

APPENDIX 2: Data of EMI test

Conducted Emission

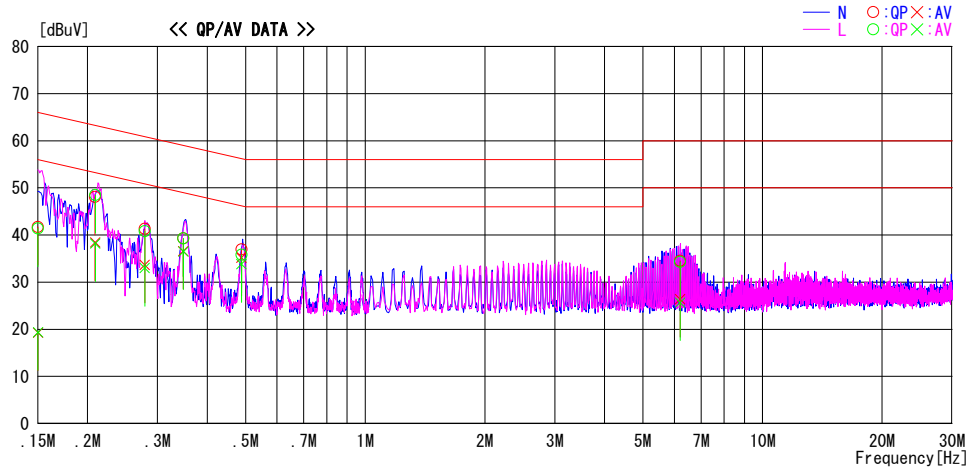
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2011/05/20

Report No. : 31HE0183-HO-01
Temp./Humi. : 23deg. C / 46% RH
Engineer : Takayuki Shimada

Mode / Remarks : Tx 11n-40 MCS7 5550MHz, Antenna 1

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15000	28.6	6.2	13.1	41.7	19.3	66.0	56.0	24.3	36.7	N	
0.20902	34.8	25.1	13.3	48.1	38.4	63.2	53.2	15.1	14.8	N	
0.27868	28.0	20.4	13.3	41.3	33.7	60.9	50.9	19.6	17.2	N	
0.34839	26.0	23.3	13.3	39.3	36.6	59.0	49.0	19.7	12.4	N	
0.48792	23.6	21.9	13.3	36.9	35.2	56.2	46.2	19.3	11.0	N	
6.20270	20.7	12.6	13.8	34.5	26.4	60.0	50.0	25.5	23.6	N	
0.15000	28.3	6.3	13.1	41.4	19.4	66.0	56.0	24.6	36.6	L	
0.20910	35.2	24.9	13.3	48.5	38.2	63.2	53.2	14.7	15.0	L	
0.27872	27.5	19.7	13.3	40.8	33.0	60.9	50.9	20.1	17.9	L	
0.34853	26.0	23.2	13.3	39.3	36.5	59.0	49.0	19.7	12.5	L	
0.48780	22.5	20.5	13.3	35.8	33.8	56.2	46.2	20.4	12.4	L	
6.20276	20.5	11.9	13.8	34.3	25.7	60.0	50.0	25.7	24.3	L	

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C.F [dB] (LISN LOSS + CABLE LOSS)
Except for the above table : adequate margin data below the limits.

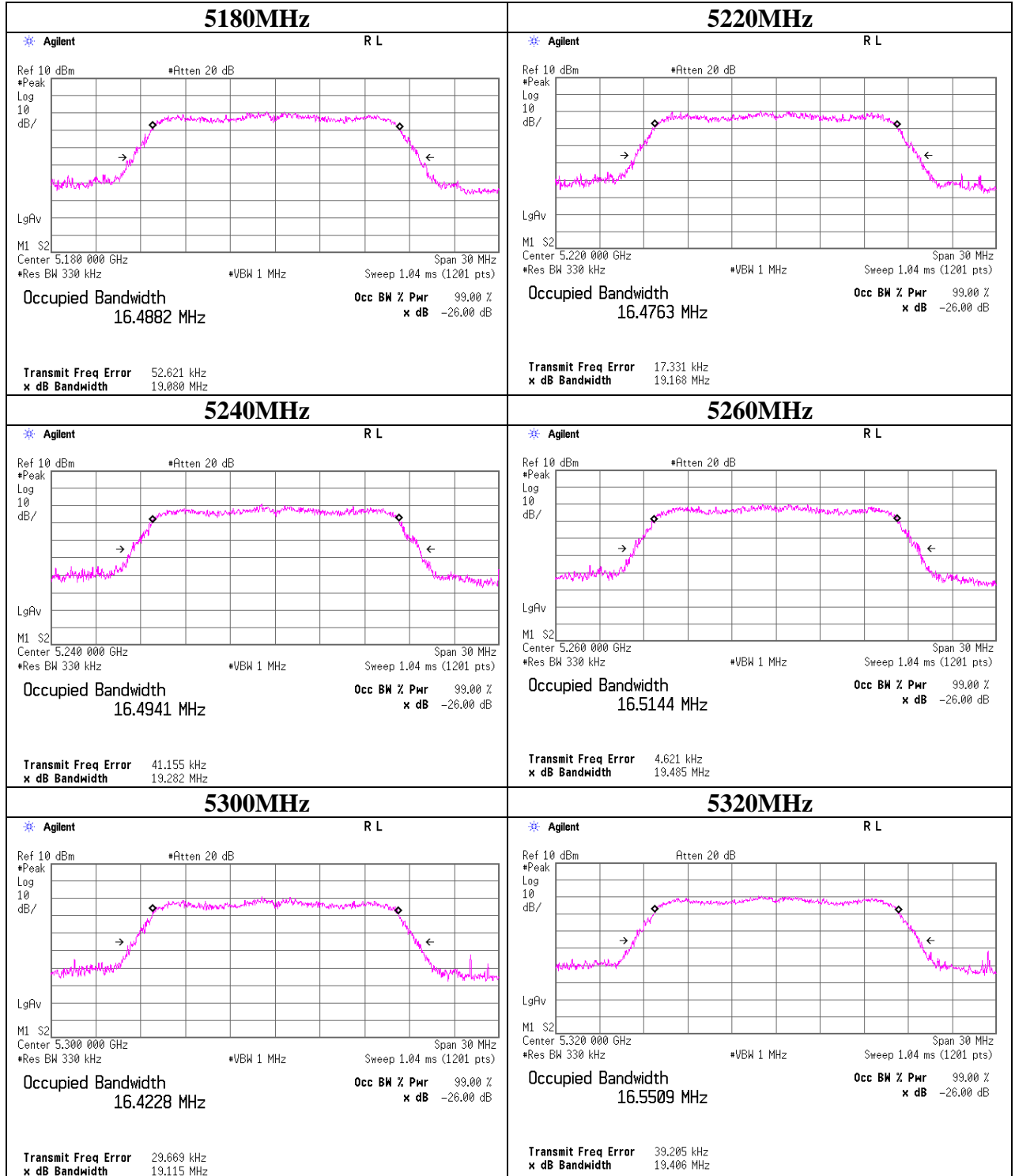
26dB Emission Bandwidth and 99% Occupied Bandwidth

Test place Head Office EMC Lab. No.11 Measurement room
Report No. 31HE0183-HO-01
Date 05/09/2011
Temperature/ Humidity 24deg. C / 45% RH
Engineer Yutaka Yoshida
Mode 11a Tx

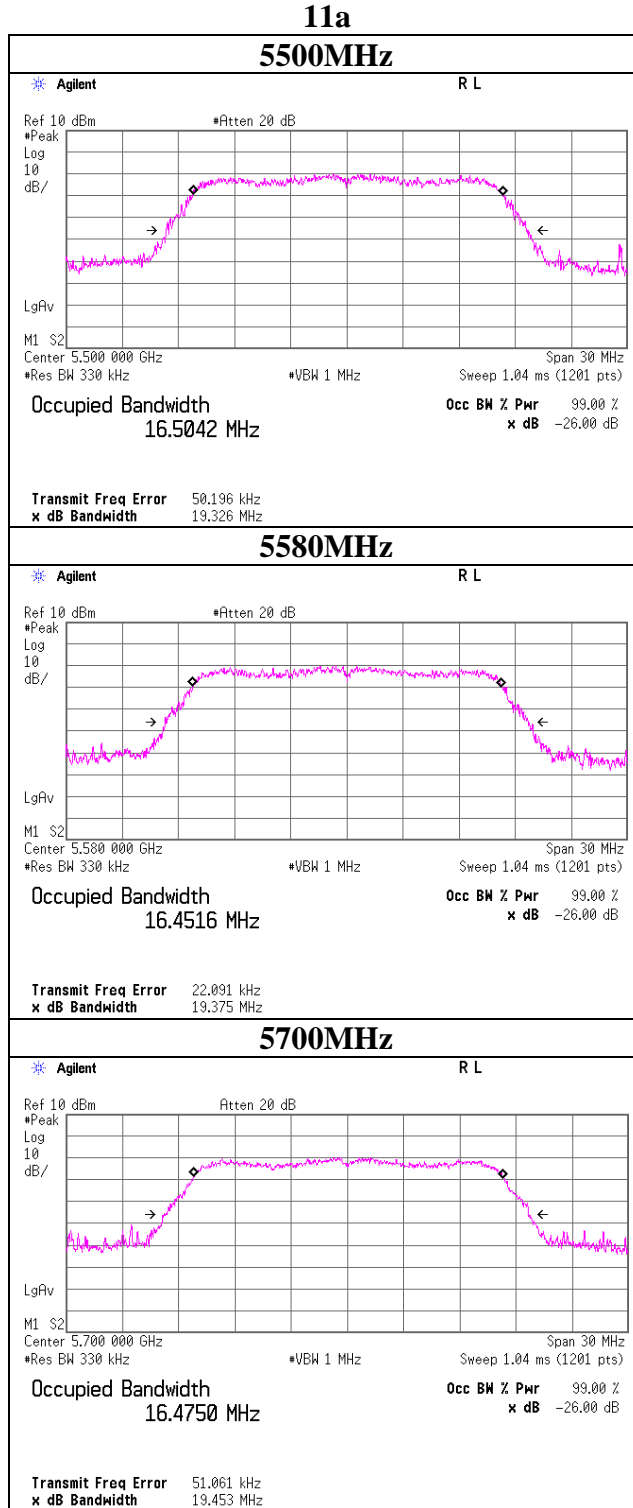
Frequency [MHz]	26dB Emission Bandwidth [MHz]	99% Occupied Bandwidth [MHz]	Limit [MHz]
5180	19.080	16.4882	-
5220	19.168	16.4763	-
5240	19.282	16.4941	-
5260	19.485	16.5144	-
5300	19.115	16.4228	-
5320	19.406	16.5509	-
5500	19.326	16.5042	-
5580	19.375	16.4516	-
5700	19.453	16.4750	-

26dB Emission Bandwidth and 99% Occupied Bandwidth

11a



26dB Emission Bandwidth and 99% Occupied Bandwidth



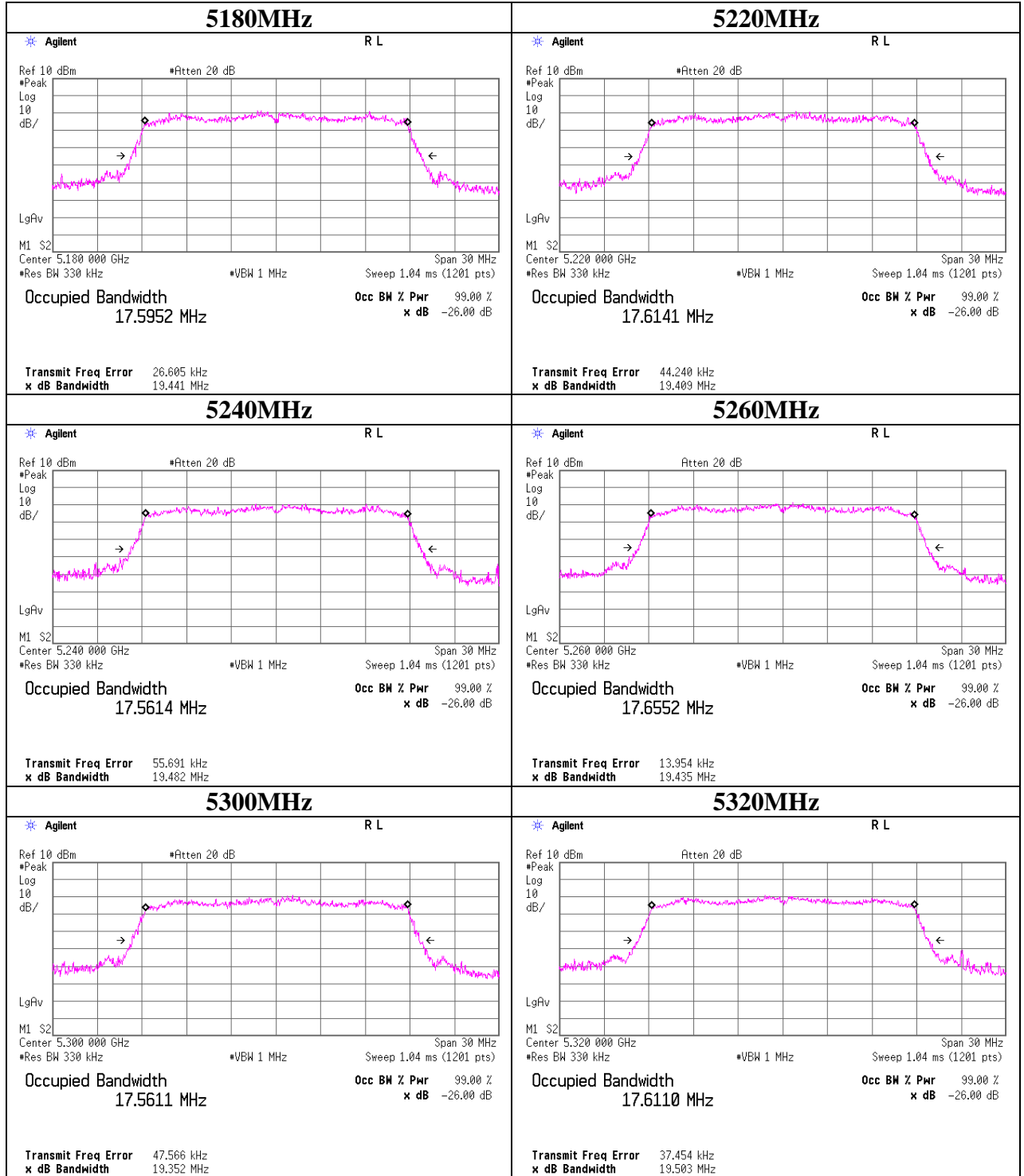
26dB Emission Bandwidth and 99% Occupied Bandwidth

Test place Head Office EMC Lab. No.11 Measurement room
Report No. 31HE0183-HO-01
Date 05/09/2011
Temperature/ Humidity 24deg. C / 45% RH
Engineer Yutaka Yoshida
Mode 11n-20 Tx

Frequency [MHz]	26dB Emission Bandwidth [MHz]	99% Occupied Bandwidth [MHz]	Limit [MHz]
5180	19.441	17.5952	-
5220	19.409	17.6141	-
5240	19.482	17.5614	-
5260	19.435	17.6552	-
5300	19.352	17.5611	-
5320	19.503	17.6110	-
5500	19.290	17.5547	-
5580	19.275	17.5701	-
5700	19.452	17.5422	-

26dB Emission Bandwidth and 99% Occupied Bandwidth

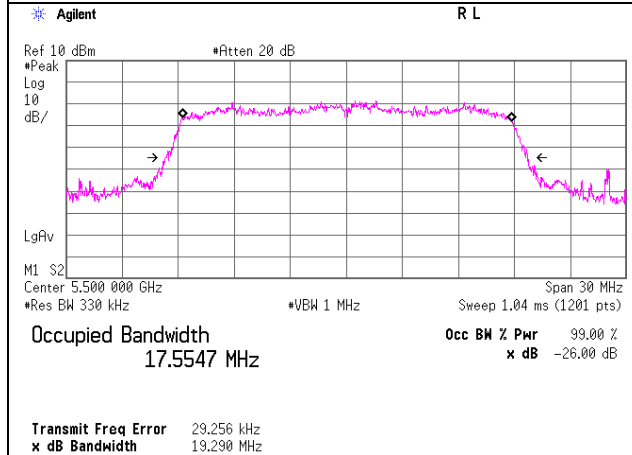
11n-20



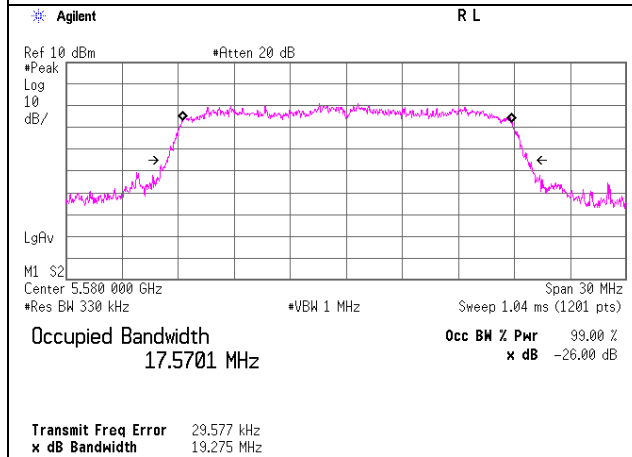
26dB Emission Bandwidth and 99% Occupied Bandwidth

11n-20

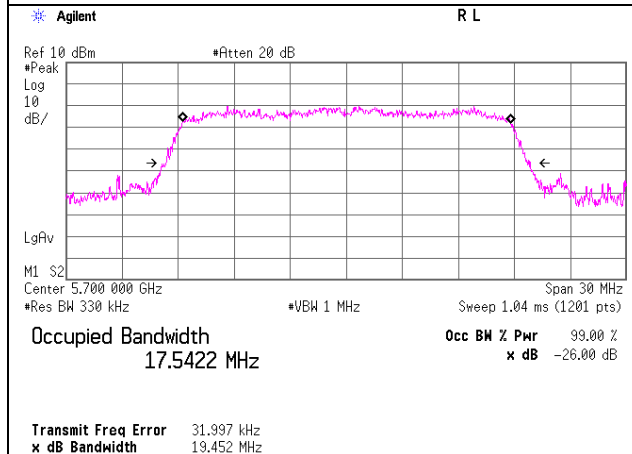
5500MHz



5580MHz



5700MHz



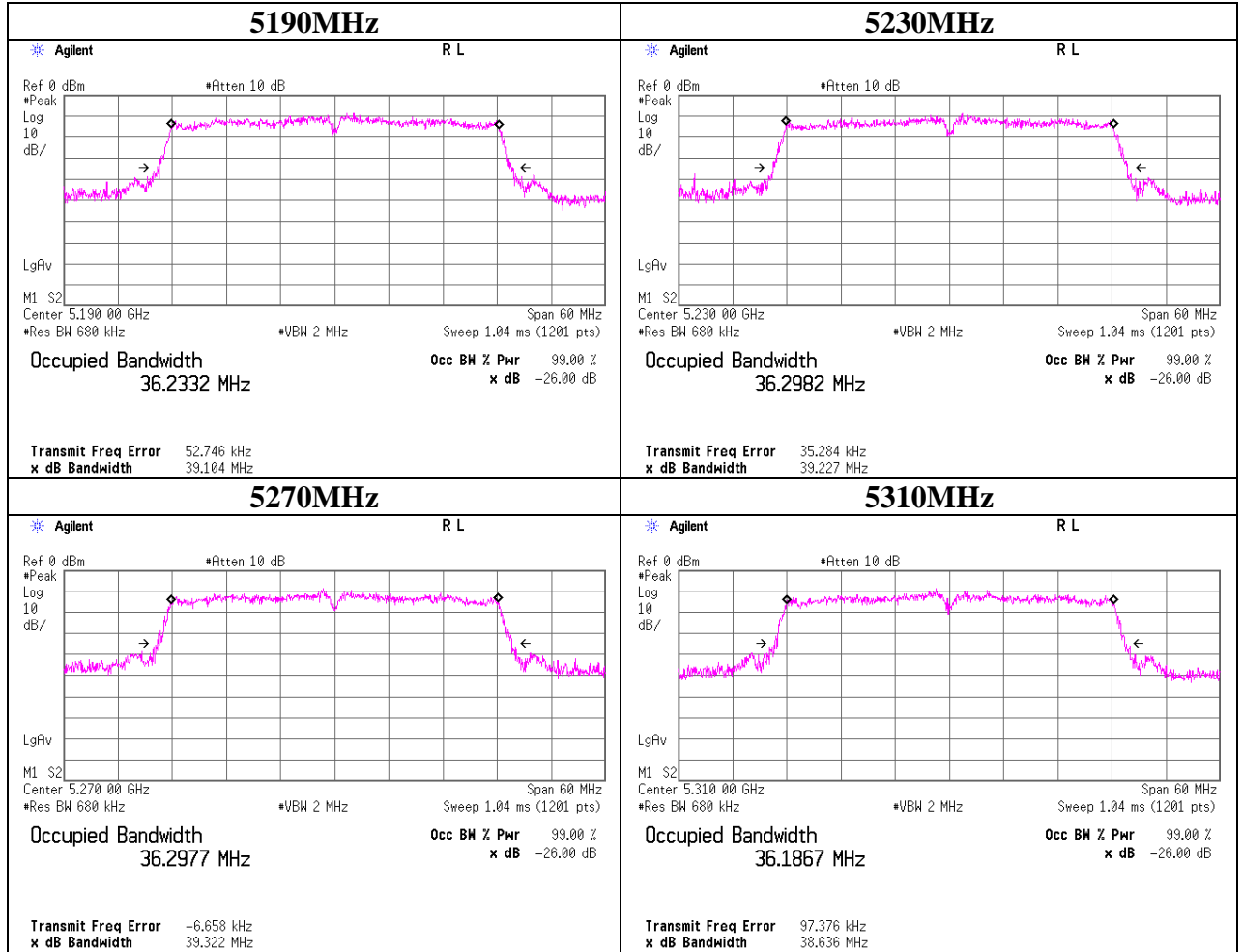
26dB Emission Bandwidth and 99% Occupied Bandwidth

Test place Head Office EMC Lab. No.11 Measurement room
Report No. 31HE0183-HO-01
Date 05/09/2011
Temperature/ Humidity 24deg. C / 45% RH
Engineer Yutaka Yoshida
Mode 11n-40 Tx

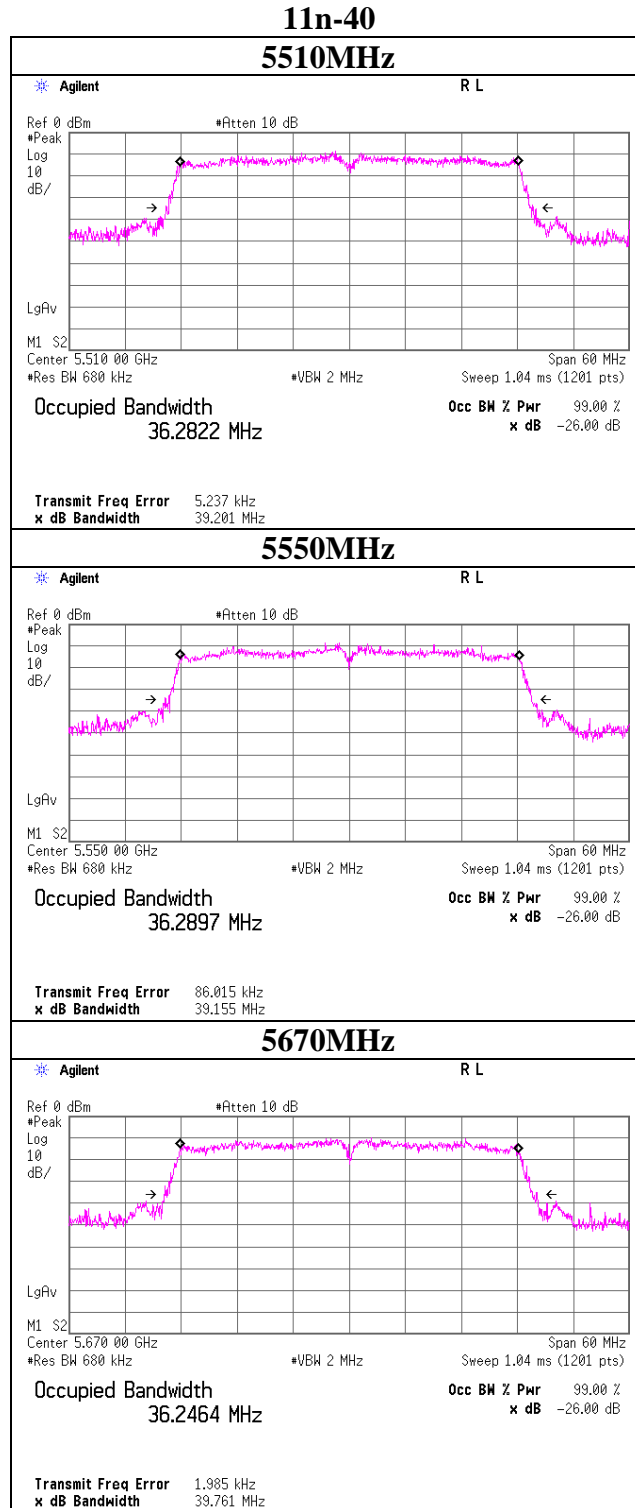
Frequency [MHz]	26dB Emission Bandwidth [MHz]	99% Occupied Bandwidth [MHz]	Limit [MHz]
5190	39.104	36.2332	-
5230	39.227	36.2982	-
5270	39.322	36.2977	-
5310	38.636	36.1867	-
5510	39.201	36.2822	-
5550	39.155	36.2897	-
5670	39.761	36.2464	-

26dB Emission Bandwidth and 99% Occupied Bandwidth

11n-40



26dB Emission Bandwidth and 99% Occupied Bandwidth



20dB Bandwidth

Test place Head Office EMC Lab. No.11 Measurement Room
Report No. 31HE0183-HO-01
Date 05/09/2011
Temperature/ Humidity 24deg.C / 45% RH
Engineer Yutaka Yoshida
Mode Tx

11a

Frequency [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
5580	18.529	-
5660	18.420	-

11n-20

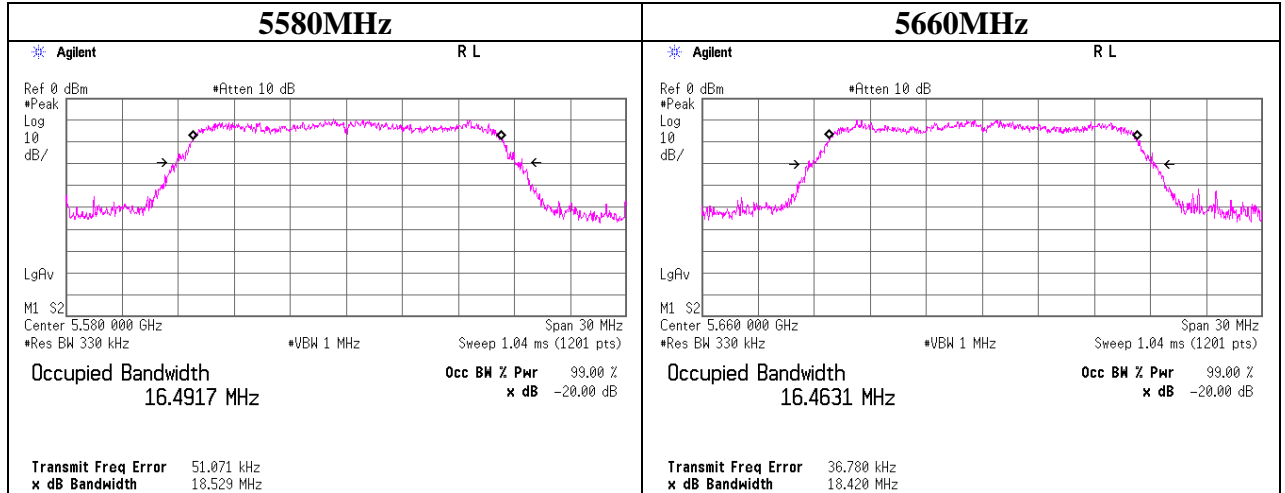
Frequency [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
5580	18.775	-
5660	18.920	-

11n-40

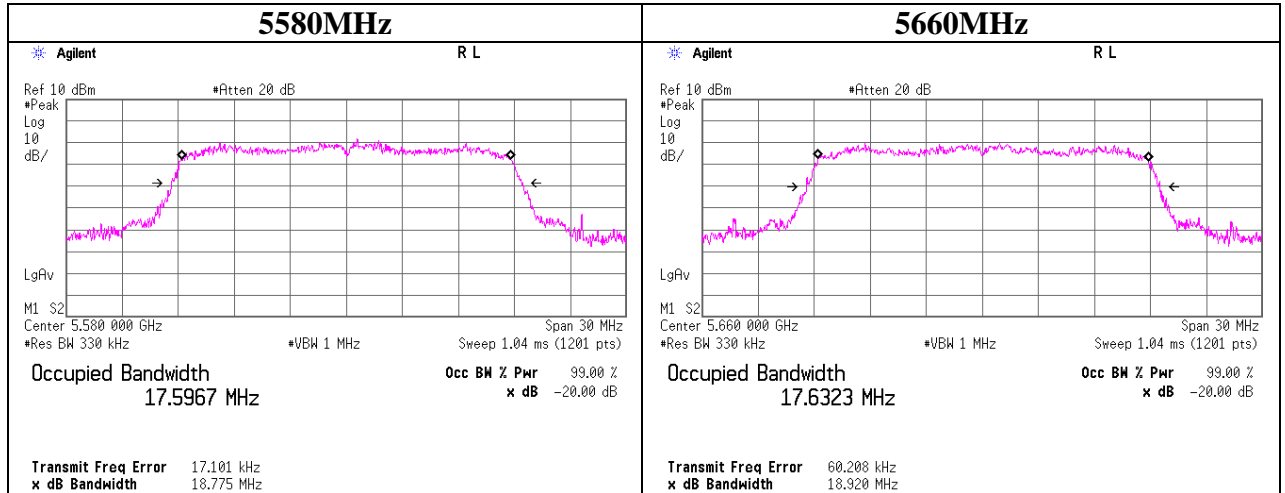
Frequency [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
5550	38.178	-
5670	38.112	-

20dB Bandwidth

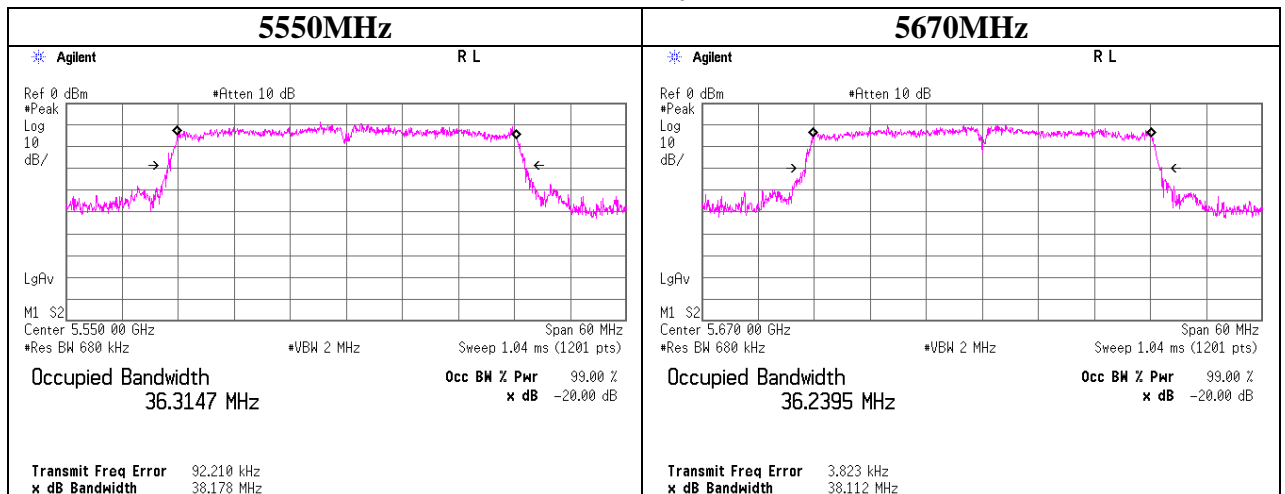
11a



11n-20



11n-40



Maximum Peak Output Power

Test place : Head Office EMC Lab. No.6 Measurement Room
Report No. : 31HE0183-HO
Date : 5/17/2011
Temperature/ Humidity : 24deg.C / 42% RH
Engineer : Tomotaka Sasagawa
Mode : 11a Tx

Antenna 0

Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result (Cond.) [dBm]	Result (e.i.r.p.) [dBm]	Limit (Cond.) [dBm]	Limit (e.i.r.p.) [dBm]	Margin (Cond.) [dB]	Margin (e.i.r.p.) [dB]
5180.0	-2.42	2.64	10.01	2.30	10.23	12.53	16.80	-	6.57	-
5220.0	-1.27	2.64	10.01	2.30	11.38	13.68	16.82	-	5.44	-
5240.0	-1.72	2.63	10.01	2.30	10.92	13.22	16.85	-	5.93	-
5260.0	-1.90	2.63	10.01	2.30	10.74	13.04	23.89	-	13.15	-
5300.0	-1.62	2.63	10.01	2.30	11.02	13.32	23.81	-	12.79	-
5320.0	-2.03	2.63	10.01	2.30	10.61	12.91	23.87	-	13.26	-
5500.0	-0.90	2.61	10.01	3.50	11.72	15.22	23.86	-	12.14	-
5580.0	-2.10	2.63	10.01	3.50	10.54	14.04	23.87	-	13.33	-
5700.0	-2.47	2.66	10.00	3.50	10.19	13.69	23.88	-	13.69	-

Antenna 1

Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result (Cond.) [dBm]	Result (e.i.r.p.) [dBm]	Limit (Cond.) [dBm]	Limit (e.i.r.p.) [dBm]	Margin (Cond.) [dB]	Margin (e.i.r.p.) [dB]
5180.0	-1.61	2.64	10.01	2.80	11.04	13.84	16.80	-	5.76	-
5220.0	-0.99	2.64	10.01	2.80	11.66	14.46	16.82	-	5.16	-
5240.0	-1.12	2.63	10.01	2.80	11.52	14.32	16.85	-	5.33	-
5260.0	-1.17	2.63	10.01	2.80	11.47	14.27	23.89	-	12.42	-
5300.0	-0.97	2.63	10.01	2.80	11.67	14.47	23.81	-	12.14	-
5320.0	-1.26	2.63	10.01	2.80	11.38	14.18	23.87	-	12.49	-
5500.0	-0.84	2.61	10.01	2.70	11.78	14.48	23.86	-	12.08	-
5580.0	-1.78	2.63	10.01	2.70	10.86	13.56	23.87	-	13.01	-
5700.0	-2.57	2.66	10.00	2.70	10.09	12.79	23.88	-	13.79	-

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

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

15.407(a)(1) Limit(Cond.) = 16.98dBm(50mW) or 4 + 10log(26dB BW) dBm

15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm

ON time was only measured using Gate function.

UL Japan, Inc.

Head Office EMC Lab.

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Maximum Peak Output Power

Test place : Head Office EMC Lab. No.6 Measurement Room
Report No. : 31HE0183-HO
Date : 5/17/2011
Temperature/ Humidity : 24deg.C / 42% RH
Engineer : Tomotaka Sasagawa
Mode : 11n-20 Tx

Antenna 0

Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result (Cond.) [dBm]	Result (e.i.r.p.) [dBm]	Limit (Cond.) [dBm]	Limit (e.i.r.p.) [dBm]	Margin (Cond.) [dB]	Margin (e.i.r.p.) [dB]
5180.0	-0.65	2.64	10.01	2.30	12.00	14.30	16.88	-	4.88	-
5220.0	-0.89	2.64	10.01	2.30	11.76	14.06	16.88	-	5.12	-
5240.0	-1.17	2.63	10.01	2.30	11.47	13.77	16.89	-	5.42	-
5260.0	-1.58	2.63	10.01	2.30	11.06	13.36	23.88	-	12.82	-
5300.0	-1.39	2.63	10.01	2.30	11.25	13.55	23.86	-	12.61	-
5320.0	-1.67	2.63	10.01	2.30	10.97	13.27	23.90	-	12.93	-
5500.0	-1.52	2.61	10.01	3.50	11.10	14.60	23.85	-	12.75	-
5580.0	-1.69	2.63	10.01	3.50	10.95	14.45	23.84	-	12.89	-
5700.0	-2.35	2.66	10.00	3.50	10.31	13.81	23.88	-	13.57	-

Antenna 1

Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result (Cond.) [dBm]	Result (e.i.r.p.) [dBm]	Limit (Cond.) [dBm]	Limit (e.i.r.p.) [dBm]	Margin (Cond.) [dB]	Margin (e.i.r.p.) [dB]
5180.0	-0.93	2.01	10.01	2.80	11.09	13.89	16.88	-	5.79	-
5220.0	-0.79	2.01	10.01	2.80	11.23	14.03	16.88	-	5.65	-
5240.0	-0.91	2.00	10.01	2.80	11.10	13.90	16.89	-	5.79	-
5260.0	-1.39	2.00	10.01	2.80	10.62	13.42	23.88	-	13.26	-
5300.0	-1.11	2.00	10.01	2.80	10.90	13.70	23.86	-	12.96	-
5320.0	-1.29	2.00	10.01	2.80	10.72	13.52	23.90	-	13.18	-
5500.0	-0.74	2.61	10.01	2.70	11.88	14.58	23.85	-	11.97	-
5580.0	-2.07	2.63	10.01	2.70	10.57	13.27	23.84	-	13.27	-
5700.0	-2.46	2.66	10.00	2.70	10.20	12.90	23.88	-	13.68	-

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

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

15.407(a)(1) Limit(Cond.) = 16.98dBm(50mW) or 4 + 10log(26dB BW) dBm

15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm

ON time was only measured using Gate function.

Maximum Peak Output Power

Test place : Head Office EMC Lab. No.6 Measurement Room
Report No. : 31HE0183-HO
Date : 5/17/2011
Temperature/ Humidity : 24deg.C / 42% RH
Engineer : Tomotaka Sasagawa
Mode : 11n-40 Tx

Antenna 0

Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result (Cond.) [dBm]	Result (e.i.r.p.) [dBm]	Limit (Cond.) [dBm]	Limit (e.i.r.p.) [dBm]	Margin (Cond.) [dB]	Margin (e.i.r.p.) [dB]
5190.0	-4.64	2.64	10.01	2.30	8.01	10.31	16.98	-	8.97	-
5230.0	-2.35	2.63	10.01	2.30	10.29	12.59	16.98	-	6.69	-
5270.0	-2.86	2.63	10.01	2.30	9.78	12.08	23.97	-	14.19	-
5310.0	-2.89	2.63	10.01	2.30	9.75	12.05	23.97	-	14.22	-
5510.0	-4.45	2.61	10.01	3.50	8.17	11.67	23.97	-	15.80	-
5550.0	-0.73	2.61	10.01	3.50	11.89	15.39	23.97	-	12.08	-
5670.0	-1.23	2.65	10.00	3.50	11.42	14.92	23.97	-	12.55	-

Antenna 1

Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Result (Cond.) [dBm]	Result (e.i.r.p.) [dBm]	Limit (Cond.) [dBm]	Limit (e.i.r.p.) [dBm]	Margin (Cond.) [dB]	Margin (e.i.r.p.) [dB]
5190.0	-4.15	2.64	10.01	2.80	8.50	11.30	16.98	-	8.48	-
5230.0	-2.41	2.63	10.01	2.80	10.23	13.03	16.98	-	6.75	-
5270.0	-2.17	2.63	10.01	2.80	10.47	13.27	23.97	-	13.50	-
5310.0	-2.20	2.63	10.01	2.80	10.44	13.24	23.97	-	13.53	-
5510.0	-2.85	2.61	10.01	2.70	9.77	12.47	23.97	-	14.20	-
5550.0	-0.03	2.61	10.01	2.70	12.59	15.29	23.97	-	11.38	-
5670.0	-0.68	2.65	10.00	2.70	11.97	14.67	23.97	-	12.00	-

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

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

15.407(a)(1) Limit(Cond.) = 16.98dBm(50mW) or 4 + 10log(26dB BW) dBm

15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm

ON time was only measured using Gate function.

Peak Power Spectral Density

Test place : Head Office EMC Lab. No.6 Measurement Room
Report No. : 31HE0183-HO
Date : 5/17/2011
Temperature/ Humidity : 24deg.C / 42% RH
Engineer : Tomotaka Sasagawa
Mode : 11a Tx

Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	ENBW [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0	-12.21	2.64	10.01	0.20	0.24	4.00	3.76
5220.0	-10.86	2.64	10.01	0.20	1.59	4.00	2.41
5240.0	-10.91	2.63	10.01	0.20	1.53	4.00	2.47
5260.0	-11.61	2.63	10.01	0.20	0.83	11.00	10.17
5300.0	-10.70	2.63	10.01	0.20	1.74	11.00	9.26
5320.0	-10.92	2.63	10.01	0.20	1.53	11.00	9.48
5500.0	-9.90	2.61	10.01	0.20	2.52	11.00	8.48
5580.0	-11.60	2.63	10.01	0.20	0.84	11.00	10.16
5700.0	-11.61	2.66	10.00	0.20	0.85	11.00	10.15

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator - ENBW
*ENBW: Equivalent Noise Band Width

Antenna 1

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	ENBW [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0	-10.00	2.64	10.01	0.20	2.45	4.00	1.55
5220.0	-10.52	2.64	10.01	0.20	1.93	4.00	2.07
5240.0	-11.10	2.63	10.01	0.20	1.34	4.00	2.66
5260.0	-10.84	2.63	10.01	0.20	1.60	11.00	9.40
5300.0	-10.67	2.63	10.01	0.20	1.77	11.00	9.23
5320.0	-10.37	2.63	10.01	0.20	2.07	11.00	8.93
5500.0	-9.68	2.61	10.01	0.20	2.75	11.00	8.26
5580.0	-11.52	2.63	10.01	0.20	0.92	11.00	10.08
5700.0	-11.63	2.66	10.00	0.20	0.83	11.00	10.17

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator - ENBW
*ENBW: Equivalent Noise Band Width

ON time was only measured using Gate function.

Peak Power Spectral Density

Test place : Head Office EMC Lab. No.6 Measurement Room
Report No. : 31HE0183-HO
Date : 5/17/2011
Temperature/ Humidity : 24deg.C / 42% RH
Engineer : Tomotaka Sasagawa
Mode : 11n-20 Tx

Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	ENBW [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0	-10.30	2.64	10.01	0.20	2.15	4.00	1.85
5220.0	-10.85	2.64	10.01	0.20	1.60	4.00	2.40
5240.0	-11.43	2.63	10.01	0.20	1.01	4.00	2.99
5260.0	-11.41	2.63	10.01	0.20	1.03	11.00	9.97
5300.0	-11.34	2.63	10.01	0.20	1.11	11.00	9.90
5320.0	-11.69	2.63	10.01	0.20	0.76	11.00	10.25
5500.0	-11.04	2.61	10.01	0.20	1.38	11.00	9.62
5580.0	-11.48	2.63	10.01	0.20	0.96	11.00	10.04
5700.0	-13.08	2.66	10.00	0.20	-0.62	11.00	11.62

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator - ENBW
*ENBW: Equivalent Noise Band Width

Antenna 1

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	ENBW [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0	-11.45	2.64	10.01	0.20	1.00	4.00	3.00
5220.0	-10.51	2.64	10.01	0.20	1.95	4.00	2.06
5240.0	-10.88	2.63	10.01	0.20	1.56	4.00	2.44
5260.0	-11.87	2.63	10.01	0.20	0.58	11.00	10.43
5300.0	-10.96	2.63	10.01	0.20	1.48	11.00	9.52
5320.0	-11.30	2.63	10.01	0.20	1.14	11.00	9.86
5500.0	-10.81	2.61	10.01	0.20	1.61	11.00	9.39
5580.0	-11.81	2.63	10.01	0.20	0.63	11.00	10.37
5700.0	-11.96	2.66	10.00	0.20	0.50	11.00	10.50

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator - ENBW
*ENBW: Equivalent Noise Band Width

ON time was only measured using Gate function.

