

## DME DME Assessment Results for BNGLE5 path KCVG:RW09:DER\_LUBYI

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Robert CTR Ellis
Project File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG BNGLE5 RNAV DME SID.tgs
Output File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG [IFPA] BNGLE5 20230822_1402 CDT\KCVG-RW09-DER_LUBYI\KCVG BNGLE5 SID RW09 LUBYI 20230822_1402 CDT.pdf
Procedure Name:	BNGLE5
Software: DmeDmePlugin:	7.1.1
Date/Time:	08/22/2023 14:02 CDT
Databases:	DTED0

### 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
KCVG:RW09:DER	WP	N39° 02' 46.54", W084° 39' 10.24"	874.8	VNAV	130	FLY_OVER	TF
KINNG	WP	N39° 02' 44.65", W084° 29' 06.14"	2443.6	VNAV	200	FLY_BY	TF
LUBYI	WP	N39° 15' 57.75", W084° 24' 44.79"	5170.4	VNAV	200	FLY_BY	TF

Climb Gradient:  
200.0 ft/NM

### Flyability

Flight Type:	SID
Selected Airport:	KCVG [IFPA]
Climb Gradient:	200.0 ft/NM
Speeds:	130 at the Runway DER
	145 at the end of the VA or VI leg
	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 BNGLE5 path KCVG:RW09:DER\_LUBYI**

<b>DME/DME</b>	
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:	Not enabled
Disabled DMEs:	None

<b>DME/DME (Continued)</b>										
<b>DMEs Used</b>										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	SHB	N39° 37' 57.15", W085° 49' 27.54"	1.0 E	130	DH	IFPA	NO	Enabled	4.8 %	5.4 %
2	RID	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	L	IFPA	NO	Enabled	45 %	50.9 %
3	FLM	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	H	IFPA	NO	Enabled	84.4 %	88.5 %
4	CVG	N39° 00' 57.53", W084° 42' 12.05"	4.0 W	40	L	IFPA	NO	Enabled	84.4 %	88.5 %

<b>Flight Check DME Selection</b>						
Distance [NM]	Selected DMEs					Alternate
0.0						
2.5	FLM	CVG				
10.6	RID	CVG	FLM			
20.3	CVG	RID	SHB	FLM		

<b>Inertial Drift Segments</b>			
#	Start Location	End Location	Length [NM]
1	N39° 02' 46.53", W084° 39' 07.47"	N39° 02' 46.00", W084° 35' 59.10"	2.446

<b>Available DMEs by Waypoints</b>			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
KCVG:RW09:DER	KINNG	CVG, FLM	
KINNG	LUBYI	CVG, FLM, RID, SHB	

**DME DME Assessment Results for BNGLE5 path KCVG:RW09:DER\_LUBYI**

**User Data Files**

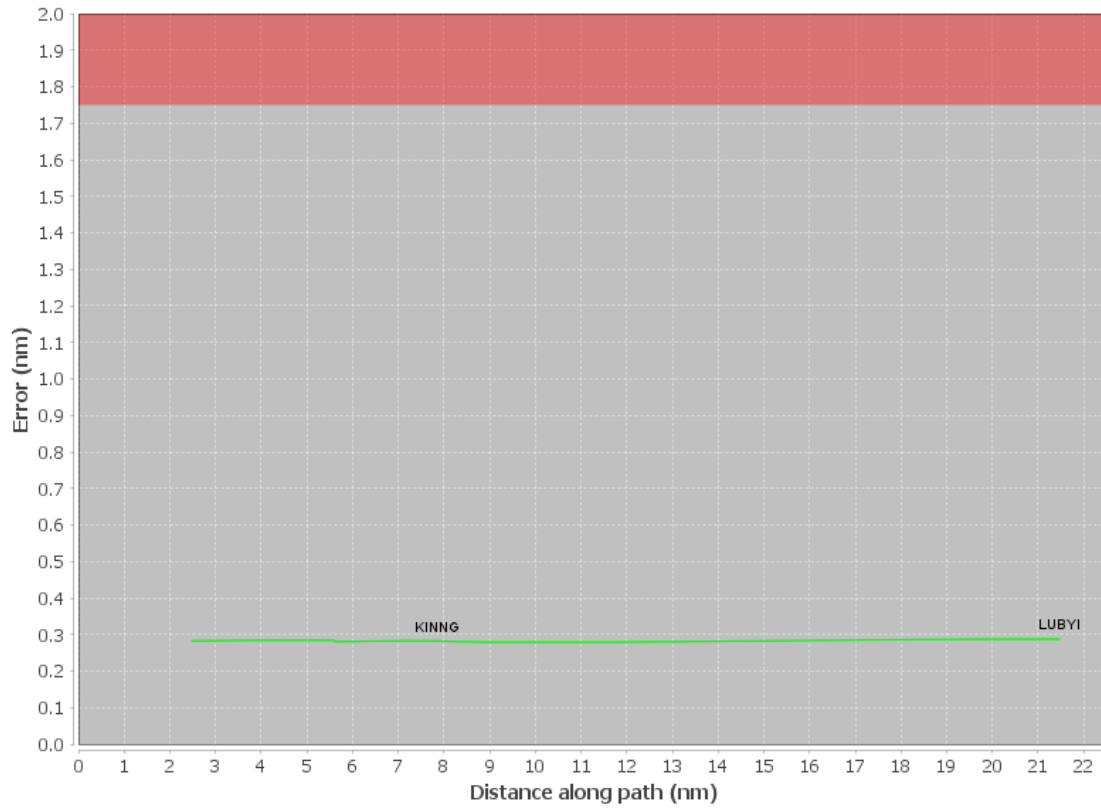
#	File Name
1	UserDMEsKCVG [IFPA] BNGLE5 SID_20230725_1349 CDT.udt

**User DMEs**

#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	RID FAA 702676-32 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-32	
	ESV:	Bearing [True]: 174.0° to 187.0° Bearing [Mag]: 174.0° to 187.0°				Arc Distance: Out to 53.0 NM Altitude: 3000.0 to 18000.0 ft		
2	FLM FAA 682019-10 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-10	
	ESV:	Bearing [True]: 310.0° to 3.0° Bearing [Mag]: 314.0° to 7.0°				Arc Distance: Out to 64.0 NM Altitude: 3000.0 to 16000.0 ft		
3	ROD FAA 682021-30 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-30	
	ESV:	Bearing [True]: 192.0° to 213.0° Bearing [Mag]: 197.0° to 218.0°				Arc Distance: Out to 82.0 NM Altitude: 6000.0 to 17000.0 ft		
4	FLM FAA 682019-15 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-15	
	ESV:	Bearing [True]: 299.0° to 329.0° Bearing [Mag]: 303.0° to 333.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 15000.0 ft		
5	RID FAA 702676-31 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-31	
	ESV:	Bearing [True]: 150.0° to 167.0° Bearing [Mag]: 150.0° to 167.0°				Arc Distance: Out to 48.0 NM Altitude: 3000.0 to 18000.0 ft		
6	RID FAA 702676-33 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-33	
	ESV:	Bearing [True]: 140.0° to 174.0° Bearing [Mag]: 140.0° to 174.0°				Arc Distance: Out to 46.0 NM Altitude: 2000.0 to 9500.0 ft		
7	FLM FAA 682019-14 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-14	
	ESV:	Bearing [True]: 340.0° to 356.0° Bearing [Mag]: 344.0° to 360.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 9500.0 ft		
8	ROD FAA 682021-36 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-36	
	ESV:	Bearing [True]: 205.0° to 215.0° Bearing [Mag]: 210.0° to 220.0°				Arc Distance: Out to 75.0 NM Altitude: 5000.0 to 8000.0 ft		

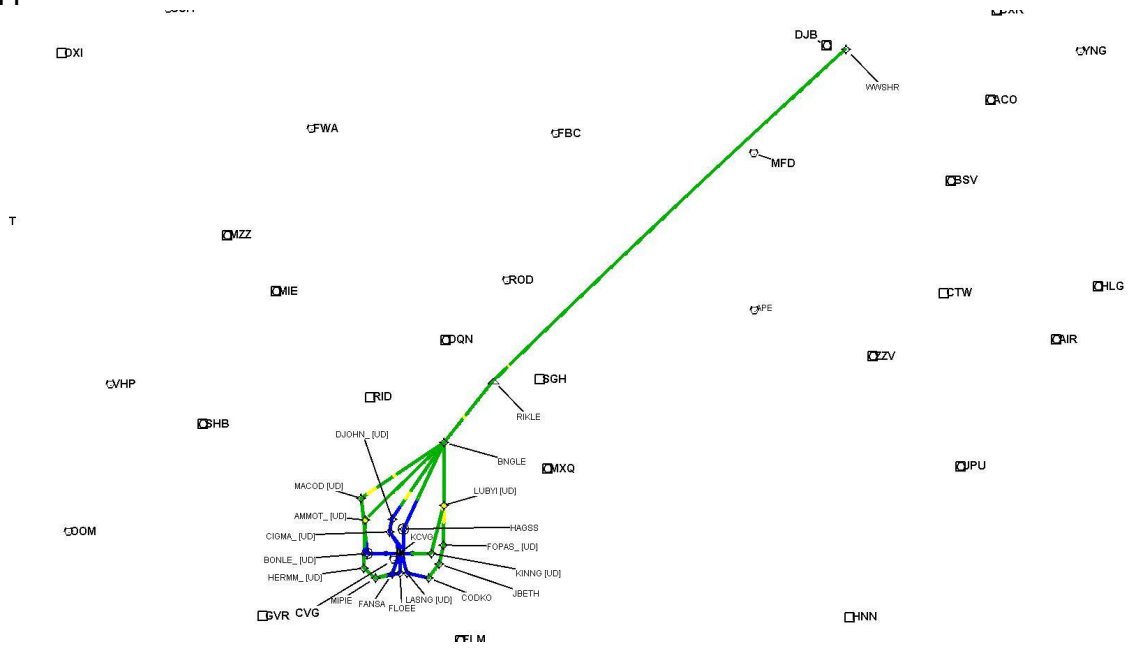
DME DME Assessment Results for BNGLE5 path KCVG:RW09:DER\_LUBYI

**DME Error**



# DME DME Assessment Results for BNGLE5 path KCVG:RW09:DER\_LUBYI

Graphic Depiction 1



## DME DME Assessment Results for BNGLE5 path KCVG:RW18C:DER\_WWSHR

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Robert CTR Ellis
Project File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG BNGLE5 RNAV DME SID.tgs
Output File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG [IFPA] BNGLE5 20230822_1402 CDT\KCVG-RW18C-DER_WWSHR\KCVG BNGLE5 SID RW18C WWSHR 20230822_1402 CDT.pdf
Procedure Name:	BNGLE5
Software: DmeDmePlugin:	7.1.1
Date/Time:	08/22/2023 14:02 CDT
Databases:	DTED0

