

## DME DME Assessment Results for EMMAS1 path HIGUH\_DOKKE

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Jose G-CTR Medina
Project File:	C:\Users\Jose G-CTR Medina\OneDrive - Federal Aviation Administration\Documents\01. Projects\DME EVALUATIONS\KRFD\20230628 DME Screens\EMMAS ONE\KRFD STAR EMMAS ONE 20230629 DME Screens.tgs
Output File:	C:\Users\Jose G-CTR Medina\OneDrive - Federal Aviation Administration\Documents\01. Projects\DME EVALUATIONS\KRFD\20230628 DME Screens\EMMAS ONE\KRFD [IFPA] EMMAS1 20230629_0851 CDT\HIGUH_DOKKE\KRFD EMMAS1 RNAV STAR HIGUH DOKKE 20230629_0851 CDT.pdf
Procedure Name:	EMMAS1
Software: DmeDmePlugin:	7.1.0
Date/Time:	06/29/2023 08:51 CDT
Databases:	DTED 0 MAX

### Failures

No Failures

### Warnings

No Warnings

### Informational

No Informational

### Notes For Flight Check

None

### Flight Plan

Name	Type	Lat/Lon	Altitude (ft)	VNAV Mode	Ground Speed (kts)	Turn Type	Leg Type
HIGUH	WP	N42° 18' 04.8400", W088° 00' 04.0600"	4000	VNAV	250	FLY_BY	TF
NRRRG	WP	N42° 25' 34.1500", W088° 21' 50.9700"	4000	VNAV	250	FLY_BY	TF
DRLNG	WP	N42° 29' 04.6227", W088° 32' 09.1596"	4000	VNAV	250	FLY_BY	TF
JNTHN	WP	N42° 33' 37.5800", W088° 45' 36.7100"	4000	VNAV	250	FLY_BY	TF
NUGGZ	WP	N42° 35' 43.4100", W089° 01' 03.6100"	4000	VNAV	250	FLY_BY	TF
EMMAS	WP	N42° 32' 11.0784", W089° 06' 14.2135"	4000	VNAV	200	FLY_BY	TF
DOKKE	WP	N42° 26' 53.6444", W089° 07' 05.7910"	4000	VNAV	200	FLY_OVER	TF

### Flyability

Flight Type:	RNAV_STAR
Selected Airport:	KRFD [IFPA]
Climb Gradient:	None assigned
Speeds:	200 Ground Speed to 11000 FT
	240 Ground Speed to 18000 FT
	260 Ground Speed to 24000 FT
	340 Ground Speed above 24000 FT
Descent During a Turn:	Allowed
VNAV Mode:	Flight Plan

## DME DME Assessment Results for EMMAS1 path HIGUH\_DOKKE

DME/DME	
RNP:	RNP 2
Flight Mode:	Manual
Line of Sight (DTED Level 0 Max):	Evaluated
Inertial Drift:	Enabled
Initial Drift:	0.558 NM
INS Drift Rate:	8.0 NM/Hour
Range Mode:	OSV
RNP Edges:	Evaluated
Min DME Range:	3.0 NM
DME Types:	DME, VOR-DME, VORTAC
DME Include Angles:	30 to 150
Critical DMEs:	Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Included
Terminal DMEs:	Included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Enabled
Disabled DMEs:	None