Peak Power Spectral Density

Test place : Head Office EMC Lab. No.6 Measurement Room
Report No. : 31HE0183-HO
Date : 5/17/2011
Temperature/ Humidity : 24deg.C / 42% RH
Engineer : Tomotaka Sasagawa
Mode : 11n-40 Tx

Antenna 0

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	ENBW [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5190.0	-17.38	2.64	10.01	0.20	-4.93	4.00	8.93
5230.0	-16.02	2.64	10.01	0.20	-3.57	4.00	7.57
5270.0	-15.44	2.63	10.01	0.20	-3.00	11.00	14.00
5310.0	-16.00	2.63	10.01	0.20	-3.56	11.00	14.56
5510.0	-18.60	2.63	10.01	0.20	-6.16	11.00	17.16
5550.0	-13.20	2.63	10.01	0.20	-0.76	11.00	11.76
5670.0	-13.47	2.66	10.00	0.20	-1.01	11.00	12.01

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator - ENBW
*ENBW: Equivalent Noise Band Width

Antenna 1

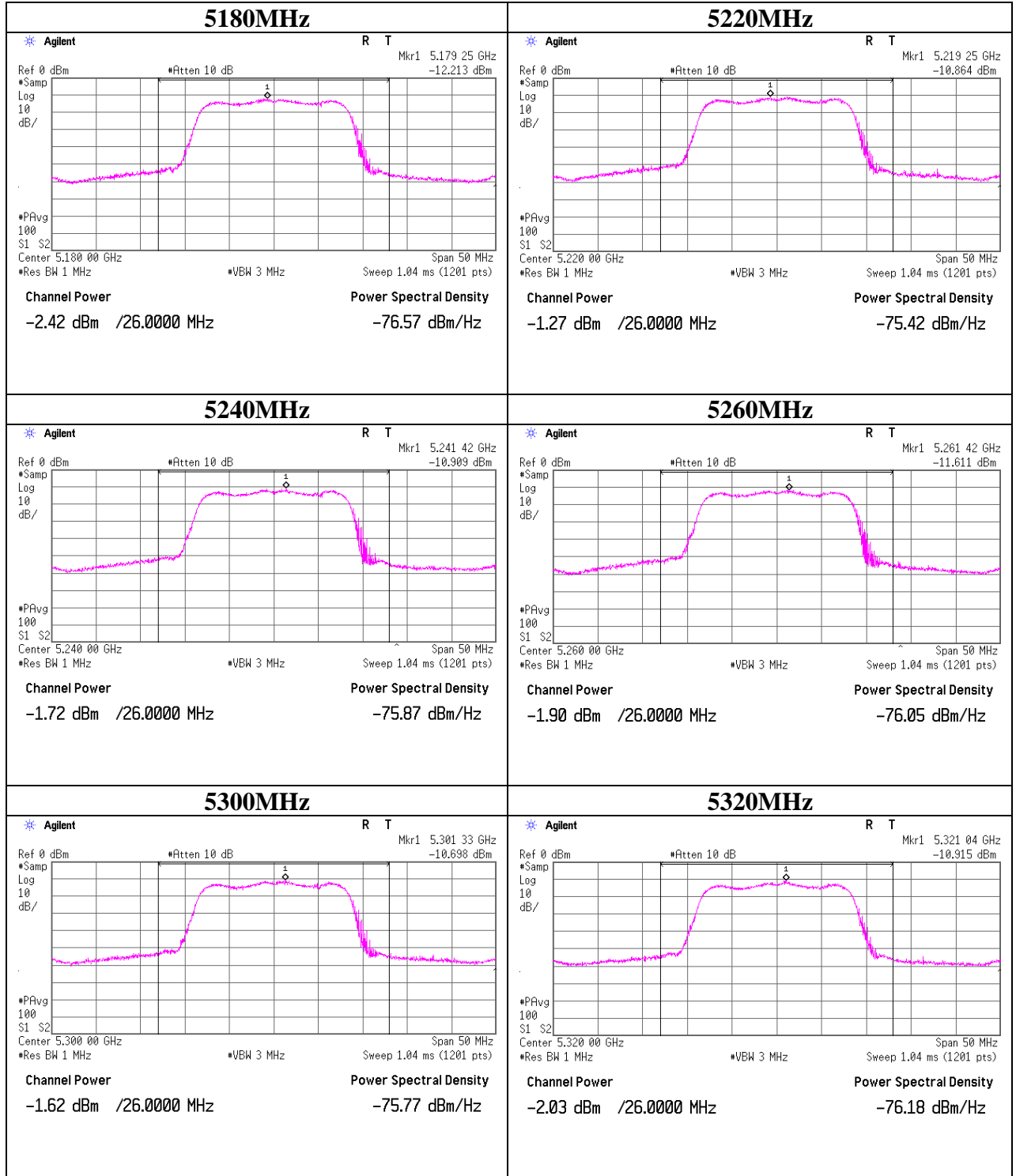
Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	ENBW [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5190.0	-17.66	2.64	10.01	0.20	-5.21	4.00	9.21
5230.0	-14.95	2.64	10.01	0.20	-2.50	4.00	6.50
5270.0	-14.78	2.63	10.01	0.20	-2.34	11.00	13.34
5310.0	-14.31	2.63	10.01	0.20	-1.87	11.00	12.87
5510.0	-15.52	2.63	10.01	0.20	-3.08	11.00	14.08
5550.0	-13.59	2.63	10.01	0.20	-1.15	11.00	12.15
5670.0	-13.94	2.66	10.00	0.20	-1.48	11.00	12.48

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator - ENBW
*ENBW: Equivalent Noise Band Width

ON time was only measured using Gate function.

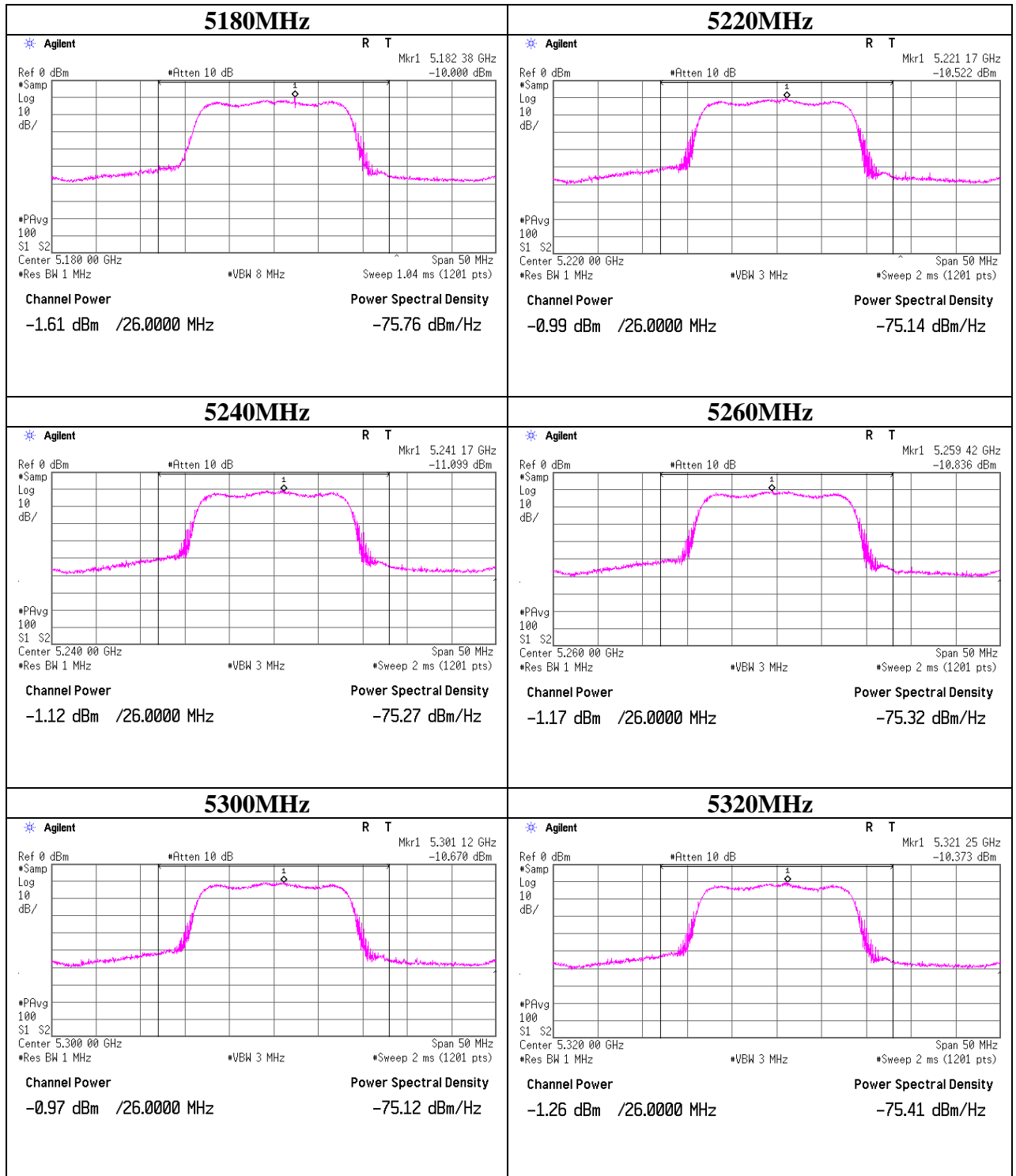
Maximum Peak Output Power & Peak Power Spectral Density

11a Antenna 0

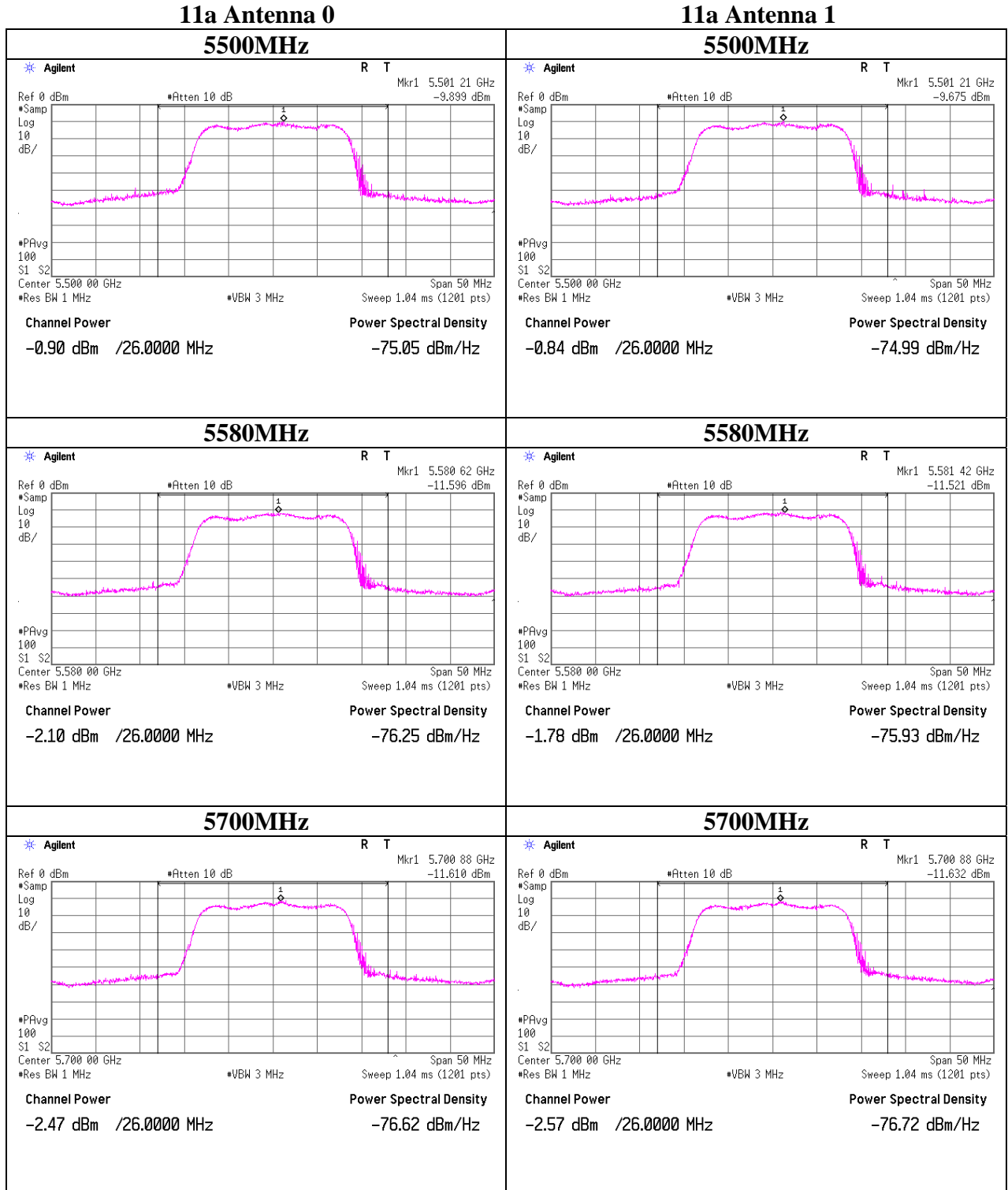


Maximum Peak Output Power & Peak Power Spectral Density

11a Antenna 1

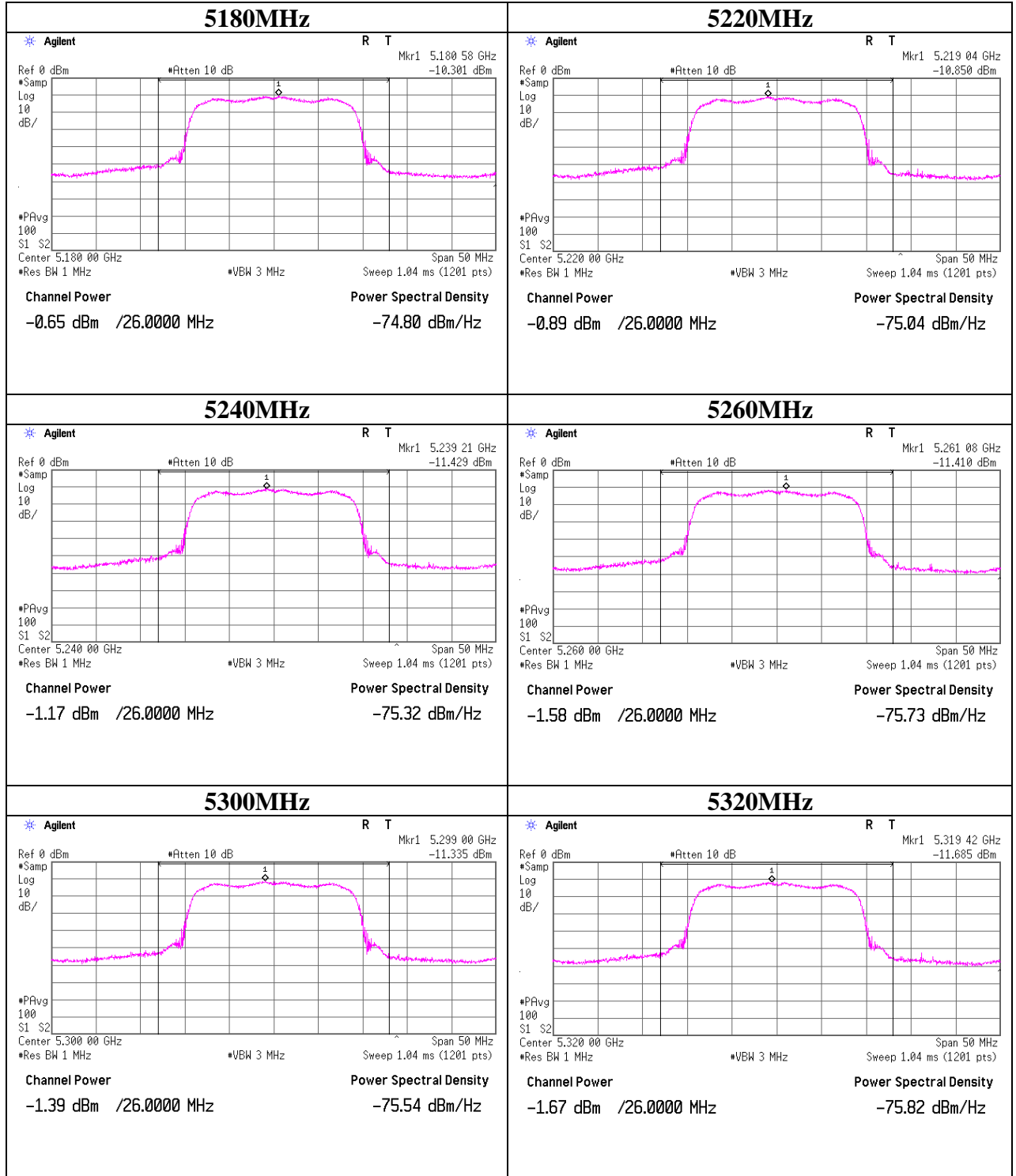


Maximum Peak Output Power & Peak Power Spectral Density



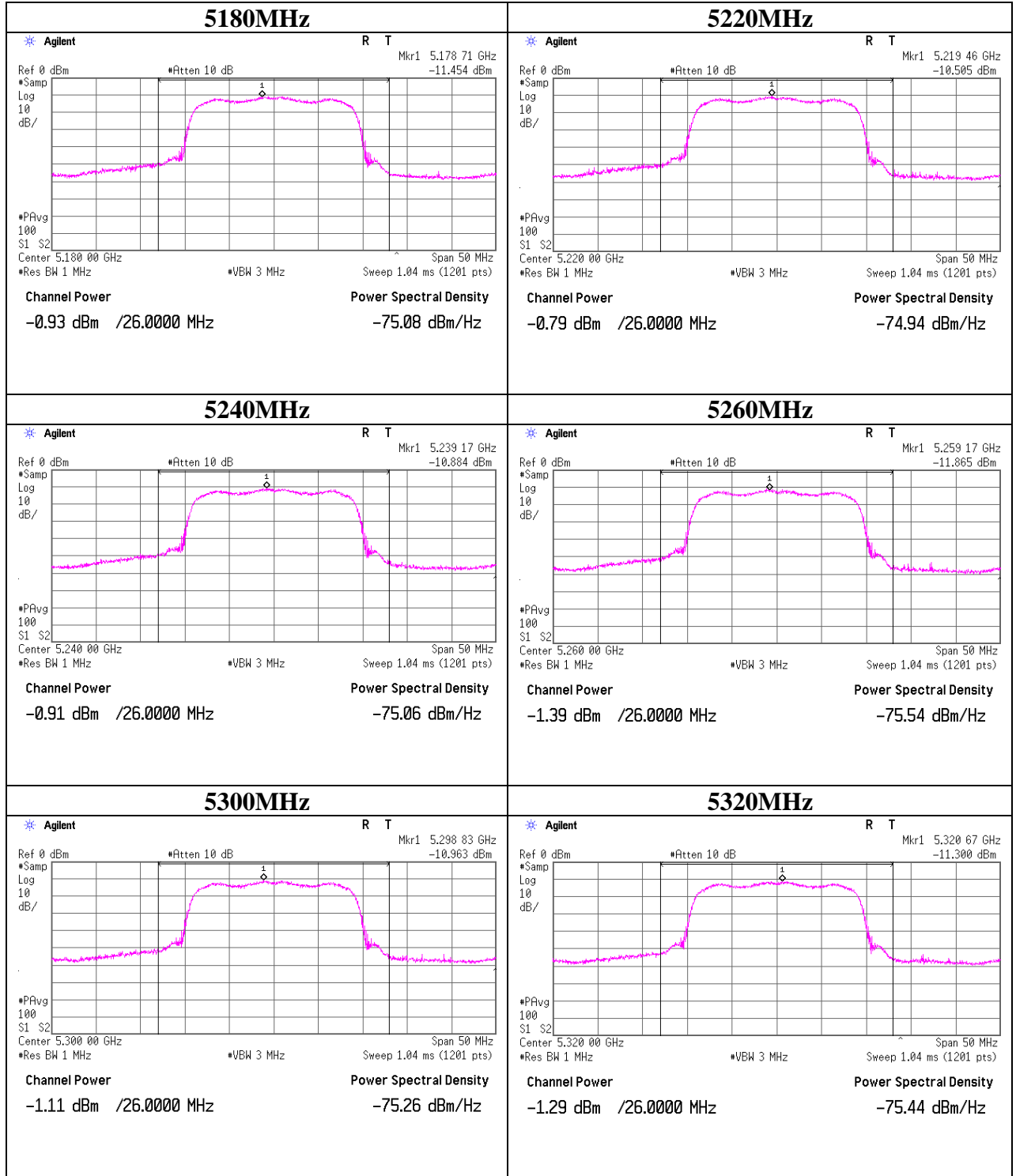
Maximum Peak Output Power & Peak Power Spectral Density

11n-20 Antenna 0



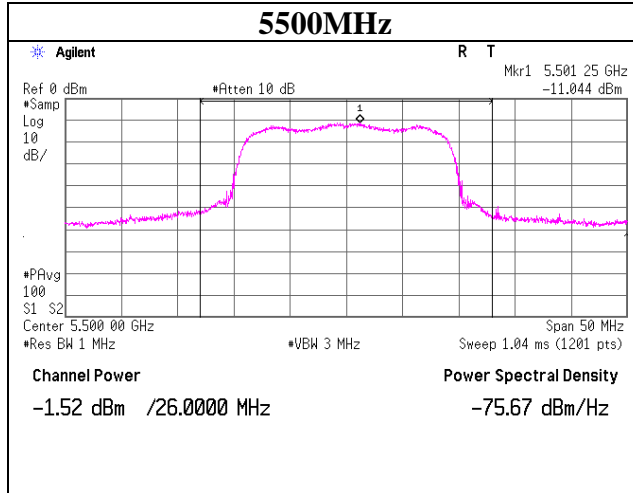
Maximum Peak Output Power & Peak Power Spectral Density

11n-20 Antenna 1

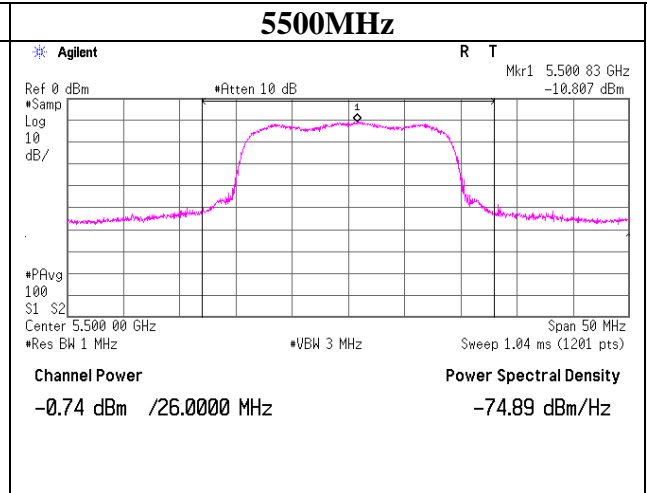


Maximum Peak Output Power & Peak Power Spectral Density

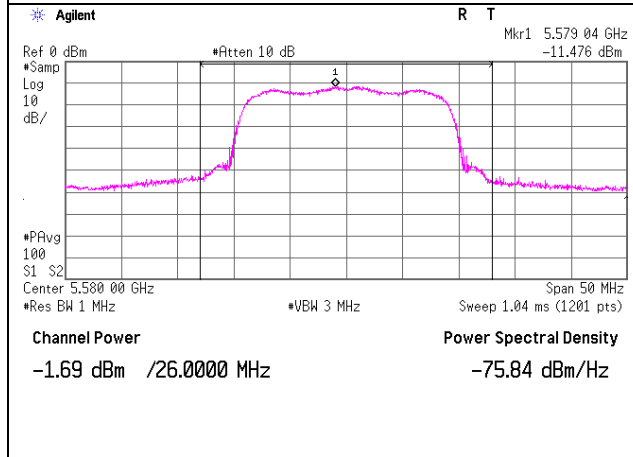
11n-20 Antenna 0



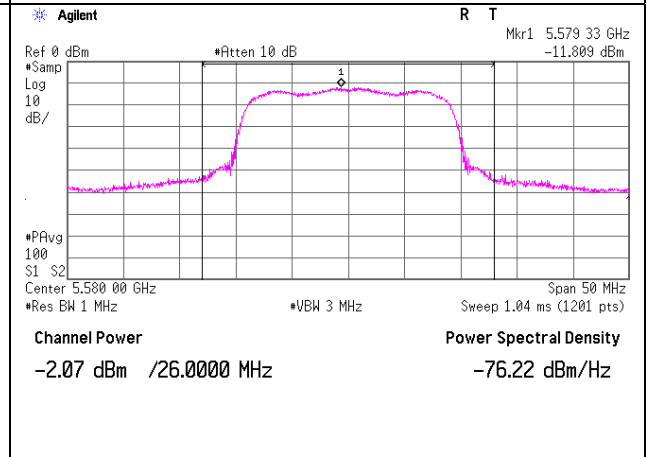
11n-20 Antenna 1



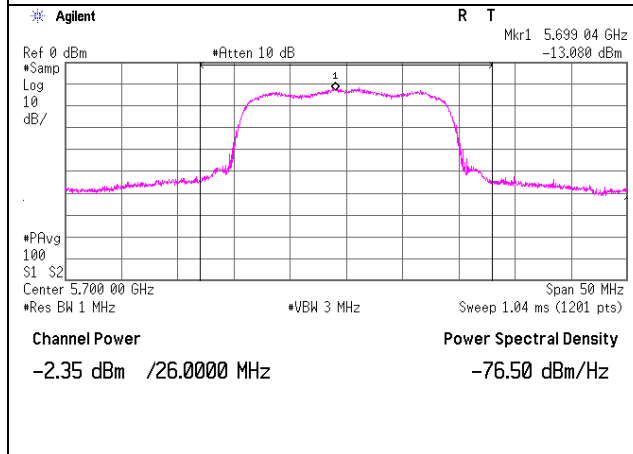
5580MHz



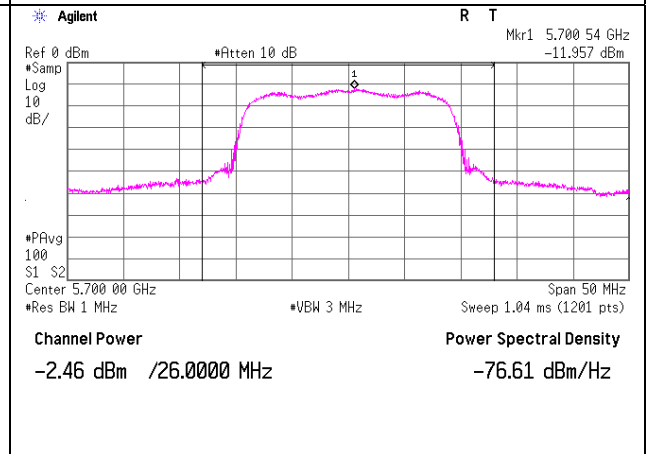
5580MHz



5700MHz

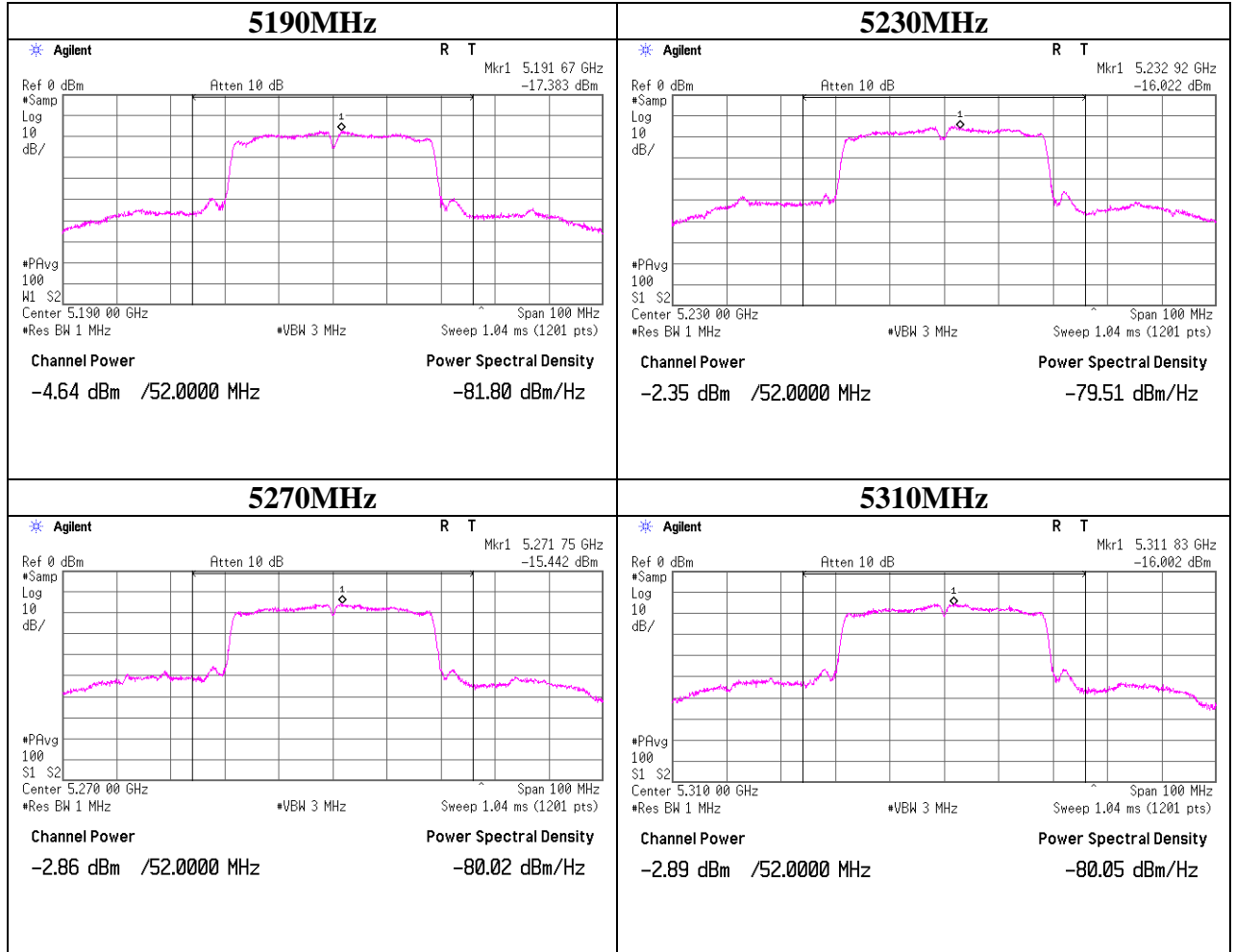


5700MHz



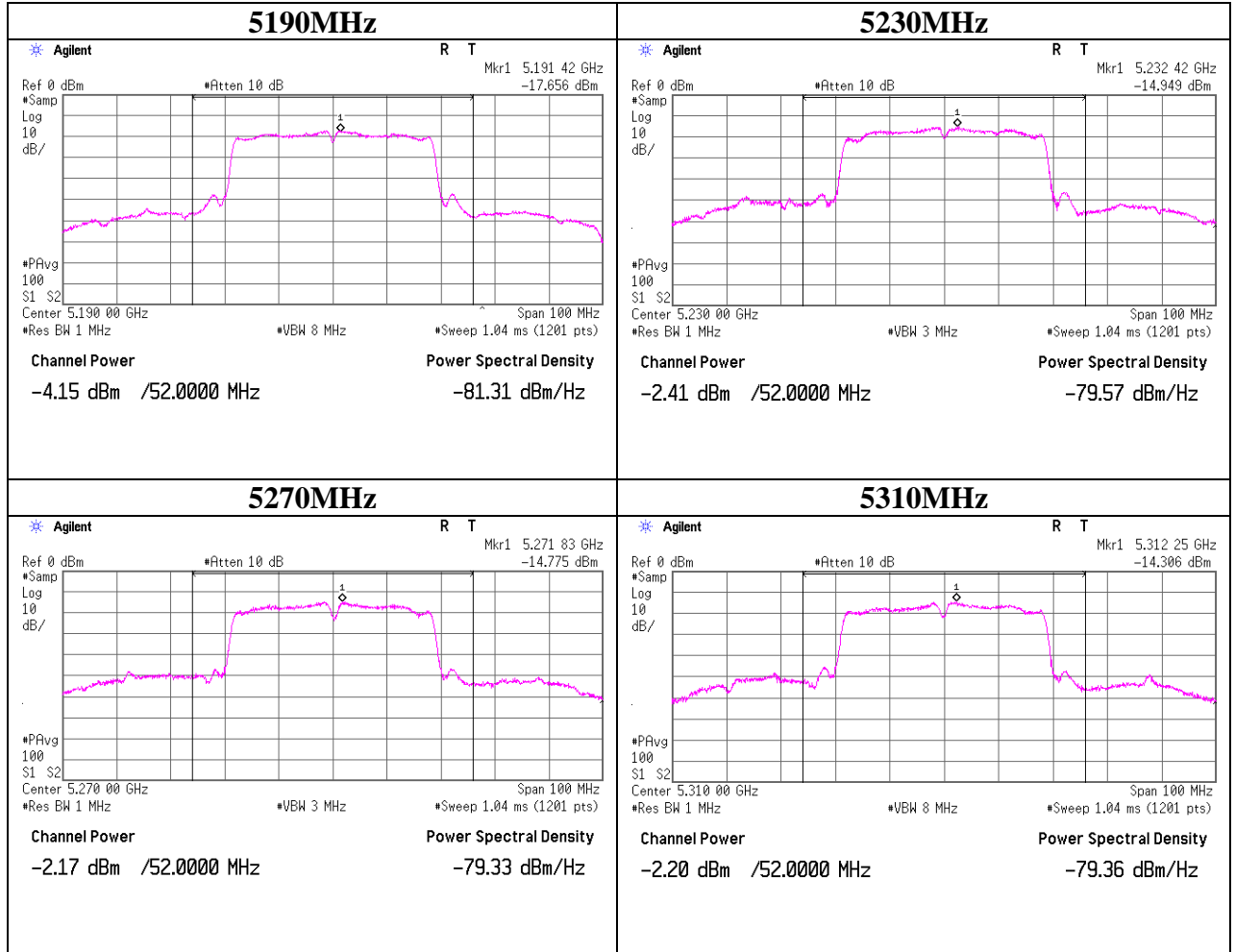
Maximum Peak Output Power & Peak Power Spectral Density

11n-40 Antenna 0



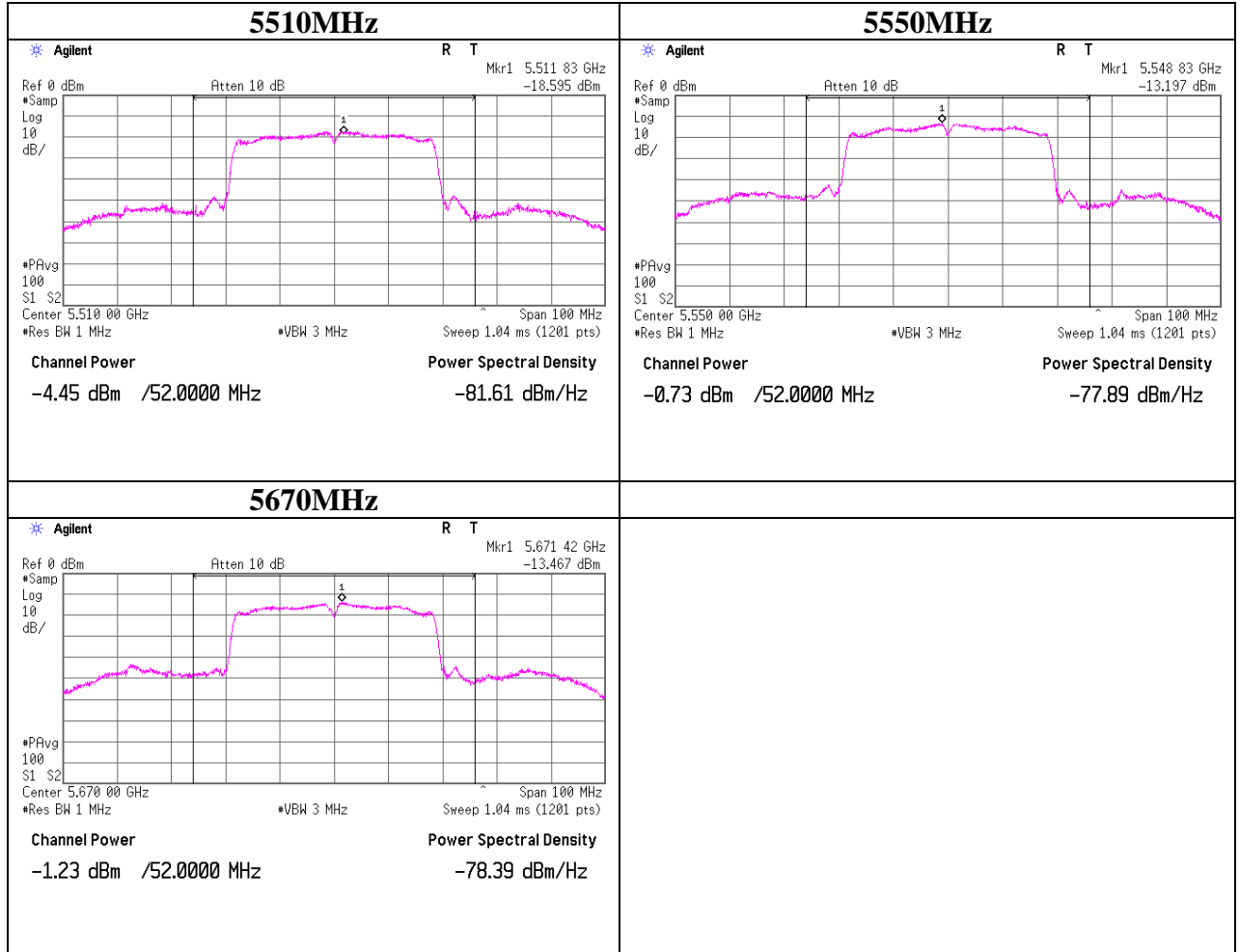
Maximum Peak Output Power & Peak Power Spectral Density

11n-40 Antenna 1



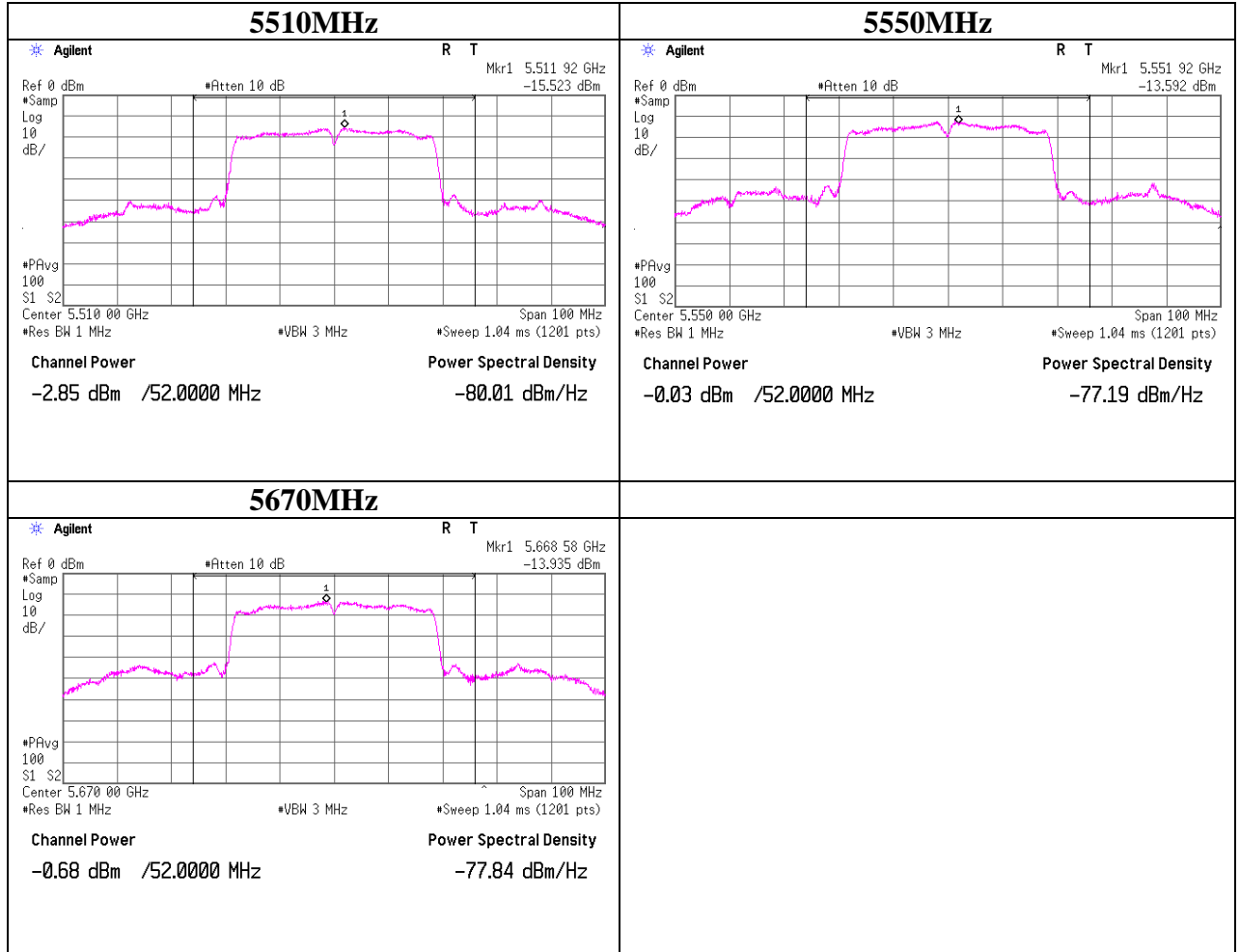
Maximum Peak Output Power & Peak Power Spectral Density

11n-40 Antenna 0



Maximum Peak Output Power & Peak Power Spectral Density

11n-40 Antenna 1



Maximum Peak Output Power
(Reference data)

Test place Head Office EMC Lab. No.6 Measurement Room
Report No. 31HE0183-HO-01
Date 05/07/2011
Temperature/ Humidity 24deg. C / 52% RH
Engineer Yutaka Yoshida
Mode 11a Tx

Antenna 0, 5240MHz

Data Rate [Mbps]	Reading [dBm]	Remark
6	-1.70	
9	-1.42	*
12	-2.06	
18	-1.85	
24	-1.88	
36	-2.05	
48	-1.88	
54	-2.00	

* Worst Rate

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

ON time was only measured using Gate function.