### 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
KCVG:RW18C:DER	WP	N39° 02' 04.36", W084° 40' 07.47"	840.7	VNAV	130	FLY_OVER	TF
FLOEE	WP	N38° 57' 24.12", W084° 40' 08.60"	2002.3	VNAV	200	FLY_BY	TF
MIPIE	WP	N38° 56' 00.61", W084° 48' 48.81"	3030.5	VNAV	200	FLY_BY	TF
HERMM_	WP	N38° 58' 44.92", W084° 52' 50.25"	3863.3	VNAV	200	FLY_BY	TF
AMMOT_	WP	N39° 11' 49.88", W084° 52' 26.01"	6478.2	VNAV	200	FLY_BY	TF
BNGLE	WP	N39° 33' 01.13", W084° 24' 32.27"	11900	VNAV	240	FLY_BY	TF
RIKLE	WP	N39° 49' 50.00", W084° 07' 18.00"	11900	VNAV	240	FLY_BY	TF
WWSHR	WP	N41° 20' 34.09", W082° 03' 05.76"	18000	VNAV	240	FLY_BY	TF

Climb Gradient:  
338.0 ft/NM up to 1400.0 ft MSL  
200.0 ft/NM

**DME DME Assessment Results for BNGLE5 path KCVG:RW18C:DER\_WWSHR**

<b>Flyability</b>	
Flight Type:	SID
Selected Airport:	KCVG [IFPA]
Climb Gradient:	338.0 ft/NM up to 1400.0 ft MSL 200.0 ft/NM
Speeds:	130 at the Runway DER
	145 at the end of the VA or VI leg
	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

<b>DME/DME</b>	
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:	Not enabled
Disabled DMEs:	None

**DME DME Assessment Results for BNGLE5 path KCVG:RW18C:DER\_WWSHR**

<b>DME/DME (Continued)</b>										
<b>DMEs Used</b>										
<b>#</b>	<b>Name</b>	<b>Lat/Lon</b>	<b>MAGVAR</b>	<b>Range</b>	<b>Type</b>	<b>Source</b>	<b>Critical</b>	<b>Status</b>	<b>Time</b>	<b>Distance</b>
1	DXO	N42° 12' 47.29", W083° 21' 59.99"	6.0 W	130	H	IFPA	NO	Enabled	27.3 %	28.9 %
2	ZZV	N39° 56' 27.09", W081° 53' 33.37"	6.0 W	130	H	IFPA	NO	Enabled	24.8 %	26.2 %
3	CXR	N41° 31' 00.94", W081° 09' 47.47"	5.0 W	130	H	IFPA	NO	Enabled	20.8 %	22 %
4	GVR	N38° 45' 30.02", W085° 28' 14.32"	-0.0 E	130	H	IFPA	NO	Enabled	3.9 %	3.5 %
5	CRL	N42° 02' 52.90", W083° 27' 27.26"	3.0 W	130	DH	IFPA	NO	Enabled	51 %	54 %
6	JXN	N42° 15' 33.26", W084° 27' 30.78"	0.0 E	130	DH	IFPA	NO	Enabled	40.6 %	43 %
7	ROD	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	H	IFPA	NO	Enabled	59.6 %	61.6 %
8	RID	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	L	IFPA	NO	Enabled	33.5 %	32.1 %
9	DQN	N40° 00' 59.20", W084° 23' 48.83"	1.0 W	40	L	IFPA	NO	Enabled	30.5 %	31.6 %
10	APE	N40° 09' 03.83", W082° 35' 17.88"	6.0 W	130	H	IFPA	NO	Enabled	27.4 %	29.1 %
11	EWC	N40° 49' 29.76", W080° 12' 41.56"	8.0 W	130	H	IFPA	NO	Enabled	6.8 %	7.2 %
12	SHB	N39° 37' 57.15", W085° 49' 27.54"	1.0 E	130	DH	IFPA	NO	Enabled	54.9 %	54.9 %
13	SGH	N39° 50' 11.55", W083° 50' 41.84"	-0.0 E	25	T	IFPA	NO	Enabled	16.8 %	17.8 %
14	DJB	N41° 21' 29.03", W082° 09' 43.09"	5.0 W	130	DH	IFPA	NO	Enabled	50.5 %	53.5 %
15	MFD	N40° 52' 07.00", W082° 35' 27.46"	3.0 W	40	L	IFPA	NO	Enabled	31 %	32.9 %
16	FLM	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	H	IFPA	NO	Enabled	17 %	15.3 %
17	CVG	N39° 00' 57.53", W084° 42' 12.05"	4.0 W	40	L	IFPA	NO	Enabled	27.1 %	24.6 %



**DME DME Assessment Results for BNGLE5 path KCVG:RW18C:DER\_WWSHR**

<b>Flight Check DME Selection</b>						
<b>Distance [NM]</b>	<b>Selected DMEs</b>					<b>Alternate</b>
0.0						
8.5	FLM	CVG				
11.6	FLM	CVG	RID			
15.8	FLM	CVG				
17.1	SHB	CVG	FLM			
18.6	FLM	CVG				
19.2						
21.4	FLM	GVR	SHB	CVG		
22.7	SHB	GVR	CVG	RID		
26.0	SHB	RID	FLM			
26.4	CVG	GVR	SHB	RID		
26.9	ROD	SHB	CVG	FLM	RID	
28.0	CVG	GVR	SHB	RID		
30.5	SHB	RID	FLM	CVG		
30.9	ROD	SHB	FLM	RID	CVG	
46.8	DQN	SHB	CVG	RID		
63.3	ROD	RID	FLM	SHB	DQN	
66.2	ROD	RID	DQN	SHB		
67.7	ROD	RID	DQN	SGH	SHB	
85.8	ROD	SGH	DQN	SHB		
86.4	ROD	RID	DQN	SGH	SHB	
87.1	DQN	ROD	SHB	SGH	DJB	
105.5	ROD	DJB	DQN	CRL	SHB	
113.6	CRL	ROD	DJB	SHB		
120.5	CRL	ROD	JXN	DJB	SHB	
136.2	CRL	ROD	JXN	MFD	DJB	
136.4	MFD	JXN	CRL	DJB		
136.7	APE	DJB	MFD	JXN	CRL	
152.6	MFD	CRL	DXO	JXN	DJB	
171.3	ZZV	ROD	DJB	CXR	CRL	APE
197.0	MFD	CRL	ZZV	CXR	DXO	EWC

<b>Inertial Drift Segments</b>			
<b>#</b>	<b>Start Location</b>	<b>End Location</b>	<b>Length [NM]</b>
1	N39° 02' 02.19", W084° 40' 07.48"	N38° 56' 37.43", W084° 44' 59.96"	8.5023
2	N39° 02' 14.47", W084° 52' 43.79"	N39° 04' 27.51", W084° 52' 39.69"	2.216

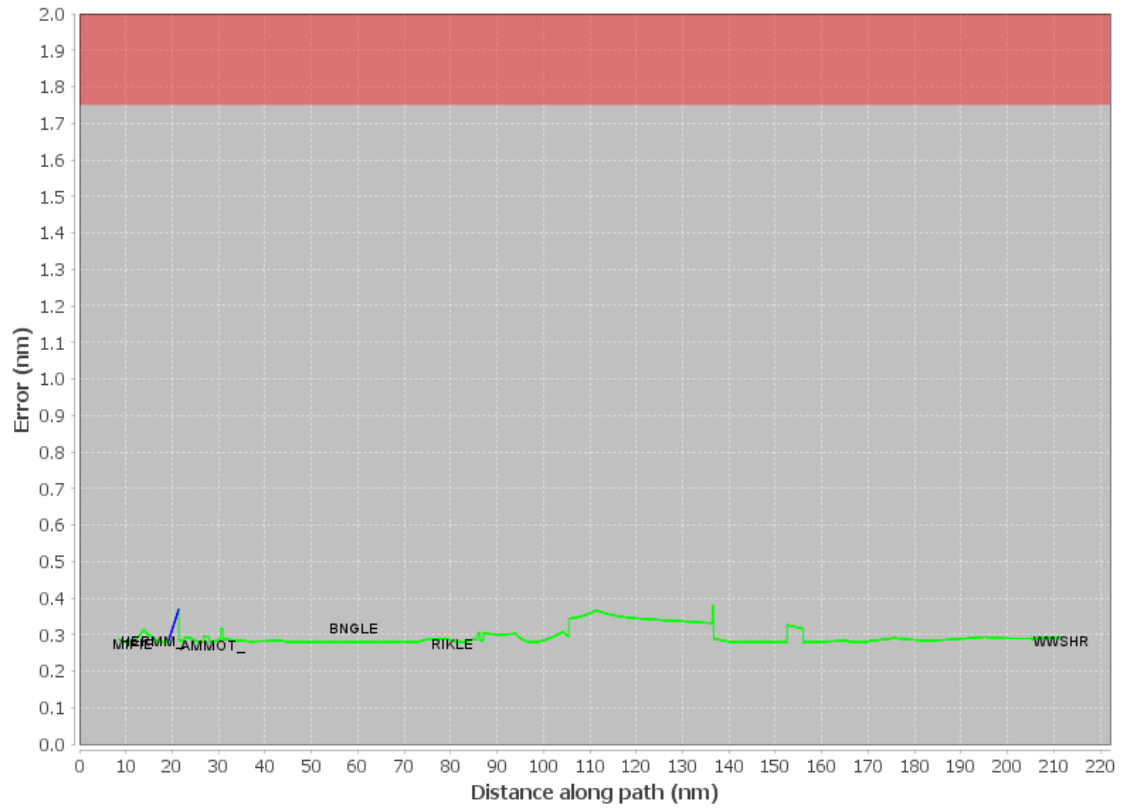
<b>Available DMEs by Waypoints</b>			
<b>Waypoint Before</b>	<b>Waypoint After</b>	<b>DME List</b>	<b>Suggested DMEs</b>
KCVG:RW18C:DER	FLOEE		
FLOEE	MIPIE	CVG, FLM	
MIPIE	HERMM_	CVG, FLM, RID	
HERMM_	AMMOT_	GVR, CVG, FLM, ROD, SHB, RID	
AMMOT_	BNGLE	DQN, GVR, CVG, FLM, ROD, SHB, RID	
BNGLE	RIKLE	DQN, CVG, SGH, ROD, FLM, SHB, RID	
RIKLE	WWSHR	DQN, JXN, ROD, MFD, SHB, RID, EWC, SGH, APE, ZZV, DXO, CRL, CXR, DJB	

