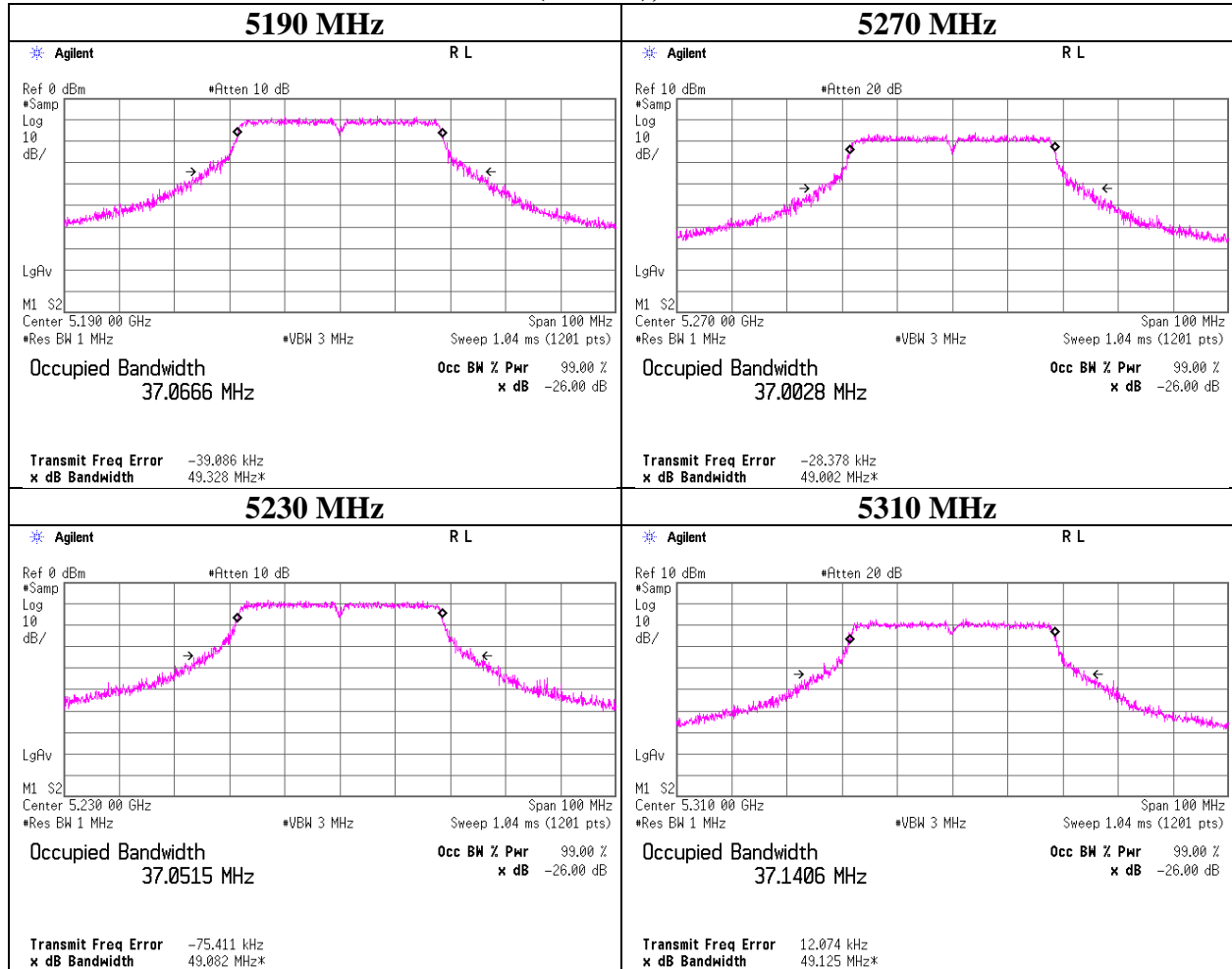
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11n-40 (MIMO), Antenna 0



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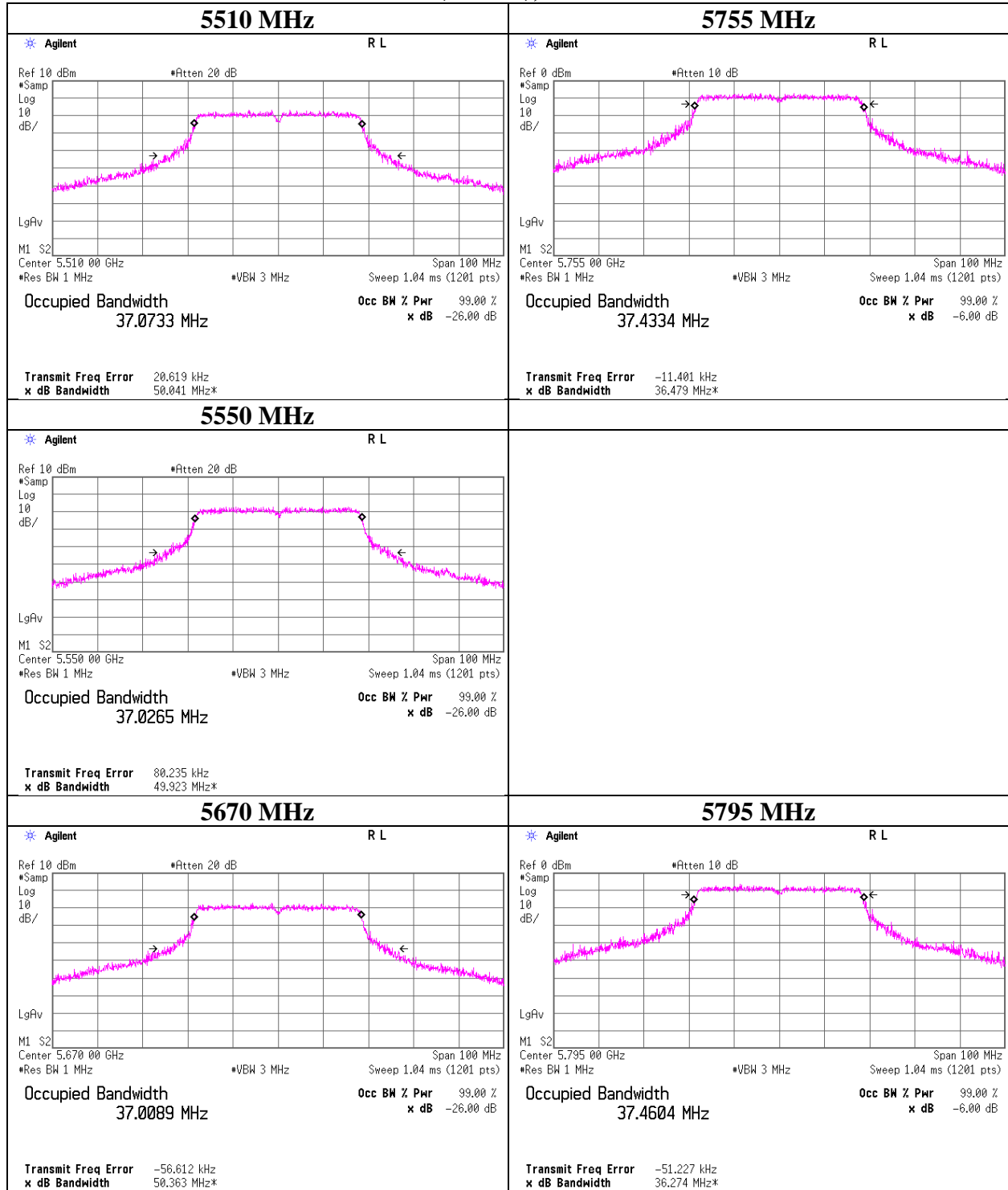
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

99 % Occupied Bandwidth

11n-40 (MIMO), Antenna 0



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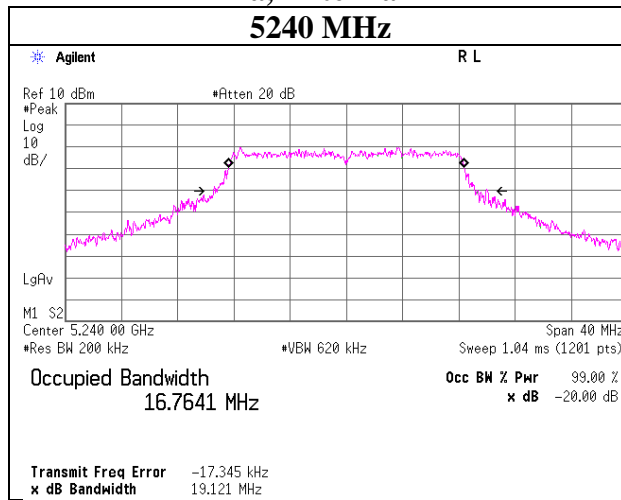
20 dB Bandwidth

Test place	Shonan EMC Lab. No.1	Shonan EMC Lab. No.5
	Measurement Room	Shielded Room
Report No.	11285933S-B-R2	
Date	February 8, 2016	February 12, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano
Mode	Tx	

11a

Antenna	Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
Antenna 1	5240	19.121

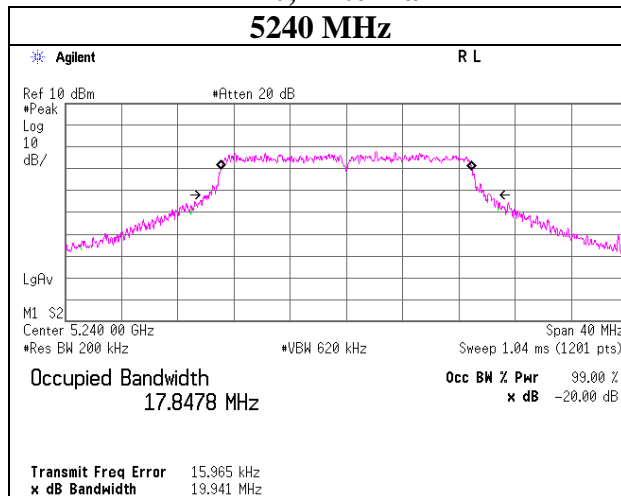
11a, Antenna 1



11n-20

Antenna	Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
Antenna 1	5240	19.941

11n-20, Antenna 1



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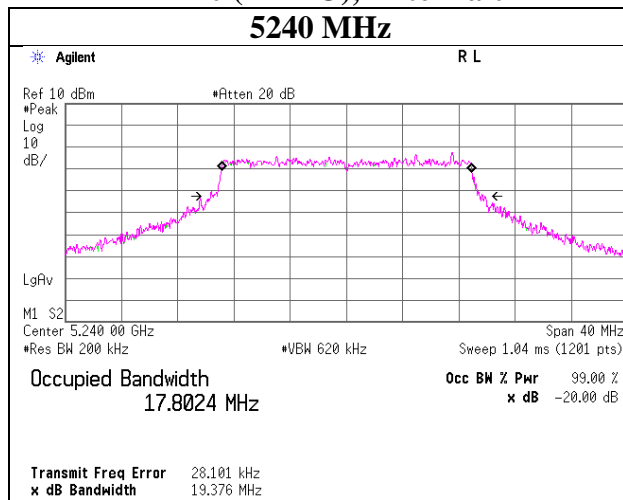
20 dB Bandwidth

Test place	Shonan EMC Lab. No.1	Shonan EMC Lab. No.5
	Measurement Room	Shielded Room
Report No.	11285933S-B-R2	
Date	February 8, 2016	February 12, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano
Mode	Tx	

11n-20 (MIMO)

Antenna	Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
Antenna 0	5240	19.376

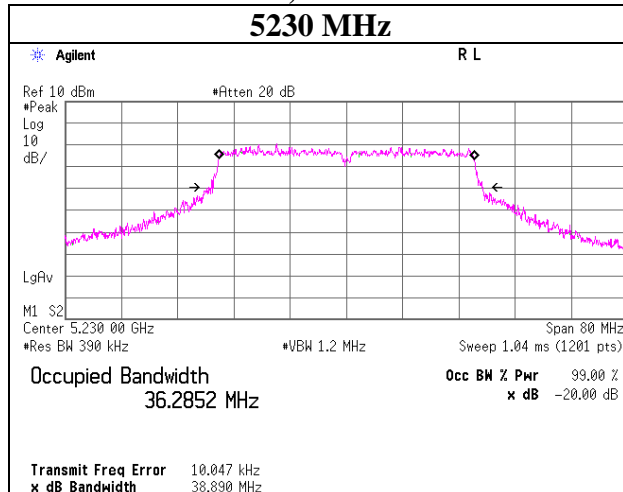
11n-20 (MIMO), Antenna 0



11n-40

Antenna	Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
Antenna 0	5230	38.890

11n-40, Antenna 0



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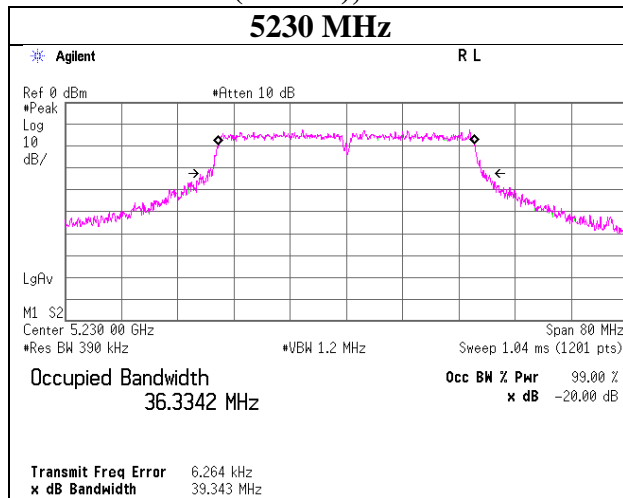
20 dB Bandwidth

Test place	Shonan EMC Lab. No.1
	Measurement Room
Report No.	11285933S-B-R2
Date	February 8, 2016
Temperature / Humidity	23 deg. C / 45 % RH
Engineer	Hiroyuki Morikawa
Mode	Tx

11n-40 (MIMO)

Antenna	Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
Antenna 0	5230	39.343

11n-40 (MIMO), Antenna 0 5230 MHz



6 dB Bandwidth

Test place Shonan EMC Lab. No.1
Measurement Room
Report No. 11285933S-B-R2
Date February 15, 2016
Temperature / Humidity 23 deg. C / 30 % RH
Engineer Yosuke Ishikawa
Mode Tx

11a

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
Antenna 1	5745	16.465	> 500
	5785	16.437	> 500
	5825	16.369	> 500

11n-20

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
Antenna 1	5745	17.610	> 500
	5785	17.621	> 500
	5825	17.651	> 500

11n-20 (MIMO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
Antenna 0	5745	17.633	> 500
	5785	17.624	> 500
	5825	17.654	> 500

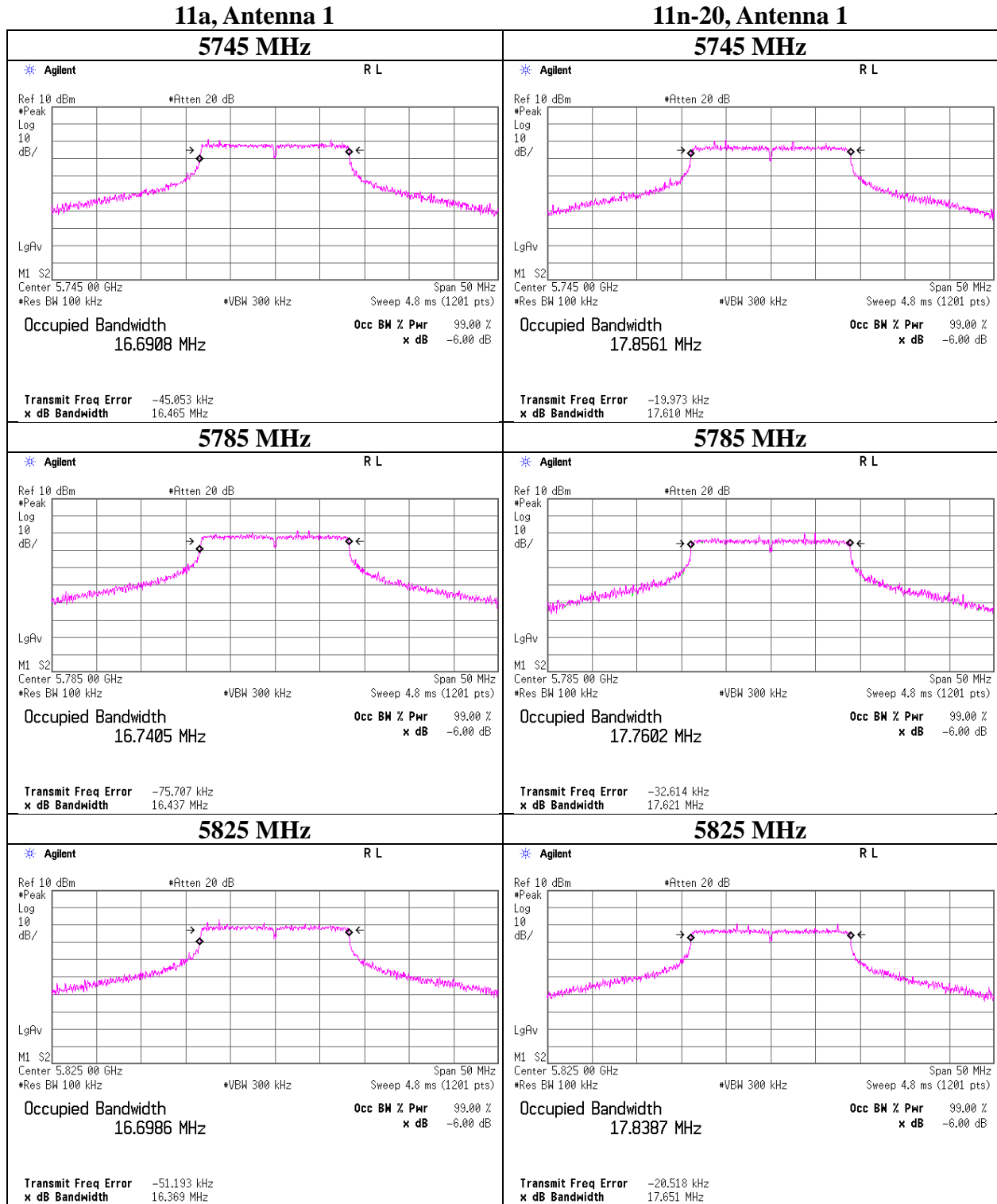
11n-40

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
Antenna 0	5755	36.360	> 500
	-	-	-
	5795	36.009	> 500

11n-40 (MIMO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
Antenna 0	5755	36.136	> 500
	-	-	-
	5795	36.091	> 500

6 dB Bandwidth



UL Japan, Inc.

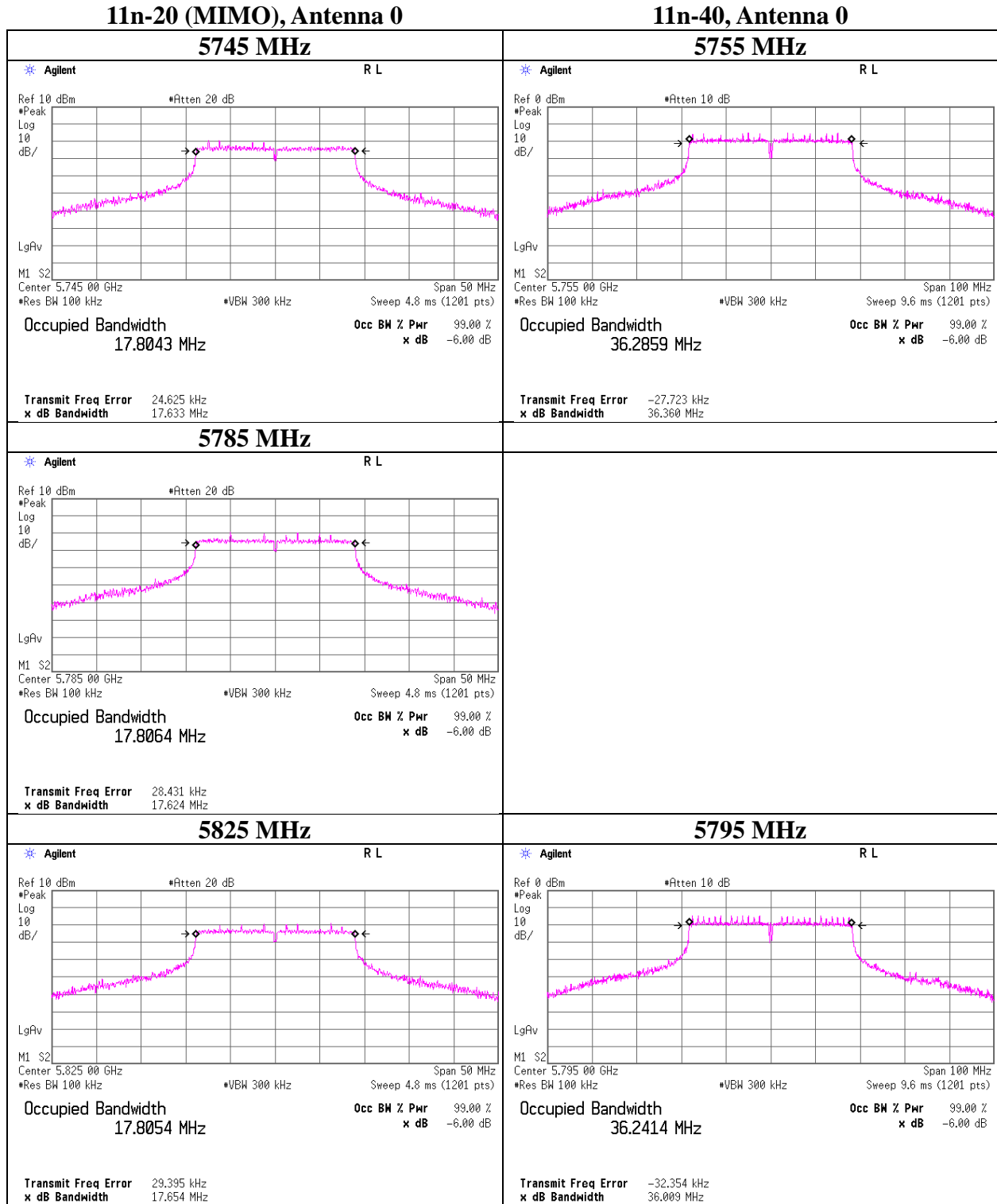
Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

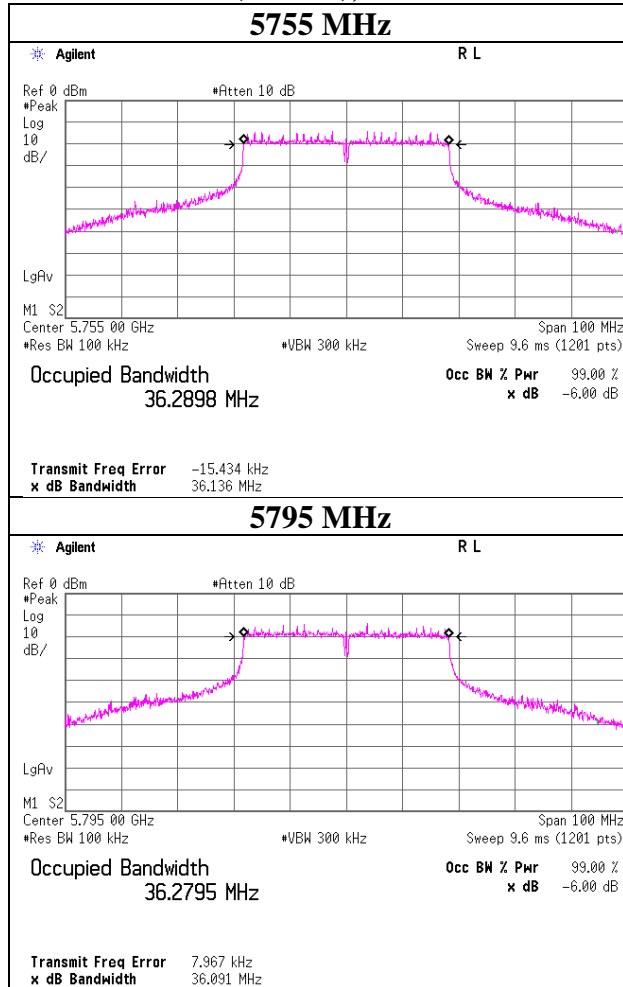
Facsimile : +81 463 50 6401

6 dB Bandwidth



6 dB Bandwidth

11n-40 (MIMO), Antenna 0



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Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11a		