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11a Tx 5180MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3453.372	PK	47.7	29.3	3.1	31.8	48.3	68.2	19.9	Outside	
Hori	5150.000	PK	62.2	31.6	3.8	31.4	66.2	68.2	2.0	Bandedge	
Hori	10360.000	PK	41.7	38.9	-2.0	33.3	45.3	68.2	22.9	Outside	
Hori	15540.000	PK	42.9	39.3	-0.9	32.7	48.6	73.9	25.3	Inside	
Hori	5150.000	AV	48.0	31.6	3.8	31.4	52.0	53.9	1.9	Bandedge	
Hori	15540.000	AV	31.2	39.3	-0.9	32.7	36.9	53.9	17.0	Inside	
Vert	3453.372	PK	46.8	29.3	3.1	31.8	47.4	68.2	20.8	Outside	
Vert	5150.000	PK	55.5	31.6	3.8	31.4	59.5	68.2	8.7	Bandedge	
Vert	10360.000	PK	41.6	38.9	-2.0	33.3	45.2	68.2	23.0	Outside	
Vert	15540.000	PK	43.2	39.3	-0.9	32.7	48.9	73.9	25.0	Inside	
Vert	5150.000	AV	42.2	31.6	3.8	31.4	46.2	53.9	7.7	Bandedge	
Vert	15540.000	AV	31.2	39.3	-0.9	32.7	36.9	53.9	17.0	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11a Tx 5240MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3493.354	PK	48.2	29.4	3.1	31.8	48.9	68.2	19.3	Outside	
Hori	6986.692	PK	45.0	35.3	4.6	32.3	52.6	68.2	15.6	Outside	
Hori	10480.000	PK	42.0	39.1	-2.0	33.3	45.8	68.2	22.4	Outside	
Hori	15720.000	PK	43.4	38.6	-1.0	32.7	48.3	73.9	25.6	Inside	
Hori	15720.000	AV	31.3	38.6	-1.0	32.7	36.2	53.9	17.7	Inside	
Vert	3493.354	PK	47.7	29.4	3.1	31.8	48.4	68.2	19.8	Outside	
Vert	6986.692	PK	45.3	35.3	4.6	32.3	52.9	68.2	15.3	Outside	
Vert	10480.000	PK	41.5	39.1	-2.0	33.3	45.3	68.2	22.9	Outside	
Vert	15720.000	PK	43.5	38.6	-1.0	32.7	48.4	73.9	25.5	Inside	
Vert	15720.000	AV	31.3	38.6	-1.0	32.7	36.2	53.9	17.7	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11a Tx 5320MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3546.723	PK	46.7	29.4	3.1	31.8	47.4	68.2	20.8	Outside	
Hori	5350.000	PK	62.6	31.8	3.9	31.5	66.8	68.2	1.4	Bandedge	
Hori	10640.000	PK	43.2	39.3	-1.9	33.3	47.3	73.9	26.6	Inside	
Hori	15960.000	PK	45.7	37.8	-0.8	32.6	50.1	73.9	23.8	Inside	
Hori	5350.000	AV	47.5	31.8	3.9	31.5	51.7	53.9	2.2	Bandedge	
Hori	10640.000	AV	31.0	39.3	-1.9	33.3	35.1	53.9	18.8	Inside	
Hori	15960.000	AV	32.6	37.8	-0.8	32.6	37.0	53.9	16.9	Inside	
Vert	3546.723	PK	46.6	29.4	3.1	31.8	47.3	68.2	20.9	Outside	
Vert	5350.000	PK	58.1	31.8	3.9	31.5	62.3	68.2	5.9	Bandedge	
Vert	10640.000	PK	43.3	39.3	-1.9	33.3	47.4	73.9	26.5	Inside	
Vert	15960.000	PK	45.5	37.8	-0.8	32.6	49.9	73.9	24.0	Inside	
Vert	5350.000	AV	43.8	31.8	3.9	31.5	48.0	53.9	5.9	Bandedge	
Vert	10640.000	AV	31.0	39.3	-1.9	33.3	35.1	53.9	18.8	Inside	
Vert	15960.000	AV	32.6	37.8	-0.8	32.6	37.0	53.9	16.9	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$
26.5GHz-40GHz $20\log(3.0\text{m}/0.5\text{m})=15.6\text{dB}$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11a Tx 5500MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3666.697	PK	46.8	29.4	3.2	31.7	47.7	73.9	26.2	Inside	
Hori	5460.000	PK	56.7	31.9	4.0	31.5	61.1	73.9	12.8	Inside	
Hori	5470.000	PK	63.0	31.9	4.0	31.5	67.4	68.2	0.8	Outside	
Hori	11000.000	PK	47.6	39.8	-1.9	33.3	52.2	73.9	21.7	Inside	
Hori	16500.000	PK	46.0	38.5	-0.6	32.6	51.3	68.2	16.9	Outside	
Hori	5460.000	AV	41.9	31.9	4.0	31.5	46.3	53.9	7.6	Inside	
Hori	11000.000	AV	33.1	39.8	-1.9	33.3	37.7	53.9	16.2	Inside	
Vert	3666.697	PK	46.0	29.4	3.2	31.7	46.9	73.9	27.0	Inside	
Vert	5460.000	PK	55.8	31.9	4.0	31.5	60.2	73.9	13.7	Inside	
Vert	5470.000	PK	62.8	31.9	4.0	31.5	67.2	68.2	1.0	Outside	
Vert	11000.000	PK	48.2	39.8	-1.9	33.3	52.8	73.9	21.1	Inside	
Vert	16500.000	PK	45.3	38.5	-0.6	32.6	50.6	68.2	17.6	Outside	
Vert	3666.697	AV	39.9	29.4	3.2	31.7	40.8	53.9	13.1	Inside	
Vert	5460.000	AV	42.3	31.9	4.0	31.5	46.7	53.9	7.2	Inside	
Vert	11000.000	AV	33.6	39.8	-1.9	33.3	38.2	53.9	15.7	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m)= 9.5dB$
26.5GHz-40GHz $20\log(3.0m/0.5m)=15.6dB$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11a Tx 5580MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3720.007	PK	46.4	29.5	3.2	31.7	47.4	73.9	26.5	Inside	
Hori	11160.000	PK	45.5	39.7	-1.9	33.3	50.0	73.9	23.9	Inside	
Hori	16740.000	PK	46.4	38.9	-0.5	32.6	52.2	68.2	16.0	Outside	
Hori	3720.007	AV	40.9	29.5	3.2	31.7	41.9	53.9	12.0	Inside	
Hori	11160.000	AV	32.1	39.7	-1.9	33.3	36.6	53.9	17.3	Inside	
Vert	3720.007	PK	47.0	29.5	3.2	31.7	48.0	73.9	25.9	Inside	
Vert	11160.000	PK	45.0	39.7	-1.9	33.3	49.5	73.9	24.4	Inside	
Vert	16740.000	PK	43.7	38.9	-0.5	32.6	49.5	68.2	18.7	Outside	
Vert	3720.007	AV	41.9	29.5	3.2	31.7	42.9	53.9	11.0	Inside	
Vert	11160.000	AV	31.8	39.7	-1.9	33.3	36.3	53.9	17.6	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

Radiated Spurious Emission

Test place Head Office EMC Lab. No.3 and No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/14/2011 05/16/2011
Temperature/ Humidity 24deg. C / 36% RH 24deg. C / 40% RH
Engineer Takayuki Shimada Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11a Tx 5700MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3800.000	PK	47.5	29.5	3.3	31.7	48.6	73.9	25.3	Inside	
Hori	5725.000	PK	62.8	32.6	4.1	32.0	67.5	68.2	0.7	Outside	
Hori	11400.000	PK	47.1	39.7	-1.9	33.3	51.6	73.9	22.3	Inside	
Hori	17100.000	PK	46.4	40.0	-0.3	32.6	53.5	68.2	14.7	Outside	
Hori	3800.000	AV	42.0	29.5	3.3	31.7	43.1	53.9	10.8	Inside	
Hori	11400.000	AV	32.7	39.7	-1.9	33.3	37.2	53.9	16.7	Inside	
Vert	3800.000	PK	47.3	29.5	3.3	31.7	48.4	73.9	25.5	Inside	
Vert	5725.000	PK	62.4	32.6	4.1	32.0	67.1	68.2	1.1	Outside	
Vert	11400.000	PK	45.1	39.7	-1.9	33.3	49.6	73.9	24.3	Inside	
Vert	17100.000	PK	44.0	40.0	-0.3	32.6	51.1	68.2	17.1	Outside	
Vert	3800.000	AV	41.7	29.5	3.3	31.7	42.8	53.9	11.1	Inside	
Vert	11400.000	AV	32.1	39.7	-1.9	33.3	36.6	53.9	17.3	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m)= 9.5dB$
26.5GHz-40GHz $20\log(3.0m/0.5m)=15.6dB$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-20 Tx 5180MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3453.389	PK	47.8	29.3	3.1	31.8	48.4	68.2	19.8	Outside	
Hori	5150.000	PK	62.0	31.6	3.8	31.4	66.0	68.2	2.2	Bandedge	
Hori	6906.673	PK	45.0	35.2	4.5	32.3	52.4	68.2	15.8	Outside	
Hori	10360.000	PK	42.0	38.9	-2.0	33.3	45.6	68.2	22.6	Outside	
Hori	15540.000	PK	43.3	39.3	-0.9	32.7	49.0	73.9	24.9	Inside	
Hori	5150.000	AV	46.4	31.6	3.8	31.4	50.4	53.9	3.5	Bandedge	
Hori	15540.000	AV	31.2	39.3	-0.9	32.7	36.9	53.9	17.0	Inside	
Vert	3453.389	PK	46.7	29.3	3.1	31.8	47.3	68.2	20.9	Outside	
Vert	5150.000	PK	59.0	31.6	3.8	31.4	63.0	68.2	5.2	Bandedge	
Vert	6906.673	PK	44.7	35.2	4.5	32.3	52.1	68.2	16.1	Outside	
Vert	10360.000	PK	41.8	38.9	-2.0	33.3	45.4	68.2	22.8	Outside	
Vert	15540.000	PK	43.1	39.3	-0.9	32.7	48.8	73.9	25.1	Inside	
Vert	5150.000	AV	43.6	31.6	3.8	31.4	47.6	53.9	6.3	Bandedge	
Vert	15540.000	AV	31.2	39.3	-0.9	32.7	36.9	53.9	17.0	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$
26.5GHz-40GHz $20\log(3.0\text{m}/0.5\text{m})=15.6\text{dB}$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-20 Tx 5320MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3546.694	PK	46.4	29.4	3.1	31.8	47.1	68.2	21.1	Outside	
Hori	5350.000	PK	62.9	31.8	3.9	31.5	67.1	68.2	1.1	Bandedge	
Hori	10640.000	PK	42.8	39.3	-1.9	33.3	46.9	73.9	27.0	Inside	
Hori	15960.000	PK	45.4	37.8	-0.8	32.6	49.8	73.9	24.1	Inside	
Hori	5350.000	AV	46.3	31.8	3.9	31.5	50.5	53.9	3.4	Bandedge	
Hori	10640.000	AV	31.0	39.3	-1.9	33.3	35.1	53.9	18.8	Inside	
Hori	15960.000	AV	32.6	37.8	-0.8	32.6	37.0	53.9	16.9	Inside	
Vert	3546.694	PK	47.5	29.4	3.1	31.8	48.2	68.2	20.0	Outside	
Vert	5350.000	PK	57.7	31.8	3.9	31.5	61.9	68.2	6.3	Bandedge	
Vert	10640.000	PK	43.0	39.3	-1.9	33.3	47.1	73.9	26.8	Inside	
Vert	15960.000	PK	45.3	37.8	-0.8	32.6	49.7	73.9	24.2	Inside	
Vert	5350.000	AV	42.6	31.8	3.9	31.5	46.8	53.9	7.1	Bandedge	
Vert	10640.000	AV	31.0	39.3	-1.9	33.3	35.1	53.9	18.8	Inside	
Vert	15960.000	AV	32.6	37.8	-0.8	32.6	37.0	53.9	16.9	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m)= 9.5dB$
26.5GHz-40GHz $20\log(3.0m/0.5m)=15.6dB$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-20 Tx 5500MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3666.742	PK	45.8	29.4	3.2	31.7	46.7	73.9	27.2	Inside	
Hori	5460.000	PK	56.1	31.9	4.0	31.5	60.5	73.9	13.4	Inside	
Hori	5470.000	PK	62.2	31.9	4.0	31.5	66.6	68.2	1.6	Outside	
Hori	11000.000	PK	47.5	39.8	-1.9	33.3	52.1	73.9	21.8	Inside	
Hori	16500.000	PK	46.3	38.5	-0.6	32.6	51.6	68.2	16.6	Outside	
Hori	3666.742	AV	40.7	29.4	3.2	31.7	41.6	53.9	12.3	Inside	
Hori	5460.000	AV	40.5	31.9	4.0	31.5	44.9	53.9	9.0	Inside	
Hori	11000.000	AV	33.1	39.8	-1.9	33.3	37.7	53.9	16.2	Inside	
Vert	3666.742	PK	47.4	29.4	3.2	31.7	48.3	73.9	25.6	Inside	
Vert	5460.000	PK	57.9	31.9	4.0	31.5	62.3	73.9	11.6	Inside	
Vert	5470.000	PK	62.6	31.9	4.0	31.5	67.0	68.2	1.2	Outside	
Vert	11000.000	PK	49.8	39.8	-1.9	33.3	54.4	73.9	19.5	Inside	
Vert	16500.000	PK	46.3	38.5	-0.6	32.6	51.6	68.2	16.6	Outside	
Vert	3666.742	AV	41.3	29.4	3.2	31.7	42.2	53.9	11.7	Inside	
Vert	5460.000	AV	41.5	31.9	4.0	31.5	45.9	53.9	8.0	Inside	
Vert	11000.000	AV	34.2	39.8	-1.9	33.3	38.8	53.9	15.1	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-20 Tx 5580MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3720.005	PK	46.3	29.5	3.2	31.7	47.3	73.9	26.6	Inside	
Hori	11160.000	PK	43.9	39.7	-1.9	33.3	48.4	73.9	25.5	Inside	
Hori	16740.000	PK	46.2	38.9	-0.5	32.6	52.0	68.2	16.2	Outside	
Hori	3720.005	AV	41.1	29.5	3.2	31.7	42.1	53.9	11.8	Inside	
Hori	11160.000	AV	31.9	39.7	-1.9	33.3	36.4	53.9	17.5	Inside	
Vert	3720.005	PK	47.5	29.5	3.2	31.7	48.5	73.9	25.4	Inside	
Vert	11160.000	PK	44.3	39.7	-1.9	33.3	48.8	73.9	25.1	Inside	
Vert	16740.000	PK	43.8	38.9	-0.5	32.6	49.6	68.2	18.6	Outside	
Vert	3720.005	AV	41.6	29.5	3.2	31.7	42.6	53.9	11.3	Inside	
Vert	11160.000	AV	32.2	39.7	-1.9	33.3	36.7	53.9	17.2	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m)= 9.5dB$
26.5GHz-40GHz $20\log(3.0m/0.5m)=15.6dB$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.3 and No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/14/2011 05/16/2011
Temperature/ Humidity 24deg. C / 36% RH 24deg. C / 40% RH
Engineer Takayuki Shimada Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-20 Tx 5700MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3800.000	PK	47.7	29.5	3.3	31.7	48.8	73.9	25.1	Inside	
Hori	5725.000	PK	62.3	32.6	4.1	32.0	67.0	68.2	1.2	Outside	
Hori	11400.000	PK	46.1	39.7	-1.9	33.3	50.6	73.9	23.3	Inside	
Hori	17100.000	PK	45.5	40.0	-0.3	32.6	52.6	68.2	15.6	Outside	
Hori	3800.000	AV	42.0	29.5	3.3	31.7	43.1	53.9	10.8	Inside	
Hori	11400.000	AV	32.3	39.7	-1.9	33.3	36.8	53.9	17.1	Inside	
Vert	3800.000	PK	48.0	29.5	3.3	31.7	49.1	73.9	24.8	Inside	
Vert	5725.000	PK	61.8	32.6	4.1	32.0	66.5	68.2	1.7	Outside	
Vert	11400.000	PK	44.8	39.7	-1.9	33.3	49.3	73.9	24.6	Inside	
Vert	17100.000	PK	44.0	40.0	-0.3	32.6	51.1	68.2	17.1	Outside	
Vert	3800.000	AV	42.7	29.5	3.3	31.7	43.8	53.9	10.1	Inside	
Vert	11400.000	AV	31.8	39.7	-1.9	33.3	36.3	53.9	17.6	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m)= 9.5dB$
26.5GHz-40GHz $20\log(3.0m/0.5m)=15.6dB$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.3 and No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/14/2011 05/16/2011
Temperature/ Humidity 24deg. C / 36% RH 24deg. C / 40% RH
Engineer Takayuki Shimada Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-40 Tx 5190MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3460.000	PK	47.4	29.3	3.1	31.8	48.0	68.2	20.2	Outside	
Hori	5150.000	PK	62.7	32.3	3.8	31.9	66.9	68.2	1.3	Bandedge	
Hori	6920.000	PK	45.1	35.2	4.5	32.3	52.5	68.2	15.7	Outside	
Hori	10380.000	PK	41.6	38.9	-2.0	33.3	45.2	68.2	23.0	Outside	
Hori	15570.000	PK	43.3	39.2	-0.9	32.7	48.9	73.9	25.0	Inside	
Hori	5150.000	AV	41.2	32.3	3.8	31.9	45.4	53.9	8.5	Bandedge	
Hori	15570.000	AV	31.0	39.2	-0.9	32.7	36.6	53.9	17.3	Inside	
Vert	3460.000	PK	47.1	29.3	3.1	31.8	47.7	68.2	20.5	Outside	
Vert	5150.000	PK	59.2	32.3	3.8	31.9	63.4	68.2	4.8	Bandedge	
Vert	6920.000	PK	45.4	35.2	4.5	32.3	52.8	68.2	15.4	Outside	
Vert	10380.000	PK	41.8	38.9	-2.0	33.3	45.4	68.2	22.8	Outside	
Vert	15570.000	PK	43.2	39.2	-0.9	32.7	48.8	73.9	25.1	Inside	
Vert	5150.000	AV	37.6	32.3	3.8	31.9	41.8	53.9	12.1	Bandedge	
Vert	15570.000	AV	31.0	39.2	-0.9	32.7	36.6	53.9	17.3	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m)= 9.5dB$
26.5GHz-40GHz $20\log(3.0m/0.5m)=15.6dB$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-40 Tx 5230MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3486.688	PK	49.4	29.4	3.1	31.8	50.1	68.2	18.1	Outside	
Hori	6973.332	PK	45.2	35.3	4.6	32.3	52.8	68.2	15.4	Outside	
Hori	10460.000	PK	41.5	39.0	-2.0	33.3	45.2	68.2	23.0	Outside	
Hori	15690.000	PK	43.4	38.7	-1.0	32.7	48.4	73.9	25.5	Inside	
Hori	15690.000	AV	31.1	38.7	-1.0	32.7	36.1	53.9	17.8	Inside	
Vert	3486.688	PK	48.2	29.4	3.1	31.8	48.9	68.2	19.3	Outside	
Vert	6973.332	PK	44.7	35.3	4.6	32.3	52.3	68.2	15.9	Outside	
Vert	10460.000	PK	41.4	39.0	-2.0	33.3	45.1	68.2	23.1	Outside	
Vert	15690.000	PK	43.0	38.7	-1.0	32.7	48.0	73.9	25.9	Inside	
Vert	15690.000	AV	31.1	38.7	-1.0	32.7	36.1	53.9	17.8	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Ampriifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/16/2011 05/16/2011
Temperature/ Humidity 24deg. C / 40% RH 24deg. C / 40% RH
Engineer Yutaka Yoshida Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-40 Tx 5270MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3513.348	PK	46.9	29.4	3.1	31.8	47.6	68.2	20.6	Outside	
Hori	10540.000	PK	41.3	39.1	-2.0	33.3	45.1	68.2	23.1	Outside	
Hori	15810.000	PK	43.5	38.3	-0.9	32.7	48.2	73.9	25.7	Inside	
Hori	15810.000	AV	31.4	38.3	-0.9	32.7	36.1	53.9	17.8	Inside	
Vert	3513.348	PK	47.3	29.4	3.1	31.8	48.0	68.2	20.2	Outside	
Vert	10540.000	PK	41.4	39.1	-2.0	33.3	45.2	68.2	23.0	Outside	
Vert	15810.000	PK	43.3	38.3	-0.9	32.7	48.0	73.9	25.9	Inside	
Vert	15810.000	AV	31.4	38.3	-0.9	32.7	36.1	53.9	17.8	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m)= 9.5dB$
26.5GHz-40GHz $20\log(3.0m/0.5m)=15.6dB$

Radiated Spurious Emission

Test place Head Office EMC Lab. No.3 and No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/14/2011 05/16/2011
Temperature/ Humidity 24deg. C / 36% RH 24deg. C / 40% RH
Engineer Takayuki Shimada Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-40 Tx 5310MHz Antenna 0

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3540.000	PK	46.6	29.4	3.1	31.8	47.3	68.2	20.9	Outside	
Hori	5350.000	PK	63.7	32.2	3.9	31.9	67.9	68.2	0.3	Bandedge	
Hori	10620.000	PK	41.5	39.3	-1.9	33.3	45.6	73.9	28.3	Inside	
Hori	15930.000	PK	43.6	37.9	-0.8	32.6	48.1	73.9	25.8	Inside	
Hori	5350.000	AV	43.1	32.2	3.9	31.9	47.3	53.9	6.6	Bandedge	
Hori	10620.000	AV	29.4	39.3	-1.9	33.3	33.5	53.9	20.4	Inside	
Hori	15930.000	AV	31.7	37.9	-0.8	32.6	36.2	53.9	17.7	Inside	
Vert	3540.000	PK	45.8	29.4	3.1	31.8	46.5	68.2	21.7	Outside	
Vert	5350.000	PK	62.8	32.2	3.9	31.9	67.0	68.2	1.2	Bandedge	
Vert	10620.000	PK	41.3	39.3	-1.9	33.3	45.4	73.9	28.5	Inside	
Vert	15930.000	PK	43.3	37.9	-0.8	32.6	47.8	73.9	26.1	Inside	
Vert	5350.000	AV	41.9	32.2	3.9	31.9	46.1	53.9	7.8	Bandedge	
Vert	10620.000	AV	29.4	39.3	-1.9	33.3	33.5	53.9	20.4	Inside	
Vert	15930.000	AV	31.7	37.9	-0.8	32.6	36.2	53.9	17.7	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

Radiated Spurious Emission

Test place Head Office EMC Lab. No.3 and No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/14/2011 05/16/2011
Temperature/ Humidity 24deg. C / 36% RH 24deg. C / 40% RH
Engineer Takayuki Shimada Takayuki Shimada
(1-10GHz) (10-40GHz)
Mode 11n-40 Tx 5510MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3673.350	PK	46.5	29.4	3.2	31.7	47.4	73.9	26.5	Inside	
Hori	5460.000	PK	58.2	32.2	4.0	32.0	62.4	73.9	11.5	Inside	
Hori	5470.000	PK	63.6	32.2	4.0	32.0	67.8	68.2	0.4	Outside	
Hori	11020.000	PK	44.1	39.8	-1.9	33.3	48.7	73.9	25.2	Inside	
Hori	16530.000	PK	44.2	38.5	-0.6	32.6	49.5	68.2	18.7	Outside	
Hori	3673.350	AV	40.5	29.4	3.2	31.7	41.4	53.9	12.5	Inside	
Hori	5460.000	AV	37.8	32.2	4.0	32.0	42.0	53.9	11.9	Inside	
Hori	11020.000	AV	32.2	39.8	-1.9	33.3	36.8	53.9	17.1	Inside	
Vert	3673.350	PK	47.0	29.4	3.2	31.7	47.9	73.9	26.0	Inside	
Vert	5460.000	PK	56.1	32.2	4.0	32.0	60.3	73.9	13.6	Inside	
Vert	5470.000	PK	62.0	32.2	4.0	32.0	66.2	68.2	2.0	Outside	
Vert	11020.000	PK	45.0	39.8	-1.9	33.3	49.6	73.9	24.3	Inside	
Vert	16530.000	PK	43.6	38.5	-0.6	32.6	48.9	68.2	19.3	Outside	
Vert	3673.350	AV	41.6	29.4	3.2	31.7	42.5	53.9	11.4	Inside	
Vert	5460.000	AV	36.0	32.2	4.0	32.0	40.2	53.9	13.7	Inside	
Vert	11020.000	AV	32.4	39.8	-1.9	33.3	37.0	53.9	16.9	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/19/2011
Temperature/ Humidity 23deg. C / 46% RH
Engineer Takayuki Shimada
(30M-40GHz)
Mode 11n-40 Tx 5550MHz Antenna 1

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	206.649	QP	43.4	16.8	9.0	32.0	37.2	43.5	6.3	Outside	
Hori	215.998	QP	43.5	16.9	9.1	32.0	37.5	43.5	6.0	Outside	
Hori	235.956	QP	44.1	17.2	9.2	32.1	38.4	46.0	7.6	Outside	
Hori	300.174	QP	37.9	15.7	9.7	32.1	31.2	46.0	14.8	Outside	
Hori	308.260	QP	36.7	15.9	9.8	32.1	30.3	46.0	15.7	Outside	
Hori	719.995	QP	37.1	22.3	12.3	32.2	39.5	46.0	6.5	Outside	
Hori	3700.000	PK	45.4	29.5	3.2	31.7	46.4	73.9	27.5	Inside	
Hori	11100.000	PK	46.0	39.8	-1.9	33.3	50.6	73.9	23.3	Inside	
Hori	16650.000	PK	51.0	38.7	-0.5	32.6	56.6	68.2	11.6	Outside	
Hori	3700.000	AV	38.1	29.5	3.2	31.7	39.1	53.9	14.8	Inside	
Hori	11100.000	AV	33.1	39.8	-1.9	33.3	37.7	53.9	16.2	Inside	
Vert	206.649	QP	31.3	16.8	9.0	32.0	25.1	43.5	18.4	Outside	
Vert	215.998	QP	32.9	16.9	9.1	32.0	26.9	43.5	16.6	Outside	
Vert	235.956	QP	33.8	17.2	9.2	32.1	28.1	46.0	17.9	Outside	
Vert	300.174	QP	27.7	15.7	9.7	32.1	21.0	46.0	25.0	Outside	
Vert	308.260	QP	26.5	15.9	9.8	32.1	20.1	46.0	25.9	Outside	
Vert	719.995	QP	33.7	22.3	12.3	32.2	36.1	46.0	9.9	Outside	
Vert	3700.000	PK	46.0	29.5	3.2	31.7	47.0	73.9	26.9	Inside	
Vert	11100.000	PK	46.2	39.8	-1.9	33.3	50.8	73.9	23.1	Inside	
Vert	16650.000	PK	50.2	38.7	-0.5	32.6	55.8	68.2	12.4	Outside	
Vert	3700.000	AV	38.3	29.5	3.2	31.7	39.3	53.9	14.6	Inside	
Vert	11100.000	AV	33.2	39.8	-1.9	33.3	37.8	53.9	16.1	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB
26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

Radiated Spurious Emission

Test place Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No. 31HE0183-HO-01
Date 05/19/2011
Temperature/ Humidity 23deg. C / 46% RH
Engineer Takayuki Shimada
(1-40GHz)
Mode 11n-40 Tx 5670MHz Antenna 1

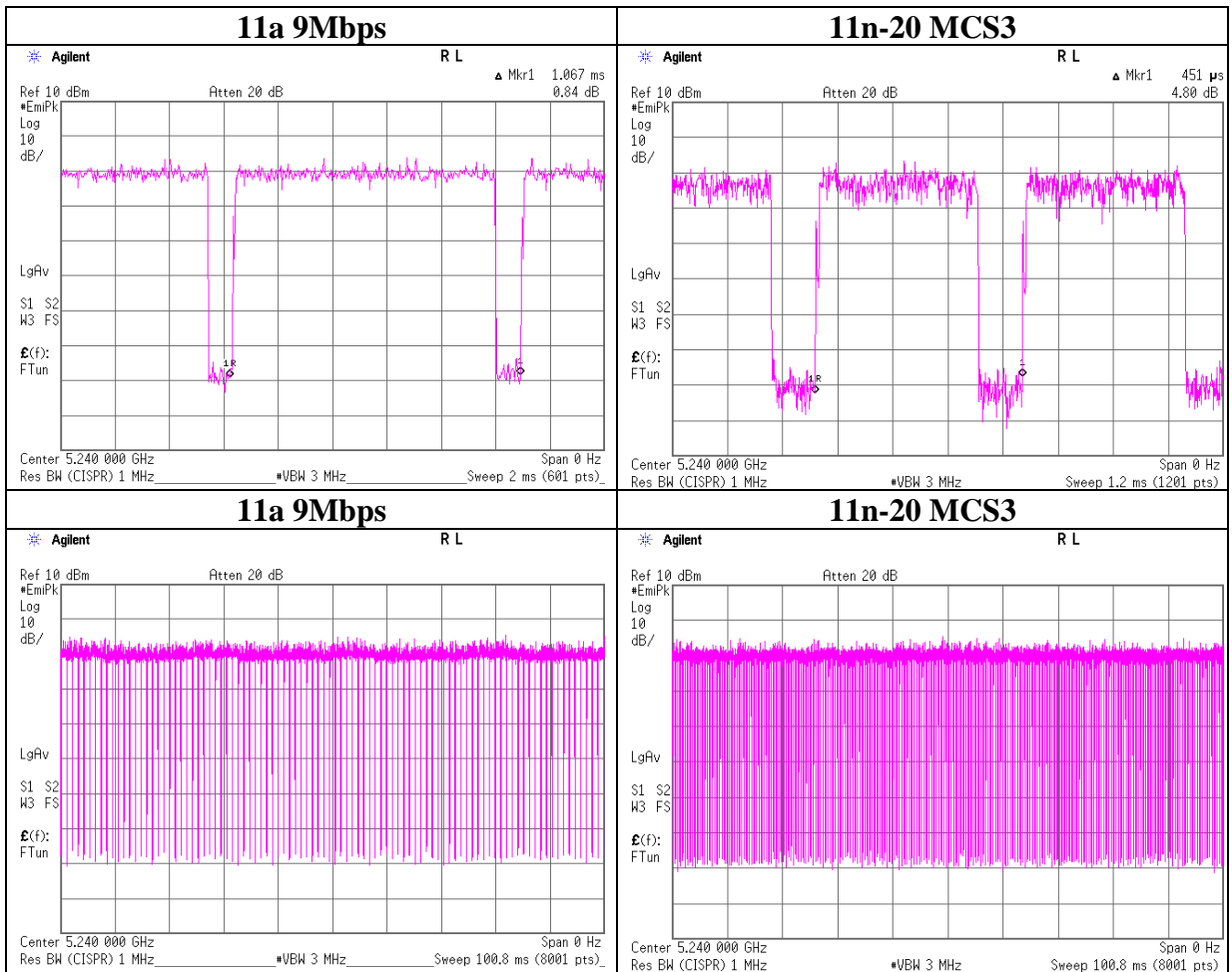
Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Inside or Outside of Restricted Bands	Remark
Hori	3780.000	PK	46.3	29.5	3.2	31.7	47.3	73.9	26.6	Inside	
Hori	5725.000	PK	53.3	32.4	4.1	31.6	58.2	68.2	10.0	Outside	
Hori	11340.000	PK	48.4	39.7	-1.9	33.3	52.9	73.9	21.0	Inside	
Hori	17010.000	PK	48.3	39.4	-0.3	32.6	54.8	68.2	13.4	Outside	
Hori	3780.000	AV	39.3	29.5	3.2	31.7	40.3	53.9	13.6	Inside	
Hori	11340.000	AV	33.8	39.7	-1.9	33.3	38.3	53.9	15.6	Inside	
Vert	3780.000	PK	46.1	29.5	3.2	31.7	47.1	73.9	26.8	Inside	
Vert	5725.000	PK	52.4	32.4	4.1	31.6	57.3	68.2	10.9	Outside	
Vert	11340.000	PK	47.2	39.7	-1.9	33.3	51.7	73.9	22.2	Inside	
Vert	17010.000	PK	47.5	39.4	-0.3	32.6	54.0	68.2	14.2	Outside	
Vert	3780.000	AV	39.1	29.5	3.2	31.7	40.1	53.9	13.8	Inside	
Vert	11340.000	AV	32.9	39.7	-1.9	33.3	37.4	53.9	16.5	Inside	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

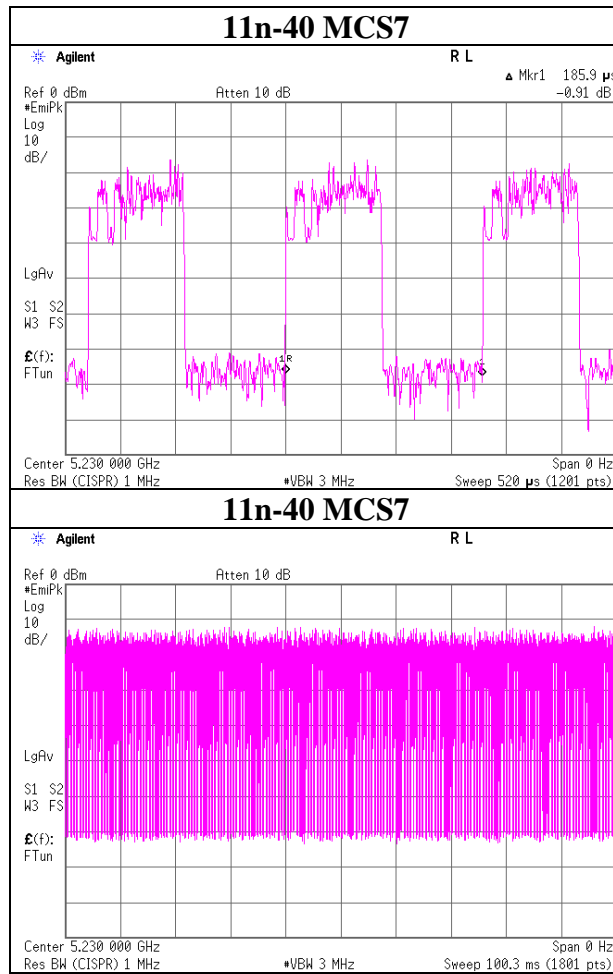
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m)= 9.5dB$
26.5GHz-40GHz $20\log(3.0m/0.5m)=15.6dB$

