

```
/*=====
=====*
```

```
| Covance Study Number   : 000000106343          |
| Program Name           : t_anlcohb.sas          |
| Purpose                 : Analysis of COHB, MHBMA, 3-HPMA, S-PMA, and total NNAL on Day 5/90 |
|                         - secondary obj          |
| Input Data              : ADAM.ADBX              |
| Output Data             : tflds.T_15_02_03_02 tflds.T_15_02_03_03 & RTFs          |
| Macros Called           : m_printto, m_logchk    |
| Originally Performed by : kpothuri              |
| Date                    : 28Apr2015              |
|                         |
```

```
|=====
=====|
```

```
| Modification History    |
|-----|
| Modified by             |
| Modification Date       |
| Modification Description : |
```

```
+=====
=====*/
```

```
options notes source source2 nofullstimer validvarname=upcase missing=' ' NOQUOTELENMAX;
```

```
ods _all_ close;
```

```
ods listing;
```

```
%m_printto(route=YES);
```

```
*=====;
```

```
* START OF PROGRAM CODE ;
```

```
*=====;
```

```
proc datasets lib=work nolist memtype=data kill; quit;
```

```
%let TFL_Part=%scan(&_amp;_SASPROGRAMFILE,-3,%str(/));
```

```
/* Standard - leave this */
```

```
data _null_;
```

```
    tmp("&TFL_Part";
```

```
        if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");
```

```
        call symput('TFLpath', compress("&_SASPROGRAMFILE", ""));
```

```
        call symput('TFLprg',reverse(scan(strip(reverse(compress("&_SASPROGRAMFILE", ""))),1,"/")));
```

```
run;
```

```
proc sort data=adam.adbx out=bx_units (keep=paramcd param paramn avalu) nodupkey; by paramcd;
```

```
where paramcd in ("CARBXHGB", "UMHBMCRE", "U3HPMCRE", "USPMACRE", "UNNALCRE"); run;
```

```
data _null_;
```

```
    set bx_units;
```

```
    call symput ("u_" || compress(paramcd), strip(param));
```

```
    call symput ("n_" || compress(paramcd), strip(put(paramn,best.)));
```

```
run;
```

```
%put &u_CARBXHGB &u_UMHBMCRE &u_U3HPMCRE &u_USPMACRE &u_UNNALCRE;
```

```
%put &n_CARBXHGB &n_UMHBMCRE &n_U3HPMCRE &n_USPMACRE &n_UNNALCRE;
```

```
%macro p (tabn=, day=, where=, seq=, dset=, fig=N, pcd=N, pn=N, par=N);
```

```
*Counts;
```

```
proc sort data=adam.adbx(where=(&where))
```

```
    out=adbxin1;
```

```
    by SUBJID;
```

```
run;
```

```
proc freq data=adbxin1 (where=(BASE ne .)) noprint;
```

```
    table trtp/out=f_param (drop=percent);
```

```
run;
```

```
data f_param;
```

```
length count_ $27;
```

```
    set f_param;
```

```
    if trtp="THSm2.2" then trtp="THS";
```

```
    count_=put(count,best.);
```

```
run;
```

```
proc transpose data=f_param out=t_count;
```

```
    id trtp;
```

```
    var count_;
```

```
run;
```

```
data adbx1 missing;
```

```
    set adbxin1;
```

```

if aval not in (.,0) and base not in (.,0) then do; *need to add BASE for missing value calculation;

    logaval=log(aval);

        logbase=log(base);

    output adbx1;

end;

else output missing;

run;

proc glm data=adbx1;

    class trtp sex UCPDGR1;

    model logaval = logbase sex UCPDGR1 trtp;

    lsmeans trtp / pdiff alpha=0.05 cl;

    ods output diff=pval (keep=rowname _3); *p-value;

    ods output LSMeanCL=LSMeanCL (keep=trtp lowercl uppercl lsmean); *lsmean, C.I.;

    ods output LSMeanDiffCL=LSMeanDiffCL (keep=trtp _trtp lowercl uppercl difference); *lsmean
and C.I. for ratios;

    ods output FitStatistics=ROOTMSE (keep=rootmse); *RootMSE;

run;

*RootMSE;

data mse;

    set ROOTMSE;

    format rootmse;

    estimate="rootmse";

run;

data _null_;

