



RADIO TEST REPORT

Test Report No. : 31EE0214-HO-03-B-R1

Applicant : NEC CASIO Mobile Communications, Ltd.
Type of Equipment : Digital Portable Cellular Telephone
Model No. : KMP7N4Y1-2A
FCC ID : A98-TBP4266
Test regulation : FCC Part 15 Subpart C: 2010
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 limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
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6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
7. This report is a revised version of 31EE0214-HO-03-B. 31EE0214-HO-03-B is replaced with this report.

Date of test: December 24, 2010 to
January 31, 2011

**Representative
test engineer:**

Akio Hayashi
Engineer of WiSE Japan,
UL Verification Service

Approved by :

Go Ishiwata
Assistant Manager of WiSE Japan,
UL Verification Service

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



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SECTION 1: Customer information

Company Name : NEC CASIO Mobile Communications, Ltd.
Address : 1753 Shimonumabe, Nakahara-ku, Kawasaki, Kanagawa 211-8666 Japan
Telephone Number : +81-44-455-8045
Facsimile Number : +81-44-455-8025
Contact Person : Kazuhiro Kurihara

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Digital Portable Cellular Telephone
Model No. : KMP7N4Y1-2A
Serial No. : Refer to Section 4, Clause 4.2
Rating : DC 3.8V
Receipt Date of Sample : December 23, 2010
Country of Mass-production : Japan
Condition of EUT : Production prototype
Modification of EUT : No Modification by the test lab

2.2 Product description

Model No: KMP7N4Y1-2A, (referred to as the EUT in this report), is the Digital Portable Cellular Telephone.

Radio Specification

Bluetooth module of the product (FCC ID: A98-TBP4266):

Bluetooth (Ver.2.1 + EDR)

Equipment Type	Transceiver
Frequency of Operation	2402-2480MHz
Other Clock Frequency	19.2MHz
Type of Modulation	FHSS
Bandwidth & Channel spacing	1MHz & 1MHz
Antenna Connector Type	Integrated antenna

- . The hopping sequence is pseudorandom
- . All channels are used equally on average
- . The receiver input bandwidth equals the transmit bandwidth
- . The receiver hops in sequence with the transmit signal

In accordance with the Bluetooth Industry Standard, the system is designed to comply with all of the regulation in Section 15.247 when the transmitter is presented with a continuous data (or information) system.

In accordance with the Bluetooth Industry Standard, the system does not coordinate its channels selection/hopping sequence with other frequency hopping systems for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters.

Other radio Specification

WLAN (IEEE802.11b/g/n (SISO/HT20))

Equipment Type	Transceiver
Frequency of Operation	2400-2483.5MHz
Other Clock Frequency	19.2MHz
Type of Modulation	DSSS, OFDM
Antenna Connector Type	Integrated antenna

GSM

Equipment Type	Transceiver
Frequency of Operation	[Up Link] GSM850: 824 – 849MHz PCS: 1850 – 1910MHz [Down Link] GSM850: 869 – 894MHz PCS: 1930 – 1990MHz
Other Clock Frequency	19.2MHz
Type of Modulation	GMSK
Channel spacing	200kHz
Antenna Connector Type	Integrated antenna

W-CDMA

Equipment Type	Transceiver
Frequency of Operation	[Up Link] Band V: 824 – 849MHz [Down Link] Band V: 869 – 894MHz
Other Clock Frequency	19.2MHz
Type of Modulation	QPSK
Channel spacing	5MHz
Antenna Connector Type	Integrated antenna

GPS

Equipment Type	Receiver
Receiver Type	Direct Downconversion
Frequency of Operation	1575.42MHz
Other Clock Frequency	19.2MHz
Antenna Connector Type	Integrated antenna

RFID

Equipment Type	Transceiver
Frequency of Operation	13.56MHz
Type of Modulation	ASK
Antenna Connector Type	Integrated antenna

*This test report applies for Bluetooth.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart C: 2010, final revised on December 6, 2010 and effective January 5, 2011

Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207 Conducted limits
Section 15.247 Operation within the bands 902-928MHz,
2400-2483.5MHz, and 5725-5850MHz

*The revision on December 6, 2010 does 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 C63.4:2003 7. AC powerline conducted emission measurements	FCC: Section 15.207	[QP] 21.7dB, 0.16911MHz, N, Bluetooth Tx, 3DH5, 2441MHz [AV] 26.0dB, 0.16911MHz, N, Bluetooth Tx, 3DH5, 2441MHz	Complied	-
Carrier Frequency Separation	FCC: FCC Public Notice DA 00-705	FCC: Section15.247(a)(1)	See data.	Complied	Conducted
20dB Bandwidth	FCC: FCC Public Notice DA 00-705	FCC: Section15.247(a)(1)		Complied	Conducted
Number of Hopping Frequency	FCC: FCC Public Notice DA 00-705	FCC: Section15.247(a)(1)(iii)		Complied	Conducted
Dwell time	FCC: FCC Public Notice DA 00-705	FCC: Section15.247(a)(1)(iii)		Complied	Conducted
Maximum Peak Output Power	FCC: FCC Public Notice DA 00-705	FCC: Section15.247(a)(b)(1)		Complied	Conducted
Spurious Emission & Band Edge Compliance	FCC: FCC Public Notice DA 00-705	FCC: Section15.247(d)	9.4dB 12205.00MHz, AV, Vert. Bluetooth Tx, 3DH5, 2441MHz	Complied	Conducted/ Radiated

Note: UL Japan, Inc.'s EMI Work Procedures No.QPM05 and QPM15.

* In case any questions arise about test procedure, ANSI C63.4: 2003 is also referred.

FCC 15.31 (e)

This EUT provides stable voltage(DC2.9V, 2.2V, 1.8V and 1.35V) constantly to RF Part 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	IC: RSS-Gen 4.6.1	IC: RSS-Gen 4.6.1	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.

Item	Frequency range	No.1 SAC ^{*1} /SR ^{*2} (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
Conducted emission (AC Mains) AMN/LISN	150kHz-30MHz	3.0 dB	2.7 dB	3.1 dB
Radiated emission (Measurement distance: 3m)	30MHz-300MHz	4.7 dB	4.5 dB	4.7 dB
	300MHz-1GHz	4.5 dB	4.6 dB	4.6 dB
	1GHz-13GHz	3.9 dB	3.9 dB	4.0 dB
Radiated emission (Measurement distance: 1m)	13GHz-18GHz	4.8 dB	4.8 dB	4.8 dB
	18GHz-25GHz	4.4 dB	4.2 dB	4.2 dB

*1: SAC=Semi-Anechoic Chamber

*2: SR= Shielded Room is applied besides radiated emission

Conducted emission test

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

Radiated emission test

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

Antenna port conducted test

Power Measurement uncertainty above 1GHz for this test was: (±) 0.8dB

Conducted emissions Measurement (below 1GHz) uncertainty for this test was: (±) 1.1dB

Conducted emissions Measurement (1G-3GHz) uncertainty for this test was: (±) 1.2dB

Conducted emissions Measurement (3G-18GHz) uncertainty for this test was: (±) 2.9dB

Conducted emissions Measurement (18G-26.5GHz) uncertainty for this test was: (±) 3.4dB

Bandwidth Measurement uncertainty for this test was: (±) 5.4%

3.5 Test Location

UL Japan, Inc. Shonan EMC Lab.

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

Telephone number : +81 463 50 6400

Facsimile number : +81 463 50 6401

JAB Accreditation No. : RTL02610

	FCC Registration No.	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measuremen t distance
☐ No.1 Semi-anechoic chamber	697847	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☐ No.2 Semi-anechoic chamber	697847	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☒ No.3 Semi-anechoic chamber	697847	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5m
☐ No.4 Full-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	-

3.6 Test set up, Data of EMI, and Test instruments

Refer to APPENDIX.

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

4.1 Operating Mode(s)

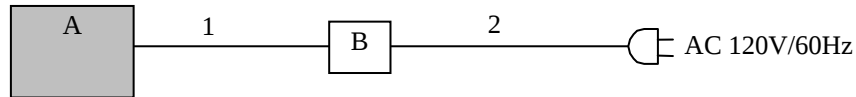
Bluetooth (BT): Transmitting (Tx), Payload: PRBS9
Inquiry

Details of Operating Mode(s)

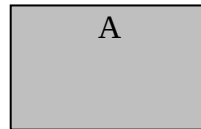
Test Item	Mode	Tested frequency
Conducted Emission, Spurious Emission (Conducted/Radiated)	Tx (Hopping off) DH5, 3DH5	2402MHz 2441MHz 2480MHz
Carrier Frequency Separation	Tx (Hopping on) DH5, 3DH5 Inquiry	2402MHz 2441MHz 2480MHz
20dB Bandwidth	Tx (Hopping off) DH5, 3DH5 Inquiry	2402MHz 2441MHz 2480MHz
Number of Hopping Frequency	Tx (Hopping on) DH5, 3DH5 Inquiry	-
Dwell time	Tx (Hopping on), -DH1, DH3, DH5 -3DH1, 3DH3, 3DH5 Inquiry	-
Maximum Peak Output Power	Tx (Hopping off) DH5, 3DH5 Inquiry	2402MHz 2441MHz 2480MHz
Band Edge Compliance (Conducted)	Tx DH5, 3DH5 -Hopping on -Hopping off	2402MHz 2480MHz
99% Occupied Bandwidth	Tx DH5, 3DH5 -Hopping on -Hopping off	2402MHz 2441MHz 2480MHz

4.2 Configuration and peripherals

[Conducted emission]



[Other tests]



* Setup was 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	Remark
A	Digital Portable Cellular Telephone	KMP7N4Y1-2A	004401200620017 *1) 004401200620033 *2) 004401200620355 *3)	NEC CASIO Mobile Communications, Ltd.	EUT
B	AC Adaptor	MAS-BH0008-A002	QLA	MITSUMI	-

*1) Used for Conducted Emission tests.

*2) Used for Antenna Terminal tests.

*3) Used for Radiated Emission tests.

List of cables used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	DC Cable	1.6	Shielded	Shielded	-
2	AC Cable	0.6	Unshielded	Unshielded	-

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm 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 40cm 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 80cm from any other grounded conducting surface. EUT was located 80cm from a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

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 AV
Measurement range	: 0.15-30MHz
Test data	: APPENDIX
Test result	: Pass

SECTION 6: Radiated Spurious Emission

Test Procedure

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm 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.

