

RADIO TEST REPORT

Test Report No. 14724442S-B-R1

Customer	Nintendo Co., Ltd.
Description of EUT	Game console
Model Number of EUT	BEE-001
FCC ID	BKEBEE001
Test Regulation	FCC Part 15 Subpart C
Test Result	Complied
Issue Date	December 25, 2024
Remarks	Wireless LAN (2.4 GHz band) and Bluetooth Low Energy part(s)

Representative Test EngineerYosuke Murakami
Engineer**Approved By**Takayuki Shimada
Leader

CERTIFICATE 1266.03

- ☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan, Inc.
- ☒ There is no testing item of "Non-accreditation".

Report Cover Page - Form-ULID-003532 (DCS:13-EM-F0429) Issue# 24.0

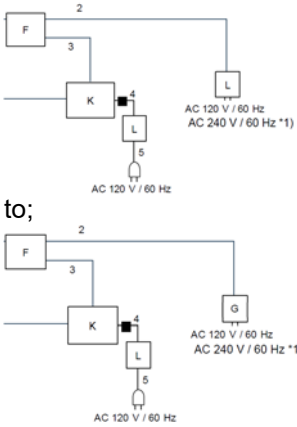
ANNOUNCEMENT

- This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
- The results in this report apply only to the sample tested. (Laboratory was not involved in sampling.)
- This sample tested is in compliance with the limits of the above regulation.
- The test results in this test report are traceable to the national or international standards.
- This test report must not be used by the customer to claim product certification, approval, or endorsement by the A2LA accreditation body.
- This test report covers Radio technical requirements.
It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
- All test items in this test report are conducted by UL Japan, Inc. Shonan EMC Lab.
- The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan, Inc. has been accredited.
- The information provided by the customer for this report is identified in SECTION 1.
- The laboratory is not responsible for information provided by the customer which can impact the validity of the results.
- For test report(s) referred in this report, the latest version (including any revisions) is always referred.

REVISION HISTORY

Original Test Report No.: 14724442S-B

This report is a revised version of 14724442S-B. 14724442S-B is replaced with this report.

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	14724442S-B	December 9, 2024	-
1	14724442S-B-R1	December 25, 2024	<p><u>Clause 4.2 P.14</u> Corrected test configuration from;</p>  <p>to;</p> <p><u>Clause 4.2 P.15</u> Corrected note *1) regarding test voltage.</p>

Reference: Abbreviations (Including words undescribed in this report)

A2LA	The American Association for Laboratory Accreditation	ICES	Interference-Causing Equipment Standard
AC	Alternating Current	IEC	International Electrotechnical Commission
AFH	Adaptive Frequency Hopping	IEEE	Institute of Electrical and Electronics Engineers
AM	Amplitude Modulation	IF	Intermediate Frequency
Amp, AMP	Amplifier	ILAC	International Laboratory Accreditation Conference
ANSI	American National Standards Institute	ISED	Innovation, Science and Economic Development Canada
Ant, ANT	Antenna	ISO	International Organization for Standardization
AP	Access Point	JAB	Japan Accreditation Board
ASK	Amplitude Shift Keying	LAN	Local Area Network
Atten., ATT	Attenuator	LIMS	Laboratory Information Management System
AV	Average	MCS	Modulation and Coding Scheme
BPSK	Binary Phase-Shift Keying	MRA	Mutual Recognition Arrangement
BR	Bluetooth Basic Rate	N/A	Not Applicable
BT	Bluetooth	NIST	National Institute of Standards and Technology
BT LE	Bluetooth Low Energy	NS	No signal detect.
BW	BandWidth	NSA	Normalized Site Attenuation
Cal Int	Calibration Interval	NVLAP	National Voluntary Laboratory Accreditation Program
CCK	Complementary Code Keying	OBW	Occupied Band Width
Ch., CH	Channel	OFDM	Orthogonal Frequency Division Multiplexing
CISPR	Comite International Special des Perturbations Radioelectriques	P/M	Power meter
CW	Continuous Wave	PCB	Printed Circuit Board
DBPSK	Differential BPSK	PER	Packet Error Rate
DC	Direct Current	PHY	Physical Layer
D-factor	Distance factor	PK	Peak
DFS	Dynamic Frequency Selection	PN	Pseudo random Noise
DQPSK	Differential QPSK	PRBS	Pseudo-Random Bit Sequence
DSSS	Direct Sequence Spread Spectrum	PSD	Power Spectral Density
EDR	Enhanced Data Rate	QAM	Quadrature Amplitude Modulation
EIRP, e.i.r.p.	Equivalent Isotropically Radiated Power	QP	Quasi-Peak
EMC	ElectroMagnetic Compatibility	QPSK	Quadri-Phase Shift Keying
EMI	ElectroMagnetic Interference	RBW	Resolution Band Width
EN	European Norm	RDS	Radio Data System
ERP, e.r.p.	Effective Radiated Power	RE	Radio Equipment
EU	European Union	RF	Radio Frequency
EUT	Equipment Under Test	RMS	Root Mean Square
Fac.	Factor	RSS	Radio Standards Specifications
FCC	Federal Communications Commission	Rx	Receiving
FHSS	Frequency Hopping Spread Spectrum	SA, S/A	Spectrum Analyzer
FM	Frequency Modulation	SG	Signal Generator
Freq.	Frequency	SVSWR	Site-Voltage Standing Wave Ratio
FSK	Frequency Shift Keying	TR	Test Receiver
GFSK	Gaussian Frequency-Shift Keying	Tx	Transmitting
GNSS	Global Navigation Satellite System	VBW	Video BandWidth
GPS	Global Positioning System	Vert.	Vertical
Hori.	Horizontal	WLAN	Wireless LAN

CONTENTS	PAGE
SECTION 1: Customer Information.....	5
SECTION 2: Equipment Under Test (EUT)	5
SECTION 3: Test Specification, Procedures & Results.....	7
SECTION 4: Operation of EUT during testing	10
SECTION 5: Conducted Emission	16
SECTION 6: Radiated Spurious Emission.....	17
SECTION 7: Antenna Terminal Conducted Tests	19
APPENDIX 1: Test Data	20
Conducted Emission	20
99 % Occupied Bandwidth and 6 dB Bandwidth.....	22
Maximum Peak Output Power.....	75
Radiated Spurious Emission	94
Conducted Spurious Emission	162
Power Density.....	169
APPENDIX 2: Test Instruments.....	215
APPENDIX 3: Photographs of Test Setup	218
Conducted Emission	218
Radiated Spurious Emission	219
Pre-check of Worst Case Position.....	220
Antenna Terminal Conducted Tests	221

SECTION 1: Customer Information

Company Name	Nintendo Co., Ltd.
Address	11-1 Hokotake-cho, Kamitoba, Minami-ku, Kyoto 601-8501 Japan
Telephone Number	+81 75 662 9600
Contact Person	Yosuke Ishikawa

The information provided from the customer is as follows;

- Customer, Description of EUT, Model Number of EUT, FCC ID on the cover and other relevant pages
- Operating/Test Mode(s) (Mode(s)) on all the relevant pages
- SECTION 1: Customer Information
- SECTION 2: Equipment Under Test (EUT) other than the Receipt Date and Test Date
- SECTION 4: Operation of EUT during testing

* The laboratory is exempted from liability of any test results affected from the above information in SECTION 2 and 4.

SECTION 2: Equipment Under Test (EUT)

2.1 Identification of EUT

Description	Game console
Model Number	BEE-001
Serial Number	Refer to SECTION 4.2
Condition	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab
Receipt Date	September 11, 2023 (For Antenna Terminal Conducted Emission) September 19, 2023 (For Radiated Emission and Conducted Emission)
Test Date	September 12, 2023 to October 19, 2024

2.2 Product Description

General Specification

Rating	BEE-001 DC: 5 V to 15 V (*AC Adaptor) Internal battery: 3.78 V *AC Adaptor AC 100 V to 240 V, 50 / 60 Hz AC Adaptor output: 5 V to 20 V
Operating temperature	+5 deg. C to +35 deg. C

Radio Specification

This report contains data provided by the customer which can impact the validity of results. UL Japan, Inc. is only responsible for the validity of results after the integration of the data provided by the customer. The data provided by the customer is marked "a)" in the table below.

Bluetooth (BR / EDR / Low Energy)

Equipment Type	Transceiver
Frequency of Operation	2402 MHz to 2480 MHz
Type of Modulation	BT: FHSS (GFSK, $\pi/4$ DQPSK, 8 DPSK) BT LE: GFSK
Antenna Type	LDS Antenna
Antenna Gain ^{a)}	Antenna 0: -2.51 dBi Antenna 1: -1.74 dBi

WLAN (IEEE802.11b/11g/11n-20/11ax-20)

Equipment Type	Transceiver
Frequency of Operation	2412 MHz to 2472 MHz
Type of Modulation	DSSS, OFDM OFDMA (IEEE802.11ax Only): 26/52/106/242-tone RU
Antenna Type	LDS Antenna
Antenna Gain ^{a)}	Antenna 0: -2.51 dBi Antenna 2: 0.21 dBi

WLAN (IEEE802.11a/11n-20/11ac-20/11ax-20/11n-40/11ac-40/11ax-40/11ac-80/11ax-80)

Equipment Type	Transceiver	
Frequency of Operation	20 MHz Band:	5180 MHz to 5240 MHz 5260 MHz to 5320 MHz 5500 MHz to 5700 MHz 5745 MHz to 5825 MHz
	40 MHz Band	5190 MHz to 5230 MHz 5270 MHz to 5310 MHz 5510 MHz to 5670 MHz 5755 MHz to 5795 MHz
	80 MHz band	5210 MHz 5290 MHz 5530 MHz to 5610 MHz 5775 MHz
Type of Modulation	OFDM	
	OFDMA (IEEE802.11ax only)	20 MHz band: 26/52/106/242-tone RU 40 MHz band: 26/52/106/242/484-tone RU 80 MHz band: 26/52/106/242/484/996-tone RU
Antenna Type	LDS Antenna	
Antenna Gain	Antenna 0	0.70 dBi (WLAN U-NII-1, U-NII-2A, U-NII-2C, U-NII-3 band)
	Antenna 2	4.07 dBi (WLAN U-NII-1, U-NII-2A, U-NII-2C, U-NII-3 band)

LDS: Laser Direct Structuring

* 5600 MHz to 5650 MHz band is not used.

SECTION 3: Test Specification, Procedures & Results

3.1 Test Specification

Test Specification	FCC Part 15 Subpart C The latest version on the first day of the testing period
Title	FCC 47 CFR Part 15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits Section 15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

* Also the EUT complies with FCC Part 15 Subpart B.

3.2 Procedures and Results

Item	Test Procedure	Specification	Worst Margin	Results	Remarks
Conducted Emission	FCC: ANSI C63.10-2013 6. Standard test methods ISED: RSS-Gen 8.8	FCC: Section 15.207 ISED: RSS-Gen 8.8	14.8 dB, 11.44823 MHz, AV, L1 Tx 11ax-20(SISO) 2412 MHz	Complied	-
6 dB Bandwidth	FCC: KDB 558074 D01 15.247 Meas Guidance v05r02 ISED: -	FCC: Section 15.247(a)(2) ISED: RSS-247 5.2(a)	See data.	Complied	Conducted
Maximum Peak Output Power	FCC: KDB 558074 D01 15.247 Meas Guidance v05r02 ISED: RSS-Gen 6.12	FCC: Section 15.247(b)(3) ISED: RSS-247 5.4(d)		Complied	Conducted
Power Density	FCC: KDB 558074 D01 15.247 Meas Guidance v05r02 ISED: -	FCC: Section 15.247(e) ISED: RSS-247 5.2(b)		Complied	Conducted
Spurious Emission Restricted Band Edges	FCC: KDB 558074 D01 15.247 Meas Guidance v05r02 ISED: RSS-Gen 6.13	FCC: Section 15.247(d) ISED: RSS-247 5.5 RSS-Gen 8.9 RSS-Gen 8.10	2.1 dB 2390 MHz, AV, Vertical Tx 11ax-20(OFDM)(SISO) 2412 MHz	Complied	Conducted (below 30 MHz)/ Radiated (above 30 MHz) *1)
Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593. * In case any questions arise about test procedure, ANSI C63.10: 2013 is also referred. *1) Radiated test was selected over 30 MHz based on section 15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02 8.5 and 8.6.					

FCC Part 15.31 (e)

This EUT provides the stable voltage constantly to RF Module regardless of input voltage.
Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT.
Therefore, the equipment complies with the antenna requirement of Section 15.203.

3.3 Addition to Standard

Item	Test Procedure	Specification	Worst Margin	Results	Remarks
99 % Occupied Bandwidth	ISED: RSS-Gen 6.7	ISED: -	N/A	-	Conducted

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

3.4 Uncertainty

Measurement uncertainty is not taken into account when stating conformity with a specified requirement.
Note: When margins obtained from test results are less than the measurement uncertainty, the test results may exceed the limit.

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor $k = 2$.

Item	Frequency range	Uncertainty (+/-)
Conducted Emission (AC Mains) LISN	150 kHz to 30 MHz	3.0 dB
Radiated Emission (Measurement distance: 3 m)	9 kHz to 30 MHz	3.3 dB
	30 MHz to 200 MHz	4.8 dB
	200 MHz to 1 GHz	6.1 dB
	1 GHz to 6 GHz	4.7 dB
	6 GHz to 18 GHz	5.3 dB
	18 GHz to 40 GHz	5.5 dB
Radiated Emission (Measurement distance: 1 m)	1 GHz to 18 GHz	5.6 dB
	18 GHz to 40 GHz	5.8 dB

Antenna terminal test	Uncertainty (+/-)
Power Measurement above 1 GHz (Average Detector)	1.3 dB
Power Measurement above 1 GHz (Peak Detector)	1.5 dB
Spurious Emission (Conducted) below 1 GHz	0.93 dB
Conducted Emissions Power Density Measurement 1 GHz to 3 GHz	0.93 dB
Conducted Emissions Power Density Measurement 3 GHz to 18 GHz	3.0 dB
Spurious Emission (Conducted) 18 GHz to 26.5 GHz	2.8 dB
Spurious Emission (Conducted) 26.5 GHz to 40 GHz	2.3 dB
Bandwidth Measurement	0.012 %
Duty Cycle and Time Measurement	0.27 %
Temperature	2.2 deg.C.
Humidity	3.4 %
Voltage	0.92 %

3.5 Test Location

UL Japan, Inc. Shonan EMC Lab.

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

Telephone: +81-463-50-6400

A2LA Certificate Number: 1266.03

(FCC test firm registration number: 626366, ISED lab company number: 2973D / CAB identifier: JP0001)

Test room	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Semi-anechoic chamber (SAC1)	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber (SAC2)	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber (SAC3)	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
No.4 Semi-anechoic chamber (SAC4)	8.1 x 5.1 x 3.55	8.1 x 5.1	-
Wireless anechoic chamber 1 (WAC1)	9.5 x 6.0 x 5.4	9.5 x 6.0	3 m
Wireless anechoic chamber 2 (WAC2)	9.5 x 6.0 x 5.4	9.5 x 6.0	3 m
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	-	-
No.2 Measurement room	4.5 x 3.5 x 2.5	-	-
Wireless shielded room 1	3.0 x 4.5 x 2.7	3.0 x 4.5	-
Wireless shielded room 2	3.0 x 4.5 x 2.7	3.0 x 4.5	-

3.6 Test Data, Test Instruments, and Test Set Up

Refer to APPENDIX.

SECTION 4: Operation of EUT during testing

4.1 Operating Mode(s)

[WLAN]

Mode	Remarks*
IEEE 802.11b (11b)	11 Mbps, PN9
IEEE 802.11g (11g)	54 Mbps, PN9
IEEE 802.11n SISO 20 MHz BW (11n-20 (SISO))	MCS 7, PN9
IEEE 802.11n MIMO 20 MHz BW (11n-20 (SDM))	MCS 8, PN9
IEEE 802.11ax SISO 20 MHz BW OFDM (11ax-20 (OFDM)(SISO))	MCS 9, PN9
IEEE 802.11ax SISO 20 MHz BW OFDMA (11ax-20 (OFDMA)(SISO))	
IEEE 802.11ax MIMO 20 MHz BW OFDM (11ax-20 (OFDM)(SDM))	MCS 1, PN9
IEEE 802.11ax MIMO 20 MHz BW OFDMA (11ax-20 (OFDMA)(SDM))	
*The worst condition was determined based on the test result of Maximum Peak Output Power (Mid Channel)	
<p>*Power of the EUT was set by the software as follows;</p> <p>Power Setting: SISO</p> <p>11b / 11g / 11n-20 / 11ax-20 (OFDM)</p> <p>2412 MHz to 2462 MHz : 12.5 (High power), 8.5 (Low power)</p> <p>2467 MHz to 2472 MHz : 3.5</p> <p>11ax-20 (OFDMA)</p> <p>26-tone RU</p> <p>2412 MHz to 2462 MHz : 9.5 (High power), 8.5 (Low power)</p> <p>2467 MHz to 2472 MHz : 3.5</p> <p>52-tone RU / 106-tone RU / 242-tone RU</p> <p>2412 MHz to 2462 MHz : 12.5 (High power), 8.5 (Low power)</p> <p>2467 MHz to 2472 MHz : 3.5</p> <p>SDM</p> <p>11n-20 / 11ax-20 (OFDM)</p> <p>2412 MHz to 2462 MHz : 5.5</p> <p>2467 MHz to 2472 MHz : 3.5</p> <p>11ax-20 (OFDMA)</p> <p>26-tone RU / 52-tone RU / 106-tone RU / 242-tone RU</p> <p>2412 MHz to 2462 MHz: 5.5</p> <p>2467 MHz to 2472 MHz : 3.5</p> <p>Software: WlanBtRelayTool Version: 0358079 (Date: 2023.09.19, Storage location: Driven by connected PC)</p> <p>*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. 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 and also was judged the necessity of 802.11ac/ax mode by the pre-test.</p>	

*The Details of Operating Mode(s)

Test Item	Operating Mode *6)	Tested Antenna *3)	Tested Frequency
Conducted Emission	Tx 11ax-20 (OFDM)(SISO) *1)	Ant 2	2412 MHz
Conducted Spurious Emission	Tx 11ax-20 (OFDM)(SISO) *1)	Ant 0	2412 MHz
Radiated Spurious Emission (Below 1 GHz)	Tx 11ax-20 (OFDMA)(SISO) 26-tone RU *2)	Ant 2	2437 MHz
Radiated Spurious Emission (Above 1 GHz) *4), *5)	Tx 11b Tx 11g Tx 11n-20 (SISO) Tx 11n-20 (SDM) Tx 11ax-20 (OFDM)(SISO) Tx 11ax-20 (OFDM)(SDM) Tx 11ax-20 (OFDMA)(SISO) Tx 11ax-20 (OFDMA)(SDM)	SISO Ant 2 SDM Ant 0 + Ant 2	2412 MHz 2437 MHz 2462 MHz 2472 MHz
6 dB Bandwidth, 99 % Occupied Bandwidth	Tx 11b Tx 11g Tx 11n-20 (SISO) Tx 11n-20 (SDM) Tx 11ax-20 (OFDM)(SISO) Tx 11ax-20 (OFDM)(SDM) Tx 11ax-20 (OFDMA)(SISO) Tx 11ax-20 (OFDMA)(SDM)	Ant 0	2412 MHz 2437 MHz 2462 MHz 2467 MHz 2472 MHz
Maximum Peak Output Power, Power Density	Tx 11b Tx 11g Tx 11n-20 (SISO) Tx 11ax-20 (OFDM)(SISO) Tx 11ax-20 (OFDMA)(SISO)	Ant 0	2412 MHz 2437 MHz 2462 MHz 2467 MHz 2472 MHz
	Tx 11n-20 (SDM) Tx 11ax-20 (OFDM)(SDM) Tx 11ax-20 (OFDMA)(SDM)	Ant 0 + Ant 2	2412 MHz 2437 MHz 2462 MHz 2467 MHz 2472 MHz

- *1) The mode was tested as a representative, because it had the highest power at antenna terminal test.
 *2) The mode was tested as a representative, because it had the highest result at power density test.
 *3) The test was performed with the antenna that had higher conducted power as a representative (6 dB Bandwidth test, 99 % Occupied Bandwidth test, Conducted Spurious Emission test and Power Density test). For Conducted Emission and Radiated Spurious Emission, the test was performed with the worst antenna as a representative by the results of the pre-check.
 *4) The test for except for 1 GHz to 2.8 GHz was performed on mode of OFDM and OFDMA that had the highest power as representative by the pre-check.
 *5) Tests were performed with the worst mode (SISO or SDM) representative by the results of the pre-check.
 *6) Except for RF Output Power, High power setting was tested as representative.