```

```

    set mse;

    call symput ("e_" || compress(estimate), strip(put(rootmse,best.)));

run;

%put &e_rootmse;

*lsmean and C.I. for ratios;

data LSMeanDiffCL_1;

    set LSMeanDiffCL;

    format lowercl uppercl difference;

    if trtp="SA" and _trtp="mCC" then delete;

run;

data LSM_CL;

    set LSMeanDiffCL_1;

    if trtp="SA" and _trtp="THSm2.2" then do;

        diff_neg=difference*(-1);

        UC=LowerCL*(-1);

        LC=UpperCL*(-1);

    end;

    else do;

        diff_neg=difference;

        LC=LowerCL;

        UC=UpperCL;

    end;

end;

```

```

diff_=exp(diff_neg);

L_CI_=exp(LC);

U_CI_=exp(UC);


CI=compress(put(floor(100*L_CI_*100)/100,12.2))||',
'||compress(put(ceil(100*U_CI_*100)/100,12.2));


MSE=(&e_rootmse)**2;

CV_=10000*sqrt(exp(MSE)-1);

CV=put((ceil(CV_)/10000)*100,12.2);


lsmean_=compress(put(round(100*diff_,0.01),12.2))||'('||compress(CV)||')';


if _trtp="THSm2.2" then _trtp="SA";

run;

proc transpose data=LSM_CL out=t_LSM_CL (rename=(SA=ths_sa_ratio mcc=ths_mcc_ratio));

    id _trtp;

    var lsmean_ CI;

run;


*figure data;

%if &fig^=N %then %do;

data &fig;

length avisit $10 param $200;

set LSM_CL;

```

```

keep L_CI_ U_CI_ diff_ trtp _trtp avisit paramcd paramn param;

avisit="&day";

paramcd="&pcd";

paramn="&pn";

param="&par";

run;

%end;

*p-value;

data pval1;

    set pval;

    rowname=compress(rowname);

    if rowname="2";

run;

data stat_pval;

    set pval1;

    if not missing(_3) then pval=_3/2;

    if pval_ < 0.001 then pval="<0.001";

        else if pval_ > 0.999 then pval=">0.999";

        else if 0.001 < pval_ < 0.999 then pval=put(pval_,5.3);

%if &day="Day 5" %then %do;

    %if &pcd ne "UNNALCRE" %then %do;

        if pval_ <= 0.025;

    %end;

```

```

        %end;

run;

proc transpose data=stat_pval out=t_stat_pval (rename=(_2=ths_mcc_ratio));

    id rowname;

    var pval;

run;

*lsmean, C.I.;

proc sort data=lsmeanc1 out=lsmeanc11 nodupkey; by trtp lowercl uppercl lsmean; run;

data lsmeanc11;

    set lsmeanc1;

    format lowercl uppercl lsmean;

run;

data stat;

    set LSMeanCL1;

    lsmean_=put(exp(lsmean),8.2);

    LowerCL_=exp(LowerCL);

    UpperCL_=exp(UpperCL);

    Cl=compress(put(floor(100*LowerCL_)/100,8.2))||',
'||compress(put(ceil(100*UpperCL_)/100,8.2));

    if trtp="THSm2.2" then trtp="THS";

run;

proc transpose data=stat out=t_stat;

```



```

        id trtp;

        var lsmean_ CI;

run;


*set of stats for one day;

proc sort data=t_count; by _name_; run;

proc sort data=T_STAT; by _name_; run;

data set5;

        merge t_count T_STAT;

        by _name_ SA THS MCC;

run;

proc sort data=set5; by _name_; run;

proc sort data=t_lsm_cl; by _name_; run;

data set5_a;

        merge set5 t_lsm_cl;

        by _name_;

run;

data &dset (drop=THS_SA_RATIO THS_MCC_RATIO THS SA MCC);

length _name_ $30 visit $30;

        set set5_a t_stat_pval;

        seq=&seq; *depends on what day;

        tabn=&tabn; *parameter;


        if _name_="COUNT_" then do;

                _name_="n";

```

```

        visit="&day";

        num=1;

    end;

    else if _name_="LSMEAN_" then do;

        _name_="Geometric LS Mean (CV%)";

        num=2;

    end;

    else if _name_="CI" then do;

        _name_="95% CI";

        num=3;

    end;

    else if _name_="PVAL" then do;

        _name_="p-value (one-sided)";

        num=4;

    end;

    SA_=strip(SA);

    THS_=strip(THS);

    MCC_=strip(MCC);

    THS_MCC_RATIO_=strip(THS_MCC_RATIO);

    THS_SA_RATIO_=strip(THS_SA_RATIO);

run;

proc sort data=&dset; by num; run;

%mend p;