The height of the measuring antenna varied between 1 and 4m 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	30MHz to 300MHz	300MHz to 1GHz	Above 1GHz
Antenna Type	Biconical	Logperiodic	Horn

Frequency	Below 1GHz	Above 1GHz	
Instrument used	Test Receiver	Spectrum Analyzer	
Detector	QP	PK	AV
IF Bandwidth	BW 120kHz(T/R)	RBW: 1MHz VBW: 3MHz	RBW: 1MHz VBW: See Data *1)
Test Distance	3m	3m (below 13GHz), 1m*3) (above 13GHz),	

*1) Used for the band edge of the carrier and the harmonics that can be measured. The VBW is based on the inverse of the duty cycle (see Appendix).

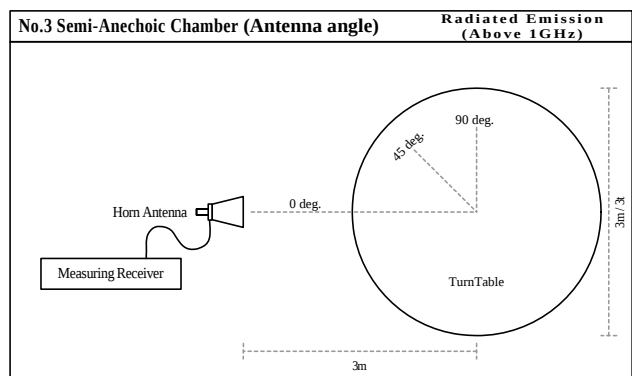
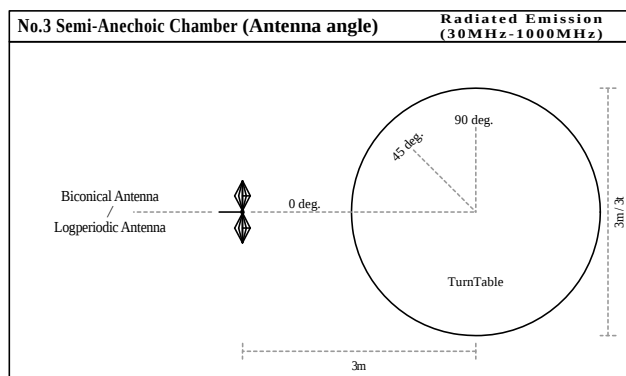
- The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

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

Measurement range : 30M-25GHz

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
20dB Bandwidth	3MHz	30kHz	100kHz	Auto	Peak	Max Hold	Spectrum Analyzer
99% Occupied Bandwidth	Enough width to display 20dB Bandwidth	1 to 3% of Span	Three times of RBW	Auto	Sample	Max Hold	Spectrum Analyzer
Maximum Peak Output Power	-	-	-	Auto	Peak	-	Power Meter (Sensor: 50MHz BW)
Carrier Frequency Separation	5MHz or 3MHz	51kHz or 30kHz	160kHz or 100kHz	Auto	Peak	Max Hold	Spectrum Analyzer
Number of Hopping Frequency	30MHz	300kHz	1MHz	Auto	Peak	Max Hold	Spectrum Analyzer
Dwell Time	Zero Span	1MHz	3MHz	As necessary capture the entire dwell time per hopping channel	Peak	Max Hold	Spectrum Analyzer
Conducted Spurious Emission	Less or equal to 5GHz (Range: 30MHz-25GHz)	100kHz	300kHz	Auto	Peak	Max Hold	Spectrum Analyzer
Conducted Spurious Emission Band Edge compliance	20MHz	100kHz	300kHz	Auto	Peak	Max Hold	Spectrum Analyzer

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

Test data : APPENDIX
Test result : Pass

APPENDIX 1: Photographs of test setup

DATA OF CONDUCTED EMISSION TEST

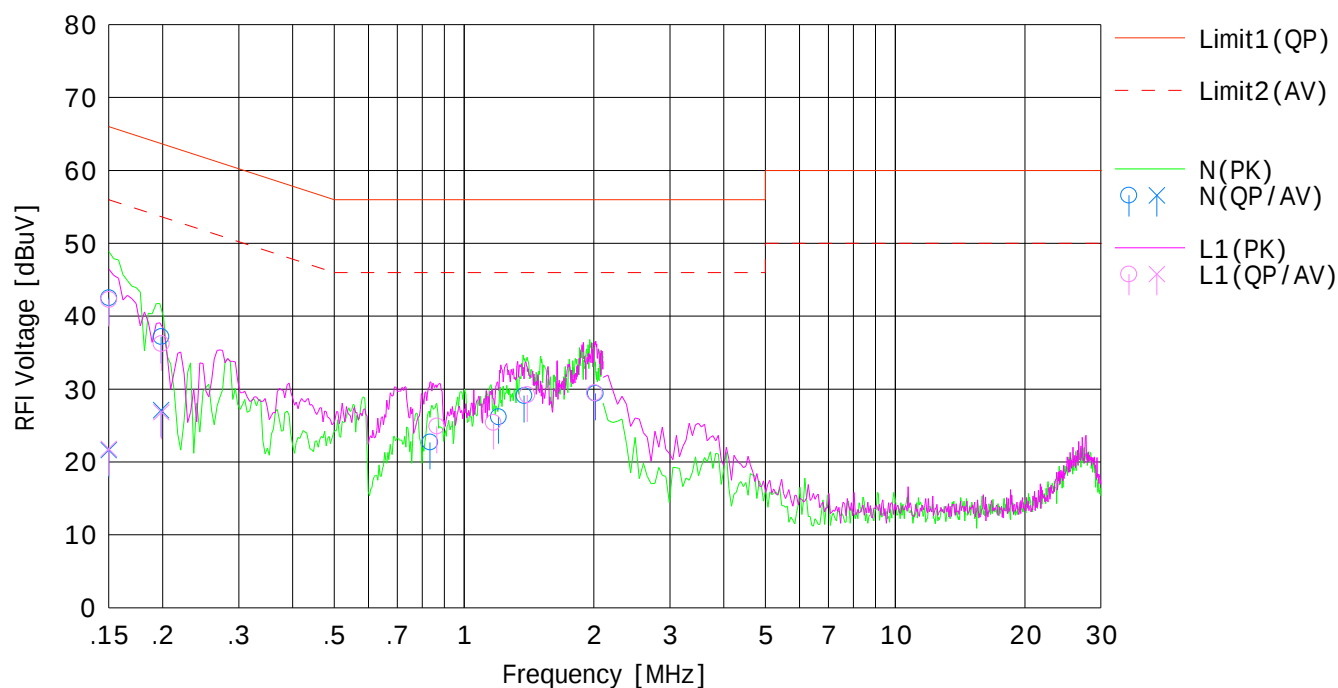
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2011/01/05

Company : NEC CASIO Mobile Communications, Ltd. Mode : Bluetooth, Tx, DH5, 2402MHz
Kind of EUT : Digital Portable Cellular Telephone Report No. : 31EE0214 -HO- 03 - B
Model No. : KMP7N4Y1 - 2A Power : AC120V/60Hz(AC adaptor)
Serial No. : 004401200620017 Temp./Humi. : 20deg.C./23%

Remarks : UE + Battery + AC Adaptor

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

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	29.9	9.0	12.6	42.5	21.6	66.0	56.0	23.5	34.4	N	
2	0.19831	24.6	14.5	12.6	37.2	27.1	63.6	53.6	26.4	26.5	N	
3	0.83387	10.1	---	12.6	22.7	---	56.0	46.0	33.3	---	N	
4	1.20150	13.6	---	12.6	26.2	---	56.0	46.0	29.8	---	N	
5	1.37705	16.5	---	12.6	29.1	---	56.0	46.0	26.9	---	N	
6	2.01672	16.7	---	12.7	29.4	---	56.0	46.0	26.6	---	N	
7	0.15000	29.7	9.2	12.6	42.3	21.8	66.0	56.0	23.7	34.2	L1	
8	0.19841	23.6	14.2	12.6	36.2	26.8	63.6	53.6	27.4	26.8	L1	
9	0.86446	12.3	---	12.6	24.9	---	56.0	46.0	31.1	---	L1	
10	1.16993	12.8	---	12.6	25.4	---	56.0	46.0	30.6	---	L1	
11	1.40050	16.6	---	12.6	29.2	---	56.0	46.0	26.8	---	L1	
12	2.00621	16.8	---	12.7	29.5	---	56.0	46.0	26.5	---	L1	

DATA OF CONDUCTED EMISSION TEST

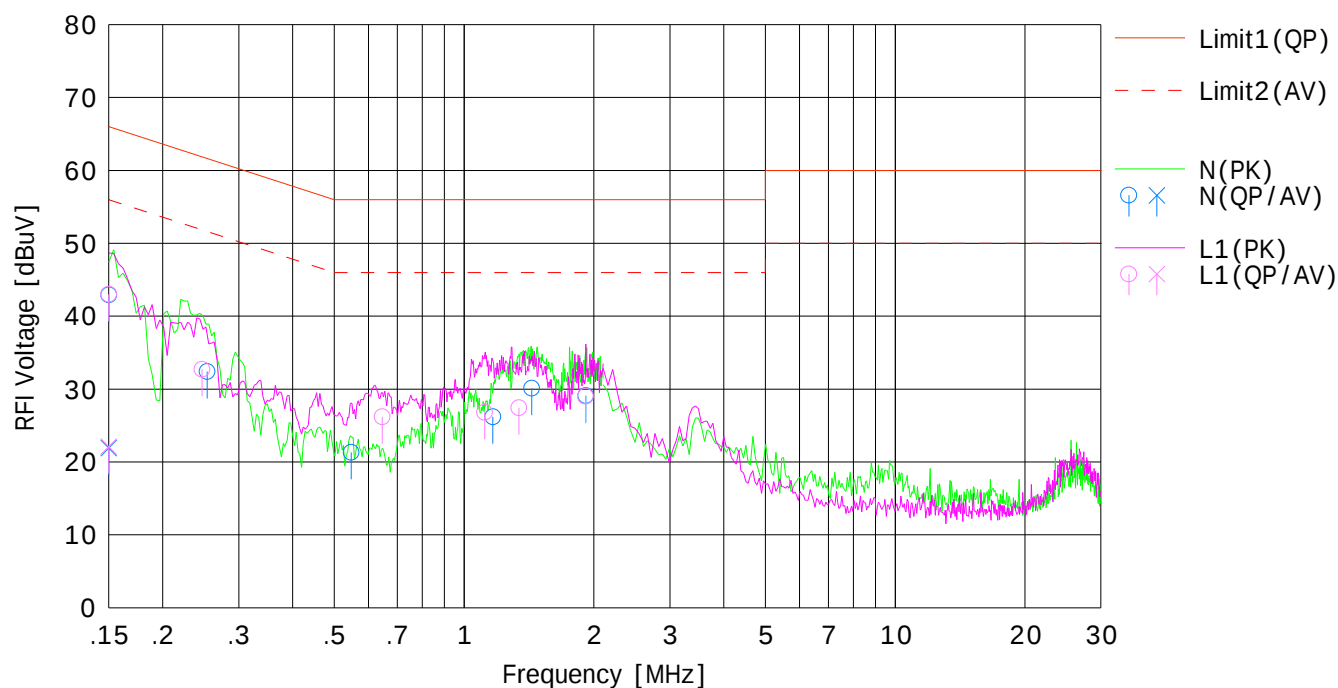
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2011/01/05

