

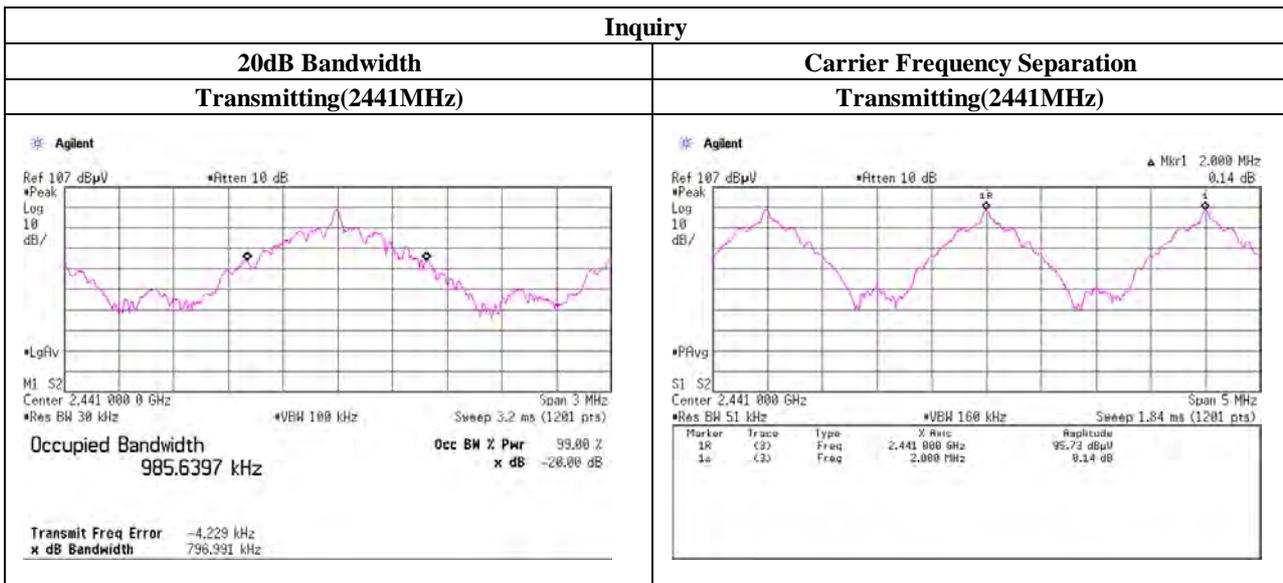
20dB Bandwidth and Carrier Frequency Separation

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	April 28, 2011	
Temperature / Humidity	25deg.C , 41%RH	
Engineer	Hikaru Shirasawa	
Mode	Tx, Bluetooth, BDR, PRBS'	Inquiry

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency Separation [MHz]
DH5	2402.0	0.932	1.000	>= 0.622
DH5	2441.0	0.936	1.000	>= 0.624
DH5	2480.0	0.929	1.000	>= 0.620
Inquiry	2441.0	0.797	2.000	>= 0.531

Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).

No limit applies to 20dB Bandwidth.

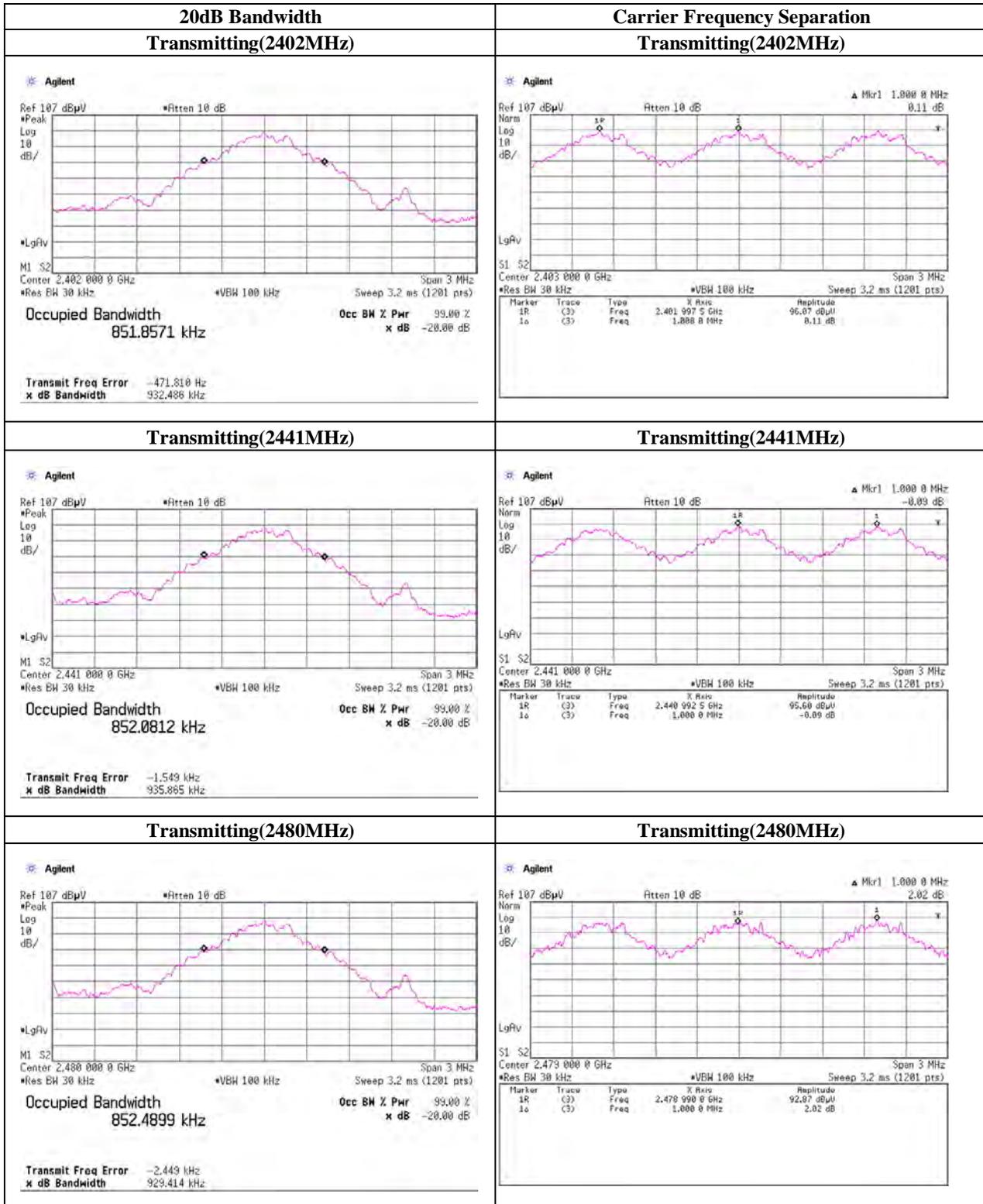


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Shonan EMC Lab.

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20dB Bandwidth and Carrier Frequency Separation

Tx, Bluetooth, BDR (Worst: DH5)



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20dB Bandwidth and Carrier Frequency Separation

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date April 28, 2011 ,
 Temperature / Humidity 25deg.C. , 41%RH ,
 Engineer Hikaru Shirasawa ,
 Mode Tx, Bluetooth, EDR, PRBS',

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency Separation [MHz]
3-DH5	2402.0	1.269	1.000	>= 0.846
3-DH5	2441.0	1.276	1.000	>= 0.851
3-DH5	2480.0	1.270	1.000	>= 0.847

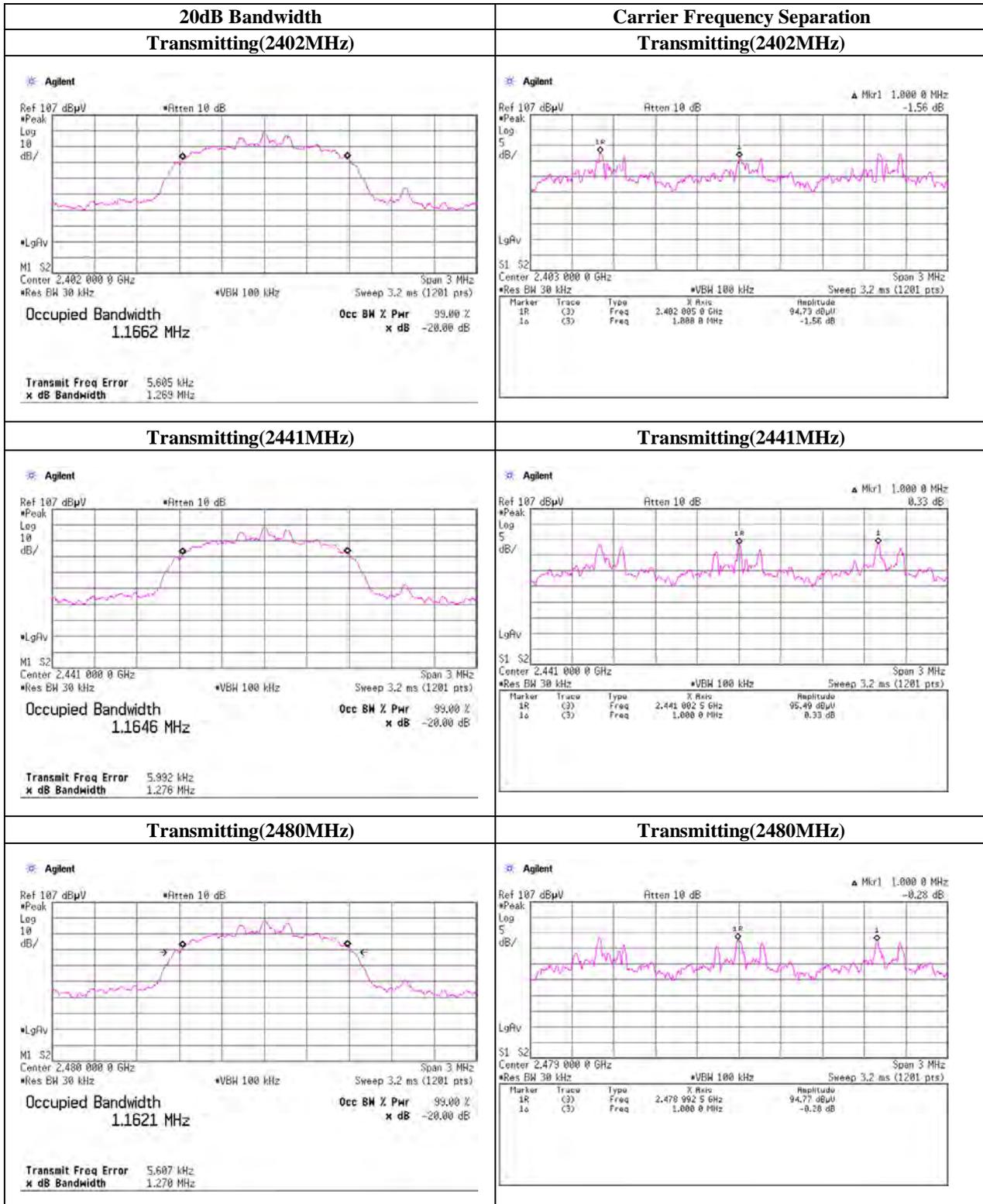
Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).
 No limit applies to 20dB Bandwidth.

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20dB Bandwidth and Carrier Frequency Separation

Tx, Bluetooth, EDR (Worst: 3-DH5)



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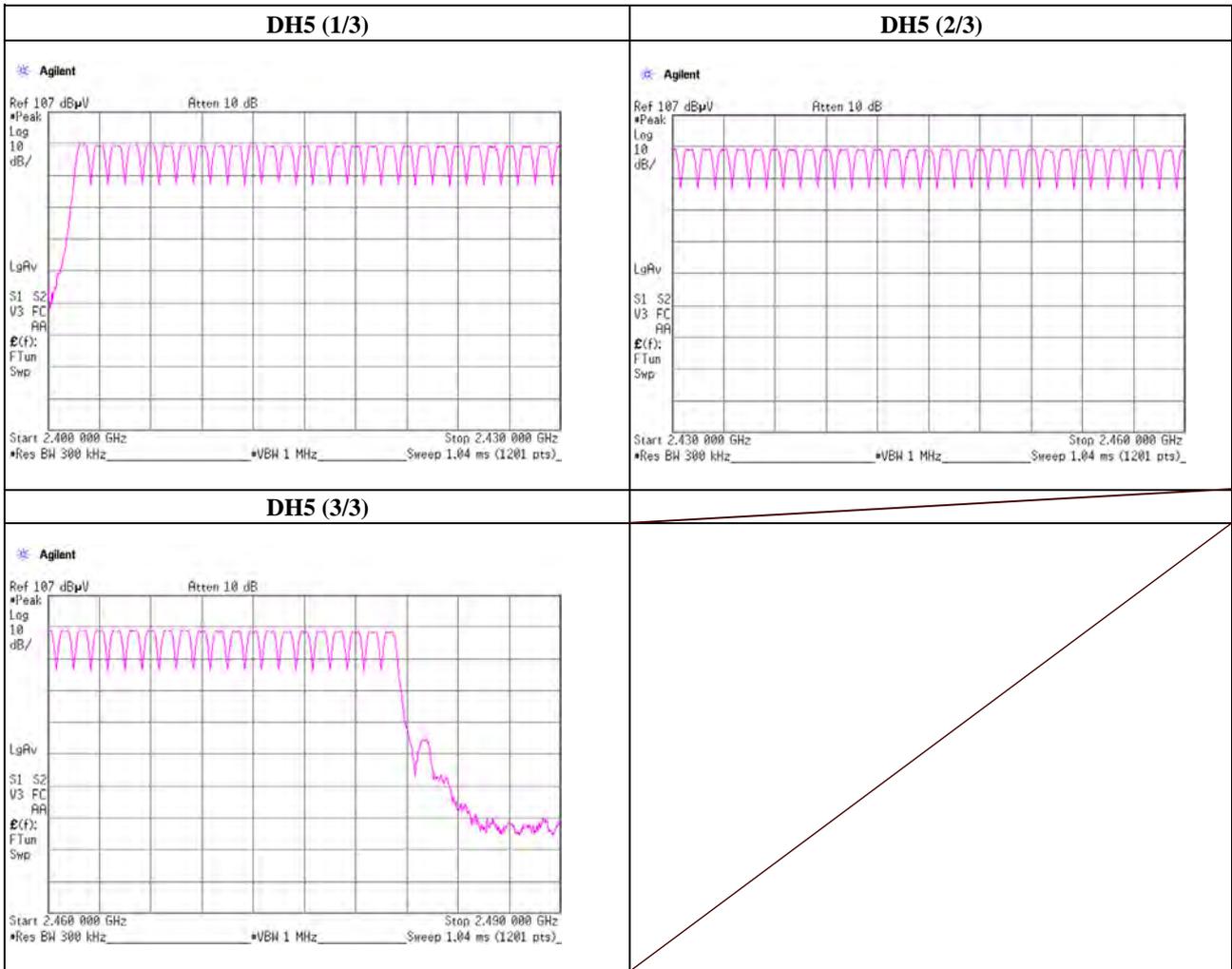
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Number of Hopping Frequency

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	May 6, 2011	
Temperature / Humidity	24deg.C. , 44%RH	
Engineer	Makoto Hosaka	
Mode	Tx, Bluetooth, BDR, PRBS9	

Mode	Number of Channel [times]	Limit [times]
DH5	79	>= 15

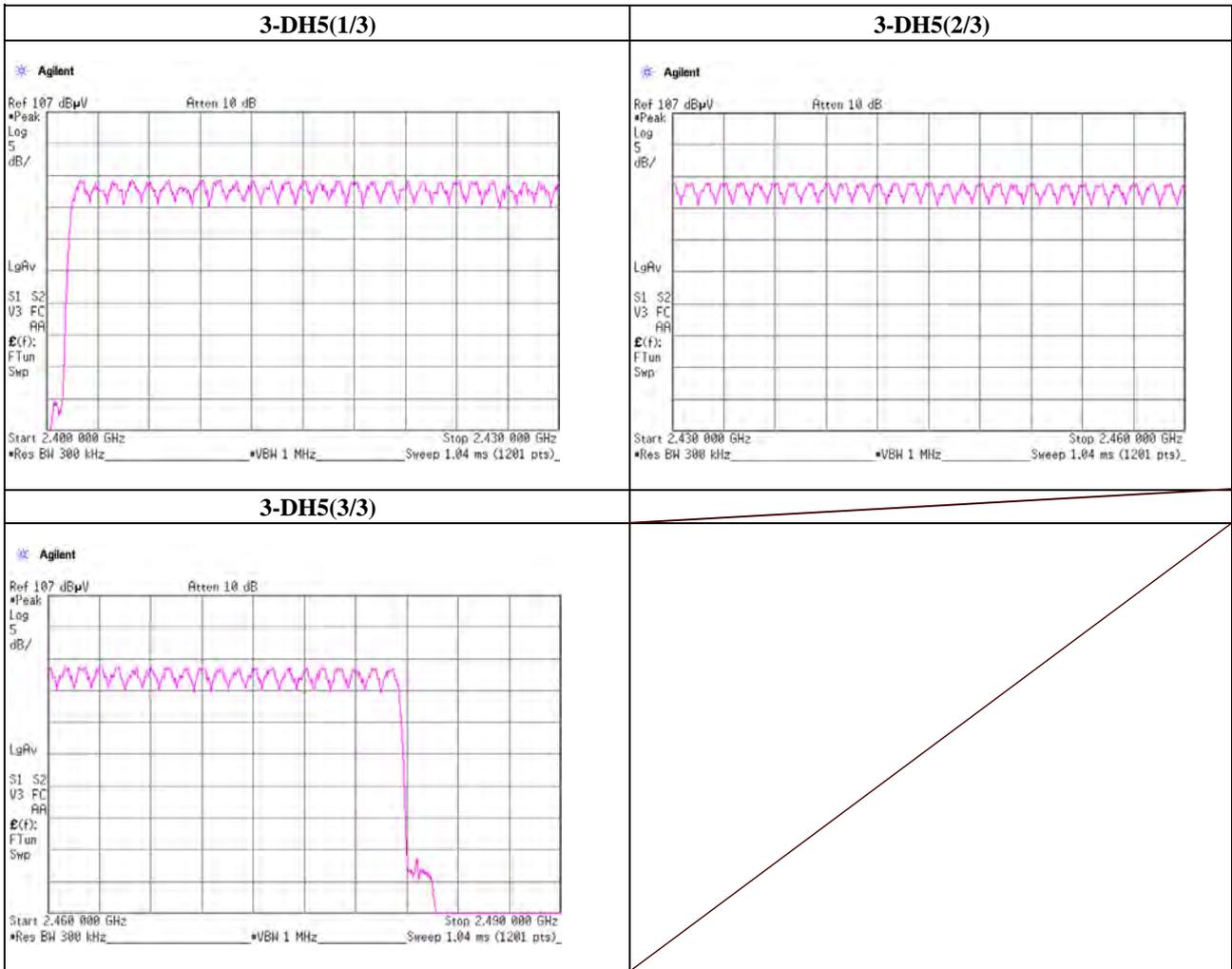


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Number of Hopping Frequency

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	May 6, 2011	
Temperature / Humidity	24deg.C, 44%RH	
Engineer	Makoto Hosaka	
Mode	Tx, Bluetooth, BDR, PRBS9	