```

*PP set table;

%p(tabn=1, day=Day 5,

where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="CARBXHGB" and avisitn=105 and atpt="DAY 5
- 20:00 - 21:30"),

seq=1, dset=cohb_5, pcd=CARBXHGB, pn=&n_CARBXHGB, par=&u_CARBXHGB, fig=fg_cohb_5);

%p(tabn=1, day=Day 90,

where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="CARBXHGB" and avisitn=190),

seq=2, dset=cohb_90, pcd=CARBXHGB, pn=&n_CARBXHGB, par=&u_CARBXHGB, fig=fg_cohb_90);

%p(tabn=2, day=Day 5,

where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="UMHBMCRE" and avisitn=105), seq=1,
dset=mhbma_5,

pcd=UMHBMCRE, pn=&n_UMHBMCRE, par=&u_UMHBMCRE, fig=fg_mhbma_5);

%p(tabn=2, day=Day 90,

where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="UMHBMCRE" and avisitn=190), seq=2,
dset=mhbma_90,

pcd=UMHBMCRE, pn=&n_UMHBMCRE, par=&u_UMHBMCRE, fig=fg_mhbma_90);

%p(tabn=3, day=Day 5,

where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="U3HPMCRE" and avisitn=105), seq=1,
dset=HPMA_5,

pcd=U3HPMCRE, pn=&n_U3HPMCRE, par=&u_U3HPMCRE, fig=fg_HPMA_5);

%p(tabn=3, day=Day 90,

where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="U3HPMCRE" and avisitn=190), seq=2,
dset=HPMA_90,

pcd=U3HPMCRE, pn=&n_U3HPMCRE, par=&u_U3HPMCRE, fig=fg_HPMA_90);

```
%p(tabn=4, day=Day 5,  
  
where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="USPMACRE" and avisitn=105), seq=1,  
dset=PMA_5,
```

```
pcd=USPMACRE, pn=&n_USPMACRE, par=&u_USPMACRE, fig=fg_PMA_5);
```

```
%p(tabn=4, day=Day 90,
```

```
where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="USPMACRE" and avisitn=190), seq=2,  
dset=PMA_90,
```

```
pcd=USPMACRE, pn=&n_USPMACRE, par=&u_USPMACRE, fig=fg_PMA_90);
```

```
%p(tabn=5, day=Day 5,
```

```
where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="UNNALCRE" and avisitn=105), seq=1,  
dset=NNAL_5,
```

```
pcd=UNNALCRE, pn=&n_UNNALCRE, par=&u_UNNALCRE, fig=fg_NNAL_5);
```

```
%p(tabn=5, day=Day 90,
```

```
where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="UNNALCRE" and avisitn=190), seq=2,  
dset=NNAL_90,
```

```
pcd=UNNALCRE, pn=&n_UNNALCRE, par=&u_UNNALCRE, fig=fg_NNAL_90);
```

```
%let l_name = %str(L_15_04_03_02);
```

```
%let t_title_l = %nrbrquote(Listing 15.4.3.2 Analysis of COHb, MHBMA, 3-HPMA, S-PMA, and Total NNAL  
on Day 5/90 Visit for THS 2.2 Menthol versus mCC and SA for the Secondary Objective-PP Set);
```

```
ods rtf
```

```
file="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&l_name..rtf";
```

```
title "&t_title_l";
```

options orientation=landscape;

%p(tabn=1, day=Day 5,

where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="CARBXHGB" and avisitn=105 and atpt="DAY 5
- 20:00 - 21:30"),

seq=1, dset=cohb_5, pcd=CARBXHGB, pn=&n_CARBXHGB, par=&u_CARBXHGB, fig=fg_cohb_5);

%p(tabn=1, day=Day 90,

where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="CARBXHGB" and avisitn=190),

seq=2, dset=cohb_90, pcd=CARBXHGB, pn=&n_CARBXHGB, par=&u_CARBXHGB, fig=fg_cohb_90);