The tested burst timing

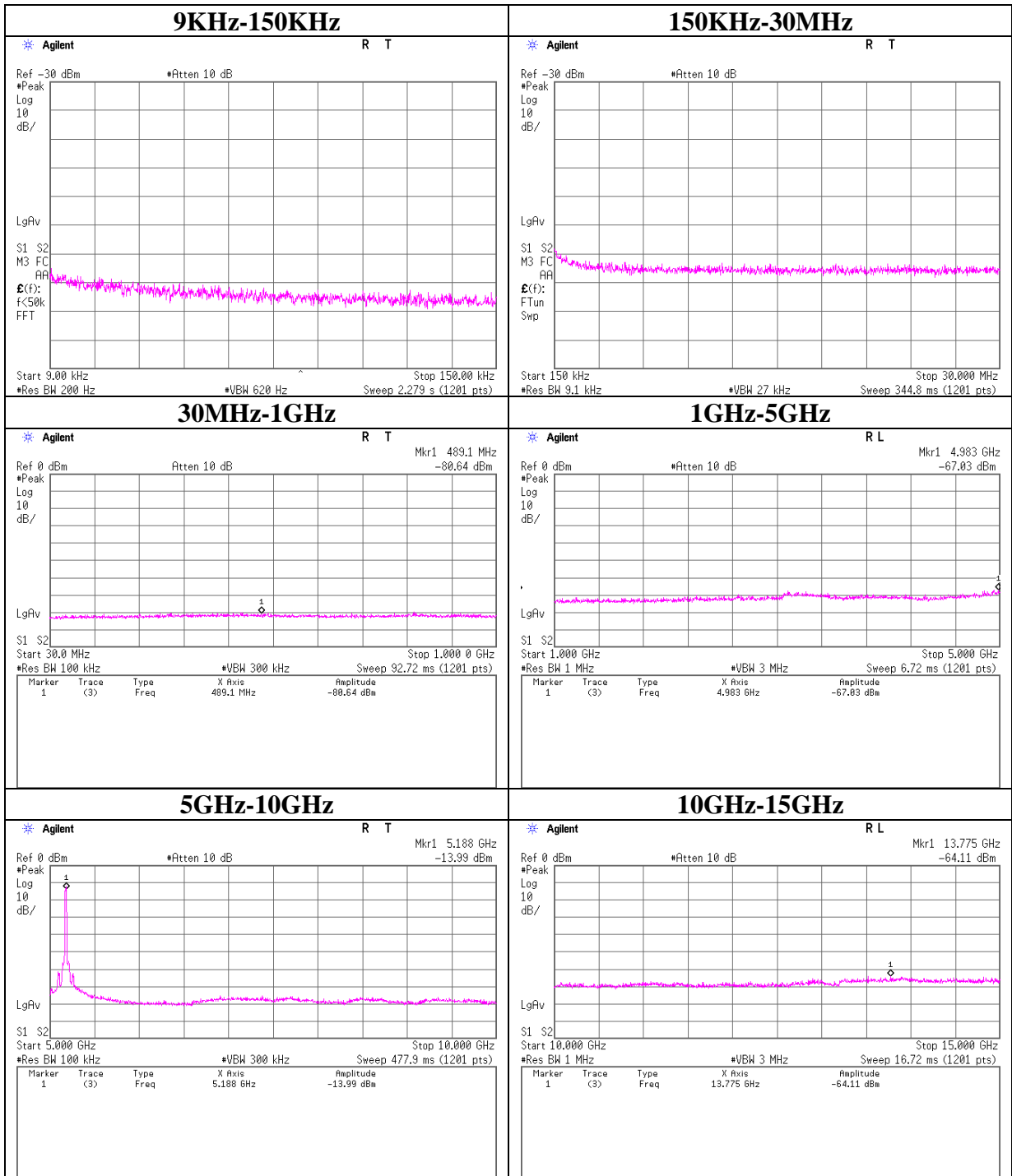


The tested burst timing



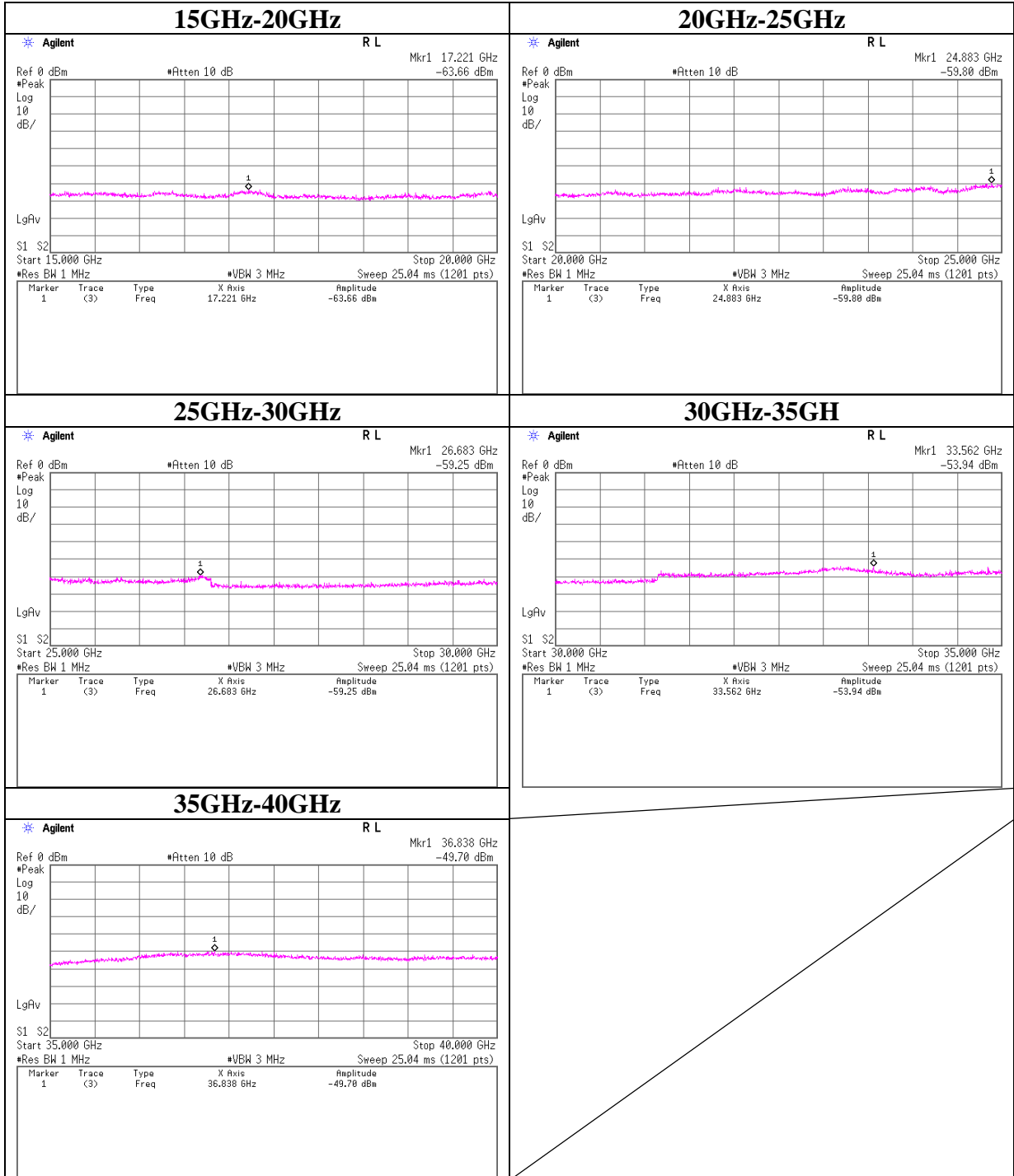
Conducted Spurious Emission

11a Tx 5180MHz



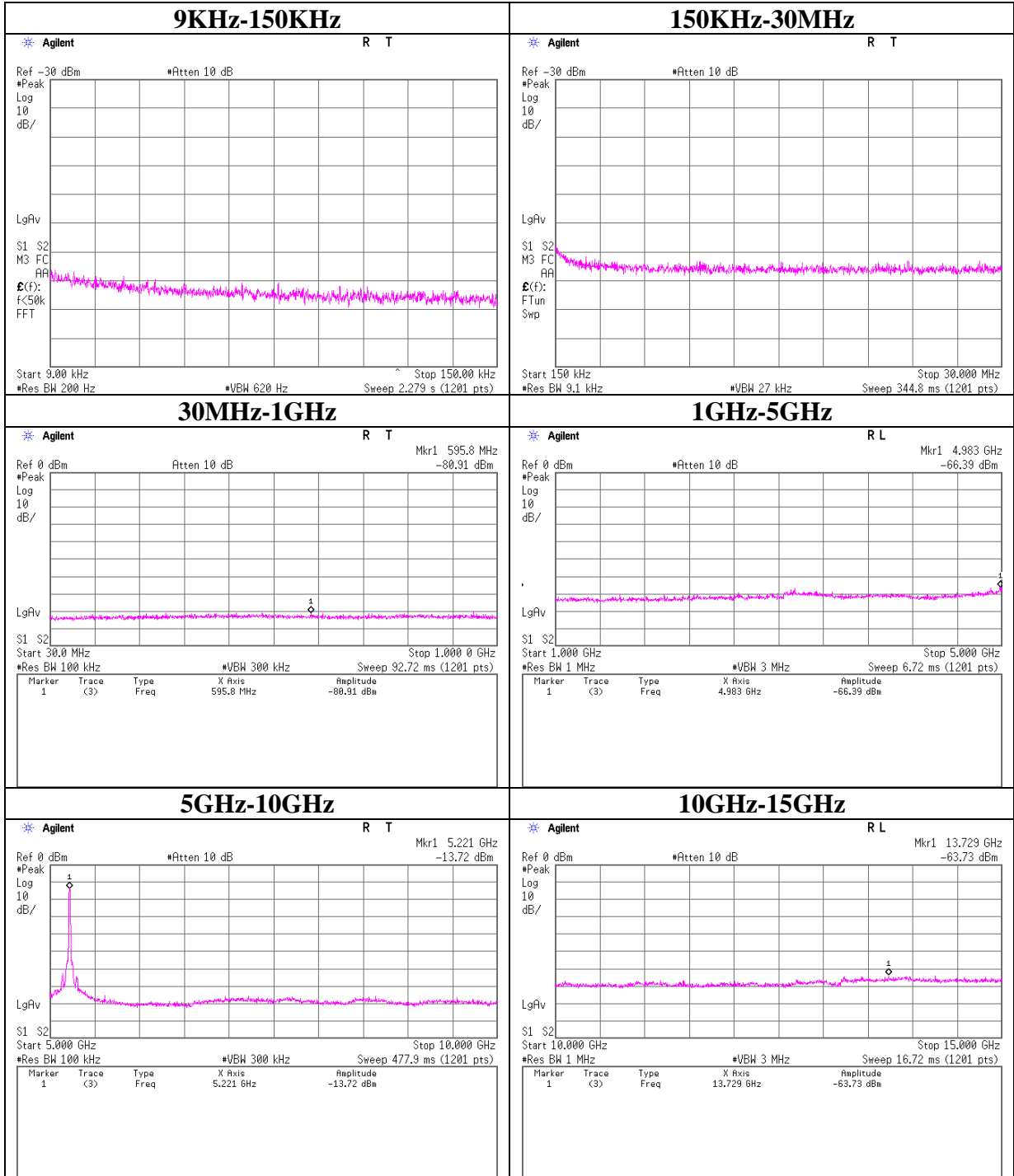
Conducted Spurious Emission

11a Tx 5180MHz



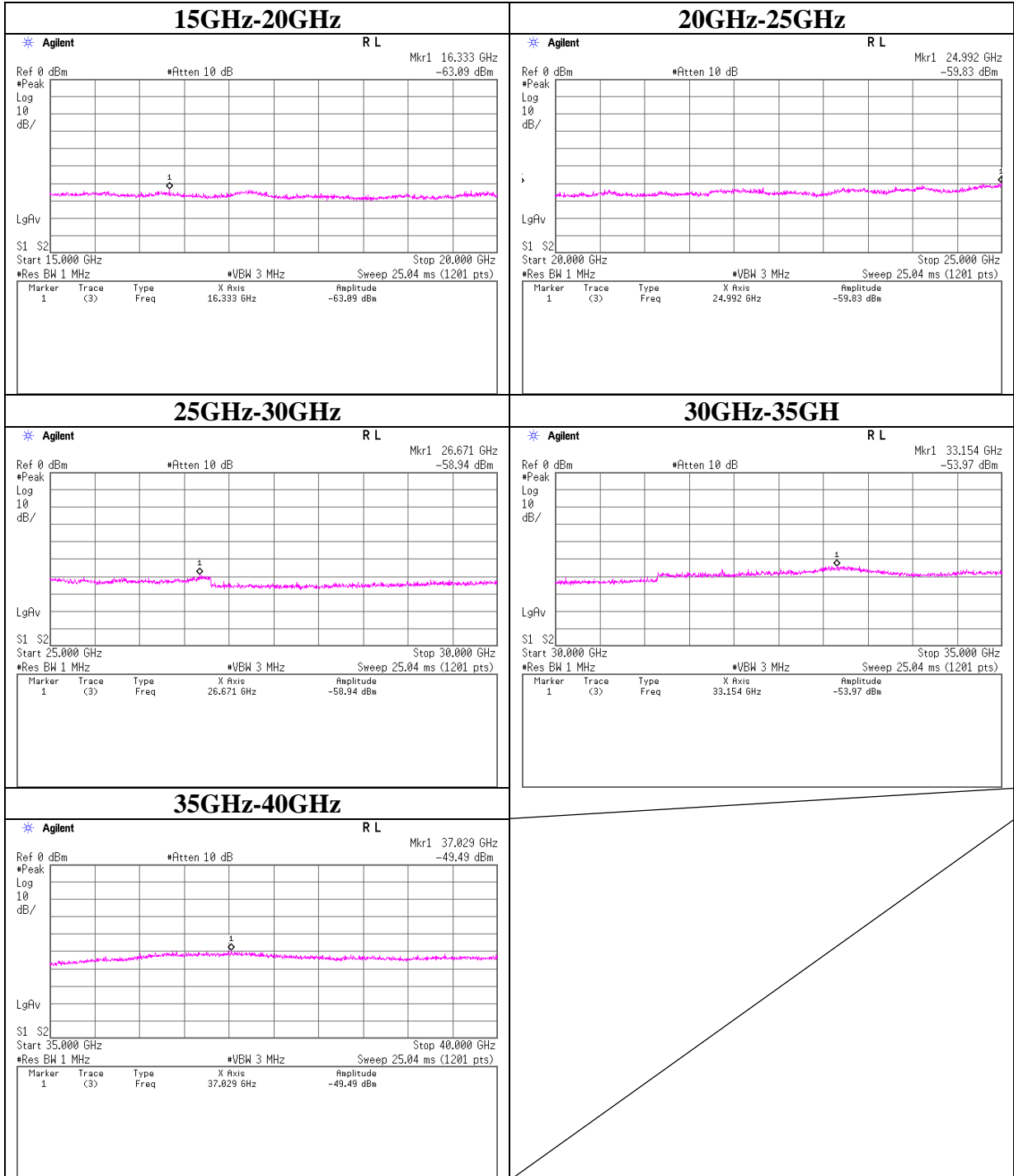
Conducted Spurious Emission

11a Tx 5220MHz



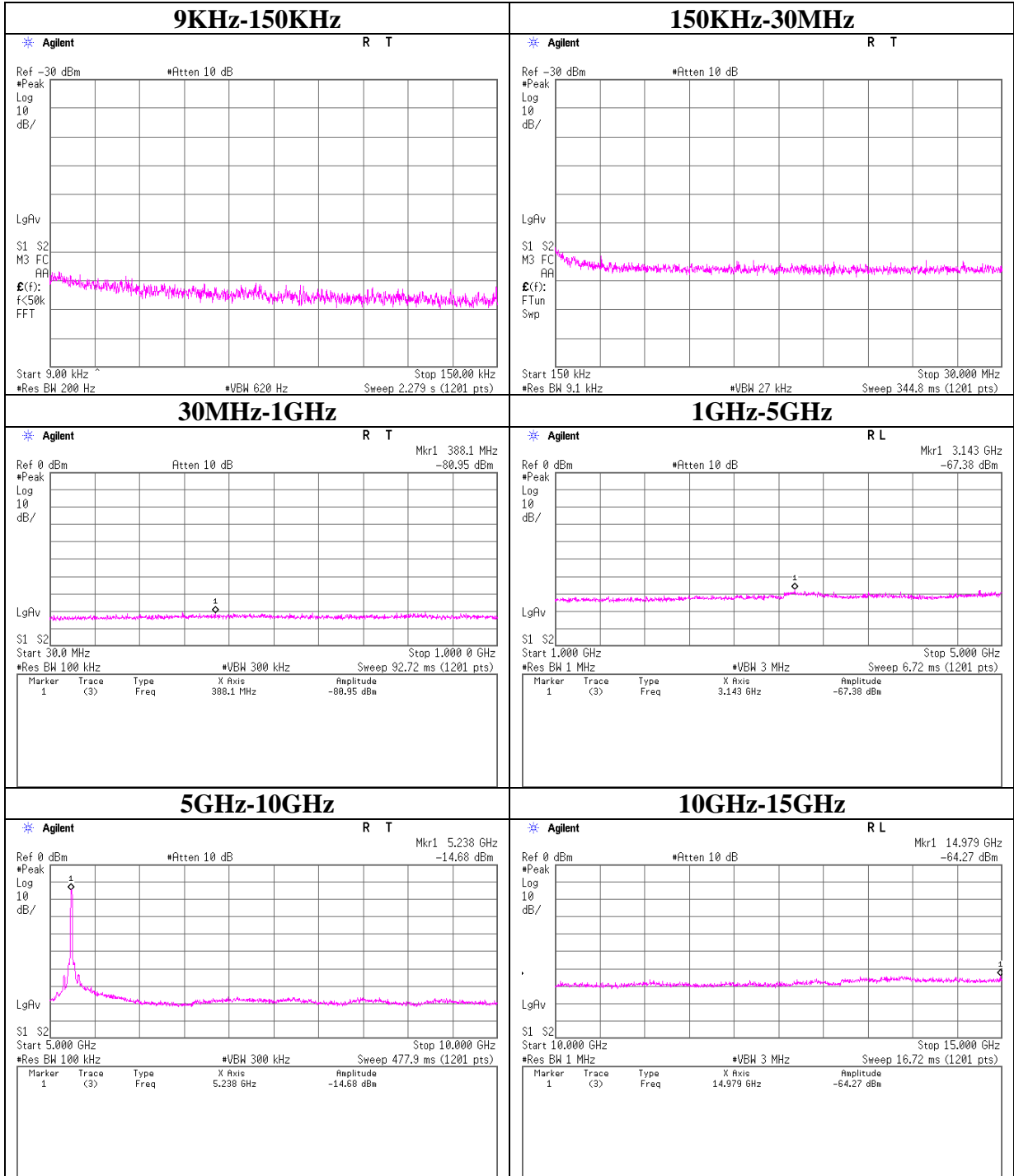
Conducted Spurious Emission

11a Tx 5220MHz



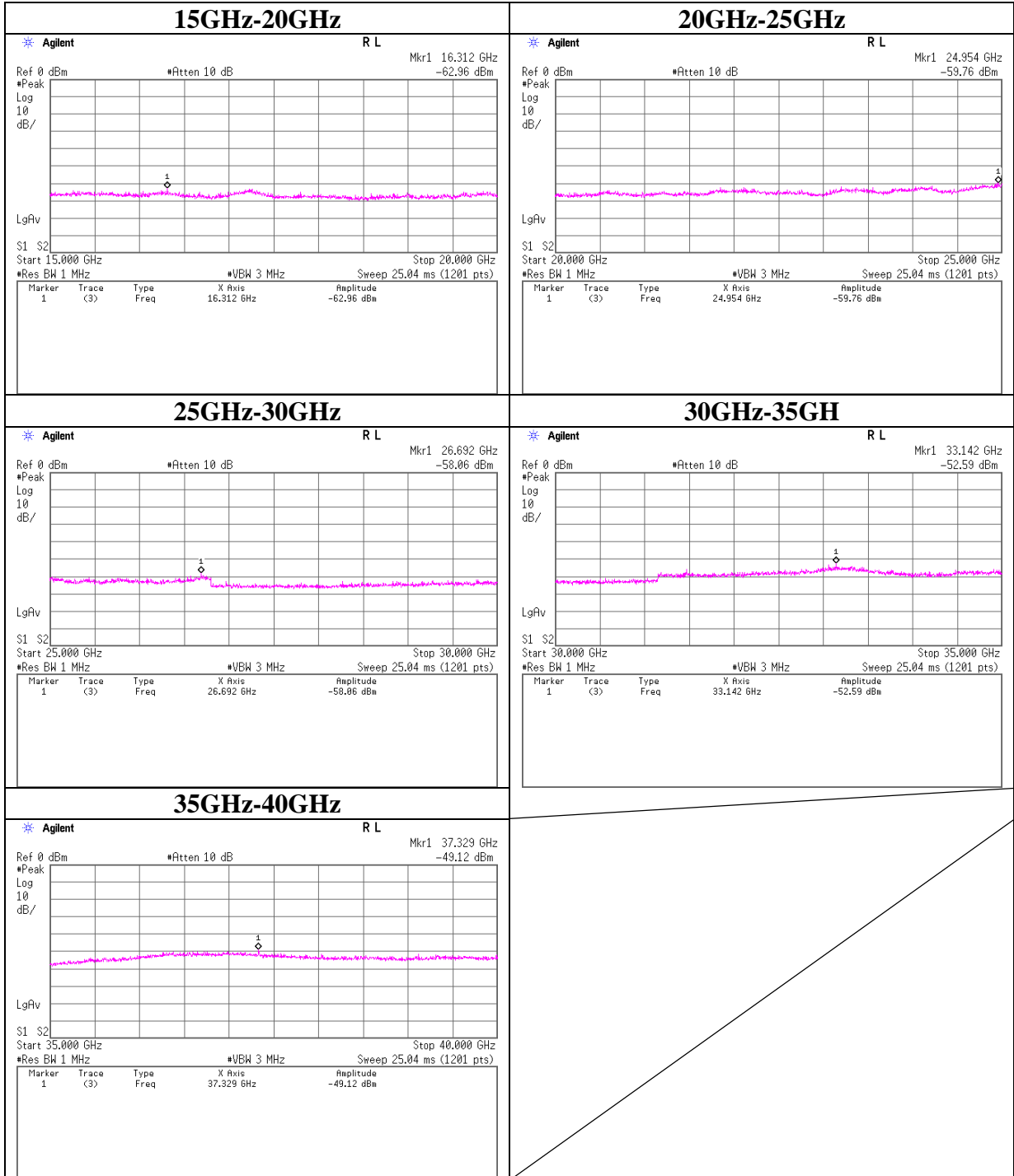
Conducted Spurious Emission

11a Tx 5240MHz



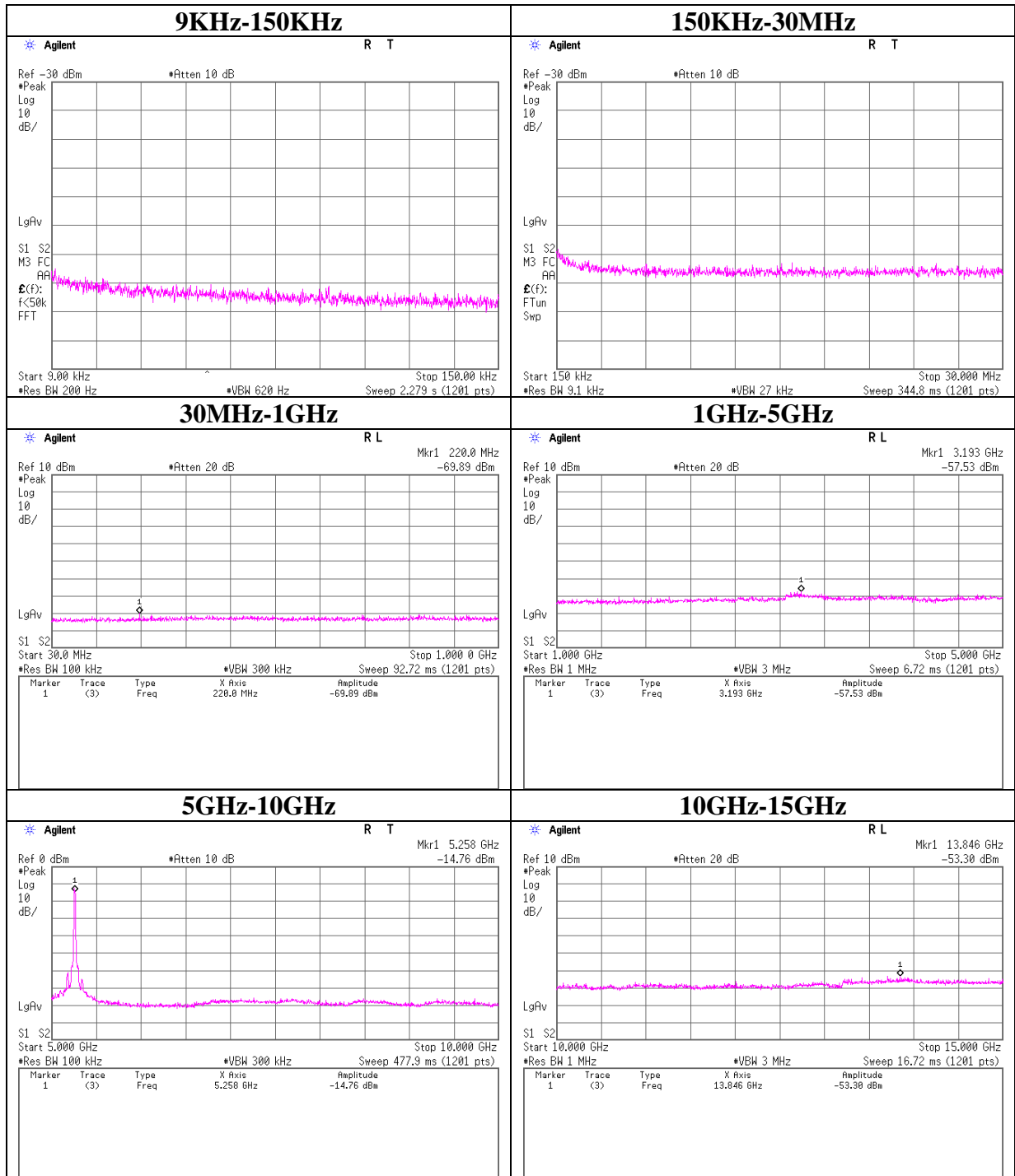
Conducted Spurious Emission

11a Tx 5240MHz



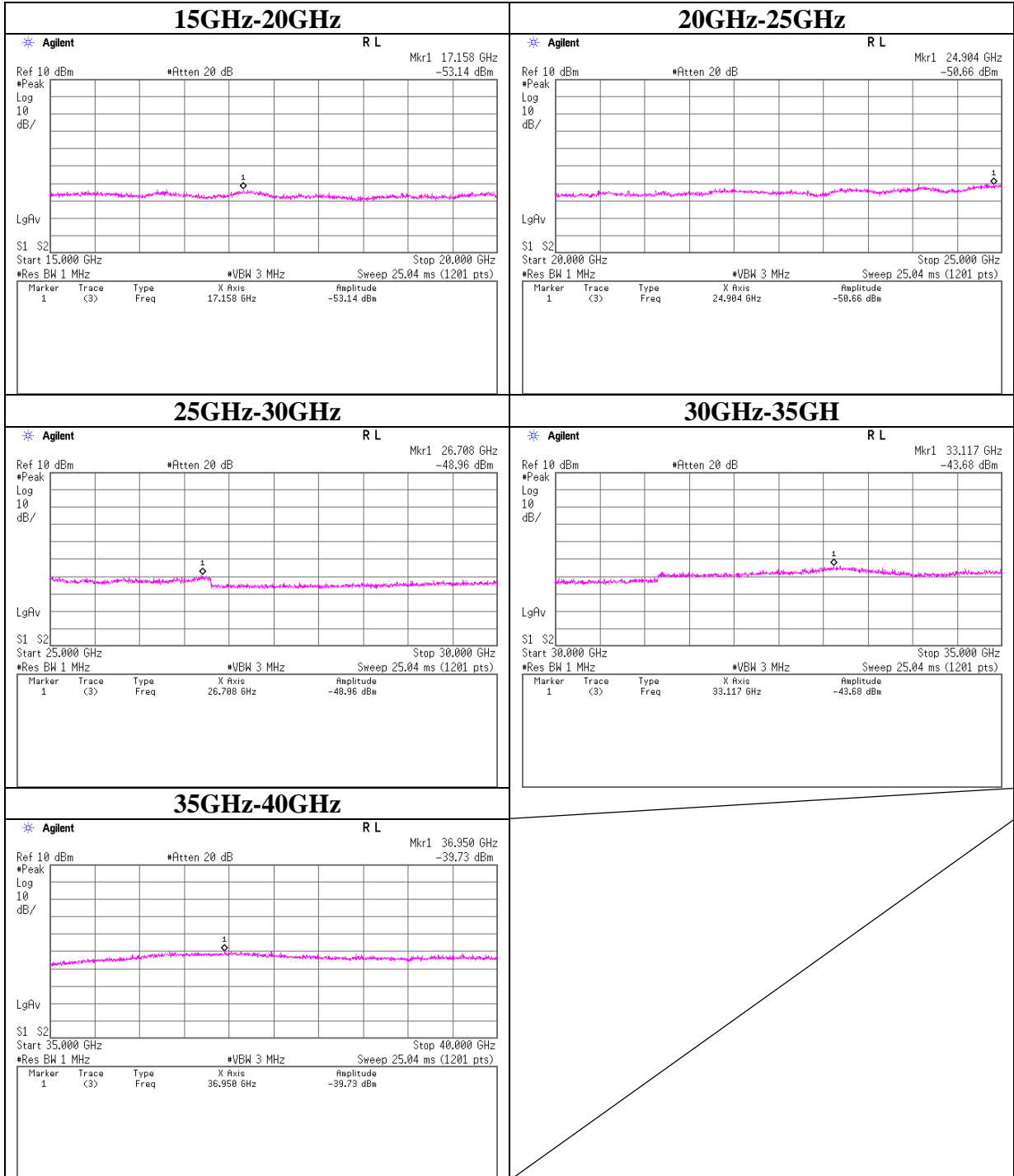
Conducted Spurious Emission

11a Tx 5260MHz



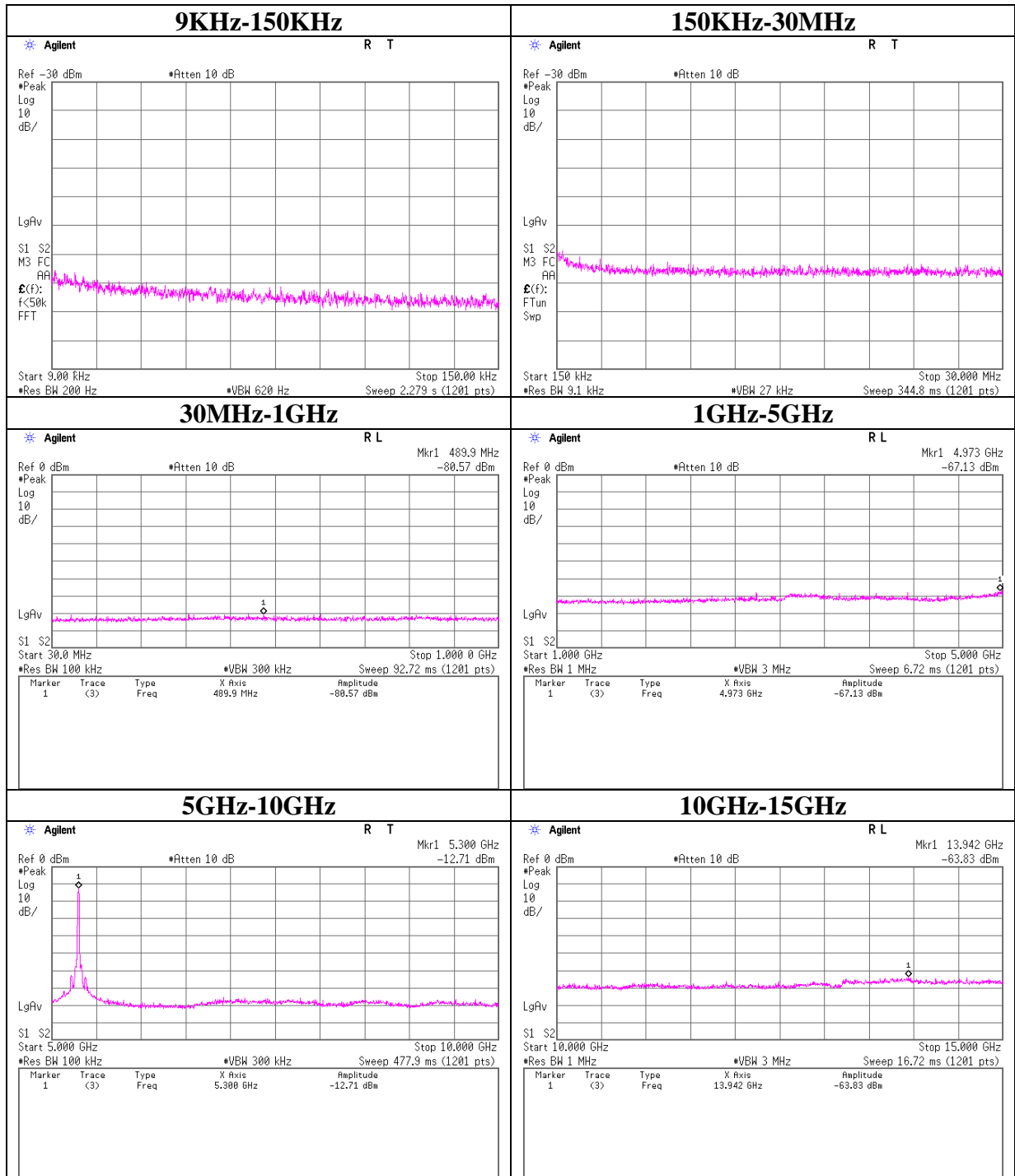
Conducted Spurious Emission

11a Tx 5260MHz



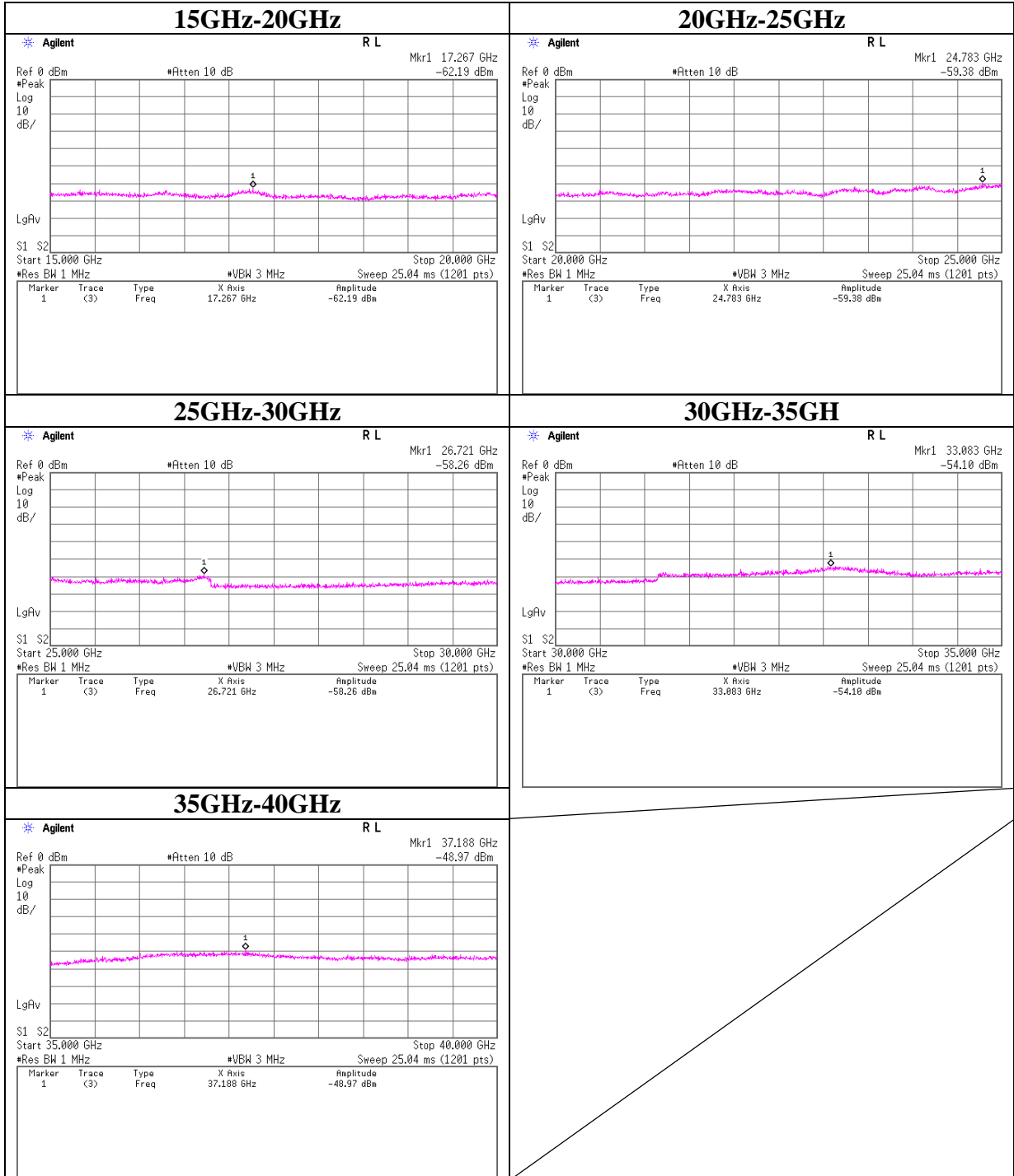
Conducted Spurious Emission

11a Tx 5300MHz



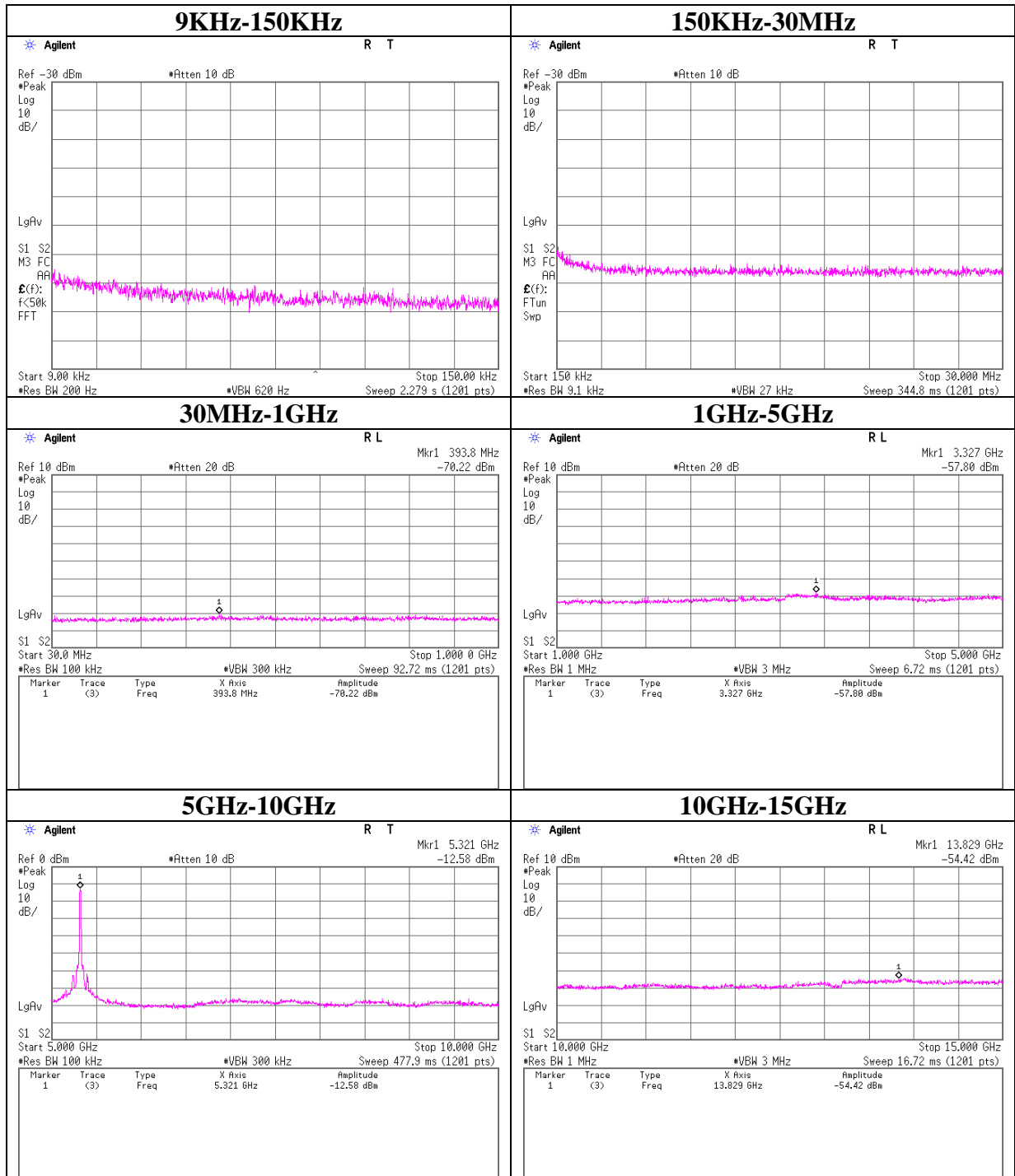
Conducted Spurious Emission

11a Tx 5300MHz