* Ant 0: Antenna 0, Ant 1: Antenna 1, Ant 2: Antenna 2

[BT LE]

Mode	Remarks*
Bluetooth Low Energy (BT LE)	1M-PHY Uncoded PHY (1M-PHY), Maximum Packet Size, PRBS9
	coded S-8, Maximum Packet Size, PRBS9
	coded S-2, Maximum Packet Size, PRBS9
	2M-PHY Uncoded PHY (2M-PHY), Maximum Packet Size, PRBS9
<p>*Power of the EUT was set by the software as follows; Power Setting: 5 Software: WlanBtRelayTool Version: 0358079 (Date: 2023.09.19, Storage location: Driven by connected PC)</p> <p>*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.</p>	

*The Details of Operating Mode(s)

Test Item	Operating Mode *2)	Tested Antenna *2)	Tested Frequency
Conducted Emission	Tx BT LE, 1M-PHY *1)	Ant 1	2402 MHz
Radiated Spurious Emission (Below 1 GHz)	Tx BT LE, 1M-PHY *1)	Ant 1	2402 MHz
	Tx BT LE, coded S-8 With WLAN Tx 11ax-20 (SDM) 5180 MHz *1)	Ant 0 + Ant 2 *4)	2402 MHz
6 dB Bandwidth, 99 % Occupied Bandwidth, Conducted Spurious Emission, Power Density	Tx BT LE, coded S-8 Tx BT LE, 2M-PHY	Ant 0	2402 MHz 2440 MHz 2480 MHz
Maximum Peak Output Power	Tx BT LE, 1M-PHY Tx BT LE, coded S-8 Tx BT LE, coded S-2 Tx BT LE, 2M-PHY	Ant 0	2402 MHz 2440 MHz 2480 MHz
Radiated Spurious Emission (Above 1 GHz)	Tx BT LE, 1M-PHY Tx BT LE, 2M-PHY	Ant 1	2402 MHz 2440 MHz 2480 MHz
	Tx BT LE, 2M-PHY With WLAN Tx 11ax-20 (SDM) 5180 MHz *3)	Ant 0 + Ant 2 *4)	2480 MHz

*1) Conducted emissions and Spurious emissions for frequencies below 1 GHz were limited to the channel that had the highest power during the antenna terminal test, as preliminary testing indicated that changing the operating frequency had no significant impact on the emissions in those frequency bands.

*2) The test was performed with the antenna that had higher conducted power as a representative (6 dB Bandwidth test, 99 % Occupied Bandwidth test, Conducted Spurious Emission test and Power Density test). For Conducted Emission and Radiated Spurious Emission, the test was performed with the worst antenna as a representative by the results of the pre-check.

*3) Simultaneous transmission was tested on the channel that was the worst margin of Radiated Spurious Emission (above 1 GHz) for single transmission.

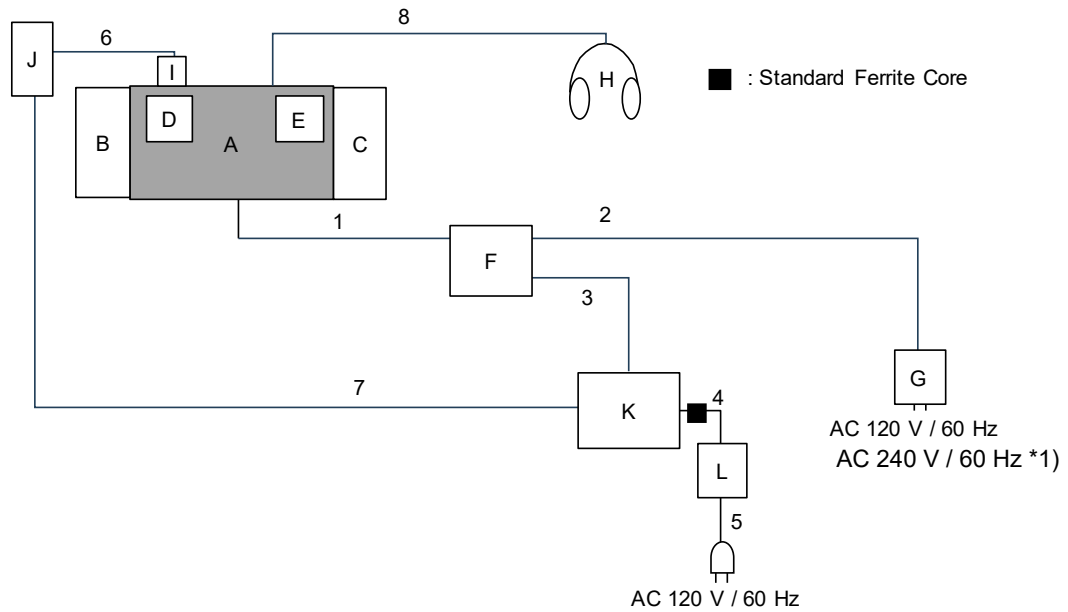
*4) Simultaneous transmission is only available on Ant 0, so testing was performed on Ant 0.

* Ant 0: Antenna 0, Ant 1: Antenna 1, Ant 2: Antenna 2

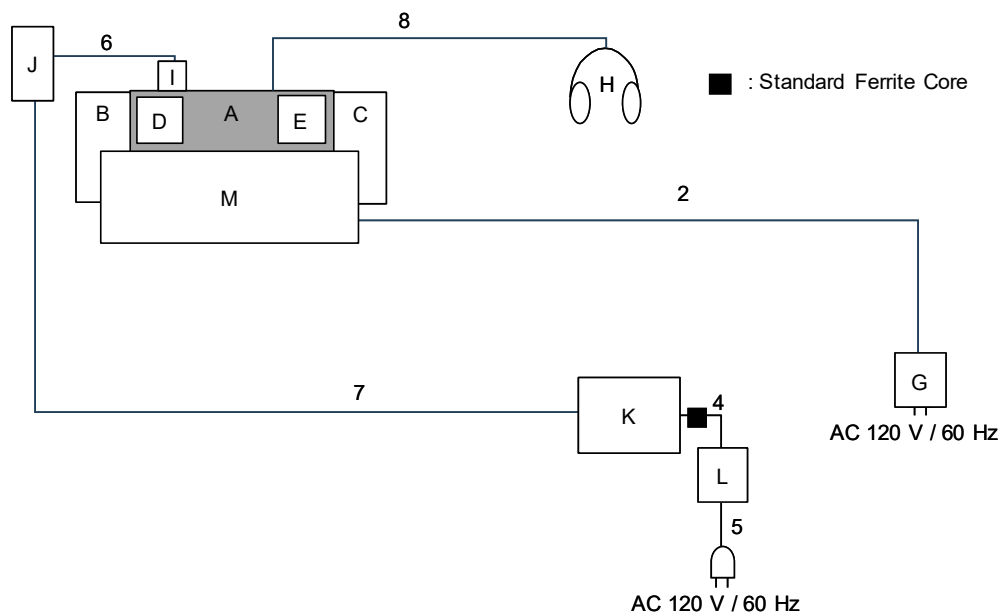
4.2 Configuration and Peripherals

Radiated emission test and Conducted emission test

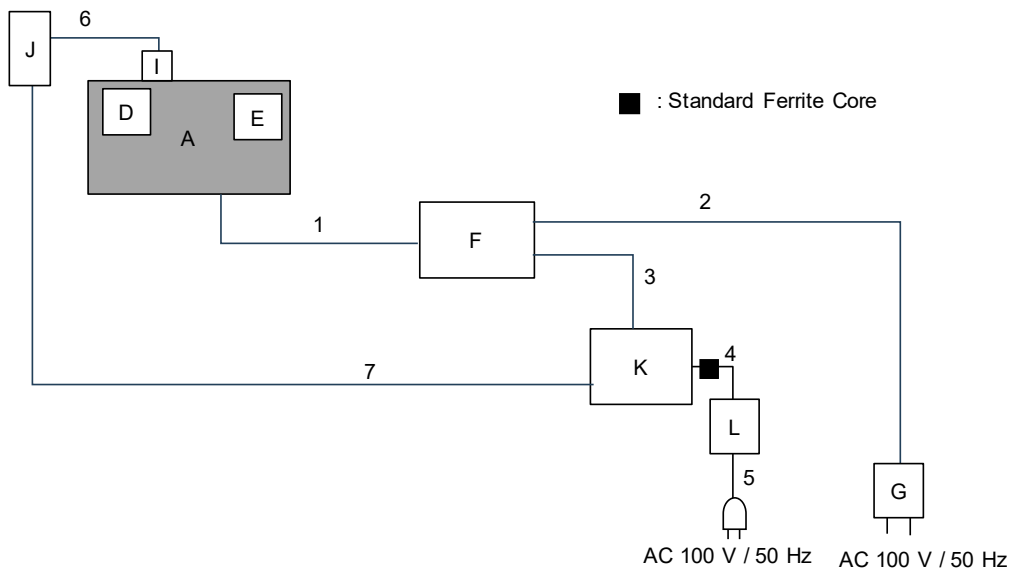
Without Dock



With Dock



Antenna terminal conducted test



- * Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.
- * The carrier level and noise levels were confirmed with and without the controller (B and C) and Dock (M), and the test was made at the condition that has the maximum noise. (Only Radiated emission test)
- * The EUT is equipped with two rechargeable USB ports (top and bottom side), a pre-check was performed on the worst port (bottom side) for conducted emissions.
- *1) As a result of comparing AC 120 V and AC 240 V at pre-check, conducted emission test was performed with AC 240 V of the worst voltage as representative.

Description of EUT and Support Equipment

No.	Item	Model number	Serial Number	Manufacturer	Remarks
A	Game console	BEE-001	HAW01000023266 *1) HAW01000021934 *2)	Nintendo Co., Ltd.	EUT
B	Joy-Con (L)	BEE-012	HBL01000022108	Nintendo Co., Ltd.	-
C	Joy-Con (R)	BEE-014	HCL01000022467	Nintendo Co., Ltd.	-
D	Game Card	HAC-008	DFCAA22L000	Nintendo Co., Ltd.	-
E	Micro SD Card	-	S944	Sandisk	-
F	Relay Box	BEE-053	HYL01100004738	Nintendo Co., Ltd.	-
G	AC Adapter	NGN-01	0A0003529 *1) 0A0000165 *2)	Nintendo Co., Ltd.	-
H	Earphones	MDR-EX255AP	-	Sony	-
I	USB TypeA - Type C Adapter	-	-	-	-
J	Wired LAN Adapter	EDC-GUA3-B	16L167005977A	ELECOM	-
K	Laptop PC	CF-SV9RDQVS	0JKSC39510	Panasonic	-
L	AC Adapter	CF-AA65D2A M1	65D2AM1208002424WA	Panasonic	-
M	Dock	BEE-005	HFL0100036471	Nintendo Co., Ltd.	-

*1) Used for Antenna Terminal conducted test

*2) Used for Conducted Emission test and Radiated Emission test

List of Cables Used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	USB	1.5	Shielded	Shielded	-
2	USB	1.5	Shielded	Shielded	-
3	USB	1.5	Shielded	Shielded	-
4	DC	0.9	Unshielded	Unshielded	-
5	AC	0.8	Unshielded	Unshielded	-
6	USB	0.1	Shielded	Shielded	-
7	LAN	1.0	Unshielded	Unshielded	Cat.6
8	Earphones	1.25	Unshielded	Unshielded	-

SECTION 5: Conducted Emission

Test Procedure and Conditions

EUT was placed on a urethane platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane.

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

For the tests on EUT with other peripherals (as a whole system)

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. All unused 50ohm connectors of the LISN (AMN) were resistivity terminated in 50 ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Shielded Room.

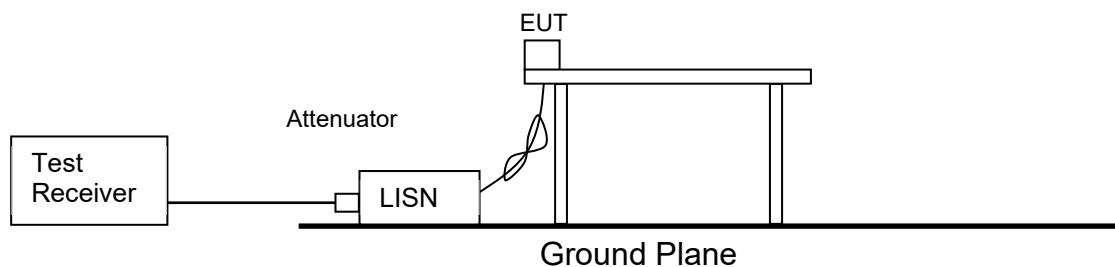
The EUT was connected to a LISN (AMN).

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 AV
Measurement Range	: 0.15 MHz to 30 MHz
Test Data	: APPENDIX
Test Result	: Pass

Figure 1: Test Setup



SECTION 6: Radiated Spurious Emission

Test Procedure

It was measured based on "8.5 and 8.6 of KDB 558074 D01 15.247 Meas Guidance v05r02".

[For below 1 GHz]

EUT was placed on a urethane platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

[For 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. Test antenna was aimed at the EUT for receiving the maximum signal and always kept within the illumination area of the 3 dB beamwidth of the antenna.

The height of the measuring antenna varied between 1 m 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.

Test Antennas are used as below;

Frequency	30 MHz to 200 MHz	200 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

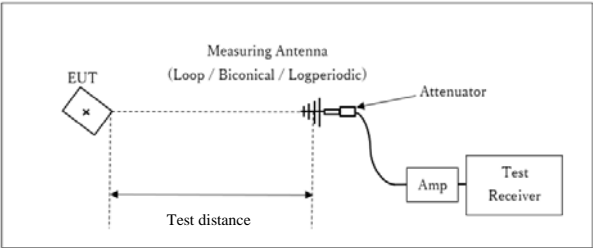
In any 100 kHz bandwidth outside the restricted band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

20 dBc was applied to the frequency over the limit of FCC 15.209 / Table 4 of RSS-Gen 8.9(ISED) and outside the restricted band of FCC15.205 / Table 6 of RSS-Gen 8.10 (ISED).

Frequency	Below 1 GHz	Above 1 GHz		20 dBc
Instrument Used	Test Receiver	Spectrum Analyzer		Spectrum Analyzer
Detector	QP	PK	AV	PK
IF Bandwidth	BW 120 kHz	RBW: 1 MHz VBW: 3 MHz	11.12.2.5.2 RBW: 1 MHz VBW: 3 MHz Detector: Power Averaging (Linear voltage) Trace: 100 traces Duty factor was added to the results.	RBW: 100 kHz VBW: 300 kHz

Figure 2: Test Setup

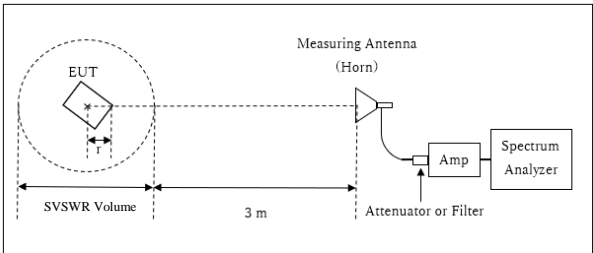
Below 1 GHz



x : Center of turn table

Test Distance: 3 m

1 GHz to 10 GHz

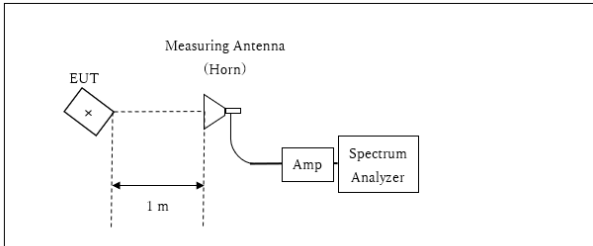


r : Radius of an outer periphery of EUT
x : Center of turn table

Distance Factor: $20 \times \log (3.94 \text{ m} / 3.0 \text{ m}) = 2.37 \text{ dB}$
* Test Distance: $(3 + \text{SVSWR Volume} / 2) - r = 3.94 \text{ m}$

SVSWR Volume : 2.0 m
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)
 $r = 0.06 \text{ m}$

10 GHz to 26.5 GHz



x : Center of turn table

Distance Factor: $20 \times \log (1.0 \text{ m} / 3.0 \text{ m}) = -9.54 \text{ dB}$
*Test Distance: 1 m

The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

Antenna polarization	Carrier	Spurious (30 MHz to 1 GHz)	Spurious (1 GHz to 2.8 GHz)	Spurious (2.8 GHz to 10 GHz)	Spurious (10 GHz to 18 GHz)	Spurious (18 GHz to 26.5 GHz)
Horizontal	Z With controller *1) Without controller *2)	Y With controller	Z With controller *1) Without controller *2)	Y With controller	X With controller	X With controller
Vertical	X With controller *1) Without controller *2)	Z With controller	X With controller *1) Without controller *2)	Y With controller	X With controller	X With controller

*All conditions were performed without dock.

