

Smart Aligner – Advanced App Course



MultiWave Sensors

Topics Covered

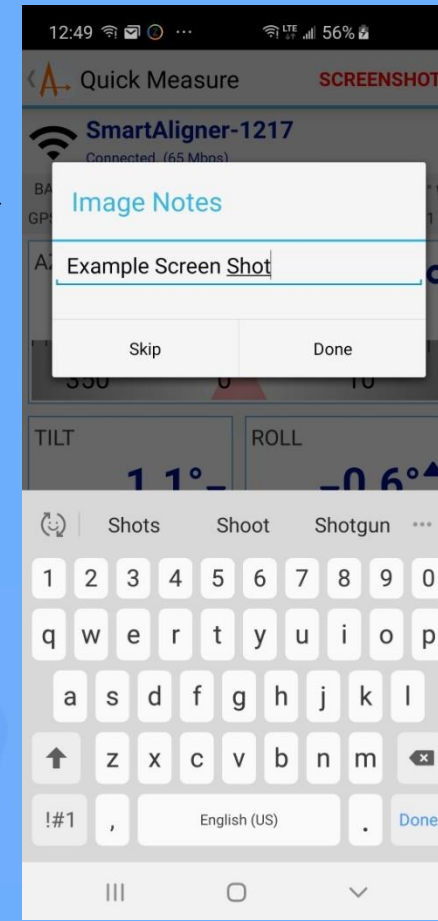
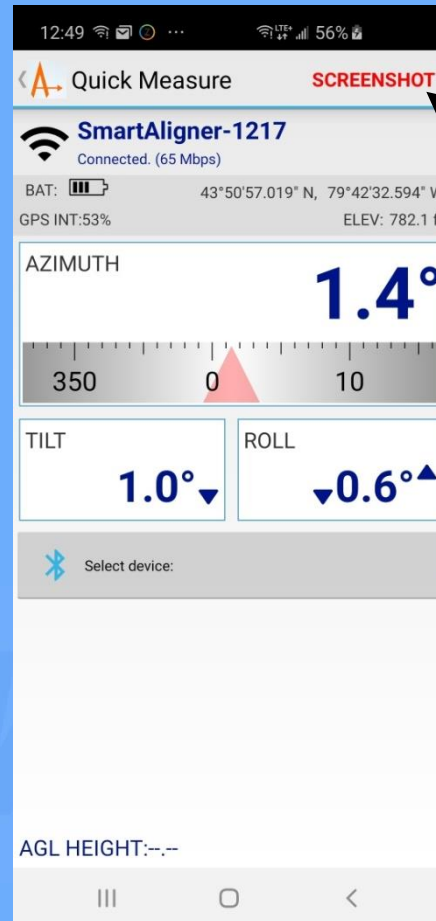
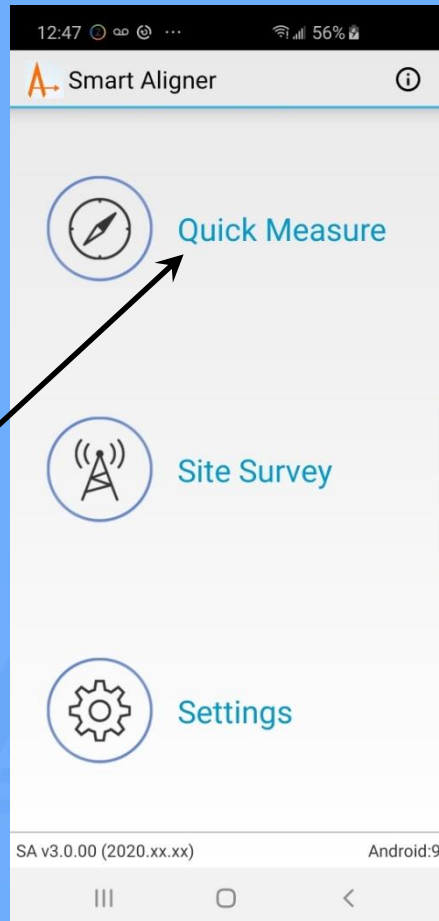
Note: This training course assumes that the Introductory Course has been completed and the user is familiar with the basic operation of the Smart Aligner System.

1. Quick Measure: Slide 3
2. Settings: Slides 4 – 13
3. Deleting or Duplicating an Antenna File: Slides 14 - 15
4. Deleting or Exporting a Site: Slides 16 - 18
5. Importing a Site: Slides 19 - 24

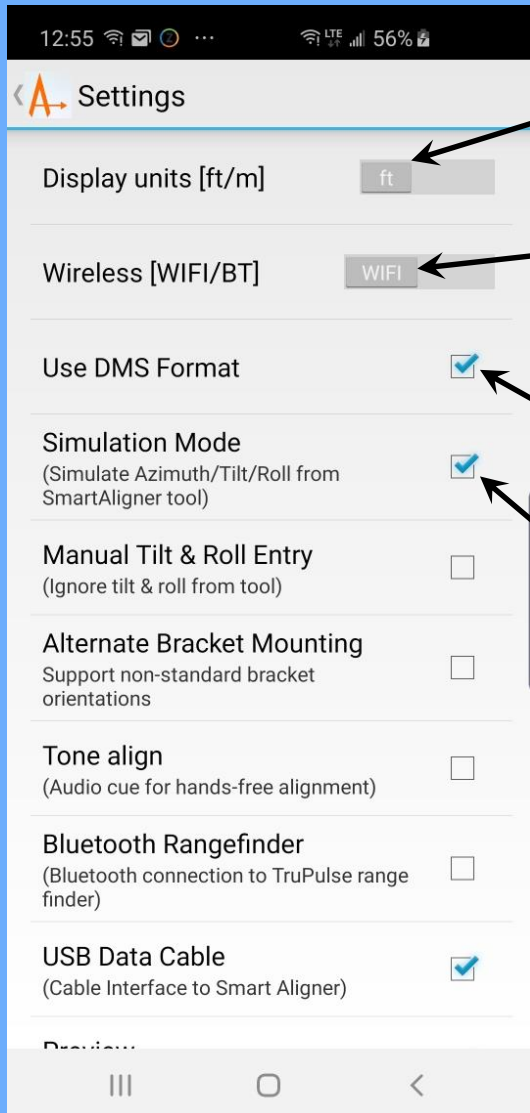


App Menu – Quick Measure

1. Quick Measure can be used to capture an alignment without targets. A **SCREENSHOT** can be saved with a custom note appended to it.