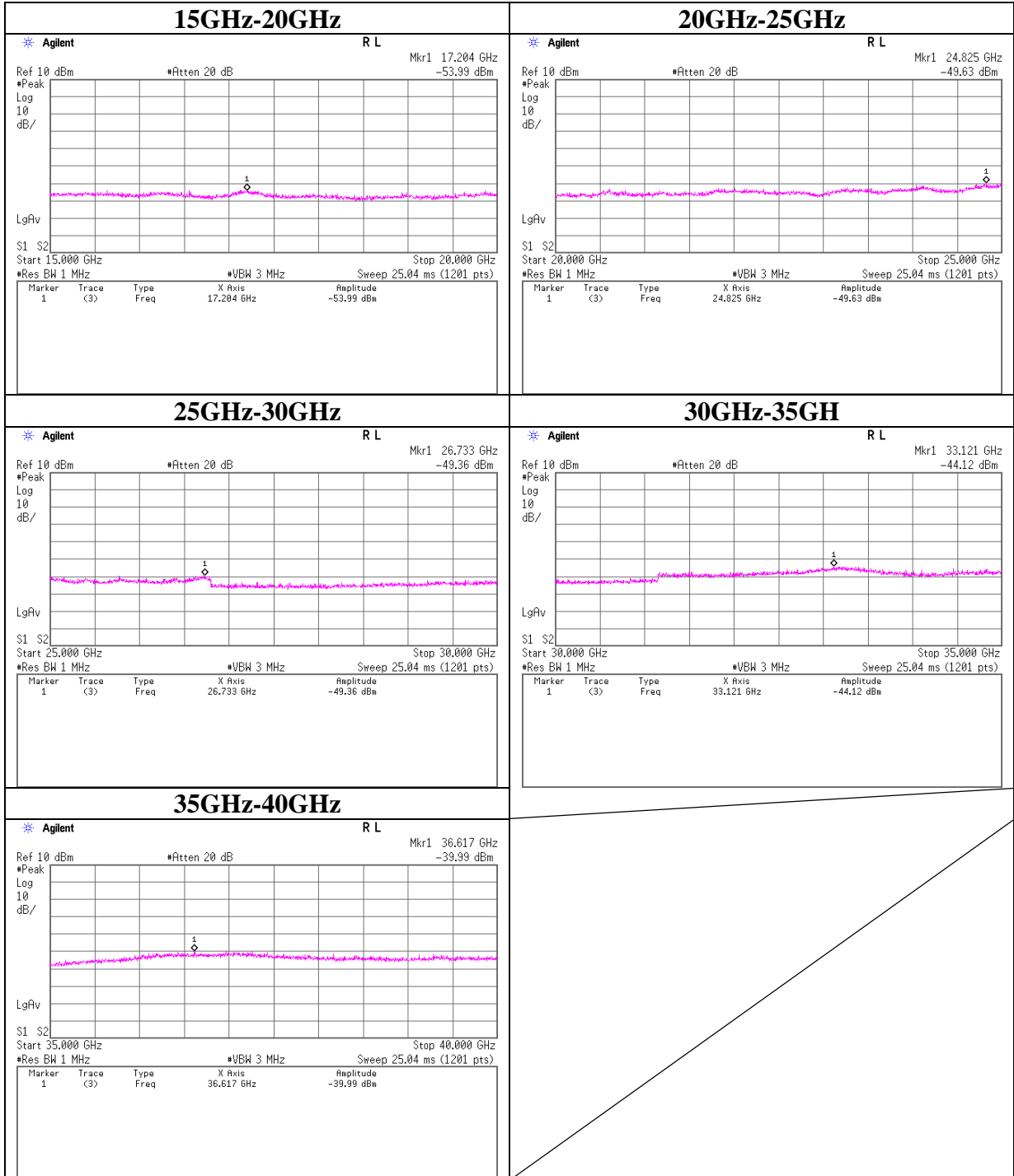
Conducted Spurious Emission

11a Tx 5320MHz



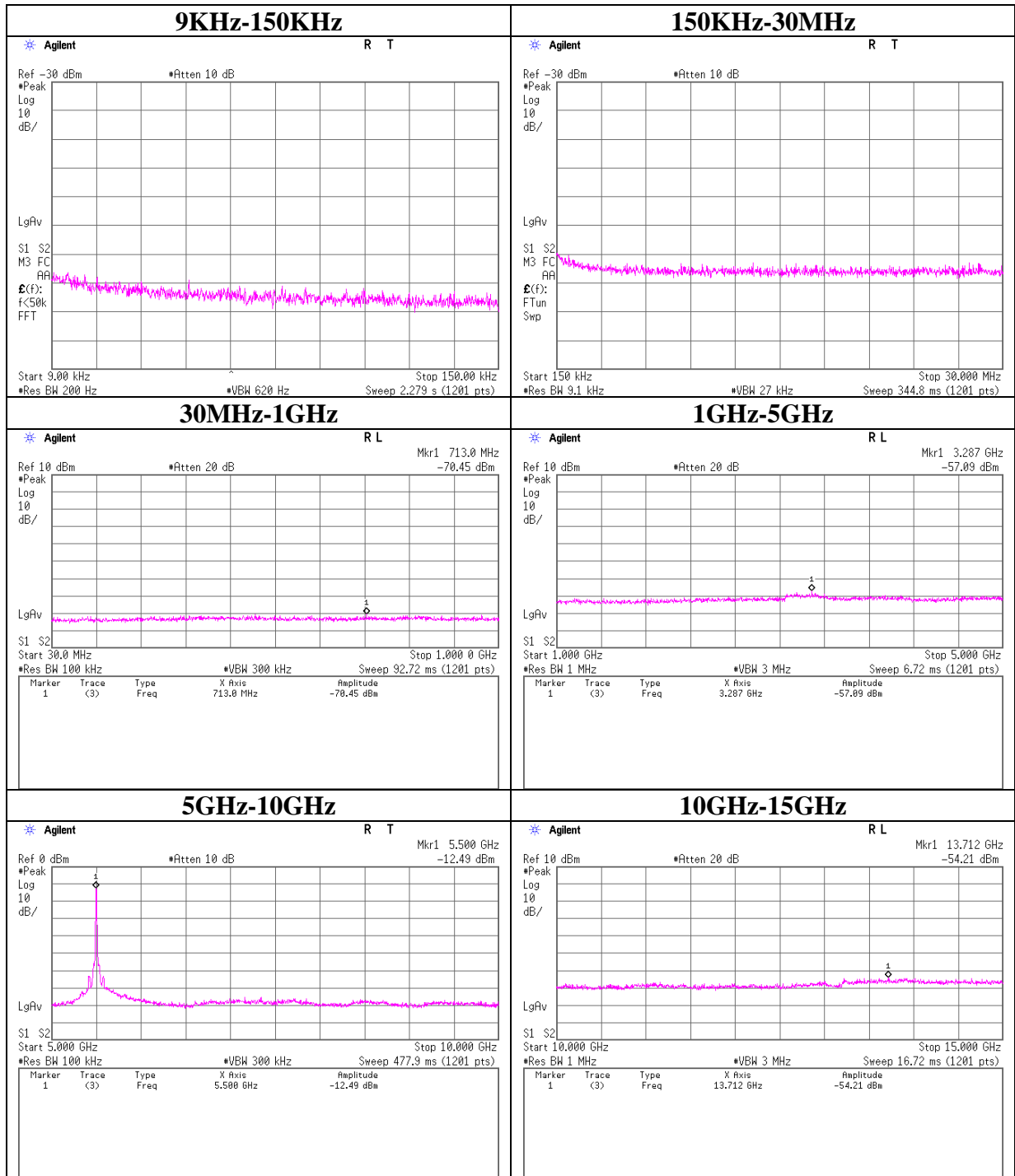
Conducted Spurious Emission

11a Tx 5320MHz



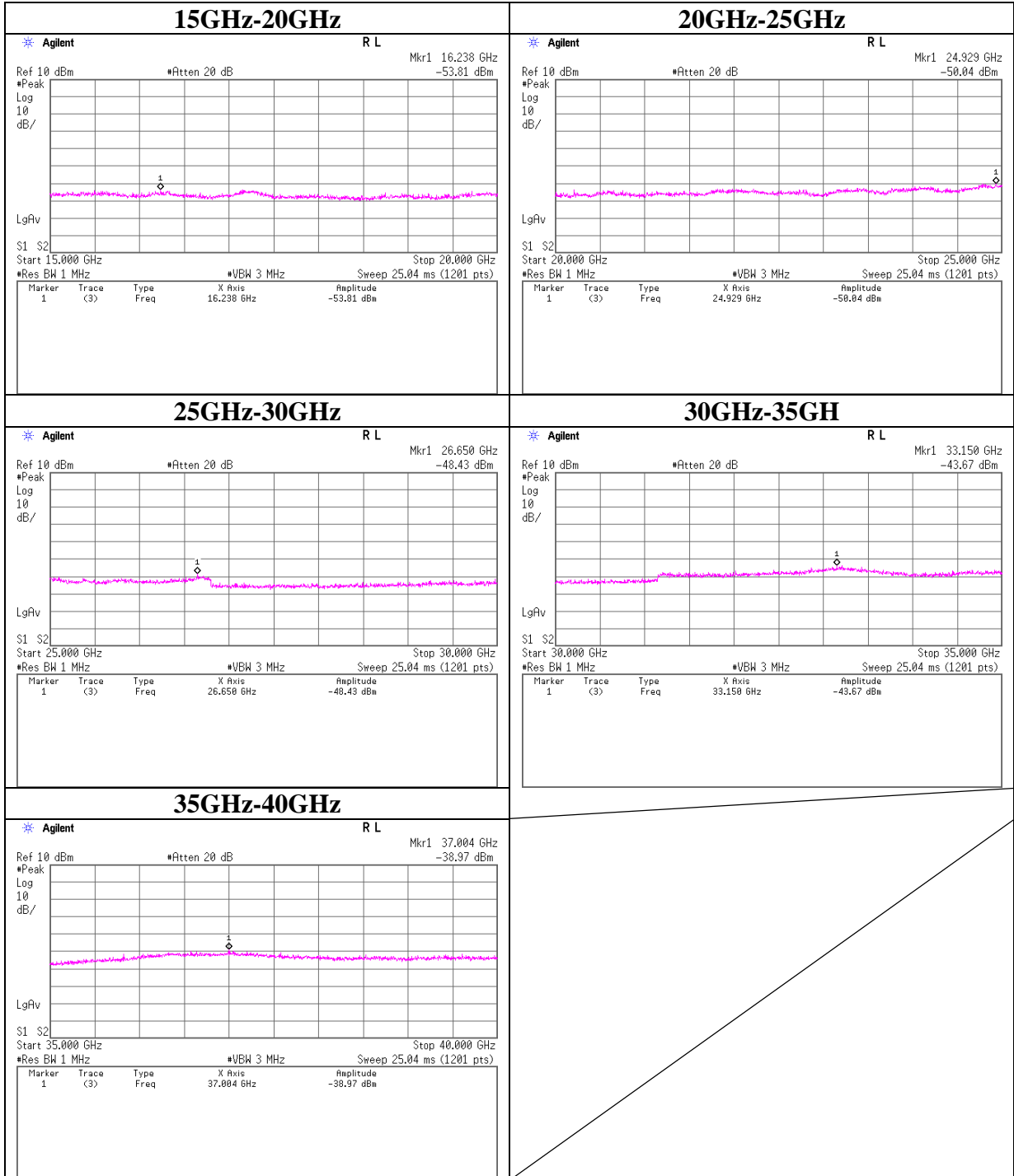
Conducted Spurious Emission

11a Tx 5500MHz



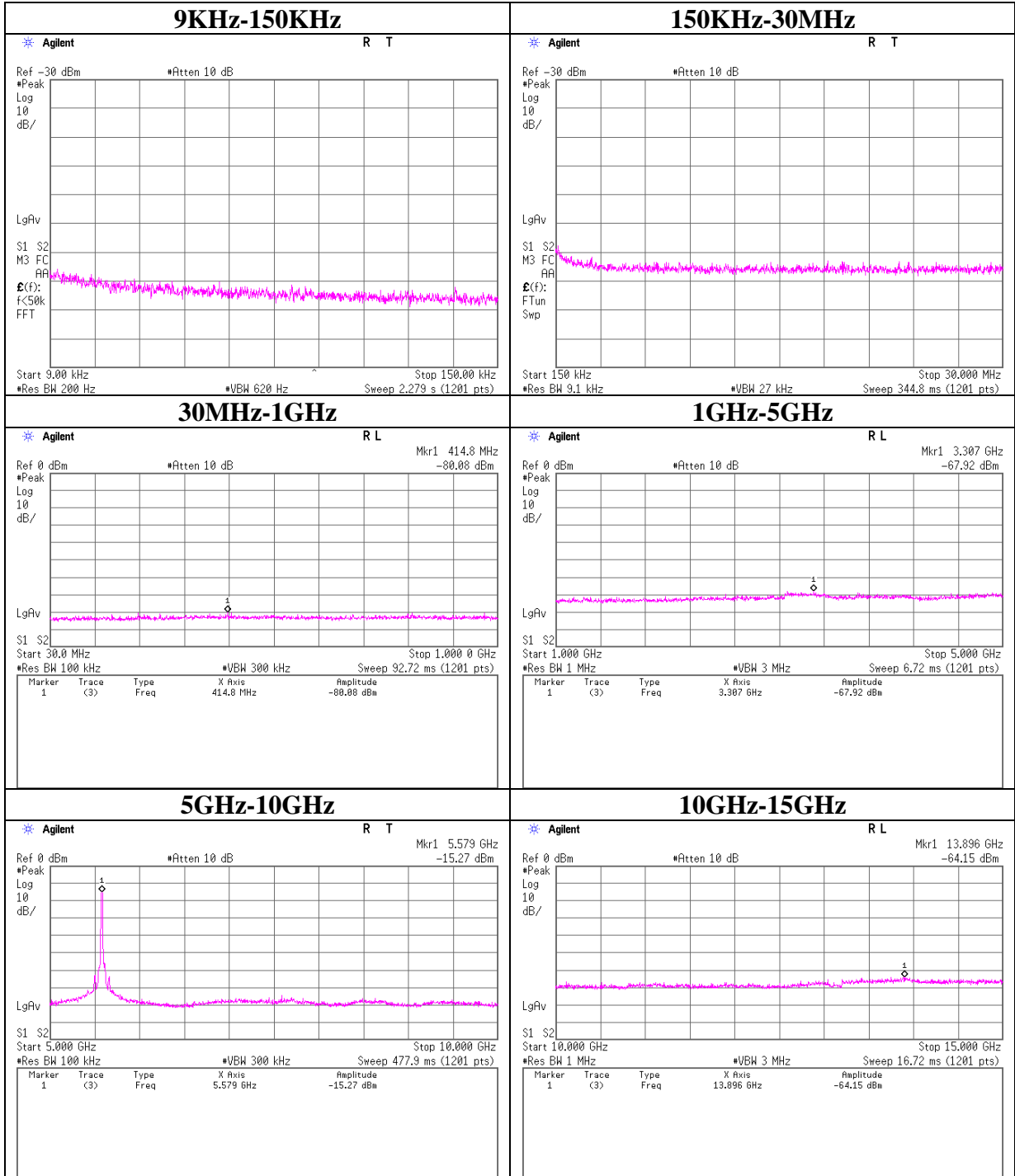
Conducted Spurious Emission

11a Tx 5500MHz



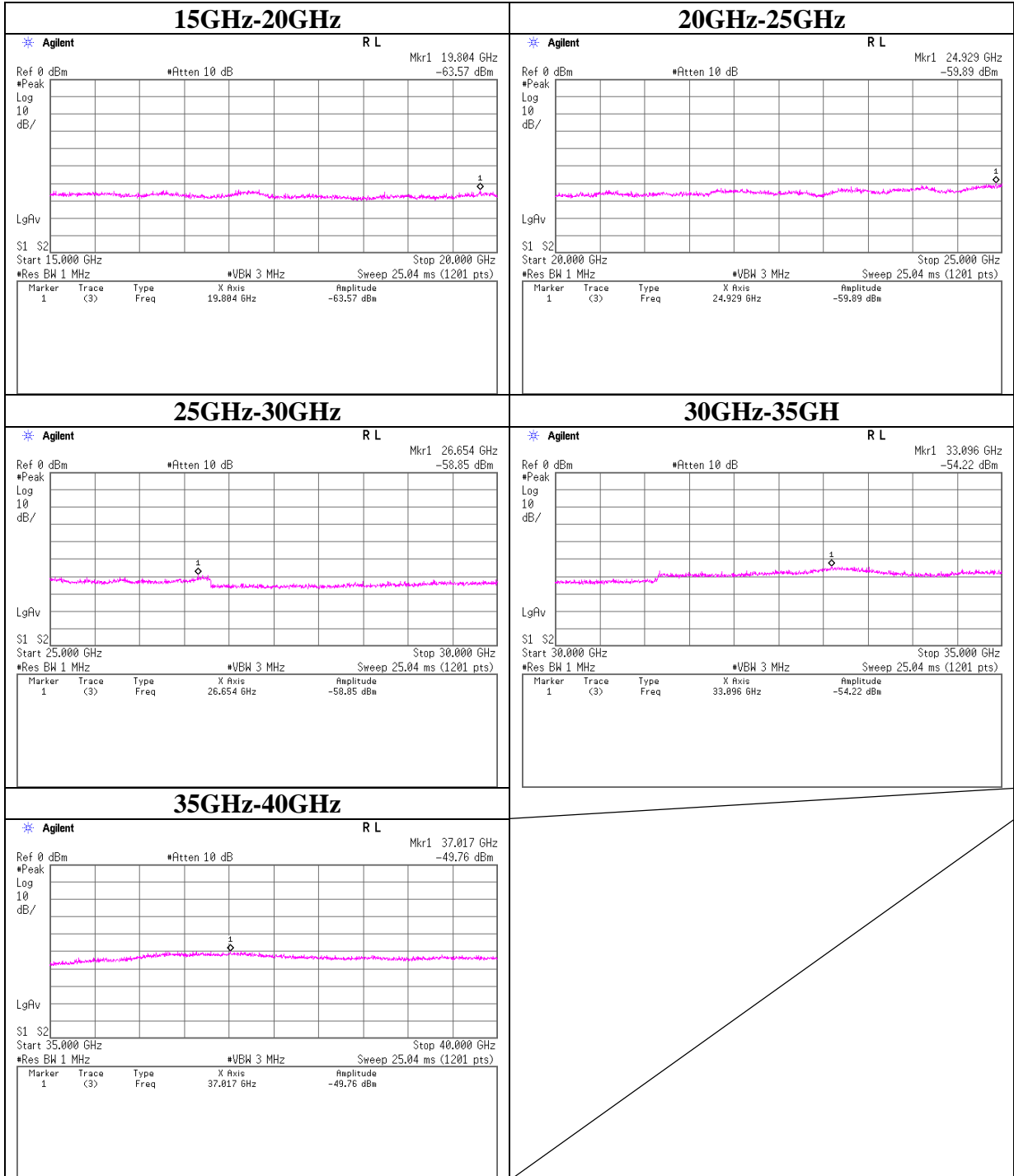
Conducted Spurious Emission

11a Tx 5580MHz



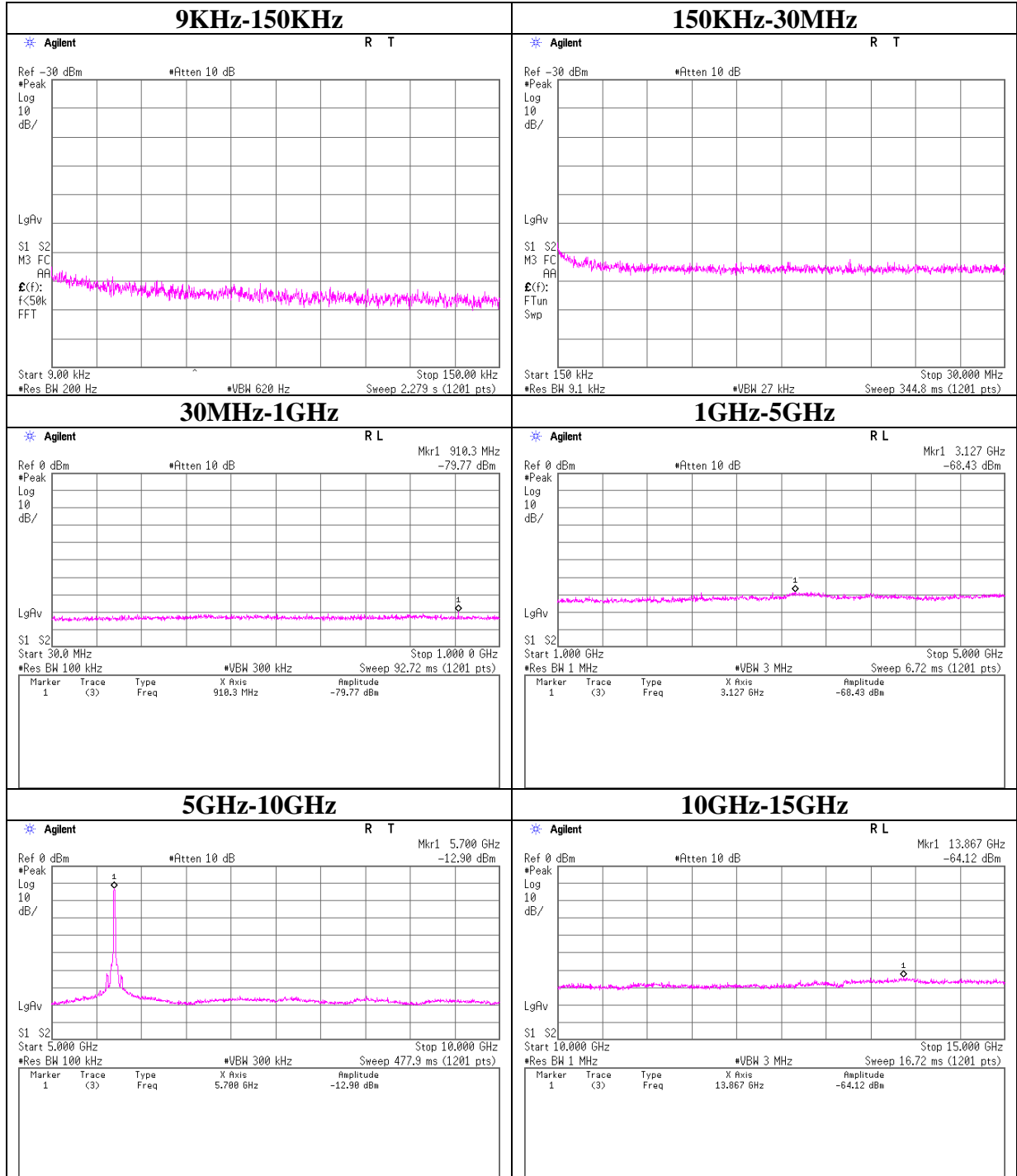
Conducted Spurious Emission

11a Tx 5580MHz



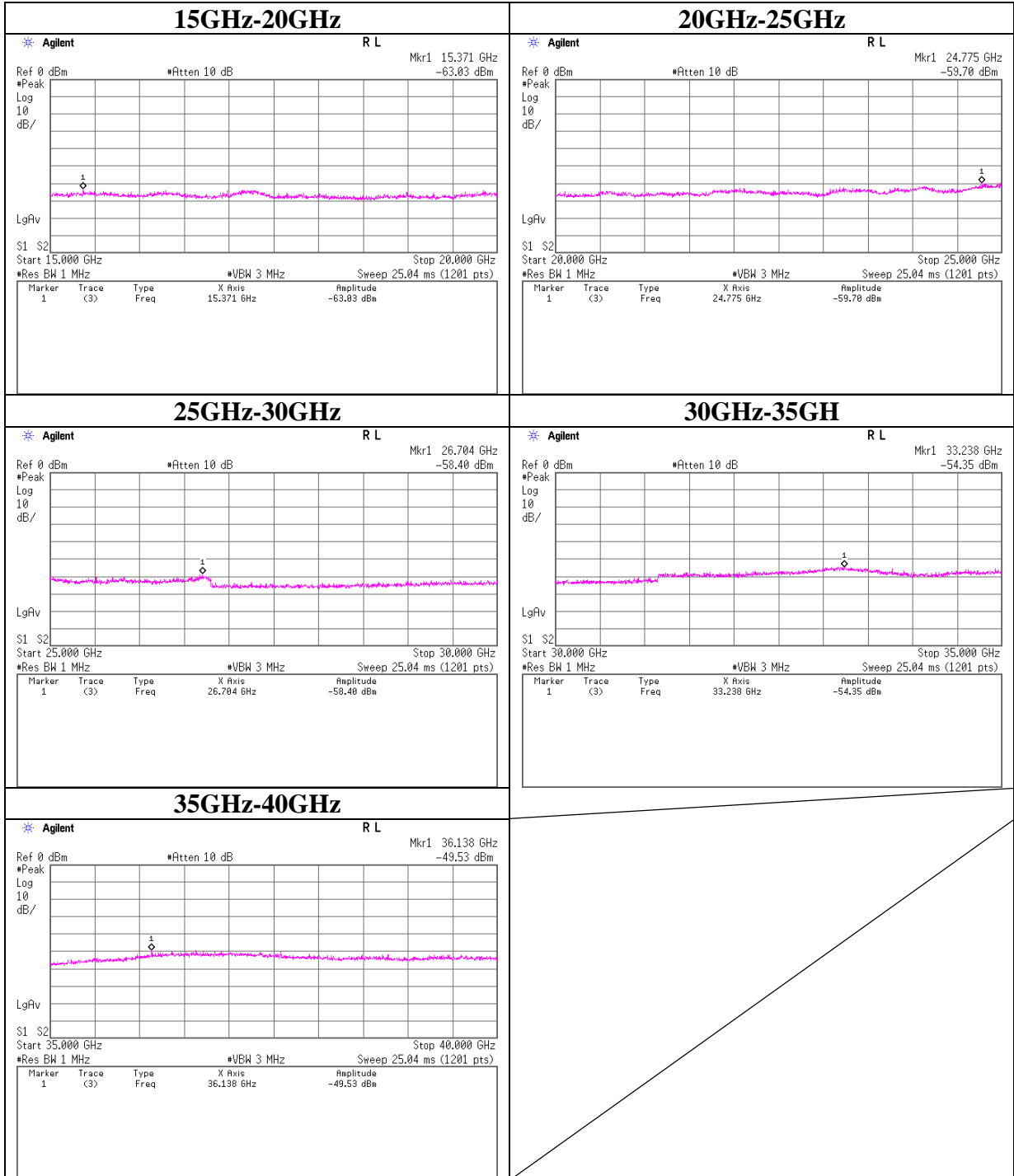
Conducted Spurious Emission

11a Tx 5700MHz



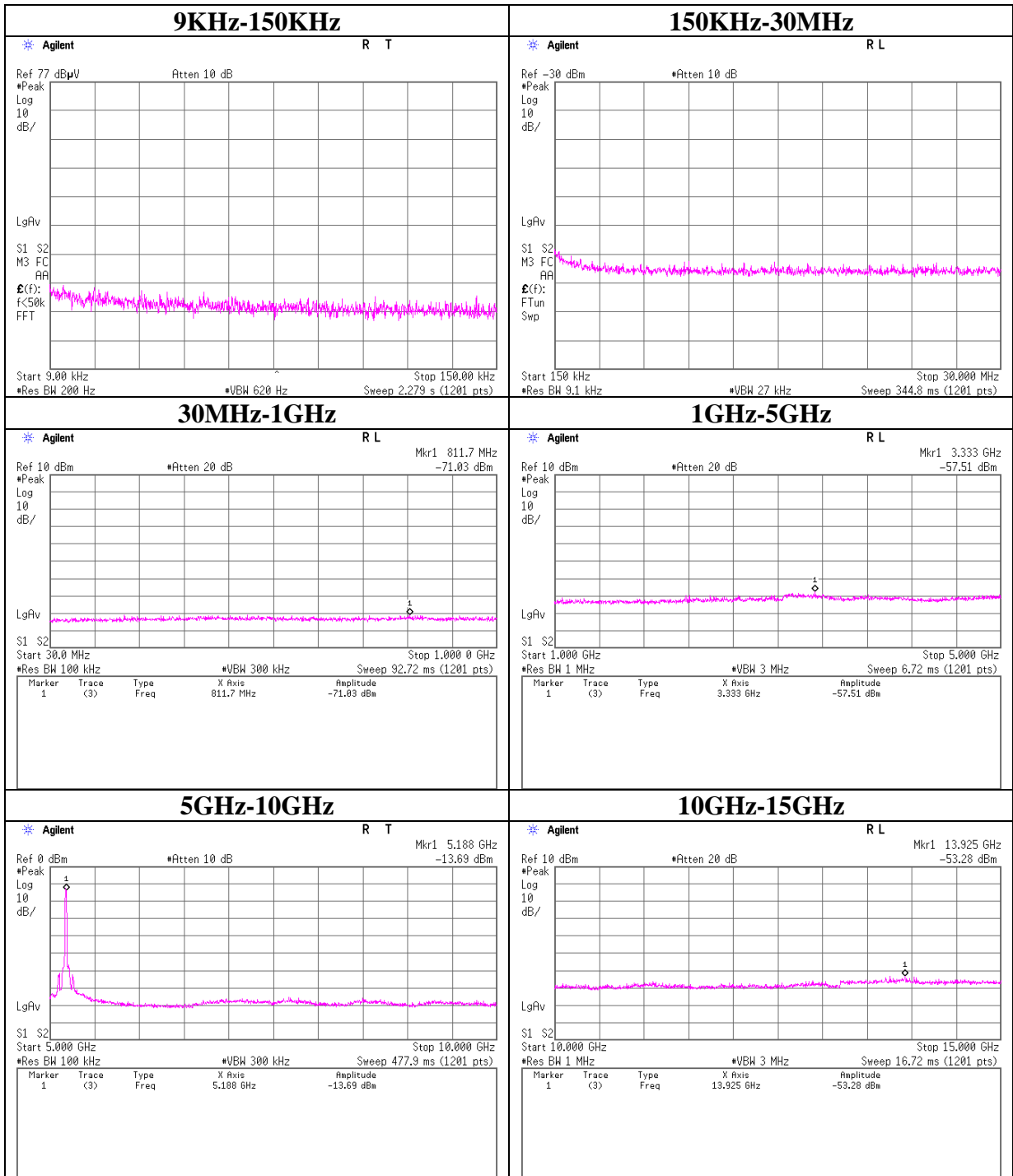
Conducted Spurious Emission

11a Tx 5700MHz



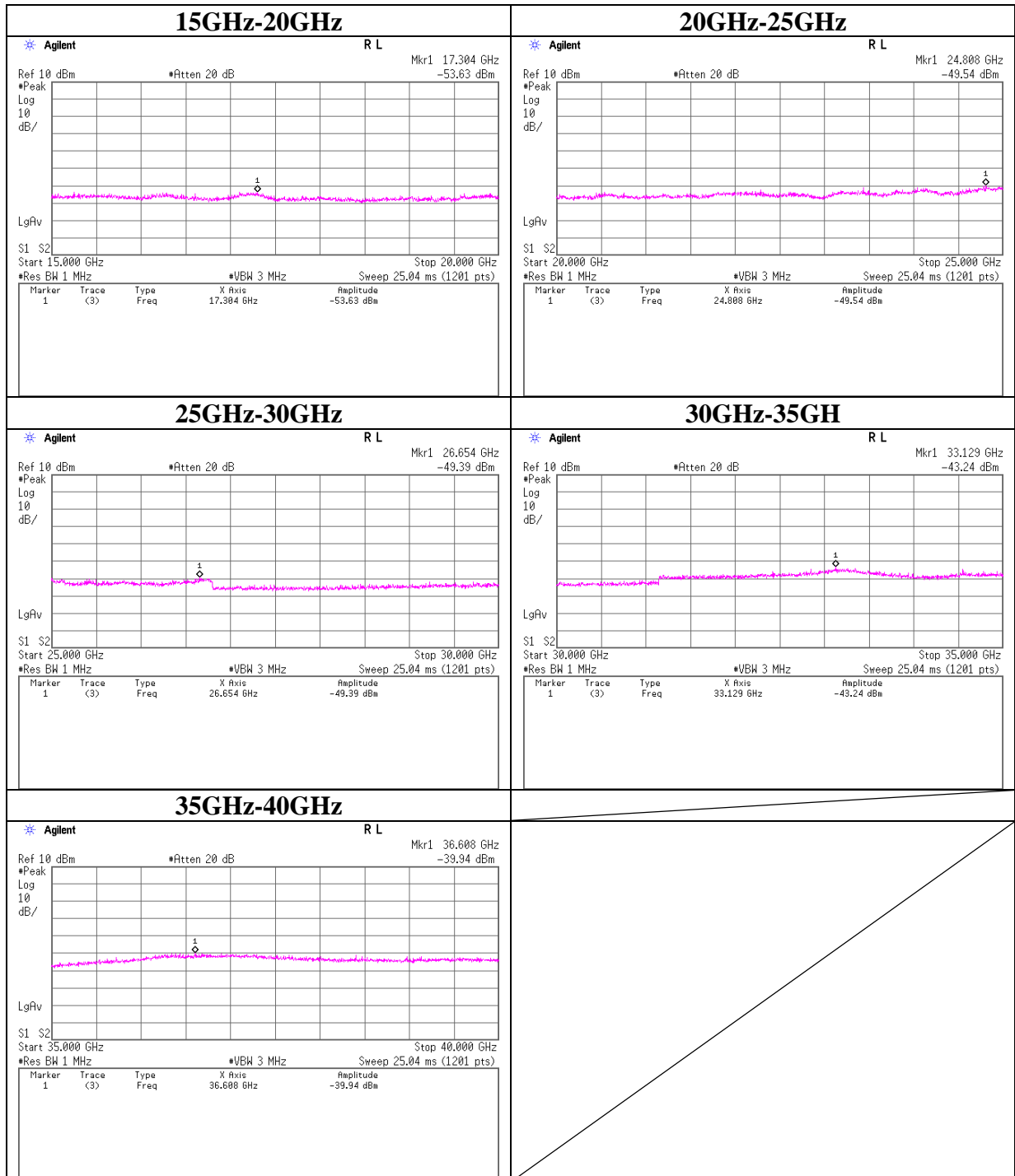
Conducted Spurious Emission

11n-20 Tx 5180MHz



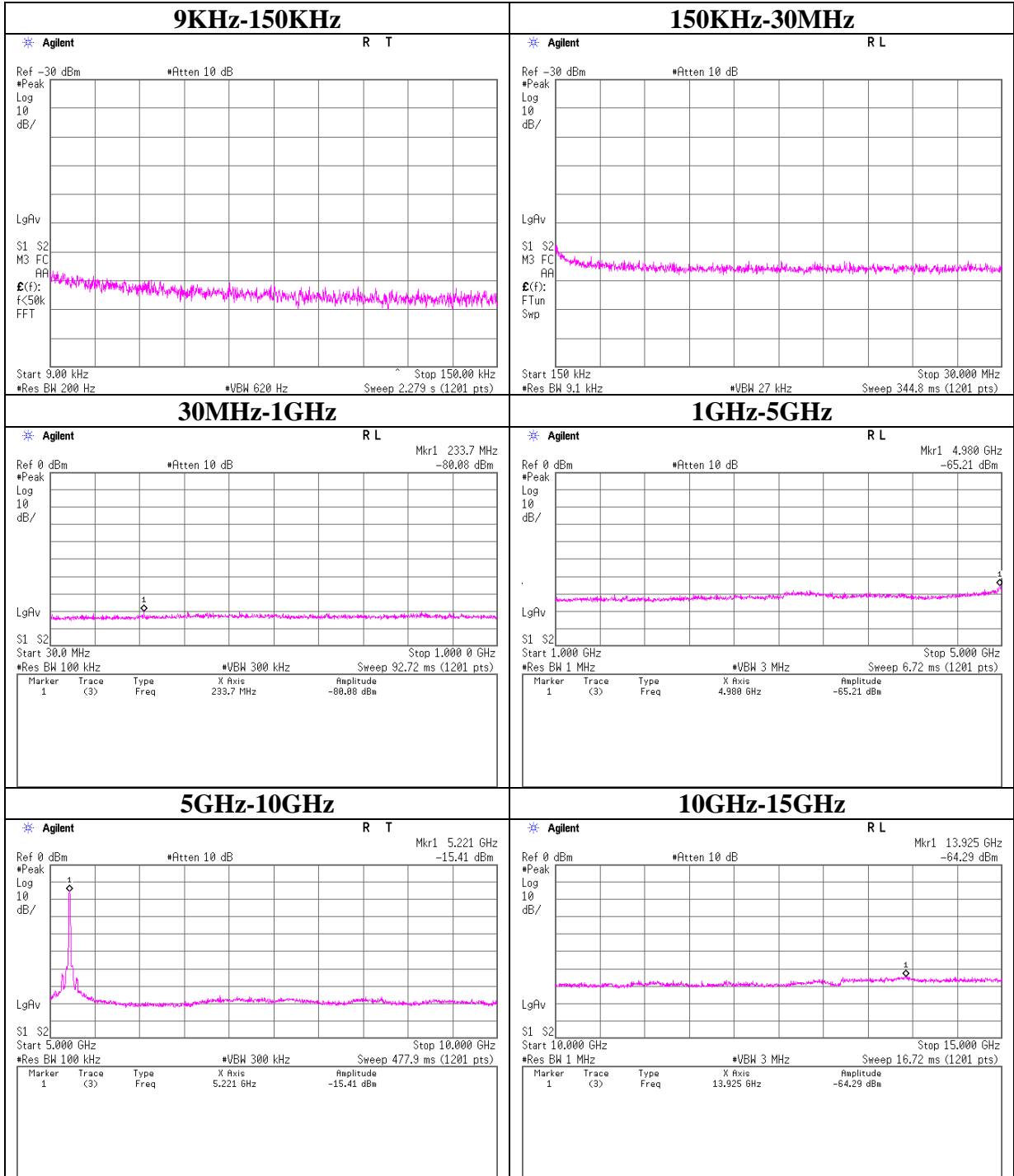
Conducted Spurious Emission

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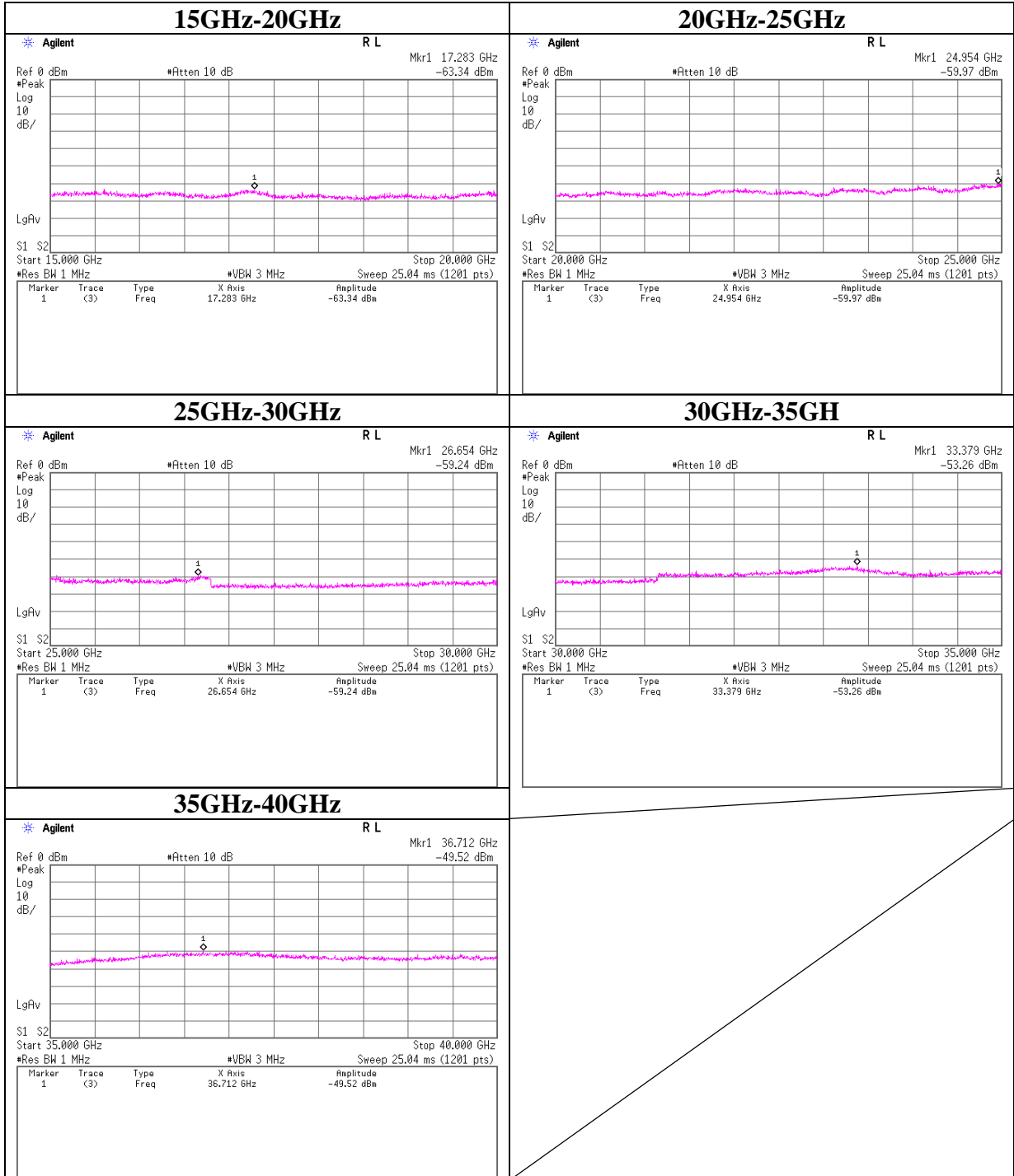
Conducted Spurious Emission