%p(tabn=2, day=Day 5,

where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="UMHBMCRE" and avisitn=105), seq=1,
dset=mhbma_5,

pcd=UMHBMCRE, pn=&n_UMHBMCRE, par=&u_UMHBMCRE, fig=fg_mhbma_5);

%p(tabn=2, day=Day 90,

where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="UMHBMCRE" and avisitn=190), seq=2,
dset=mhbma_90,

pcd=UMHBMCRE, pn=&n_UMHBMCRE, par=&u_UMHBMCRE, fig=fg_mhbma_90);

%p(tabn=3, day=Day 5,

where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="U3HPMCRE" and avisitn=105), seq=1,
dset=HPMA_5,

pcd=U3HPMCRE, pn=&n_U3HPMCRE, par=&u_U3HPMCRE, fig=fg_HPMA_5);

%p(tabn=3, day=Day 90,

where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="U3HPMCRE" and avisitn=190), seq=2,
dset=HPMA_90,

pcd=U3HPMCRE, pn=&n_U3HPMCRE, par=&u_U3HPMCRE, fig=fg_HPMA_90);

%p(tabn=4, day=Day 5,
where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="USPMACRE" and avisitn=105), seq=1,
dset=PMA_5,
pcd=USPMACRE, pn=&n_USPMACRE, par=&u_USPMACRE, fig=fg_PMA_5);

%p(tabn=4, day=Day 90,
where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="USPMACRE" and avisitn=190), seq=2,
dset=PMA_90,
pcd=USPMACRE, pn=&n_USPMACRE, par=&u_USPMACRE, fig=fg_PMA_90);

%p(tabn=5, day=Day 5,
where=%str(anl02fl="Y" and pprot1fl="Y" and paramcd="UNNALCRE" and avisitn=105), seq=1,
dset=NNAL_5,
pcd=UNNALCRE, pn=&n_UNNALCRE, par=&u_UNNALCRE, fig=fg_NNAL_5);

%p(tabn=5, day=Day 90,
where=%str(anl02fl="Y" and pprot4fl="Y" and paramcd="UNNALCRE" and avisitn=190), seq=2,
dset=NNAL_90,
pcd=UNNALCRE, pn=&n_UNNALCRE, par=&u_UNNALCRE, fig=fg_NNAL_90);

ods rtf close;

*FAS table;

%p(tabn=1, day=Day 5,
where=%str(anl02fl="Y" and FASFL="Y" and paramcd="CARBXHGB" and avisitn=105 and atpt="DAY 5 -
20:00 - 21:30"),
seq=1, dset=cohb_5_f);
%p(tabn=1, day=Day 90,
where=%str(anl02fl="Y" and FASFL="Y" and paramcd="CARBXHGB" and avisitn=190 and atptn=12.22),
seq=2, dset=cohb_90_f);

%p(tabn=2, day=Day 5,

where=%str(anl02fl="Y" and FASFL="Y" and paramcd="UMHBMCRE" and avisitn=105), seq=1,
dset=mhbma_5_f);

%p(tabn=2, day=Day 90,

where=%str(anl02fl="Y" and FASFL="Y" and paramcd="UMHBMCRE" and avisitn=190), seq=2,
dset=mhbma_90_f);

%p(tabn=3, day=Day 5,

where=%str(anl02fl="Y" and FASFL="Y" and paramcd="U3HPMCRE" and avisitn=105), seq=1,
dset=HPMA_5_f);

%p(tabn=3, day=Day 90,

where=%str(anl02fl="Y" and FASFL="Y" and paramcd="U3HPMCRE" and avisitn=190), seq=2,
dset=HPMA_90_f);

%p(tabn=4, day=Day 5,

where=%str(anl02fl="Y" and FASFL="Y" and paramcd="USPMACRE" and avisitn=105), seq=1,
dset=PMA_5_f);

%p(tabn=4, day=Day 90,

where=%str(anl02fl="Y" and FASFL="Y" and paramcd="USPMACRE" and avisitn=190), seq=2,
dset=PMA_90_f);

%p(tabn=5, day=Day 5,

where=%str(anl02fl="Y" and FASFL="Y" and paramcd="UNNALCRE" and avisitn=105), seq=1,
dset=NNAL_5_f);