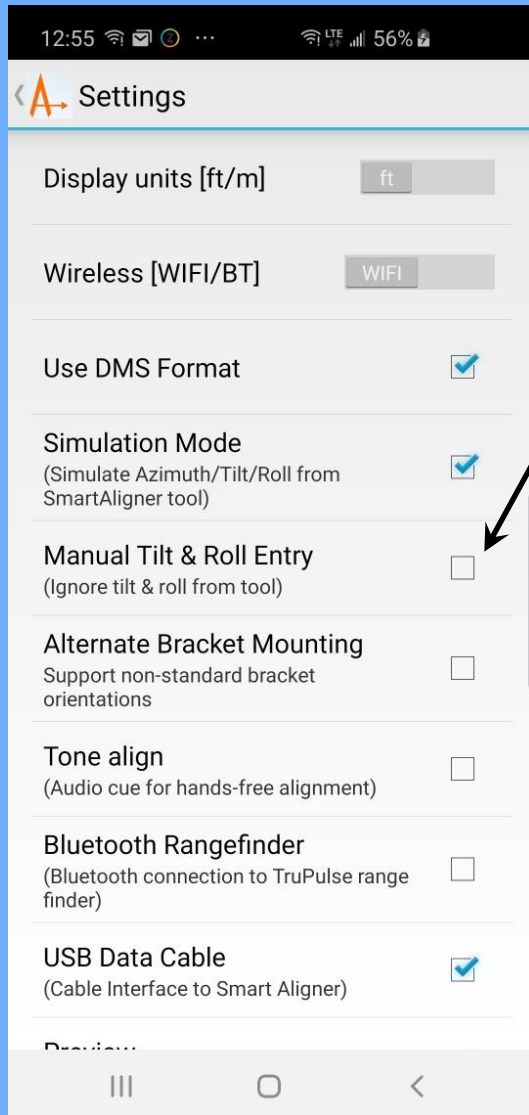


App Menu – Settings

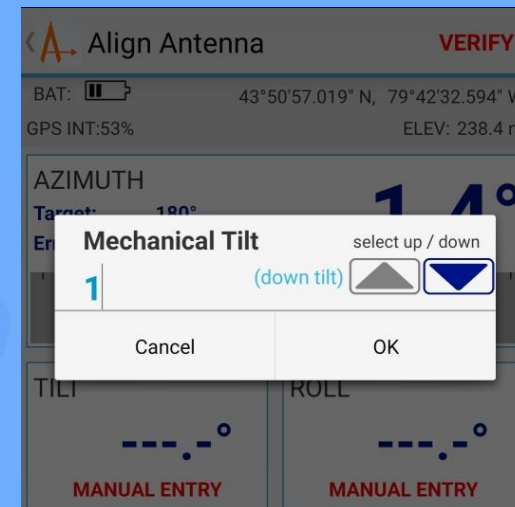
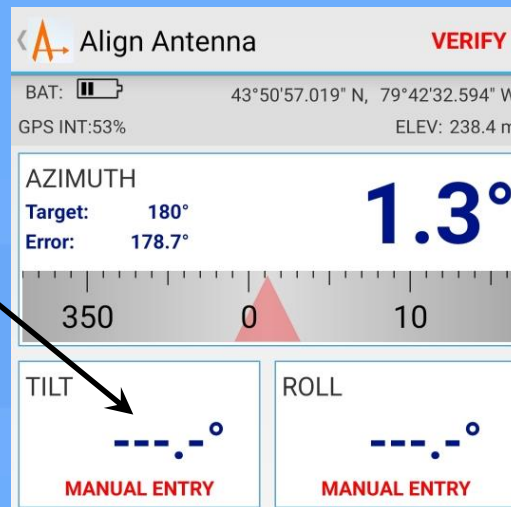


1. Set the Display Units for the app screen and reports to Feet (default) or Meters.
2. Choose between Wi-Fi (default) or BT. BT requires a new Tool (Serial # >3001) or updated Carrier Board and wireless set to BT (see Advanced Tool Course).
3. Set the Lat/Long position format to DMS (default on). If unchecked, the format is D.DDDDD.
4. Simulation Mode generates information as if it were connected to the Tool for evaluation and training purposes (default on). Remember to disable before connecting to the Tool. The Measurement Screen will have a red SIMULATION watermark on it.

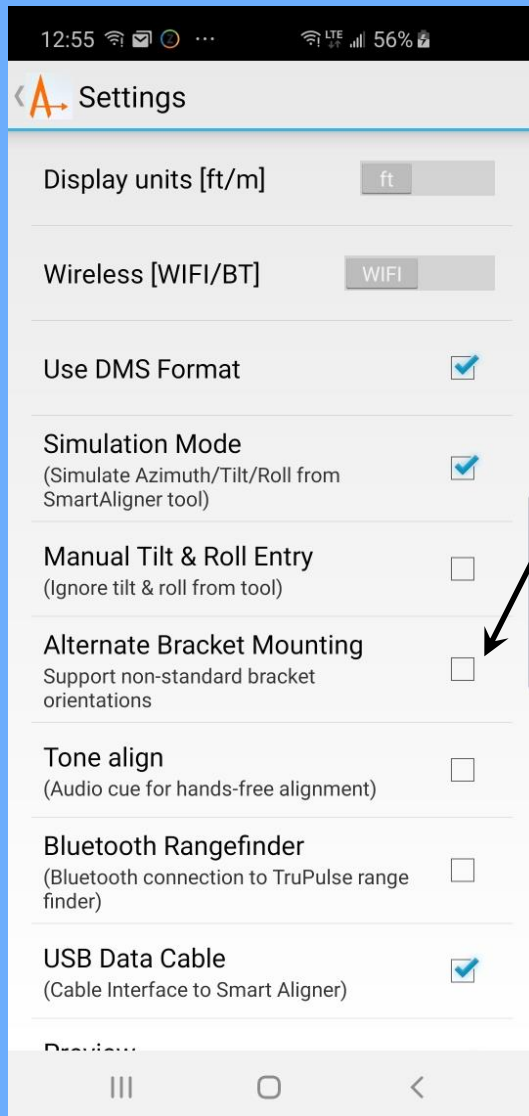
App Menu – Settings



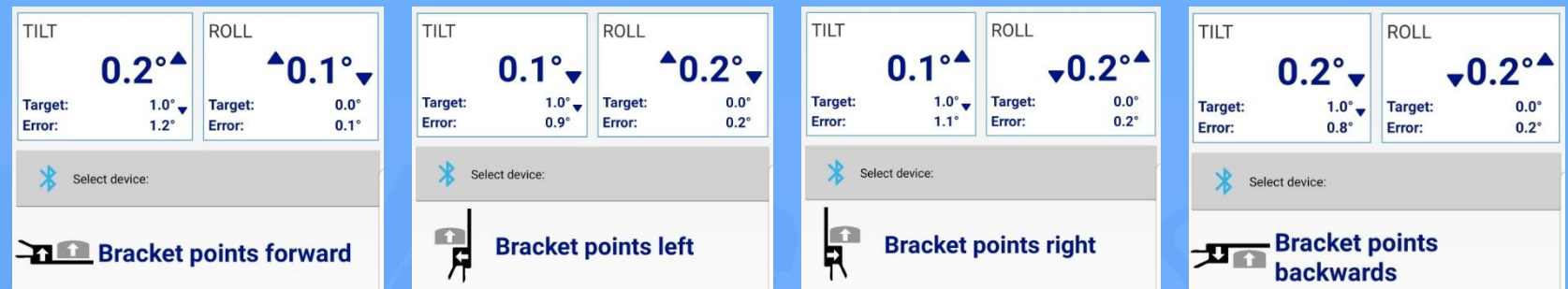
5. Select Manual Tilt & Roll if the carrier will not allow automatic Tilt and Roll information from Tool. Alternate inclination data is entered manually on measurement screen by selecting the field (default off).



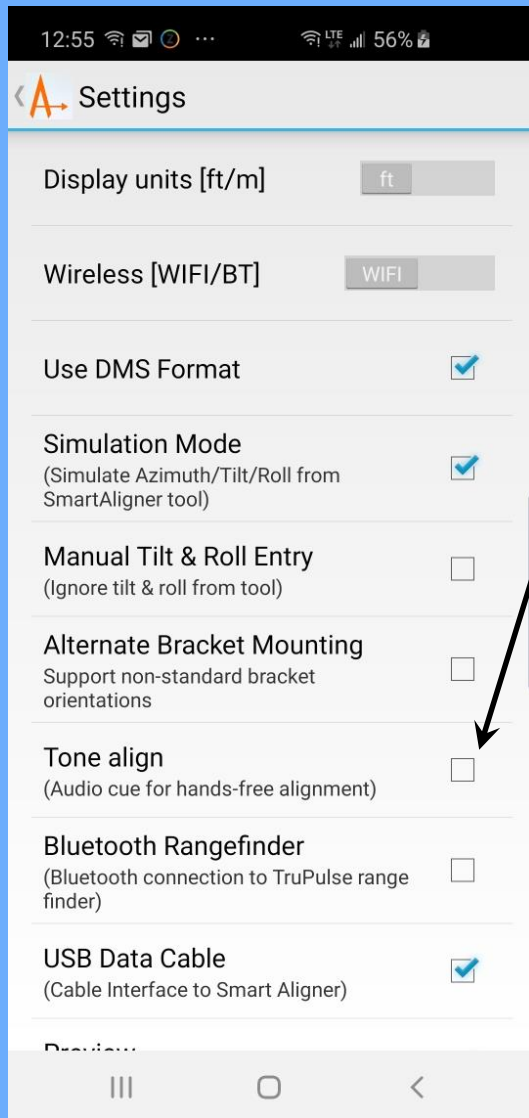
App Menu – Settings



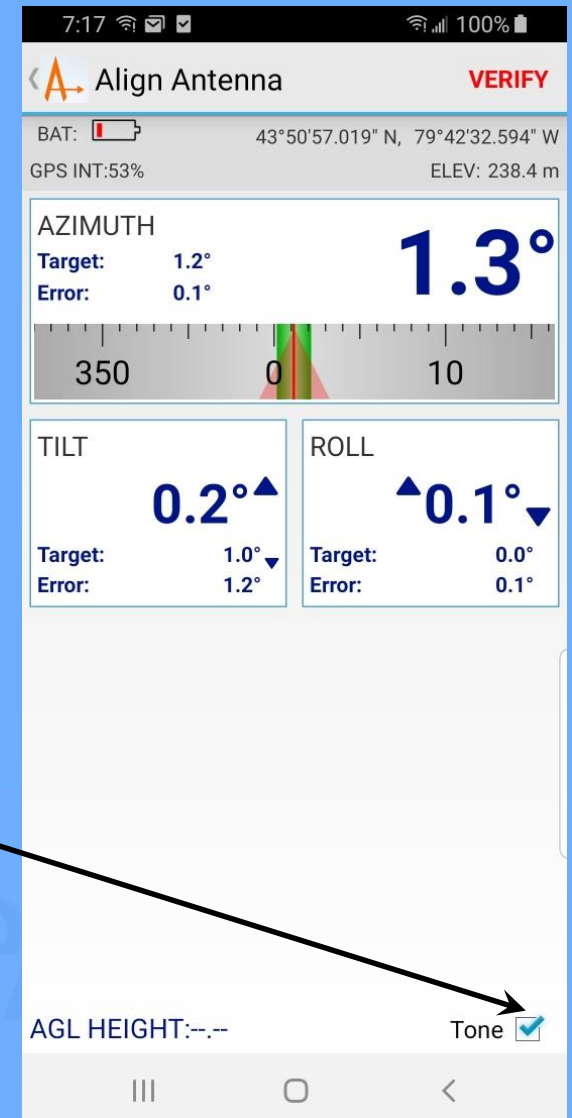
6. Select Alternate Bracket Mounting if you want to mount the Bracket in a different orientation than designed (default off). An icon appears on the measurement screen for alternate orientations as follows:



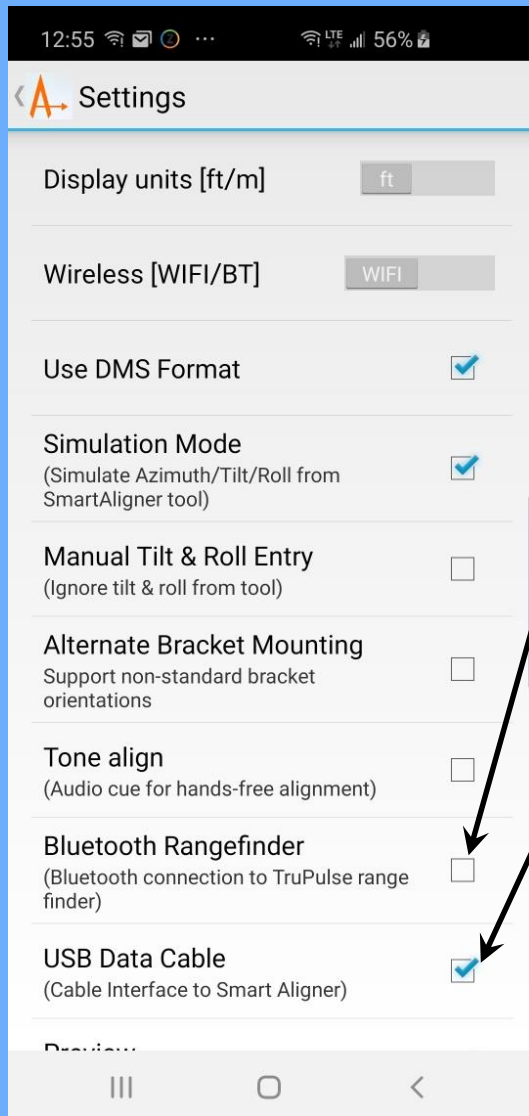
App Menu – Settings



7. Select Tone Align to have the phone beep during alignment. The beep gets more rapid and at a higher frequency when the target is approaching (default off). This allows both hands to align the antenna. User enables and disables from the measurement screen.



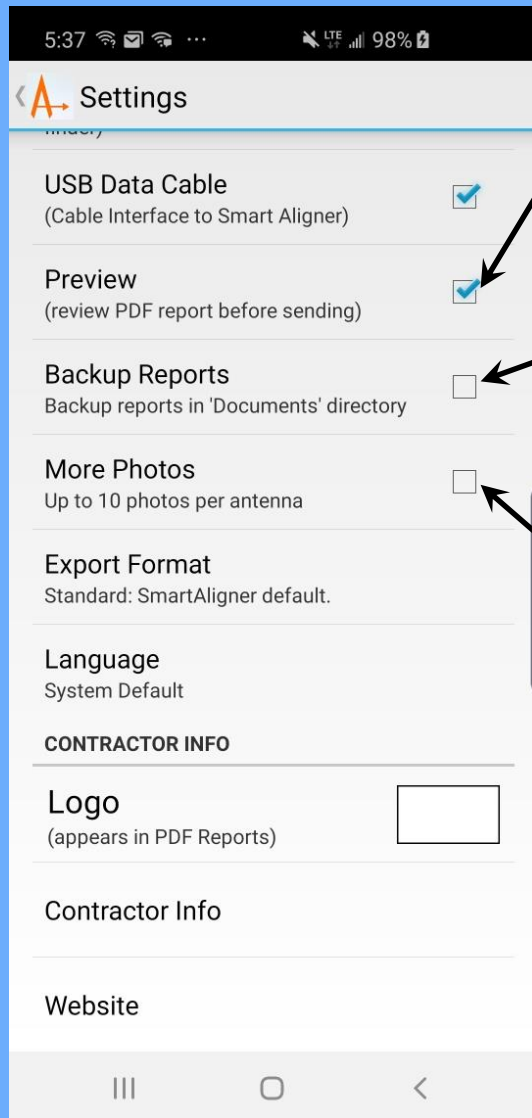
App Menu – Settings



8. If you are using a Bluetooth enabled TruPulse 200 (made by LTI), check this box. Please see AGL Measurements Course for detailed information (default off). Not available with iOS (Apple) phones.

9. If you want to use the optional USB Data Cable for wired communication to the Tool, select this box (default on). Not available with iOS (Apple) phones. See Miscellaneous Options Course.

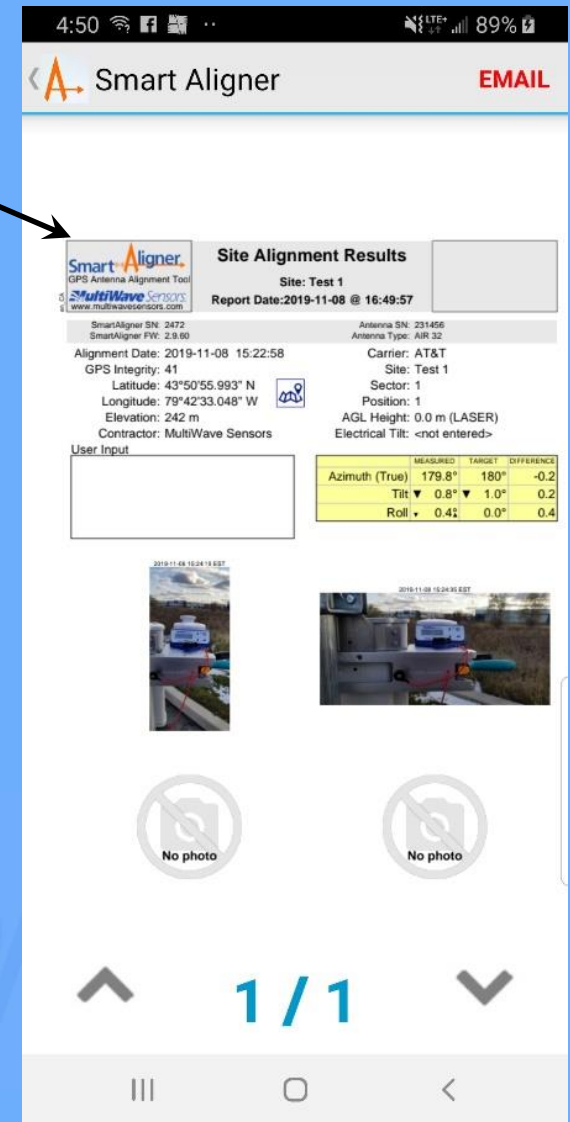
App Menu – Settings



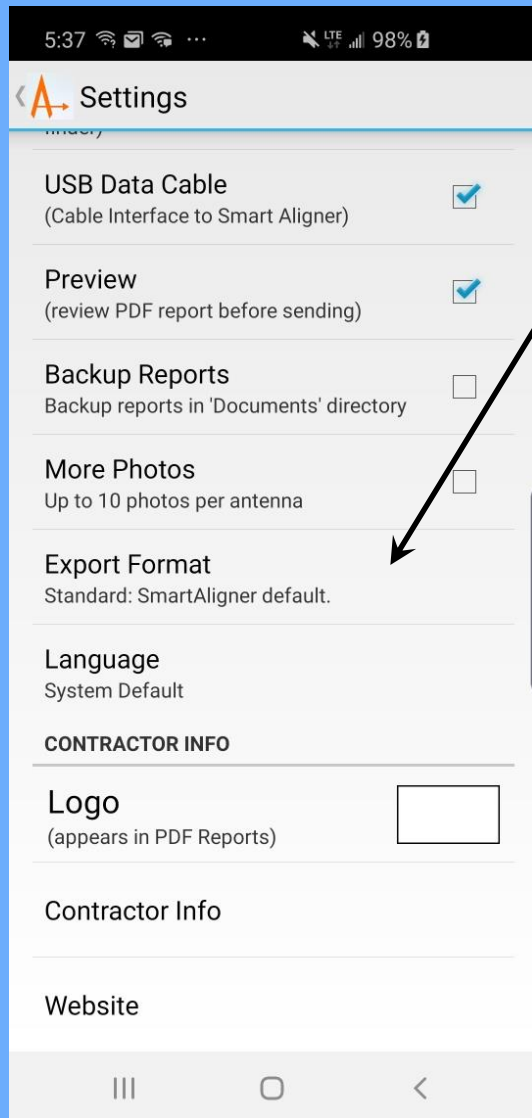
10. If Preview is selected (default), you can view the PDF Report before emailing it.