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

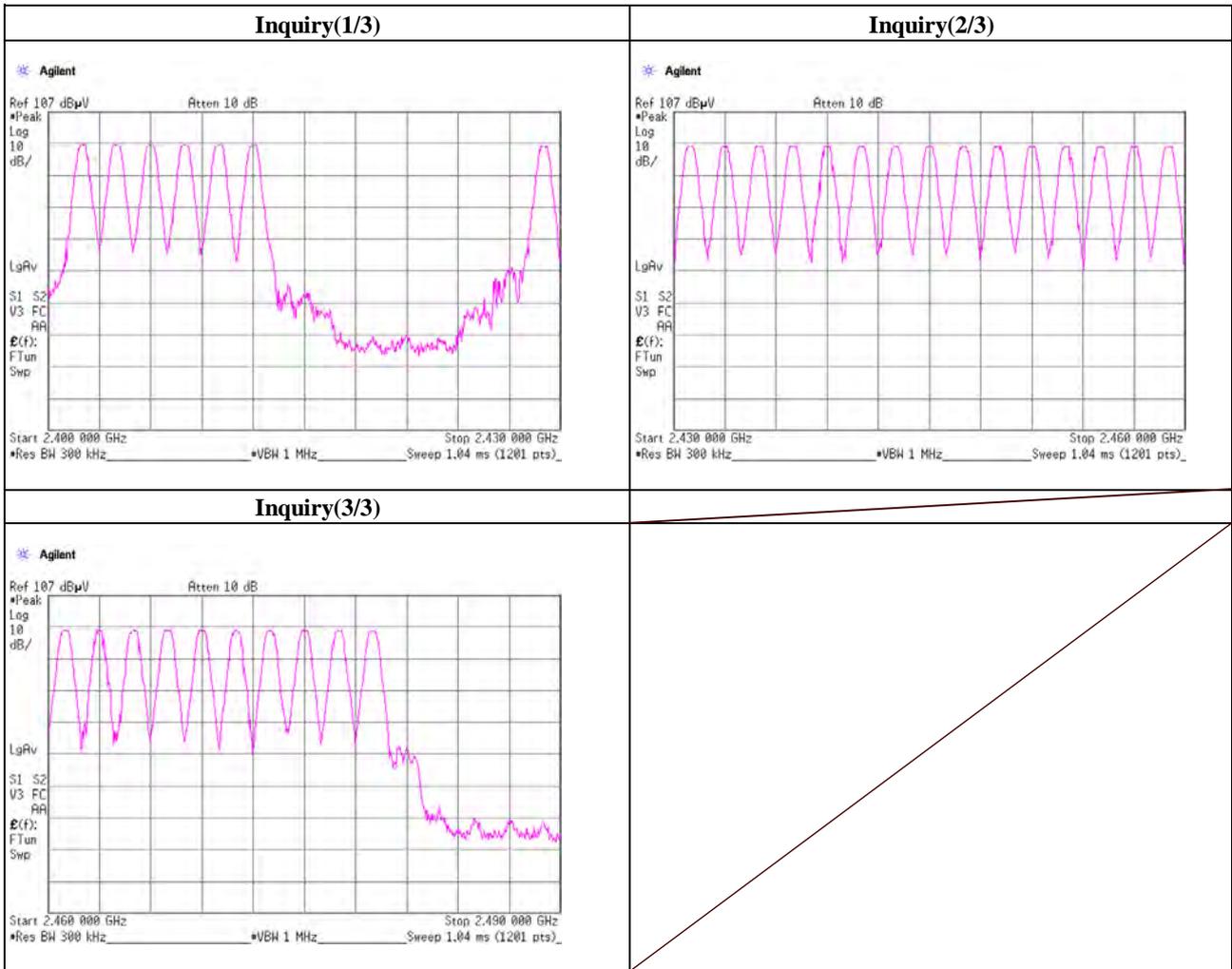


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Number of Hopping Frequency

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	May 6, 2011	
Temperature / Humidity	24deg.C. , 44%RH	
Engineer	Makoto Hosaka	
Mode	Inquiry	

Mode	Number of Channel [times]	Limit [times]
Inquiry	32	>= 15



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Dwell Time

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date May 6, 2011
 Temperature / Humidity 24deg.C. , 44%RH
 Engineer Makoto Hosaka
 Mode Tx, Bluetooth, BDR, PRBS9

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	50.0	5.0 sec.	x	31.6 sec. = 316 times	0.400	127	400
DH3	26.0	5.0 sec.	x	31.6 sec. = 165 times	1.657	273	400
DH5	17.0	5.0 sec.	x	31.6 sec. = 108 times	2.911	314	400
Inquiry	100.0	1.0 sec.	x	12.8 sec. = 1280 times	0.102	130	400

Sample Calculation

Result = Number of transmission x Length of transmission time

UL Japan, Inc.

Shonan EMC Lab.

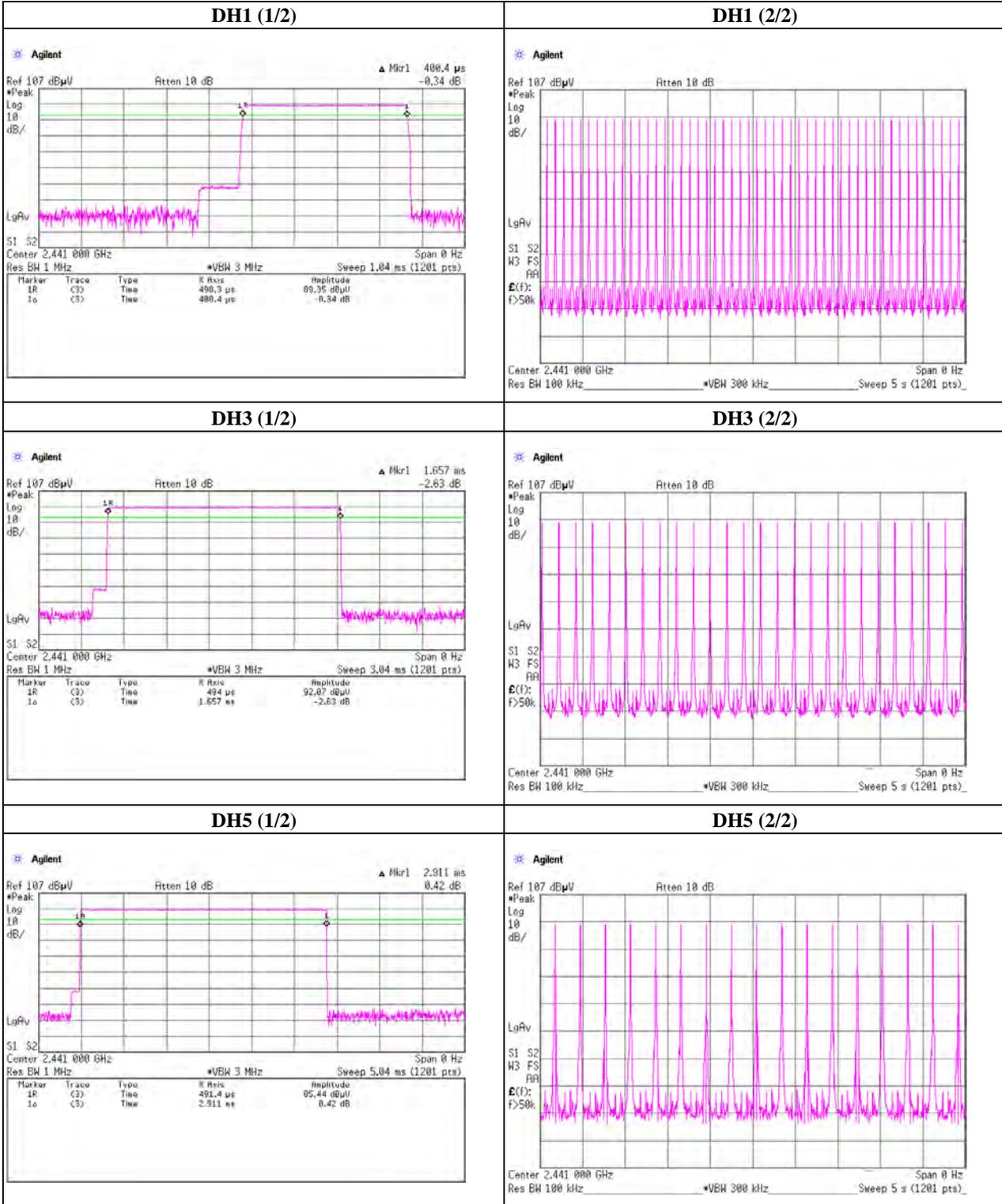
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Dwell time

Tx, Bluetooth, BDR, PRBS9



UL Japan, Inc.

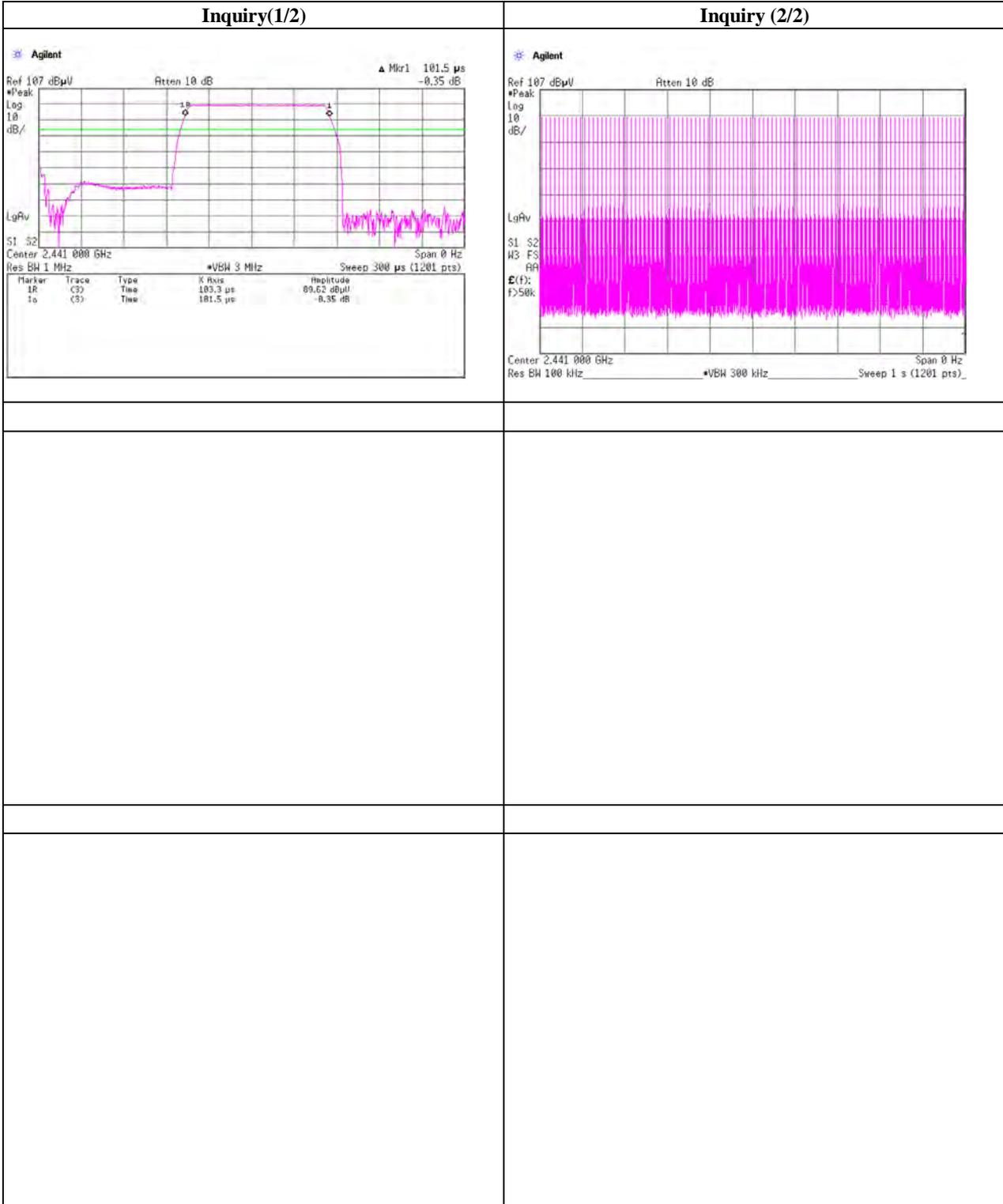
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Dwell time



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Dwell Time

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date May 6, 2011
 Temperature / Humidity 24deg.C. , 44%RH
 Engineer Makoto Hosaka
 Mode Tx, Bluetooth, EDR, PRBS9

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]
3-DH1	51.0	5.0 sec.	x	31.6 sec. = 323 times	0.411	133	400
3-DH3	26.0	5.0 sec.	x	31.6 sec. = 165 times	1.659	274	400
3-DH5	17.0	5.0 sec.	x	31.6 sec. = 108 times	2.911	314	400

Sample Calculation

Result = Number of transmission x Length of transmission time

UL Japan, Inc.

Shonan EMC Lab.

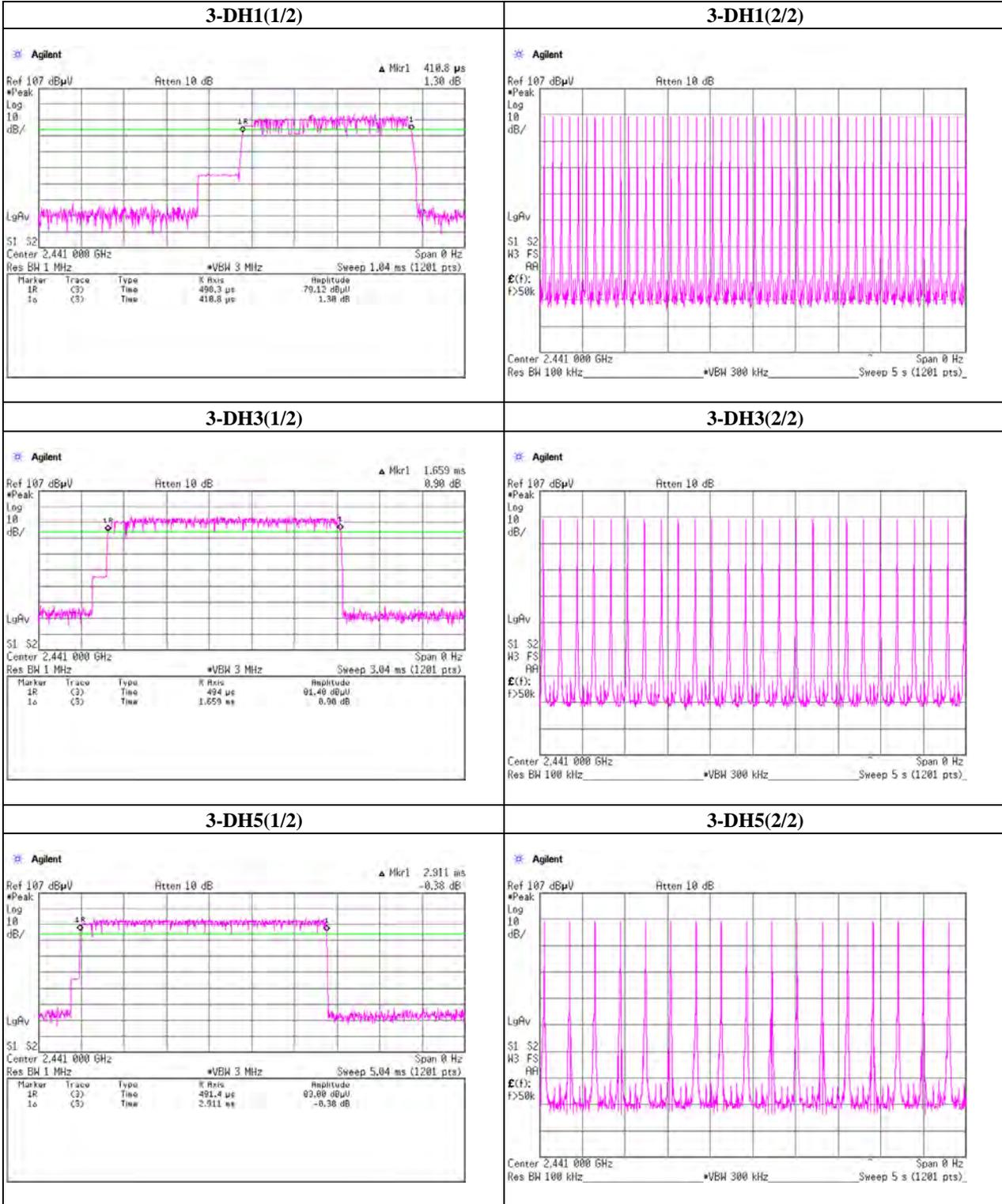
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Dwell time