Company : NEC CASIO Mobile Communications, Ltd. Mode : Bluetooth, Tx, DH5, 2441MHz
Kind of EUT : Digital Portable Cellular Telephone Report No. : 31EE0214 -HO- 03 - B
Model No. : KMP7N4Y1 - 2A Power : AC120V/ 60Hz (AC adaptor)
Serial No. : 004401200620017 Temp. / Humi. : 20deg.C. / 23%

Remarks : UE + Battery + AC Adaptor

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

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	30.3	9.3	12.6	42.9	21.9	66.0	56.0	23.1	34.1	N	
2	0.25346	19.8	---	12.6	32.4	---	61.6	51.6	29.2	---	N	
3	0.54746	8.7	---	12.6	21.3	---	56.0	46.0	34.7	---	N	
4	1.16750	13.6	---	12.6	26.2	---	56.0	46.0	29.8	---	N	
5	1.43530	17.5	---	12.6	30.1	---	56.0	46.0	25.9	---	N	
6	1.91633	16.4	---	12.7	29.1	---	56.0	46.0	26.9	---	N	
7	0.15000	30.4	9.5	12.6	43.0	22.1	66.0	56.0	23.0	33.9	L1	
8	0.24675	20.1	---	12.6	32.7	---	61.8	51.8	29.1	---	L1	
9	0.64595	13.6	---	12.6	26.2	---	56.0	46.0	29.8	---	L1	
10	1.11710	14.2	---	12.6	26.8	---	56.0	46.0	29.2	---	L1	
11	1.34071	14.8	---	12.6	27.4	---	56.0	46.0	28.6	---	L1	
12	1.91340	16.3	---	12.7	29.0	---	56.0	46.0	27.0	---	L1	

DATA OF CONDUCTED EMISSION TEST

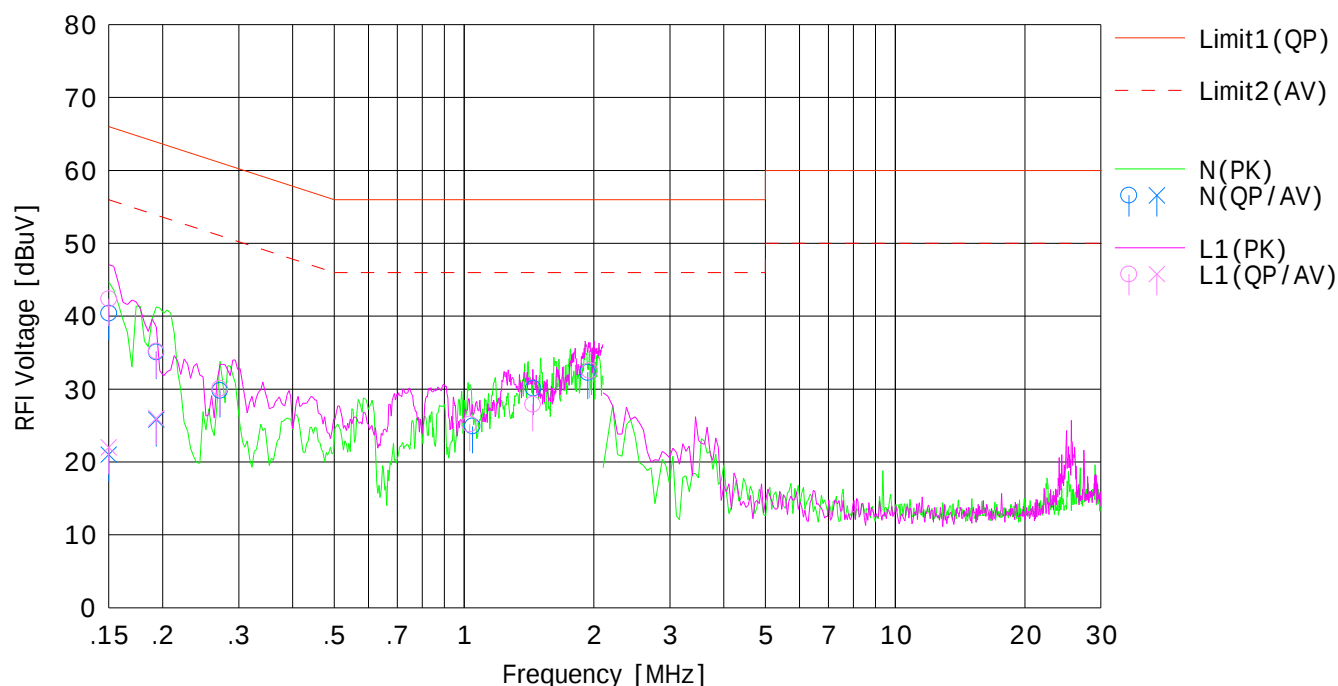
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2011/01/05

Company : NEC CASIO Mobile Communications, Ltd. Mode : Bluetooth, Tx, DH5, 2480MHz
Kind of EUT : Digital Portable Cellular Telephone Report No. : 31EE0214 -HO- 03- B
Model No. : KMP7N4Y1- 2A Power : AC120V/ 60Hz(AC adaptor)
Serial No. : 004401200620017 Temp./ Humi. : 20deg.C./ 23%

Remarks : UE + Battery + AC Adaptor

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

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	27.8	8.4	12.6	40.4	21.0	66.0	56.0	25.6	35.0	N	
2	0.19299	22.5	13.2	12.6	35.1	25.8	63.9	53.9	28.8	28.1	N	
3	0.27114	17.2	---	12.6	29.8	---	61.0	51.0	31.2	---	N	
4	1.04534	12.3	---	12.6	24.9	---	56.0	46.0	31.1	---	N	
5	1.44749	17.5	---	12.6	30.1	---	56.0	46.0	25.9	---	N	
6	1.93486	19.6	---	12.7	32.3	---	56.0	46.0	23.7	---	N	
7	0.15000	29.8	9.4	12.6	42.4	22.0	66.0	56.0	23.6	34.0	L1	
8	0.19299	22.6	13.4	12.6	35.2	26.0	63.9	53.9	28.7	27.9	L1	
9	0.27114	17.5	---	12.6	30.1	---	61.0	51.0	30.9	---	L1	
10	1.03071	12.6	---	12.6	25.2	---	56.0	46.0	30.8	---	L1	
11	1.44318	15.3	---	12.6	27.9	---	56.0	46.0	28.1	---	L1	
12	1.95540	19.8	---	12.7	32.5	---	56.0	46.0	23.5	---	L1	

DATA OF CONDUCTED EMISSION TEST

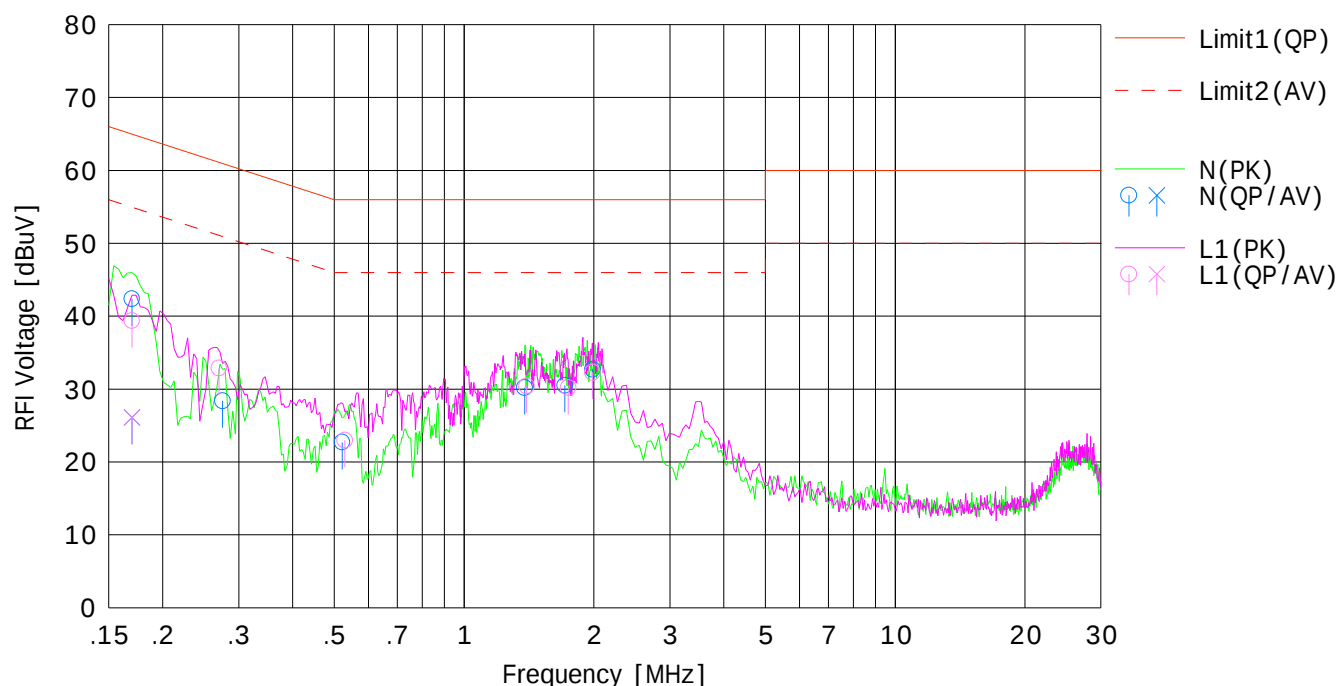
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2011/01/05