%p(tabn=5, day=Day 90,

where=%str(anl02fl="Y" and FASFL="Y" and paramcd="UNNALCRE" and avisitn=190), seq=2,
dset=NNAL_90_f);

```
%let l_name = %str(L_15_04_03_03);
```

```
%let t_title_l = %nrbrquote(Listing 15.4.3.3 Analysis of COHb, MHBMA, 3-HPMA, S-PMA, and Total NNAL  
on Day 5/90 Visit for THS 2.2 Menthol versus mCC and SA for the Secondary Objective-FAS);
```

```
ods rtf
```

```
file="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&l_name..rtf";
```

```
title "&t_title_l";
```

```
options orientation=landscape;
```

```
%p(tabn=1, day=Day 5,
```

```
where=%str(anl02fl="Y" and FASFL="Y" and paramcd="CARBXHGB" and avisitn=105 and atpt="DAY 5 -  
20:00 - 21:30"),
```

```
seq=1, dset=cohb_5_f);
```

```
%p(tabn=1, day=Day 90,
```

```
where=%str(anl02fl="Y" and FASFL="Y" and paramcd="CARBXHGB" and avisitn=190 and atptn=12.22),  
seq=2, dset=cohb_90_f);
```

```
%p(tabn=2, day=Day 5,
```

```
where=%str(anl02fl="Y" and FASFL="Y" and paramcd="UMHBMCRE" and avisitn=105), seq=1,  
dset=mhbma_5_f);
```

```
%p(tabn=2, day=Day 90,
```

```
where=%str(anl02fl="Y" and FASFL="Y" and paramcd="UMHBMCRE" and avisitn=190), seq=2,  
dset=mhbma_90_f);
```

```
%p(tabn=3, day=Day 5,
```

```
where=%str(anl02fl="Y" and FASFL="Y" and paramcd="U3HPMCRE" and avisitn=105), seq=1,  
dset=HPMA_5_f);
```



```
%p(tabn=3, day=Day 90,
```

```
where=%str(anl02fl="Y" and FASFL ="Y" and paramcd="U3HPMCRE" and avisitn=190), seq=2,  
dset=HPMA_90_f);
```

```
%p(tabn=4, day=Day 5,
```

```
where=%str(anl02fl="Y" and FASFL ="Y" and paramcd="USPMACRE" and avisitn=105), seq=1,  
dset=PMA_5_f);
```

```
%p(tabn=4, day=Day 90,
```

```
where=%str(anl02fl="Y" and FASFL ="Y" and paramcd="USPMACRE" and avisitn=190), seq=2,  
dset=PMA_90_f);
```

```
%p(tabn=5, day=Day 5,
```

```
where=%str(anl02fl="Y" and FASFL ="Y" and paramcd="UNNALCRE" and avisitn=105), seq=1,  
dset=NNAL_5_f);
```

```
%p(tabn=5, day=Day 90,
```

```
where=%str(anl02fl="Y" and FASFL ="Y" and paramcd="UNNALCRE" and avisitn=190), seq=2,  
dset=NNAL_90_f);
```

```
ods rtf close;
```

```
*assemble for one parameter;
```

```
%macro param_set (param_5=, param_90=, dset_1=, page=, parm=);
```

```
data all;
```

```
set &param_5 &param_90;
```

```
run;
```

```
data dum;

length visit $200;

    seq=1;

    num=0;

    visit="&parm";

    output;

    seq=1;

    num=5;

    visit="";

    output;

run;
```

```
data &dset_1;

    merge dum all;

    by seq num visit;

    pageord=&page;

run;

%mend param_set;
```

```
*PP set table;

%param_set (param_5=cohb_5, param_90=cohb_90, dset_1=cohb, page=4, parm=&u_CARBXHGB);

%param_set (param_5=mhbma_5, param_90=mhbma_90, dset_1=mhbma, page=1,
parm=&u_UMHBMCRE);

%param_set (param_5=HPMA_5, param_90=HPMA_90, dset_1=HPMA, page=2, parm=&u_U3HPMCRE);

%param_set (param_5=PMA_5, param_90=PMA_90, dset_1=PMA, page=3, parm=&u_USPMACRE);
```

```
%param_set (param_5=NNAL_5, param_90=NNAL_90, dset_1=NNAL, page=5, parm=&u_UNNALCRE);
```

```
*FAS table;
```

```
%param_set (param_5=cohb_5_f, param_90=cohb_90_f, dset_1=cohb_f, page=4,  
parm=&u_CARBXHGB);
```

```
%param_set (param_5=mhbma_5_f, param_90=mhbma_90_f, dset_1=mhbma_f, page=1,  
parm=&u_UMHBMCRE);
```

```
%param_set (param_5=HPMA_5_f, param_90=HPMA_90_f, dset_1=HPMA_f, page=2,  
parm=&u_U3HPMCRE);
```

```
%param_set (param_5=PMA_5_f, param_90=PMA_90_f, dset_1=PMA_f, page=3,  