**DME DME Assessment Results for BNGLE5 path KCVG:RW18C:DER\_WWSHR**

<b>User Data Files</b>								
#	File Name							
1	UserDMEsKCVG [IFPA] BNGLE5 SID_20230725_1349 CDT.udt							
<b>User DMEs</b>								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	RID FAA 702676-32 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-32	
	ESV:	Bearing [True]: 174.0° to 187.0° Bearing [Mag]: 174.0° to 187.0°				Arc Distance: Out to 53.0 NM Altitude: 3000.0 to 18000.0 ft		
2	FLM FAA 682019-10 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-10	
	ESV:	Bearing [True]: 310.0° to 3.0° Bearing [Mag]: 314.0° to 7.0°				Arc Distance: Out to 64.0 NM Altitude: 3000.0 to 16000.0 ft		
3	ROD FAA 682021-30 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-30	
	ESV:	Bearing [True]: 192.0° to 213.0° Bearing [Mag]: 197.0° to 218.0°				Arc Distance: Out to 82.0 NM Altitude: 6000.0 to 17000.0 ft		
4	FLM FAA 682019-15 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-15	
	ESV:	Bearing [True]: 299.0° to 329.0° Bearing [Mag]: 303.0° to 333.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 15000.0 ft		
5	RID FAA 702676-31 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-31	
	ESV:	Bearing [True]: 150.0° to 167.0° Bearing [Mag]: 150.0° to 167.0°				Arc Distance: Out to 48.0 NM Altitude: 3000.0 to 18000.0 ft		
6	RID FAA 702676-33 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-33	
	ESV:	Bearing [True]: 140.0° to 174.0° Bearing [Mag]: 140.0° to 174.0°				Arc Distance: Out to 46.0 NM Altitude: 2000.0 to 9500.0 ft		
7	FLM FAA 682019-14 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-14	
	ESV:	Bearing [True]: 340.0° to 356.0° Bearing [Mag]: 344.0° to 360.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 9500.0 ft		
8	ROD FAA 682021-36 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-36	
	ESV:	Bearing [True]: 205.0° to 215.0° Bearing [Mag]: 210.0° to 220.0°				Arc Distance: Out to 75.0 NM Altitude: 5000.0 to 8000.0 ft		

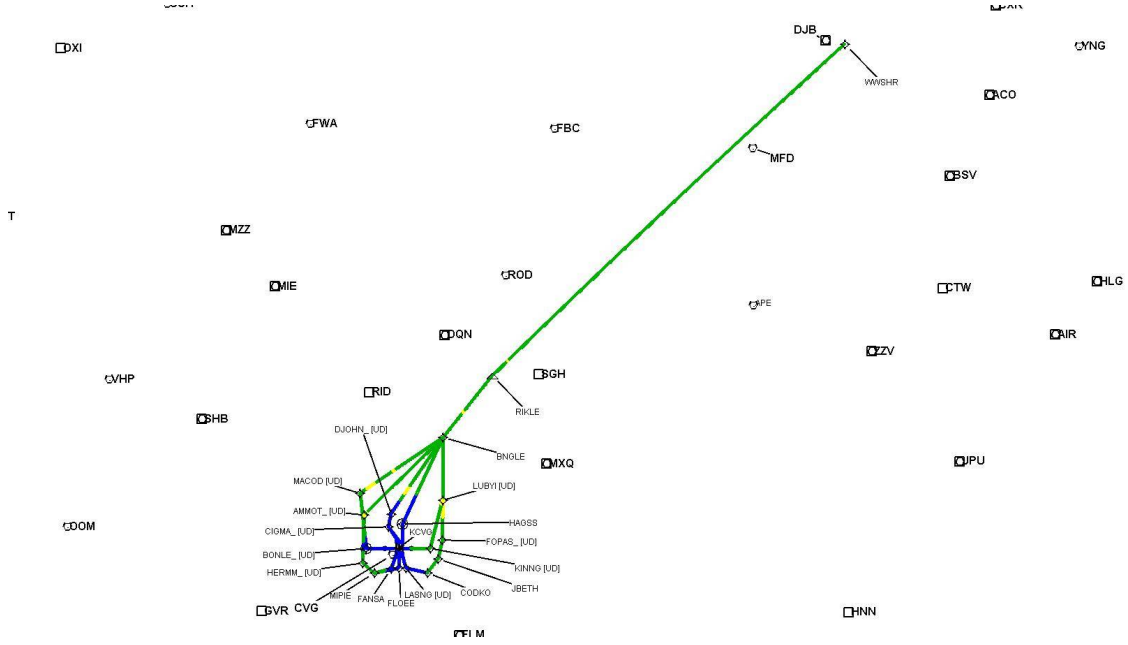
# DME DME Assessment Results for BNGLE5 path KCVG:RW18C:DER\_WWSHR

## DME Error



# DME DME Assessment Results for BNGLE5 path KCVG:RW18C:DER\_WWSHR

Graphic Depiction 1



## DME DME Assessment Results for BNGLE5 path KCVG:RW18L:DER\_BNGLE

Results Summary	
Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Robert CTR Ellis
Project File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG BNGLE5 RNAV DME SID.tgs
Output File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG [IFPA] BNGLE5 20230822_1402 CDT\KCVG-RW18L-DER_BNGLE\KCVG BNGLE5 SID RW18L BNGLE 20230822_1402 CDT.pdf
Procedure Name:	BNGLE5
Software: DmeDmePlugin:	7.1.1
Date/Time:	08/22/2023 14:02 CDT
Databases:	DTED0

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
KCVG:RW18L:DER	WP	N39° 01' 42.24", W084° 38' 48.46"	896.1	VNAV	130	FLY_BY	TF
LASNG	WP	N38° 57' 25.17", W084° 37' 44.05"	1773.4	VNAV	200	FLY_BY	TF
CODKO	WP	N38° 56' 04.95", W084° 29' 59.38"	3011	VNAV	200	FLY_BY	TF
JBETH	WP	N38° 59' 54.99", W084° 26' 17.41"	3970.1	VNAV	200	FLY_BY	TF
FOPAS_	WP	N39° 05' 04.20", W084° 24' 45.09"	5027.4	VNAV	200	FLY_BY	TF
LUBYI	WP	N39° 15' 57.75", W084° 24' 44.79"	5170.4	VNAV	200	FLY_BY	TF
BNGLE	WP	N39° 33' 01.13", W084° 24' 32.27"	11900	VNAV	240	FLY_BY	TF
Climb Gradient: 200.0 ft/NM							

Flyability	
Flight Type:	SID
Selected Airport:	KCVG [IFPA]
Climb Gradient:	200.0 ft/NM
Speeds:	130 at the Runway DER
	145 at the end of the VA or VI leg
	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 BNGLE5 path KCVG:RW18L:DER\_BNGLE**

<b>DME/DME</b>	
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:	Not enabled
Disabled DMEs:	None

<b>DME/DME (Continued)</b>										
<b>DMEs Used</b>										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	SHB	N39° 37' 57.15", W085° 49' 27.54"	1.0 E	130	DH	IFPA	NO	Enabled	43.6 %	44.9 %
2	RID	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	L	IFPA	NO	Enabled	55.2 %	56.7 %
3	DQN	N40° 00' 59.20", W084° 23' 48.83"	1.0 W	40	L	IFPA	NO	Enabled	23.4 %	24.2 %
4	FLM	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	H	IFPA	NO	Enabled	46.2 %	47.2 %
5	CVG	N39° 00' 57.53", W084° 42' 12.05"	4.0 W	40	L	IFPA	NO	Enabled	76.3 %	78.3 %

<b>Flight Check DME Selection</b>						
Distance [NM]	Selected DMEs					Alternate
0.0						
10.6	FLM	CVG				
19.9	FLM	CVG	RID			
20.5	FLM	CVG				
21.5	RID	CVG	FLM			
26.8	CVG	RID	FLM	SHB		
33.5	CVG	RID	SHB			
36.8	DQN	SHB	CVG	RID		

<b>Inertial Drift Segments</b>			
#	Start Location	End Location	Length [NM]
1	N39° 01' 40.10", W084° 38' 48.47"	N38° 56' 04.95", W084° 29' 59.38"	10.525

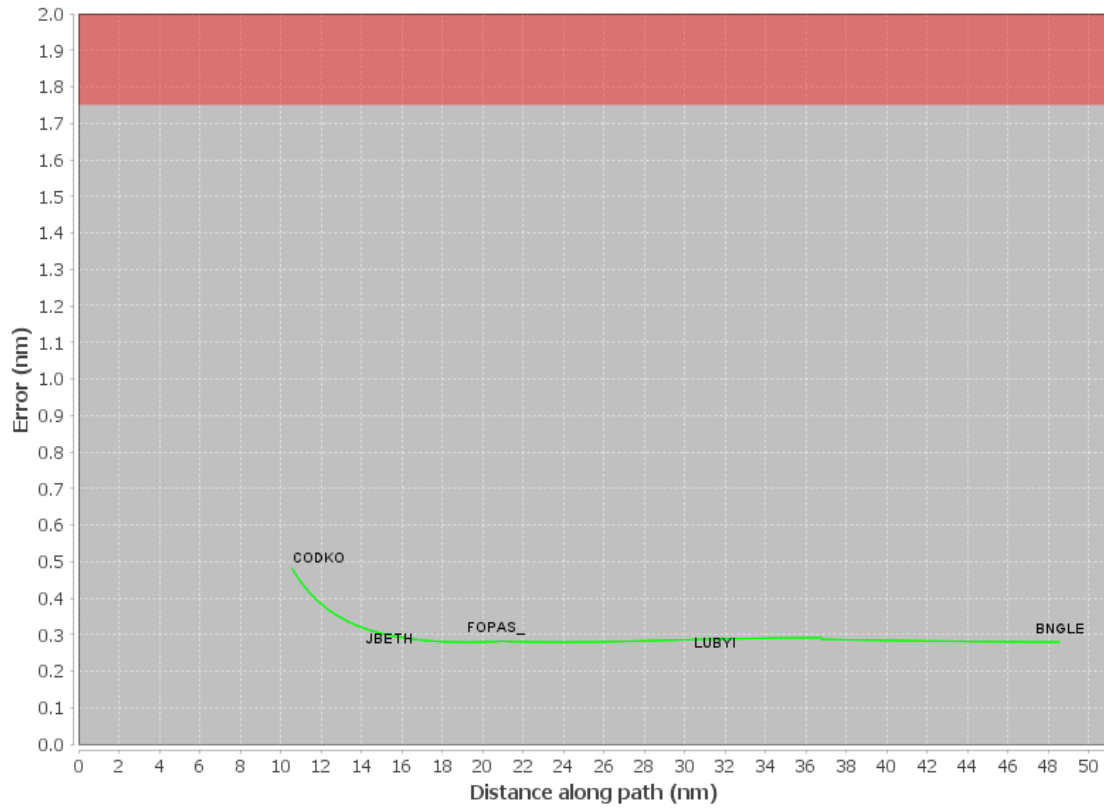
**DME DME Assessment Results for BNGLE5 path KCVG:RW18L:DER\_BNGLE**

<b>Available DMEs by Waypoints</b>			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
KCVG:RW18L:DER	LASNG		
LASNG	CODKO		
CODKO	JBETH	CVG, FLM	
JBETH	FOPAS_	CVG, FLM, RID	
FOPAS_	LUBYI	CVG, FLM, RID, SHB	
LUBYI	BNGLE	DQN, CVG, FLM, SHB, RID	