Company : NEC CASIO Mobile Communications, Ltd. Mode : Bluetooth, Tx, 3DH5, 2402MHz
Kind of EUT : Digital Portable Cellular Telephone Report No. : 31EE0214 -HO- 03- B
Model No. : KMP7N4Y1- 2A Power : AC120V/ 60Hz(AC adaptor)
Serial No. : 004401200620017 Temp./ Humi. : 20deg.C./ 23%

Remarks : UE + Battery + AC Adaptor

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

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.16954	29.8	13.5	12.6	42.4	26.1	64.9	54.9	22.5	28.8	N	
2	0.27505	15.8	---	12.6	28.4	---	60.9	50.9	32.5	---	N	
3	0.52124	10.1	---	12.6	22.7	---	56.0	46.0	33.3	---	N	
4	1.38149	17.6	---	12.6	30.2	---	56.0	46.0	25.8	---	N	
5	1.71473	17.9	---	12.6	30.5	---	56.0	46.0	25.5	---	N	
6	1.98667	20.0	---	12.7	32.7	---	56.0	46.0	23.3	---	N	
7	0.16954	26.8	13.5	12.6	39.4	26.1	64.9	54.9	25.5	28.8	L1	
8	0.26985	20.3	---	12.6	32.9	---	61.1	51.1	28.2	---	L1	
9	0.52872	10.4	---	12.6	23.0	---	56.0	46.0	33.0	---	L1	
10	1.39672	17.8	---	12.6	30.4	---	56.0	46.0	25.6	---	L1	
11	1.74439	17.6	---	12.6	30.2	---	56.0	46.0	25.8	---	L1	
12	1.98667	19.6	---	12.7	32.3	---	56.0	46.0	23.7	---	L1	

DATA OF CONDUCTED EMISSION TEST

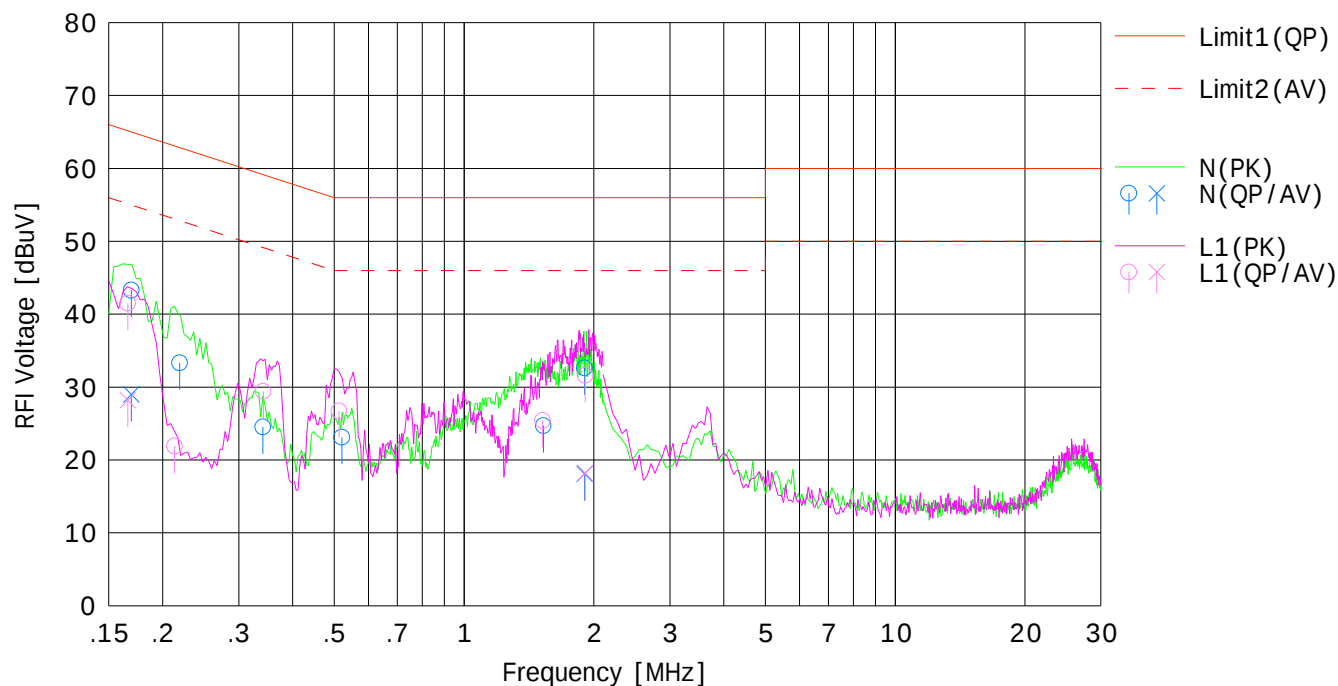
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2011/01/05

Company : NEC CASIO Mobile Communications, Ltd. Mode : Bluetooth, Tx, 3DH5, 2441MHz
Kind of EUT : Digital Portable Cellular Telephone Report No. : 31EE0214 -HO- 03 - B
Model No. : KMP7N4Y1 - 2A Power : AC120V/60Hz(AC adaptor)
Serial No. : 004401200620017 Temp./Humi. : 20deg.C./23%

Remarks : UE + Battery + AC Adaptor

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

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.16911	30.7	16.4	12.6	43.3	29.0	65.0	55.0	21.7	26.0	N	
2	0.21891	20.7	---	12.6	33.3	---	62.8	52.8	29.5	---	N	
3	0.34152	11.9	---	12.6	24.5	---	59.1	49.1	34.6	---	N	
4	0.52033	10.5	---	12.6	23.1	---	56.0	46.0	32.9	---	N	
5	1.52755	12.1	---	12.6	24.7	---	56.0	46.0	31.3	---	N	
6	1.90352	19.9	5.4	12.7	32.6	18.1	56.0	46.0	23.4	27.9	N	
7	0.16590	28.9	15.6	12.6	41.5	28.2	65.1	55.1	23.6	26.9	L1	
8	0.21300	9.3	---	12.6	21.9	---	63.0	53.0	41.1	---	L1	
9	0.34212	16.8	---	12.6	29.4	---	59.1	49.1	29.7	---	L1	
10	0.51311	14.1	---	12.6	26.7	---	56.0	46.0	29.3	---	L1	
11	1.52174	12.8	---	12.6	25.4	---	56.0	46.0	30.6	---	L1	
12	1.90943	18.9	5.5	12.7	31.6	18.2	56.0	46.0	24.4	27.8	L1	

DATA OF CONDUCTED EMISSION TEST

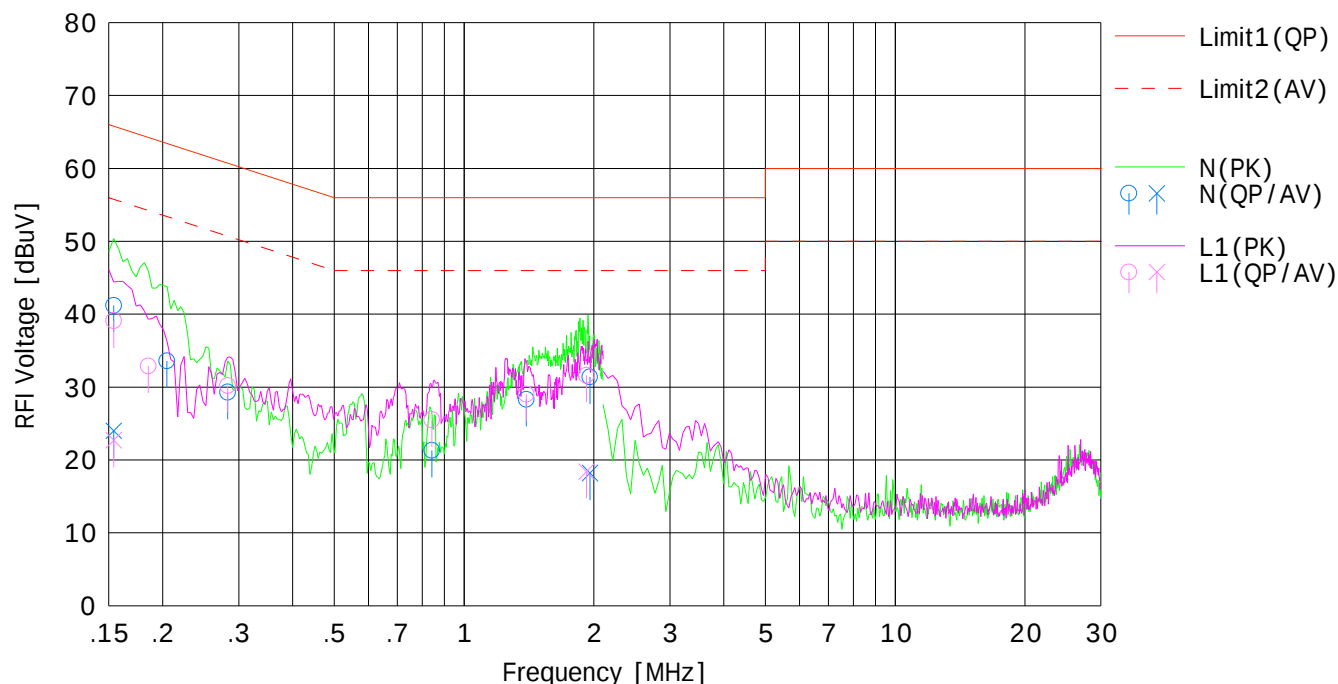
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2011/01/05

Company : NEC CASIO Mobile Communications, Ltd. Mode : Bluetooth, Tx, 3DH5, 2480MHz
Kind of EUT : Digital Portable Cellular Telephone Report No. : 31EE0214 -HO- 03 - B
Model No. : KMP7N4Y1 - 2A Power : AC120V/60Hz(AC adaptor)
Serial No. : 004401200620017 Temp./Humi. : 20deg.C./23%