*1) WLAN

*2) BT LE

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

Measurement Range : 30 MHz to 26.5 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
6 dB Bandwidth	Enough width to display emission skirts	100 kHz	300 kHz	Auto	Peak	Max Hold	Spectrum Analyzer
99 % Occupied Bandwidth *1)	Enough width to display emission skirts	1 to 5 % of OBW	Three times of RBW	Auto	Peak	Max Hold	Spectrum Analyzer
Maximum Peak Output Power	-	-	-	Auto	Peak	-	Power Meter (Sensor: 160 MHz BW)
Peak Power Density	1.5 times the 6 dB Bandwidth	3 kHz	9.1 kHz	Auto	Peak	Max Hold	Spectrum Analyzer *2)
Conducted Spurious Emission *3) *4)	9 kHz to 150 kHz 150 kHz to 30 MHz	200 Hz 10 kHz	620 Hz 30 kHz	Auto	Peak	Max Hold	Spectrum Analyzer

*1) Peak hold was applied as Worst-case measurement.
 *2) Section 11.10.2 Method PKPSD (peak PSD) of "ANSI C63.10-2013".
 *3) In the frequency range below 30MHz, RBW was narrowed to separate the noise contents. Then, wide-band noise near the limit was checked separately, however the noise was low enough as shown in the chart. (9 kHz - 150 kHz: RBW = 200 Hz, 150 kHz - 30 MHz: RBW = 10 kHz).
 *4) The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 Ohms. For example, the measurement at frequency 9 kHz resulted in a level of 45.5 dBuV/m, which is equivalent to $45.5 - 51.5 = -6.0$ dBuA/m, which has the same margin, 3 dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

The test results and limit are rounded off to two decimals place, so some differences might be observed. The equipment and cables were not used for factor 0 dB of the data sheets.

Test Data : APPENDIX
Test Result : Pass

APPENDIX 1: Test Data

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2024/05/18

Mode : Tx, 11ax-20(SISO), 2412 MHz

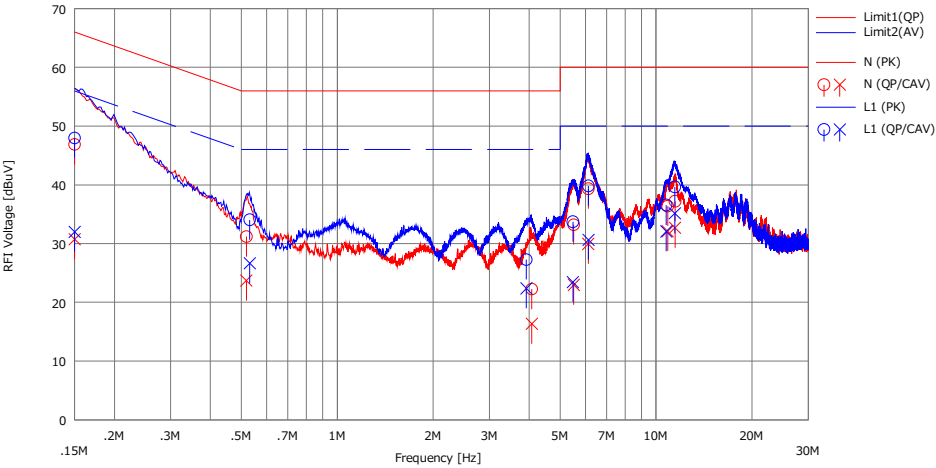
Power : AC 240 V / 60 Hz

Temp./Humi. : 24 deg.C / 30 %RH

Remarks : -

Limit : FCC_Part 15 Subpart C(15.207)

Engineer : Yusuke Tanikawara



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP>	<CAV>		<QP>	<CAV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	34.31	18.19	12.55	46.86	30.74	66.00	56.00	19.1	25.2	N	
2	0.51899	18.56	11.09	12.62	31.18	23.71	56.00	46.00	24.8	22.2	N	
3	4.07550	9.25	3.35	12.98	22.23	16.33	56.00	46.00	33.7	29.6	N	
4	5.51876	20.06	9.82	13.14	33.20	22.96	60.00	50.00	26.8	27.0	N	
5	6.13242	26.14	16.75	13.19	39.33	29.94	60.00	50.00	20.6	20.0	N	
6	10.88174	22.70	18.45	13.65	36.35	32.10	60.00	50.00	23.6	17.9	N	
7	11.47258	23.50	18.99	13.70	37.20	32.69	60.00	50.00	22.8	17.3	N	
8	0.15000	35.39	19.44	12.57	47.96	32.01	66.00	56.00	18.0	23.9	L1	
9	0.53143	21.45	14.03	12.61	34.06	26.64	56.00	46.00	21.9	19.3	L1	
10	3.92035	14.33	9.43	12.93	27.26	22.37	56.00	46.00	28.7	23.6	L1	
11	5.48757	20.62	10.37	13.07	33.69	23.44	60.00	50.00	26.3	26.5	L1	
12	6.13478	26.69	17.51	13.12	39.81	30.63	60.00	50.00	20.1	19.3	L1	
13	10.77402	23.09	18.60	13.47	36.56	32.07	60.00	50.00	23.4	17.9	L1	
14	11.44823	26.11	21.62	13.52	39.63	35.14	60.00	50.00	20.3	14.8	L1	

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

Conducted Emission

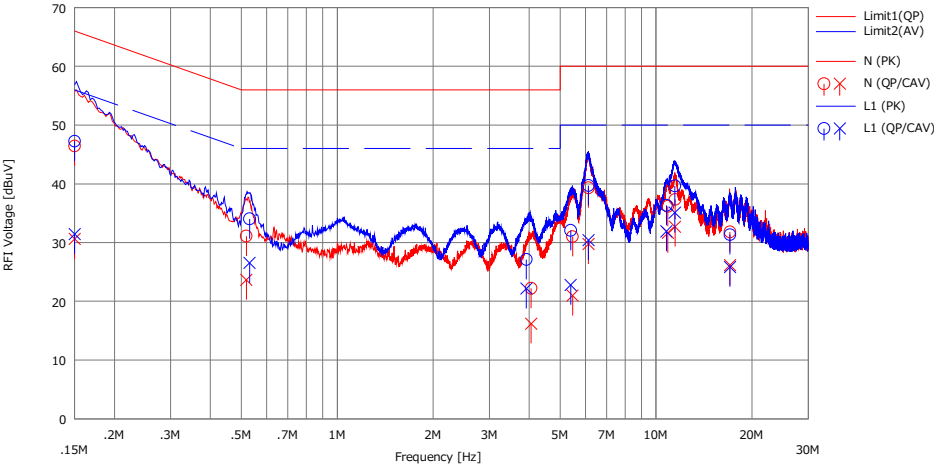
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2024/05/18

Mode : Tx, BT LE 1M-PHY, 2402 MHz
Power : AC 240 V / 60 Hz
Temp./Humi. : 24 deg.C / 30 %RH

Remarks : -

Limit : FCC_Part 15 Subpart C(15.207) Engineer : Yusuke Tanikawara



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		(QP) [dBuV]	(CAV) [dBuV]		(QP) [dBuV]	(CAV) [dBuV]	(QP) [dBuV]	(AV) [dBuV]	(QP) [dB]	(AV) [dB]		
1	0.15000	33.90	18.07	12.55	46.45	30.62	66.00	56.00	19.5	25.3	N	
2	0.51859	18.49	11.04	12.62	31.11	23.66	56.00	46.00	24.8	22.3	N	
3	4.05664	9.25	3.22	12.97	22.22	16.19	56.00	46.00	33.7	29.8	N	
4	5.47241	17.90	7.84	13.13	31.03	20.97	60.00	50.00	28.9	29.0	N	
5	6.13473	26.12	16.55	13.19	39.31	29.74	60.00	50.00	20.6	20.2	N	
6	10.88268	22.50	17.99	13.65	36.15	31.64	60.00	50.00	23.8	18.3	N	
7	11.47604	23.64	19.02	13.70	37.34	32.72	60.00	50.00	22.6	17.2	N	
8	17.05349	17.72	12.05	14.10	31.82	26.15	60.00	50.00	28.1	23.8	N	
9	0.15000	34.69	18.85	12.57	47.26	31.42	66.00	56.00	18.7	24.5	L1	
10	0.53077	21.43	13.93	12.61	34.04	26.54	56.00	46.00	21.9	19.4	L1	
11	3.91709	14.20	9.24	12.93	27.13	22.17	56.00	46.00	28.8	23.8	L1	
12	5.39815	19.00	9.73	13.07	32.07	22.80	60.00	50.00	27.9	27.2	L1	
13	6.13552	26.61	17.29	13.12	39.73	30.41	60.00	50.00	20.2	19.5	L1	
14	10.78030	22.86	18.43	13.47	36.33	31.90	60.00	50.00	23.6	18.1	L1	
15	11.45230	26.14	21.57	13.52	39.66	35.09	60.00	50.00	20.3	14.9	L1	
16	17.04682	17.50	11.99	13.85	31.35	25.84	60.00	50.00	28.6	24.1	L1	

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

99 % Occupied Bandwidth and 6 dB Bandwidth

Test place Shonan EMC Lab. No.1 Measurement Room
Date September 27, 2023 September 28, 2023
Temperature / Humidity 24 deg. C / 50 % RH 25 deg. C / 48 % RH
Engineer Yusuke Tanikawara Kazuya Noda
Mode Tx

11b

Antenna: Ant 0

Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2412	12346.3	7.491	> 0.5000
2437	12345.0	7.490	> 0.5000
2462	12323.2	7.494	> 0.5000
2467	12394.3	7.492	> 0.5000
2472	12414.1	7.494	> 0.5000

11g

Antenna: Ant 0

Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2412	16794.3	15.154	> 0.5000
2437	16808.2	15.699	> 0.5000
2462	16811.7	15.702	> 0.5000
2467	16789.5	15.150	> 0.5000
2472	16804.0	15.142	> 0.5000

11n-20 (SISO)

Antenna: Ant 0

Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2412	17695.5	16.048	> 0.5000
2437	17705.1	16.049	> 0.5000
2462	17675.0	16.046	> 0.5000
2467	17694.0	16.033	> 0.5000
2472	17685.2	16.042	> 0.5000

11n-20 (SDM)

Antenna: Ant 0

Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2412	17631.2	15.142	> 0.5000
2437	17643.6	15.140	> 0.5000
2462	17626.8	15.153	> 0.5000
2467	17644.3	15.149	> 0.5000
2472	17650.4	15.149	> 0.5000

99 % Occupied Bandwidth and 6 dB Bandwidth

Test place Shonan EMC Lab. No.1 Measurement Room
Date April 2, 2024 April 8, 2024
Temperature / Humidity 25 deg. C / 36 % RH 25 deg. C / 40 % RH
Engineer Kazuya Noda Kazuya Noda
Mode Tx

11ax-20 (OFDM) (SISO) Antenna: Ant 0

Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2412	19004.0	19.153	> 0.5000
2437	19004.9	19.138	> 0.5000
2462	19010.2	19.131	> 0.5000
2467	19015.2	18.976	> 0.5000
2472	19009.7	19.097	> 0.5000

11ax-20(OFDMA) (SISO) Antenna : Ant 0

RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
26-tone RU	2412	0	18223.3	2.063	> 0.500
		4	16968.1	2.635	> 0.500
		8	18210.9	2.089	> 0.500
	2437	0	18224.5	2.067	> 0.500
		4	16930.4	2.636	> 0.500
		8	18226.8	2.077	> 0.500
	2462	0	18296.3	2.066	> 0.500
		4	16990.3	2.642	> 0.500
		8	18212.3	2.089	> 0.500
	2467	0	18257.4	2.064	> 0.500
		4	16983.0	2.633	> 0.500
		8	18243.7	2.090	> 0.500
	2472	0	18262.8	2.054	> 0.500
		4	16997.9	2.635	> 0.500
		8	18245.1	2.095	> 0.500

99 % Occupied Bandwidth and 6 dB Bandwidth

Test place Shonan EMC Lab. No.1 Measurement Room
Date April 8, 2024
Temperature / Humidity 25 deg. C / 40 % RH
Engineer Kazuya Noda
Mode Tx

11ax-20(OFDMA) (SISO) Antenna : Ant 0

RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
52-tone RU	2412	37	18152.8	4.086	> 0.500
		38	17025.8	4.016	> 0.500
		40	18147.7	4.090	> 0.500
	2437	37	18134.7	4.027	> 0.500
		38	17042.1	4.023	> 0.500
		40	18137.7	4.101	> 0.500
	2462	37	18179.2	4.107	> 0.500
		38	17053.2	3.998	> 0.500
		40	18136.7	4.064	> 0.500
	2467	37	18180.8	4.130	> 0.500
		38	17058.9	4.008	> 0.500
		40	18139.9	4.092	> 0.500
	2472	37	18158.8	4.112	> 0.500
		38	17095.3	4.139	> 0.500
		40	18150.1	4.028	> 0.500

11ax-20(OFDMA) (SISO) Antenna : Ant 0

RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
106-tone RU	2412	53	18141.6	8.337	> 0.500
		54	18184.3	8.359	> 0.500
	2437	53	18114.4	8.341	> 0.500
		54	18145.5	8.363	> 0.500
	2462	53	18158.4	8.352	> 0.500
		54	18150.2	8.369	> 0.500
	2467	53	18141.3	8.332	> 0.500
		54	18150.1	8.367	> 0.500
	2472	53	18145.0	8.319	> 0.500
		54	18129.6	8.336	> 0.500

11ax-20(OFDMA) (SISO) Antenna : Ant 0

RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
242-tone RU	2412	61	18997.5	19.140	> 0.500
	2437	61	18981.8	19.104	> 0.500
	2462	61	19012.7	19.125	> 0.500
	2467	61	18998.0	19.122	> 0.500
	2472	61	18995.7	19.116	> 0.500

99 % Occupied Bandwidth and 6 dB Bandwidth

Test place Shonan EMC Lab. No.1 Measurement Room
Date April 11, 2024
Temperature / Humidity 25 deg. C / 36 % RH
Engineer Kazuya Noda
Mode Tx

11ax-20 (SDM)		Antenna: Ant 0		
Mode	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
11ax-20(OFDM)	2412	18818.0	18.022	> 0.500
	2437	18827.5	18.304	> 0.500
	2462	18807.8	18.232	> 0.500
	2467	18808.2	17.974	> 0.500
	2472	18816.1	18.077	> 0.500

11ax-20(OFDMA)		(SDM)	Antenna : Ant 0		
RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
26-tone RU	2412	0	18242.9	2.048	> 0.500
		4	17019.4	2.658	> 0.500
		8	18256.9	2.077	> 0.500
	2437	0	18285.0	2.064	> 0.500
		4	16994.0	2.660	> 0.500
		8	18271.7	2.071	> 0.500
	2462	0	18235.3	2.068	> 0.500
		4	17020.7	2.651	> 0.500
		8	18264.1	2.066	> 0.500
	2467	0	18267.1	2.086	> 0.500
		4	17009.8	2.667	> 0.500
		8	18273.9	2.060	> 0.500
	2472	0	18287.9	2.035	> 0.500
		4	17013.4	2.666	> 0.500
		8	18256.1	2.093	> 0.500

99 % Occupied Bandwidth and 6 dB Bandwidth

Test place Shonan EMC Lab. No.1 Measurement Room
Date April 11, 2024
Temperature / Humidity 25 deg. C / 36 % RH
Engineer Kazuya Noda
Mode Tx

11ax-20(OFDMA)		(SDM)	Antenna : Ant 0		
RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
52-tone RU	2412	37	18182.7	4.053	> 0.500
		38	17056.1	4.073	> 0.500
		40	18166.2	4.070	> 0.500
	2437	37	18182.4	4.061	> 0.500
		38	17055.1	4.065	> 0.500
		40	18176.7	4.037	> 0.500
	2462	37	18206.7	4.056	> 0.500
		38	17074.1	4.076	> 0.500
		40	18137.2	4.063	> 0.500
	2467	37	18193.0	4.070	> 0.500
		38	17041.4	4.074	> 0.500
		40	18160.5	4.065	> 0.500
	2472	37	18207.6	4.043	> 0.500
		38	17087.9	4.043	> 0.500
		40	18162.2	4.055	> 0.500

11ax-20(OFDMA)		(SDM)	Antenna : Ant 0		
RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
106-tone RU	2412	53	18091.1	8.340	> 0.500
		54	18173.4	8.346	> 0.500
	2437	53	18111.7	8.347	> 0.500
		54	18143.6	8.357	> 0.500
	2462	53	18113.8	8.316	> 0.500
		54	18158.2	8.354	> 0.500
	2467	53	18092.3	8.336	> 0.500
		54	18153.2	8.359	> 0.500
	2472	53	18065.7	8.346	> 0.500
		54	18156.6	8.350	> 0.500

11ax-20(OFDMA)		(SDM)	Antenna : Ant 0		
RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
242-tone RU	2412	61	18799.3	18.619	> 0.500
	2437	61	18777.8	18.715	> 0.500
	2462	61	18790.7	18.591	> 0.500
	2467	61	18785.0	18.096	> 0.500
	2472	61	18788.0	18.578	> 0.500

99 % Occupied Bandwidth and 6 dB Bandwidth

Test place Shonan EMC Lab. No.1 Measurement Room
Date September 27, 2023
Temperature / Humidity 24 deg. C / 51 % RH
Engineer Kazuya Noda
Mode Tx

BT LE coded S-8

Antenna: Ant 0

Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2402	1053.7	0.690	> 0.5000
2440	1052.8	0.688	> 0.5000
2480	1055.1	0.689	> 0.5000

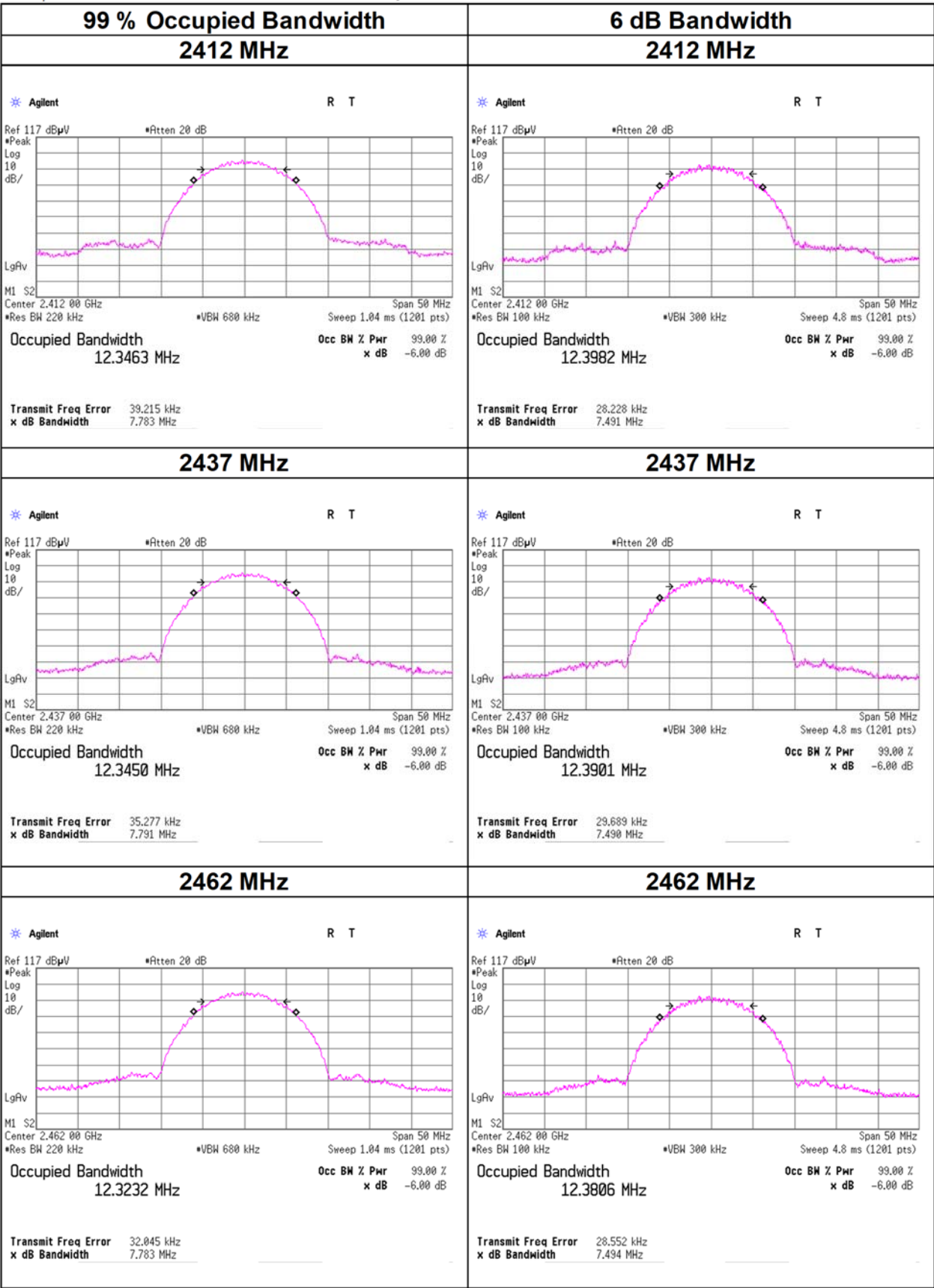
BT LE 2M-PHY

Antenna: Ant 0

Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2402	2069.4	1.249	> 0.5000
2440	2069.1	1.162	> 0.5000
2480	2069.7	1.176	> 0.5000