Tx, Bluetooth, EDR, PRBS9



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Peak Output Power (Conducted)

Test place UL Japan, Inc. Shonan EMC Lab. No.6 Shielded Room
 Date April 28, 2011
 Temperature / Humidity 25deg.C. , 41%RH
 Engineer Hikaru Shirasawa
 Mode Tx, Bluetooth

	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
DH5	2402.0	-10.67	0.68	9.97	-0.02	1.00	20.97	125	20.99
DH5	2441.0	-10.83	0.69	9.97	-0.17	0.96	20.97	125	21.14
DH5	2480.0	-11.02	0.70	9.97	-0.35	0.92	20.97	125	21.32
2-DH5	2402.0	-9.82	0.68	9.97	0.83	1.21	20.97	125	20.14
2-DH5	2441.0	-10.08	0.69	9.97	0.58	1.14	20.97	125	20.39
2-DH5	2480.0	-10.18	0.70	9.97	0.49	1.12	20.97	125	20.48
3-DH5	2402.0	-9.63	0.68	9.97	1.02	1.27	20.97	125	19.95
3-DH5	2441.0	-9.86	0.69	9.97	0.80	1.20	20.97	125	20.17
3-DH5	2480.0	-9.98	0.70	9.97	0.69	1.17	20.97	125	20.28

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer) + Atten. Loss

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Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab.
 Date 2011/5/1 , 2011/5/2
 Temperature / Humidity 20deg.C 50% RH , 20deg.C 56% RH
 Engineer Akio Hayashi , Takahiro Suzuki
 (above 1GHz) , (below 1GHz)
 Mode Tx, 2402 MHz
 Tx, Bluetooth, BDR, PRBS9

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	32.718	QP	27.8	16.8	7.0	31.9	19.7	40.0	20.3	330	88	X-axis
Hori.	158.000	QP	27.4	15.1	8.7	31.8	19.4	43.5	24.1	300	26	X-axis
Hori.	191.700	QP	26.6	16.4	9.1	31.8	20.3	43.5	23.2	300	205	X-axis
Hori.	795.800	QP	25.6	21.0	9.5	31.4	24.7	46.0	21.3	150	357	X-axis
Hori.	1602.172	PK	46.5	25.7	12.9	38.4	46.7	73.9	27.2	100	359	Y-axis
Hori.	2378.020	PK	45.5	27.4	13.6	37.8	48.7	73.9	25.2	100	58	Z-axis
Hori.	2390.000	PK	44.1	27.4	13.6	37.8	47.3	73.9	26.6	100	58	Z-axis
Hori.	2400.000	PK	60.3	27.4	13.7	37.8	63.6	73.9	10.3	100	58	Z-axis
Hori.	4007.000	PK	40.6	29.3	5.4	37.3	38.0	73.9	35.9	100	0	Y-axis(Not Detected)
Hori.	4804.000	PK	60.2	30.5	5.8	36.6	59.9	73.9	14.0	106	248	Y-axis
Hori.	7206.000	PK	43.7	36.2	7.2	38.4	48.7	73.9	25.2	100	0	Y-axis(Not Detected)
Hori.	9608.000	PK	44.8	38.3	8.5	37.1	54.5	73.9	19.4	103	222	Y-axis
Hori.	12010.000	PK	43.9	39.4	9.8	37.9	55.2	73.9	18.7	100	0	Y-axis(Not Detected)
Hori.	1602.172	AV	38.3	25.7	12.9	38.4	38.5	53.9	15.4	100	359	Y-axis(VBW=10Hz)
Hori.	4007.000	AV	30.0	29.3	5.4	37.3	27.4	53.9	26.5	100	0	Y-axis(Not Detected)
Hori.	7206.000	AV	33.9	36.2	7.2	38.4	38.9	53.9	15.0	100	0	Y-axis(Not Detected)
Hori.	12010.000	AV	33.5	39.4	9.8	37.9	44.8	53.9	9.1	100	0	Y-axis(Not Detected)
Vert.	45.376	QP	26.0	13.4	7.2	31.9	14.7	40.0	25.3	100	356	X-axis
Vert.	191.700	QP	26.2	16.4	9.1	31.8	19.9	43.5	23.6	100	9	X-axis
Vert.	207.000	QP	25.9	16.6	9.3	31.7	20.1	43.5	23.4	100	18	X-axis
Vert.	795.800	QP	27.1	21.0	9.5	31.4	26.2	46.0	19.8	100	72	X-axis
Vert.	1602.172	PK	45.1	25.7	12.9	38.4	45.3	73.9	28.6	128	84	X-axis
Vert.	2378.020	PK	44.7	27.4	13.6	37.8	47.9	73.9	26.0	100	294	Y-axis
Vert.	2390.000	PK	44.2	27.4	13.6	37.8	47.4	73.9	26.5	100	294	Y-axis
Vert.	2400.000	PK	55.2	27.4	13.7	37.8	58.5	73.9	15.4	100	294	Y-axis
Vert.	4007.000	PK	39.3	29.3	5.4	37.3	36.7	73.9	37.2	100	0	X-axis(Not Detected)
Vert.	4804.000	PK	59.7	30.5	5.8	36.6	59.4	73.9	14.5	102	221	Z-axis
Vert.	7206.000	PK	43.9	36.2	7.2	38.4	48.9	73.9	25.0	100	0	Z-axis(Not Detected)
Vert.	9608.000	PK	46.0	38.3	8.5	37.1	55.7	73.9	18.2	100	217	Z-axis
Vert.	12010.000	PK	42.7	39.4	9.8	37.9	54.0	73.9	19.9	100	0	Z-axis(Not Detected)
Vert.	1602.172	AV	35.9	25.7	12.9	38.4	36.1	53.9	17.8	128	84	X-axis(VBW=10Hz)
Vert.	4007.000	AV	30.0	29.3	5.4	37.3	27.4	53.9	26.5	100	0	X-axis(Not Detected)
Vert.	7206.000	AV	33.4	36.2	7.2	38.4	38.4	53.9	15.5	100	0	Z-axis(Not Detected)
Vert.	12010.000	AV	32.8	39.4	9.8	37.9	44.1	53.9	9.8	100	0	Z-axis(Not Detected)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

*The 10th harmonic was not seen so the result was its base noise level.

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

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2378.020	AV	36.2	27.4	13.6	37.8	-24.6	14.8	53.9	39.1	Z-axis(VBW=270Hz)
Hori.	2390.000	AV	34.0	27.4	13.6	37.8	-24.6	12.6	53.9	41.3	Z-axis(VBW=270Hz)
Hori.	2400.000	AV	55.3	27.4	13.7	37.8	-24.6	34.0	53.9	19.9	Z-axis(VBW=270Hz)
Hori.	4804.000	AV	57.8	30.5	5.8	36.6	-24.6	32.9	53.9	21.0	Y-axis(VBW=270Hz)
Hori.	9608.000	AV	35.8	38.3	8.5	37.1	-24.6	20.9	53.9	33.0	Y-axis(VBW=270Hz)
Vert.	2378.020	AV	34.3	27.4	13.6	37.8	-24.6	12.9	53.9	41.0	Y-axis(VBW=270Hz)
Vert.	2390.000	AV	33.3	27.4	13.6	37.8	-24.6	11.9	53.9	42.0	Y-axis(VBW=270Hz)
Vert.	2400.000	AV	49.8	27.4	13.7	37.8	-24.6	28.5	53.9	25.4	Y-axis(VBW=270Hz)
Vert.	4804.000	AV	57.6	30.5	5.8	36.6	-24.6	32.7	53.9	21.2	Z-axis(VBW=270Hz)
Vert.	9608.000	AV	38.4	38.3	8.5	37.1	-24.6	23.5	53.9	30.4	Z-axis(VBW=270Hz)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier) + Dwell time factor (Refer to the data 'Calculation of VBW and Dwell Time Factor')

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

*No noise was detected above the 5th order harmonics.

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab.
 Date 2011/5/1 , 2011/5/2
 Temperature / Humidity 20deg.C 50% RH , 20deg.C 56% RH
 Engineer Akio Hayashi , Takahiro Suzuki
 (above 1GHz) , (below 1GHz)
 Mode Tx, 2441 MHz
 Tx, Bluetooth, BDR, PRBS9

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	32.418	QP	27.4	16.9	7.0	31.9	19.4	40.0	20.6	300	351	X-axis
Hori.	158.000	QP	27.1	15.1	8.7	31.8	19.1	43.5	24.4	300	35	X-axis
Hori.	191.700	QP	26.9	16.4	9.1	31.8	20.6	43.5	22.9	150	340	X-axis
Hori.	209.400	QP	28.2	16.7	9.3	31.7	22.5	43.5	21.0	174	253	X-axis
Hori.	795.800	QP	26.1	21.0	9.5	31.4	25.2	46.0	20.8	150	273	X-axis
Hori.	1626.660	PK	44.7	25.8	12.9	38.4	45.0	73.9	28.9	106	42	Y-axis
Hori.	4070.000	PK	40.5	29.3	5.5	37.3	38.0	73.9	35.9	100	0	Y-axis(Not Detected)
Hori.	4882.000	PK	59.9	30.8	5.8	36.6	59.9	73.9	14.0	103	214	Y-axis
Hori.	7323.000	PK	41.9	36.4	7.3	38.4	47.2	73.9	26.7	100	0	Y-axis(Not Detected)
Hori.	9764.000	PK	43.6	38.5	8.5	37.1	53.5	73.9	20.4	102	223	Y-axis
Hori.	12205.000	PK	42.0	39.4	9.9	38.0	53.3	73.9	20.6	100	0	Y-axis(Not Detected)
Hori.	1626.660	AV	37.3	25.8	12.9	38.4	37.6	53.9	16.3	106	42	Y-axis(VBW=10Hz)
Hori.	4070.000	AV	30.3	29.3	5.5	37.3	27.8	53.9	26.1	100	0	Y-axis(Not Detected)
Hori.	7323.000	AV	31.9	36.4	7.3	38.4	37.2	53.9	16.7	100	0	Y-axis(Not Detected)
Hori.	12205.000	AV	31.7	39.4	9.9	38.0	43.0	53.9	10.9	100	0	Y-axis(Not Detected)
Vert.	31.640	QP	27.4	17.2	6.9	31.9	19.6	40.0	20.4	100	358	X-axis
Vert.	191.700	QP	27.0	16.4	9.1	31.8	20.7	43.5	22.8	100	356	X-axis
Vert.	209.400	QP	26.0	16.7	9.3	31.7	20.3	43.5	23.2	100	188	X-axis
Vert.	795.800	QP	26.8	21.0	9.5	31.4	25.9	46.0	20.1	100	122	X-axis
Vert.	1626.660	PK	44.7	25.8	12.9	38.4	45.0	73.9	28.9	100	0	X-axis
Vert.	4070.000	PK	41.1	29.3	5.5	37.3	38.6	73.9	35.3	102	78	X-axis(Not Detected)
Vert.	4882.000	PK	61.1	30.8	5.8	36.6	61.1	73.9	12.8	100	226	Z-axis
Vert.	7323.000	PK	43.0	36.4	7.3	38.4	48.3	73.9	25.6	100	0	Z-axis(Not Detected)
Vert.	9764.000	PK	45.2	38.5	8.5	37.1	55.1	73.9	18.8	100	220	Z-axis
Vert.	12205.000	PK	42.1	39.4	9.9	38.0	53.4	73.9	20.5	100	0	Z-axis(Not Detected)
Vert.	1626.660	AV	37.5	25.8	12.9	38.4	37.8	53.9	16.1	100	0	X-axis(VBW=10Hz)
Vert.	4070.000	AV	30.7	29.3	5.5	37.3	28.2	53.9	25.7	102	78	X-axis(Not Detected)
Vert.	7323.000	AV	32.0	36.4	7.3	38.4	37.3	53.9	16.6	100	0	Z-axis(Not Detected)
Vert.	12205.000	AV	31.8	39.4	9.9	38.0	43.1	53.9	10.8	100	0	Z-axis(Not Detected)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

*The 10th harmonic was not seen so the result was its base noise level.

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

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4882.000	AV	57.5	30.8	5.8	36.6	-24.6	32.9	53.9	21.0	Y-axis(VBW=270Hz)
Hori.	9764.000	AV	34.7	38.5	8.5	37.1	-24.6	20.0	53.9	33.9	Y-axis(VBW=270Hz)
Vert.	4882.000	AV	58.8	30.8	5.8	36.6	-24.6	34.2	53.9	19.7	Z-axis(VBW=270Hz)
Vert.	9764.000	AV	36.5	38.5	8.5	37.1	-24.6	21.8	53.9	32.1	Z-axis(VBW=270Hz)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter)

- Gain(Amplifier) + Dwell time factor (Refer to the data 'Calculation of VBW and Dwell Time Factor')

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

*No noise was detected above the 5th order harmonics.

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab.
 Date 2011/5/1 , 2011/5/2
 Temperature / Humidity 20deg.C 50% RH , 20deg.C 56% RH
 Engineer Akio Hayashi , Takahiro Suzuki
 (above 1GHz) , (below 1GHz)
 Mode Tx, 2480 MHz
 Tx, Bluetooth, BDR, PRBS9

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	31.630	QP	27.6	17.2	6.9	31.9	19.8	40.0	20.2	300	119	X-axis
Hori.	158.000	QP	27.1	15.1	8.7	31.8	19.1	43.5	24.4	300	30	X-axis
Hori.	191.700	QP	26.9	16.4	9.1	31.8	20.6	43.5	22.9	300	64	X-axis
Hori.	213.500	QP	27.8	16.7	9.4	31.7	22.2	43.5	21.3	300	114	X-axis
Hori.	795.800	QP	26.0	21.0	9.5	31.4	25.1	46.0	20.9	100	85	X-axis
Hori.	1652.665	PK	46.0	25.9	13.0	38.4	46.5	73.9	27.4	103	38	Y-axis
Hori.	2483.500	PK	47.1	27.4	13.6	37.6	50.5	73.9	23.4	113	201	Z-axis
Hori.	2484.670	PK	46.5	27.4	13.6	37.6	49.9	73.9	24.0	113	201	Z-axis
Hori.	2504.040	PK	46.0	27.4	13.7	37.6	49.5	73.9	24.4	113	201	Z-axis
Hori.	2533.006	PK	44.8	27.5	13.7	37.6	48.4	73.9	25.5	100	201	Z-axis
Hori.	4960.000	PK	59.3	31.0	5.8	36.5	59.6	73.9	14.3	115	220	Y-axis
Hori.	7440.000	PK	44.0	36.7	7.2	38.4	49.5	73.9	24.4	100	0	Y-axis(Not Detected)
Hori.	9920.000	PK	43.1	38.7	8.6	37.2	53.2	73.9	20.7	100	220	Y-axis
Hori.	12400.000	PK	43.5	39.4	9.9	38.0	54.8	73.9	19.1	100	0	Y-axis(Not Detected)
Hori.	1652.665	AV	37.1	25.9	13.0	38.4	37.6	53.9	16.3	103	38	Y-axis(VBW=10Hz)
Hori.	7440.000	AV	33.8	36.7	7.2	38.4	39.3	53.9	14.6	100	0	Y-axis(Not Detected)
Hori.	12400.000	AV	32.4	39.4	9.9	38.0	43.7	53.9	10.2	100	0	Y-axis(Not Detected)
Vert.	31.919	QP	27.8	17.1	7.0	31.9	20.0	40.0	20.0	100	2	X-axis
Vert.	191.700	QP	25.8	16.4	9.1	31.8	19.5	43.5	24.0	100	193	X-axis
Vert.	213.500	QP	26.7	16.7	9.4	31.7	21.1	43.5	22.4	100	207	X-axis
Vert.	795.800	QP	27.3	21.0	9.5	31.4	26.4	46.0	19.6	100	345	X-axis
Vert.	1652.665	PK	45.0	25.9	13.0	38.4	45.5	73.9	28.4	108	105	X-axis
Vert.	2483.500	PK	45.1	27.4	13.6	37.6	48.5	73.9	25.4	100	306	Y-axis
Vert.	2484.670	PK	44.2	27.4	13.6	37.6	47.6	73.9	26.3	100	306	Y-axis
Vert.	2504.040	PK	43.3	27.4	13.7	37.6	46.8	73.9	27.1	100	306	Y-axis
Vert.	2533.006	PK	44.7	27.5	13.7	37.6	48.3	73.9	25.6	100	306	Y-axis
Vert.	4960.000	PK	60.3	31.0	5.8	36.5	60.6	73.9	13.3	100	218	Z-axis
Vert.	7440.000	PK	42.8	36.7	7.2	38.4	48.3	73.9	25.6	100	0	Z-axis(Not Detected)
Vert.	9920.000	PK	44.1	38.7	8.6	37.2	54.2	73.9	19.7	100	246	Z-axis
Vert.	12400.000	PK	42.4	39.4	9.9	38.0	53.7	73.9	20.2	100	0	Z-axis(Not Detected)
Vert.	1652.665	AV	36.2	25.9	13.0	38.4	36.7	53.9	17.2	108	105	X-axis(VBW=10Hz)
Vert.	7440.000	AV	34.1	36.7	7.2	38.4	39.6	53.9	14.3	100	0	Z-axis(Not Detected)
Vert.	12400.000	AV	32.8	39.4	9.9	38.0	44.1	53.9	9.8	100	0	Z-axis(Not Detected)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

*The 10th harmonic was not seen so the result was its base noise level.