Antenna 1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power					e.i.r.p.			
								Result		Limit [dBm]	Margin [dB]	Result		Limit [dBm]	Margin [dB]	
								[dBm]	[mW]			[dBm]	[mW]			
5180	0.18	2.98	9.97	0.02	-1.3	-	17.613	13.15	20.65	23.97	10.82	11.85	15.31	29.97	18.12	
5220	0.30	2.99	9.97	0.02	-1.3	-	17.690	13.28	21.28	23.97	10.69	11.98	15.78	29.97	17.99	
5240	0.20	2.99	9.97	0.02	-1.3	-	17.758	13.18	20.80	23.97	10.79	11.88	15.42	29.97	18.09	
5260	0.20	2.99	9.96	0.02	-1.3	23.784	17.622	13.17	20.75	23.97	10.80	11.87	15.38	29.97	18.10	
5300	0.38	3.00	9.96	0.02	-1.3	22.709	17.608	13.36	21.68	23.97	10.61	12.06	16.07	29.97	17.91	
5320	0.19	3.00	9.96	0.02	-1.3	24.132	17.591	13.17	20.75	23.97	10.80	11.87	15.38	29.97	18.10	
5500	2.12	3.03	9.96	0.02	-1.3	24.161	17.812	15.13	32.58	23.97	8.84	13.83	24.15	29.97	16.14	
5580	2.42	3.04	9.96	0.02	-1.3	24.950	17.861	15.44	34.99	23.97	8.53	14.14	25.94	29.97	15.83	
5700	2.47	3.07	9.97	0.02	-1.3	25.968	17.834	15.53	35.73	23.97	8.44	14.23	26.49	29.97	15.74	
5745	2.03	3.07	9.97	0.02	-1.3	-	-	15.09	32.28	30.00	14.91	13.79	23.93	36.00	22.21	
5785	1.87	3.08	9.97	0.02	-1.3	-	-	14.94	31.19	30.00	15.06	13.64	23.12	36.00	22.36	
5825	1.99	3.09	9.97	0.02	-1.3	-	-	15.07	32.14	30.00	14.93	13.77	23.82	36.00	22.23	

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11n-20		

Antenna 1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power					e.i.r.p.			
								Result		Limit [dBm]	Margin [dB]	Result		Limit [dBm]	Margin [dB]	
								[dBm]	[mW]			[dBm]	[mW]			
5180	-0.88	2.98	9.97	0.02	-1.3	-	18.707	12.09	16.18	23.97	11.88	10.79	11.99	29.97	19.18	
5220	-1.05	2.99	9.97	0.02	-1.3	-	18.690	11.93	15.60	23.97	12.04	10.63	11.56	29.97	19.34	
5240	-1.01	2.99	9.97	0.02	-1.3	-	18.631	11.97	15.74	23.97	12.00	10.67	11.67	29.97	19.30	
5260	-1.04	2.99	9.96	0.02	-1.3	23.448	18.746	11.93	15.60	23.97	12.04	10.63	11.56	29.97	19.34	
5300	-0.99	3.00	9.96	0.02	-1.3	23.626	18.685	11.99	15.81	23.97	11.98	10.69	11.72	29.97	19.28	
5320	-1.03	3.00	9.96	0.02	-1.3	23.733	18.751	11.95	15.67	23.97	12.02	10.65	11.61	29.97	19.32	
5500	0.77	3.03	9.96	0.02	-1.3	24.329	18.927	13.78	23.88	23.97	10.19	12.48	17.70	29.97	17.49	
5580	1.11	3.04	9.96	0.02	-1.3	24.728	18.876	14.13	25.88	23.97	9.84	12.83	19.19	29.97	17.14	
5700	1.06	3.07	9.97	0.02	-1.3	24.663	18.869	14.12	25.82	23.97	9.85	12.82	19.14	29.97	17.15	
5745	0.60	3.07	9.97	0.02	-1.3	-	-	13.66	23.23	30.00	16.34	12.36	17.22	36.00	23.64	
5785	0.33	3.08	9.97	0.02	-1.3	-	-	13.40	21.88	30.00	16.60	12.10	16.22	36.00	23.90	
5825	0.51	3.09	9.97	0.02	-1.3	-	-	13.59	22.86	30.00	16.41	12.29	16.94	36.00	23.71	

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11n-20 (MIMO)		

Antenna 0+1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted power						e.i.r.p.					
			Antenna			Result [dBm]	Limit [dBm]	Margin [dB]	Antenna			Result [dBm]	Limit [dBm]	Margin [dB]
			0 [mW]	1 [mW]	Sum [mW]				0 [mW]	1 [mW]	Sum [mW]			
5180	-	18.456	14.26	15.70	29.96	14.77	23.97	9.20	9.42	11.64	21.06	13.23	29.97	16.74
5220	-	18.411	15.70	15.38	31.09	14.93	23.97	9.04	10.38	11.40	21.78	13.38	29.97	16.59
5240	-	18.443	17.38	15.56	32.94	15.18	23.97	8.79	11.48	11.53	23.02	13.62	29.97	16.35
5260	22.760	18.493	16.83	15.52	32.35	15.10	23.97	8.87	11.12	11.51	22.63	13.55	29.97	16.42
5300	22.337	18.441	16.37	15.49	31.86	15.03	23.97	8.94	10.81	11.48	22.30	13.48	29.97	16.49
5320	23.356	18.465	16.11	15.67	31.77	15.02	23.97	8.95	10.64	11.61	22.26	13.47	29.97	16.50
5500	22.070	18.458	23.07	22.96	46.03	16.63	23.97	7.34	15.24	17.02	32.26	15.09	29.97	14.88
5580	23.366	18.464	24.10	23.71	47.81	16.80	23.97	7.17	15.92	17.58	33.50	15.25	29.97	14.72
5700	22.695	18.478	25.94	25.70	51.65	17.13	23.97	6.84	17.14	19.05	36.19	15.59	29.97	14.38
5745	-	-	27.10	24.10	51.20	17.09	30.00	12.91	17.91	17.86	35.77	15.54	36.00	20.46
5785	-	-	26.92	23.33	50.25	17.01	30.00	12.99	17.78	17.30	35.08	15.45	36.00	20.55
5825	-	-	27.86	24.49	52.35	17.19	30.00	12.81	18.41	18.16	36.56	15.63	36.00	20.37

Tested Frequency [MHz]	Antenna 0							Antenna 1						
	Duty Factor [dB]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result		Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result		
						Cond. Power [dBm]	e.i.r.p. [dBm]					Cond. Power [dBm]	e.i.r.p. [dBm]	
5180	0.03	-1.44	2.98	9.97	-1.80	11.54	9.74	-1.02	2.98	9.97	-1.30	11.96	10.66	
5220	0.03	-1.03	2.99	9.97	-1.80	11.96	10.16	-1.12	2.99	9.97	-1.30	11.87	10.57	
5240	0.03	-0.59	2.99	9.97	-1.80	12.40	10.60	-1.07	2.99	9.97	-1.30	11.92	10.62	
5260	0.03	-0.72	2.99	9.96	-1.80	12.26	10.46	-1.07	2.99	9.96	-1.30	11.91	10.61	
5300	0.03	-0.85	3.00	9.96	-1.80	12.14	10.34	-1.09	3.00	9.96	-1.30	11.90	10.60	
5320	0.03	-0.92	3.00	9.96	-1.80	12.07	10.27	-1.04	3.00	9.96	-1.30	11.95	10.65	
5500	0.03	0.61	3.03	9.96	-1.80	13.63	11.83	0.59	3.03	9.96	-1.30	13.61	12.31	
5580	0.03	0.79	3.04	9.96	-1.80	13.82	12.02	0.72	3.04	9.96	-1.30	13.75	12.45	
5700	0.03	1.07	3.07	9.97	-1.80	14.14	12.34	1.03	3.07	9.97	-1.30	14.10	12.80	
5745	0.03	1.26	3.07	9.97	-1.80	14.33	12.53	0.75	3.07	9.97	-1.30	13.82	12.52	
5785	0.03	1.22	3.08	9.97	-1.80	14.30	12.50	0.60	3.08	9.97	-1.30	13.68	12.38	
5825	0.03	1.36	3.09	9.97	-1.80	14.45	12.65	0.80	3.09	9.97	-1.30	13.89	12.59	

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor
e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11n-40		

Antenna 0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power			e.i.r.p.					
								Result [dBm]	Limit [dBm]	Margin [dB]	Result [dBm]	Limit [dBm]	Margin [dB]			
5190	-2.31	2.98	9.97	0.04	-1.8	-	37.281	10.68	11.69	23.97	13.29	8.88	7.73	29.97	21.09	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5230	-0.62	2.99	9.97	0.04	-1.8	-	37.337	12.38	17.30	23.97	11.59	10.58	11.43	29.97	19.39	
5270	-1.07	2.99	9.96	0.04	-1.8	-	49.692	37.263	11.92	15.56	23.97	12.05	10.12	10.28	29.97	19.85
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5310	-2.22	3.00	9.96	0.04	-1.8	-	46.885	37.251	10.78	11.97	23.97	13.19	8.98	7.91	29.97	20.99
5510	-1.63	3.03	9.96	0.04	-1.8	-	49.309	37.229	11.40	13.80	23.97	12.57	9.60	9.12	29.97	20.37
5550	-1.50	3.04	9.96	0.04	-1.8	-	50.223	37.411	11.54	14.26	23.97	12.43	9.74	9.42	29.97	20.23
5670	-1.59	3.06	9.97	0.04	-1.8	-	53.212	37.528	11.48	14.06	23.97	12.49	9.68	9.29	29.97	20.29
5755	-1.38	3.08	9.97	0.04	-1.8	-	-	-	11.71	14.83	30.00	18.29	9.91	9.79	36.00	26.09
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5795	-1.47	3.08	9.97	0.04	-1.8	-	-	-	11.62	14.52	30.00	18.38	9.82	9.59	36.00	26.18

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11n-40 (MIMO)		

Antenna 0+1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	26 dB EBW [MHz]	99% OBW [MHz]	Conducted power						e.i.r.p.					
			Antenna			Result [dBm]	Limit [dBm]	Margin [dB]	Antenna			Result [dBm]	Limit [dBm]	Margin [dB]
			0 [mW]	1 [mW]	Sum [mW]				0 [mW]	1 [mW]	Sum [mW]			
5190	-	37.067	11.91	12.94	24.85	13.95	23.97	10.02	7.87	9.59	17.46	12.42	29.97	17.55
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5230	-	37.051	17.42	15.85	33.27	15.22	23.97	8.75	11.51	11.75	23.26	13.67	29.97	16.30
5270	45.397	37.003	16.44	15.38	31.83	15.03	23.97	8.94	10.86	11.40	22.27	13.48	29.97	16.49
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5310	47.811	37.141	13.03	12.68	25.71	14.10	23.97	9.87	8.61	9.40	18.01	12.55	29.97	17.42
5510	45.867	37.073	14.03	12.91	26.94	14.30	23.97	9.67	9.27	9.57	18.84	12.75	29.97	17.22
5550	45.779	37.027	14.35	13.30	27.66	14.42	23.97	9.55	9.48	9.86	19.35	12.87	29.97	17.10
5670	45.739	37.009	14.29	13.93	28.22	14.51	23.97	9.46	9.44	10.33	19.77	12.96	29.97	17.01
5755	-	-	15.52	13.46	28.98	14.62	30.00	15.38	10.26	9.98	20.23	13.06	36.00	22.94
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5795	-	-	14.52	12.27	26.80	14.28	30.00	15.72	9.59	9.10	18.69	12.72	36.00	23.28

Tested Frequency [MHz]	Antenna 0							Antenna 1						
	Duty Factor [dB]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result		Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result		
						Cond. Power [dBm]	e.i.r.p. [dBm]					Cond. Power [dBm]	e.i.r.p. [dBm]	
5190	0.06	-2.25	2.98	9.97	-1.80	10.76	8.96	-1.89	2.98	9.97	-1.30	11.12	9.82	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5230	0.06	-0.61	2.99	9.97	-1.80	12.41	10.61	-1.02	2.99	9.97	-1.30	12.00	10.70	
5270	0.06	-0.85	2.99	9.96	-1.80	12.16	10.36	-1.14	2.99	9.96	-1.30	11.87	10.57	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5310	0.06	-1.87	3.00	9.96	-1.80	11.15	9.35	-1.99	3.00	9.96	-1.30	11.03	9.73	
5510	0.06	-1.58	3.03	9.96	-1.80	11.47	9.67	-1.94	3.03	9.96	-1.30	11.11	9.81	
5550	0.06	-1.49	3.04	9.96	-1.80	11.57	9.77	-1.82	3.04	9.96	-1.30	11.24	9.94	
5670	0.06	-1.54	3.06	9.97	-1.80	11.55	9.75	-1.65	3.06	9.97	-1.30	11.44	10.14	
5755	0.06	-1.20	3.08	9.97	-1.80	11.91	10.11	-1.82	3.08	9.97	-1.30	11.29	9.99	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5795	0.06	-1.49	3.08	9.97	-1.80	11.62	9.82	-2.22	3.08	9.97	-1.30	10.89	9.59	

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

UL Japan, Inc.

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Maximum Conducted Output Power

Test place Shonan EMC Lab. No.1 Measurement Room
Report No. 11285933S-B-R2
Date February 2, 2016
Temperature / Humidity 24 deg. C / 47 % RH
Engineer Hiroyuki Morikawa
Mode Tx 11a

Antenna 0, 5500 MHz

Mode	Rate Mbps	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11a	6	1.91	0.02	1.93	
	9	1.86	0.02	1.88	
	12	1.80	0.03	1.83	
	18	1.83	0.05	1.88	
	24	1.77	0.07	1.84	
	36	1.81	0.09	1.90	
	48	1.76	0.13	1.89	
	54	0.92	0.15	1.07	

Antenna 1, 5500 MHz

Mode	Rate Mbps	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11a	6	2.10	0.02	2.12	*
	9	2.05	0.02	2.07	
	12	2.06	0.03	2.09	
	18	1.99	0.05	2.04	
	24	1.94	0.07	2.01	
	36	1.92	0.09	2.01	
	48	1.88	0.13	2.01	
	54	1.03	0.15	1.18	

* Worst rate

Sample Calculation:

$$\text{Burst power} = \text{Reading (timed average)} + \text{Duty factor}$$

All comparison were carried out on same frequency and measurement factors.

Maximum Conducted Output Power

Test place Shonan EMC Lab. No.1 Measurement Room
Report No. 11285933S-B-R2
Date February 2, 2016
Temperature / Humidity 24 deg. C / 47 % RH
Engineer Hiroyuki Morikawa
Mode Tx 11n-20

Antenna 0, 5500 MHz

Mode	MCS Number	Reading (timed average)	Duty factor	Burst power	Remarks
		[dBm]	[dB]	[dBm]	
11n-20	0	0.73	0.02	0.75	
	1	0.67	0.04	0.71	
	2	0.54	0.05	0.59	
	3	0.56	0.07	0.63	
	4	0.49	0.09	0.58	
	5	-0.35	0.14	-0.21	
	6	-2.12	0.15	-1.97	
	7	-4.15	0.17	-3.98	

Antenna 1, 5500 MHz

Mode	MCS Number	Reading (timed average)	Duty factor	Burst power	Remarks
		[dBm]	[dB]	[dBm]	
11n-20	0	0.77	0.02	0.79	*
	1	0.70	0.04	0.74	
	2	0.72	0.05	0.77	
	3	0.67	0.07	0.74	
	4	0.58	0.09	0.67	
	5	-0.49	0.14	-0.35	
	6	-2.99	0.15	-2.84	
	7	-4.62	0.17	-4.45	

* Worst rate

Sample Calculation:

$$\text{Burst power} = \text{Reading (timed average)} + \text{Duty factor}$$

All comparison were carried out on same frequency and measurement factors.

Maximum Conducted Output Power

Test place : Shonan EMC Lab. No.1 Measurement Room
Report No. : 11285933S-B-R2
Date : February 2, 2016
Temperature / Humidity : 24 deg. C / 47 % RH
Engineer : Hiroyuki Morikawa
Mode : Tx 11n-20 (MIMO)

5500 MHz

Mode	MCS Number	Reading (timed average)						Duty factor	Burst power			Remarks
		Antenna							Antenna			
		0	1	0	1	0+1	0+1		0	1	0+1	
	[dBm]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[dBm]	[dBm]		
11n-20	8	0.61	0.56	1.15	1.14	2.29	3.60	0.03	-	-	3.63	*
	9	0.55	0.51	1.14	1.12	2.26	3.54	0.07	-	-	3.61	
	10	0.48	0.37	1.12	1.09	2.21	3.44	0.10	-	-	3.54	
	11	0.47	0.40	1.11	1.10	2.21	3.45	0.14	-	-	3.59	
	12	0.42	0.35	1.10	1.08	2.19	3.40	0.20	-	-	3.60	
	13	-0.34	-0.79	0.92	0.83	1.76	2.45	0.24	-	-	2.69	
	14	-2.13	-3.06	0.61	0.49	1.11	0.44	0.27	-	-	0.71	
	15	-4.10	-4.73	0.39	0.34	0.73	-1.39	0.29	-	-	-1.10	

* Worst rate

Sample Calculation:

$$\text{Burst power} = \text{Reading (timed average)} + \text{Duty factor}$$

All comparison were carried out on same frequency and measurement factors.

Maximum Conducted Output Power

Test place Shonan EMC Lab. No.1 Measurement Room
Report No. 11285933S-B-R2
Date February 2, 2016
Temperature / Humidity 24 deg. C / 47 % RH
Engineer Hiroyuki Morikawa
Mode Tx 11n-40

Antenna 0, 5510 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11n-40	0	-1.63	0.04	-1.59	*
	1	-1.68	0.07	-1.61	
	2	-1.73	0.10	-1.63	
	3	-1.77	0.12	-1.65	
	4	-1.89	0.19	-1.70	
	5	-1.85	0.23	-1.62	
	6	-2.82	0.27	-2.55	
	7	-4.65	0.29	-4.36	

Antenna 1, 5510 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11n-40	0	-1.90	0.04	-1.86	
	1	-2.06	0.07	-1.99	
	2	-2.10	0.10	-2.00	
	3	-2.14	0.12	-2.02	
	4	-2.09	0.19	-1.90	
	5	-2.18	0.23	-1.95	
	6	-3.09	0.27	-2.82	
	7	-5.01	0.29	-4.72	

* Worst rate

Sample Calculation:

$$\text{Burst power} = \text{Reading (timed average)} + \text{Duty factor}$$

All comparison were carried out on same frequency and measurement factors.

Maximum Conducted Output Power

Test place : Shonan EMC Lab. No.1 Measurement Room
Report No. : 11285933S-B-R2
Date : February 2, 2016
Temperature / Humidity : 24 deg. C / 47 % RH
Engineer : Hiroyuki Morikawa
Mode : Tx 11n-40 (MIMO)

5510 MHz

Mode	MCS Number	Reading (timed average)						Duty factor [dB]	Burst power			Remarks
		Antenna							Antenna			
		0 [dBm]	1 [dBm]	0 [mW]	1 [mW]	0+1 [mW]	0+1 [dBm]		0 [dBm]	1 [dBm]	0+1 [dBm]	
11n-40	8	-1.58	-1.94	0.70	0.64	1.33	1.25	0.06	-	-	1.31	*
	9	-1.72	-2.12	0.67	0.61	1.29	1.09	0.14	-	-	1.23	
	10	-1.76	-2.18	0.67	0.61	1.27	1.05	0.19	-	-	1.24	
	11	-1.86	-2.27	0.65	0.59	1.24	0.95	0.23	-	-	1.18	
	12	-1.88	-2.33	0.65	0.58	1.23	0.91	0.32	-	-	1.23	
	13	-1.99	-2.42	0.63	0.57	1.21	0.81	0.39	-	-	1.20	
	14	-2.92	-3.47	0.51	0.45	0.96	-0.18	0.39	-	-	0.21	
	15	-4.68	-5.18	0.34	0.30	0.64	-1.91	0.44	-	-	-1.47	

* Worst rate

Sample Calculation:

$$\text{Burst power} = \text{Reading (timed average)} + \text{Duty factor}$$

All comparison were carried out on same frequency and measurement factors.

Average Output Power
(Reference data for SAR Testing)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11a		

Antenna 1

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5180	0.18	2.98	9.97	13.13	20.56
5220	0.30	2.99	9.97	13.26	21.18
5240	0.20	2.99	9.97	13.16	20.70
5260	0.20	2.99	9.96	13.15	20.65
5300	0.38	3.00	9.96	13.34	21.58
5320	0.19	3.00	9.96	13.15	20.65
5500	2.12	3.03	9.96	15.11	32.43
5580	2.42	3.04	9.96	15.42	34.83
5700	2.47	3.07	9.97	15.51	35.56
5745	2.03	3.07	9.97	15.07	32.14
5785	1.87	3.08	9.97	14.92	31.05
5825	1.99	3.09	9.97	15.05	31.99

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Average Output Power
(Reference data for SAR Testing)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11n-20		

Antenna 1

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5180	-0.88	2.98	9.97	12.07	16.11
5220	-1.05	2.99	9.97	11.91	15.52
5240	-1.01	2.99	9.97	11.95	15.67
5260	-1.04	2.99	9.96	11.91	15.52
5300	-0.99	3.00	9.96	11.97	15.74
5320	-1.03	3.00	9.96	11.93	15.60
5500	0.77	3.03	9.96	13.76	23.77
5580	1.11	3.04	9.96	14.11	25.76
5700	1.06	3.07	9.97	14.10	25.70
5745	0.60	3.07	9.97	13.64	23.12
5785	0.33	3.08	9.97	13.38	21.78
5825	0.51	3.09	9.97	13.57	22.75

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Average Output Power
(Reference data for SAR Testing)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11n-20 (MIMO)		

Tested Frequency [MHz]	Antenna 0				Antenna 1				Antenna 0+1			
	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	Result (Timed average)		Sum	
									Antenna 0 [mW]	Antenna 1 [mW]	Antenna 0+1 [mW]	Antenna 0+1 [dBm]
5180	-1.44	2.98	9.97	11.51	-1.02	2.98	9.97	11.93	14.16	15.60	29.75	14.74
5220	-1.03	2.99	9.97	11.93	-1.12	2.99	9.97	11.84	15.60	15.28	30.87	14.90
5240	-0.59	2.99	9.97	12.37	-1.07	2.99	9.97	11.89	17.26	15.45	32.71	15.15
5260	-0.72	2.99	9.96	12.23	-1.07	2.99	9.96	11.88	16.71	15.42	32.13	15.07
5300	-0.85	3.00	9.96	12.11	-1.09	3.00	9.96	11.87	16.26	15.38	31.64	15.00
5320	-0.92	3.00	9.96	12.04	-1.04	3.00	9.96	11.92	16.00	15.56	31.56	14.99
5500	0.61	3.03	9.96	13.60	0.59	3.03	9.96	13.58	22.91	22.80	45.71	16.60
5580	0.79	3.04	9.96	13.79	0.72	3.04	9.96	13.72	23.93	23.55	47.48	16.77
5700	1.07	3.07	9.97	14.11	1.03	3.07	9.97	14.07	25.76	25.53	51.29	17.10
5745	1.26	3.07	9.97	14.30	0.75	3.07	9.97	13.79	26.92	23.93	50.85	17.06
5785	1.22	3.08	9.97	14.27	0.60	3.08	9.97	13.65	26.73	23.17	49.90	16.98
5825	1.36	3.09	9.97	14.42	0.80	3.09	9.97	13.86	27.67	24.32	51.99	17.16

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Average Output Power
(Reference data for SAR Testing)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11n-40		

Antenna 0

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5190	-2.31	2.98	9.97	10.64	11.59
-	-	-	-	-	-
5230	-0.62	2.99	9.97	12.34	17.14
5270	-1.07	2.99	9.96	11.88	15.42
-	-	-	-	-	-
5310	-2.22	3.00	9.96	10.74	11.86
5510	-1.63	3.03	9.96	11.36	13.68
5550	-1.50	3.04	9.96	11.50	14.13
5670	-1.59	3.06	9.97	11.44	13.93
5755	-1.38	3.08	9.97	11.67	14.69
-	-	-	-	-	-
5795	-1.47	3.08	9.97	11.58	14.39

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Average Output Power
(Reference data for SAR Testing)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	11285933S-B-R2		
Date	February 2, 2016	February 3, 2016	February 5, 2016
Temperature / Humidity	24 deg. C / 47 % RH	25 deg. C / 31 % RH	26 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Hiroyuki Morikawa
Mode	Tx 11n-40 (MIMO)		

Tested Frequency [MHz]	Antenna 0				Antenna 1				Antenna 0+1			
	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	Result (Timed average)		Sum	
									Antenna 0 [mW]	Antenna 1 [mW]	Antenna 0+1 [mW]	Antenna 0+1 [dBm]
5190	-2.25	2.98	9.97	10.70	-1.89	2.98	9.97	11.06	11.75	12.76	24.51	13.89
-	-	-	-	-	-	-	-	-	-	-	-	-
5230	-0.61	2.99	9.97	12.35	-1.02	2.99	9.97	11.94	17.18	15.63	32.81	15.16
5270	-0.85	2.99	9.96	12.10	-1.14	2.99	9.96	11.81	16.22	15.17	31.39	14.97
-	-	-	-	-	-	-	-	-	-	-	-	-
5310	-1.87	3.00	9.96	11.09	-1.99	3.00	9.96	10.97	12.85	12.50	25.36	14.04
5510	-1.58	3.03	9.96	11.41	-1.94	3.03	9.96	11.05	13.84	12.74	26.57	14.24
5550	-1.49	3.04	9.96	11.51	-1.82	3.04	9.96	11.18	14.16	13.12	27.28	14.36
5670	-1.54	3.06	9.97	11.49	-1.65	3.06	9.97	11.38	14.09	13.74	27.83	14.45
5755	-1.20	3.08	9.97	11.85	-1.82	3.08	9.97	11.23	15.31	13.27	28.58	14.56
-	-	-	-	-	-	-	-	-	-	-	-	-
5795	-1.49	3.08	9.97	11.56	-2.22	3.08	9.97	10.83	14.32	12.11	26.43	14.22