11. For automatic Report backup into the Documents directory, set this option.

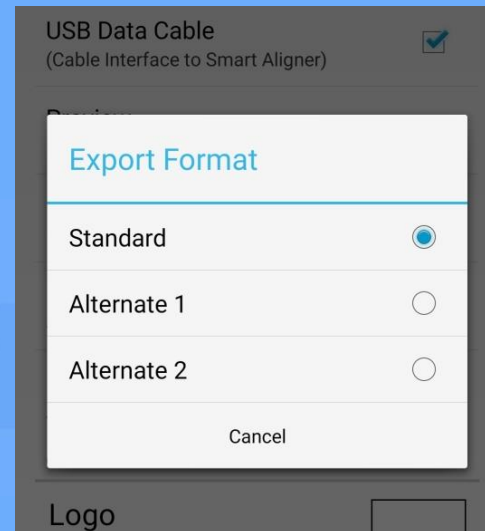
12. Choose this option if you require more than 4 photos per survey. If chosen, each antenna PDF will have two pages.



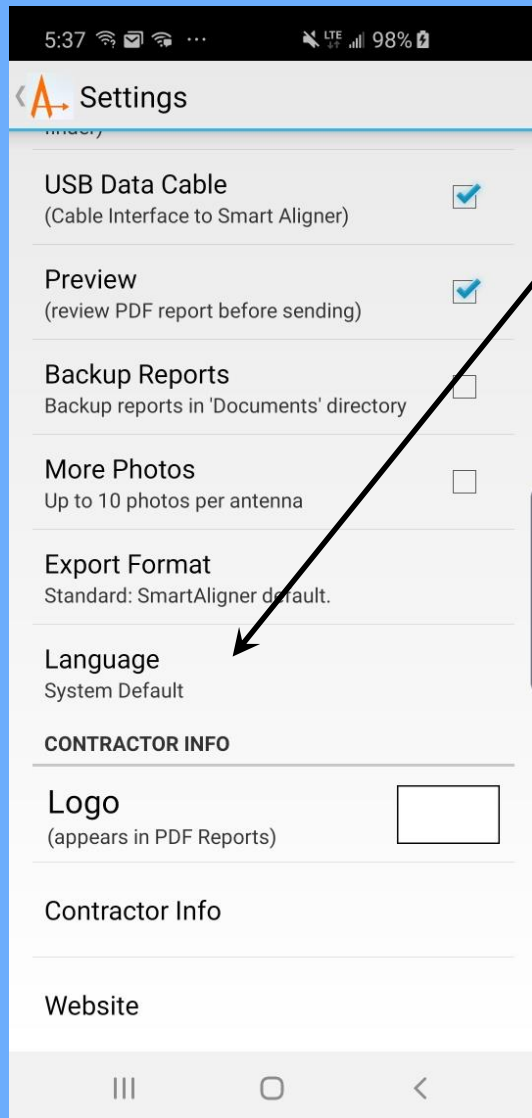
App Menu – Settings



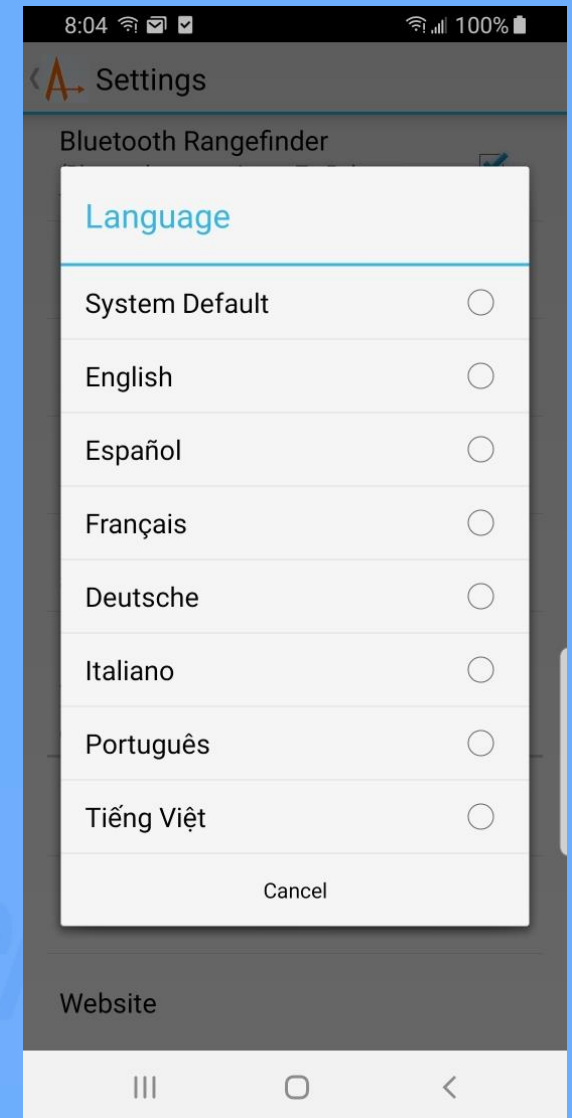
13. The complete Site Database can be exported. You can change the format with this option (default is Standard and is recommended). For more information, see Exporting a Site later in this course. Optional formats are as follows:



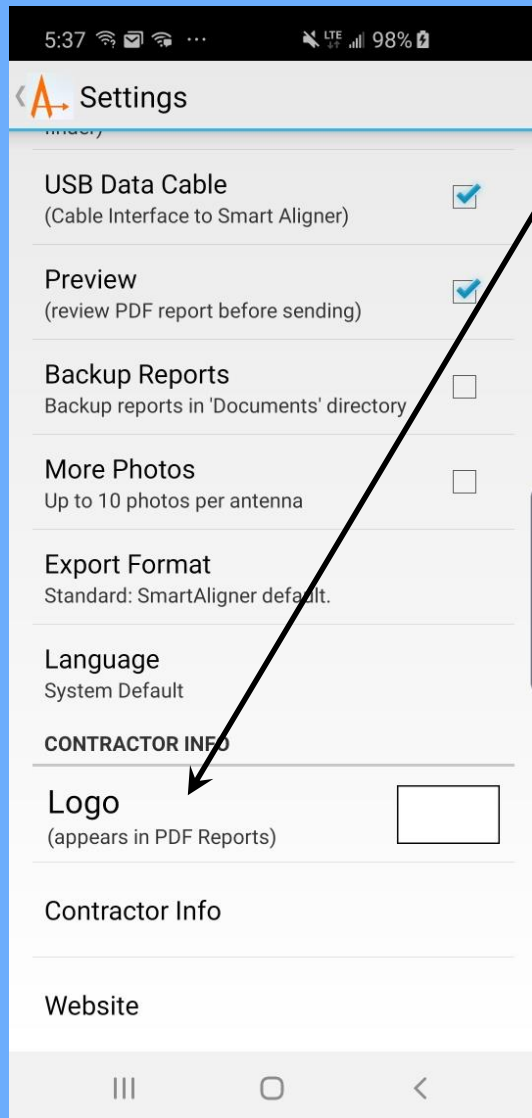
App Menu – Settings



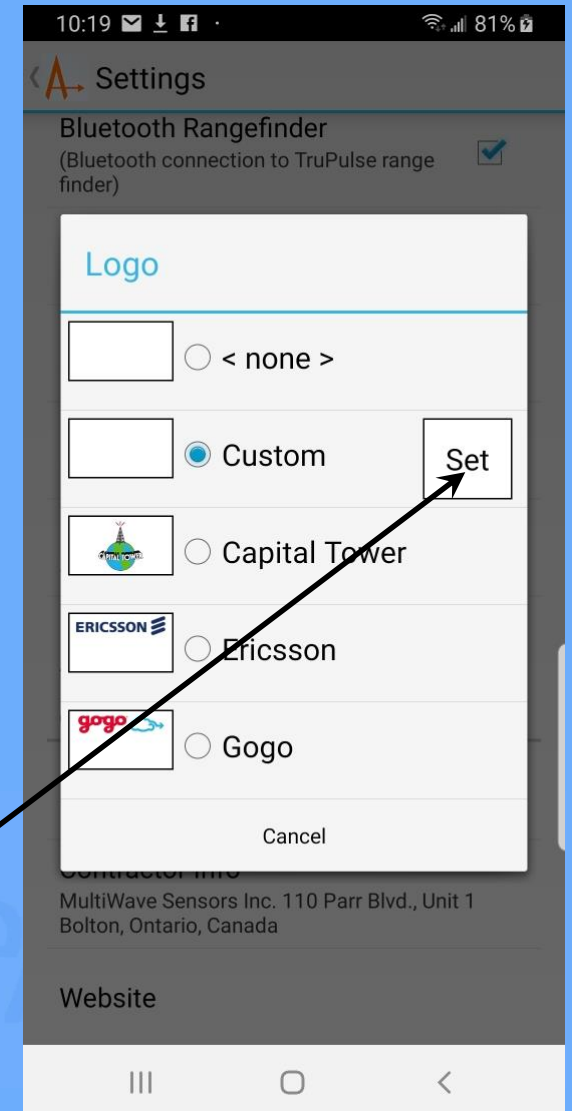
14. The Android app has multiple languages (not available on iOS devices). The list of currently available languages is shown to the right. If System Default is selected, the app will try to match the language with the operating system language.