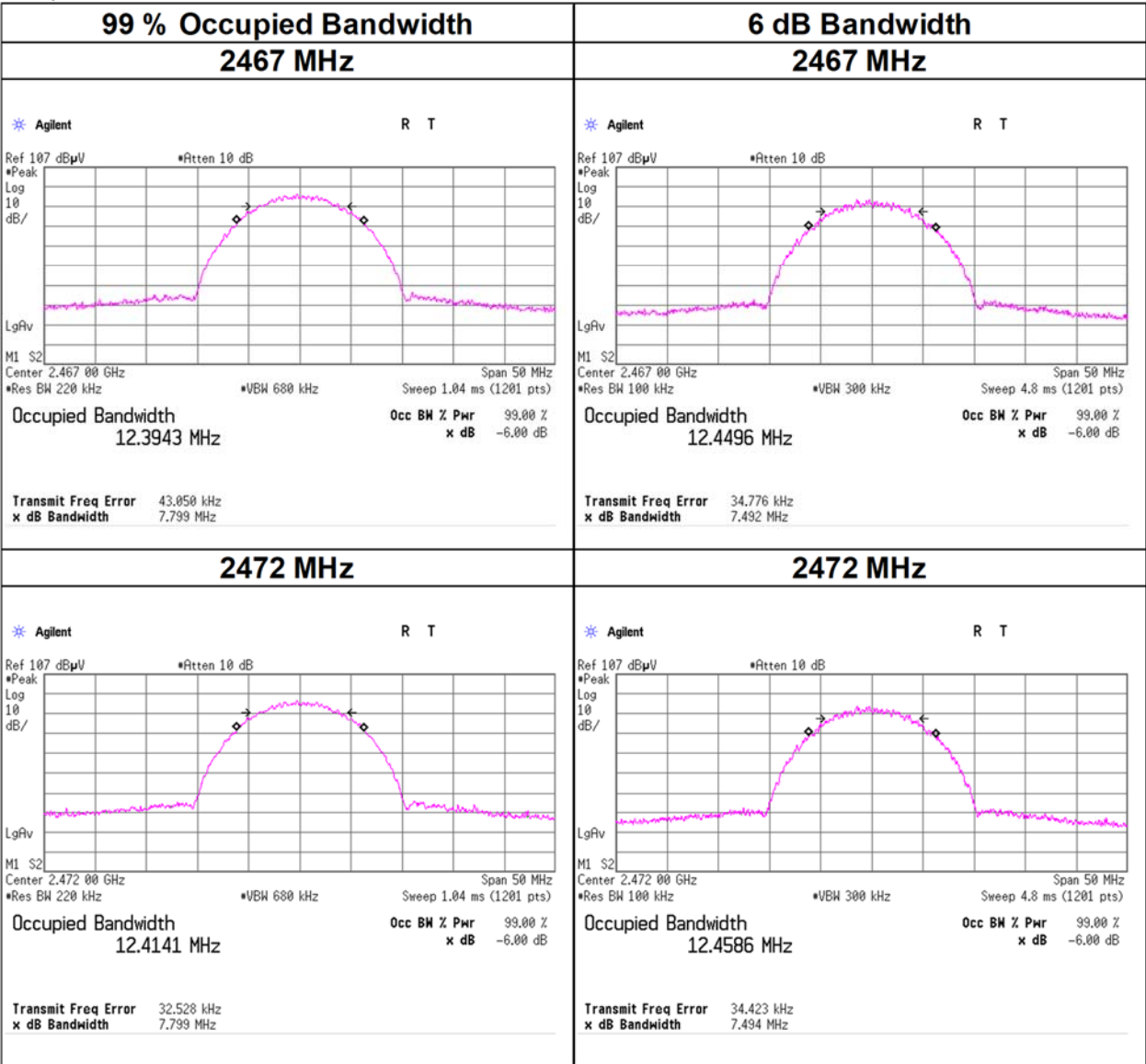
99 % Occupied Bandwidth and 6 dB Bandwidth

11b, Antenna : Ant 0



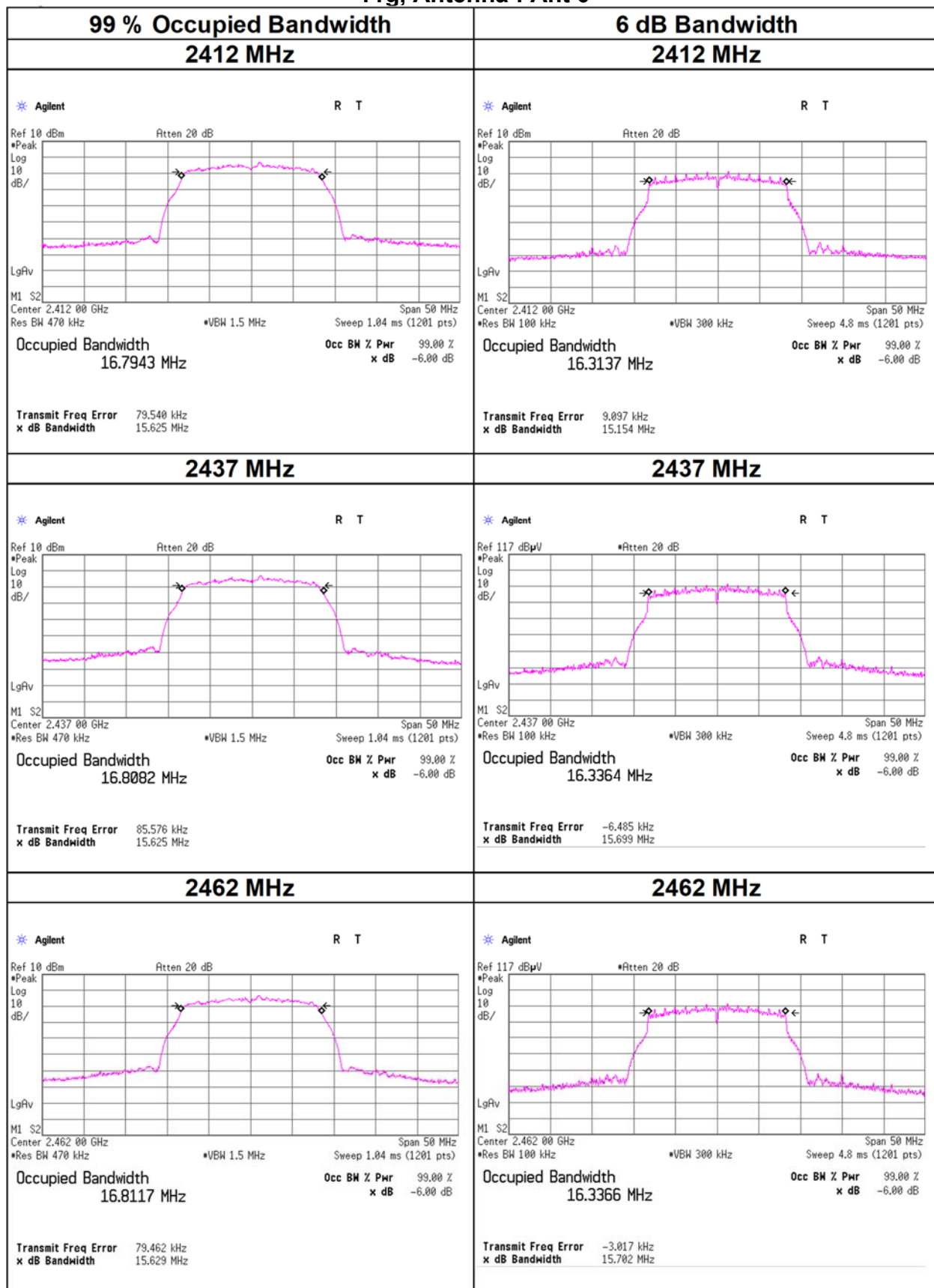
99 % Occupied Bandwidth and 6 dB Bandwidth

11b, Antenna : Ant 0



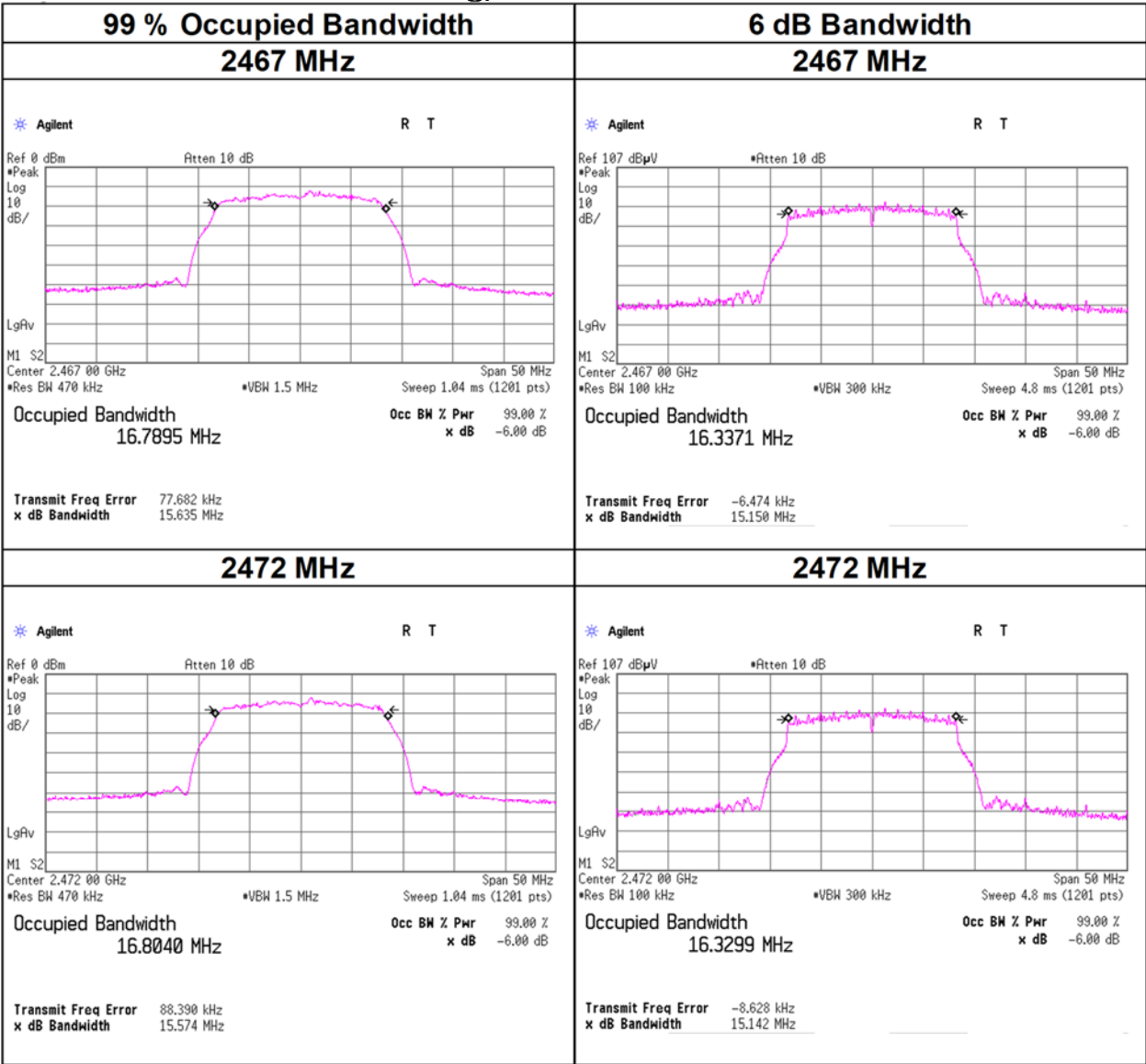
99 % Occupied Bandwidth and 6 dB Bandwidth

11g, Antenna : Ant 0



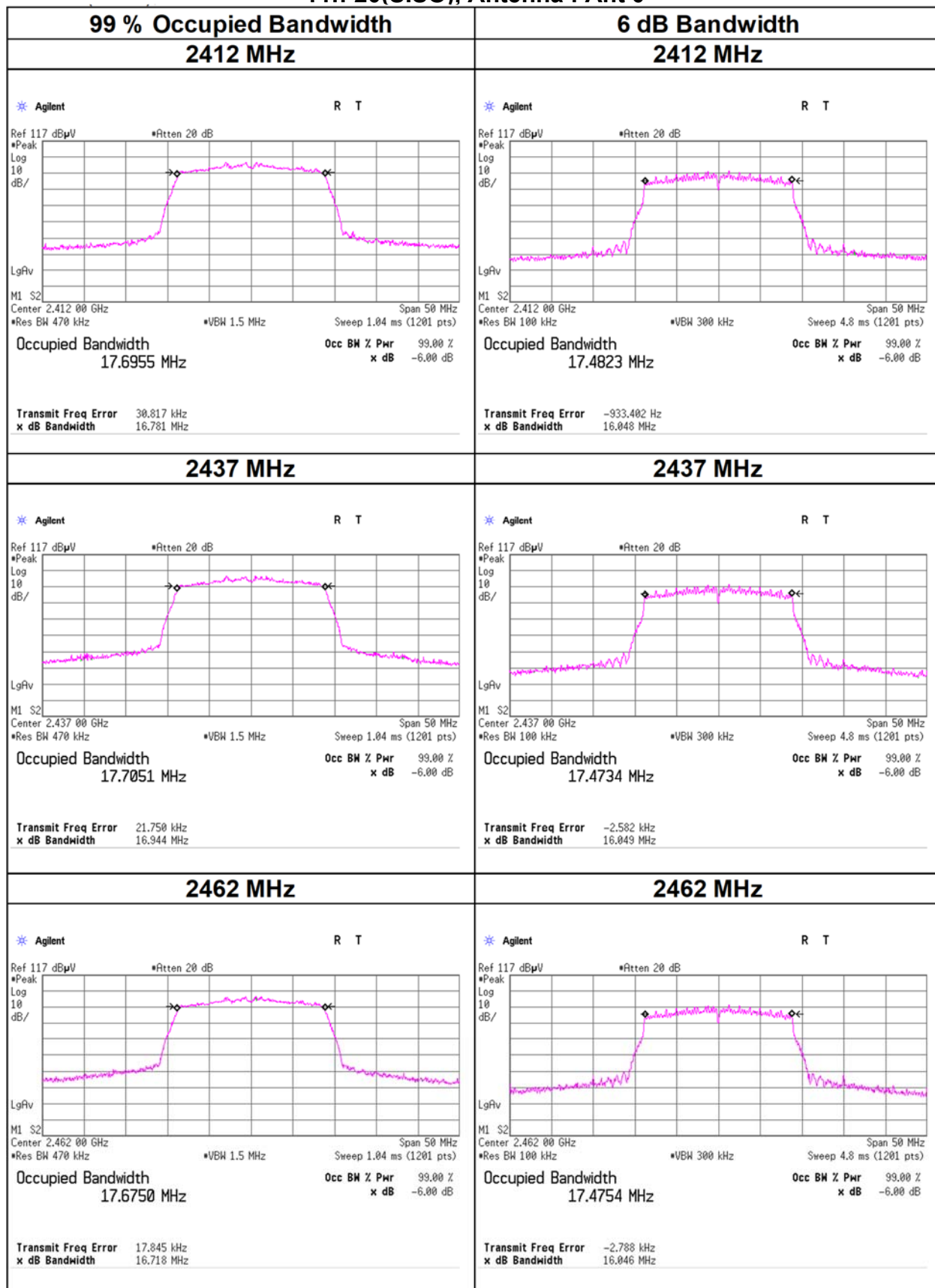
99 % Occupied Bandwidth and 6 dB Bandwidth