11n-20 Tx 5220MHz



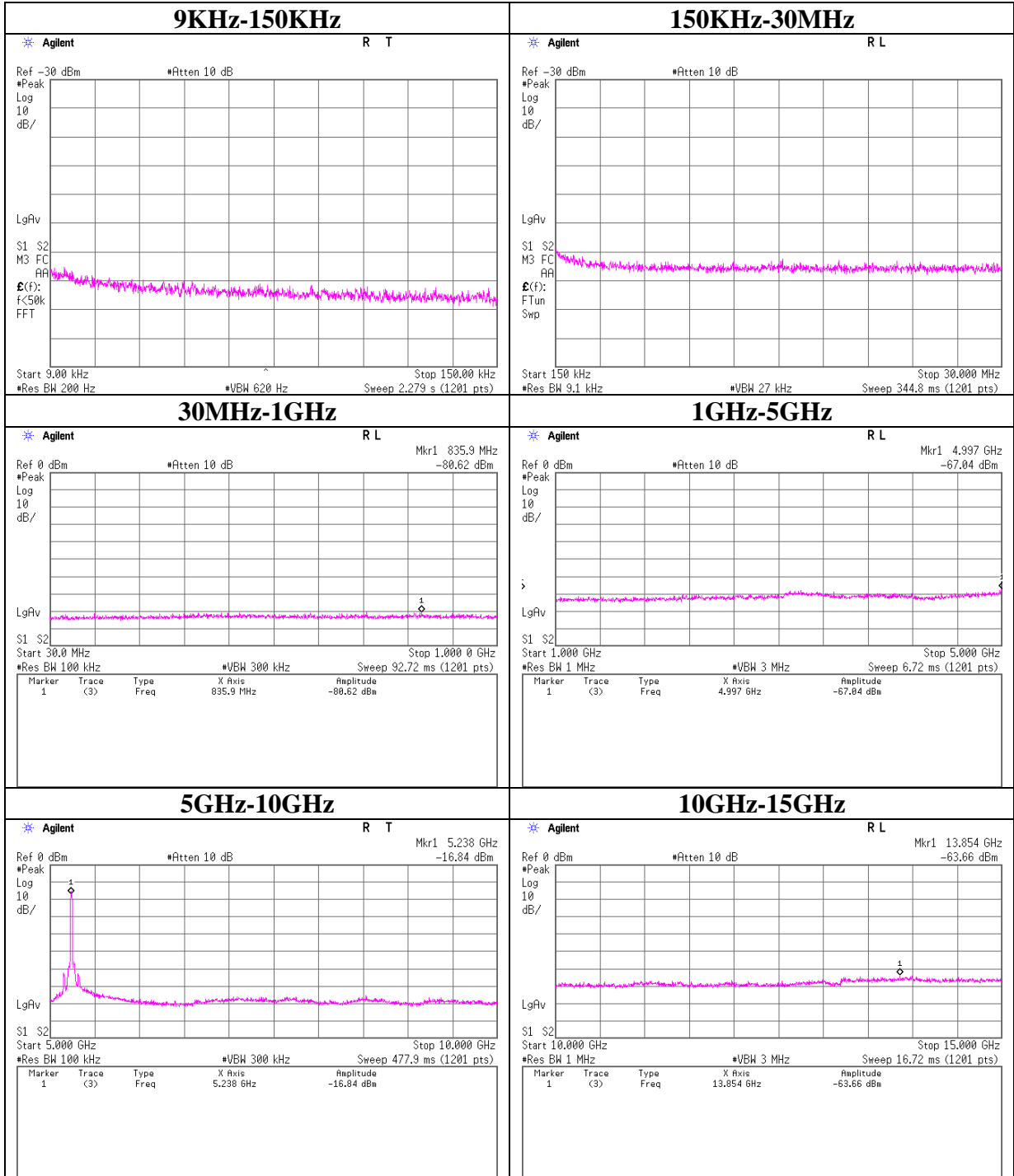
Conducted Spurious Emission

11n-20 Tx 5220MHz



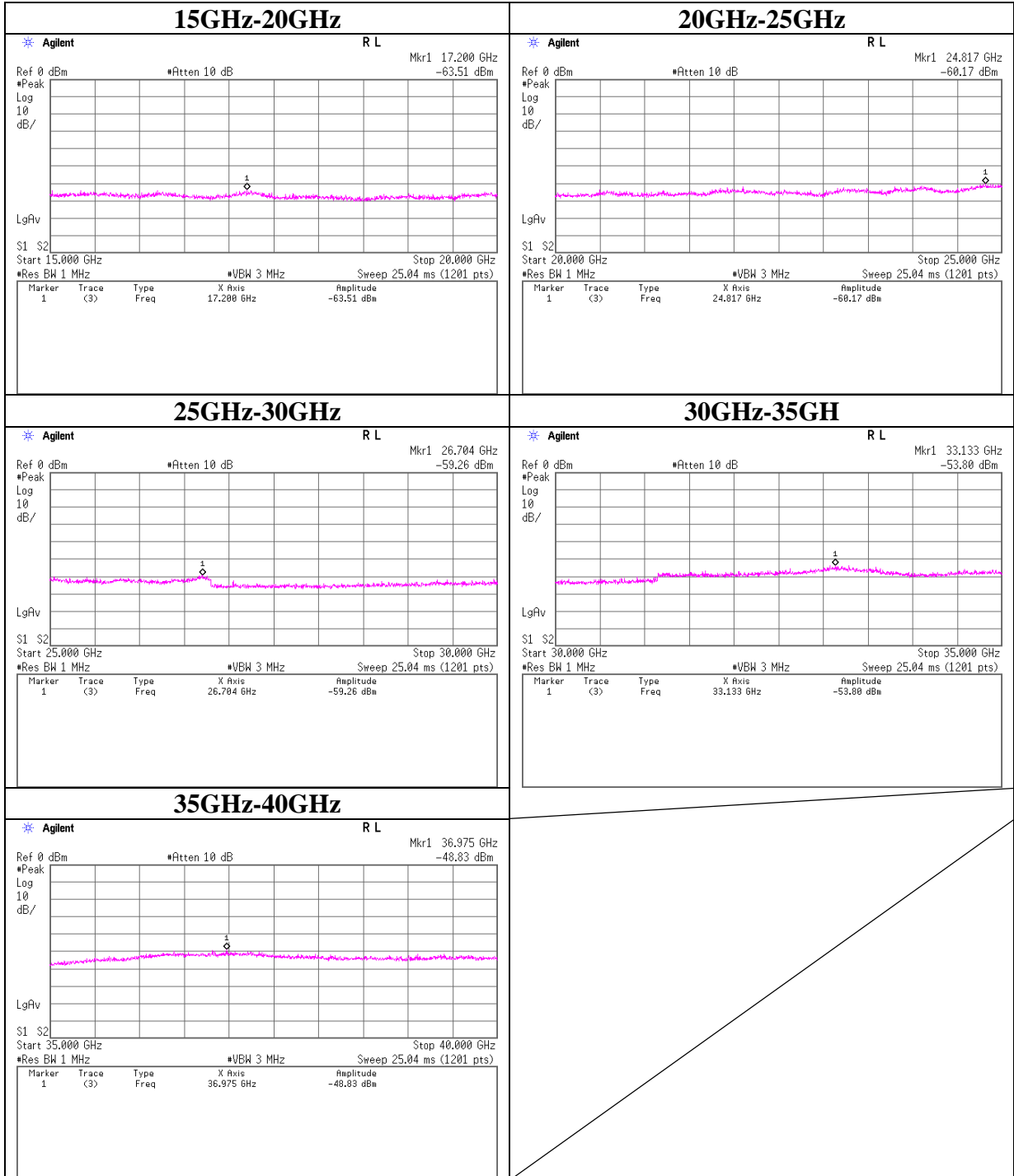
Conducted Spurious Emission

11n-20 Tx 5240MHz



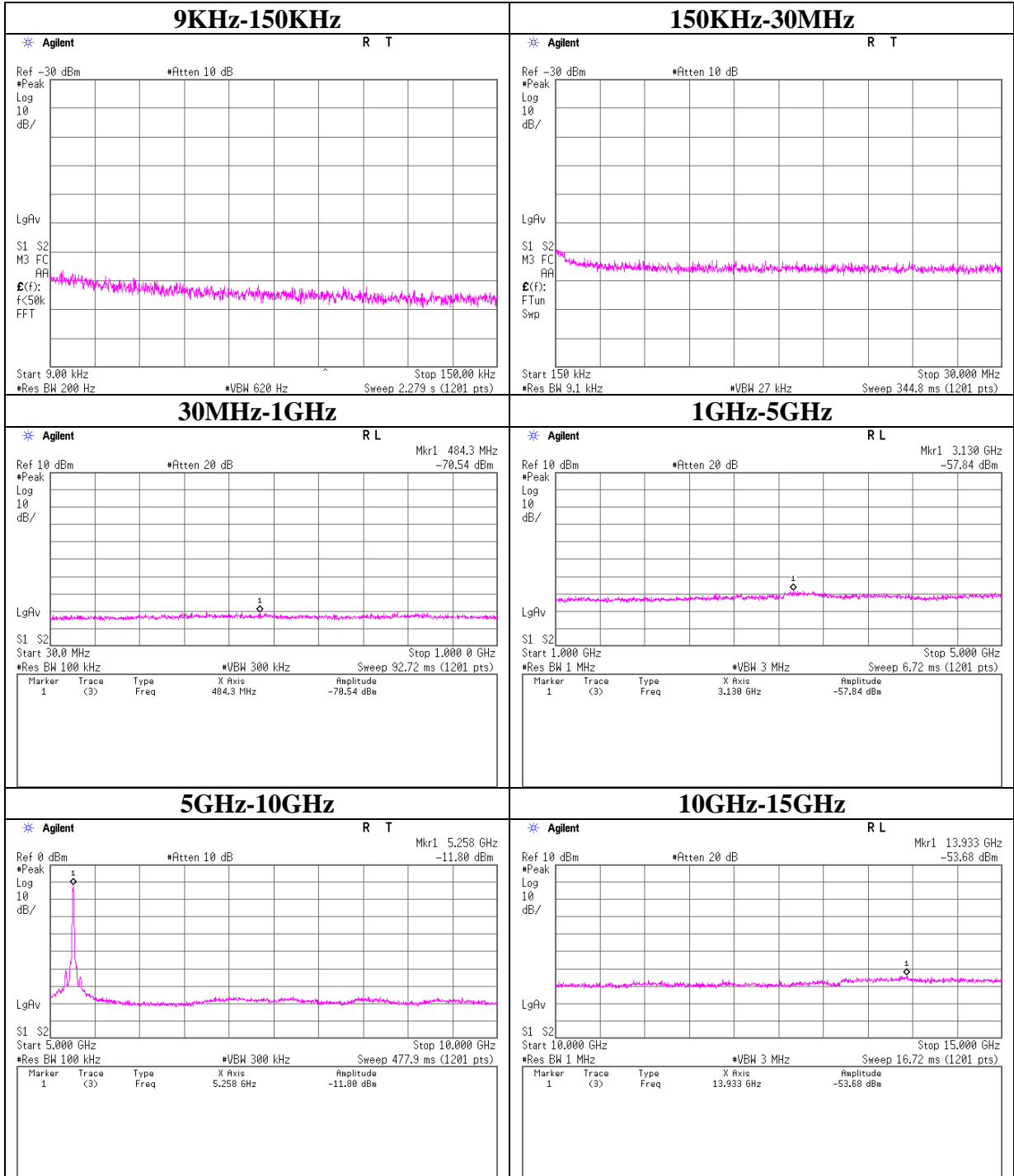
Conducted Spurious Emission

11n-20 Tx 5240MHz



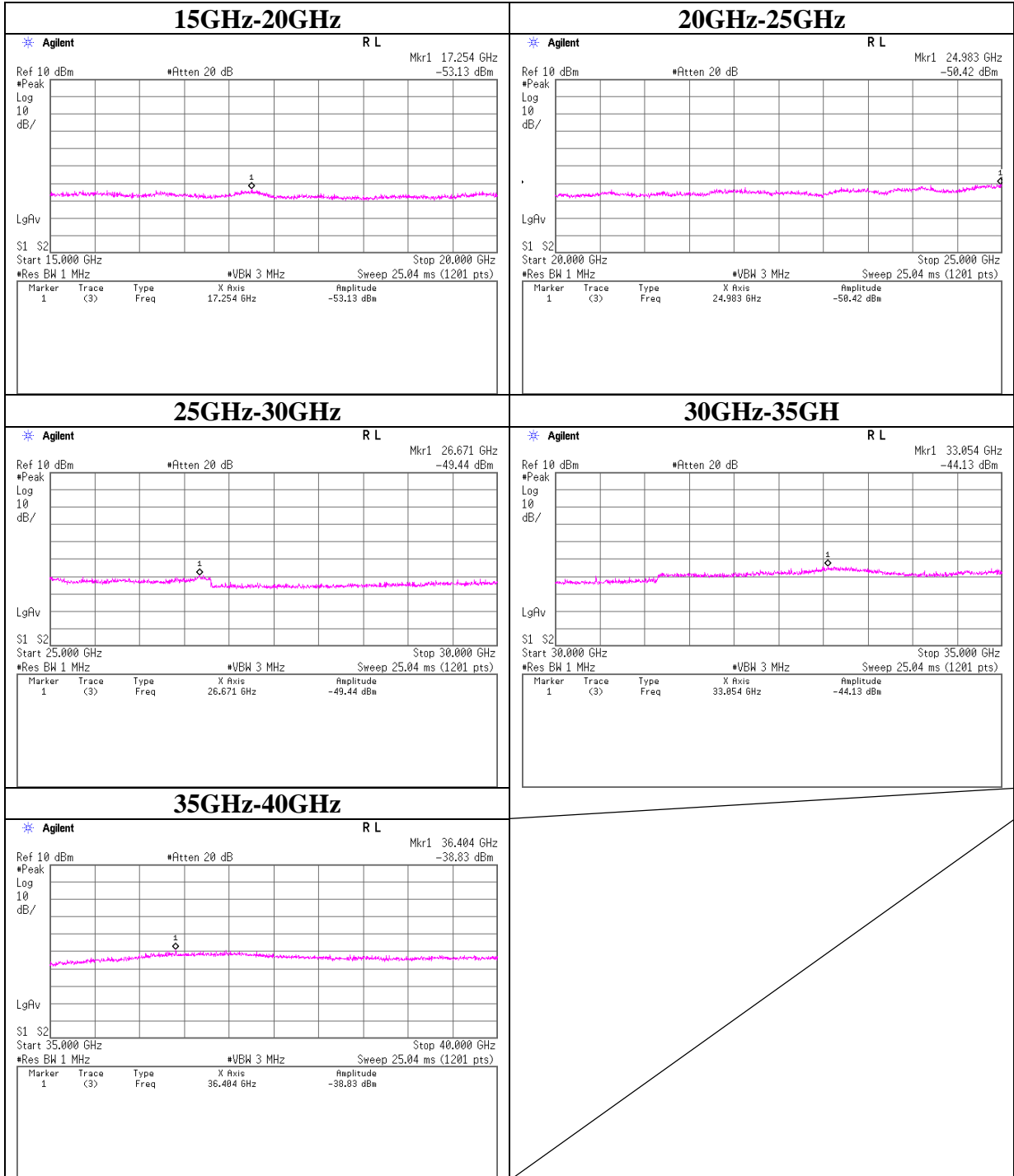
Conducted Spurious Emission

11n-20 Tx 5260MHz



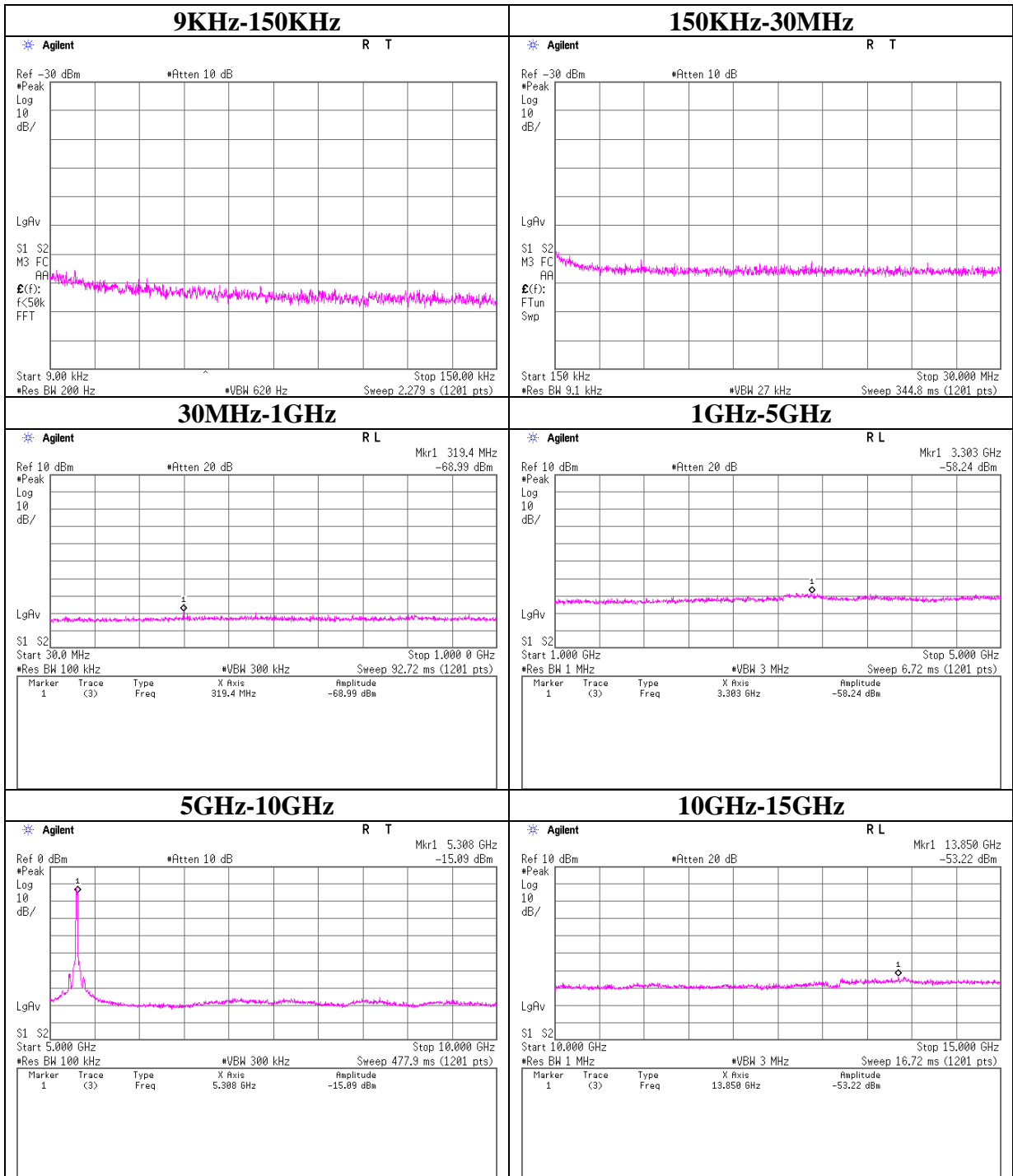
Conducted Spurious Emission

11n-20 Tx 5260MHz



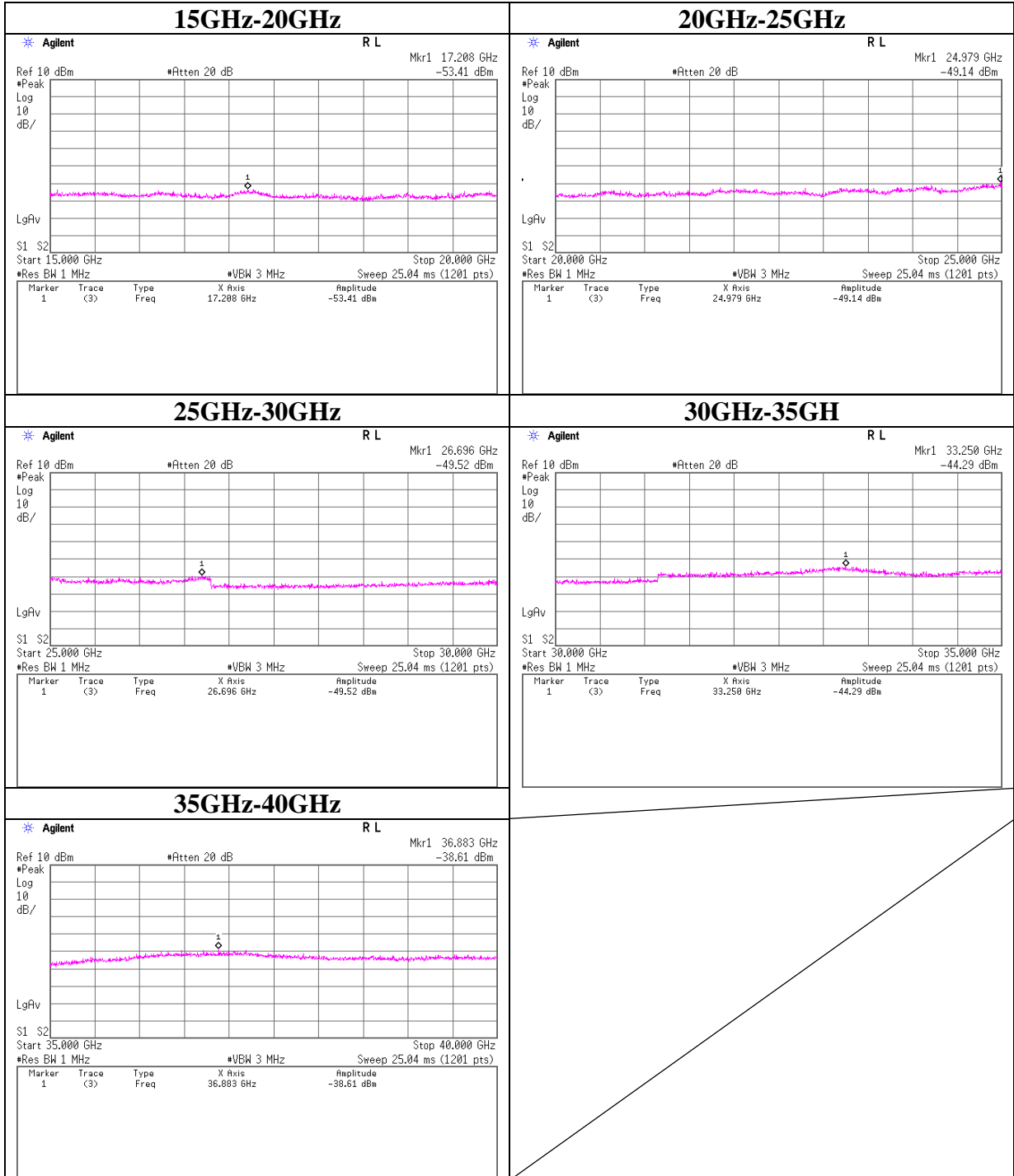
Conducted Spurious Emission

11n-20 Tx 5300MHz



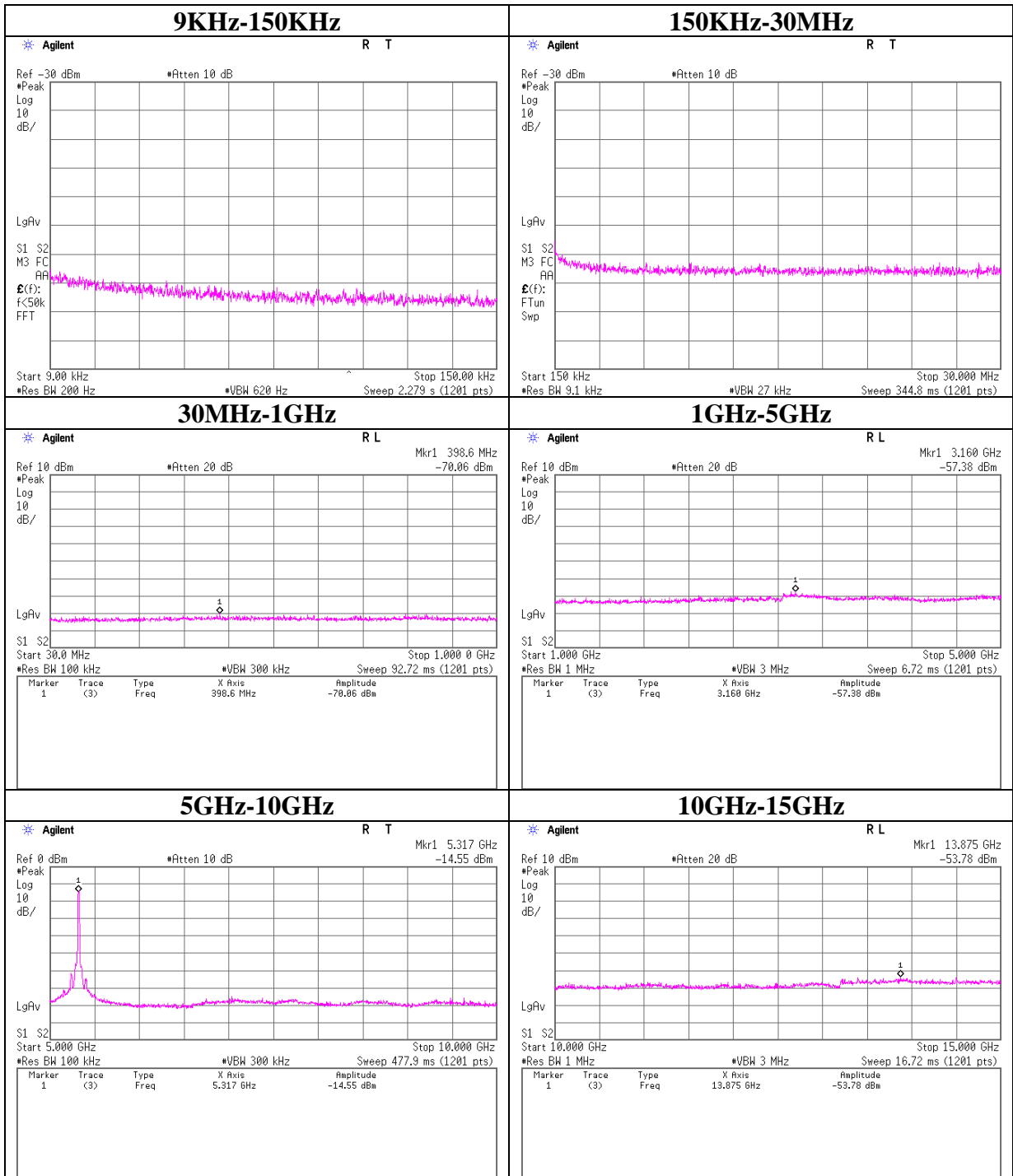
Conducted Spurious Emission

11n-20 Tx 5300MHz



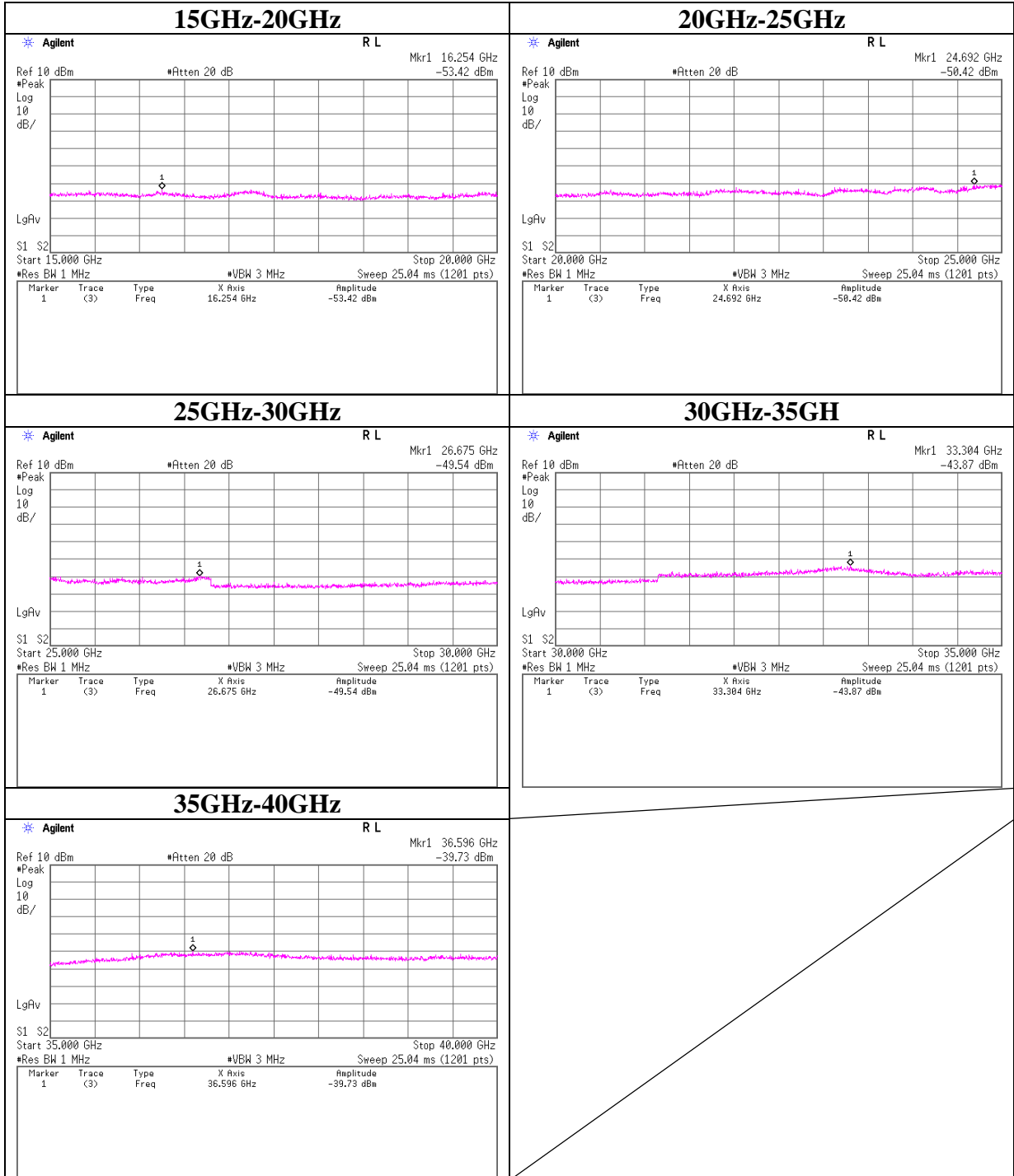
Conducted Spurious Emission

11n-20 Tx 5320MHz



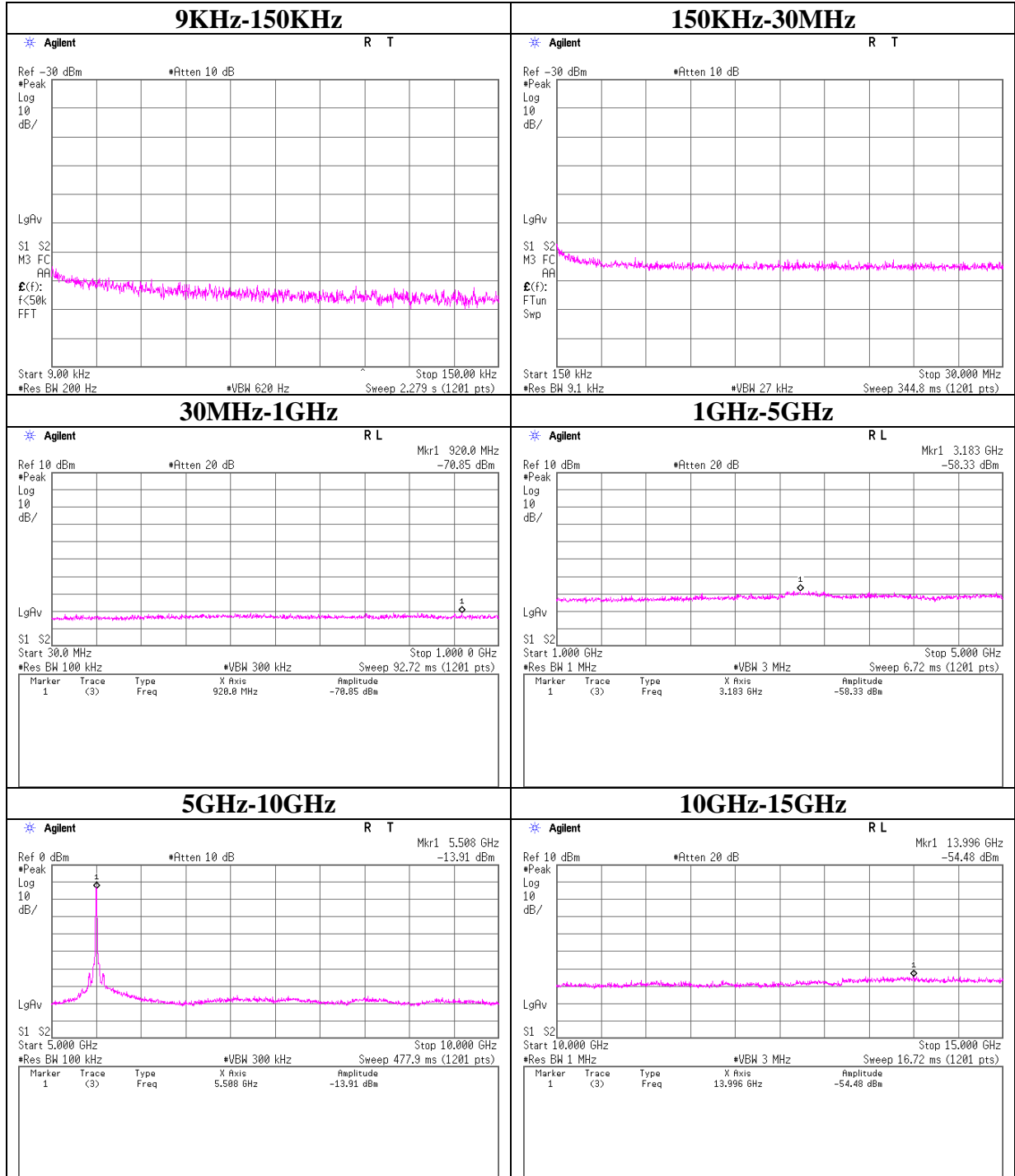
Conducted Spurious Emission

11n-20 Tx 5320MHz



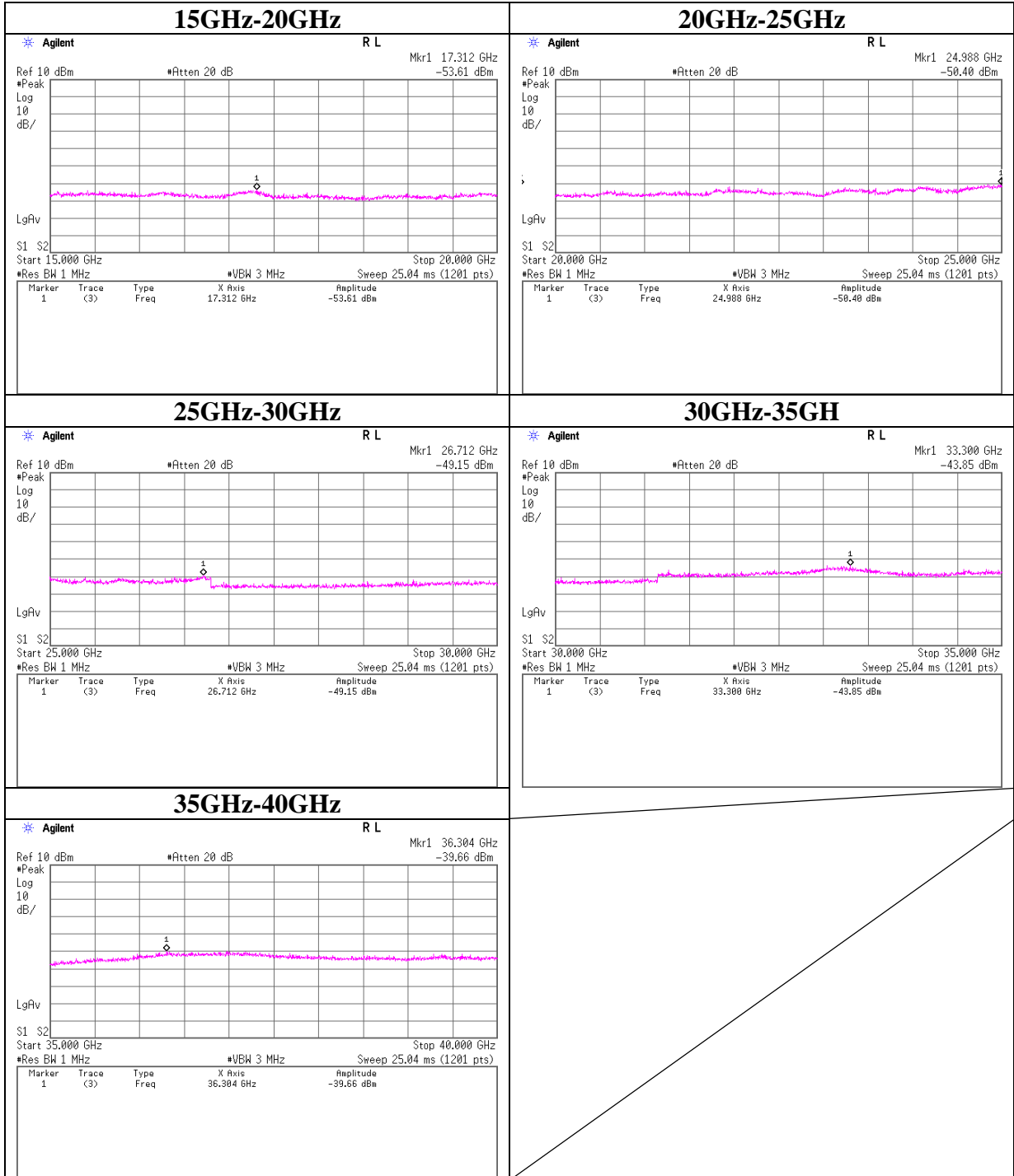
Conducted Spurious Emission

11n-20 Tx 5500MHz



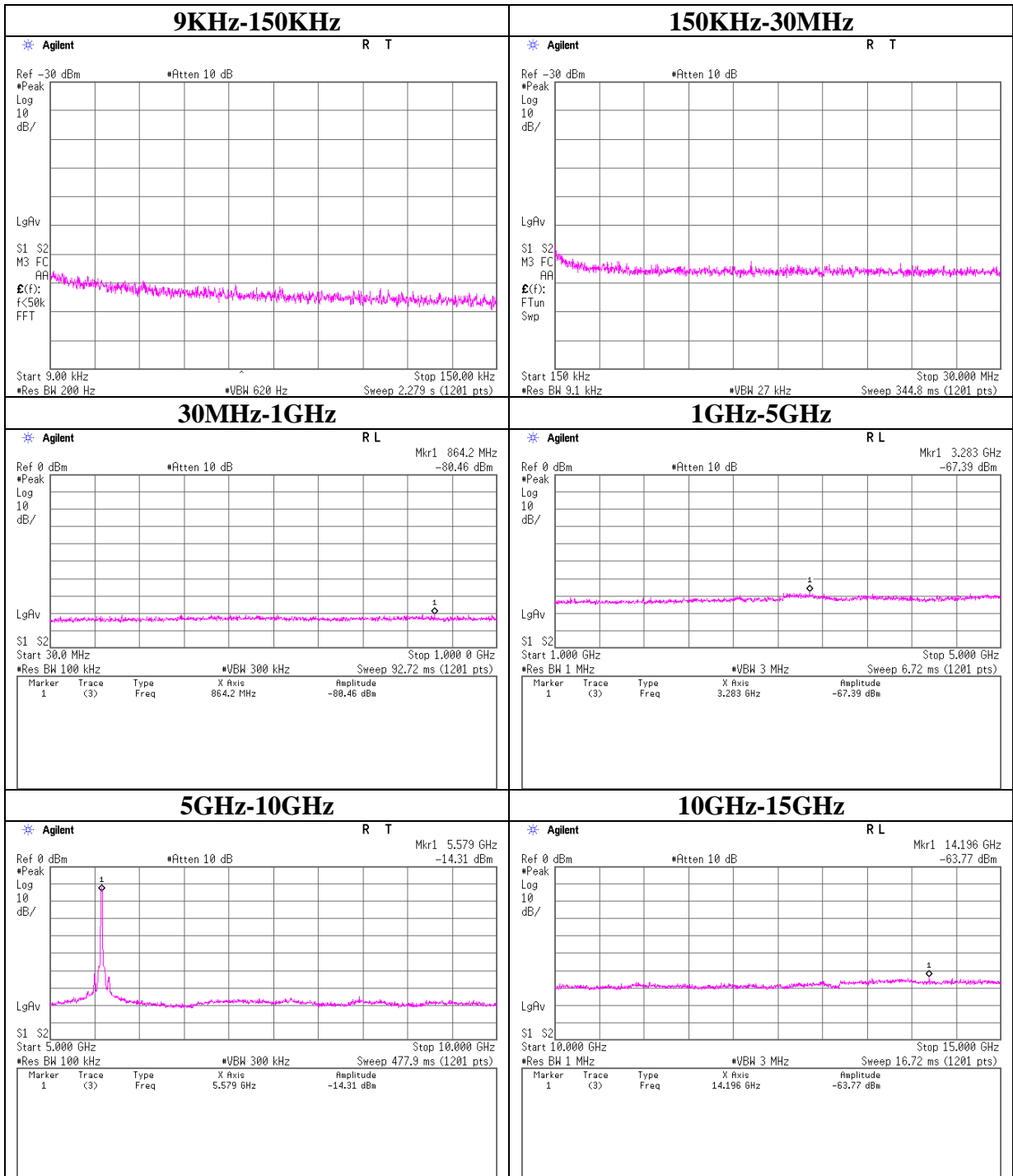
Conducted Spurious Emission

11n-20 Tx 5500MHz



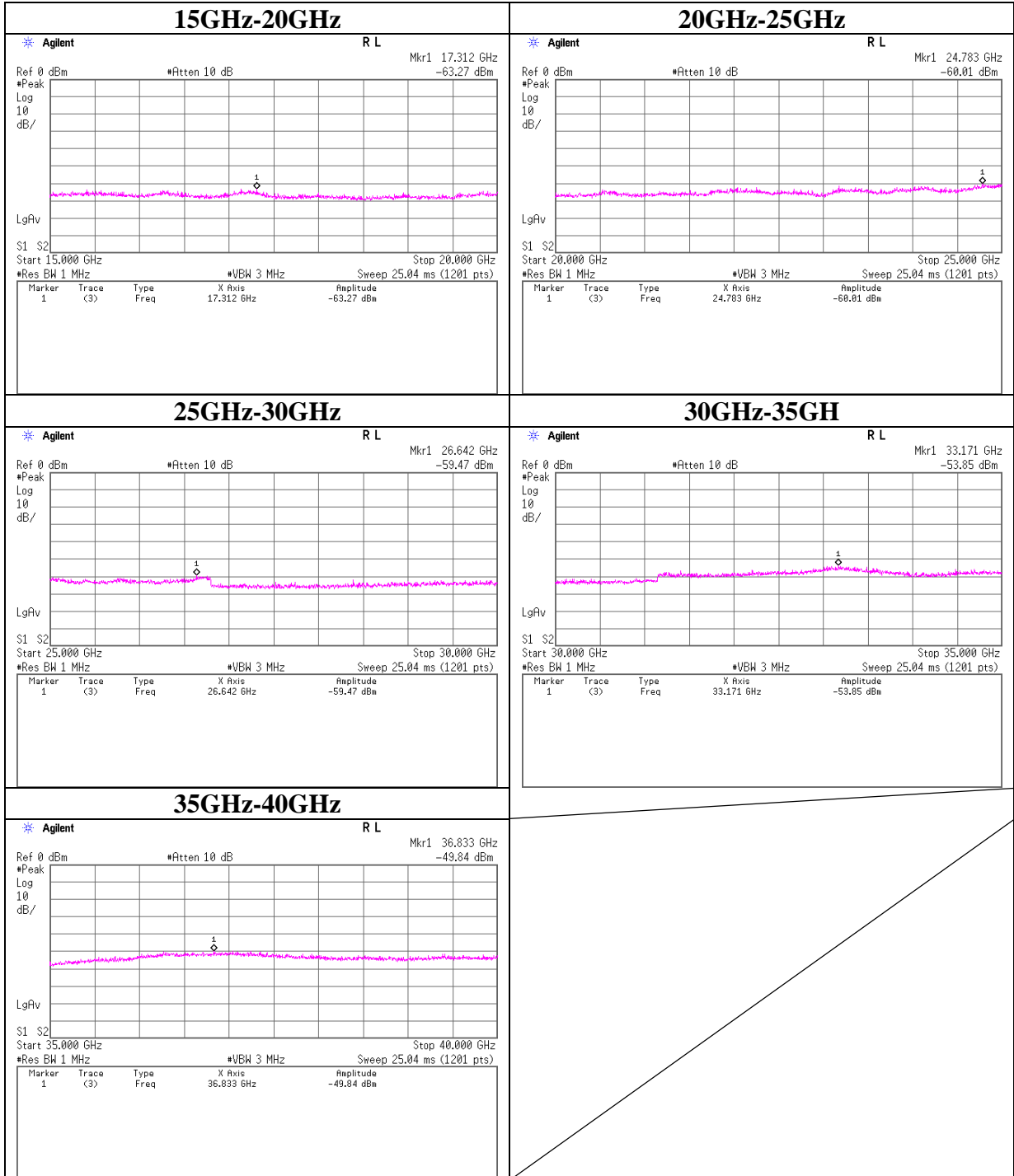
Conducted Spurious Emission

11n-20 Tx 5580MHz



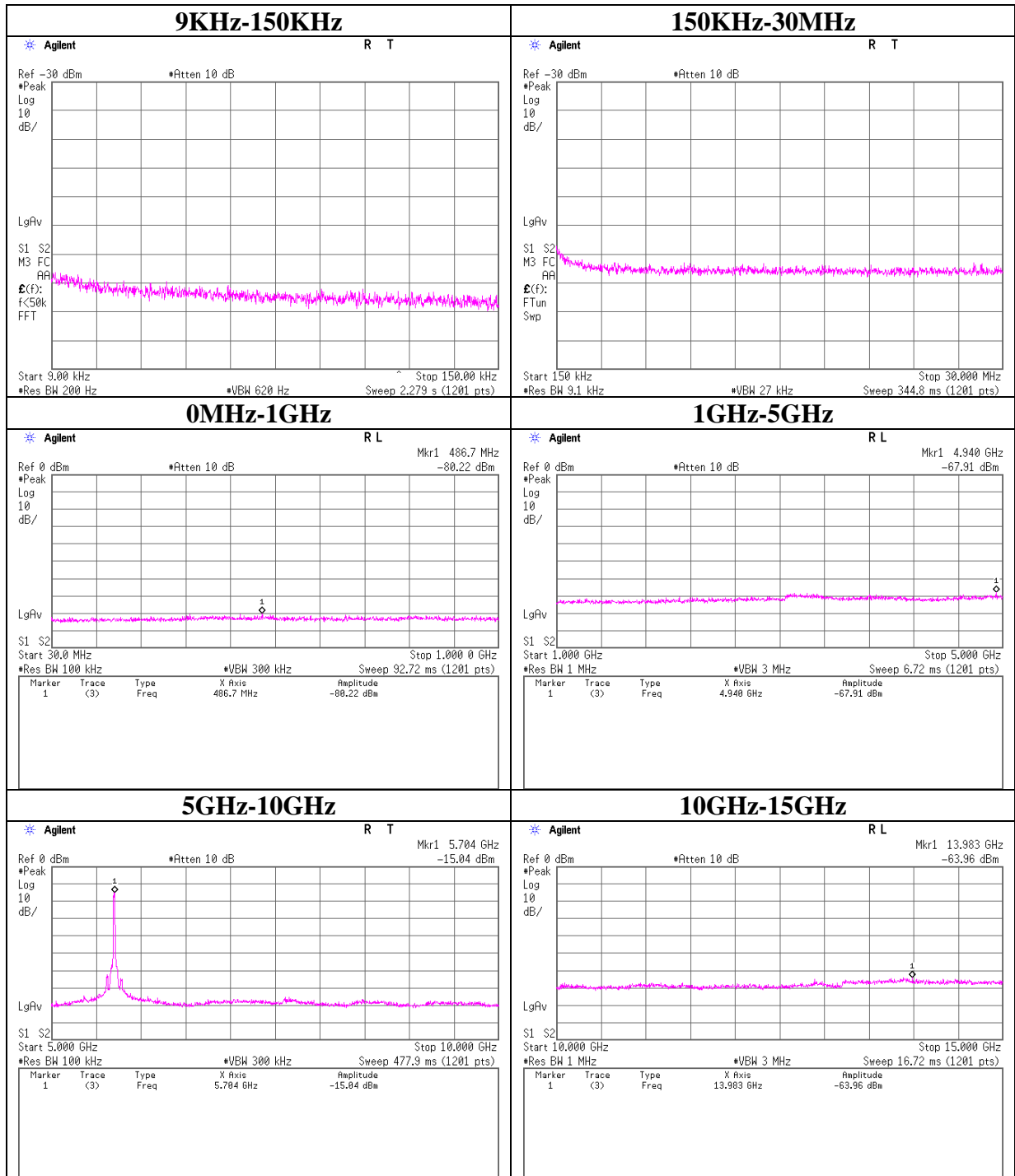
Conducted Spurious Emission

11n-20 Tx 5580MHz



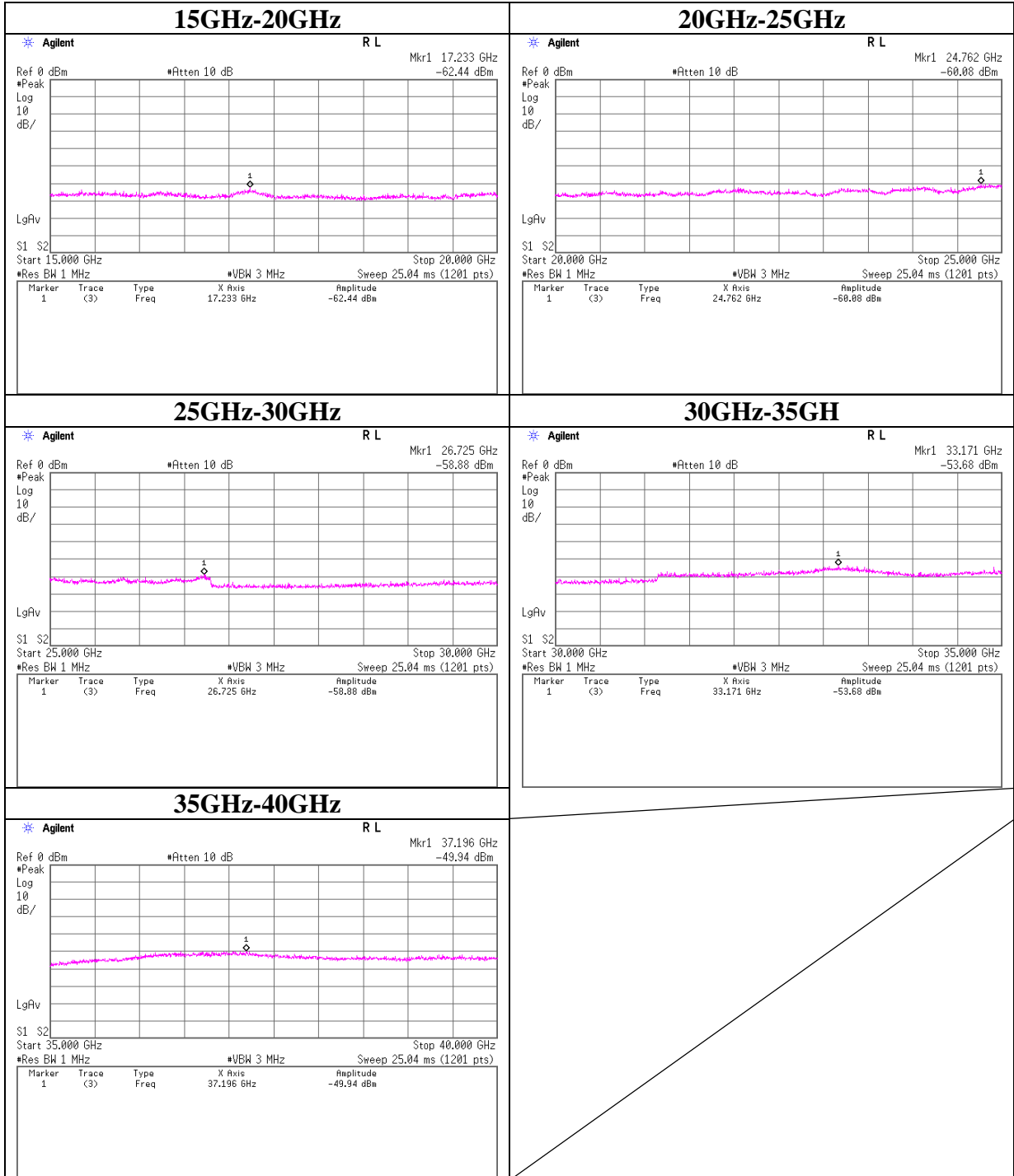
Conducted Spurious Emission

11n-20 Tx 5700MHz



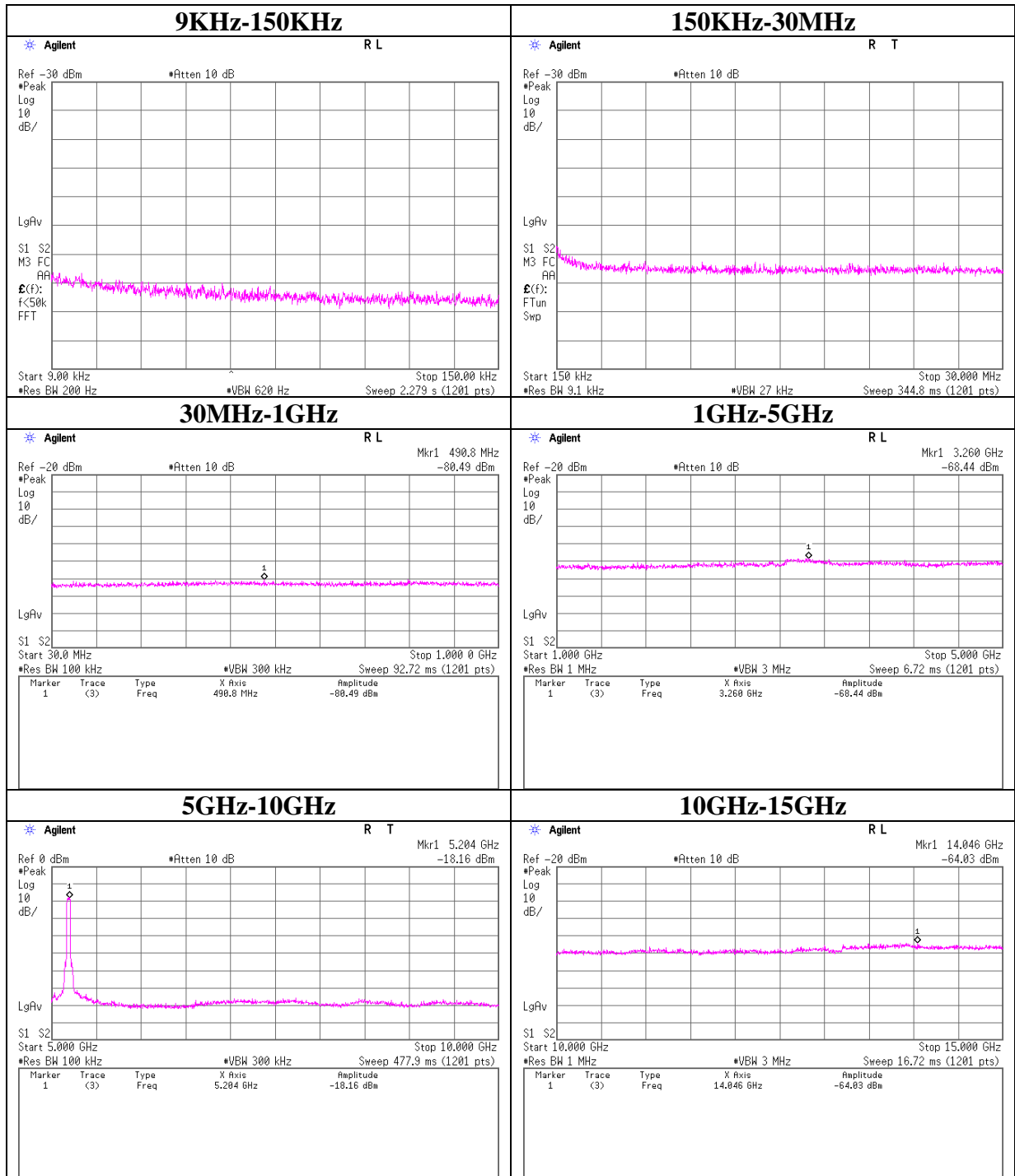
Conducted Spurious Emission

11n-20 Tx 5700MHz



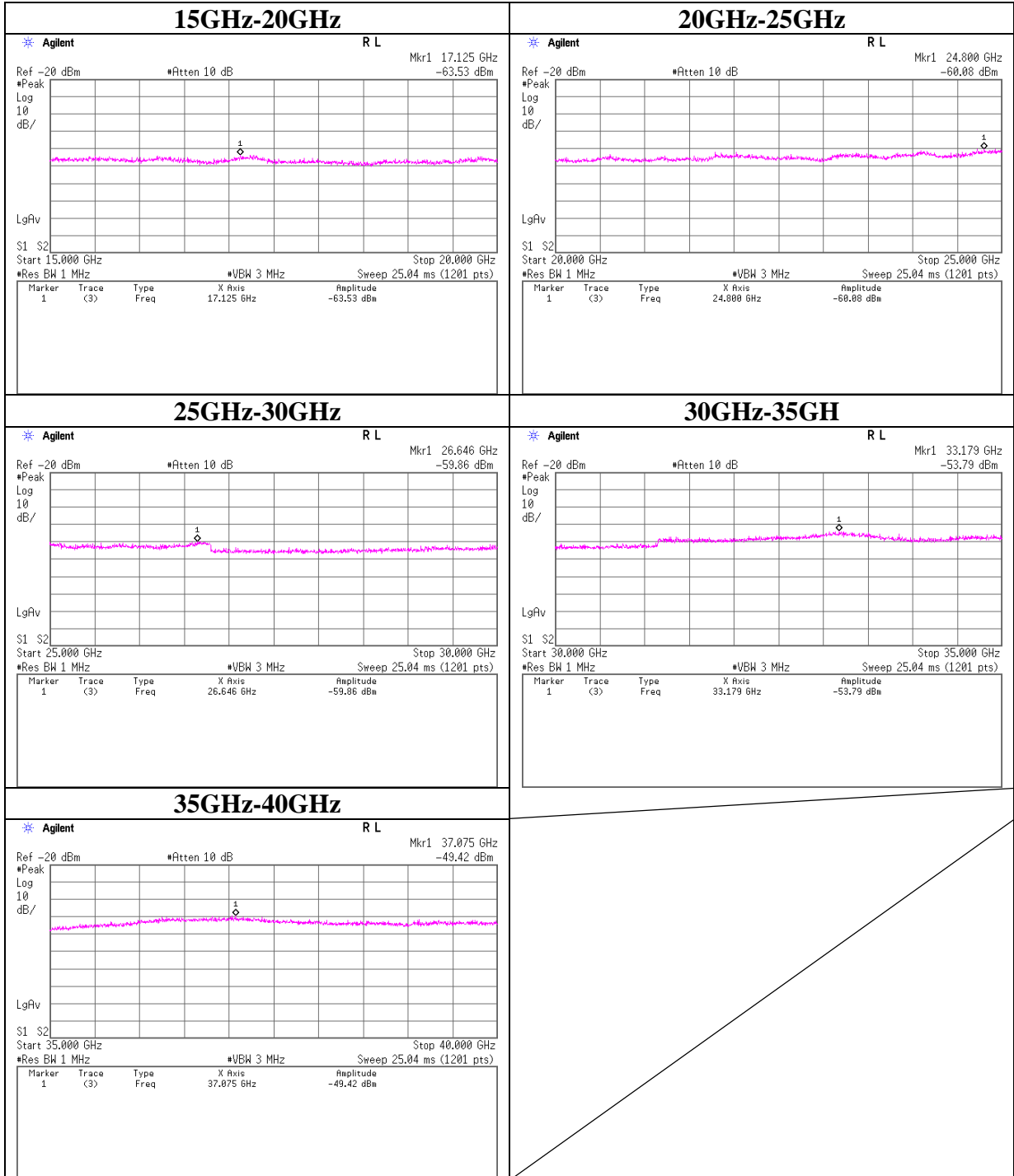
Conducted Spurious Emission

11n-40 Tx 5190MHz



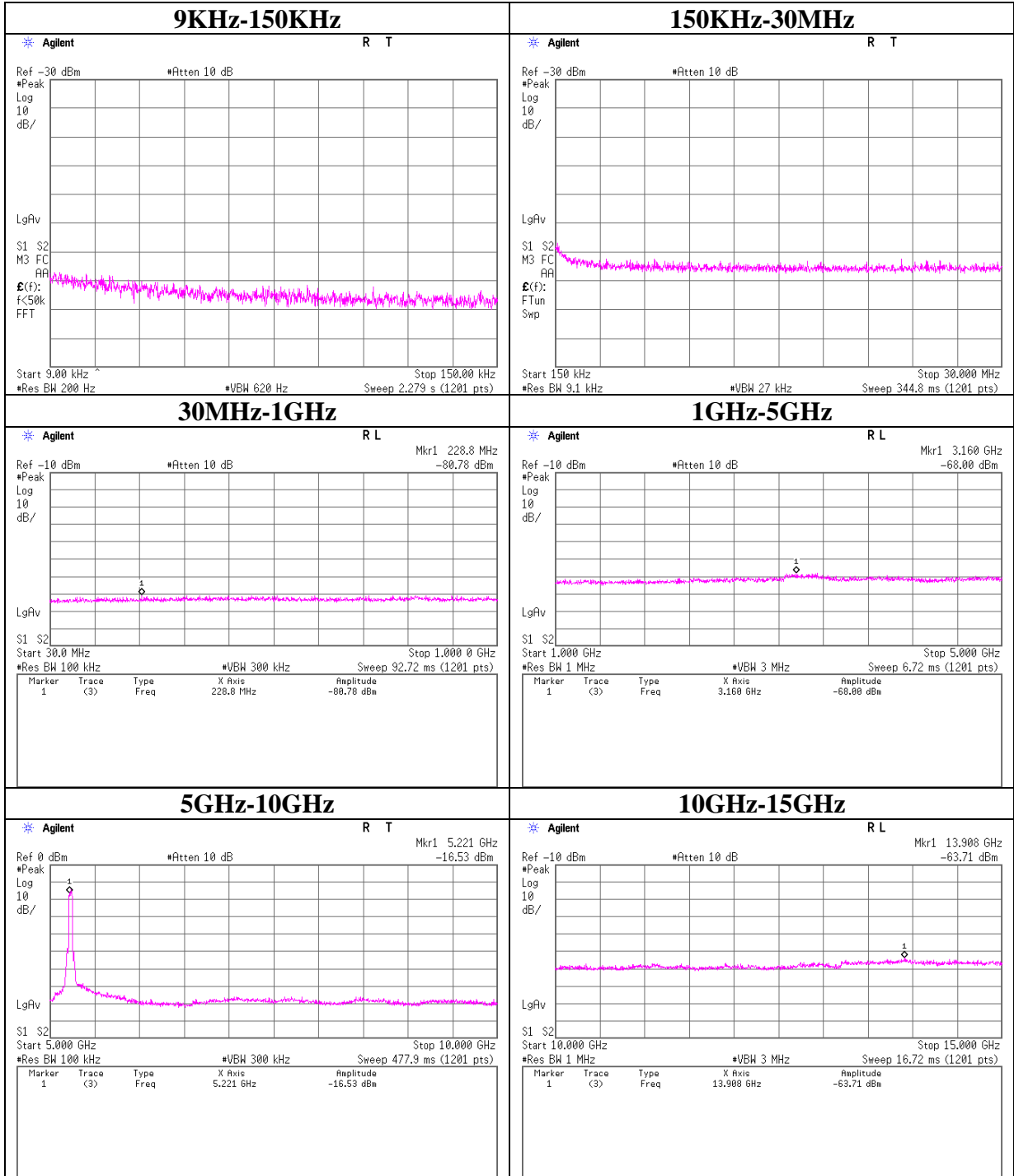
Conducted Spurious Emission

11n-40 Tx 5190MHz



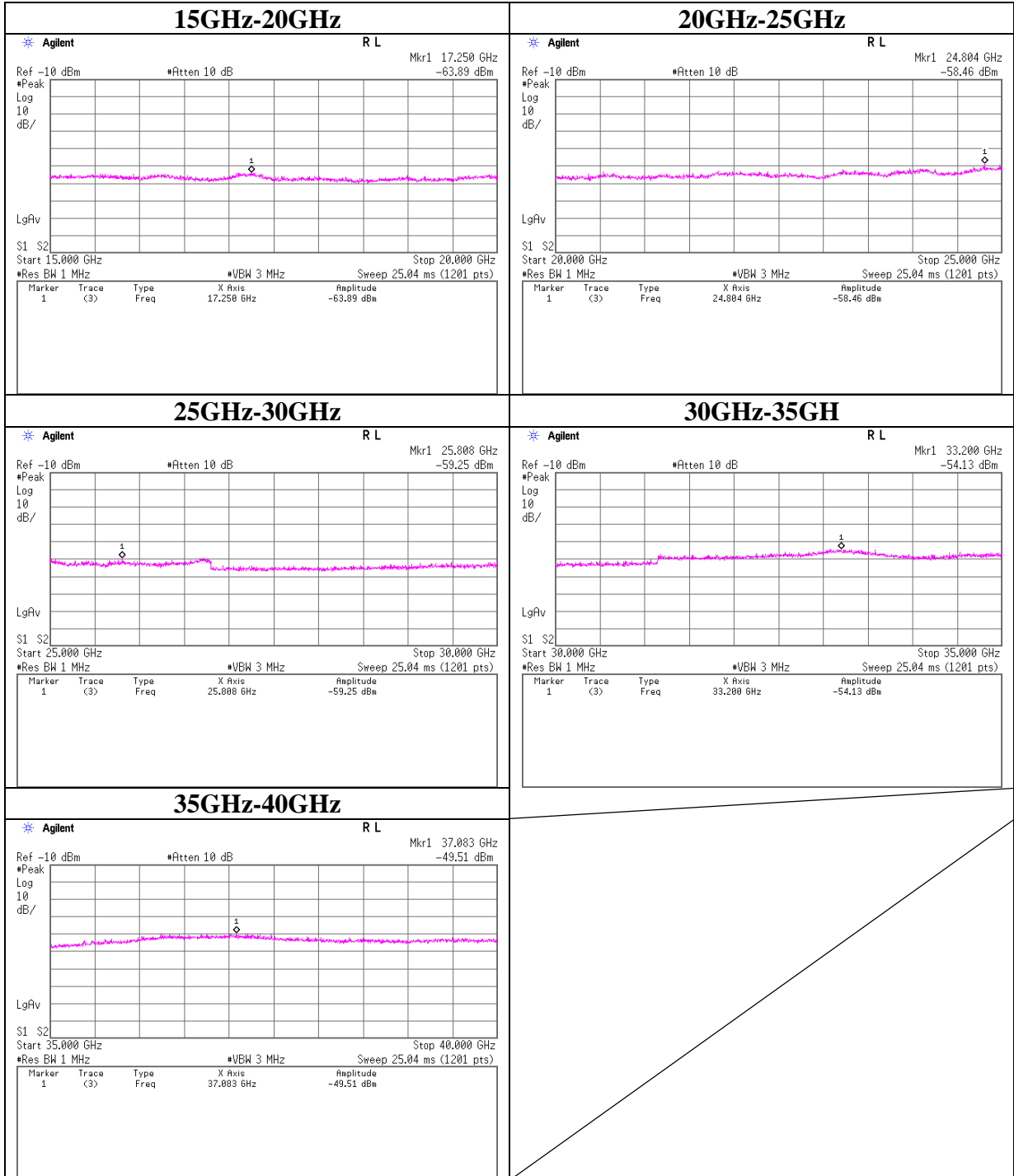
Conducted Spurious Emission

11n-40 Tx 5230MHz



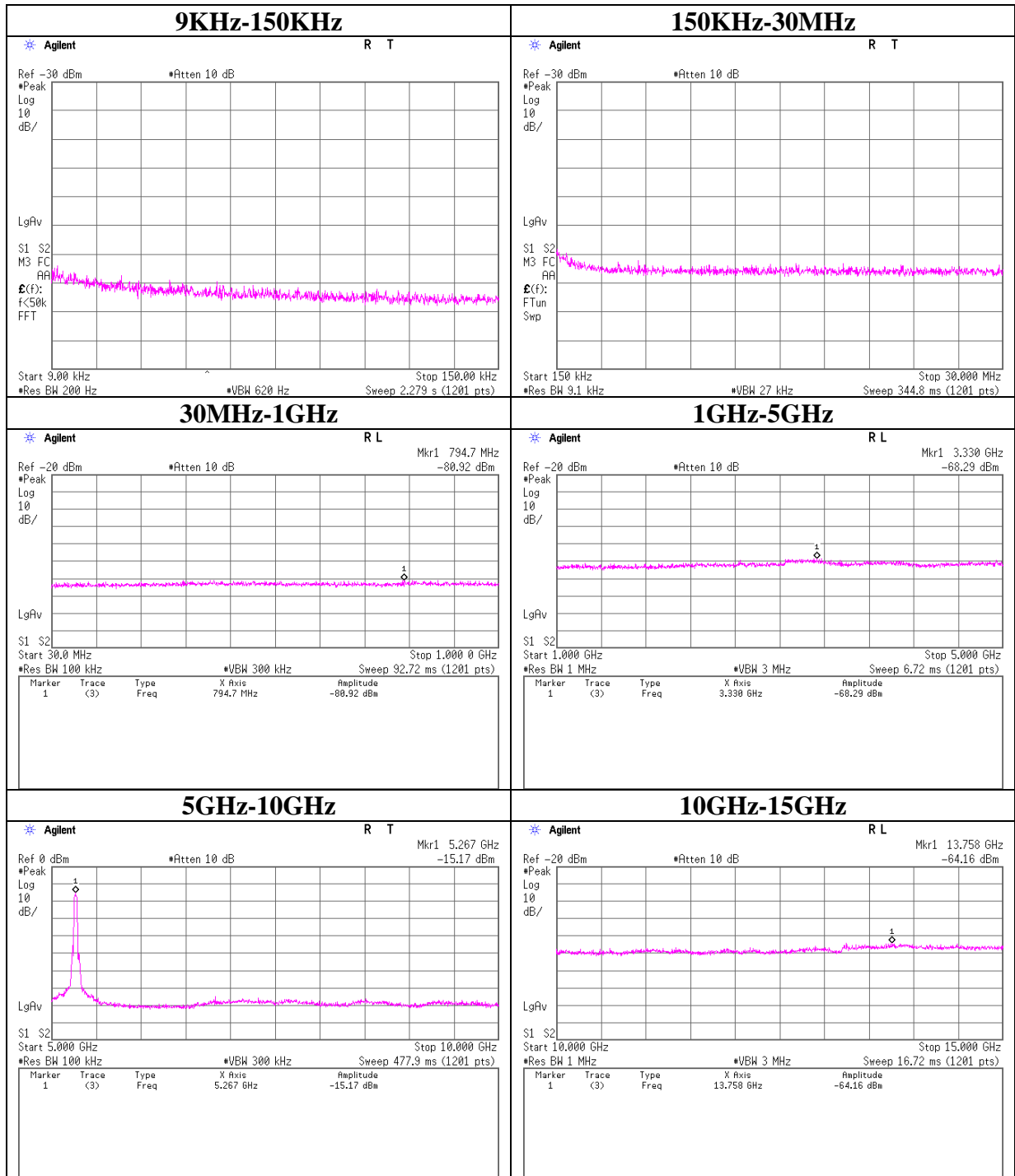
Conducted Spurious Emission

11n-40 Tx 5230MHz



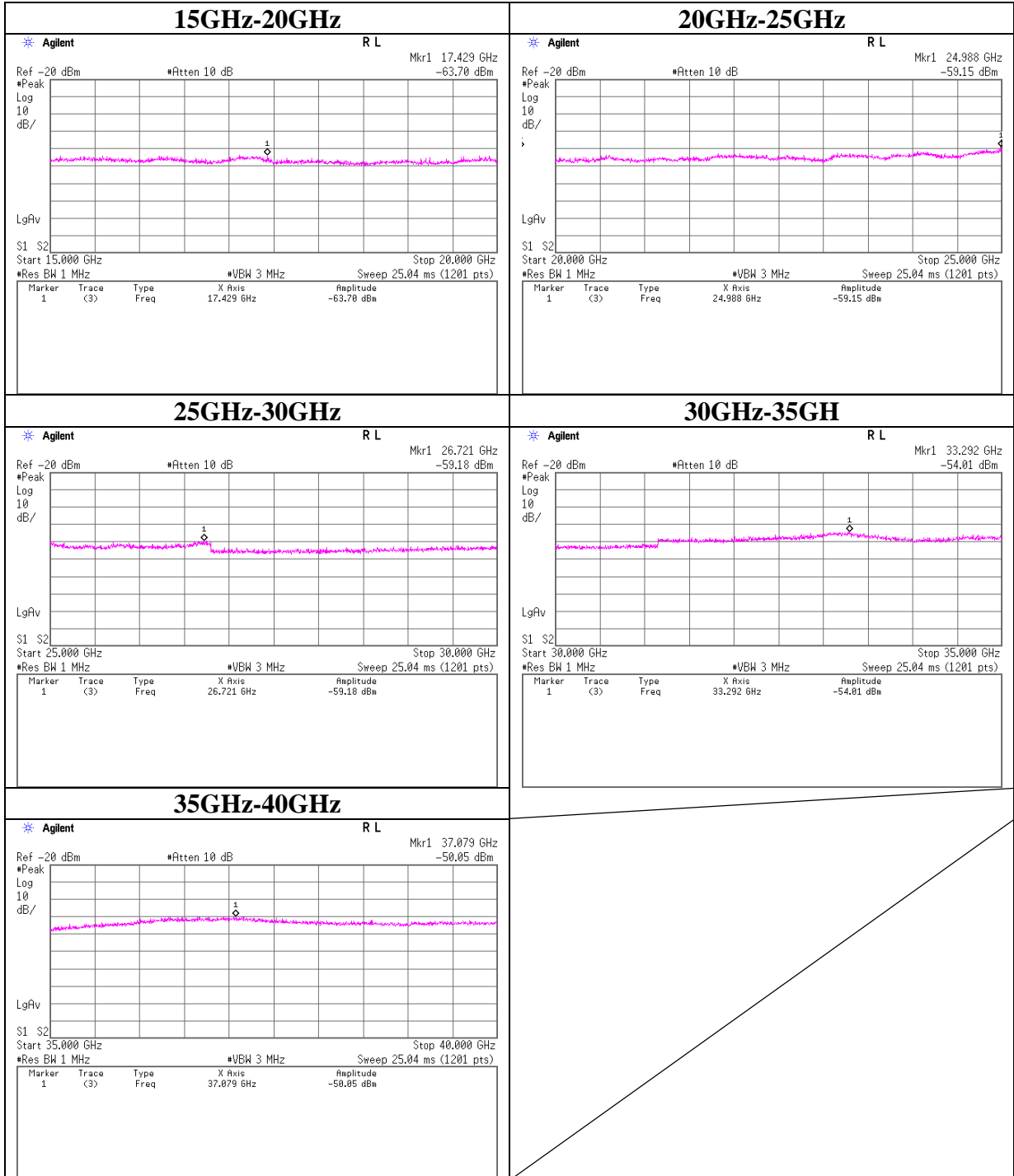
Conducted Spurious Emission

11n-40 Tx 5270MHz



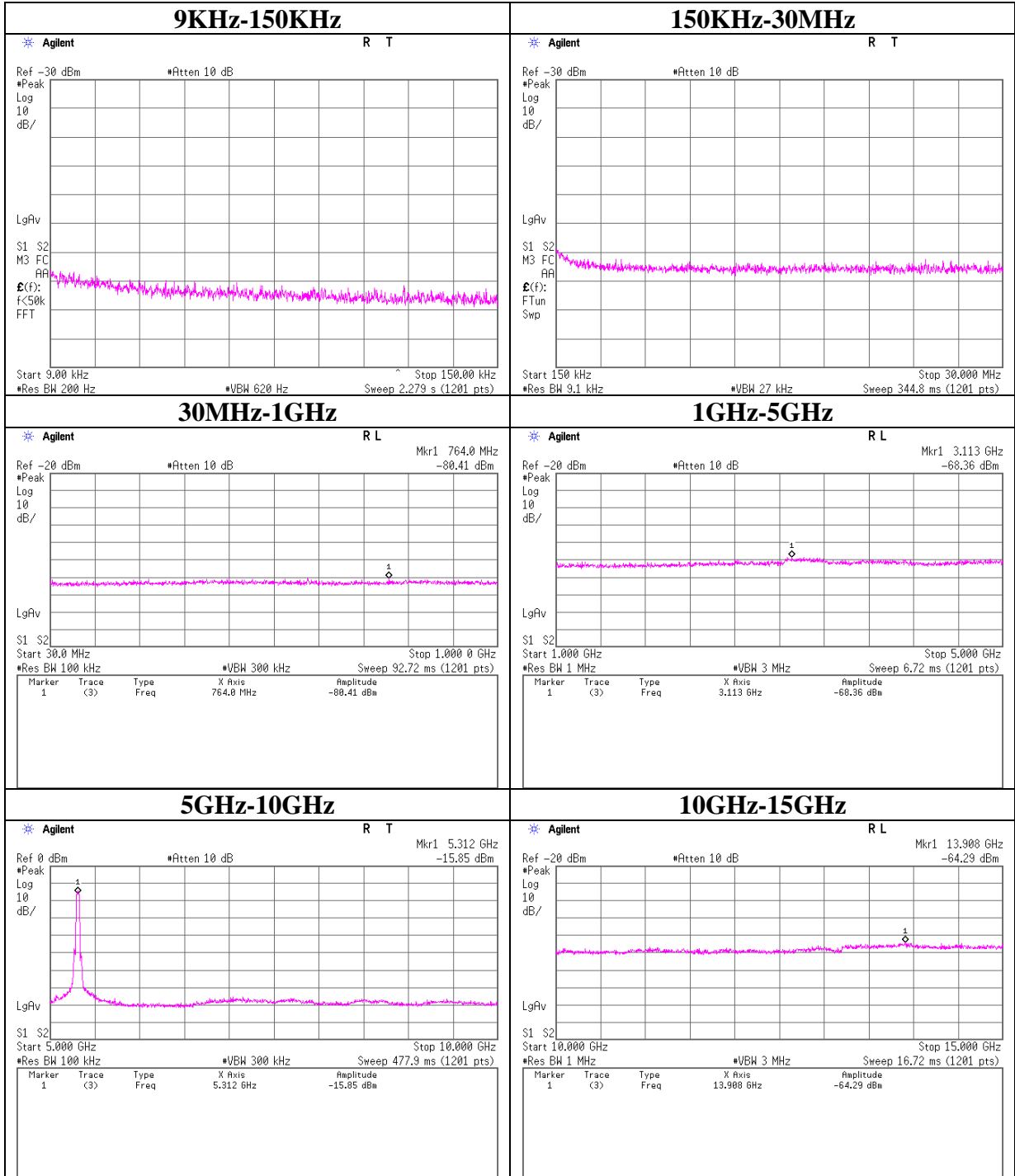
Conducted Spurious Emission

11n-40 Tx 5270MHz



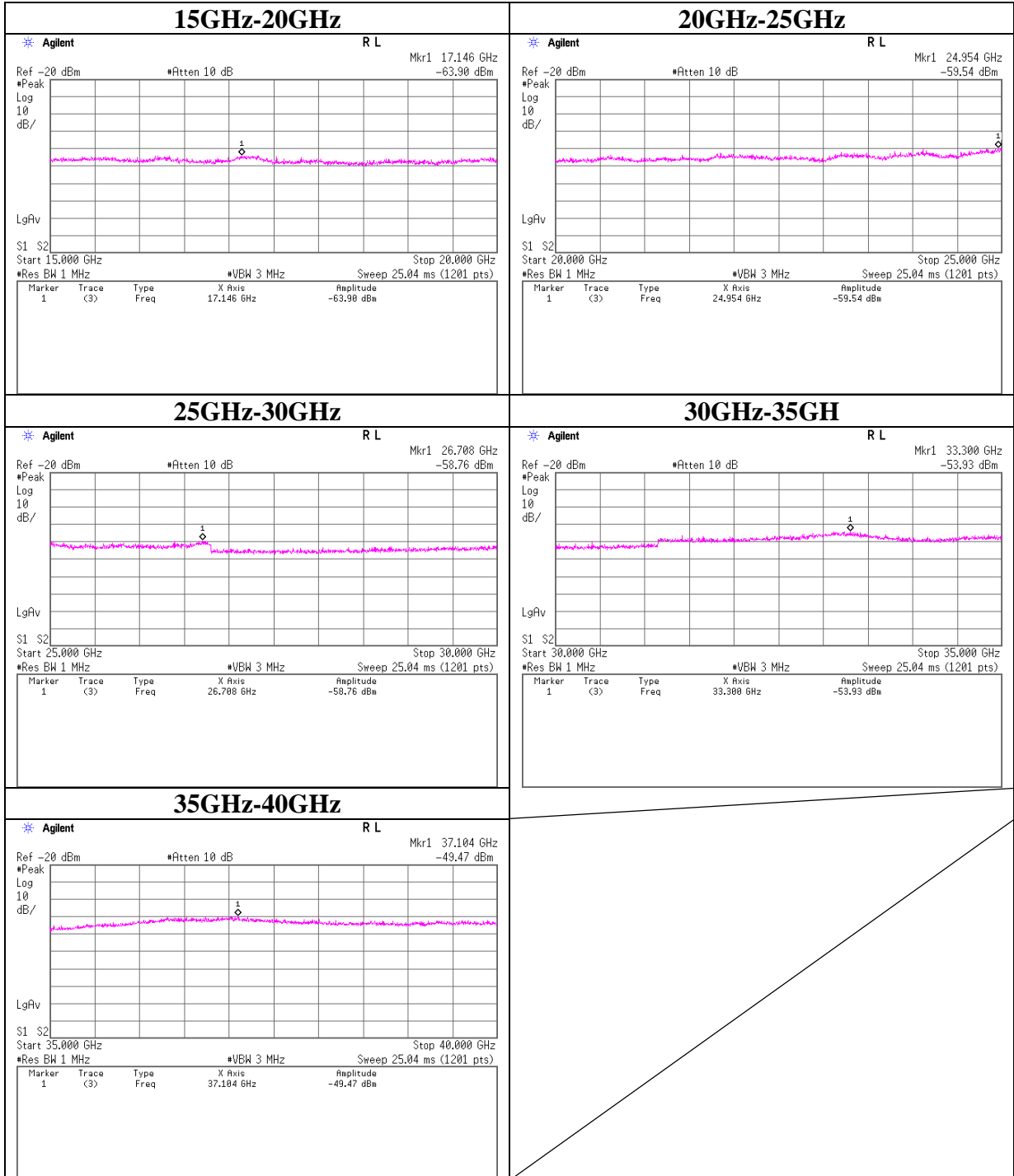
Conducted Spurious Emission

11n-40 Tx 5310MHz



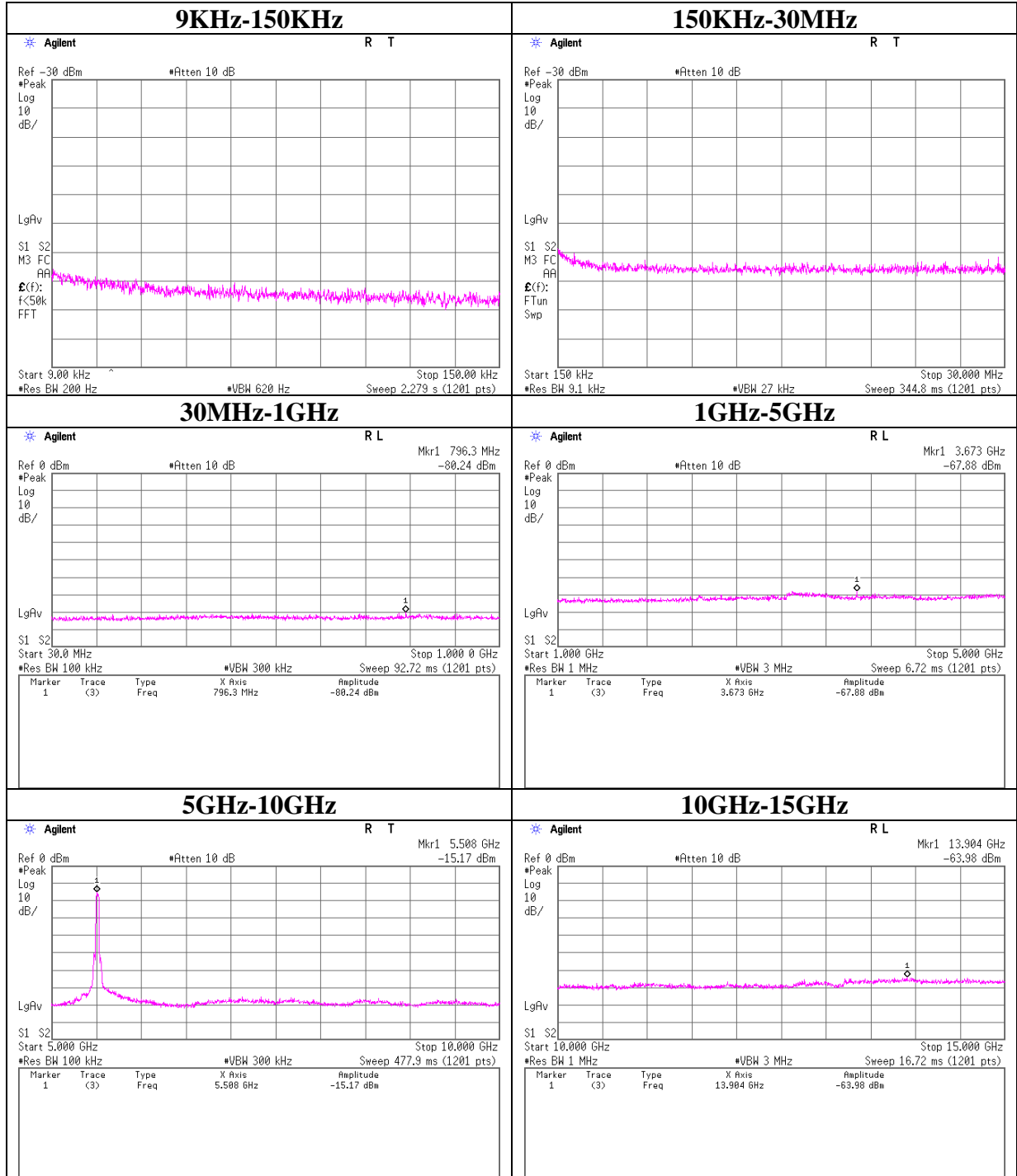
Conducted Spurious Emission

11n-40 Tx 5310MHz



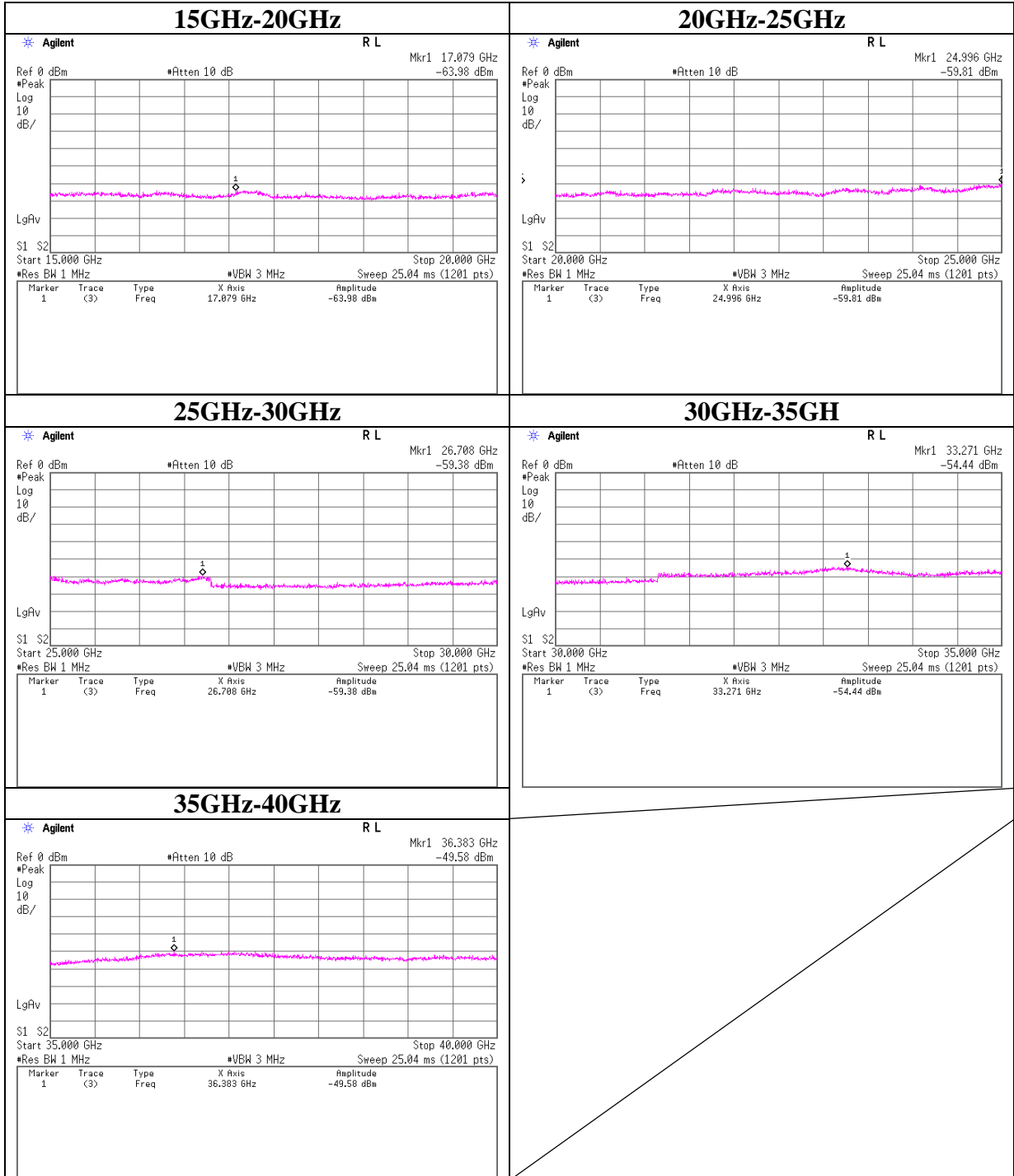
Conducted Spurious Emission

11n-40 Tx 5510MHz



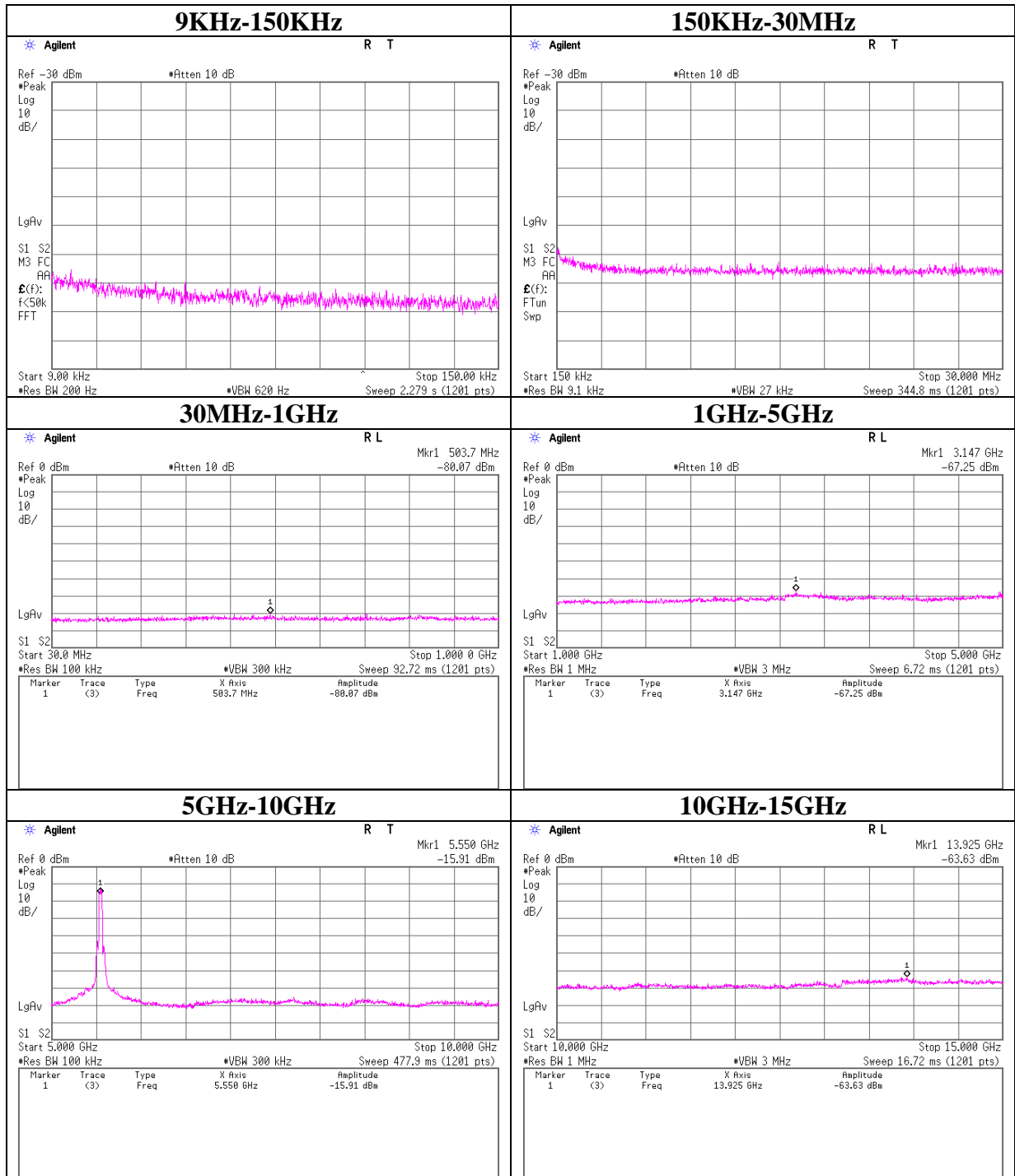
Conducted Spurious Emission

11n-40 Tx 5510MHz



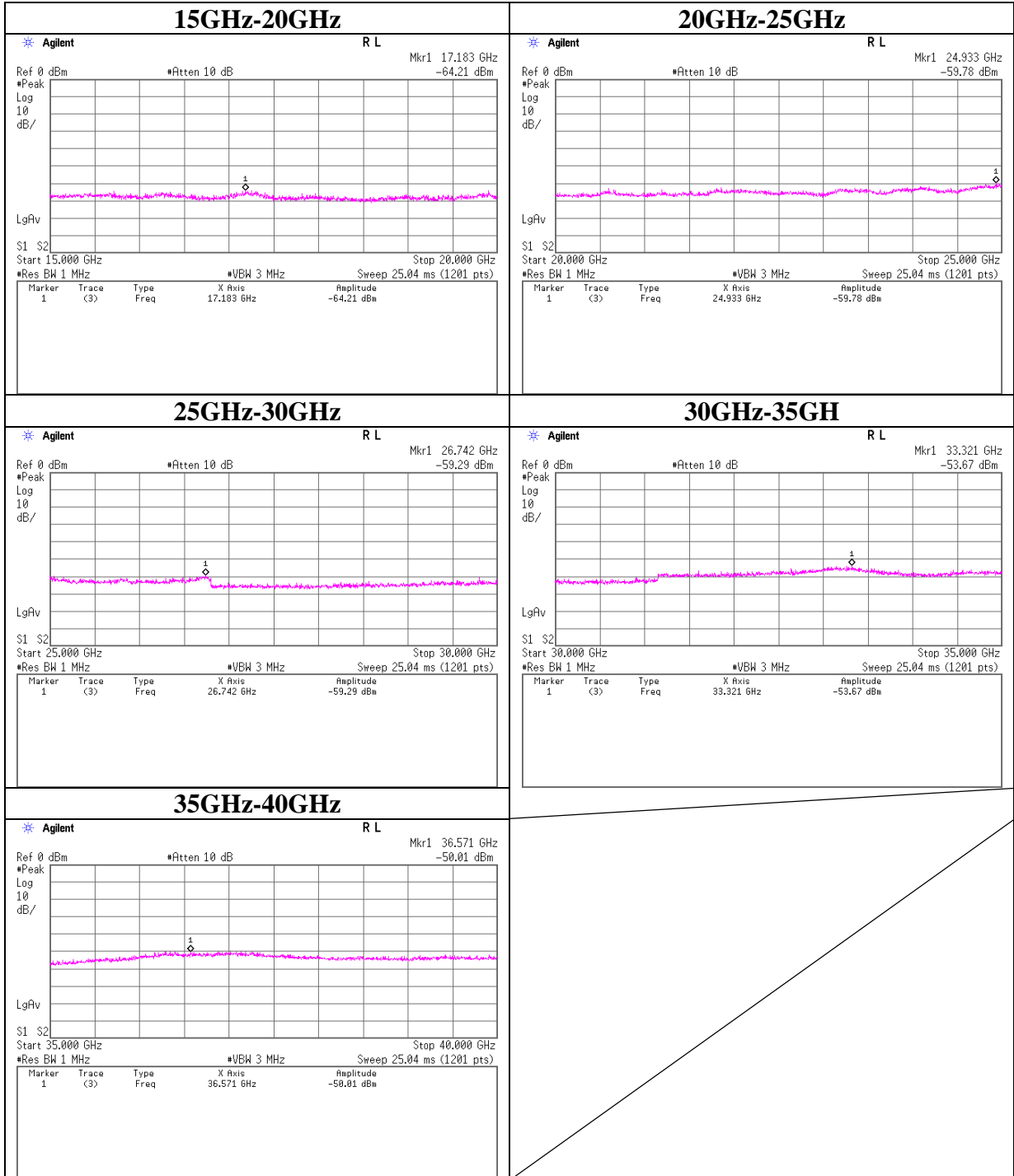
Conducted Spurious Emission

11n-40 Tx 5550MHz



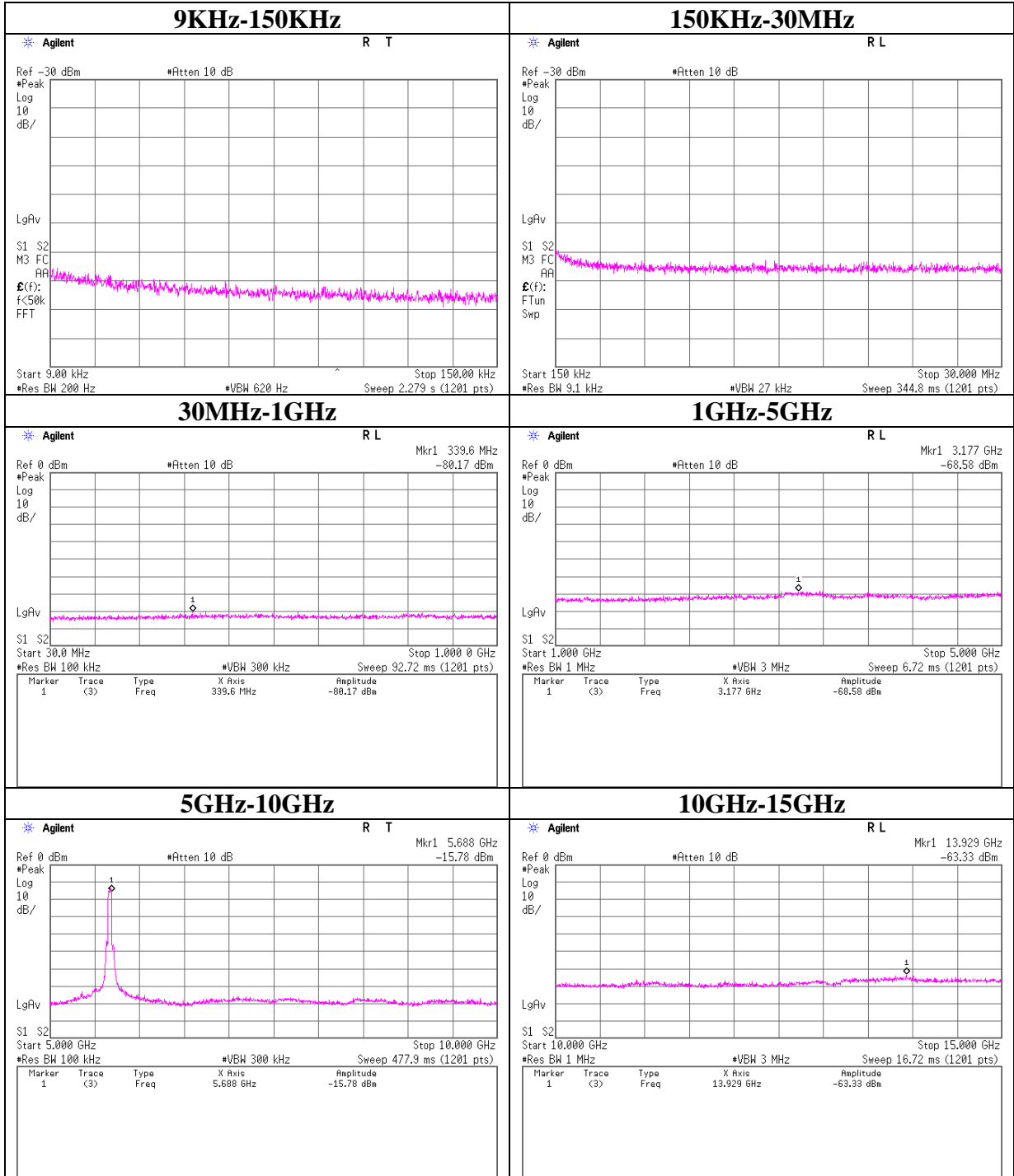
Conducted Spurious Emission