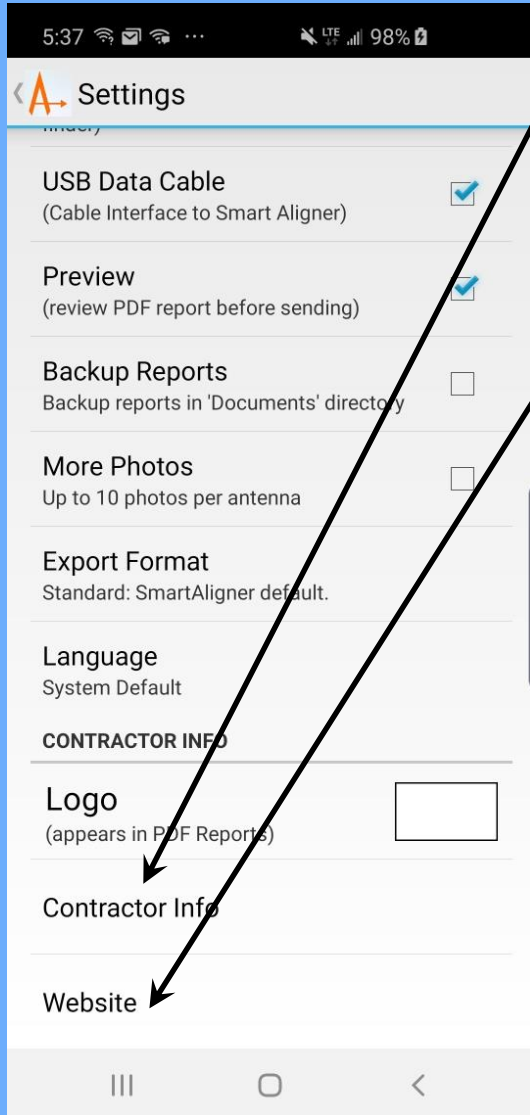
App Menu – Settings



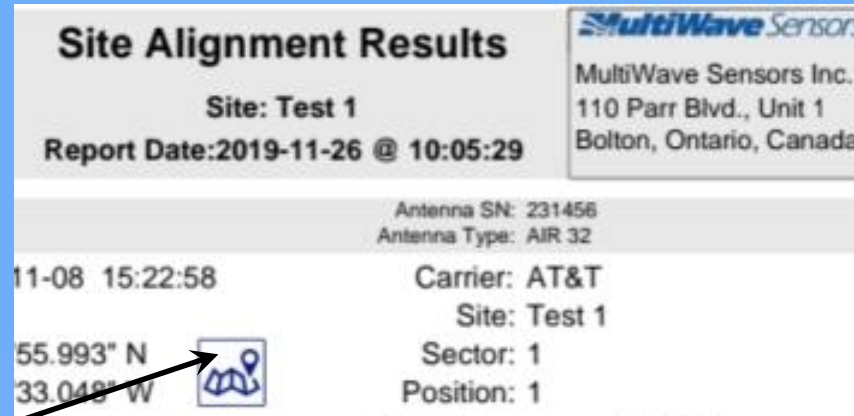
15. Choose from the available list for the logo to appear in the upper right corner of the report. If you want to add your logo, place the logo graphic file (JPEG or PNG) in Downloads directory on the Android phone, or My Albums directory on the iOS phone, and then select Set in the Custom area. Select your logo in the directory.



App Menu – Settings



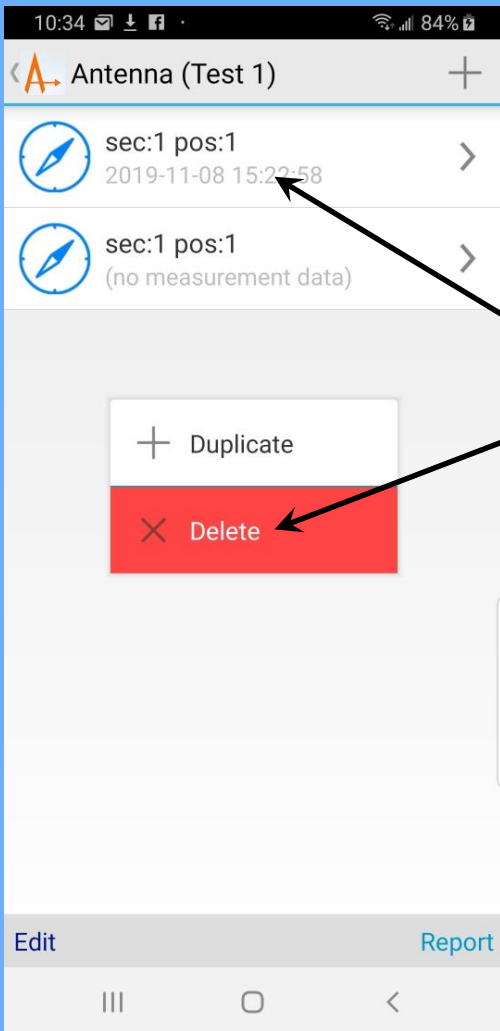
- 16. The Contractor Info will appear in the Contractor Box in the upper right corner of all of the reports as can be seen below with custom logo.
- 17. If a website is entered, it will create a hotlink in the PDF report when you tap the contractor box (Android only).



- 18. A Geotag will appear on an Android generated report. Tap the icon on a PC and the site location will appear in Google Maps.

Deleting an Antenna File

1. If an antenna has been surveyed incorrectly, you may want to *Delete* it. In the Android app, press and hold the file until a menu pops up. Choose *Delete* and confirm. In iOS (Apple), choose *Select* in the bottom left and check off which file is to be Deleted. Then choose *Delete* in the upper right corner and confirm.



