



TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5320MHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the selecicated resting/inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, be test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

Report No.: AGC04983200901FE06 Page 42 of 79







Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, between the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

Report No.: AGC04983200901FE06 Page 43 of 79





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Specificated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5500MHz

R

AGC

(8)						
🔤 Ке	eysight Spectrum Analyzer - Swept SA					
LXI	L RF 50 Ω AC	CORREC	SENSE:INT	ALIGN AUTO	05:44:20 PM Sep 11, 2020	Deels Oceansh
Mar	rker 1 5.33857761925	4 GHz		Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6	Peak Search
		PNO: Fast 😱	Trig: Free Run	Avg Hold:>100/100	TYPE M WWWWWW	
		IFGain:Low	#Atten: 30 dB		DET	
				Mkr	1 5 338 578 GHz	NextPeak
					-40 723 dBm	
10 d	Bidiv Ref 20.00 dBm				-40.720 aBm	
Log			Ĭ			
10.0						Next PK Right
0.00						
						Next Bk Loft
10.0						Next PK Leit
-10.0						
-20.0						
20.0						Marker Delta
					DL1 -27.00 dBm	
-30.0						
					▲ ¹	
-40.0						Mkr→CE
		A DESCRIPTION OF THE OWNER OF THE		6 . 1	and the statistic produced as a statistic of the statistic statistics of the statistic statistics of the statistic statistics of the stati	
50.0	and president and the first strength in the second state	and the second state of the state of the second state of the secon	and in the second states of the second states with the	The state being the second second second	President and a second s	
-50.0	- her a print of the light of the selected of the light of the			and the sea bits deal in the second		
-60.0						Mkr→RefLvl
-70.0						
						More
						WOIC
Star	rt 1 000 CHz				Stop 5 470 CHz	1 of 2
#Do		#\/D\M		Cwoon (2 000 mc (20000 ptc)	
##C		#VDVV	J.O WINZ	sweep a	sooo ins (soooo pis)	
MSG				STAT	US	

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the standing in the standing is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE in the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day affective issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

Report No.: AGC04983200901FE06 Page 45 of 79





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, between the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.





TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5700MHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Figure/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, be test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

Report No.: AGC04983200901FE06 Page 47 of 79







Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, between the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.







Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Specificated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agc-cert.com





TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5745MHz

R

AGC

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter explorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Mkr→RefLv

Stop 27.00 GHz Sweep 54.00 ms (30000 pts) More 1 of 2





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bodicated Pering/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter extinorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

#VBW 3.0 MHz

Attestation of Global Compliance(Shenzhen)Co., Ltd Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/

Start 5.93 GHz #Res BW 1.0 MHz





TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5825MHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the selecicated resting/inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, be test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

Report No.: AGC04983200901FE06 Page 52 of 79





 Interfective
 PND: Fast Program
 AvgiHidid:>100/100
 Program
 AvgiHidid:>100/100
 Program
 Next Peak

 10 dB/div
 Ref 20.00 dBm
 Image: Status
 Im

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, be test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.







Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



12. RADIATED EMISSION

12.1. MEASUREMENT PROCEDURE

- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3M VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pestro/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



12.2. TEST SETUP

Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stand inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE in the test estimates and the test estimates and the test estimates are presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

12.3. LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested For restricted band radiated emission, the test records reported below are the worst result compared to other modes.

12.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stamp of t



RADIATED EMISSION BELOW 1GHZ

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal

66.9 dBuV/m



_									
	No.	M	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
	1		67.1833	1.09	16.76	17.85	40.00	-22.15	peak
	2		159.3333	8.11	19.02	27.13	43.50	-16.37	peak
	3		321.0000	1.29	21.37	22.66	46.00	-23.34	peak
	4		658.8832	2.55	27.66	30.21	46.00	-15.79	peak
1	5		736.4833	2.31	28.97	31.28	46.00	-14.72	peak
Ē	6	*	849.6500	2.15	31.05	33.20	46.00	-12.80	peak

RESULT: PASS

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stead of the test results of the test results are apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day affective is not permitted without the written authorization of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



Report No.: AGC04983200901FE06 Page 58 of 79

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Vertical



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		68.8000	5.71	16.96	22.67	40.00	-17.33	peak
2		141.5500	10.51	19.23	29.74	43.50	-13.76	peak
3		327.4667	3.99	20.43	24.42	46.00	-21.58	peak
4		502.0667	1.59	25.03	26.62	46.00	-19.38	peak
5		568.3500	1.65	26.33	27.98	46.00	-18.02	peak
6	*	894.9167	6.91	27.84	34.75	46.00	-11.25	peak