Sample Calculation:

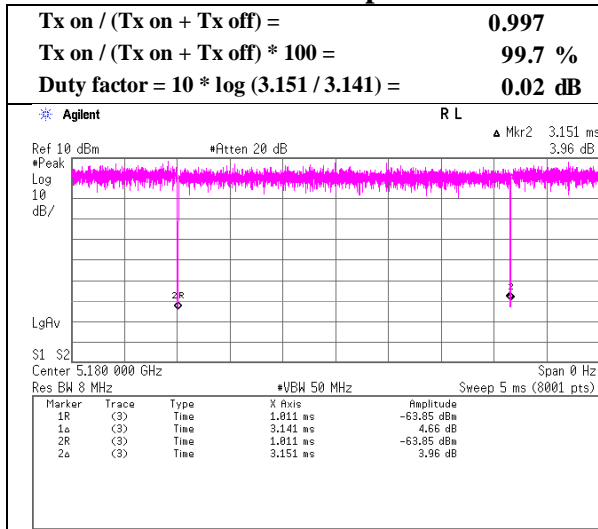
Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

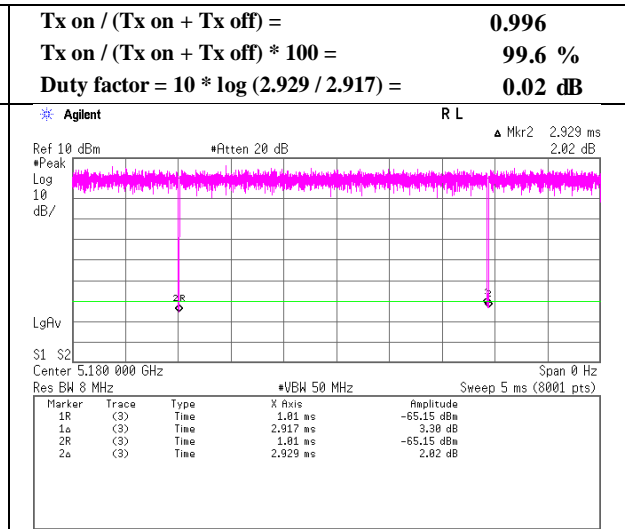
Burst rate confirmation

Test place : Shonan EMC Lab. No.1 Measurement Room
 Report No. : 11285933S-B-R2
 Date : February 2, 2016
 Temperature / Humidity : 24 deg. C / 47 % RH
 Engineer : Hiroyuki Morikawa
 Mode : Tx

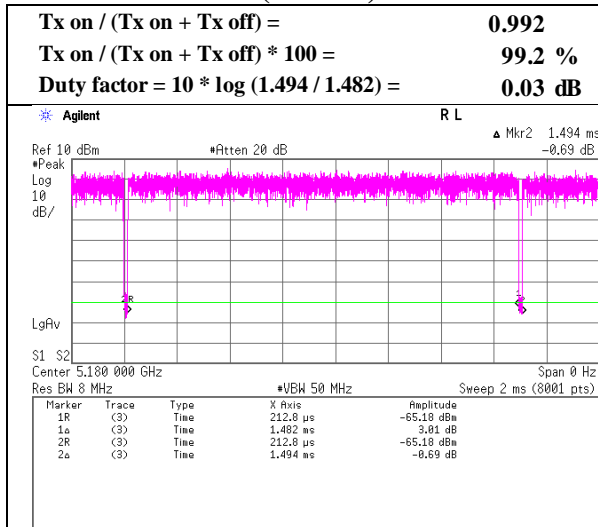
11a 6 Mbps



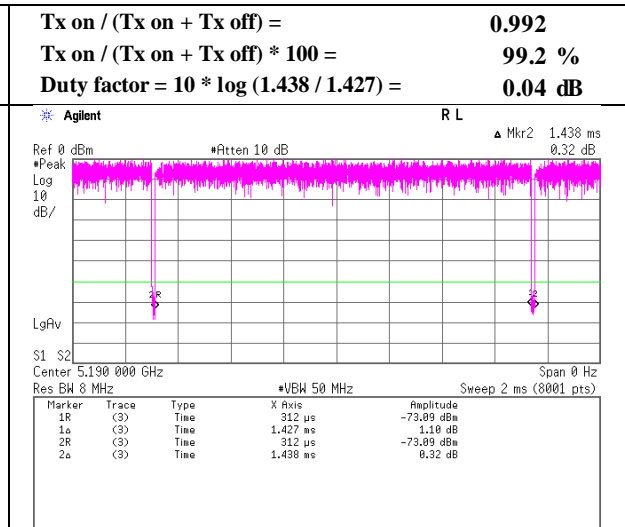
11n-20 MCS0



11n-20 (MIMO) MCS0



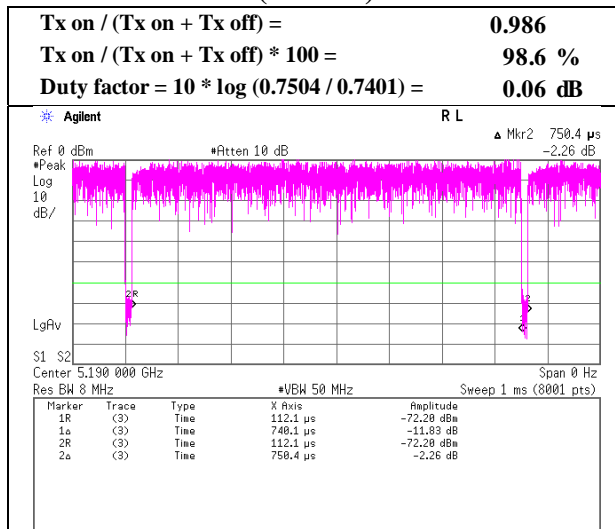
11n-40 MCS0



Burst rate confirmation

Test place	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2
Date	February 2, 2016
Temperature / Humidity	24 deg. C / 47 % RH
Engineer	Hiroyuki Morikawa
Mode	Tx

11n-40 (MIMO) MCS 0



Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx 11a		

Antenna 1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-10.45	2.98	9.97	0.02	-1.3	0.00	2.52	11.00	8.48	1.22	17.00	15.78
5220	-10.61	2.99	9.97	0.02	-1.3	0.00	2.37	11.00	8.63	1.07	17.00	15.93
5240	-10.44	2.99	9.97	0.02	-1.3	0.00	2.54	11.00	8.46	1.24	17.00	15.76
5260	-10.22	2.99	9.96	0.02	-1.3	0.00	2.75	11.00	8.25	1.45	17.00	15.55
5300	-10.08	3.00	9.96	0.02	-1.3	0.00	2.90	11.00	8.10	1.60	17.00	15.40
5320	-10.21	3.00	9.96	0.02	-1.3	0.00	2.78	11.00	8.23	1.48	17.00	15.53
5500	-8.75	3.03	9.96	0.02	-1.3	0.00	4.26	11.00	6.74	2.96	17.00	14.04
5580	-8.23	3.04	9.96	0.02	-1.3	0.00	4.79	11.00	6.21	3.49	17.00	13.51
5700	-7.93	3.07	9.97	0.02	-1.3	0.00	5.13	11.00	5.87	3.83	17.00	13.17
5745	-16.81	3.07	9.97	0.02	-1.3	6.99	3.24	30.00	26.76	1.94	36.00	34.06
5785	-16.73	3.08	9.97	0.02	-1.3	6.99	3.33	30.00	26.67	2.03	36.00	33.97
5825	-16.36	3.09	9.97	0.02	-1.3	6.99	3.71	30.00	26.29	2.41	36.00	33.59

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx 11n-20		

Antenna 1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-12.08	2.98	9.97	0.02	-1.3	0.00	0.89	11.00	10.11	-0.41	17.00	17.41
5220	-12.16	2.99	9.97	0.02	-1.3	0.00	0.82	11.00	10.18	-0.48	17.00	17.48
5240	-11.50	2.99	9.97	0.02	-1.3	0.00	1.48	11.00	9.52	0.18	17.00	16.82
5260	-11.64	2.99	9.96	0.02	-1.3	0.00	1.33	11.00	9.67	0.03	17.00	16.97
5300	-11.79	3.00	9.96	0.02	-1.3	0.00	1.19	11.00	9.81	-0.11	17.00	17.11
5320	-12.06	3.00	9.96	0.02	-1.3	0.00	0.92	11.00	10.08	-0.38	17.00	17.38
5500	-10.05	3.03	9.96	0.02	-1.3	0.00	2.97	11.00	8.04	1.67	17.00	15.34
5580	-9.67	3.04	9.96	0.02	-1.3	0.00	3.35	11.00	7.65	2.05	17.00	14.95
5700	-9.62	3.07	9.97	0.02	-1.3	0.00	3.44	11.00	7.56	2.14	17.00	14.86
5745	-18.48	3.07	9.97	0.02	-1.3	6.99	1.57	30.00	28.43	0.27	36.00	35.73
5785	-18.32	3.08	9.97	0.02	-1.3	6.99	1.74	30.00	28.26	0.44	36.00	35.56
5825	-17.95	3.09	9.97	0.02	-1.3	6.99	2.12	30.00	27.88	0.82	36.00	35.18

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1	Shonan EMC Lab. No.5	Shonan EMC Lab. No.1
	Measurement Room	Shielded Room	Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx 11n-20 (MIMO)		

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	1	2	Sum				1	2	Sum			
[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	
5180	1.06	0.86	1.93	2.85	11.00	8.15	0.70	0.64	1.34	1.28	17.00	15.72
5220	0.77	1.01	1.78	2.51	11.00	8.49	0.51	0.75	1.26	1.01	17.00	15.99
5240	0.69	1.13	1.82	2.60	11.00	8.40	0.46	0.84	1.29	1.11	17.00	15.89
5260	1.52	1.32	2.84	4.53	11.00	6.47	1.00	0.98	1.98	2.97	17.00	14.03
5300	1.36	1.36	2.72	4.35	11.00	6.65	0.90	1.00	1.91	2.80	17.00	14.20
5320	1.29	1.29	2.58	4.12	11.00	6.88	0.86	0.95	1.81	2.58	17.00	14.42
5500	2.14	1.89	4.04	6.06	11.00	4.94	1.42	1.40	2.82	4.50	17.00	12.50
5580	2.03	2.05	4.08	6.11	11.00	4.89	1.34	1.52	2.86	4.56	17.00	12.44
5700	2.17	1.91	4.07	6.10	11.00	4.90	1.43	1.41	2.84	4.54	17.00	12.46
5745	2.17	1.42	3.59	5.55	30.00	24.45	1.43	1.05	2.49	3.96	36.00	32.04
5785	1.64	1.40	3.04	4.82	30.00	25.18	1.08	1.04	2.12	3.26	36.00	32.74
5825	1.50	1.53	3.02	4.81	30.00	25.19	0.99	1.13	2.12	3.27	36.00	32.73

Tested Frequency [MHz]	Duty Factor [dB]	RBW Correction Factor [dB]	Antenna 0				Antenna 1				PSD Result			
			PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	Cond.	e.i.r.p.		
			[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]		
5180	0.03	0.00	-12.71	2.98	9.97	-1.80	0.27	-1.53	-13.61	2.98	9.97	-1.30	-0.63	-1.93
5220	0.03	0.00	-14.11	2.99	9.97	-1.80	-1.12	-2.92	-12.94	2.99	9.97	-1.30	0.05	-1.25
5240	0.03	0.00	-14.59	2.99	9.97	-1.80	-1.60	-3.40	-12.47	2.99	9.97	-1.30	0.52	-0.78
5260	0.03	0.00	-11.17	2.99	9.96	-1.80	1.81	0.01	-11.78	2.99	9.96	-1.30	1.20	-0.10
5300	0.03	0.00	-11.64	3.00	9.96	-1.80	1.35	-0.45	-11.67	3.00	9.96	-1.30	1.32	0.02
5320	0.03	0.00	-11.87	3.00	9.96	-1.80	1.12	-0.68	-11.89	3.00	9.96	-1.30	1.10	-0.20
5500	0.03	0.00	-9.71	3.03	9.96	-1.80	3.31	1.51	-10.25	3.03	9.96	-1.30	2.77	1.47
5580	0.03	0.00	-9.96	3.04	9.96	-1.80	3.07	1.27	-9.91	3.04	9.96	-1.30	3.12	1.82
5700	0.03	0.00	-9.71	3.07	9.97	-1.80	3.36	1.56	-10.27	3.07	9.97	-1.30	2.80	1.50
5745	0.03	6.99	-16.70	3.07	9.97	-1.80	3.36	1.56	-18.53	3.07	9.97	-1.30	1.53	0.23
5785	0.03	6.99	-17.92	3.08	9.97	-1.80	2.15	0.35	-18.62	3.08	9.97	-1.30	1.45	0.15
5825	0.03	6.99	-18.33	3.09	9.97	-1.80	1.75	-0.05	-18.24	3.09	9.97	-1.30	1.84	0.54

Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx 11n-40		

Antenna 0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-16.32	2.98	9.97	0.04	-1.8	0.00	-3.33	11.00	14.33	-5.13	17.00	22.13
-	-	-	-	-	-	-	-	-	-	-	-	-
5230	-14.53	2.99	9.97	0.04	-1.8	0.00	-1.53	11.00	12.53	-3.33	17.00	20.33
5270	-14.94	2.99	9.96	0.04	-1.8	0.00	-1.95	11.00	12.95	-3.75	17.00	20.75
-	-	-	-	-	-	-	-	-	-	-	-	-
5310	-16.17	3.00	9.96	0.04	-1.8	0.00	-3.17	11.00	14.17	-4.97	17.00	21.97
5510	-15.57	3.03	9.96	0.04	-1.8	0.00	-2.54	11.00	13.54	-4.34	17.00	21.34
5550	-15.37	3.04	9.96	0.04	-1.8	0.00	-2.33	11.00	13.33	-4.13	17.00	21.13
5670	-15.84	3.06	9.97	0.04	-1.8	0.00	-2.77	11.00	13.77	-4.57	17.00	21.57
5755	-24.26	3.08	9.97	0.04	-1.8	6.99	-4.18	30.00	34.18	-5.98	36.00	41.98
-	-	-	-	-	-	-	-	-	-	-	-	-
5795	-22.77	3.08	9.97	0.04	-1.8	6.99	-2.69	30.00	32.69	-4.49	36.00	40.49

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1	Shonan EMC Lab. No.5	Shonan EMC Lab. No.1
	Measurement Room	Shielded Room	Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx 11n-40 (MIMO)		

Antenna 0+1										Applied limit: 15.407, mobile and portable client device					
Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)								
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin			
	1 [mW/MHz]	2 [mW/MHz]	Sum [mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	1 [mW/MHz]	2 [mW/MHz]	Sum [mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]			
5190	0.51	0.43	0.94	-0.25	11.00	11.25	0.34	0.32	0.66	-1.82	17.00	18.82			
-	-	-	-	-	-	-	-	-	-	-	-	-			
5230	0.67	0.45	1.12	0.50	11.00	10.50	0.44	0.33	0.78	-1.09	17.00	18.09			
5270	0.69	0.59	1.28	1.06	11.00	9.94	0.46	0.43	0.89	-0.50	17.00	17.50			
-	-	-	-	-	-	-	-	-	-	-	-	-			
5310	0.52	0.55	1.07	0.30	11.00	10.70	0.35	0.40	0.75	-1.24	17.00	18.24			
5510	0.61	0.56	1.17	0.68	11.00	10.32	0.40	0.41	0.82	-0.87	17.00	17.87			
5550	0.68	0.49	1.16	0.66	11.00	10.34	0.45	0.36	0.81	-0.93	17.00	17.93			
5670	0.64	0.55	1.19	0.77	11.00	10.23	0.42	0.41	0.83	-0.79	17.00	17.79			
5755	1.04	0.39	1.43	1.55	30.00	28.45	0.69	0.29	0.98	-0.11	36.00	36.11			
-	-	-	-	-	-	-	-	-	-	-	-	-			
5795	0.88	0.36	1.24	0.93	30.00	29.07	0.58	0.27	0.85	-0.72	36.00	36.72			

Tested Frequency [MHz]	Antenna 0							Antenna 1							
	Duty Factor [dB]	RBW Correction Factor [dB]	PSD Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	PSD Result Cond. [dBm/MHz]	PSD Result e.i.r.p. [dBm/MHz]	PSD Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	PSD Result Cond. [dBm/MHz]	PSD Result e.i.r.p. [dBm/MHz]	
5190	0.06	0.00	-15.91	2.98	9.97	-1.80	-2.90	-4.70	-16.67	2.98	9.97	-1.30	-3.66	-4.96	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5230	0.06	0.00	-14.75	2.99	9.97	-1.80	-1.73	-3.53	-16.48	2.99	9.97	-1.30	-3.46	-4.76	
5270	0.06	0.00	-14.62	2.99	9.96	-1.80	-1.61	-3.41	-15.33	2.99	9.96	-1.30	-2.32	-3.62	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5310	0.06	0.00	-15.82	3.00	9.96	-1.80	-2.80	-4.60	-15.65	3.00	9.96	-1.30	-2.63	-3.93	
5510	0.06	0.00	-15.18	3.03	9.96	-1.80	-2.13	-3.93	-15.59	3.03	9.96	-1.30	-2.54	-3.84	
5550	0.06	0.00	-14.75	3.04	9.96	-1.80	-1.69	-3.49	-16.20	3.04	9.96	-1.30	-3.14	-4.44	
5670	0.06	0.00	-15.02	3.06	9.97	-1.80	-1.93	-3.73	-15.66	3.06	9.97	-1.30	-2.57	-3.87	
5755	0.06	6.99	-19.93	3.08	9.97	-1.80	0.17	-1.63	-24.20	3.08	9.97	-1.30	-4.10	-5.40	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5795	0.06	6.99	-20.65	3.08	9.97	-1.80	-0.55	-2.35	-24.55	3.08	9.97	-1.30	-4.45	-5.75	

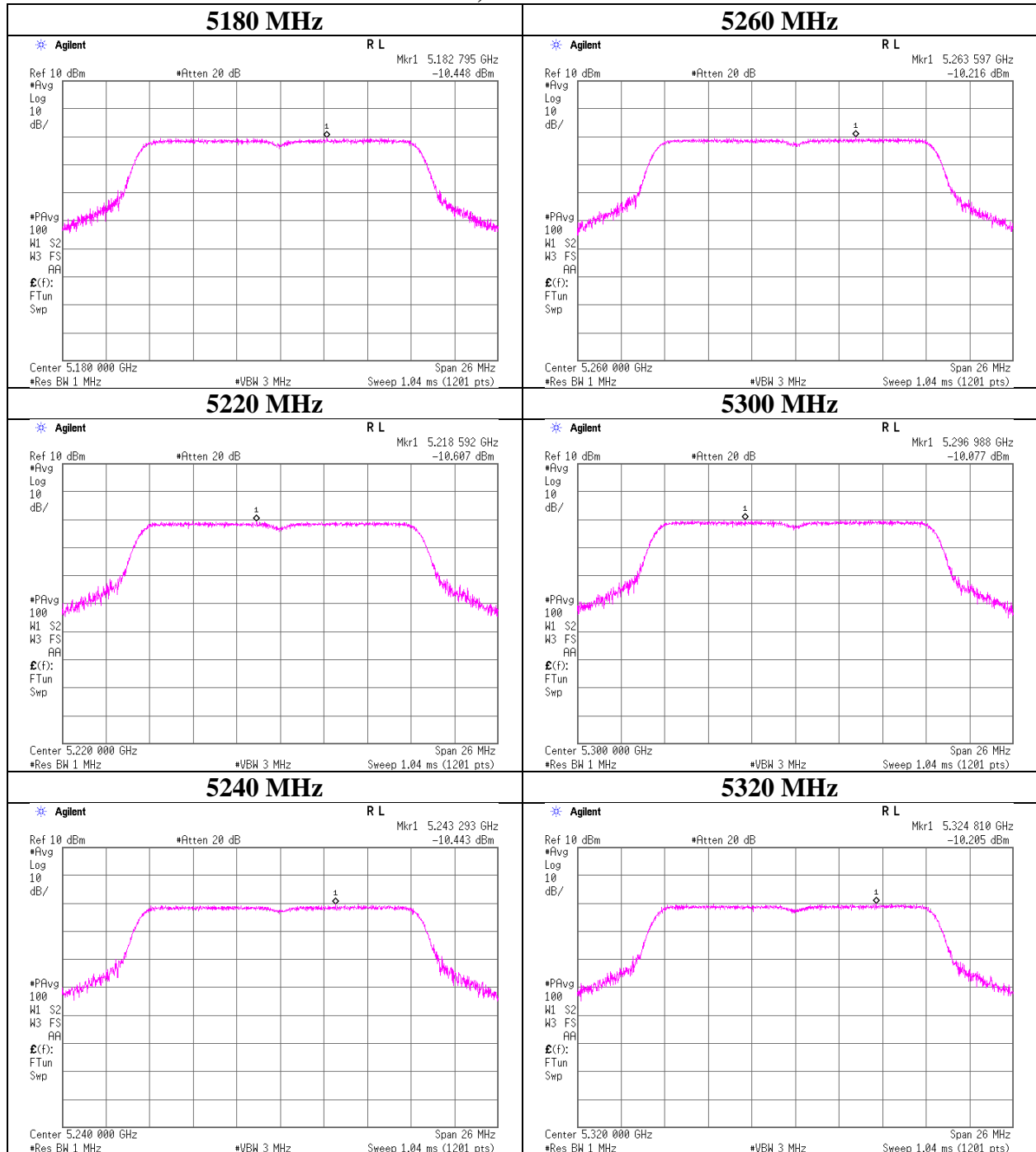
Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