<b>User Data Files</b>								
#	File Name							
1	UserDMEsKCVG [IFPA] BNGLE5 SID_20230725_1349 CDT.udt							
<b>User DMEs</b>								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	RID FAA 702676-32 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-32	
ESV:		Bearing [True]: 174.0° to 187.0° Bearing [Mag]: 174.0° to 187.0°				Arc Distance: Out to 53.0 NM Altitude: 3000.0 to 18000.0 ft		
2	FLM FAA 682019-10 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-10	
ESV:		Bearing [True]: 310.0° to 3.0° Bearing [Mag]: 314.0° to 7.0°				Arc Distance: Out to 64.0 NM Altitude: 3000.0 to 16000.0 ft		
3	ROD FAA 682021-30 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-30	
ESV:		Bearing [True]: 192.0° to 213.0° Bearing [Mag]: 197.0° to 218.0°				Arc Distance: Out to 82.0 NM Altitude: 6000.0 to 17000.0 ft		
4	FLM FAA 682019-15 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-15	
ESV:		Bearing [True]: 299.0° to 329.0° Bearing [Mag]: 303.0° to 333.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 15000.0 ft		
5	RID FAA 702676-31 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-31	
ESV:		Bearing [True]: 150.0° to 167.0° Bearing [Mag]: 150.0° to 167.0°				Arc Distance: Out to 48.0 NM Altitude: 3000.0 to 18000.0 ft		
6	RID FAA 702676-33 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-33	
ESV:		Bearing [True]: 140.0° to 174.0° Bearing [Mag]: 140.0° to 174.0°				Arc Distance: Out to 46.0 NM Altitude: 2000.0 to 9500.0 ft		
7	FLM FAA 682019-14 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-14	
ESV:		Bearing [True]: 340.0° to 356.0° Bearing [Mag]: 344.0° to 360.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 9500.0 ft		
8	ROD FAA 682021-36 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-36	
ESV:		Bearing [True]: 205.0° to 215.0° Bearing [Mag]: 210.0° to 220.0°				Arc Distance: Out to 75.0 NM Altitude: 5000.0 to 8000.0 ft		

# DME DME Assessment Results for BNGLE5 path KCVG:RW18L:DER\_BNGLE

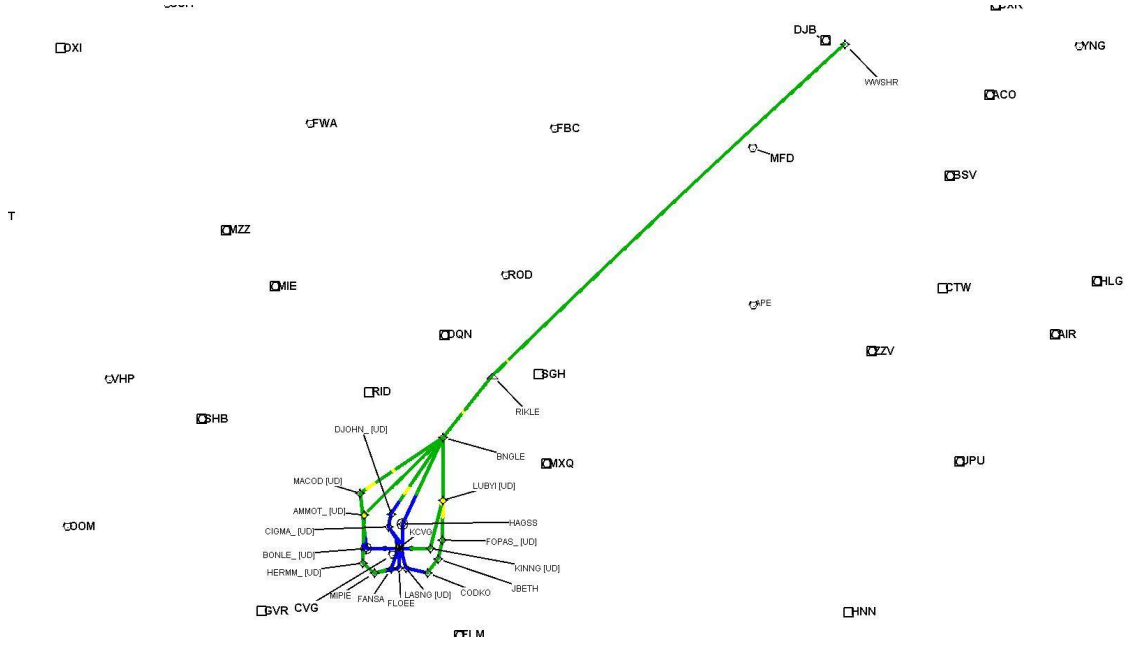
## DME Error





# DME DME Assessment Results for BNGLE5 path KCVG:RW18L:DER\_BNGLE

Graphic Depiction 1



## DME DME Assessment Results for BNGLE5 path KCVG:RW18R:DER\_MIPIE

Results Summary	
Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Robert CTR Ellis
Project File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG BNGLE5 RNAV DME SID.tgs
Output File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG [IFPA] BNGLE5 20230822_1402 CDT\KCVG-RW18R-DER_MIPIE\KCVG BNGLE5 SID RW18R MIPIE 20230822_1402 CDT.pdf
Procedure Name:	BNGLE5
Software: DmeDmePlugin:	7.1.1
Date/Time:	08/22/2023 14:02 CDT
Databases:	DTED0

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
KCVG:RW18R:DER	WP	N39° 02' 56.10", W084° 41' 01.76"	872.6	VNAV	130	FLY_BY	TF
FANSA	WP	N38° 57' 15.14", W084° 42' 45.21"	2052.9	VNAV	200	FLY_BY	TF
MIPIE	WP	N38° 56' 00.61", W084° 48' 48.81"	3030.5	VNAV	200	FLY_BY	TF
Climb Gradient: 200.0 ft/NM							

Flyability	
Flight Type:	SID
Selected Airport:	KCVG [IFPA]
Climb Gradient:	200.0 ft/NM
Speeds:	130 at the Runway DER
	145 at the end of the VA or VI leg
	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 BNGLE5 path KCVG:RW18R:DER\_MIPIE**

<b>DME/DME</b>	
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:	Not enabled
Disabled DMEs:	None

<b>DME/DME (Continued)</b>										
<b>DMEs Used</b>										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	FLM	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	H	IFPA	NO	Enabled	25.8 %	30.3 %
2	CVG	N39° 00' 57.53", W084° 42' 12.05"	4.0 W	40	L	IFPA	NO	Enabled	25.8 %	30.3 %

<b>Flight Check DME Selection</b>						
Distance [NM]	Selected DMEs					Alternate
0.0						
7.5	FLM	CVG				

<b>Inertial Drift Segments</b>			
#	Start Location	End Location	Length [NM]
1	N39° 02' 53.95", W084° 41' 01.77"	N38° 56' 50.61", W084° 44' 45.06"	7.4811

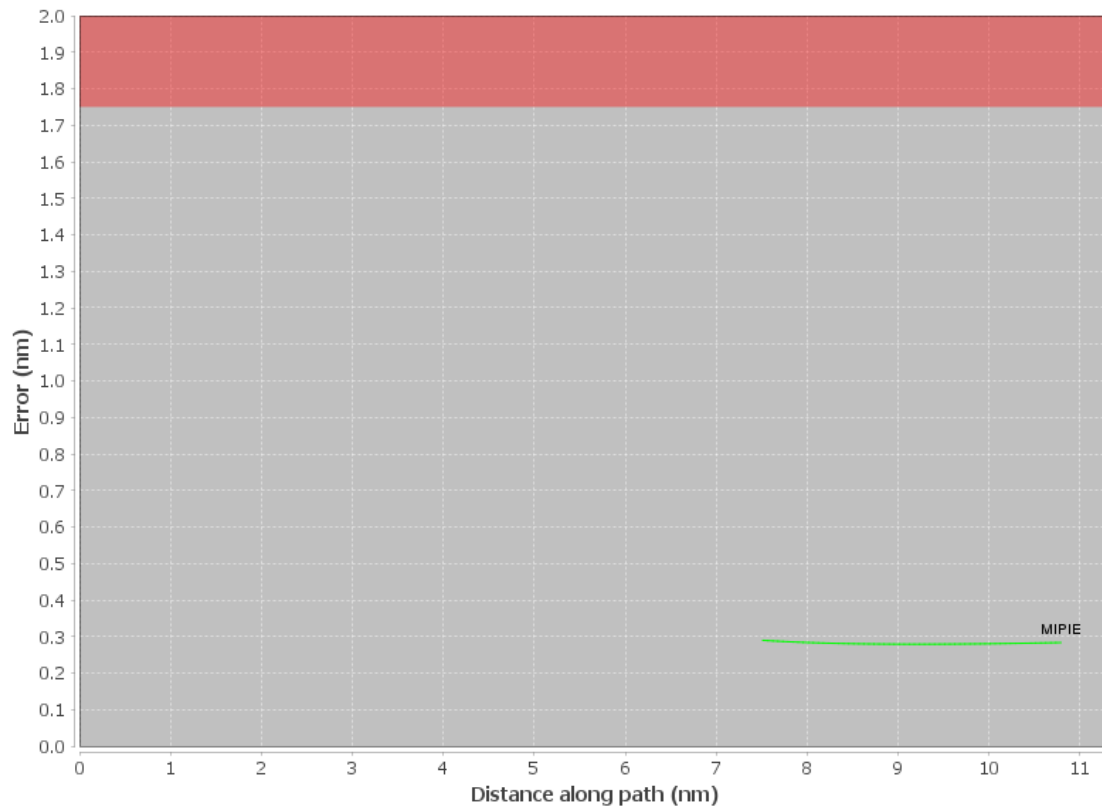
<b>Available DMEs by Waypoints</b>			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
KCVG:RW18R:DER	FANSA		
FANSA	MIPIE	CVG, FLM	

**DME DME Assessment Results for BNGLE5 path KCVG:RW18R:DER\_MIPIE**

<b>User Data Files</b>								
#	File Name							
1	UserDMEsKCVG [IFPA] BNGLE5 SID_20230725_1349 CDT.udt							
<b>User DMEs</b>								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	RID FAA 702676-32 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-32	
	ESV:	Bearing [True]: 174.0° to 187.0° Bearing [Mag]: 174.0° to 187.0°				Arc Distance: Out to 53.0 NM Altitude: 3000.0 to 18000.0 ft		
2	FLM FAA 682019-10 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-10	
	ESV:	Bearing [True]: 310.0° to 3.0° Bearing [Mag]: 314.0° to 7.0°				Arc Distance: Out to 64.0 NM Altitude: 3000.0 to 16000.0 ft		
3	ROD FAA 682021-30 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-30	
	ESV:	Bearing [True]: 192.0° to 213.0° Bearing [Mag]: 197.0° to 218.0°				Arc Distance: Out to 82.0 NM Altitude: 6000.0 to 17000.0 ft		
4	FLM FAA 682019-15 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-15	
	ESV:	Bearing [True]: 299.0° to 329.0° Bearing [Mag]: 303.0° to 333.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 15000.0 ft		
5	RID FAA 702676-31 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-31	
	ESV:	Bearing [True]: 150.0° to 167.0° Bearing [Mag]: 150.0° to 167.0°				Arc Distance: Out to 48.0 NM Altitude: 3000.0 to 18000.0 ft		
6	RID FAA 702676-33 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-33	
	ESV:	Bearing [True]: 140.0° to 174.0° Bearing [Mag]: 140.0° to 174.0°				Arc Distance: Out to 46.0 NM Altitude: 2000.0 to 9500.0 ft		
7	FLM FAA 682019-14 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-14	
	ESV:	Bearing [True]: 340.0° to 356.0° Bearing [Mag]: 344.0° to 360.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 9500.0 ft		
8	ROD FAA 682021-36 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-36	
	ESV:	Bearing [True]: 205.0° to 215.0° Bearing [Mag]: 210.0° to 220.0°				Arc Distance: Out to 75.0 NM Altitude: 5000.0 to 8000.0 ft		