RESULT: PASS

Note: 1.Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level. The "Factor" value can be calculated automatically by software of measurement system.
2. All the 20MHz bandwidth modulation had been tested, the 802.11a20 in 5180MHz was the worst case

and record in his test report.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter approver approver approved by the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



RADIATED EMISSION ABOVE 1GHZ

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ-Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin					
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type				
10360.044	39.45	9.14	48.59	68.20	-19.61	peak				
15540.066	40.59	10.22	50.81	74.00	-23.19	peak				
15540.066	32.01	10.22	42.23	54.00	-11.77	AVG				
Remark:	Remark:									
Factor = Ante	-actor = Antenna Factor + Cable Loss – Pre-amplifier.									

RADIATED EMISSION ABOVE 1GHZ-Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type			
10360.044	39.37	9.14	48.51	68.20	-19.69	peak			
15540.066	42.18	10.22	52.40	74.00	-21.60	peak			
15540.066	33.62	10.22	43.84	54.00	-10.16	AVG			
Remark:									
Factor = Antenna Factor + Cable Loss – Pre-amplifier.									

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the bedicated for the destination of the stamp. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5240MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ-Horizontal

			and the second sec						
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type			
10480.044	36.14	9.27	45.41	68.20	-22.79	peak			
15720.066	40.27	10.38	50.65	74.00	-23.35	peak			
15720.066	30.94	10.38	41.32	54.00	-12.68	AVG			
Remark:	8			C	®				
Factor - Anto	Foster - Antonno Foster I. Ookla Loos - Dre averliger								

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
10480.044	36.23	9.27	45.50	68.20	-22.70	peak
15720.066	39.47	10.38	49.85	74.00	-24.15	peak
15720.066	31.04	10.38	41.42	54.00	-12.58	AVG
Remark:			0		8	
Eactor - Anto	onna Eactor + Co	blo Loss D	ro amplifior			

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



EUT	Altro Smart Lock Model Name		ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5260MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ-Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
10520.044	38.49	9.29	47.78	68.20	-20.42	peak
15780.066	41.02	10.42	51.44	74.00	-22.56	peak
15780.066	31.49	10.42	41.91	54.00	-12.09	AVG
Remark:	0				®	
Castan - Auto	nna Eastan I O	able Lass D	a analifian			

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RADIATED EMISSION ABOVE 1GHZ-Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
10520.044	36.49	9.29	45.78	68.20	-22.42	peak
15780.066	42.57	10.42	52.99	74.00	-21.01	peak
15780.066	34.15	10.42	44.57	54.00	-9.43	AVG
Remark:			0	.C	8	
Eactor - Ante	anna Eactor + Ca	able Loss D	re amplifier			

Compliance Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "bedicated "rest Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written enhorization of AGE presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com. g/Inspection he test results Bf he test report.



EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5320MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ-Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type		
10640.044	46.59	9.35	55.94	74.00	-18.06	peak		
10640.044	37.22	9.35	46.57	54.00	-7.43	AVG		
15960.066	40.18	10.46	50.64	74.00	-23.36	peak		
15960.066	30.53	10.46	40.99	54.00	-13.01 🛞	AVG		
Remark:	- C	8			- 6			
-actor = Antenna Factor + Cable Loss – Pre-amplifier.								

RADIATED EMISSION ABOVE 1GHZ-Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value rype
10640.044	47.16	9.35	56.51	74.00	-17.49	peak
10640.044	38.17	9.35	47.52	54.00	6.48	AVG
15960.066	41.59	10.46	52.05	74.00	-21.95	o peak
15960.066	32.47	10.46	42.93	54.00	-11.07	AVG
Remark:		0				
Factor = Ante	enna Factor + Ca	able Loss –	Pre-amplifier.			

Compliance Dedicated Fe Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the bedicated resistanp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written extincrization of AG presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day Safter the issues of the required of the required of the required of the test report should be addressed to AGC by agc@agc-cert.com. g/Inspection he test results Bf he test report.



EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5500MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
11000.044	48.23	9.37	57.60	74.00	-16.40	peak
11000.044	40.17	9.37	49.54	54.00	-4.46	AVG
16500.066	32.15	10.48	42.63	68.20	-25.57	peak
Remark:	8				8	
Contor - Anto	mma Fastar I C	abla Lasa Dr	a analifian			

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RADIATED EMISSION ABOVE 1GHZ-Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
11000.044	48.26	9.37	57.63	74.00	-16.37	peak
11000.044	42.37	9.37	51.74	54.00	-2.26	AVG
16500.066	33.84	10.48	44.32	68.20	-23.88	peak
Remark:			0		0	
Easter - Anto	onno Eastar + Ca		re emplifier		6.4	

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



EUT	Altro Smart Lock Model Name		ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5700MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin					
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type				
11400.044	47.19	9.39	56.58	74.00	-17.42	peak				
11400.044	37.12	9.39	46.51	54.00	-7.49	AVG				
17100.066	30.46	10.49	40.95	68.20	-27.25	peak				
Remark:	8				®					
Contor - Anto	Foster - Antonno Foster / Ochla Loos - Dre amalífica									

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
11400.044	46.18	9.39	55.57	74.00	-18.43	peak
11400.044	38.47	9.39	47.86	54.00	-6.14	AVG
17100.066	42.15	10.49	52.64	68.20	-15.56	peak
Remark:			0		8	
Contor - Anto	onna Fastar I Ca		ro omplifior			S.

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5745MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
11490.042	47.29	9.42	56.71	74.00	-17.29	peak
11490.042	37.15	9.42	46.57	54.00	-7.43	AVG
17235.063	41.58	10.51	52.09	68.20	-16.11	peak
Remark:	8			C	®	
Easten - Ante	Factor Astronom Factor & Oakla Lange Day and life a					

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RADIATED EMISSION ABOVE 1GHZ-Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
11490.042	47.26	9.42	56.68	74.00	-17.32	peak
11490.042	38.07	9.42	47.49	54.00	-6.51	AVG
17235.063	40.16	10.51	50.67	68.20	-17.53	peak
Remark:			0		8	
Contor - Anto	onna Fastar I C	abla Lasa Di	o amplifior			

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter explorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC04983200901FE06 Page 66 of 79

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5825MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ-Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
11650.042	48.16	9.62	57.78	74.00	-16.22	peak
11650.042	37.44	9.62	47.06	54.00	-6.94	AVG
17475.063	42.18	10.75	52.93	68.20	-15.27	peak
Remark:						
$Eactor = \Delta nte$	Factor - Antenna Factor + Cable Loss Pre amplifier					

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
11650.042	46.29	9.62	55.91	74.00	-18.09	peak
11650.042	35.12	9.62	44.74	54.00	-9.26	AVG
17475.063	39.43	10.75	50.18	68.20	-18.02	peak
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Note: Other frequencies radiation emission from 1GHz to 40GHz at least have 20dB margin and not recorded in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.

The "Factor" value can be calculated automatically by software of measurement system.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



13. BAND EDGE EMISSION

13.1. MEASUREMENT PROCEDURE

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.

2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=1MHz, VBW=3MHz / Sweep=AUTO

(b) AVERAGE: RBW=1MHz ; VBW=1/on time(1KHz) / Sweep=AUTO

3. Other procedures refer to clause 11.2.

Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level

2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(μ V) to represent the Amplitude. Use the F dB(μ V/m) to represent the Field Strength. So A=F.

3. Only the data of band edge emission at the restricted band 4.5GHz-5.15GHz and 5.35GHz-5.46GHz record in the report. Other restricted band 7.25GHz-7.77GHz were considered as ambient noise. No recording in the test report.

13.2. TEST SET-UP



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stand inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC04983200901FE06 Page 68 of 79

13.3. TEST RESULT

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal



PK Value

AV Value



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Perturg/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agc-cert.com



Report No.: AGC04983200901FE06 Page 69 of 79

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Vertical



PK Value

AV Value



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pasting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC04983200901FE06 Page 70 of 79

art Lock	Model Name	ModelX
	Relative Humidity	55.4%
	Test Voltage	Normal Voltage
20 5320MHz	Antenna	Horizontal
	art Lock 20 5320MHz	art Lock Model Name Relative Humidity Test Voltage 20 5320MHz Antenna



PK Value

AV Value



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pasting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agc-cert.com



Report No.: AGC04983200901FE06 Page 71 of 79

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5320MHz	Antenna	Vertical



PK Value

AV Value



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pasting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC04983200901FE06 Page 72 of 79

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5500MHz	Antenna	Horizontal



PK Value





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pasting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agc-cert.com



Report No.: AGC04983200901FE06 Page 73 of 79

EUT	Altro Smart Lock	Model Name	ModelX
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5500MHz	Antenna	Vertical



PK Value

AV Value



RESULT: PASS

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Perturg/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agc-cert.com



14. FREQUENCY STABILITY

14.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the operation frequency.
- 3. Set SPA Centre Frequency = Operation Frequency. SPAN=enough to measure the emission is maintained within the band
- 4. Set SPA Trace 1 Max hold, then View.
- 5. Extreme temperature rule is -10°C~60°C.