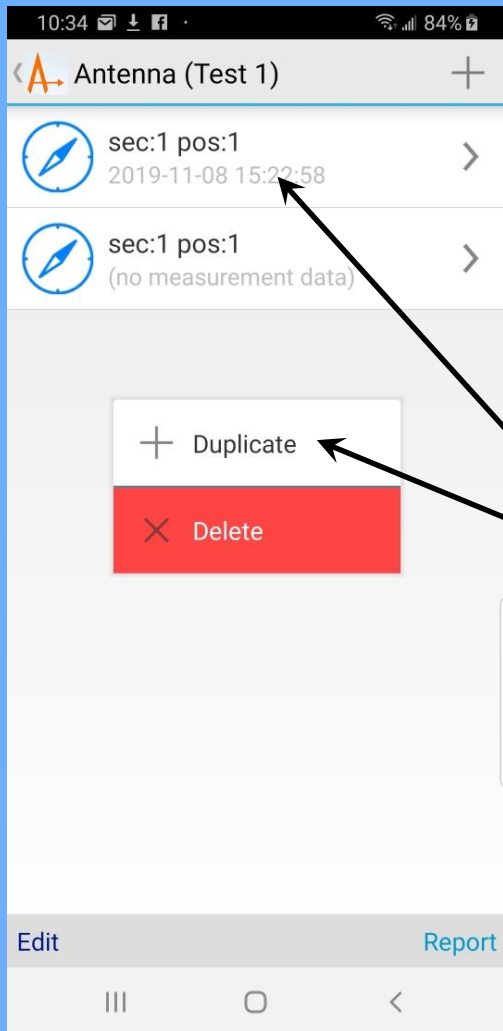
Android App Screen



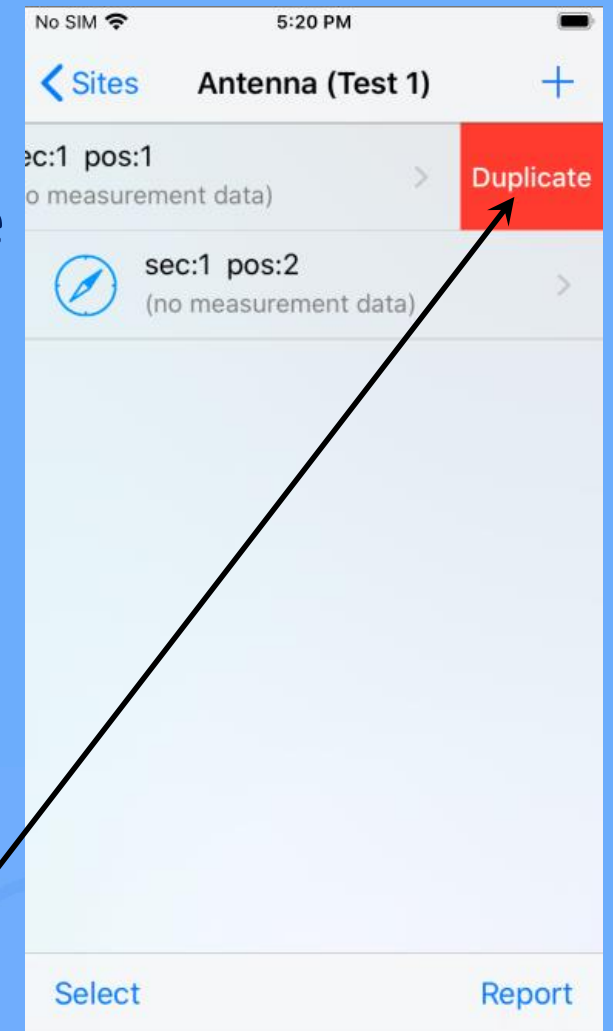
iOS App Screen

Duplicating an Antenna File

2. After manually entering the information for the site's first antenna, you can duplicate the file and change its Position/Sector, targets and serial number. For Android, press and hold the antenna file you wish to duplicate and a menu will appear. Choose *Duplicate*. For iOS, swipe to the left and the *Duplicate* box will appear in red. Select Duplicate.

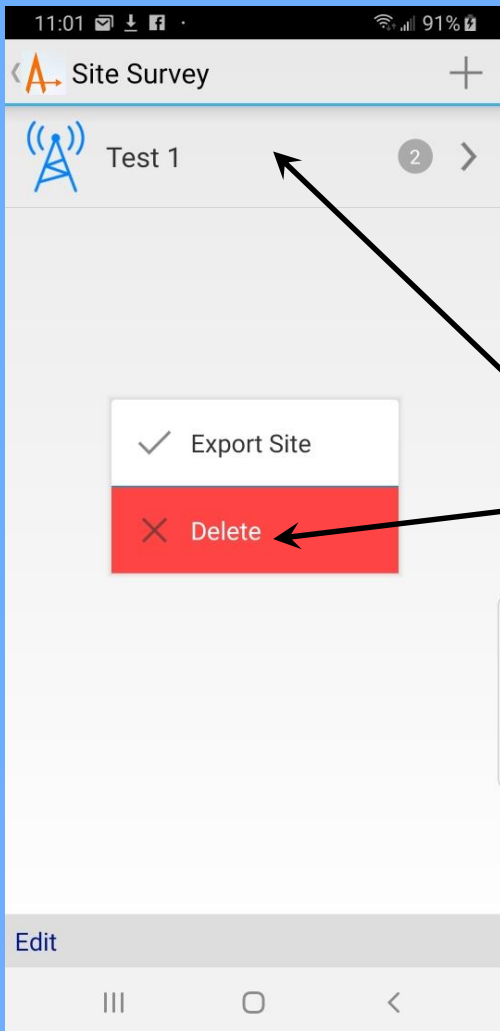


Android App Screen



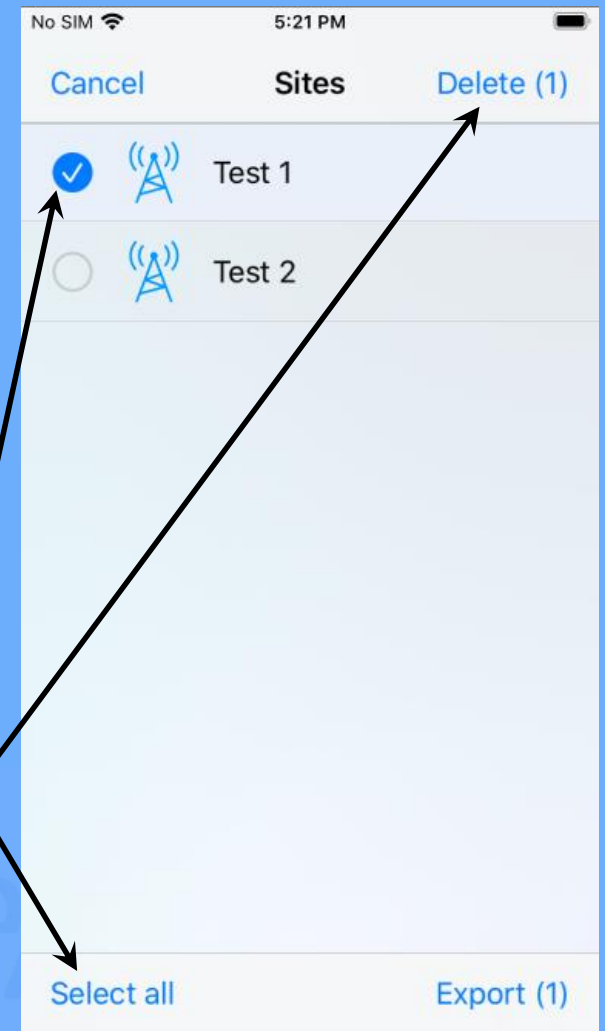
iOS App Screen

Deleting a Site



Android App Screen

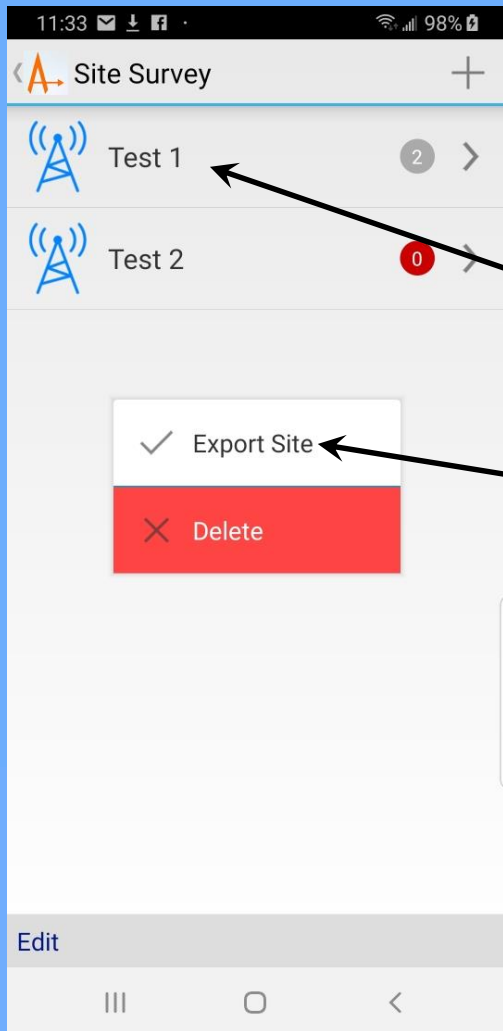
3. If a Site is complete and all reports have been made, you may want to *Delete* it for housekeeping purposes. In the Android app, press and hold the Site until a menu pops up. Choose *Delete* and confirm. In iOS (Apple), choose *Select* in the bottom left and check off which Site is to be Deleted. Then choose *Delete* in the upper right corner and confirm.