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	LJT	N43° 06' 35.1886", W088° 02' 14.2133"	0.0 E	130	DH	IFPA	NO	Enabled	7.4 %	7.6 %
2	OBK	N42° 13' 16.9555", W087° 57' 06.0134"	2.0 W	130	DH	IFPA	NO	Enabled	100 %	100 %
3	BUU	N42° 41' 21.5656", W088° 18' 06.4046"	-0.0 E	25	T	IFPA	NO	Enabled	56.7 %	58 %
4	JVL	N42° 33' 28.8293", W089° 06' 18.9265"	3.0 E	40	L	IFPA	NO	Enabled	63.9 %	63.9 %
5	MSN	N43° 08' 41.4057", W089° 20' 22.9086"	3.0 E	40	L	IFPA	NO	Enabled	5.6 %	5.4 %
6	RFD	N42° 13' 32.0798", W089° 11' 57.3800"	0.0 E	40	L	IFPA	NO	Enabled	66.3 %	65.5 %
7	ENW	N42° 35' 56.6772", W087° 55' 54.0180"	0.0 E	25	T	IFPA	NO	Enabled	29 %	29.7 %
8	PLL	N41° 57' 56.3100", W089° 31' 27.1930"	3.0 E	40	L	IFPA	NO	Enabled	10.1 %	8.3 %
9	DPA	N41° 53' 25.3373", W088° 21' 00.6389"	2.0 E	40	L	IFPA	NO	Enabled	43.7 %	44.6 %
10	GCO	N41° 59' 38.7200", W087° 54' 08.3800"	0.0 E	40	L	IFPA	NO	Enabled	37.2 %	38 %

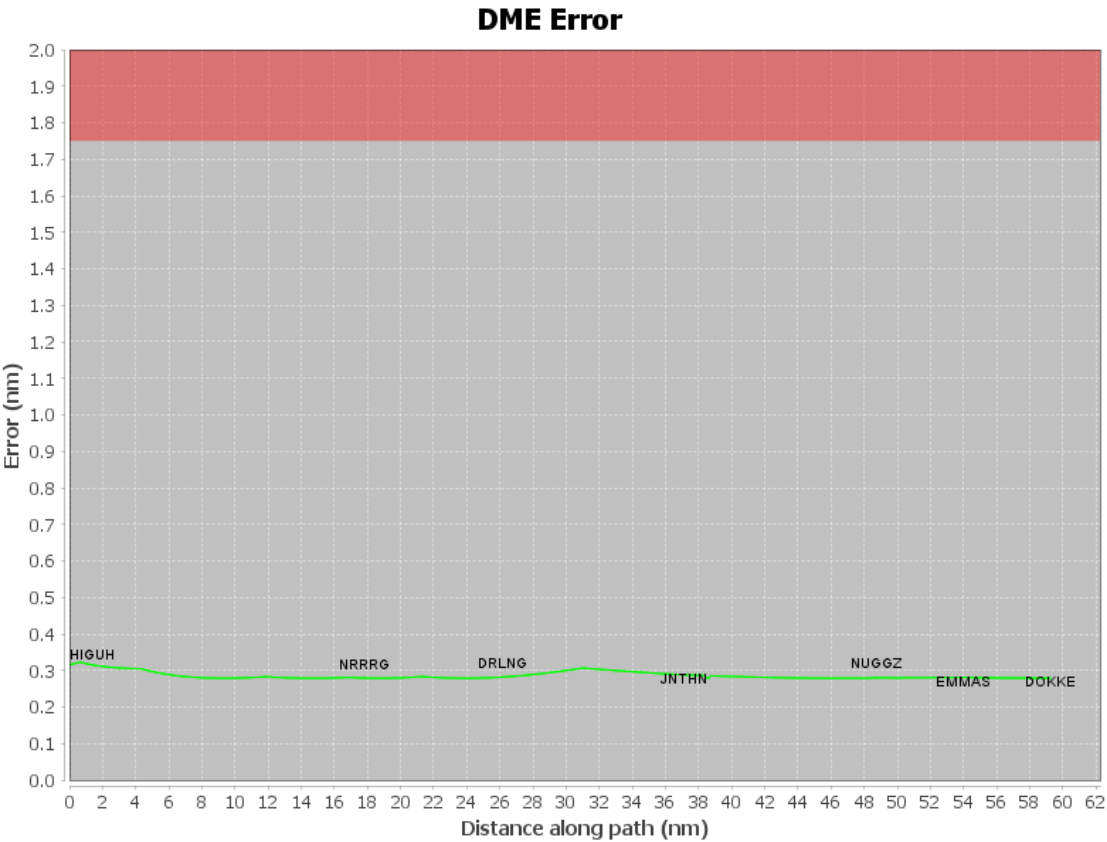
## DME DME Assessment Results for EMMAS1 path HIGUH\_DOKKE