11g, Antenna : Ant 0



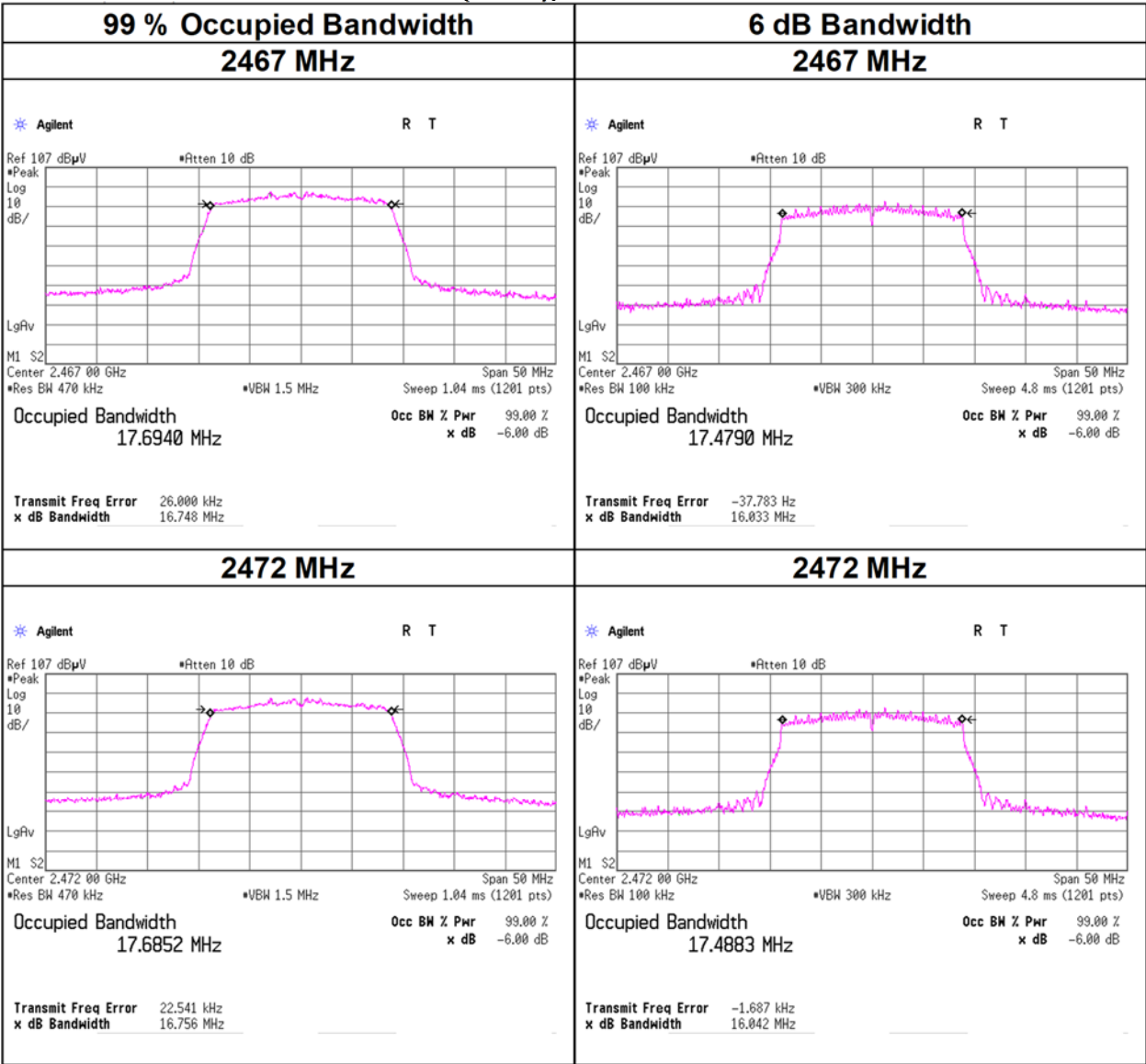
99 % Occupied Bandwidth and 6 dB Bandwidth

11n-20(SISO), Antenna : Ant 0



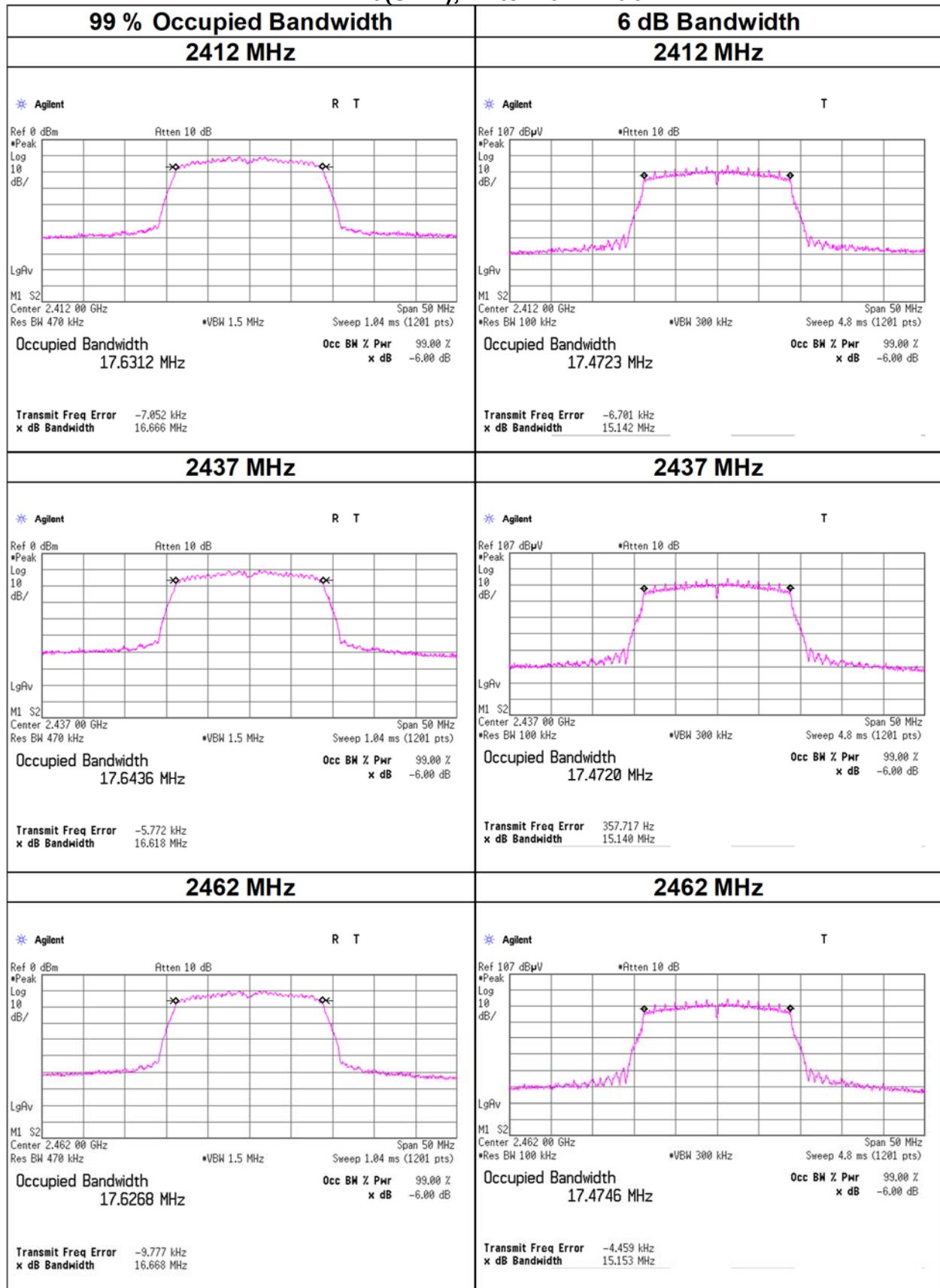
99 % Occupied Bandwidth and 6 dB Bandwidth

11n-20(SISO), Antenna : Ant 0



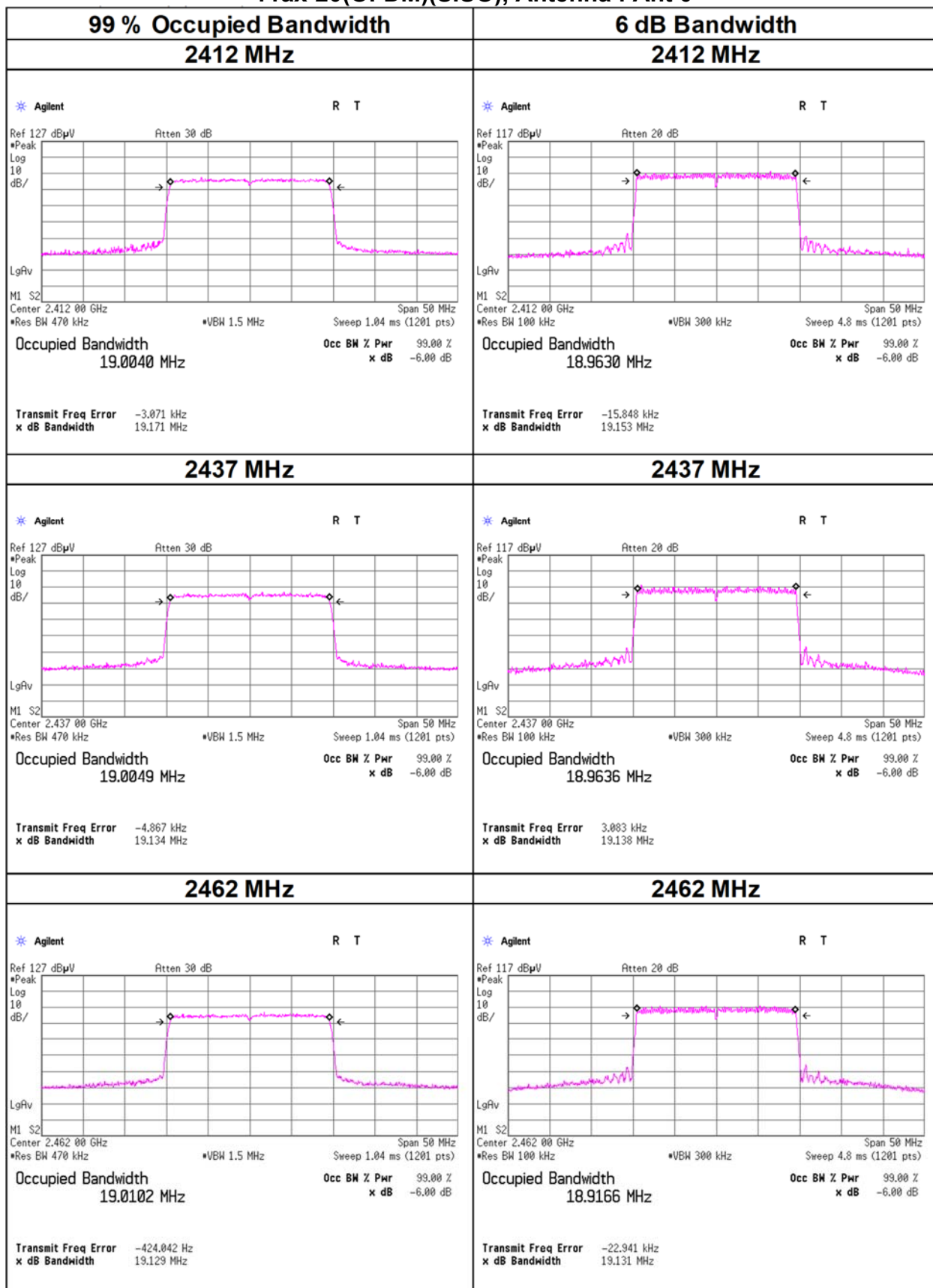
99 % Occupied Bandwidth and 6 dB Bandwidth

11n-20(SDM), Antenna : Ant 0



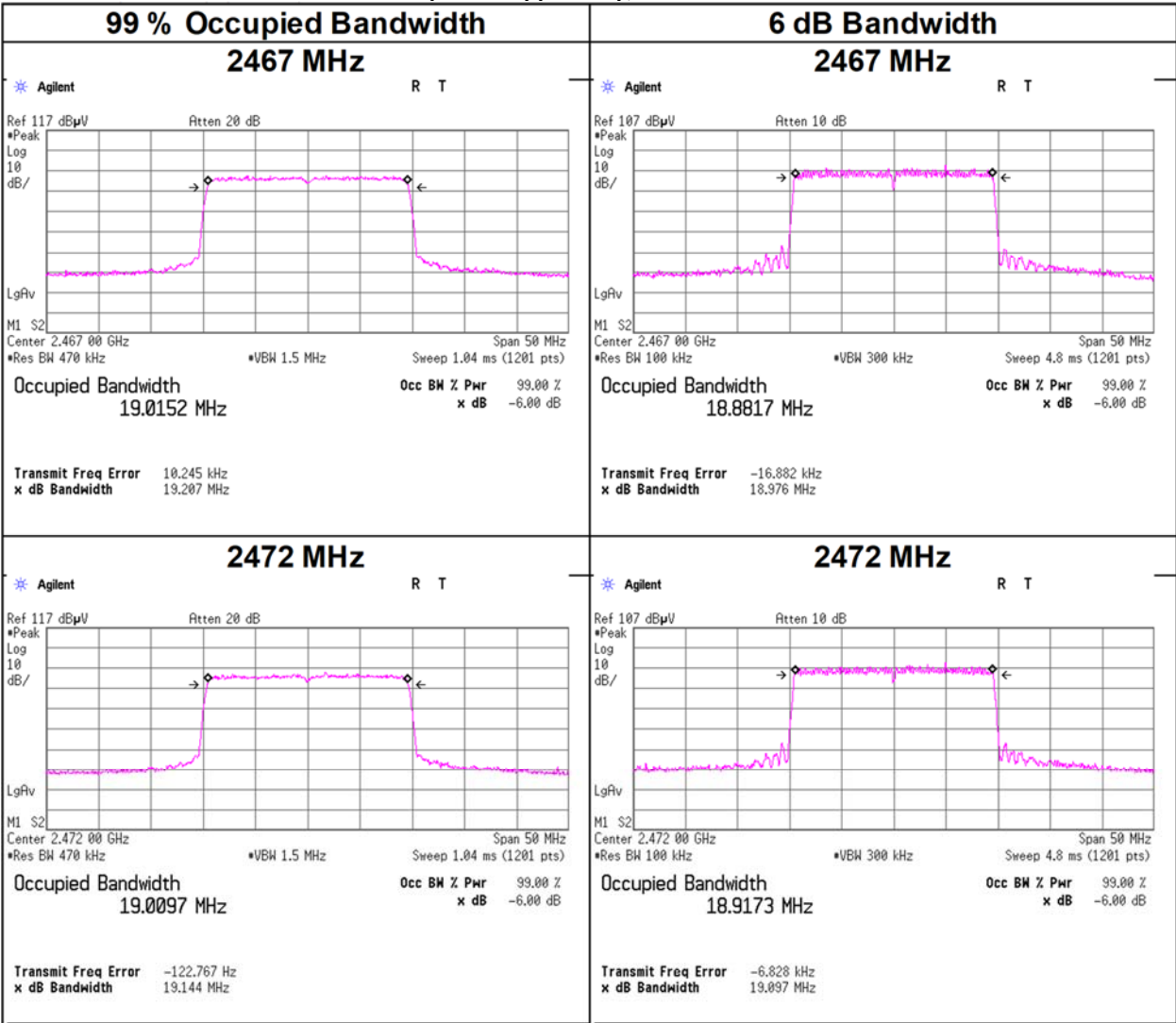
99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDM)(SISO), Antenna : Ant 0