Remarks : UE + Battery + AC Adaptor

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

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15391	28.6	11.4	12.6	41.2	24.0	65.7	55.7	24.5	31.7	N	
2	0.20454	21.0	---	12.6	33.6	---	63.4	53.4	29.8	---	N	
3	0.28287	16.7	---	12.6	29.3	---	60.7	50.7	31.4	---	N	
4	0.84168	8.7	---	12.6	21.3	---	56.0	46.0	34.7	---	N	
5	1.39430	15.7	---	12.6	28.3	---	56.0	46.0	27.7	---	N	
6	1.95754	18.7	5.5	12.7	31.4	18.2	56.0	46.0	24.6	27.8	N	
7	0.15391	26.5	10.1	12.6	39.1	22.7	65.7	55.7	26.6	33.0	L1	
8	0.18500	20.3	---	12.6	32.9	---	64.2	54.2	31.3	---	L1	
9	0.28287	17.6	---	12.6	30.2	---	60.7	50.7	30.5	---	L1	
10	0.84168	12.9	---	12.6	25.5	---	56.0	46.0	30.5	---	L1	
11	1.39300	16.4	---	12.6	29.0	---	56.0	46.0	27.0	---	L1	
12	1.92146	18.9	5.7	12.7	31.6	18.4	56.0	46.0	24.4	27.6	L1	

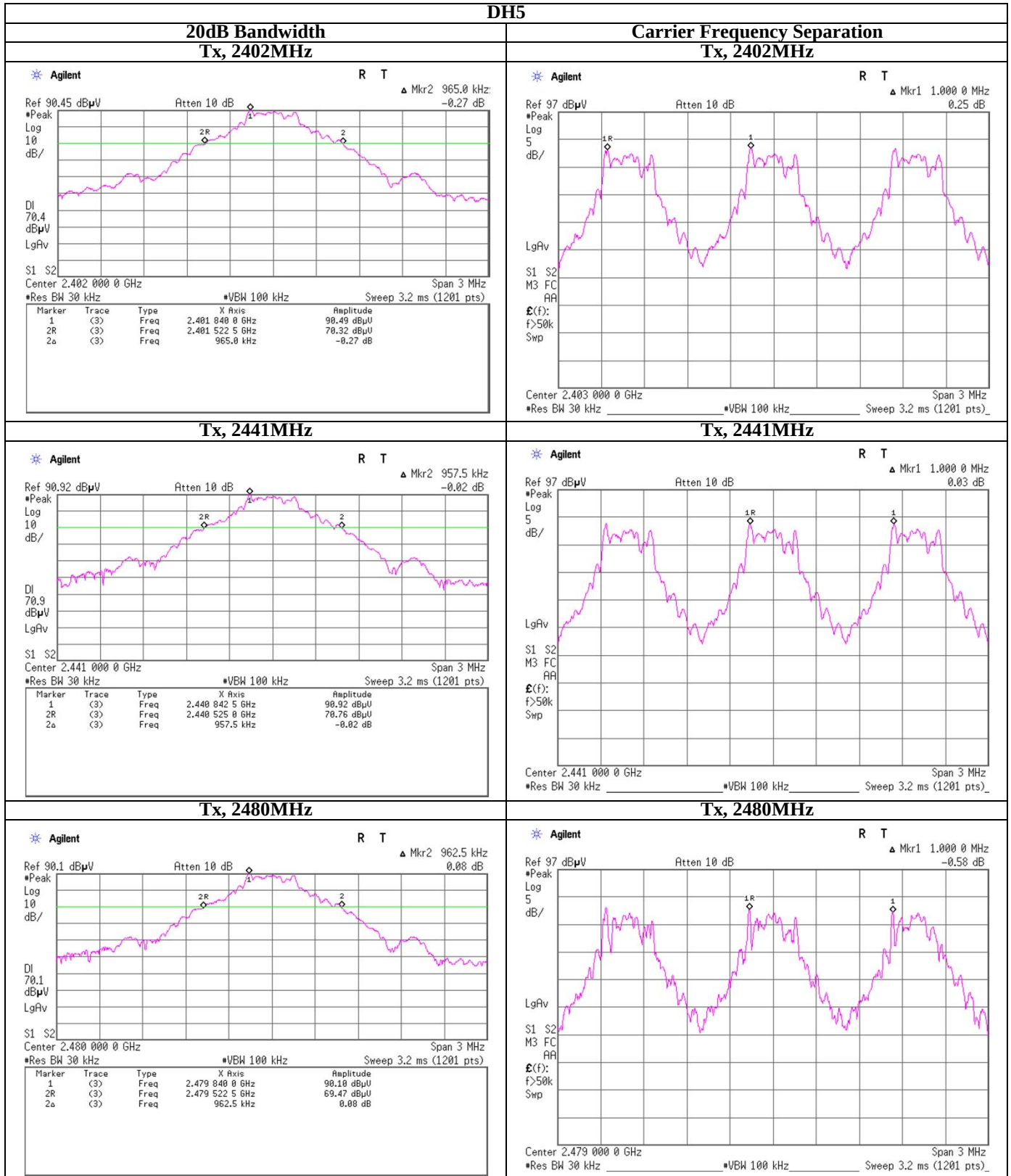
20dB Bandwidth and Carrier Frequency Separation

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	2010/12/27	2010/12/28
Temperature / Humidity	25deg.C. , 35%	25deg.C. , 32%
Engineer	Akio Hayashi	Akio Hayashi
Mode	(DH5, 3DH5)	(Inquiry mode)

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency Separation [MHz]
DH5	2402.0	0.965	1.000	>= 0.643
DH5	2441.0	0.957	1.000	>= 0.638
DH5	2480.0	0.962	1.000	>= 0.641
3DH5	2402.0	1.287	1.000	>= 0.858
3DH5	2441.0	1.290	1.000	>= 0.860
3DH5	2480.0	1.292	1.000	>= 0.861
Inquiry	2441.0	0.847	2.000	>= 0.565

Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).
No limit applies to 20dB Bandwidth.

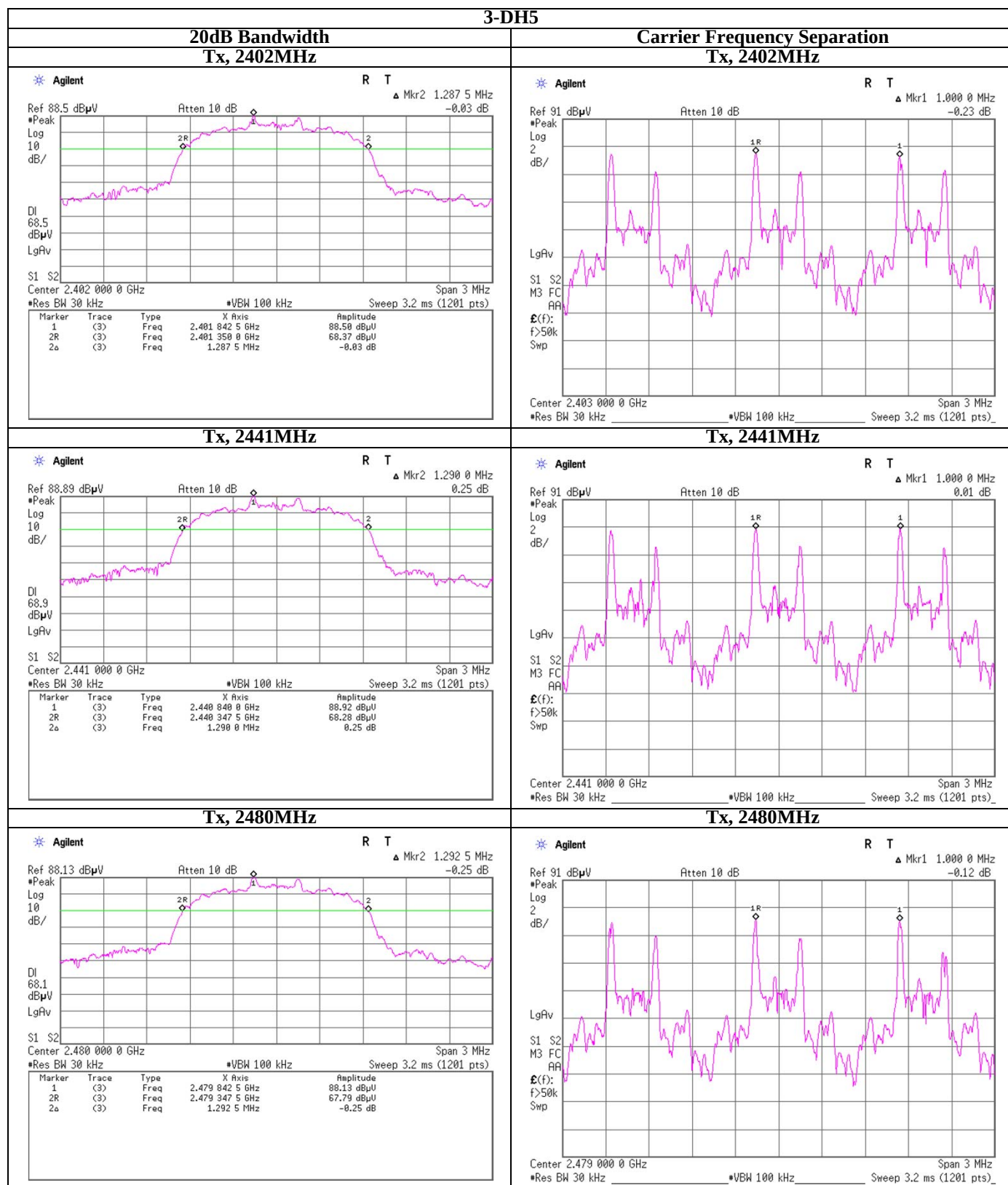
20dB Bandwidth and Carrier Frequency Separation