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	BUU	DPA	OBK	ENW	LJT	
1.0	DPA	OBK	BUU	GCO	ENW	
2.4	DPA	OBK	ENW	GCO		
5.7	ENW	OBK	DPA	GCO	LJT	
9.3	ENW	OBK	GCO	DPA	BUU	
17.7	JVL	BUU	DPA	OBK	GCO	
23.6	OBK	BUU	RFD	DPA	JVL	
26.5	OBK	BUU	RFD	JVL		
38.4	RFD	OBK	JVL			
45.1	RFD	OBK				
47.4	RFD	OBK	MSN	JVL		
49.2	RFD	OBK	MSN			
49.7	MSN	JVL	RFD	OBK		
49.8	RFD	OBK				
54.0	RFD	OBK	PLL	MSN		
54.3	RFD	OBK				
54.7	RFD	OBK	PLL			
55.7	RFD	OBK	PLL	JVL	MSN	
56.2	RFD	OBK	PLL			
56.4	RFD	OBK	PLL	JVL		

Inertial Drift Segments			
#	Start Location	End Location	Length [NM]

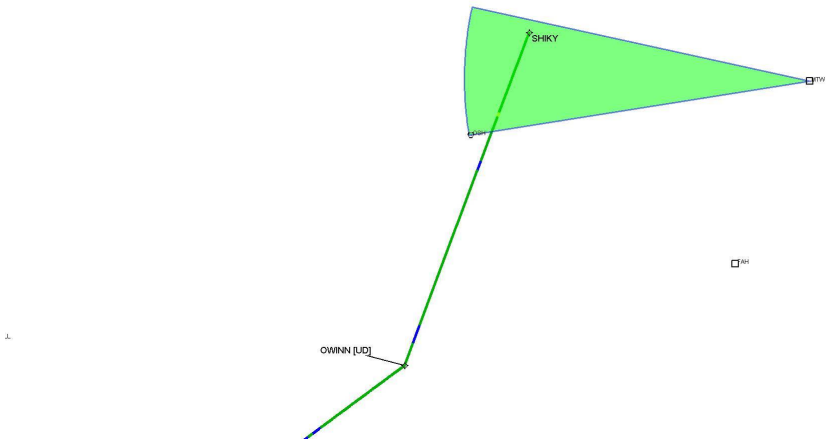
Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
HIGUH	NRRRG	JVL, GCO, BUU, DPA, LJT, OBK, ENW	
NRRRG	DRLNG	JVL, RFD, GCO, BUU, DPA, OBK	
DRLNG	JNTHN	RFD, JVL, BUU, DPA, OBK	
JNTHN	NUGGZ	RFD, JVL, BUU, OBK, MSN	
NUGGZ	EMMAS	RFD, JVL, MSN, OBK	
EMMAS	DOKKE	PLL, RFD, JVL, MSN, OBK	

User Data Files								
#	File Name							
None								
User DMEs								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	MTW FAA 870968-009 MTW [IFPA]	N44° 07' 42.5951", W087° 40' 47.7054"	0.0 E	25	649.6	null	MTW FAA 870968-009	
ESV:		Bearing [True]: 258.0° to 280.0° Bearing [Mag]: 258.0° to 280.0°				Arc Distance: Out to 39.0 NM Altitude: 3900.0 to 12700.0 ft		
2	BAE FAA 704236-038 BAE [IFPA]	N43° 07' 00.6717", W088° 17' 03.6386"	2.0 E	130	1069.9	116.4	BAE FAA 704236-038	
ESV:		Bearing [True]: 230.0° to 240.0° Bearing [Mag]: 228.0° to 238.0°				Arc Distance: Out to 54.0 NM Altitude: 3900.0 to 15600.0 ft		
3	BUU FAA 991113-003 BUU [IFPA]	N42° 41' 21.5656", W088° 18' 06.4046"	-0.0 E	25	771.7	null	BUU FAA 991113-003	
ESV:		Bearing [True]: 141.0° to 161.0° Bearing [Mag]: 141.0° to 161.0°				Arc Distance: Out to 30.0 NM Altitude: 3900.0 to 12800.0 ft		