99 % Occupied Bandwidth and 6 dB Bandwidth

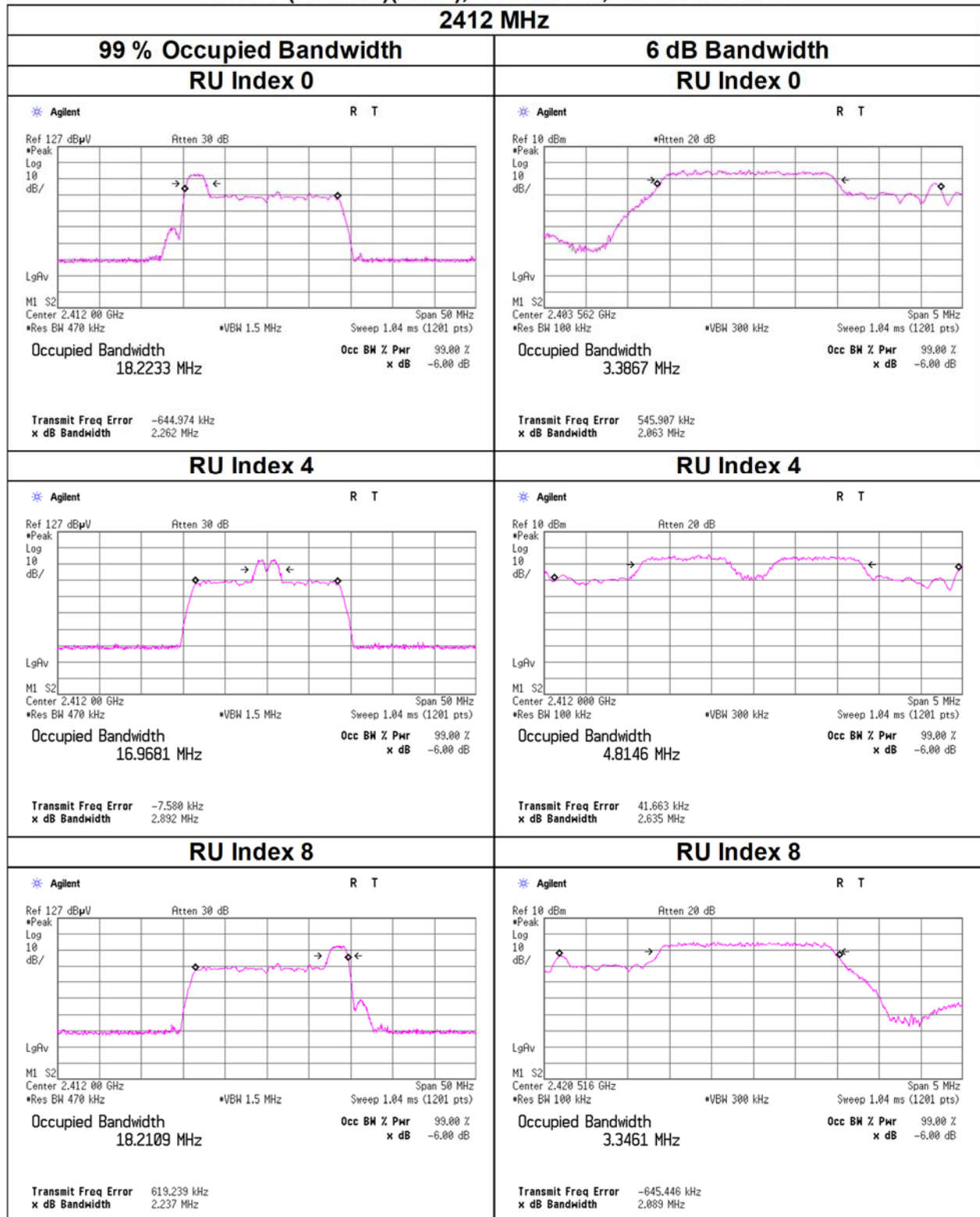
11ax-20(OFDM)(SISO), Antenna : Ant 0



99 % Occupied Bandwidth and 6 dB Bandwidth

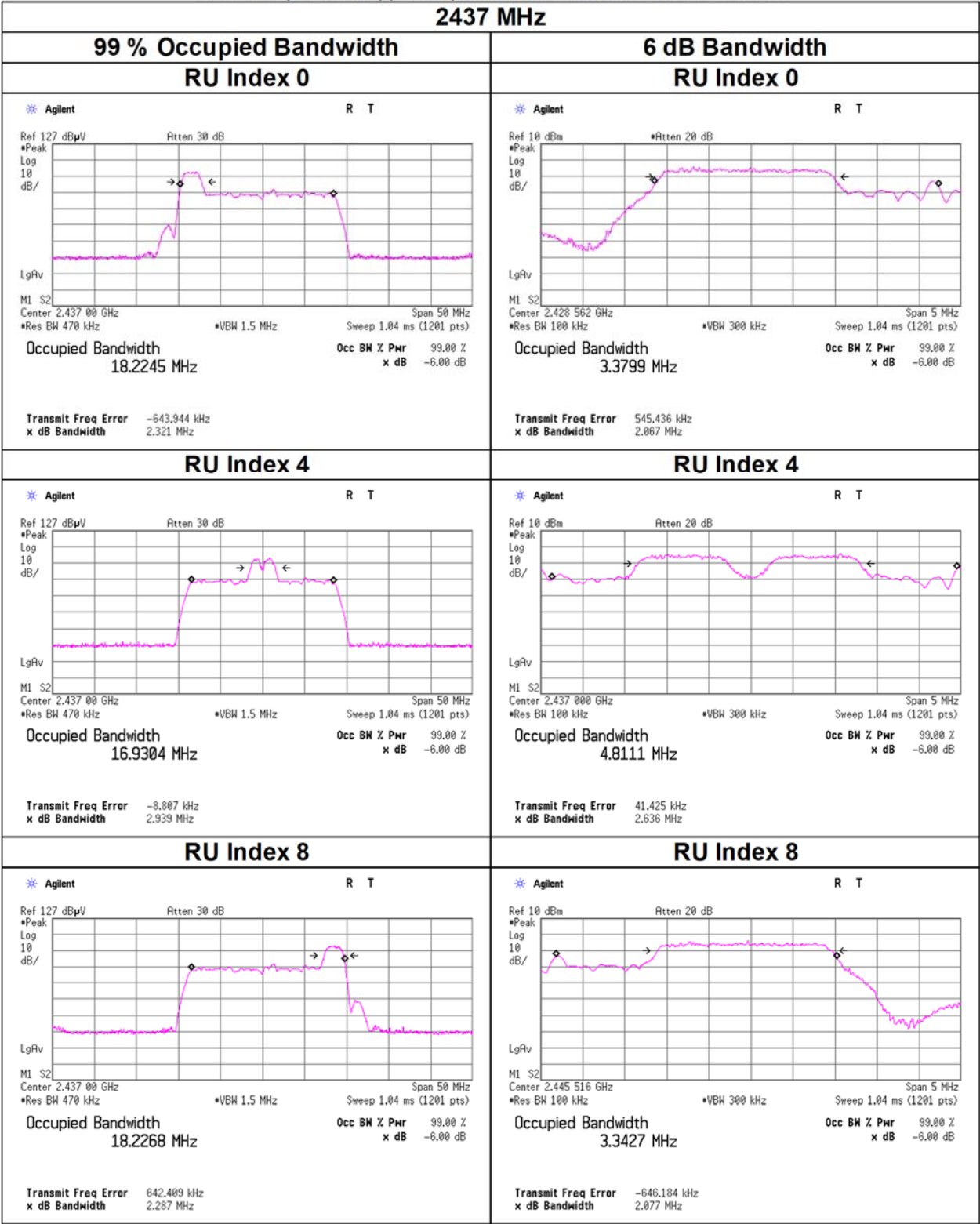
11ax-20(OFDMA)(SISO), 26-tone RU, Antenna : Ant 0

2412 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

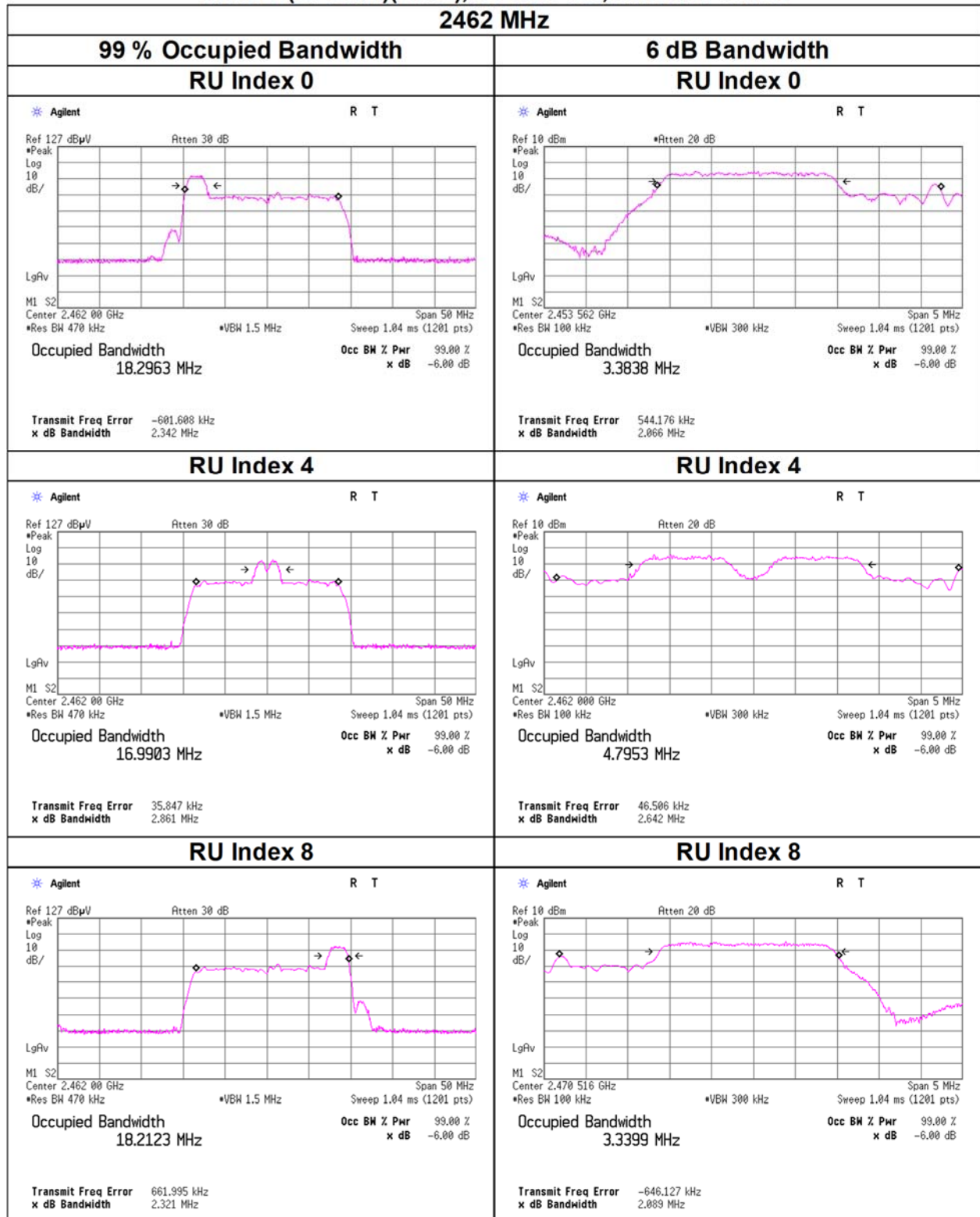
11ax-20(OFDMA)(SISO), 26-tone RU, Antenna : Ant 0
2437 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

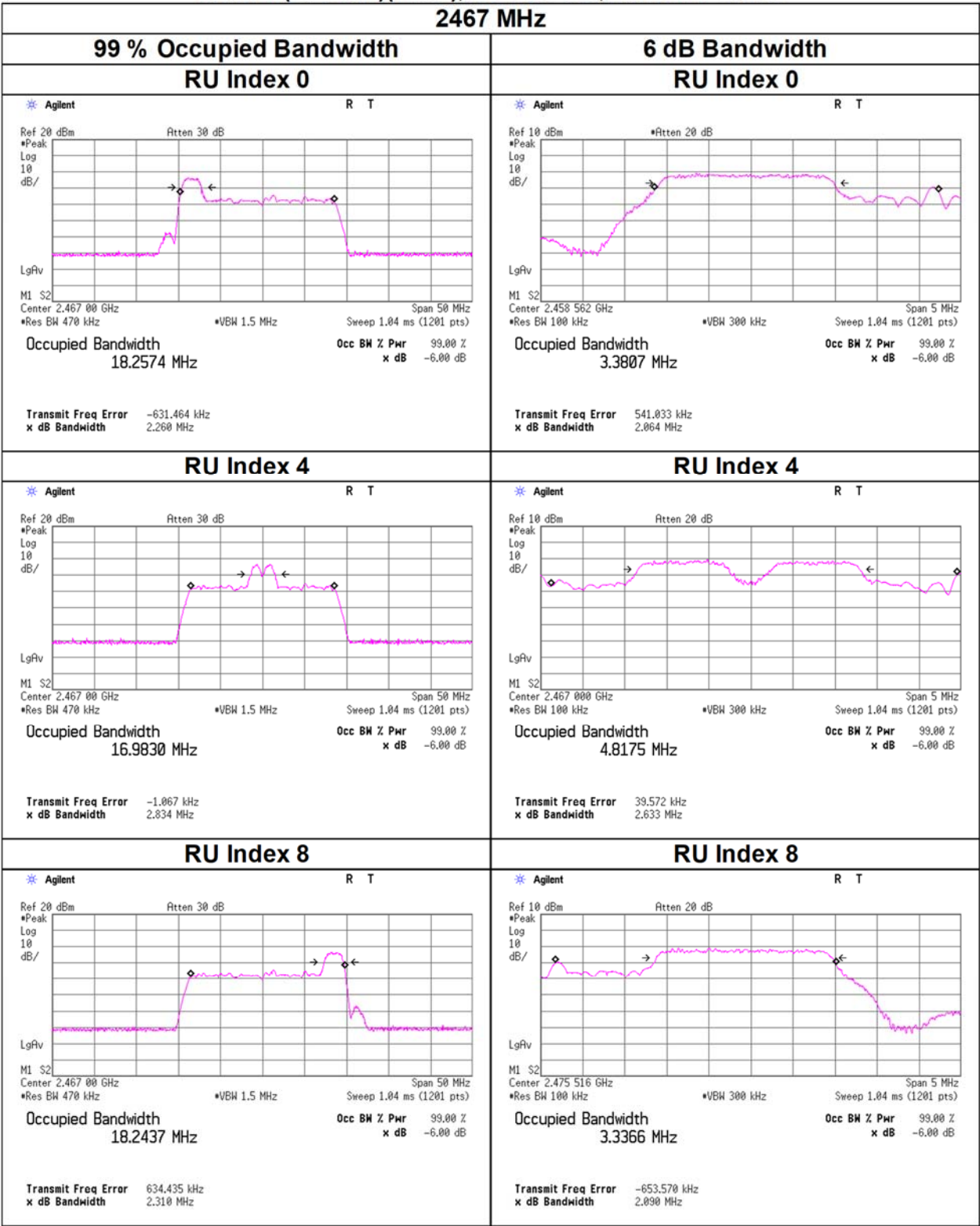
11ax-20(OFDMA)(SISO), 26-tone RU, Antenna : Ant 0

2462 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

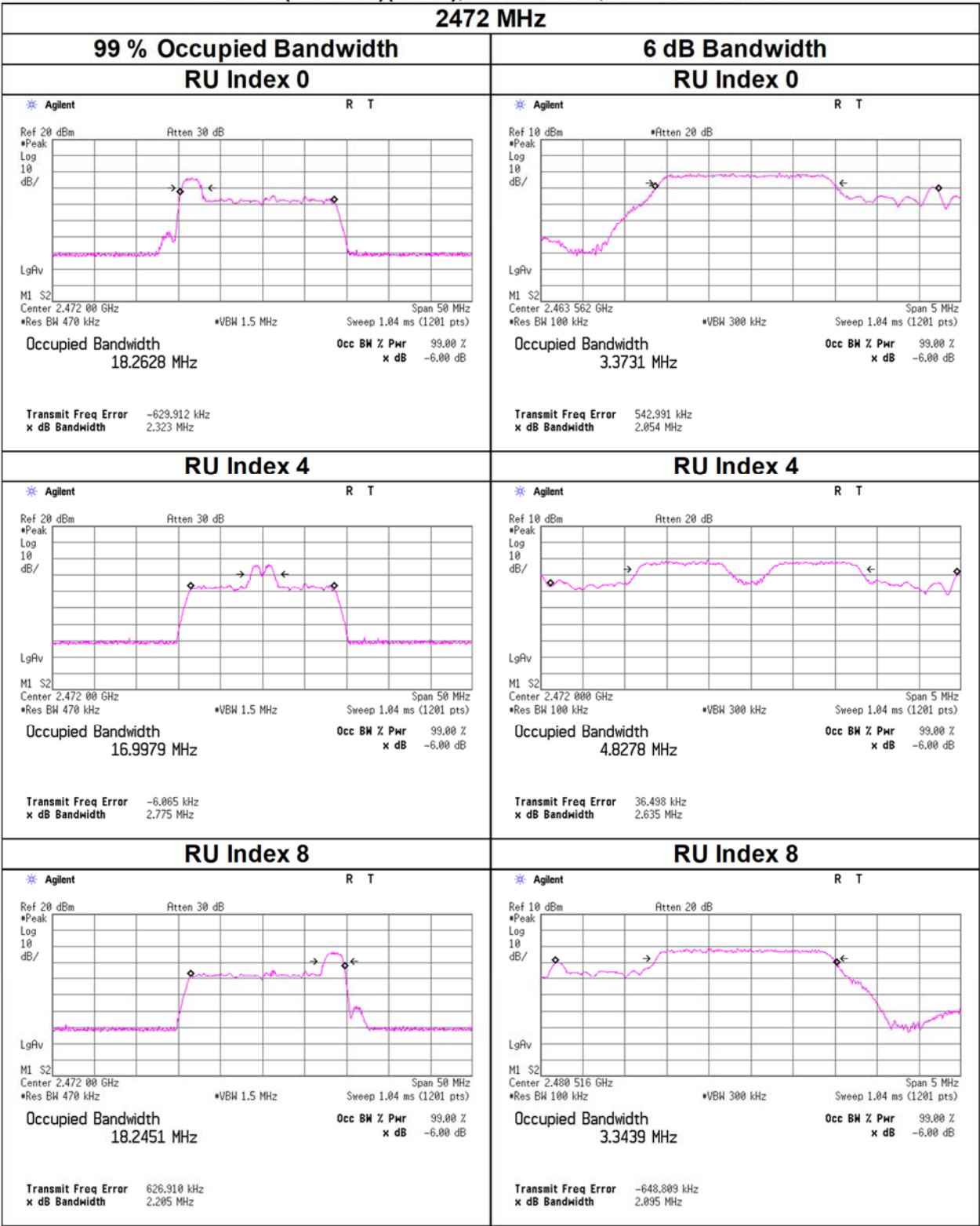
11ax-20(OFDMA)(SISO), 26-tone RU, Antenna : Ant 0
2467 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 26-tone RU, Antenna : Ant 0

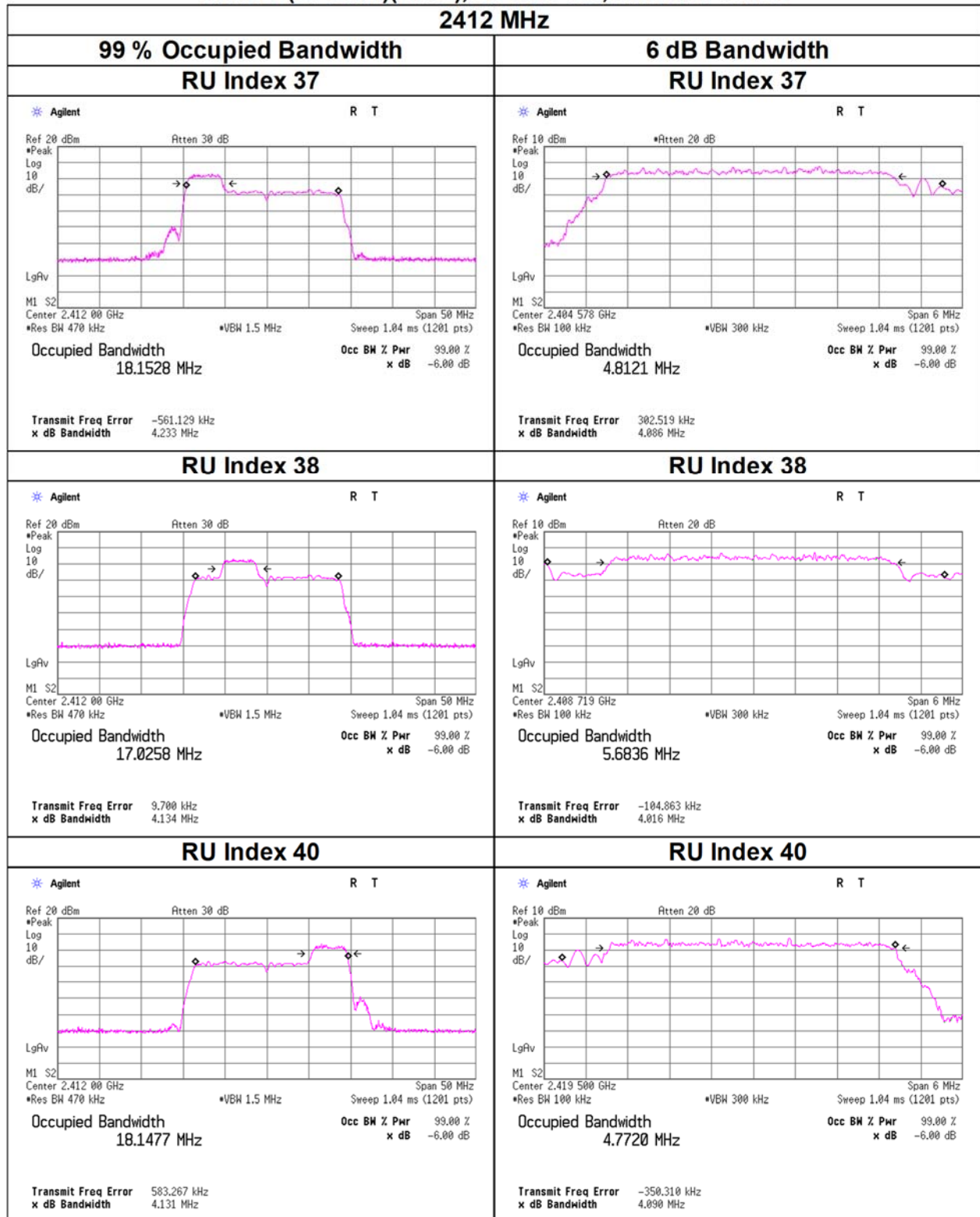
2472 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 52-tone RU, Antenna : Ant 0