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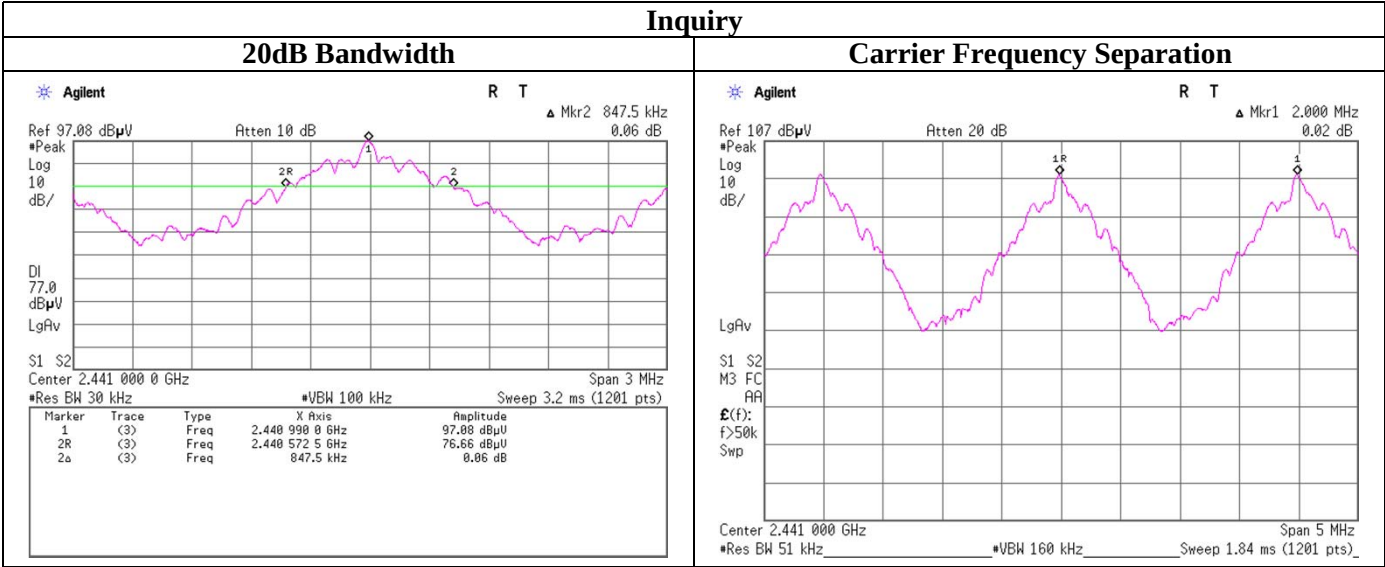
20dB Bandwidth and Carrier Frequency Separation



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20dB Bandwidth and Carrier Frequency Separation



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Number of Hopping Frequency (Conducted)

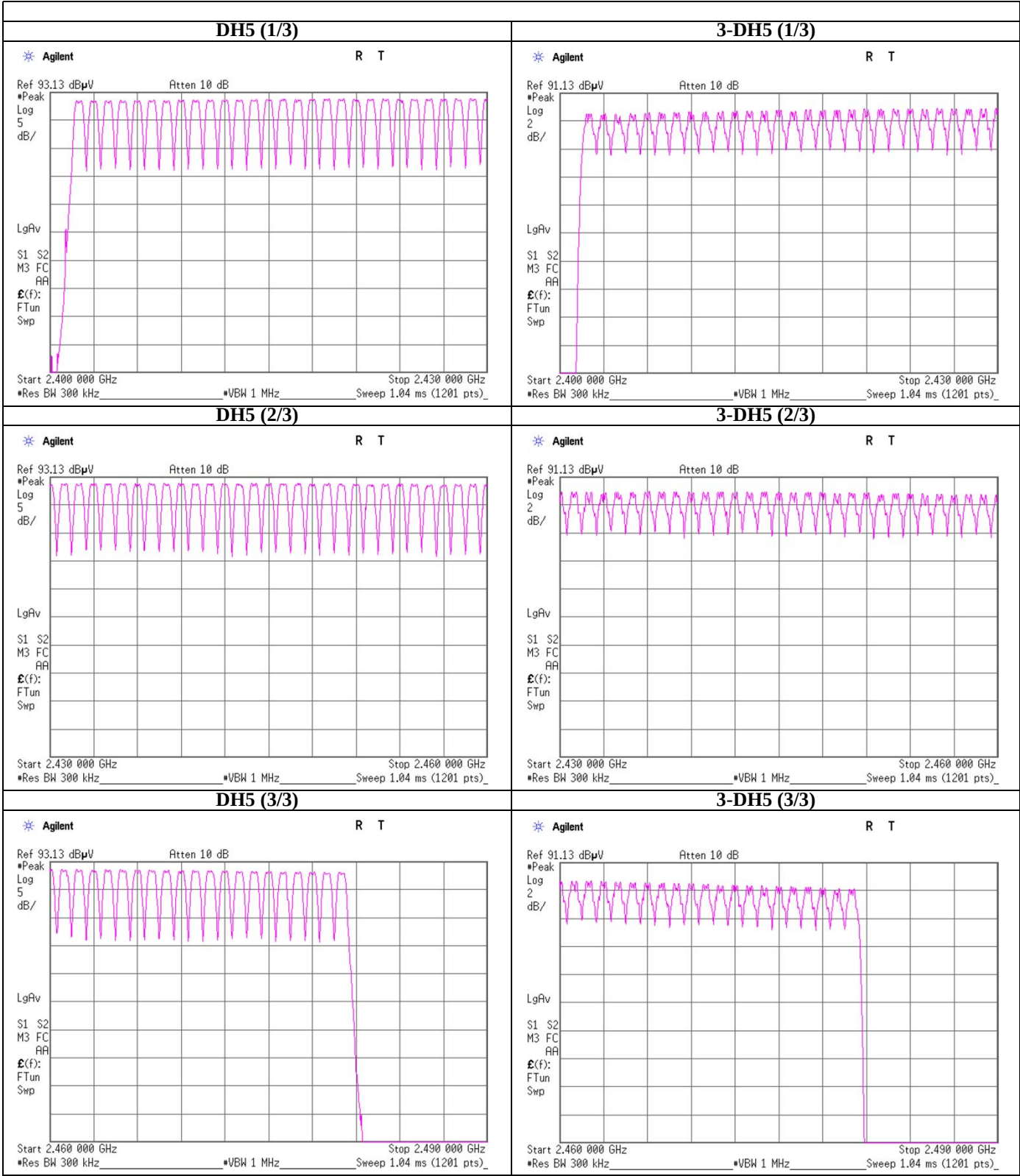
Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2010/12/27 2010/12/28
Temperature / Humidity 25deg.C. , 35% 25deg.C. , 32%
Engineer Akio Hayashi Akio Hayashi
Mode (DH5, 3-DH5) (Inquiry)

Mode	Number of Channel [times]	Limit [times]
DH5	79	>=15
3-DH5	79	>=15
Inquiry	32	>=15

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Number of Hopping Frequency



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Dwell Time (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
Date 2010/12/29
Temperature / Humidity 22deg.C. , 33%
Engineer Akio Hayashi
Mode Tx

Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period	Length of transmission time[msec]	Result [msec]	Limit [msec]
DH1	50.2 times / 5 sec. x 31.6 sec. = 318 times	0.383	122	400
DH3	26.8 times / 5 sec. x 31.6 sec. = 170 times	1.642	279	400
DH5	17.4 times / 5 sec. x 31.6 sec. = 110 times	2.894	318	400
3DH1	50.2 times / 5 sec. x 31.6 sec. = 318 times	1.073	341	400
3DH3	26.2 times / 5 sec. x 31.6 sec. = 166 times	1.641	272	400
3DH5	18.8 times / 5 sec. x 31.6 sec. = 119 times	2.898	345	400
Inquiry	100.0 times / 1 sec. x 12.8 sec. = 1280 times	0.084	108	400

Sample Calculation

Result = Number of transmission x Length of transmittion time

*Average data of 5 tests.(except Inquiry)

Mode	Sampling [times]					Average [times]
	1	2	3	4	5	
DH1	51	49	50	51	50	50.2
DH3	29	27	27	27	24	26.8
DH5	18	18	14	18	19	17.4
3DH1	50	51	49	51	50	50.2
3DH3	25	26	28	24	28	26.2
3DH5	20	19	18	18	19	18.8