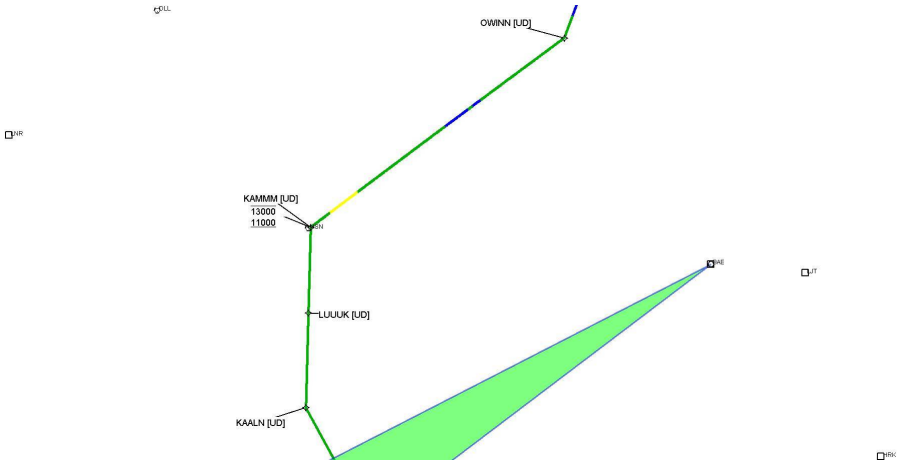
DME DME Assessment Results for EMMAS1 path HIGUH\_DOKKE

Graphic Depiction 1



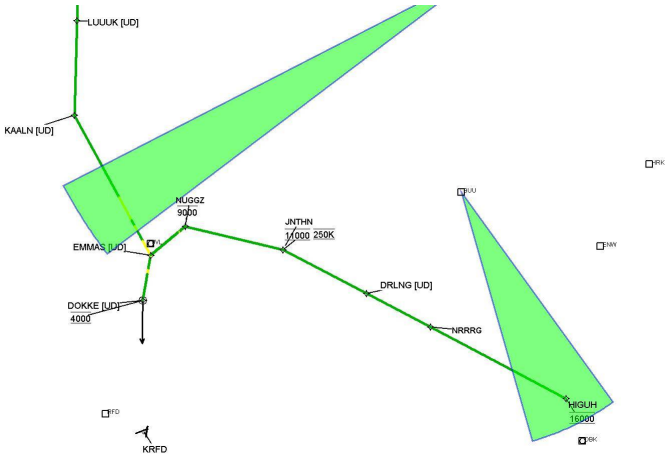
DME DME Assessment Results for EMMAS1 path HIGUH\_DOKKE

Graphic Depiction 2



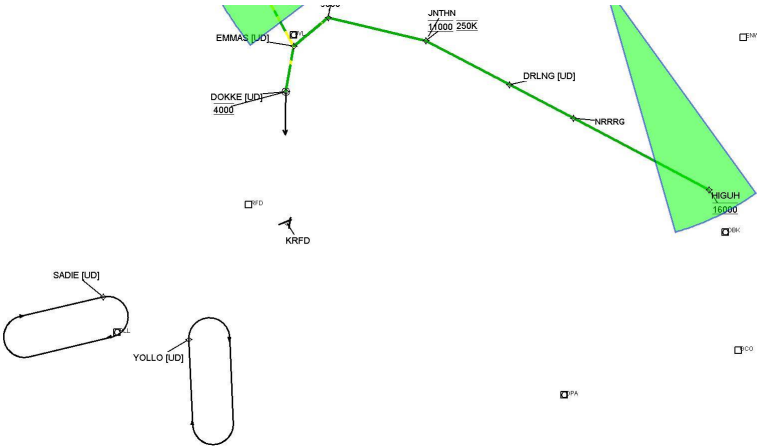
DME DME Assessment Results for EMMAS1 path HIGUH\_DOKKE