14.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stand in spectrum of the stand in the report is not permitted without the written apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day and a stand of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



14.3. MEASUREMENT RESULTS

Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusion
	- 10℃	5180	5180.029	PASS
8	0° C	5180	5180.027	PASS
G	10 ℃	5180	5180.025	PASS
	20 ℃	5180	5180.024	PASS
	30 ℃	5180	5180.027	PASS
	40 ℃	5180	5180.025	PASS
8	50 ℃	5180	5180.026	PASS
	60 °C	5180	5180.028	PASS
	- 10°C	5240	5240.057	PASS
	0 °C	5240	5240.057	PASS
	0° ℃	5240	5240.055	PASS
G	20 ℃	5240	5240.056	PASS
	30 ℃	5240	5240.0556	PASS
0	40 ℃	5240	5240.0565	PASS
C	50 ℃	5240	5240.055	PASS
	60 ℃	5240	5240.051	PASS
	- 10℃	5260	5260.029	PASS
	0°C	5260	5260.032	PASS
®	10°C	5260	5260.035	PASS
	20 °C	5260	5260.036	PASS
802.11a	30 °C	5260	5260.032	PASS
	40 ℃	5260	5260.034	PASS
	50°C	5260	5260.035	PASS
	60 °C	5260	5260.036	PASS
	- 10°C	5320	5320.042	PASS
	0°C	5320	5320 023	PASS
	10°C	5320	5320.045	PASS
	20°C	5320	5320.047	PASS
	30 °C	5320	5320.043	PASS
	40°C	5320	5320.044	PASS
	50° C	5320	5320.047	PASS
	60 °C	5320	5320.046	PASS
	- 10°C	5500	5500.065	PASS
	0°C	5500	5500.069	PASS
	<u> </u>	5500	5500.068	PASS
	20°C	5500	5500.062	PASS
	30 °C	5500	5500.002	
	<u>30</u> €	5500	5500.000	
	40 C	5500	5500.009	PASS DAGG
	50 C	5500	5500.000	DAGO
	1000	5700	5700.052	PASS DAGG
	- 100	5700	5700.052	PASS

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the selected Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC04983200901FE06 Page 76 of 79

	10 ℃	5700	5700.057	PASS
	20 ℃	5700	5700.054	PASS
	30 °C	5700	5700.052	PASS
	40 °C	5700	5700.056	PASS
	50 ℃	5700	5700.056	PASS
0	60 ℃	5700	5700.055	PASS
	- 10 ℃	5745	5745.049	PASS
Г	0 °C	5745	5745.044	PASS
	10 ℃	5745	5745.043	PASS
	20 °C	5745	5745.045	PASS
	30 ℃	5745	5745.046	PASS
	40 ℃	5745	5745.047	PASS
	50 ℃	5745	5745.046	PASS
Т	60 ℃	5745	5745.048	PASS
	- 10℃	5825	5825.055	PASS
6)	0 °C	5825	5825.057	PASS
	10 ℃	5825	5825.052	PASS
٢	20 ℃	5825	5825.053	PASS
1	30 °C	5825	5825.055	PASS
T	40 ℃	5825	5825.056	PASS
	50 ℃	5825	5825.057	PASS
	60 °C	5825	5825.056	PASS

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agc-cert.com



Report No.: AGC04983200901FE06 Page 77 of 79

APPENDIX A: PHOTOGRAPHS OF TEST SETUP FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ



FCC RADIATED EMISSION TEST SETUP ABOVE 1GHZ



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written aphrorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day Safter the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agc-cert.com



Report No.: AGC04983200901FE06 Page 78 of 79

CONDUCTED TEST SETUP



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuerce of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC04983200901FE06 Page 79 of 79

APPENDIX B: PHOTOGRAPHS OF EUT

Refer to the Report No.: AGC04983200901AP01

----END OF REPORT----

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Festiva/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter approximation of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.