parm=&u_USPMACRE);
```

```
%param_set (param_5=NNAL_5_f, param_90=NNAL_90_f, dset_1=NNAL_f, page=5,  
parm=&u_UNNALCRE);
```

```
*PP set table - secondary obj;
```

```
data comb;
```

```
    set cohb mhbma HPMA PMA NNAL;
```

```
    by pageord;
```

```
run;
```

```
*FAS table - secondary obj;
```

```
data comb_fas;
```

```
    set cohb_f mhbma_f HPMA_f PMA_f NNAL_f;
```

```
    by pageord;
```

```
run;
```

```
*figure dataset - PP set - secondary obj;
```

```
data fig_stat;
```

```
    set fg_cohb_5 fg_cohb_90 fg_mhbma_5 fg_mhbma_90 fg_HPMA_5 fg_HPMA_90 fg_PMA_5  
fg_PMA_90 fg_NNAL_5 fg_NNAL_90;
```

```
    diff=diff_*100;
```

```
    lclm=L_CI_*100;
```

```
    uclm=U_CI_*100;
```

```
    if trtp="SA" then trtp="THSm2.2";
```

```
    if _trtp="mCC" then difftype=compress(trtp||"vs."||_trtp);
```

```
    if _trtp="SA" then difftype=compress(trtp||"vs."||_trtp);
```

```
    if avisit="Day 5" then avisitn=105;
```

```
    if avisit="Day 90" then avisitn=190;
```

```
run;
```

```
data tflds.T_15_02_03_02_F;
```

```
    set fig_stat;
```

```
run;
```

```
%macro anlout (din=, tfl=, tabname=);
```

```
%let tflno=&tfl.;
```

```
data tflds.&tflno;
```

```
    set &din;
```

```
run;
```

```
data tflds.&tflno;
```

```
    set tflds.&tflno end=last;
```

```
    by pageord;
```

```
    if last then call symputx("page", pageord);
```

```
run;
```

```
%put &page;
```

```
/* Standard - leave this */
```

```
options number nodate orientation=landscape missing=' ';
```

```
ods escapechar='$';
```

```
%let linetop = \brdrt\brdrs\brdrw30; * needs to be 1.5pt so calculated in twips (1/20 pt) ;
```

```
%let linebot = \brdrb\brdrs\brdrw30;
```

```
/* Standard - macro for paging */
```

```
%macro outrtf(blankn=130, halfblnk=N);
```

```
%if &halfblnk=N %then %let halfblnk=;
```

```
%else %if &halfblnk=Y %then %let halfblnk=\~;
```

```
ods path stdlib.t106343 (read) ;
```

```
ods results off;
```

```
ods rtf toc_data file="/cvn/projects/prj/data/000000106343/TFL/&TFL_Part./Tables/&tflno..rtf"
style=t106343 startpage=yes headery=1440 footery=1440 ;
```

```
ods noproctitle;
```

```
%do i=1 %to &page;
```

```
title ;
```

```
footnote;
```

```
%let wd=0;
```

```
ods proclabel = ' ';
```

```
data comp;
```

```
set tflDs.&tflno end=eof;
```

```
where pageord=&i;
```

```
/* Amend title as needed */
```

```
    _firtitl="&tabname";
```

```
    _upcas=(length("Path: &TFLpath.")-
length(compress("Path:&TFLpath.",'ABCDEFGHIJKLMNOPQRSTUVWXYZ')))/2;
```

```
    len=&blankn.-length("(Page &i of &page)");
```

```
    if eof then do;
```

```
        call symput('_FSRTITL', trim(left(_firtitl)));
```

```
        call symput('_blankn', compress(put(len,best.)));
```

```
    end;
```

```
drop _firtitl _upcas len;
```

```
run;
```

```
ods listing close;
```

```
* most set up in template others below;
```

```
* title arial 12pt bold with 12pt paragraph space below;
```

```
* all headers to be arial 11pt bold;
```

```
* data arial 10pt;
```

```
* headers to be central, text values left aligned and numeric centered around decimal point;
```

```
/* Update with your variables as needed */
```

```
proc report data = comp headline headsip nowd split = '$' %if &i=1 %then %do; contents=' ' %end;  
%else %do; contents="" %end;;;
```

```