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

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	39.6	27.4	13.6	37.6	-24.6	18.4	53.9	35.5	Z-axis(VBW=270Hz)
Hori.	2484.670	AV	36.4	27.4	13.6	37.6	-24.6	15.2	53.9	38.7	Z-axis(VBW=270Hz)
Hori.	2504.040	AV	36.9	27.4	13.7	37.6	-24.6	15.8	53.9	38.1	Z-axis(VBW=270Hz)
Hori.	2533.006	AV	34.6	27.5	13.7	37.6	-24.6	13.6	53.9	40.3	Z-axis(VBW=270Hz)
Hori.	4960.000	AV	56.8	31.0	5.8	36.5	-24.6	32.5	53.9	21.4	Y-axis(VBW=270Hz)
Hori.	9920.000	AV	33.7	38.7	8.6	37.2	-24.6	19.2	53.9	34.7	Y-axis(VBW=270Hz)
Vert.	2483.500	AV	37.7	27.4	13.6	37.6	-24.6	16.5	53.9	37.4	Y-axis(VBW=270Hz)
Vert.	2484.670	AV	35.4	27.4	13.6	37.6	-24.6	14.2	53.9	39.7	Y-axis(VBW=270Hz)
Vert.	2504.040	AV	35.6	27.4	13.7	37.6	-24.6	14.5	53.9	39.4	Y-axis(VBW=270Hz)
Vert.	2533.006	AV	34.1	27.5	13.7	37.6	-24.6	13.1	53.9	40.8	Y-axis(VBW=270Hz)
Vert.	4960.000	AV	57.9	31.0	5.8	36.5	-24.6	33.6	53.9	20.3	Z-axis(VBW=270Hz)
Vert.	9920.000	AV	34.7	38.7	8.6	37.2	-24.6	20.2	53.9	33.7	Z-axis(VBW=270Hz)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter)

- Gain(Amplifier) + Dwell time factor (Refer to the data 'Calculation of VBW and Dwell Time Factor')

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

*No noise was detected above the 5th order harmonics.

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab.
 Date 2011/5/1 , 2011/5/2
 Temperature / Humidity 20deg.C 50% RH , 20deg.C 56% RH
 Engineer Akio Hayashi , Takahiro Suzuki
 (above 1GHz) , (below 1GHz)
 Mode Tx, 2402 MHz
 Tx, Bluetooth, EDR, PRBS9

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	31.352	QP	27.7	17.3	6.9	31.9	20.0	40.0	20.0	150	128	X-axis
Hori.	158.000	QP	27.9	15.1	8.7	31.8	19.9	43.5	23.6	300	34	X-axis
Hori.	207.000	QP	25.4	16.6	9.3	31.7	19.6	43.5	23.9	200	24	X-axis
Hori.	440.000	QP	28.5	17.1	7.8	31.6	21.8	46.0	24.2	100	19	X-axis
Hori.	1602.016	PK	46.2	25.7	12.9	38.4	46.4	73.9	27.5	100	215	Y-axis
Hori.	2390.000	PK	43.4	27.4	13.6	37.8	46.6	73.9	27.3	100	76	Z-axis
Hori.	2397.726	PK	46.3	27.4	13.6	37.8	49.5	73.9	24.4	100	76	Z-axis
Hori.	2400.000	PK	60.6	27.4	13.7	37.8	63.9	73.9	10.0	100	76	Z-axis
Hori.	3203.000	PK	44.3	28.6	5.2	37.9	40.2	73.9	33.7	100	248	Y-axis
Hori.	4804.000	PK	51.7	30.5	5.8	36.6	51.4	73.9	22.5	109	264	Y-axis
Hori.	7206.000	PK	43.8	36.2	7.2	38.4	48.8	73.9	25.1	100	0	Y-axis(Not Detected)
Hori.	9608.000	PK	40.5	38.3	8.5	37.1	50.2	73.9	23.7	100	0	Y-axis(Not Detected)
Hori.	12010.000	PK	43.5	39.4	9.8	37.9	54.8	73.9	19.1	100	0	Y-axis(Not Detected)
Hori.	1602.016	AV	36.1	25.7	12.9	38.4	36.3	53.9	17.6	100	215	Y-axis(VBW=10Hz)
Hori.	3203.000	AV	35.1	28.6	5.2	37.9	31.0	53.9	22.9	100	248	Y-axis(VBW=10Hz)
Hori.	7206.000	AV	33.4	36.2	7.2	38.4	38.4	53.9	15.5	100	0	Y-axis(Not Detected)
Hori.	9608.000	AV	30.2	38.3	8.5	37.1	39.9	53.9	14.0	100	0	Y-axis(Not Detected)
Hori.	12010.000	AV	33.0	39.4	9.8	37.9	44.3	53.9	9.6	100	0	Y-axis(Not Detected)
Vert.	32.941	QP	27.6	16.8	7.0	31.9	19.5	40.0	20.5	100	121	X-axis
Vert.	207.000	QP	26.2	16.6	9.3	31.7	20.4	43.5	23.1	100	154	X-axis
Vert.	448.002	QP	25.3	17.2	7.9	31.6	18.8	46.0	27.2	100	229	X-axis
Vert.	1602.016	PK	44.9	25.7	12.9	38.4	45.1	73.9	28.8	100	0	X-axis
Vert.	2390.000	PK	44.5	27.4	13.6	37.8	47.7	73.9	26.2	126	31	Y-axis
Vert.	2397.726	PK	46.8	27.4	13.6	37.8	50.0	73.9	23.9	126	31	Y-axis
Vert.	2400.000	PK	59.7	27.4	13.7	37.8	63.0	73.9	10.9	126	31	Y-axis
Vert.	3203.000	PK	44.8	28.6	5.2	37.9	40.7	73.9	33.2	100	317	X-axis
Vert.	4804.000	PK	51.6	30.5	5.8	36.6	51.3	73.9	22.6	102	218	Z-axis
Vert.	7206.000	PK	43.9	36.2	7.2	38.4	48.9	73.9	25.0	100	0	Z-axis(Not Detected)
Vert.	9608.000	PK	41.1	38.3	8.5	37.1	50.8	73.9	23.1	100	0	Z-axis(Not Detected)
Vert.	12010.000	PK	43.4	39.4	9.8	37.9	54.7	73.9	19.2	100	0	Z-axis(Not Detected)
Vert.	1602.016	AV	33.1	25.7	12.9	38.4	33.3	53.9	20.6	100	0	X-axis(VBW=10Hz)
Vert.	3203.000	AV	35.2	28.6	5.2	37.9	31.1	53.9	22.8	100	317	X-axis(VBW=10Hz)
Vert.	7206.000	AV	33.0	36.2	7.2	38.4	38.0	53.9	15.9	100	0	Z-axis(Not Detected)
Vert.	9608.000	AV	30.7	38.3	8.5	37.1	40.4	53.9	13.5	100	0	Z-axis(Not Detected)
Vert.	12010.000	AV	32.9	39.4	9.8	37.9	44.2	53.9	9.7	100	0	Z-axis(Not Detected)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

*The 10th harmonic was not seen so the result was its base noise level.

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

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	33.5	27.4	13.6	37.8	-24.6	12.1	53.9	41.8	Z-axis(VBW=270Hz)
Hori.	2397.726	AV	36.4	27.4	13.6	37.8	-24.6	15.0	53.9	38.9	Z-axis(VBW=270Hz)
Hori.	2400.000	AV	51.1	27.4	13.7	37.8	-24.6	29.8	53.9	24.1	Z-axis(VBW=270Hz)
Hori.	4804.000	AV	43.4	30.5	5.8	36.6	-24.6	18.5	53.9	35.4	Y-axis(VBW=270Hz)
Vert.	2378.020	AV	33.5	27.4	13.6	37.8	-24.6	12.1	53.9	41.8	Y-axis(VBW=270Hz)
Vert.	2390.000	AV	35.3	27.4	13.6	37.8	-24.6	13.9	53.9	40.0	Y-axis(VBW=270Hz)
Vert.	2400.000	AV	49.1	27.4	13.7	37.8	-24.6	27.8	53.9	26.1	Y-axis(VBW=270Hz)
Vert.	4804.000	AV	43.7	30.5	5.8	36.6	-24.6	18.8	53.9	35.1	Z-axis(VBW=270Hz)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier) + Dwell time factor (Refer to the data 'Calculation of VBW and Dwell Time Factor')

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

*No noise was detected above the 5th order harmonics.

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab.
 Date 2011/5/1 , 2011/5/2
 Temperature / Humidity 20deg.C 50% RH , 20deg.C 56% RH
 Engineer Akio Hayashi , Takahiro Suzuki
 (above 1GHz) , (below 1GHz)
 Mode Tx, 2441 MHz
 Tx, Bluetooth, EDR, PRBS9

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	31.325	QP	27.4	17.3	6.9	31.9	19.7	40.0	20.3	300	205	X-axis
Hori.	209.400	QP	23.7	16.7	9.3	31.7	18.0	43.5	25.5	300	116	X-axis
Hori.	431.599	QP	28.2	17.0	7.8	31.6	21.4	46.0	24.6	100	359	X-axis
Hori.	743.067	QP	26.6	20.7	9.3	31.5	25.1	46.0	20.9	150	356	X-axis
Hori.	1626.660	PK	46.2	25.8	12.9	38.4	46.5	73.9	27.4	100	33	Y-axis
Hori.	3253.323	PK	44.5	28.7	5.2	37.8	40.6	73.9	33.3	104	279	Y-axis
Hori.	4882.000	PK	43.8	30.8	5.8	36.6	43.8	73.9	30.1	100	87	Y-axis
Hori.	7323.000	PK	41.4	36.4	7.3	38.4	46.7	73.9	27.2	100	0	Y-axis(Not Detected)
Hori.	9764.000	PK	40.6	38.5	8.5	37.1	50.5	73.9	23.4	100	0	Y-axis(Not Detected)
Hori.	12205.000	PK	41.5	39.4	9.9	38.0	52.8	73.9	21.1	100	0	Y-axis(Not Detected)
Hori.	1626.660	AV	35.3	25.8	12.9	38.4	35.6	53.9	18.3	100	33	Y-axis(VBW=10Hz)
Hori.	3253.323	AV	35.0	28.7	5.2	37.8	31.1	53.9	22.8	104	279	Y-axis(VBW=10Hz)
Hori.	7323.000	AV	30.9	36.4	7.3	38.4	36.2	53.9	17.7	100	0	Y-axis(Not Detected)
Hori.	9764.000	AV	29.6	38.5	8.5	37.1	39.5	53.9	14.4	100	0	Y-axis(Not Detected)
Hori.	12205.000	AV	31.2	39.4	9.9	38.0	42.5	53.9	11.4	100	0	Y-axis(Not Detected)
Vert.	31.072	QP	27.1	17.4	6.9	31.9	19.5	40.0	20.5	100	3	X-axis
Vert.	189.955	QP	26.9	16.3	9.1	31.8	20.5	43.5	23.0	100	242	X-axis
Vert.	209.400	QP	23.7	16.7	9.3	31.7	18.0	43.5	25.5	100	126	X-axis
Vert.	1626.660	PK	45.9	25.8	12.9	38.4	46.2	73.9	27.7	100	0	X-axis
Vert.	3253.000	PK	44.0	28.7	5.2	37.8	40.1	73.9	33.8	102	78	X-axis
Vert.	4882.000	PK	49.6	30.8	5.8	36.6	49.6	73.9	24.3	100	217	Z-axis
Vert.	7323.000	PK	41.5	36.4	7.3	38.4	46.8	73.9	27.1	100	0	Z-axis(Not Detected)
Vert.	9764.000	PK	40.7	38.5	8.5	37.1	50.6	73.9	23.3	100	0	Z-axis(Not Detected)
Vert.	12205.000	PK	41.5	39.4	9.9	38.0	52.8	73.9	21.1	100	0	Z-axis(Not Detected)
Vert.	1626.660	AV	33.4	25.8	12.9	38.4	33.7	53.9	20.2	100	0	X-axis(VBW=10Hz)
Vert.	3253.000	AV	35.2	28.7	5.2	37.8	31.3	53.9	22.6	102	78	X-axis(VBW=10Hz)
Vert.	7323.000	AV	31.3	36.4	7.3	38.4	36.6	53.9	17.3	100	0	Z-axis(Not Detected)
Vert.	9764.000	AV	30.1	38.5	8.5	37.1	40.0	53.9	13.9	100	0	Z-axis(Not Detected)
Vert.	12205.000	AV	31.4	39.4	9.9	38.0	42.7	53.9	11.2	100	0	Z-axis(Not Detected)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

*The 10th harmonic was not seen so the result was its base noise level.

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

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4882.000	AV	35.6	30.8	5.8	36.6	-24.6	11.0	53.9	42.9	Y-axis(VBW=270Hz)
Vert.	4882.000	AV	42.8	30.8	5.8	36.6	-24.6	18.2	53.9	35.7	Z-axis(VBW=270Hz)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter)

- Gain(Amplifier) + Dwell time factor (Refer to the data 'Calculation of VBW and Dwell Time Factor')

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

*No noise was detected above the 5th order harmonics.

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab.
 Date 2011/5/1 , 2011/5/2
 Temperature / Humidity 20deg.C 50% RH , 20deg.C 56% RH
 Engineer Akio Hayashi , Takahiro Suzuki
 (above 1GHz) , (below 1GHz)
 Mode Tx, 2480 MHz
 Tx, Bluetooth, EDR, PRBS9

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	31.424	QP	27.5	17.3	6.9	31.9	19.8	40.0	20.2	300	328	X-axis
Hori.	213.500	QP	23.3	16.7	9.4	31.7	17.7	43.5	25.8	150	298	X-axis
Hori.	240.119	QP	26.1	17.2	9.7	31.7	21.3	46.0	24.7	150	88	X-axis
Hori.	790.044	QP	25.4	20.9	9.5	31.4	24.4	46.0	21.6	100	235	X-axis
Hori.	1653.000	PK	45.3	25.9	13.0	38.4	45.8	73.9	28.1	100	9	Y-axis
Hori.	2483.500	PK	46.7	27.4	13.6	37.6	50.1	73.9	23.8	114	257	Z-axis
Hori.	3305.336	PK	44.9	28.8	5.2	37.8	41.1	73.9	32.8	107	258	Y-axis
Hori.	4960.000	PK	51.6	31.0	5.8	36.5	51.9	73.9	22.0	102	222	Y-axis
Hori.	7440.000	PK	44.3	36.7	7.2	38.4	49.8	73.9	24.1	100	0	Y-axis(Not Detected)
Hori.	9920.000	PK	41.5	38.7	8.6	37.2	51.6	73.9	22.3	100	0	Y-axis(Not Detected)
Hori.	12400.000	PK	43.4	39.4	9.9	38.0	54.7	73.9	19.2	100	0	Y-axis(Not Detected)
Hori.	1653.000	AV	38.0	25.9	13.0	38.4	38.5	53.9	15.4	100	9	Y-axis(VBW=10Hz)
Hori.	3305.336	AV	36.2	28.8	5.2	37.8	32.4	53.9	21.5	107	258	Y-axis(VBW=10Hz)
Hori.	7440.000	AV	33.7	36.7	7.2	38.4	39.2	53.9	14.7	100	0	Y-axis(Not Detected)
Hori.	9920.000	AV	30.7	38.7	8.6	37.2	40.8	53.9	13.1	100	0	Y-axis(Not Detected)
Hori.	12400.000	AV	32.5	39.4	9.9	38.0	43.8	53.9	10.1	100	0	Y-axis(Not Detected)
Vert.	32.417	QP	27.7	16.9	7.0	31.9	19.7	40.0	20.3	100	344	X-axis
Vert.	213.500	QP	27.6	16.7	9.4	31.7	22.0	43.5	21.5	100	92	X-axis
Vert.	265.973	QP	27.3	18.2	10.1	31.7	23.9	46.0	22.1	100	141	X-axis
Vert.	1653.000	PK	47.3	25.9	13.0	38.4	47.8	73.9	26.1	116	107	X-axis
Vert.	2483.500	PK	46.8	27.4	13.6	37.6	50.2	73.9	23.7	100	327	Y-axis
Vert.	3305.336	PK	46.5	28.8	5.2	37.8	42.7	73.9	31.2	114	221	X-axis
Vert.	4960.000	PK	53.1	31.0	5.8	36.5	53.4	73.9	20.5	112	217	Z-axis
Vert.	7440.000	PK	42.5	36.7	7.2	38.4	48.0	73.9	25.9	100	0	Z-axis(Not Detected)
Vert.	9920.000	PK	41.6	38.7	8.6	37.2	51.7	73.9	22.2	100	0	Z-axis(Not Detected)
Vert.	12400.000	PK	43.2	39.4	9.9	38.0	54.5	73.9	19.4	100	0	Z-axis(Not Detected)
Vert.	1653.000	AV	38.8	25.9	13.0	38.4	39.3	53.9	14.6	116	107	X-axis(VBW=10Hz)
Vert.	3305.336	AV	39.2	28.8	5.2	37.8	35.4	53.9	18.5	114	221	X-axis(VBW=10Hz)
Vert.	7440.000	AV	33.6	36.7	7.2	38.4	39.1	53.9	14.8	100	0	Z-axis(Not Detected)
Vert.	9920.000	AV	30.7	38.7	8.6	37.2	40.8	53.9	13.1	100	0	Z-axis(Not Detected)
Vert.	12400.000	AV	32.6	39.4	9.9	38.0	43.9	53.9	10.0	100	0	Z-axis(Not Detected)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 13GHz)) - Gain(Amplifier)

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

*The 10th harmonic was not seen so the result was its base noise level.