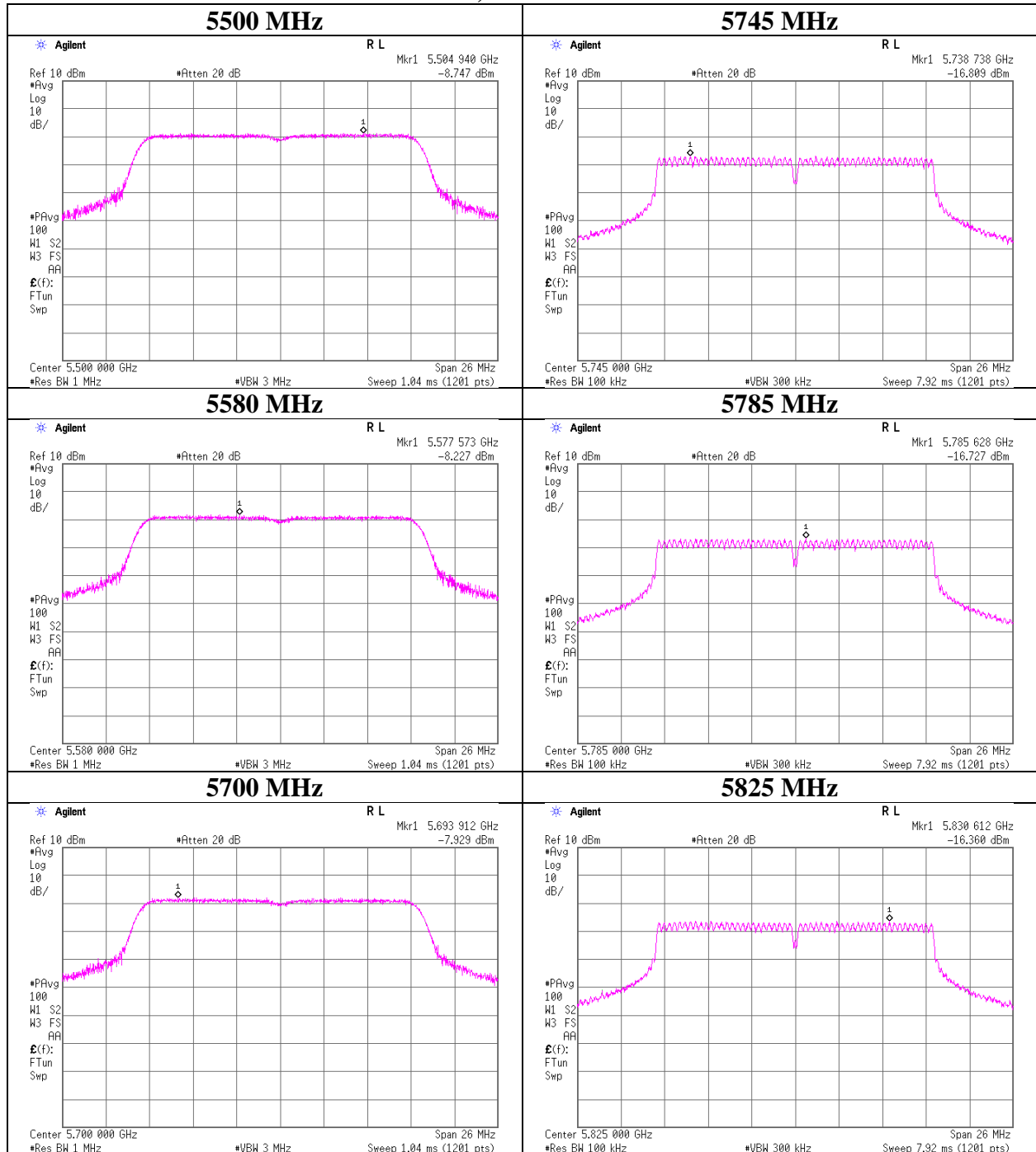
11a, Antenna 1



Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11a, Antenna 1



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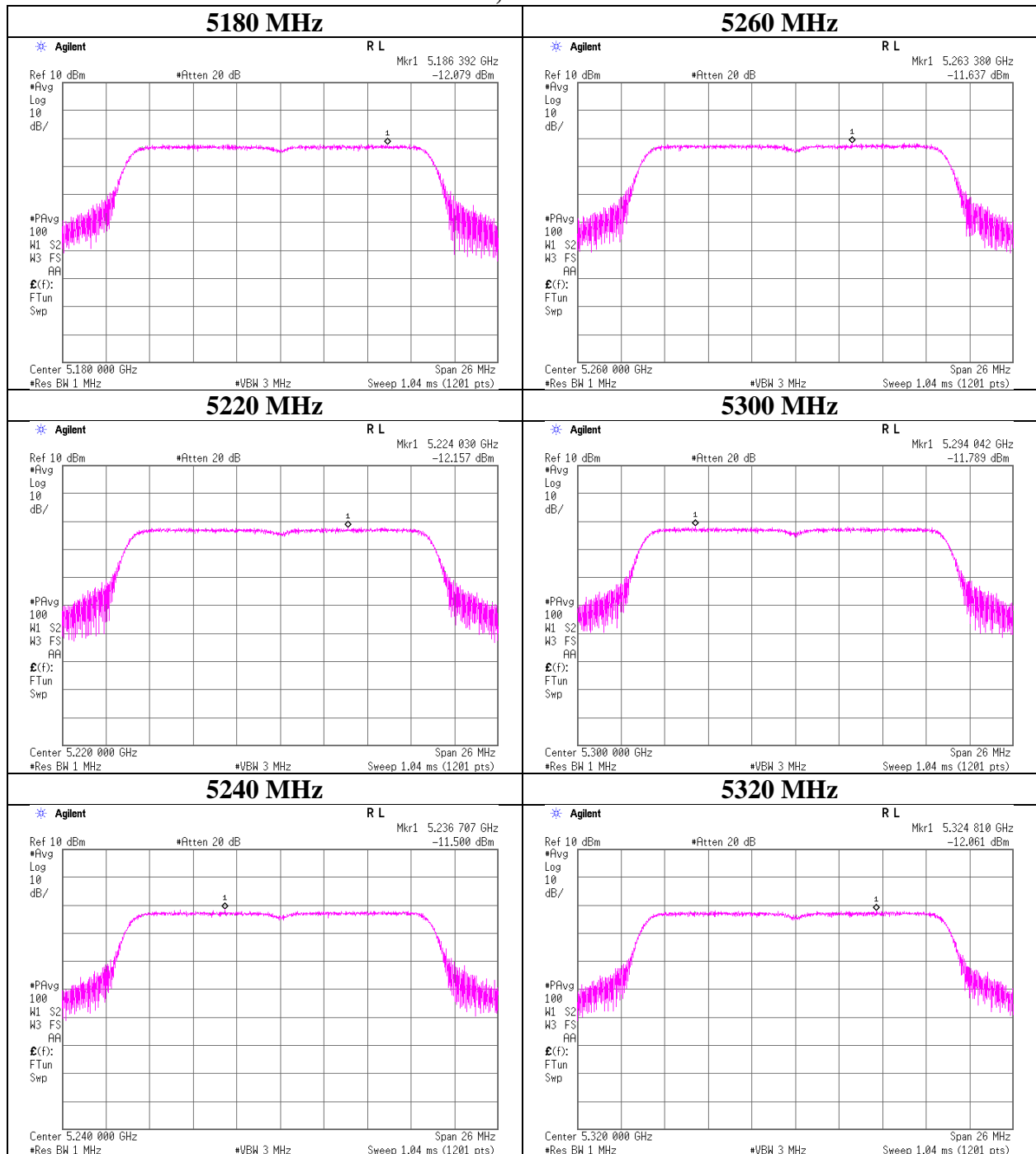
Telephone : +81 463 50 6400

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Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

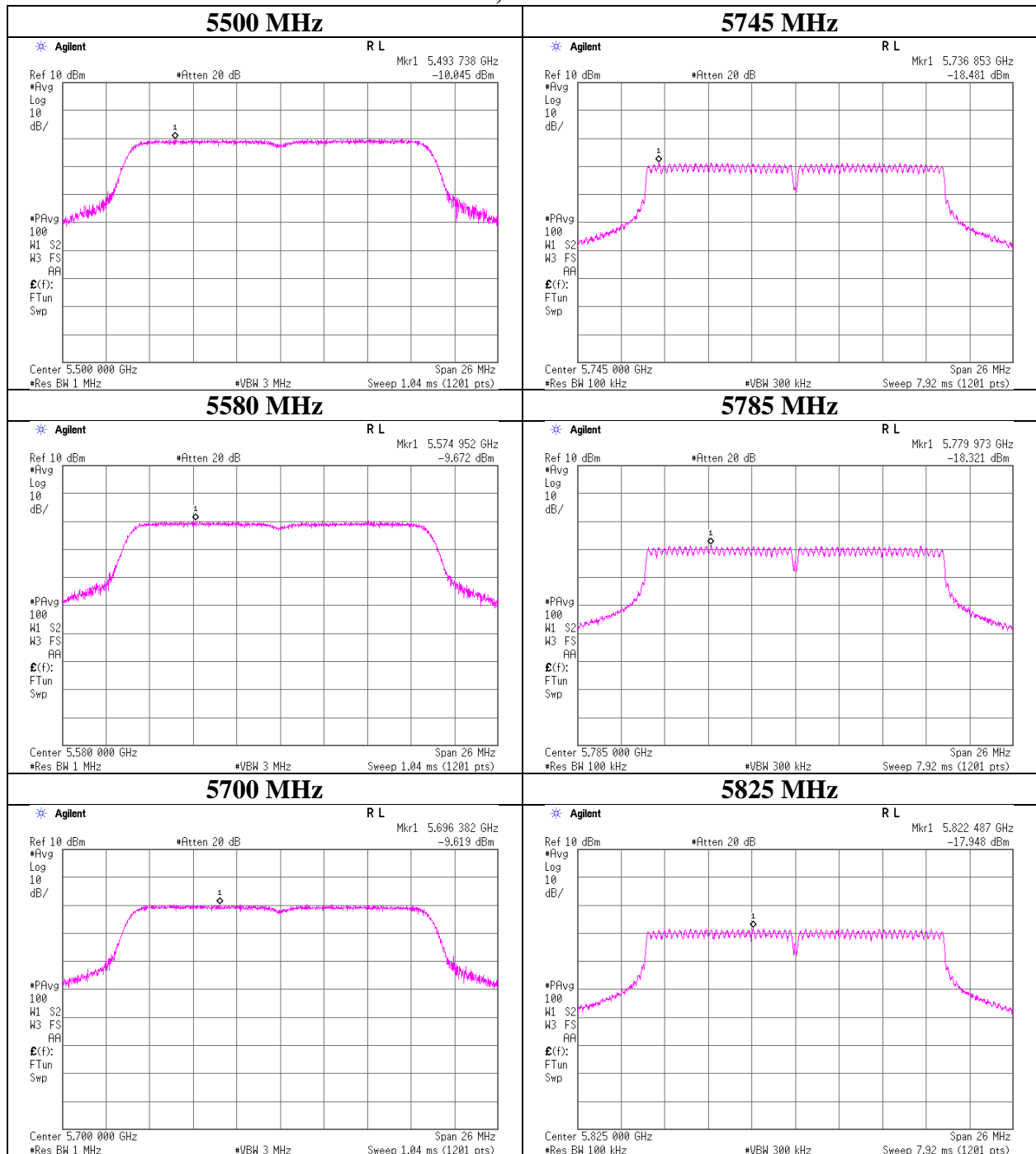
11n-20, Antenna 1



Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

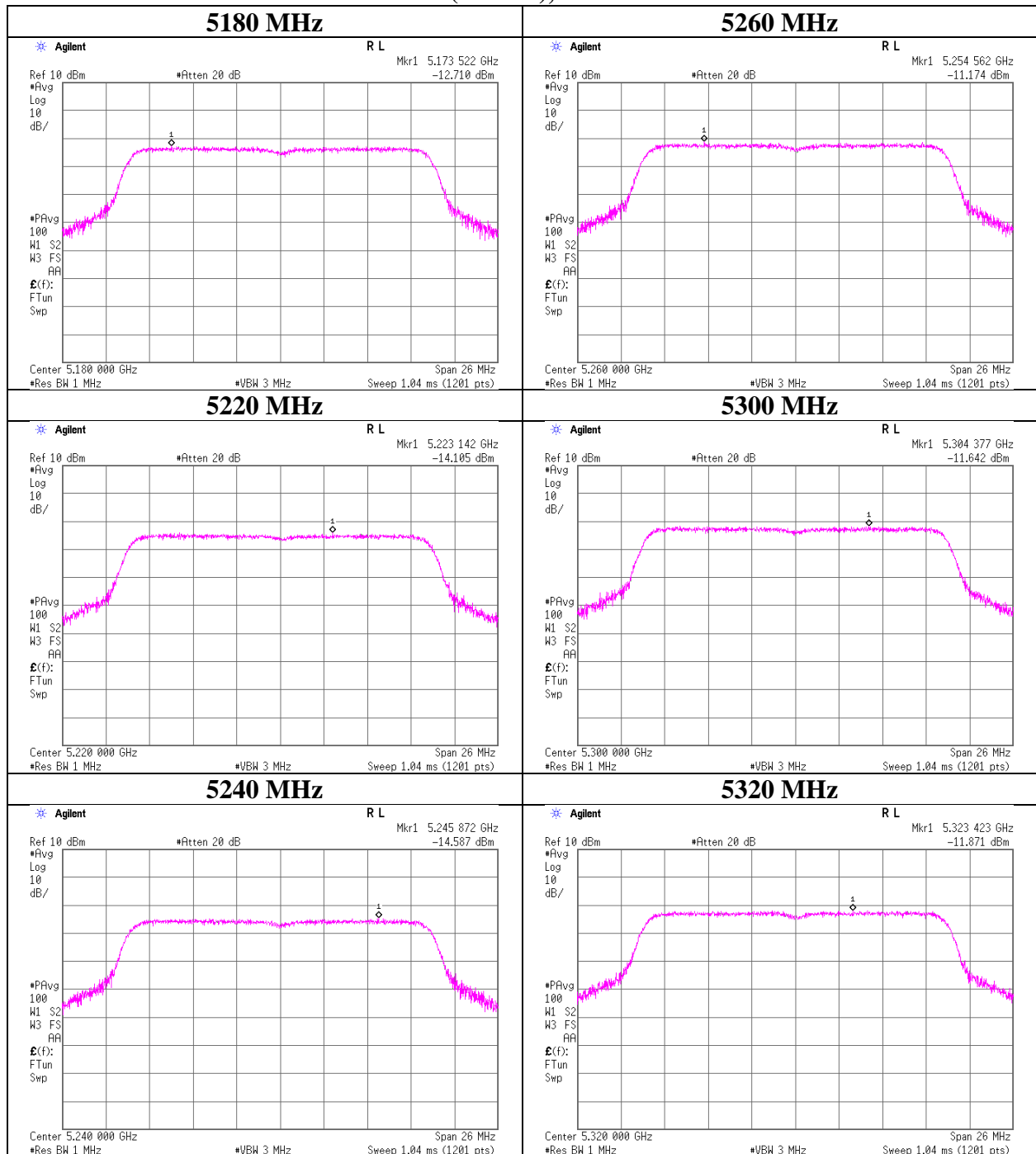
11n-20, Antenna 1



Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

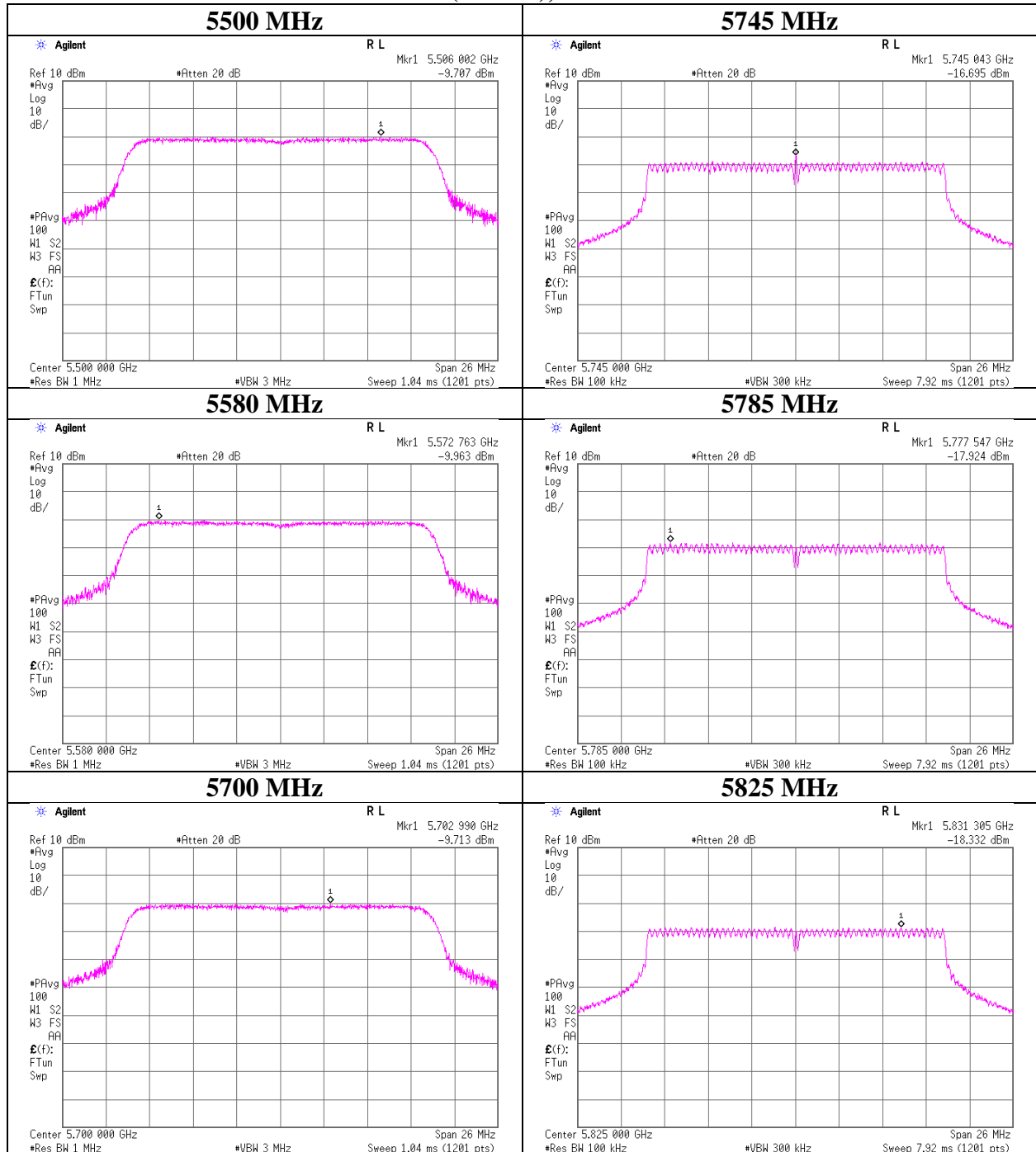
11n-20 (MIMO), Antenna 0



Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

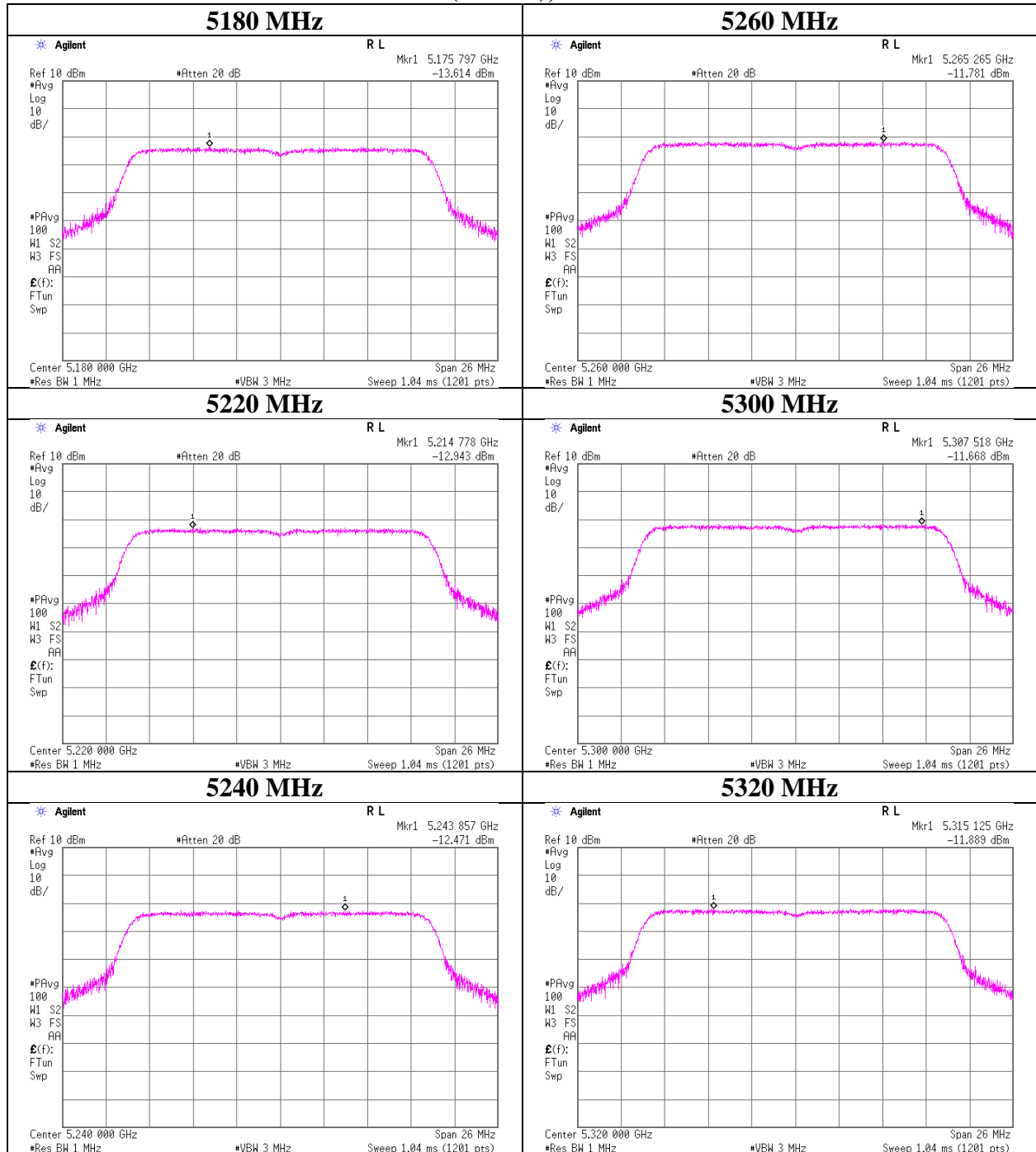
11n-20 (MIMO), Antenna 0



Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

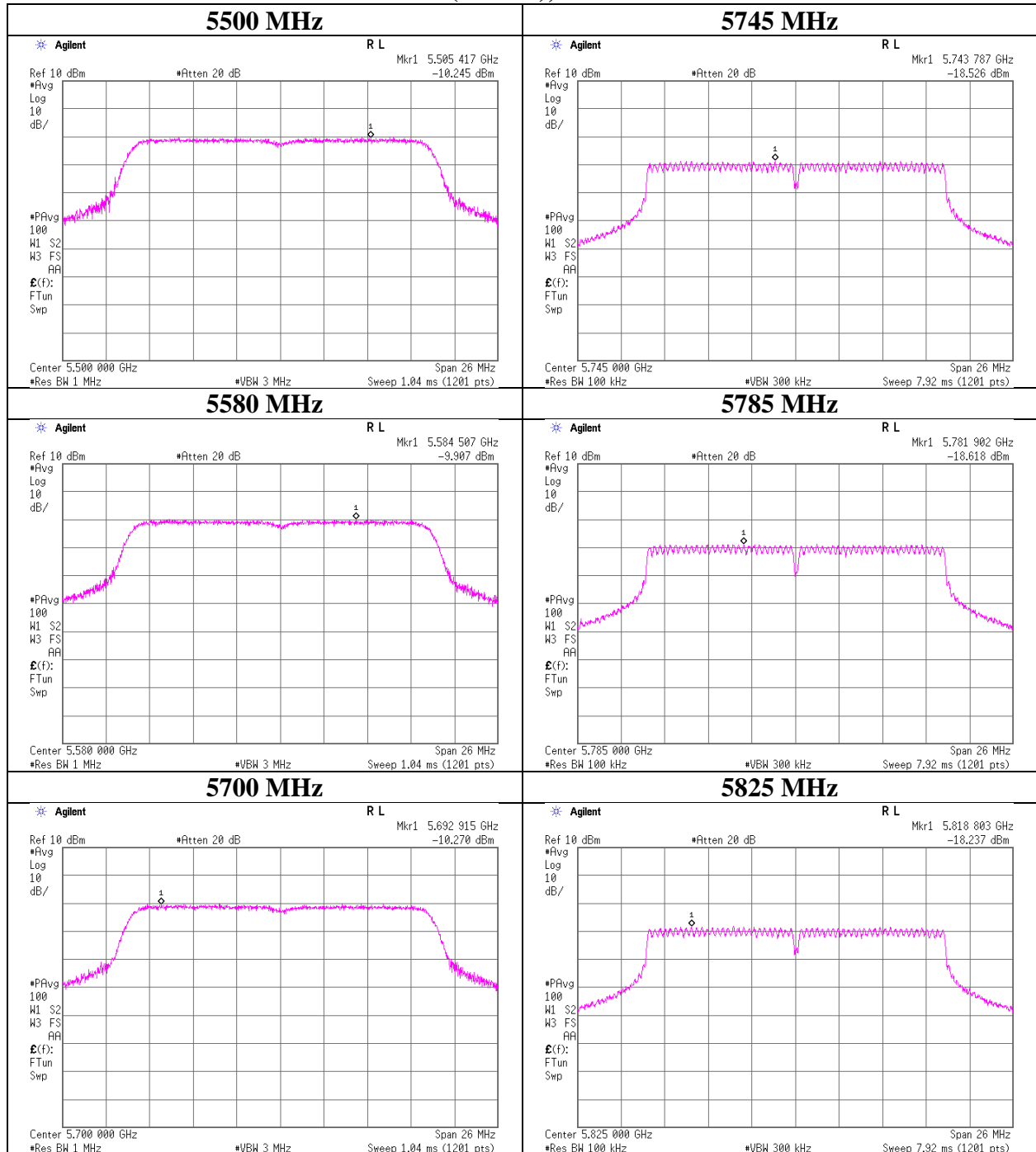
11n-20 (MIMO), Antenna 1



Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11n-20 (MIMO), Antenna 1



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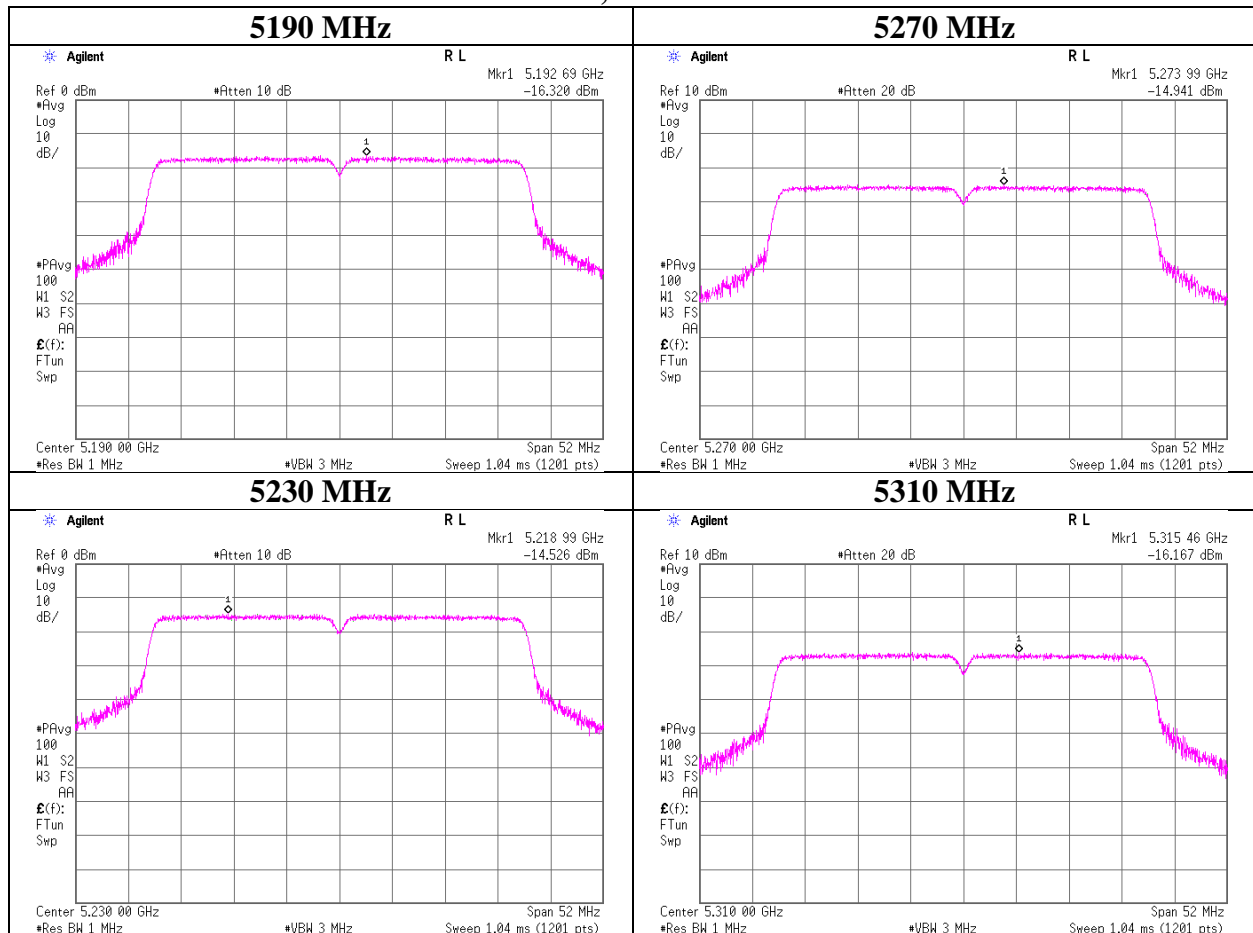
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Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11n-40, Antenna 0