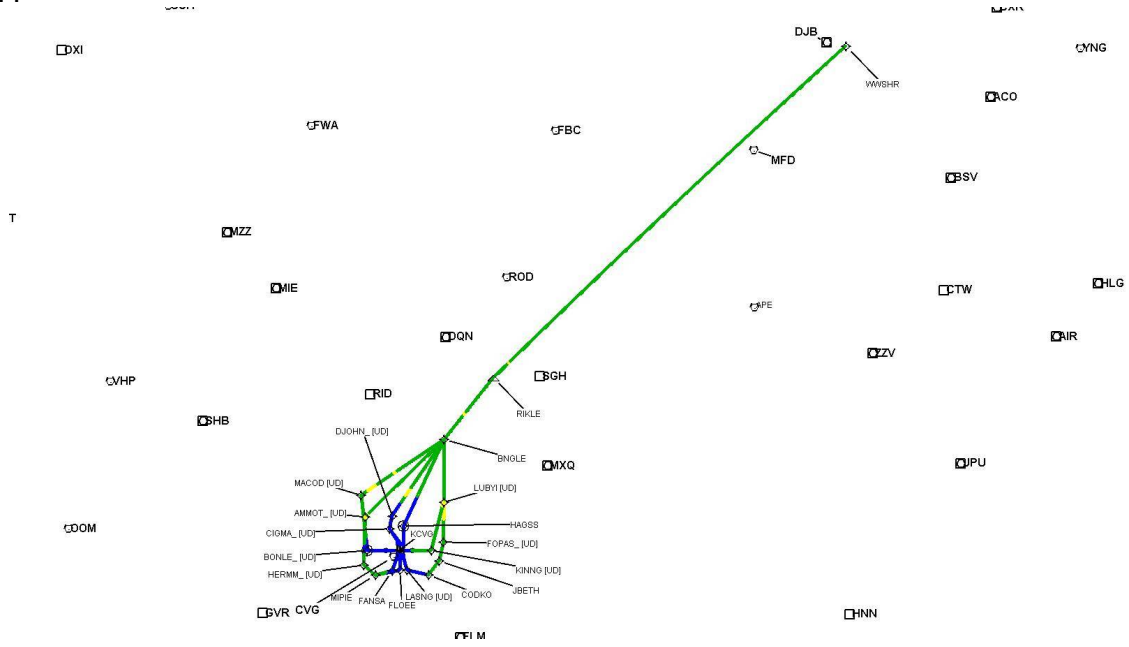
# DME DME Assessment Results for BNGLE5 path KCVG:RW18R:DER\_MIPIE

## DME Error



# DME DME Assessment Results for BNGLE5 path KCVG:RW18R:DER\_MIPIE

Graphic Depiction 1



## DME DME Assessment Results for BNGLE5 path KCVG:RW27:DER\_BNGLE

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Robert CTR Ellis
Project File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG BNGLE5 RNAV DME SID.tgs
Output File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG [IFPA] BNGLE5 20230822_1402 CDT\KCVG-RW27-DER_BNGLE\KCVG BNGLE5 SID RW27 BNGLE 20230822_1402 CDT.pdf
Procedure Name:	BNGLE5
Software: DmeDmePlugin:	7.1.1
Date/Time:	08/22/2023 14:02 CDT
Databases:	DTED0

### 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
KCVG:RW27:DER	WP	N39° 02' 46.90", W084° 41' 42.35"	883.1	VNAV	130	FLY_OVER	TF
BONLE_	WP	N39° 02' 45.57", W084° 51' 35.55"	2423.6	VNAV	200	FLY_OVER	TF
MACOD	WP	N39° 17' 48.47", W084° 53' 46.42"	5449.6	VNAV	200	FLY_BY	TF
BNGLE	WP	N39° 33' 01.13", W084° 24' 32.27"	11900	VNAV	240	FLY_BY	TF
Climb Gradient: 200.0 ft/NM							

### Flyability

Flight Type:	SID
Selected Airport:	KCVG [IFPA]
Climb Gradient:	200.0 ft/NM
Speeds:	130 at the Runway DER
	145 at the end of the VA or VI leg
	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 BNGLE5 path KCVG:RW27:DER\_BNGLE**

<b>DME/DME</b>	
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:	Not enabled
Disabled DMEs:	None

<b>DME/DME (Continued)</b>										
<b>DMEs Used</b>										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	SHB	N39° 37' 57.15", W085° 49' 27.54"	1.0 E	130	DH	IFPA	NO	Enabled	68.3 %	72.1 %
2	ROD	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	H	IFPA	NO	Enabled	18.1 %	19 %
3	RID	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	L	IFPA	NO	Enabled	73.8 %	77.9 %
4	DQN	N40° 00' 59.20", W084° 23' 48.83"	1.0 W	40	L	IFPA	NO	Enabled	27.4 %	29.1 %
5	FLM	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	H	IFPA	NO	Enabled	37.5 %	39.4 %
6	CVG	N39° 00' 57.53", W084° 42' 12.05"	4.0 W	40	L	IFPA	NO	Enabled	51.5 %	54.4 %

<b>Flight Check DME Selection</b>						
Distance [NM]	Selected DMEs					Alternate
0.0						
11.1	FLM	RID				
14.0	SHB	RID	FLM			
18.3	SHB	RID				
22.9	SHB	RID	FLM	CVG		
24.9	ROD	SHB	RID	FLM	CVG	
28.3	SHB	RID	CVG	FLM		
29.2	ROD	SHB	RID	CVG	FLM	
33.6	DQN	SHB	CVG	RID		
34.8	SHB	CVG	ROD	RID	FLM	
36.6	DQN	SHB	CVG	RID		

<b>Inertial Drift Segments</b>			
#	Start Location	End Location	Length [NM]
1	N39° 02' 46.91", W084° 41' 45.12"	N39° 06' 07.32", W084° 52' 04.71"	11.0242



**DME DME Assessment Results for BNGLE5 path KCVG:RW27:DER\_BNGLE**

**Available DMEs by Waypoints**

Waypoint Before	Waypoint After	DME List	Suggested DMEs
KCVG:RW27:DER	BONLE_		
BONLE_	MACOD	FLM, RID, SHB	
MACOD	BNGLE	DQN, CVG, FLM, ROD, SHB, RID	

**User Data Files**

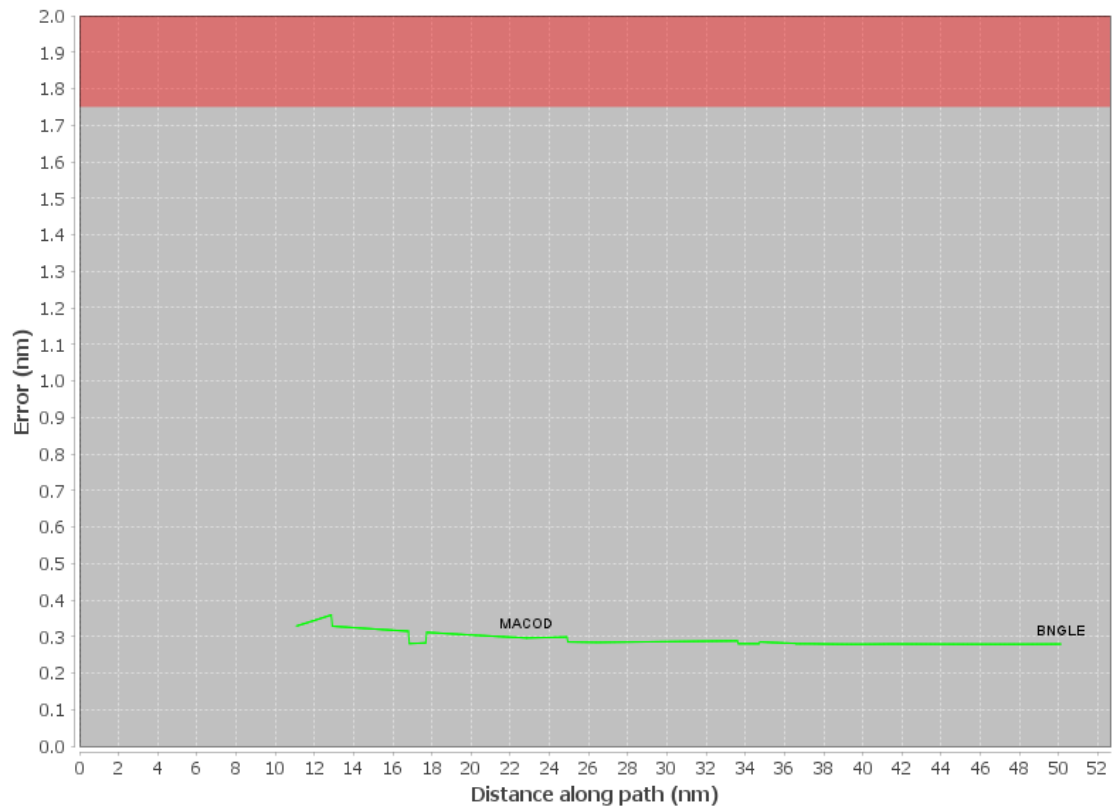
#	File Name
1	UserDMEsKCVG [IFPA] BNGLE5 SID_20230725_1349 CDT.udt