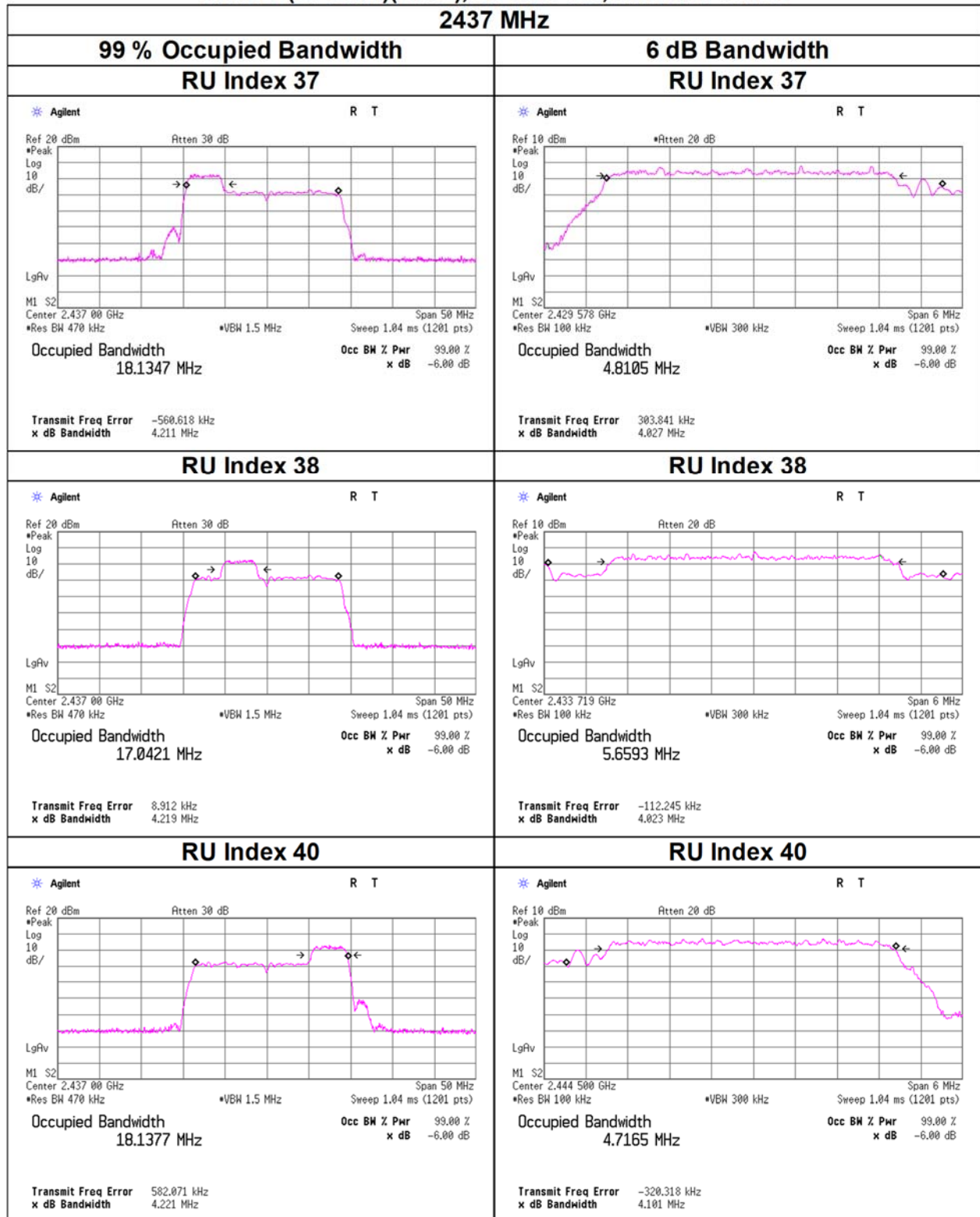
2412 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 52-tone RU, Antenna : Ant 0

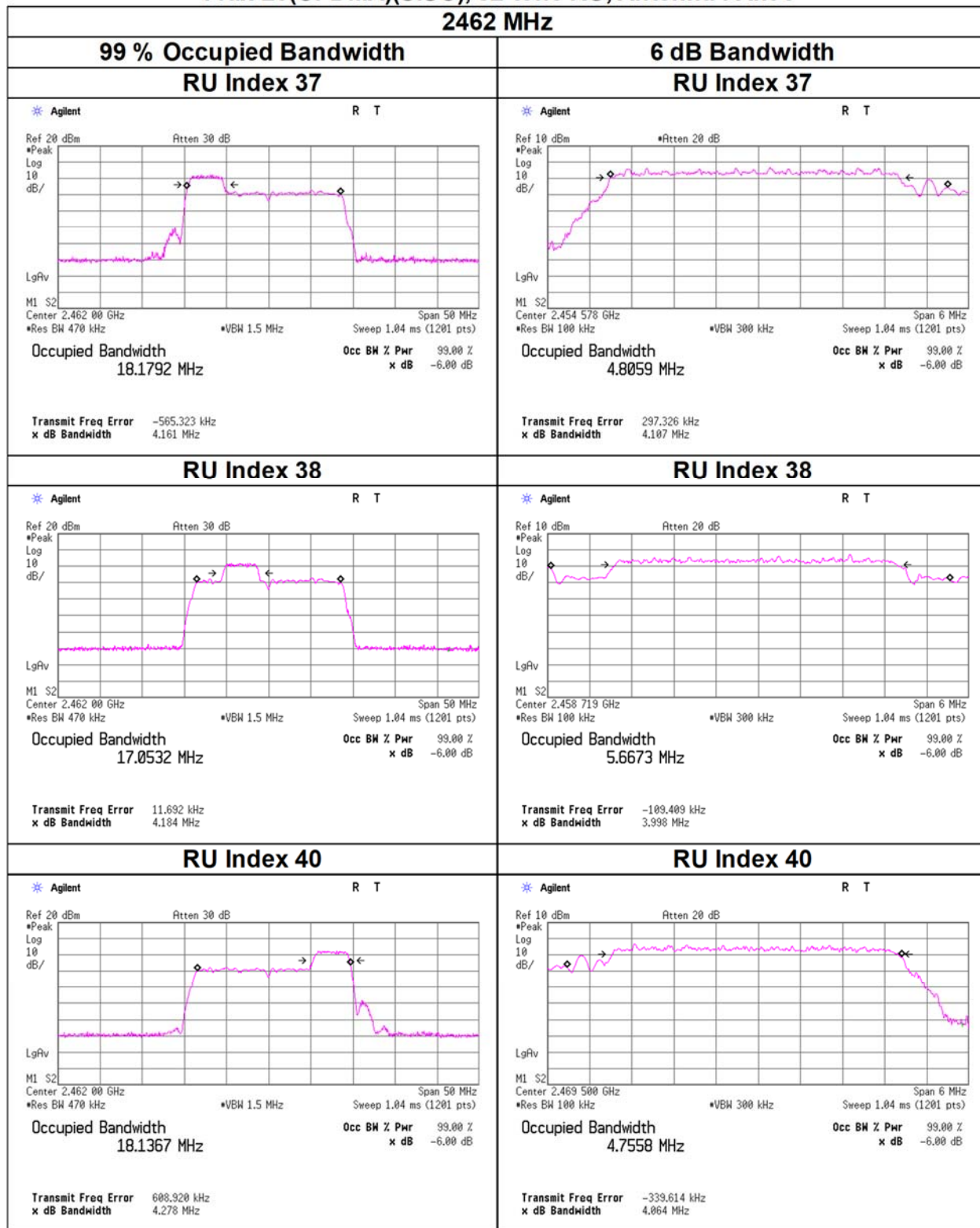
2437 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 52-tone RU, Antenna : Ant 0

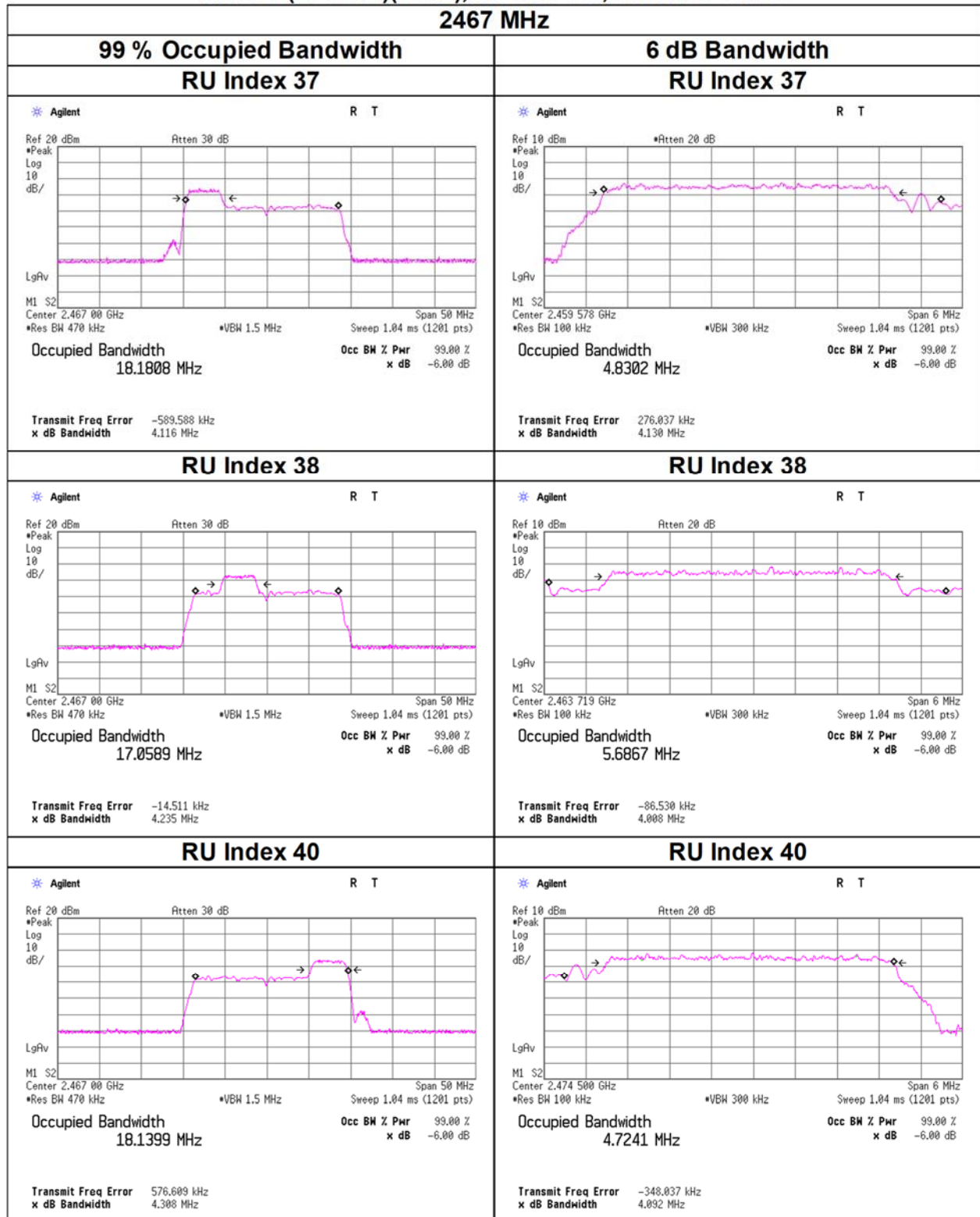
2462 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 52-tone RU, Antenna : Ant 0

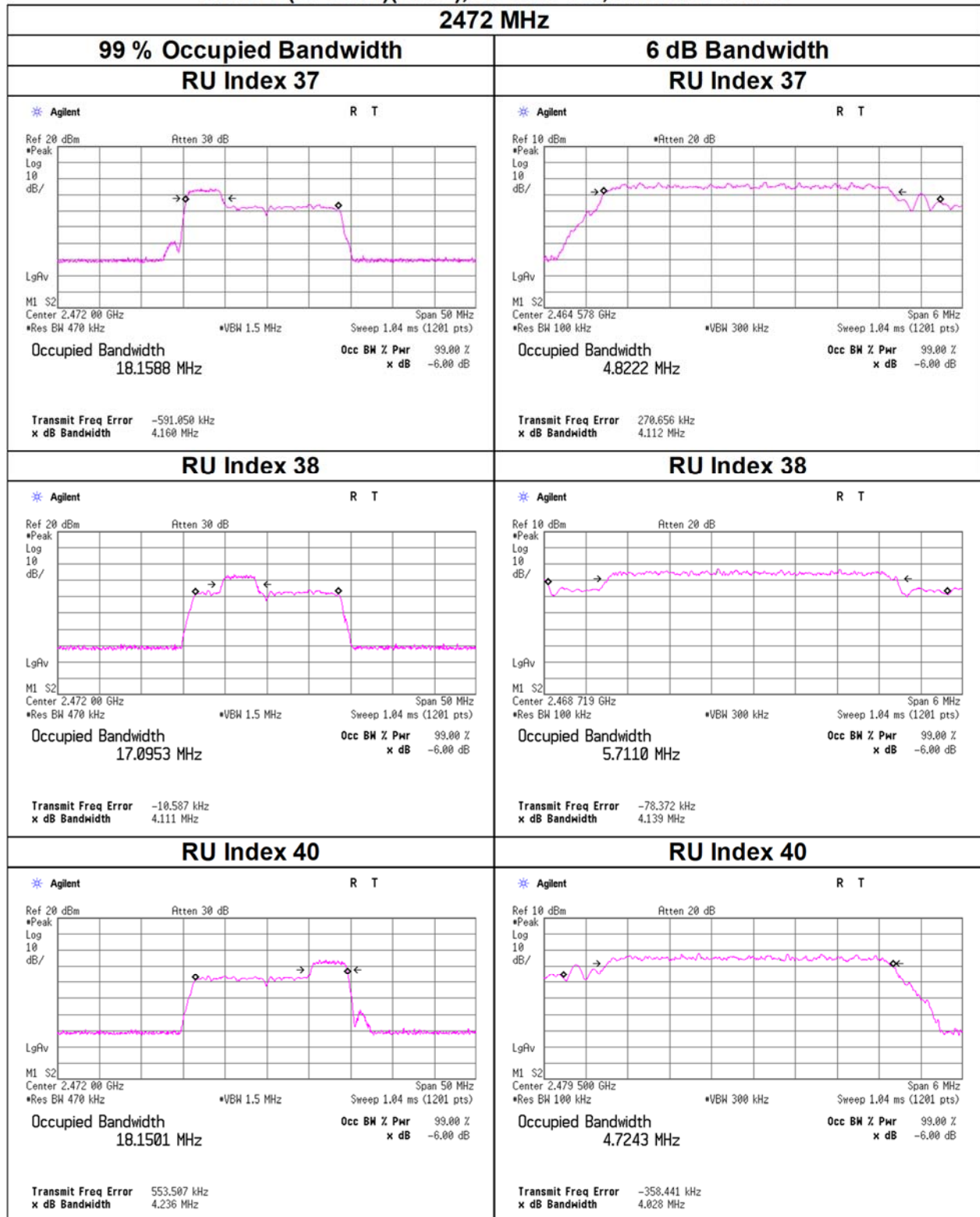
2467 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

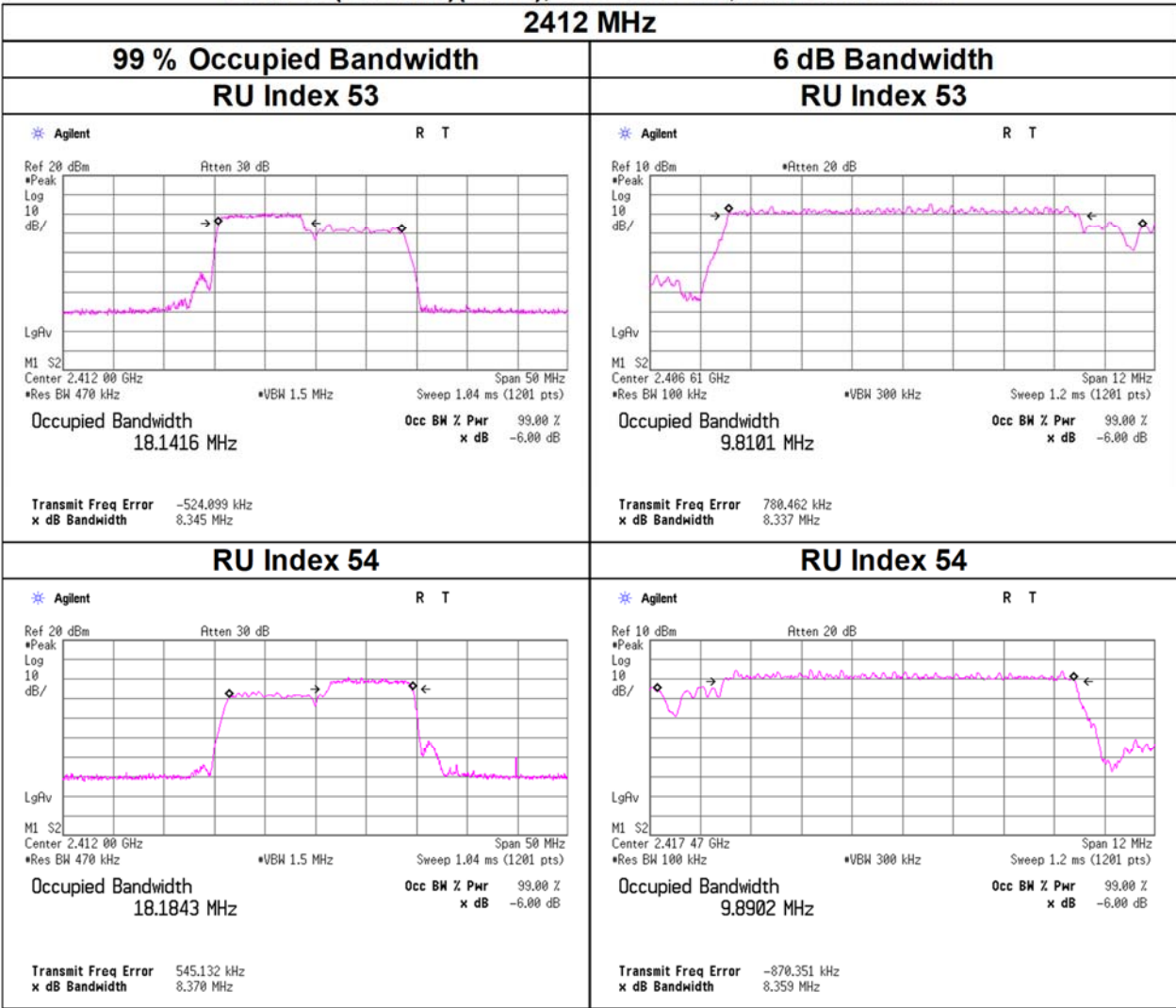
11ax-20(OFDMA)(SISO), 52-tone RU, Antenna : Ant 0