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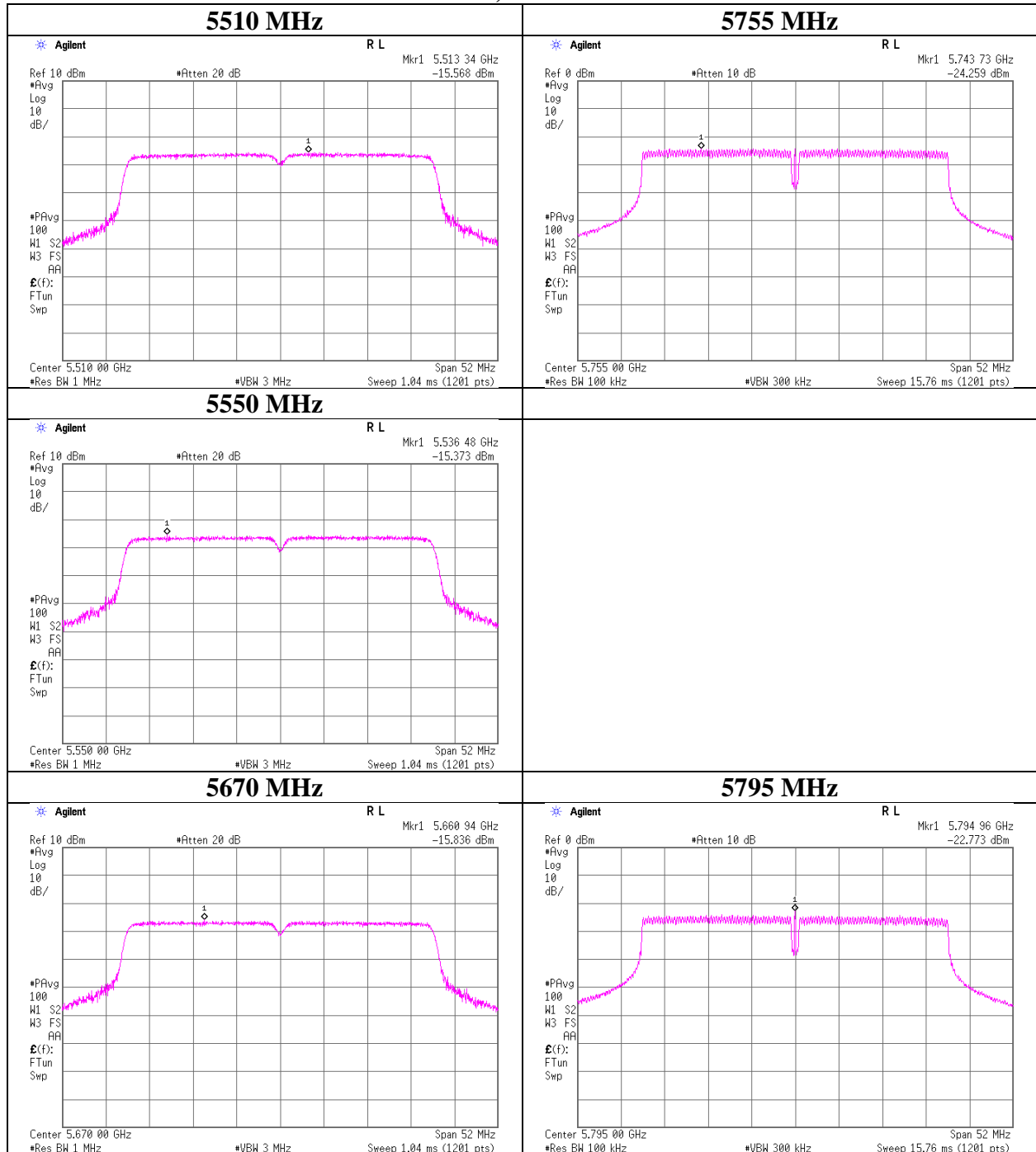
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11n-40, Antenna 0



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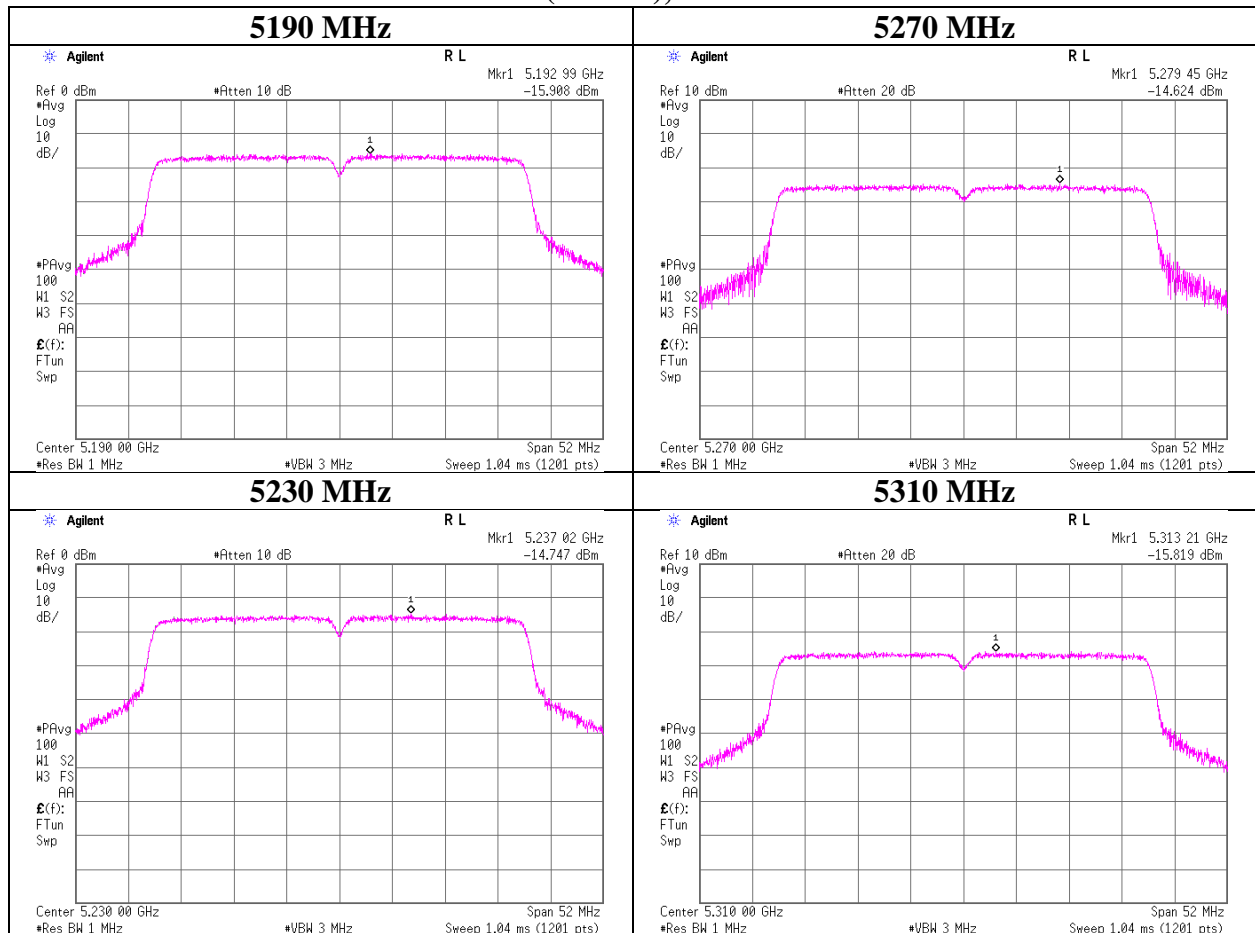
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11n-40 (MIMO), Antenna 0



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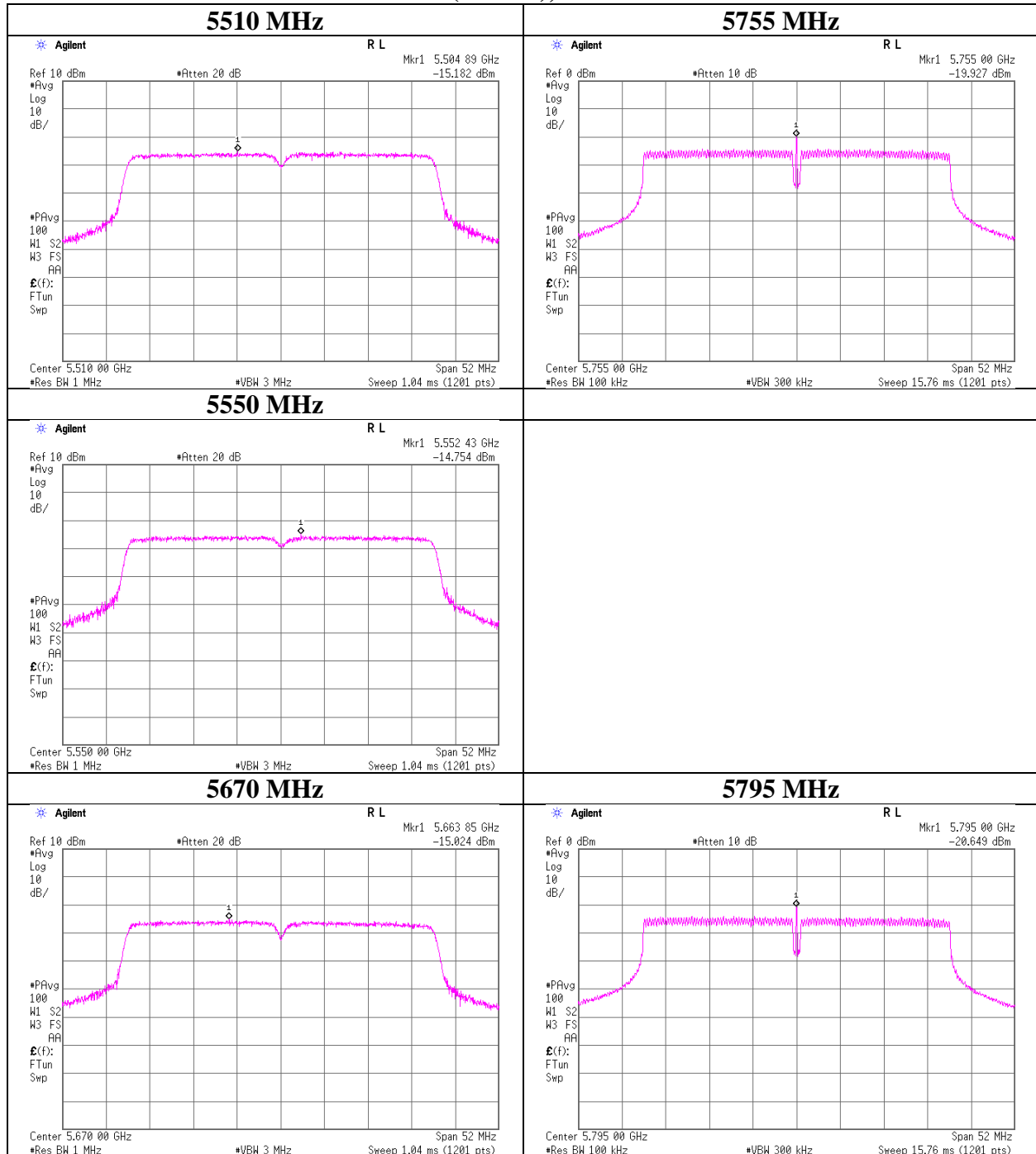
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

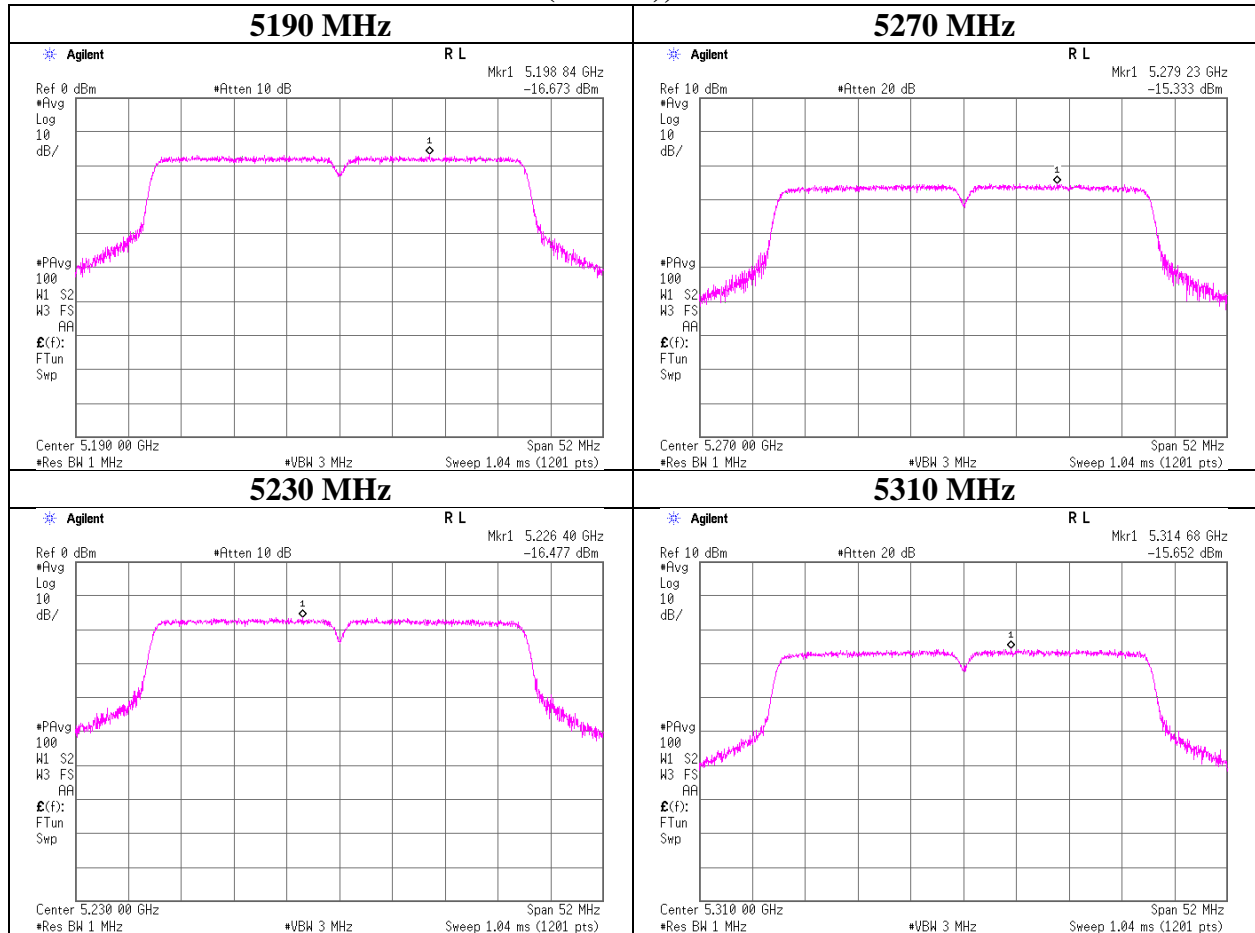
11n-40 (MIMO), Antenna 0



Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11n-40 (MIMO), Antenna 1



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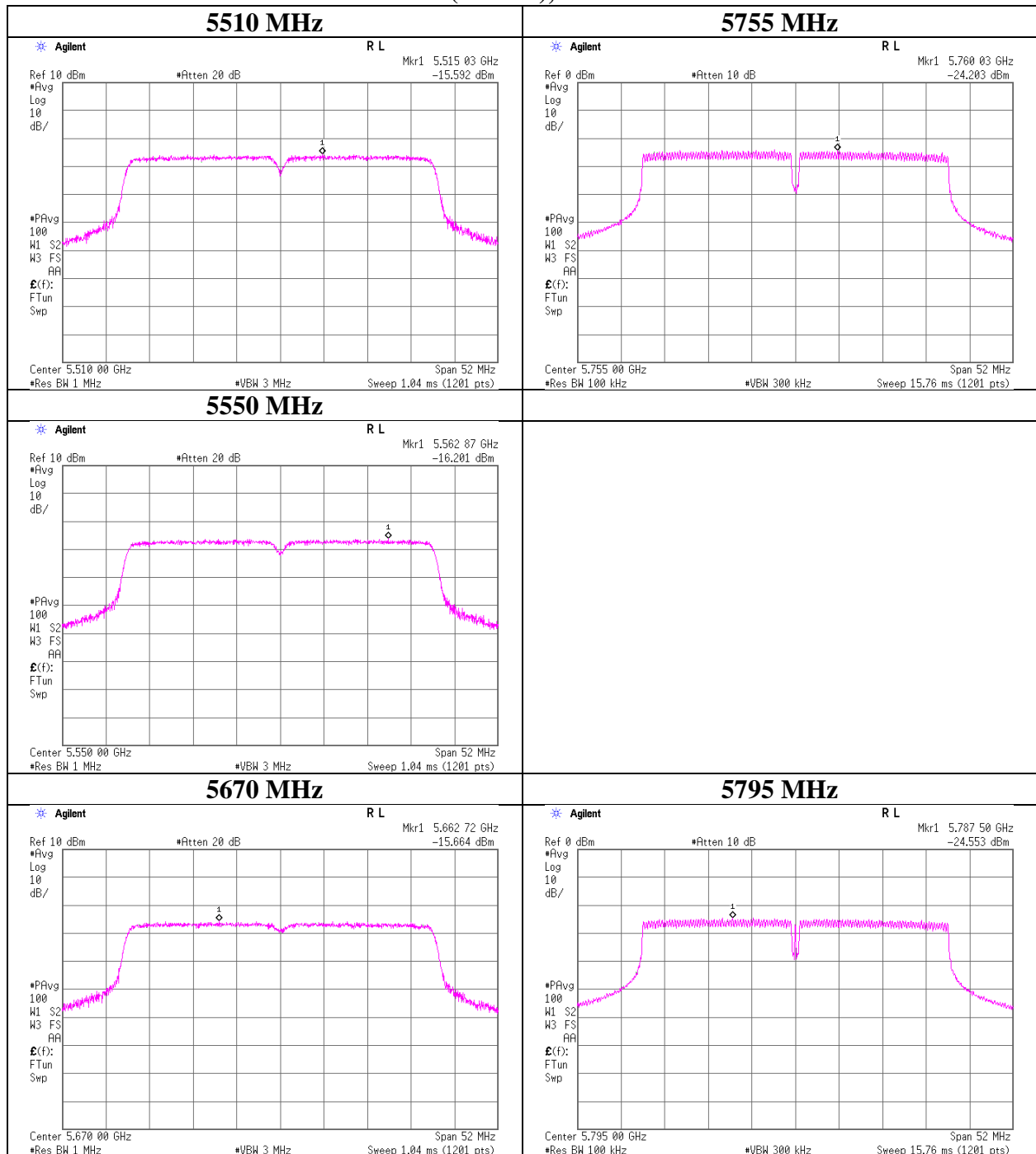
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.1 Measurement Room	Shonan EMC Lab. No.5 Shielded Room	Shonan EMC Lab. No.1 Measurement Room
Report No.	11285933S-B-R2		
Date	February 8, 2016	February 12, 2016	February 15, 2016
Temperature / Humidity	23 deg. C / 45 % RH	26 deg. C / 29 % RH	23 deg. C / 30 % RH
Engineer	Hiroyuki Morikawa	Shinichi Takano	Yosuke Ishikawa
Mode	Tx		

11n-40 (MIMO), Antenna 1



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1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2	
Report No.	11285933S-B-R2					
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016	
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH	
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa	
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz	
Mode	Tx 11n-20 (MIMO) 5180 MHz					

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.0	PK	47.0	32.0	18.2	41.0	2.1	58.3	73.9	15.6	100	193	
Hori.	10360.0	PK	44.0	39.3	8.6	34.1	2.1	59.9	73.9	14.0	177	0	
Hori.	15540.0	PK	46.8	40.4	12.3	40.2	-9.5	49.8	73.9	24.1	149	7	
Hori.	5150.0	AV	33.8	32.0	18.2	41.0	2.1	45.1	53.9	8.8	100	193	VBW:10Hz
Hori.	10360.0	AV	31.5	39.3	8.6	34.1	2.1	47.4	53.9	6.5	177	0	VBW:10Hz
Hori.	15540.0	AV	33.7	40.4	12.3	40.2	-9.5	36.7	53.9	17.2	149	7	VBW:10Hz
Vert.	5150.0	PK	47.1	32.0	18.2	41.0	2.1	58.4	73.9	15.5	168	208	
Vert.	10360.0	PK	43.6	39.3	8.6	34.1	2.1	59.5	73.9	14.4	143	0	
Vert.	15540.0	PK	46.8	40.4	12.3	40.2	-9.5	49.8	73.9	24.1	145	27	
Vert.	5150.0	AV	33.8	32.0	18.2	41.0	2.1	45.1	53.9	8.8	168	208	VBW:10Hz
Vert.	10360.0	AV	31.5	39.3	8.6	34.1	2.1	47.4	53.9	6.5	143	0	VBW:10Hz
Vert.	15540.0	AV	33.7	40.4	12.3	40.2	-9.5	36.7	53.9	17.2	145	27	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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Shonan EMC Lab.