11n-40 Tx 5550MHz



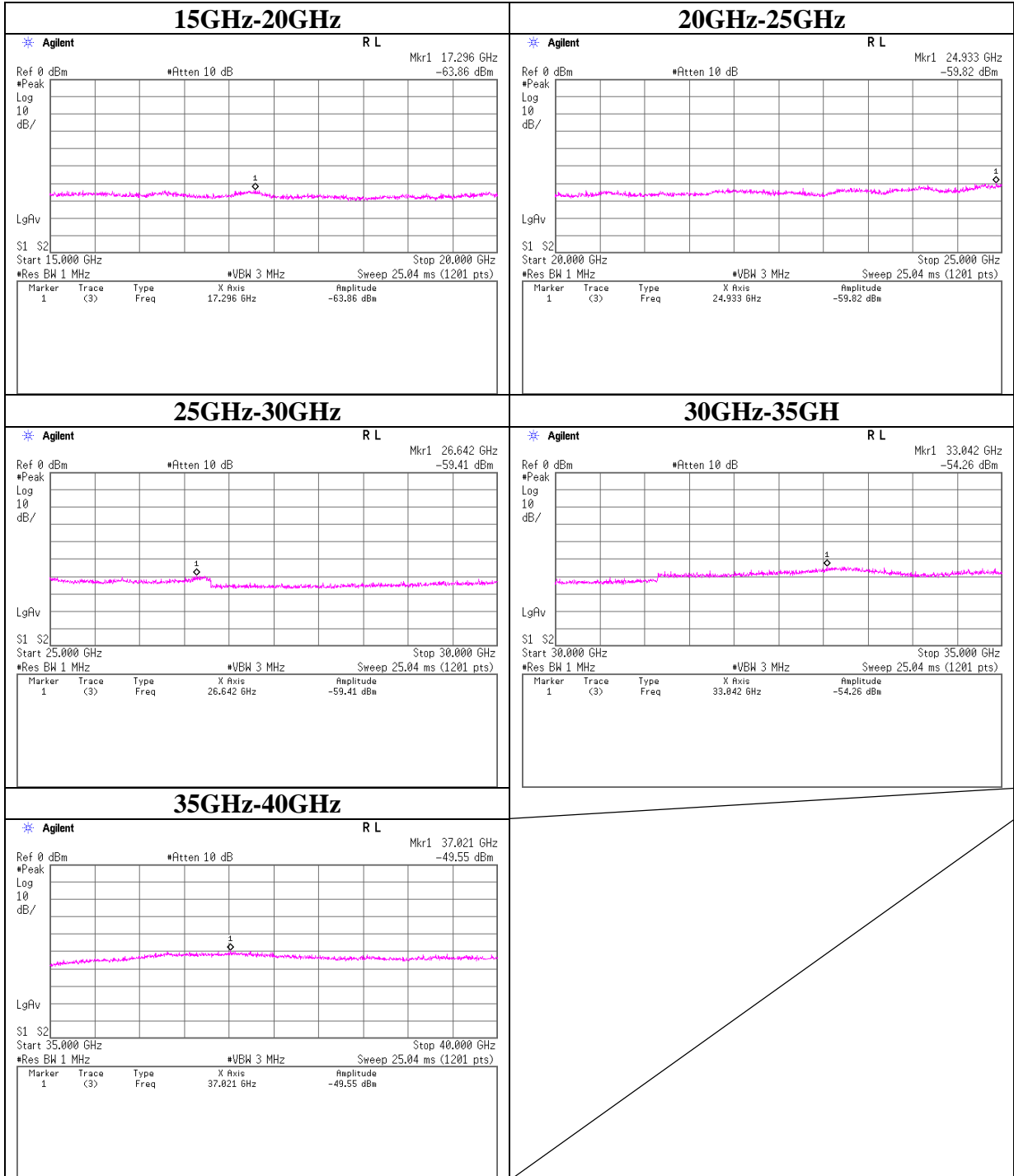
Conducted Spurious Emission

11n-40 Tx 5670MHz



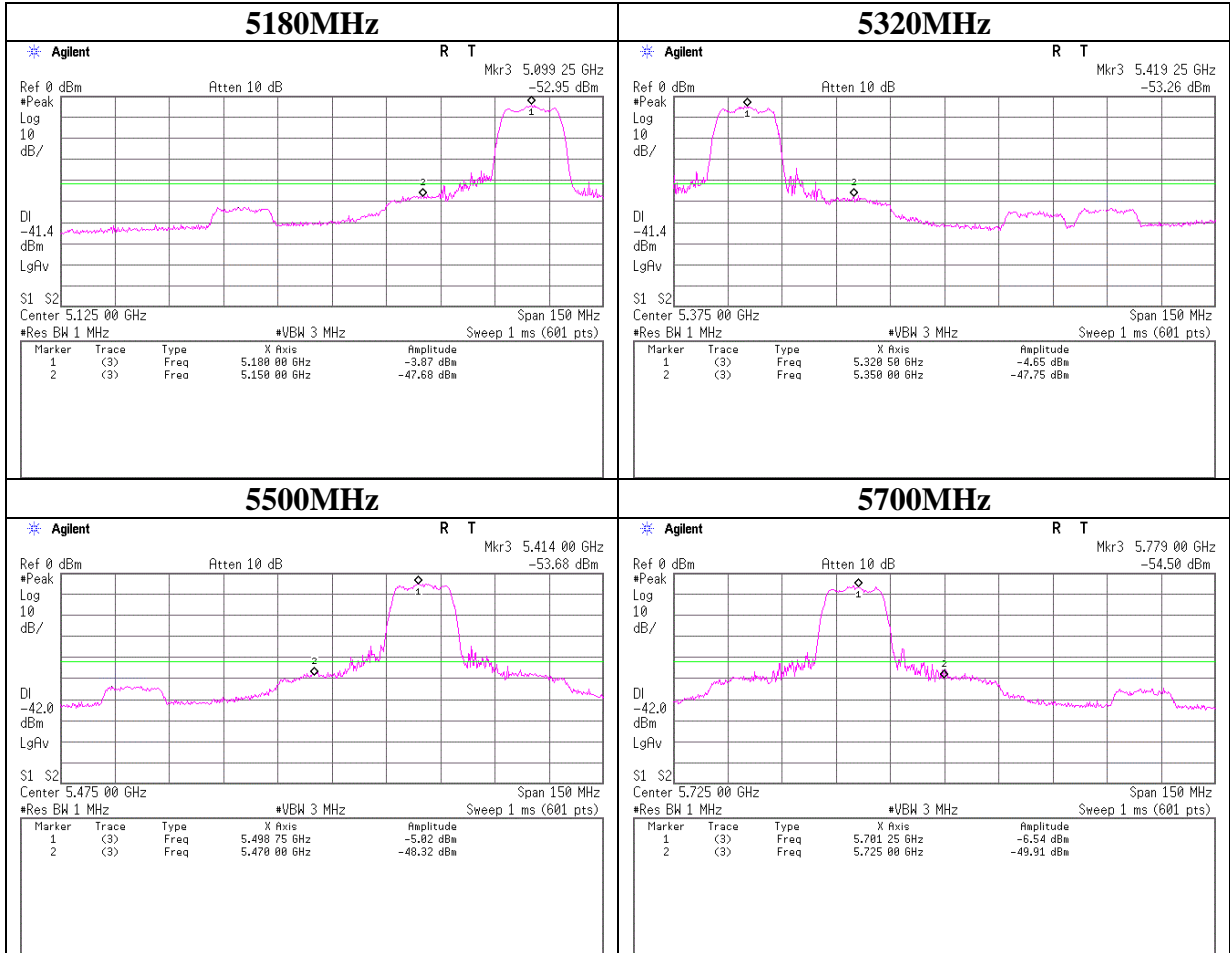
Conducted Spurious Emission

11n-40 Tx 5670MHz



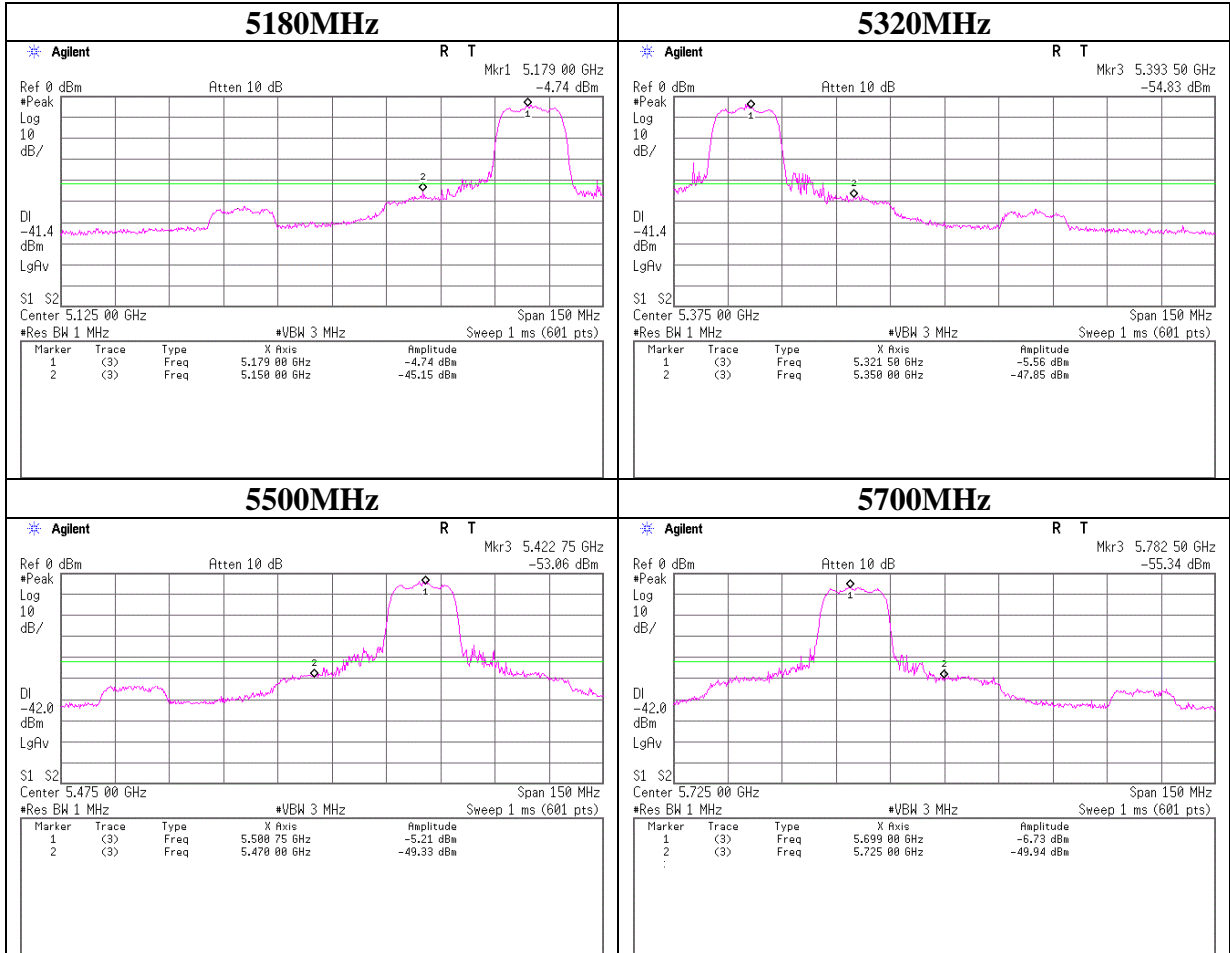
Conducted emission Band Edge compliance

11a



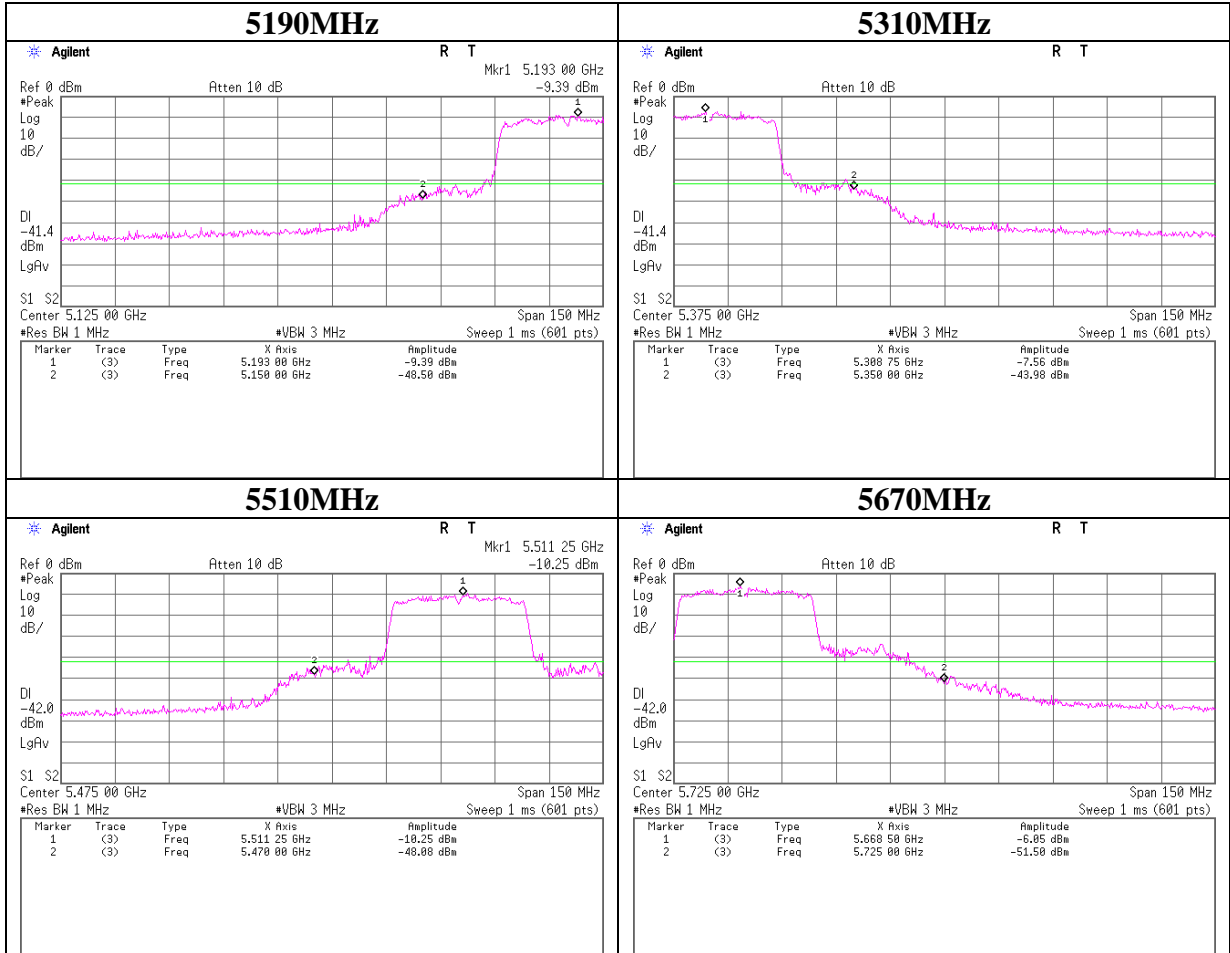
Conducted emission Band Edge compliance

11n-20



Conducted emission Band Edge compliance

11n-40



Peak Excursion Ratio

Test place : Head Office EMC Lab. No.11 Measurement room
Report No. : 31HE0183-HO-01
Date : 05/18/2011
Temperature/ Humidity : 21deg.C / 69% RH
Engineer : Yutaka Yoshida
Mode : 11a Tx / 11n-20 Tx / 11n-40 Tx

11a

Frequency [MHz]	Peak Power Excursion [dB]	Limit [dB]
5180	8.48	13.00
5220	8.71	13.00
5240	8.37	13.00
5260	7.69	13.00
5300	8.86	13.00
5320	8.64	13.00
5500	8.50	13.00
5800	8.27	13.00
5700	7.61	13.00

11n-20

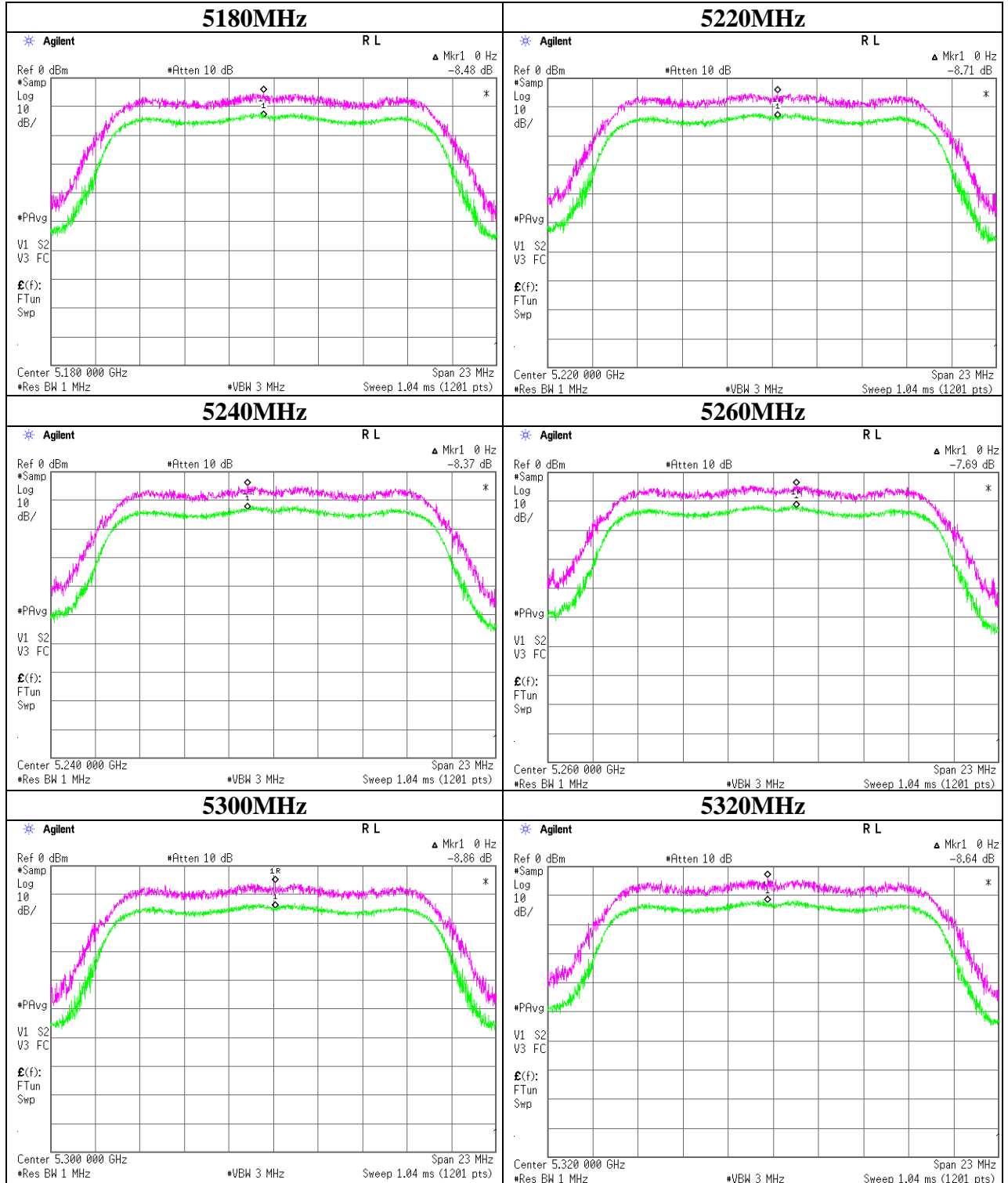
Frequency [MHz]	Peak Power Excursion [dB]	Limit [dB]
5180	8.11	13.00
5220	8.22	13.00
5240	9.33	13.00
5260	8.89	13.00
5300	8.96	13.00
5320	9.51	13.00
5500	10.86	13.00
5580	8.81	13.00
5700	7.62	13.00

11n-40

Frequency [MHz]	Peak Power Excursion [dB]	Limit [dB]
5190	9.02	13.00
5230	10.14	13.00
5270	9.70	13.00
5310	9.16	13.00
5510	9.96	13.00
5550	9.74	13.00
5670	7.16	13.00

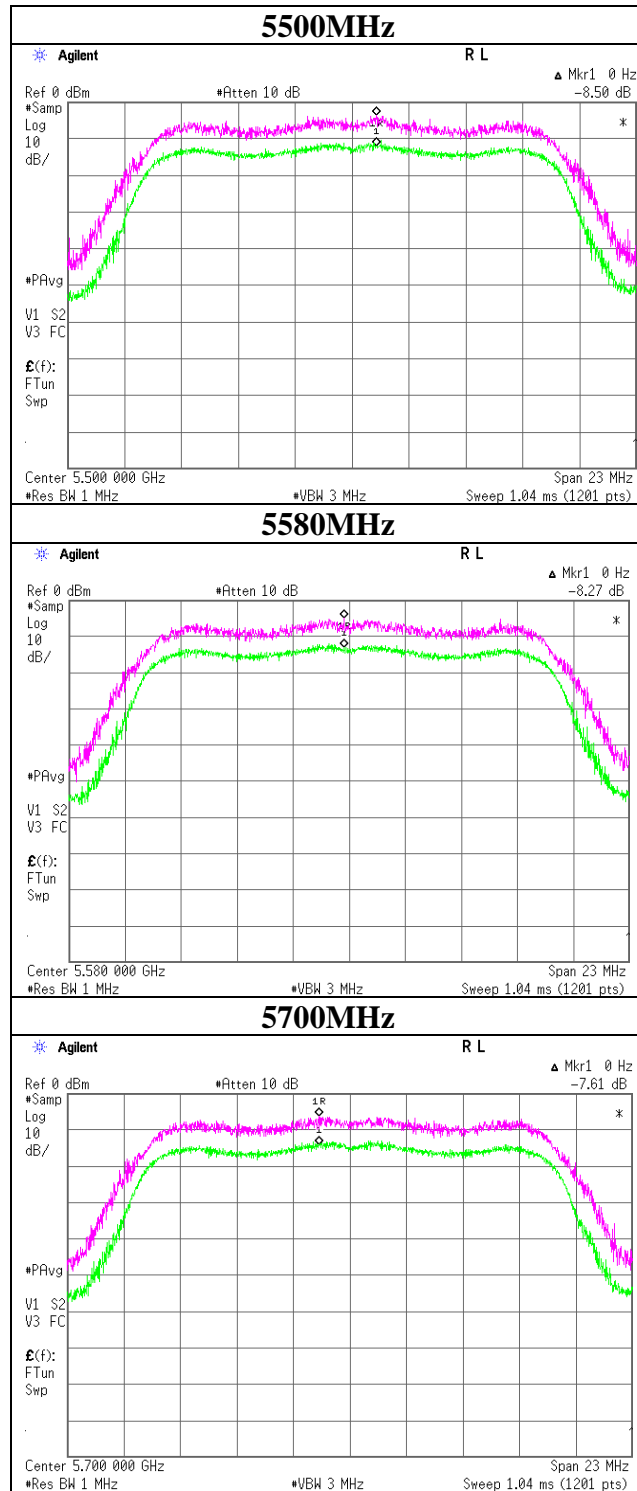
Peak Excursion Ratio

11a



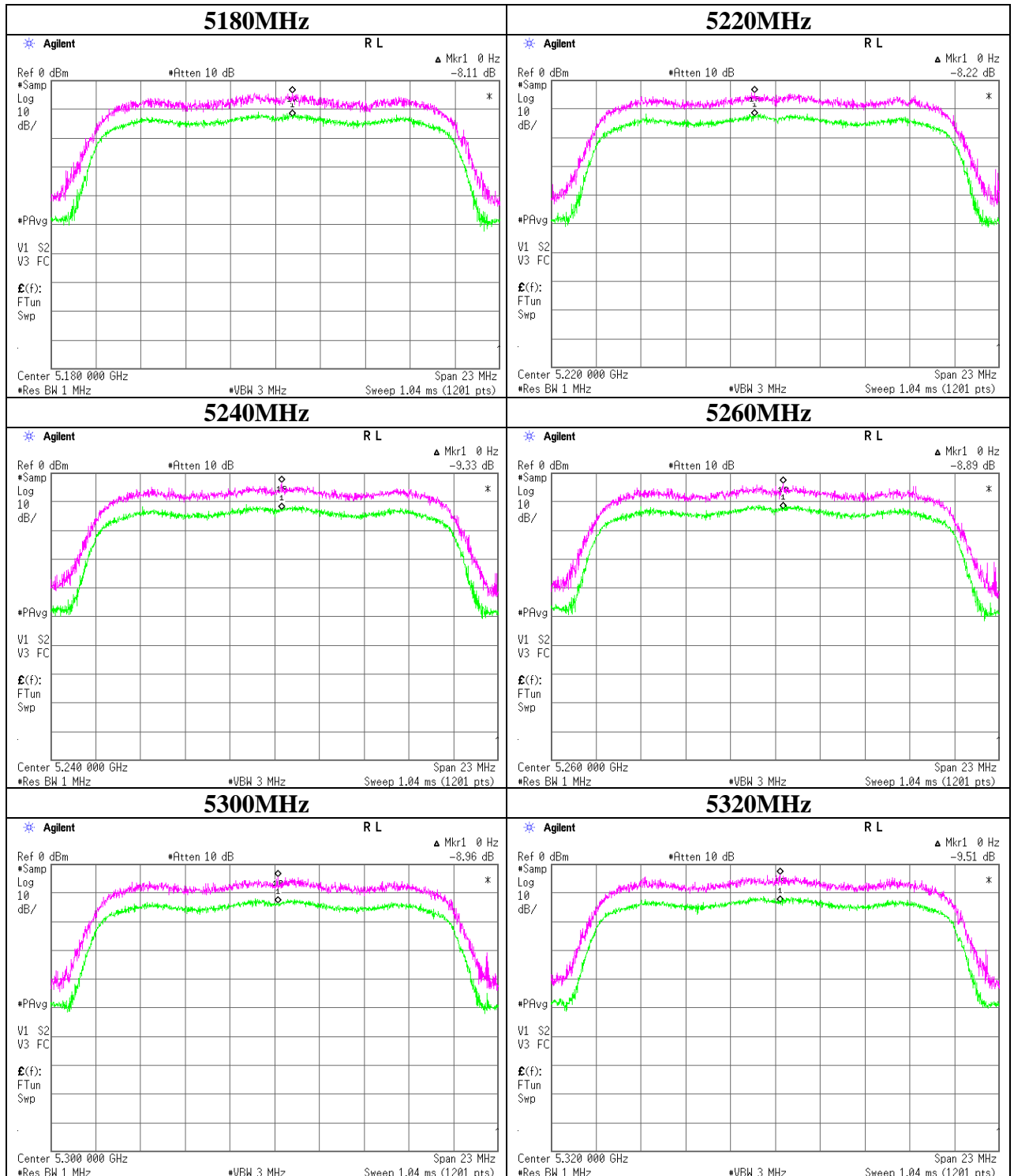
Peak Excursion Ratio

11a



Peak Excursion Ratio

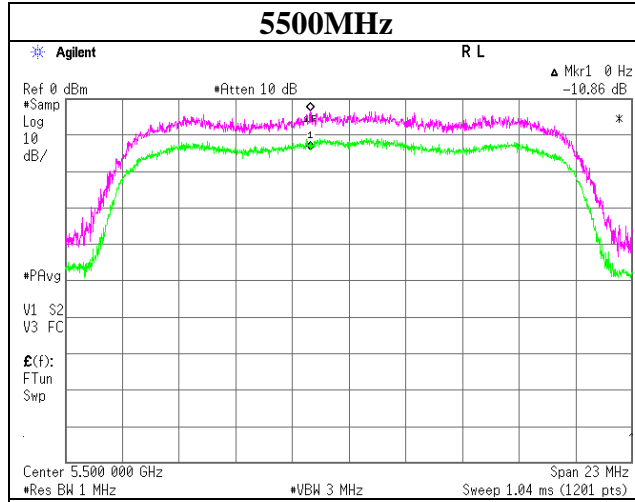
11n-20



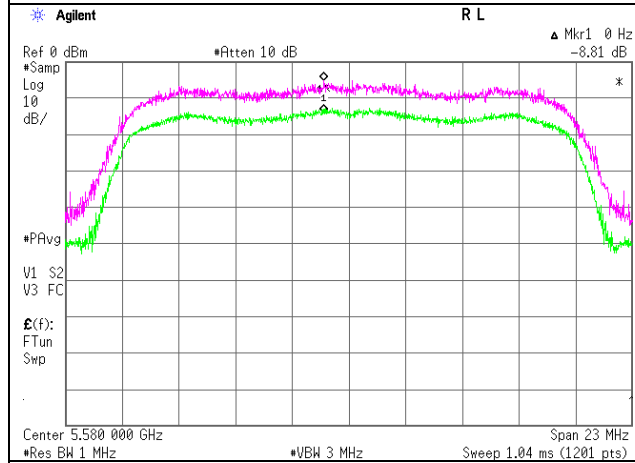
Peak Excursion Ratio

11n-20

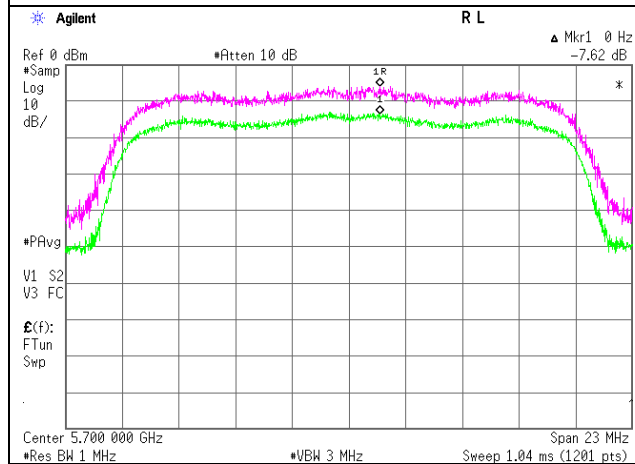
5500MHz



5580MHz

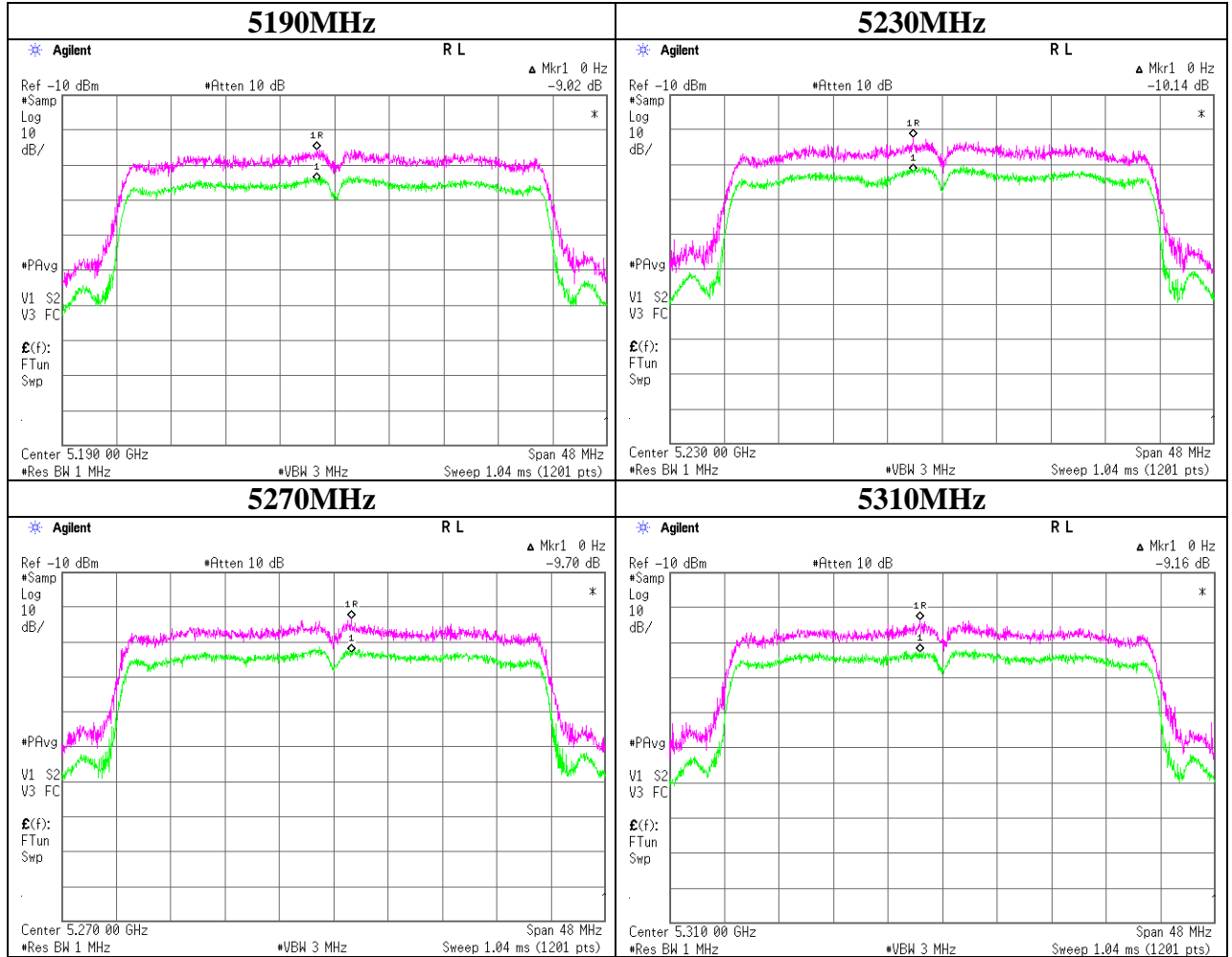


5700MHz



Peak Excursion Ratio

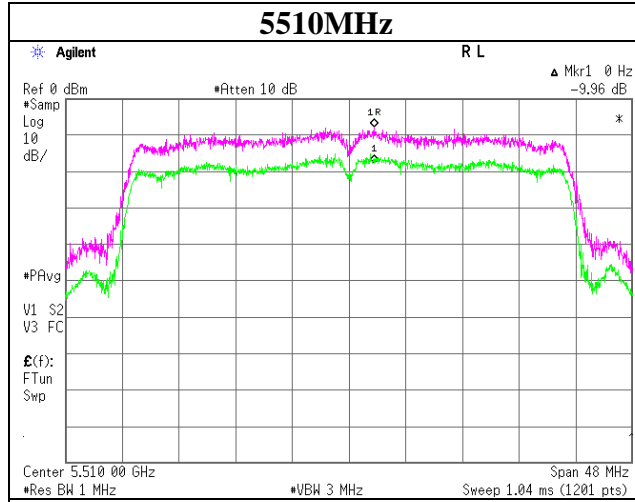
11n-40



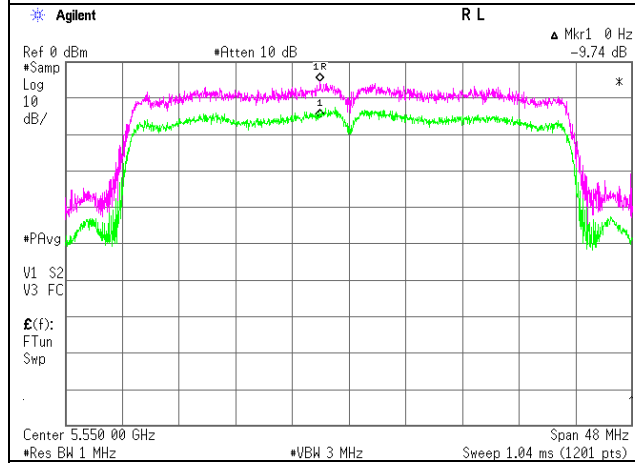
Peak Excursion Ratio

11n-40

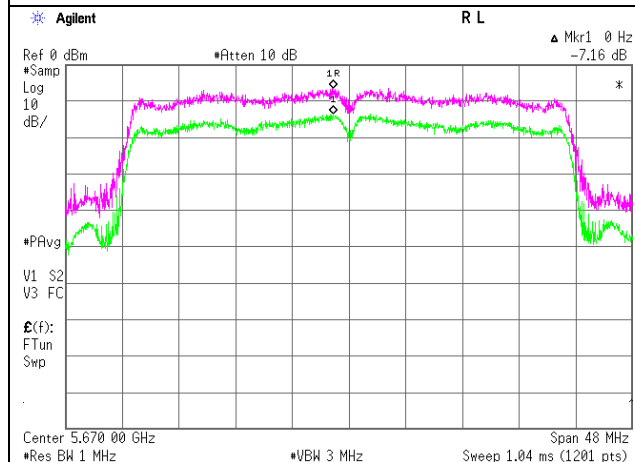
5510MHz



5550MHz



5670MHz



APPENDIX 3: Test instruments

EMI test equipment [1/2]

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2011/02/22 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	2011/02/23 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE	2011/04/08 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2010/05/07 * 12
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	270875/4(1m) / 284655(5m)	RE	2011/03/02 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2011/03/10 * 12