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

Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	39.2	27.4	13.6	37.6	-24.6	18.0	53.9	35.9	Z-axis(VBW=270Hz)
Hori.	4960.000	AV	42.8	31.0	5.8	36.5	-24.6	18.5	53.9	35.4	Y-axis(VBW=270Hz)
Vert.	2483.500	AV	37.4	27.4	13.6	37.6	-24.6	16.2	53.9	37.7	Y-axis(VBW=270Hz)
Vert.	4960.000	AV	44.6	31.0	5.8	36.5	-24.6	20.3	53.9	33.6	Z-axis(VBW=270Hz)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter)

- Gain(Amplifier) + Dwell time factor (Refer to the data 'Calculation of VBW and Dwell Time Factor')

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

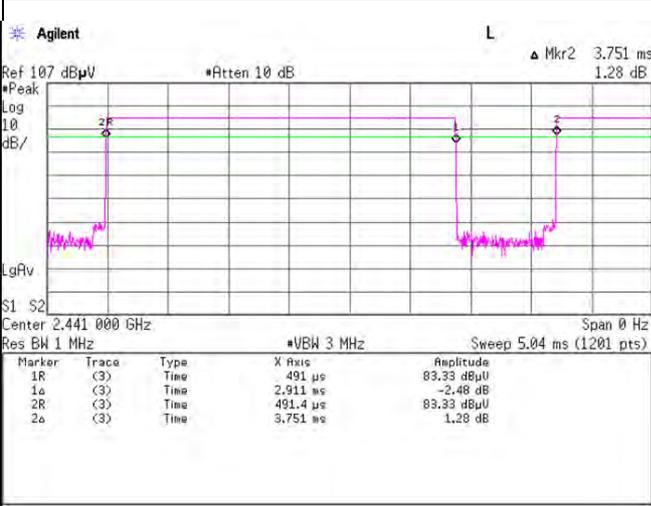
*No noise was detected above the 5th order harmonics.

Spurious emission (Radiated)

Tx, Bluetooth, BDR, PRBS9

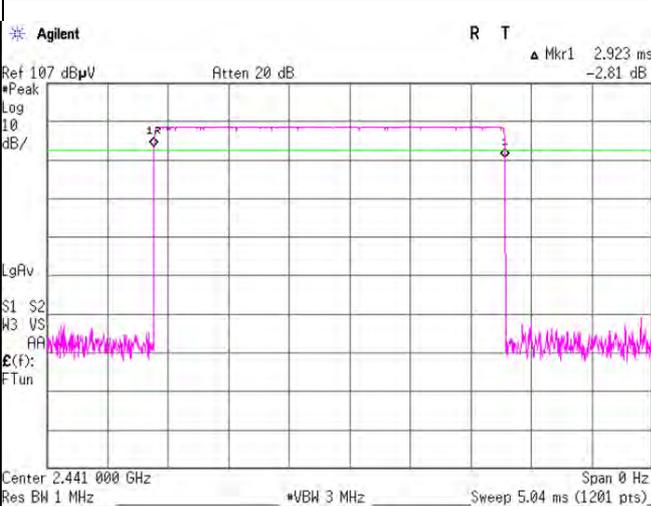
VBW (AV) Calculation

VBW: $1/x = 266\text{Hz} < 270\text{Hz}$
x: (Tx on+Tx off) = 3.751ms



Worst 100ms

Dwell time factor = $20\log(2.923*2/100) = -24.6\text{dB}$



ON time of some channel during 100ms: Twice
 This is the worst case in hopping sequence of Bluetooth.

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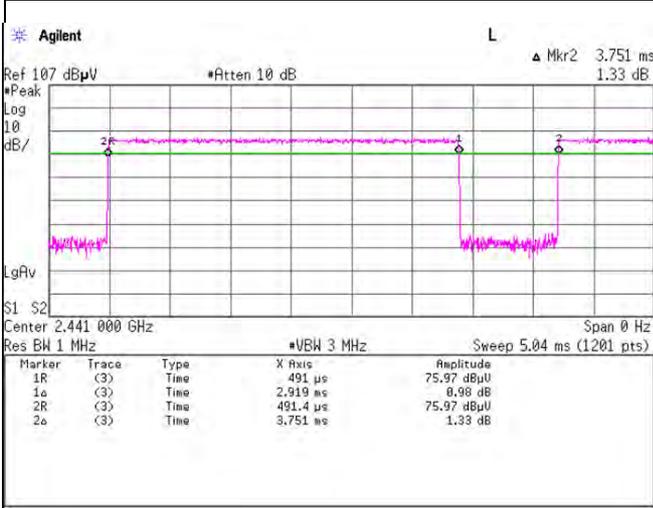
Facsimile : +81 463 50 6401

Spurious emission (Radiated)

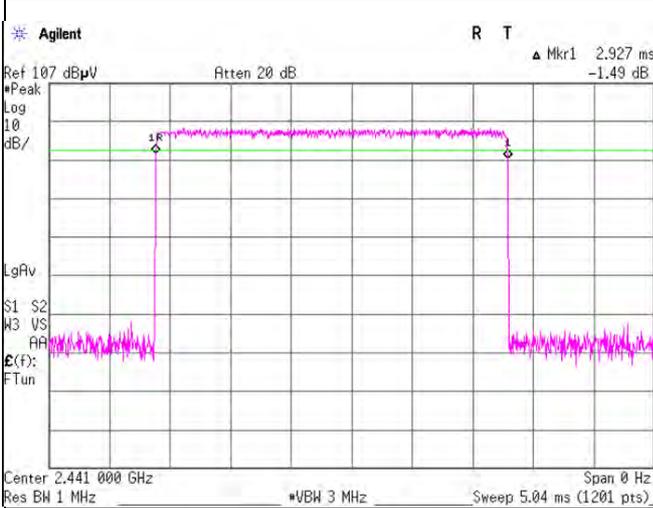
Tx, Bluetooth, EDR, PRBS9

VBW (AV) Calculation

**VBW: $1/x = 266\text{Hz} < 270\text{Hz}$
 $x: (\text{Tx on} + \text{Tx off}) = 3.751\text{ms}$**



**Worst 100ms
Dwell time factor = $20\log(2.927*2/100) = -24.6\text{dB}$**



ON time of some channel during 100ms: Twice
This is the worst case in hopping sequence of Bluetooth.

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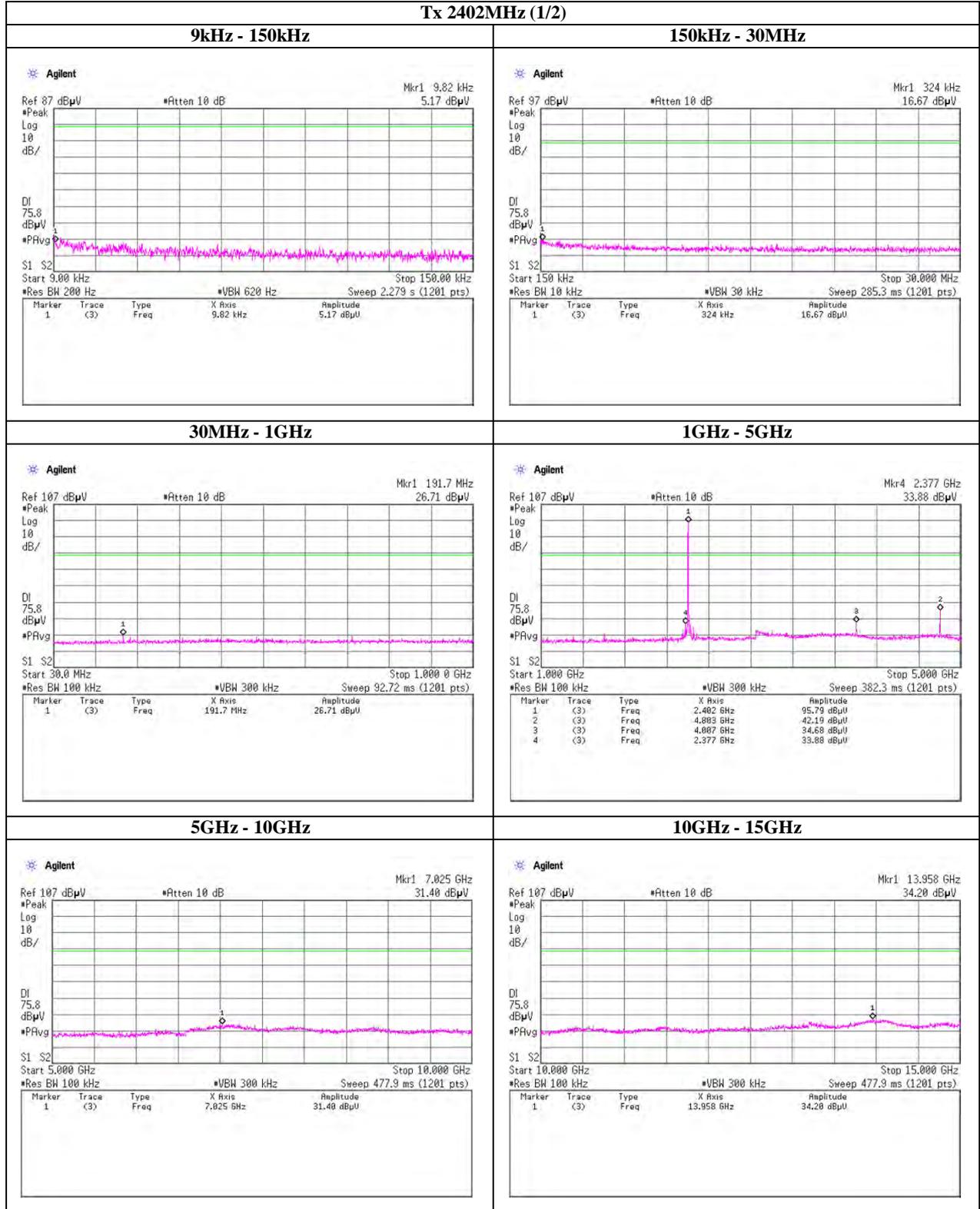
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Spurious emission (Conducted)

Tx, Bluetooth, BDR, PRBS9

Tx 2402MHz (1/2)



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Spurious emission (Conducted)

Tx, Bluetooth, BDR, PRBS9

Tx 2402MHz (2/2)



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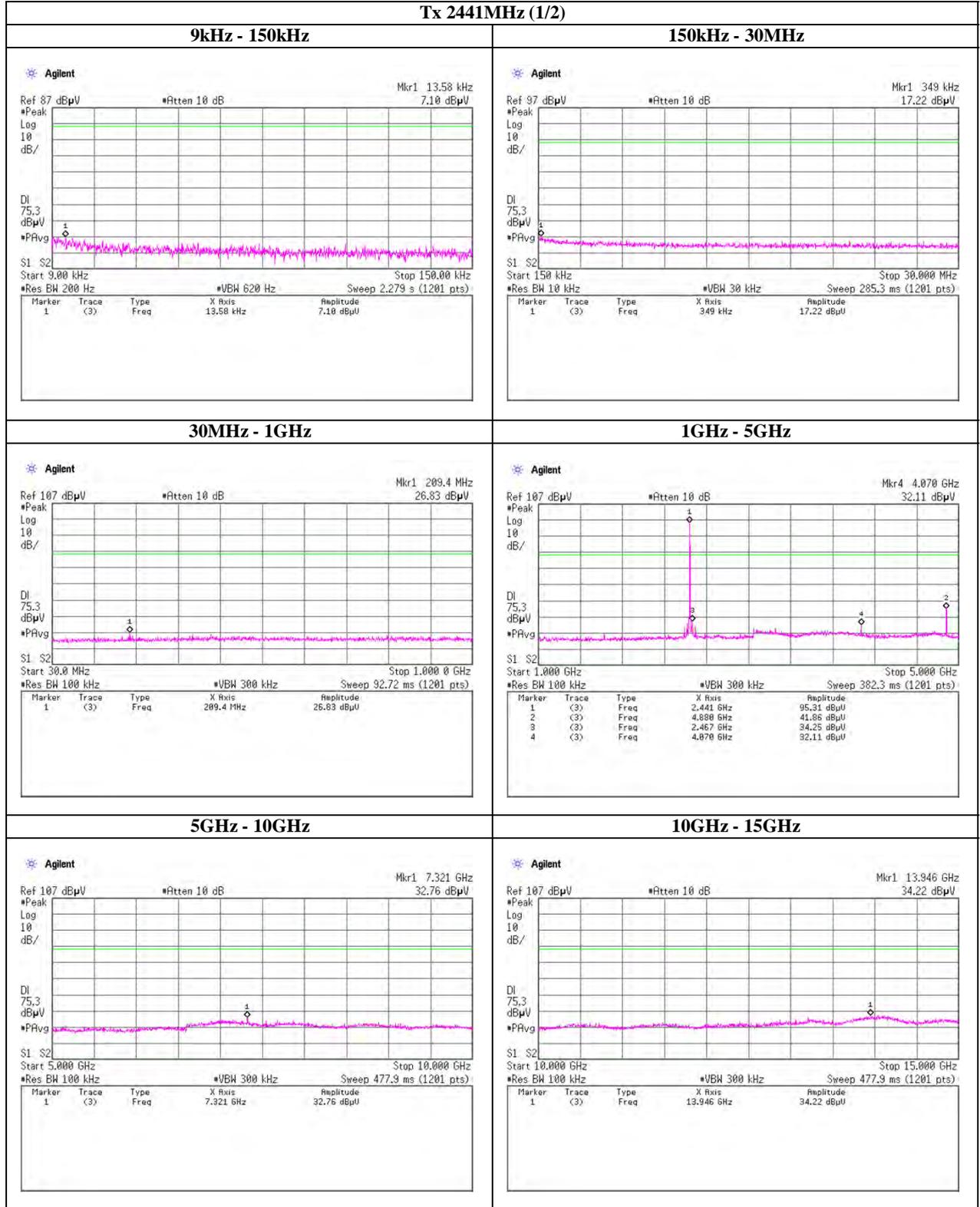
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Facsimile : +81 463 50 6401

Spurious emission (Conducted)

Tx, Bluetooth, BDR, PRBS9

Tx 2441MHz (1/2)



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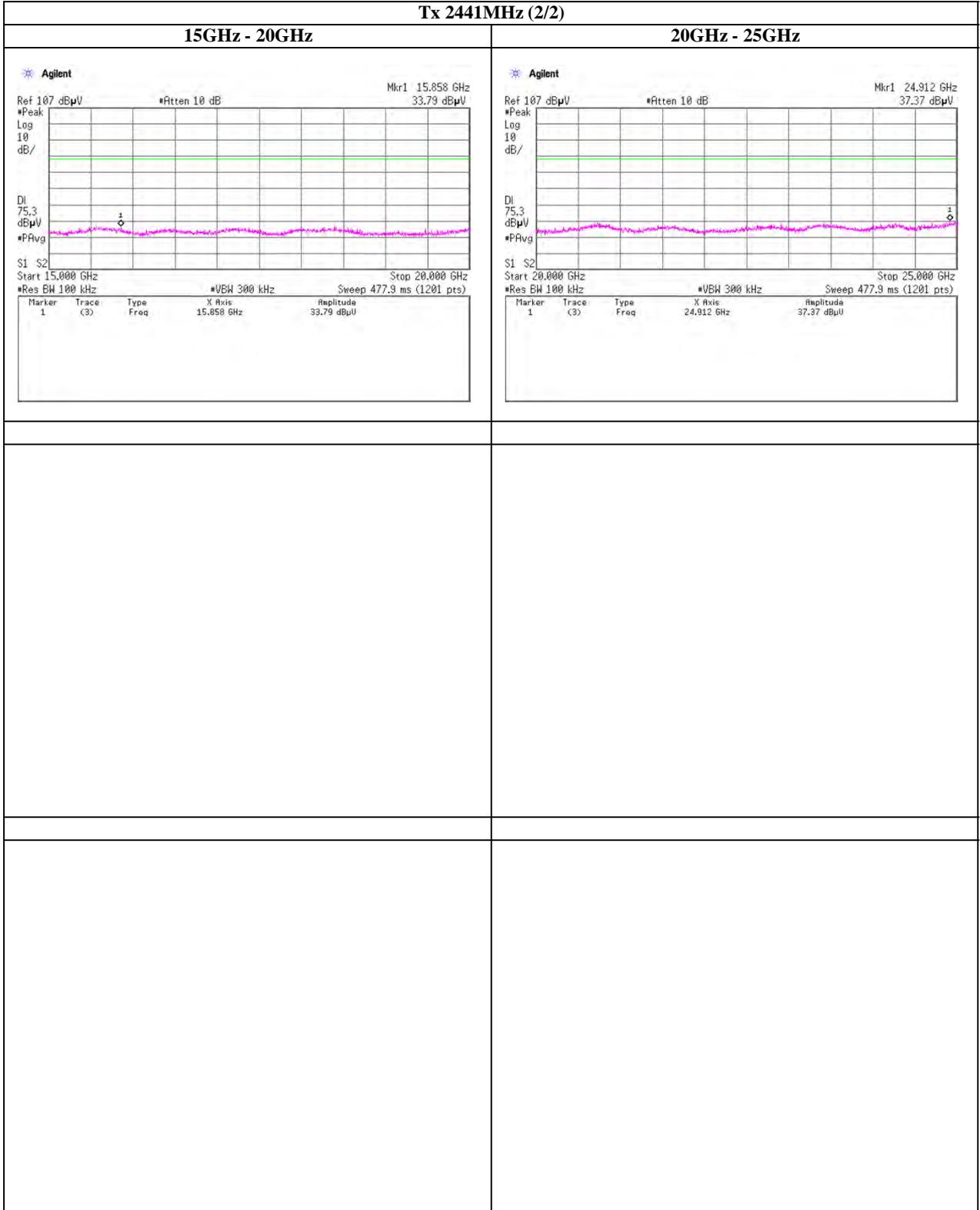
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Spurious emission (Conducted)