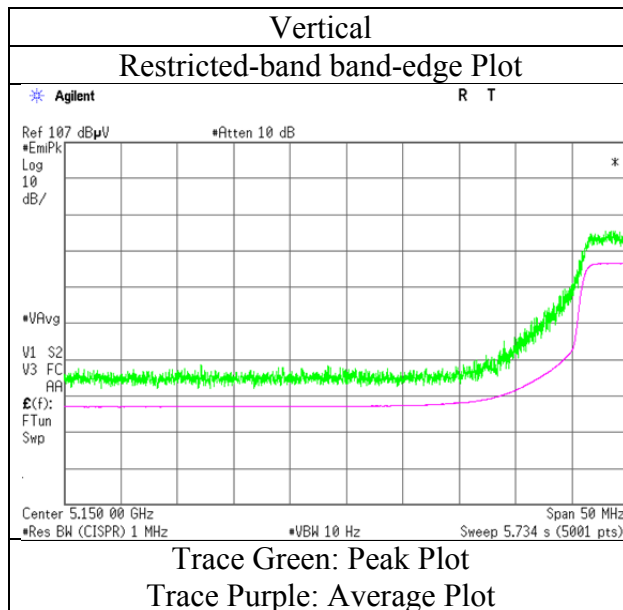
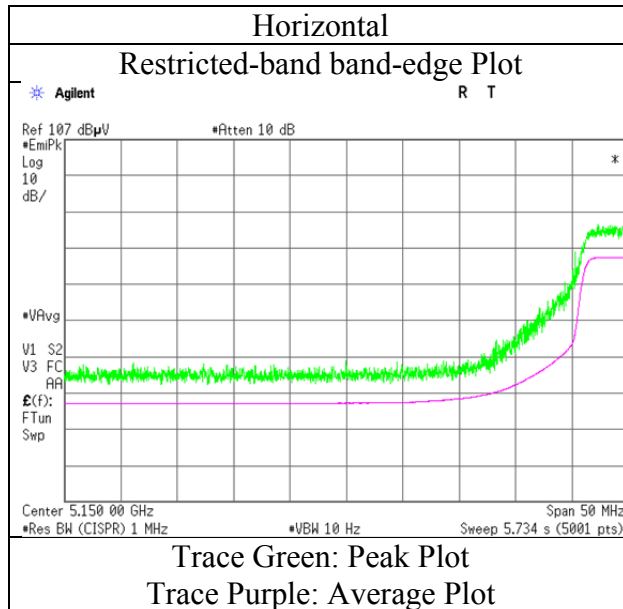
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-20 (MIMO) 5180 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-20 (MIMO) 5240 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10480.0	PK	42.0	39.6	8.5	34.0	2.1	58.2	73.9	15.7	203	0	
Hori.	15720.0	PK	46.3	40.0	12.3	40.1	-9.5	49.0	73.9	24.9	147	6	
Hori.	10480.0	AV	29.5	39.6	8.5	34.0	2.1	45.7	53.9	8.2	203	0	VBW:10Hz
Hori.	15720.0	AV	33.5	40.0	12.3	40.1	-9.5	36.2	53.9	17.7	147	6	VBW:10Hz
Vert.	10480.0	PK	42.2	39.6	8.5	34.0	2.1	58.4	73.9	15.5	189	0	
Vert.	15720.0	PK	45.7	40.0	12.3	40.1	-9.5	48.4	73.9	25.5	151	37	
Vert.	10480.0	AV	30.1	39.6	8.5	34.0	2.1	46.3	53.9	7.6	189	0	VBW:10Hz
Vert.	15720.0	AV	33.3	40.0	12.3	40.1	-9.5	36.0	53.9	17.9	151	37	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2	
Report No.	11285933S-B-R2					
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016	
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH	
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa	
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz	
Mode	Tx 11n-20 (MIMO) 5320 MHz					

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.0	PK	47.7	32.1	18.3	40.8	2.1	59.4	73.9	14.5	100	194	
Hori.	10640.0	PK	43.1	39.8	8.6	34.0	2.1	59.6	73.9	14.3	100	0	
Hori.	15960.0	PK	45.9	39.5	12.3	39.9	-9.5	48.3	73.9	25.6	143	21	
Hori.	5350.0	AV	34.4	32.1	18.3	40.8	2.1	46.1	53.9	7.8	100	194	VBW:10Hz
Hori.	10640.0	AV	29.2	39.8	8.6	34.0	2.1	45.7	53.9	8.2	100	0	VBW:10Hz
Hori.	15960.0	AV	33.2	39.5	12.3	39.9	-9.5	35.6	53.9	18.3	143	21	VBW:10Hz
Vert.	5350.0	PK	48.1	32.1	18.3	40.8	2.1	59.8	73.9	14.1	100	189	
Vert.	10640.0	PK	42.1	39.8	8.6	34.0	2.1	58.6	73.9	15.3	173	0	
Vert.	15960.0	PK	45.3	39.5	12.3	39.9	-9.5	47.7	73.9	26.2	155	31	
Vert.	5350.0	AV	34.5	32.1	18.3	40.8	2.1	46.2	53.9	7.7	100	189	VBW:10Hz
Vert.	10640.0	AV	29.2	39.8	8.6	34.0	2.1	45.7	53.9	8.2	173	0	VBW:10Hz
Vert.	15960.0	AV	33.1	39.5	12.3	39.9	-9.5	35.5	53.9	18.4	155	31	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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Shonan EMC Lab.

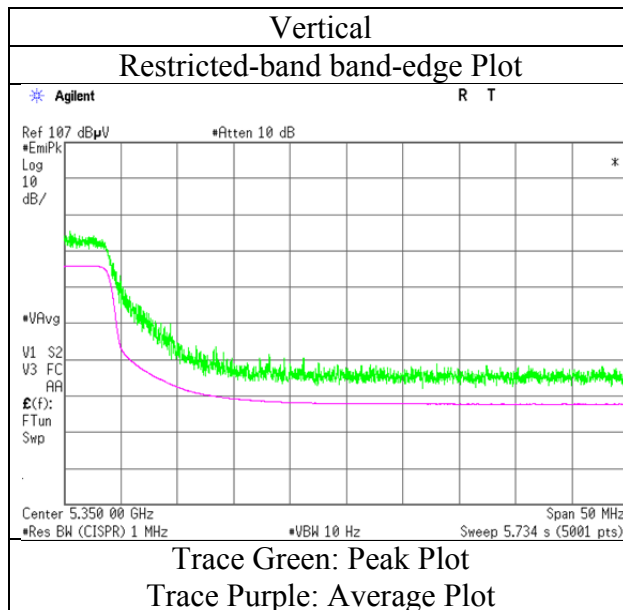
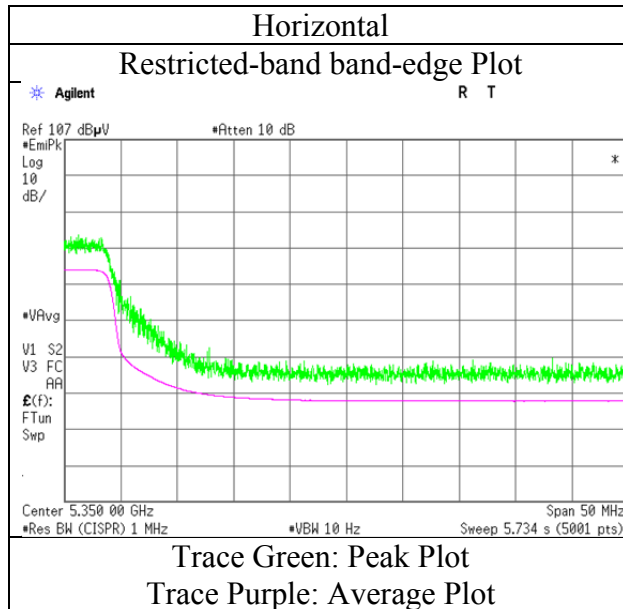
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-20 (MIMO) 5320 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-20 (MIMO) 5500 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.0	PK	48.2	32.1	18.4	40.7	2.1	60.1	73.9	13.8	100	134	
Hori.	11000.0	PK	42.0	40.2	8.7	33.8	2.1	59.2	73.9	14.7	204	0	
Hori.	16500.0	PK	46.0	40.5	12.8	39.9	-9.5	49.9	73.9	24.0	143	24	
Hori.	5460.0	AV	35.3	32.1	18.4	40.7	2.1	47.2	53.9	6.7	100	134	VBW:10Hz
Hori.	11000.0	AV	29.4	40.2	8.7	33.8	2.1	46.6	53.9	7.3	204	0	VBW:10Hz
Hori.	16500.0	AV	33.3	40.5	12.8	39.9	-9.5	37.2	53.9	16.7	143	24	VBW:10Hz
Vert.	5460.0	PK	48.5	32.1	18.4	40.7	2.1	60.4	73.9	13.5	100	184	
Vert.	11000.0	PK	42.5	40.2	8.7	33.8	2.1	59.7	73.9	14.2	184	0	
Vert.	16500.0	PK	45.2	40.5	12.8	39.9	-9.5	49.1	73.9	24.8	152	31	
Vert.	5460.0	AV	35.1	32.1	18.4	40.7	2.1	47.0	53.9	6.9	100	184	VBW:10Hz
Vert.	11000.0	AV	29.6	40.2	8.7	33.8	2.1	46.8	53.9	7.1	184	0	VBW:10Hz
Vert.	16500.0	AV	33.2	40.5	12.8	39.9	-9.5	37.1	53.9	16.8	152	31	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.80 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.0	PK	50.5	32.1	18.4	40.7	2.1	62.4	-32.8	-27.0	5.8	100.0	134.0	
Vert.	5470.0	PK	49.7	32.1	18.4	40.7	2.1	61.6	-33.6	-27.0	6.6	100.0	184.0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10*LOG (({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * (10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

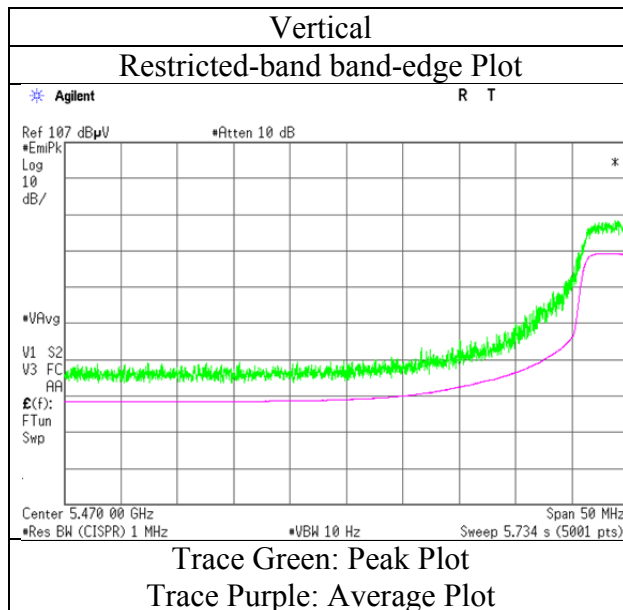
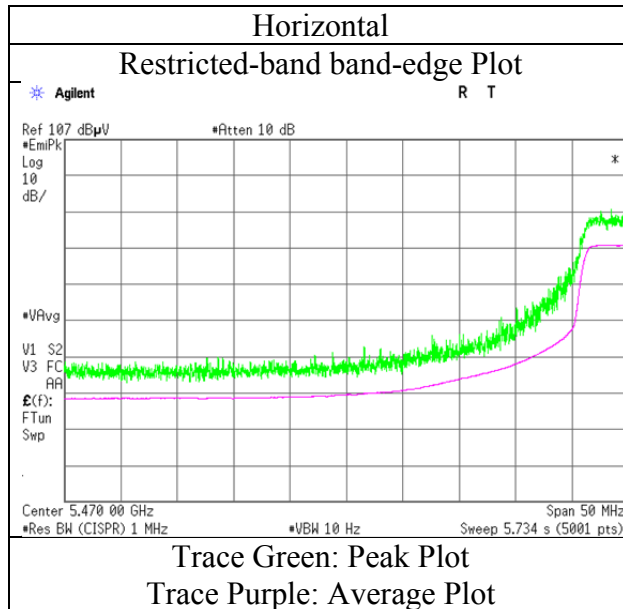
*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.80 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-20 (MIMO) 5500 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-20 (MIMO) 5580 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11160.0	PK	44.1	40.1	8.8	33.8	2.1	61.3	73.9	12.6	198	0	
Hori.	16740.0	PK	46.0	41.0	12.8	39.9	-9.5	50.4	73.9	23.5	149	13	
Hori.	11160.0	AV	29.5	40.1	8.8	33.8	2.1	46.7	53.9	7.2	198	0	VBW:10Hz
Hori.	16740.0	AV	33.2	41.0	12.8	39.9	-9.5	37.6	53.9	16.3	149	13	VBW:10Hz
Vert.	11160.0	PK	42.3	40.1	8.8	33.8	2.1	59.5	73.9	14.4	153	0	
Vert.	16740.0	PK	45.9	41.0	12.8	39.9	-9.5	50.3	73.9	23.6	143	29	
Vert.	11160.0	AV	29.5	40.1	8.8	33.8	2.1	46.7	53.9	7.2	153	0	VBW:10Hz
Vert.	16740.0	AV	33.3	41.0	12.8	39.9	-9.5	37.7	53.9	16.2	143	29	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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Shonan EMC Lab.

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Radiated Spurious Emission

Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2	
Report No.	11285933S-B-R2					
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016	
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH	
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa	
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz	
Mode	Tx 11n-20 (MIMO) 5700 MHz					

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.0	PK	52.9	32.6	18.6	40.6	2.1	65.6	73.9	8.3	100	161	
Hori.	11400.0	PK	42.4	40.0	8.8	33.7	2.1	59.6	73.9	14.3	209	0	
Hori.	17100.0	PK	45.0	41.9	12.9	40.0	-9.5	50.3	73.9	23.6	138	19	
Hori.	5725.0	AV	36.4	32.6	18.6	40.6	2.1	49.1	53.9	4.8	100	161	VBW:10Hz
Hori.	11400.0	AV	29.3	40.0	8.8	33.7	2.1	46.5	53.9	7.4	209	0	VBW:10Hz
Hori.	17100.0	AV	32.8	41.9	12.9	40.0	-9.5	38.1	53.9	15.8	138	19	VBW:10Hz
Vert.	5725.0	PK	50.2	32.6	18.6	40.6	2.1	62.9	73.9	11.0	100	177	
Vert.	11400.0	PK	42.3	40.0	8.8	33.7	2.1	59.5	73.9	14.4	172	0	
Vert.	17100.0	PK	46.1	41.9	12.9	40.0	-9.5	51.4	73.9	22.5	129	28	
Vert.	5725.0	AV	35.3	32.6	18.6	40.6	2.1	48.0	53.9	5.9	100	177	VBW:10Hz
Vert.	11400.0	AV	29.3	40.0	8.8	33.7	2.1	46.5	53.9	7.4	172	0	VBW:10Hz
Vert.	17100.0	AV	32.8	41.9	12.9	40.0	-9.5	38.1	53.9	15.8	129	28	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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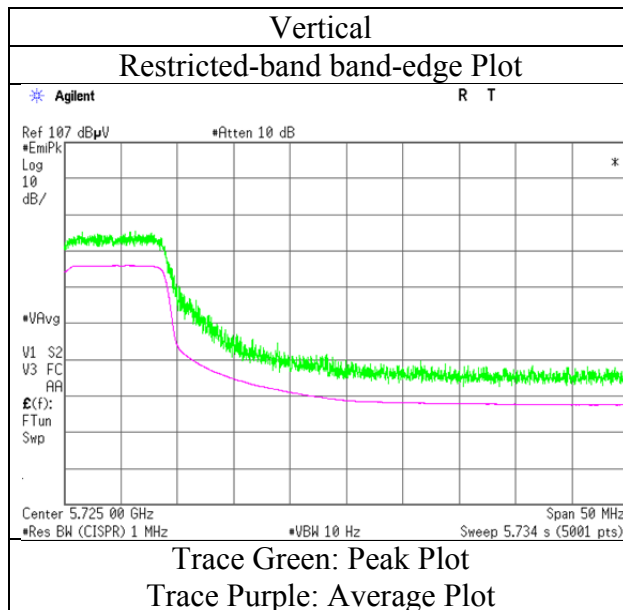
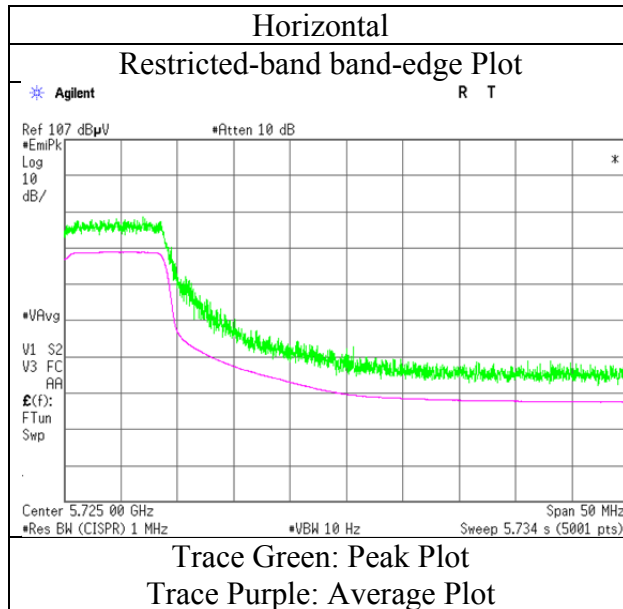
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Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-20 (MIMO) 5700 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2	
Report No.	11285933S-B-R2					
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016	
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH	
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa	
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz	
Semi Anechoic Chamber	No.2					
Report No.	June 24, 2016					
Date	24 deg.C, 72 %RH					
Temperature / Humidity	Hiroyuki Morikawa					
Engineer	1 GHz-6.4 GHz					
Mode	Tx 11n-20 (MIMO) 5745 MHz					

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.0	PK	42.2	39.9	8.9	33.7	2.1	59.4	73.9	14.5	198.0	0.0	
Hori.	17235.0	PK	44.1	42.3	12.8	40.0	-9.5	49.7	73.9	24.2	128.0	6.0	
Hori.	11490.0	AV	29.5	39.9	8.9	33.7	2.1	46.7	53.9	7.2	198.0	0.0	VBW:10Hz
Hori.	17235.0	AV	32.3	42.3	12.8	40.0	-9.5	37.9	53.9	16.0	128.0	6.0	VBW:10Hz
Vert.	11490.0	PK	42.1	39.9	8.9	33.7	2.1	59.3	73.9	14.6	203.0	0.0	
Vert.	17235.0	PK	44.8	42.3	12.8	40.0	-9.5	50.4	73.9	23.5	135.0	52.0	
Vert.	11490.0	AV	29.6	39.9	8.9	33.7	2.1	46.8	53.9	7.1	203.0	0.0	VBW:10Hz
Vert.	17235.0	AV	32.3	42.3	12.8	40.0	-9.5	37.9	53.9	16.0	135.0	52.0	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.8 m / 3.0 m) = 2.1 dB
13 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.0	PK	42.4	32.5	15.9	33.7	2.1	59.2	-36.0	-27.0	9.0			
Hori.	5700.0	PK	42.3	32.6	16.0	33.7	2.1	59.3	-35.9	10.0	45.9			
Hori.	5720.0	PK	47.3	32.6	16.0	33.7	2.1	64.3	-30.9	15.6	46.5			
Hori.	5725.0	PK	49.1	32.6	16.0	33.7	2.1	66.1	-29.1	27.0	56.1			
Vert.	5650.0	PK	41.5	32.5	15.9	33.7	2.1	58.3	-36.9	-27.0	9.9			
Vert.	5700.0	PK	42.4	32.6	16.0	33.7	2.1	59.4	-35.8	10.0	45.8			
Vert.	5720.0	PK	47.2	32.6	16.0	33.7	2.1	64.2	-31.0	15.6	46.6			
Vert.	5725.0	PK	49.1	32.6	16.0	33.7	2.1	66.1	-29.1	27.0	56.1			

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10*LOG (({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * (10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.8 m / 3.0 m) = 2.1 dB
13 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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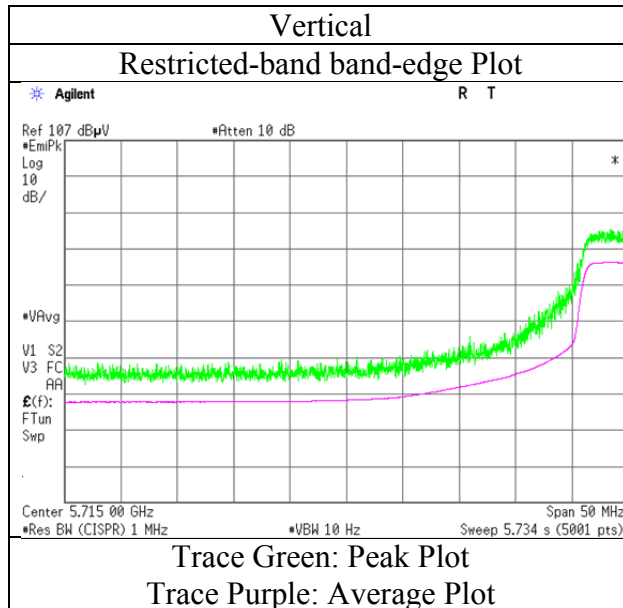
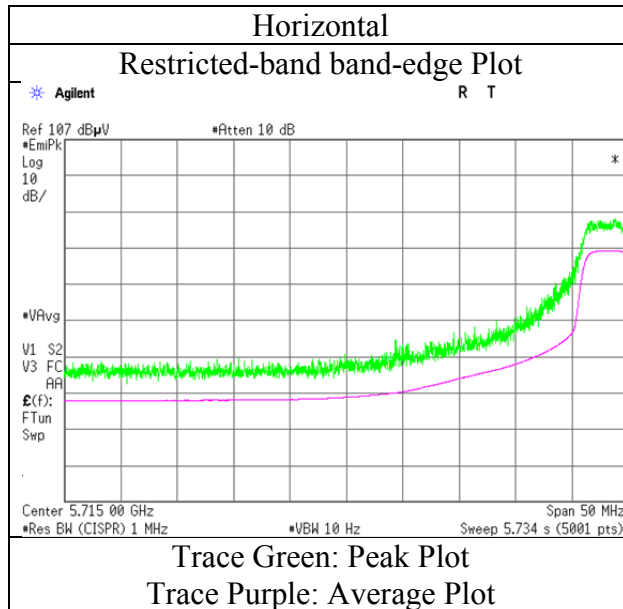
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Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-20 (MIMO) 5745 MHz



* Final result of restricted band edge was shown in tabular data.