Graphic Depiction 3



DME DME Assessment Results for EMMAS1 path HIGUH\_DOKKE

Graphic Depiction 4





## DME DME Assessment Results for EMMAS1 path SHIKY\_EMMAS

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Jose G-CTR Medina
Project File:	C:\Users\Jose G-CTR Medina\OneDrive - Federal Aviation Administration\Documents\01. Projects\DME EVALUATIONS\KRFD\20230628 DME Screens\EMMAS ONE\KRFD STAR EMMAS ONE 20230629 DME Screens.tgs
Output File:	C:\Users\Jose G-CTR Medina\OneDrive - Federal Aviation Administration\Documents\01. Projects\DME EVALUATIONS\KRFD\20230628 DME Screens\EMMAS ONE\KRFD [IFPA] EMMAS1 20230629_0851 CDT\SHIKY_EMMAS\KRFD EMMAS1 RNAV STAR SHIKY EMMAS 20230629_0851 CDT.pdf
Procedure Name:	EMMAS1
Software: DmeDmePlugin:	7.1.0
Date/Time:	06/29/2023 08:51 CDT
Databases:	DTED 0 MAX

### Failures

No Failures

### Warnings

No Warnings

### Informational

No Informational

### Notes For Flight Check

None

### Flight Plan

Name	Type	Lat/Lon	Altitude (ft)	VNAV Mode	Ground Speed (kts)	Turn Type	Leg Type
SHIKY	WP	N44° 11' 40.0000", W088° 25' 05.0000"	4000	VNAV	200	FLY_BY	TF
OWINN	WP	N43° 32' 19.0337", W088° 41' 52.3442"	4000	VNAV	200	FLY_BY	TF
KAMMM	WP	N43° 08' 50.8846", W089° 20' 00.3671"	4000	VNAV	200	FLY_BY	TF
LUUUUK	WP	N42° 58' 56.4210", W089° 19' 40.4055"	4000	VNAV	200	FLY_BY	TF
KAALN	WP	N42° 47' 54.9968", W089° 19' 16.9896"	4000	VNAV	200	FLY_BY	TF
EMMAS	WP	N42° 32' 11.0784", W089° 06' 14.2135"	4000	VNAV	200	FLY_BY	TF

### Flyability

Flight Type:	RNAV_STAR
Selected Airport:	KRFD [IFPA]
Climb Gradient:	None assigned
Speeds:	200 Ground Speed to 11000 FT
	240 Ground Speed to 18000 FT
	260 Ground Speed to 24000 FT
	340 Ground Speed above 24000 FT
Descent During a Turn:	Allowed
VNAV Mode:	Flight Plan

## DME DME Assessment Results for EMMAS1 path SHIKY\_EMMAS

DME/DME	
RNP:	RNP 2
Flight Mode:	Manual
Line of Sight (DTED Level 0 Max):	Evaluated
Inertial Drift:	Enabled
Initial Drift:	0.558 NM
INS Drift Rate:	8.0 NM/Hour
Range Mode:	OSV
RNP Edges:	Evaluated
Min DME Range:	3.0 NM
DME Types:	DME, VOR-DME, VORTAC
DME Include Angles:	30 to 150
Critical DMEs:	Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Included
Terminal DMEs:	Included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Enabled
Disabled DMEs:	None