Tx, Bluetooth, BDR, PRBS9

Tx 2441MHz (2/2)



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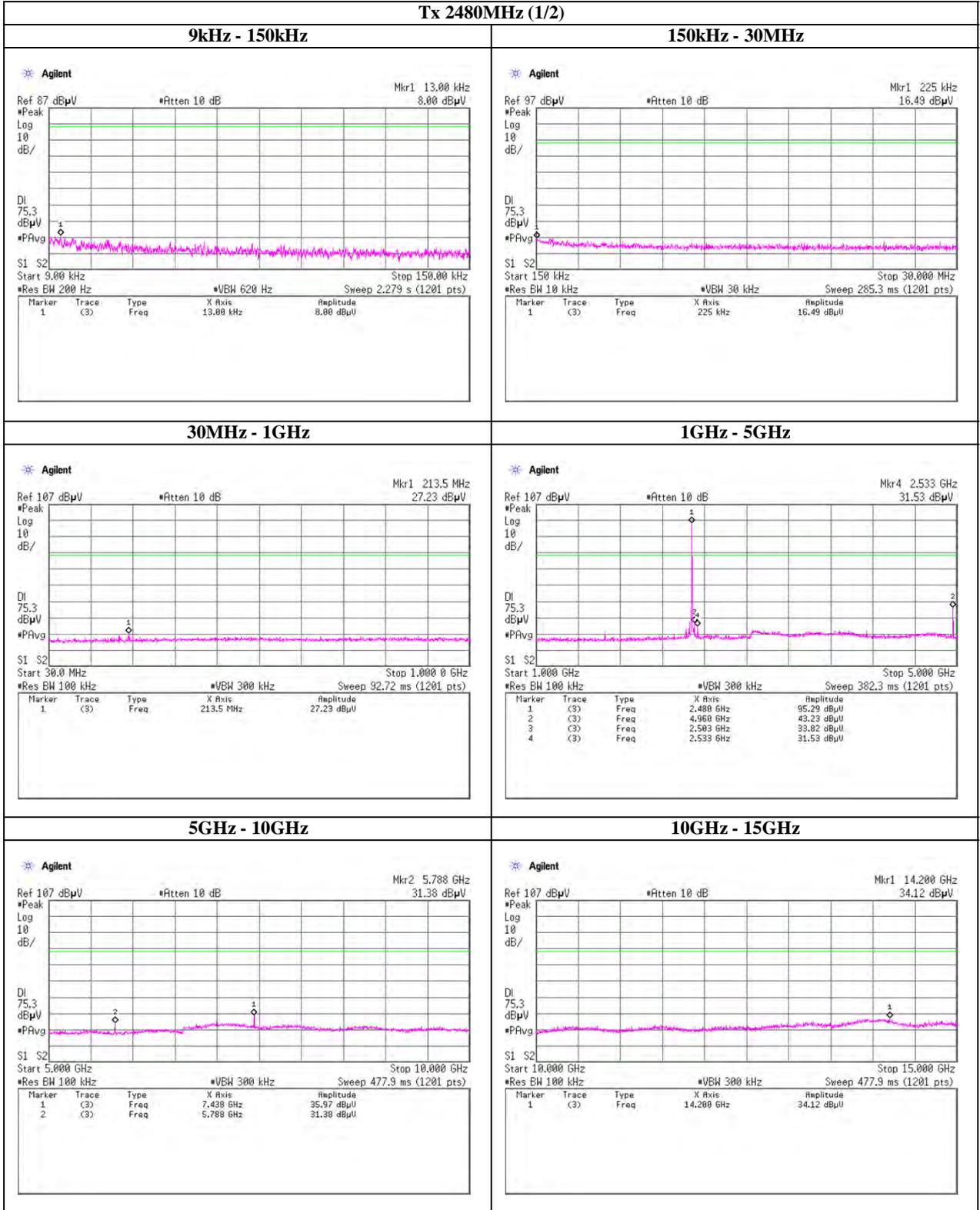
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Spurious emission (Conducted)

Tx, Bluetooth, BDR, PRBS9

Tx 2480MHz (1/2)



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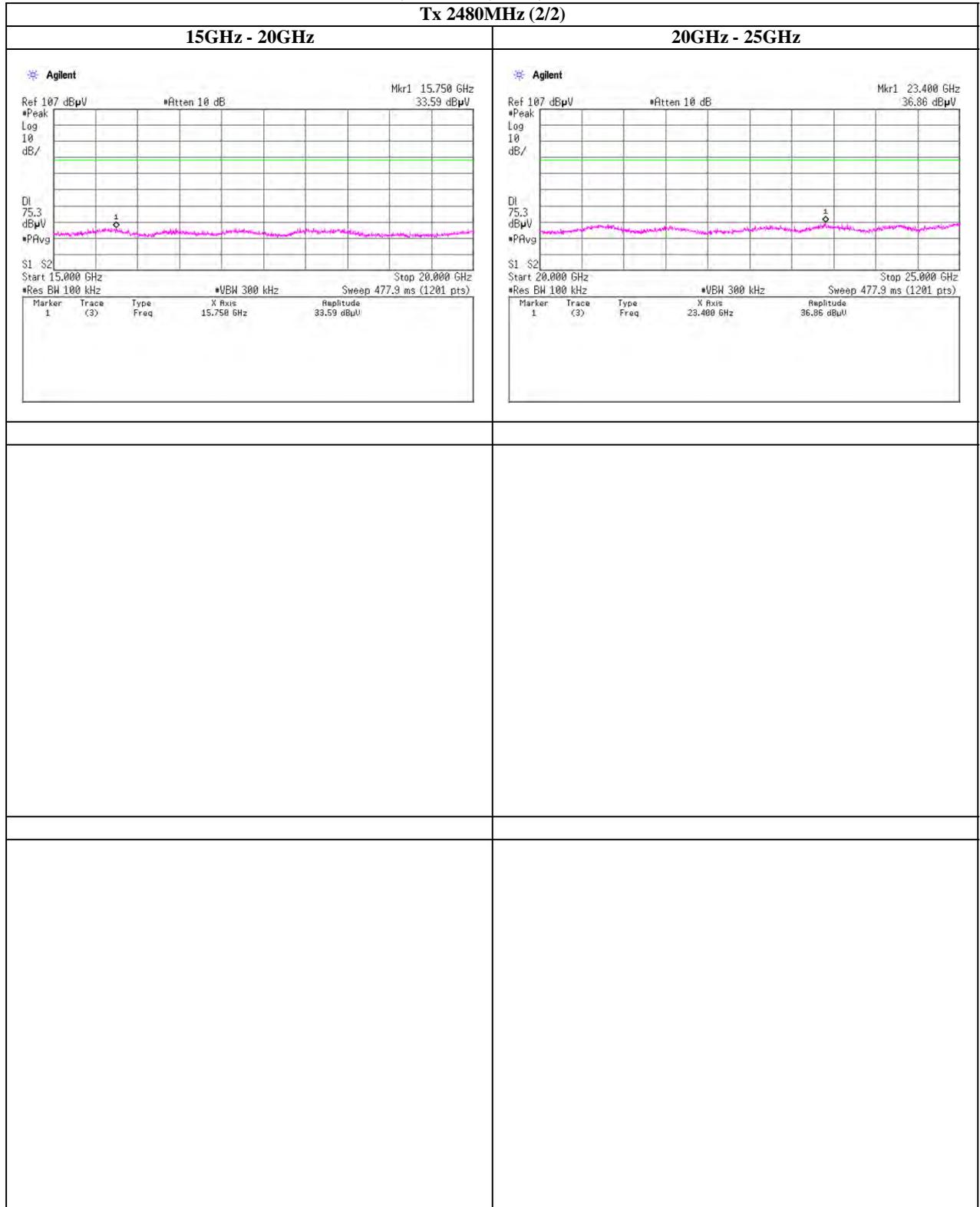
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Spurious emission (Conducted)

Tx, Bluetooth, BDR, PRBS9

Tx 2480MHz (2/2)



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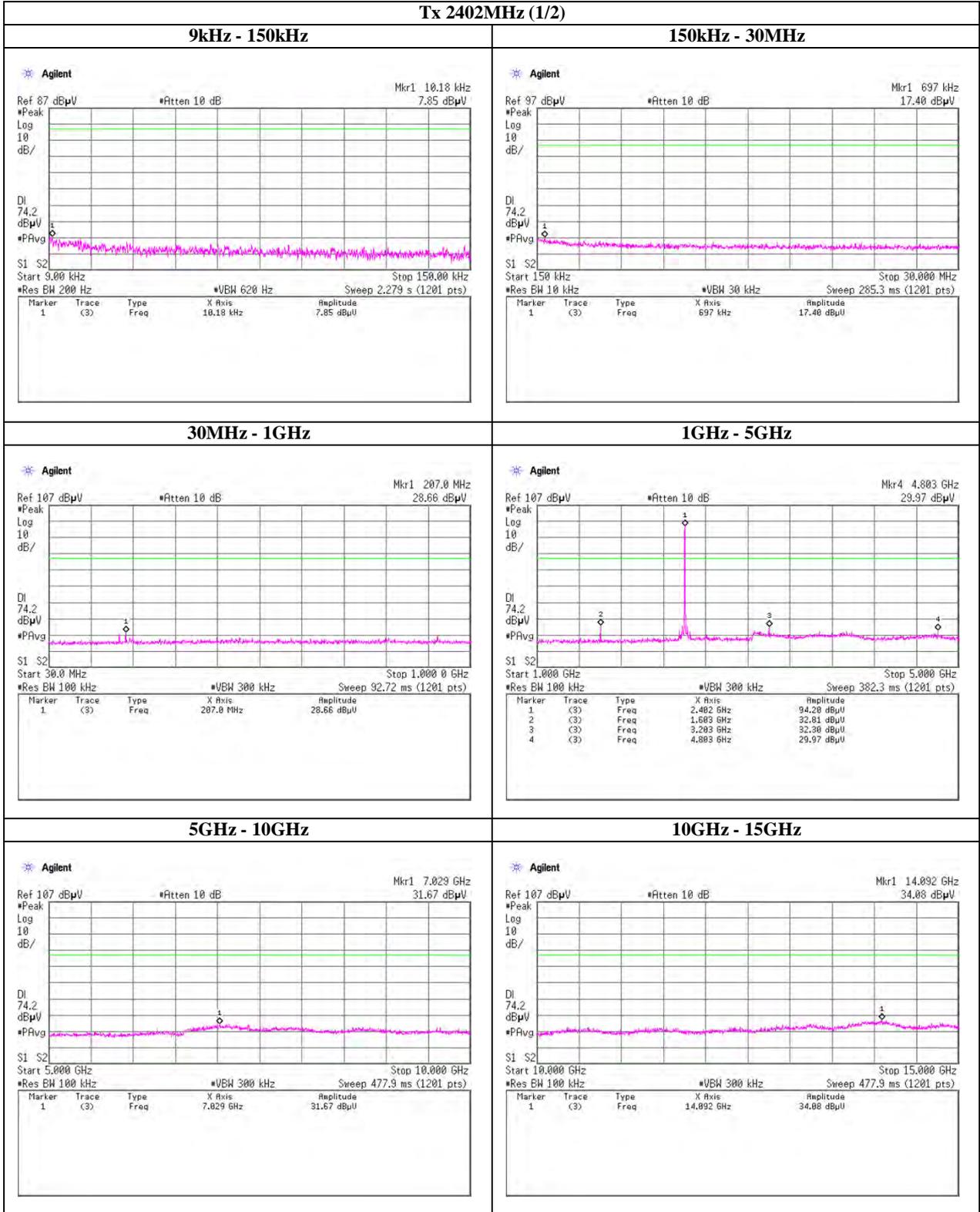
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Spurious emission (Conducted)

Tx, Bluetooth, EDR, PRBS9

Tx 2402MHz (1/2)



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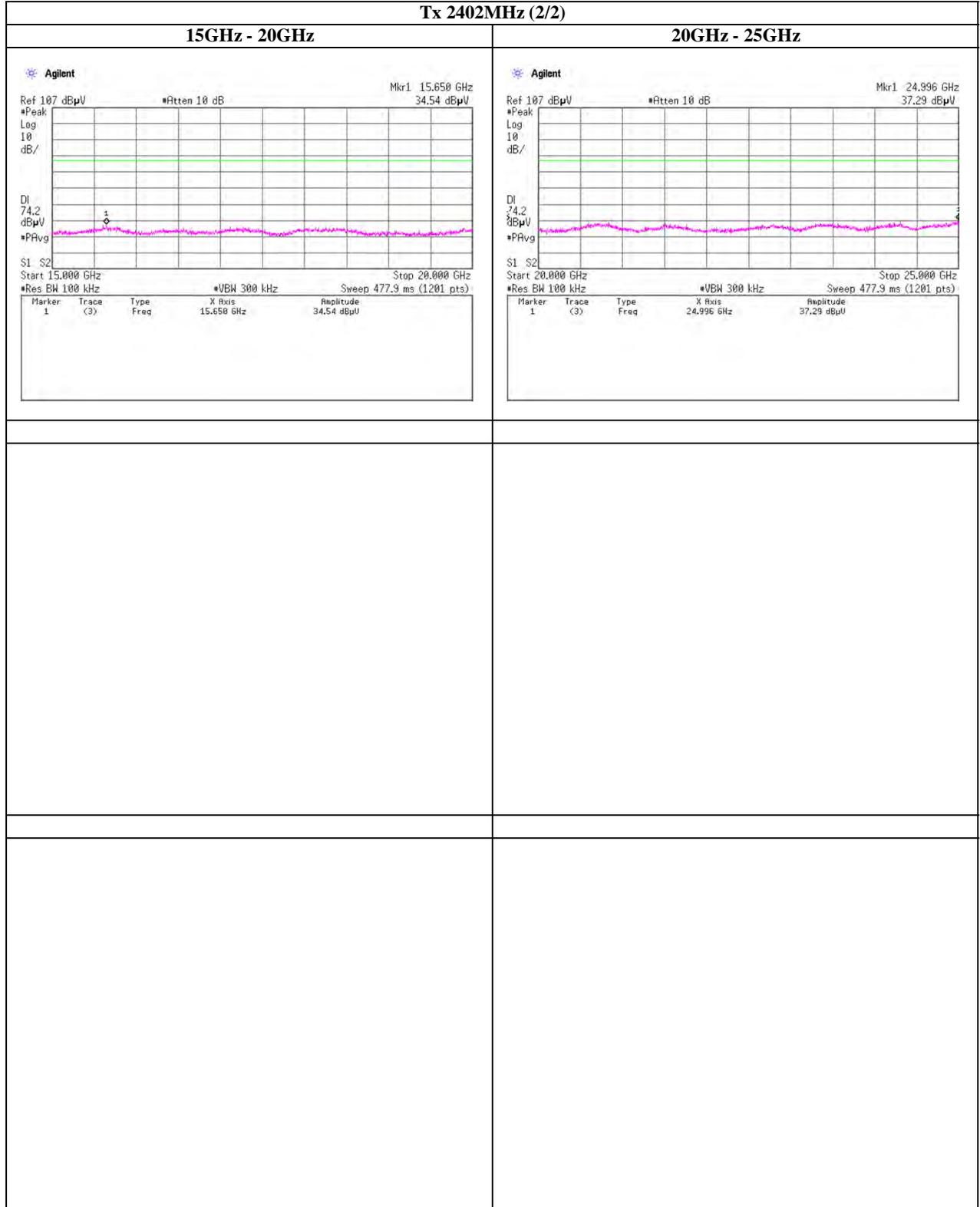
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Spurious emission (Conducted)

Tx, Bluetooth, EDR, PRBS9

Tx 2402MHz (2/2)