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Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-20 (MIMO) 5785 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.0	PK	42.0	39.9	8.9	33.7	2.1	59.2	73.9	14.7	203	0	
Hori.	17355.0	PK	44.7	42.8	12.8	40.0	-9.5	50.8	73.9	23.1	139	23	
Hori.	11570.0	AV	29.5	39.9	8.9	33.7	2.1	46.7	53.9	7.2	203	0	VBW:10Hz
Hori.	17355.0	AV	32.3	42.8	12.8	40.0	-9.5	38.4	53.9	15.5	139	23	VBW:10Hz
Vert.	11570.0	PK	42.7	39.9	8.9	33.7	2.1	59.9	73.9	14.0	177	0	
Vert.	17355.0	PK	44.2	42.8	12.8	40.0	-9.5	50.3	73.9	23.6	141	16	
Vert.	11570.0	AV	29.5	39.9	8.9	33.7	2.1	46.7	53.9	7.2	177	0	VBW:10Hz
Vert.	17355.0	AV	32.4	42.8	12.8	40.0	-9.5	38.5	53.9	15.4	141	16	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2	
Report No.	11285933S-B-R2					
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016	
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH	
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa	
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz	
Semi Anechoic Chamber	No.2					
Report No.	June 24, 2016					
Date	24 deg.C, 72 %RH					
Temperature / Humidity	Hiroyuki Morikawa					
Engineer	1 GHz-6.4 GHz					
Mode	Tx 11n-20 (MIMO) 5825 MHz					

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	159.6	QP	35.3	15.2	8.9	31.8	0.0	27.6	43.5	15.9	201.0	10.0	
Hori.	283.2	QP	29.9	18.6	9.8	31.8	0.0	26.5	46.0	19.5	134.0	96.0	
Hori.	11650.0	PK	42.3	39.8	8.9	33.7	2.1	59.4	73.9	14.5	223.0	0.0	
Hori.	17475.0	PK	45.7	43.2	12.8	39.9	-9.5	52.3	73.9	21.6	136.0	27.0	
Hori.	11650.0	AV	29.7	39.8	8.9	33.7	2.1	46.8	53.9	7.1	223.0	0.0	VBW:10Hz
Hori.	17475.0	AV	32.7	43.2	12.8	39.9	-9.5	39.3	53.9	14.6	136.0	27.0	VBW:10Hz
Vert.	35.4	QP	38.3	15.4	7.1	31.8	0.0	29.0	40.0	11.0	100.0	240.0	
Vert.	56.0	QP	45.6	8.5	7.4	31.8	0.0	29.7	40.0	10.3	100.0	14.0	
Vert.	58.7	QP	46.1	7.7	7.3	31.8	0.0	29.3	40.0	10.7	100.0	8.0	
Vert.	85.5	QP	41.7	6.9	8.4	31.8	0.0	25.2	40.0	14.8	100.0	14.0	
Vert.	125.0	QP	41.2	13.0	8.2	31.8	0.0	30.6	43.5	12.9	100.0	317.0	
Vert.	178.1	QP	33.2	16.2	8.9	31.8	0.0	26.5	43.5	17.0	100.0	217.0	
Vert.	268.5	QP	29.4	18.0	9.7	31.7	0.0	25.4	46.0	20.6	100.0	296.0	
Vert.	11650.0	PK	42.7	39.8	8.9	33.7	2.1	59.8	73.9	14.1	189.0	0.0	
Vert.	17475.0	PK	44.1	43.2	12.8	39.9	-9.5	50.7	73.9	23.2	148.0	72.0	
Vert.	11650.0	AV	29.8	39.8	8.9	33.7	2.1	46.9	53.9	7.0	189.0	0.0	VBW:10Hz
Vert.	17475.0	AV	32.7	43.2	12.8	39.9	-9.5	39.3	53.9	14.6	148.0	72.0	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.8 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.0	PK	43.8	32.9	16.1	33.7	2.1	61.2	-34.0	27.0	61.0			
Hori.	5855.0	PK	41.7	32.9	16.1	33.7	2.1	59.1	-36.1	15.6	51.7			
Hori.	5875.0	PK	41.2	32.9	16.1	33.7	2.1	58.6	-36.6	10.0	46.6			
Hori.	5925.0	PK	41.2	33.0	16.1	33.7	2.1	58.7	-36.5	-27.0	9.5			
Vert.	5850.0	PK	42.9	32.9	16.1	33.7	2.1	60.3	-34.9	27.0	61.9			
Vert.	5855.0	PK	41.9	32.9	16.1	33.7	2.1	59.3	-35.9	15.6	51.5			
Vert.	5875.0	PK	41.9	32.9	16.1	33.7	2.1	59.3	-35.9	10.0	45.9			
Vert.	5925.0	PK	40.8	33.0	16.1	33.7	2.1	58.3	-36.9	-27.0	9.9			

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10*LOG (({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * (10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.8 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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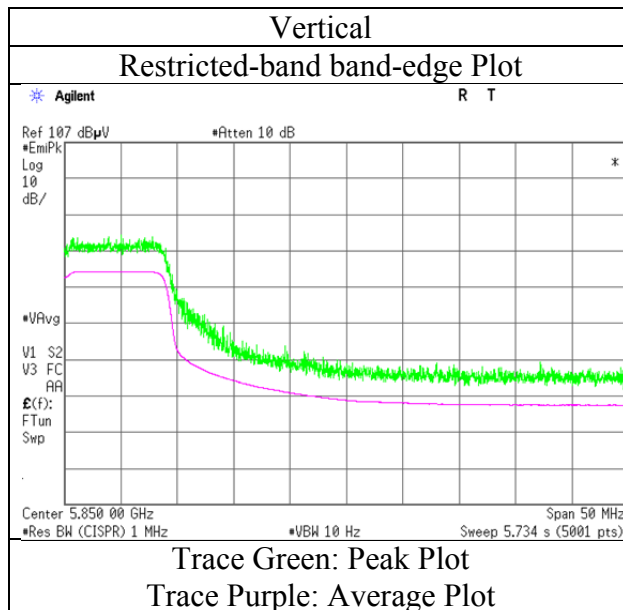
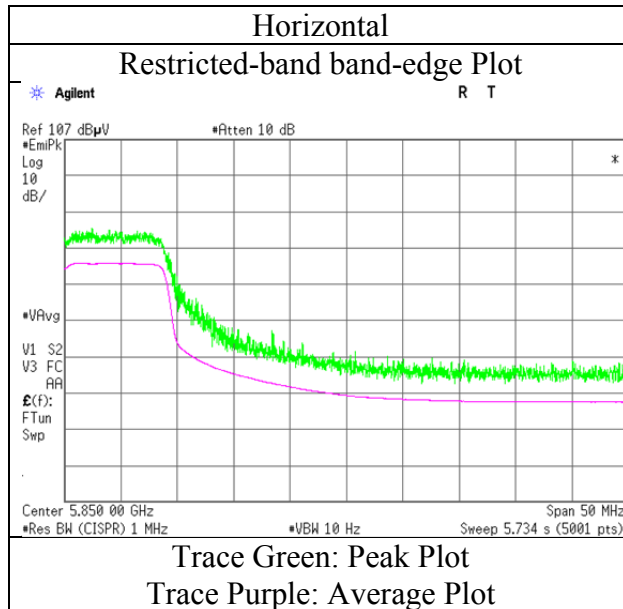
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Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-20 (MIMO) 5825 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-40 (MIMO) 5190 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.0	PK	47.7	32.0	18.2	41.0	2.1	59.0	73.9	14.9	100	187	
Hori.	10380.0	PK	42.7	39.3	8.6	34.1	2.1	58.6	73.9	15.3	208	0	
Hori.	15570.0	PK	46.0	40.4	12.3	40.2	-9.5	49.0	73.9	24.9	137	24	
Hori.	16660.1	PK	44.2	40.8	12.8	39.9	-9.5	48.4	73.9	25.5	140	15	
Hori.	5150.0	AV	35.0	32.0	18.2	41.0	2.1	46.3	53.9	7.6	100	187	VBW:10Hz
Hori.	10380.0	AV	29.9	39.3	8.6	34.1	2.1	45.8	53.9	8.1	208	0	VBW:10Hz
Hori.	15570.0	AV	33.5	40.4	12.3	40.2	-9.5	36.5	53.9	17.4	137	24	VBW:10Hz
Hori.	16660.1	AV	31.5	40.8	12.8	39.9	-9.5	35.7	53.9	18.2	140	15	VBW:10Hz
Vert.	5150.0	PK	47.2	32.0	18.2	41.0	2.1	58.5	73.9	15.4	100	169	
Vert.	10380.0	PK	41.6	39.3	8.6	34.1	2.1	57.5	73.9	16.4	205	0	
Vert.	15570.0	PK	46.5	40.4	12.3	40.2	-9.5	49.5	73.9	24.4	146	32	
Vert.	16660.1	PK	48.2	40.8	12.8	39.9	-9.5	52.4	73.9	21.5	150	138	
Vert.	5150.0	AV	34.7	32.0	18.2	41.0	2.1	46.0	53.9	7.9	100	169	VBW:10Hz
Vert.	10380.0	AV	29.7	39.3	8.6	34.1	2.1	45.6	53.9	8.3	205	0	VBW:10Hz
Vert.	15570.0	AV	33.6	40.4	12.3	40.2	-9.5	36.6	53.9	17.3	146	32	VBW:10Hz
Vert.	16660.1	AV	36.4	40.8	12.8	39.9	-9.5	40.6	53.9	13.3	150	138	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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Shonan EMC Lab.

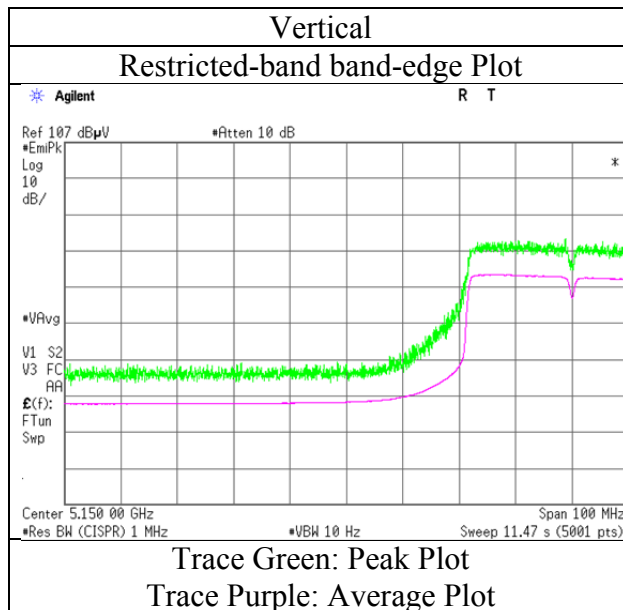
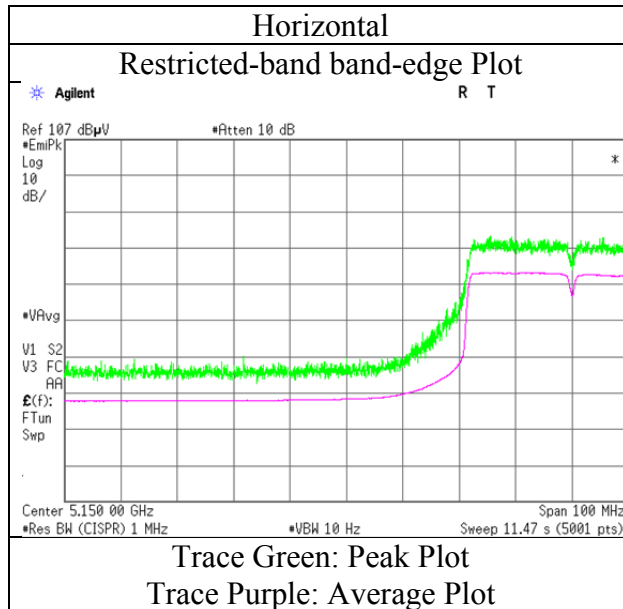
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Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-40 (MIMO) 5190 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2	
Report No.	11285933S-B-R2					
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016	
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH	
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa	
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz	
Mode	Tx 11n-40 (MIMO) 5230 MHz					

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10460.0	PK	42.9	39.5	8.5	34.0	2.1	59.0	73.9	14.9	100	0	
Hori.	15690.0	PK	45.8	40.1	12.3	40.1	-9.5	48.6	73.9	25.3	145	9	
Hori.	16611.7	PK	44.2	40.7	12.8	39.9	-9.5	48.3	73.9	25.6	144	8	
Hori.	10460.0	AV	29.5	39.5	8.5	34.0	2.1	45.6	53.9	8.3	100	0	VBW:10Hz
Hori.	15690.0	AV	32.9	40.1	12.3	40.1	-9.5	35.7	53.9	18.2	145	9	VBW:10Hz
Hori.	16611.7	AV	30.8	40.7	12.8	39.9	-9.5	34.9	53.9	19.0	144	8	VBW:10Hz
Vert.	10460.0	PK	42.4	39.5	8.5	34.0	2.1	58.5	73.9	15.4	100	0	
Vert.	15690.0	PK	46.0	40.1	12.3	40.1	-9.5	48.8	73.9	25.1	152	28	
Vert.	16611.7	PK	48.9	40.7	12.8	39.9	-9.5	53.0	73.9	20.9	148	135	
Vert.	10460.0	AV	29.5	39.5	8.5	34.0	2.1	45.6	53.9	8.3	100	0	VBW:10Hz
Vert.	15690.0	AV	32.9	40.1	12.3	40.1	-9.5	35.7	53.9	18.2	152	28	VBW:10Hz
Vert.	16611.7	AV	35.9	40.7	12.8	39.9	-9.5	40.0	53.9	13.9	148	135	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-40 (MIMO) 5310 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.0	PK	47.5	32.1	18.3	40.8	2.1	59.2	73.9	14.7	100	199	
Hori.	10620.0	PK	42.2	39.8	8.5	34.0	2.1	58.6	73.9	15.3	208	0	
Hori.	15930.0	PK	45.7	39.6	12.3	39.9	-9.5	48.2	73.9	25.7	127	31	
Hori.	16597.7	PK	44.1	40.7	12.8	39.9	-9.5	48.2	73.9	25.7	141	27	
Hori.	5350.0	AV	34.3	32.1	18.3	40.8	2.1	46.0	53.9	7.9	100	199	VBW:10Hz
Hori.	10620.0	AV	29.4	39.8	8.5	34.0	2.1	45.8	53.9	8.1	208	0	VBW:10Hz
Hori.	15930.0	AV	32.9	39.6	12.3	39.9	-9.5	35.4	53.9	18.5	127	31	VBW:10Hz
Hori.	16597.7	AV	31.6	40.7	12.8	39.9	-9.5	35.7	53.9	18.2	141	27	VBW:10Hz
Vert.	5350.0	PK	48.7	32.1	18.3	40.8	2.1	60.4	73.9	13.5	100	189	
Vert.	10620.0	PK	42.3	39.8	8.5	34.0	2.1	58.7	73.9	15.2	178	0	
Vert.	15930.0	PK	46.7	39.6	12.3	39.9	-9.5	49.2	73.9	24.7	119	25	
Vert.	16597.7	PK	48.8	40.7	12.8	39.9	-9.5	52.9	73.9	21.0	148	152	
Vert.	5350.0	AV	34.8	32.1	18.3	40.8	2.1	46.5	53.9	7.4	100	189	VBW:10Hz
Vert.	10620.0	AV	29.4	39.8	8.5	34.0	2.1	45.8	53.9	8.1	178	0	VBW:10Hz
Vert.	15930.0	AV	32.9	39.6	12.3	39.9	-9.5	35.4	53.9	18.5	119	25	VBW:10Hz
Vert.	16597.7	AV	35.7	40.7	12.8	39.9	-9.5	39.8	53.9	14.1	148	152	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

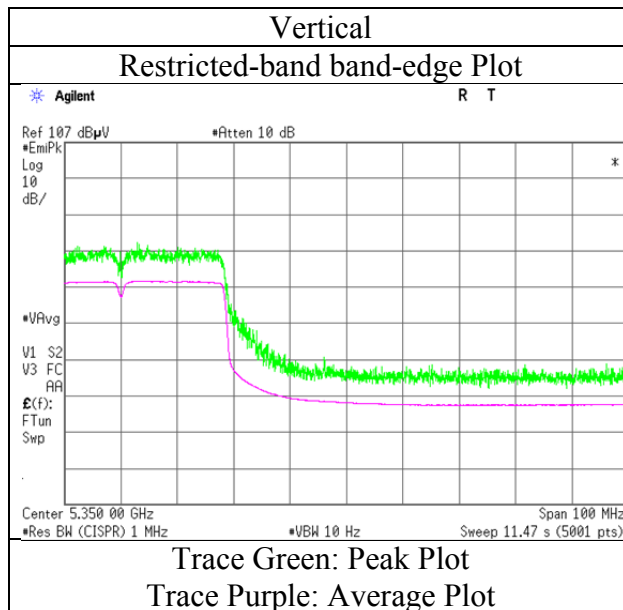
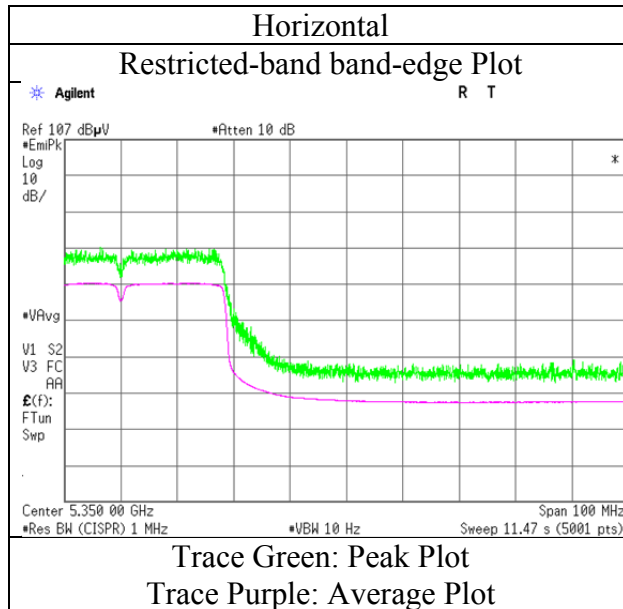
*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-40 (MIMO) 5310 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-40 (MIMO) 5510 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.0	PK	47.2	32.1	18.4	40.7	2.1	59.1	73.9	14.8	100	142	
Hori.	11020.0	PK	42.1	40.2	8.7	33.8	2.1	59.3	73.9	14.6	200	0	
Hori.	16530.0	PK	43.9	40.5	12.8	39.9	-9.5	47.8	73.9	26.1	142	29	
Hori.	16562.9	PK	44.6	40.6	12.8	39.9	-9.5	48.6	73.9	25.3	148	10	
Hori.	5460.0	AV	34.3	32.1	18.4	40.7	2.1	46.2	53.9	7.7	100	142	VBW:10Hz
Hori.	11020.0	AV	29.4	40.2	8.7	33.8	2.1	46.6	53.9	7.3	200	0	VBW:10Hz
Hori.	16530.0	AV	33.0	40.5	12.8	39.9	-9.5	36.9	53.9	17.0	142	29	VBW:10Hz
Hori.	16562.9	AV	31.5	40.6	12.8	39.9	-9.5	35.5	53.9	18.4	148	10	VBW:10Hz
Vert.	5460.0	PK	46.9	32.1	18.4	40.7	2.1	58.8	73.9	15.1	100	185	
Vert.	11020.0	PK	42.6	40.2	8.7	33.8	2.1	59.8	73.9	14.1	203	0	
Vert.	16530.0	PK	45.4	40.5	12.8	39.9	-9.5	49.3	73.9	24.6	134	36	
Vert.	16561.9	PK	50.8	40.6	12.8	39.9	-9.5	54.8	73.9	19.1	155	154	
Vert.	5460.0	AV	34.2	32.1	18.4	40.7	2.1	46.1	53.9	7.8	100	185	VBW:10Hz
Vert.	11020.0	AV	29.4	40.2	8.7	33.8	2.1	46.6	53.9	7.3	203	0	VBW:10Hz
Vert.	16530.0	AV	33.5	40.5	12.8	39.9	-9.5	37.4	53.9	16.5	134	36	VBW:10Hz
Vert.	16561.9	AV	36.6	40.6	12.8	39.9	-9.5	40.6	53.9	13.3	155	154	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.80 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.0	PK	48.6	32.1	18.4	40.7	2.1	60.5	-34.7	-27.0	7.7	100	142	
Vert.	5470.0	PK	48.1	32.1	18.4	40.7	2.1	60.0	-35.2	-27.0	8.2	100	185	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10*LOG (({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * (10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

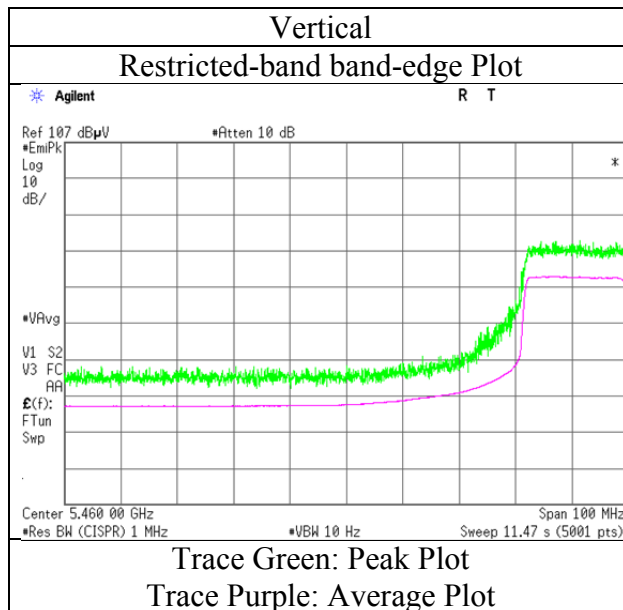
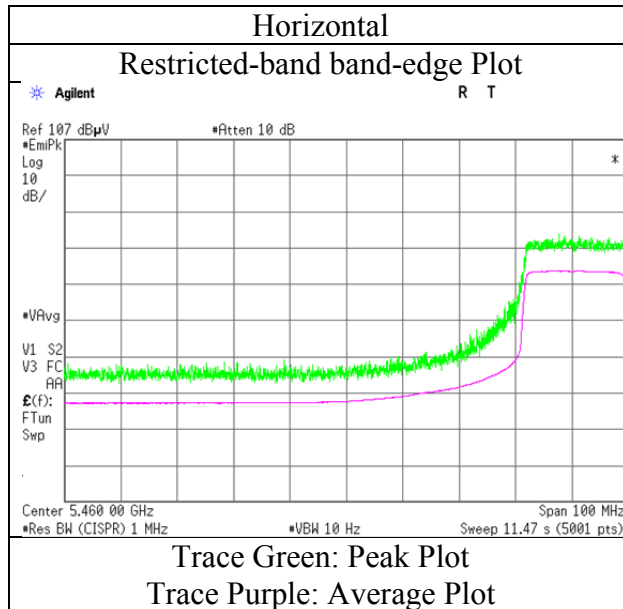
*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.80 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-40 (MIMO) 5510 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-40 (MIMO) 5550 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11100.0	PK	41.5	40.2	8.7	33.8	2.1	58.7	73.9	15.2	187	0	
Hori.	16650.0	PK	45.5	40.8	12.8	39.9	-9.5	49.7	73.9	24.2	127	25	
Hori.	16676.5	PK	45.0	40.8	12.8	39.9	-9.5	49.2	73.9	24.7	143	34	
Hori.	11100.0	AV	29.2	40.2	8.7	33.8	2.1	46.4	53.9	7.5	187	0	VBW:10Hz
Hori.	16650.0	AV	33.0	40.8	12.8	39.9	-9.5	37.2	53.9	16.7	127	25	VBW:10Hz
Hori.	16676.5	AV	32.0	40.8	12.8	39.9	-9.5	36.2	53.9	17.7	143	34	VBW:10Hz
Vert.	11100.0	PK	42.4	40.2	8.7	33.8	2.1	59.6	73.9	14.3	203	0	
Vert.	16650.0	PK	47.0	40.8	12.8	39.9	-9.5	51.2	73.9	22.7	146	42	
Vert.	16676.5	PK	50.3	40.8	12.8	39.9	-9.5	54.5	73.9	19.4	147	155	
Vert.	11100.0	AV	29.2	40.2	8.7	33.8	2.1	46.4	53.9	7.5	203	0	VBW:10Hz
Vert.	16650.0	AV	33.0	40.8	12.8	39.9	-9.5	37.2	53.9	16.7	146	42	VBW:10Hz
Vert.	16676.5	AV	36.1	40.8	12.8	39.9	-9.5	40.3	53.9	13.6	147	155	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : $20\log(3.80\text{ m} / 3.0\text{ m}) = 2.1\text{ dB}$

13 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Mode	Tx 11n-40 (MIMO) 5670 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11340.0	PK	42.1	40.0	8.8	33.7	2.1	59.3	73.9	14.6	221	0	
Hori.	16738.4	PK	43.8	41.0	12.8	39.9	-9.5	48.2	73.9	25.7	145	24	
Hori.	17010.0	PK	46.2	41.5	12.9	40.0	-9.5	51.1	73.9	22.8	152	29	
Hori.	11340.0	AV	29.2	40.0	8.8	33.7	2.1	46.4	53.9	7.5	221	0	VBW:10Hz
Hori.	16738.4	AV	33.0	41.0	12.8	39.9	-9.5	37.4	53.9	16.5	145	24	VBW:10Hz
Hori.	17010.0	AV	33.6	41.5	12.9	40.0	-9.5	38.5	53.9	15.4	152	29	VBW:10Hz
Vert.	11340.0	PK	42.8	40.0	8.8	33.7	2.1	60.0	73.9	13.9	191	0	
Vert.	16738.4	PK	50.2	41.0	12.8	39.9	-9.5	54.6	73.9	19.3	149	148	
Vert.	17010.0	PK	45.6	41.5	12.9	40.0	-9.5	50.5	73.9	23.4	143	18	
Vert.	11340.0	AV	29.2	40.0	8.8	33.7	2.1	46.4	53.9	7.5	191	0	VBW:10Hz
Vert.	16738.4	AV	36.6	41.0	12.8	39.9	-9.5	41.0	53.9	12.9	149	148	VBW:10Hz
Vert.	17010.0	AV	33.6	41.5	12.9	40.0	-9.5	38.5	53.9	15.4	143	18	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.80 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.0	PK	48.2	32.6	18.6	40.6	2.1	60.9	-34.3	-27.0	7.3	100	164	
Vert.	5725.0	PK	47.1	32.6	18.6	40.6	2.1	59.8	-35.4	-27.0	8.4	100	180	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10*LOG (({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * (10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.80 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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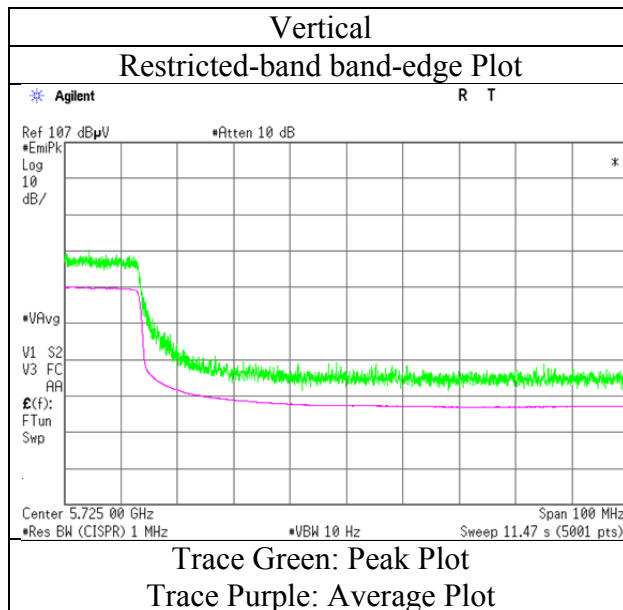
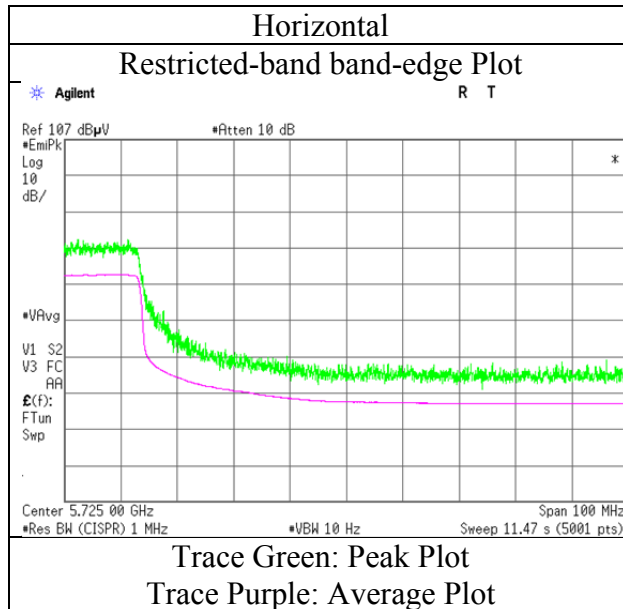
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-40 (MIMO) 5670 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2
Report No.	11285933S-B-R2				
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz
Semi Anechoic Chamber	No.2				
Report No.	June 24, 2016				
Date	24 deg.C, 72 %RH				
Temperature / Humidity	Hiroyuki Morikawa				
Engineer	1 GHz-6.4 GHz				
Mode	Tx 11n-40 (MIMO) 5755 MHz				