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	OBK	N42° 13' 16.9555", W087° 57' 06.0134"	2.0 W	130	DH	IFPA	NO	Enabled	6.5 %	6.5 %
2	MTW	N44° 07' 42.5951", W087° 40' 47.7054"	0.0 E	25	T	IFPA	NO	Enabled	8.5 %	8.5 %
3	RFD	N42° 13' 32.0798", W089° 11' 57.3800"	0.0 E	40	L	IFPA	NO	Enabled	19.7 %	19.7 %
4	GRB	N44° 33' 18.5761", W088° 11' 41.4859"	1.0 E	130	H	IFPA	NO	Enabled	13.6 %	13.6 %
5	LJT	N43° 06' 35.1886", W088° 02' 14.2133"	0.0 E	130	DH	IFPA	NO	Enabled	0.4 %	0.4 %
6	DLL	N43° 33' 02.9951", W089° 45' 49.0404"	3.0 E	130	H	IFPA	NO	Enabled	23.8 %	23.8 %
7	JVL	N42° 33' 28.8293", W089° 06' 18.9265"	3.0 E	40	L	IFPA	NO	Enabled	18.4 %	18.4 %
8	OSH	N43° 59' 25.5558", W088° 33' 21.3551"	2.0 E	130	H	IFPA	NO	Enabled	38.5 %	38.5 %
9	MSN	N43° 08' 41.4057", W089° 20' 22.9086"	3.0 E	40	L	IFPA	NO	Enabled	43.1 %	43.1 %
10	PLL	N41° 57' 56.3100", W089° 31' 27.1930"	3.0 E	40	L	IFPA	NO	Enabled	1.6 %	1.6 %
11	FAH	N43° 46' 07.6314", W087° 50' 55.5671"	0.0 E	40	L	IFPA	NO	Enabled	29.9 %	30 %
12	BAE	N43° 07' 00.6717", W088° 17' 03.6386"	2.0 E	130	H	IFPA	NO	Enabled	25.1 %	25.1 %
13	LNR	N43° 17' 39.8500", W090° 07' 59.3257"	0.0 E	130	DH	IFPA	NO	Enabled	32.3 %	32.3 %

## DME DME Assessment Results for EMMAS1 path SHIKY\_EMMAS

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	MTW	GRB	OSH	FAH		
10.0	FAH	GRB	OSH	LJT		
10.5	FAH	GRB	OSH			
11.2	FAH	GRB				
15.8	FAH	GRB	OSH			
15.8	FAH	GRB				
15.9						
17.0	FAH	OSH				
32.2	FAH	BAE	OSH			
36.2						
38.5	OSH	BAE				
53.2						
54.3	LNR	BAE				
55.0						
58.3	MSN	BAE	DLL			
63.0	MSN	DLL				
69.4	MSN	DLL	LNR			
70.9	MSN	DLL	LNR	JVL		
74.9	LNR	DLL				
77.6	LNR	JVL	DLL			
83.1	MSN	LNR	JVL	DLL		
86.2	MSN	LNR	JVL			
87.7	MSN	LNR				
94.0	MSN	LNR	RFD			
105.2	BAE	JVL	LNR	MSN	RFD	
106.6	BAE	JVL	MSN	RFD		
109.3	RFD	OBK	MSN	JVL		
112.3	BAE	JVL	RFD	OBK	MSN	
112.9	RFD	OBK	BAE	MSN		
113.8	RFD	OBK	MSN			
115.1	OBK	PLL	RFD	MSN		

Inertial Drift Segments			
#	Start Location	End Location	Length [NM]
1	N43° 56' 27.1213", W088° 31' 37.2570"	N43° 55' 23.4906", W088° 32' 04.4676"	1.1099
2	N43° 37' 02.3662", W088° 39' 52.6766"	N43° 34' 55.0305", W088° 40' 46.4984"	2.2198
3	N43° 24' 34.6483", W088° 54' 32.4605"	N43° 23' 51.7768", W088° 55' 42.3547"	1.1097
4	N43° 23' 26.0481", W088° 56' 24.2781"	N43° 21' 19.4863", W088° 59' 50.2583"	3.2737

Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
SHIKY	OWINN	MTW, OSH, GRB, BAE, LJ, FAH	
OWINN	KAMMM	LNR, JVL, OSH, DLL, BAE, MSN	
KAMMM	LUUUK	LNR, JVL, DLL, MSN	
LUUUK	KAALN	LNR, JVL, RFD, MSN	
KAALN	EMMAS	LNR, RFD, JVL, PLL, BAE, MSN, OBK	