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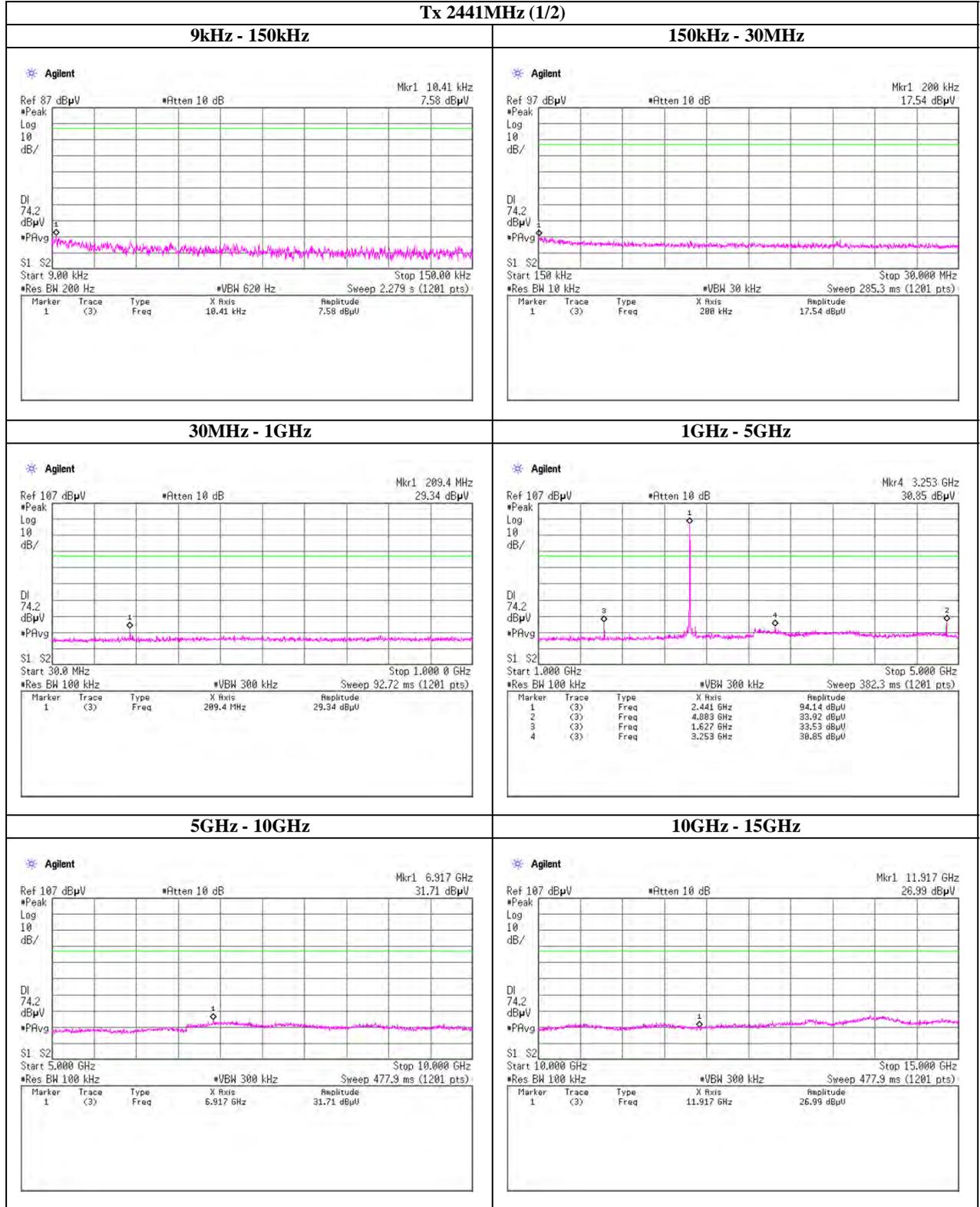
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Facsimile : +81 463 50 6401

Spurious emission (Conducted)

Tx, Bluetooth, EDR, PRBS9

Tx 2441MHz (1/2)



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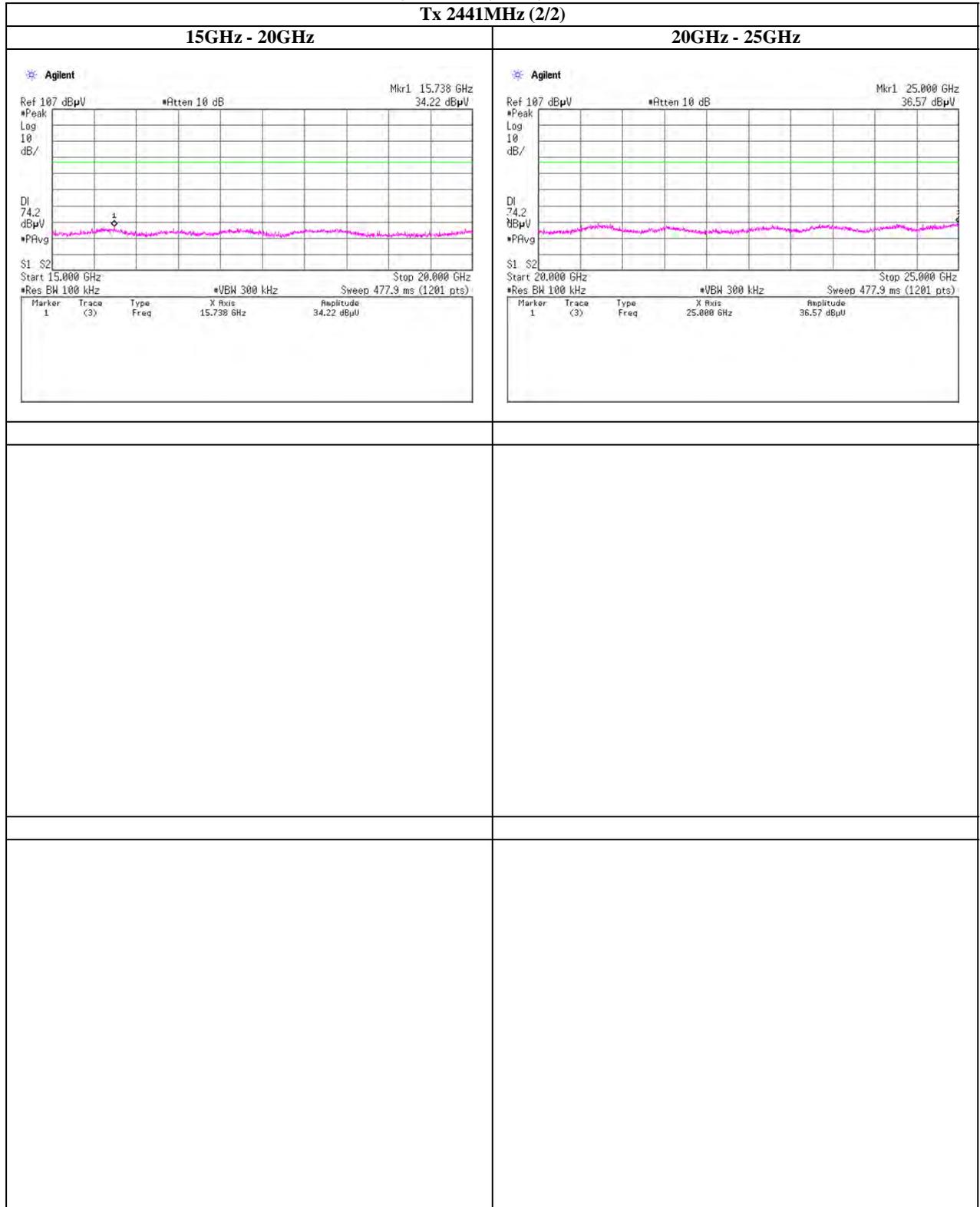
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Spurious emission (Conducted)

Tx, Bluetooth, EDR, PRBS9

Tx 2441MHz (2/2)



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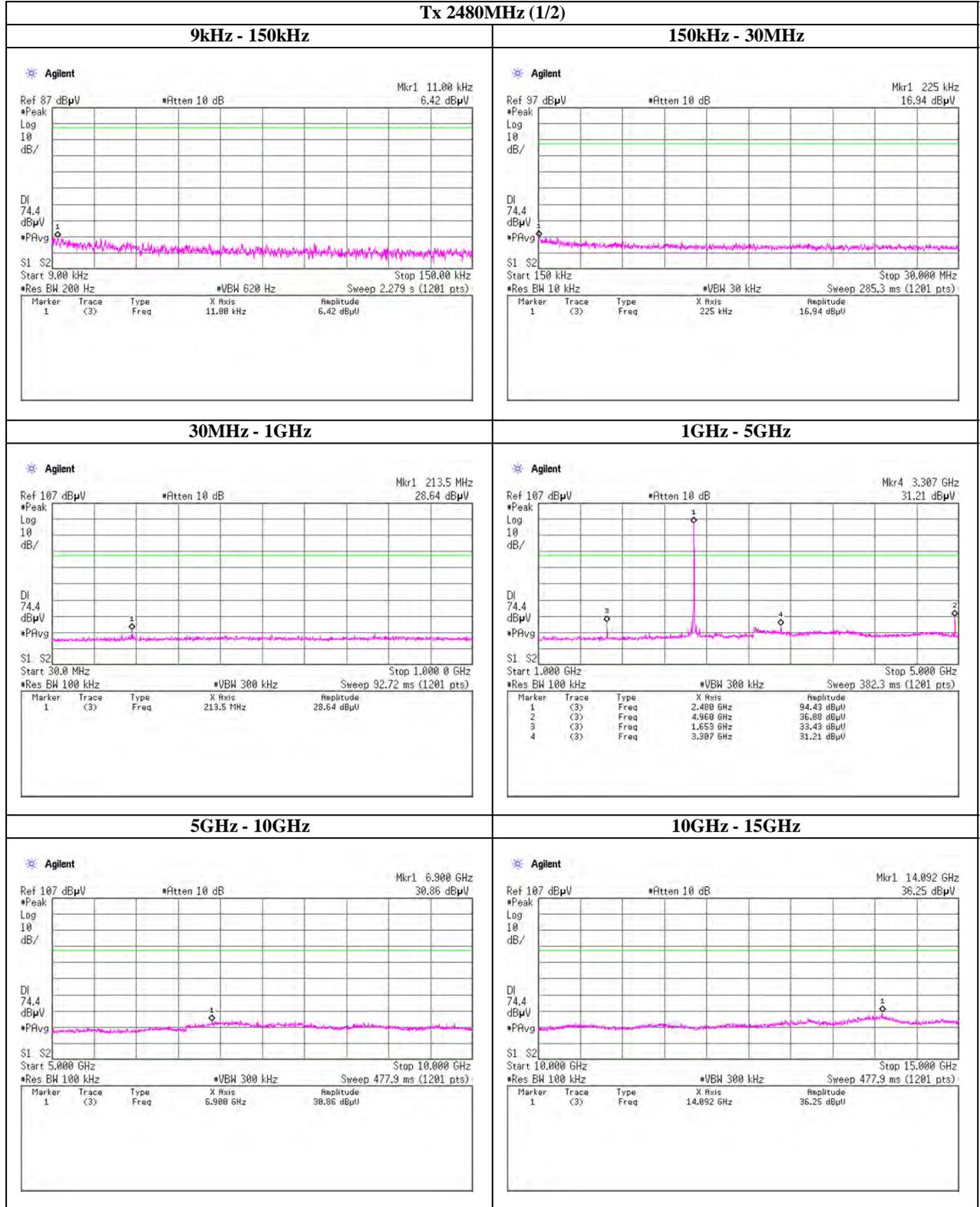
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Spurious emission (Conducted)

Tx, Bluetooth, EDR, PRBS9

Tx 2480MHz (1/2)



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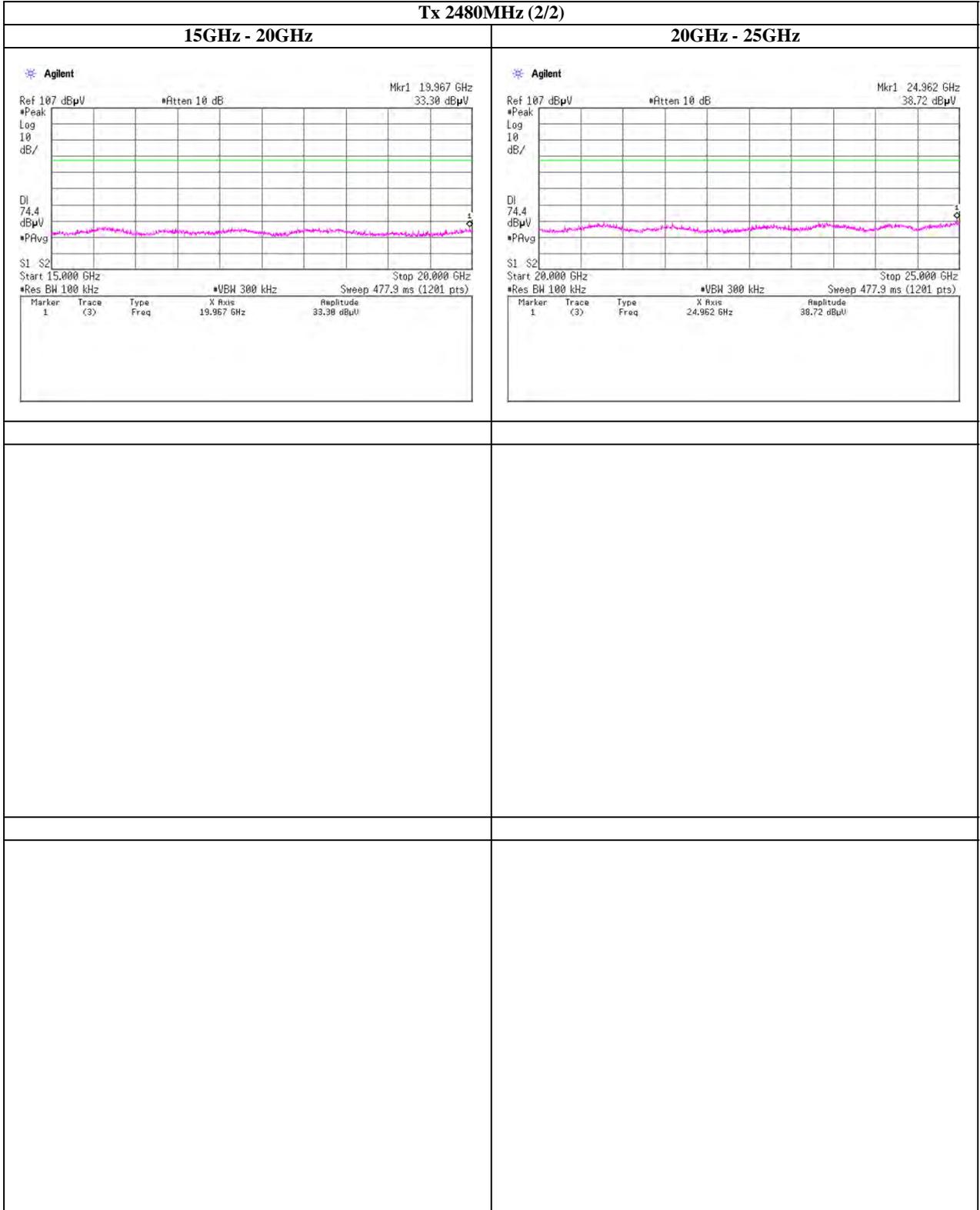
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Spurious emission (Conducted)

Tx, Bluetooth, EDR, PRBS9

Tx 2480MHz (2/2)