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11510.0	PK	42.5	39.9	8.9	33.7	2.1	59.7	73.9	14.2	203.0	0.0	
Hori.	16736.4	PK	44.1	41.0	12.8	39.9	-9.5	48.5	73.9	25.4	152.0	21.0	
Hori.	17265.0	PK	43.7	42.4	12.8	40.0	-9.5	49.4	73.9	24.5	129.0	37.0	
Hori.	11510.0	AV	29.3	39.9	8.9	33.7	2.1	46.5	53.9	7.4	203.0	0.0	VBW:10Hz
Hori.	16736.4	AV	30.9	41.0	12.8	39.9	-9.5	35.3	53.9	18.6	152.0	21.0	VBW:10Hz
Hori.	17265.0	AV	32.6	42.4	12.8	40.0	-9.5	38.3	53.9	15.6	129.0	37.0	VBW:10Hz
Vert.	11510.0	PK	42.8	39.9	8.9	33.7	2.1	60.0	73.9	13.9	201.0	0.0	
Vert.	16736.4	PK	48.3	41.0	12.8	39.9	-9.5	52.7	73.9	21.2	151.0	144.0	
Vert.	17265.0	PK	43.8	42.4	12.8	40.0	-9.5	49.5	73.9	24.4	135.0	27.0	
Vert.	11510.0	AV	29.3	39.9	8.9	33.7	2.1	46.5	53.9	7.4	201.0	0.0	VBW:10Hz
Vert.	16736.4	AV	35.1	41.0	12.8	39.9	-9.5	39.5	53.9	14.4	151.0	144.0	VBW:10Hz
Vert.	17265.0	AV	32.6	42.4	12.8	40.0	-9.5	38.3	53.9	15.6	135.0	27.0	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.8 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.0	PK	42.3	32.5	15.9	33.7	2.1	59.1	-36.1	-27.0	9.1			
Hori.	5700.0	PK	42.1	32.6	16.0	33.7	2.1	59.1	-36.1	10.0	46.1			
Hori.	5720.0	PK	45.0	32.6	16.0	33.7	2.1	62.0	-33.2	15.6	48.8			
Hori.	5725.0	PK	48.4	32.6	16.0	33.7	2.1	65.4	-29.8	27.0	56.8			
Vert.	5650.0	PK	42.4	32.5	15.9	33.7	2.1	59.2	-36.0	-27.0	9.0			
Vert.	5700.0	PK	41.8	32.6	16.0	33.7	2.1	58.8	-36.4	10.0	46.4			
Vert.	5720.0	PK	46.1	32.6	16.0	33.7	2.1	63.1	-32.1	15.6	47.7			
Vert.	5725.0	PK	46.2	32.6	16.0	33.7	2.1	63.2	-32.0	27.0	59.0			

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10*LOG (({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * (10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.8 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

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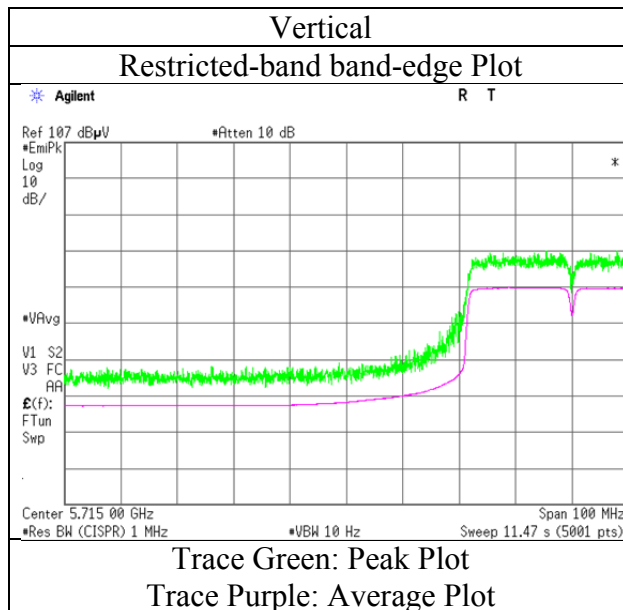
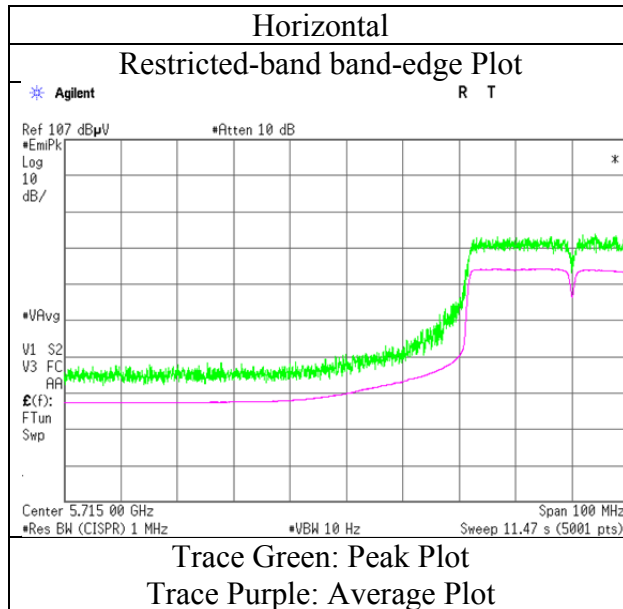
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

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Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-40 (MIMO) 5755 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	No.1	No.1	No.1	No.1	No.2	
Report No.	11285933S-B-R2					
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016	
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH	
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa	
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz	
Semi Anechoic Chamber	No.2					
Report No.	June 24, 2016					
Date	24 deg.C, 72 %RH					
Temperature / Humidity	Hiroyuki Morikawa					
Engineer	1 GHz-6.4 GHz					
Mode	Tx 11n-40 (MIMO) 5795 MHz					

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.0	PK	42.3	39.9	8.9	33.7	2.1	59.5	73.9	14.4	203.0	0.0	
Hori.	16724.8	PK	42.2	40.9	12.8	39.9	-9.5	46.5	73.9	27.4	147.0	19.0	
Hori.	17385.0	PK	45.9	42.9	12.8	40.0	-9.5	52.1	73.9	21.8	133.0	7.0	
Hori.	11590.0	AV	29.5	39.9	8.9	33.7	2.1	46.7	53.9	7.2	203.0	0.0	VBW:10Hz
Hori.	16724.8	AV	31.1	40.9	12.8	39.9	-9.5	35.4	53.9	18.5	147.0	19.0	VBW:10Hz
Hori.	17385.0	AV	33.0	42.9	12.8	40.0	-9.5	39.2	53.9	14.7	133.0	7.0	VBW:10Hz
Vert.	11590.0	PK	41.9	39.9	8.9	33.7	2.1	59.1	73.9	14.8	187.0	0.0	
Vert.	16724.8	PK	48.2	40.9	12.8	39.9	-9.5	52.5	73.9	21.4	152.0	146.0	
Vert.	17385.0	PK	47.2	42.9	12.8	40.0	-9.5	53.4	73.9	20.5	147.0	36.0	
Vert.	11590.0	AV	29.5	39.9	8.9	33.7	2.1	46.7	53.9	7.2	187.0	0.0	VBW:10Hz
Vert.	16724.8	AV	33.3	40.9	12.8	39.9	-9.5	37.6	53.9	16.3	152.0	146.0	VBW:10Hz
Vert.	17385.0	AV	32.9	42.9	12.8	40.0	-9.5	39.1	53.9	14.8	147.0	36.0	VBW:10Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.8 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.0	PK	41.8	32.9	16.1	33.7	2.1	59.2	-36.0	27.0	63.0			
Hori.	5855.0	PK	41.0	32.9	16.1	33.7	2.1	58.4	-36.8	15.6	52.4			
Hori.	5875.0	PK	40.8	32.9	16.1	33.7	2.1	58.2	-37.0	10.0	47.0			
Hori.	5925.0	PK	41.3	33.0	16.1	33.7	2.1	58.8	-36.4	-27.0	9.4			
Vert.	5850.0	PK	40.9	32.9	16.1	33.7	2.1	58.3	-36.9	27.0	63.9			
Vert.	5855.0	PK	40.8	32.9	16.1	33.7	2.1	58.2	-37.0	15.6	52.6			
Vert.	5875.0	PK	41.1	32.9	16.1	33.7	2.1	58.5	-36.7	10.0	46.7			
Vert.	5925.0	PK	41.1	33.0	16.1	33.7	2.1	58.6	-36.6	-27.0	9.6			

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10*LOG (({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * (10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^-3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.8 m / 3.0 m) = 2.1 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

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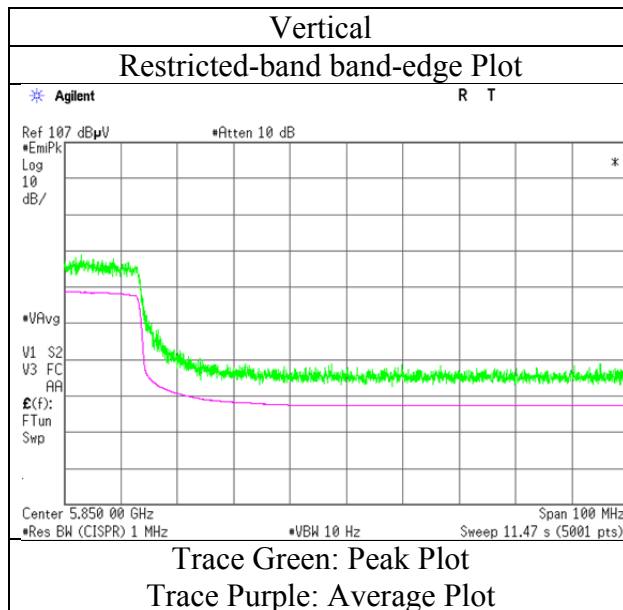
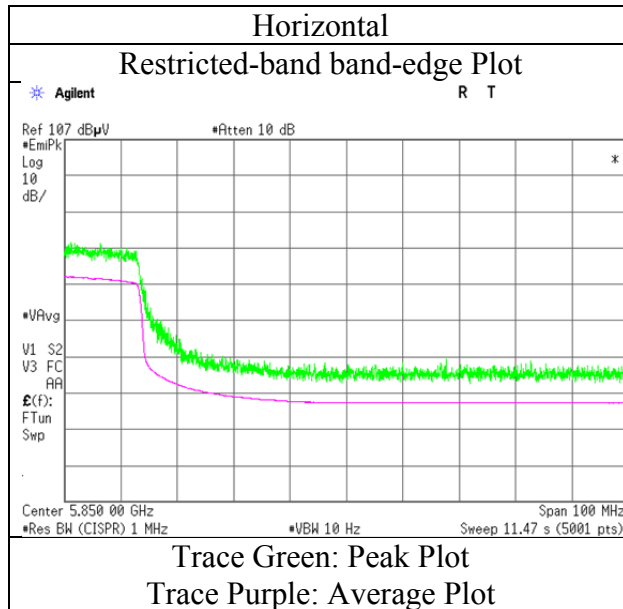
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Radiated Spurious Emission

Test place	Shonan EMC Lab. No.1 Semi Anechoic Chamber
Report No.	11285933S-B-R2
Date	May 21, 2016
Temperature / Humidity	22 deg.C, 42 %RH
Engineer	Yosuke Ishikawa
Mode	Tx 11n-40 (MIMO) 5795 MHz

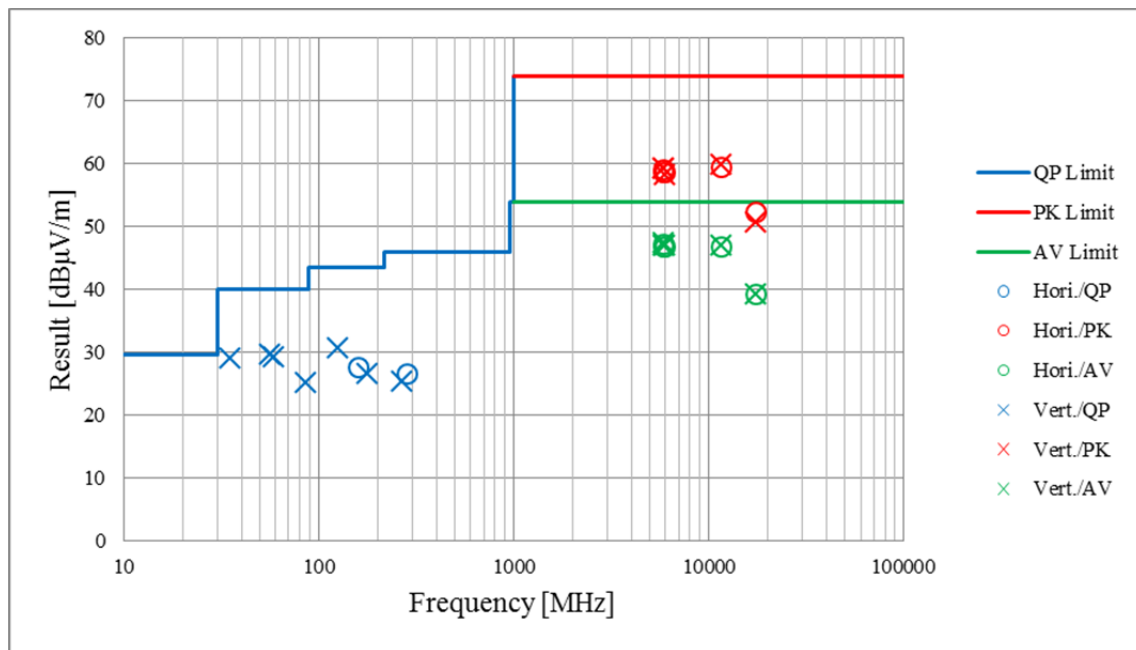


* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission
(Plot data, Worst case)

Test place	Shonan EMC Lab. No.1,2 Semi Anechoic Chamber					
Report No.	11285933S-B-R2					
Date	May 19, 2016	May 19, 2016	May 20, 2016	May 21, 2016	May 23, 2016	
Temperature / Humidity	22 deg.C, 40 %RH	21 deg.C, 47 %RH	23 deg.C, 49 %RH	22 deg.C, 42 %RH	23 deg.C, 42 %RH	
Engineer	Yosuke Ishikawa	Takahiro Suzuki	Takahiro Suzuki	Yosuke Ishikawa	Hikaru shirasawa	
	18 GHz-26.5 GHz	13 GHz-18 GHz	26.5 GHz-40 GHz	1 GHz-6.4 GHz	6.4 GHz-13 GHz	

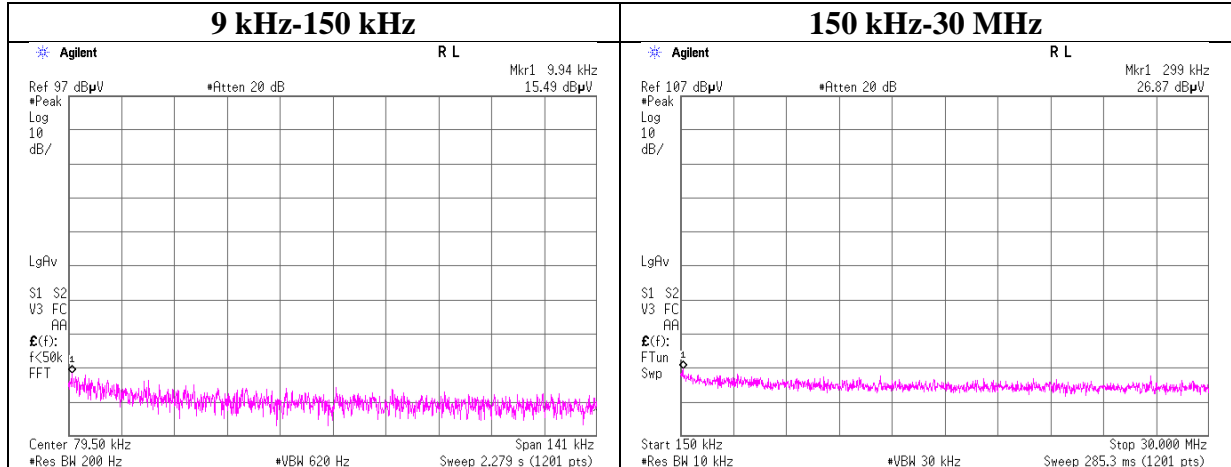
Semi Anechoic Chamber	No.2
Report No.	June 24, 2016
Date	24 deg.C, 72 %RH
Temperature / Humidity	Hiroyuki Morikawa
Engineer	1 GHz-6.4 GHz
Mode	Tx 11n-20 (MIMO) 5825 MHz



*These plots data contains sufficient number to show the trend of characteristic features for EUT.

Conducted Spurious Emission

Test place : Shonan EMC Lab. No.1
 Measurement Room
 Report No. : 11285933S-B-R2
 Date : February 15, 2016
 Temperature / Humidity : 23 deg. C / 30 % RH
 Engineer : Yosuke Ishikawa
 Mode : Tx 11n-40 (MIMO) 5825 MHz



Frequency [kHz]	Reading [dBm]	Cable Loss [dB]	Attenuator [dB]	Antenna Gain [dBi]	N (Number of Output)	EIRP [dBm]	Distance [m]	Ground bounce [dB]	E (field strength) [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
9.94	-91.5	1.01	9.8	2.0	2	-75.6	300	6.0	-14.4	47.6	62.0	
299.00	-80.2	1.02	9.8	2.0	2	-64.3	300	6.0	-3.1	18.0	21.1	

$$E = \text{EIRP} - 20 \cdot \log(D) + \text{Ground bounce} + 104.8 \text{ [dBuV/m]}$$

$$\text{EIRP} = \text{Reading} + \text{Cable Loss} + \text{Attenuator} + \text{Antenna Gain} + 10 \cdot \log(N)$$

*2.0 dBi was applied to the test result based on KDB 558074 since antenna gain was less than 2.0 dBi.

APPENDIX 2: Test instruments

Test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAEC-01(NSA)	Semi-Anechoic Chamber	TDK	SAEC-01(NSA)	1	RE	2015/07/13 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2016/03/23 * 12
SCC-G15	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	RE	2016/03/08 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2016/03/15 * 12
SOS-01	Humidity Indicator	A&D	AD-5681	4062555	RE	2015/10/22 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2016/03/23 * 12
SJM-02	Measure	KOMELON	KMC-36	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE,RFI,MF)	-	RE,CE	-
STS-01	Digital Hitester	Hioki	3805-50	080997812	RE	2015/11/18 * 12
SHA-06	Horn Antenna	ETS LINDGREN	3160-10	LM3459	RE	2016/03/24 * 12
SAF-10	Pre Amplifier	TOYO Corporation	HAP26-40W	00000010	RE	2016/03/23 * 12
SCC-G19	Coaxial Cable	Suhner	SUCOFLEX 102A	1188/2A	RE	2016/03/08 * 12
SCC-G33	Coaxial Cable	Junkosha	MWX241-01000K MSKMS	-	RE	2016/04/18 * 12
SHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-726	RE	2015/08/10 * 12
SCC-G01	Coaxial Cable	Suhner	SUCOFLEX 104A	46497/4A	RE	2016/04/22 * 12
SAF-04	Pre Amplifier	TOYO Corporation	TPA0118-36	1440489	RE	2016/03/22 * 12
SAF-01	Pre Amplifier	SONOMA	310N	290211	RE	2016/02/19 * 12
KAT6-04	Attenuator	INMET	18N-6dB	-	RE	2015/12/18 * 12
SAT3-09	Attenuator	JFW	50HF-003N	-	RE	2015/08/31 * 12
SBA-01	Biconical Antenna	Schwarzbeck	BBA9106	91032664	RE	2015/10/11 * 12
SCC-A1/A3/A5/A7/A8/A13/SR SE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/ TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2016/04/22 * 12
SCC-A2/A4/A6/A7/A8/A13/SR SE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/ TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2016/04/22 * 12
SLA-01	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0888	RE	2015/10/11 * 12
STR-07	Test Receiver	Rohde & Schwarz	ESU26	100484	RE	2015/09/04 * 12
SCC-G21	Coaxial Cable	Suhner	SUCOFLEX 104	296169/4	RE	2016/05/11 * 12
SHA-01	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-725	RE	2015/08/10 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	RE	2015/11/06 * 12
SAEC-01(SVSWR)	Semi-Anechoic Chamber	TDK	SAEC-01(SVSWR)	1	RE	2015/07/08 * 12
KAF-04	Pre Amplifier	Agilent	8449B	3008A01600	RE	2016/04/22 * 12
SCC-G05	Coaxial Cable	Junkosha	J12J102207-00	APR-30-15-037	RE	2015/05/11 * 12
SCC-G22	Coaxial Cable	Suhner	SUCOFLEX 104	296199/4	RE	2015/05/19 * 12
SHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-726	RE	2015/08/10 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2015/10/22 * 12
STR-07	Test Receiver	Rohde & Schwarz	ESU26	100484	RE	2015/09/04 * 12
SJM-09	Measure	PROMART	SEN1935	-	RE	-
SAEC-02(SVSWR)	Semi-Anechoic Chamber	TDK	SAEC-02(SVSWR)	2	RE	2015/07/09 * 12
STS-02	Digital Hitester	Hioki	3805-50	080997819	RE	2016/03/22 * 12
SFL-03	Highpass Filter	MICRO-TRONICS	HPM50112	028	RE	2015/11/16 * 12
SAT10-06	Attenuator	Agilent	8493C-010	74865	RE	2015/11/04 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	RE	2015/09/16 * 12
STR-02	Test Receiver	Rohde & Schwarz	ESCI	100575	CE	2015/09/11 * 12
SCC-05	Coaxial Cable	Fujikura	5D2W	-	CE	2016/04/22 * 12
SAT3-07	Attenuator	JFW	50HF-003N	-	CE	2015/09/18 * 12
SOS-10	Humidity Indicator	A&D	AD-5681	4064561	CE	2015/10/22 * 12
SJM-18	Measure	ASKUL	-	-	CE	-
SLS-05	LISN	Rohde & Schwarz	ENV216	100516	CE	2016/02/09 * 12
STS-06	Digital Hitester	Hioki	3805-50	080997830	CE	2016/03/22 * 12

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SRENT-05	Spectrum Analyzer	KEYSIGHT	E4440A	MY46187752	AT	2015/10/05 * 12
SPM-07	Power Meter	Agilent	8990B	MY5100272	AT	2015/04/02 * 12
SPSS-04	Power sensor	Agilent	N1923A	MY5326009	AT	2015/04/02 * 12
SCC-G13	Coaxial Cable	Suhner	SUCOFLEX 102	31599/2	AT	2015/03/11 * 12
SAT10-10	Attenuator	Weinschel Corp.	54A-10	37584	AT	2015/04/09 * 12
STM-G4	Terminator	Weinschel	M1459A	U6592	AT	2015/07/14 * 12
KTS-08	Digital Tester	SANWA	PC500	7019224	AT	2015/05/20 * 12
SOS-13	Humidity Indicator	Custom	CTH-202	Q.C.17	AT	2015/12/07 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	AT	2015/03/26 * 12
SRENT-04	Spectrum Analyzer	KEYSIGHT	E4440A	MY46186388	AT	2015/10/06 * 12
STS-05	Digital Hitester	Hioki	3805-50	080997828	AT	2015/11/18 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2015/12/07 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	AT	2015/03/23 * 12

The expiration date of the calibration is the end of the expired month.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

Test Item: CE: Conducted Emission, RE: Radiated Emission, AT: Antenna Terminal Conducted test

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