# DME DME Assessment Results for EMMAS1 path SHIKY\_EMMAS

## User Data Files

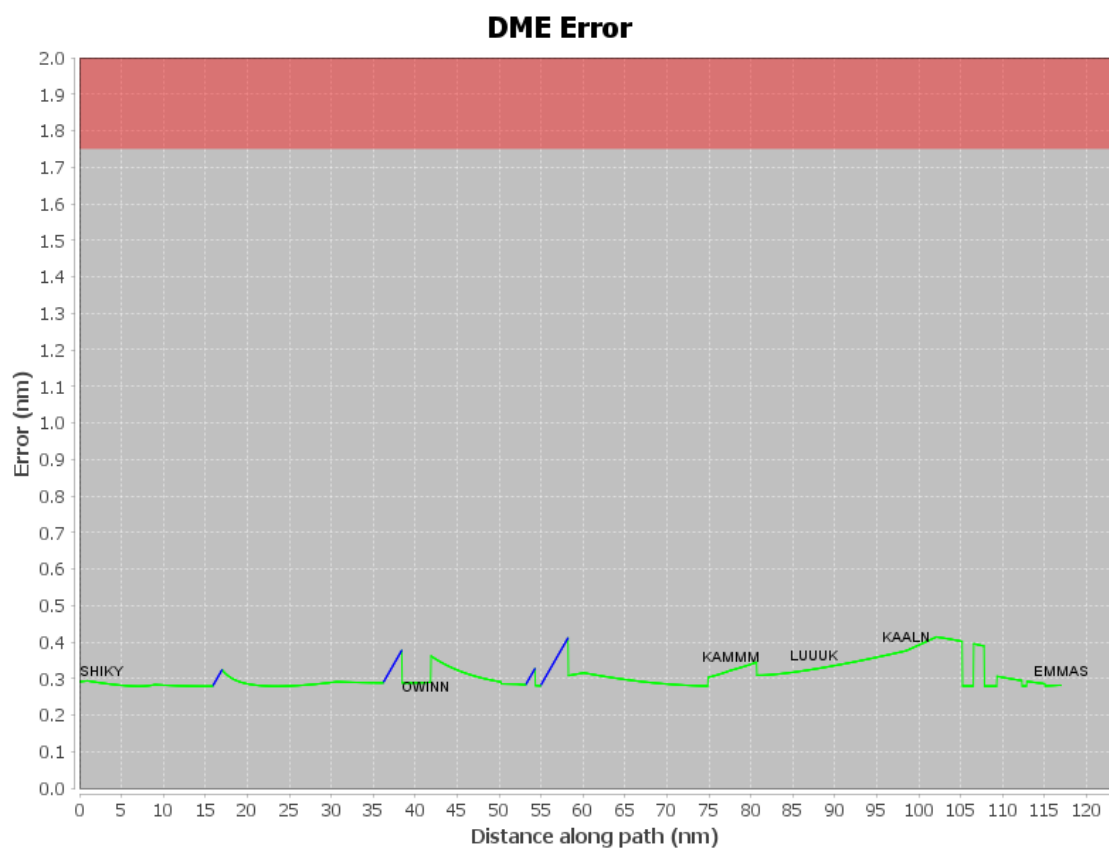
# File Name

None

## User DMEs

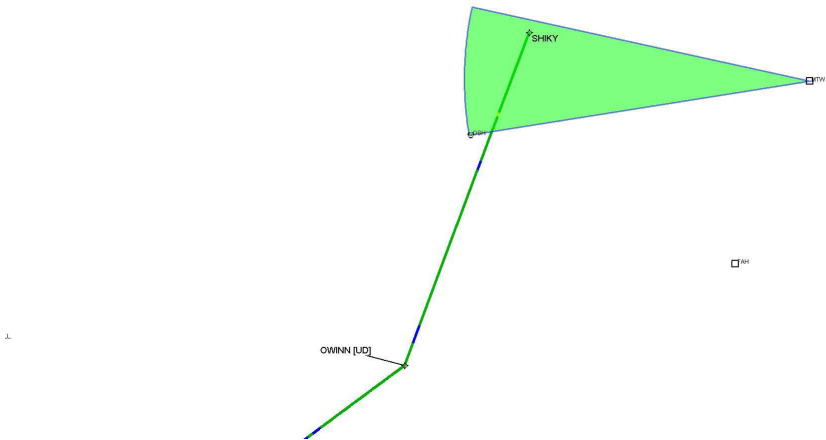
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	MTW FAA 870968-009 MTW [IFPA]	N44° 07' 42.5951", W087° 40' 47.7054"	0.0 E	25	649.6	null	MTW FAA 870968-009	
ESV:		Bearing [True]: 258.0° to 280.0° Bearing [Mag]: 258.0° to 280.0°				Arc Distance: Out to 39.0 NM Altitude: 3900.0 to 12700.0 ft		
2	BAE FAA 704236-038 BAE [IFPA]	N43° 07' 00.6717", W088° 17' 03.6386"	2.0 E	130	1069.9	116.4	BAE FAA 704236-038	
ESV:		Bearing [True]: 230.0° to 240.0° Bearing [Mag]: 228.0° to 238.0°				Arc Distance: Out to 54.0 NM Altitude: 3900.0 to 15600.0 ft		
3	BUU FAA 991113-003 BUU [IFPA]	N42° 41' 21.5656", W088° 18' 06.4046"	-0.0 E	25	771.7	null	BUU FAA 991113-003	
ESV:		Bearing [True]: 141.0° to 161.0° Bearing [Mag]: 141.0° to 161.0°				Arc Distance: Out to 30.0 NM Altitude: 3900.0 to 12800.0 ft		