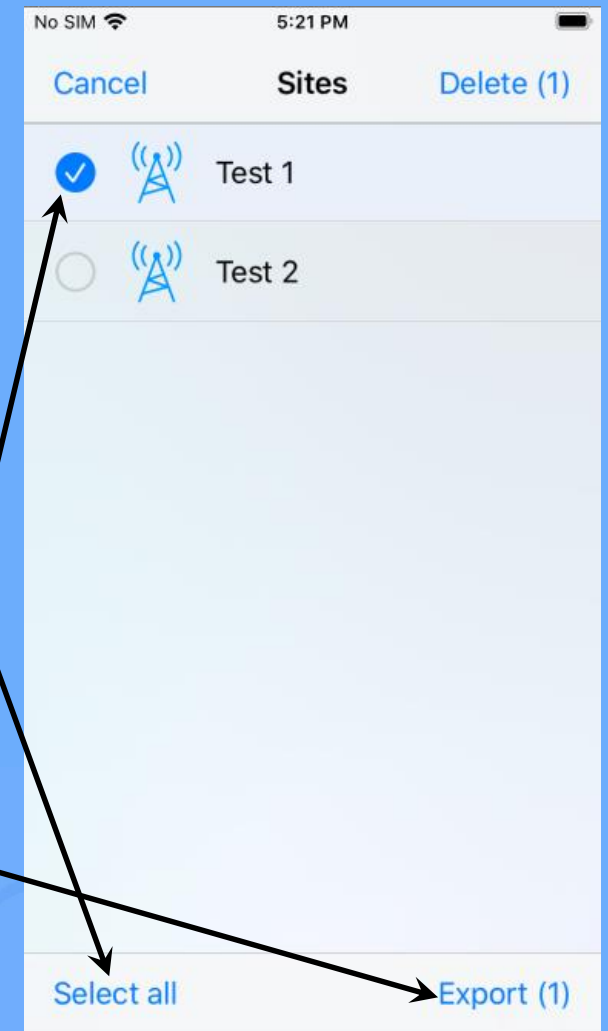
iOS App Screen

Exporting a Site

4. Some carriers require complete Site information in the form of a spreadsheet. For Android, press and hold the Site you wish to Export and a menu will appear. Choose *Export Site* and email. In iOS (Apple), choose *Select* in the bottom left and check off which Site is to be Exported. Then choose *Export* in the lower right corner and email.



Android App Screen



iOS App Screen

Exporting a Site

- The format of the exported Site file is comma-separated values (CSV), which can be read into any database and readily viewed by Excel. Each line of the file is one antenna survey.

#	SiteID	Sector	Position	TargetAz	Azimuth	TargetMe	TargetM	Electrios	Carrier	Contract	Antenne	SerialNu	UserInpu	UserInpu	UserInpu	UserInpu	Date	Time	Measure	Azimuth	Measure	Measure	Latitude	Director	Longitud	Director	Elevator	Elevator	aglHeigh	aglHeigh	aglHeigh	GPSinte	PhotoID	PhotoID	PhotoID	PhotoID	StoredD	UTCoffs	ToolSeri	Firmw are	DO NOT EDIT
2	Demo1	1	1	60		-0.5	0		verizon	MultWai	AIR32	1134					4/15/2016	10:38:58	60.3	T	-0.4	-0.1	32.982	N	97.024	W	481	ft		LASER	79	2016y04	2016y04	2016y04	2016y04	0	-4	1231	2.4.00	0xe6a3724	
3	Demo1	2	1	180		-0.5	0		verizon	MultWai	AIR32	1134					4/15/2016	10:35:09	179.9	T	-0.5	0.3	32.982	N	97.024	W	476	ft		LASER	20	2016y04	2016y04	2016y04m15d-T11	0	-4	1231	2.4.00	0xb3927c2b		
4	Demo1	3	1	300		-0.5	0		verizon	MultWai	AIR32	1134					4/15/2016	10:16:58	300.4	T	-0.4	0.1	32.982	N	97.024	W	480	ft	6	USER	61	2016y04	2016y04	2016y04	2016y04	0	-4	1231	2.4.00	0xc0854e3	

User Input Information
(entered through app)

Measurement Information
(produced after Verification)

Importing a Site

1. The previous section provided information on how to Export completed Site CSV files. This same methodology can be used to create Sites and Antenna Files automatically within the Smart Aligner app.
2. Take an existing exported Site CSV file (Standard Format) and copy it and rename it to a New Site that you want to create (keep in CSV format).
3. Open the new file in Excel.
4. Delete all the measurement data from the file (yellow highlight).

#	SiteID	Sector	Position	TargetAzimuth	TargetMeasure	TargetM	Electrical	Carrier	Contract	Antenna	SerialNumber	UserInput	UserInput	UserInput	UserInput	UserInput	Date	Time	MeasureAzimuth	MeasureLatitude	DirectorLongitude	DirectorElevation	ElevatorElevation	aglHeight	aglHeight	aglHeight	GPS	PhotoID	PhotoID	PhotoID	PhotoID	StoredID	UTCOffset	ToolSerial	Firmware	DO NOT EDIT			
1	Demo 1	1	1	60	-0.5	0		verizon	MultiWax	AIR32	1134						4/15/2016	10:38:58	60.3	T	-0.4	-0.1	32.982	N	97.024	W	481	ft	LASER	79	2016y04	2016y04	2016y04	2016y04	0	-4	1231	2.4.00	0xe6a3724
2	Demo 1	2	1	180	-0.5	0		verizon	MultiWax	AIR32	1134						4/15/2016	10:35:09	179.9	T	-0.5	0.3	32.982	N	97.024	W	476	ft	LASER	20	2016y04	2016y04	2016y04	m15d-T1	0	-4	1231	2.4.00	0xb3927c2b
3	Demo 1	3	1	300	-0.5	0		verizon	MultiWax	AIR32	1134						4/15/2016	10:16:58	300.4	T	-0.4	0.1	32.982	N	97.024	W	480	ft	USER	61	2016y04	2016y04	2016y04	2016y04	0	-4	1231	2.4.00	0xc0854e3

Importing a Site

5. Delete all rows of user input data except the first row (yellow highlight).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	#	SiteID	Sector	Position	TargetA: Azimuth	TargetMe	TargetM	Electrica	Carrier	Contract	Antenna	SerialNu	UserInput1	UserInput2	UserInput3	UserInput4	UserInput5	Date	Time	Measure	
2		Demo 1	1	1	60	-0.5	0	verizon	MultiWav	AIR32	1134										
3		Demo 1	2	1	180	-0.5	0	verizon	MultiWav	AIR32	1134										
4		Demo 1	3	1	300	-0.5	0	verizon	MultiWav	AIR32	1134										
5																					



Importing a Site

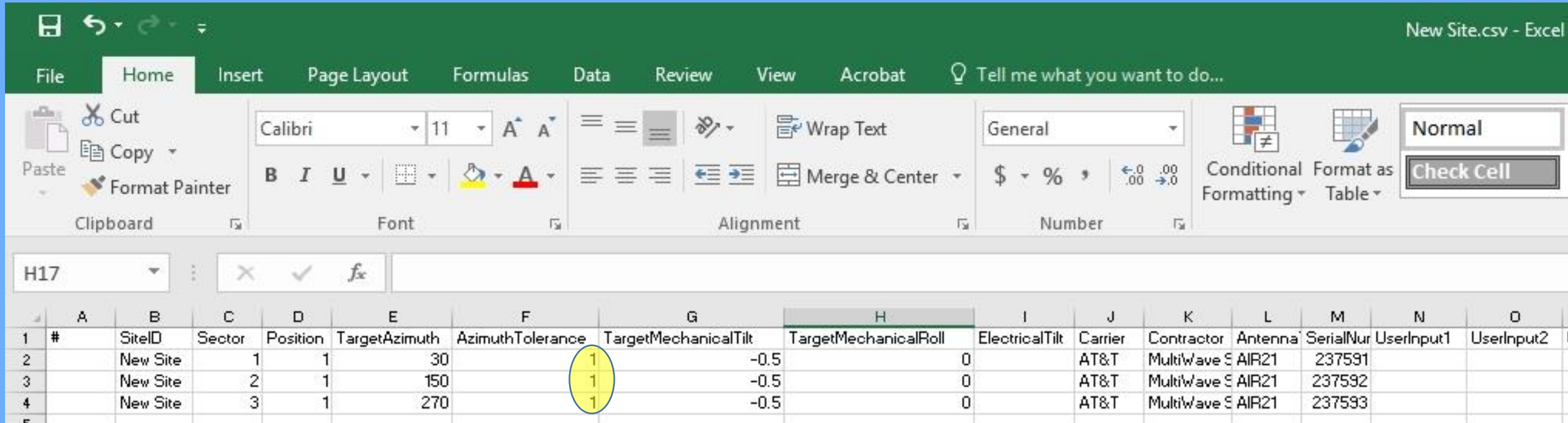
6. Edit the first row with information on the first antenna at the new Site. Make sure to change the SiteID to the new site name (New Site in this example).

#	SiteID	Sector	Position	TargetAzimuth	AzimuthTolerance	TargetMechanicalTilt	TargetMechanicalRoll	ElectricalTilt	Carrier	Contractor	Antenna	SerialNur	UserInput1	UserInput2
1	New Site	1	1	30	1	-0.5	0		AT&T	MultiWave S	AIR21	237591		

7. As learned in the Introductory Course, Tilt and Roll directions use graphic symbols, but this file requires a +/- sign (yellow highlight). Down Tilt and Clockwise Roll are negative.