column pageord visit _name_ ths_ mcc_ sa_ THS_MCC_RATIO_ THS_SA_RATIO_;
```

```
define pageord / order order = internal noprint;
```

```
define visit /"Variable" display style={just=left cellwidth=1.8cm}  
style(header)={just=left} "";
```

```
define _name_ /"Statistic" display style={just=left cellwidth=2.0cm} style(header)={just=left} "";
```

```
define ths_ /"THSm2.2" display style={just=c cellwidth=1.2cm}  
style(header)={just=center} ;
```

```
define mcc_ /"mCC" display style={just=c cellwidth=1.4cm}  
style(header)={just=center};
```

```
define sa_ /"SA" display style={JUST=c cellwidth=1.2cm}  
style(header)={just=center};
```

```
define THS_MCC_RATIO_ /"THSm2.2 : mCC$ Ratio (%)" display style={just=c  
cellwidth=1.4cm} style(header)={just=center};
```

```
define THS_SA_RATIO_ /"THSm2.2 : SA$ Ratio (%)" display style={just=c  
cellwidth=1.2cm} style(header)={just=center};
```

```
break after pageord / page;
```

```
compute after pageord;
```

```
line " ";
```

```
endcomp;
```

```
compute before pageord / style={protectspecialchars=off};;
```

```
line "&linetop";
```

```
endcomp;
```

```
compute before _page_ / style={just=left protectspecialchars=off};
```

```
line "\b\fs24\sa24&_FSRTITL." ; * \b = bold, \fs24 is font size 12pt, \sa24 is space after 12pt;
```

```
line "&linebot";
```

```
endcomp;
```

```
compute after _page_ / style={just=left protectspecialchars=off pretext="&linetop."};
```

```
line 'Note: Adjusted geometric least squares (LS) means and confidence intervals (CIs)  
from an ANCOVA model conducted on log-transformed values with log-transformed baseline value,  
study arm, sex and mCC consumption reported at screening as fixed effect factors. Geometrical CV% of  
the ratio is estimated from the residual mean squares.';
```

```
line 'Note: mCC = Menthol conventional cigarettes; SA = Smoking abstinence; THSm2.2 =  
Tobacco Heating System 2.2 Menthol.';
```



```
line 'Note: p-value for one-sided test for comparison between THSm2.2 and mCC. P-  
value at Day 90 is evaluated only if P-value at Day 5 is significant, in all biomarkers except for Total  
NNAL.';
```

```
line 'Note: For the primary objective, Total NNAL is evaluated at Day 90 while the other  
biomarkers are evaluated at Day 5. For the secondary objective, Total NNAL is evaluated at Day 5 while  
the other biomarkers are evaluated at Day 90.';
```

```
line ";
```

```
line 'Appendix 15.3.3.1 and 15.3.3.2';
```

```
line "Study ID: ZRHM-REXA-08-US   Program: &TFLprg   Status: &status"  
&_blankn.*"\~\" "&sysdate" &_blankn.*"\~\" "(Page &i of &page)";
```

```
endcomp;
```

```
run;
```

```
%end;
```

```
ods rtf close;
```

```
ods results on;
```

```
ods path sashelp.tmplmst (read);
```

```
%mend ;
```

```
%outtrtf(blankn=36, halfblnk=N);
```

```
ods listing;
```

```
%mend anlout;
```

```
%anlout (din=comb, tfl=%str(T_15_02_03_02), tabname=%str(Table 15.2.3.2   Analysis of COHb,  
MHBMA, 3-HPMA, S-PMA, and Total NNAL on Day 5/90 Visit for THS 2.2 Menthol versus mCC and SA -  
PP Set));
```

```
%anlout (din=comb_fas, tfl=%str(T_15_02_03_03), tabname=%str(Table 15.2.3.3      Analysis of  
COHb, MHBMA, 3-HPMA, S-PMA, and Total NNAL on Day 5/90 Visit for THS 2.2 Menthol versus mCC and  
SA - FAS Set));
```

```
*=====;
```

```
* END OF PROGRAM CODE          ;
```

```
*=====;
```

```
%m_logchk;
```