## DME DME Assessment Results for EMMAS1 path SHIKY\_EMMAS



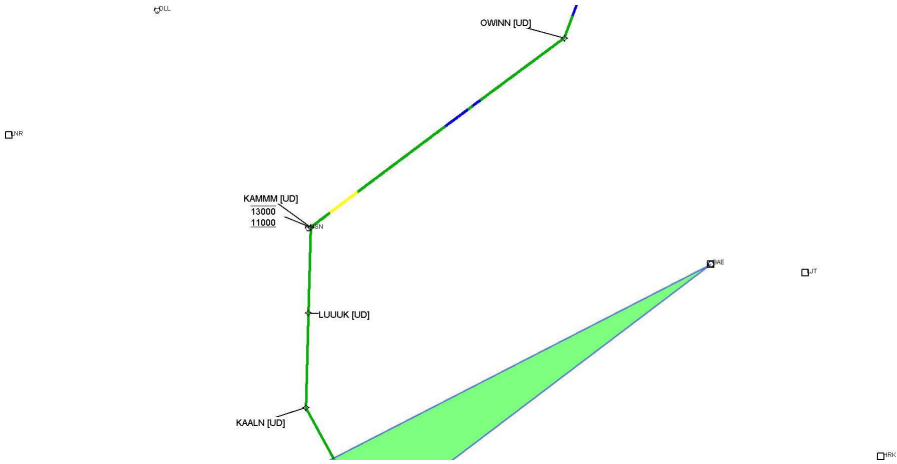
DME DME Assessment Results for EMMAS1 path SHIKY\_EMMAS

Graphic Depiction 1

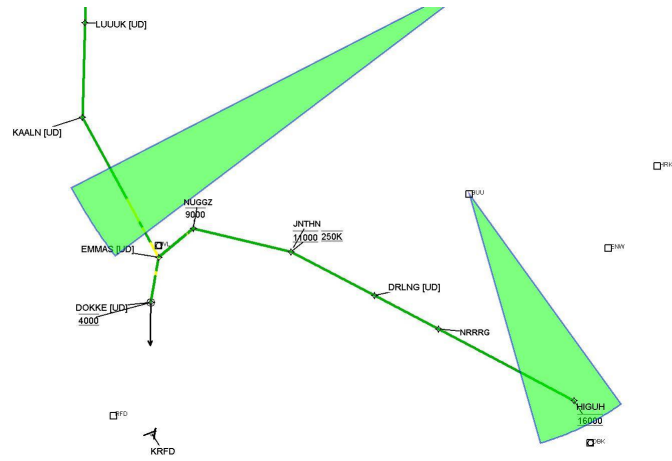


Graphic Depiction 2

DME DME Assessment Results for EMMAS1 path SHIKY\_EMMAS



### Graphic Depiction 3





Graphic Depiction 4

DME DME Assessment Results for EMMAS1 path SHIKY\_EMMAS