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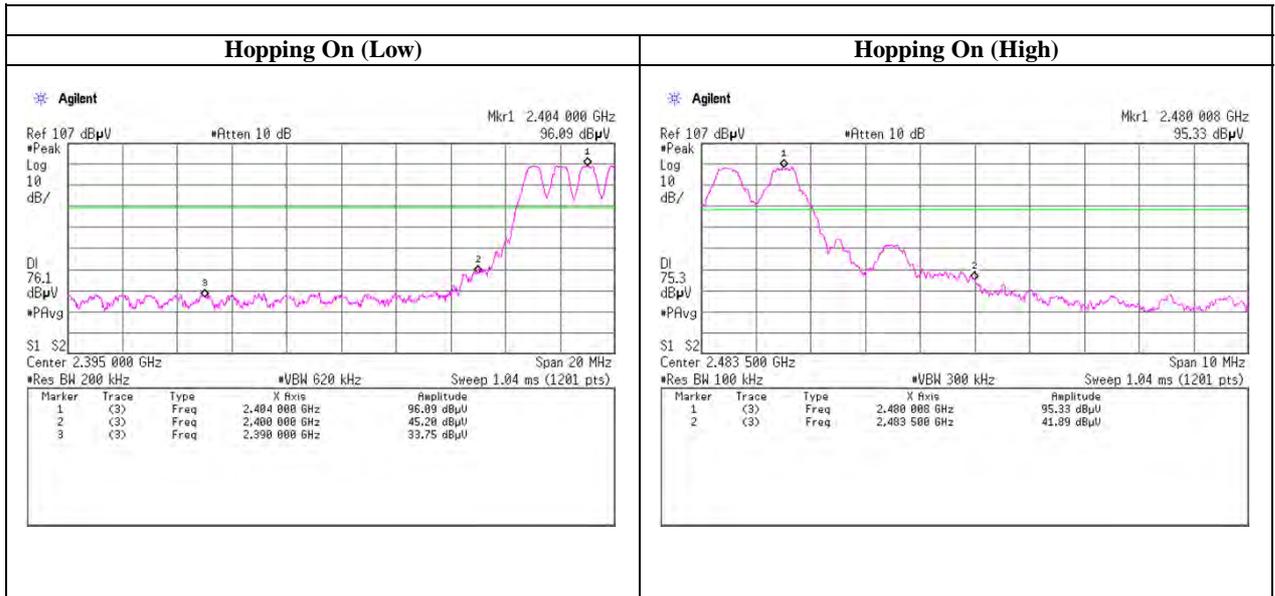
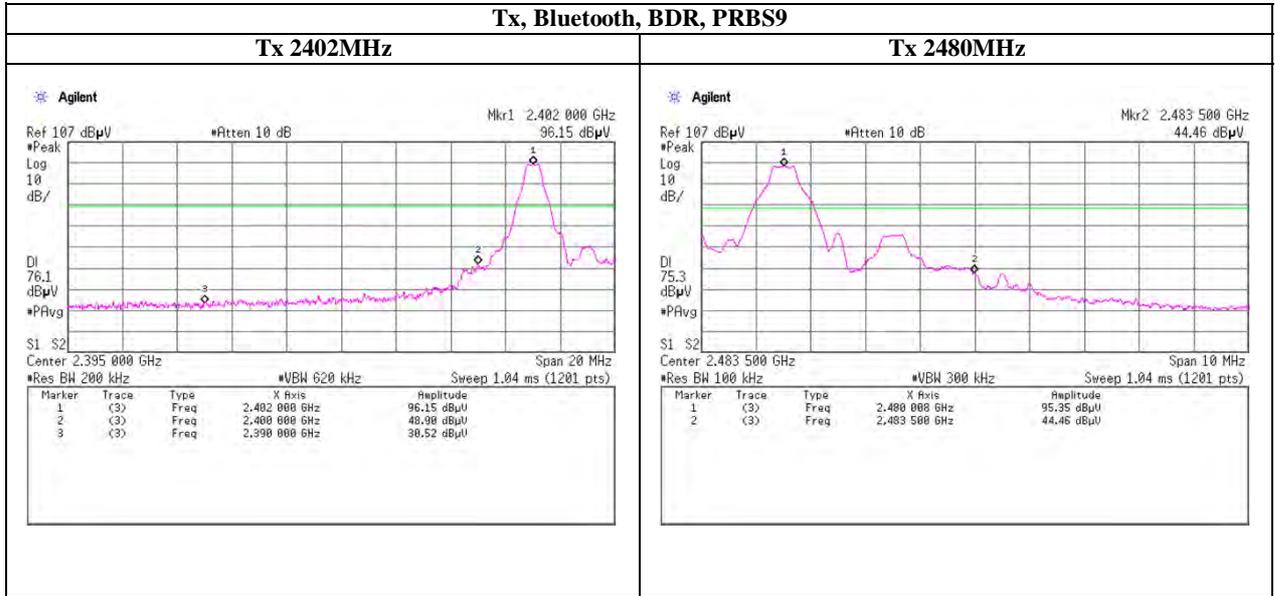
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Spurious emission (Conducted)

Band Edge compliance



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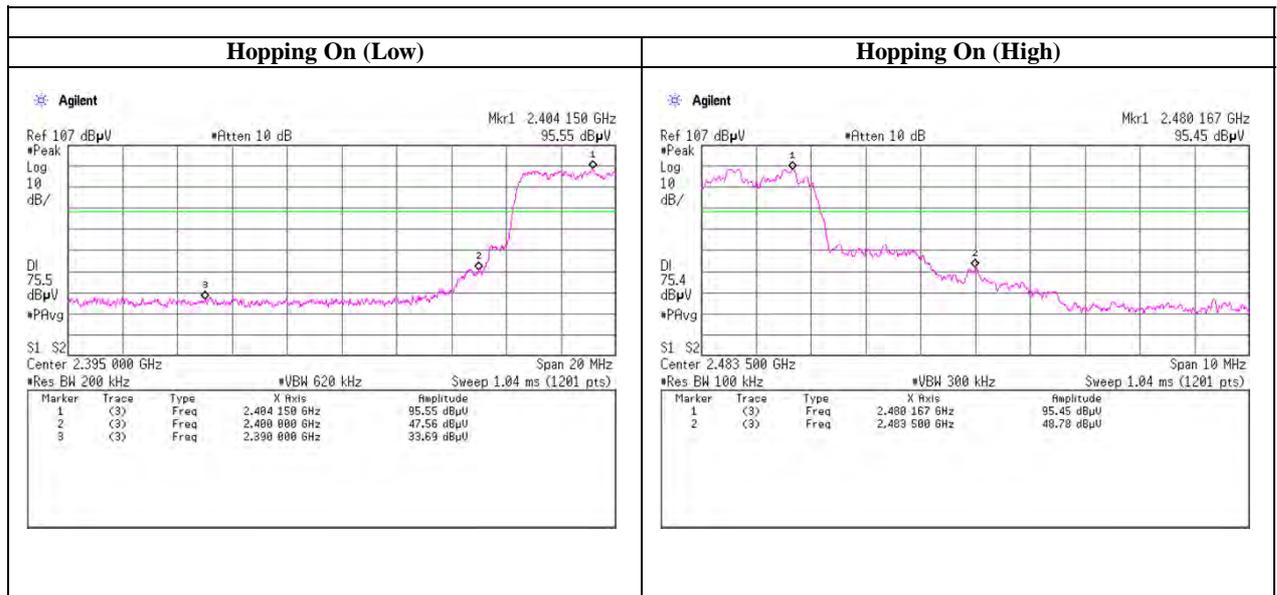
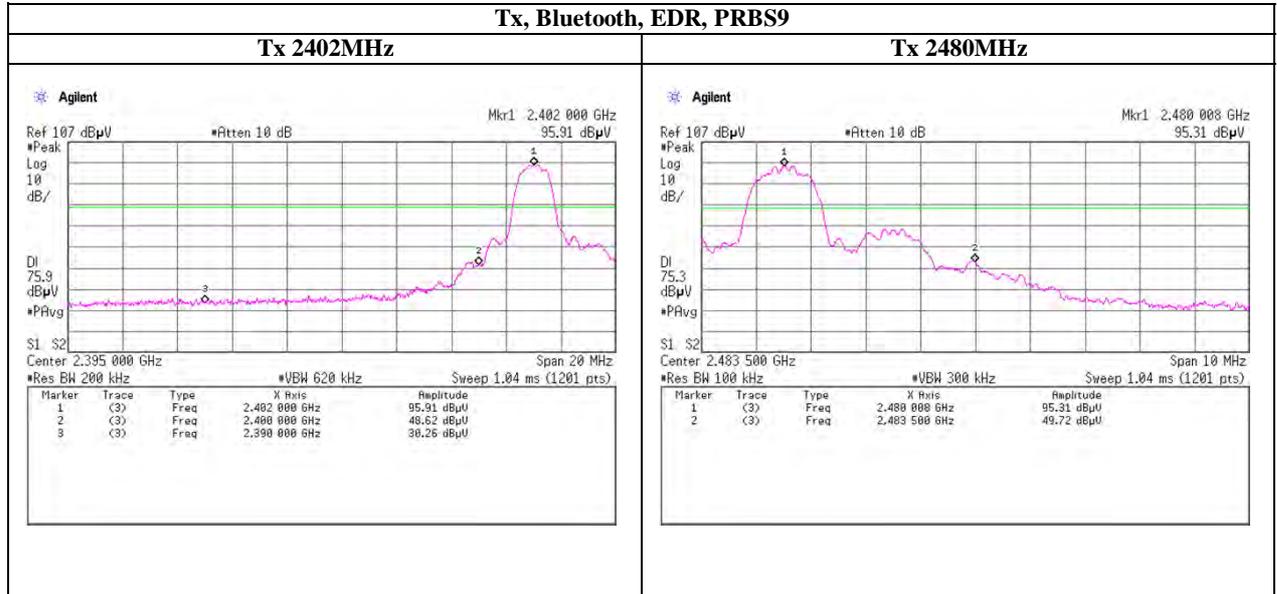
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Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Spurious emission (Conducted)

Band Edge compliance



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Shonan EMC Lab.

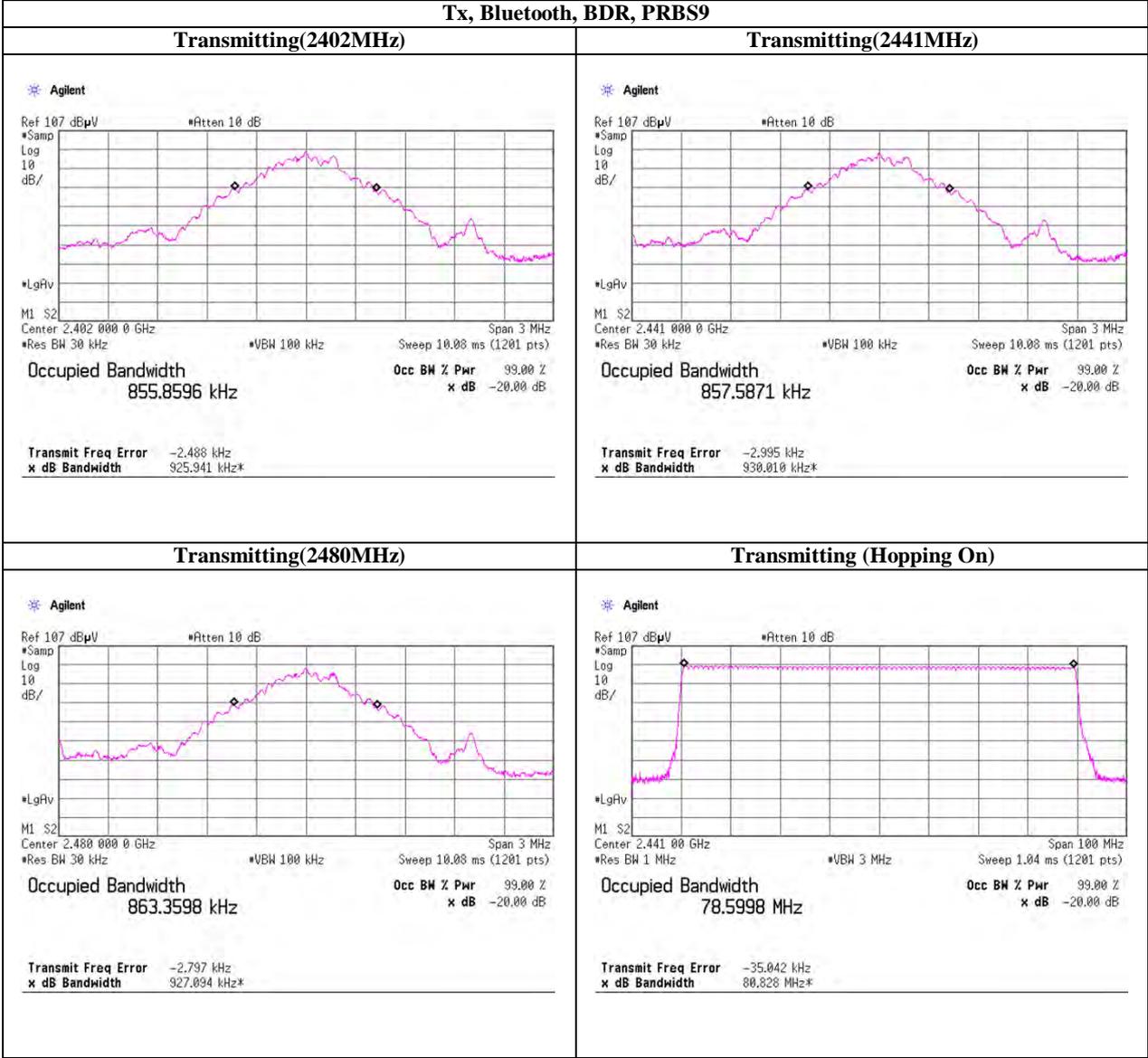
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99% Occupied Bandwidth

Tx, Bluetooth, BDR, PRBS9



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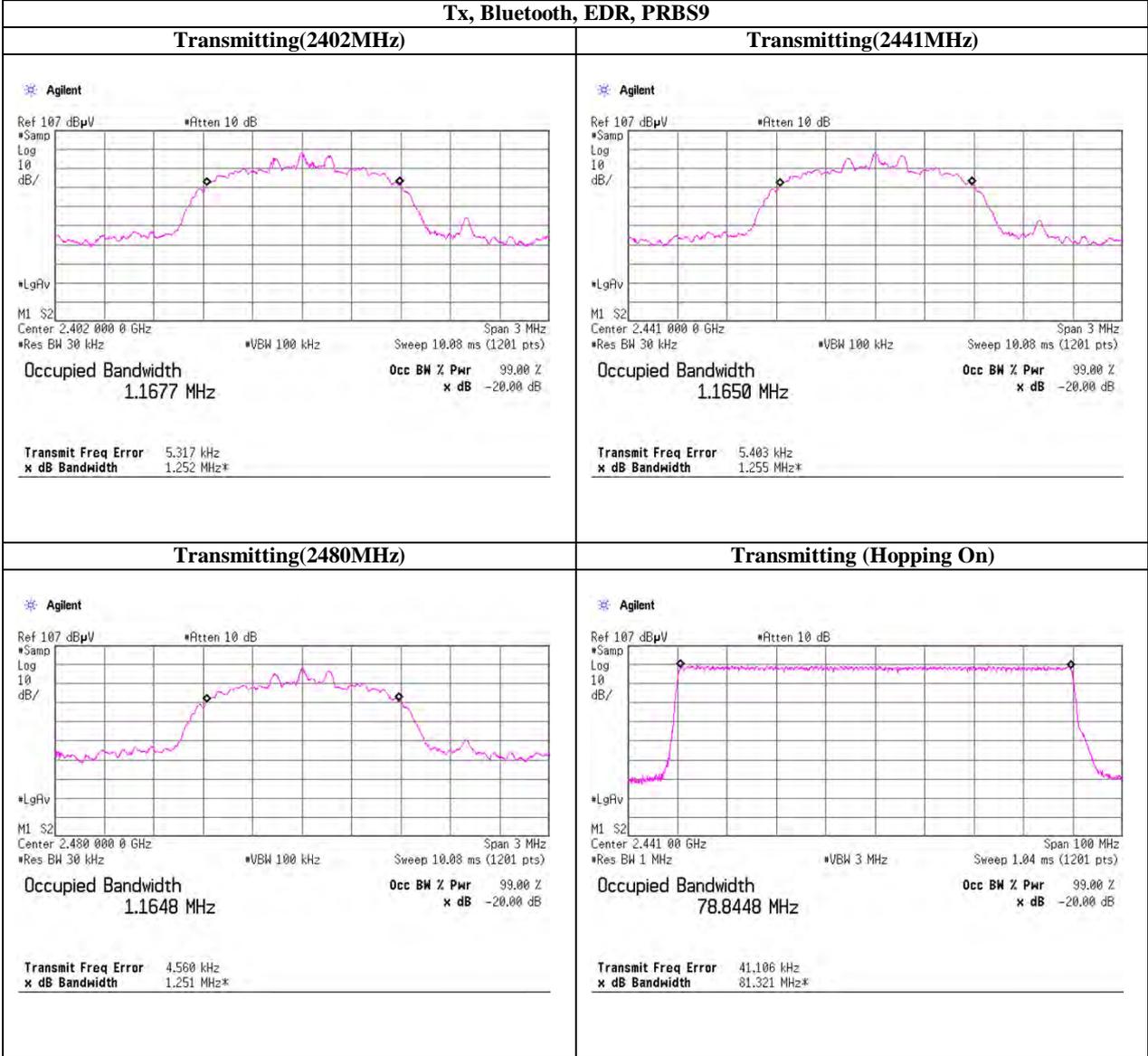
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99% Occupied Bandwidth

Tx, Bluetooth, EDR, PRBS9



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APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2010/11/16 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2011/04/12 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2011/04/12 * 12
SCC-G12	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	AT	2011/03/23 * 12
SAT10-06	Attenuator	Agilent	8493C-010	74865	AT	2011/03/23 * 12
SOS-10	Humidity Indicator	A&D	AD-5681	4064561	AT	2011/02/23 * 12
SAF-05	Pre Amplifier	TOYO Corporation	TPA0118-36	1440490	RE	2011/03/23 * 12
SCC-G02	Coaxial Cable	Suhner	SUCOFLEX 104A	46498/4A	RE	2011/04/28 * 12
SCC-G22	Coaxial Cable	Suhner	SUCOFLEX 104	296199/4	RE	2010/05/25 * 12
SHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-726	RE	2010/08/08 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2011/02/23 * 12
SSA-01	Spectrum Analyzer	Agilent	N9010A-526	MY48031482	RE	2011/04/20 * 12
SJM-02	Measure	KOMELON	KMC-36	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFLMF)	-	RE	-
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2010/12/15 * 12
SAT10-04	Attenuator(above1GHz)	Agilent	8493C-010	74863	RE	2010/12/15 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2011/03/15 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2011/03/16 * 12
SCC-G17	Coaxial Cable	Suhner	SUCOFLEX 104A	46291/4A	RE	2011/03/16 * 12
SAF-02	Pre Amplifier	SONOMA	310N	290212	RE	2011/02/17 * 12
SAT6-02	Attenuator	JFW	50HF-006N	-	RE	2011/02/17 * 12
SAT3-02	Attenuator	JFW	50HF-003N	-	RE	2011/02/17 * 12
SBA-02	Biconical Antenna	Schwarzbeck	BBA9106	91032665	RE	2010/10/11 * 12
SCC-B1/B3/B5/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2011/04/28 * 12
SCC-B2/B4/B6/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2011/04/28 * 12
SLA-02	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0893	RE	2010/10/11 * 12
STR-02	Test Receiver	Rohde & Schwarz	ESCI	100575	RE	2010/08/18 * 12
SAEC-02(NSA)	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	RE	2010/09/04 * 12

The expiration date of the calibration is the end of the expired month .
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item :

RE: Radiated emission ,

AT: Antenna terminal disturbance voltage