**User DMEs**

#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	RID FAA 702676-32 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-32	
	ESV:	Bearing [True]: 174.0° to 187.0° Bearing [Mag]: 174.0° to 187.0°				Arc Distance: Out to 53.0 NM Altitude: 3000.0 to 18000.0 ft		
2	FLM FAA 682019-10 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-10	
	ESV:	Bearing [True]: 310.0° to 3.0° Bearing [Mag]: 314.0° to 7.0°				Arc Distance: Out to 64.0 NM Altitude: 3000.0 to 16000.0 ft		
3	ROD FAA 682021-30 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-30	
	ESV:	Bearing [True]: 192.0° to 213.0° Bearing [Mag]: 197.0° to 218.0°				Arc Distance: Out to 82.0 NM Altitude: 6000.0 to 17000.0 ft		
4	FLM FAA 682019-15 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-15	
	ESV:	Bearing [True]: 299.0° to 329.0° Bearing [Mag]: 303.0° to 333.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 15000.0 ft		
5	RID FAA 702676-31 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-31	
	ESV:	Bearing [True]: 150.0° to 167.0° Bearing [Mag]: 150.0° to 167.0°				Arc Distance: Out to 48.0 NM Altitude: 3000.0 to 18000.0 ft		
6	RID FAA 702676-33 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-33	
	ESV:	Bearing [True]: 140.0° to 174.0° Bearing [Mag]: 140.0° to 174.0°				Arc Distance: Out to 46.0 NM Altitude: 2000.0 to 9500.0 ft		
7	FLM FAA 682019-14 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-14	
	ESV:	Bearing [True]: 340.0° to 356.0° Bearing [Mag]: 344.0° to 360.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 9500.0 ft		
8	ROD FAA 682021-36 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-36	
	ESV:	Bearing [True]: 205.0° to 215.0° Bearing [Mag]: 210.0° to 220.0°				Arc Distance: Out to 75.0 NM Altitude: 5000.0 to 8000.0 ft		

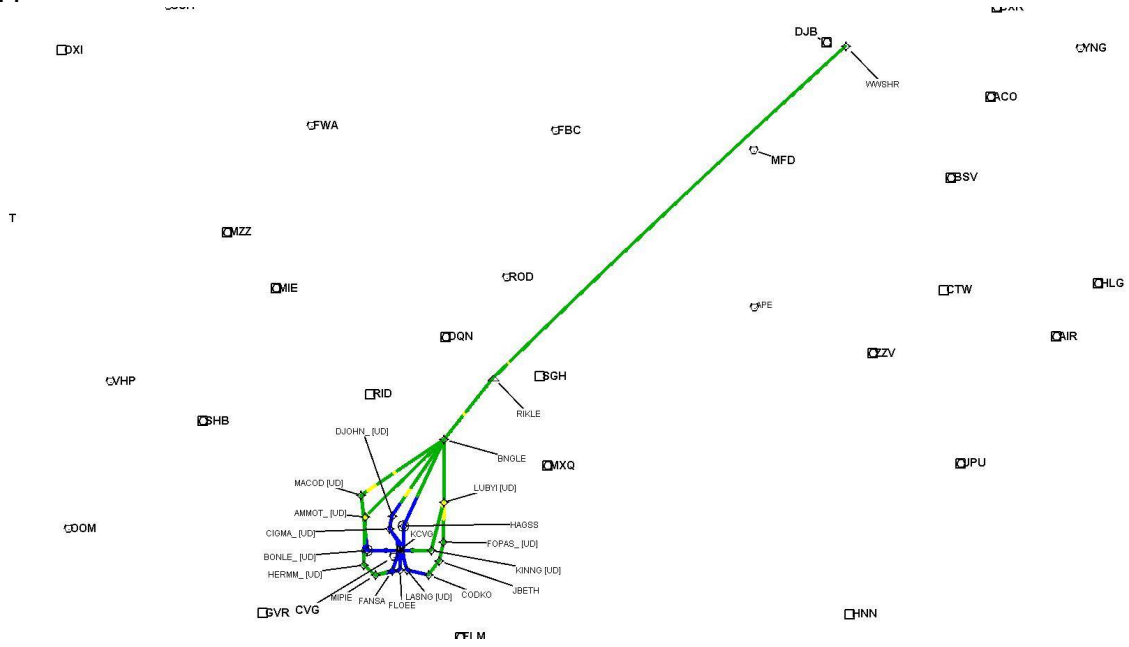
# DME DME Assessment Results for BNGLE5 path KCVG:RW27:DER\_BNGLE

## DME Error



# DME DME Assessment Results for BNGLE5 path KCVG:RW27:DER\_BNGLE

Graphic Depiction 1



## DME DME Assessment Results for BNGLE5 path KCVG:RW36C:DER\_BNGLE

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Robert CTR Ellis
Project File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG BNGLE5 RNAV DME SID.tgs
Output File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG [IFPA] BNGLE5 20230822_1402 CDT\KCVG-RW36C-DER_BNGLE\KCVG BNGLE5 SID RW36C BNGLE 20230822_1402 CDT.pdf
Procedure Name:	BNGLE5
Software: DmeDmePlugin:	7.1.1
Date/Time:	08/22/2023 14:02 CDT
Databases:	DTED0

### 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
KCVG:RW36C:DER	WP	N39° 03' 53.07", W084° 40' 07.02"	874.6	VNAV	130	FLY_BY	TF
CIGMA_	WP	N39° 08' 42.01", W084° 43' 48.81"	1881.3	VNAV	200	FLY_BY	TF
DJOHN_	WP	N39° 12' 07.47", W084° 42' 55.60"	2579.3	VNAV	200	FLY_BY	TF
BNGLE	WP	N39° 33' 01.13", W084° 24' 32.27"	11900	VNAV	240	FLY_BY	TF
Climb Gradient: 200.0 ft/NM							

### Flyability

Flight Type:	SID
Selected Airport:	KCVG [IFPA]
Climb Gradient:	200.0 ft/NM
Speeds:	130 at the Runway DER
	145 at the end of the VA or VI leg
	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 BNGLE5 path KCVG:RW36C:DER\_BNGLE**

<b>DME/DME</b>	
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:	Not enabled
Disabled DMEs:	None

<b>DME/DME (Continued)</b>										
<b>DMEs Used</b>										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	SHB	N39° 37' 57.15", W085° 49' 27.54"	1.0 E	130	DH	IFPA	NO	Enabled	56.9 %	60 %
2	ROD	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	H	IFPA	NO	Enabled	6.9 %	7.2 %
3	RID	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	L	IFPA	NO	Enabled	56.9 %	60 %
4	DQN	N40° 00' 59.20", W084° 23' 48.83"	1.0 W	40	L	IFPA	NO	Enabled	31.6 %	33.5 %
5	FLM	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	H	IFPA	NO	Enabled	13 %	13.6 %
6	CVG	N39° 00' 57.53", W084° 42' 12.05"	4.0 W	40	L	IFPA	NO	Enabled	56.9 %	60 %

<b>Flight Check DME Selection</b>						
Distance [NM]	Selected DMEs					Alternate
0.0						
13.8	SHB	CVG	RID	FLM		
16.1	SHB	CVG	RID			
18.6	SHB	CVG	ROD	FLM	RID	
21.1	SHB	CVG	RID			
23.0	DQN	SHB	CVG	RID		

<b>Inertial Drift Segments</b>			
#	Start Location	End Location	Length [NM]
1	N39° 03' 55.18", W084° 40' 07.01"	N39° 15' 53.13", W084° 39' 38.00"	13.7907

<b>Available DMEs by Waypoints</b>			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
KCVG:RW36C:DER	CIGMA_		
CIGMA_	DJOHN_		
DJOHN_	BNGLE	DQN, CVG, FLM, ROD, SHB, RID	

**DME DME Assessment Results for BNGLE5 path KCVG:RW36C:DER\_BNGLE**

**User Data Files**

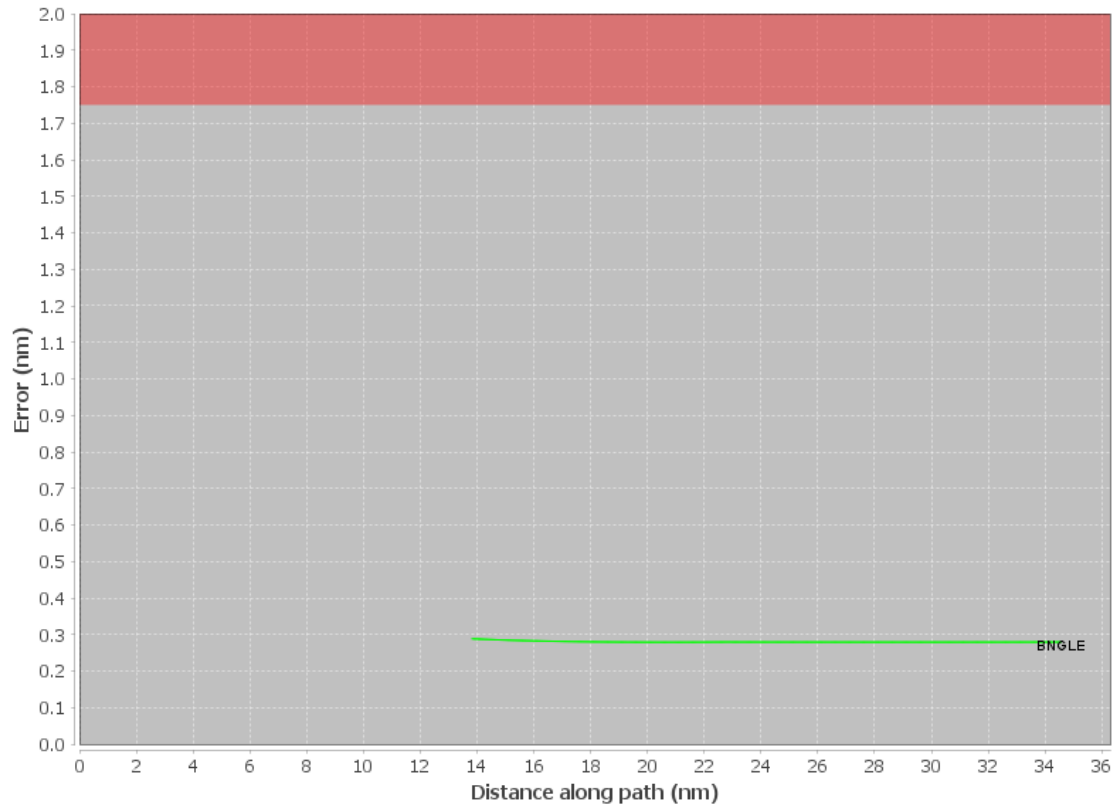
#	File Name
1	UserDMEsKCVG [IFPA] BNGLE5 SID_20230725_1349 CDT.udt

**User DMEs**

#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	RID FAA 702676-32 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-32	
	ESV:	Bearing [True]: 174.0° to 187.0° Bearing [Mag]: 174.0° to 187.0°				Arc Distance: Out to 53.0 NM Altitude: 3000.0 to 18000.0 ft		
2	FLM FAA 682019-10 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-10	
	ESV:	Bearing [True]: 310.0° to 3.0° Bearing [Mag]: 314.0° to 7.0°				Arc Distance: Out to 64.0 NM Altitude: 3000.0 to 16000.0 ft		
3	ROD FAA 682021-30 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-30	
	ESV:	Bearing [True]: 192.0° to 213.0° Bearing [Mag]: 197.0° to 218.0°				Arc Distance: Out to 82.0 NM Altitude: 6000.0 to 17000.0 ft		
4	FLM FAA 682019-15 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-15	
	ESV:	Bearing [True]: 299.0° to 329.0° Bearing [Mag]: 303.0° to 333.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 15000.0 ft		
5	RID FAA 702676-31 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-31	
	ESV:	Bearing [True]: 150.0° to 167.0° Bearing [Mag]: 150.0° to 167.0°				Arc Distance: Out to 48.0 NM Altitude: 3000.0 to 18000.0 ft		
6	RID FAA 702676-33 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-33	
	ESV:	Bearing [True]: 140.0° to 174.0° Bearing [Mag]: 140.0° to 174.0°				Arc Distance: Out to 46.0 NM Altitude: 2000.0 to 9500.0 ft		
7	FLM FAA 682019-14 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-14	
	ESV:	Bearing [True]: 340.0° to 356.0° Bearing [Mag]: 344.0° to 360.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 9500.0 ft		
8	ROD FAA 682021-36 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-36	
	ESV:	Bearing [True]: 205.0° to 215.0° Bearing [Mag]: 210.0° to 220.0°				Arc Distance: Out to 75.0 NM Altitude: 5000.0 to 8000.0 ft		