Importing a Site

- Copy the first row and edit the new lines with new Sector/Position, Azimuth and serial number information.



The screenshot shows the Microsoft Excel interface with the following data in the spreadsheet:

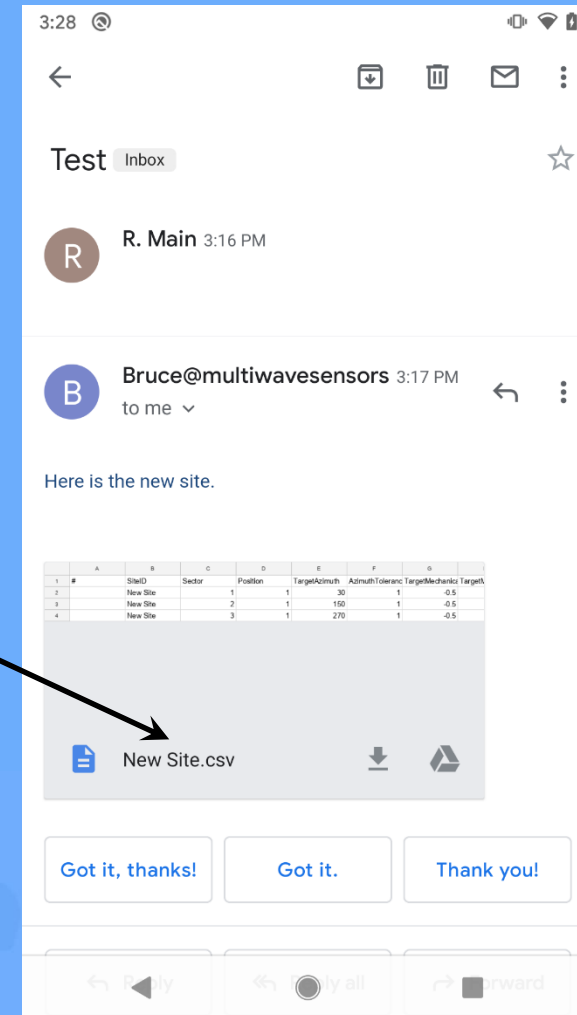
#	SiteID	Sector	Position	TargetAzimuth	AzimuthTolerance	TargetMechanicalTilt	TargetMechanicalRoll	ElectricalTilt	Carrier	Contractor	Antenna	SerialNur	UserInput1	UserInput2
2	New Site	1	1	30	1	-0.5	0		AT&T	MultiWave S	AIR21	237591		
3	New Site	2	1	150	1	-0.5	0		AT&T	MultiWave S	AIR21	237592		
4	New Site	3	1	270	1	-0.5	0		AT&T	MultiWave S	AIR21	237593		

The cell containing '1' in the AzimuthTolerance column for the first data row is highlighted in yellow.

- This is the only time that an Azimuth Tolerance (yellow highlight) can be specified. The user will be warned after Verification if the measured azimuth is outside the Tolerance.

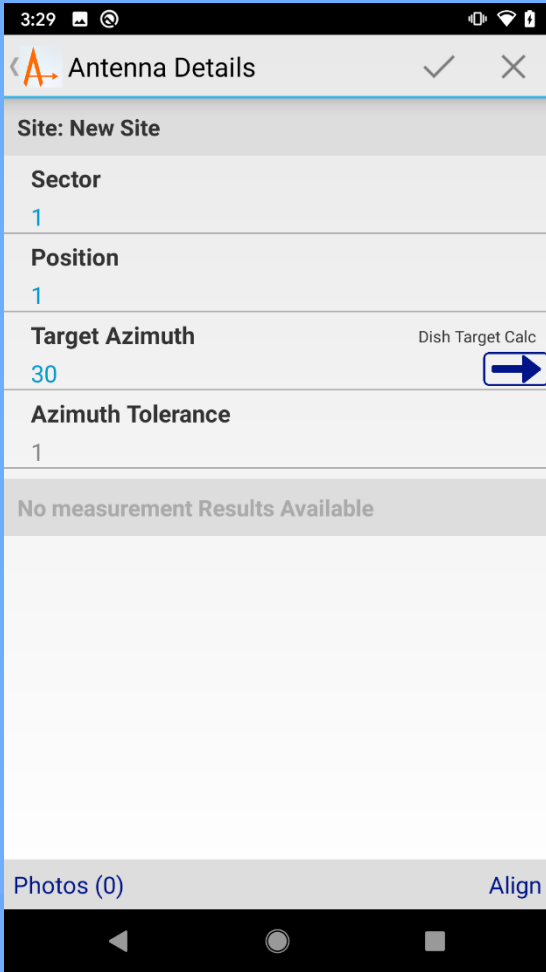
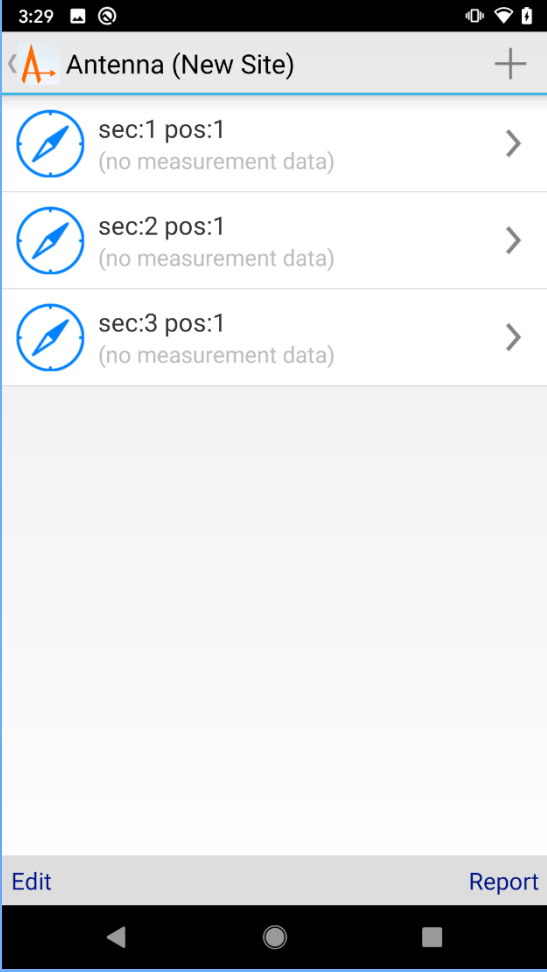
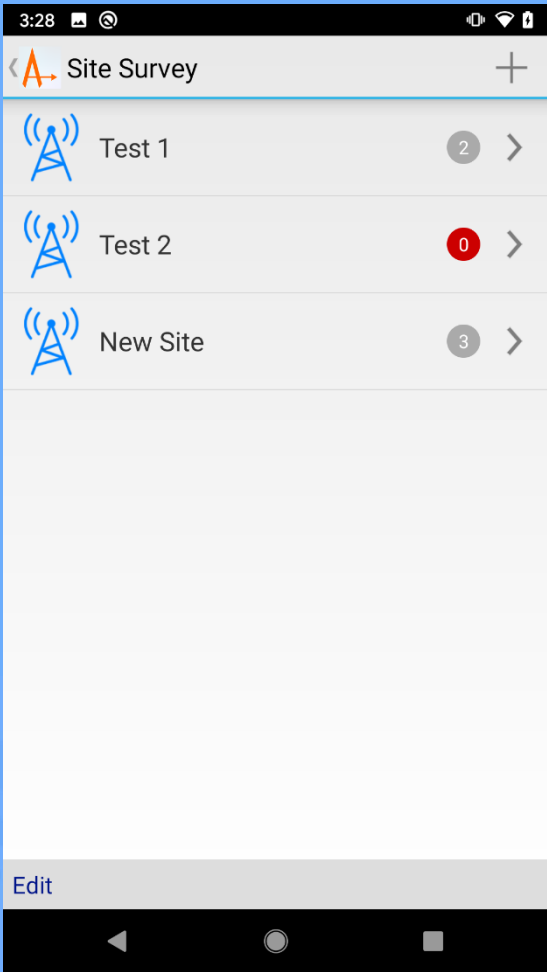
Importing a Site

10. Save the CSV file (make sure it has a CSV extension) and email it to the tower hand who will be working at that new site.
11. Upon receiving the email with the new site CSV file, the tower hand can tap the attachment and the Smart Aligner app should start automatically and import the New Site and Antenna Files. If more than one app is available to open the CSV file, select Smart Aligner.



Importing a Site

12. The New Site is imported with all of the antenna files ready for surveying.



Course End

Other Available Courses

1. AGL Measurements
2. Aligning Microwave Dishes
3. Universal Bracket and Inserts
4. Custom Brackets
5. Miscellaneous Options
6. Trouble Shooting and Tips