MAEC-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2011/03/01 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE/CE	2011/02/23 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE/CE	-
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE/AT	2010/11/30 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2010/08/08 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2011/03/10 * 12
MHF-23	High Pass Filter 7-20GHz	TOKIMEC	TF37NCCC	603	RE	2011/01/06 * 12
MCC-79	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	278923/4	RE	2010/12/02 * 12
MHA-17	Horn Antenna 15-40GHz	Schwarzbeck	BBHA9170	BBHA9170307	RE	2010/06/29 * 12
MCC-54	Microwave Cable	Suhner	SUCOFLEX101	2873(1m) / 2876(5m)	RE	2011/03/02 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	3950M00205	RE	2010/06/11 * 12
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	AT	2011/02/15 * 12
MTA-09	Terminator	HP	HP 909D	03745	AT	2011/02/01 * 12
MAT-22	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	AT	2011/03/14 * 12
MCC-114	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	290212/4	AT	2010/08/05 * 12
MCC-116	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	290221/4	AT	2010/08/05 * 12
MTA-36	Terminator	-	50ΩSMA	-	AT	Pre Check
MOS-19	Thermo-Hygrometer	Custom	CTH-201	0001	AT	2010/12/13 * 12
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE/CE	2010/11/18 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE/CE	2010/10/27 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2010/10/11 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2010/10/11 * 12
MCC-50	Coaxial Cable	UL Japan	-	-	RE	2011/03/25 * 12

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EMI test equipment [2/2]

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAT-51	Attenuator(6dB)	Weinschel	2	AS3557	RE	2011/01/14 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2011/03/04 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE	2011/02/22 * 12
MAT-67	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2011/02/22 * 12
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	5D- 2W(10m)/SFM141(5m)/421- 010(1m)/sucoform1 41-PE(1m)/RFM- E121(Switcher)	-/04178	CE	2010/07/21 * 12

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

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

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

Test Item: CE: Conducted Emission

RE: Radiated Emission

AT: Antenna Terminal Conducted test

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