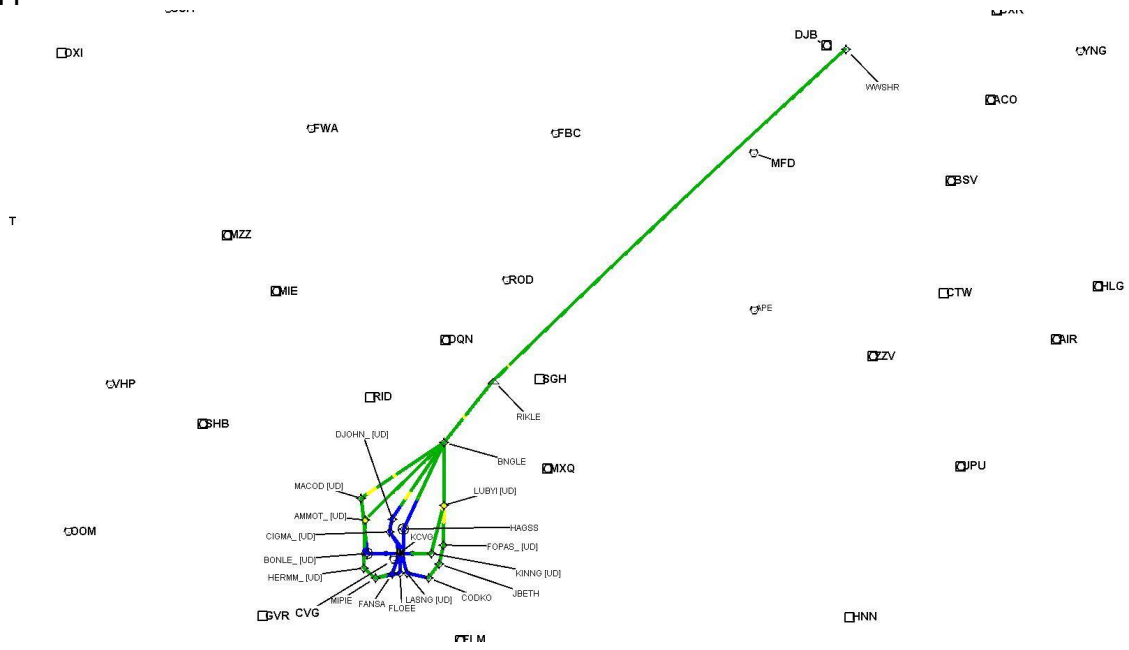
# DME DME Assessment Results for BNGLE5 path KCVG:RW36C:DER\_BNGLE

## DME Error



# DME DME Assessment Results for BNGLE5 path KCVG:RW36C:DER\_BNGLE

Graphic Depiction 1





## DME DME Assessment Results for BNGLE5 path KCVG:RW36L:DER\_CIGMA\_

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Robert CTR Ellis
Project File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG BNGLE5 RNAV DME SID.tgs
Output File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG [IFPA] BNGLE5 20230822_1402 CDT\KCVG-RW36L-DER_CIGMA_\KCVG BNGLE5 SID RW36L CIGMA 20230822_1402 CDT.pdf
Procedure Name:	BNGLE5
Software: DmeDmePlugin:	7.1.1
Date/Time:	08/22/2023 14:02 CDT
Databases:	DTED0

### 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
KCVG:RW36L:DER	WP	N39° 04' 15.17", W084° 41' 01.46"	864.7	VNAV	130	FLY_BY	TF
CIGMA_	WP	N39° 08' 42.01", W084° 43' 48.81"	1881.3	VNAV	200	FLY_BY	TF

Climb Gradient:  
200.0 ft/NM

### Flyability

Flight Type:	SID
Selected Airport:	KCVG [IFPA]
Climb Gradient:	200.0 ft/NM
Speeds:	130 at the Runway DER
	145 at the end of the VA or VI leg
	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 BNGLE5 path KCVG:RW36L:DER\_CIGMA\_**

<b>DME/DME</b>	
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:	Not enabled
Disabled DMEs:	None

**DME/DME (Continued)**

**DMEs Used**

#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
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**Flight Check DME Selection**

Distance [NM]	Selected DMEs	Alternate
0.0		

**Inertial Drift Segments**

#	Start Location	End Location	Length [NM]
1	N39° 04' 17.32", W084° 41' 01.45"	N39° 08' 42.01", W084° 43' 48.81"	5.0486

**Available DMEs by Waypoints**

Waypoint Before	Waypoint After	DME List	Suggested DMEs
KCVG:RW36L:DER	CIGMA_		

**DME DME Assessment Results for BNGLE5 path KCVG:RW36L:DER\_CIGMA\_**

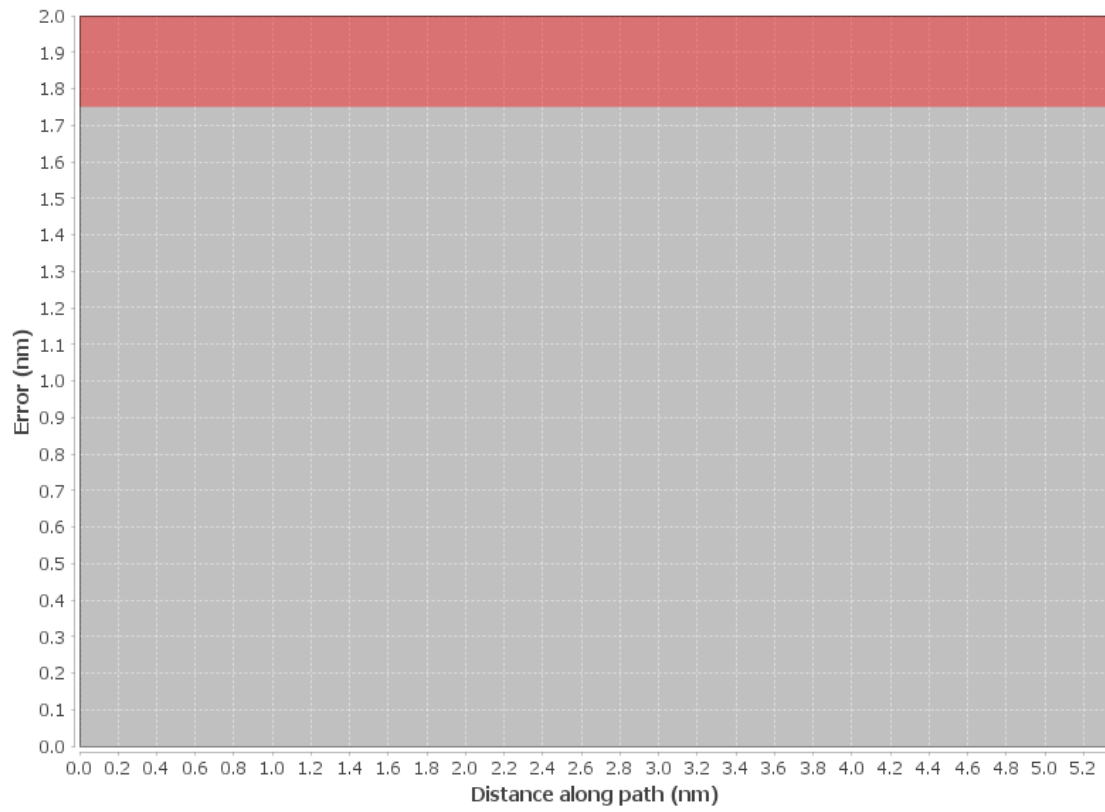
**User Data Files**

#	File Name
1	UserDMESKCVG [IFPA] BNGLE5 SID_20230725_1349 CDT.udt

**User DMEs**

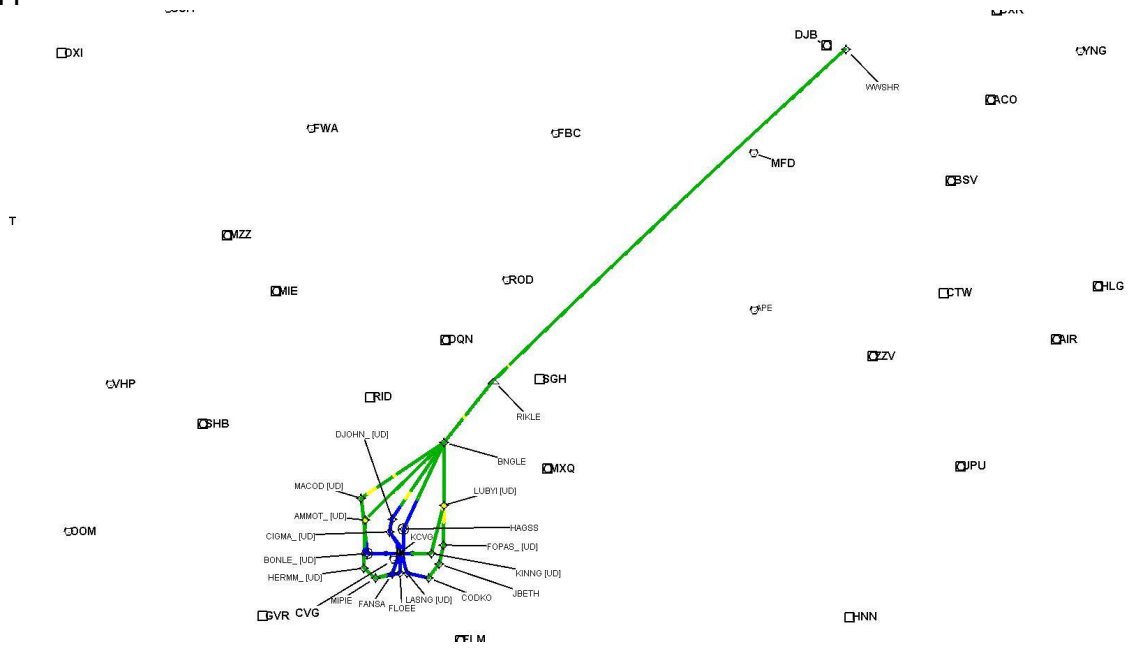
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	RID FAA 702676-32 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-32	
	ESV:	Bearing [True]: 174.0° to 187.0° Bearing [Mag]: 174.0° to 187.0°				Arc Distance: Out to 53.0 NM Altitude: 3000.0 to 18000.0 ft		
2	FLM FAA 682019-10 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-10	
	ESV:	Bearing [True]: 310.0° to 3.0° Bearing [Mag]: 314.0° to 7.0°				Arc Distance: Out to 64.0 NM Altitude: 3000.0 to 16000.0 ft		
3	ROD FAA 682021-30 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-30	
	ESV:	Bearing [True]: 192.0° to 213.0° Bearing [Mag]: 197.0° to 218.0°				Arc Distance: Out to 82.0 NM Altitude: 6000.0 to 17000.0 ft		
4	FLM FAA 682019-15 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-15	
	ESV:	Bearing [True]: 299.0° to 329.0° Bearing [Mag]: 303.0° to 333.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 15000.0 ft		
5	RID FAA 702676-31 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-31	
	ESV:	Bearing [True]: 150.0° to 167.0° Bearing [Mag]: 150.0° to 167.0°				Arc Distance: Out to 48.0 NM Altitude: 3000.0 to 18000.0 ft		
6	RID FAA 702676-33 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-33	
	ESV:	Bearing [True]: 140.0° to 174.0° Bearing [Mag]: 140.0° to 174.0°				Arc Distance: Out to 46.0 NM Altitude: 2000.0 to 9500.0 ft		
7	FLM FAA 682019-14 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-14	
	ESV:	Bearing [True]: 340.0° to 356.0° Bearing [Mag]: 344.0° to 360.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 9500.0 ft		
8	ROD FAA 682021-36 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-36	
	ESV:	Bearing [True]: 205.0° to 215.0° Bearing [Mag]: 210.0° to 220.0°				Arc Distance: Out to 75.0 NM Altitude: 5000.0 to 8000.0 ft		