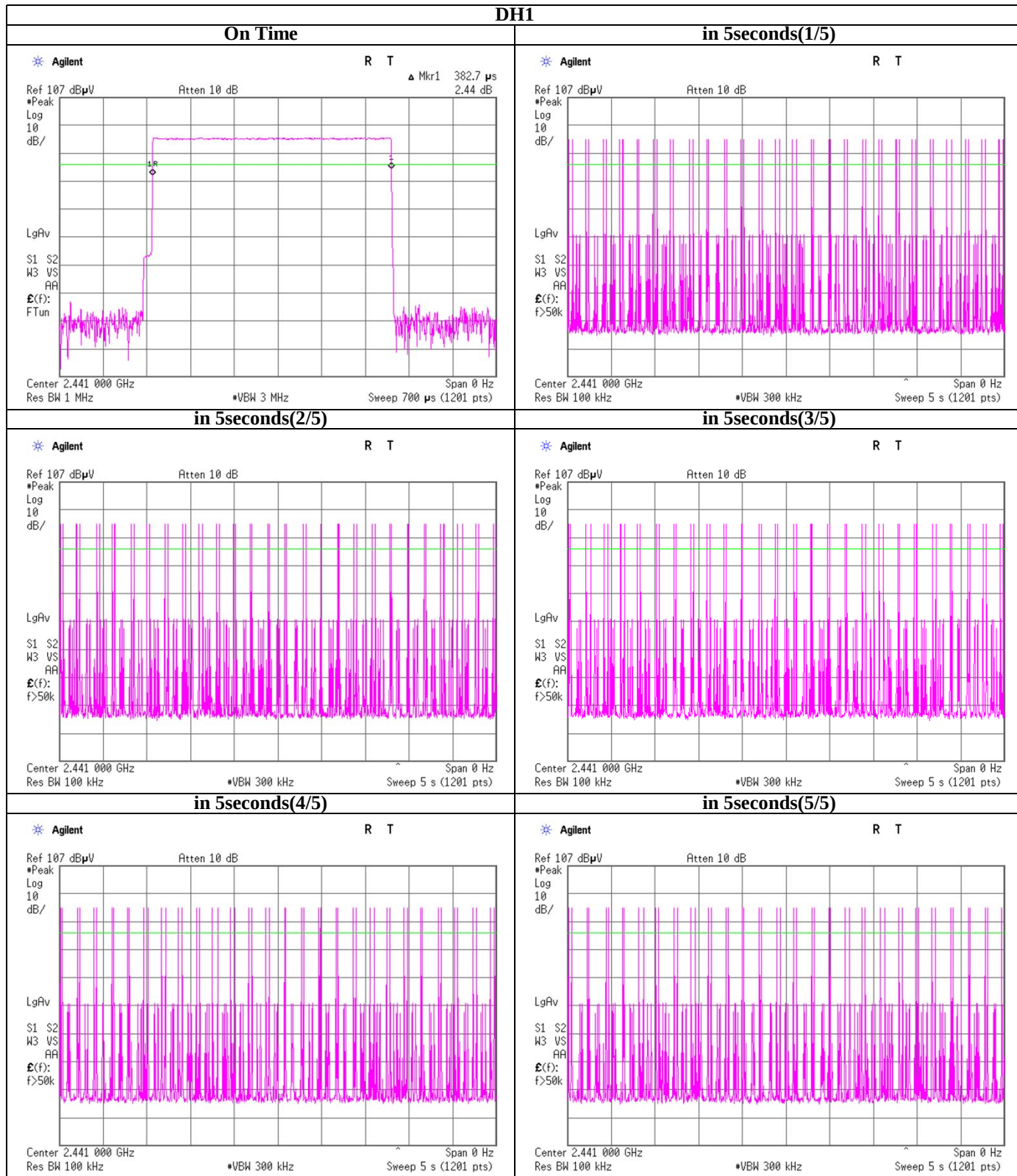
Sample Calculation

Average= Summation(Sampling 1 to 5) / 5

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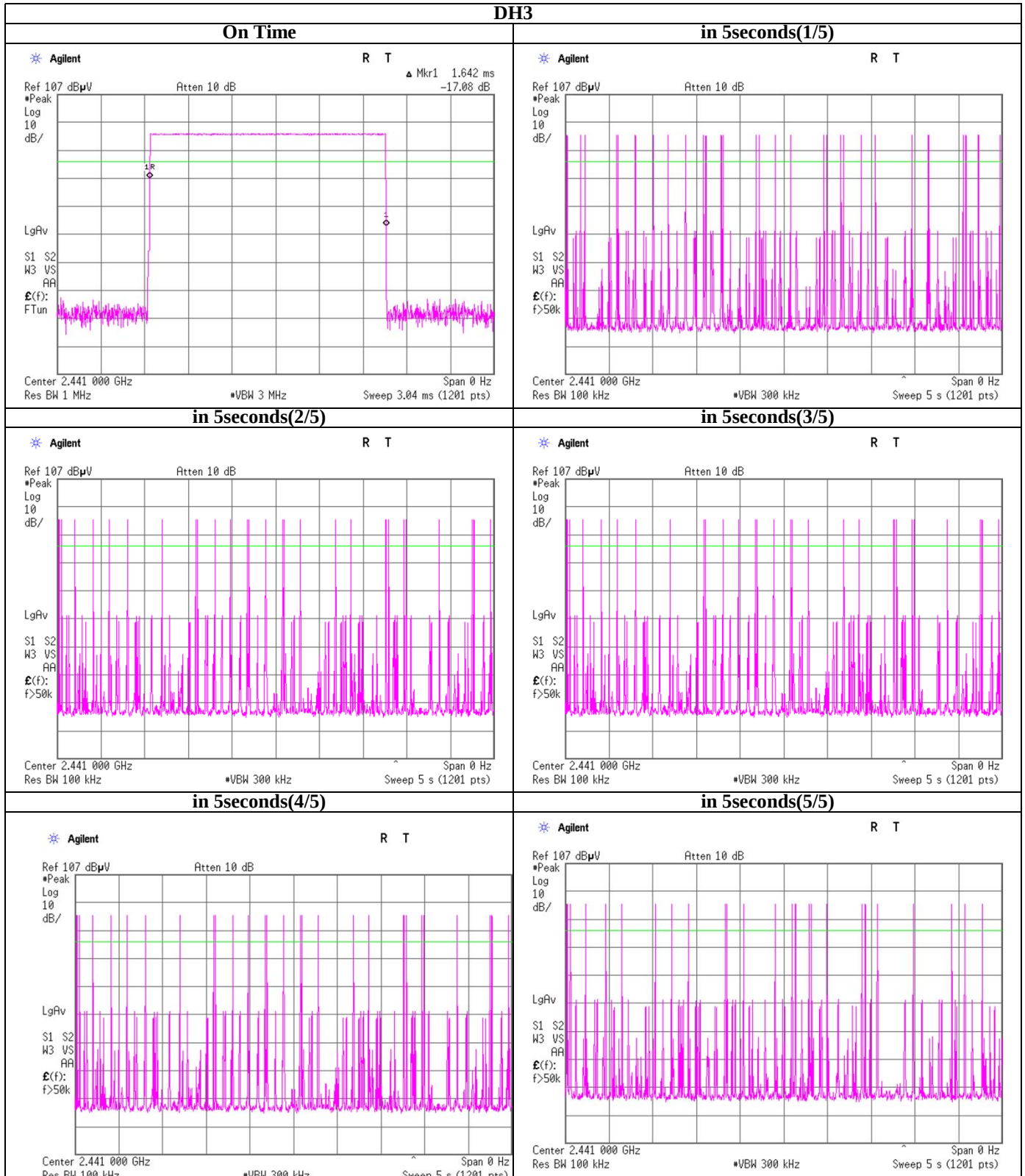
Dwell time



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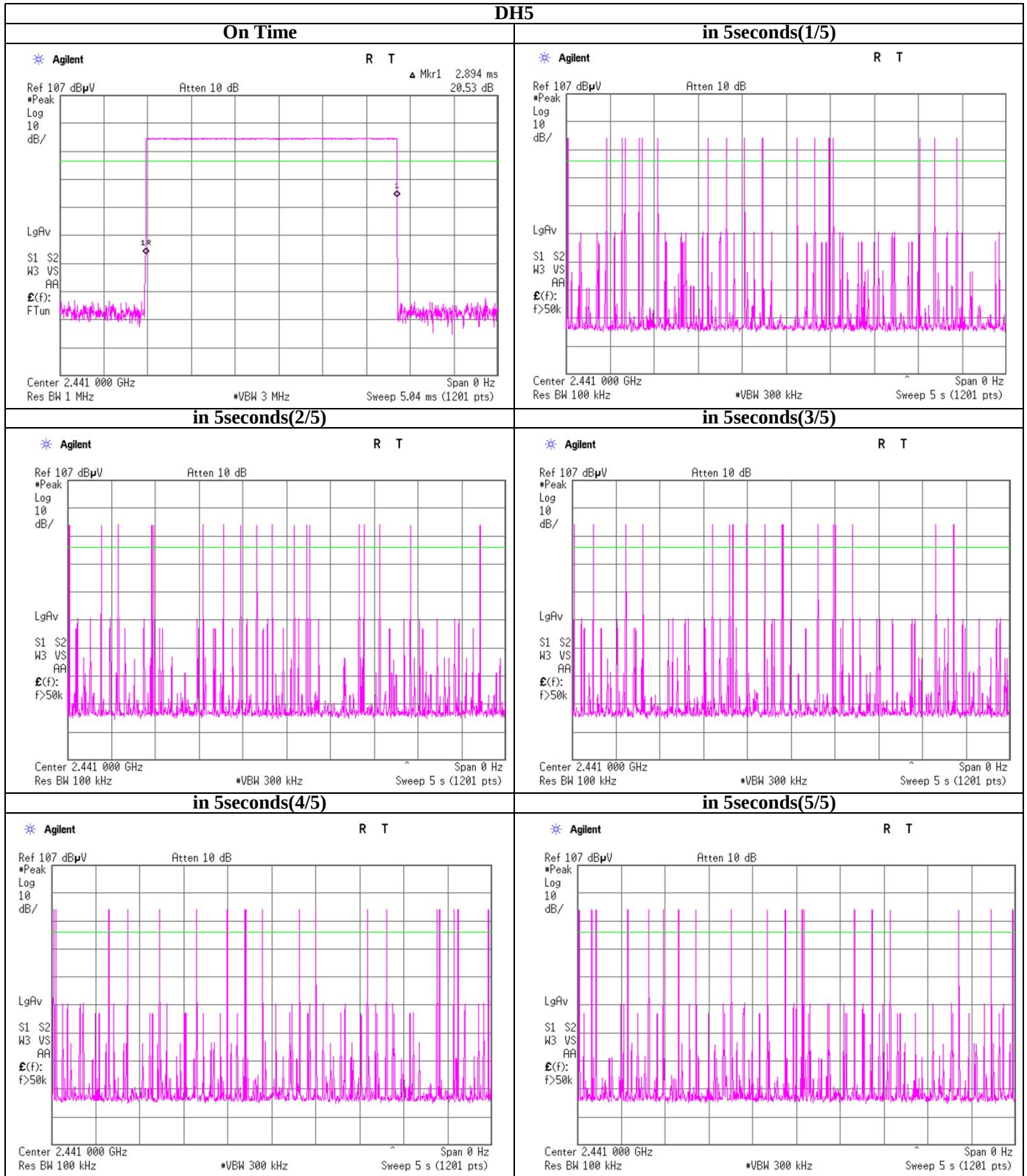
Dwell time