2472 MHz



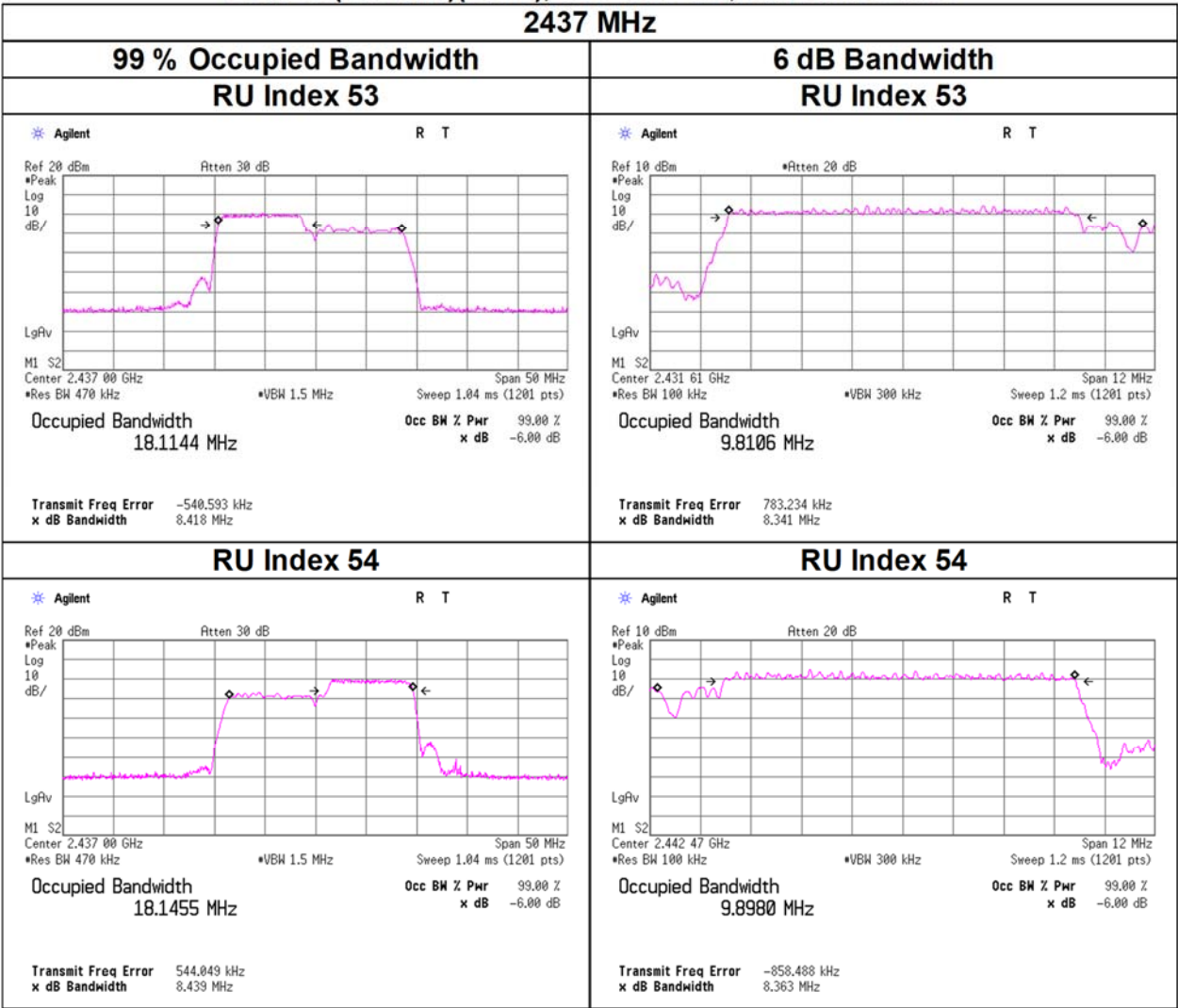
99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 106-tone RU, Antenna : Ant 0
2412 MHz



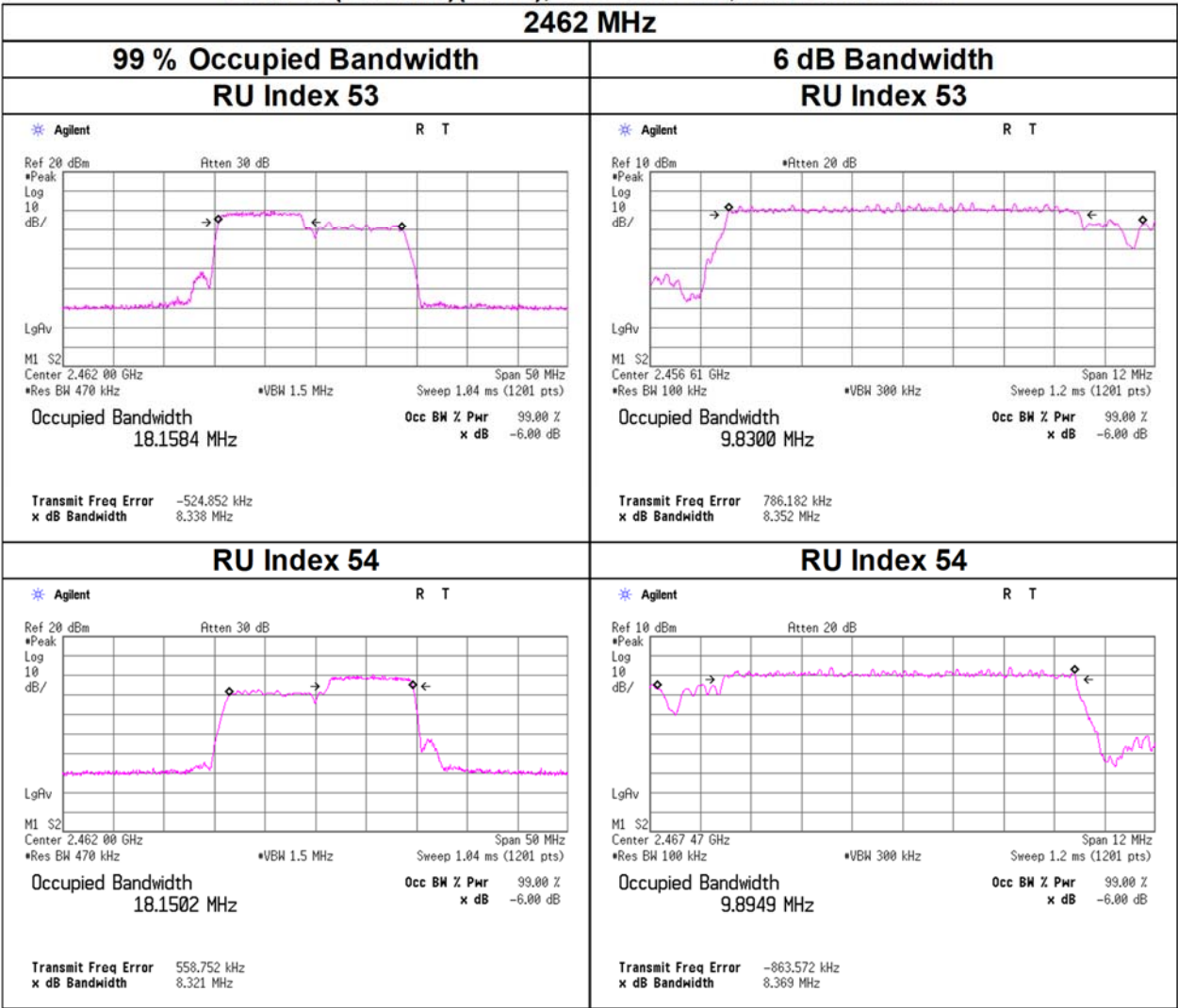
99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 106-tone RU, Antenna : Ant 0
2437 MHz



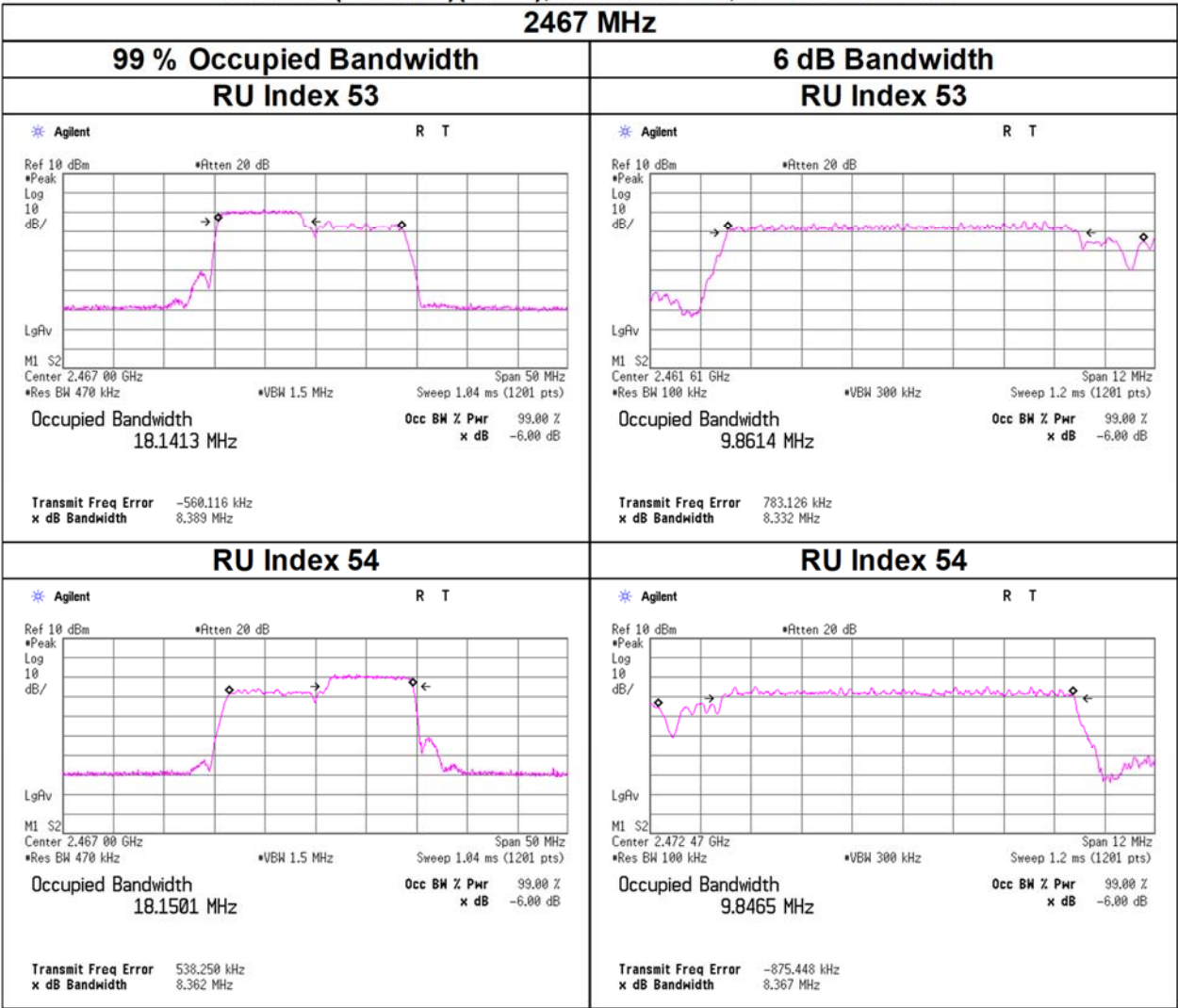
99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 106-tone RU, Antenna : Ant 0
2462 MHz



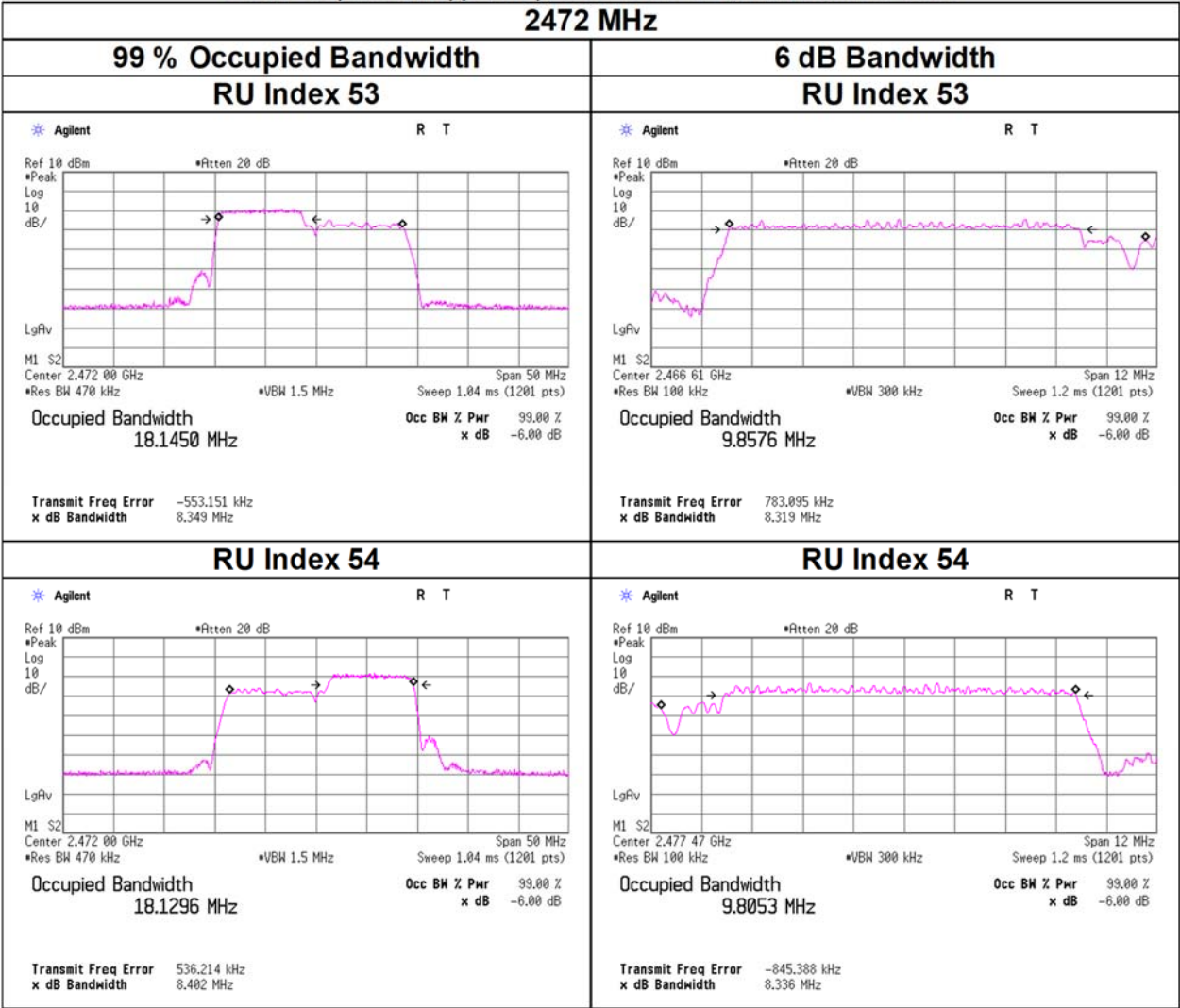
99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 106-tone RU, Antenna : Ant 0
2467 MHz



99 % Occupied Bandwidth and 6 dB Bandwidth

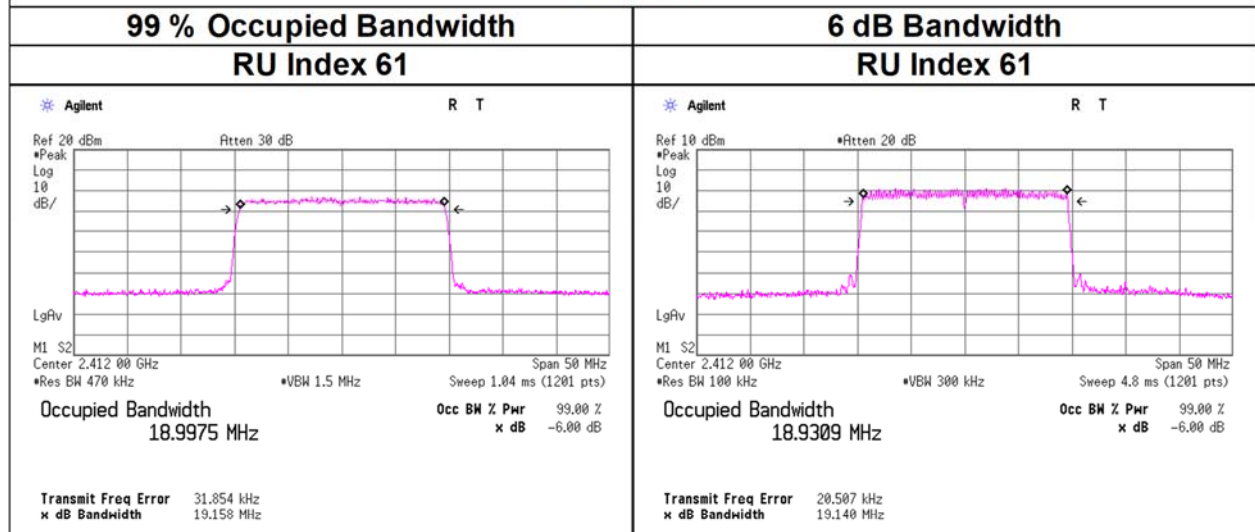
11ax-20(OFDMA)(SISO), 106-tone RU, Antenna : Ant 0
2472 MHz



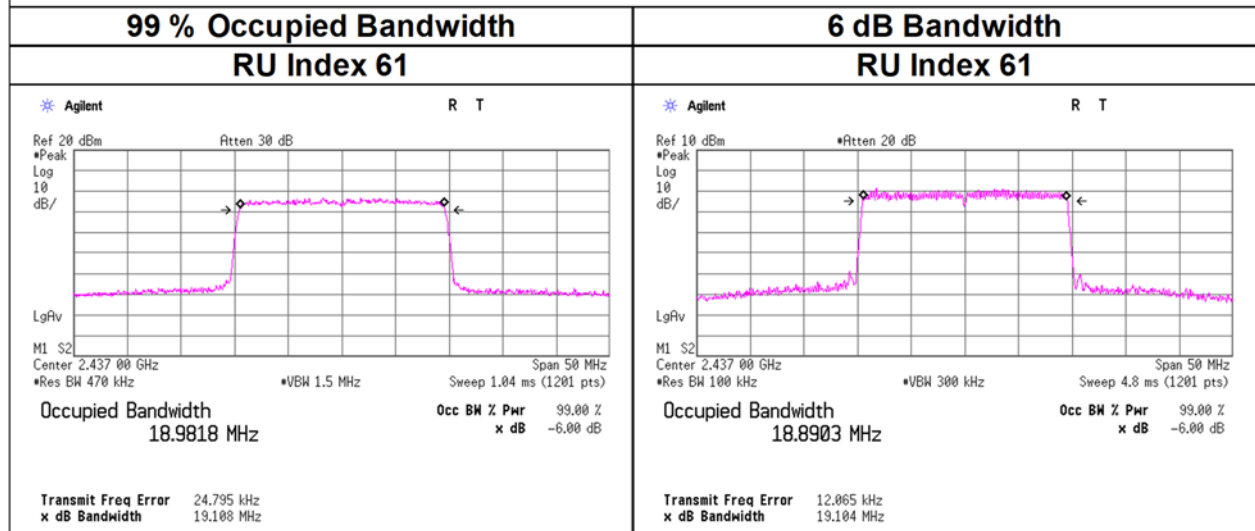
99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA)(SISO), 242-tone RU, Antenna : Ant 0

2412 MHz



2437 MHz



2462 MHz