### DME Error



# DME DME Assessment Results for BNGLE5 path KCVG:RW36L:DER\_CIGMA\_

Graphic Depiction 1



**DME DME Assessment Results for BNGLE5 path KCVG:RW36R:DER\_BNGLE**

<b>Results Summary</b>	
Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Robert CTR Ellis
Project File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG BNGLE5 RNAV DME SID.tgs
Output File:	C:\Users\Robert CTR Ellis\Documents\Project Files\CVG\CVG Sub docs\SID BNGLE5\KCVG [IFPA] BNGLE5 20230822_1402 CDT\KCVG-RW36R-DER_BNGLE\KCVG BNGLE5 SID RW36R BNGLE 20230822_1402 CDT.pdf
Procedure Name:	BNGLE5
Software: DmeDmePlugin:	7.1.1
Date/Time:	08/22/2023 14:02 CDT
Databases:	DTED0

<b>Failures</b>
No Failures

<b>Warnings</b>
No Warnings

<b>Informational</b>
No Informational

<b>Notes For Flight Check</b>
None

<b>Flight Plan</b>							
Name	Type	Lat/Lon	Altitude (ft)	VNAV Mode	Ground Speed (kts)	Turn Type	Leg Type
KCVG:RW36R:DER	WP	N39° 03' 21.08", W084° 38' 48.00"	886.3	VNAV	130	FLY_OVER	TF
HAGSS	WP	N39° 09' 24.37", W084° 38' 47.85"	886.3	VNAV	0	FLY_OVER	TF
BNGLE	WP	N39° 33' 01.13", W084° 24' 32.27"	11900	VNAV	240	FLY_BY	TF
Climb Gradient: 200.0 ft/NM							

<b>Flyability</b>	
Flight Type:	SID
Selected Airport:	KCVG [IFPA]
Climb Gradient:	200.0 ft/NM
Speeds:	130 at the Runway DER
	145 at the end of the VA or VI leg
	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 BNGLE5 path KCVG:RW36R:DER\_BNGLE**

<b>DME/DME</b>	
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:	Not enabled
Disabled DMEs:	None

<b>DME/DME (Continued)</b>										
<b>DMEs Used</b>										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	SHB	N39° 37' 57.15", W085° 49' 27.54"	1.0 E	130	DH	IFPA	NO	Enabled	50 %	53.7 %
2	RID	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	L	IFPA	NO	Enabled	50 %	53.7 %
3	DQN	N40° 00' 59.20", W084° 23' 48.83"	1.0 W	40	L	IFPA	NO	Enabled	32.6 %	35.2 %
4	FLM	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	H	IFPA	NO	Enabled	2.6 %	2.8 %
5	CVG	N39° 00' 57.53", W084° 42' 12.05"	4.0 W	40	L	IFPA	NO	Enabled	50 %	53.7 %

<b>Flight Check DME Selection</b>						
Distance [NM]	Selected DMEs					Alternate
0.0						
14.9	SHB	CVG	FLM	RID		
15.8	SHB	CVG	RID			
20.8	DQN	SHB	CVG	RID		

<b>Inertial Drift Segments</b>			
#	Start Location	End Location	Length [NM]
1	N39° 03' 23.24", W084° 38' 48.00"	N39° 17' 23.86", W084° 33' 59.48"	14.8342

<b>Available DMEs by Waypoints</b>			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
KCVG:RW36R:DER	HAGSS		
HAGSS	BNGLE	DQN, CVG, FLM, SHB, RID	

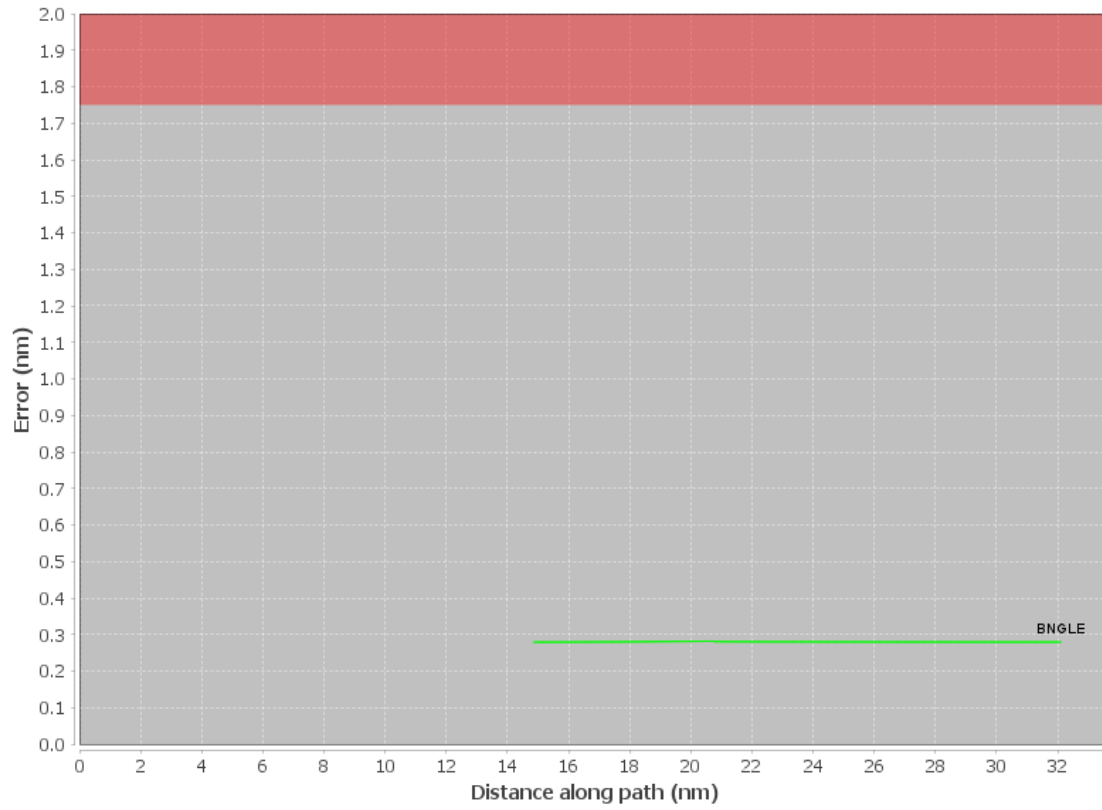
**DME DME Assessment Results for BNGLE5 path KCVG:RW36R:DER\_BNGLE**

<b>User Data Files</b>								
#	File Name							
1	UserDMEsKCVG [IFPA] BNGLE5 SID_20230725_1349 CDT.udt							
<b>User DMEs</b>								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	RID FAA 702676-32 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-32	
	ESV:	Bearing [True]: 174.0° to 187.0° Bearing [Mag]: 174.0° to 187.0°				Arc Distance: Out to 53.0 NM Altitude: 3000.0 to 18000.0 ft		
2	FLM FAA 682019-10 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-10	
	ESV:	Bearing [True]: 310.0° to 3.0° Bearing [Mag]: 314.0° to 7.0°				Arc Distance: Out to 64.0 NM Altitude: 3000.0 to 16000.0 ft		
3	ROD FAA 682021-30 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-30	
	ESV:	Bearing [True]: 192.0° to 213.0° Bearing [Mag]: 197.0° to 218.0°				Arc Distance: Out to 82.0 NM Altitude: 6000.0 to 17000.0 ft		
4	FLM FAA 682019-15 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-15	
	ESV:	Bearing [True]: 299.0° to 329.0° Bearing [Mag]: 303.0° to 333.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 15000.0 ft		
5	RID FAA 702676-31 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-31	
	ESV:	Bearing [True]: 150.0° to 167.0° Bearing [Mag]: 150.0° to 167.0°				Arc Distance: Out to 48.0 NM Altitude: 3000.0 to 18000.0 ft		
6	RID FAA 702676-33 RID [IFPA]	N39° 45' 18.03", W084° 50' 19.78"	-0.0 E	40	1135.2	null	RID FAA 702676-33	
	ESV:	Bearing [True]: 140.0° to 174.0° Bearing [Mag]: 140.0° to 174.0°				Arc Distance: Out to 46.0 NM Altitude: 2000.0 to 9500.0 ft		
7	FLM FAA 682019-14 FLM [IFPA]	N38° 38' 57.99", W084° 18' 38.17"	4.0 W	130	808.5	117.0	FLM FAA 682019-14	
	ESV:	Bearing [True]: 340.0° to 356.0° Bearing [Mag]: 344.0° to 360.0°				Arc Distance: Out to 55.0 NM Altitude: 3000.0 to 9500.0 ft		
8	ROD FAA 682021-36 ROD [IFPA]	N40° 17' 16.08", W084° 02' 35.15"	5.0 W	130	1079.5	117.5	ROD FAA 682021-36	
	ESV:	Bearing [True]: 205.0° to 215.0° Bearing [Mag]: 210.0° to 220.0°				Arc Distance: Out to 75.0 NM Altitude: 5000.0 to 8000.0 ft		



# DME DME Assessment Results for BNGLE5 path KCVG:RW36R:DER\_BNGLE

## DME Error



# DME DME Assessment Results for BNGLE5 path KCVG:RW36R:DER\_BNGLE

Graphic Depiction 1