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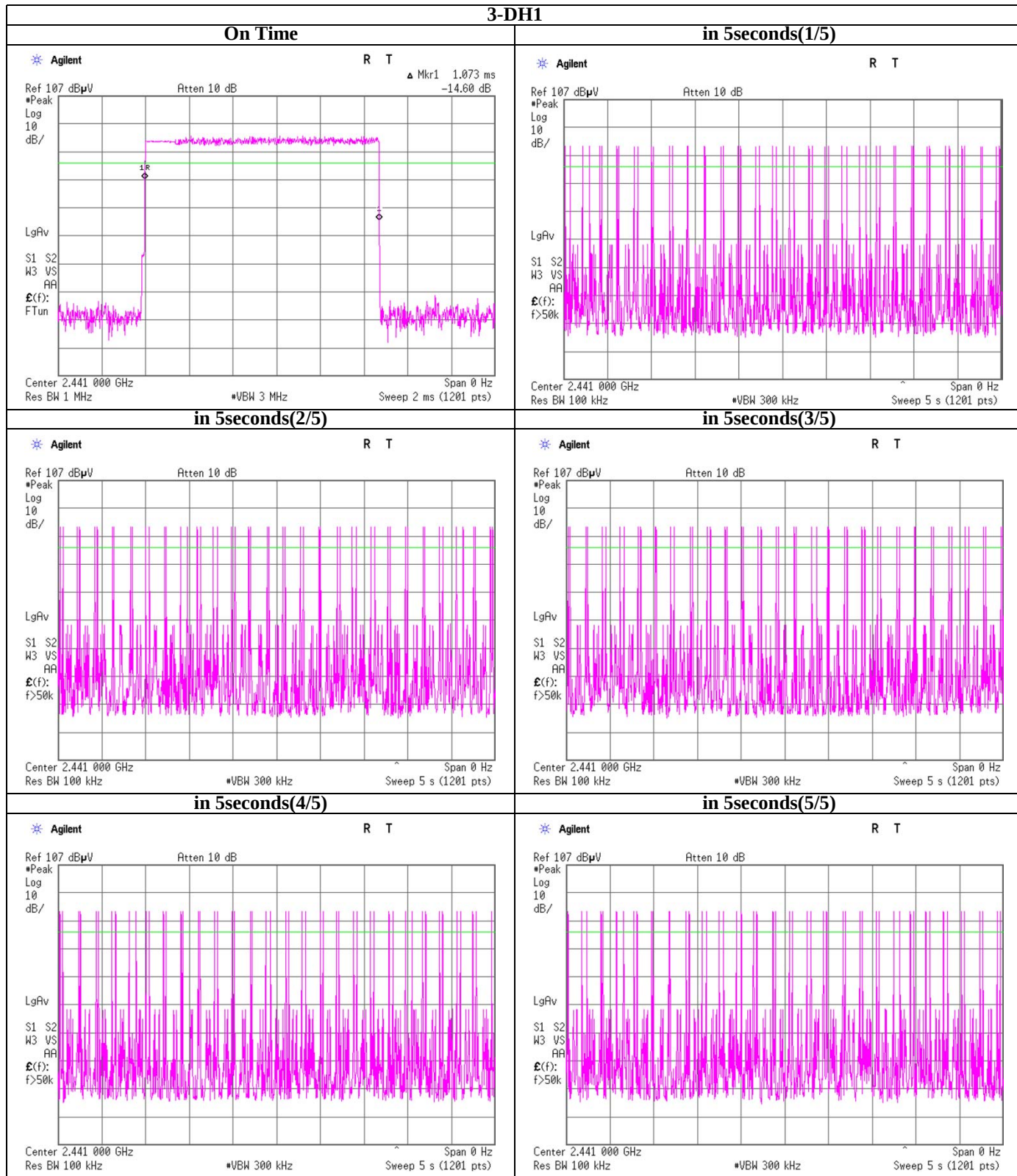
Dwell time



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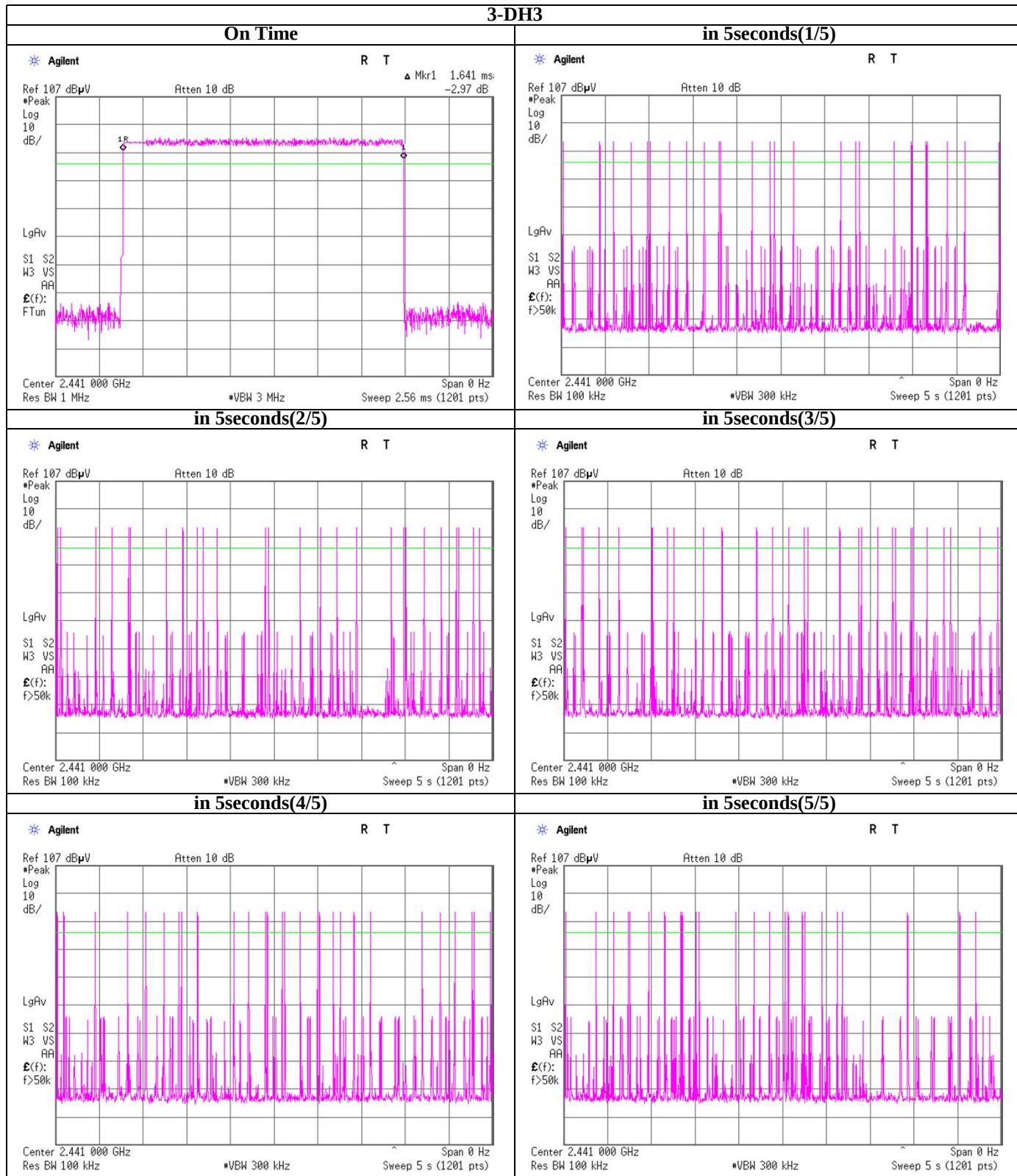
Dwell time



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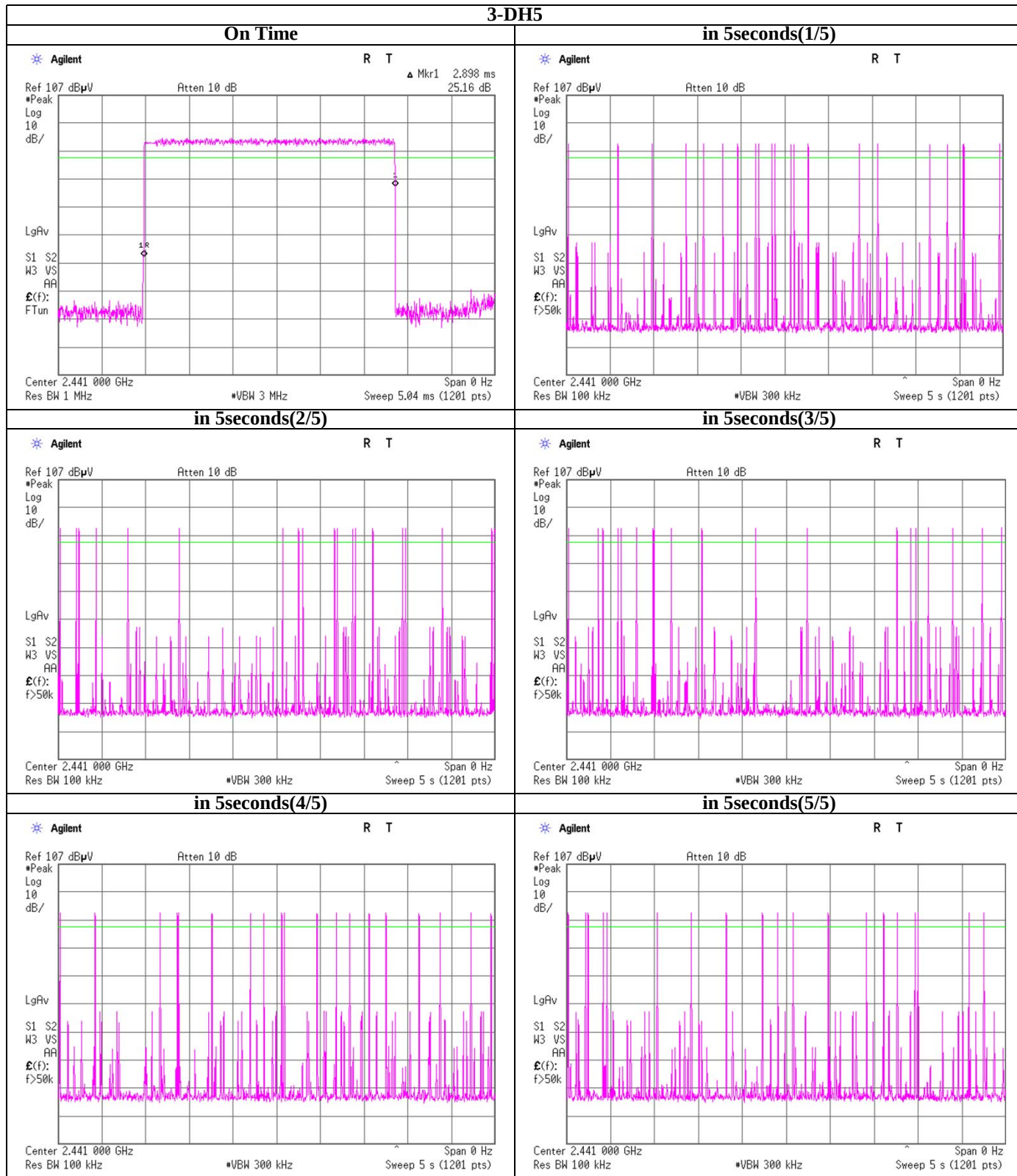
Dwell time



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Dwell time



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Dwell time

Inquiry (1/2)		Inquiry (2/2)	
Agilent R T Ref 107 dBμV Atten 10 dB Δ Mkr1 84.38 μs -2.07 dB Peak Log 10 dB/ LgAv S1 S2 W3 VS AA £(f): FTun Center 2.441 000 GHz Res BW 1 MHz VBW 3 MHz Sweep 250 μs (1201 pts)		Agilent R T Ref 107 dBμV Atten 10 dB Peak Log 10 dB/ LgAv S1 S2 W3 VS AA £(f): f>50k Center 2.441 000 GHz Res BW 100 kHz VBW 300 kHz Sweep 1 s (1201 pts)	

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